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Time to make nation’s shipyards, merchant marine great again

Professional Mariner Staff June 3, 2019

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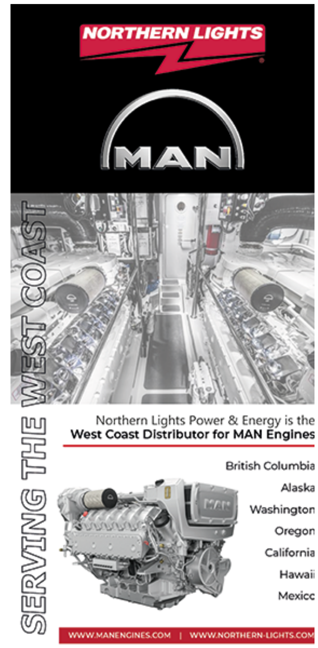
For almost 50 years, beginning in the late 1930s, our government actually helped get U.S.-flag merchant ships built, utilizing the Construction Differential Subsidy (CDS) program. The CDS covered up to 50 percent of the additional cost to build ships in a U.S. shipyard instead of a foreign yard. The money was paid by the U.S. Maritime Administration (MarAd) directly to shipyards and/or shipowners, and was only allowed to go toward the construction of U.S.-flag ships in the international trade. Between the end of World

War II and the early 1980s, about 250 U.S.-flag tankers, containerships and break-bulk cargo vessels were built in the United States using CDS funds, with tens of thousands of citizens owing their livelihoods to this government program.

I have known of many ships in my seagoing career that were originally built using construction subsidies, and even sailed on a few as well. Once I caught an asphalt tanker in Morehead City, N.C., filling in for a young third mate so he could be home for the holidays. I had a good time on my 60-day relief as we visited ports such as Savannah, Ga., Rio Haina in the Dominican Republic, and the island of Curacao in the Lesser Antilles, where I paid off the ship. Not long after joining the vessel, I found out that it was built with CDS funds and launched as *Falcon Champion* in 1984, the last commercial ship produced at the famous Bath Iron Works on the Kennebec River in Bath, Maine. Another ship built with CDS funds that is still operating today is the fish processing vessel *Ocean Phoenix*, which originally entered sea service as the break-bulk freighter *Oregon Mail* and flew the American President Lines house flag before it began its latest incarnation. Mark, a longtime captain who was a year behind me at Cal Maritime, once served as the master of the 680-foot Coast Guard-inspected fish factory ship.

Very early in my career, I ran a crew boat for a large West Coast towing company in Southern California. One evening, I dropped off a tankerman on a barge that was pumping bunkers to a huge crude oil tanker, *ARCO Independence*. A number of my Cal Maritime schoolmates ultimately worked on that 1,100-foot ship, which was originally built with CDS funds at the Bethlehem Steel shipyard at Sparrows Point, Md., in 1977 as the tanker *American Independence*. As mariners say, the ship is now “razor blades” after being scrapped in 2010.

Our government established the CDS program to help keep the U.S.-flag commercial fleet viable, and to level the playing field by counteracting the financial support many other countries provide for their shipbuilding industries. In the 1970s and 1980s, Japan, South Korea and China rose to become shipbuilding powers by paying huge government subsidies to their shipyards. In contrast, the Reagan administration killed the CDS program, a move that immediately placed U.S. shipyards at a terrible disadvantage



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because the foreign yards competing against them were still receiving financial support from their respective governments. With no CDS payments from MarAd, the American shipbuilding industry was gutted. Nearly 50 percent of the private shipyards in the United States closed in the 1980s, with tens of thousands of U.S. citizens losing their jobs as a result.

When the CDS was eliminated, U.S.-flag shipping companies that had been ordering about 20 new vessels a year for the foreign trade from American shipyards abruptly stopped doing so. With no financial incentive to build those commercial ships in the United States anymore, a number of shipping companies began replacing their U.S.-flag international fleets with foreign-built and foreign-crewed vessels. Other companies continued operating their CDS-constructed ships until they reached the end of their service life, and then got out of the market altogether after either scrapping the vessels or selling them — often to foreign vessel operators. From 1982, the year the CDS was defunded, until 2016, more than 100 U.S.-flag unlimited tonnage oceangoing ships in the international trade were lost, a nearly 60 percent reduction in the fleet that resulted in thousands of American merchant marine jobs being eliminated.

In hindsight, it is clear that President Reagan's egregious decision to do away with ship construction subsidies not only hurt our industry and cut jobs, but in my opinion it also put our country at risk. Today, foreigners control the movement of 99 percent of our seaborne international trade. We are now at the mercy of companies operating ships registered in countries that may hate us and seek to do us harm, manned by mariners who have no allegiance to the United States or commitment to our maritime security, economic security or national security. If the current rhetoric about tariffs and embargoes becomes more strident and we get into an extensive trade war, we may soon find out how long it takes for the store shelves to empty if the foreign-flag ships that now control our economic destiny decide to stop shipping here altogether.

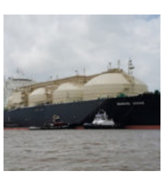
Our government has not offered any monetary subsidies for the construction of new U.S.-flag commercial vessels for over 37 years, yet it continues to subsidize the oil industry to the tune of $4 billion a year. In fact, in 2018 the Trump administration proposed $10 billion in subsidies for the coal and nuclear industries, but not one penny toward subsidizing the construction of any new U.S.-registered commercial vessels.

If we ever hope to reclaim our economic dominance and get out from under the thumb of foreign control, then our government needs to invest in our shipbuilding and maritime industries. Personally, I would like to see a return to the days when MarAd construction subsidies helped get 20 new U.S.-flag oceangoing vessels for the international trade built in American shipyards each year. Failing that, everything from tax breaks and direct cash subsidies to interest-free ship construction loans and vessel-specific financial incentives should be considered. It's time to make America's shipyards and merchant marine great again.

Till next time, I wish you all smooth sailin.'

Kelly Sweeney holds a license of master (oceans, any gross tons), and has held a master of towing vessels license (oceans) as well. He sails on a variety of commercial vessels and lives on an island near Seattle. You can contact him at captsweeney@profressionstg.wpengine.com.

By Professional Mariner Staff



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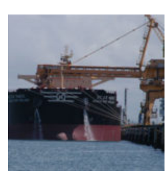

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Decline in U.S. Shipbuilding Industry: A Cautionary Tale of Foreign Subsidies Destroying U.S. Jobs

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Today there is growing concern over the impact of subsidies by some foreign governments on U.S. airlines and the entire U.S. aviation system. Questions abound as to what effects subsidies by foreign governments to their national airlines have on the American aviation industry. This situation has multiple parallels with what occurred in the shipbuilding industry decades ago. An analysis of that experience provides insight into what can happen to a part of the U.S. transportation industry in the face of foreign government support of its transportation industry. This study of the American shipbuilding industry provides clues as to the potential impact of foreign subsidies on American companies, workers, and the economy.

This is a cautionary tale. The analysis shows that the effects of foreign subsidization are substantial and detrimental. Jobs that are lost do not come back. Portions of the industrial base can be eroded, thereby devastating companies, communities, and significantly impacting our national defense. Longer-run impacts can be unpredictable and have far further ramifications than originally anticipated. Put simply, a subsidized foreign industry can do significant damage to an American industry that can last for decades.

The paper is divided into three parts. The first part establishes the parallels between what happened in the shipbuilding industry in the 1970s and 1980s and what is happening in aviation today. The second part examines what happened in the shipping industry and the impact on jobs, workers, companies and communities. The paper concludes with lessons learned and applications for the current context.

Part I – Shipbuilding and Aviation: What Happened Then and Why It Is Relevant Today

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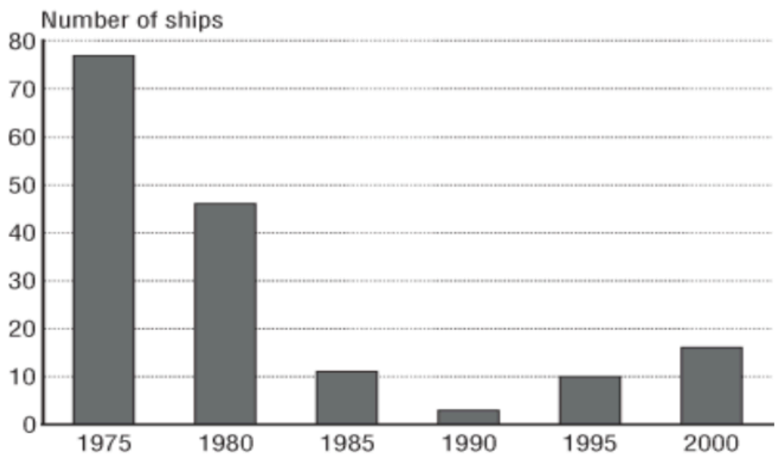
What Happened to American Shipbuilding



America had a long and storied commercial shipbuilding industry. After the Second World War, American shipbuilding was at its peak, leading the world. As one news story noted in 1985, "Thirty years ago, U.S. shipyards built most of the world's fleets."1 In 1975, America was building more than 70 commercial ships. Then the bottom dropped out of shipbuilding. Here is the decline in production of commercial shipbuilding in the United States shown graphically.2

Today, America ranks nineteenth in the world for commercial shipbuilding, accounting for approximately 0.35 percent of global new construction.3 Put another way, only one-third of one-percent of new commercial shipbuilding occurs in the United States, despite the fact that we are the world's largest economy. What happened?

While there were many factors at play in the decline of the shipbuilding industry, including global oversupply, recessions, and changing economic fundamentals, one policy decision stands out. For many years, countries around the world subsidized their national shipbuilding industries. The U.S. did so for a time through the payment of construction differential subsidies (CDS), but ceased

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this practice in 1981. When foreign shipbuilding companies gained the advantage of subsidization from their governments and the U.S. shipbuilding companies had no comparable advantage, it was impossible for the American shipbuilding industry to compete. That scenario – U.S. companies competing against companies subsidized by foreign governments – is what the U.S. airlines are facing today. Here is what happened in shipbuilding to create this un-level playing field and its ramifications.

In the absence of any government action to enforce fair market participation, the U.S. commercial shipbuilding industry suffered a steady decline in the 1980s as it struggled to compete against subsidized foreign competitors. Per one U.S. Navy report, between 1987 and 1992, the industry "sold only eight commercial ships over 1,000 gross tons, compared to 77 ships annually in 1975."4

In contrast, as one maritime analysis put it: "The Japanese, Korean, and European Governments made it a standard practice to support their shipbuilding subsidy programs."5 As another analysis by the corporate research firm Dun & Bradstreet concluded: "Japanese and South Korean shipbuilding industries received substantial government support during the 1970s and 80s, which helped them to emerge as top players in the world. While the South Korean government significantly bolstered the industry under its Heavy and Chemical Industrialization (HCI) policy, which included capital incentives, trade incentives and tax holidays, the Japanese government provided large subsidies in the form of easy finance and loan deferments."6 It is important to recall that Japan's economy was booming in the 1980s. In 1981, Japan's GDP per capita was almost three-quarters of America's, and by

1987 it would exceed America's.7 Similar to the situation with Gulf nations, it was developed nations engaging in strategic competition with the United States.

Given foreign government subsidization and no corrective action by the U.S government to resolve the imbalance, it was not surprising, then, that the U.S. shipbuilding industry migrated overseas. As a quote in the *Los Angeles Times* illustrated:

'It's very difficult if not impossible for U.S. shipyards to compete with foreign shipyards,' adds Rex Sherman of the American Association of Port Authorities."8

Foreign government subsidies of shipbuilding have continued. In 2005, the World Trade Organization (WTO) ruled that South Korean shipbuilders were benefiting from illegal export credits.9 That finding was triggered because of a complaint by the European Union, interestingly, not from the United States. The European Parliament conducted an investigation into South Korea's shipbuilding program which concluded: "The investigation into subsidies had been granted to Korean shipyards through both export and domestic programs, which contradicted the WTO's 1994 Subsidies Agreement."10

The impact of these trends is clear: when the playing field ceased to be level, the bottom dropped out of the U.S. shipbuilding industry. Today, South Korea has 37 percent of global ship construction, Japan has 27 percent, and China has 21 percent.11 In other words, South Korea is producing more than 100 times the amount of ships as the United States.

What This Means for Aviation Today

The shipbuilding and aviation industries share a multitude of commonalities. Both are transportation businesses with significant economies of scale. Each industry serves a vital role in the nation's economy with major effects across its own supply chain. Within that supply chain are important national defense considerations. Domestic ship construction supports the Navy and Merchant Marine, for example, and the domestic aviation industry works alongside the Departments of Transportation and Defense to operate the Civil Reserve Air Fleet. Most importantly, both create middle class jobs.

Just as the American shipbuilding industry confronted a situation in which foreign competition was being subsidized in the early 1980s, the American aviation industry is facing a similar situation today. Three Gulf-based airlines, Emirates, Etihad, and Qatar Airways, have received more than $42 billion in subsidies from their governments.12 These subsidies coincide with current and planned growth in operations by these airlines in the United States.13 A recent analysis of this growth in service concluded that, "Gulf carriers' expansion to the United States has failed to meaningfully stimulate additional traffic…. Because subsidized Gulf carrier capacity additions have failed to meaningfully stimulate additional traffic to/from the United States, Gulf carrier share gains have come at the expense of U.S. and other carriers."14

Indeed, Gulf nations are using government policy at home to help create differential costs of labor in their home countries to compete. These foreign governments are pursuing policies to keep labor costs low. One recent study found these lower labor costs "are the result of deliberate government policy decisions to suppress labor rights and thereby give artificial cost advantages to airlines based in some of the wealthiest countries in the world."15 In other words, these governments are leveraging unfair trade practices to depress the cost structure for their own firms in aviation, just as other foreign governments did in the shipbuilding industry.

The end of a level playing field in aviation, with U.S. companies facing direct competition from subsidized foreign carriers, is remarkably similar to what happened to U.S. shipbuilders in the 1980s. If these foreign carriers are indeed successful in shifting traffic from American companies to their own, then American aviation will suffer. If the case of shipbuilding is the right analogy, the extent of that suffering, in terms of jobs lost, the impact on workers and the impact on communities, will run deep and wide.

Part II – Impact on Jobs, Workers, Companies, and Communities

Shipbuilding Jobs: The decline in the nation's shipbuilding industry decimated a once thriving industry. In 1980 there were approximately 180,000 jobs in private shipyards.16 That number has fallen by over 40 percent, with only 105,500 jobs still existing in private sector shipbuilding according to the most recent U.S. Economic Census.17 More than four out of every ten jobs in shipbuilding that existed in 1980 are gone today.

This decline is even more striking when one considers that the nation's labor force was much smaller in 1980. Back then, there were approximately 168 million potential workers in America. By 2010, that figure had risen to more than 233 million, according to the Bureau of Labor Statistics.18 Thus, if shipbuilding employment had simply kept constant as a percentage of the labor market, one would have expected to find more than 250,000 jobs in American shipbuilding by 2010. Instead, the nation had just over 105,000 jobs, meaning that 145,000 had been lost in the industry, taking into account population growth in the labor force.

The full economic impact of these lost shipbuilding jobs is much greater. The Department of Transportation has found that employment from shipbuilding and repair is roughly 100,000 direct and 400,000 total jobs, a ratio of approximately four to one.19 That means that every direct shipbuilding job is supported by or creates three other jobs – e.g. the engineers designing the ship, the steel workers producing what will become the ship's hull, the accountants tracking the project, etc. Thus, the missing 145,000 jobs in shipbuilding directly translate into a loss of 580,000 jobs for the entire economy. That is a missing employment base equal to one out of every three private sector jobs in Oregon.20

The loss of American jobs as a result of subsidized foreign competition has been particularly evident in parts of the country that had been major U.S. centers for shipbuilding, such as Louisiana. In the words of then-U.S. Senator John Breaux (D-LA): "My involvement with the issue of unfair foreign shipbuilding practices relates to my State of Louisiana being one of the premiere shipbuilding States in the country. Over 27,000 Louisiana jobs are impacted by constructing or repairing ships. As has been the case nationwide, Louisiana's ship building employment has suffered significantly since the 1980's. This situation is due to U.S. defense downsizing and to unfair foreign shipbuilding practices….Governments in all the major shipbuilding nations, with the exception of the United

States, dramatically increased aid to their shipyards and their associated infrastructure with massive levels of subsidies in virtually every form…"21

Louisiana was hardly alone in suffering from the decline in shipbuilding. The state of Maine also has a long shipbuilding history, with Bath Iron Works at the forefront. Once a major industry player in commercial shipbuilding, Bath Iron Works has not produced a single commercial ship since producing two tankers in the 1980s. To remain viable, the company has since focused solely on naval contracts. Today Bath Iron Works' personnel stands at less than half of its employment in the 1980s.22 At more than 6,500 workers, Bath Iron Works is still the fourth largest private employer in Maine.23 This means that the jobs lost at Bath Iron Works alone are greater than the jobs currently held at any other company in Maine except three (Wal-Mart/Sam's Club, Hannaford Brothers, and Maine Medical Center). Put another way, the jobs lost at Bath Iron Works since the end of commercial shipbuilding are greater than the entire employment within Maine of one its most famous companies, L.L. Bean.

Aviation Jobs: There are approximately 400,000 workers in the United States who work directly on scheduled passenger air transportation.24 It has been estimated that each aviation job creates 4.73 total jobs in the economy, through indirect and induced employment and economic growth. 25 That figure is roughly in line with the Department of Transportation's estimate for shipbuilding of 4:1 mentioned earlier. Thus, scheduled passenger aviation supports about 1.9 million total jobs in the U.S. economy.

Calculating the jobs lost as a result of a specific flight ceasing to exist is slightly more complicated. For example, consider a single daily round-trip international service for a U.S. carrier using a Boeing 777, one of the planes most frequently used on the routes facing subsidized competition. Consider the simple case of that international level of service, or route, consisting of two planes flying, one each direction, every day. Each plane supports (both directly and indirectly) approximately 200 jobs – including not just the crew flying the plane, handling the baggage, and performing maintenance, but also running the entire company's operation.26 In addition to those jobs, there are another 62 aviation jobs created as a result of the additional traffic from these flights – namely the passengers who transfer after arriving in the United States, headed to another final destination.27 We are now at 462 aviation jobs directly created by this daily service. Using simple arithmetic that translates into a total of 2,185 jobs created by this service through the entire economy using the multiplier discussed above.

Using a different framework leads to a similar finding. The Oxford Economics model took a more conservative estimate, looking only at the airline jobs created and estimated the additional job creation from just those jobs.28 While this study considered the standard indirect and induced job creation from airline employment, it did not include additional airport security or more employees at airport stores. Still, using Oxford's more conservative job multipliers, this daily round trip international service would create more than 1,730 jobs.29

These two approaches give confidence that the loss of a single daily round-trip international service route would result in somewhere between 1,700 and 2,200 jobs being lost. It should put the importance of this debate in context that each daily round trip route of this level of service is worth approximately 2,000 American jobs.30

If the service is not eliminated but merely transferred from a U.S. carrier to a foreign carrier, not all of these American jobs would be lost. However, the vast majority would be lost as the driving factors behind both models are the jobs created behind the scenes, through the broader company, and the economic effects of employees spending their paycheck creating economic growth where they reside. An attempt to quantify the number of American jobs resulting from a foreign Gulf carrier taking this route found that only about 15 percent of the American jobs would remain in the event of a switch.31 If one takes the 2,000 jobs estimate derived above, that would mean that 1,700 American jobs would be lost as a result of a switch on a single daily route between a U.S. carrier and a Gulf carrier.

If this is the specific job loss from one daily route, it is important to consider the broader picture of aviation and the potential impact of these subsidies. The right way to consider the subsidized Gulf carriers is not only on traffic to those nations, but traffic through those nations, including travel to India and the Indian subcontinent. As one study found: “subsidized Gulf carrier expansion has also severely undermined U.S. carriers’ ability to expand their non-stop service from the United States not only to the Indian subcontinent and other growing regions of the world, but also to the hubs of their joint venture or other alliance partners in Europe or Asia, where many U.S. carrier passengers make connections to/from their overseas destination.”32 Another study reported, “Gulf carriers’ share of U.S.- Indian Subcontinent bookends more than tripled, while U.S. carriers and their joint venture partners lost nearly 800 bookings per day."33

The Indian subcontinent currently has a population of 1.7 billion, or almost a quarter of the Earth's population, and is expected to include another 630 million people over the next thirty-five years. Thus, it is hard to over-estimate the potential impact of that region.34 Further, about 60 percent of the world's population lives within six flying hours of the Gulf.35 The potential for future American aviation business to be undermined by subsidized competition in additional markets is significant.

Aviation is a network industry. In a network, the impact of changes in competition, growth, and service in one region can ripple through the entire system. It is beyond the scope of this paper to produce a precise estimate of what share of the aviation industry would be likely to be affected by the foreign subsidized competition of the Gulf carriers now, and if allowed to continue, over the future. What we do know is that it will be far greater than the single round-trip scenario estimated above whose elimination would mean 2,000 American jobs lost or whose transfer to a foreign carrier would result in the loss of 1,700 jobs in the United States.

In the shipbuilding scenario, 40 percent of jobs in direct shipbuilding were lost over a more than thirty-year period. However, the number of jobs lost in shipbuilding, compared to what it would have been had shipbuilding stayed a constant share of the nation's labor force, almost doubled. As aviation, like shipping, is fundamentally tied to the nation's economic and population growth, it should be expected to grow on par with the nation's overall economy. But this projected growth cannot happen if the domestic industry is unable to compete and thrive due to subsidized foreign competition.

To be clear, this is not a prediction of aviation job loss on the scale of what happened with U.S. shipbuilding. While there are many parallels between the shipbuilding and aviation industries, there are important differences. Within shipbuilding there were broader economic forces at play, and the negative effects in aviation may also be smaller given the larger proportional share of U.S. aviation that is domestic compared to shipbuilding, and hence not subject to direct competition from foreign subsidized carriers. Nevertheless, another factor driving the decline in shipbuilding was overexpansion of capacity in the 1970s – a concern also present in the airline industry today given the rapid expansion of the Gulf carriers.

However, if the impact results in only one-quarter of the impact of what happened in U.S. shipbuilding, then the U.S. could see job losses of almost 200,000 when considering direct losses in the passenger aviation business and among those jobs that are supported by passenger aviation. That figure is based on current employment and does not attempt to project for future employment, which was far greater for U.S. shipbuilding. Put another way, job losses on this level would exist if approximately 115 daily international U.S. routes were lost (transferred) to subsidized foreign competition, based on the analysis above. That might sound high today, but consider that there are already 24 daily flights into the United States from subsidized Gulf Carriers and this will grow to 30 daily flights by the end of 2015.36

Workers: Aviation and shipbuilding have another factor in common: they both create quality, middle class jobs. The average wage for an airline employee is about $67,000, almost 50 percent higher than that of the typical private sector employee.37 The average wage for a worker in shipbuilding is $73,000, which, similar to aviation, is well above the national average worker's salary.38

Thus, the jobs that are at risk in aviation and that were lost in shipbuilding are good middle- class jobs. These are exactly the type of jobs that our economy needs to support and sustain a strong middle class. According to the Congressional Budget Office, the average middle class family's income from work was just under $50,000 a year.39 For the average family, the fourth quintile, that is the 60th-80th percentile of wages, income from work was $83,300. Thus, jobs in aviation, which average $67,000 per worker, offer a relatively straightforward path to entry into the fourth quintile for two worker families.

Policymakers on both sides of the aisle frequently emphasize the need to expand and protect middle class jobs. House Speaker John Boehner (R-OH) defined the challenge and opportunity for the new Republican Congress as "To pass common-sense solutions that will help expand opportunities for middle-class families and small businesses."40 President Obama's most recent State of the Union address called for, "Practical proposals to speed up growth, strengthen the middle class, and build new ladders of opportunity into the middle class."41

Thus, policymakers from both parties ought to be particularly concerned about and focused on issues that affect jobs in aviation, shipbuilding, and other industries where employment is particularly weighted toward middle class jobs. This is true in aviation and other transportation and infrastructure related sectors of the economy. Indeed, the U.S. Treasury Department has concluded that 90 percent of jobs created in the top three areas of infrastructure investment (construction, manufacturing, and retail trade), which account for 80 percent of total job creation, are middle class jobs.42

Communities: Aviation and shipbuilding are also industries where the employment base is more concentrated in specific communities. Unlike national chains, they are heavily localized and form the backbone of a community. For shipbuilding those communities were the ones that housed shipbuilding yards. In aviation, those communities are where 'hub' airports are located.

These centers – hubs and yards – are vital components of the communities in which they are located. Because both industries are capital intensive and use central locations for business, there is the potential for job loss to be non-linear. Specifically, when conditions are bad enough, a decision can be made to 'shut the plant' or 'eliminate the hub', in which, instead of simply losing a few jobs, the entire employment base in that community vanishes. This type of loss can be devastating to the community in which it is located, precisely because there are many more jobs that work with or are created by the presence of the yard or hub.

For instance, when shipyards went from producing 75 commercial ships a year in 1975 to only around five in 1985, this triggered massive yard closures. Half of the 12 major shipyards operating in America in 1980 have since closed.43 While this decline is dramatic, the effect on commercial shipbuilding is worse, as many of these remaining shipyards have focused on military shipbuilding. According to one estimate, the number of shipyards producing only commercial ships declined from 11 to only one in a year period.44

Take one example in Philadelphia, which was home to Sun Shipyards, located in Chester, Pennsylvania a community within the Philadelphia metro area. Ships were built in that yard from 1916 until it was closed in the 1980s. A study of the company found that among the factors that led to its demise was 'increased foreign competition,' which was listed first among other broader economic trends in the shipping industry and overall economy.45 That foreign competition was subsidized, leaving the company scrambling to stay afloat in a skewed market. In 1980, Sun Shipyards' direct workforce stood at 4,100 employees, a slight increase from a year earlier, according to a Department of Transportation study of shipyards.46 The yard was working on several commercial ships, including container ships and tankers.47

The demise of the company meant the end to those 4,100 jobs. Using the Department of Transportation's job multiplier, that would translate into the more than 16,000 jobs lost as a result of the closure of the plant.

One effect on the city of Chester and the broader community can be seen in the decline in population as jobs and people fled the area. The city of Chester, already in decline in 1980, had a population of just over 45,000, with the broader Philadelphia city and county having a population of over 1.68 million in 1980. The city of Chester lost 25 percent of its population between 1980 and 2010, while Philadelphia lost more than 140,000 people, or just fewer than 10 percent of its population, over that time period.48 Of course, broader economic factors were also at play, but it is logical to assume that when job loss of this magnitude takes place, workers and their families are likely to pick up and leave. The community becomes permanently changed. Today, in the shipyard's former physical location is a state penitentiary and a casino.49

For aviation the analogy to having a shipyard is to be a hub city. That means that one or more airlines have chosen the city to locate a 'hub' of activity connecting the city directly to both the other hubs and spokes of that airline's network. In addition to concentrating jobs in hub cities, hubs create direct links to other cities, facilitating easier trade and commerce. Being a hub city can have significant direct and indirect economic benefits. One study found that, "the existence of a hub airport in a region increases that region's new economy employment by over 12,000."50

Using the prior estimate of direct to indirect jobs supported by aviation, the creation of 12,000 jobs for the entire community as a result of being a hub would indicate direct aviation employment of just over 2,500. However, there are strong reasons to believe that the ratio of indirect jobs created would be higher in a hub city than the overall average. This is because the hub city's other employers enjoy substantial benefit from being located near a hub city than would a community in a typical aviation environment (a 'spoke' as compared to a hub). In addition, businesses in that city that cater to travelers (hotels, restaurants, etc.) would likely see increased demand and hence employ additional workers. Thus, the loss of status as a 'hub' city in aviation would be detrimental to any city.

It is a misconception that only the nation's largest cities serve as hubs. Major U.S. network airlines have hubs in Charlotte, Cleveland, Salt Lake City, and Minneapolis to name a few.

While these hubs may not directly serve the same markets that Gulf-subsidized carriers are serving, they are nonetheless vulnerable to potential closure due to the negative economic effects that can reverberate through the aviation network. One of the main purposes of a hub is to collect passengers from multiple smaller spoke cities and connect them to flights to larger markets that are further from or that generate less traffic than the individual spoke (hence why there is no direct flight). Critical among those larger market flights that drive this hub system are international flights, and to the extent that international flights are eliminated by U.S. airlines, hubs begin to lose some of their economic value.

That loss would have a marginal effect on the decision to keep a city as a hub. The exact tipping point varies for each hub for a variety of reasons, of which this is just one. That said, on the margin, it is conceivable that a loss of international routes could turn a hub from being profitable to unprofitable and as a result face elimination.

Potential losses affect not only hubs but also the spoke cities across the United States served by U.S. network airlines. Many of these smaller communities are not served by other U.S. carriers.51 And although these small cities are not served directly by the subsidized Gulf carriers, they are very much at risk of losing air service if U.S. carriers are forced to shrink their hubs and pare back less profitable flying due to subsidized foreign competition on international routes. Loss of service for these small communities would mean a loss of jobs and economic opportunity for some businesses in the local area.

Conclusion:

Industries change and national competitiveness within an industry can change as well. However, that change should be the result of free and fair competition, not as a result of foreign government subsidies. When American companies face foreign subsidized competition, there can be sharp and disastrous effects. This happened to American shipbuilding and it could happen to American aviation.

Those concerned about American workers and middle-class jobs should be particularly focused on aviation jobs, as they are the type of middle-class jobs that are the key to propelling sustainable and inclusive economic growth. The loss of aviation jobs will have substantial direct and indirect effects through the loss of additional jobs in businesses within the community. For every 100 jobs lost in aviation, almost 475 more are lost as a result of these direct and indirect effects. Those additional job losses are particularly acute in 'hub' cities, with estimates as high as 12,000 jobs riding on just being a hub.

Fortunately, there is still time to act and Congress has already shown signs of responding to this current situation. In April 2015, a majority of members of the U.S. House of Representatives signed a letter to the Secretaries of State and Transportation urging them to get involved "in an effort to stem the tide of subsidized capacity that state-owned airlines are deploying on international routes to the United States."52 Those members of Congress appreciated the potential ramifications to the broader economy when they wrote, "Failure to address these practices [foreign subsidies] will lead to significant job losses in the United States and set a dangerous precedent that could lead to further harm to the U.S. airline industry and the broader U.S. economy."53

Whether congressional or executive branch intervention is able to adequately address the situation remains to be seen. However, if the current case of American aviation being forced to compete with subsidized foreign carriers follows the path of what happened in the shipbuilding industry, the prediction of the majority of members of the U.S. House may become true at a level that would exceed anyone's expectations.

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Aaron Klein served at the U.S. Treasury Department as Deputy Assistant Secretary for Economic Policy, Policy Coordination. He led the Treasury Department's work on infrastructure policy, representing Treasury both internationally and within the executive branch. Klein also worked extensively on financial regulatory reform issues including crafting and helping secure passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Prior to his appointment in 2009, he served for over eight years on the staff of the Senate Banking, Housing and Urban Affairs Committee, including as chief economist. He is a graduate of Dartmouth College and the Woodrow Wilson School for Public Affairs at Princeton University.

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EXHIBIT 113

Transportation Statistics Annual Report 2001

U.S. Department of Transportation
Bureau of Transportation Statistics

Transportation Statistics Annual Report 2001

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Preface

Congress requires the Bureau of Transportation Statistics (BTS) to report on transportation statistics to the President and Congress. *Transportation Statistics Annual Report 2001 (TSAR)* is the eighth such report prepared in response to this congressional mandate, laid out in 49 U.S.C. 111 (j). The report discusses the extent and condition of the transportation system; its use, performance, security, and safety record; transportation's economic contributions and costs; and its energy and environmental impacts. All modes of transportation are covered in the report.

The BTS publication, *National Transportation Statistics (NTS),* a companion to this annual report, has more comprehensive and longer time series, tabulated data than could be accommodated here. *NTS* is available both in print and online at www.bts.gov.

Chapter 1
Summary

Summary

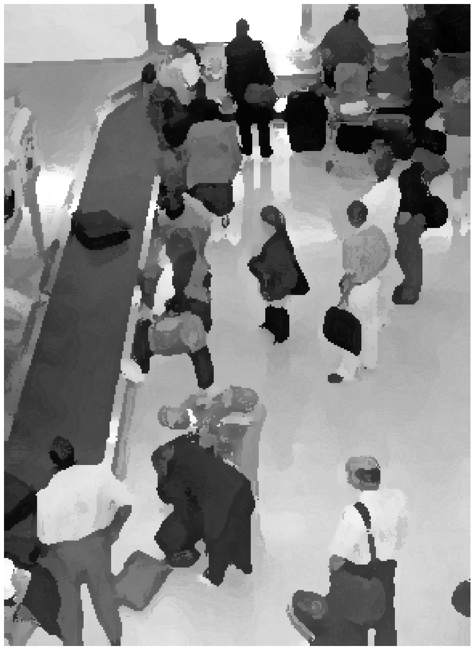
This eighth Transportation Statistics Annual Report (TSAR), like those before it, provides data and analysis on the U.S. transportation system: its extent and condition, relationship to the nation's security and economic growth, safety aspects, reliance on energy, environmental impacts, and contribution to mobility and accessibility. The report was prepared in 2001 and in early 2002. Because it relies on annual data, the most recent data available for the report covered 2000 and, in some cases, only 1999.

Two events significantly affected transportation in 2001 while this report was being prepared. First, in late 2000, a downturn in the U.S. economy became apparent. A mild recovery was underway in September 2001 when terrorists attacked New York and Washington, using four commercial airliners as missiles. The immediate, acute impacts of this shock to the transportation system are well known. When this report was being finalized, however, it was too early to accurately assess the long-term effects of the attacks, as a more secure transportation system was still evolving. Because of the importance of terrorism impacts on transportation, special attention has been given in the report to provide data covering 2001 where possible.

The State of Transportation Statistics

In its legislative mandate for the Bureau of Transportation Statistics (BTS), Congress called on BTS to provide it with recommendations for improving transportation statistical information in this annual report. Good information is central to effective transportation decision-making, whether by governments, businesses, or consumers. Having the right data and information available in the right form and at the right time is key.

While many of the pressing transportation data problems and gaps that



existed before BTS was created over a decade ago have been addressed, there is a continuing need for good, reliable data and information. Gaps in data may involve the absence of data, data that are poor in quality, or data that are collected but not provided in a timely manner or in a form that decisionmakers can use effectively. An assessment of such gaps, undertaken by BTS in consultation with major stakeholders, is pointing out many gaps pertinent to a broad range of passenger, freight, and other transportation decisionmaking. Some gaps could be filled through modifications in existing data instruments, while others might require new initiatives. The State of Transportation Statistics chapter provides many specific examples of remaining data problems and solutions. The following six chapters highlight transportation issues, presenting data in tabular and graphic forms along with capsule analyses. In doing so, these chapters also reveal differences in the availability, reliability, and quality of transportation data.

Transportation System Condition and Extent

As the fourth largest country in land area, the United States has over 4 million miles of highways, railroads, and waterways that connect all parts of the country. It also has 19,000 public and private airports and 440,000 miles of oil and gas transmission pipelines.

Over the last decade, the condition of the nation's airport runways, roads, and bridges has generally improved even while the number of vehicles in the nation's highway fleet, for instance, has grown (by 17 percent to total almost 226 million vehicles in 2000). Nearly 80 percent of the runways at commercial airports in the country remained in good condition in 2000; however, the number of those airports declined from 568 to 546 between 1990 and 2000. Over 41,000 U.S.-flag commercial vessels were operating in both foreign and domestic maritime trade in 2000.

Mobility and Access to Transportation

The transportation system enables people and businesses to overcome the distance between places. For travelers, this includes having easy access to modes of transportation that will get them between home and work, from store to store, and off on vacation. Almost 4.8 trillion passenger-miles of travel (covering all modes) occurred in 2000, an annual increase of 2.3 percent since 1990. Businesses need to efficiently move both people and goods, increasingly worldwide. There were over 3.8 trillion ton-miles of domestic freight shipments in 1999, representing an annual growth of 2 percent since 1990.

More specifically, highway vehicle-miles of travel (vmt) increased 2.5 percent annually between 1990 and 2000 with light-duty trucks (including sport utility vehicles, pickups, and minivans) rising to 34 percent of vmt. During the same period, automobile vmt declined from 66 percent to 58 percent. In 2000, more than 76 percent of commuters drove alone to work by car, van, or truck, up from 73 percent. However, transit ridership grew 7 percent, from 8.8 billion to 9.4 billion unlinked passenger trips between 1990 and 2000, reaching its highest level in more than 40 years.

Congestion increased on highways in major metropolitan areas, and 22 percent of air travelers' flights were delayed, canceled, or diverted in 2001, up from 19 percent in 1990. International overnight travel by various modes to the United States increased by 31 percent, while the number of U.S. residents traveling out of the country rose 36 percent between 1990 and 2000. Amtrak recorded 23 million passenger trips in fiscal year (FY) 2000, up 4.5 percent from 22 million in FY 1990.

Between 1991 and 2000, domestic air cargo tonnage grew from 5 million tons to 13 million tons, an annual growth rate of 11 percent. Suggesting possible impacts on ports and intermodal facilities, the U.S. waterborne container trade balance shifted more toward imports by a gap of over 4 million 20-foot equivalent container units (TEUs) in 2000, up from a gap of 609,000 TEUs in 1992.

Security

As the terrorist attacks of September 2001 made clear, the nation's economic well-being and security are dependent on a transportation system that can move people, goods, and military personnel and equipment without the fear of intentional disruption or damage by terrorists or other criminal elements.

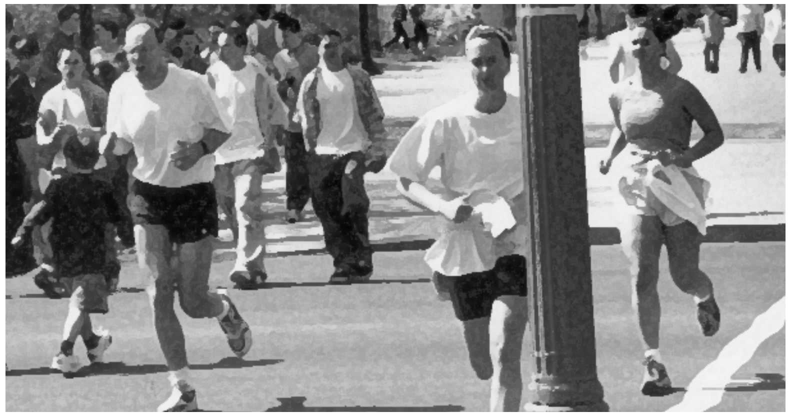
The hijacking and crashing of four civilian aircraft on September 11, 2001, ended a 10-year lull in hijackings of U.S. air carriers and resulted in the deaths of an estimated 3,035 people (see box on page 110). The terrorist attacks precipitated an unprecedented shutdown of the entire U.S. civil air system for several days, severely straining the balance of the transportation system and reducing mobility for many.

Other security concerns involve maintaining U.S. capability in airplane manufacturing and shipbuilding and interdicting people and drugs from illegally entering the country. The U.S. Coast Guard (USCG) stopped 4,136 people trying to enter the United States illegally during 2001, down 70 percent from 13,790 in 1991. USCG also interdicted 173,000 pounds of cocaine and marijuana during FY 2001, up nearly 30 percent from FY 1991. Whereas, cocaine represented, on average, 60 percent of USCG interdictions during the last 10 years, it made up 80 percent of the drugs interdicted during FY 2001.

Safety

Reducing transportation-related deaths, injuries, and property damage is a key goal of the transportation community. While much progress has been made in reducing the number of deaths, these numbers remain high. Crashes and incidents involving transportation vehicles, vessels, aircraft, and pipelines claimed 44,314 lives in 2000 and injured more than 3 million people.

Transportation incidents ranked as the eighth leading cause of death in the United States in 2000, down from the seventh leading cause of death in 1990. (Alzheimer's disease surpassed transportation incidents as a leading cause of death in 1999.) Among people



under 45, transportation incidents were one of the top causes of death throughout the decade.

Motor vehicle collisions accounted for about 95 percent of transportation-related deaths in 2000. While the use of safety belts saved almost 12,000 lives in 2000 (two and a half times as many lives as in 1990), motor vehicle collisions have consistently accounted for between 93 and 95 percent of transportation-related fatalities since 1990. Alcohol-related fatalities fell from 51 percent of motor vehicle-related fatalities in 1990 to 41 percent in 2000. Despite this decrease, alcohol-related traffic incidents still resulted in 17,380 deaths in 2000.

Commercial air fatalities totaled 531 in 2001 (including the 265 on board the aircraft hijacked on September 11), while 553 people were killed in general aviation accidents. Ten years earlier, 62 people died in commercial air incidents and 799 in general aviation incidents.

Economic Growth

Transportation is a vital component of the U.S. economy. As a sizable element of the country's Gross Domestic Product, transportation employs millions of people and consumes a large amount of the economy's goods and services. Demand for transportation-related goods and services represents about 11 percent of the U.S. economy and supports one in eight jobs.

Households spent an average of $7,400 on transportation in 2000. This represented 19.5 percent of their income in 2000, compared with 18 percent in 1990. Throughout the decade household spending on transportation was second only to the amount spent on housing. Average gasoline motor fuel prices peaked at $1.67 per gallon in June 2000 and $1.81 per gallon in May 2001, but these increases did not make a major impact on fuel consumption.

U.S. international merchandise trade via all modes rose 28 percent to $2 trillion between 1997 and 2000, with Canada retaining its status as our top trading partner. Mexico was our second largest partner in 2000.

In the public sector, inflation-adjusted transportation revenues of federal, state, and local governments totaled $118.9 billion in 1999, an increase of almost 45 percent since 1990. Expenditures rose 22 percent during the same period. The value of highway capital stock (including infrastructure and vehicles) increased by 25 percent between 1988 and 2000.

Energy and the Environment

The many benefits of transportation are tempered by its environmental effects. The sector's dependence on fossil fuels is at the root of many such problems. However, construction and maintenance of transportation infrastructure and facilities, refining of fuels, and vehicle and equipment manufacturing, maintenance, and disposal also affect the environment.

Transportation sector energy use grew at an annual rate of 1.9 percent between 1990 and 2000, to represent 26 percent of total U.S. energy consumption. However, transportation consumed 67 percent of the petroleum used in 2000. While alternative fuels usage has grown 5.9 percent annually since 1992, it only comprised 0.22 percent of total motor vehicle fuel use in 2000.

Most transportation air pollutant emissions have declined since 1970. Only nitrogen oxides and ammonia emissions remain above their 1990 levels. In addition, transportation sector greenhouse gas emissions of carbon dioxide have risen 19 percent since 1990. However, the greenhouse gas intensity of the U.S. economy declined 15 percent between 1990 and 2000.

Transportation affects the marine environment in a number of ways: oil spills, dredging of sediments to maintain and enlarge waterways and ports, and ship wastewater discharges are among them. The amount of oil spilled in U.S. waterways varies annually; in 2000, 1.4 million gallons were reported spilled, of which 73 percent were from marine vessels and pipelines. The U.S. Army Corps of Engineers dredges about 300 million cubic yards of sediments—some of it contaminated—from navigation channels each year.

Almost all (97 percent) of the lead content of disposed batteries was reused in 1999, but only 26 percent of the 4.7 million tons of scrapped tires were recycled. These data cover passenger cars, trucks, and motorcycles. Data on the waste products of other modes and components of transportation vehicles and equipment are not available on an annual basis.

Chapter 2

State of Transportation Statistics

State of Transportation Statistics

The U.S. transportation system, one of the world's largest, serves 284 million residents and 7 million business establishments dispersed over the fourth largest country (by land area). This complex system enables economic activity, making it possible for even small towns or businesses to physically link with the rest of the world, and offers citizenry a high degree of mobility, facilitating access to goods, services, work, recreation, and social activities. The system must continually adjust to changes in external conditions, such as shifting markets, global competition, changing demographics, safety concerns, weather conditions, energy and environmental constraints, and security needs.

Given the nature of the system, good information is key to effective transportation decisionmaking, whether by governments, businesses, or consumers. Having the right data and information available in the right form, at the right time can affect decisions as different in scale and importance as what route to pick on the morning commute, which modes to use to ship goods, where to locate transportation facilities, and how to allocate public or private investments for transportation.

With such vastly different uses for transportation data and information, the system for collection, analysis, and dissemination of this data and information is itself complex, involving multiple public and private entities. Some of the complexity arises from the uniqueness of key transportation data (box 1). Public access to some information—especially that collected by government agencies—is often not difficult, while information collected by or from private sources is frequently kept proprietary or confidential. States, planning organizations, localities, and transportation authorities collect much data, often for operational and planning purposes; however, its utility beyond the specific location may be limited, because it is not available in a form that enables others to easily use it, for example, a standard format. The federal government often obtains data from states or other public agencies and collects data through surveys and other means, for its own purposes.

With all of this data, several questions arise:

- Do the data cover the right subjects?
- Are the data relevant to decisionmaking needs?
- Are the data reliable and accurate?

Box 1
The Unique Characteristics of Transportation Data

Transportation is about movement. Each movement of people or goods has a starting and ending point and follows a route. The size of such movements, as well as the potential demands for future travel activity are usually represented as origin-to-destination (O–D) movements, or flows, between pairs of places, while the supply of transportation facilities and services is represented by nodes and links in a multimodal transportation network that reflects the physical connectivity between these places. Links in this representation may be sections of highway, rail lines, waterways, pipelines, or bicycle, pedestrian, or air routes, while nodes may be highway intersections, airports and railway stations, intermodal terminals, or other locations where links terminate or converge. Together, these links and nodes constitute a transportation network over which people and goods travel.

This necessarily spatial view of the transportation system can be viewed at a number of different levels of resolution: from intercity flows for which metropolitan areas are the nodes of interest and for which annual trade or personal travel volumes represent the O–D flows of interest; to vehicle, pedestrian, and cyclist movements in localized geographic areas in which local streets and bike paths are the links, and street intersections are the nodes. The spatial representation of transportation movements also presents some unique challenges for data collection and analysis. This is especially the case when trying to combine data collected at different regional scales as well as at different levels of spatial resolution.

Transportation data are collected for many purposes, including operational needs, project evaluation, local and regional planning, national planning and policy formulation, and performance measurement. Some of these data are within the purview of federal entities, but the separation between federal, state, and local roles is not always clear. Aggregating local data to get a complete national picture is impossible if data are not gathered in all relevant jurisdictions or if they are collected in different ways by different agencies. For example, while local truck movements are best collected at the local or metropolitan area level, data on interregional or "through" truck movements are more easily collected at the federal or statewide level. Individual metropolitan areas encounter problems in gathering such data, because all origins and destinations will not be within their jurisdiction.

Data gathered by the federal government, however, often require sampling to obtain cost-effective national or regional statistics. As a result, these data sometimes lack the detailed geographic specificity or complete within-region coverage needed by local planners and policymakers. This is particularly true for O–D-specific, long-distance highway traffic, including long-haul truck traffic. Sampling has an important role to play here in obtaining representative data at reasonable cost.

There is also a temporal dimension to be considered in this spatial data collection. Not only average freight and passenger flows but also the day-to-day and season-to-season variability in these volume measures need to be known if the level of service being provided by the transportation network is to be properly understood. The same is true for the travel costs associated with these movements, with day-to-day reliability in transit times on congested parts of today's transportation network playing an important role in both the selection of routes and the determination of O–D-specific travel costs.

- Are the data understandable, accessible, and timely for decisionmaking?

With an eye toward improving the transportation information system, Congress in 1991 authorized the establishment of the Bureau of Transportation Statistics (BTS). BTS's mandates were reaffirmed by reauthorization legislation in 1998. As part of this mandate, Congress called on BTS to assess both the state of the transportation system and the state of transportation statistics in a transportation statistics annual report. Specifically, the report is to include ". . . recommendations for improving transportation statistical information." This chapter, in response to BTS's congressional mandate, focuses on public dimensions of transportation statistics.

THE IMPORTANCE OF DATA

The need for data has been a continuing theme throughout the extensive history of transportation statistics (box 2). A long period of increasing interest in transportation statistics reached a zenith in 1977 with major data-collection activities in all modes of transportation, the publication of comprehensive analyses of national transportation needs and a national

Box 2
Historical Highlights: Transportation Statistics

1887	The Interstate Commerce Commission is established, initiating the collection of data from carriers to support regulation.
1920–1921	The U.S. Army Corps of Engineers begins publishing data on water transportation commerce and ports.
1934	The Federal-Aid Highway Act authorizes funds to be spent by state highway departments on surveys and economic analyses.
1944–1970	The largest metropolitan areas conduct large-scale studies of urban travel and transportation capacity.
1945	The Bureau of Public Roads (predecessor to the Federal Highway Administration—FHWA) publishes the first *Highway Statistics* report.
1957–1963	The U.S. Census Bureau initiates the Census of Transportation, including surveys of trucks, unregulated motor carriers, commodity movements, and long-distance passenger travel.
1958	The Federal Aviation Administration Act mandates collection of airline financial and operating statistics.
1960	The U.S. Census Bureau begins to collect journey-to-work data as part of the Decennial Census of Population and Housing.
1962	The Federal-Aid Highway Act establishes a data-rich comprehensive planning process for metropolitan areas.
1966	The Department of Transportation (DOT) Act creates DOT and requires the Secretary of Transportation to ". . . promote and undertake the development, collection, and dissemination of technological, statistical, economic, and other information relevant to domestic and international transportation."
1968	FHWA begins publishing a biennial highway needs report.
1969	FHWA initiates the first Nationwide Personal Transportation Survey. DOT summarizes the state of statistics in *Transportation Information: A Report to the Committee on Appropriations, U.S. House of Representatives, from the Secretary of Transportation* (the Red Book). The U.S. Coast Guard initiates the Boating Accident Report Database.
1970–1971	DOT publishes the first edition of *National Transportation Statistics*. Passage of the National Environmental Policy Act and Clean Air Act highlight the need for environmental data related to transportation. The U.S. Census Bureau significantly expands the content and geographic detail of journey-to-work data collected under the Decennial Census of Population and Housing.
1972–1974	DOT publishes two *National Transportation Reports* in which data are compiled on all modes.
1973	The U.S. Coast Guard establishes the basis for the Marine Safety Information Management System, which later becomes the Marine Information for Safety in Law Enforcement System, after the Federal Water Pollution Control Act mandates the reporting of any discharge of harmful quantities of oil or hazardous substances.
1974	The National Urban Mass Transportation Assistance Act mandates collection of data on the transit industry under Section 15. Energy data becomes a major concern with the first oil embargo.
1975	The Federal Railroad Administration establishes the Railroad Accident/Incident Reporting System database. The Fatal Accident Reporting System is initiated by the National Highway Traffic Safety Administration. The U.S. Census Bureau conducts a survey of domestic transportation of foreign trade.

(continues on next page)

Box 2 (continued)

1977	A national transportation atlas and DOT *National Transportation Report* is published under the title *Trends and Choices*. The U.S. Census Bureau conducts the quinquennial Commodity Transportation Survey and National Travel Survey. The Research and Special Programs Administration receives the Hazardous Materials Information System initiated by the DOT's Hazardous Materials Regulations Board in 1971. The Federal Transit Act amendments create the National Transit Database Reporting System on mass transportation financial and operating information.
1978–1980	Aviation, railroads, and motor carriers undergo significant economic deregulation, and many data-collection programs by regulatory agencies are subsequently reduced or terminated.
1979	The National Transportation Policy Study Commission calls for a continuing commitment to the development of transportation statistics.
1982	The U.S. Census Bureau terminates the quinquennial collection of data on commodity flows and passenger travel due to funding and methodological problems.
1990	DOT publishes *Moving America: New Directions, New Opportunities—A Statement of National Transportation Policy Strategies for Action*, which calls for a renewed commitment to transportation statistics.
1991	The Transportation Research Board completes its recommendations in its report, *Data for Decisions: Requirements for National Transportation Policy Making*. The Intermodal Surface Transportation Efficiency Act (ISTEA) is passed, mandating the establishment of the Bureau of Transportation Statistics (BTS).
1992	FHWA begins work with the U.S. Census Bureau on the Commodity Flow Survey. The DOT management order implementing the ISTEA mandate for BTS is signed in December, and management of the Commodity Flow Survey is transferred to BTS.
1993–1995	BTS and the U.S. Census Bureau conduct the Commodity Flow Survey, the American Travel Survey, and initiate the Transborder Surface Freight Transportation program. BTS publishes its first *Transportation Statistics Annual Report* and resumes publication of *National Transportation Statistics*. BTS receives the surviving data functions of the Civil Aeronautics Board.
1996	BTS receives the motor carrier financial and operating statistics program from the Interstate Commerce Commission.
1998	The Transportation Equity Act for the 21st Century (TEA-21) reaffirms BTS's data mandates and adds some new emphases including global competitiveness, bicycle and pedestrian travel, capital stocks accounting, the intermodal transportation database, and the National Transportation Library.
2000	BTS launches the monthly Omnibus Survey. *The Changing Face of Transportation*, successor to the 1977 *Trends and Choices* report, is published by DOT. The Federal Motor Carrier Safety Administration receives the Motor Carrier Management Information System from FHWA and con tinues the publication of motor carrier safety data.
2001–2002	BTS and FHWA jointly conduct the National Household Travel Survey, combining the American Travel and Nationwide Personal Transportation surveys. BTS and the U.S. Census Bureau begin data collection for the next Commodity Flow Survey.

transportation atlas, and a joint program of multimodal data collections by the Department of Transportation (DOT) and the Census Bureau of the Department of Commerce.

Transportation statistics entered a period of decline after 1977 as deregulation and shrinking budgets brought many federal programs to an end. Comprehensive national analyses of transportation were not conducted by the federal government between 1979 and 1989. Nor were national multimodal data on commodity flows collected between 1977 and 1993. However, the demand for this information remained strong, as was reflected in various mandates placed on BTS when it was established by the Intermodal

Surface Transportation Efficiency Act and then reauthorized by the Transportation Equity Act for the 21st Century.

Underlying the importance of transportation data is the knowledge that data are key tools for the work of the transportation community: for making informed policy decisions; supporting rules and standards; creating, evaluating, and changing programs; effective planning; and conducting research. Fundamentally, without good data, the transportation system cannot be properly assessed and appropriate strategic changes made to enhance its performance.

Because changes cannot always wait for good data and the appropriate analysis that flows from it, transportation decisions are sometimes made today using data that are inferior. Knowing this, BTS has striven throughout its 10 years to change this situation, to assure that transportation data are relevant, timely, comparable, complete, high quality, and useful. Bad data can mean faulty decisions. Conversely, when data are unimpeachable, they enhance objectivity and draw attention to matters that might otherwise be missed. Good data can focus contentious policy debates.

Still, good data are often unavailable because they are expensive to collect. The Commodity Flow Survey (CFS), the core federal program for collecting freight movement data, costs several million dollars to produce. Despite its relatively high cost and efforts to improve it, the CFS has serious limitations. It does not cover all freight movements, lacks important geographic detail, and is only available every five years. CFS brings to attention a problem facing other significant data-collection efforts in transportation: how to assess the benefits of more or new data-collection efforts against the costs of data collection itself. A strong argument can often be made that the cost of a mistake because of unavailable or bad data can be far larger than the cost to develop appropriate data systems. A single highway project, for instance, can cost millions of dollars more than the cost of gathering a full set of nationwide data on flows of cargo shipments. With apologies to Roger Bacon: He who has no data cannot learn the other sciences . . . and what is worse, they know not their own shortcomings nor their proper remedies.[1] Bacon was referring to mathematics, but, without data, decision-makers may not know the shortcomings of their policies or how to construct proper remedies.

Assessing the costs and benefits of data collection poses a challenge to statistical agencies that are the producers, custodians, and disseminators of data. A relatively new statistical agency like BTS, which has been charged by Congress to identify what a comprehensive system of transportation statistics might be, has to judge not only what data might be useful but also whether the benefits justify the costs. In transportation, benefits may often have to be assumed, especially in the absence of data that can reveal them.

To produce good data, the fragmentary nature of transportation institutions must be overcome. Many of the major transportation issues today cut across modes and political boundaries. Solving these problems may require multimodal solutions, including either intermodal transfers or a better allocation of origin-to-destination (O–D) flows across competing modes. For instance, increases in congestion currently impact the cost-effective movement of both people and freight, with

[1] This thought is reminiscent of Bacon's work, *On Experimental Science,* published in 1268.

subsequent negative effects on the economy, the environment, and energy consumption. Sustainable solutions to congestion mitigation will also involve multiple modes, and identifying the most promising solutions will mean finding improved ways of comingling data sources across the different modes.

Those who collect transportation data are often constrained by past history. Much local, state, and national data cannot be merged to produce larger pictures of transportation status and needs. There are highway, air, railroad, and maritime accident and fatality data, but comparisons are risky because data definitions and collection methodologies differ. Passenger and freight data exist but not for every mode in comparable fashion. Institutions can rise above this "stovepiping" of transportation data by, for instance, finding ways to genuinely cooperate with each other, but often there are disincentives to making the necessary changes. It will take time and resources to accomplish a more integrated transportation data system, but savings will accrue in the long term.

Finally, a good data system needs to be agile. It must produce timely data and be flexible enough to adjust its orientation as the needs of transportation shift. Much of transportation lies within the private sector where the pace of change can be rapid. In such a context, timely data focused on changes in the mix of modes, geography, and demand for transportation in relation to supply has never been more important.

TODAY'S TRANSPORTATION DATA SYSTEM

The present transportation statistics system consists of an array of data systems each constructed for specific, sometimes narrow purposes. These systems exist much like a collection of pieces from different jigsaw puzzles of the same picture. The pieces answer some questions well but leave many others unanswered or partly or poorly answered. The pieces do not constitute a whole because of a number of factors, including conflicting data users needs; incompatible definitions; diverse collection methods; and data overlaps, omissions, timeliness, coverage, and apparent inconsistencies. Many of the most pressing transportation data problems faced by decisionmakers when BTS was formed a decade ago have been addressed. The following discussion and its contrast with a visionary system suggest that important challenges remain.

Data Users

The transportation community has a highly diverse set of data users (box 3) whose needs do not always complement one another; in fact, they can be in conflict at times. No one can realistically provide all data in all the accessible forms to all users, nor can anyone easily select an optimal subset of users on which to focus data efforts. However, by concentrating on finding broad solutions to data needs, providers might be able to satisfy many users. For instance, an Intelligent Transportation System can capture information an operator can use to manage urban traffic flow. These data can also be used for measuring performance of the road system and for validating planning models. Then, if the data are archived, they would allow highway planners to identify areas of excessive congestion to determine project priorities or researchers to determine parameters for developing traffic flow models.

This approach suggests that the process of identifying data needs be a collaborative one

Box 3
Categories of Data Users and Their Needs

Policymakers in government or business make transportation decisions at the local, state, or federal level. Many groups—lobbyists, opinion makers, businesses, and nongovernmental organizations—closely monitor or seek to influence such decisions.

Planners—public and private, government and business—need data collected over time for longer term purposes such as carrying out cost-benefit analyses, allocating resources, promulgating regulations, or planning programs and projects.

Operators include government representatives (e.g., air traffic controllers or emergency responders) and industry personnel (e.g., freight dispatchers). They run day-to-day operations and often require real-time data about specific locations, vehicles, events, or conditions to make on-the-spot decisions to control operations and to provide information to transportation system users.

Enforcers are generally government officials, although there are private security organizations that have similar responsibilities. They need data to ensure the safety and integrity of the transportation system by monitoring and controlling the transportation system users. They can accomplish this with a mix of real-time and historical data about individuals, events, and locations.

Academics doing basic or applied research in support of one of the other four categories. They generally use very detailed data, often collected over time, that allow them to hone in on a specific issue.

involving all potential stakeholders. Further, it means moving away from the concept of data owners who create and maintain systems for their own purposes and only reluctantly consider the needs of others. Instead, data stewards could focus on designing systems with as wide an input as possible with the ultimate aim of sharing data to the maximum extent possible. Even then, some conflicts are inevitable. For instance, the public may be in favor of having highway monitoring systems that permit operators to reroute traffic in response to an incident. They may even agree to have that same data archived so that planners can identify trouble spots requiring infrastructure adjustments. But, the public is often reluctant to let enforcers have access to that same data if the intent is to use it to identify and track movements of specific individuals.

Standard Definitions

Issues of data comparability abound and can stem from differences in levels of detail and purpose among data collectors. The federal government may be primarily interested in national-level data, while state and local governments may want similar data but on a regional or local basis. Local and regional data may not allow aggregation for analysis of national characteristics and trends. These data are often developed in ways that lead to incompatibilities among localities or regions. Federal collections, which are also often developed without consulting a full range of users, tend to lack data specific enough, in content or quantity, to meet local needs. International data may not be comparable among countries, making comparisons misleading even though they are often made.

Both the public and private sectors need and collect data, often the same type of information, but not always for the same purposes. Each can be unwilling to share with the other. Industry may not want government, especially regulators, to know any more than what the law says government is entitled to know. They are also wary about competitors getting information that could shed light on their operations or plans. Regulators may not want the private sector to have access to operational data. Businesses and trade associations that collect, package, and sell data sometimes compete with governments that either charge less or tend to give data away.

Much of the conundrum over data comparability comes down to standards. A common misperception about standards is that everything has to be identical: hardware, software, and communications systems. In today's world of information technology, this is not true. The critical issue revolves around the lack of standard definitions for the data. Examples are numerous. There is no common definition of a transportation fatality across all transportation modes. Buses are defined differently by various DOT administrations. Different maritime organizations use a variety of vessel classification schemes. Without standard definitions, combining or comparing data elements is extremely difficult if not impossible. Software may be able to match up datasets that report data in different formats, but it is not so easy when the relationships are not straightforward. Coordination and cooperation are key. Agreement among data collectors, managers, and users on common definitions, data elements, and structure would resolve most incompatibility problems.

Suboptimal Data

There are a number of ways in which data collection results in suboptimal data. Two examples are federal government mandates that call for data submission without funds to cover the cost of reporting or that fail to provide something in return for the reporting effort. While DOT often provides transportation funding to states, these funds are seldom tied to data requirements. Thus, states develop data systems that fit their own needs and budgets, resulting in data that may only generally conform to the mandate.

Industries or others are required by regulation to submit certain data, some of which they may already collect individually for their own needs. However, if the government does not provide easy access to the industry-wide data that results from the mandate or is not timely in making the data available, then the private sector gets little in return, leaving it with minimal incentive to provide data other than to avoid punitive action. To improve data availability, BTS's new TranStats database is intended to provide "one-stop shopping" for transportation data. As such, it could provide industry a tangible return on the effort expended to comply with mandated data-reporting requirements.

Suboptimal data can also result when data collection is not the primary focus of those given collection responsibilities. For instance, the police officer at an automobile accident scene must ensure the safety of the victims and property, protection of potential evidence, and traffic management before gathering highway traffic safety data. This suggests that data-collection procedures should be designed, where possible, in ways that do not interfere with other, more important tasks. Even then, collection may result in data shortcomings or inaccuracies. In the safety arena, commonly known data gaps include lack of detail about motor vehicle crash scenes, the people involved, crash causes, and the severity of injuries. However, seeking alternative data-collection methods and sources may be more appropriate rather than adding burdens to crash site responders. Insurance companies and medical service providers, for instance, may be sources of more detailed damage and injury data, although confidentiality issues would likely have to be addressed before data could be shared.

Cost-Effectiveness

Data budgets have to compete with other priorities within government agencies, industry, or other organizations. Difficulties in assessing positive outcomes from data use can lead to minimal levels of funding. The entity that does pay will expect to have the final say on what, where, when, and how the data are collected and used. This can result in stovepiped data systems where the developer optimizes the design to meet its organizational needs and pays little heed to other possible uses of the data. Cooperative efforts can help avoid this, as exemplified by the National Household Travel Survey. This project, which surveys 25,000 households to develop a national picture of travel habits and patterns, is jointly funded and managed by the Federal Highway Administration and BTS. While the survey is not large enough to ensure adequate coverage for analysis much below the national level, the survey instrument is made available to states and metropolitan planning organizations (MPOs) to collect more regionalized data. The state or MPO provides the funding for an addition to the survey and gets the desired data at less cost than if it developed and administered its own comparable survey. This approach also allows for comparisons between MPO and national data.

When decisionmakers do not have good data, they manage without it. Projects still get approved and funded, and some level of improvement in transportation occurs. The expense of additional data collection and analysis may not, thus, appear necessary. However, poor data do not generally result in the most cost-effective solutions. A Catch-22 situation can result. Without proof that the data would be beneficial, better data collection may not be approved. Without the better data, proof of its usefulness may not exist.

Frequency

What is the right frequency for data collections? The easy answer is that it depends on the use of the data, but there are other factors. The CFS is a nationwide survey of shippers conducted by the Census Bureau in partnership with BTS. To date, the survey has generated freight transportation data for 1993 and 1997, and the next set of data (covering 2002) will be released in 2003. Some say this five-year cycle is sufficient since the federal government produces an economic census every five years, DOT's legislative reauthorization occurs about every five years, and the planning process runs over a five-year period. Having commodity flow information every five years to measure how the national transportation system is being used by all modes and to determine if performance is improving or declining is, in this view, adequate. However, those who need freight flow information for local infrastructure assessment or for building a business strategy do not agree, because five-year-old data are too stale for their decisionmaking processes.

One way to overcome this difference of opinion would be to conduct multiple surveys: a nationwide survey every five years for federal government purposes and others done more frequently by state or local governments and by industry. However, this proposition is costly and can result in data incompatibility problems, as discussed earlier. Once again, a coordinated approach involving data users in different levels of government and in industry could produce less costly but unified data that meet a variety of user needs. A modified CFS with a smaller sample size, collected more frequently, may meet the need for more timely data and be aggregated at five- or six-year intervals to provide a more comprehensive picture of freight flows. This approach requires breaking with tradition and adopting innovative solutions but has the potential to meet more needs at a reasonable cost.

Comparability

When data users get a different answer to the same question, they rightfully complain about a lack of comparability in data. The reason, however, often relates to differing sources and the status of data rather than fundamental problems with the data.

Multiple data sources that cover the same topic will not necessarily give the same answer. For instance, a user can get foreign waterborne commerce information from the Census Bureau's U.S. International Trade in Goods and Services report and the *Journal of Commerce's* Port Import/Export Reporting Service (PIERS) database. The Census data are generated from trade-based data, while the *Journal of Commerce* data are from vessel manifests. Data from different collection methods can be used to check the quality of each system, while centralized data distribution can reduce user confusion. The Office of Management and Budget designated the U.S. Army Corps of Engineers as the central collection agency for the U.S. Foreign Waterborne Transportation Statistics program. The Corps has access to both trade- and manifest-based data, knows the strengths and deficiencies of each, and can combine the information from both sources to give the most complete picture of import and export cargo movement.

A different type of inconsistency results from the use of preliminary versus final data. Preliminary data releases allow for timelier but lesser quality data. The National Highway Traffic Safety Administration (NHTSA) publishes an early assessment of traffic fatalities each spring covering the previous calendar year. These data are revised at a later date when all fatality information has been reported and the data have gone through NHTSA's data quality validation process. Preliminary data are extremely valuable to those who need information for performance monitoring or planning purposes. Timely indicators can identify problem areas and result in early interventions. Decisions can be made sooner with preliminary estimates, with the understanding that timeliness is being balanced against greater accuracy.

Omissions

Missing data occur for a number of reasons (boxes 4 and 5) and result in an incomplete picture of who and what is transported. Existing data collections are often either too general to break down to the level of specificity users desire, or they do not adequately cover subjects of interest. For instance, little is known about some aspects of the usage of public vehicles, such as ambulances, police vehicles or garbage trucks; retail vehicles, such as delivery trucks; or private cars used as delivery vehicles. Data on commuter air carriers and air cargo is not as extensive or consistent with that collected from the larger passenger air carriers, yet commuter jets and air cargo operations have become significant elements of the air transportation system. General aviation and recreational boating, after highway vehicles, account for the most transportation fatalities, yet exposure data are limited.

Missing elements generate questions that cannot be answered: What are the travel patterns of the elderly, the disabled, low-income households, pedestrians, bicyclists, recreational boaters, and so forth? How can exposure to risk be calculated if how often and how much they travel is not known? How many large truck, delivery, emergency, and service vehicle trips take place each day? When do they occur and what routes do they take? How can their impact on congestion be

Box 4
Telephone Surveys: Who Gets Left Out?

Some important transportation data are collected through telephone surveys. However, telephone surveys run the risk of not accurately accounting for the transportation patterns and needs of lower income, minority, non-English speaking, and other segments of the population. A review of the U.S. Census Bureau's *American Housing Survey for the United States: 1999* bears this out. While only 4.4 million (4.2 percent) of the 102.8 million U.S. households do not have telephones available, the distribution is not evenly spread across the population. Renters, for instance, make up only 33 percent of households but constitute 51 percent of households without telephones. Similar disparities exist for blacks and Hispanics who make up 13 percent and 9 percent, respectively, of the total households but 20 percent and 13 percent, respectively, of households without telephones. Additionally, while 14 percent of households have incomes below the poverty level, they comprise 25 percent of the homes without phones. The percentages are higher in central cities.

A slightly different issue exists for those who only have mobile phones. With the popularity of cellular telephones rising because of their convenience and declining cost, some households have opted to forgo having a regular (i.e., landline) telephone. Since mobile phone owners may incur charges for incoming calls, most telephone surveys exclude cellular numbers. This leaves another segment of the population unrepresented in surveys even though they have telephones.

Lastly, telephone surveys may require responses in English. The 1990 census data show that nearly 8 million, or a little more than 3 percent of the 230 million people in the United States over the age of 5, live in households where no person 14 or older speaks English well enough to respond to an English-only survey. Therefore, it is important that survey design take into consideration the impact of who might be missed and find ways to include these segments of the population either through alternative sampling or statistical methods.

Box 5
Data Confidentiality

Confidentiality concerns raise questions about what should be protected and ultimately determine the content and uses of data systems and limit access to data even when legitimate needs arise. The laws and regulations concerning data confidentiality are designed to limit the release of data. Legislation, such as the Freedom of Information Act (FOIA), is intended to guarantee access to information. Government and industry may be authorized to collect data with personal, proprietary, law enforcement or classified information, but they may also be permitted to withhold or prohibited from releasing that data to others if it would violate confidentiality rules.

Personal information. The Privacy Act guarantees citizens protection against unwarranted invasion of their privacy, including collection and dissemination of personal information.

Proprietary information. Commercial enterprises may limit the distribution of information that is business-sensitive.

Law enforcement information. Certain law enforcement information may be protected from disclosure to ensure the safety of law enforcement personnel and the integrity of operations.

Classified information. Information that is classified by the federal government for reasons of national security is prohibited from public disclosure.

The general solution is to aggregate the data to a level where confidentiality is moot. Statistical agencies such as BTS can play a pivotal role here. They usually have legislation that protects data from certain FOIA requests, making them logical collectors of confidential information. They then can aggregate that information to a level where confidentiality concerns are eliminated and provide that data to those who need it. If they cannot release the data, they may be able to conduct the desired analysis of the protected data and provide the results in a manner that protects confidentiality.

calculated if how often and how much they travel is unknown?

These questions reflect an interest among data users to target specific segments of the population and transportation users to ensure that their impact on the transportation system and the system's impact on them can be measured and appropriate action taken. Filling gaps in the behavioral data are important: to federal, state, and local governments to determine allocation of resources; to business and industry to determine market strategy and operating policy; and to the public to address issues of equity and safety of transportation services. New data collections or modification of existing methods will be necessary to provide a more complete picture of U.S. travel patterns.

Intermodalism

Effective movement of both people and freight can involve multiple modes of transportation. These types of trips are poorly represented in current transportation data. Sometimes, this can occur because of the way questions about travel are posed. Prior to September 2001, policymakers were very concerned about the apparent growing congestion in air travel resulting in air flight delays. BTS has focused on improving data collection and dissemination on this specific issue. However, part of air travel involves getting from city centers or other origins to airports by other modes of transportation; it is the combination of modes and how they are integrated that determine the true length of a trip for an individual. Similarly, multiple modes of transportation are commonly used to move freight shipments from their initial origin to final destination. However, these intermodal data are not readily available. Each modal portion is often captured but in data systems with different formats, definitions, and data elements, making it difficult to integrate the data into a single trip (box 6).

Box 6

One Intermodal Shipment

A shipment of electronic equipment moving from overseas to a U.S. retail outlet arrives in the Port of Long Beach, California, via containership. The container is transferred to a railcar and travels by train to Chicago, where the load is broken into separate shipments. The electronics equipment is placed on a large truck with other shipments and driven to a distribution center in Indianapolis, where the truck's cargo is unloaded and the electronic equipment shipment is separated out. The shipment is then placed in a delivery van and driven to its final destination in Fort Wayne, Indiana.

Some information about this shipment would be included in multiple data sources, such as the *Waterborne Commerce of the United States* database maintained by the U.S. Army Corps of Engineers for the maritime portion of the trip, in the *Rail Waybill Sample* conducted for the Surface Transportation Board for the train portion of the trip, by the Bureau of Transportation Statistics' Commodity Flow Survey (CFS) for the intercity truck portion of the trip, and by the company that provided delivery to the final destination for its segment of the total trip. The data collected are not consistent throughout, nor are all the data sources publicly available. The CFS would not capture information about the shipment if the shipper for the entire trip is foreign, since this survey does not cover imports. But the CFS would capture the data for the domestic segments of the trip handled by a domestic shipper. A similar scenario of differing modes of transportation and segmented data collection could be produced for passenger travel with the same result: data users would not have an integrated picture of the entire trip. This inaccurate picture of intermodal travel and freight movement occurs because of the many incompatible data sources and the gaps in coverage by national surveys.

Data Focus: Prevention v. Survival

Datasets are generally collected with a particular, and usually narrow, focus in mind. This narrow focus will supply answers to some questions but can ignore important related issues. The best examples of this situation are in the area of safety data. All modes of transportation capture extensive safety data, particularly on accidents, however, each mode may go about it in different ways for different purposes.

Aviation accidents are few in number but often result in loss of life. The National Transportation Safety Board (NTSB), accordingly, does an exhaustive job of investigating crashes to determine why they happened. On the other hand, there are so many highway traffic accidents each year (ranging from minor fender-benders to fatal crashes) that a great deal of attention has been paid to collecting survivability information. This disparate focus has left both modes with data gaps. Limited data are captured on aviation passenger survivability leaving NTSB analysts unable to conduct indepth research on how to make aircraft safer for passengers during crashes. Conversely, if limited data are collected about causes of highway accidents, traffic safety researchers could be left with a poor understanding of how to prevent highway accidents.

Security Data and Data Security

Overlaying all of these transportation data issues today is how to achieve a balance between the need for security data and data security. There is currently a paucity of transportation security data available, especially in a consolidated fashion, on costs, incidents, and critical infrastructure. Prior to September 2001, security concerns about transportation infrastructure focused on military deployments; that is, making sure the routes to get military personnel and supplies to destinations overseas were kept open. Now, security issues are centered on potential disruptions of infrastructure and impacts on the physical and economic well-being of the country. This new focus requires more extensive information on transportation routes, system capacity, and vulnerabilities.

Meanwhile, concern about potentially damaging uses of data has led to restrictions, for security purposes, on the release of data. Data about transportation infrastructure, particularly geographic information, are not as readily accessible as they once were. After September 2001, the White House issued a memo requesting that federal agencies review the information they make available on the Internet to safeguard potentially sensitive data. More broadly, agencies now follow Department of Justice guidelines when reviewing requests under the Freedom of Information Act.

BTS: A LEADER IN TRANSPORTATION STATISTICS

The primary role of BTS, as expressed in its mission statement, is ". . . to lead in the development of transportation data and information of high quality and to advance their effective use in both public and private decisionmaking."[2] Legislation granted BTS a leadership role in the domain of transportation statistics but not authority over the data programs of other transportation administrations. While BTS spends almost half its budget on data collection, the bulk of transportation data are collected by other DOT administrations, federal agencies, and nonfederal entities, both public and private. Thus, BTS plays a coordinating role, helping to overcome the complexities of integration among levels (e.g., local, national, and international) and types of data and data that cut across modes.

Data Systems Coordination

Given the decentralized nature inherent in the national transportation data system, greater coordination between data users and data collectors is needed. BTS and other federal agencies need to play a prominent role in ensuring that data gathered by state and local agencies use comparable national definitions.

In recent years, BTS has taken on a number of functions aimed at coordination, including: development of *TransStats, the Intermodal Transportation Database;* geographic information systems (GIS) for transportation; and the Safety Data Initiative. Also, to enhance coordination and the flow of data and information among data producers and users,

[2] U.S. Department of Transportation, Bureau of Transportation Statistics, "A Strategic Plan for Transportation Statistics (2000–2005)," March 2000, available at http://www.bts.gov, as of May 2002.

BTS maintains the National Transportation Library (NTL).

TranStats, the Intermodal Transportation Database. *TranStats* is a network-based portal to the wealth of transportation-related data collected by DOT as well as others outside DOT. The aim is one-stop shopping for transportation data, and ultimately—in conjunction with the NTL—one-stop shopping for all of the information needed to carry out transportation research. The premise is fairly simple. By reducing the overall amount of time needed for data gathering, more time is available for analysis, and by providing easy linkages across datasets, new insights are facilitated. Having all of the data in one place also provides side benefits (and challenges). It potentially exposes discrepancies in definitions, differences in schemes, and data gaps—offering new opportunities for improving data quality, comparability, and coverage. It also provides an opportunity to more easily develop standards for presentation and documentation, to make transportation data more usable.

The most prominent feature of *TranStats* is the scope of its data. BTS plans to eventually include all of the major datasets within DOT, as well as a variety of demographic, economic, and social data, to enable wide-ranging analyses. *TranStats* also will contain powerful web-based tools to look at the data, including the ability to construct tables, graphics, and maps and do selective downloads.

Geographic Information Systems. Because of the spatial nature of transportation, geographic displays are an ideal way to analyze travel data and can present compelling pictures for decisionmakers. BTS creates, maintains, and distributes geospatial data through the National Transportation Atlas Database program. These data are obtained from multiple sources and include the National Highway Planning network, a national rail network, public-use airports and runways, and Amtrak stations. In the near future, layers will be added for land use, waterways, and transit. Together, the data comprise the transportation layer of the National Spatial Data Infrastructure. BTS distributes transportation geodata and a number of geographic reference files including state, county, congressional district, and metropolitan statistical area boundaries.

To coordinate the development of GIS data, standards, and tools within DOT, BTS created a Geographic Information Working Group. BTS is also partnering with other federal agencies to share geospatial data over the Internet and is building geographic information systems into the design of *TranStats* to provide dynamic mapping of statistical information.

Safety Data Initiative. BTS was the lead agency in a DOT-wide effort to improve safety data. Four working groups were established with team members from all transportation modes (i.e., air, rail, highway, water, and pipelines) and other federal agencies, as well as from academia. The working groups developed plans for 10 research projects.

National Transportation Library. BTS maintains an electronic "virtual" library, the NTL, that is accessible through the Internet. The library provides broad access to the nation's transportation research and planning literature. Currently, NTL contains over 150,000 documents and abstracts for another half million. NTL also maintains the DOTBOT search engine, indexing documents from 170 DOT websites. Through its partnership with the Transportation Research Board, NTL provides access to over 420,000 bibliographic records in the Transportation Research Information Services (TRIS) Online database.

Data Collection

As has been mentioned, good data are needed for effective transportation decisionmaking at all levels of society. Data for freight and passenger movements by mode, for instance, enable policymakers to estimate investment needs, track economic trends, and assess the financial health and performance of the transportation system.

BTS is responsible for several national-level datasets. The National Household Travel Survey (NHTS) is being conducted for 2001/2002 in partnership with the Federal Highway Administration. The 2002 Commodity Flow Survey is being done in partnership with the Census Bureau, following CFS data produced for 1993 and 1997. To improve freight data, BTS has considered an annual freight survey, which would provide more timely, complete, and detailed O–D commodity flow data and other types of freight traffic volume and shipment cost data. This new survey would include sectors now excluded in the CFS and supply more detailed data at the metropolitan level than is currently available. As a first step, the agency has asked the Transportation Research Board to conduct a 12-month study, "Freight Transportation Data: A Framework for Development," to offer expert advice on the development of the new survey.

At the international level, BTS tabulates, analyzes, and disseminates monthly North American land trade flow data, which are collected by the U.S. Customs Service and processed by the Census Bureau. These data provide information on commodity type by surface mode of transportation (rail, truck, pipeline, mail, and other). In addition, they include geographic detail for U.S. exports to and imports from Canada and Mexico. The information is used to monitor freight flow changes under the North American Free Trade Agreement, as well as for trade corridor studies, transportation infrastructure planning, marketing and logistics analyses, and other purposes. Similarly, BTS also tabulates, analyzes, and disseminates monthly passenger border-crossing and entry data collected by the Customs Service. These data provide information on the number of passengers and vehicles entering the United States across the northern and southern borders.

For air passenger travel and freight movements, BTS (through its Office of Airline Information) collects and publishes monthly ontime airline data, as well as more extensive monthly operating data for both domestic and foreign airlines. BTS also collects detailed financial statistics for domestic airlines and various statistics on service quality. The data reporting is mandated by law, and several issues are now driving changes in the reporting regulations. Prior to September 2001, public concern about airline delays led to legislation requiring better data on the causes of delay, and in mid-2002 BTS was in the final stages of rulemaking on data collection that would cover causal information. BTS also has been working for some time to modernize the data-collection program, bringing it up-to-date with changes that have occurred in the airline industry and with advances in information technology.

Airline data collected and compiled by BTS include:

- U.S. air carrier financial statistics (quarterly and annually);
- U.S. air carrier traffic statistics (monthly, quarterly, and annually);
- U.S. air carrier passenger origin-destination, itinerary, and ticket pricing data (monthly, quarterly, and annually;
- foreign air carrier traffic statistics (monthly);

- U.S. airport activity statistics (quarterly and annually); and
- U.S. major air carrier ontime and flight delay data (monthly).

BTS supported DOT's Office of the Secretary in its review of claims for and decisions on payments to air carriers under the Air Transportation Safety and System Stabilization Act, enacted after the terrorist attacks on September 11, 2001, to aid the airline industry. BTS support included data processing, claims review, and data validation and analysis. By the middle of 2002, DOT had authorized the payment of almost $4.3 billion to air carriers.

BTS, through its Office of Motor Carrier Information, manages a mandatory data-collection program of financial and operating statistics.[3] All trucking companies with gross annual operating revenues of $3 million or more are required to file annual reports, and those with revenue of $10 million or more are also required to file quarterly reports. In addition, all bus companies with gross operating revenues of $5 million or more are required to file annual reports. Types of data collected from trucking companies include:

- company name and identifying motor carrier numbers;
- company's segment of the trucking industry ("revenue commodity group");
- annual revenue, expenses, and net income;
- annual driver and helper wages;
- annual miles traveled, total number of shipments, and ton-miles; and
- the number of drivers with and without commercial licenses employed and the number of trucks and truck-tractors the company operates (owned or leased), as of the end of the reporting year.

These data are widely used in the private and public sector by motor carriers for benchmarking and competitive analyses, academics for scholarly analyses and to train future trucking industry executives, law firms for expert testimony in court cases, federal and state government agencies for studies of the trucking industry, consulting firms, and trade journals and other publications to show rankings and business information for individual trucking companies. BTS plans to make annual report data (1999 and thereafter) available electronically via *TranStats*. Data users will then be able to extract data they need by individual company and industry segment or access the entire annual data series for analysis using statistical analytical software.

The monthly *Omnibus Survey* is coordinated by BTS for offices in DOT, enabling data collection on the transportation system, how it is used, and how users view it. The survey provides timely, high-quality data on issues related to safety, security, mobility and access, the human and natural environment, and economic growth to support informed planning and decisionmaking. In addition to monthly core questions covering DOT's strategic goals, administrations can add questions to the survey. These questions typically cover specific events or issues of interest to the various DOT administrations or measure public reaction to issues like fluctuating fuel prices, seat belt use, airline service, or boating safety. In addition to the *Omnibus Survey,* BTS conducts occasional special topic surveys. For instance, after the terrorist attacks of September 2001, BTS conducted a survey to assess the public's intentions for traveling over the holidays and their expected mode

[3] 49 CFR 1420. The Interstate Commerce Commission collected financial and operating statistics data from the time that the Motor Carrier Act of 1935 went into effect until 1994, at which time BTS took over the data collection.

choices and in early 2002 surveyed the public's perspectives on government efforts to improve transportation security.

Compilation, Analysis, and Dissemination

BTS compiles extensive data from diverse sources into collections relevant for policymakers and other transportation data users. These compilations range from sets of data tables to presentations of data with analyses, and include:

- *Transportation Statistics Annual Report,* prepared under BTS's le'gislative mandate, covers nearly 100 transportation topics, analyzing time series data and recent developments.
- *Transportation Indicators,* available monthly on the BTS website,[4] tracks over 130 indicators.
- *National Transportation Statistics,* an annual publication with over 250 data tables, is organized into four broad categories (i.e., system, safety, economy, and energy/environment) and is available in hard copy and on the BTS website.
- *Pocket Guide to Transportation,* an annual pocket-sized booklet of key transportation data presented in tables and figures.
- *North American Trade and Travel Trends (2001),* a data and analysis presentation of recent trends in U.S. trade and passenger travel with Canada and Mexico.
- *U.S. International Travel and Transportation Trends (2002),* an overview of U.S. international and regional travel trends between 1990 and 2000, plus significant changes in air travel since September 2001.
- *Maritime Trade and Transportation (2002),* an overview with data and analysis of maritime issues.
- *State Transportation Profiles,* presentations of individual state transportation data from federal and other national data sources. The first edition in this series, covering all 50 states and the District of Columbia, will be issued during 2002 and 2003.
- *Government Transportation Financial Statistics (2002),* a trend analysis of federal, state, and local transportation revenues and expenditures, is available on the BTS website.

In addition to the analysis conducted for these and other BTS publications, the agency is engaged in a number of focused transportation studies. These include studies of leading transportation indicators, productivity measures in various transportation sectors, and transit availability. BTS is also working to develop measures of sprawl, as well as measures for DOT Strategic Outcome goals. These latter measures cover, among others, transportation-related deaths and injuries, access to transportation systems for individual users, travel costs and times, the U.S. international competitive position in transportation goods and services, and transportation dependence on foreign fuel supplies.

BTS and the Bureau of Economic Analysis (BEA) in the U.S. Department of Commerce developed Transportation Satellite Accounts (TSA), which provide detailed information about transportation's contribution to the Gross Domestic Product (GDP). A key feature is estimation of the value added to the economy by the in-house transportation sector (transportation undertaken by firms in the nontransportation sector of the economy, such as trucks owned and operated by grocery chains). Before the TSAs were developed, reliable estimates of this value added were not available. BTS and BEA have also been developing a method

[4] Available at http://www.bts.gov.

for capital stock accounting to measure the value of the nation's transportation infrastructure, as directed by the Transportation Equity Act for the 21st Century (TEA-21.)

Filling Data Gaps

Gaps in data may involve the absence of data, data that are of poor quality, or data that are collected but not provided in a timely manner or in a form that a decisionmaker can use. For example, a known major data gap is the absence of good inland O–D data covering traffic moving in international commerce. In 2001 and 2002, BTS comprehensively assessed gaps in transportation data and the benefits and costs of possible solutions. This project was conducted in consultation with major stakeholders including those within DOT and among congressional staff, state DOTs, metropolitan planning organizations, the transportation industry, and research organizations.

Solutions to several critical data problems are being planned or are underway in BTS. Surveys of bicycle and pedestrian travel and of persons with disabilities will provide information on demographic groups for which little data has been collected in the past. The planned American Freight Survey will fill gaps in coverage to provide data on freight flows that were not captured in past surveys. It will collect information on travel costs and times to identify bottlenecks that are vital in the context of national competitiveness and on containerization useful for security purposes. The National Household Travel Survey will provide improved travel data on trips in the 50- to 100-mile range. Implementation of Safety Data Initiative recommendations will reengineer safety data systems to reduce redundancy and improve quality and timeliness. This will result in uniform reporting of fatality and accident data and allow comparability across modes of transportation.

However, other gaps exist and solutions have yet to be designed. There remains an incomplete picture of hazardous materials transportation due to the lack of data identifying shippers, carriers, and the transportation workforce involved in the industry. Also needed are better data on the rapid developments in the transportation requirements of service industries and effects of e-commerce on just-in-time delivery systems on these and other sections of the freight-generating economy. Little data exist on the travel characteristics of those involved in recreational boating. The number, characteristics, and their contribution to traffic flows are unknown for certain types of motor vehicles such as those providing municipal services, for example, ambulances, municipal trash haulers, and government motor pools. Transportation workforce labor hours are not captured for all segments of the transportation industry making it difficult to conduct analyses of economic issues or safety concerns, such as fatigue. These, and several other, gaps will be addressed in the *Data Gaps Final Report* due to be completed in 2003.

Assuring Data Quality, Good Statistical Practice, and Measuring Results

Legislation requires BTS to issue guidelines for DOT data collection to ensure that transportation data are accurate, reliable, relevant, and in a form that permits systematic analysis. In addition, the Office of Management and Budget issued a requirement in 2001 that agencies develop information quality guidelines. As an active participant in the Interagency Council for Statistical Policy working group, BTS has the lead role in developing these guidelines for all of DOT.

As part of these responsibilities, BTS developed the portion of the new DOT information guidelines that cover statistical information. These guidelines applied to all of DOT as of October 1, 2002. In addition, BTS will use the guidelines as a foundation for a more comprehensive *Guide to Good Statistical Practice*. This guide will be a handbook for transportation data program managers and analysts on all aspects of data quality, including data system planning, collection, processing, analysis, interpretation, dissemination, and evaluation.

BTS also has an ongoing data quality assessment project. In 2001, the agency assessed 5 DOT data systems (in conjunction with the Safety Data Action Plan) and plans to assess 10 more in 2002. The databases reviewed in 2001 included hazardous materials incidents and enforcement actions, airline passenger travel, transit safety and security, and airline safety. In addition, BTS assisted the Office of the Secretary of Transportation in a review of data submitted by air carriers to support claims for compensation after the September 11 shutdown of the air traffic system.

In accordance with the Government Performance and Results Act, DOT maintains a performance measurement system. BTS provides technical support for the development of performance measures, analysis of performance data, and reliability assessment. As part of this work, BTS develops verification and validation plans and coordinates with DOT agencies to develop "data details" that describe the scope and limitations of the data elements.

THE FUTURE

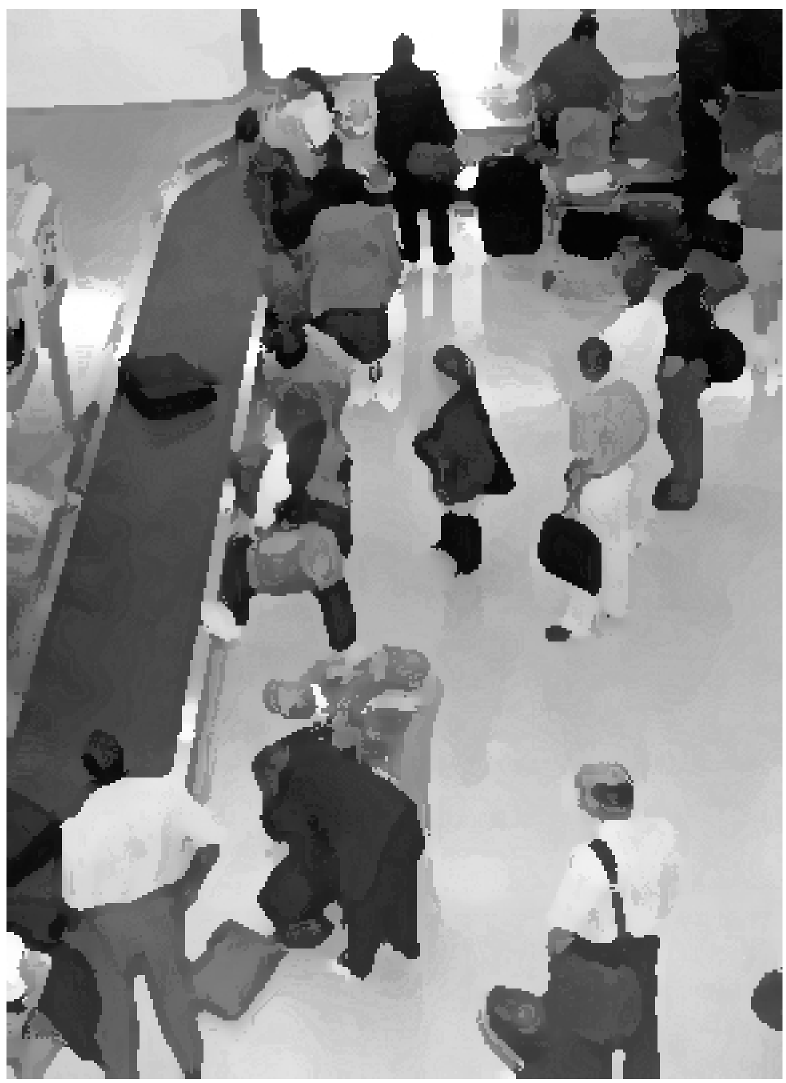
In BTS's vision of the future, data and information of high quality will support every significant transportation policy decision, thus advancing the quality of life and economic well-being of all Americans. BTS plans to be at the focal point of this vision, to develop its capabilities such that people will come to BTS before starting a planning effort or transportation policy study because the Bureau has good data and the information they need.

To be that focal point, BTS will have data ready for every significant policy analysis. BTS will be agile, assuring that data cover emerging trends in transportation. The data will be good, clean, and timely. The data will also be easy to get and use and be complemented by analysis. BTS will accomplish this, not alone, but as part of a team or network of data collectors and providers, both public and private.

In essence, the BTS goal is to make transportation better—to enhance DOT's strategic goals: security, safety, mobility, economic growth, and the human and natural environment.

Chapter 3

Transportation System Condition and Extent



Introduction

The U.S. transportation system makes possible a high level of personal mobility and freight activity for the nation's 284 million residents and nearly 7 million business establishments. In 2000, over 230 million motor vehicles, transit vehicles, railroad cars, and boats were available for use on the over 4 million miles of highways, railroads, and waterways that connect all parts of the United States, the fourth largest country in the world in land area. The transportation system also includes about 228,000 aircraft and over 19,000 public and private airports (an average of about 6 per county), and 440,000 miles of oil and gas transmission lines. This extensive transportation network supported an estimated 4.8 trillion passenger-miles of travel in 2000 and 3.8 trillion ton-miles of commercial freight shipments in 1999.

In general, the nation's transportation infrastructure has changed very little in recent years, while the number of vehicles has grown, in some cases dramatically. Road lane-miles, for instance, have grown by just 4 percent between 1980 and 2000, while cars and light trucks have increased by 40 percent. In air transportation, the number of aircraft operated by air carriers has increased by more than 35 percent since 1990, while the number of certificated airports (those serving scheduled air carrier operations with aircraft seating more than 30 passengers) has shrunk. The heavy use of the nation's infrastructure raises the specter of deterioration. Data show, however, the nation's roads, bridges, and airport runways, in general, improved in the 1990s.

As the level of traffic continues to climb and the amount of infrastructure remains the same, improved management of the system is one method being used to keep traffic flowing. The increasing use of information technology is important not only in commercial aviation, railroading, and waterborne commerce, but also in highway transportation, transit, general aviation, and boating. Information technology enhances the capability to monitor, analyze, and control infrastructure and vehicles and offers real-time information to system users. These technologies have a great deal of potential to help people and businesses use the transportation system more efficiently.

Transportation System Extent

The widespread availability of a large variety of transportation options brings a high level of mobility to most of the nation's residents and businesses. Tables 1 through 6 provide a snapshot of the key elements of the U.S. transportation system.

Table 1
Highways: 2000 Data (unless noted)

Public roads
46,677 miles of Interstate highways
114,511 miles of other National Highway System (NHS) roads
3,789,927 miles of non-NHS roads

Vehicles and use
134 million cars, driven 1.6 trillion miles
79 million light trucks, driven 0.9 trillion miles
8 million commercial trucks with 6 tires or more and combination trucks, driven 0.2 trillion miles
746,000 buses (all types), driven 7.6 billion miles
4.3 million motorcycles, driven 10.5 billion miles

Passenger and freight motor carriers
4,000 private motorcoach companies operating in the U.S. and Canada (1999), 860 million passengers[1] (1999)
511,000 interstate freight motor carriers,[2] 1.1 trillion ton-miles carried[3]

[1] American Bus Association, *Motorcoach Census 2000,* available at http://www.buses.org, as of Mar. 27, 2002.
[2] U.S. Department of Transportation, Federal Motor Carrier Safety Administration, analysis and information online, "SafeStat Online," available at http://ai.volpe.dot.gov/SafeStat/safestatmain.asp, as of September 2001.
[3] Eno Foundation, Inc., *Transportation in America, 2000* (Washington, DC: 2001).

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000* (Washington, DC: 2001), tables HM-15 and VM-1, also available at http://www.fhwa.dot.gov/ohim/hs00/index.htm, as of Mar. 26, 2002.

Table 2
Air: 2000 Data (unless noted)

Airports
5,317 public-use airports
13,964 private-use airports

Airports serving large certificated carriers[1]
29 large hubs (72 airports), 479 million enplaned passengers
31 medium hubs (53 airports), 102 million enplaned passengers
54 small hubs (69 airports), 40 million enplaned passengers
585 nonhubs (610 airports), 18 million enplaned passengers

Aircraft
8,228 certificated air carrier aircraft,[2] 5.4 billion domestic miles flown[2]
219,464 active general aviation aircraft[3] (1999), 3.9 billion statute-miles flown[4] (1997)

Passenger and freight companies[5]
75 carriers
616 million domestic revenue passenger enplanements
14.8 billion domestic ton-miles of freight

Certificated air carriers (domestic and international)
Majors: 14 carriers, 672,000 employees, 590 million revenue passenger enplanements
Nationals: 32 carriers, 56,000 employees, 80 million revenue passenger enplanements
Regionals: 29 carriers, 3,600 employees, 6 million revenue passenger enplanements

[1] U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, *Airport Activity Statistics of Certificated Air Carriers, 12 Months Ending December 31, 2000* (Washington, DC: 2001).
[2] Aerospace Industries Association, *Aerospace Facts and Figures* (Washington, DC: 2000/2001).
[3] U.S. Department of Transportation, Federal Aviation Administration, *General Aviation and Air Taxi Activity and Avionics Survey, Calendar Year 1999* (Washington, DC: 2001).
[4] U.S. Department of Transportation, Federal Aviation Administration, *General Aviation and Air Taxi Activity and Avionics Survey, Calendar Year 1997,* FAA-APO-99-4 (Washington, DC: 1999).
[5] U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, *Air Carrier Traffic Statistics* (Washington, DC: 2000).

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001,* available at http://www.bts.gov.

To put the system into perspective, the system's 4 million miles of roads would circle the globe more than 157 times, its rail lines 7 times, and its oil and gas pipelines 56 times. The average distance traveled by a car or light truck annually (about 12,000 miles) equals a journey nearly halfway around the world, or added together, about one-tenth the distance to the nearest star outside our solar system.

The capacity of the air and transit systems in the United States is also phenomenal. There are more than enough seats on airplanes operated by U.S. air carriers to seat the entire population of Delaware (784,000 people). And the number of cars in the New York City subway system alone is more than large enough for the entire population of Baton Rouge, Louisiana (228,000 people), to have a seat at the same time.

Table 3
Rail: 2000 Data

Miles of road operated
120,597 miles by major (Class I) railroads
20,978 miles by regional railroads
28,937 miles by local railroads
22,741 miles by Amtrak[1]

Equipment
1.4 million freight cars
20,028 freight locomotives in service

Freight railroad firms
Class I: 8 systems, 168,360 employees, 1.4 trillion revenue ton-miles of freight carried
Regional: 35 companies, 11,254 employees
Local: 517 companies, 12,194 employees

Passenger (Amtrak)[1]
25,000 employees, 1,894 passenger/other cars
378 locomotives, 22.5 million passengers carried (FY 2000)

[1] National Railroad Passenger Corp., *Annual Report 2000* (Washington, DC: 2000), also available at http://www.amtrak.com/pdf/00annualrpt.pdf, as of September 2001.

SOURCE: Association of American Railroads, *Railroad Facts: 2001 Edition* (Washington, DC: 2001).

Table 4
Transit: 2000 Data (preliminary)

Vehicles
75,013 buses (also included in buses under highway), 21.2 billion passenger-miles
12,168 heavy and light rail, 15.2 billion passenger-miles
5,073 commuter rail, 9.4 billion passenger-miles
119 ferries, 330 million passenger-miles
33,080 demand responsive, 839 million passenger-miles
6,159 other vehicles, 984 million passenger-miles

Transit agencies
554 federally funded urbanized area agencies
1,074 federally funded rural agencies
3,594 federally funded specialized transportation agencies
753 other agencies
346,415 employees

NOTE: Data for fiscal year 2000 are preliminary.

SOURCE: American Public Transportation Association, *Transit Factbook 2001* (Washington, DC: 2001), tables 30, 46, 62, and 84.

(continues on next page)

Table 5
Water: 2000 Data

U.S.-flag fleet (active and inactive)
- Great Lakes: 614 vessels, 58 billion ton-miles (domestic commerce)
- Inland: 32,868 vessels, 303 billion ton-miles (domestic commerce)
- Ocean: 7,872 vessels, 294 billion ton-miles (domestic commerce)
- Recreational boats: 12.8 million numbered boats[1]

Commercial facilities[2]
- Great Lakes: 611 deep-draft, 143 shallow-draft
- Inland: 2,367 shallow-draft
- Ocean: 4,079 deep-draft, 2,109 shallow-draft

[1] U.S. Department of Transportation, U.S. Coast Guard, *Boating Statistics–2000* (Washington, DC: 2001).
[2] U.S. Army Corps of Engineers, Navigation Data Center, *Geographic Distribution of U.S. Waterway Facilities,* available at http://www.wrsc.usace.army.mil/ndc/fcgeodis.htm, as of January 2001.

SOURCE: Except as noted, **number of vessels—**U.S. Army Corps of Engineers, Institute for Water Resources, *Waterborne Transportation Lines of the United States: Calendar Year 2000* (Fort Belvoir, VA: 2001), also available at http://www.iwr.usace.army.mil/ndc/veslchar.htm, vol. 1, table 1, as of April 2001; **ton-miles—**U.S. Army Corps of Engineers, Institute for Water Resources, *Waterborne Commerce of the United States* (Washington, DC: 2001), Part 5, table 1–4.

Table 6
Pipeline: 1999 Data

Oil[1]
- Crude lines: 86,000 miles, 336 billion ton-miles
- Product lines: 91,000 miles, 287 billion ton-miles

Natural gas (estimates)[2]
- Transmission: 263,000 miles of pipe
- Distribution: 1,046,000 miles of pipe, 184 companies, 138,000 employees

[1] Eno Foundation, Inc., *Transportation in America, 2000* (Washington, DC: 2001).
[2] American Gas Association, *Gas Facts* (Washington, DC: 1999).

Information Technology Use

From the telegraph used by railroads in the 19th century to radio and radar used in ships and planes at the beginning of the 20th century, information technology (IT) has enhanced the capabilities of our transportation systems. In recent years, these technologies have been integrated into all modes of transportation. Highway and transit applications of IT now are joining the other modes as new technology allows drivers to “navigate” roads.

Intelligent transportation systems (ITS) comprise a broad range of technologies, including those in the IT category, and help improve the efficiency, effectiveness, and safety of transportation. Travelers can obtain information and guidance from electronic surveillance, communications channels, and traffic analysis. ITS also boosts the capability to monitor, route, control, and manage information to facilitate travel.

The variety of technologies and approaches across the ITS spectrum, however, complicates assessments of the extent of their use. The U.S. Department of Transportation (DOT), Federal Highway Administration’s ITS Joint Program Office conducts periodic surveys to gauge urban implementation in 75 metropolitan areas[1] in the United States [2]. The surveys collect data on deployment for nine ITS infrastructure components for highways, transit, and highway-rail grade crossings within the boundaries of metropolitan planning organizations (MPOs).

A single ITS component may use several technologies or approaches. For instance, electronic toll collection (ETC) technologies automatically collect payments through the application of in-vehicle, roadside, and communications technologies. About 73 percent of the metropolitan areas surveyed had toll collection lanes with ETC capacity in fiscal year (FY) 2000, up from 36 percent in FY 1997 [2].

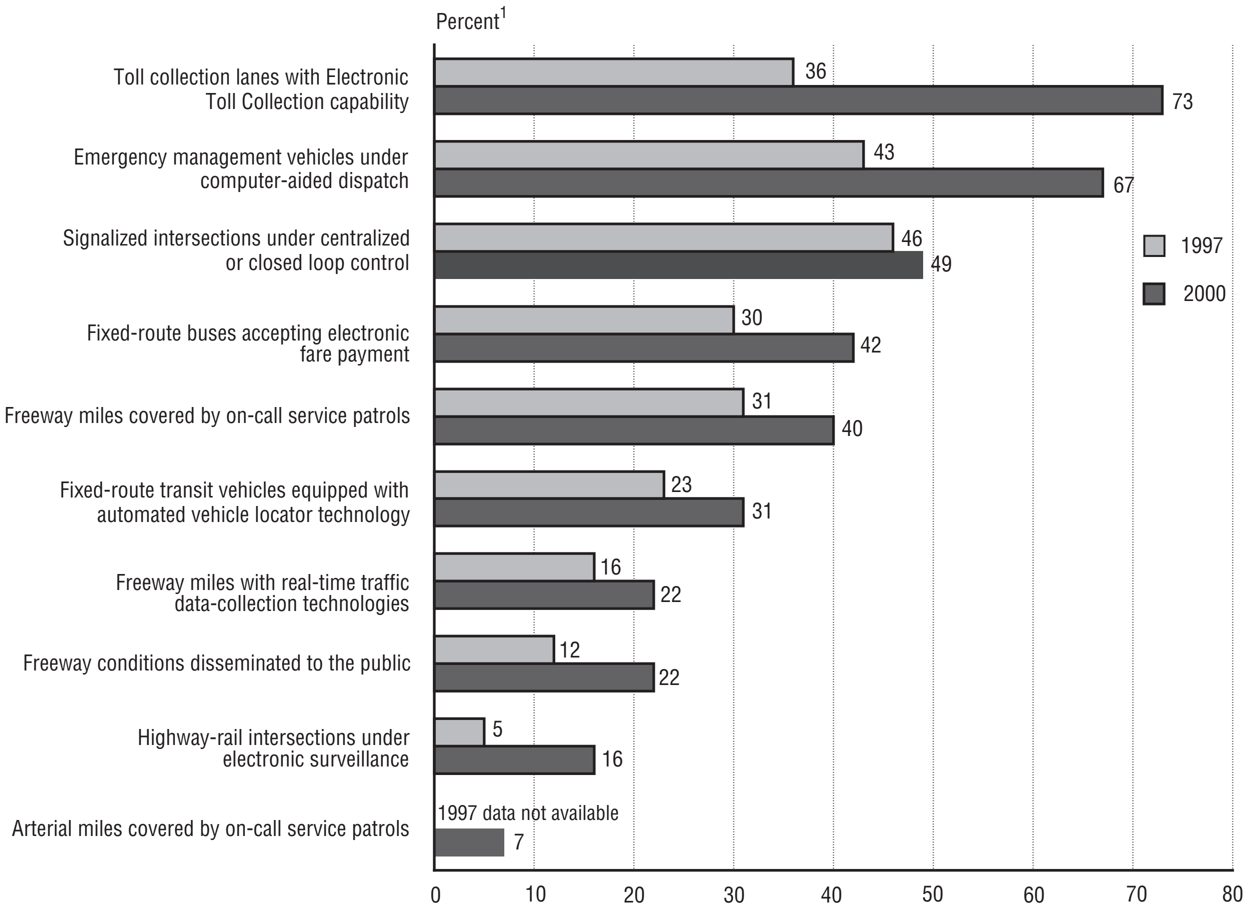
Multiple ETC technology deployment highlights the growing importance of integrating ITS. Beyond measuring fixed ITS assets like vehicles, the ITS Joint Program Office also studies the integration among agencies operating the infrastructure. Federal officials define ITS integration as the transfer of information between three types of organizations: state departments of transportation, local governments, and transit agencies.

Traffic signal control and electronic toll collection are two of the top three highway ITS technologies currently being deployed (figure 1). These technologies directly benefit travelers by smoothing out trips on toll roads and signaled arterial roads. Highway-rail grade crossings have one of the lowest rates of deployment, but a major federal initiative is providing funds to address this area.

The Global Positioning System (GPS) is being used in all transportation modes (even walking), although to what overall extent is uncertain. Thirty-one percent of the metropolitan areas surveyed in 2000 showed some

[1] The DOT IT Joint Program Office now measures 78 metropolitan areas. However, to maintain reporting consistency across a 10-year goal period, the office compares only data from the original 75 metropolitan areas.

Figure 1
ITS Infrastructure Deployment in 75 Metropolitan Areas: 1997 and 2000
Selected elements



[1] Percentage of the infrastructure components in all 75 areas that have the ITS technology deployed; e.g., 73 percent of the toll collection lanes in all 75 areas in 2000 had the capability to collect tolls electronically.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, ITS Joint Program Office, ITS Deployment Tracking: 2000 Survey Results, available at http://www.itsdeployment2.ed.ornl/its2000, as of Oct. 31, 2002.

deployment of automatic vehicle location devices in fixed-route transit vehicles [2]. GPS is not only used for commercial aviation, but also for general aviation. About 70 percent of corporate and over half of business-use aircraft have GPS devices, compared with about 40 percent of personal-use aircraft [1].

In 1996, the U.S. Coast Guard brought its Maritime Differential GPS (DGPS) online. Reference stations located every 200 miles along the coast and major rivers allow ships with the proper GPS receiving equipment to identify their positions within 5 to 10 meters, compared with 100 meters for other positioning systems. This is an important navigational aid, as some channels are less than 100 meters wide. The DOT is now implementing Nationwide DGPS to bring the same positioning accuracy to all parts of the continental United States and Alaska.

Railroads are developing positive train control (PTC) systems that will use nationwide DGPS to provide precise positioning information. PTC can prevent overspeed accidents and collisions between trains and between trains and maintenance-of-way crews. PTC can also improve the efficiency of railroad operations by reducing train over-the-road delays and increasing running time reliability, track capacity, and asset utilization. [3].

Sources

1. U.S. Department of Transportation, Federal Aviation Administration, General Aviation and Air Taxi Survey, 1996, available at http://api.hq.faa.gov/ga96/gatoc.htm, as of Dec. 5, 2000, table 7.2.
2. U.S. Department of Transportation, Federal Highway Administration, ITS Joint Program Office, ITS Deployment Tracking: 2000 Survey Results, available at http://www.itsdeployment2.ed.ornl/its2000, as of Oct. 31, 2002.
3. U.S. Department of Transportation, Federal Railroad Administration, "What Is Positive Train Control?" available at http://frarnd.volpe.dot.gov, as of Dec. 4, 2000.

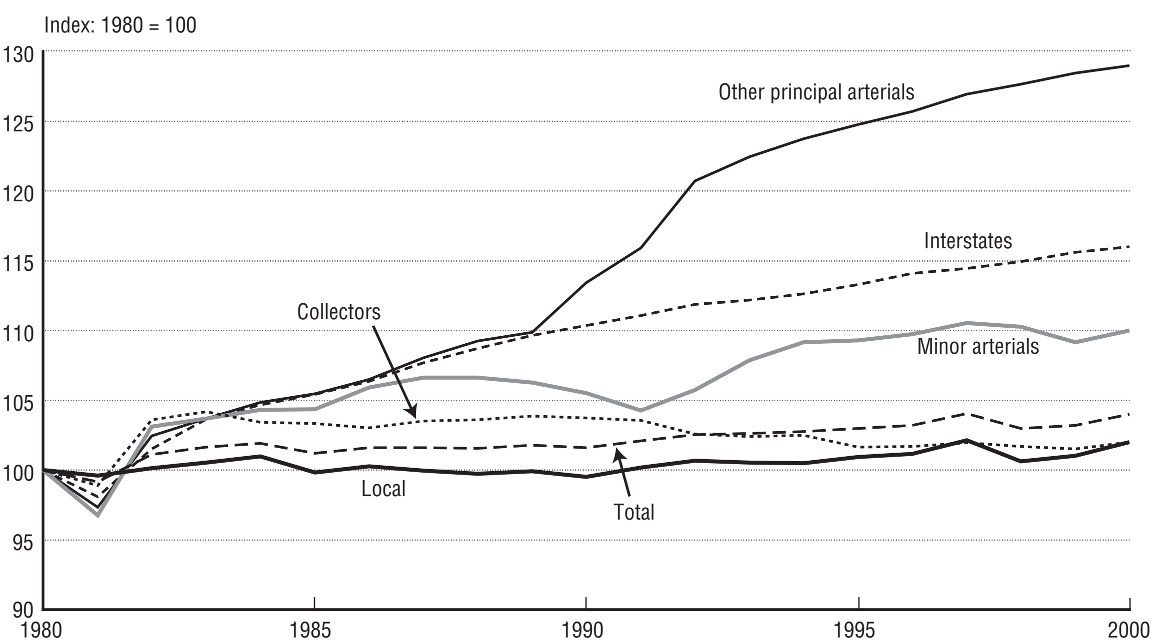
Roads

Road building and widening continue to slowly increase the extent of the public road system and the length of lane-miles open to the public. Since 1980, miles of public road increased only about 2 percent, although, as a result of road widening, lane-miles increased nearly twice as much (3.8 percent). This small change in overall lane-miles masks growth in the higher elements of the roadway system. Between 1980 and 2000, Interstate lane-miles increased by 16 percent and principal arterials increased by 29 percent (figure 1; also see box on p. 57 on the Highway Functional Classification System) [1].

Source

1. U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual editions).

Figure 1
Trends in Lane-Miles of Roadway by Functional Class: 1980–2000



SOURCES: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual editions), table HM-60.

U.S. Vehicle Fleet

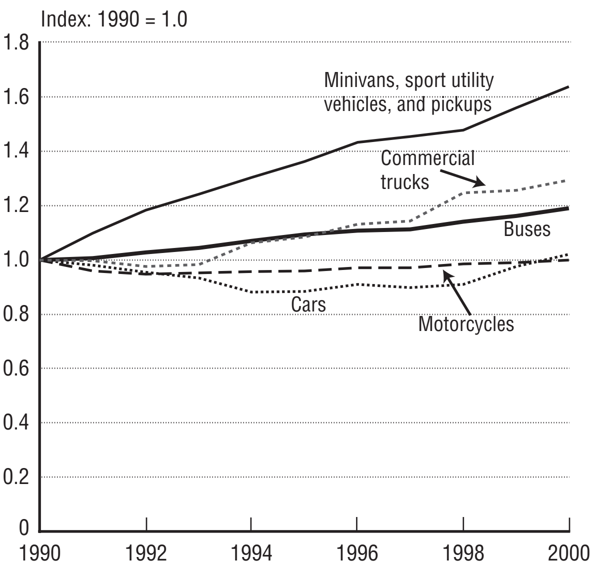
Between 1990 and 2000, the most noteworthy development in the U.S. highway vehicle fleet was the rapid growth in the number of registered light-duty trucks, including minivans, pickups, and sport utility vehicles (figure 1). During this period, the number of these vehicles grew from nearly 48 million to over 79 million, an increase of about 64 percent. This category now accounts for 35 percent of the total U.S. fleet, up from 25 percent in 1990. Fueled by the rapid increase in the number of light-duty trucks, the total U.S. fleet grew to nearly 226 million vehicles in 2000, a 17 percent increase over the 193 million vehicles registered in 1990 [1].

In contrast to the rapid and continual growth of light-duty trucks, the total number of cars and motorcycles in the fleet declined during the 1990s but by 2000 had regained their 1990 levels. Over the same period, the number of large trucks and buses increased at roughly the same rate as the total U.S. highway fleet, rising to just over 8 million large trucks and 746,000 buses by 2000. The 134 million cars in 2000 represent 59 percent of the total fleet, down from a 69 percent share in 1990 [1].

Source

1. U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000* (Washington, DC: 2001).

Figure 1
Highway Vehicle[1] Trends: 1990–2000



[1] Registered vehicles.

SOURCES: 1991–1995—U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995* (Washington, DC: 1997), tables MV-201 and VM201a.
1996–1997— ____. *Highway Statistics 1997* (Washington, DC: 1998), table VM-1.
1998–2000— ____. *Highway Statistics 2000* (Washington, DC: 2001), table VM-1.

Magnetic Levitation High-Speed Rail

As a result of work underway, the travel time of high-speed intercity rail service may be reduced in half in the future using magnetic levitation (maglev) technology. A maglev system employs magnetic forces to lift, propel, and guide a vehicle over a guideway using state-of-the-art electric power and control systems.

Under the Transportation Equity Act for the 21st Century, the U.S. Congress created a national Magnetic Levitation Transportation Technology Deployment Program in the U.S. Department of Transportation (DOT). In May 1999, DOT's Federal Railroad Administration (FRA) gave planning funds to seven state maglev projects. These funds enabled the seven projects to compete for the second phase of deployment [1].

Of the seven projects, DOT selected two in January 2001 as the best positioned for early demonstration of the technology. One project would connect Baltimore, Maryland, and Washington, DC, along 40 miles of the Eastern Seaboard. The other project, the 54-mile Pennsylvania High-Speed Maglev Corridor, would link Pittsburgh International Airport to Pittsburgh and its eastern suburbs [2]. Once this feasibility phase is completed, one of the projects will be eligible for $950 million for construction if Congress appropriates the funds.

Overall, FRA has provided $50.8 million through fiscal year 2002 for preconstruction planning for all seven projects (table 1). Just over half of these funds are supporting the two selected projects.

Sources

1. U.S. Department of Transportation, Federal Railroad Administration, "The Maglev Deployment Program," available at http://www.fra.dot.gov/o/hsgt/maglev.htm, as of Sept. 10, 2001.
2. _____. "U.S. Secretary of Transportation Slater Selects Two High Speed Maglev Projects," press release, Jan. 18, 2001, available at http://www.fra.dot.gov/o/hsgt/hot.htm, as of Sept. 17, 2001.

Table 1
Maglev Corridors and Funding

State	Maglev project	Funds granted through FY 2002 (millions of dollars)
California	Los Angeles International Airport–West Los Angeles–Union Station[1]	5.3
California–Nevada	Anaheim–Las Vegas via Ontario, Barstow/Victorville, and Primm[2]	5.4
Florida	Port Canaveral–Space Center–Titusville	4.2
Georgia–Tennessee	Hartsfield–Atlanta International Airport–Chattanooga Municipal Airport[4]	4.2
Louisiana	New Orleans Airport–Union Passenger Terminal–Lake Ponchartrain–St.Tammany Parish[3]	4.2
Maryland–Washington, DC	Camden Yards, Baltimore–Baltimore-Washington International Airport–Union Station, Washington, DC[5]	11.6
Pennsylvania	Pittsburgh International Airport–Pittsburgh–Monroeville–Greensburg[6]	15.9

[1] California Maglev Project website, available at http://www.calmaglev.org, as of Sept. 17, 2001.
[2] California-Nevada Interstate Maglev Project, "Overview," available at http://www.ci.las-vegas.nv.us/maglevproject/overview4.htm, as of Sept. 18, 2001.
[3] U.S. Department of Transportation, Federal Railroad Administration, "Transportation Secretary Announces $1.96 Million in Funding for New Orleans Maglev," press release, Mar. 3, 2000, available at http://www.fra.dot.gov/o/hsgt/hotfiles/maglev.htm, as of Sept. 17, 2001.
[4] Atlanta to Chattanooga Maglev, "Overview," available at http://www.acmaglev.com/overview.htm, as of Sept. 17, 2001.
[5] Baltimore-Washington Maglev Project, "Maglev Route: Corridor Overview," available at http://www.bwmaglev.com/about/maglev_route.htm, as of Sept. 17, 2001.
[6] The Pennsylvania Project, High Speed MAGLEV, project description, available at http://www.maglevpa.com/project.html, Sept. 17, 2001.

SOURCES: *Routes:* U.S. Department of Transportation, Federal Railroad Administration, "Table of High-Speed Rail and Maglev States and Corridors," available at http://www.fra.dot.gov/o/hsgt/states/index.htm, as of Sept. 15, 2001.
Funding: U.S. Department of Transportation, Federal Railroad Administration, Railroad Development, personal communication, Oct. 3, 2002.

Urban Transit

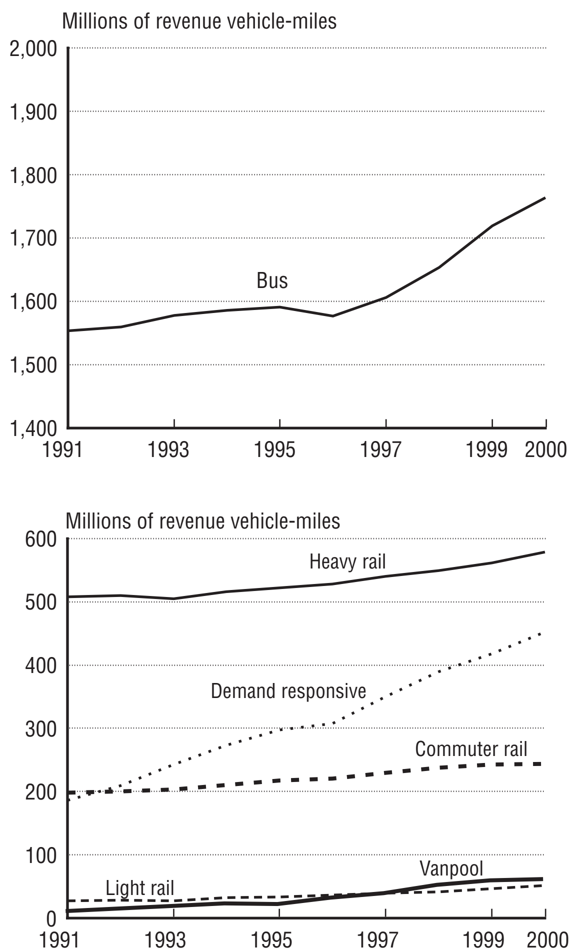
Urban transit is a complex mix of heavy, light, and commuter rail; buses and demand responsive vehicles; ferries; and other less prevalent types such as inclined planes, trolley buses, and automated guideways. This mode, measured by revenue vehicle-miles of service provided, grew by nearly 30 percent between 1991 and 2000 to over 3 billion miles. The U.S. population grew by 12 percent over this same period. The largest transit modes, bus and heavy rail, showed the slowest growth during this period (about 14 percent), while demand responsive transit grew the fastest (143 percent) (figure 1). Among rail modes, both light rail and commuter rail have seen substantial increases in service provided over this period, 90 percent and 25 percent, respectively [1].

Transit agencies in urbanized areas receive formula funding from the Federal Transit Administration for the purchase of vehicles. In fiscal year 2000, 152 agencies purchased 6,619 vehicles with formula funds. Most of the vehicles purchased (73 percent) were buses. Large urbanized area agencies purchased 69 percent of the buses (table 1) [2].

Sources

1. U.S. Department of Transportation, Federal Transit Administration, National Transit Database, Annual years.
2. U.S. Department of Transportation, Federal Transit Administration, 2000 Statistical Summaries: FTA Grant Assistance Programs, "Table 91: Obligation of Flex Funds/FHWA Transfers, by Area/State (Fiscal Years 1992-2000)," available at http://www.fta.dot.gov/library/reference/statsum01/table19.html, as of Oct. 5, 2001.

Figure 1
Revenue Vehicle-Miles by Urban Transit Mode: 1991–2000



NOTE: Other modes, including ferryboat, trolley bus, and automated guideway, are not shown.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, National Transit Database, Annual years.

Table 1
Vehicles Purchased Under the Area Formula Funding Program: Fiscal Year 2000

Population category	Number of areas	Buses 35–40 ft	Buses 30 ft	Buses < 30 ft	Articulated buses	Vans and station wagons	Trolley buses	Other
Large	36	2,736	152	474	192	612	68	21
Medium	71	508	89	313	28	560	13	65
Small	45	223	69	283	2	166	33	12
Total	**152**	**3,467**	**310**	**1,070**	**222**	**1,338**	**114**	**98**

KEY TO POPULATION CATEGORIES: Large = over 1 million; medium = 200,000 to 1 million; small = less than 200,000.

NOTE: *Other* includes articulated trolleys, commuter buses, intercity buses, and used buses.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, "Table 19: Obligation of Flex Funds/FHWA Transfers, by Area/State (Fiscal Years 1992–2000)," *2000 Statistical Summaries: FTA Grant Assistance Programs,* available at http://www.fta.dot.gov/library/reference/statsum01/table19.html,as of Sept. 26, 2001.

Rural Transit

Over one-third of the U.S. population lives outside urbanized areas. The Federal Transit Administration provides funding for rural transit through its Section 5311 program, part of the Transportation Equity Act for the 21st Century. Within this program, there are approximately 1,215 transit providers serving 91 million people in 773 cities with populations between 10,000 and 50,000 (15 percent of the rural population).

While the number of providers remained relatively constant between 1994 and 2000, the fleet sizes grew significantly. The average number of vehicles per provider was 17.5 in 2000, an increase of 60 percent from 1994. Annual trips per year increased 62 percent during this time, from 95 million in 1994 to 154 million in 2000.

SOURCE: Community Transit Association of America, Status of Rural Public Transportation-2000, available at http://www.ctaa. org/ntrc/rtap/pubs/status2000, as of Oct. 19, 2001.

U.S.-Flag Vessels

The U.S.-flag oceangoing merchant fleet consisted of 421 operating vessels in 2002 (table 1). The total U.S.-flag commercial fleet operating in both foreign and domestic trades, however, consisted of 29,263 vessels. This does not include more than 5,000 tugs/towboats 1,500, other types of workboats (e.g., crewboats, supply boats, and utility vessels), or over 1,200 passenger vessels (table 2).

Over 98 percent of the total U.S.-flag commercial fleet operated in U.S. domestic trade during 2000 (table 1). There are three major sectors of U.S. domestic trade: the inland waterways, Great Lakes, and domestic deep sea or coastwise trades. Barges operate primarily on the U.S. inland waterways and carry more than 90 percent of that tonnage [1]. The Great Lakes fleet consists of self-propelled vessels and integrated tug/barge units. Most of these "Lakers" only carry cargo between the Great Lakes ports. Containerships and tankers operate in the U.S. domestic deep sea trade.

The Jones Act (Section 27 of the Merchant Marine Act of 1920) requires that maritime cargoes and passengers moving between U.S. ports be transported in vessels built and maintained in the United States, owned by American citizens, and crewed by U.S. mariners [2]. As of April 2001, 157 privately owned, self-propelled vessels (of 1,000 gross tons and over) had unrestricted domestic trading privileges under the Jones Act (table 3).

Sources

1. U.S. Department of Transportation, Bureau of Transportation Statistics, Maritime Administration, and U.S. Coast Guard, *Maritime Trade and Transportation 99,* BTS99-02 (Washington, DC: 1999).
2. U.S. Department of Transportation, Maritime Administration, *MARAD '99* (Washington, DC: May 2000).

Table 1
Cargo-Carrying U.S.-Flag Fleet by Area of Operation: January 2000–June 2000
Thousands of metric tons

	Liquid carriers		Dry bulk carriers		Containerships		Other freighters[1]		Total fleet	
Area of operation	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons
Foreign trade	**79**	**2,457**	**235**	**2,124**	**61**	**2,368**	**46**	**1,072**	**421**	**8,021**
Self-propelled	**31**	**1,952**	**10**	**477**	**61**	**2,368**	**45**	**1,052**	**147**	**5,849**
≥ 1,000 gross tons	31	1,952	10	477	61	2,368	45	1,052	147	5,849
< 1,000 gross tons	0	0	0	0	0	0	0	0	0	0
Nonself-propelled[2]	**48**	**505**	**225**	**1,647**	**0**	**0**	**1**	**20**	**274**	**2,172**
≥ 1,000 gross tons	42	498	145	1,419	0	0	1	20	188	1,937
< 1,000 gross tons	6	7	80	228	0	0	0	0	86	235
Domestic trade	**3,437**	**16,393**	**21,435**	**37,186**	**50**	**757**	**3,920**	**4,621**	**28,842**	**58,957**
Coastal (including noncontiguous)	**599**	**9,779**	**448**	**1,596**	**50**	**757**	**1,435**	**1,658**	**2,532**	**13,790**
Self-propelled	**102**	**6,075**	**1**	**33**	**24**	**596**	**66**	**162**	**193**	**6,866**
≥ 1,000 gross tons	84	6,063	1	33	24	596	10	143	119	6,835
< 1,000 gross tons	18	12	0	0	0	0	56	19	74	31
Nonself-propelled[2]	**497**	**3,704**	**447**	**1,563**	**26**	**161**	**1,369**	**1,496**	**2,339**	**6,924**
≥ 1,000 gross tons	410	3,603	158	1,152	26	161	149	818	743	5,734
< 1,000 gross tons	87	101	289	411	0	0	1,220	678	1,596	1,190
Internal waterways	**2,819**	**6,522**	**20,912**	**33,511**	**0**	**0**	**2,397**	**2,800**	**26,128**	**42,833**
Self-propelled	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**18**	**26**	**18**
≥ 1,000 gross tons	0	0	0	0	0	0	0	0	0	0
< 1,000 gross tons	0	0	0	0	0	0	26	18	26	18
Nonself-propelled	**2,819**	**6,522**	**20,912**	**33,511**	**0**	**0**	**2,371**	**2,782**	**26,102**	**42,815**
≥ 1,000 gross tons	1,263	4,129	215	599	0	0	72	254	1,550	4,982
< 1,000 gross tons	1,556	2,393	20,697	32,912	0	0	2,299	2,528	24,552	37,833
Great Lakes	**19**	**92**	**75**	**2,079**	**0**	**0**	**88**	**163**	**182**	**2,334**
Self-propelled	**4**	**20**	**53**	**1,873**	**0**	**0**	**4**	**21**	**61**	**1,914**
≥ 1,000 gross tons	2	19	50	1,871	0	0	1	21	53	1,911
< 1,000 gross tons	2	1	3	2	0	0	3	0	8	3
Nonself-propelled	**15**	**72**	**22**	**206**	**0**	**0**	**84**	**142**	**121**	**420**
≥ 1,000 gross tons	14	70	7	186	0	0	4	26	25	282
< 1,000 gross tons	1	2	15	20	0	0	80	116	96	138
Total, commercial fleet[3]	**3,516**	**18,850**	**21,670**	**39,310**	**111**	**3,125**	**3,966**	**5,693**	**29,263**	**66,978**
National Defense Reserve Fleet[4]	**28**	**884**	**0**	**0**	**5**	**86**	**143**	**2,423**	**176**	**3,393**
Ready Reserve Force	9	268	0	0	3	50	77	1,539	89	1,857
Other reserve	19	616	0	0	2	36	66	884	87	1,536
Other government	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**237**	**7**	**237**
Sealift vessels	0	0	0	0	0	0	7	237	7	237
GRAND TOTAL	**3,544**	**19,734**	**21,670**	**39,310**	**116**	**3,211**	**4,116**	**8,353**	**29,446**	**70,608**

[1] Includes general cargo, roll on-roll off, multipurpose, lighter aboard ship (LASH) vessels, and deck barges. Excludes offshore supply vessels.
[2] Integrated tug barges of 1,000 gross registered tons (grt) and greater are contained in nonself-propelled categories as follows: foreign trade–2 liquid (78,300 tons), 2 dry bulk (48,100 tons), 1 other freighter (20,000); domestic coastal–9 liquid (371,155 tons), 1 dry bulk (21,500 tons); Great Lakes–2 liquid (18,955), 7 dry bulk (192,700); translakes–1 dry bulk (5,400).
[3] Excludes one passenger vessel of 7,250 deadweight tons (dwt) operated in noncontiguous domestic trade.
[4] Self-propelled vessels ≥ 1,000 grt; excludes 10 passenger vessels of 91,701 dwt.
SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis; adapted from U.S. Army Corps of Engineers, U.S. Coast Guard, and U.S. Customs Service data, available at http://www.marad.dot.gov/Marad_Statistics/PDF/Jan-Jun-00%20U.S.%20Cargo-Carrying%20Fleet.pdf, as of Oct. 25, 2001.

Table 2
U.S.-Flag Fleet of Passenger Vessels, Tugs/Towboats, and Other Work Boats
Inventory data as of July 1, 2001

Vessel type	Number	Capacity unit
Passenger vessels		**Passengers**
< 150 passenger capacity	753	51,774
≥ 150 passenger capacity	512	316,290
Total	**1,265**	**368,064**
Tugs/towboats		**Horsepower**
< 1,500 horsepower	3,340	2,464,621
≥ 1,500 horsepower	2,111	7,273,218
Total	**5,451**	**9,737,839**
Other work boats[1]		**Metric tons**
< 1,000 tons capacity	1,404	273,876
≥ 1,000 tons capacity	113	83,508
Total	**1,517**	**357,384**

[1] Includes crewboats and supply and utility vessels.

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, available at http://www.marad.dot.gov/Marad_Statistics/PDF/jan-jun-00 U.S. cargo-carrying fleet.pdf, as of Oct. 24, 2001.

Table 3
Privately Owned Self-Propelled Merchant Vessels with Unrestricted Domestic Trading Privileges (Jones Act): As of April 1, 2001
Thousands of tons,
vessels ≥ 1,000 gross registered tons

Vessel type	Number of ships	Gross registered tons	Deadweight
Tanker	103	3,410	6,695
Dry bulk carrier	7	103	184
Full container	30	690	761
Roll-on/roll-off	13	377	239
Cruise/passenger	1	20	7
Freighter	3	45	65
Total	**157**	**4,645**	**7,951**

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical & Economic Analysis, available at http://www.marad.dot.gov/MARAD_statistics/Jact_Sum_0401.html, as of Oct. 23, 2001.

Ports and Cargo-Handling Services

U.S. ports that engage in foreign trade are facing key challenges such as waterfront congestion, port terminal productivity, and security needs. Nevertheless, U.S. foreign waterborne trade reached 1.2 billion metric tons in 2000, an increase of 2.4 percent over 1999 [4].

Landside access to water ports comprises a system of intermodal rail and truck services [5]. Landside congestion, caused by inadequate control of truck traffic into and out of port terminals combined with the lack of adequate on-dock or near-dock rail access, affects the productivity of U.S. ports and the flow of U.S. international trade. Generally, productivity is difficult to measure. Cargo throughput can be used as a measure; however, it does not take into account the more efficient use of resources gained from capital investment [2].

The U.S. port industry has invested approximately $22 billion since 1946 on improvements in its facilities and infrastructure—about one-third of that total (approximately $6.4 billion) was invested between 1996 and 2000 (table 1). Investments include new construction and modernization/rehabilitation. In 2000, new construction accounted for two-thirds of total expenditures. After trailing in investments in the previous years, Atlantic ports accounted for 22 percent of total expenditures in 2000 [5]. The Maritime Administration, U.S. Department of Transportation, expects that U.S. public ports will invest $9.4 billion between 2001 and 2005 [5].

Changes in vessel design impact access to both landside and waterside services. For example, container vessels have increased in size and capacity, which, in turn, drives a need for adequate transshipment hub and feeder ports.

The top ports in U.S. foreign trade are deep draft (with drafts of at least 40 feet) [3]. Twenty-five U.S. ports received 73 percent of total vessel calls (table 2). Of vessels over

Table 1
U.S. Public Port Capital Expenditures by Type of Facility: 1996–2000
Thousands of current dollars

	1996	1997	1998	1999	2000	Total
General cargo	191,898	227,543	154,133	127,864	241,424	942,862
Specialized general cargo	533,648	547,651	506,840	436,750	330,006	2,354,895
Dry bulk	76,513	127,536	90,338	57,701	37,058	389,146
Liquid bulk	5,977	966	2,143	16,074	8,168	33,328
Passenger	34,740	59,342	26,532	71,824	59,849	252,287
Other	61,805	131,534	222,602	100,829	86,188	602,958
Infrastructure	254,350	318,528	259,882	194,311	177,471	1,204,542
Dredging	142,221	129,354	151,927	110,327	117,489	651,318
Total	**1,301,152**	**1,542,454**	**1,414,397**	**1,115,680**	**1,057,653**	**6,431,336**

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Ports and Domestic Shipping, *U.S. Port Development Expenditure Report* (Washington, DC: 2001).

1,000 gross tons, tankers and containerships called at U.S. ports more often in 2000 than did other types of vessels.

The 2000/2001 U.S. economic slowdown detrimentally affected U.S. ports, particularly those on the West Coast. U.S imports declined from a 15 percent annual growth rate in early to mid-2000 to an estimated 6 percent drop during the first two quarters of 2001 [1].

Sources

1. DRI-WEFA, *The U.S. Forecast Summary* (Eddystone, PA: August 2001).
2. Robinson, Dolly, "Measures of Port Productivity and Container Terminal Design," *Cargo Systems*, April 1999.
3. U.S. Department of Transportation, *The Maritime Transportation System: A Report to Congress* (Washington, DC: 1999).
4. U.S. Department of Transportation, Maritime Administration, *U.S. Foreign Waterborne Transportation Statistics 1999 & 2000*, available at http://www.marad.dot.gov, as of Oct. 17, 2001.
5. _____. *U.S. Port Development Expenditure Report* (Washington, DC: December 2001).

Table 2
Top 25 U.S. Ports by Cargo Vessel Type and Calls: 2000
Vessels over 1,000 gross tons

	Total		Tanker		Dry bulk		Container		Other	
	Calls	000 dwt	Calls	000 dwt	Calls	000 dwt	Calls	000 dwt	Calls	000 dwt
Los Angeles/Long Beach	5,426	243,752	905	65,819	797	38,674	2,955	124,281	769	14,978
New Orleans, LA[1]	5,650	237,505	1,377	81,182	2,796	127,422	423	11,109	1,054	17,792
Houston, TX	6,327	215,467	3,111	133,432	885	39,160	651	19,999	1,680	22,875
New York, NY	4,817	188,006	1,287	66,018	399	17,485	2,199	87,675	932	16,827
San Francisco, CA[1]	3,676	165,601	819	52,233	637	23,346	1,936	82,958	284	7,064
Philadelphia, PA	3,240	132,469	967	82,233	533	22,372	497	11,478	1,243	16,385
Hampton Roads, VA[1]	2,660	111,365	158	7,498	507	32,991	1,592	62,169	403	8,706
Beaumont, TX	1,268	86,392	1,032	76,333	140	8,383	NA	NA	96	1,677
Corpus Christi, TX	1,455	84,893	964	64,312	350	19,040	2	83	139	1,458
Charleston, SC	2,234	82,167	148	5,988	144	5,003	1,552	62,499	390	8,676
LOOP Terminal, LA	307	79,650	291	77,023	16	2,627	NA	NA	NA	NA
Columbia River, WA[1]	2,219	77,896	279	13,907	1,279	46,457	263	10,027	398	7,505
Texas City, TX	1,281	70,954	1,152	64,610	89	5,763	3	72	37	510
Savannah, GA	1,966	63,775	238	7,733	340	10,833	740	31,516	648	13,693
Baltimore, MD	1,795	56,590	164	5,038	469	23,637	409	14,669	753	13,247
Valdez, AK	441	54,094	440	54,092	NA	NA	NA	NA	1	2
Tacoma, WA	1,232	47,486	70	3,207	219	10,211	568	27,950	375	6,119
Seattle, WA	1,170	45,715	50	2,795	230	10,301	794	31,182	96	1,438
Lake Charles, LA	794	45,341	474	34,339	125	5,894	6	86	189	5,022
Miami, FL	2,728	42,258	11	424	117	2,745	1,125	28,376	1,475	10,713
Mobile, AL	993	41,178	146	8,752	450	26,540	17	158	380	5,728
Jacksonville, FL	1,685	37,988	204	8,848	193	7,067	476	9,441	812	12,632
Port Everglades, FL	2,625	37,528	348	15,129	128	4,953	703	9,116	1,446	8,331
Freeport, TX	725	36,367	521	30,319	54	3,510	81	1,070	69	1,469
Portland, ME	509	31,125	350	26,672	60	3,750	1	3	98	702
Total, top 25 ports	**51,797**	**2,071,810**	**14,601**	**922,118**	**10,160**	**459,488**	**14,038**	**501,634**	**12,998**	**188,571**
Top 25 (percent)	**72.4%**	**74.0%**	**75.7%**	**73.3%**	**74.0%**	**76.8%**	**73.6%**	**74.9%**	**66.8%**	**69.1%**
Total, all ports	**71,548**	**2,798,448**	**19,299**	**1,257,664**	**13,729**	**598,325**	**19,067**	**669,623**	**19,453**	**272,835**

[1]Includes all area ports.

KEY: dwt = deadweight ton; NA = not applicable.

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis; based on Lloyd's Maritime Information Services, *Vessel Movements* (London, England: 2001).

Airport Runways

In general, U.S. airport runway pavement is in good condition. When it is deteriorated, runway pavement can cause damage to aircraft turbines, propellers, and landing gear, and may result in runway closure. To prevent major problems, runway pavement requires regular maintenance to seal cracks and repair damage as well as a major overhaul every 15 to 20 years [1]. The U.S. Department of Transportation, Federal Aviation Administration (FAA), inspects runways at public-use airports and classifies runway condition as good, fair, or poor (see table for definitions).

Airport runway quality improved from 1986 to 2000 (table 1). At the over 3,000 airports listed in the FAA's National Plan of Integrated Airport Systems (NPIAS), runways in fair or poor condition dropped from 39 percent in 1986 to 27 percent in 2000. Those in good condition rose from 61 percent to 73 percent. At commercial service airports, a subset of the NPIAS, only 2 percent of runways were in poor condition in 2000. Overall, commercial airport runways remain in better condition than other NPIAS airports.

As with highway systems, increasing runway extent and capacity can take many years. In 2001, expansion projects were in various stages of completion at 13 commercial service airports (table 2).

Source

1. U.S. Department of Transportation, Federal Aviation Administration, *National Plan of Integrated Airport Systems (1998-2002)* (Washington, DC: 2000).

Table 1
U.S. Airport Runway Pavement Conditions: 1986 and 2000

	1986	2000
NPIAS[1] airports, total	**3,243**	**3,361**
Condition (%)		
Good	61	73
Fair	28	22
Poor	11	5
Commercial service airports,[2] total	**550**	**546**
Condition (%)		
Good	78	79
Fair	15	19
Poor	7	2

[1] The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) is composed of all commercial service airports, all reliever airports, and selected general aviation airports. It does not include over 1,000 publicly owned public-use landing areas, privately owned public-use airports, and other civil landing areas not open to the general public. NPIAS airports account for 100% of all enplanements and serve 91.5% of all aircraft (based on an estimated fleet of 200,000 aircraft). In 1997, there were 14,961 non-NPIAS airports.
[2] Commercial service airports are defined as public airports receiving scheduled passenger service and having at least 2,500 enplaned passengers per year.

NOTE: Data are as of January 1 of each year. Runway pavement condition is classified by FAA as follows:
Good: All cracks and joints are sealed.
Fair: Mild surface cracking, unsealed joints, and slab edge spalling.
Poor: Large open cracks, surface and edge spalling, vegetation growing through cracks and joints.

SOURCE: Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002).

Table 2
Runway Expansion Projects

Airport	Scheduled completion date (year) 2003	2004	2005	2006	2007
Atlanta			X		
Boston			X		
Charlotte		X			
Cincinnati			X		
Denver	X				
Houston	X				
Miami	X				
Minneapolis		X			
Orlando	X				
Seattle-Tacoma				X	
St.Louis-Lambert				X	
Washington-Dulles					X

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, "Operational Evolution Plan: Timelines," December 2001, available at http://www.faa.gov/programs/oep/Timelines.htm, click on Airrival/Departure Rate, as of May 2002.

Highway Conditions

Overall, 40 percent of the nation's urban and rural roads were in good or very good condition in 2000, while 19 percent were mediocre or poor. The rest are in fair condition (table 1). The generally poorer condition of urban roads, as compared with rural roads, can be attributed to the higher levels of traffic they carry. Urban roads handled about 60 percent of all traffic in 2000 with far fewer miles of road. Indeed, on average in 2000, each lane-mile of urban road carried nearly 870,000 vehicles compared with about 170,000 vehicles by each lane-mile of rural road.

The condition of rural roads has generally improved since 1993, as have the higher level urban systems (figure 1). Miles of rural Interstates in poor or mediocre condition have declined from 35 percent to 14 percent, and miles of urban Interstates in poor or mediocre condition have declined from 42 percent to 30 percent. Rural and urban Interstates accounted for nearly one-quarter of all vehicle-miles traveled (vmt) in 2000. Miles of other freeways

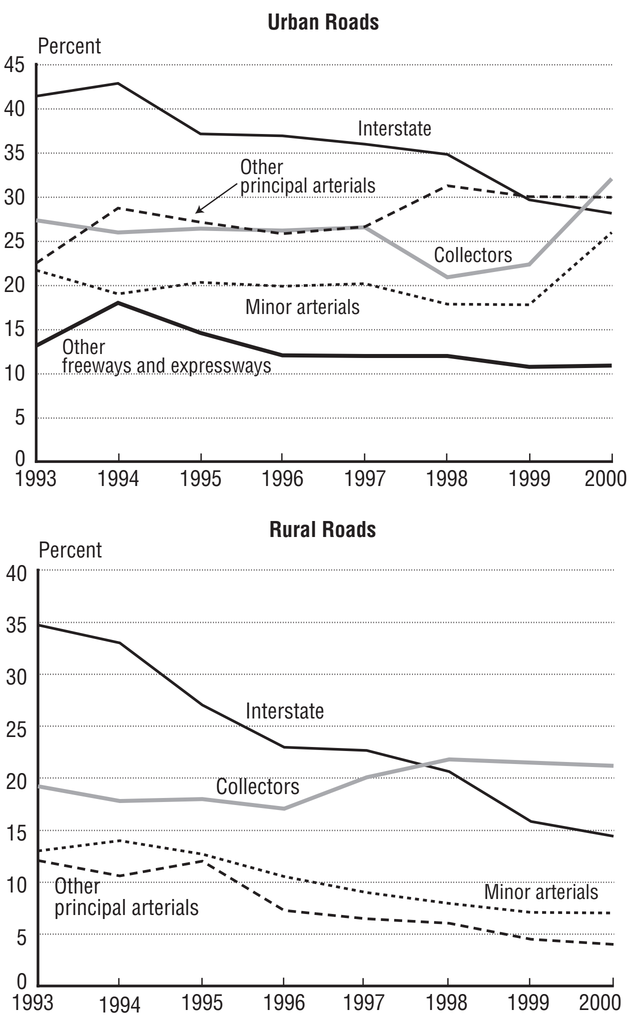
Table 1
Condition of Roads: 1993 and 2000
In percent

Type of road	Poor and mediocre	Fair	Good and very good
Urban			
1993	25	42	33
2000	29	39	33
Rural			
1993	19	45	36
2000	15	42	43
Total			
1993	21	44	35
2000	19	41	40

NOTE: Rural does not include minor collectors or local.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table HM-63 for rural major collectors, urban minor arterials, and urban collectors; table HM-64 for all other categories.

Figure 1
Roads in Poor or Mediocre Condition by Functional Class: 1993–2000



SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues).

Highway Classification

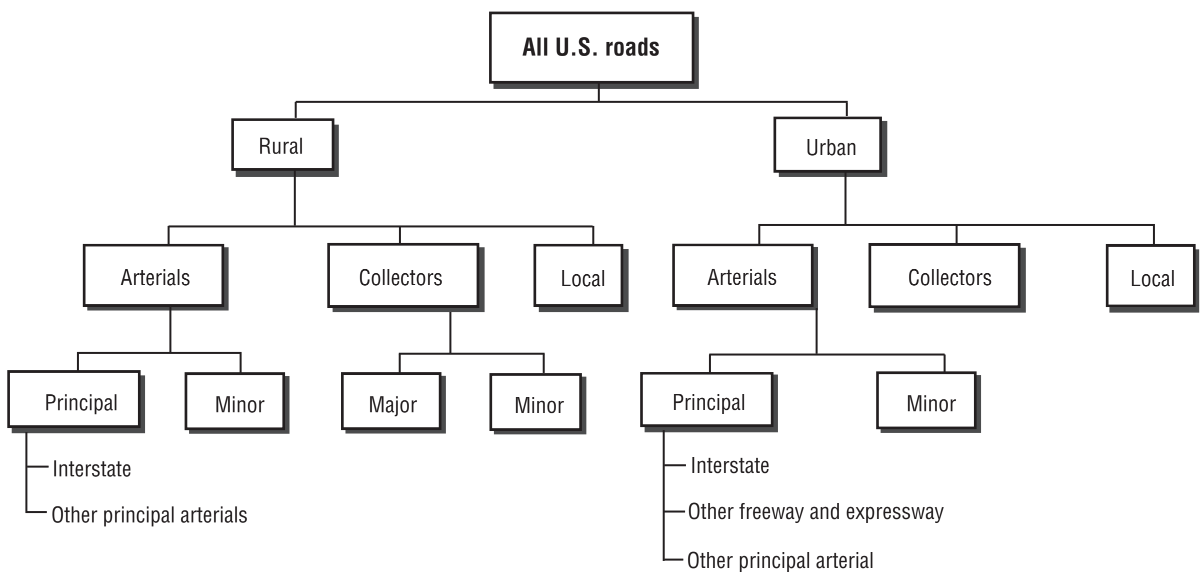
The Federal Highway Administration classifies roads according to the type of service provided and the type of area (rural or urban) using the Highway Functional Classification System (HFCS) (see figure below). There are three major types of roads: arterial, collector, and local.

Arterials provide the highest level of mobility for long, uninterrupted travel. Arterials are designed to a higher standard than other roads, have multiple lanes, and limited access. The Interstate Highway System is part of the arterial network. Rural arterials provide interstate and intercounty service. Rural principal arterials, in general, connect areas with populations of 25,000 or more. The urban principal arterial network serves large urban centers and high traffic corridors. Urban principal arterials also provide continuity with rural arterials and serve most trips entering and leaving urban areas. Urban minor arterials connect with urban principal arterials and rural connectors and are designed for medium length trips and moderate mobility.

Collectors provide shorter distance access between and within residential and business areas at lower speeds than arterials. These roads collect and distribute traffic from the arterial network and connect with local roads. Most collectors are two lanes.

Local roads pick up traffic from collectors and provide direct access to residences and businesses.

Highway Functional Classification System



SOURCES

U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration, *1999 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance* (Washington, DC: 2000).

U.S. Department of Transportation, Federal Highway Administration, *Our Nation's Highways: Selected Facts and Figures 1998* (Washington, DC: 1998).

and expressways in urban areas (accounting for another 6 percent of all vmt) in poor or mediocre condition declined from 13 percent in 1993 to 11 percent in 2000.

Of concern in rural areas is the condition of major collectors, roads carrying about 8 percent of all vmt in 2000. The proportion of miles of these types of facilities in poor or mediocre condition increased from 19 percent to 22 percent between 1993 and 2000. In urban areas, the major concerns are other principal arterials that carried about 15 percent of total vmt in 2000 and minor arterials that carried another 12 percent. Over the same period, the proportion of other principal arterials in poor or mediocre condition increased from 23 percent to 30 percent while the proportion of minor arterials in that condition increased from 22 to 26 percent. The condition of urban collectors[1] also deteriorated over this period, but these facilities carry much less traffic—about 5 percent of vmt in 2000.

[1] In both 1998 and 1999, the condition of about half the miles of urban *minor arterials* and about 40 percent of urban *collectors* were not reported.

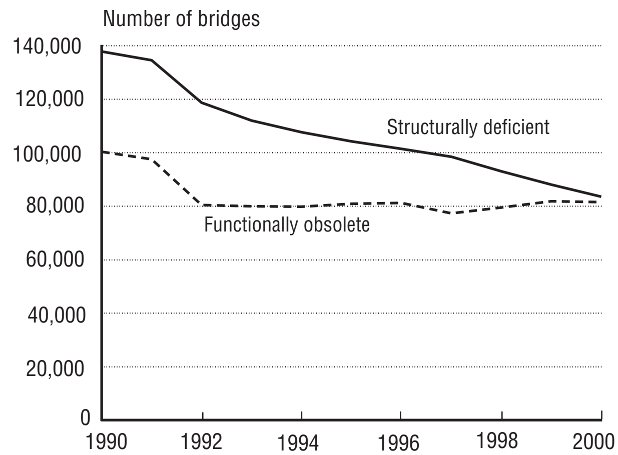
Bridge Conditions

The condition of bridges nationwide has improved markedly since 1990. Of the nearly 600,000 roadway bridges in 2000, 28 percent were found to be structurally deficient or functionally obsolete, an improvement of 31 percent since 1990. About 14 percent of *all* bridges were either structurally deficient or functionally obsolete in 2000 [1]. Structurally deficient bridges are those that are restricted to light vehicles, require immediate rehabilitation to remain open, or are closed. Functionally obsolete bridges are those with deck geometry (e.g., lane width), load carrying capacity, clearance, or approach roadway alignment that no longer meet the criteria for the system of which the bridge is a part.[1] In the 1990s, while the number of structurally deficient bridges steadily declined, the number of functionally obsolete bridges remained fairly constant (figure 1).

Overall, bridges in rural areas suffer more from structural deficiencies than functional obsolescence, whereas the reverse is true in urban areas (table 1). Nearly 22 percent of the bridges in rural areas that support local roads were structurally deficient and one-fifth of urban Interstate bridges were functionally obsolete in 2000. Nevertheless, a large number of both structurally deficient and functionally obsolete bridges support local roads in rural areas [1]. Although the number of deficient bridges has declined nationwide, the experience of individual states varies widely. Between 1995 and 2000, the number of deficient and obsolete bridges increased in 13 states and the District of Columbia (see map).

[1] Structurally deficient bridges are counted separately from functionally obsolete bridges even though most structurally deficient bridges are, in fact, functionally obsolete.

Figure 1
Structurally Deficient and Functionally Obsolete Bridges: 1990–2000



SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Engineering, Bridge Division, National Bridge Inventory database, available at http://www.fhwa.dot.gov/bridge/-britab.htm, as of Sept. 27, 2001.

Source

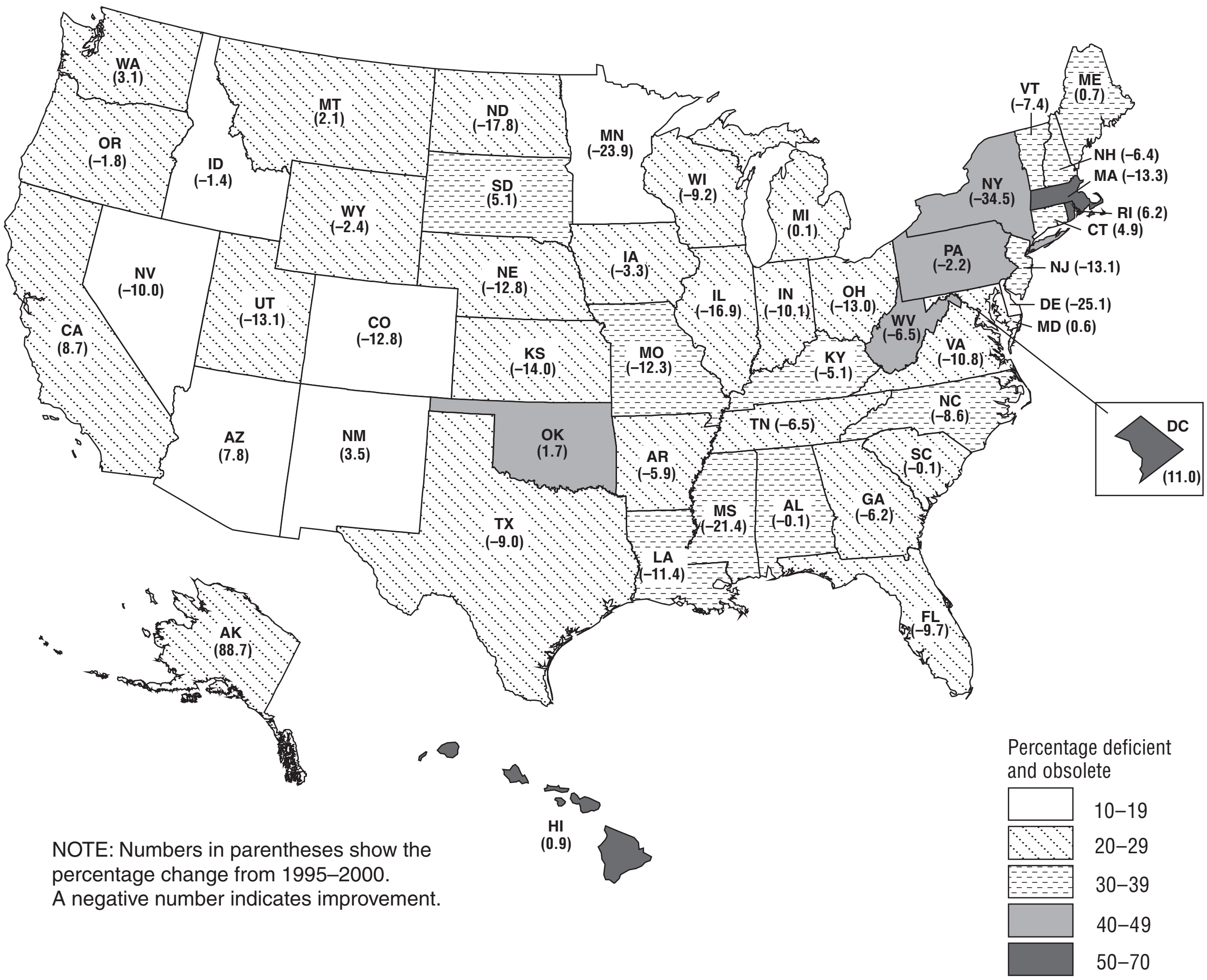
1. U.S. Department of Transportation, Federal Highway Administration, Office of Engineering, Bridge Division, National Bridge Inventory database, available at http://www.fhwa.dot.gov/bridge/britab.htm, as of Sept. 27, 2001.

Table 1
Bridge Conditions by Functional Class: 2000

Type of roadway	Not deficient		Structurally deficient		Functionally obsolete	
	Number	Percent	Number	Percent	Number	Percent
Rural						
Interstates	23,277	84	1,108	4	3,195	12
Other principal arterials	30,113	84	1,963	6	3,564	10
Minor arterials	31,614	80	3,401	9	4,668	11
Major collectors	73,834	77	11,638	12	10,266	11
Minor collectors	35,499	74	6,830	14	5,454	12
Local roads	138,960	66	45,941	22	24,965	12
Rural total	**333,297**	**73**	**70,881**	**16**	**52,112**	**11**
Urban						
Interstates	20,438	73	1,757	6	5,679	21
Other freeways and espressways	11,759	73	985	6	3,368	21
Other principal arterials	16,876	68	2,413	10	5,513	22
Minor arterials	14,586	63	2,497	11	6,072	26
Collectors	9,735	63	1,828	12	3,839	25
Local roads	17,897	69	3,215	12	4,927	19
Urban total	**91,291**	**68**	**12,695**	**10**	**29,398**	**22**
Rural and urban total	**424,588**	**72**	**83,576**	**14**	**81,510**	**14**

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Bridge Technology, National Bridge Inventory database, available at http://www.fhwa.dot.gov/bridge/britab.htm, as of December 2000.

Bridge Conditions by State: 2000



NOTE: Numbers in parentheses show the percentage change from 1995–2000. A negative number indicates improvement.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Office of Bridge Technology, National Bridge Inventory database, available at http://www.fhwa.dot.gov/bridge/britab.htm, as of June 6, 2001.

Chapter 4

Mobility and Access to Transportation

Introduction

Transportation exists to help people and businesses overcome the distance between places (e.g., work and home, factory and store, store and home). Two concepts, mobility and accessibility, are most often used to measure the success of the transportation system. Mobility measurements focus on how often and far people and goods travel. Accessibility is a measure of the relative ease with which people and businesses can reach a variety of locations. Mobility and access are often positively related, but not always. For instance, less travel (lower mobility) might be the result of better access in cases where opportunities are located nearby. Many factors affect mobility and access, including the availability and cost of transportation and the infrastructure in place to facilitate it, population growth and economic fluctuations, and the knowledge of and ability to apply logistical options (particularly for businesses).

Both mobility and accessibility were affected by the terrorist attacks on the United States in September 2001. At the time this report was prepared, only the immediate and short-term impacts were known and, in many cases, only anecdotally. Air travel and some freight movements within and to and from the United States were halted entirely for several days after the attacks. By the end of the year, air travel had not returned to its previous activity level. General aviation was shut down for a longer period, and in early 2002 a few airfields in the vicinity of Washington, DC, were still closed. Maritime shipments were slowed because of a new Coast Guard policy of boarding all foreign ships to check manifests prior to their arrival in U.S. ports. Increased inspection at land crossing points has delayed shipments as well. Intercity train and bus travel rose in the immediate aftermath, but whether this will result in a fundamental shift in mode choices is unknown.

Even in the months before September 2001, transportation had been affected by slower economic growth. Prior to that downturn and during a prolonged period of expansion, however, both passenger travel and goods movement were increasing. About 4.8 trillion passenger-miles of travel were supported by the system in 2000, an annual increase of 2.3 percent since 1990. In addition, there were over 3.8 trillion ton-miles of domestic freight shipped in 1999, representing an annual growth rate of 2.0 percent since 1990.

Increases in population, numbers of workers, vehicle availability, and disposable personal income are among the factors that contribute to passenger travel growth. This growth can be seen, for instance, in international travel. Between 1990 and 2000, the number of U.S. residents traveling out of the country rose 36 percent. Growth is also evident when measured by mode.

Highway passenger travel continues to grow, with travel in light trucks (including minivans, pickups, and sport utility vehicles) posting the largest increases. The light truck share of passenger-miles of travel grew from 14 percent in 1975 to 32 percent in 2000. Despite some gains for the transit mode, the number of people driving to work alone continued its upward trend along with the distance traveled. Accessibility measures show growth, as well: the number of household vehicles, for instance, has risen to equal the number of licensed drivers. Nevertheless, there were 9.5 million households without a car in 1999. By 2000, just over 83 percent of the nationwide fleet of transit buses were equipped with ramps or lifts to provide access to the disabled. However, only about 34 percent of heavy-rail transit stations were accessible by 2000.

Congestion on the highways and in the skies slows traffic and creates a drag on the nation's economic productivity. On the highways, hours of delay per person more than tripled between 1982 and 1999, with people in the largest metropolitan areas suffering from the worst congestion. Each person in the largest metropolitan areas lost an average of 41 hours in 1999. Flight delays tend to vary from year to year making comparisons difficult. In 2001, 22 percent of flights by major U.S. air carriers were delayed, canceled, or diverted. Causes of congestion in the air and on the highways show some similarities: system capacity that is not keeping pace with increasing volumes and delays caused by inclement weather. Because data are not regularly collected for waterborne transportation, measures of the extent of congestion for this mode are not available.

Economic activity is a key factor affecting freight movement. So, too, are changes in business logistics, such as the location of distribution centers at greater distances from consumers and the wide use of just-in-time manufacturing. Air carrier and intercity trucking ton-miles are increasing at a faster rate than the other modes. Compared with other freight modes, air is used more often to move higher value commodities over longer distances. Despite the rapid growth of goods movement by air, however, most freight (measured in tons) is moved by trucks.

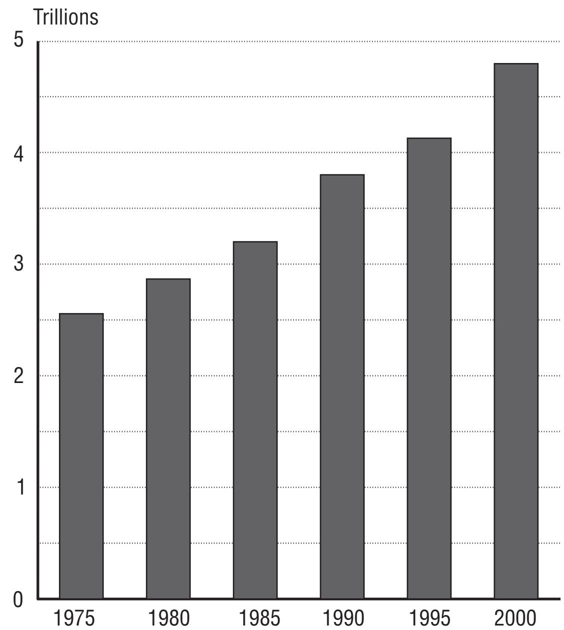
Passenger Travel

All modes of transportation continued to show growth in passenger-miles of travel (pmt) through 2000. Light trucks (pickups, minivans, and sport utility vehicles) posted the biggest gains, increasing its share of pmt from 14 percent to 32 percent over the 1975 to 2000 period. In absolute terms, passenger travel in light trucks grew from 363 million miles in 1975 to 1.5 trillion miles in 2000. The passenger car share of pmt declined from 76 percent in 1975 to 53 percent in 2000. Air travel also increased its share from 5 percent to 11 percent. Overall, pmt, excluding miles traveled in heavy trucks, grew from about 2.6 trillion in 1975 to almost 4.8 trillion in 2000 (figure 1). On a per capita basis, people traveled 17,000 miles in 2000 compared with 11,900 in 1975 [3].

Several factors contributed to the continued growth in pmt (figure 2). The resident population, for example, increased by nearly 66 million people, a rise of 31 percent between 1975 and 2000. Moreover, the number of people in the civilian labor force, most of whom commute to work, grew almost twice as fast as the population over the same period. People also have more money to spend on transportation, particularly for automobiles and air travel. Disposable personal income per capita rose from $14,393 in 1975 to $23,640 in 2000 (in chained 1996 dollars) [2].

An increasing number of people can now afford to buy vehicles and travel services, especially since the cost of the most widely used kinds of transportation—travel in cars and

Figure 1
Passenger-Miles of Travel

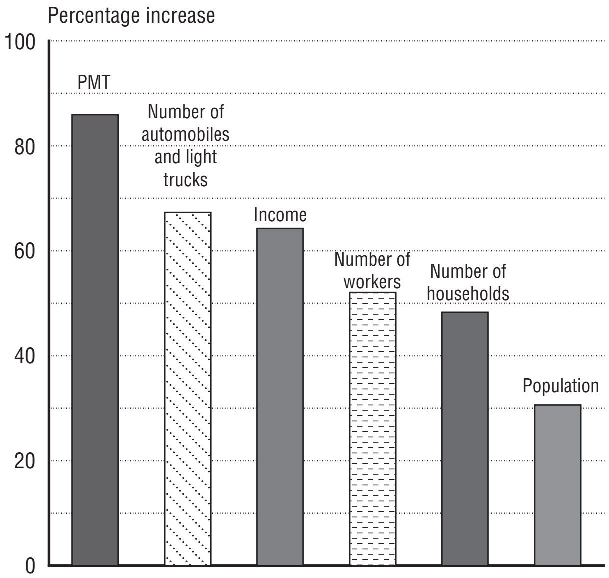


SOURCE: 1975–1995—various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002); 2000 data—various sources as compiled by the Bureau of Transportation Statistics.

Estimating Passenger-Miles of Travel

Passenger-miles of travel are estimated on a yearly basis by adding together estimates for each mode, which are derived from separate sources. Passenger-miles of travel for large air carriers and intercity trains are estimated from tickets and are very accurate. A variety of methods are used to estimate travel in other modes, each with different strengths and weaknesses. For more information see the Accuracy Profiles in BTS's *National Transportation Statistics 2001* (www.bts.gov).

Figure 2
Increases in Passenger-Miles of Travel (PMT) and Factors Affecting Travel Demand: 1975–2000



SOURCES: U.S. Department of Commerce, U.S. Census Bureau, *Statistical Abstract of the United States: 2001* (Washington, DC: 2002); various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002); and various sources as compiled by the Bureau of Transportation Statistics.

planes—fell in real terms. For example, the inflation-adjusted average airfare for domestic scheduled service declined from $174 in 1975 to $110 in 1995 and has stayed at that level through 1999 (measured in chained 1996 dollars) [3]. Despite recent fluctuations, gasoline prices, too, have been at historically low levels for much of the past 15 years [1]. Intercity rail fares also decreased between 1975 and 1999, but average intercity bus fares increased more than inflation during this period. Average bus fares went from $17 to $23 between 1975 and 1999 (in chained 1996 dollars) [3]. Rising bus fares tend to affect individuals with lower incomes more than people at higher income levels.

Sources

1. American Petroleum Institute. "How Much We Pay for Gasoline: 1999–April 2000 Review," May 2000, available at http://www.api.org/pasp/biggas.pdf, as of Sept. 9, 2000.
2. U.S. Department of Commerce, U.S. Census Bureau, *Statistical Abstract of the United States, 2001* (Washington, DC: 2002).
3. U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002), table 3-15b.

Vehicle-Miles of Travel

With increases in both population and individual travel, highway usage has risen substantially. Annual vehicle-miles of travel (vmt) in the United States rose by nearly 30 percent to 2.8 trillion miles between 1990 and 2000, an annual increase of 2.5 percent. Vmt per capita rose by just over 13 percent during the same period, an annual increase of 1.3 percent.

The most heavily populated states, California, Texas, Florida, and New York, are the most heavily traveled. However, Wyoming, the least populated state, had the highest vmt per capita in 2000 at 16,400, followed by Georgia, Alabama, Oklahoma, and New Mexico at over 12,500. The District of Columbia and New York had the lowest vmt per capita at just under 7,000. The percentage change in vmt per capita between 1990 and 2000 ranged from a 32 percent increase in Mississippi to a 3 percent decline in Hawaii, with 12 states showing an increase of at least 20 percent over the 10-year period (see map on the next page).

In recent years, the makeup of the U.S. vehicle fleet changed as well, altering the share of vmt by vehicle type (figure 1). While the share of total vmt by buses and single-unit and combination trucks has remained relatively constant, the increasing popularity of sport utility vehicles and other light trucks in recent years has resulted in a shift in the percentage of total vmt from automobiles to light trucks. Although still the dominant vehicle type in terms of vmt, the share of automobile vmt declined from 66 percent of total vmt to 58 percent between 1990 and 2000. Over the

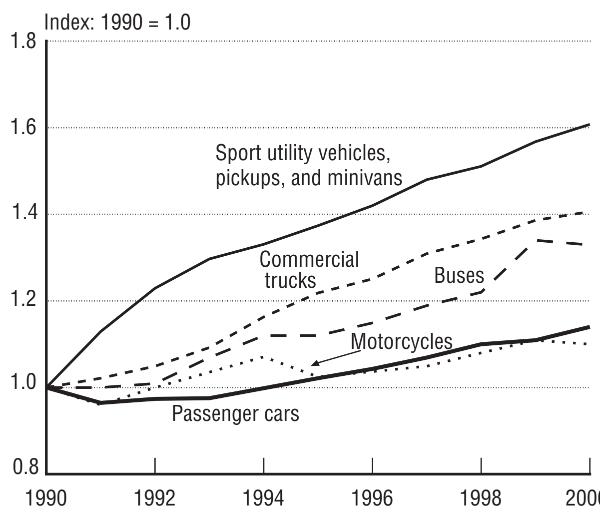
The Highway Performance Monitoring System

The Federal Highway Administration (FHWA) analyzes and presents vehicle-miles of travel data in its annual report, *Highway Statistics,* using the Highway Performance Monitoring System (HPMS). In HPMS, FHWA compiles state-provided data into a national-level database, combining "sample data on the condition, use, performance and physical characteristics of facilities functionally classified as arterials and collectors (except rural minor collectors) and system-type data for all public road facilities within each State." States report data annually. However, in some years, estimates may be made for states with incomplete data.

Source

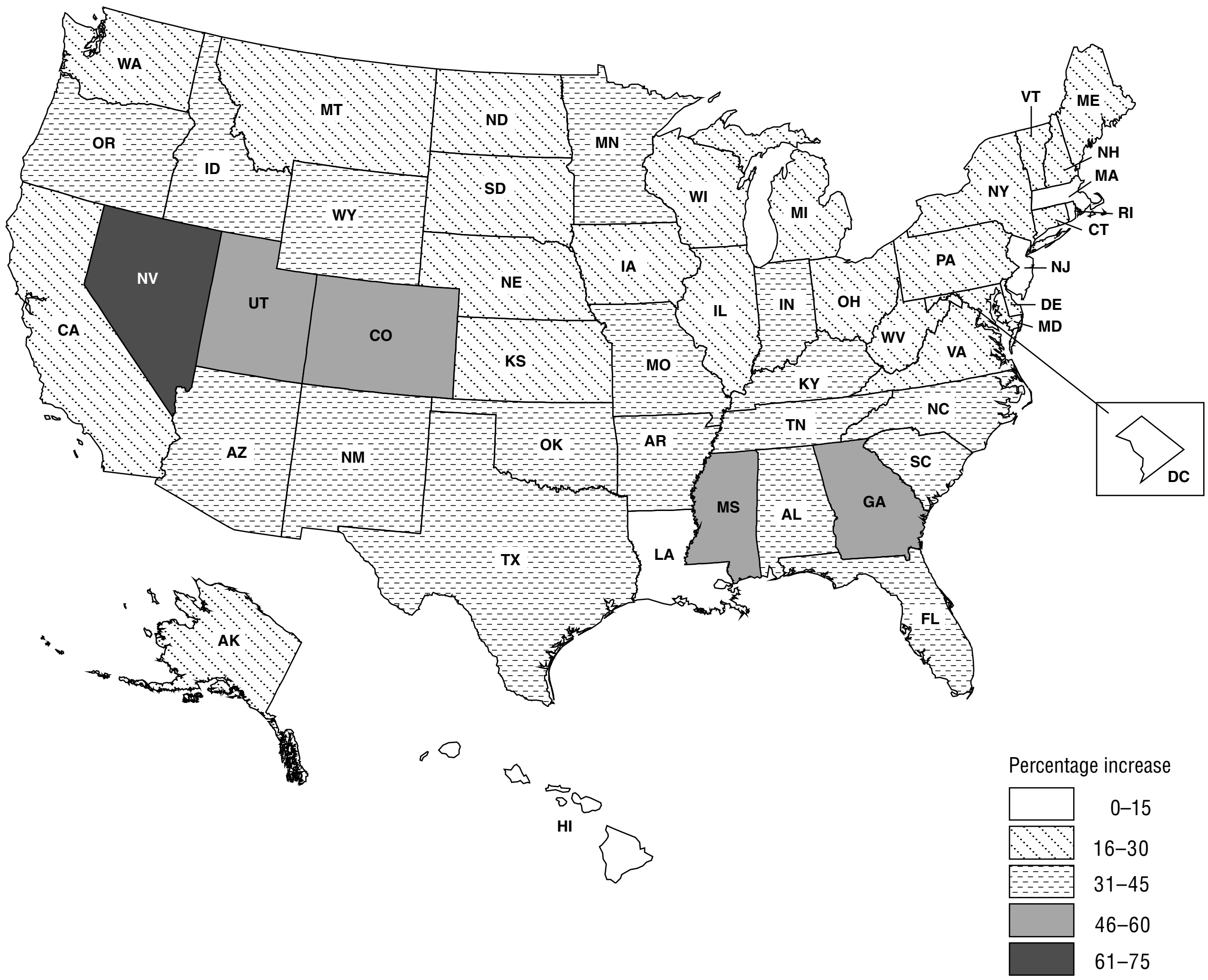
U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1998* (Washington, DC: 1999), p. V-1.

Figure 1
Changes in Vehicle-Miles of Travel by Vehicle Type: 1990–2000



SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues).

Percentage Change in Vehicle-Miles of Travel: 1990–2000



SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues).

same period, the percentage of total vmt by light trucks (a classification including minivans, pickup trucks, and sport utility vehicles) rose to 34 percent of total vmt [1].

Source

1. U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues).

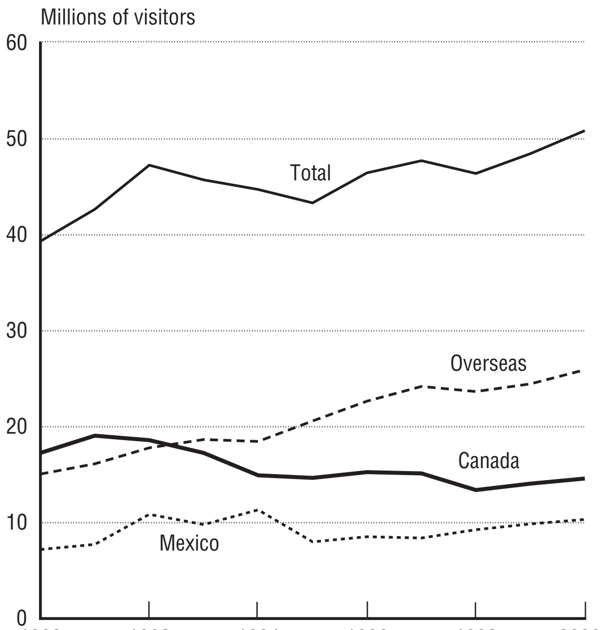
International Travel To and From the United States

Overnight travel between the United States and foreign countries for both business and pleasure grew during the 1990s (figures 1 and 2). However, the terrorist attacks of September 2001 and the preceding economic slowdown caused a decline in late 2001 and early 2002 in land border crossings and air travel (box 1).

International travel data does not take into account people staying for less than one night (box 2). Still, the decade-long growth in overnight travel has implications for the infrastructure at America's borders (including airports and land border crossings) and the demand on transportation infrastructure by foreign nationals while they are in the country. There are also economic implications related to travel spending.

Factors that have contributed to growth include the globalization of the production of goods and services, lower priced air transportation, economic growth, and rising incomes in

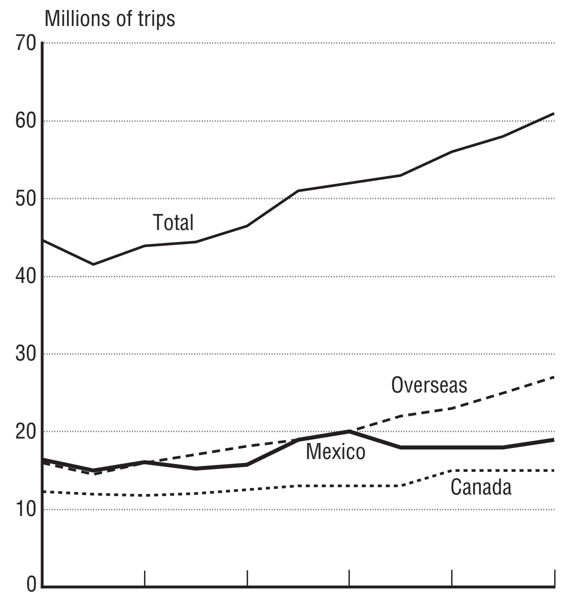
Figure 1
International Overnight Visitors to the United States: 1990–2000
Trips of one or more nights



NOTE: Data for Canada and Mexico do not include same-day travel.

SOURCES: U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, *International Visitors (Inbound) and U.S. Residents (Outbound): 1990–2000* (Washington, DC: 2001); _____. *Arrivals to the U.S. 1999–1998 (All Countries by Residency)* (Washington, DC: 2000).

Figure 2
International Overnight Trips by U.S. Residents: 1990–2000
Trips of one or more nights



NOTE: Data for Canada and Mexico do not include same-day travel.

SOURCES: U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, *International Visitors (Inbound) and U.S. Residents (Outbound) (1990–2000)* (Washington, DC: 2001); _____. *Select Destinations Visited by U.S. Resident Travelers 1999–1998* (Washington, DC: 2000).

Box 1

Security and Travel Time Post-September 11

Immediately following September 11, the key gateways of international travel—airports and land border crossings—were affected by a sharp decline in traffic and new security concerns and procedures. Entries into the United States from Canada and Mexico fell in the months immediately following September into early 2002. For instance, in September 2001 the number of personal vehicles entering the United States from Canada and Mexico was 20 percent less than in September 2000. The decline continued in October 2001 with a decrease of 24 percent over October 2000 levels [2].

Although international air travel grew during the 1990s, it was beginning to slow in early 2001 due to the economic downturn. The September 2001 terrorist attacks further depressed air travel. International revenue passenger-miles on U.S. carriers fell by 29 percent in September 2001 and 37 percent in October 2001 when compared with the same months in 2000. International enplanements also declined by similar amounts, 27 and 32 percent less than the September and October 2000 levels.

Government agencies charged with protecting U.S. borders have tightened inspections and security procedures for both people and freight.[1] The anti-terrorism law, the USA Patriot Act (Public Law 107-56), enacted on October 26, 2001, authorized a tripling of U.S. agents along the Canadian border. Border enforcement is expected to increase on the Mexican border, as well. The Immigration and Naturalization Service's (INS) fiscal year 2003 budget request proposed 570 new border patrol agent positions. Half would be deployed to the northern border and half along the southwest border. In addition, aviation issues closely related to large travel volumes, such as airport capacity shortfalls, congestion, and liberalization, have taken a back seat to security concerns.

Heightened security has essentially added a new element to travel time, forcing passengers to not only count the total duration of delays and cancellations among the possible inconveniences to their travel plans but to also reserve ample time to clear security before each flight. Advisories after September 2001 suggested passengers arrive at airports two hours before domestic flight departures, and three hours prior to international departures. Since Spring 2002 these recommendations have been relaxed as better knowledge is gained about airport security timing issues. Land border crossings have also been affected. In the Seattle INS district, while traffic decreased 55 percent, wait time at the border increased 443 percent from October through December 2001, compared with the same period in 2000 [1].

[1] The agencies primarily responsible for border control and immigration are: 1) the Immigration and Naturalization Service, responsible for checking travelers' documents at legal points of entry; 2) the Customs Service, which checks cargo, vehicles, and passenger baggage at all ports of entry; 3) the Coast Guard, which polices seaports, coastlines, and waterways; and 4) the Transportation Security Administration, part of the newly created Department of Homeland Security which monitors and is in charge of security for all modes of transportation.

Sources

1. Coleman, R.S., District Director, Immigration and Naturalization Service Seattle District, presentation at the Ship Operations Cooperative Program Annual Meeting, Feb. 12-13, 2002, Seattle, WA.
2. U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing Data, available at http://www.bts.gov/itt/, as of June 2002.

many parts of the world. The United States received 7 percent of the nearly 699 million international overnight visitors in 2000. Expenditures by these visitors totaled $476 billion worldwide, with 17 percent spent in the United States [1, 2].

In 2000, a record 51 million overnight international visitors traveled to the United States. Nearly three-quarters of them were from five countries: Canada, Mexico, Japan, the United Kingdom, and Germany (table 1). The number of visitors from overseas (all countries except Canada and Mexico) has risen in the past few years (figure 1). Canadian travel to the United States has been increasing since 1998, after a gradual decline through most of the decade.

In 2000, U.S. residents made more than 60 million international trips. Major destinations were Mexico, Canada, and the United Kingdom (table 2). International travel by U.S. residents between 1990 and 2000 grew by more than 36 percent, with travel overseas growing the fastest (figure 2).

Sources

1. U.S. Department of Transportation, Bureau of Transportation Statistics, *U.S. International Travel and Transportation Trends* (Washington, DC: 2002).

Box 2
Data on International Travel To and From the United States

The data here are limited to people staying one or more nights at their international destination and, therefore, do not include all cross-border movements between the United States, Canada, and Mexico. The data for international arrivals reported in this section come mainly from the Visitors Arrivals Program (Form I-94) administered by the U.S. Department of Justice's Immigration and Naturalization Service (INS) in cooperation with the U.S. Department of Commerce's Office of Tourism Industries.

The Visitors Arrivals Program includes overseas visitors staying for one or more nights for a period of less than 12 months whether for business, pleasure, or study. It does not include people transiting the United States en route to another country. Mexican tourist arrival estimates derived from the I-94 program are limited to those visiting the U.S. interior, beyond the 40 kilometer (25 mile) U.S. border zone, and those traveling by air. These data are supplemented by data from Banco de México to report total Mexican arrivals on an annual basis for people staying one or more nights.

For Canadians, the Office of Tourism Industries relies on Statistics Canada's International Visitor Survey to provide monthly inbound visitors (again, for one or more nights) from Canada to the United States.

Data for U.S. residents traveling internationally are derived from the U.S. International Air Travel Statistics (Form I-92) program, also a joint effort between the INS and the Office of Tourism Industries. Data are collected from airlines for all international arriving and departing flights with the exception of those to and from Canada. U.S. resident travel data to Canada for one or more nights is provided by Statistics Canada's International Visitor Survey. Estimates of U.S. resident travel to Mexico by means of transportation other than air is provided by Banco de México.

2. World Tourism Organization, Organization Tourism Market Trends (Madrid, Spain: Sept. 25, 2001).

Table 1
Top 15 Countries of Origin of International Overnight Visitors to the United States: 2000

Rank	Country	Trips (thousands)	Percent
1	Canada	14,594	29
2	Mexico	10,322	20
3	Japan	5,061	10
4	United Kingdom	4,703	9
5	Germany	1,786	4
6	France	1,087	2
7	Brazil	737	1
8	South Korea	662	1
9	Italy	612	1
10	Venezuela	577	1
11	Netherlands	553	1
12	Australia	540	1
13	Argentina	534	1
14	Republic of China (Taiwan)	457	1
15	Colombia	417	1
	Total, top 15	**42,642**	**84**
	Total, all countries	50,891	100

NOTE: Percentages do not add to totals due to rounding.

SOURCE: U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, "Top 55 Overseas Markets for International Visitor Arrivals to the United States: 2000 and 1999," available at http://tinet.ita.doc.gov, as of Sept. 25, 2001.

Table 2
Top 15 Countries Visited Overnight by U.S. Residents: 2000

Rank	Country	Trips (thousands)	Percent
1	Mexico	18,849	31
2	Canada	15,114	25
3	United Kingdom	4,189	7
4	France	2,927	5
5	Germany	2,309	4
6	Italy	2,148	4
7	Japan	1,262	2
7	Spain	1,262	2
8	Netherlands	1,101	2
9	Switzerland	994	2
10	Bahamas	913	2
11	Jamaica	886	1
12	Hong Kong	832	1
13	Republic of Korea	779	1
14	Ireland	725	1
15	Australia	698	1
	Total, top 15	**54,988**	**90**
	Total, all countries	60,816	100

SOURCE: U.S. Department of Commerce, International Trade Administration, Office of Tourism Industries, "U.S. Resident Travel Abroad, Historical Visitation: Outbound, 1990–2000," available at http://tinet.ita.doc.gov, as of Sept. 25, 2001.

Top Passenger Border Crossings

Over 290 million people entered the United States at crossing points on the U.S.-Mexico border in 2000, more than triple the 95 million entering on the U.S.-Canada border (table 1). Most people traveled across the border in personal vehicles, although a large number of people entered the United States from Mexico on foot. El Paso, Texas, and San Ysidro, California (near San Diego), were the top vehicle crossing points. On the Canadian border, the top crossing points were Detroit, Michigan, and Buffalo-Niagara Falls, New York (table 2).

Table 1
Land Gateways on the Canadian and Mexican Borders: 2000

	Entering the U.S. from	
	Canada (thousands)	Mexico (thousands)
Personal vehicles	36,915	91,157
Buses	189	271
Personal vehicle passengers	90,047	239,795
Bus passengers	4,873	3,466
Train passengers	270	18
Pedestrians	585	47,090
Total passengers and pedestrians	**95,775**	**290,369**

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, 2001.

Table 2
Top 5 Gateways for Passengers in Personal Vehicles Entering the United States: 2000

Canada	Number (thousands)
Detroit, MI	21,724
Buffalo-Niagara Falls, NY	16,523
Blaine, WA	8,235
Sault Ste. Marie, MI	6,866
Port Huron, MI	3,881
Mexico	
El Paso, TX	48,420
San Ysidro, CA	31,025
Hidalgo, TX	21,948
Calexico, CA	20,094
Brownsville, TX	19,693

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Department of Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, 2001.

Enplanements at Major U.S. Airports

Although more than 800 airports in the United States provided some form of air passenger service to the public in 2000, most enplanements (i.e., passenger boardings) occur at a relatively small number of airports. In 2000, for instance, 84 percent of all U.S. air passengers enplaned at 50 airports (table 1, pages 76–77). Ten airports alone accounted for about one-third of all 2000 enplanements.

Air travel became more affordable during the 1990s leading to a general increase in passenger traffic at U.S. airports. Between 1990 and 2000, enplanements at all airports grew by nearly 50 percent from 439 million to 639 million [1, 2]. Some airports grew much faster than the average and/or experienced very large growth in the number of passengers boarded. Enplanements doubled at six major airports (of the top 50 in 2000) between 1990 and 2000: Greater Cincinnati, Sacramento International, Portland International, McCarren International (Las Vegas), George Bush Intercontinental (Houston), and Baltimore-Washington International. Moreover, 5 major airports increased boardings by 7 million or more over this period: Hartsfield International (Atlanta), McCarren International, George Bush Intercontinental, Minneapolis-St. Paul International, and Detroit Metropolitan Wayne County.

Factors leading to a rapid rise in enplanements at specific airports include: location in or near a rapidly growing metropolitan area (e.g., Las Vegas, Phoenix, and Atlanta) or major tourist destination (e.g., Las Vegas and Orlando), serving as a hub for a major commercial airline (e.g., Cincinnati and Houston), and serving a fast growing low-fare airline such as Southwest Airlines (e.g., Baltimore-Washington International).

Sources

1. U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers: Summary Tables, Twelve Months Ending December 31, 2000* (Washington, DC: 2001).
2. U.S. Department of Transportation, Federal Aviation Administration and Research and Special Programs Administration, *Airport Activity Statistics of Certificated Route Air Carriers, Twelve Months Ending December 31, 1990* (Washington, DC: 1991).

(continues on next page)

Table 1
Passengers Boarded at the Top 50 U.S. Airports[1]

Airport	Rank in 2000	Enplaned passengers in 2000	Rank in 1990	Enplaned passengers in 1990	Growth, 1990–2000 (percent)	Change, 1990–2000 (number)
Atlanta, GA (Hartsfield Intl.)	1	38,255,778	3	22,665,665	69	15,590,113
Chicago, IL (O'Hare)	2	30,888,464	1	25,636,383	20	5,252,081
Dallas/Ft. Worth, TX (Dallas/Ft. Worth Intl.)	3	27,841,040	2	22,899,267	22	4,941,773
Los Angeles, CA (Los Angeles Intl.)	4	25,109,993	4	18,434,056	36	6,675,937
Denver, CO (Denver Intl.)	5	17,643,261	6	11,961,839	47	5,681,422
Phoenix, AZ (Phoenix Sky Harbor Intl.)	6	17,239,215	7	10,727,494	61	6,511,721
Detroit, MI (Wayne County)	7	16,929,968	9	9,903,078	71	7,026,890
Las Vegas, NV (McCarran Intl.)	8	16,738,909	18	7,796,218	115	8,942,691
Minneapolis, MN (Minneapolis-St. Paul Intl.)	9	16,710,197	16	8,837,228	89	7,872,969
San Francisco, CA (San Francisco Intl.)	10	16,664,399	5	13,474,929	24	3,189,470
Houston, TX (George Bush Intercontinental)	11	15,814,709	20	7,543,899	110	8,270,810
Newark, NJ (Newark)	12	15,205,447	10	9,853,925	54	5,351,522
St. Louis, MO (Lambert-St.Louis Muni.)	13	15,101,246	13	9,332,091	62	5,769,155
Orlando, FL (Orlando Intl.)	14	13,465,706	19	7,677,769	75	5,787,937
Seattle, WA (Seattle-Tacoma Intl.)	15	13,308,253	21	7,385,594	80	5,922,659
Miami, FL (Miami Intl.)	16	12,654,506	14	9,226,103	37	3,428,403
Boston, MA (Logan Intl.)	17	11,505,983	12	9,549,585	20	1,956,398
New York, NY (La Guardia)	18	11,425,705	8	10,725,465	7	700,240
Philadelphia, PA (Philadelphia Intl.)	19	10,973,074	24	6,970,820	57	4,002,254
New York, NY (John F. Kennedy Intl.)	20	10,648,410	11	9,687,068	10	961,342
Charlotte, NC (Douglas Muni.)	21	10,377,837	22	7,076,954	47	3,300,883
Cincinnati, OH (Greater Cincinnati)	22	9,962,765	32	3,907,625	155	6,055,140
Baltimore, MD (Baltimore-Washington Intl.)	23	8,979,425	29	4,420,425	103	4,559,000
Salt Lake City, UT (Salt Lake City Intl.)	24	8,700,973	25	5,388,178	61	3,312,795
Honolulu, HI (Honolulu Intl.)	25	8,684,893	15	9,002,217	–4	–317,324
Pittsburgh, PA (Greater Pittsburgh)	26	8,650,976	17	7,912,394	9	738,582
San Diego, CA (Intl.-Lindbergh)	27	7,624,519	26	5,260,907	45	2,363,612
Tampa, FL (Tampa Intl.)	28	7,430,829	27	4,781,020	55	2,649,809
Ft. Lauderdale, FL (Ft. Lauderdale-Hollywood Intl.)	29	7,140,518	34	3,875,357	84	3,265,161
Washington, DC (Reagan Washington Natl.)	30	6,983,212	23	7,034,693	–1	–51,481
Chicago, IL (Midway)	31	6,972,213	37	3,547,040	97	3,425,173
Washington, DC (Dulles Intl.)	32	6,649,323	28	4,448,592	49	2,200,731
Portland, OR (Portland Intl.)	33	6,558,859	42	3,025,345	117	3,533,514
Cleveland, OH (Hopkins Intl.)	34	6,154,094	35	3,836,050	60	2,318,044
San Jose, CA (Norman Y. Mineta Intl.)	35	6,044,278	41	3,128,393	93	2,915,885

[1] Rank order by total enplaned passengers on large certificated U.S. air carriers, scheduled and nonscheduled operations, at all airports served within the 50 states, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Prior to 1993, all scheduled and some nonscheduled enplanements for certificated air carriers were included; no enplanements were included for air carriers offering charter service only. Large certificated air carriers operate aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds. Data for commuter, intrastate, and foreign-flag air carriers are not included.

Table 1 (continued)
Passengers Boarded at the Top 50 U.S. Airports

Airport	Rank in 2000	Enplaned passengers in 2000	Rank in 1990	Enplaned passengers in 1990	Growth, 1990–2000 (percent)	Change, 1990–2000 (number)
Kansas City, MO (Kansas City Intl.)	36	5,748,758	40	3,358,116	71	2,390,642
Oakland, CA (Oakland Metropolitan Intl.)	37	5,126,648	44	2,670,788	92	2,455,860
Memphis, TN (Memphis Intl.)	38	4,977,238	33	3,887,208	28	1,090,030
Raleigh-Durham, NC (Raleigh-Durham)	39	4,838,779	30	4,361,369	11	477,410
San Juan, PR (Luis Munoz Marin Intl.)	40	4,834,298	36	3,618,090	34	1,216,208
New Orleans, LA (New Orleans Intl.)	41	4,822,265	39	3,361,062	43	1,461,203
Nashville, TN (Metropolitan)	42	4,365,127	38	3,404,243	28	960,884
Houston, TX (William P. Hobby)	43	4,322,108	31	3,972,327	9	349,781
Sacramento, CA (Sacramento Intl.)	44	3,873,003	56	1,737,096	123	2,135,907
Los Angeles, CA (Orange County)	45	3,828,324	51	2,203,700	74	1,624,624
Austin, TX (Robert Muller Muni.)	46	3,635,209	53	2,054,955	77	1,580,254
Indianapolis, IN (Indianapolis Intl.)	47	3,629,716	47	2,601,839	40	1,027,877
Dallas, TX (Love Field)	48	3,594,539	43	2,882,836	25	711,703
Hartford/Springfield/Westfield, CT (Bradley Intl.)	49	3,508,023	50	2,312,455	52	1,195,568
San Antonio, TX (San Antonio Intl.)	50	3,466,266	48	2,593,896	34	872,370
Total, top 50 airport		**535,609,278**		**361,953,646**	**48**	**173,655,632**
Total, all airports		638,902,993		438,544,001	46	200,358,992

NOTES: In 1990, Ontario, CA, ranked 45th (2,640,734); West Palm Beach, FL, ranked 46th (2,609,138); and Albuquerque, NM, ranked 49th (2,384,647).

SOURCES: 1990—U.S. Department of Transportation, Federal Aviation Administration and Research and Special Programs Administration, *Airport Activity Statistics of Certificated Route Air Carriers, 12 Months Ending December 31, 1990* (Washington, DC: 1991), tables 3 and 4.
2000—U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers: Summary Tables,Twelve Months Ending December 31, 2000* (Washington, DC: 2001), tables 3 and 4.

ADA Access to Public Transit Services

Accessibility for all Americans is a fundamental goal of public transit services. This includes access to bus and demand responsive transit, rail transit (heavy, commuter, and light), and other transit modes (trolley and ferry). The Americans with Disabilities Act (ADA), in fact, requires public transit services (fleets and facilities) to be accessible to persons with special needs.

The nationwide fleet of ADA lift- or ramp-equipped transit buses increased from 52.2 percent of the fleet in 1993 to 83.6 percent of the fleet in 2000 (table 1). While greater compliance with ADA requirements can be seen from 1993 to 2000, the rate of compliance has differed among types of buses (figure 1). The small bus fleet had the highest level of compliance in 1994 and articulated buses, the lowest compliance. In 2000, the small bus fleet continued to have the highest compliance, while large buses had the lowest compliance [1].

Rail transit infrastructure consists of track and stations. At a maximum service level, 14 heavy-rail transit agencies operate 8,245 vehicles over 2,163 miles of track. Among the 997 rail stations in 1997 serving heavy rail, 25.7 percent (256 stations) were ADA accessible. Between 1997 and 2000, the total number of heavy-rail stations increased by only 12 (to 1,009), while the number of ADA accessible stations increased 32.8 percent (to 340). Still, by 2000, ADA accessible stations equaled only 33.7 percent of the total number of stations, leaving a balance of 66.3 percent inaccessible. The level of compliance by heavy-rail transit agencies ranges from 0 percent to 100 percent (table 2). The New York City Transit Authority system, for instance, with 46 percent of the total number of stations, has an accessibility rate of just 8 percent. Excluding these stations from the total increases the overall accessibility rate for the rest of the heavy-rail system to 55.3 percent.

Table 1
ADA Lift- or Ramp-Equipped Transit Buses: 1993–2000

Year	Number of buses[1]	ADA lift- or ramp-equipped buses (number)	ADA lift- or ramp-equipped buses (percent)
1993	55,726	29,088	52.2
1994	57,023	31,065	54.5
1995	57,322	35,381	61.7
1996	57,369	38,316	66.8
1997	58,975	40,932	69.4
1998	60,830	46,278	76.1
1999	63,618	51,213	80.5
2000	65,324	54,585	83.6
% change, 1993–2000	17.2%	87.7%	

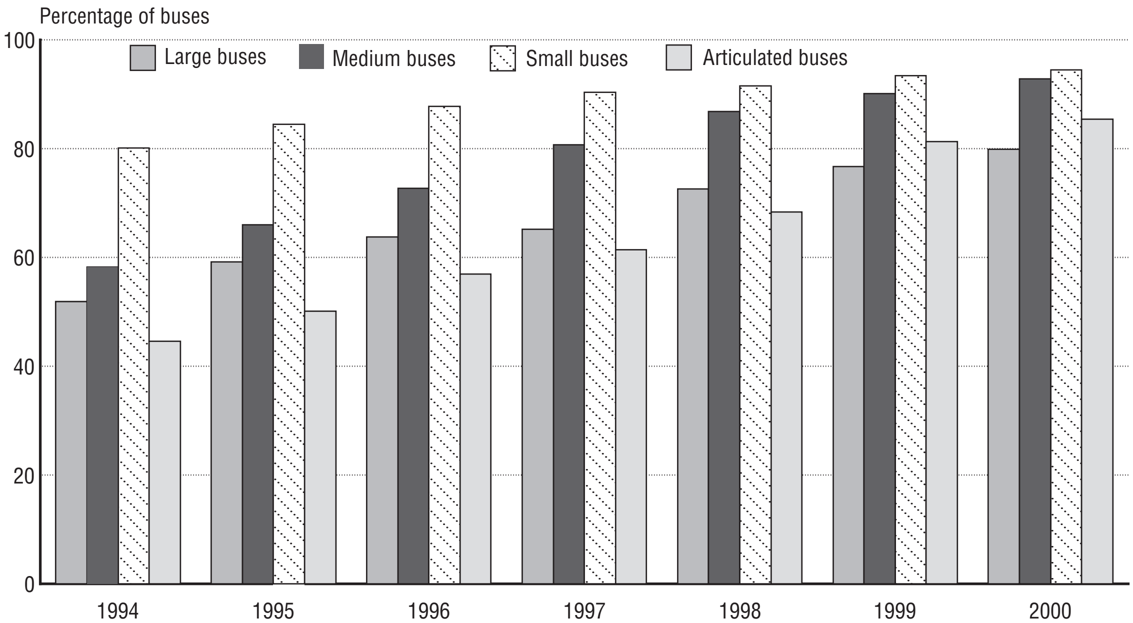
[1] Includes buses of transit agencies receiving federal funding for bus purchases, as well as buses of agencies not receiving federal funds that voluntarily report data to the Federal Transit Administration.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, *2000 National Transit Summaries and Trends* (Washington,DC: 2001).

Source

1. U.S. Department of Transportation, Federal Transit Administration, *2000 National Transit Summaries and Trends*, available at http://www.ntdprogram.com, as of Feb. 15, 2002.

Figure 1
ADA Lift- or Ramp-Equipped Buses: 1994–2000



SOURCE: U.S. Department of Transportation, Federal Transit Administration, *2000 National Transit Summaries and Trends*, available at http://www.ntdprogram.com, as of Feb. 15, 2000.

Table 2
ADA Accessible Heavy-Rail Stations by Agency: 1997 and 2000

		Number of stations		Number of accessible stations	
State	**Agency**	**1997**	**2000**	**1997**	**2000**
California	San Francisco—Bay Area Rapid Transit	39	39	39	39
California	Los Angeles County Metro	8	16	8	16
Washington, DC	Washington Metropolitan Area Transit Authority	75	78	75	78
Florida	Miami-Dade Transit Agency	21	21	0	0
Georgia	Metro Atlanta Rapid Transit Authority	36	36	36	36
Illinois	Chicago Transit Authority	141	142	0	54
Massachusetts	Boston—Massachusetts Bay Transportation Authority	53	53	33	37
Maryland	Maryland Transportation Authority	14	14	14	14
New Jersey	Port Authority Transit	13	13	3	5
New York	New York City Transit	468	468	30	41
New York	Port Authority	13	13	6	6
New York	Staten Island	22	22	2	2
Ohio	Greater Cleveland RTA	18	18	6	8
Pennsylvania	Philadelphia—Southeast Pennsylvania Transit Authority	76	76	4	4
Total		**997**	**1,009**	**256**	**340**

SOURCES: U.S. Department of Transportation, Federal Transit Administration, *National Transit Database*, 1997 and 2000.

Commuting to Work

Nearly 9 out of 10 workers in 2000 traveled to work by car, truck, or van (table 1), and most of those driving to work drove alone [1]. These Census 2000 Supplementary Survey data are not directly comparable with 1990 decennial census data for several reasons, including the fact that the former does not cover the group quarters population,[1] perhaps understating some categories, such as walking. However, the national trends revealed by a comparison of the two data sets are consistent with other evidence of changes in how people get to work [2]. In particular, the census data show that the share of workers driving alone to work increased and carpooling decreased between 1990 and 2000, while the share of workers using public transportation remained about the same (figure 1).

[1] The group quarters population consists of people not living in households. It includes, for instance, those who are institutionalized and people who live in group housing, such as college dormitories, military quarters, and group homes.

Table 1
Mode of Travel to Work: 2000

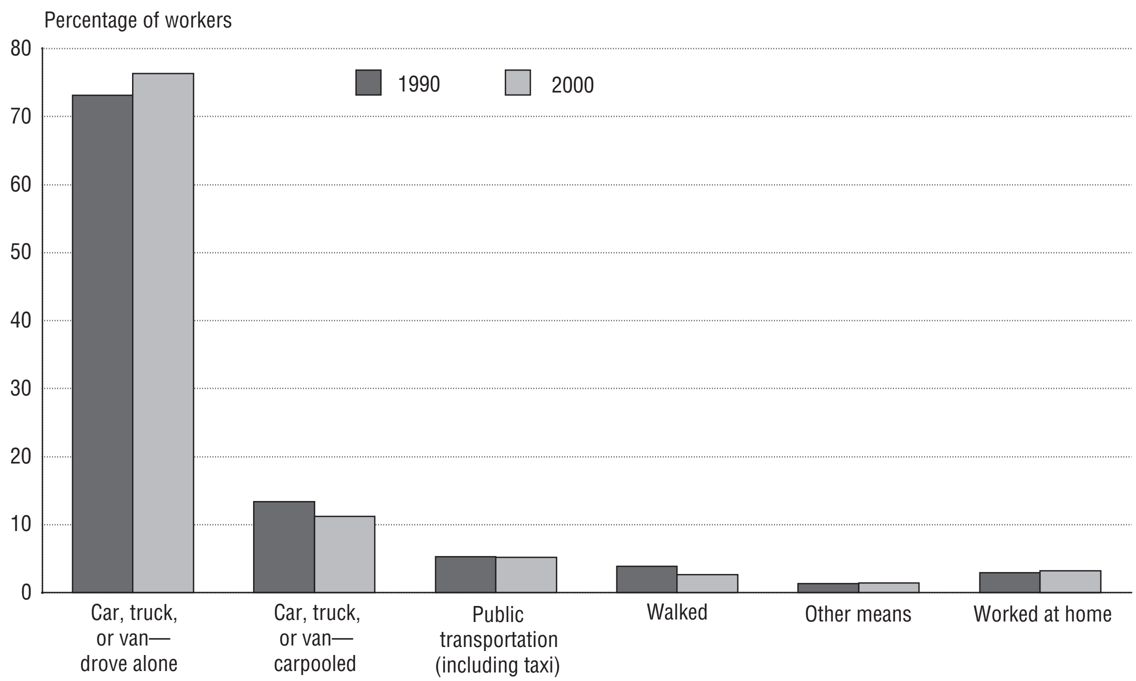
Mode	Percent
Car, truck, or van—drove alone	76.3
Car, truck, or van—carpooled	11.2
Public transportation (including taxi)	5.2
Walked	2.7
Other means	1.4
Worked at home	3.2

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, *Census 2000 Supplementary Survey for the United States,* available at http://factfinder.census.gov/home/en/C2SS.html, as of Mar. 27, 2002.

Sources

1. U.S. Department of Commerce, U.S. Census Bureau, *Census 2000 Supplementary Survey for the United States*, available at http://factfinder.census.gov/home/en/C2SS.html, as of Mar. 27, 2002.
2. U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2000* (Washington, DC: 2001).

Figure 1
Usual Means of Travel to Work: 1990 and 2000



SOURCES: U.S. Department of Commerce, U.S. Census Bureau, *Census 2000 Supplementary Survey for the United States,* available at http://factfinder.census.gov/home/en/C2SS.html, as of Mar. 27, 2002.
_____. *Means of Transportation to Work for the U.S.: 1990 Census,* available at http://www.census.gov/population/socdemo/journey/usmode90.txt, as of Sept. 17, 2001.

Transit Ridership

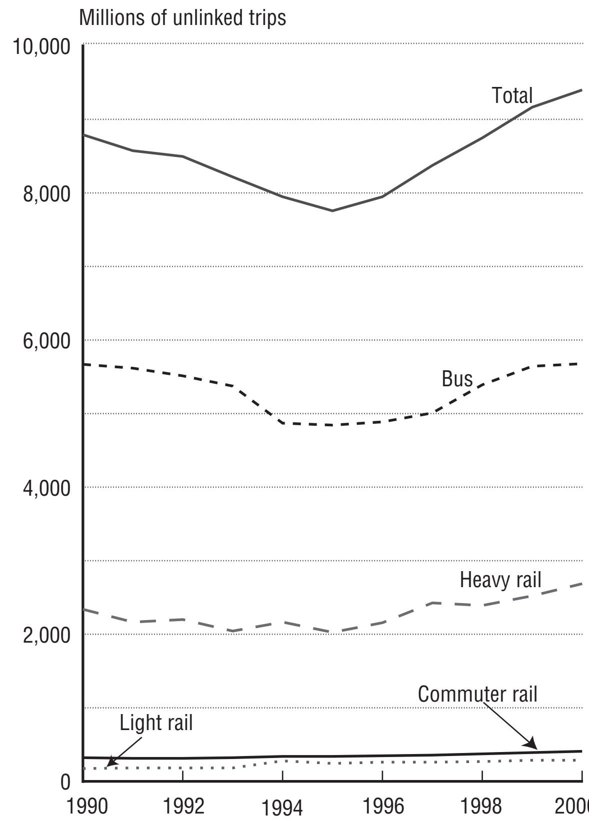
Transit ridership grew steadily between 1995 and 2000 to reach 9.4 billion unlinked[1] trips in 2000 [1], an increase of 21 percent. The number of trips made in 2000 represents a 3.9 percent annual increase since 1995 and the highest ridership in more than 40 years [3]. Rail transit ridership posted particularly strong growth (figure 1). Between 1995 and 2000, heavy rail grew 32 percent, followed by commuter rail at 20 percent, and light rail at 17 percent. Bus ridership dipped in the mid-1990s but by 2000 had risen back to the level of ridership held in 1990. Most transit trips are still taken by bus [1, 2].

Sources

1. American Public Transit Association, "APTA Transit Ridership Report," available at http://www.apta.com/stats/ridershp/riderep/history.pdf, as of Sept. 7, 2001.
2. ____. *Public Transportation Fact Book 2001* (Washington, DC: 2001).
3. ____. "Public Transportation Ridership Tops 9.4 Billion in 2000," available at http://www.apta.com/news/releases/2000rides.htm, as of Sept. 7, 2001.

[1] Each time a passenger boards a vehicle it is counted as an unlinked trip, regardless of the number of vehicles the passenger must board to travel from origin to destination.

Figure 1
Transit Ridership by Mode: 1990–2000



NOTE: Total includes other modes not shown, such as ferry boats, inclined planes, and trolley buses.

SOURCE: American Public Transportation Association, *Public Transportation Fact Book 2001* (Washington, DC: 2001).

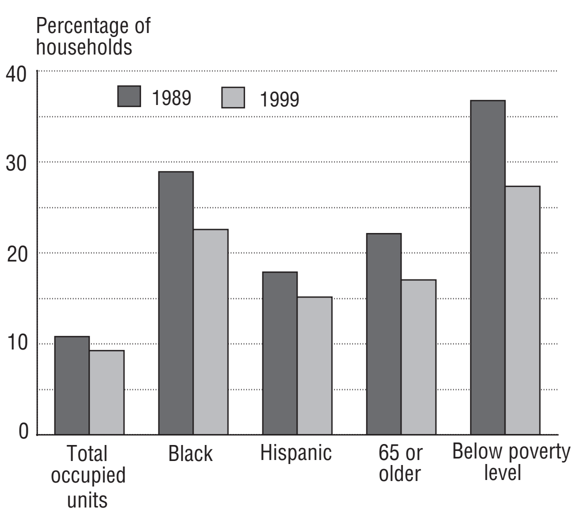
Households Without Vehicles

Because of improvements in vehicle reliability and longevity and rising incomes, more people now own a motor vehicle than 10 years ago. However, about 9.5 million households—representing 9 percent of all households—were without a car, van, or truck in 1999 [1]. This is down from 10.1 million households (11 percent of all households) in 1989 [2].

Black, Hispanic, poor, and elderly households are more likely to be without a car, van, or truck than the population as a whole, despite relatively large increases in vehicle ownership among these groups (figure 1). Not surprisingly, poor households are the least likely to have vehicles. The number of households below the poverty level without a vehicle dropped 10 percent, from 37 percent in 1989 to 27 percent in 1999.

The geographic location of a household also affects vehicle ownership. For instance, households in central city urban areas are less likely to own motor vehicles than households in the suburbs, urban areas outside a metropolitan statistical area, or rural areas (figure 2). Similarly, when data are aggregated on a regional basis, the heavily urban Northeast has the highest share of households without vehicles (figure 3).

Figure 1
Households Without Vehicles: 1989 and 1999



SOURCES: U.S. Department of Housing and Urban Development and U.S. Department of Commerce, U.S. Census Bureau, *American Housing Survey for the United States: 1999,* H150 (Washington, DC: 2000). _____. *American Housing Survey for the United States: 1989,* H150 (Washington, DC: 1990).

Sources

1. U.S. Department of Housing and Urban Development and U.S. Department of Commerce, U.S. Census Bureau, *American Housing Survey for the United States: 1999,* H150/99 (Washington, DC: 2000).
2. _____. *American Housing Survey for the United States: 1989,* H150/89 (Washington, DC: 1990).

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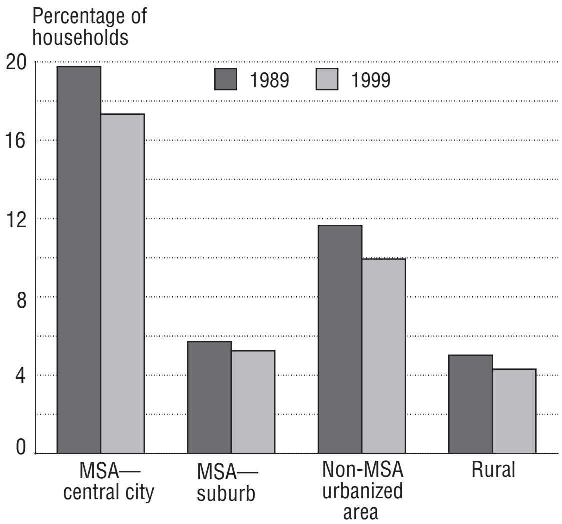
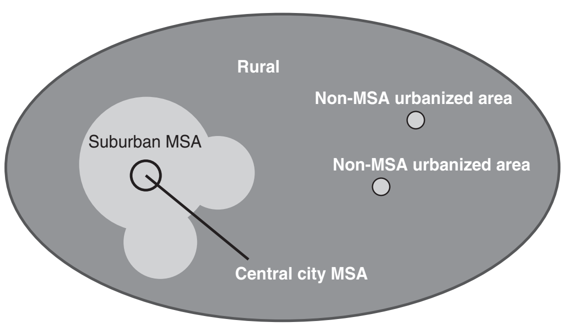
Figure 2
Households Without Vehicles in Urban, Suburban, and Rural Areas: 1989 and 1999



NOTE: MSAs = metropolitan statistical areas (see box below).
SOURCE: U.S. Department of Housing and Urban Development and U.S. Department of Commerce, U.S. Census Bureau, *American Housing Survey for the United States: 1999,* H150/99 (Washington, DC 2000).
_____. *American Housing Survey for the United States: 1989,* H150/89 (Washington, DC: 1990).

"Census Island," USA



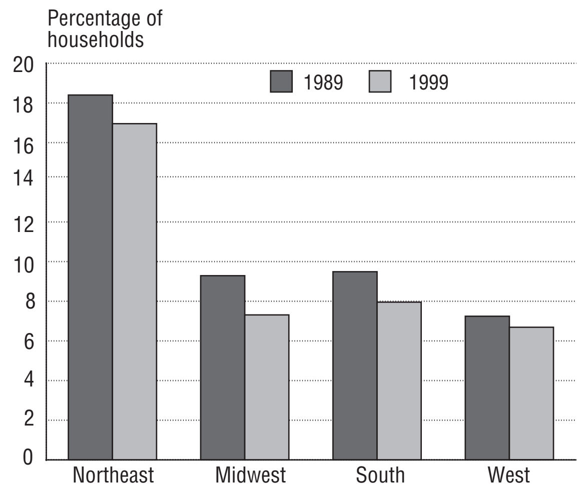
Central cities are urban counties with at least 50,000 inhabitants. A Metropolitan Statistical Area (MSA) contains a central city and the outlying suburban counties. An outlying county must have a high level of social and economic integration with the central city (or cities) to be considered part of the MSA. These outlying counties comprise the Suburban MSA.

Non-MSA urbanized areas are places outside the boundaries of MSAs with at least 2,500 inhabitants. A place can be an incorporated area, or a closely settled population center without corporate limits.

Areas not classified as urban are rural.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau.

Figure 3
Households Without Vehicles by Region: 1989 and 1999



KEY:
Northeast—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, and New Jersey.
Midwest—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, and South Dakota.
South—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, Arkansas, Louisiana, Oklahoma, and Texas.
West—Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Idaho, Alaska, Washington, Oregon, Nevada, California, and Hawaii.

SOURCES: U.S. Department of Housing and Urban Development and U.S. Department of Commerce, U.S. Census Bureau, *American Housing Survey for the United States: 1999,* H150 (Washington, DC: 2000).
_____. *American Housing Survey for the United States: 1989,* H150 (Washington, DC: 1990).

Highway Congestion in Metropolitan Areas

Being stuck in traffic is a source of frustration for many travelers, particularly commuters, but the impacts go far beyond those individuals immediately affected. By wasting people's time, increasing the time it takes to transport goods, and causing missed meetings and appointments, highway congestion is a drag on economic productivity. Congestion is also an environmental concern. Extra fuel is consumed by cars traveling under these conditions because of increased acceleration, deceleration, and idling. Greater fuel consumption leads to higher emissions of greenhouse gases and may raise the level of other air pollutants.

The Texas Transportation Institute (TTI) studies 68 metropolitan areas in order to estimate congestion and some of its impacts in the United States. TTI found that between 1982 and 1999 congestion measured by average annual delay per person increased in all areas (see the map on the next page). Overall in the study areas, average annual delay per person has more than tripled during the 17-year period, rising from 11 hours per person in 1982 to 36 hours in 1999 (table 1). Furthermore, drivers in the largest metropolitan areas (with a population of over 3 million) experienced the worst congestion (41 hours per person on average in 1999), and those in small metropolitan areas (population of 500,000 or less) the least (10 hours a year per person) (figure 1).

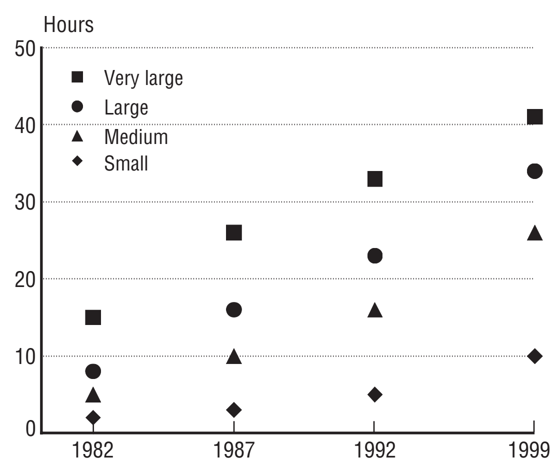
Table 1
Congestion Measures in 68 Metropolitan Areas

Year	Annual delay per person (hours)	Wasted fuel per person (gallons)	Annual fuel wasted per urban area (million gallons)
1982	11	17	26
1986	18	28	43
1990	26	39	65
1992	27	41	69
1995	30	46	81
1997	34	51	92
1999	36	55	100

NOTE: The "annual delay/eligible driver" and "wasted fuel/eligible driver" terminology used in previous reports has been discontinued and replaced with "per person" calculations in this report.

SOURCE: D. Shrank and T. Lomax, *The 2001 Urban Mobility Report* (College Station, TX: Texas Transportation Institute, 2001).

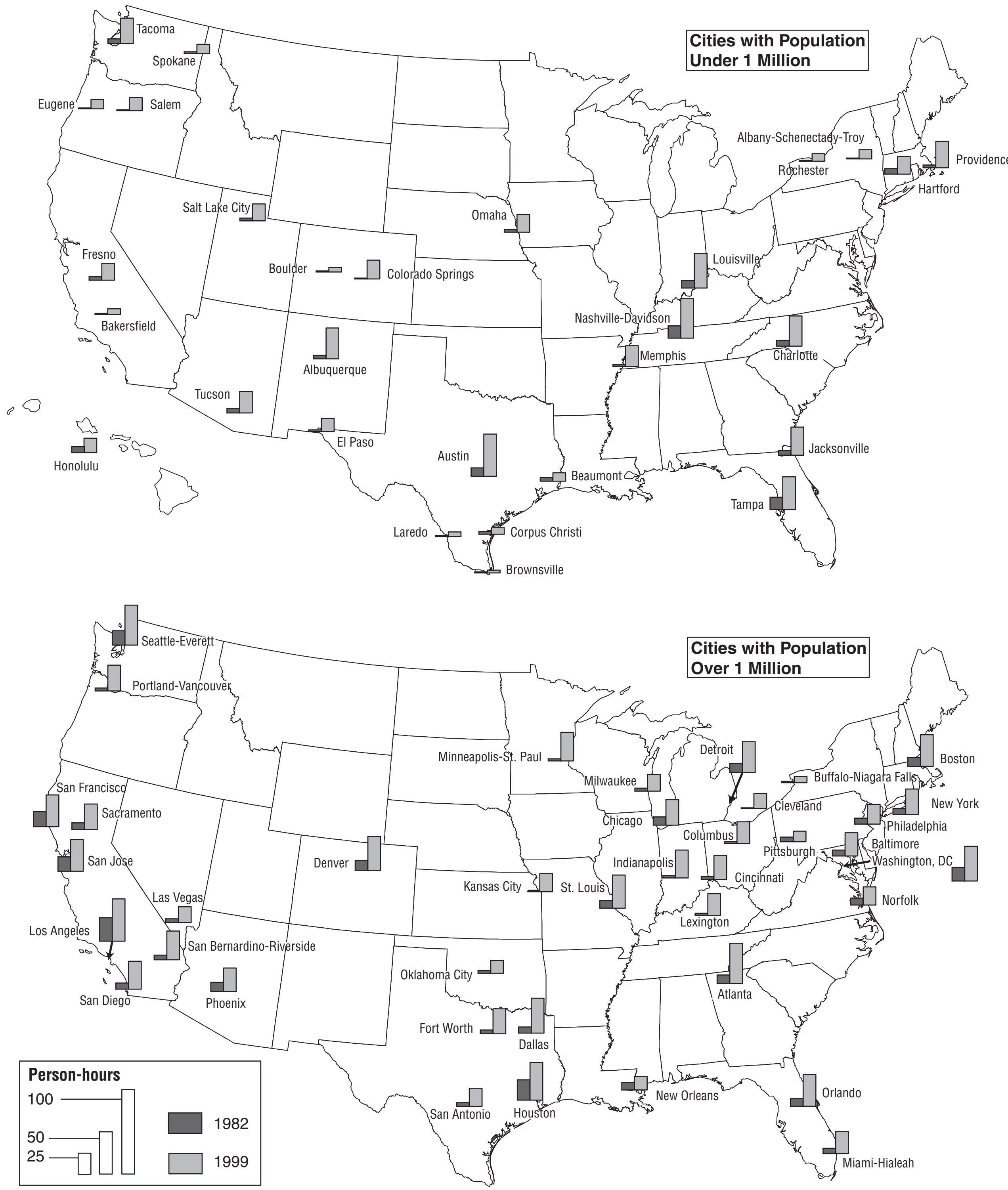
Figure 1
Annual Hours of Congestion Delay per Person by Metropolitan Area Size



KEY: Very large = over 3 million; Large = over 1 million–30 million; Medium = over 500,000–1 million; Small = 500,000 or less.

SOURCE: D. Shrank and T. Lomax, *The 2001 Urban Mobility Report* (College Station, TX: Texas Transportation Institute, 2001).

Annual Person-Hours of Delay per Person: 1982 and 1999



NOTES: The cities shown represent the 50 largest metropolitan areas, as well as others chosen by the states sponsoring the study. For a detailed explanation of the formulas used, see the source document.

SOURCE: Texas Transportation Institute, *2001 Annual Mobility Report* (College Station, TX: 2001).

U.S. Airline Delays

Delayed or canceled commercial airline flights cost consumers in many unmeasured ways, including lost personal time, missed meetings, and increased anxiety and stress. Delay also costs the airlines. The Federal Aviation Administration (FAA) estimates that commercial aviation delays cost airlines over $3 billion annually and projected in 2000 that delays throughout the system would continue to increase as the demand for air travel rose [1]. Both FAA and the airlines consider that improvements in air traffic control should mitigate some flight delay problems. In addition, FAA and the industry, under the FAA's National Airspace System (NAS) Operational Evolution Plan, have begun to implement ways to reduce delays in the national aviation system attributable to weather, increasing flight volume, and limited system capacity [3].

Both the Bureau of Transportation Statistics (BTS) and FAA track airline delays. According to BTS, a flight is counted as an "on-time departure" if the aircraft leaves the airport gate less than 15 minutes after its scheduled departure time, regardless of the time the aircraft actually lifts off from the runway. Also, BTS counts an arriving flight as "on time" if it arrives less than 15 minutes after its scheduled gate arrival time.

Unlike BTS, which tracks air carrier performance, FAA tracks delays in terms of how well the air traffic control system performs [2]. Tracking begins once a flight is under FAA air traffic control (i.e., after the pilot's request to taxi out to the runway). As such, an aircraft could wait an hour or more at the gate before requesting clearance to taxi. Once under air traffic control, as long as the aircraft took off within 15 minutes of the airport's standard taxi-out time, FAA considers the flight departed on time. [1].

About one-quarter of flights by major U.S. air carriers were delayed between 1996 and 2001, according to BTS data (figure 1). In 2001, 22 percent of flights were delayed, canceled, or diverted, down from a 10-year high of 27 percent in 2000 [2].

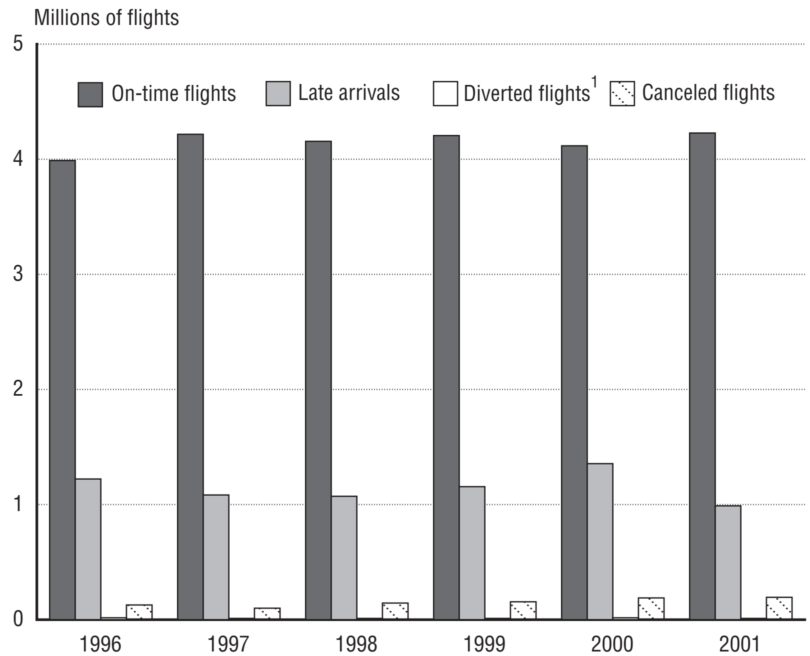
Most delays take place while a plane is on the ground, although the actual cause of a delay may occur elsewhere. Poor weather is the most common cause of delays (figure 2). The growth in flight volume was a major contributor to delays and cancellations during the 1990s. The total number of flight operations[1] at the nation's airports increased by 7 percent, from 63.0 million to 67.7 million flights, between 1992 and 2000[2] [4]. Delayed flights rose from less than one in five flights to more than one in four flights during the same period [2].

A slowing economy contributed to a 3 percent reduction in total flight operations between August 2000 and August 2001 [4].

[1] Flight operations, as reported by FAA, include take-offs and landings by all types of aircraft (commercial and general aviation) at approximately 3,400 domestic airports.

[2] Comparable data are not available for 1990 and 1991.

Figure 1
U.S. Major Air Carriers On-Time Performance: 1996–2001



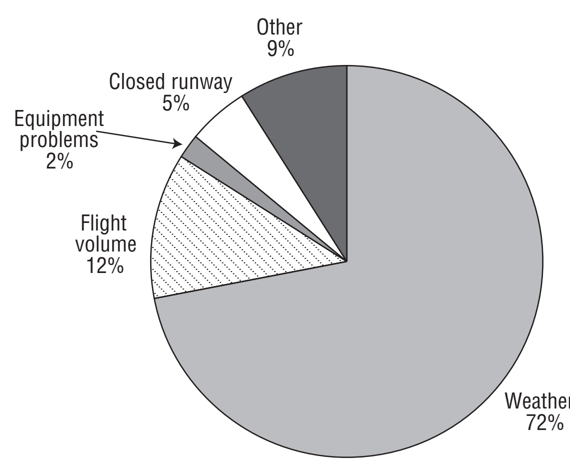
[1] Because relatively few flights were diverted from their original destinations, that category is not clearly visible on the graph. The following number of flights were diverted (by year): 14,121 (1996); 12,081 (1997); 13,161 (1998); 13,555 (1999); 14,254 (2000); and 12,144 (2001). Please note that the chart displays millions of flights.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance Database,* available at http://www.bts.gov., as of May 2002.

The demand for flights also dropped considerably following the terrorist attacks in September 2001 (box 1). The reduction in flight volume during 2001 contributed to a 5 percent decrease in flight delays compared with 2000 [2].

There is much debate about the role of airline scheduling in causing delays. The hub and spoke systems used by the major airlines concentrate flights into the hub airports. The worst delays tend to be at peak travel times during the day and at certain times of the year (e.g., holidays and the summer months) when travel volume is heavier. When heavy volume is combined with bad weather between a hub airport and its spokes, the ripple effect can cause delays at dozens of other airports [1] (table 1).

Figure 2
FAA-Cited Causes of Delays: 2001
(After pushing back from the gate)



SOURCE: U.S. Department of Transportation, Federal Aviation Administration, *Operations Network (OPSNET) Database*, available at http://www.faa.gov/programs/oep/.

Box 1
Impacts of the September 11, 2001, Terrorist Attacks

The September 11, 2001, terrorist attacks forced the U.S. Department of Transportation (DOT) to take the unprecedented step of closing down the nation's aviation system and, further, to restrict operations in parts of the system. The attacks also affected the public's demand for air travel by increasing concerns for air safety and decreasing the likelihood of quick recovery for an economy that was already weak.

The result was an exceptional fall in all types of flight operations recorded by the Federal Aviation Administration: 2 million (35 percent) fewer operations in September 2001 than in September 2000. The 233,000 cancellations for the 12 months ending September 2001 were 42 percent higher than the previous high set in September 2000. The 86,000 cancellations recorded between September 11 and September 30 were higher than for any year (ending in September) since 1995. Even these numbers understate the impact of the attacks, because flights that are offered for sale, but canceled more than 7 days before scheduled departure, are not reported to the Bureau of Transportation Statistics. Airlines reported 151,000 flights for September 1 to 10 but only 139,000 flights for September 21 to 30, a decline of almost 9 percent.

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, analysis based on U.S. Department of Transportation, Federal Aviation Administration, Operations Network (OPSNET) Database, as of May 2002.

In August 2000, the U.S. Department of Transportation (DOT) created a task force comprising a cross-section of aviation stakeholders, including representatives from airlines, consumer groups, labor unions, and airport operators, to examine the reasons for flight delays and develop recommendations on how to modify airline on-time reporting. Currently, the on-time information that the 10 largest U.S. passenger carriers are required to submit to BTS[3] identifies only the frequency and duration of flight delays and cancellations, not the cause. As a preliminary step to expanding rules for air carrier on-time reporting, the task force implemented a pilot test program for reporting causes of flight delays [2]. DOT also

[3] American Eagle was added to the list of carriers that must report on-time data and began reporting in January 2001. This carrier is excluded from the data and figures in this report to retain comparability with previous years.

Table 1
Top 10 Large Airports for Percentage of Flights Delayed, Canceled, or Diverted: 2001

Rank	Airport	Number of scheduled departures	Flights not departing on time	Number of scheduled arrivals	Flights diverted away from airport	Canceled	% late arrivals	% of flights not arriving on time
1	Seattle-Tacoma	102,752	23,961	102,734	225	3,074	27.5	30.7
2	San Francisco	121,735	26,621	121,738	316	6,389	23.2	28.7
3	New York La Guardia	103,874	22,020	103,888	674	7,774	20.3	28.4
4	New York JFK	41,224	10,019	41,208	160	1,944	22.7	27.8
5	Philadelphia	116,815	27,556	116,832	398	5,533	22.3	27.4
6	Chicago O'Hare	282,049	69,497	282,046	788	15,479	21.3	27.1
7	Boston Logan	103,969	22,948	103,950	208	7,377	19.5	26.8
8	Los Angeles	195,376	42,195	195,386	253	7,704	21.7	25.8
9	Newark	117,822	23,014	117,798	342	6,075	19.5	25.0
10	Miami	62,319	13,139	62,334	101	1,715	21.5	24.4

NOTES: A *flight* is defined as late if the aircraft departs from or arrives at the gate more than 15 minutes after its scheduled departure or arrival time. A *large airport* is an airport with at least 1 percent of domestic passenger enplanements in 2000.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airline On-Time Performance Database,* available at http://www.bts.gov., as of May 2002.

developed a notice of proposed rulemaking that would modify the current regulations governing the submission of on-time flight performance reports to require the reporting of causal information relative to flight delays and cancellations.

Sources

1. Mead, K.M., Inspector General, U.S. Department of Transportation, "Flight Delays and Cancellations," statement before the Committee on Commerce, Science, and Transportation, United States Senate, Sept. 14, 2000.
2. U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, personal communications, November 2000–November 2002.
3. U.S. Department of Transportation, Federal Aviation Administration, *NAS Operational Evolution Plan,* available at http://www.faa.gov/programs/oep/OMDEX.htm, as of April 2002.
4. _____. OPSNET database.

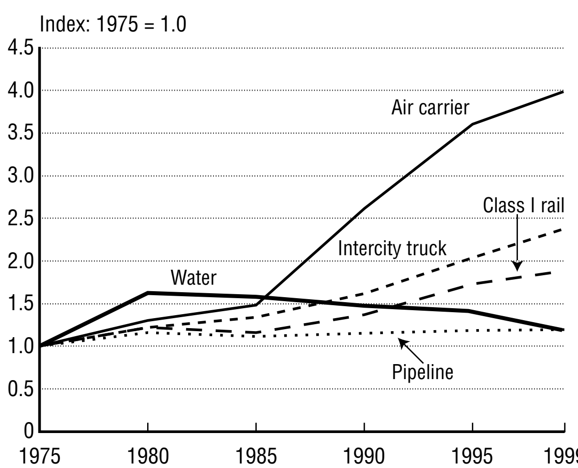
Domestic Freight Shipments

Freight movements grew significantly over the past quarter century despite a general trend in the economy toward services and high-value, low-weight products. Between 1975 and 1999, domestic freight ton-miles increased 67 percent, from 2.3 trillion to 3.8 trillion, with air carriers and intercity trucking growing faster than the other modes (figure 1). Despite the decline in the maritime mode since 1980, attributable to the decline in Alaskan crude oil shipments, water transportation still accounted for 656 billion ton-miles in 1999.

Population growth and economic activity are some of the factors that determine freight demand; increases in both mean a greater volume of goods produced and consumed and thus more freight moved (figure 2). Between 1975 and 1999, the resident population rose by 57 million, an increase of 26 percent, while the gross domestic product more than doubled from $4 trillion to $8.9 trillion (in inflation-adjusted chained 1996 dollars). The growth in freight ton-miles was slower than the growth in economic activity during this period but outpaced the increase in population.

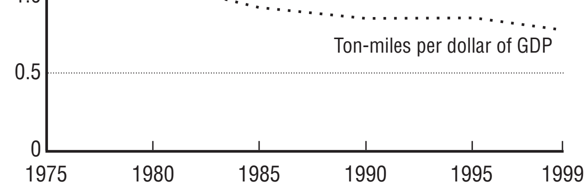
As economic activity expanded, particularly in the 1990s, changes in what, where, and how goods were produced affected freight demand and contributed to the increase in total ton-miles. The composition of goods produced also

Figure 1
Growth in Domestic Freight Ton-Miles: 1975–1999



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002).

Figure 2
Domestic Ton-Miles, Gross Domestic Product, and Resident Population: 1975–1999



KEY: GDP = Gross Domestic Product.

SOURCE: GDP data—U.S. Department of Commerce, Bureau of Economic Analysis, available at www.bea.doc.gov/bea/dn/gdplev.htm, as of Apr. 20, 2001. Ton-miles data—U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001* (Washington, DC: 2002). Population data—U.S. Department of Commerce, U.S. Census Bureau, available at www.census.gov/population/estimates/nation/popclockest.txt, as of Apr. 20, 2001.

changed as the economy shifted toward more services and high-value, low-weight products. This shift can be measured by the ratio of ton-miles per dollar of Gross Domestic Product (GDP), which has declined since 1975. This decline suggests that, as the economy becomes more service-based, it is also becoming less freight transportation intensive. For instance, it takes more freight ton-miles to produce $1,000 worth of steel than it does to produce $1,000 worth of cellular phones. Today, even traditional products, such as automobiles, are made from lighter, but often more expensive, materials such as engineered plastics.

However, freight ton-miles per capita rose more than 30 percent, from about 10,600 in 1975 to 14,000 in 1999. As economic growth has accelerated, disposable personal income per capita has increased and individual purchasing power risen. Businesses have responded by shipping more freight per resident population.

The manufacture, assembly, and distribution of goods continue to change as components of products are produced in facilities located thousands of miles apart, some halfway around the globe. Today, many businesses manage worldwide production and distribution systems, increasing global trade in goods and the demand for freight transportation. Changes in where goods are produced can directly increase total ton-miles and change the average length of haul of shipments. Such changes also affect freight mode choice, with more commodities being shipped by multiple modes as distances increase. This worldwide spatial distribution of production activities and trade impacts transportation requirements in the United States. For example, expanding trade with the Pacific Rim continues to make West Coast container ports more dominant than East Coast ports and poses challenging landside and intermodal access demands.

Freight Analysis Framework Tool

To help public and private entities better manage freight movement across the country, the U.S. Department of Transportation (DOT) has created an analytical tool called Freight Analysis Framework (FAF). Developed by the Federal Highway Administration, in collaboration with the Federal Railroad Administration, the Maritime Administration, the Bureau of Transportation Statistics, and DOT's Office of Intermodalism, the FAF provides a methodology for estimating freight flows. Focused on highway, railroad, water, and air modes of transportation, the FAF allows exploration of the geographic relationships between local flows and the overall national transportation system. The underlying comprehensive database for the FAF comprises various government and private sector databases.

Using the FAF, economic forecasts for 2010 and 2020 are translated into transportation demands that are assigned to a simulation of the transportation network. For instance, the FAF has predicted that between 1998 and 2020 domestic freight tonnage will grow at an annual rate of 2.4 percent (67 percent over the 22 years) and U.S. international tonnage will grow at 2.8 percent (85 percent overall). These flows can be projected on national, regional, state, or local maps to aid in analysis of the impacts. This enables, for instance, planners and decisionmakers at all levels of government and the private sector to evaluate the potential for transportation corridor congestion, helping to plan solutions.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, available at http://www.ops.fhwa.dot.gov/freight/, as of Nov. 5, 2002.

Air Cargo

During the past decade, the U.S. domestic air cargo industry moved increasing amounts of freight while providing speedy, reliable, and safe freight services to support business activity and household package delivery in the United States. Between 1991 and 2000, domestic air cargo tonnage more than doubled, from 5 million tons to 13 million tons, an annual growth rate of 11 percent (table 1). Measured in revenue ton-miles, air freight grew 6 percent annually between 1991 and 2000.

Air freight remains a vital link that enables quick access by firms and households to goods produced throughout the United States and the world. Since 1991, the air freight ton-miles per capita has increased over 50 percent, rising to almost 53 ton-miles per person per year by 2000. At the same time, miles per ton-mile declined by over 35 percent (table 1). This decline in average air cargo flight distance may be a result of changes in the marketplace, especially during the second half of the decade when enplaned revenue tons increased at a much greater rate than revenue ton-miles. Contributing factors include changes in the competitive relationship between air and surface modes, increasing the attractiveness of air for short-haul shipments; creation of new markets for short-haul air shipments because of fundamental changes in the U.S. economy, as discussed below; and a maturing of the air cargo system making it more competitive for short-haul shipments.

Table 1
Domestic Air Revenue Freight Tons and Ton-Miles: 1991–2000

Year	Enplaned revenue tons (millions)	Revenue ton-miles (billions)	Revenue ton-miles per capita	Miles per revenue ton
1991	4.9	8.7	34.6	1,799
1992	5.1	9.7	37.9	1,912
1993	6.4	10.5	40.9	1,650
1994	6.8	11.6	44.7	1,711
1995	7.2	12.3	47.0	1,713
1996	8.0	12.7	47.7	1,572
1997	11.1	13.4	50.2	1,213
1998	11.8	13.7	50.7	1,162
1999	12.1	14.0	51.3	1,160
2000	12.7	14.7	52.5	1,161

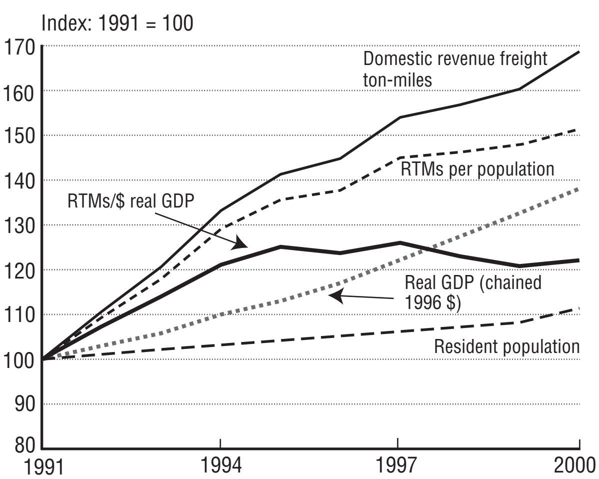
SOURCES: 1991–1995: U.S. Department of Transportation, Federal Aviation Administration, *Airport Activity Statistics of Certificated Route Air Carriers* (Washington, DC: Various years).
1996–2000: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers* (Washington, DC: Various years).

Strong growth in the U.S. economy during the 1990s, evolving production and distribution systems, and interest in electronic commerce have spurred growth in air cargo. Air freight has outpaced increases in real Gross Domestic Product (GDP) and U.S. resident population (figure 1). Furthermore, air freight grew significantly in line with a general trend in the economy toward services and high-value products. This is evidenced by the trends in revenue ton-miles per dollar of real GDP.

Air cargo continues to be impacted by a shift toward services and new methods of product manufacturing, production, and distribution. While scheduled air service rose in response to demands to move air cargo quickly during the past decade, nonscheduled service grew much faster, transporting only 3 percent of domestic enplaned revenue tonnage in 1991 but 40 percent in 2000 (figure 2). Nonscheduled service gives businesses greater flexibility to move cargo fast and efficiently on short notice and may provide a quicker response to just-in-time business demands.

Unused freight ton-miles, a measure of excess capacity in the air cargo industry, steadily grew between 1991 and 2000 (figure 3 on the next page). In 2000, 27 billion ton-miles of air cargo capacity were unused, accounting for nearly 65 percent of the available freight ton-miles. The relative proportion of excess capacity, however, remained stable during the decade. The average air cargo load factor also remained stable at around 35 percent despite an overall increase in available capacity to nearly 42 billion ton-miles in 2000.

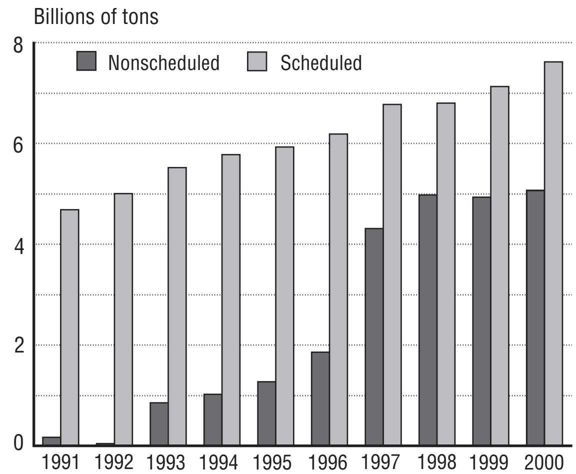
Figure 1
Domestic Air Revenue Freight Ton-Miles, Population, and Real Gross Domestic Product: 1991–2000



KEY: RTMs = revenue ton-miles; GDP = gross domestic product.

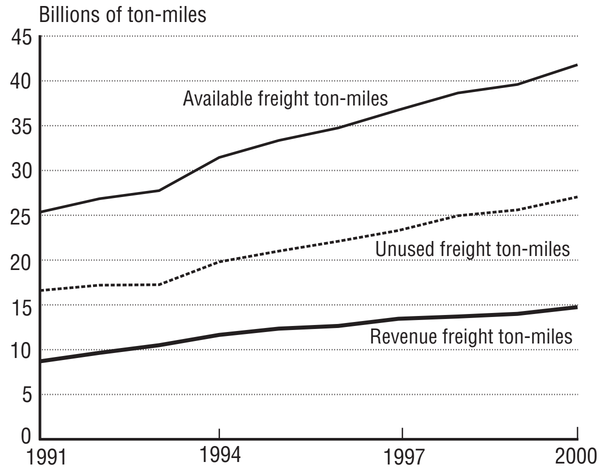
SOURCES: 1991–1995: U.S. Department of Transportation, Federal Aviation Administration, *Airport Activity Statistics of Certificated Route Air Carriers* (Washington, DC: Various years).
1996–2000: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers* (Washington, DC: Various years).

Figure 2
Enplaned Air Revenue Tonnage by Type of Service: 1991–2000



SOURCES: 1991–1995: U.S. Department of Transportation, Federal Aviation Administration, *Airport Activity Statistics of Certificated Route Air Carriers* (Washington, DC: Various years).
1996–2000: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers* (Washington, DC: Various years).

Figure 3
Domestic Air Revenue Freight Capacity: 1991–2000



SOURCES: 1991–1995: U.S. Department of Transportation, Federal Aviation Administration, *Airport Activity Statistics of Certificated Route Air Carriers* (Washington, DC: Annual issues).
1996–2000: U.S. Department of Transportation, Bureau of Transportation Statistics, *Airport Activity Statistics of Certificated Air Carriers* (Washington, DC: Annual issues).

U.S. Container Trade

U.S. container trade increased nearly 7 percent from 1999 to 2000. This trade is concentrated in 25 ports and has become more concentrated in the last 4 years in 10 U.S. container ports (table 1).

Prior to the economic slowdown that began in late 2000, demand for U.S. exports was not keeping pace with U.S. consumer demand for imports. Accordingly, the balance of international container trade (i.e., the volume of U.S. containerized exports compared with containerized imports) shifted in favor of U.S. imports, particularly in recent years. Between 1993 and 1997, the balance of U.S. international container trade was less than 1 million 20-foot equivalent units (TEUs) per year (figure 1). By 2000, this gap had widened to a difference of over 4 million TEUs.

Of the top 10 U.S. container ports, the Port of Los Angeles has the deepest maintained channel depth, followed by the Port of Long Beach. The largest container vessel serving U.S. ports has a draft of 45 feet [1]. Out of 441 containerships on order in world shipyards as of June 2001, 98 will have capacities greater than 5,000 TEUs [2]. Because there are few U.S. ports with channel

Table 1
Top 10 U.S. Container Ports: Traffic (thousands of TEUs) and Channel Depth (feet): 1992–2000

Port	1992	1993	1994	1995	1996	1997	1998	1999	2000	Authorized channel depth	Maintained channel depth
Los Angeles	1,639	1,627	1,786	1,849	1,873	2,085	2,293	2,552	3,228	70	60
Long Beach	1,356	1,543	1,939	2,137	2,357	2,673	2,852	3,048	3,204	76	63
New York	1,294	1,306	1,404	1,537	1,533	1,738	1,884	2,027	2,200	45	40
Charleston	564	579	655	758	801	955	1,035	1,170	1,246	45	40
Oakland	746	772	879	919	803	843	902	915	989	50	42
Seattle	743	781	967	993	939	953	976	962	960	34	52
Norfolk	519	519	570	647	681	770	793	829	850	55	50
Houston	368	392	419	489	538	609	657	714	733	45	40
Savannah	387	406	418	445	456	529	558	624	720	48	42
Miami	418	469	497	497	505	624	602	618	684	42	42
Total, top 10 ports	**8,035**	**8,394**	**9,534**	**10,271**	**10,486**	**11,779**	**12,552**	**13,458**	**14,814**		
Top 10, % of total	**76%**	**69%**	**72%**	**77%**	**71%**	**76%**	**81%**	**81%**	**83%**		
Total, all U.S. ports	**10,583**	**12,238**	**13,173**	**13,328**	**14,794**	**15,556**	**15,556**	**16,564**	**17,938**		

KEY: TEUs = 20-foot equivalent units.

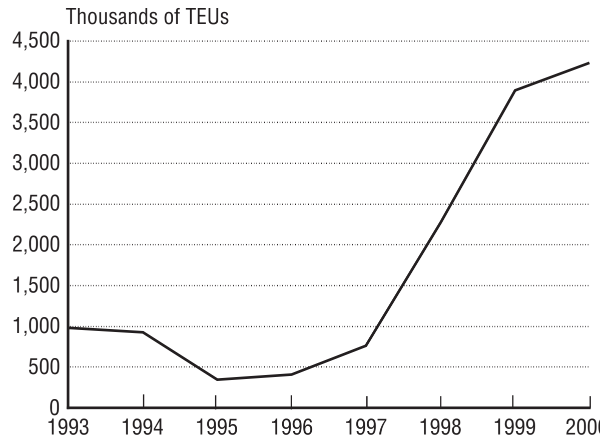
SOURCE: *Journal of Commerce,* Port Import/Export Reporting Service (PIERS), various container data files; and U.S. Army Corps of Engineers, Navigation Data Center, channel depth data, personal commuication, June 2001.

depths sufficient for such containerships, the ports may evolve into a system whereby a main port (i.e., hub) feeds cargoes to a network of ports using smaller draft ships.

Sources

1. Journal of Commerce, "Special Report: Top 50 Container Lines," *JOC Week*, vol. 2, no. 34, Aug. 27, 2001–Sept. 2, 2001.
2. Lloyd's Register of Shipping, *World Shipbuilding Statistics* (London, England: June 2001).

Figure 1
Balance of U.S. International Container Trade—Net Imports: 1993–2000



KEY: TEUs = 20-foot equivalent units.

SOURCE: *The Journal of Commerce,* Port Import/Export Reporting Service (PIERS) data, various years.

Intermodal Freight Capacity

Intermodal movement of freight-shipments transported by multiple modes-has grown sharply in recent decades. Rail shipments with an intermodal component have steadily increased, containers transported by ship that typically move intermodally have largely replaced break bulk shipments, and almost all air freight shipments travel via truck at some point between their origin and destination. As the movement of intermodal freight through airports and seaports continues to rise, the potential for bottlenecks exists. These bottlenecks are likely to occur where the volume of freight moving through a facility or area exceeds the capacity of the transportation system to operate without significant and costly delays.

Transportation planners can use analytical tools to help them identify potential bottlenecks and assess the status of current intermodal freight movements. Analysis using a tool developed by the U.S. Department of Transportation (see box) shows that in 1999, Memphis, Los Angles, and Newark International Airports moved the largest tonnage of freight in the country. Among the top 40 airports, George Bush Intercontinental Airport in Houston, Texas, was ranked first by the freight-to-capacity ratio[1] (table 1). This suggests that although Houston's airport ranks 21st in tonnage moved, its throughput is nearly three times the current infrastructure capacity. However, having a higher than average freight-to-capacity ratio on an annual basis does not necessarily result in bottlenecks since freight shipments may vary daily and move during off-peak hours.

Highway traffic volume and delay around intermodal facilities caused by both freight and passenger vehicles also directly impacts the effectiveness of transferring freight between modes. When freight airports are ranked by the average annual daily traffic (AADT) count within a five-mile radius, the most congested airports are San Francisco, Chicago O'Hare, and Oakland, California. These three airports are also at the top of the list when ranked by traffic delays per lane-mile within five miles of the airport facilities.

The intensity of use and the potential for intermodal bottlenecks for the top U.S. seaports based on the tons of throughput can also be displayed (table 2). The Port of Long Beach, California, ranks first in AADT per lane-mile and delay per lane-mile, followed by ports of Oakland and Richmond, California. On a freight-to-capacity ratio, however, Baton Rouge, Louisiana, and Port Arthur, Texas, are the highest rated ports.

[1] This ratio compares the volume of freight transported to the relative capacity of the transportation infrastructure in handling that level of freight. It divides freight traffic on the transportation network by a measure of *nominal flow* representing a reasonable annual traffic level for facilities of its kind. Assigned flows in excess of nominal flow do not automatically imply a capacity problem, merely that flows are above average for that type of facility.

The Intermodal Bottleneck Evaluation Tool

The Bureau of Transportation Statistics in partnership with the U.S. Department of Transportation's Office of Intermodalism and the Federal Highway Administration sponsored the development of an Intermodal Bottleneck Evaluation Tool (IBET) to provide information and assist transportation planners and policymakers in identifying potential freight bottlenecks in the U.S. transportation system. IBET analyzes freight moved through three types of intermodal facilities: airports (truck-air transfers); seaports (truck-water, rail-water, inland water-deep sea transfers); and truck-rail interchange terminals. It calculates and measures the intensity of infrastructure use for each intermodal facility; estimates the relative significance of these facilities to national, regional, and international freight movement; and ranks facilities on the intensity of use.

IBET uses data from a variety of sources and distributes the freight flows over national transportation network models maintained at the U.S. Department of Energy's Oak Ridge National Laboratory. The freight flows are then assigned over the nation's highway, rail, maritime, and aviation networks using a geographic information system. Modal and intermodal networks, and origin-destination use patterns are displayed by IBET as well as rankings of highway and aviation delays, average annual daily traffic volumes, national freight volumes, and highway freight generated by the major ports.

Five categories of bottlenecks are addressed by IBET: highway-seaport access, seaport congestion, highway-airport access, airport congestion, and highway-rail terminal access. For each bottleneck, IBET can show domestic import and export flows, as well as through traffic by state of origin and destination. IBET, however, does not evaluate the intermodal operations of specific facilities or terminals, measure the impact of operational change on congestion, or incorporate time-of-day fluctuation in analyzing congestion. The evaluation of infrastructure improvements or the calculation of the monetary impact of congestion or mitigation projects is also not measured by IBET. A variety of measures used by IBET to assess intermodal freight bottlenecks are listed below.

Intermodal Freight Bottleneck Measures

Intermodal facility	Bottleneck measure	Land-side access	Within terminal access	Port-side access
Airports	Intensity of use	AADT per lane-mile Annual tons per lane-mile	Aircraft operations per runway Tons of throughput	
	Observed delay		Delay per 1,000 operations	
	Estimated delay	Delay per highway lane-mile		
Seaports	Intensity of use	AADT per lane-mile Annual tons per lane-mile	Throughput tons per terminal capacity	
	Observed delay			
	Estimated delay	Delay per highway lane-mile		
Truck-rail terminal access	Intensity of use	AADT per lane-mile Annual tons per lane-mile	Throughput tons per terminal capacity	AADT per lane-mile Annual tons per lane-mile
	Observed delay			
	Estimated delay	Delay per highway lane-mile		

KEY: AADT = average annual daily traffic.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, "Intermodal Bottleneck Evaluation Tool," prepared by Oak Ridge National Laboratory, September 2000.

(continues on next page)

Table 1
Airport Freight Capacity and Bottleneck Measures: 1999

Airport	AADT per lane-mile		Freight-to-capacity ratio[1]		Delay per lane-mile	
	Rank	Number	Rank	Ratio	Rank	Hours
San Francisco Internatl	1	21,140	30	0.7	1	289
Chicago O'Hare Internatl	2	19,792	9	1.6	2	275
Metropolitan Oakland Internatl	3	19,737	18	1.2	4	260
Los Angeles Internatl	4	18,919	39	0.2	3	269
Norman Y. Mineta San Jose Internatl	5	15,484	28	0.8	10	134
Lambert-St. Louis Internatl	6	15,378	17	1.2	12	114
Cleveland-Hopkins Internatl	7	14,527	3	2.1	15	98
Minneapolis-St. Paul Internatl	8	14,222	32	0.6	18	85
Miami Internatl	9	14,070	12	1.5	6	159
San Diego Internatl	10	13,453	37	0.3	13	104
Seattle-Tacoma Internatl	11	13,390	20	1.2	9	136
Boston Logan Internatl	12	13,365	38	0.3	8	141
Dallas/Fort Worth Internatl	13	13,121	29	0.7	23	72
Washington Dulles Internatl	14	12,992	15	1.4	7	157
Fort Lauderdale/Hollywood Internatl	15	12,703	8	1.8	11	126
John F. Kennedy Internatl	16	12,645	35	0.4	5	162
Newark Internatl	17	11,999	19	1.2	21	74
Hartsfield Atlanta Internatl	18	11,948	16	1.4	14	102
Salt Lake City Internatl	19	11,883	31	0.7	27	60
Charlotte/Douglas Internatl	20	11,825	4	2.1	30	56
Baltimore-Washington Internatl	21	11,759	26	0.8	26	61
Cincinnati/Northern Kentucky Internatl	22	11,669	6	1.8	31	56
Indianapolis Internatl	23	11,435	14	1.4	24	65
Detroit Metropolitan Wayne County	24	11,427	34	0.5	19	84
Philadelphia Internatl	25	11,041	25	0.8	16	87
James M. Cox Dayton Internatl	26	10,836	7	1.8	37	31
George Bush Intercontinental, Houston	27	10,770	1	3.0	17	86
Sacramento Internatl	28	10,756	13	1.4	33	44
Tampa Internatl	29	10,595	33	0.6	20	82
Portland Internatl	30	10,435	22	1.0	22	73
Denver Internatl	31	10,068	24	0.9	28	59
Raleigh-Durham Internatl	32	9,863	23	0.9	34	42
Phoenix Sky Harbor Internatl	33	9,602	10	1.5	29	56
Ontario Internatl	34	9,423	5	1.8	25	64
McCarran Internatl	35	9,008	21	1.1	35	40
Pittsburgh Internatl	36	8,831	36	0.4	38	27
Memphis Internatl	37	8,661	11	1.5	36	37
Orlando Internatl	38	8,393	2	2.3	32	52
Kansas City Internatl	39	7,177	27	0.8	39	1
Anchorage Internatl	40	U	40	0.0	40	–

[1] This ratio compares the volume of freight transported to the relative capacity of the transportation infrastructure in handling that level of freight. It divides freight traffic on the transportation network by a measure of *nominal flow* representing a reasonable annual traffic level for facilities of its kind. Assigned flows in excess of nominal flow do not automatically imply a capacity problem, merely that flows are above average for that type of facility.

KEY: – = value too small to report; AADT = average annual daily traffic; U = data are unavailable.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Intermodal Bottleneck Analysis Tool data, October 2001.

Table 2
Seaport Freight Capacity and Bottleneck Measures: 1999

Seaport	AADT per lane-mile		Freight-to-capacity ratio[1]		Delay per lane-mile	
	Rank	Number	Rank	Ratio	Rank	Hours
Long Beach	1	18,687	20	1.12	1	265
Oakland	2	17,850	15	1.24	2	204
Richmond	3	15,465	18	1.15	3	155
Boston	4	13,138	37	0.48	6	116
Port Everglades	5	13,090	9	1.57	5	132
New York	6	12,573	26	0.98	7	110
Honolulu	7	12,239	40	0.00	17	71
Miami	8	12,232	17	1.18	4	133
Baltimore	9	11,815	22	1.08	16	72
Tacoma	10	11,731	10	1.56	8	102
New Haven	11	11,489	23	1.05	21	51
Seattle Elliott Bay	12	11,272	25	1.00	9	100
Houston	13	11,172	7	1.89	10	88
Philadelphia	14	10,381	27	0.94	15	73
Paulsboro	15	10,341	24	1.04	12	80
Marcus Hook	16	10,340	21	1.10	14	74
Portland	17	10,153	16	1.23	11	80
Tampa Bay	18	9,995	31	0.64	19	67
Vancouver	19	9,978	19	1.12	13	79
Newport News	20	9,876	32	0.58	18	69
Norfolk Harbor	21	9,571	34	0.51	20	64
Providence	22	9,206	38	0.21	24	36
Jacksonville	23	9,030	28	0.92	23	42
New Orleans	24	8,758	13	1.45	22	44
Anacortes	25	7,889	30	0.73	26	20
Port Arthur	26	7,408	2	2.97	31	5
Baton Rouge	27	7,123	1	3.21	28	15
Pascagoula	28	7,072	4	2.30	33	4
Port of South Louisiana	29	7,010	8	1.84	30	5
Savannah	30	6,626	12	1.51	29	10
Mobile Harbor	31	6,613	6	1.90	32	4
Charleston	32	6,552	29	0.75	27	17
Portland	33	5,814	36	0.48	35	3
Lake Charles	34	5,587	3	2.59	38	0.7
Wilmington	35	5,404	33	0.53	25	24
Galveston	36	5,000	39	0.14	36	1
Corpus Christi	37	4,658	11	1.53	34	3
Freeport	38	4,015	35	0.50	37	0.9
Matagorda Ship Channel	39	2,800	14	1.41	40	–
Port of Plaquemine	40	U	5	2.30	39	–

[1] This ratio compares the volume of freight transported to the relative capacity of the transportation infrastructure in handling that level of freight. It divides freight traffic on the transportation network by a measure of *nominal flow* representing a reasonable annual traffic level for facilities of its kind. Assigned flows in excess of nominal flow do not automatically imply a capacity problem, merely that flows are above average for that type of facility.

KEY: – = value too small to report; AADT = average annual daily traffic; U = data are unavailable.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Intermodal Bottleneck Analysis Tool data, October 2001.

Intermodal Rail Traffic

Railroad intermodal traffic—moving a trailer or container on a rail flatcar—has grown faster than any other segment of the railroad industry, tripling since 1980. Containers-on-flatcars (COFC) have led this growth in recent years with the increase of doublestack container service fueled by higher levels of international trade from the Pacific Rim countries.

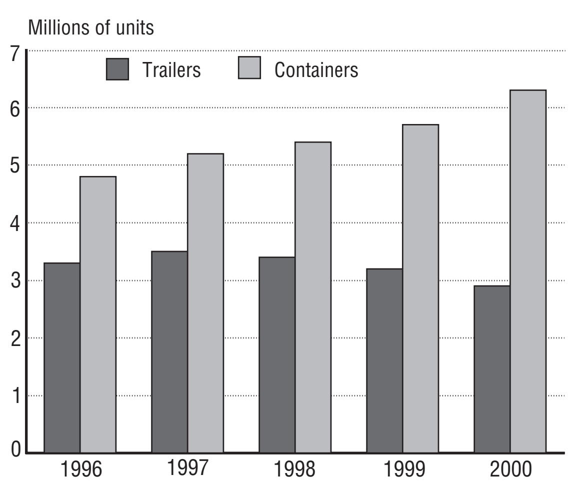
Intermodal traffic grew from 8.1 million COFCs and trailer-on-flatcars (TOFCs) in 1996 to 9.2 million in 2000, an increase of almost 14 percent (figure 1). During the same period, COFC shipments increased over 31 percent while TOFC shipments dipped about 12 percent. Furthermore, the number of railroad flatcars used for intermodal transportation declined overall, indicating an improvement in railroad equipment utilization and increased productivity (figure 2).

The largest flows of intermodal traffic are between California and Illinois and consist primarily of moving containers from ships to their final destinations. Overall, intermodal rail shipments move an average 1,400 miles, much longer than the average rail move of less than 900 miles [1]. Intermodal rail equipment is used in 16 percent of all ton-miles of rail traffic and is second only to coal in ton-miles carried. The great majority of intermodal rail traffic, 69 percent, is classified as Miscellaneous Mixed Freight and is thought to involve primarily the shipment of lightweight, high-value retail goods.

Source

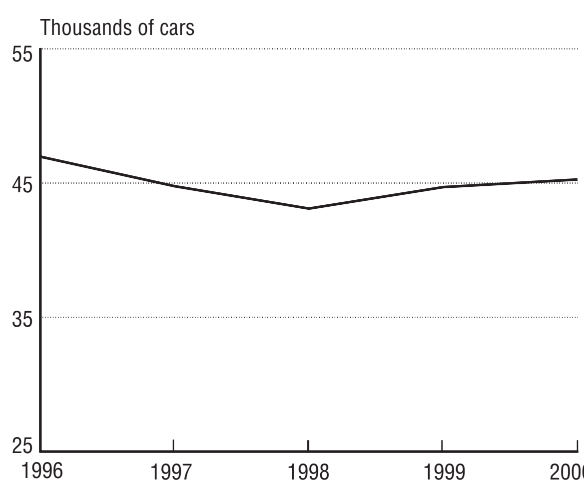
1. U.S. Department of Transportation, Surface Transportation Board, Carload Waybill Sample, 1999.

Figure 1
U.S. Intermodel Rail Traffic: 1996–2000



NOTE: Data for 2000 are preliminary.
SOURCES: Association of American Railroads, *Railroad Facts 2000 Edition* (Washington, DC: October 2000), Intermodal Traffic table, p. 26.
_____. "Weekly Railroad Traffic: 2000 Annual Summary," 2001.

Figure 2
Rail Trailer/Container Flatcars: 1996–2000



SOURCE: Association of American Railroads, "Freight Cars, 1991–2001 Summary," *Railroad Equipment Report: 2001* (Washington, DC: July 2001), p. 42.

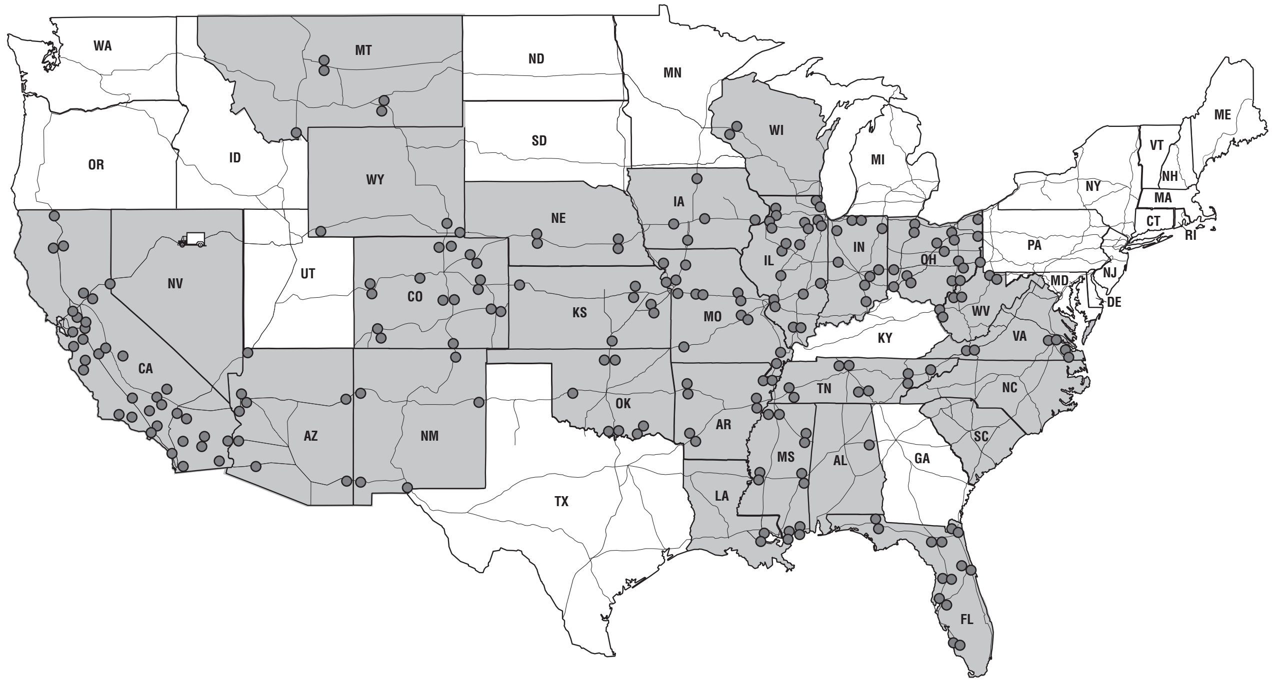
ITS and Commercial Vehicle Operations

For several decades, the motor carrier industry and government agencies have been investigating ways to improve commercial vehicle operations with the use of intelligent transportation systems (ITSs). Many of these systems are in use today, such as vehicle onboard safety monitoring and interstate exchange of driver credentials. Other highway ITSs, for example, real-time traffic monitoring, remotely controlled high-occupancy vehicle (HOV) access gates, and electronic toll collection, are not specific to commercial vehicle operations but can improve them.

PrePass is one ITS available for commercial vehicles in 25 states (see map). This automatic vehicle identification system uses transponders on truck windshields to enable participating commercial vehicles to bypass designated weigh stations and port-of-entry facilities. By eliminating the need to stop at highway weigh stations, PrePass improves shipping efficiency and safety for all highway users and reduces fuel consumption and vehicle maintenance by decreasing vehicle braking and acceleration.

PrePass evolved out of a project initiated by the Federal Highway Administration

PrePass System Sites



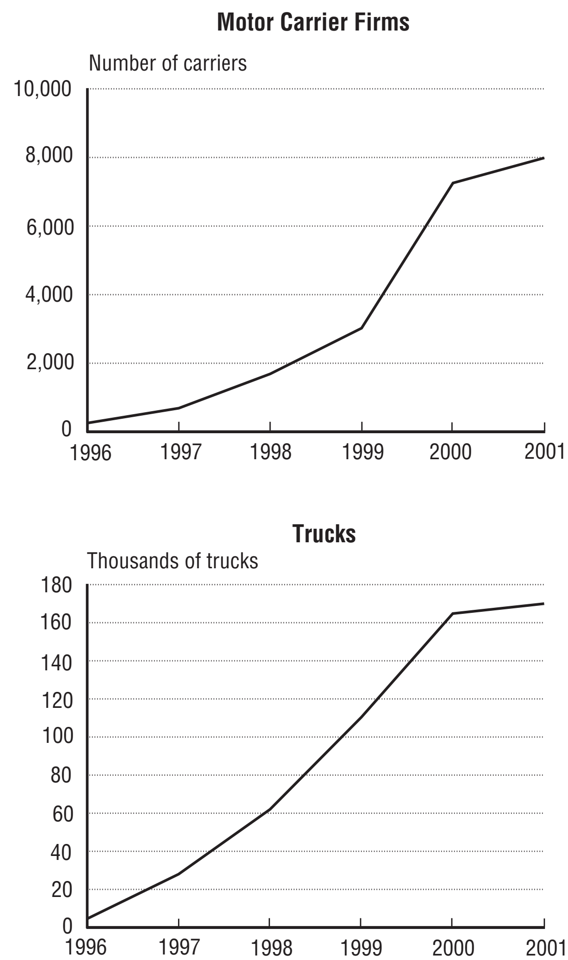
NOTE: Number below state abbreviation indicates total operational sites.

SOURCE: PrePass: A Nationwide Weigh Station Bypass System, PrePass System Map, available at http://www.prepass.com, as of July 2002.

(FHWA) in the 1980s. A demonstration and evaluation program involving three states (Oregon, California, and Arizona); Alberta, Canada; and the trucking industry was completed in 1994. Subsequently, California and Arizona opted to continue the project and formed a nonprofit partnership (Heavy Vehicle Electronic License Plate (HELP), Inc.) with motor carriers to promote and operate PrePass. HELP, Inc. has set up over 220 operational sites in 25 states and registered over 7,900 carriers with more than 170,000 vehicles into [1] (figure 1).

There are other cooperative efforts between states to implement similar systems. For instance, the NORPASS system is in use in seven northwestern states. Oregon's Green Light program operates at 21 weigh stations, handling over 1,000 carriers with more than 14,000 trucks [2]. In 1999, FHWA initiated rulemaking to establish standards and specifications for the transponders used in various weigh station pre-clearance systems [3, 4]. FHWA expects to issue the rules after completing the testing of transponders.

Figure 1
Growth in the Use of PrePass: 1996–2001



SOURCE: Heavy Vehicle Electronic License Plate (HELP), Inc., available at http://www.prepass.com/, charts c and d, as of Nov. 1, 2001.

Sources

1. Heavy Vehicle Electronic License Plate (HELP), Inc., available at http://www.prepass.com/, as of Nov. 1, 2001.
2. Oregon Department of Transportation, "Oregon Green Light," available at http://www.odot.state.or.us/trucking/its/green/light.htm/, as of Nov. 1, 2001.
3. _____. "U.S. DOT Seeks Transponder Standards to Ensure Interoperability," available at http://www.odot.state.or.us/trucking/its/transponders.htm/, as of Nov. 1, 2001.
4. U.S. Department of Transportation, Docket Summary Information, Docket No. FHWA-1999-5844, available at http://dms.dot.gov/, as of Nov. 1, 2001.

Chapter 5
Security

Introduction

As the terrorist attacks of September 11, 2001, made clear, the nation's economic well-being and security are dependent on a transportation system that can move people, goods, and military personnel and equipment without fear of disruption or damage. The hijacking of four U.S. aircraft and their unprecedented use as weapons resulted in an extraordinary total shutdown of the nation's air transportation and put a severe strain on the balance of the system.

Transportation systems, both overseas and in the United States, have long attracted terrorists and criminals, particularly because these systems are accessible, attract broad media coverage when attacked, and disruptions may affect a large number of people. The September 2001 attacks however, came after a 10-year lull in U.S. hijackings, although terrorist and criminal attacks aimed at transportation worldwide have been increasing in the last five years.

Securing all transportation modes, facilities, and the people who use them is a vast undertaking. Most of the national focus since September 2001 has been on aircraft and airports. However, attention is also being directed at all other modes. The United States has 25 major seaports, receiving about 140 seagoing ships a day loaded with bulk or containerized cargo. Cruise ships call at dozens of U.S. ports. Rail freight carriers have over 150,000 miles of track and more than 20,000 locomotives, plus dispatching centers, yards, bridges, and tunnels to defend against terrorism. In addition, Amtrak serves about 61,000 passengers daily using 515 stations in 46 states. With about 90 percent of hazardous materials shipments taking place along the nation's highways, improving enroute security of this particular cargo is also now a priority.

Protecting the nation's borders from illegal drugs, contraband, and aliens is yet another example of how transportation and national security are inextricably linked. The increasing flow of international trade and passenger travel means that more cars, trucks, and railcars are crossing U.S. borders and more ships are arriving at U.S. ports, thus enhancing opportunities for illegal activities. The U.S. Coast Guard seized a record 132,480 pounds of cocaine with an estimated import value of $4.4 billion in fiscal year 2000, while also confiscating over

50,000 pounds of marijuana. Immediately after September 11, the Coast Guard repositioned many of its resources to protect U.S. ports and coasts.

Finally, our national security is dependent on key transportation-related industries: shipbuilding, aircraft manufacturing, and energy production. The armed forces' reliance on ships and aircraft makes the maintenance of a strong manufacturing base in these industries a vital concern. The U.S. shipbuilding industry has experienced a long-term decline, with just over 1 percent of total world gross tonnage of worldwide shipbuilding orders in mid-2001. In contrast, U.S. production of large transport aircraft has increased since the mid-1990s, albeit the industry experienced a sharp decline in orders after September 2001. Petroleum supplies 97 percent of the U.S. transportation system's energy needs. Since 1997, however, the United States has imported more than half the oil that it consumes, making transportation vulnerable to international disruptions in supply.

Terrorist Threats to Transportation

The terrorist attacks of September 2001 transformed the threat environment under which the United States operates. The security of the transportation system was particularly called into question when four U.S. airliners were hijacked during domestic flights and crashed—two into the World Trade Center, one into the Pentagon, and one in rural Pennsylvania. Although the exact number of casualties from the attack may never be known, all 265 people aboard the aircraft and 125 people on the ground at the Pentagon died, and an estimated 2,645 people in the World Trade Center were killed (see box on the next page). Since the attacks, the nation has worked to enhance the security of aviation and all other transportation modes, including maritime, transit, highway, and pipeline.

In an unprecedented event, the entire civilian air transportation system was shut down within hours of the September 11th attacks. The commercial aviation portion of the system resumed partial operation within two days, after the airlines instituted emergency security measures, as directed by the Federal Aviation Administration. The Administration and U.S. Congress moved within months to comprehensively shore up vulnerabilities throughout the transportation system by enacting the Aviation and Transportation Security Act of 2001.

The new law makes substantial changes to aviation security—intensifying the screening of passengers, baggage, and cargo—and places responsibility largely at the federal level. To oversee and improve the security of all transportation modes, the Act also established a new agency, the Transportation Security Administration within the U.S. Department of Transportation (DOT) [3]. The Administration subsequently proposed moving the agency, along with DOT's U.S. Coast Guard, to the new Department of Homeland Security, signed into law on November 25, 2002.

Terrorism has long been an international security concern. The number of terrorist attacks worldwide has fluctuated over the past decade (figure 1). The number of attacks in 2000 was 25 percent below the 10-year high of 565 attacks in 1991. The number of casualties resulting from these attacks has also fluctuated, from a low of 344 people in 1991 to a high of 6,693 people in 1998 (table 1). Terrorism-related casualties were also relatively low in 1999 and 2000 because of the absence of any attacks involving large numbers of people [8, 9].

Attacks on U.S. interests have been rising since 1994. Two hundred incidents occurred during 2000, up over 300 percent from 1994. Attacks targeting U.S. interests rose from 20 percent to 47 percent of the total number of terrorist attacks worldwide during that period. This change was due primarily to an increase in the number of attacks on U.S. interests in other countries. More than three-quarters of the anti-U.S. terrorist incidents in 2000 were directed at the Cano Limon crude oil pipeline in Colombia [8, 9].

Calculating Fatalities Resulting from the September 11, 2001, Terrorist Attacks

Fatalities resulting from the terrorist attacks on September 11, 2001, include those killed on the ground at the World Trade Center (WTC) in New York City and at the Pentagon in Washington, DC, as well as those on board the four aircraft. The number of aircraft fatalities (265) and fatalities at the Pentagon (125) is considered to be conclusive, while the number of people who perished at the WTC is estimated. Thus, the total number of fatalities (3,035) can only be reported as an estimate.

To calculate the estimated total number of fatalities on September 11, 2001, this report relied on two primary sources. The New York City Office of Emergency Management, Office of Public Affairs, periodically releases data on the total number of fatalities on the ground at the WTC. As of December 18, 2002, this office reported 2,792 fatalities. These include both people who were on the ground and in the buildings when the airplanes struck the towers, as well as the passengers and crew in the airplanes. The New York City data, however, do not include the 10 terrorists on board the 2 flights. Adjusting for these factors results in an estimated 2,645 fatalities on the ground at the WTC.

The Aviation Safety Network publishes detailed data by flight on all airplane crashes worldwide. This data source reported a total of 265 fatalities among the crew and passengers (including terrorists) on board the 4 aircraft (see table below). That total is consistent with the number published by the National Transportation Safety Board; and the number of fatalities per plane is consistent with the U.S. Department of State.

Flight	Site	Crew	Passengers	Total
American Airlines #11	World Trade Center	11	81	92
United Air Lines #175	World Trade Center	9	56	65
American Airlines #77	Pentagon	6	58	64
United Air Lines #93	Shanksville, PA	7	37	44
Total		**33**	**232**	**265**

SOURCES

Aviation Safety Network, available at http://aviation-safety.net/database/2001/2001.shtml, as of Dec. 20, 2002.

National Transportation Safety Board, available at http://www.ntsb.gov/aviation/Stats.htm, as of Dec. 20, 2002.

New York City Office of Emergency Management, Office of Public Affairs, personal communication, Dec. 18, 2002.

U.S. Department of State, *Basic Facts, September 11, 2001,* available at http://www.state.gov/coalition/cr/fs/12701.htm, as of Dec. 20, 2002.

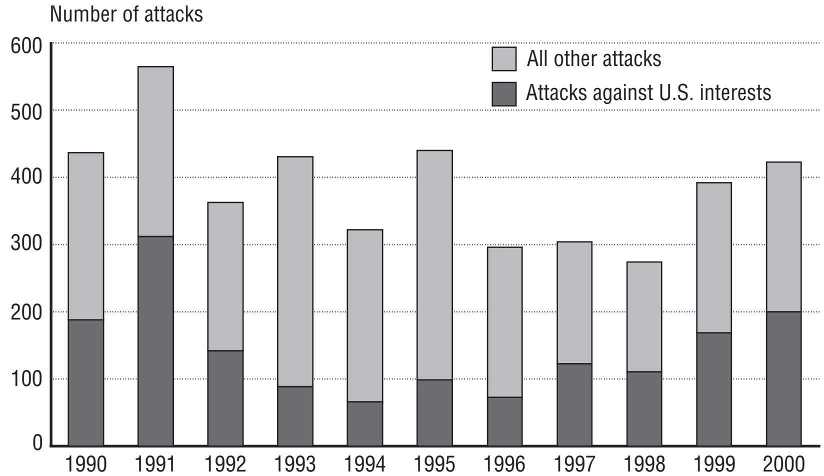
Worldwide, the number of domestic attacks[1] on transportation systems grew dramatically between 1995 and 1998, the last year for which published data were available when this report was prepared, driving total violent acts against transportation up 107 percent (figure 2). Transportation infrastructure draws terrorists because it is accessible; attracts broad media coverage when attacked; may be associated with a national symbol, such as a country's airlines; and large numbers of people can be affected by a single act.

Although aviation is an attractive target, other transportation modes have been hit more often in the past (table 2). In 1998, attacks against buses accounted for the greatest number of deaths and injuries for a single mode: 1,676. Around the world, the highest percentage of attacks occurred on highways and maritime vessels and at facilities such as ports (table 3).

Within the United States, violent attacks on transportation have also increased, doubling between 1997 and 1998. Since September 2001, the use of aircraft and other vehicles to

[1] Domestic or indigenous terrorism involves groups or individuals that target their own government or people without foreign involvement. International terrorism involves the citizens or territory of more than one country.

Figure 1
International Attacks Against U.S. Interests as a Proportion of Total Attacks: 1990–2000



NOTE: The relatively high number of incidents and anti-U.S. incidents in 1991 cannot be attributed to any one group or cause.

SOURCE: U.S. Department of State, *Patterns of Global Terrorism* (Washington, DC: Annual issues); and personal communication, Jan. 18, 2002.

cause destruction and mass casualties has emerged as a major domestic terrorist threat. However, as with international trends, the U.S. airline industry has not been targeted as frequently as other modes of transportation. In fact, prior to September 2001, there had been no such hijacking incidents in nearly 10 years [10, 11].

While most of the national focus since September 2001 has been on aircraft and airports, securing the other modes has become all important. The United States has 25 major ports, receiving about 140 seagoing ships a day loaded with bulk or containerized cargo. Cruise ships call at dozens of U.S. ports. In 2000, more than 10 million Americans took cruises to over 200 ports around the world [4]. Rail freight carriers own over 150,000 miles of track and more than 20,000 locomotives, plus dispatching centers, yards, bridges, and tunnels [2]. Amtrak serves 515 stations in 46 states and has 378 locomotives and about 61,000 passengers who use its service daily [7].

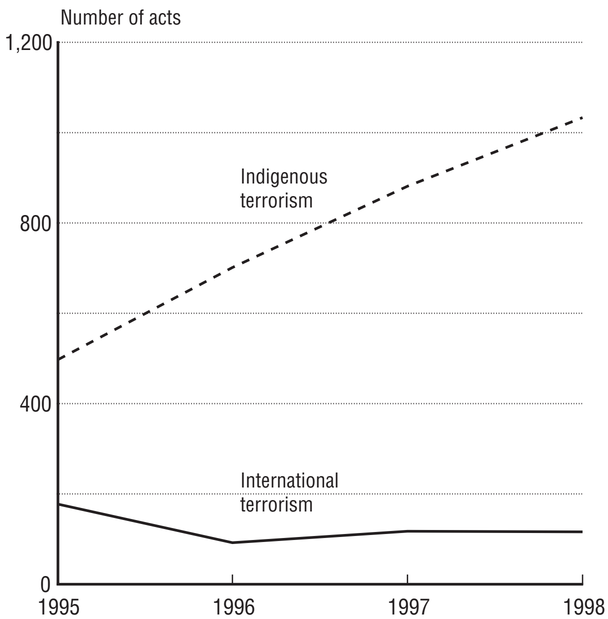
Table 1
International Terrorist Incidents and Casualties: 1990–2000

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Incidents	437	565	363	431	322	440	296	304	274	392	423
Casualties	900	344	727	1,502	977	6,454	3,226	914	6,693	939	1,196

NOTE: Incidents in 1995, 1996, and 1998 resulted in mass casualties—about 5,000 people were injured during a poisonous gas attack on a Tokyo subway in 1995; a bombing in Sri Lanka caused nearly 1,500 casualties in 1996; and 3 U.S. embassy bombings in Africa resulted in about 5,300 casualties in 1998.

SOURCES: U.S. Department of State, *Patterns of Global Terrorism: 2000* (Washington, DC: 2001); and personal communication, Jan. 18, 2002.

Figure 2
Worldwide Violent Acts Against Transportation: 1995–1998



SOURCE: U.S. Department of Transportation, Office of the Secretary of Transportation, Office of Intelligence and Security, *Worldwide Terrorist and Violent Criminal Attacks Against Transportation—1998* (Washington, DC: 1999).

Table 2
Worldwide Casualties by Transportation Mode: 1998

Mode	Deaths	Injuries
Bus	647	1,029
Highways	579	336
Rail	161	607
Maritime/piracy	105	37
Aviation	77	13
Pipelines	74	154
Bridges	10	14
Subways	3	4

SOURCE: U.S. Department of Transportation, Office of the Secretary of Transportation, Office of Intelligence and Security, *Worldwide Terrorist and Violent Criminal Attacks Against Transportation—1998* (Washington, DC: 1999).

Table 3
Percentage of Worldwide Violent Attacks on Transportation, by Mode: 1998

Mode	Percent
Highways	24
Maritime/piracy	21
Bus	18
Pipelines	12
Rail	10
Aviation	7
Bridges	2
Other	2
Subway	1

NOTE: Maritime/piracy includes both attacks on maritime facilities, including ports, and piracy of vessels.

SOURCE: U.S. Department of Transportation, Office of the Secretary of Transportation, Office of Intelligence and Security, *Worldwide Terrorist and Violent Criminal Attacks Against Transportation—1998* (Washington, DC: 1999).

Within the 29 communities in the country with rail transit systems, there are over 10,300 miles of track and 2,000 stations to protect [1]. These systems are not only vulnerable to attack but are also particularly useful in emergency situations. On September 11, emergency response crews and the public in New York City and Washington relied on subways, trains, buses, and ferries to evacuate the crash sites and assist victims. Subway train systems, however, with large numbers of passengers in enclosed spaces, may be especially prone to attacks by poisonous gas. The release of poisonous Sarin nerve gas in 1998 in a Tokyo subway killed 12 passengers [10]. Now, communities are seeking to integrate transit systems into emergency response plans and to shore up transit security. For instance, transit administrators in Washington, DC, expedited a pilot project placing airborne toxin sensors in underground subway stations following the September 2001 attacks. Late in 2001, Congress appropriated $45 million for the District of Columbia to expand the use of sensors and other safety equipment, develop a regionally integrated response plan to national security events, and cover security costs incurred during 2001 [5, 6].

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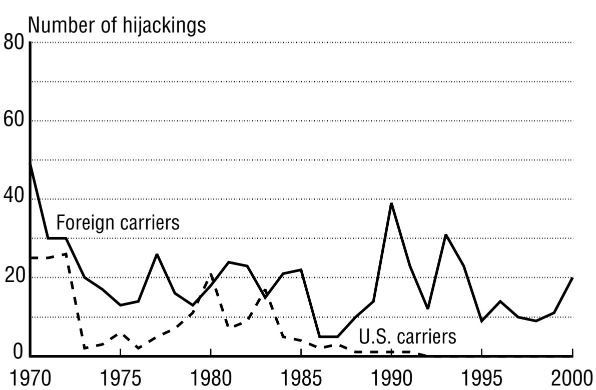
International Terrorism and Civil Aviation

The hijacking of four civilian aircraft on September 11, 2001, ended a 10-year lull in hijackings of U.S. carriers. They were also the first U.S. hijackings to result in massive fatalities (or loss of aircraft) and the first time civilian aircraft were successfully used as missiles. The terrorists hijacked two United Air Lines and two American Airlines planes, crashing two of them into the World Trade Center in New York City, one into the Pentagon in Washington, DC, and one in rural Pennsylvania. All 265 people on board died, 125 were killed on the ground at the Pentagon, and an estimated 2,645 people lost their lives in New York City (see box on page 110). Many others were seriously injured.

Figure 1
Worldwide Civil Aviation Hijackings: 1970–2000



NOTE: There were no hijackings of U.S.-registered carriers from 1991 through 2000. Data are through 2000 and do not include the hijacking of 4 airplanes by terrorists on Sept. 11, 2001.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of Civil Aviation Security, *Criminal Acts Against Civil Aviation* (Washington, DC: 2001), also available at http://cas.faa.gov/crimacts/, as of June 2002.

Airplane Hijackings in 2001

Worldwide, there were 9 airliner hijackings resulting in 265 occupant fatalities in 2001. The vast majority—265 fatalities—resulted from the terrorist attacks of September 11, when 4 U.S. airliners were hijacked and crashed in the United States.

Two of the other hijackings took place in Africa, two in Asia, and one in Latin America. Crew and passengers overpowered the hijackers in three of these incidents resulting in no fatalities. However, three occupant fatalities occurred during the March 2001 hijacking of a Russian airliner en route from Istanbul, Turkey. The plane was diverted to Medina Airport, Saudi Arabia, where one hijacker, one flight attendant, and one passenger were killed before Saudi security ground forces regained control of the plane.

Hijacking and other terrorism-related fatalities are generally reported separately from aviation accident fatalities. In 2001, there were 36 civilian aviation accidents not involving terrorism, in which 870 occupants of the planes were killed.

[1] An *occupant* is a passenger, crew member, and/or hijacker onboard the aircraft.

SOURCE: Aviation Safety Network, Accident Database, available at http://aviation-safety.net/, as of April 2002.

The number of air hijackings has varied each year since 1970 (figure 1). In 1970, there were 65 hijackings worldwide; in 1980 and 1990, there were 39 and 40, respectively. The number of hijackings fluctuated in the intervening years, generally staying below 30. Over the same 30-year period, the number of flights, enplanements, and passenger-miles flown by scheduled air carriers increased dramatically. While attacks against civil aviation worldwide claimed only 2 lives and wounded 27 other people in 2000, the toll was much higher in 2001 (see box above). Hijackings and airport attacks accounted for nearly three-quarters of the overall incidents against civil aviation during the past five years (table 1). Only 2 percent of these were bombings.

Asia experienced the highest number of attacks on aviation between 1996 and 2000 (figure 2) and accounted for 45 percent of all incidents in 2000. Of the six hijackings that occurred in Asia, a domestic Afghan flight was rerouted to London, England, where several of the passengers and hijackers requested asylum. There was just one incident in North America during 2000.

The hijackings of September 2001 are the latest in the ongoing evolution in terrorist threats to aviation. For example, after the Federal Aviation Administration (FAA) responded to a rash of hijackings in the 1970s by deploying metal detectors at domestic airports, terrorists began to board aircraft and leave explosive devices in the aircraft via carry-on baggage at various overseas locations. Similarly, after FAA began examining carry-on baggage, terrorists were successful in placing explosive devices on board aircraft via checked baggage without actually boarding the aircraft [1]. Now, terrorists have exploited a new area of vulnerability by adopting the tactic of suicide hijackings.

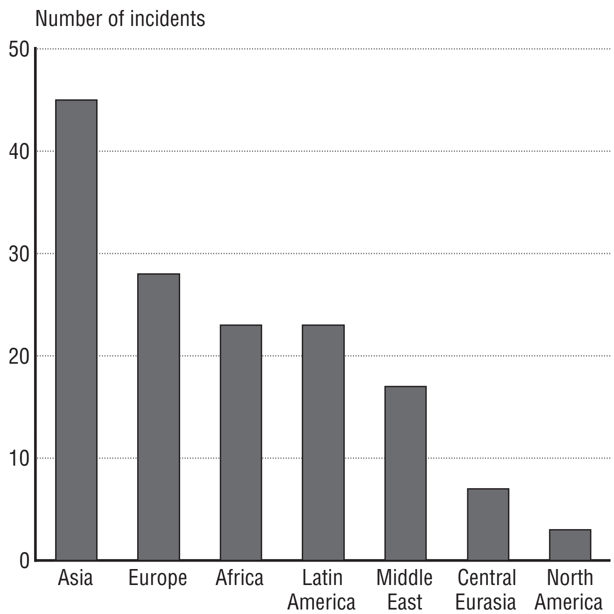
Table 1
Incidents Against Aviation by Category: 1996–2000

Category	Number of incidents
Hijackings	64
Airport attacks	30
Off-airport facility attacks	13
Attacks on general aviation	13
Commandeerings[1]	13
Shootings at aircraft	10
Bombings	3

[1] Unlike a hijacking, which occurs in flight, a commandeering occurs when the aircraft is on the ground.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of Civil Aviation Security, *Criminal Acts Against Civil Aviation* (Washington, DC: 2001), also available at http://cas.faa.gov/crimacts/, as of June 2002.

Figure 2
Incidents Against Aviation by Geographic Region: 1996–2000



SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of Civil Aviation Security, *Criminal Acts Against Civil Aviation* (Washington, DC: 2001), also available at http://cas.faa.gov/crimacts/, as of June 2002.

The bombing of Pan Am flight 103 over Lockerbie, Scotland, in December 1988, stimulated some of the most significant changes in aviation security prior to September 2001. However, the most stringent security measures were on flights bound for or arriving from overseas destinations, because the vast majority of criminal and terrorist acts against civil aviation up until that time had taken place overseas.

Sources

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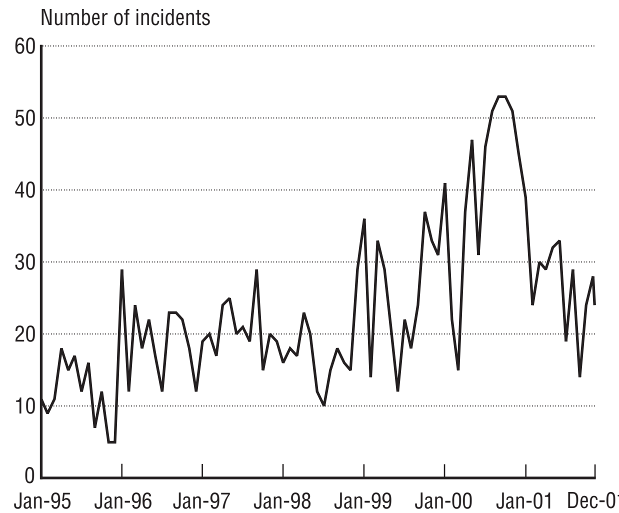
Maritime Security

The Port of New York and New Jersey was shut down immediately after the events of September 11, 2001. But the maritime community (e.g., ferry operators) substituted for much of the normal land-based transportation that was unavailable that day and transported more than 1 million people from south Manhattan [3]. Throughout the country, vessels arriving at U.S. ports were subjected to a U.S. Customs "Level 1 Alert" resulting in substantially increased vigilance by Customs officers during the processing of cargo, crews, and passengers entering the country [9].

As with air transportation security, maritime security is an international and domestic issue. It involves both preventing illegal alien migrants and drugs from entering the country and securing ports, waterways, and vessels from terrorist threats. Of the 1,033 terrorist and criminal attacks aimed at transportation systems worldwide in 1998,[1] 21 percent were directed at maritime ports and vessels [8]. Acts of piracy and armed robbery against ships worldwide increased 135 percent between 1998 and 2000 and then declined 34 percent in 2001 (figure 1).

Domestically, among 27 transportation attacks in 1998, 5 were maritime incidents [8]. One incident—an act of piracy against a ship in the Miami River—resulted in the drowning of 2 of the 13 pirates. Historically, one of the more infamous attacks occurred in the Mediterranean Sea in October 1983 when terrorists boarded an Italian cruise ship, the *Achille Lauro*. They killed an American tourist on board when their demands were not met but then surrendered. In 2000, Americans made up more than 82 percent of the passengers on all cruises worldwide [2].

Figure 1
International Piracy and Armed Robbery Against Ships: 1995–2001



SOURCE: International Maritime Organization, personal communication, Feb. 11, 2002.

U.S. waterborne trade, transportation, and the U.S. economy in general is dependent on the efficient flow of goods and people through U.S. ports and inland waterways. As of December 2001, there were 9,309 U.S. commercial waterway facilities[2] (including more

[1] When this report was prepared, the most recent year for which comprehensive data on terrorism directed at transportation were publicly available was 1998.

[2] Waterway facilities as counted by the U.S. Army Corps of Engineers are piers, wharves, and docks. Not included are those facilities used exclusively for recreational or active military craft and generally those providing nonmaritime use.

than 300 ports) that engage in U.S. foreign and domestic trade. Along the inland waterways, the U.S. Army Corps of Engineers owns or operates 230 lock sites and 276 lock chambers [4]. U.S. ports received over 71,000 tanker, dry bulk, container, and other types of cargo vessels in 2000 (table 1). While most of the calls are concentrated in just 25 ports, all facilities have established some security measures.

Given the dispersed nature of the U.S. maritime transportation system, numerous federal, state, and local government entities and private industry share responsibilities for ensuring its security. At the federal level, the U.S. Coast Guard (USCG) has the primary operational responsibility. In the immediate response to September 2001, USCG repositioned much of its manpower and equipment away from U.S. coastal waters for interdiction purposes

Table 1
U.S. Port Cargo Vessel Calls: 2000
Vessels over 1,000 gross tons

Top 25 ports	Total vessel calls	Tanker	Dry bulk	Container	Other
Houston, TX	6,327	3,111	885	651	1,680
New Orleans, LA[1]	5,650	1,377	2,796	423	1,054
Los Angeles/Long Beach, CA	5,426	905	797	2,955	769
New York, NY	4,817	1,287	399	2,199	932
San Francisco, CA[1]	3,676	819	637	1,936	284
Philadelphia, PA	3,240	967	533	497	1,243
Miami, FL	2,728	11	117	1,125	1,475
Hampton Roads, VA[1]	2,660	158	507	1,592	403
Port Everglades, FL	2,625	348	128	703	1,446
Charleston, SC	2,234	148	144	1,552	390
Columbia River, WA[1]	2,219	279	1,279	263	398
Savannah, GA	1,966	238	340	740	648
Baltimore, MD	1,795	164	469	409	753
Jacksonville, FL	1,685	204	193	476	812
Corpus Christi, TX	1,455	964	350	2	139
Texas City, TX	1,281	1,152	89	3	37
Beaumont, TX	1,268	1,032	140	0	96
Tacoma, WA	1,232	70	219	568	375
Seattle, WA	1,170	50	230	794	96
Mobile, AL	993	146	450	17	380
Lake Charles, LA	794	474	125	6	189
Freeport, TX	725	521	54	81	69
Portland, ME	509	350	60	1	98
Valdez, AK	441	440	0	0	1
LOOP Terminal, LA	307	291	16	0	0
Total top 25 ports	**50,896**	**12,395**	**10,072**	**16,342**	**12,087**
Percentage of total ports	72.4	75.7	74	73.6	66.8
Total all ports	**71,548**	**19,299**	**13,729**	**19,067**	**19,453**

[1] Includes all area ports.

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, extracted from Lloyd's Maritime Information Services, *Vessel Movements* (London, England: 2001).

to locations near port facilities to ensure the security of ports and terminals. This shift in priorities was accomplished, in part, by a call up of nearly 2,000 USCG reservists by early 2002 [6]. Among the near-term consequences of this shift, however, were a 25 percent reduction in drug interdiction and an even greater reduction in fisheries law enforcement [3].

Working with local officials, Coast Guard Captains of the Ports have been given the authority to adopt security measures to ensure the safety and security of the port to which they are assigned. For instance, USCG has established security zones in all U.S. ports and a Sea Marshal program at select ports to position armed USCG personnel aboard commercial deep draft vessels. By late January 2002, marshals had escorted over 1,000 vessels. To further protect vessels while transiting through U.S. ports, coastal zones, and inland waterways, USCG has set up 100-yard security zones around all U.S. Navy, USCG, and cruise ships [7]. Furthermore, USCG has been working with U.S. port authorities to develop or improve existing individual port security plans [5].

A longstanding rule has required vessels over 300 gross tons and all foreign vessels regardless of tonnage bound for U.S. ports to notify USCG at least 24 hours prior to arrival. Since October 4, 2001, vessels planning to enter U.S. ports must notify USCG 96 hours before arrival and provide information about all crewmembers and passengers on board [1]. In addition, certain vessels that had been exempt from the previous reporting requirements are subject to the new rules.

Sources

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Hazardous Materials Transportation Security

Essential to industrial production and our economic well-being, the transportation of hazardous materials is a necessary component of everyday life. Recognizing the necessity but also the risks associated with hazardous materials, the federal government has long had a role in regulating its transportation. As a result of the events of September 2001, the federal government has increased its focus on security, as well as safety, in its regulation and oversight role.

There are approximately 800,000 domestic hazardous materials shipments each day using all modes of transportation. The great majority (about 90 percent) of hazardous materials are transported on highways. These shipments are mostly petroleum products and flammable gases but also include explosives, poisons, corrosives, flammable materials, infectious substances, and radioactive materials. They are transported widely throughout the country on short, medium, and long hauls. En route security has emerged as a major concern among security officials. To address this, they have recommended that motor carriers select their routes taking security into account, limit stops, place locks on tanks, and obtain escorts for selected materials. In addition, security officials are encouraging the reporting of suspicious activity, enhancement of security around facilities, and security training for employees.

Since September 2001, the U.S. Department of Transportation (DOT) and other federal agencies have taken numerous, multifaceted steps to prevent and prepare for possible terrorist actions involving the transportation of hazardous materials. The USA Patriot Act (Public Law 107-56) enacted in late September 2001 requires that the Federal Bureau of Investigation conduct background checks of carriers and drivers of hazardous materials (see box). DOT is encouraging better coordination among carriers, shippers, and consignees of hazardous materials to ensure tighter control of shipments. The department is also investigating technological options that could increase security by, for example, providing real-time tracking and improved intelligence gathering and sharing.

The DOT technology reviews are being done, in part, to better understand how to balance information needs of emergency responders with security concerns. DOT is also evaluating, from a security perspective, the prioritization and segmentation of the risks associated with hazardous materials transportation (by class, material, and quantity). DOT's Federal Motor Carrier Safety Administration has been making security sensitivity visits to motor carriers transporting hazardous materials to review their policies, procedures, and personnel. Over 24,000 visits have resulted in about 100 referrals to appropriate law enforcement agencies for further investigation.

(continues on next page)

People and Firms Licensed to Carry Hazardous Materials

Data gaps can suddenly appear when policy priorities shift. The events of September 2001 brought into focus a need to more precisely identify the carriers and drivers who transport hazardous materials. Current data systems, for example, raise questions about how many U.S. trucking firms are transporting hazardous materials and where the firms are located. In addition, while drivers of trucks carrying hazardous materials must have a hazardous materials endorsement on their commercial drivers license (CDL), it is not possible to know with certainty how many current CDL holders have the endorsement.

Motor carriers register with the U.S. Department of Transportation (DOT) Federal Motor Carrier Safety Administration (FMCSA) to obtain a DOT identification number. Since September 2001, FMCSA has undertaken a review of the 52,000 motor carriers registered to carry hazardous materials and, as of January 2002, made security visits to over 24,000 carriers. During this process, FMCSA has discovered that nearly 8,000 motor carriers are no longer in business or no longer carry hazardous materials.

The federal government in partnership with the states set up a Commercial Drivers Licensing System (CDLIS) in 1989 as a safety measure to prevent commercial drivers from obtaining licenses from more than one state. States query the CDLIS each time an application for a CDL is made, but records are not necessarily removed as turnover occurs among commercial drivers. In early 2002, out of over 10 million records in CDLIS, there were 2.5 million records of drivers with hazardous materials endorsements. However, there were, at most, 3.3 million employed truck drivers of all types in the United States in 2000.

The Bureau of Labor Statistics (BLS) reports two different estimates of truck drivers. The BLS annual Occupational Employment and Wage Estimates are establishment data (i.e., collected from employers) and include all drivers employed by firms, while its Employment Projections are generated from household surveys and, unlike the former, include self-employed drivers (see table below). In both cases, BLS separates truck drivers into three groups. Heavy and tractor-trailer truck drivers hold CDLs, and most drivers with hazardous materials endorsements are likely to be within this group. The other two groups of drivers do not necessarily hold CDLs, because the trucks or vans they drive are under 26,000 pounds gross vehicle weight. However, if they transport hazardous materials shipments, they are required to have a CDL with the endorsement. Based on the 1:4 ratio of endorsed CDLs to total CDL records in CDLIS, the Bureau of Transportation Statistics estimates that between 500,000 and 600,000 truck drivers could be transporting hazardous materials.

Employed Truck Drivers: 2000

	Data from	
	Occupational employment and wage estimates	Employment projections
Truck drivers, heavy and tractor-trailer (SOC 53-3032)	1,577,070	1,749,270
Truck drivers, light or delivery services (SOC 53-3033)	1,033,220	1,116,862
Driver/sales workers (SOC 53-3031)[1]	373,660	401,764
Total	**2,983,950**	**3,267,896**

[1] According to the U.S. Department of Labor's Standard Occupation Code, Driver/Sales Workers (SOC 53-3031) ". . . drive a truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry." As such, they may transport hazardous materials.

KEY: SOC = standard occupation code.

Sources

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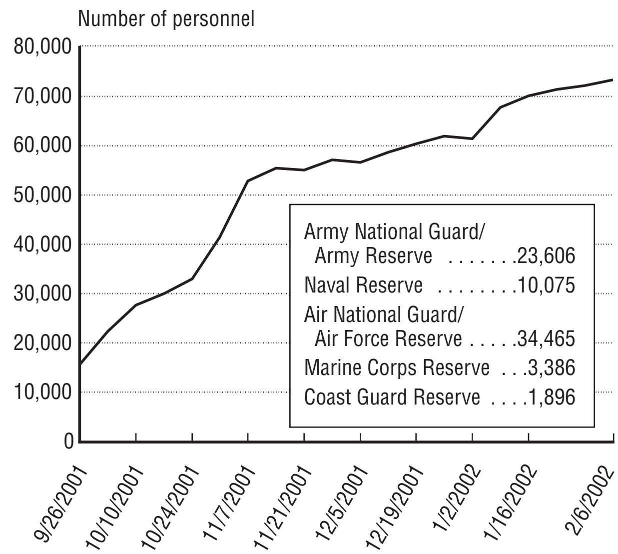
Movement of Military Forces and Equipment

Our nation's civilian transportation infrastructure provides vital strategic mobility for equipment and forces in times of national emergency. Since the end of the Cold War, U.S. armed forces have shifted from anticipating a possible global conflict with a dangerous and powerful adversary to being prepared for rapid deployment in localized incidents. At the same time, fewer U.S. troops are permanently stationed in foreign countries. This smaller, more mobile, U.S. military force structure places different demands on our transportation system [2].

Within several months of September 2001, over 70,000 National Guard and Reservists were mobilized to provide domestic support and to serve in Operation Enduring Freedom (figure 1). These troops are about 30 percent of the total number of National Guard and Reservists mobilized during the 1991 Gulf War. In contrast to the Gulf War, however, many more of the 2001/2002 activated National Guard and Reservists were deployed to locations in the United States to participate in Operation Noble Eagle.

The ability of the United States to respond to military emergencies requires adequate U.S.-controlled maritime shipping capacity to move equipment, fuel, supplies, and ammunition [4]. The U.S. Department of Defense (DOD) relies on commercial transportation providers for a large percentage of its peacetime freight and personnel movements, as well as wartime movements. A major portion of this commercial transportation capacity includes the use of U.S.-flagged vessels and

Figure 1
National Guard and Reserve Mobilized: Sept. 26, 2001–Feb. 6, 2002

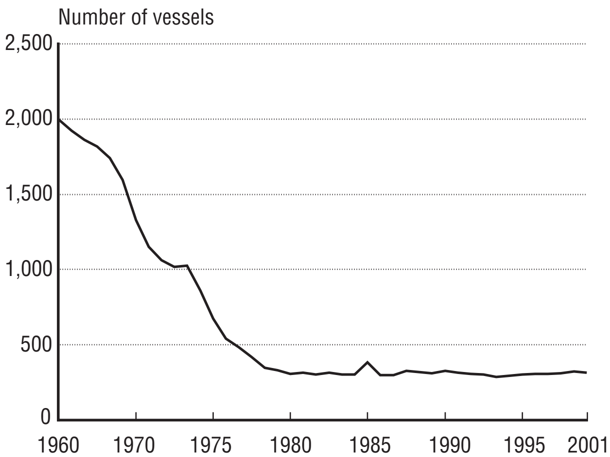


SOURCE: U.S. Department of Defense, "National Guard and Reserve Mobilized," weekly press releases, Sept. 26, 2001–Feb. 6, 2002, available at http://www.defenselink.mil/news/releases.html, as of Feb. 6, 2002.

the U.S. merchant marine under the Maritime Administration's Maritime Security Program (MSP). The MSP was established to help ensure the existence of and access to as many as 47 modern and militarily useful U.S.-flagged oceangoing commercial vessels with U.S. crews for DOD sealift requirements [4].

The National Defense Reserve Fleet (NDRF), owned by the government, supports DOD during national emergencies and consists of U.S. vessels strategically docked throughout the United States. The NDRF, which included 2,000 vessels in 1960, had 316 ships in fiscal year 2001 (figure 2). The total capacity of the NDRF has also declined. However, it has not

Figure 2
National Defense Reserve Fleet: 1960–2001



NOTE: The NDRF accepted over 80 ships from the Navy in 1984 that were subsequently sold for scrap.

SOURCE: U.S. Department of Transportation, Maritime Administration, personal communication, Jan. 18, 2002.

declined as quickly as the number of vessels. As older, smaller ships have been withdrawn from the NDRF, the individual ships that remain in service are larger on average. Furthermore, a greater emphasis has been placed on maintaining a fleet that can be deployed rapidly, rather than a large fleet. The NDRF was refocused due to various factors, including the end of the Cold War, budget priority shifts, greater reliance on commercial vessels, and increased airlift capabilities. The Ready Reserve Fleet (RRF), a subset of the NDRF, can be tendered to the Navy's Military Sea Command during armed conflicts and humanitarian emergencies in 4 to 30 days, depending on the location of vessels and their readiness [6]. The RRF had 76 ships in 2001, down from 90 the previous year due to the downgrade of 14 older, shallow-draft breakbulk[1] vessels. Other RRF vessels have undergone deck expansion to adjust for the loss of cargo capacity [5]. Over 100,000 U.S. merchant mariners are qualified to serve on large ocean-going vessels. Approximately two-thirds of qualified mariners would be available for service aboard a U.S.-flagged vessel in a national defense emergency and, of these available mariners, most could serve for 90 days or more [3].

The Civil Reserve Air Fleet (CRAF) is another key component of the nation's security resources. Selected aircraft from commercial U.S. airlines are contracted to CRAF to support DOD airlift requirements when military aircraft needs exceed capabilities. The CRAF program provides incentives for civil carriers to commit their aircraft. In 2000, 31 carriers and 702 aircraft were enrolled in CRAF [1] (table 1). As of January 2002, CRAF had not been called on to aid Operation Enduring Freedom or Operation Noble Eagle due to a high level of voluntary participation in these operations [1].

Finally, the nation's rail and highway systems play critical roles in the movement of military equipment and personnel. When the need arises, vast amounts of military equipment and personnel are moved from continental U.S.-based military installations to various seaports and airports. Most of this equipment travels over U.S. highways [2].

The Strategic Highway Network (STRAHNET) system of public highways provides access, continuity, and emergency transportation of personnel and equipment in times of peace and war. The 61,000-mile system, designated by the Federal Highway Administration in partnership with DOD, comprises about 45,400 miles of Interstate and defense

[1] A *breakbulk vessel* is a cargo vessel with the capacity to carry loose or noncontainerized goods.

Table 1
Members of the Civil Reserve Air Fleet

Long-range international	Short-range international	Aeromedical evacuation
Airborne Express	Alaska Airlines	Delta Airlines
Air Transport International	American Trans Air	US Airways
American Airlines	Champion Air	
American Trans Air	Continental Airlines	**Domestic**
Arrow Air	DHL Airways	America West Express
Atlas Air	Evergreen International	Frontier Airlines
Continental Airlines	Lynden Air Cargo	Midwest Express
Delta Airlines	Miami Air International	Southwest Airlines
DHL Airways	North American Airlines	
Emery Worldwide	Spirit Airlines	**Alaskan**
Evergreen International	Sunworld International	Northern Air Cargo
Federal Express Corp		Lynden Air Cargo
Gemini Air Cargo		
Hawaiian Airlines		
North American Airlines		
Northwest Airlines		
Omni Air Express		
Polar Air Cargo		
Southern Air		
United Air Lines		
United Parcel Service		
UPS Airlines		
US Airways		
World Airways		

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, personal communication, Oct. 16, 2002.

highways and 15,600 miles of other public highways. STRAHNET is complemented by about 1,700 miles of connectors—additional highway routes linking more than 200 military installations and ports to the network [2] (see map).

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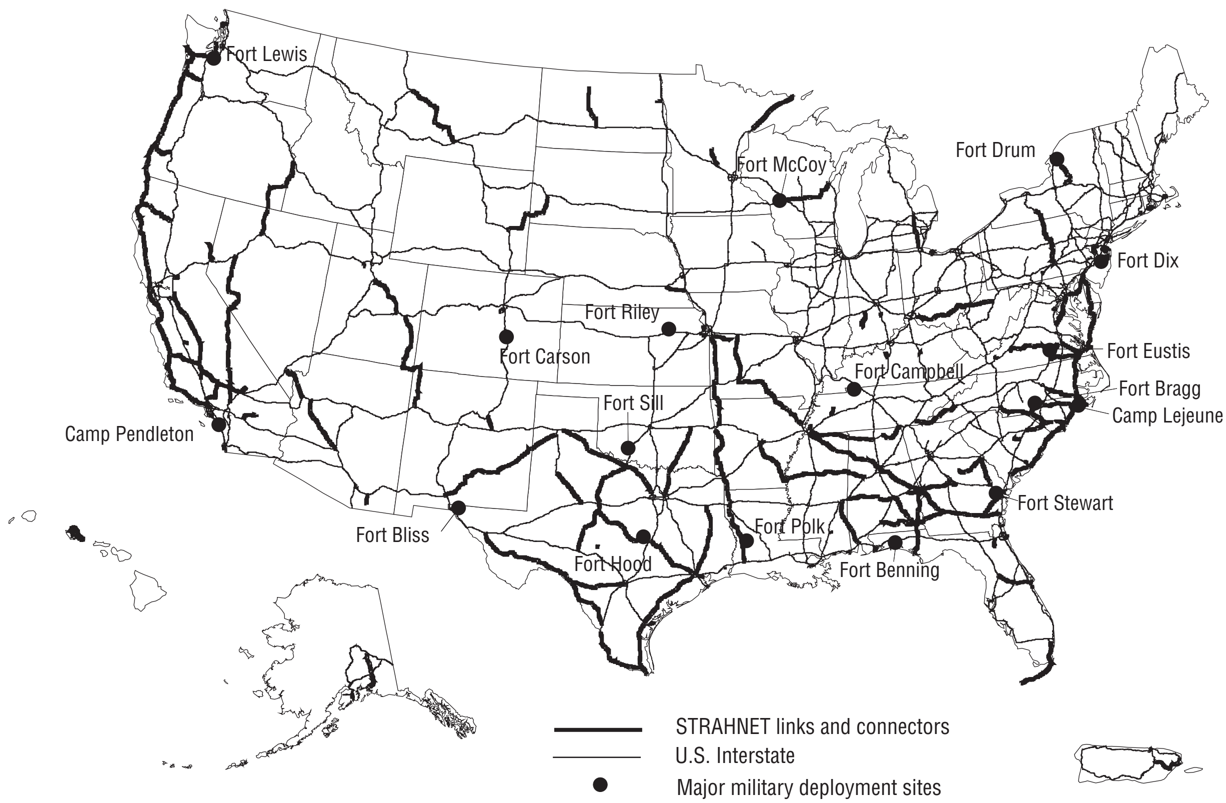
Strategic Highway Network (STRAHNET)



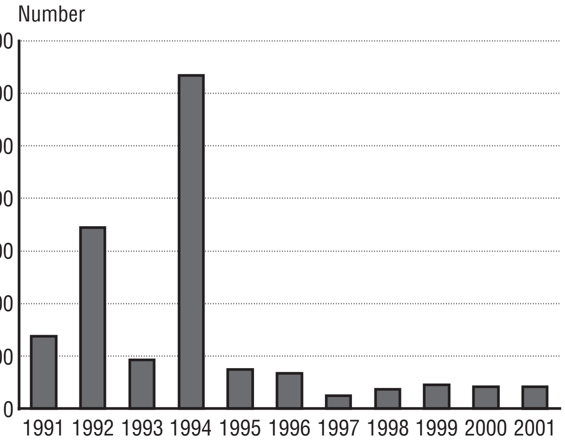
SOURCE: U.S. Deparment of Transportation, Federal Highway Administration, 1999.

Alien Smuggling and Interdiction

People seeking to enter the U.S. illegally cross (or attempt to cross) U.S. borders using all transportation modes and on foot. The U.S. Coast Guard (USCG) is responsible for interdictions at sea (figure 1). The number of migrants stopped by USCG is small (3,948 in fiscal year 2001) compared with total Immigration and Naturalization Service (INS) arrests (1.2 million people in fiscal year 2001).[1] However, many USCG interdiction cases begin as search and rescue operations, often because migrants travel in overcrowded and unseaworthy vessels.

The number of USCG interdictions can vary greatly from year to year. In the peak year of 1994, over 98 percent of the 63,426 interdicted migrants were Haitians and Cubans. Migrants from these two countries and from the Dominican Republic, Ecuador, and the People's Republic of China (PRC) constitute the bulk of USCG interdictions each year. However, the number from any one country can vary by year. For instance, the number of migrant interdictions from the PRC declined to 64 people in 2001 from a high of 1,351 in 1999. In past years, illegal PRC migrants have used Guam as a stopping point to gain entrance into the United States. Migrant flow has shifted away from Guam, largely in response to USCG interdiction efforts. Many

Figure 1
U.S. Coast Guard Migrant Interdictions at Sea: 1991–2001



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, *Coast Guard Interdictions by Sea: Calendar Year 1982–2002,* available at http://www.uscg.mil/, as of January 2002.

Chinese migrants now seek to transit through Mexico and Central America for eventual passage across the United States land border [2].

Cuban interdiction operations differ from those of other countries. Under the 1966 Cuban Adjustment Act (Public Law 89-732), Cuban migrants who reach U.S. shores can stay in the United States and obtain permanent residency status within one year. If captured at sea, they are returned to Cuba or taken to a safe haven [2]. Many Cubans are transported in regular high-speed boats that blend into normal boating traffic. Near the U.S. shore, migrants are transferred to small rafts that are difficult to interdict. USCG interdicted nearly 47 percent fewer illegal Cuban migrants in 2001 compared with 1999. There are several reasons, including

[1] Most migrants caught by USCG are returned to their country of origin and, thus, not turned over to INS. In fiscal year 2001, for instance, 74 percent of Dominican Republic, 97 percent of Cuban, and 99 percent of Haitian migrants were returned. Each year, however, all migrants from the People's Republic of China are turned over to INS.

improved efficiency in granting immigrant visas by the U.S. Interest Section in Havana, more Cubans taking illegal flights to the United States from third countries, and more Cubans traveling to Mexico by air and then crossing the land border illegally [2].

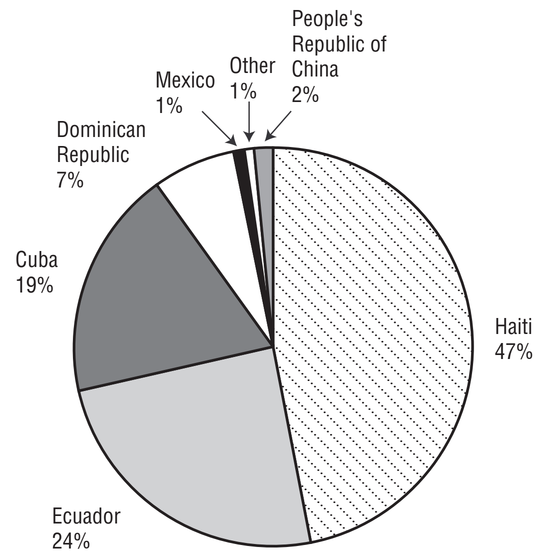
Although total interdictions have stayed between 4,000 and 4,500 the last four years, USCG expects illegal migrant activity by sea to rise. Of the 4,136 interdictions in 2001, 72 percent were Haitians and Ecuadorians (figure 2).

Professional criminals vie for a share of the $10 billion a year migrant smuggling activity [1]. For example, as much as $6 million may be paid by a large boatload of migrants from the PRC to be smuggled into the United States. PRC migrants pay smugglers up to $40,000 each, and Cuban migrants pay up to $8,000 each [2].

Sources

1. Office of Naval Intelligence and U.S. Department of Transportation, U.S. Coast Guard, *Threats and Challenges to Maritime Security* (Washington, DC: March 1999).
2. U.S. Department of Transportation, U.S. Coast Guard, *The 2000 Annual Report of the U.S. Coast Guard* (Washington, DC: 2001).

Figure 2
U.S. Coast Guard Interdictions at Sea by Nationality: 2001



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, *Coast Guard Interdictions by Sea: Calendar Year 2001,* available at http://www.uscg.mil/, as of January 2002.

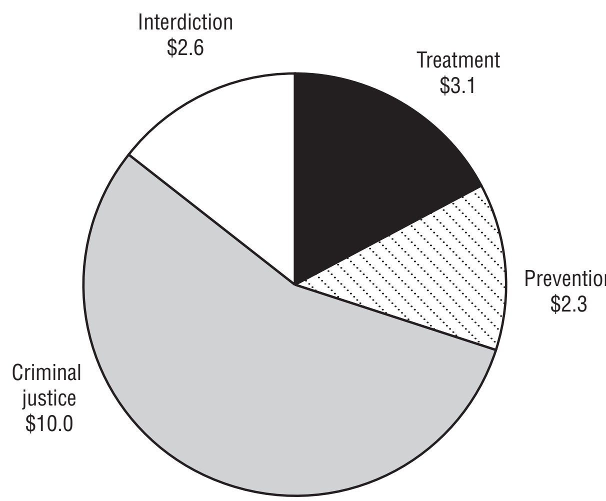
Drug Smuggling and Interdiction

An estimated 6.7 percent of Americans 12 years of age and older (14 million people) were illicit drug users in 1999. To address this problem, the United States spent $18 billion on drug control programs in fiscal year (FY) 2001. Of the total, the United States earmarked $2.6 billion for drug interdiction operations (figure 1) [1]. Since September 2001, the lead interdiction agencies—the U.S. Coast Guard (USCG) and the U.S. Customs Service (Customs)—have had to give greater attention to port and border security.

In the last decade, both agencies have been facing growing challenges in their efforts to interdict illegal drugs. The increasing flow of trade and passenger travel means that more cars, trucks, and railcars are crossing U.S. borders and more ships are arriving at U.S. ports from all over the world. Moreover, the growth in the use of containers to ship commodities has facilitated cargo transfers and increased intermodal transportation services, thus allowing an easier worldwide flow of goods from road to rail to sea. With increasing traffic and the flow of goods comes increasing opportunity to smuggle illegal drugs [2].

Competition among U.S. ports has encouraged efficiency over security in the past. Of the 17 million containers arriving at maritime ports annually, Customs has closely inspected only 2 percent. Customs has established a forum on commercial shipping security with foreign manufacturers, exporters, carriers, importers, and other industry sectors in the wake of the terrorist attacks. In order to avoid delays that may result from heightened security, Customs intends to expedite the inspection process for active and approved participants in the forum [7].

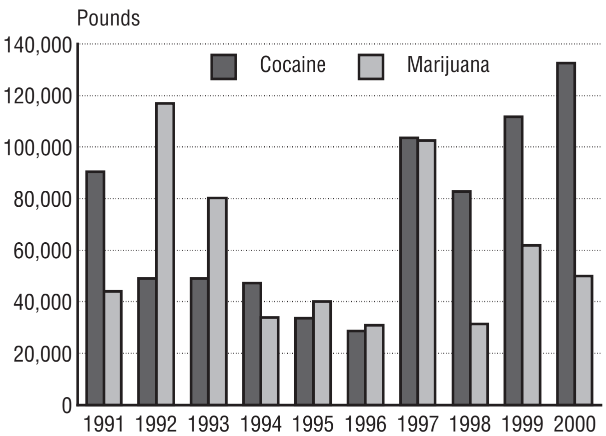
Figure 1
Federal Drug Control Spending by Function: Fiscal Year 2001
In billions



SOURCE: Executive Office of the President, Office of National Drug Control Policy, available at http://whitehousedrugpolicy.gov, as of Sept. 6, 2001.

Customs has intercepted a growing volume of illegal drugs along the nation's borders. In FY 2001, officials seized 308,635 pounds of heroin, cocaine, and marijuana, up 319 percent from FY 1995 [8]. Customs officials expect that increased inspection of all arriving cars, trucks, and individuals—due to the level one alert status maintained since September 2001—may result in a higher drug seizure rate during FY 2002, particularly in Texas and New Mexico [6]. From October through December 2001, Customs seized nearly 86,603 pounds of heroin, cocaine, and

Figure 2
U.S. Coast Guard Drug Seizures: Fiscal Years 1991–2000



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Law Enforcement, "Drug Interdiction," available at http://www.uscg.mil/hq/g-o/g-opl/mle/drugs.htm, as of Jan. 9, 2002.

marijuana, up almost 81 percent from the same period in 2000 [8].

The Coast Guard has also conducted more intensive antiterrorism operations at the nation's ports since the terrorist attacks. Not only has USCG committed more personnel, ships, and resources to protecting the nation's ports and coastline, but it now scrutinizes ship passengers and crew more thoroughly. Whereas ships were required to provide the Coast Guard a 24-hour advance notice of arrival when traveling from a foreign port, now they must provide a 96-hour advance notice of arrival, along with a ship manifest and list of persons aboard [3].

Although the heightened state of security may divert resources away from traditional drug interdiction efforts, intensified scrutiny of maritime traffic may also aid interdiction. Data for 2001/2002 are not available to show this effect, but the Coast Guard has seized growing quantities of illegal drugs since 1998 (figure 2). Most recently, in FY 2000, USCG seized a record 132,480 pounds of cocaine with an estimated import value of $4.4 billion in FY 2000, while also confiscating over 50,000 pounds of marijuana [4, 5].

Sources

1. Executive Office of the President, Office of National Drug Control Policy, *National Drug Control Strategy 2001,* chapter 1, available at http://www.whitehousedrugpolicy.gov/policy/ndcs01, as of Jan. 8, 2002.
2. Office of Naval Intelligence and U.S. Department of Transportation, U.S. Coast Guard, *Threats and Challenges to Maritime Security, 1999,* available at http://www.uscg.mil, as of September 2000.
3. U.S. Department of Transportation, U.S. Coast Guard, "New Reporting Requirements for Ships Entering, Leaving U.S.," Oct. 3, 2001 media advisory, available at http://www.uscg.mil/news/Headquarters Reporting_requirements.htm, as of Jan. 9, 2002.
4. _____. Office of Law Enforcement, "Drug Interdiction," available at http://www.uscg.mil/hq/go/g-opl/mle/drugs.htm, as of Jan. 9, 2002.
5. _____. *2000 Annual Report of the U.S. Coast Guard* (Washington, DC: 2001).
6. U.S. Department of the Treasury, U.S. Customs Service, "Seizure Activity Picking Up for Customs Officers in West Texas and New Mexico," Sept. 28, 2001 press release, available at http://www.customs.ustreas.gov/news/news.htm, as of Jan. 13, 2002.
7. _____. *Trade Partnerships Against Terrorism,* available at http://www.customs.ustreas.gov/enforcem/enforcem.htm, as of Jan. 17, 2002.
8. _____. "U.S. Customs Service Drug Seizure Numbers Up," Jan. 15, 2002 press release, available at http://www.customs.ustreas.gov/news/news.htm, as of Jan. 17, 2002.

U.S. Aircraft Manufacturing

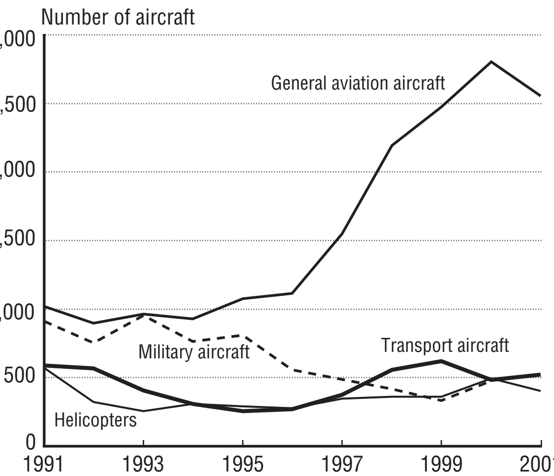
Both commercial and military aircraft play a key role in supporting the security of the United States. Thus, maintaining a strong manufacturing base with a trained and skilled workforce capable of designing and building aircraft and aircraft components is an issue of national security.

In 2000, the aerospace industry (which includes civil and military aircraft as well as space and missile systems producers) employed an estimated 793,000 workers, representing about 4 percent of all manufacturing jobs in the United States. The number of U.S. aircraft produced annually has declined sharply since a high of over 18,000 civil aircraft was produced in 1979 (figure 1). While the U.S. aerospace industry as a whole remains internationally competitive, economic conditions and the September 11 terrorist attacks have caused aircraft manufacturers to expect a sharp decline in demand for new civilian planes [2].

Since 1979, the numbers of large transport-category aircraft produced have varied each year but show an overall increase of 39 percent, with 522 of these aircraft produced in 2001. The Aerospace Industries Association forecasts that U.S. production will decline by 28 percent in 2002 compared with 2001 [3].

Sales of general aviation aircraft were depressed in 2001. Shipments dropped 10 percent to 2,556 from a decade-long high of 2,802 in 2000. However, the industry is still far from the 20-year low of 899 in 1992. During the late 1990s, the general aviation industry rebounded, but it has yet to reach the record high of 17,817 aircraft produced in 1978 [1, 2].

Figure 1
U.S. Civil and Military Aircraft Production: 1991–2001



NOTE: Data for 2001 are preliminary. Data for 2001 military aircraft production are not available.

SOURCES: 1969–1999: Aerospace Industries Association, *Aerospace Fact and Figures, 2000/2001* (Washington, DC: 2000).
2000–2001: _____. *Year-End Review and Forecast,* available at http://www.aia-aerospace.org/stats/yr_ender/tables/2001/table5.cfm, as of Jan. 7, 2002.

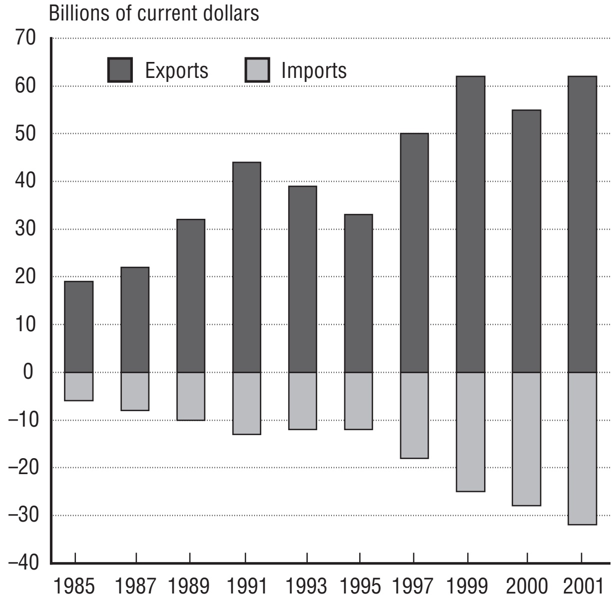
The U.S. aerospace industry is the single largest U.S. net exporter of manufactured goods, with a positive trade balance in 2001 of $30 billion (figure 2). The industry exports over 40 percent of its total output and over 70 percent of its commercial products. Aircraft manufacturing and sales make up the largest component of the U.S. aerospace industry. U.S. manufacturers shipped 3,483 civil aircraft in 2001 with a total value of $44 billion, an increase of nearly $5 billion over 2000 levels but a decline of 297 aircraft. The 522 civil transport aircraft produced in 2001 represent a value of $35 billion [3].

While U.S. production of civil aircraft had been increasing in recent years, production of military aircraft was declining. In 2000, the United States produced 477 military aircraft, down from 811 in 1995. Of that total, 244 were exported and 233 were delivered to U.S. military agencies. Much of the decline in U.S. military aircraft production can be attributed to the end of the Cold War [1].

Sources

1. Aerospace Industries Association, *Aerospace Facts and Figures: 1999/2000* (Washington, DC: 1999).
2. _____. Director of Aerospace Research Center, personal communication, Feb. 7, 2001.
3. _____. *Year-End Review and Forecast,* available at http://www.aia-aerospace.org/stats/yr_ender/yr_ender.cfm , as of Jan. 7, 2002.

Figure 2
Aerospace Exports and Imports



SOURCE: Aerospace Industries Association, Aerospace Statistics, available at http://www.aia-aerospace.org/stats/aero_stats/aero_stats.cfm, as of Feb. 24, 2002.

U.S. Merchant Shipbuilding and Repair

Because of the need to ship military forces and materiel around the globe, maintaining a strong manufacturing base capable of designing and building ships is a national security concern. Ships provide much of the capacity needed to move international trade. Shipbuilding is, thus, a key industry in the United States and around the world.

South Korea overtook Japan in 1999 as the world leader in merchant shipbuilding in terms of gross tonnage. These two countries accounted for 69 percent of the gross tonnage of merchant ships on order as of September 2001. The United States ranked 8th, with almost 1.5 percent of the world's gross tonnage on order (table 1). Nevertheless, the U.S. shipbuilding industry has made some progress in its efforts to reemerge as an active participant in the commercial shipbuilding market (figure 1). The United States has 19 major private shipyards that can build vessels over 122 meters in length. More than 200 privately owned firms repair ships, but only 73 are classified as major repair yards with the capacity to handle vessels over 400 feet in length [3].

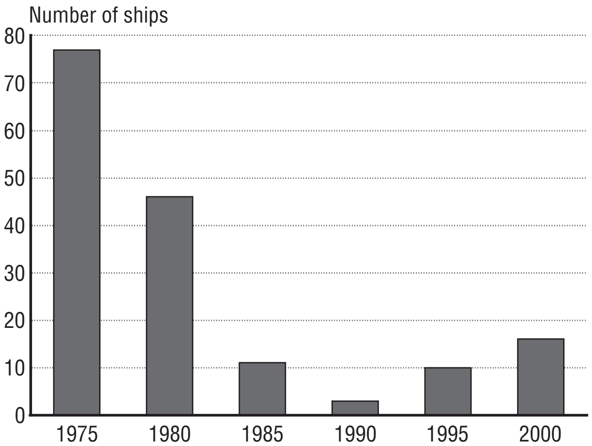
Between 1994 and 1999, the U.S. shipbuilding industry invested more than $5.6 billion in capital improvement projects, the majority of which were targeted at increasing efficiency and competitiveness. Investments were made in new shipyard layouts, and new cranes, transporters, automated equipment, and highly mechanized production systems were purchased [2]. Several government programs also have provided assistance in revitalization efforts. These include the National Shipbuilding and Conversion Act of 1993 and an expanded Federal Ship Financing Program (Title XI) of the Merchant Marine Act of 1936. Title XI provides credit guarantees

Table 1
World Orderbook as of September 2001
Self-propelled vessels of 100 gross tons and over

Rank	Country of build	Number of vessels	Total gross tons
1	South Korea	507	31,299,355
2	Japan	455	19,152,803
3	China (People's Republic)	307	5,443,164
4	Poland	132	2,805,792
5	Germany	100	2,252,726
6	Italy	65	2,220,642
7	Croatia	50	1,553,957
8	United States	46	1,038,059
9	China (Republic of Taiwan)	32	960,648
10	Finland	13	871,252
11	Romania	103	871,250
12	Spain	92	691,139
13	France	23	667,833
14	Netherlands	196	577,603
15	Denmark	13	528,820
16	Ukraine	30	435,832
17	Russia	79	356,287
18	Philippines	11	338,000
19	Singapore	54	328,475
20	Turkey	54	273,171
	Top 20 total	**2,362**	**72,666,808**
	Top 20, percentage of total	89%	99%
	World total	2,648	73,581,049

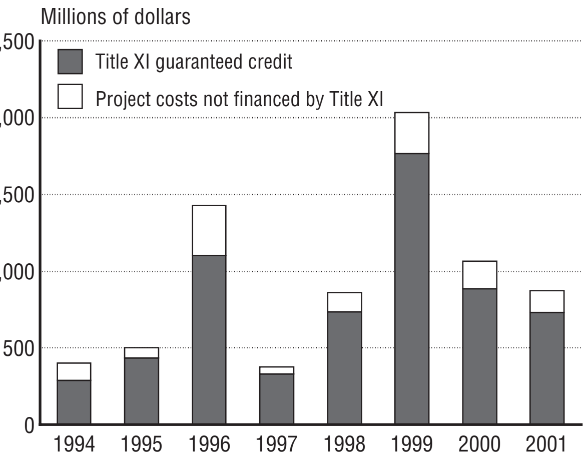
SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, extracted from Lloyd's Maritime Information Service, World Orderbook data, as of January 2002.

Figure 1
U.S. Commercial Shipbuilding Orderbook History: As of January 2002
Ships of 1,000 gross tons and over



SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Shipbuilding, available at http://www.marad.dot.gov/Marad-Statistics.html, as of Jan. 7, 2002.

Figure 2
Federal Ship Financing Program: Fiscal Years 1994–2001
Approved Title XI applications



SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Ship Financing, "Title XI Financing," available at http://www.marad.dot.gov/TitleXI/index.html, as of Feb. 4, 2002.

for both shipbuilding and port improvement, up to a maximum of 87.5 percent of total project costs. The total value of approved Title XI projects varies from year to year, mainly because of market factors (figure 2). Several large projects approved during 1996 and 1999, for instance, account for the spikes in those years. In 2000, the value of all projects approved dropped about 48 percent to just over $1 billion and decreased again in 2001 by 18 percent [4].

Revitalization efforts, however, have been complicated by an overall decline in world shipbuilding price levels. In 1999, world newbuilding price levels were less than in 1998 [2]. Price levels for 30,000 and 70,000 deadweight ton (dwt) bulk carriers declined the most of all vessel types, by 21 and 17 percent, respectively. In contrast, the price levels of the largest category of bulk carriers, 120,000 dwt, decreased the least: 8 percent compared with 1998. The downward trend in vessel prices continued to be fueled by increasing competition among Asian shipyards during 1999. South Korea gained a greater share of the market during the late 1990s due to productivity and technology enhancements, as well as devaluation of its currency. During the first half of 2000, worldwide prices for the smaller categories of bulk carriers and tankers remained constant, while the largest categories of bulk carriers and tankers rebounded somewhat from recent declines [1].

Sources

1. United Nations Conference on Trade and Development, *Review of Maritime Transport 2000* (New York, NY: United Nations, 2000), p. 35.
2. U.S. Department of Transportation, Maritime Administration, *MARAD '99* (Washington, DC: May 2000), pp. 16–20.
3. ____. Office of Shipbuilding, available at http://www.marad.dot.gov/Marad-Statistics.html, as of Jan. 7, 2002.
4. ____. Office of Ship Financing, "Title XI Financing," available at http://www.marad.dot.gov/TitleXI/index.html, as of Feb. 4, 2002.

World Petroleum Reserves

Because transportation depends on petroleum for about 95 percent of its energy needs, the long-term availability of petroleum supplies is a key concern. The U.S. Geological Survey (USGS) estimates that the United States has 11 percent (83 billion barrels) of the worldwide total of still undiscovered conventional petroleum, 76 billion barrels of reserve growth, and 32 billion barrels of remaining reserves (table 1). Alaska, Texas, California, and offshore areas of the Gulf of Mexico accounted for 78 percent of U.S. proved oil reserves in 2000 [1].

Total world oil resources are about 2,311 billion barrels, including undiscovered oil, reserve growth, and remaining reserves. Undiscovered conventional oil reserves are estimated to be 732 billion barrels worldwide. This estimate is 20 percent higher than earlier USGS assessments, reflecting the expectation that greater reserves than were previously thought to exist will be discovered in the Middle East, the northeast Greenland Shelf, the West Siberia and Caspian Sea areas of the former Soviet Union, and the Niger and Congo delta areas of Africa. USGS also notes that for some areas, such as Canada, Mexico, and China, estimated undiscovered reserves are lower than previously reported [2].

In the last 100 years, an estimated 710 billion barrels of oil have been produced worldwide. The United States has produced about 171 billion barrels or nearly 50 percent of its total oil endowment [2]. After annual declines through most of the 1990s, proved reserves rose 1.3 percent in 2000 over 1999 [1]. Most of this increase is attributed to discoveries of new reserves in the offshore areas of the Gulf of Mexico. Although worldwide resources are plentiful, their availability is affected by production costs, technologies, markets, and national policies. The price of crude oil also affects reserve totals. The higher oil prices of December 2000, for instance, turned some uneconomic 1999 U.S. reserves into 2000 proven reserves.

Table 1
World Petroleum Endowment
Billion barrels

	World (excluding U.S.)	United States
Undiscovered conventional	649	83
Reserve growth (conventional)	612	76
Remaining reserves	859	32
Total	**2,120**	**191**
Cumulative production	**539**	**171**
Total oil endowment	**2,659**	**362**

SOURCE: U.S. Department of the Interior, U.S. Geological Survey, *World Petroleum Assessment 2000—Description and Results* (Washington, DC: June 2000), also available at http:/energy.cr.usgs.gov/, as of February 2002.

Sources

1. U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Plant Liquids Reserves 2000* (Washington, DC: 2001).
2. U.S. Department of the Interior, U.S. Geological Survey, *World Petroleum Assessment 2000—Description and Results* (Washington, DC: June 2000), also available at http://energy.cr.usgs.gov/, as of February 2002.

Transportation's Dependence on Imported Oil

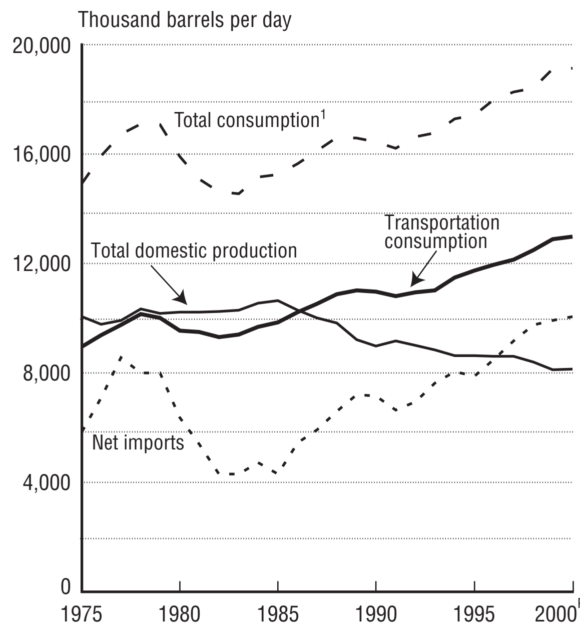
Transportation is the only sector of the economy that consumes much more oil today than it did 20 years ago, making it vulnerable to oil disruptions. Beginning in 1997, the United States imported more than half of the crude oil and petroleum products that it consumed (figure 1), with net imports reaching 10.1 million barrels a day (mmbd) in 2000. The transportation sector alone consumed nearly 13 mmbd, which is equivalent to all domestic production plus approximately 40 percent of imports [2].

Oil imports emerged as a national security issue in the early 1970s when they grew to a significant fraction of total oil consumption, and several supplier nations coordinated efforts to reduce supplies on the world market. Today, Canada, Saudi Arabia, Venezuela, Mexico, and Nigeria are the top five suppliers of U.S. crude oil and petroleum products [2] (table 1). Of these, Saudi Arabia, Nigeria, and Venezuela are members of the Organization of Petroleum Exporting Countries (OPEC).[1] In 2000, OPEC supplied about 50 percent (5.1 mmbd) of net imports, or 26 percent of total U.S. oil consumption (figure 2).

The U.S. Department of Energy, Energy Information Administration, expects non-OPEC oil production to increase in the future. Much of this increase will come from the former Soviet Union. Other areas expected to increase production levels include offshore regions of West Africa, the North Sea, Canada, Mexico, Colombia, and Brazil [1].

[1] OPEC includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

Figure 1
U.S. Petroleum Production and Consumption: 1975–2000



[1] Total end use consumption by transportation, residential, commercial, and industrial sectors.

KEY: P = preliminary.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2000,* tables 5.1 and 5.12c, available at http://www.eia.doe.gov/emeu/aer/contents.html.

Nevertheless, as U.S. consumption increases and domestic production decreases, dependence on foreign oil supplies is rising. Whether a high level of oil imports poses serious strategic and economic problems for the United States depends on several factors, such as oil prices, ability of markets to respond to changes in supply and demand, OPEC's market share, and the importance of oil to the economy.

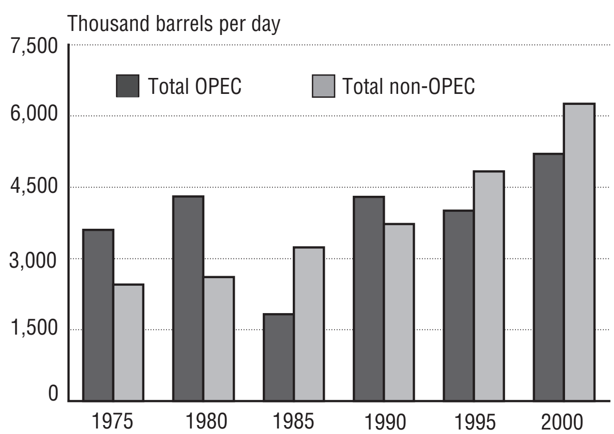
Table 1
Major Suppliers of U.S. Crude Oil and Petroleum Products
Thousand barrels per day, average

Year	Canada	Saudi Arabia	Venezuela	Mexico	Nigeria	Iraq	United Kingdom	Norway	Colombia	Angola	Virgin Islands	Kuwait	Algeria
1975	846	715	702	71	762	2	14	17	9	75	407	16	282
1980	455	1,261	481	533	857	28	176	144	4	42	388	27	488
1985	770	168	605	816	293	46	310	32	23	110	247	21	187
1990	934	1,339	1,025	755	800	518	189	102	182	237	282	86	280
1995	1,332	1,344	1,480	1,068	627	0	383	273	219	367	278	218	234
2000	1,807	1,572	1,546	1,373	896	620	366	343	342	301	291	272	225

NOTE: The country of origin for petroleum products may not be the country of origin for the crude oil used to produce the products. Refined products imported from western European refining areas may have been produced from Middle Eastern crude oil.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, January 2002, tables 3.3a–3.3h, available at http://www.eia.doe.gov/emeu/mer/, as of February 2002.

Figure 2
U.S. Oil Imports



SOURCE: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review,* January 2000, tables 3.3d and 3.3h, available at http://www.eia.doe.gov/emeu/mer/, as of February 2002.

Sources

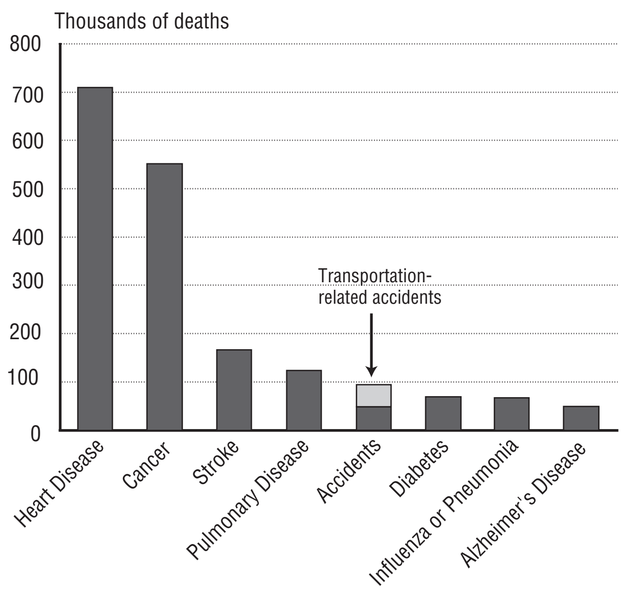
1. U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2001* (Washington, DC: December 2000).
2. _____. *Annual Energy Review 2000*, tables 5.1 and 5.12c, available at http://www.eia.doe.gov/emeu/aer/contents.html.

Chapter 6
Safety

Introduction

Promoting "public health and safety by working toward the elimination of transportation-related deaths, injuries, and property damage" is a high priority of the U.S. Department of Transportation (DOT) [1]. The United States has made much progress in reducing the number of transportation-related deaths, but crashes and incidents involving transportation vehicles, vessels, aircraft, and pipelines still claimed over 44,000 lives and injured more than 3 million people in 2000. Transportation accidents are the ninth single leading cause of death in the United States (figure 1). However, motor vehicle crashes are the leading cause of death for people between 4 and 33 years of age [2].

Figure 1
Leading Causes of Death of People of All Ages in the United States: 2000



NOTE: Preliminary data.

SOURCE: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, *National Vital Statistics* 49(12), Oct. 9, 2001, table B.

Motor vehicle collisions account for about 95 percent of transportation-related deaths and an even higher percentage of transportation injuries. Human behavior—such as alcohol and drug use, reckless operation of vehicles, failure to properly use occupant protection devices, and fatigue—is a major factor in a high proportion of crashes.

DOT has set specific targets for the next few years to improve transportation safety. These include goals to lower the U.S. commercial air carrier fatal crash rate by 80 percent by 2007, reduce the highway fatality rate to 1.0 per 1 million vehicle-miles traveled by 2008, and reduce commercial truck-related fatalities by 50 percent by 2010. Specific safety initiatives for rail, transit, maritime, and pipelines are also in place.

Source

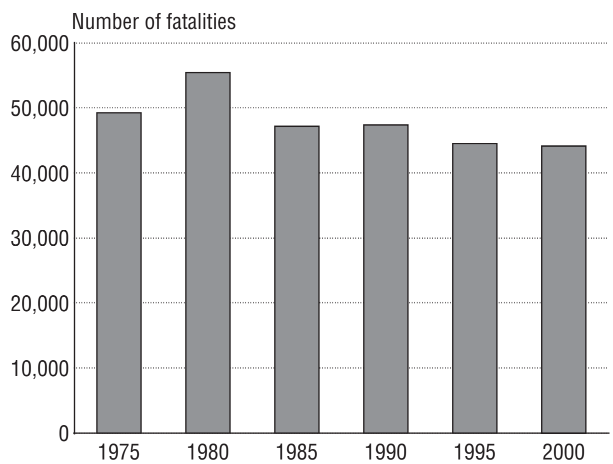
1. U.S. Department of Transportation, *Performance Plan, Fiscal Year 2003* (Washington, DC: March 2002).
2. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000: Overview* (Washington, DC: October 2001).

Transportation Fatalities: A Modal Picture

Over the last 25 years, the total number of fatalities on the nation's roads, rails, and waterways and in the skies declined (figure 1). Despite progress, transportation crashes and incidents claimed 44,314 lives in 2000, of which 41,945 involved highway vehicles. Occupants of passenger cars and light trucks (i.e., sport utility vehicles, vans and minivans, and pickup trucks) accounted for over 70 percent of the transportation fatalities in 2000; pedestrians, motorcyclists, bicyclists, and others involved in motor vehicle collisions accounted for most of the remaining deaths (table 1).

Of the 2,369 transportation fatalities in 2000 that did not involve highway vehicles, recreational boating and general aviation (e.g., private planes for individual and business use) together claimed the lives of 1,293 people. Commercial carriers (airlines, trains, waterborne vessels, and buses) accounted for slightly under 1,000 fatalities. Many of these were bystanders and others outside of vehicles.

Figure 1
Total Fatalities by All Modes of Transportation



NOTE: For 1975, 1980, and 1985 some double counting may be included. The double counting affects about 1 percent of the data and should not impact the trend shown in the chart.

SOURCE: Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2002* (Washington, DC: 2002).

Table 1
Transportation Fatalities: A Modal Picture—2000

Rank	Category	Fatalities	Percent
1	Passenger car occupants	22,699	51.2
2	Light-truck occupants	11,526	26.0
3	Pedestrians struck by motor vehicles	4,763	10.7
4	Motorcyclists	2,897	6.5
5	Large-truck occupants	754	1.7
6	Recreational boating	701	1.6
7	Pedalcyclists struck by motor vehicles	693	1.6
8	General aviation	594	1.3
9	Railroad trespassers (excluding grade crossings)	463	1.0
10	Motor vehicle occupants, not otherwise specified	450	1.0
11	Motor vehicle nonoccupants, not otherwise specified[1]	141	0.3
12	Air carriers	92	0.2
13	Waterborne transportation (not vessel-related)[2]	87	0.2
14	Heavy-rail transit (e.g., subway)	80	0.2
15	Air taxi	71	0.2
16	Rail grade crossings, not involving motor vehicles	64	0.1
17	Private road rail grade crossings, with motor vehicles	55	0.1
18	Waterborne transportation (vessel-related)	32	0.07
19	Light-rail transit	30	0.07
20	Railroad employees on duty and contractors	25	0.06
21	Bus occupants (school, intercity, and transit)	22	0.05
22	Gas distribution pipelines	22	0.05
23	Rail-related, not otherwise specified	20	0.05
24	Gas transmission pipelines	15	0.03
25	Transit bus (not accident-related)[3]	8	0.02
26	Commuter air	5	0.01
27	Passengers on railroad trains	4	0.01
28	Hazardous liquid pipelines	1	0.00
	Total	**44,314**	
Redundant with above			
	Large-truck occupants and nonoccupants	5,282	
	Public grade crossings, with motor vehicles	306	
	Commuter rail (included in railroad)	87	
	Transit buses (accident-related)	82	
	Air, ground fatalities (not on board)	13	
	Demand responsive transit (accident-related)	8	

[1] Includes all nonoccupant fatalities, except pedalcyclists and pedestrians.
[2] Statistics reflect deaths and injuries to vessel personnel that are not related to vessel incidents or accidents. Statistics include missing personnel, but do not include deaths and injuries due to altercations, diving accidents, homicides, suicides, attempted suicides, or natural causes.
[3] Includes homicides and suicides.

SOURCES:
Air—National Transportation Safety Board, available at http://www.ntsb.gov/aviation, as of Oct. 2, 2002.
Highway—U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.
Railroad—U.S. Department of Transportation, Federal Railroad Administration, *Railroad Safety Statistics, Annual Report 2000* (Washington, DC: July 2001), tables 1-1, 1-2, and 1-4.
Transit—U.S. Department of Transportation, Federal Transit Administration, *Safety Management Information Statistics* (Washington, DC: Annual issues).
Waterborne transportation—U.S. Department of Transportation, U.S. Coast Guard, Office of Investigations and Analysis, Compliance Analysis Division (G-MOA-2), personal communication, Dec. 5, 2001.
Recreational boating—U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics* (Washington, DC: Annual issues).
Pipeline—U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, available at http://ops.dot.gov, as of Nov. 14, 2001.

Transportation Fatality Rates

The more people travel, the greater the risk they incur. Thus, using the absolute numbers of fatalities to compare the safety of a given mode over time (table 1) can be misleading, since any change in the fatality numbers might be explained by a change in the amount of transportation activity. A clearer picture can be derived from exposure rates. Exposure rates are calculated by dividing the absolute numbers of fatalities (or other adverse outcome) by an activity measure, such as number of trips, number of miles traveled, or number of hours of vehicle operation.

Figure 1 shows fatality rates for selected modes for a time period of two decades or more. It is clear that safety in most modes has improved over the last 25 years. However, for several of the modes, the greatest improvement in fatality rates tended to occur in the earlier years of the period.

The activity measures used as denominators are not the same for all modes. For highway travel, exposure to risk is approximately proportional to distance traveled, hence the use of vehicle-miles as the denominator. For aviation, the greatest proportion of crashes occurs during takeoff and landing; hence risk is approximately proportional to the number of operations (measured as departures). Data on departures are not available for general aviation for recent years, so hours flown is used instead. For some means of travel, there are no good measures of the risks entailed. For example, while over 4,700 pedestrians were struck by motor vehicles and died in 2000, exposure measures are lacking because good data are not available for the amount of time, distances, or other circumstances of pedestrian travel.

Highway submodes show considerable improvement in fatality rates since 1975, when the federal government began to collect systematic national data from states. While all highway submodes show improved rates, there is much variation among them. Occupants of passenger cars and light trucks (including pickup trucks, vans, and sport utility vehicles) have much higher fatality rates than occupants of large trucks. Motorcycle riders have the highest fatality rate by far among the highway submodes (27.65 fatalities per 100 million vehicle-miles. The fatality rates per 100 million vehicle-miles are 1.31 and 1.22 for passenger car and light-truck occupants, respectively, versus 0.37 for large-truck occupants. A large number of factors influence the difference in fatality rates. For example, the greater size and mass of large trucks serves to protect the occupants of these vehicles in crashes with smaller vehicles or less massive objects.

Many factors may interact to explain the decreasing fatality rates. For highway modes, promotion of safety belt, child safety seat, and motorcycle helmet usage, and measures to discourage drunk driving have all had a beneficial effect. So, too, have improvements in vehicle and highway design and greater separation of traffic. Finally, some of the decrease in transportation fatalities may be a consequence of better and prompter medical attention for victims of transportation crashes and accidents.

Table 1
Fatalities by Transportation Mode

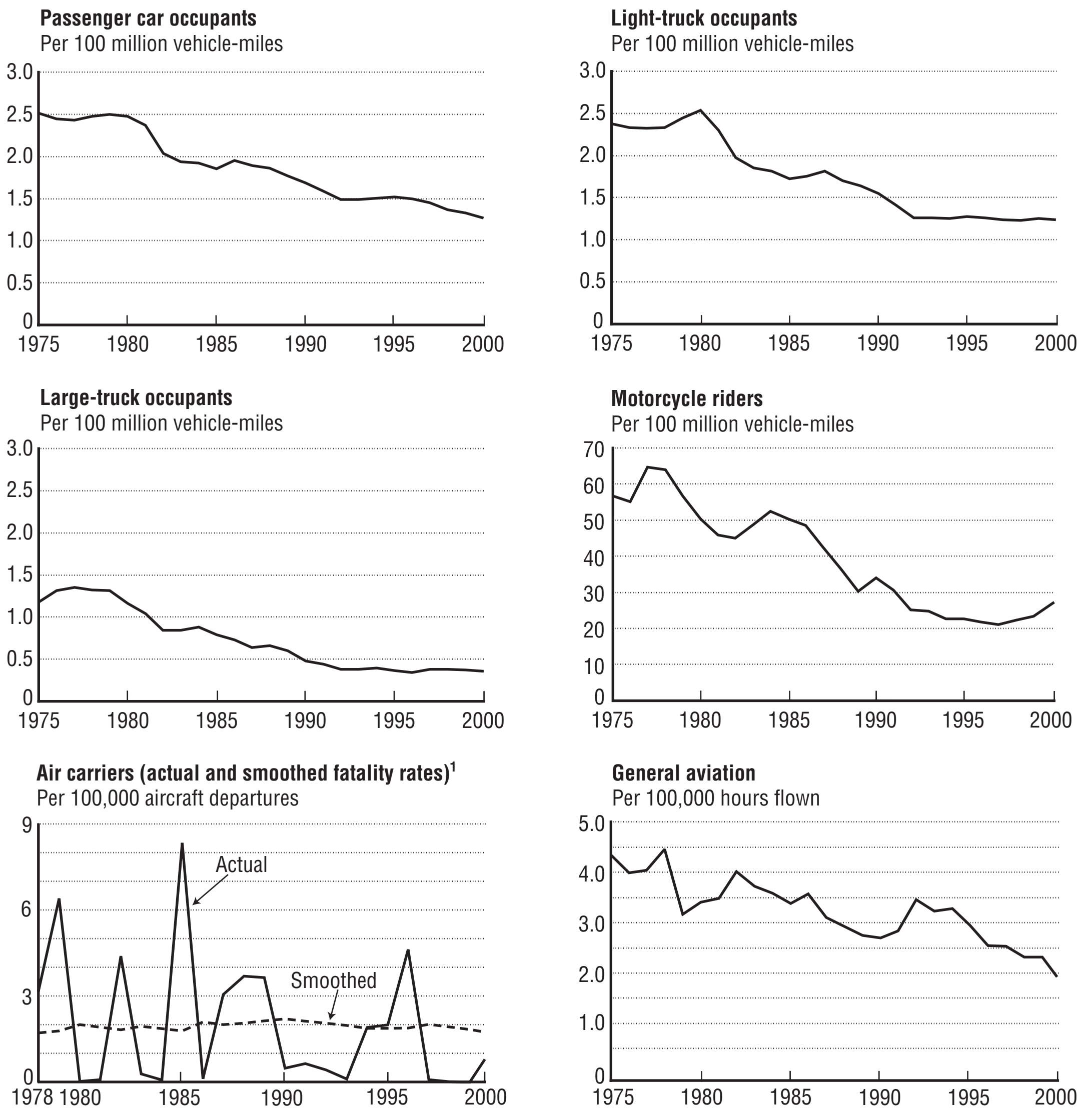
Year	Air carriers[1]	Commuter air[1]	On-demand air taxi[2]	General aviation[2]	Highway[3]	Rail[4]	Transit[5]	Waterborne[6]	Recreational boating	Gas and hazardous liquid pipeline
1975	124	28	69	1,252	44,525	575	N	573	1,466	15
1980	1	37	105	1,239	51,091	584	N	487	1,360	19
1985	526	37	76	956	43,825	454	N	261	1,116	33
1990	39	7	R51	R767	44,599	599	339	186	865	9
1995	168	9	52	734	41,817	567	274	183	829	21
2000[7]	92	5	71	594	41,945	544	292	119	701	38

[1] Large carriers operating under 14 CFR 121, all scheduled and nonscheduled service.
[2] All scheduled and nonscheduled service operating under 14 CFR 135 and all operations other than those operating under 14 CFR 121 and 14 CFR 135.
[3] Includes occupants of passenger cars, light trucks, large trucks, buses, motorcycles, other or unknown vehicles, nonmotorists, pedestrians, and pedalcyclists. Motor vehicle fatalities at grade crossings are counted here.
[4] Includes fatalities resulting from train accidents, train incidents, and nontrain incidents (e.g., fires in railroad repair sheds). Thus, the data cover many nonpassengers, making comparisons to other modes difficult. Motor vehicle fatalities at grade crossings are counted in the highway column. Figures include Amtrak.
[5] Includes motor bus, commuter rail, heavy rail, light rail, demand responsive, van pool, and automated guideway. Some transit fatalities are also counted in other modes. Reporting criteria and source of data changed between 1989 and 1990. Starting in 1990, fatality figures include those occurring throughout the transit station, including nonpatrons. Fatalities include those arising from incidents involving no moving vehicle (e.g., falls on transit property). Thus, the data cover many nonpassengers, making comparisons to other modes difficult. Prior to 1998, only data from directly operated transit services were reported. Beginning in 1998, fatality data for purchased transit service, such as paratransit services, were included.
[6] Includes fatalities related to vessel and nonvessel casualties (e.g., an individual who falls overboard and drowns).
[7] Rail, transit, and waterborne 2000 numbers are preliminary.

KEY: N = data are nonexistent; R = revised.

SOURCES: 1975–1999—U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2000* (Washington, DC: 2001).
2000—**Aviation:** National Transportation Safety Board, *Aviation Accident Statistics,* available at http://www.ntsb.gov/aviation, as of Oct. 2, 2002.
Highway: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Fact Sheet 2000: Overview,* DOT HS 809 329, (Washington, DC: 2001), table 1; and personal communication, Nov. 1, 2002.
Rail: U.S. Department of Transportation, Federal Railroad Administration, Office of Safety and Analysis, *Railroad Safety Statistics Annual Report 2000,* available at http://safetydata.fra.dot.gov/officeofsafety/Forms/Default.asp, as of Dec. 7, 2001.
Transit: U.S. Department of Transportation, Federal Transit Administration, *Safety Management Information Statistics 1999,* available at http://transit-safety.volpe.dot.gov/Data/DamSam.asp, as of Dec. 7, 2001; and personal communication, Nov. 21, 2001.
Water: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics* (Washington, DC: Annual issues); and personal communication, Dec. 7, 2001.
Pipeline: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, *Pipeline Statistics,* available at http://ops.dot.gov, as of Nov. 14, 2001.

Figure 1
Fatality Rates for Selected Modes



[1] For air carriers, the data were dampened, or smoothed, to reduce the month-to-month fluctuations. This dampening was performed using an exponential smoothing model, with a weight of 0.95. Departure data, and hence the denominator of the rates, are not strictly comparable between pre- and post-1977 eras.

SOURCES: **1975–2000**—Various sources, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001,* available at http://www.bts.gov.
2000–Aviation: National Transportation Safety Board, *Aviation Accident Statistics,* available at http://www.ntsb.gov/aviation/stats.htm, as of Oct. 2, 2002.
Highway: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Fact Sheet 2000: Overview,* DOT HS 809 329, (Washington, DC: 2001), table 1; and personal communication, Nov. 1, 2002.

Highway Crash Characteristics

The overwhelming majority of highway fatalities occur as a result of single-vehicle crashes and crashes involving two vehicles. For example, in 2000, 42 percent of traffic crash fatalities were vehicle occupants (including drivers) killed in single-vehicle crashes and 38 percent of fatalities occurred as a result of two-vehicle crashes (table 1). Crashes in which three or more vehicles were involved caused only 7 percent of traffic fatalities in 2000.

An average of one-third of all motor vehicle crash fatalities nationwide result from single vehicle run-off-the-road (ROR) crashes, and two-thirds of these ROR fatalities occur in rural areas. It has been estimated that 40 to 60 percent of these crashes are due to driver fatigue, drowsiness, or inattention. The Federal Highway Administration recommends the use of rumble strips along the roadway shoulder as an effective way to reduce these incidents. The noise produced by vehicle tires on these rumble strips warns drivers that they are leaving the roadway. Studies of the effectiveness of shoulder rumble strips indicate that they can reduce the overall rate of ROR crashes between 15 and 70 percent [1]. In the future, the development of in-vehicle technologies that detect driver drowsiness and inattention and suitably warn the driver may further reduce the incidence of such crashes.

Traffic crashes between light trucks or vans and passenger cars is of increasing concern. Since the early 1980s, the category of light trucks and vans (LTVs) has grown dramatically (figure 1). LTVs include pickup trucks, vans, minivans, truck-based wagons, and sport utility vehicles (SUVs).

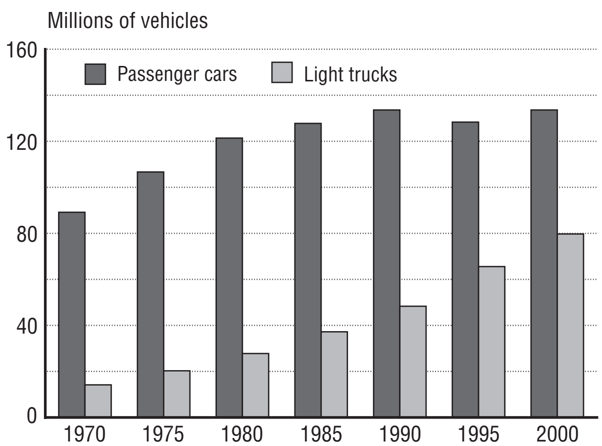
Differences in vehicle size, weight, and geometry in multivehicle crashes can put occupants of passenger cars at greater risk in a crash with a light-duty truck than in a crash involving two or more passenger cars. For example, a study done for NHTSA by the University of Michigan Transportation Research Institute shows that when an SUV strikes a passenger car in a frontal crash, occupants of the car are almost twice as likely to have fatal injuries as the occupants of the SUV. In frontal collisions between two cars of similar weight, the ratio of deaths is 1:1. The same study found that, in side impact crashes, SUVs are more injurious as a striking vehicle than are passenger cars. For example, when SUVs strike passenger cars on the left side, the risk of death to the car driver can be 25 times greater than the risk to the SUV occupant. However, in the

Table 1
Total Fatalities in Motor Vehicle Crashes by Type of Crash: 2000

Type of crash	Number
Drivers/occupants killed in single-vehicle crashes	17,471
Drivers/occupants killed in two-vehicle crashes	15,758
Drivers/occupants killed in crashes of three-vehicles or more	3,119
Pedestrians killed in single-vehicle crashes	4,340
Bicyclists killed in single-vehicle crashes	668
Pedestrians/bicyclists killed in multiple-vehicle crashes	448
Others/unknown	141
Total	**41,945**

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

Figure 1
Growth in the Number of Passenger Cars and Light Trucks



SOURCES: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995,* FHWA-PL-97-009 (Washington, DC: July 1997), table MV-201.
_____. *Highway Statistics 2000* (Washington, DC: 2001).

same type of crash involving two cars, the risk of death to the driver of the car being struck is only 10 times greater than the occupant of the other car [3].

Another issue related to SUVs is their propensity to rollover during certain steering maneuvers. SUVs are constructed with higher ground clearance for occasional offroad use and, thus, have a higher center of gravity. SUV height, along with other factors, contributes to the average rate of 98 rollover fatalities per million registered vehicles compared with 44 such fatalities per million registered vehicles for all other light vehicle types [4]. Also, in fatal crashes in 2000 SUVs were twice as likely to rollover when compared to passenger cars, increasing the risk of occupant ejection, fatality, or injury [2].

Sources

1. U.S. Department of Transportation, Federal Highway Administration, *Effectiveness of Rumble Strips,* available at http://safety.fhwa.dot.gov, as of Dec. 20, 2001.
2. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System*, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.
3. U.S. Department of Transportation, National Highway Traffic Safety Administration/University of Michigan Transportation Research Institute, *Fatality Risks in Collisions Between Cars and Light Trucks* (Washington, DC: September 1998).
4. U.S. Department of Transportation, Office of the Assistant Secretary of Public Affairs, *News Release: DOT Requires Upgraded Rollover Warning Label for Sport Utility Vehicles,* Mar. 5, 1999, available at http://www.nhtsa.dot.gov/nhtsa/announce/press/1999/1999press.dbm, as of Dec. 20, 2001.

Highway Crashes on Rural and Urban Roads

Two- and three-lane rural roads make up the majority of the highway system in the United States. If Interstate highways are excluded, these rural roads represent four times the highway mileage of urban roads in the U.S. highway system [1].

Almost 60 percent of all fatal crashes in 2000 occurred on rural roads. Seventy-one percent of these crashes were on roads with speed limits of 55 mph or more (table 1). Conversely, almost 70 percent of urban highway crashes occur on roads with speed limits under 55 mph. Irrespective of speed limits, most rural and urban highway crashes occur on principal arterial and other roads rather than on Interstate highways; 88 percent of crashes in the case of rural roads and 86 percent, for urban roads [2].

Road conditions contribute to the greatest proportion of fatal crashes in rural areas. In particular, two-way traffic on roads posted for high speed limits is a concern. Rural drivers often must deal with challenging road geometry (e.g., width, alignment, and sight distances) and challenging geography (e.g., steep grades and mountain passes). Adverse weather can further affect rural road conditions and sparse and patchy telecommunications infrastructure can slow emergency response time when a crash occurs.

Sources

1. Transportation Research Board, National Cooperative Highway Research Program, *Accident Mitigation Guide for Congested Rural Two-Lane Highways,* Report 440 (Washington, DC: 2000).
2. U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) database, available at www-fars.nhtsa.dot.gov/, as of April 2002.

Table 1
Fatal Crashes by Speed Limits and Type of Road: 2000

	Rural			Urban				
Speed limit	Interstate	Principal arterial	Other	Interstate	Principal arterial	Other	Unknown[1]	Total
30 mph or less	1	35	926	3	540	2,249	110	3,864
35 or 40 mph	9	147	1,738	42	1,664	2,602	158	6,360
45 or 50 mph	33	526	2,831	105	1,700	1,325	153	6,673
55 mph	174	1,893	7,538	594	1,002	535	407	12,143
60 mph or higher	2,526	1,571	1,709	1,399	849	202	73	8,329
No posted limit	1	1	139	1	2	12	1	157
Total	**2,744**	**4,173**	**14,881**	**2,144**	**5,757**	**6,925**	**902**	**37,526**

[1] "Unknown" includes fatal accidents for which road type or speed limit was unknown or not recorded in the accident report. In FARS, those data are reported separately.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

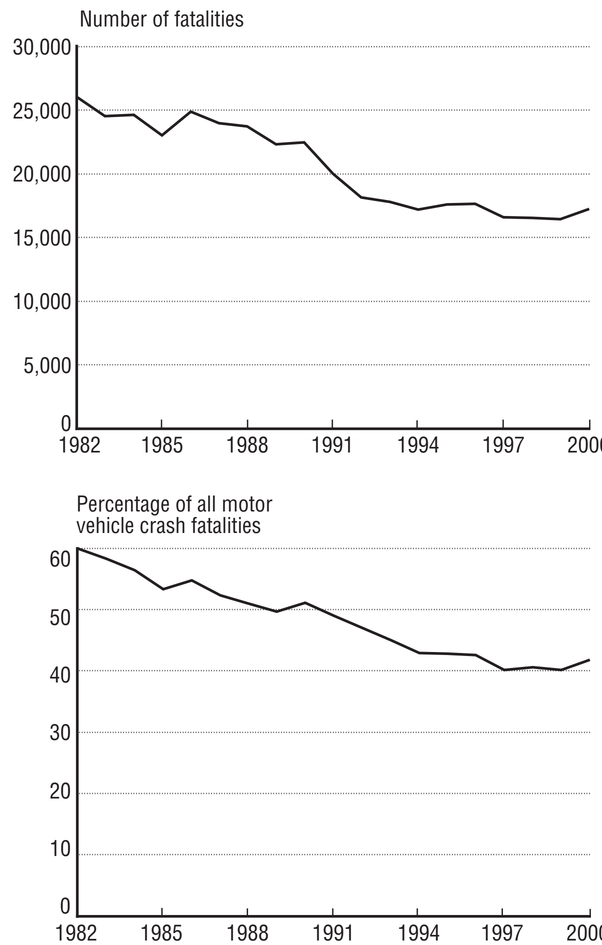
Alcohol-Related Highway Crashes

In 2000, 41 percent of the 41,945 highway fatalities were related to alcohol, a 2 percent increase over 1999. In 1982, the first year for which data are available, 25,165 people died in alcohol-related motor vehicle crashes—57 percent of all highway fatalities. By 2000, alcohol-related fatalities had dropped to 17,380 (figure 1). The U.S. Department of Transportation has a goal of reducing alcohol-related fatalities to no more than 11,000 by 2005 [2].

Improved state and local education programs, stricter law enforcement, adoption of a 0.08 blood alcohol concentration (BAC) by 33 states and the District of Columbia, higher minimum drinking ages, more stringent license revocation laws, and reduced tolerance for drinking and driving have all been cited as factors in reducing alcohol-related deaths [1]. Despite improvements, 22 percent of passenger car drivers, 20 percent of light truck drivers, 1 percent of large truck operators, and 29 percent of motorcycle operators involved in fatal crashes in 2000 were legally intoxicated with a BAC of 0.10 or greater [3].

Just over 38 percent of the drivers between the ages of 21 and 24 who were involved in a fatal motor vehicle highway crash in 2000 had a BAC of 0.01 or more; over 32 percent had a BAC of 0.08 or more (figure 2). While the highest of any age group, this does represent a decline from 46 percent and 39 percent, respectively, in 1990. Overall, the percentage of all drivers with any alcohol content (BAC of 0.01 or more) involved in a fatal highway

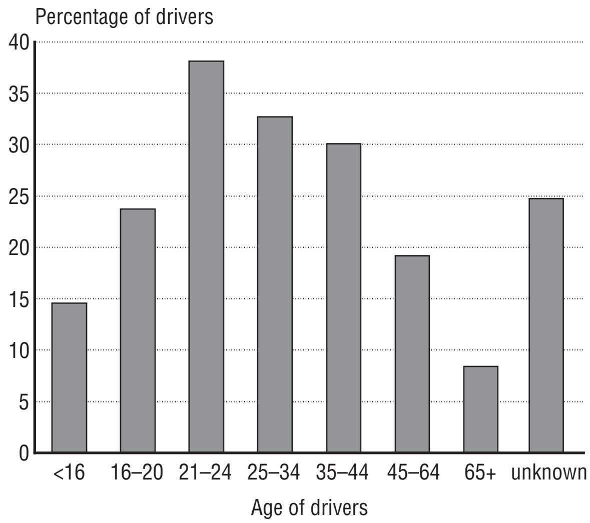
Figure 1
Alcohol-Related Fatalities in Motor Vehicle Crashes: 1982–2000



NOTE: These data reflect the methodological change in estimating missing blood alcohol concentration test results, adopted by the National Highway Traffic Safety Administration in 2002.

SOURCES: U.S. Department of Transportation, National Highway Traffic Safety Administration, personal communication, Nov. 1, 2002.

Figure 2
Alcohol Involvement of Drivers in Fatal Crashes by Age: 2000
0.08 BAC or greater



NOTE: These data reflect the methodological change in estimating missing blood alcohol concentration test results, adopted by the National Highway Traffic Safety Administration in 2002.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, personal communication, Nov. 1, 2002.

crash declined from 33 percent to 26 percent between 1990 and 2000 [3].

Alcohol-related fatalities declined more quickly in the 1980s than in the 1990s. Between 1994 and 2000, the percentage of highway fatalities attributed to alcohol declined by only 1 percent—from 42 percent to 41 percent. Moreover, while alcohol-related fatalities among drivers 16 to 20 years of age decreased, alcohol consumption in this age group increased every year from 1993 to 2000 [2].

In 2000, Congress enacted legislation that provides strong encouragement for states to adopt the 0.08 BAC [5]. States have until October 1, 2003, to pass the stricter limit or face the withholding of 2 percent of their federal highway construction funds. After 2003, states that fail to pass the 0.08 BAC will lose an additional 2 percent of their federal funding every year. By October 1, 2006, and each year thereafter, states that still have not adopted 0.08 BAC laws will lose 8 percent of their funding [4].

Fatality rates vary by state (see map on next page). It is illegal in every state and the District of Columbia to drive a motor vehicle while under the influence of alcohol. In addition, every state has laws that make it illegal for a person to drive a motor vehicle with a specific amount of alcohol in his or her blood. As of November 2002, 17 states defined intoxicated driving as 0.10 BAC—the level at which a person's blood contains 1/10th of 1 percent of alcohol. Thirty-three states and the District of Columbia have enacted 0.08 BAC laws[1] [1].

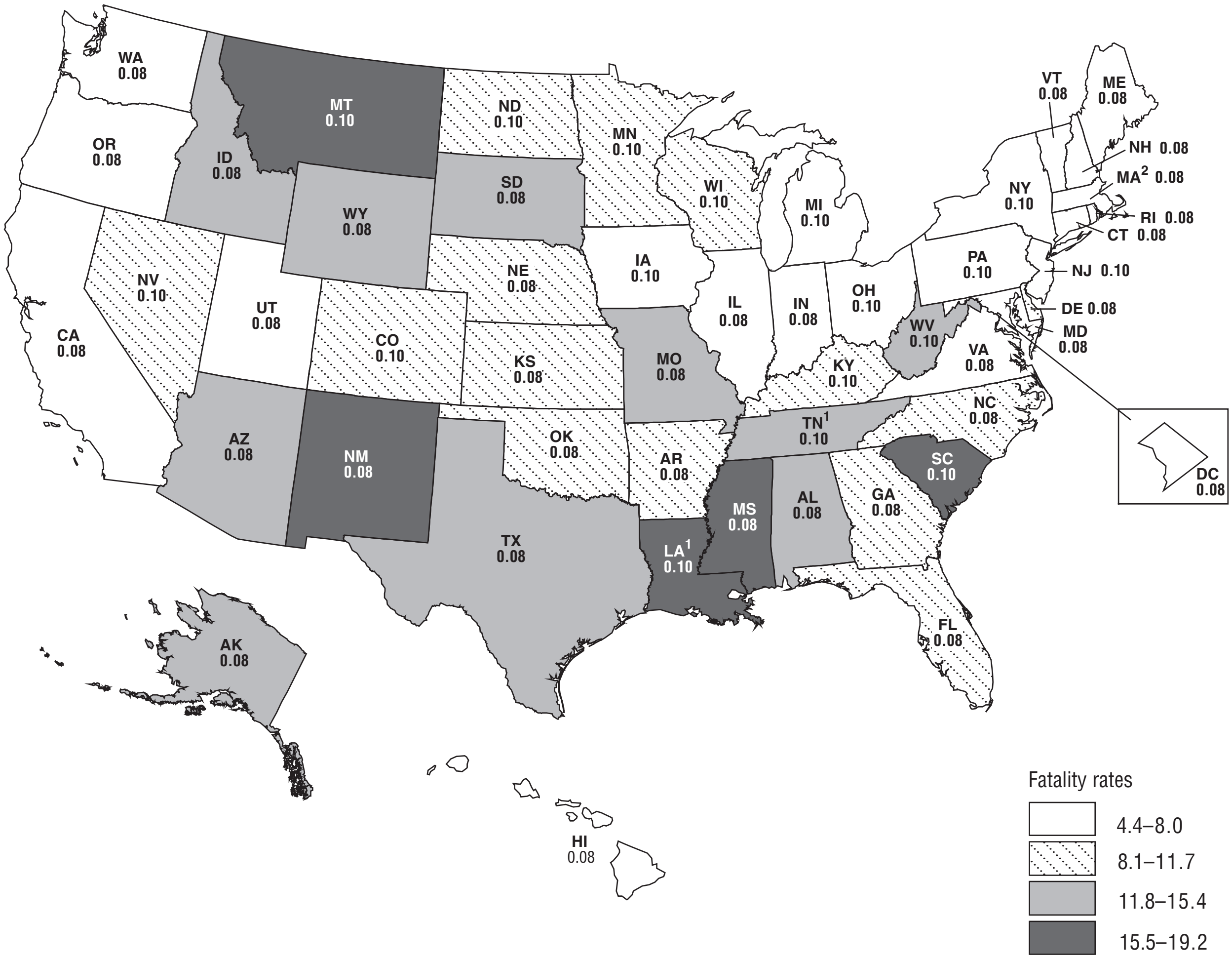
Highway safety advocates have encouraged states to take a systems approach to reducing drunk driving. Some states have enacted a combination of measures. In addition to 0.08 BAC limits, such measures include stringent license revocation laws (under which a person deemed to be driving under the influence has his or her driving privileges suspended or revoked), comprehensive screening and treatment programs for alcohol offenders, vehicle impoundment, and zero tolerance BAC and other laws for youths [6].

Sources

1. Insurance Institute for Highway Safety/Highway Loss Data Institute, *DUI/DWI Laws as of November 2002*, available at http://www.hwysafety.org, as of November 2002.
2. U.S. Department of Transportation, *FY 2000 Performance Report/FY 2002 Performance Plan* (Washington, DC: 2001), also available at http://www.dot.gov/ost, as of Dec. 3, 2001.
3. U.S. Department of Transportation, National Highway Traffic Safety Administration, personal communication, Nov. 1, 2002.
4. _____. "Congress Agrees to 0.08% Blood Alcohol as the Legal Level for Impaired Driving," *NHTSA Now Newsletter,* Oct. 16, 2000.

[1] Massachusetts has adopted a 0.08 BAC law but does not meet federal requirements to avoid sanctions in 2003 under the federal 0.08 law.

Alcohol-Related Motor Vehicle Fatality Rates per 100,000 Licensed Drivers and Illegal Blood Alcohol Content Levels: 2000



[1] Louisiana's 0.08 BAC law goes into effect on Sept. 30, 2003; Tennessee's on July 1, 2003.
[2] Massachusetts has not established a level at which a driver is legally considered intoxicated (0.08 is evidence of alcohol impairment).

NOTES: A blood alcohol concentration (BAC) level of 0.10 means that alcohol makes up one-tenth of 1 percent of a person's blood. These data reflect the methodological change in estimating missing blood alcohol concentration test results, adopted by the National Highway Traffic Safety Administration in 2002.

SOURCES:
Fatality rates—U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000* (Washington, DC: 2001); and personal communication, Nov. 1, 2002.
_____. *Highway Statistics 2000* (Washington, DC: 2001).
Illegal BACs—U.S. Department of Labor, Working Partners for an Alcohol- and Drug-Free Workplace, *Special Issue: Impaired Driving,* available at http://www.dol.gov/dol/workingpartners.htm, as of June 2002.
Insurance Institute for Highway Safety/Highway Loss Data Institute, *DUI/DWI Laws as of November 2002,* available at www.hwysafety.org, as of November 2002.

5. U.S. Department of Transportation, Office of Public Affairs, "Statement by U.S. Transportation Secretary Rodney Slater Upon Signing of Transportation Appropriations Act by President Clinton," Oct. 23, 2000.

6. U.S. General Accounting Office, Resources, Community, and Economic Development Division, *Highway Safety: Effectiveness of State 0.08 Blood Alcohol Laws* (Washington, DC: June 1999).

Occupant Protection: Safety Belts, Air Bags, and Child Restraints

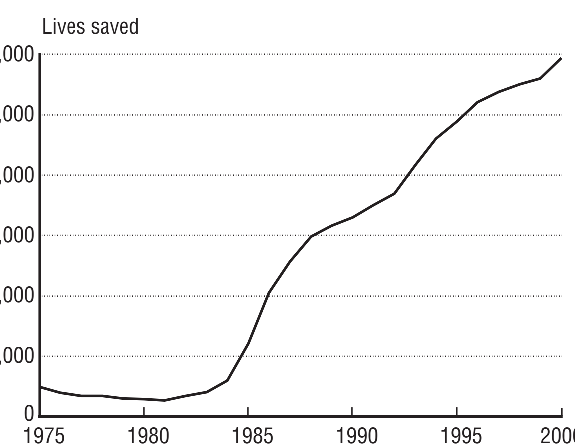
The National Highway Traffic Safety Administration (NHTSA) estimates that, in 2000, safety belts saved the lives of 11,889 passenger vehicle occupants over 4 years old (figure 1). NHTSA also estimates that 21,127 lives could have been saved that year if all passenger vehicle occupants aged 4 and older wore safety belts [1].

The number of lives saved has increased dramatically since 1984 when states began to enact safety belt laws. A June 2001 NHTSA survey showed that 73 percent of passenger vehicle occupants used safety belts [3]. Usage rates differ noticeably among the states based on how the safety belt laws are enforced (see map on next page). There are three levels of enforcement: primary enforcement allows a police officer to stop and cite someone for not wearing a safety belt; secondary enforcement allows a police officer to cite someone for not wearing a safety belt only if they have been stopped for some other infraction; and no enforcement [1]. Usage in the 17 states with primary enforcement was 78 percent as opposed to 67 percent in the 33 states with secondary enforcement laws (see map on page 154). Safety belt usage in New Hampshire, which does not require adults to wear safety belts, was 56 percent.

Beginning in September 1997 (model year 1998), all new passenger vehicles were required to have driver and passenger air bags. The following year, the same requirement was applied to light trucks. NHTSA estimates that, as of 2000, more than 106 million air-bag-equipped passenger vehicles were on the road, including 81 million with dual air bags. In 2000, an estimated 1,584 lives were saved by air bags. From 1987 through 2000, an estimated total of 6,553 lives were saved [1].

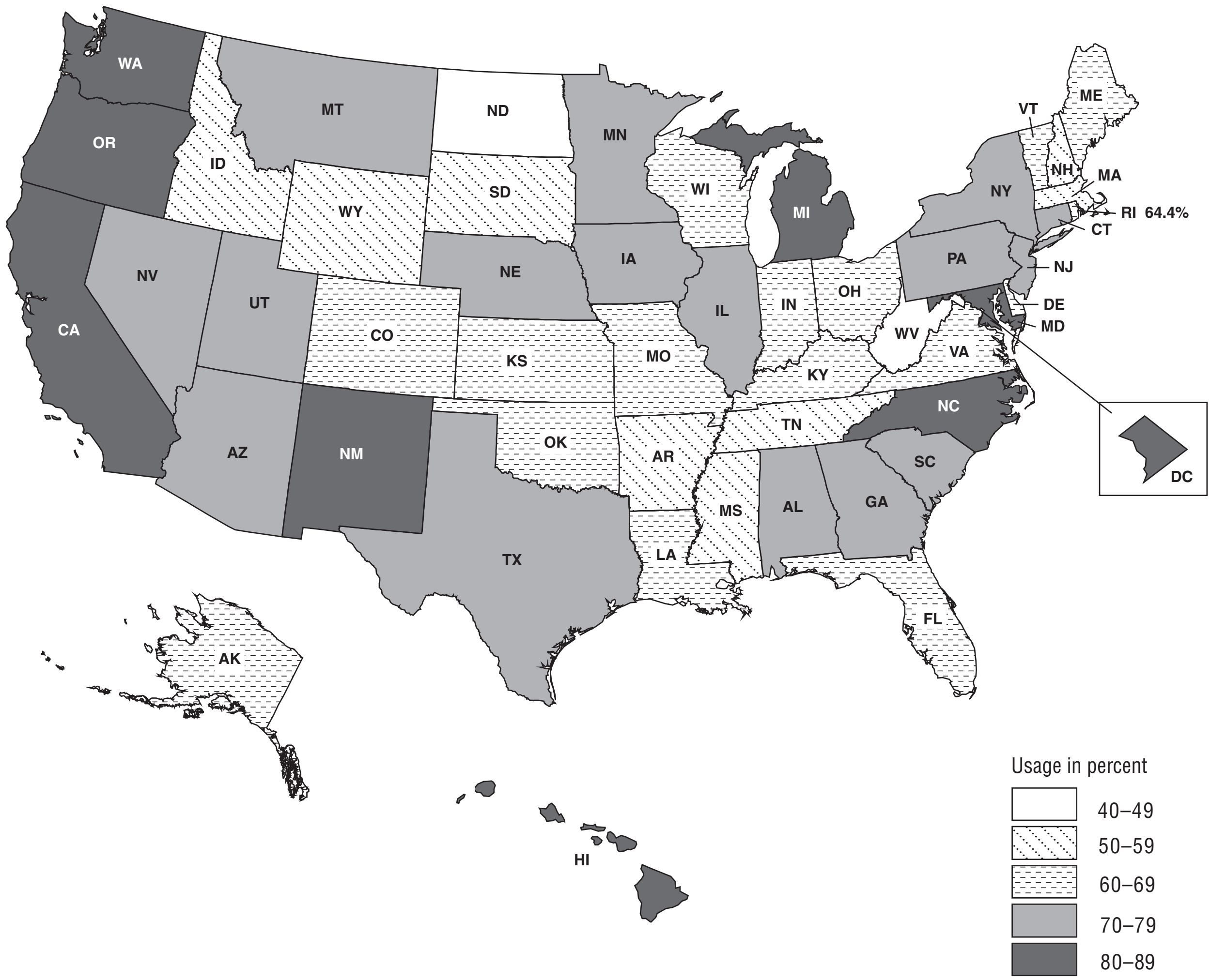
According to NHTSA, air bags, combined with safety belts, offer the most effective safety protection available today for passenger vehicle occupants. Air bags are supplemental protection and are designed to deploy in moderate-to-severe frontal crashes. Adults and some children riding in front seats have been injured or killed by air bags inflating in low severity crashes. While far more lives have been saved by air bags than have been lost, since 1990, 195 deaths from injuries caused by air bags have occurred. This includes 119 children riding in the front seat [2]. If children under the age of 13 ride in the back seat of

Figure 1
Estimated Number of Lives Saved Each Year by Use of Safety Belts: 1975–2000



SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration *Traffic Safety Facts 2000: Occupant Protection* (Washington, DC: 2001).

Safety Belt Use Rates: 2000[1]



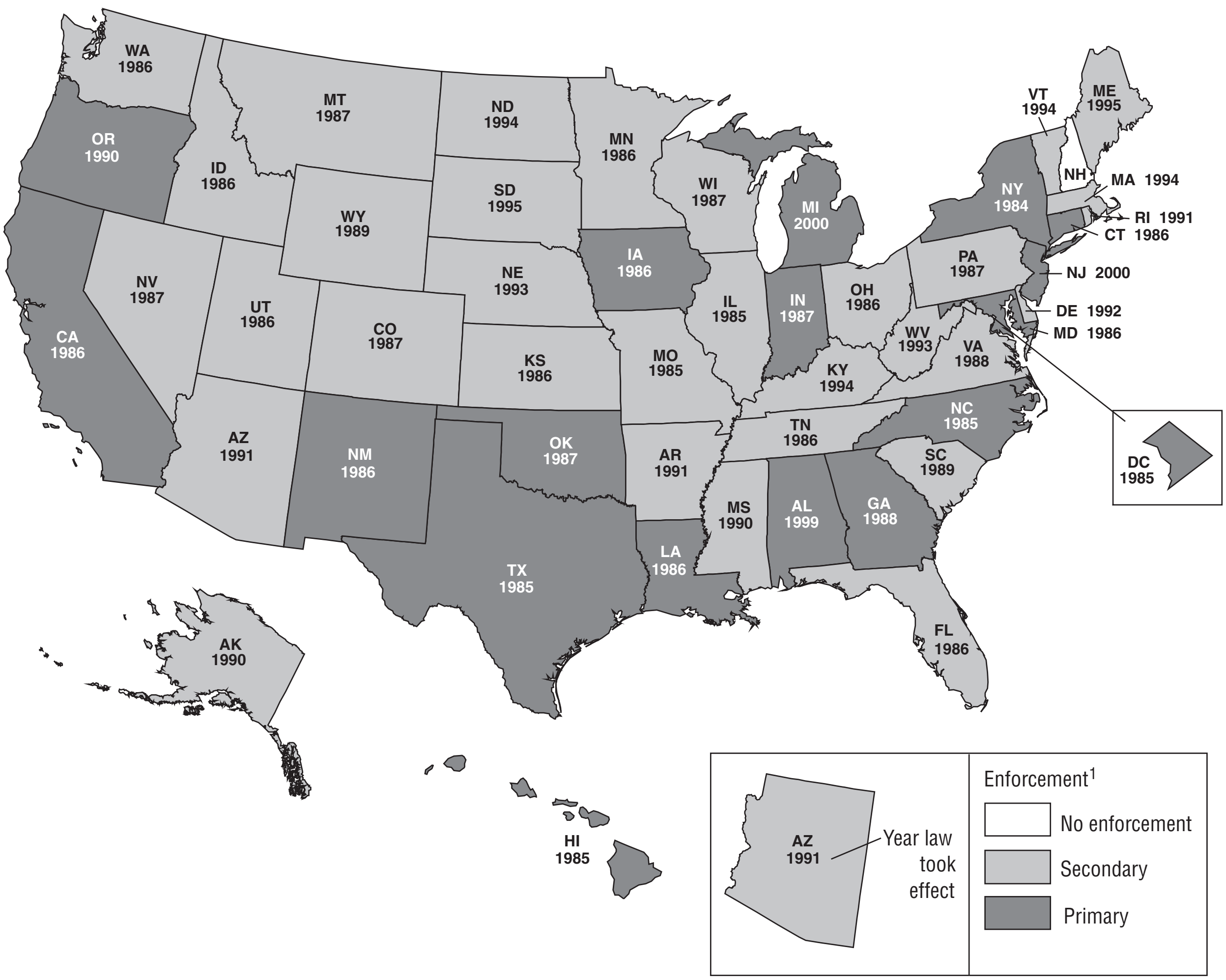
[1] Maine and New Hampshire data are for 1998 from U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 1998* (Washington, DC: 1999).

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, "Research Note: 1998–2000 State Shoulder Belt Use Survey Results," May 2001.

passenger vehicles and are secured by appropriate restraint systems, risk of injuries or death from air bags can be avoided [1].

In 2000, 541 passenger vehicle occupant fatalities were reported among children less than 5 years of age [1]. NHTSA estimated that in 2000, use of child restraint systems saved the lives of 316 children under the age of 5. An additional 143 lives could have been saved—for a total of 458—if every child under age 5 had been properly restrained in a child safety seat. From 1975 through 2000, an estimated 4,816 lives were saved by child restraints [1].

Type of Safety Belt Use Laws, by State: As of 2001



[1] Primary enforcement allows police officers to stop vehicles and write citations whenever they observe violations of safety belt laws. Secondary enforcement permits police officers to write a citation only after a vehicle is stopped for some other traffic violation.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, "Summary of Vehicle Occupant Protection Laws, 4th Edition," January 2001.

Sources

1. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000: Occupant Protection* (Washington, DC: 2001); and personal communication, Nov. 1, 2002.

2. ____. *Air Bag Fatalities and Serious Injury Report* (Washington, DC: 2001), also available at http://www.nhtsa.dot.gov/people/ncsa, as of Dec. 10, 2001.

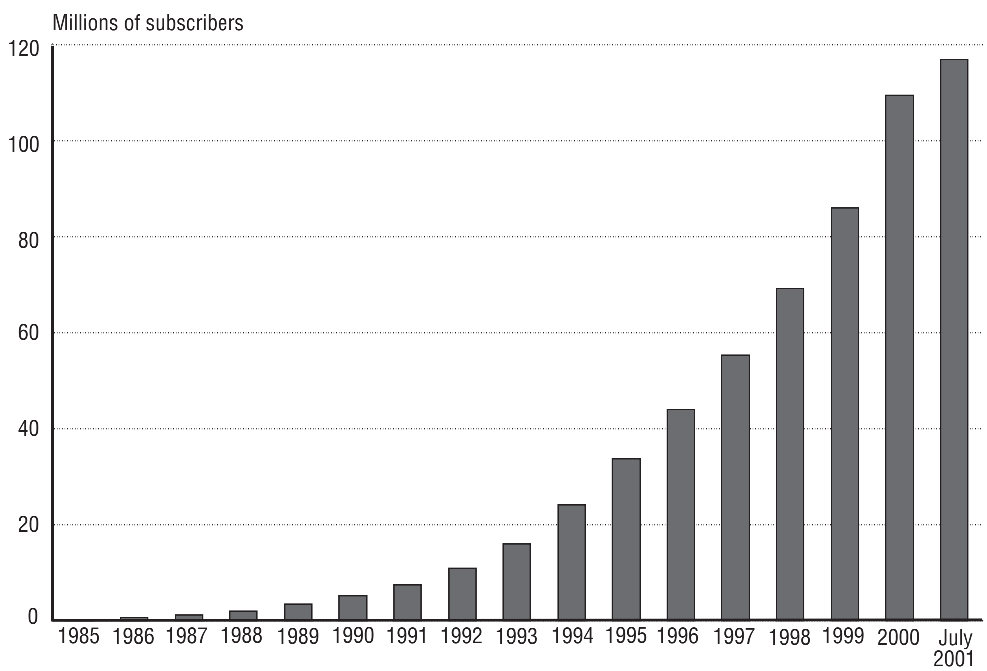
3. ____. "Research Note: Observed Shoulder Belt Use from the June Mini National Occupant Protection Use Survey (NOPUS), August 2001.

Cell Phones and Motor Vehicles

As cell phones have gained in popularity, they have become a growing concern with respect to highway safety. Nearly 120 million Americans now subscribe to a cell phone service, up from 7.6 million in 1991 (figure 1). Many Americans use their phones while driving. The National Highway Traffic Safety Administration (NHTSA) estimates 3 percent of passenger vehicle drivers are talking on hand-held cell phones at any given time. Of the 54 percent of drivers who usually have a wireless phone in their vehicle, 73 percent reported using their phone while driving. [5]

The precise effects of cell phone use on public safety have not been determined, but preliminary studies suggest that cell phones distract drivers. A forthcoming study by the National Safety Council found that drivers engaged in cell phone conversations missed twice as many simulated traffic signals and took longer to react to those signals they detected. The results were the same for hand-held and hands-free devices [2].

Figure 1
Cell Phone Service Subscriptions: 1985–July 2001



NOTE: Includes all active cellular, personal communications service (PCS), and Enhanced Specialized Mobile Radio (ESMR) telephone service subscriptions. The survey excludes satellite phone, paging, and messaging services, to the extent they are provided separately from cellular, PCS, and ESMR services.

SOURCE: Cellular Telecommunications & Internet Association, "Semi-Annual Wireless Industry Survey," available at http://www.wow-com.com/industry/stats/, as of Nov. 14, 2001.

State police forces have not been required to collect information on cell phones in vehicle accident reports until recently. Within the past two years 18 states have enacted laws requiring police to include information on cell phone usage in vehicle accident reports. Louisiana, New Jersey, New Mexico, Pennsylvania, and Virginia have approved cell phone and driving studies [1].

State legislators have also begun to regulate cell phone use in motor vehicles (table 1). New York became the first state to ban drivers from using hand-held devices. Massachusetts requires that drivers keep one hand on the steering wheel at all times, which may encourage increased use of hands-free devices. Due to a concern that hands-free devices might interfere with drivers' ability to hear noises from the surrounding environment, Illinois and Florida have prohibited the use of headsets except for single-sided headsets. Arizona and Massachusetts school bus drivers are prohibited from using cell phones while driving, and several other states have proposed similar legislation. As of late 2001, an additional 20 states were debating laws related to cell phones and motor vehicles.

Despite safety concerns due to driver distraction, wireless technologies provide some clear safety and traffic management benefits. The Cellular Telephone and Internet Association estimates that motorists on cell phones place 139,000 emergency calls every day. Most laws restricting cell phone use have recog-

Table 1
State Laws on the Use of Cellular Telephones: As of November 2001

State	Description	Penalties
Arizona	A school bus driver shall not wear an audio headset or earphones or use a cellular telephone whenever the school bus is in motion.	Administrative code provision; no penalty specified
California	Rental cars with cellular telephone equipment must include written operating instructions concerning its safe use.	$100 maximum for first violation; $200 maximum for second; $250 for third and subsequent violations committed within one year
Florida	Cellular phone use is permitted as long as it provides sound through one ear and allows surrounding sound to be heard with the other ear.	$30 for each violation; nonmoving violation
Illinois	A single-sided headset or earpiece is permitted with a mobile phone while driving.	No penalty
Massachusetts	Cellular phone use is permitted as long as it does not interfere with the operation of the vehicle and one hand remains on the steering wheel at all times.	$35 maximum for first violation; $35–$75 for second violation; $75–$150 for third and subsequent violations committed within 1 year
	No person shall operate a moving school bus while using a mobile telephone.	No penalty specified
New York	Drivers prohibited from talking on hand-held mobile phones while operating a motor vehicle.	Not more than $100

SOURCE: National Conference of State Legislators, *Cell Phones and Highway Safety: 2001 State Legislative Update,* available at http://www.ncsl.org/programs/esnr/2001cellph.htm, as of Nov. 19, 2001.

nized this benefit by allowing motorists to place calls in an emergency. In a 1997 study, NHTSA found that state police are generally appreciative of the quick notification capabilities afforded by cell phones [4]. Furthermore, that study and a 1997 study published in the New England Journal of Medicine found that cell phones can reduce emergency response times and save lives [3]. In addition to being helpful in emergency situations, the NHTSA study found that cell phones enable motorists to quickly notify authorities of road hazards, congestion, or problem drivers. And in the case of roadside mechanical problems, cell phones enhance drivers' personal security by allowing them to contact help immediately.

Sources

1. National Conference of State Legislators, *Cell Phones and Highway Safety: 2001 State Legislative Update,* available at http://www.ncsl.org/programs/esnr/2001cellph.htm, as of Nov. 19, 2001.
2. National Safety Council, "Does Cell Phone Conversation Impair Driving Performance?" preliminary report, available at http://www.nsc.org/library/shelf/inincell.htm, as of Nov. 14, 2001.
3. Cohen P.J., K.P. Quinlan, O. Paltiel, A. Ambrose, D.A. Redelmeier, R.J. Tibshirani, M. Maclure, and M.A. Mittleman. "Cellular Telephones and Traffic Accidents," *New England Journal of Medicine* vol. 336, No. 7, Feb. 13, 1997, pp. 453-458, abstract available at http://content.nejm.org/cgi/content/short/336/7/453, as of Nov. 19, 2001.
4. U.S. Department of Transportation, National Highway Traffic Safety Administration, *An Investigation of the Safety Implications of Wireless Communications in Vehicles,* available at http://www.nhtsa.dot.gov/people/injury/research/wireless/, as of Nov. 14, 2001.
5. U.S. Department of Transportation, National Highway Traffic Safety Administration, "National Occupant Protection Use Survey 2000," available at http://www.nhtsa.dot. gov/ncsa/, as of Nov. 14, 2001.

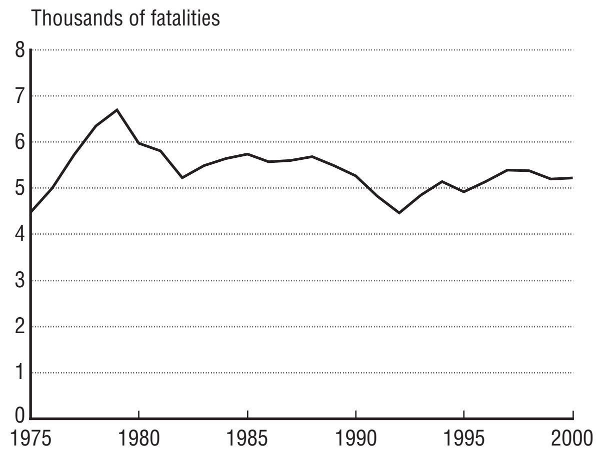
Large Trucks

Crashes involving large trucks[1] resulted in 5,282 fatalities in 2000. Annually, the number of such fatalities varies, from a low of 4,462 in 1992 to a high of 6,702 in 1979 (figure 1). The number of drivers and occupants of large trucks killed in crashes has declined since the late 1970s, when fatalities averaged about 1,200, compared with 672 in the 1990s. The overwhelming majority of people killed in large truck collisions—78 percent in 2000—were occupants of other vehicles or nonmotorists [1].

In two-vehicle crashes involving a large truck and a passenger vehicle, driver-related crash factors were cited by police officers at the scene for 25 percent of the truck drivers involved and for 82 percent of the passenger vehicle drivers. Table 1 shows the percent of crashes in which either the large-truck driver or the passenger-vehicle driver or both were cited for one or more of the top 12 factors identified.

Large truck safety issues have received increased attention in recent years. In 1999, Congress passed the Motor Carrier Safety Improvement Act, which created the Federal Motor Carrier Safety Administration[2] within the U.S. Department of Transportation. Among other provisions, the legislation calls for increased roadside inspections, compliance reviews and enforcement actions, improvements in safety data, and additional research into crash causes. About 24 percent of the over 2.4 million motor carrier vehicles inspected in 2000 were taken out of service (figures 2 and 3).

Figure 1
Fatalities in Large Truck Crashes: 1975–2000



SOURCES: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000* (Washington, DC: 2001), table 11.
____. *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

Source

1. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000: Large Trucks* (Washington, DC: 2001).

[1] Trucks with a gross vehicle weight greater than 10,000 pounds.

[2] In addition to large trucks, the Federal Motor Carrier Safety Administration oversees passenger vehicles designed to transport eight or more persons and vehicles used to transport hazardous materials.

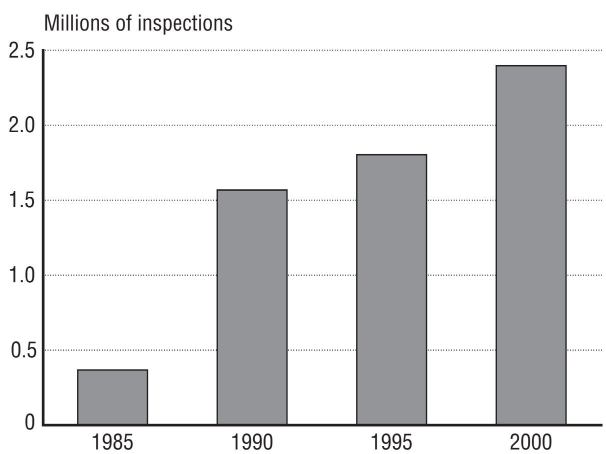
Table 1
Driver-Related Factors Cited in Two-Vehicle Fatal Crashes Between Large Trucks and Passenger Vehicles: 2000

	Large-truck driver		Passenger-vehicle driver	
Top factors cited	Number of factors	Percent	Number of factors	Percent
Failure to yield right-of-way	313	11.7	527	19.7
Driving too fast for conditions or speeding	109	4.1	438	16.4
Failure to keep in proper lane	101	3.8	698	26.1
Failure to obey traffic signs/devices	75	2.8	300	11.2
Inattentive (talking, eating, etc.)	75	2.8	288	10.8
Erratic/reckless driving	38	1.4	164	6.1
Running off road	32	1.2	135	5.1
Following improperly	31	1.2	64	2.4
Making other improper turn	25	0.9	68	2.5
Drowsy, sleepy, asleep, fatigued	17	0.6	58	2.2
Avoiding, swerving or sliding due to ice, snow, etc.	15	0.6	90	3.4
Driving on wrong side of road	13	0.5	130	4.9

NOTE: Total number of large-truck and passenger-car drivers involved in two-vehicle, large-truck/passenger-vehicle crashes in 2000 = 5,461.

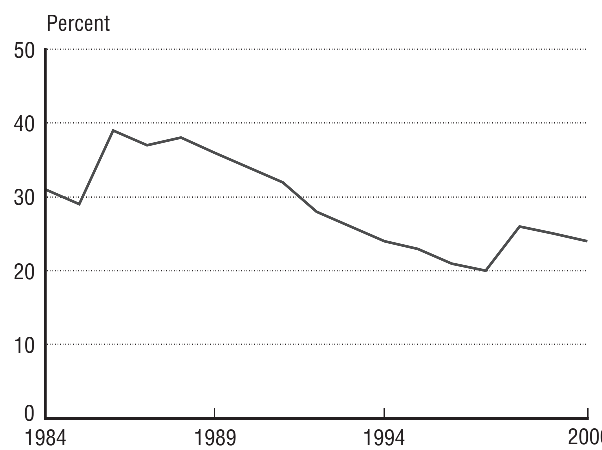
SOURCE: U.S. Department of Transportation, National Highway Traffic Saffety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

Figure 2
Motor Carrier Vehicle Inspections



SOURCE: U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Motor Carrier Inspection database, available at http://ai.volpe.dot.gov/mcspa.asp, as of Dec. 7, 2001.

Figure 3
Percentage of Vehicle Inspections in Which the Vehicle is Taken Out of Service: 1984–2000



SOURCE: U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Motor Carrier Inspection database, available at http://ai.volpe.dot.gov/mcspa.asp, as of Dec. 7, 2001.

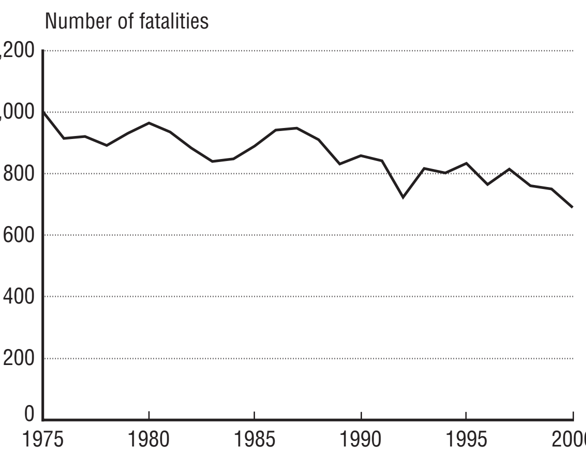
Bicyclists

Almost 700 bicyclists and other pedalcyclists[1] were killed in crashes with motor vehicles in 2000, a 31 percent reduction since 1975 (figure 1). This continues a 25-year trend of a steady decline in the number of pedalcycle deaths and, to a lesser extent, in the pedalcyclist portion of the overall motor vehicle fatalities. Pedalcyclist fatalities in 2000 amounted to only 1.6 percent of all 41,945 highway fatalities; whereas, in 1975, they were 2.2 percent. A similar trend exists for pedalcyclist injuries. An estimated 51,000 were injured in traffic crashes in 2000 compared with 67,000 in 1995 [5, 6, 7].

It is difficult to fully assess pedalcyclist fatality and injury trends, because exposure data for the mode—that is, the number of trips pedalcyclists make or the amount of time they spend cycling—are limited and vary by season. For instance, various Bureau of Transportation Statistics Omnibus surveys show that in the summer months about 20 percent of adults ride bicycles but in the winter months only about 10 percent do [4].

Along with the decreasing number of fatalities in the last 25 years, another trend is apparent. Most pedalcycle deaths (involving motor vehicles) now occur among riders 15 years of age and older, rather than among children and young teens (figure 2). The fatalities in 1975 attributed to child pedalcyclists (under 15 years old) represented 61 percent of the total that year. This age group's fatalities in 2000, however, comprised only 26 percent of the total while the 25 to 54 age group sustained the highest (43 percent). In 1975, the latter age group represented only 10 percent of the total fatalities. The same phenomenon has occurred in the 55 to 64 and over 65 age groups. When the pedalcycle fatalities are compared with the number of people by age group in 1975 and 2000, a different pattern emerges (table 1). While there were almost 5 pedalcycle fatalities per million people in 1975, by 2000 fatalities were down to less than 3. In 1975, these fatality rates were much higher for those under 15 years of age, while in 2000 the rate (or likelihood of being killed) was about the same for all age

Figure 1
Bicycle Fatalities in Motor Vehicle Crashes: 1975–2000



SOURCES: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

[1] A pedalcyclist is a person on a vehicle powered solely by pedals. Pedalcycles may have one to four wheels. Bicycles (pedalcycles with two wheels) are the dominate type.

Table 1
Pedalcyclist Fatalities by Age Group: 1975 and 2000

Age group	Number of fatalities 1975	Number of fatalities 2000	Percent of fatalities 1975	Percent of fatalities 2000	Fatalities per million people (in age group) 1975	Fatalities per million people (in age group) 2000
Under 15 years	614	178	61.2	25.7	11.2	2.9
15–24	223	90	22.2	13.0	5.7	2.3
25–54	103	298	10.3	43.0	1.3	2.4
55–64	23	59	2.3	8.5	1.1	2.4
Over 65	40	68	4.0	9.8	1.8	2.1
Total	1,003	693	100.0	100.0	4.7	2.4

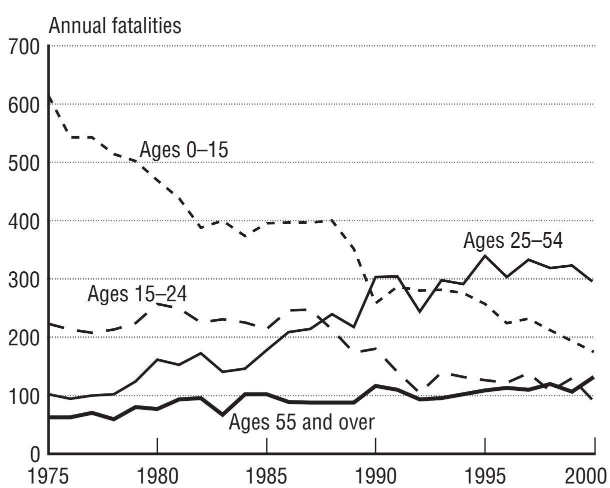
SOURCES: Fatalities—U.S. Dep[artment of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.
Population data (2000)—U.S. Department of Commerce, U.S. Census Bureau, *Statistical Abstract of the United States: 2001,* available at http://www.census.gov.
Population data (1975)—U.S. Department of Transportation, Bureau of Transportation Statistics, calculated from data in U.S. Department of Commerce, U.S. Census Bureau, *Statistical Abstract of the United States: 1981* (Washington, DC: 1981).

groups. The median age of pedalcyclist fatalities shifted from 13 years old in 1975 to 36 years old in 2000.

Factors other than age appear to affect pedalcycling fatalities. In 2000, for instance, most pedalcycle fatalities (63 percent) occurred in urban areas, with two-thirds of these arising at nonintersection locations. In addition, most of the pedalcyclists injured or killed in 2000 were males: 78 percent and 88 percent, respectively [2]. In more than one-third of pedalcyclist fatalities, alcohol use was reported; one-fifth (21 percent) of pedalcyclists killed were intoxicated [8]. Nearly one-third of pedalcyclists involved in crashes were riding against traffic [1, table 37]. In fact, a study that calculated relative risk based on exposure rates found that pedalcycling against traffic increased the risk of a collision with a motor vehicle by a factor of 3.6 [9].

Although 90 percent of pedalcycle fatalities involve a collision with a motor vehicle, most pedalcycle injuries do not. There are about 500,000 pedalcycle-related emergency room visits annually [3]. Most of these pedalcycle mishaps involve falls and collisions with fixed objects; collisions with motor vehicles account for just 15 percent of the visits [2]. Collisions with pedestrians, other pedalcycles, and animals are apparently prevalent, but states do not generally record these data since they do not involve motor vehicles.

Figure 2
Bicycle Fatalities by Age of Bicyclist: 1975–2000



SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

Sources

1. Hunter, W.W., J.C. Stutts, and W.E. Pein, *Pedalcycle Crash Types: A 1990s Informational Guide,* FHWA-RD-96-104 (Washington, DC: U.S. Department of Transportation, Federal Highway Administration, 1997).
2. Rivara, F.P., D.C. Thompson, and R.S. Thompson, *Circumstance and Severity of Pedalcycle Injuries* (Seattle, WA: Snell Memorial Foundation, Harborview Injury Prevention and Research Center, 1996).
3. Tinsworth, D., C. Polen, and S. Cassidy, *Pedalcycle-Related Injuries: Injury, Hazard, and Risk Patterns, Technical Report* (Washington, DC: U.S. Consumer Product Safety Commission, 1993).
4. U.S. Department of Transportation, Bureau of Transportation Statistics, *Omnibus Survey*, August 2000–December 2001.
5. U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS) database, 2000.
6. ______. *Traffic Safety Facts 1996—Overview* (Washington, DC: 1996).
7. ______. *Traffic Safety Facts 2000—Overview* (Washington, DC: 2000).
8. ______. *Traffic Safety Facts 2000—Pedalcyclists* (Washington, DC: 2000).
9. Wachtel, A. and D. Lewiston, "Risk Factors for Pedalcycle-Motor Vehicle Collisions at Intersections," *ITE Journal,* September 1994, pp. 30–35.

Pedestrians

In 2000, 4,763 pedestrians were killed in crashes involving motor vehicles, a 37 percent reduction since 1975 (figure 1). Many factors can contribute to motor vehicle-related pedestrian fatalities (table 1).

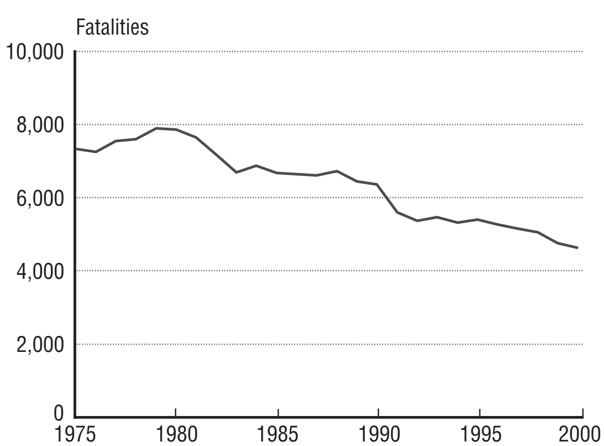
Data evaluating exposure risks faced by pedestrians are very limited. State data on pedestrian fatalities per 100,000 population show that the levels of fatalities vary across the country (figure 2).

Pedestrians comprised less than 3 percent of the 3,189,000 people injured in motor vehicle crashes in 2000, but just over 11 percent of the fatalities involving motor vehicles. The majority of pedestrian fatalities in 2000 occurred in urban areas (71 percent), at nonintersection locations (78 percent), in normal weather conditions (91 percent), and at night (64 percent). Additionally, males accounted for about 68 percent of the pedestrian fatalities in 2000. An estimated 31 percent of pedestrians killed in traffic crashes in 2000 were intoxicated (with a blood alcohol concentration of 0.10 or more), whereas only 13 percent of the drivers involved in fatal pedestrian crashes were [1].

Source

1. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2000: Pedestrians* (Washington, DC: 2001).

Figure 1
Pedestrian Fatalities in Motor Vehicle Crashes: 1975–2000



SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

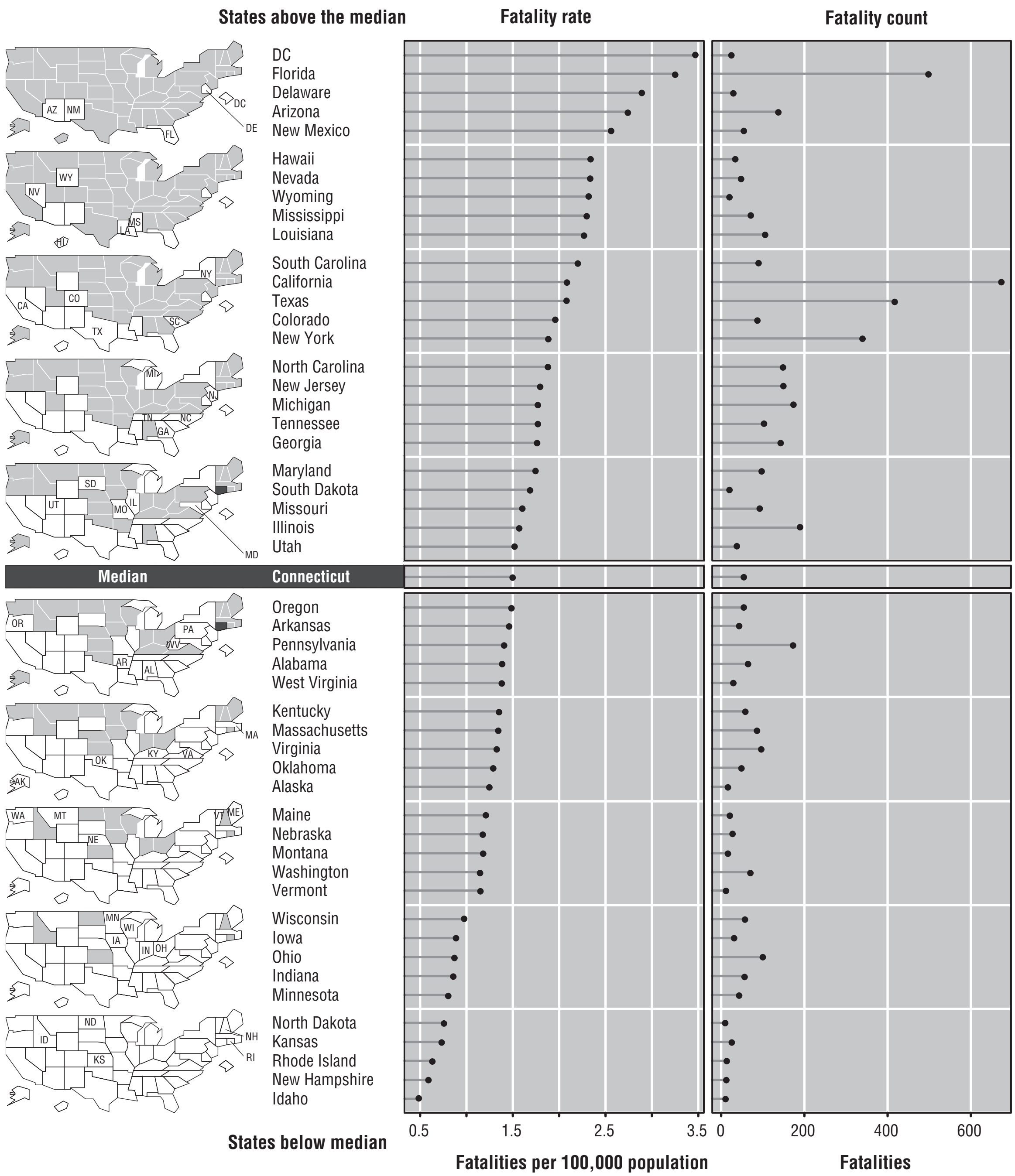
Table 1
Factors Relating to Pedestrian Fatalities: 2000

Factors	Number
Improper crossing of roadway or intersection	1,415
Walking, playing, working, etc., in roadway	1,214
Failure to yield right-of-way	680
Darting or running into road	612
Not visible	460
Inattentive (talking, eating, etc.)	124
Failure to obey traffic signs, signals, or officer	86
Physical impairment	84
Ill, blackout	22
Emotional (e.g., depressed, angry, disturbed)	21
Getting on/off/in/out of vehicle	21
Mentally challenged	17
Pedestrian pushing vehicle	11
Other factors	65
Unknown	81

NOTE: The sum of the numbers is greater than the total pedestrians killed as more than one factor may be present for the same pedestrian.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, available at http://www-fars.nhtsa.dot.gov/, as of April 2002.

Figure 2
Pedestrian Traffic Fatalities by State: 2000



NOTE: Washington, DC, a 68 square-mile territory, has approximately 523,000 residents and hosts a daily influx of 1 million commuters. The pedestrian fatality rate in DC may be high relative to the 50 states because the district is more densely populated and urban compared with states.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatality Analysis Reporting System* (FARS) database, November 2001.

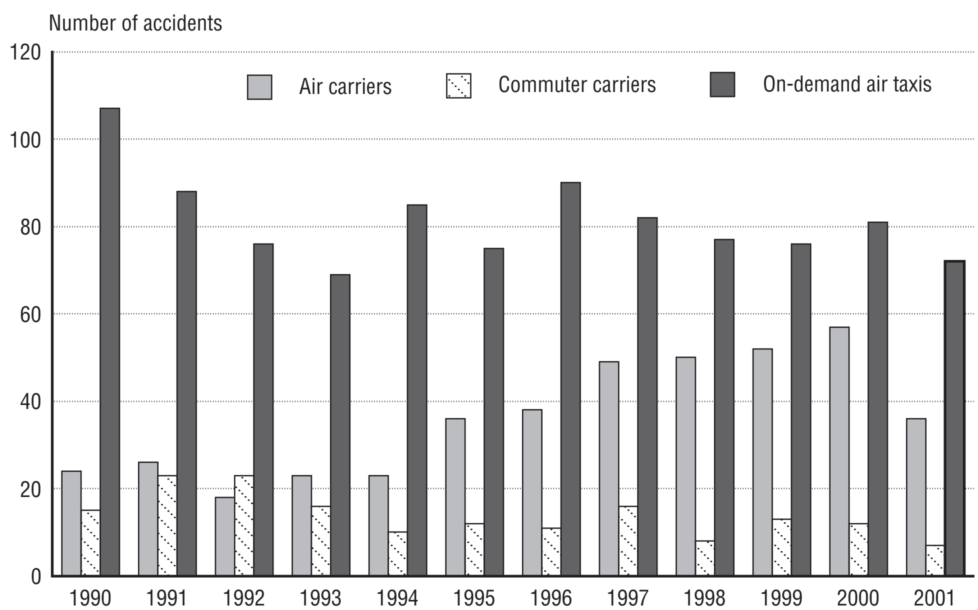
Commercial Aviation

Despite the tragic loss of four U.S. airliners to a terrorist attack in September 2001, aviation continues to be a remarkably safe mode of transportation. U.S. air carriers experience less than one fatal crash for every million flights [1]. Preliminary statistics show that trend unchanged in spite of September 11.

There were 36 air carrier accidents in 2001, including the 4 crashes on September 11 (figure 1). Despite the loss of four aircraft on September 11 and American Airlines Flight 587 on November 12, the air carrier fatality rate has remained stable. Fatalities resulting from criminal acts are not included in the calculation of accident fatality rates (see box on the next page). Air carriers experienced 0.22 deaths per 100,000 flight hours in 2001, the same fatality rate in 1991 and less than that in 2000 (0.32 deaths per 100,000 hours) (figure 2).

However, the six fatal air carrier accidents in 2001 resulted in 531 fatalities (table 1). That is the highest number of air carrier fatalities in over 40 years. On September 11,

Figure 1
Commercial Aviation Accidents by Type of Operation:1990–2001



NOTE: Data for 2001 are preliminary.

SOURCE: National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002).

Aviation Fatalities Resulting from Sabotage, Suicide, or Terrorism

The National Transportation Safety Board (NTSB), an independent government agency, tracks the number of U.S. aviation accidents and fatalities. NTSB includes all aviation fatalities resulting from illegal acts—sabotage, suicide, or terrorism—in its data. However, because these fatalities result from intentional acts of violence, rather than accidents, NTSB excludes them from its calculations of fatality rates.

According to NTSB statistics, illegal acts have resulted in 583 aviation fatalities since 1982 (the earliest year for which data are available) (see table below). However, although NTSB normally includes ground fatalities in its accounting of fatalities, the Board did not include the people killed on the ground as a result of the September 11 crashes.

An estimated 2,645 people were killed when two planes hit the World Trade Center in New York City. A third plane hit the Pentagon, killing 125 people inside the building. A fourth plane crashed in a field in rural Pennsylvania and did not result in any ground fatalities.

U.S. Air Carrier Fatalities Involving Illegal Acts: 1982–2001

Year	Location	Operator	Aboard	Ground	Total
1982	Honolulu, HI	Pan American	1	0	1
1986	Near Athens, Greece	Trans World	4	0	4
1987	San Luis Obispo, CA	Pacific Southwest	43	0	43
1988	Lockerbie, Scotland	Pan American	259	11	270
1994	Memphis, TN	Federal Express	0	0	0
2001	New York, NY	American Airlines	92	–	92
2001	New York, NY	United Airlines	65	–	65
2001	Arlington, VA	American Airlines	64	–	64
2001	Shanksville, PA	United Airlines	44	–	44
Total			**572**	**11**	**583**

NOTE: Fatalities of approximately 3,000 people not on board have been excluded for the Sept. 11, 2001, crashes.

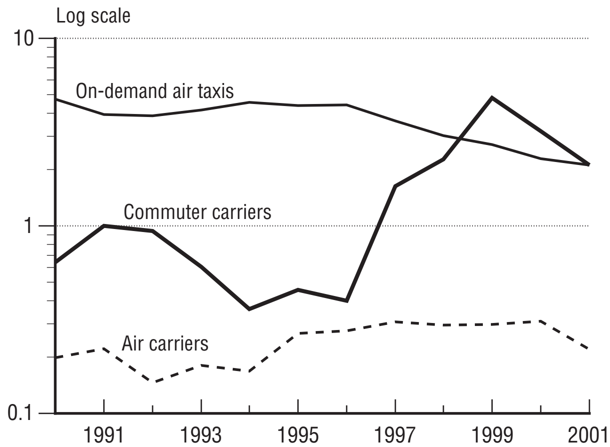
SOURCE: National Transportation Safety Board, *Aviation Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002), table 12.

all 265 people on board 4 planes were killed when the planes were crashed by terrorists. American Airlines Flight 587 was en route from John F. Kennedy International Airport in New York City to Santo Domingo in the Dominican Republic when it crashed shortly after takeoff on November 12. All 260 people on board and 5 people on the ground were killed by the crash. One ground worker was struck and killed by an airplane propeller in August.

In addition to air carriers, there are two other categories of commercial aviation flights: scheduled commuter flights and on-demand air taxis.[1] There were 2 fatal U.S. commuter plane accidents and 18 fatal on-demand air taxi accidents during 2001, resulting in 73 deaths [1]. Overall, commercial aviation, including air carrier, commuter, and on-demand air taxi flights, accounted for 52 percent of all air-related fatalities in 2001.

[1] For safety reporting and analysis, commercial aviation consists of air carriers (those with aircraft having 10 or more seats), cargo haulers, commuter carriers (those with aircraft having 9 seats or fewer in scheduled service), air taxi service (those carriers with aircraft having 9 seats or fewer in unscheduled service), and helicopter service.

Figure 2
Commercial Carrier Accident Rates: 1990–2001
(Per 100,000 flight hours)



NOTE: Data for 2001 are preliminary.

SOURCE: National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002).

The remaining fatalities resulted from general aviation accidents.

The overall accident rate for all three types of commercial aviation operations combined is 0.58 accidents per 100,000 flight hours. However, differences in the accident rates among the three types of operations do exist (figure 2). For example, the accident rate for air carriers has historically been well below that of commuter carriers and air taxis.

Finally, although the overall accident and fatality rates for commercial aviation remain low, the continued growth forecast for U.S. aviation in the coming decade raises concern. The Federal Aviation Administration (FAA) estimates that commercial aviation aircraft (excluding air taxis) will fly more than 24 million hours in 2007, a 37 percent increase over 1999. Commercial aviation (excluding air taxis) experienced an average of six fatal accidents each year in the United States between 1994 and 1996. If the projected growth in flight hours occurs and the fatal accident rate is not reduced, aviation experts estimate that the number of fatal commercial aviation accidents could rise to nine per year by 2007. To address this potential danger, FAA's "Safer Skies" program has a goal of reducing the number of fatal commercial accidents per million flight hours by 80 percent by 2007 [2].

Sources

1. National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002), also available at http://www.ntsb.gov/aviation/htm, as of April 2002.
2. U.S. Department of Transportation, Federal Aviation Administration, *Safer Skies: A Focused Agenda,* 2000, available at http://www/faa.gov/apa/safer_skies/saftoc.htm, as of Sept. 20, 2000.

Table 1
Number of Commercial Aviation Fatalities by Type of Operation: 1990–2001

Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Air carriers	39	62	33	1	239	168	380	8	1	12	92	[1]531
Commuter carriers	6	99	21	24	25	9	14	46	0	12	5	13
On-demand air taxis	51	78	68	42	63	52	63	39	45	38	71	60

[1] Does not include ground fatalities, which are normally part of the total fatalities and are included in the other years shown in the table.

NOTE: Data for 2001 are preliminary.

SOURCE: National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002).

General Aviation

Most aviation accidents involve general aviation (GA) aircraft[1] (table 1); however, GA fatalities and fatality rates have decreased over the last quarter century (figure 1). In 1975, general aviation experienced 1,252 fatalities—over twice as many as the 553 reported in 2002 (preliminary data). Moreover, the fatality rate (expressed as fatalities per 100,000 hours flown) declined from 4.35 to 1.22 over the same period [2].

The major causes of fatal general aviation accidents are weather, pilot loss of control or other maneuvering errors made during flight, and accidents on approach to the airport [5]. Nearly one-quarter of all general aviation accidents between 1989 and 1999 were related to weather [3]. Furthermore, the number of fatalities also varies a great deal by month, with fewer fatalities generally occurring in the winter months because of fewer flights (figure 2).

Another area of concern is the growing number of runway incursions[2] involving GA aircraft. In 1999, GA pilot error caused 139 (76 percent) of the 183 runway incursions [1].

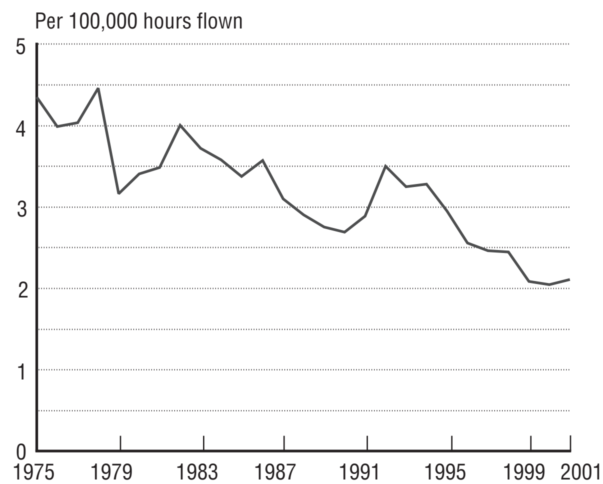
Table 1
Fatal Accidents and Deaths by Type of Aviation Operation: 1990–2001

	Fatal accidents		Deaths	
Type of operation	Number	Percent	Number	Percent
General aviation	4,628	93	8,295	77
Commercial aviation	347	7	2,510	23
Total	**4,975**	**100**	**10,805**	**100**

NOTES: The number of commercial aviation fatal accidents and deaths include those that occurred on Sept. 11, 2001.
2001 data are preliminary.

SOURCE: National Transportation Safety Board, *Aviation Accident Statistics,* available at http://www.ntsb.gov/aviation/Stats.htm, as of April 2002.

Figure 1
General Aviation Fatality Rates: 1975–2001



NOTE: 2001 data are preliminary.

SOURCES: National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2001* (Washington, DC: 2002), also available at http://www.ntsb.gov/aviation/Stats.htm, as of April 2002; and U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics Historical Compendium: 1960–1992* (Washington, DC: 1993).

[1] General aviation includes a wide variety of aircraft, ranging from corporate jets to small piston-engine aircraft used for recreational purposes, as well as helicopters, gliders, and aircraft used in operations such as firefighting and agricultural spraying.

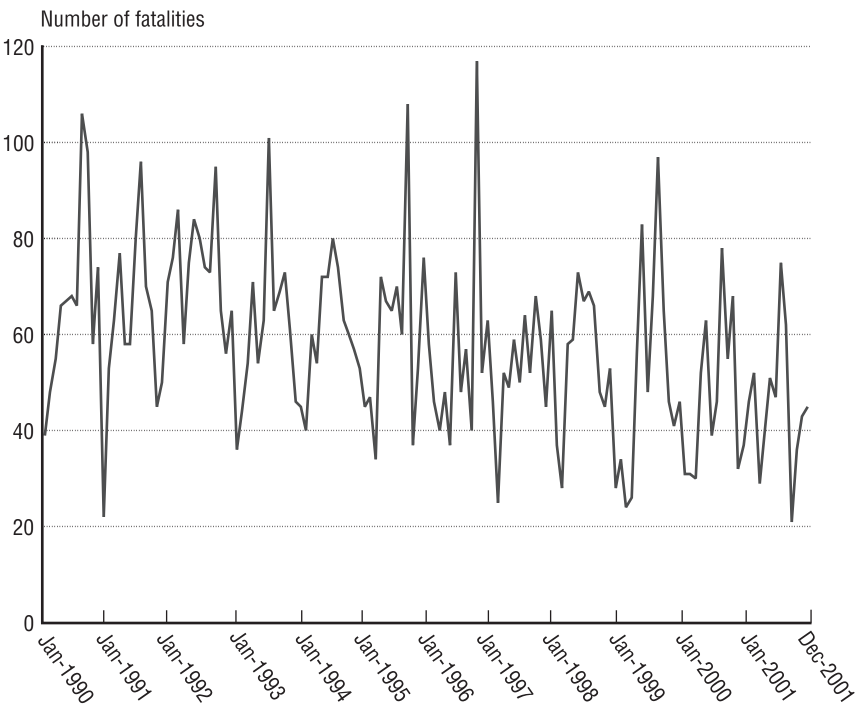
[2] A *runway incursion* is any occurrence on a runway involving an aircraft, vehicle, or pedestrian that creates a collision hazard for aircraft taking off, intending to take off, landing, or intending to land.

Changes in flight hours can also affect accident rates. The Federal Aviation Administration (FAA) estimates that GA flight hours will increase to about 36 million hours by 2007—nearly 19 percent higher than 1999. Although general aviation accidents and fatalities have been trending downward for 25 years, aviation experts believe these numbers will rise over the next decade with the projected increase in flight hours. Because of the potential safety implications associated with rapid growth in both commercial and GA flight hours, FAA initiated the "Safer Skies" program in 1998 with the goal of reducing aviation accident rates [4].

Sources

1. Deyoe, Robin, Runway Safety Program Office, Federal Aviation Administration, U.S. Department of Transportation, personal communication, Sept. 13, 2000.
2. National Transportation Safety Board, *Accidents, Fatalities, and Rates: 1982–2000* (Washington, DC: 2001), also available at http:// www.ntsb.gov/aviation/htm, as of Apr. 17, 2001.
3. U.S. Department of Transportation, Federal Aviation Administration, Weather Study Index, available at https://www.nasdac.faa.gov/aviation_studies/weather_study/studyindex.html, as of June 2002.
4. ____. *Safer Skies: A Focused Agenda,* 2000, available at http://www/faa.gov/apa/safer_skies/saftoc.htm, as of Sept. 20, 2000.
5. U.S. General Accounting Office, Resources, Community, and Economic Development Division, *Aviation Safety: Safer Skies Initiative Has Taken Initial Steps to Reduce Accident Rates by 2007* (Washington, DC: June 2000).

Figure 2
General Aviation Fatalities: 1990–2001
(Monthly data, not seasonally adjusted)



NOTE: 2001 data are preliminary.

SOURCE: National Transportation Safety Board, Office of Aviation Safety, available at http://www.ntsb.gov/aviation, as of April 2002.

Commercial Maritime Vessel Incidents

About 50,000 commercial vessels carrying freight and passengers call at U.S. ports every year. In 2000, there were almost 7,000 verified U.S. and foreign vessel incidents[1] in U.S. waters. Over the last six years, the number of commercial vessel incidents in U.S. waters has declined (table 1). Approximately 90 percent of these incidents occurred among 10 vessel types, and this concentration has been increasing since 1997.

Towboats and tugboats have ranked as the number one vessel type involved in incidents since 1994. Prior to 1994, fishing vessels ranked number one; they now rank second. However, the number of incidents involving both of these vessel types has been declining in recent years [5]. Towboats and tugboats primarily push and pull barges on U.S. inland waterways and provide tug assist services in ports and along coastal areas. Towboats and tugboats, which can handle as many as 35 barges at a time, have limited maneuverability, especially when the crew is involved in maneuvering barges [4]. People falling overboard account for the majority of the fatalities in the inland towing industry [2].

A study of U.S. maritime incident data revealed that in 2000 the highest proportion (42 percent) of all maritime fatalities occurred among commercial fishing vessels. The next highest proportion of fatalities were among towboats and barges (11 percent), freight ships (10 percent), and passenger vessels (10

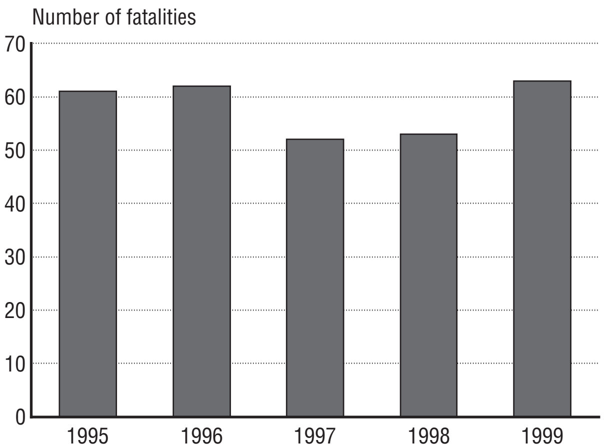
[1] Incidents are defined as collisions, groundings, and "allisions" (when two vessels sideswipe each other).

Table 1
Number of Commercial Vessel Incidents by Type of Vessel—Top 10 Vessel Types: 1992–2000

Vessel type	1992	1993	1994	1995	1996	1997	1998	1999	2000
Towboat/tugboat	1,508	1,690	2,355	2,633	2,429	2,211	2,180	2,049	1,802
Fishing boat	1,984	1,991	1,959	1,546	1,296	1,284	1,154	1,232	1,125
Passenger ship	684	789	932	982	977	903	944	936	908
Freight barge	723	795	909	983	964	792	747	771	640
Tank barge	818	861	1,066	949	799	778	729	647	619
Freight ship	915	955	1,037	937	746	701	689	668	510
Recreational boat	489	639	718	277	189	325	411	437	480
Tank ship	542	545	628	467	355	358	348	286	230
Oversized vessel	210	242	184	135	136	146	179	138	131
Unclassified vessel	146	132	175	153	397	393	223	166	115
Total, top 10	**8,019**	**8,639**	**9,963**	**9,062**	**8,288**	**7,891**	**7,604**	**7,330**	**6,560**
Total, all vessels	**8,734**	**9,457**	**10,852**	**9,806**	**9,191**	**8,915**	**8,479**	**7,862**	**6,903**
Percentage of total, top 10	91.8%	91.4%	91.8%	92.4%	90.2%	88.5%	89.7%	93.2%	95.0%

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Resources Management Directorate, Data Administration Division, personal communication, February 2001.

Figure 1
Worker Fatalities on Fishing Vessels: 1995–1999



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, *U.S. Coast Guard Marine Safety and Environmental Protection Business Plan FY 2001–2005,* available at http://www.uscg.mil, as of February 2001.

Figure 2
Commercial Vessel Incidents Involving Recreational Boats: 1992–2000

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Resources Management Directorate, Data Administration Division, personal communication, February 2001.

percent) [1]. The U.S. Coast Guard, which estimates that there are between 100,000 to 120,000 vessels in the U.S. commercial fishing fleet, believes the industry to be one of the most hazardous in the nation [3]. The number of fishing vessel worker fatalities may be climbing after a drop in 1997 (see figure 1). This may be due to increased economic pressure and competition in the commercial fishing industry, which encourages risk taking [3].

The number of recreational boats involved in commercial vessel incidents has been climbing since 1996 (figure 2). The safety of these boaters can be dependent on their ability to identify commercial vessels, particularly tugboats and towboats, and accurately assess their movements [2].

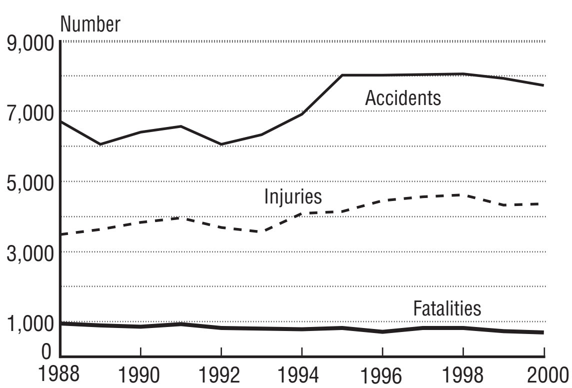
Sources

1. Ungs, Timothy J. and Michael L. Adess, U.S. Department of Transportation, U.S. Coast Guard, *Water Transportation and the Maritime Industry,* available at http://www.uscg.mil, as of February 2001.
2. U.S. Department of Transportation, U.S. Coast Guard, "Epilogue," *American Waterways Operators,* available at http://www.uscg.mil, as of February 2001.
3. ____. *U.S. Coast Guard Marine Safety and Environmental Protection Business Plan FY 2001–2005,* available at http://www.uscg.mil, as of February 2001.
4. U.S. Department of Transportation, U.S. Coast Guard, Marine Safety Office, Providence, RI, available at http://www.uscg.mil, as of Feb. 24, 2001.
5. U.S. Department of Transportation, U.S. Coast Guard, Resources Management Directorate, Data Administration Division, personal communication, February 2001.

Recreational Boating

Most fatalities, injuries, and accidents on the water involve recreational boating. In 2000, the U.S. Coast Guard (USCG) reported a total of 7,740 recreational boating accidents and 4,355 injuries (figure 1). Personal watercraft and open motorboats account for the highest number of these accidents. Although fatalities remain high, the number has declined from 865 in 1990 to 701 in 2000. More than one-third of recreational boating accidents involved collisions with other vessels in 2000 (table 1). Substantially more drownings were related to the use of open motorboats than for any other type of recreational craft (table 2).

Figure 1
Recreational Boating Accidents, Injuries, and Fatalities: 1990–2000



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics 2000* (Washington, DC: 2001).

Table 1
Types of Recreational Boating Accidents: 2000

Accident type	Accidents	Injuries	Fatalities
Collision with vessel	2,706	1,413	67
Collision with fixed object	851	484	42
Falls overboard	610	434	213
Capsizing	502	207	205
Grounding	494	257	8
Skier mishap	442	459	4
Flooding/swamping	419	61	47
Fall in boat	316	327	5
Struck submerged object	199	41	7
Sinking	187	40	22
Fire/explosion (fuel)	183	93	2
Struck by boat	157	131	5
Collision with floating object	151	73	9
Fire/explosion (other than fuel)	116	25	7
Struck by motor/propeller	88	86	3
Carbon monoxide	8	19	3
Other and unknown	311	205	52
Totals	**7,740**	**4,355**	**701**

SOURCES: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics 2000* (Washington, DC: 2001); and personal communication, Apr. 29, 2002.

The majority of recreational boating accidents occurred during vessel operation and were caused by operator error, such as recklessness, inattention, and speed (table 3). Alcohol involvement accounted for 6.8 percent of accidents due to operator error in 2000. USCG found that 84 percent of all boating fatalities occurred on boats where the operator lacked safe boating education [1].

Regardless of the cause of the accident or the type of boat involved, boaters can improve their chances of survival by wearing life jackets or using other personal flotation devices (PFDs). Eight out of 10 fatal boating accident

Table 2
Number of Fatalities by Type of Vessel: 2000

Boat type	Total	Drownings	Other deaths
Open motorboat	**361**	280	81
Canoe/kayak	**104**	93	11
Personal watercraft	**68**	24	44
Cabin motorboat	**65**	32	33
Rowboat	**38**	35	3
Inflatable	**16**	15	1
Auxiliary sail	**12**	12	0
Houseboat	**9**	7	2
Sail (only)	**7**	4	3
Pontoon	**3**	3	0
Jet boat	**1**	0	1
Air boat	**1**	1	0
Other and unknown	**16**	13	3
Total	**701**	**519**	**182**

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics 2000* (Washington, DC: 2001).

victims were not wearing a PFD. USCG estimates that the use of life jackets could have saved the lives of 445 drowning victims in 2000 [1].

Sources

1. U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics 2000* (Washington, DC: 2001).

Table 3
Recreational Boating Accidents Due to Operator Error: 2000

Cause	Accidents
Operator inattention	959
Careless/reckless operation	907
Operator inexperience	905
Excessive speed	630
No proper lookout	602
Alcohol use	346
Passenger/skier behavior	303
Restricted vision	116
Rules of the road infraction	107
Sharp turn	48
Overloading	47
Improper anchoring	42
Standing/sitting on gunwale, bow or transom	33
Failure to ventilate	19
Lack of or improper boat lights	14
Off throttle steering-jet	9
Starting in gear	4
Drug use	3
Number of accidents	**5,094**

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics 2000* (Washington, DC: 2001).

Rail

Most railroad fatalities occur on railroad rights-of-way and at highway-rail grade crossings, not on trains. (Railroad casualties include people killed and injured in train and non-train incidents and accidents on railroad-operated property.) Of the 937 people killed in accidents and incidents involving railroads in 2000, only 4 were train passengers. As major train accidents are relatively infrequent, the number of fatalities fluctuates from year to year (table 1). The fatality rate per million train-miles changed little between 1978 and 1993, but since that time has dropped by about 40 percent (figure 1).

Although far fewer people die in highway-rail grade-crossing accidents than in the past, the toll is still large (figure 2). Of the 425 lives lost in 2000 in this type of accident, none were passengers on trains; all were in motor vehicles or on foot [1].

Trespassers not at grade crossings (people on railroad property without permission) accounted for 463 (49 percent) of the railroad deaths in 2000. Better understanding of trespassing and its motivations could be essential to addressing this high toll.

Source

1. U.S. Department of Transportation, Federal Railroad Administration, *Railroad Safety Statistics Annual Report 2000* (Washington, DC: July 2001).

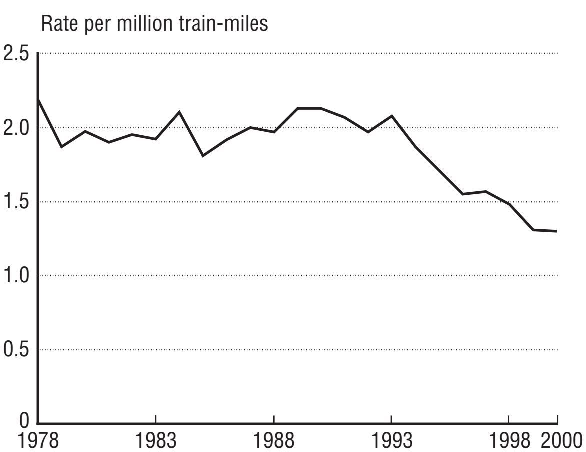
Table 1
Train Accidents and Fatalities
Excludes highway-rail crossings

Year	Accidents	Fatalities
1978	10,991	61
1980	8,205	29
1985	3,275	8
1990	2,879	10
1995	2,459	14
2000	2,983	10

NOTE: *Train accidents* are events involving on-track rail equipment that result in monetary damage to the equipment and track above a certain threshold. In 1998, that threshold was $6,600. Most trespasser, nontrespasser, and employee fatalities result from events that are categorized as incidents (rather than accidents).

SOURCE: U.S. Department of Transportation, Federal Railroad Administration, *Accident/Incident Overview* (Washington, DC: Annual issues).

Figure 1
Rail-Related Fatality Rate: 1978–2000



NOTE: Includes all rail-related fatalities (highway-rail grade crossing, trespasser, nontrespasser, employee, passenger, and other fatalities).

SOURCE: U.S. Department of Transportation, Federal Railroad Administration, *Accident/Incident Overview* (Washington, DC: Annual issues).

Figure 2
Highway-Rail Grade-Crossing Fatalities: 1993–2000

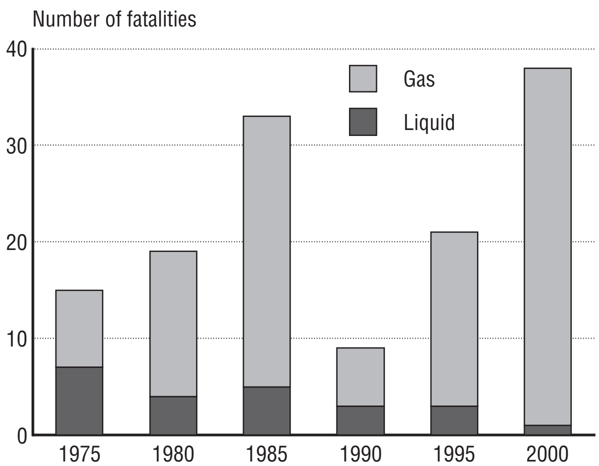
SOURCE: U.S. Department of Transportation, Federal Railroad Administration, *Railroad Safety Statistics Annual Report 2000* (Washington, DC: July 2001), also available at http://www.fra.dot.gov, as of Dec 18, 2001.

Pipelines

Pipelines carry vast quantities of liquids and gases to fuel the nation's commercial and consumer demands. Transmission pipelines, which total about 325,000 miles, transport natural gas over long distances from sources to communities. Distribution pipelines, which then move natural gas to residential, commercial, and industrial customers, consist of about 1.7 million miles and are primarily intrastate. Hazardous liquid pipelines total about 156,000 miles and transport mostly crude oil and refined petroleum products to terminals and facilities [2].

Pipelines are a relatively safe way to transport energy resources and other products, but they are subject to forces of nature, human actions, and material defects that can cause potentially catastrophic accidents [3]. The U.S. Department of Transportation issues regulations covering pipeline design, construction, operation, and maintenance for both natural gas and interstate hazardous liquid pipelines.

Figure 1
Fatalities in Pipeline Incidents



SOURCE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety.

The number of fatalities related to pipeline incidents varies from year to year, reflecting the high consequences associated with a limited number of failures (figure 1). The 38 pipeline fatalities in 2000 were more than twice the number recorded in 1975 [1]. One natural gas pipeline rupture was responsible for killing 12 people near the Pecos River in Carlsbad, New Mexico, in August 2000. It was the deadliest pipeline incident in the continental United States in almost 25 years. Overall, there were 234 gas pipeline incidents and 146 liquid pipeline accidents in 2000.[1]

Pipeline Accident and Incident Data Reporting

There are approximately 900 operators of transmission pipelines, 2,500 operators of distribution pipelines, and 220 operators of hazardous liquid pipelines. Operators are required to report accidents and incidents (i.e., releases of pipeline content) to the Department of Transportation's Office of Pipeline Safety (OPS) within 30 days. The data are reported on individual forms, and OPS compiles the information in three distinct databases. Each of the pipeline databases have similar but varying cause codes to record failures of the three types of pipelines. About 25 percent of the forms filed in the databases show "other" as the reported cause. This code is often used on pipeline forms to report releases that have occurred as a result of natural disasters, such as a flood or landslide, or when the cause could not be determined within the required reporting period. OPS is revising the forms used to collect data for the three databases in an attempt to improve the accuracy and detail of the data collected.

[1] The use of the terms "gas pipeline incident" and "liquid pipeline accident" does not imply different types of events but rather is a consequence of the official reporting forms.

Major causes of pipeline accidents include excavation and other outside force damage, material failure, and corrosion. However, the causes vary by year and by type of pipeline. Most gas pipeline incident reports consistently cite external damage (i.e., "damage by outside force") (tables 1 and 2). However, for liquid pipelines the "other" category most often designates the cause, depending on the year (table 3).

Major advances in the materials used for pipes and welding, inspections, and the installation process over the past 25 years have reduced the number of leaks and made those that take place less severe. New corrosion coatings and new application processes have produced dramatically longer lives for pipes.

Sources

1. National Transportation Safety Board, *We Are All Safer,* SR-98-01, 2nd ed. (Washington, DC: July 1998), also available at http://www.ntsb.gov/Publictn/1998/SR9801.pdf, as of Dec. 20, 2001.
2. U.S. General Accounting Office, *The Office of Pipeline Safety is Changing How it Oversees the Pipeline Industry*, GAO/RCED-00-128 (Washington, DC: May 2000).
3. U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, *Pipeline Statistics* (Washington, DC: 2000), also available at http://ops.dot.gov/stats.htm, as of Dec. 20, 2001.

Table 1
U.S. Gas Transmission Pipeline Incidents: 1995–2000

							Average	
Cause	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995–2000**	**Percent**
Construction/material defect	13	8	12	19	8	7	11	15
Corrosion, external	4	8	5	8	3	14	7	9
Corrosion, internal	5	7	16	14	10	16	11	15
Corrosion, not specified	0	0	0	0	1	1	0.3	0.4
Damage by outside force	27	38	28	37	18	20	28	37
Other	15	16	12	21	14	22	17	22
Total	**64**	**77**	**73**	**99**	**54**	**80**	**75**	**99**

SOURCE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, from Form RSPA F-7100.2, available at http://ops.dot.gov/stats.htm, as of Oct. 1, 2001.

Table 2
U.S. Gas Distribution Pipeline Incidents: 1995–2000

							Average	
Cause	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995–2000**	**Percent**
Accidentally caused by operator	6	6	4	7	6	7	6	5
Construction/operating error	5	6	4	5	8	9	6	5
Corrosion, external	3	1	3	6	4	4	4	3
Corrosion, internal	0	1	0	0	0	1	0.3	0.3
Corrosion, not specified	0	0	0	0	3	0	1	0.4
Damage by outside force	66	64	57	89	72	82	72	60
No data	0	1	0	0	0	6	1	1
Other	17	31	34	30	26	45	31	25
Total	**97**	**110**	**102**	**137**	**119**	**154**	**120**	**100**

SOURCE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, from Form RSPA F-7100.1, available at http://ops.dot.gov/stats.htm, as of Oct. 1, 2001.

Table 3
U.S. Liquid Pipeline Accidents by Cause: 1995–2000

Cause	1995	1996	1997	1998	1999	2000	Average 1995–2000	Average Percent
Corrosion, external	23	39	33	19	24	21	27	16
Corrosion, internal	13	21	16	20	11	11	15	9
Corrosion, not specified	0	0	1	1	1	1	1	0.4
Failed pipe	14	10	11	7	3	7	9	5
Failed weld	9	9	3	6	14	10	9	5
Incorrect operation by operator personnel	26	11	11	7	16	9	13	8
Malfunction of control or relief equipment	5	6	7	9	7	5	7	4
Other	45	49	49	42	63	46	49	29
Damage by outside force	53	48	40	42	29	36	41	24
Total	**188**	**193**	**171**	**153**	**168**	**146**	**170**	**100**

SOURCE: U.S. Department of Transportation, Research and Special Programs Administration, Office of Pipeline Safety, from Form RSPA F-7100.1, available at http://ops.dot.gov/stats.htm, as of Oct. 1, 2001.

Hazardous Materials Transportation Accidents and Incidents

Like all modes of transportation, the movement of hazardous materials comes with the risk of accidents and incidents, including the threat of explosion, fire, or contamination of the environment. The safe transportation of hazardous materials has long been an area of governmental concern and oversight. The U.S. Department of Transportation (DOT), together with the Nuclear Regulatory Commission (for radioactive materials), are responsible for developing safety regulations for the transportation of hazardous materials, including training and packaging requirements, emergency response measures, enforcement, and data collection.

In 2000, over 17,000 incidents were reported to DOT's Hazardous Materials Information System (HMIS), the primary source of national data on hazardous materials transportation safety (table 1). These incidents resulted in 13 deaths and 244 injuries directly attributable to the materials being transported [1]. More than 85 percent of reported incidents occurred on the nation's highways.

Modal incident data reported to the HMIS database can be sorted into various hazard classes. There are nine broad hazard classes defined in the hazardous materials regulations. They include several categories of explosives; flammable, nonflammable, and poisonous gases; flammable and combustible liquid; flammable, spontaneously combustible, and dangerous when wet material; oxidizers and organic peroxide; poisonous materials and infectious substances (see box); radioactive material; corrosive material; and miscellaneous

Table 1
Hazardous Materials Transportation Fatalities, Injuries, and Incidents: 1991–2000

Fatalities

Year	Air	Highway	Rail	Water	Total
1991	0	10	0	0	**10**
1992	0	16	0	0	**16**
1993	0	15	0	0	**15**
1994	0	11	0	0	**11**
1995	0	7	0	0	**7**
1996	110	8	2	0	**120**
1997	0	12	0	0	**12**
1998	0	13	0	0	**13**
1999	0	7	0	0	**7**
2000	0	12	1	0	**13**
Total	**110**	**111**	**3**	**0**	**224**

Injured persons

Year	Air	Highway	Rail	Water	Total
1991	31	333	75	0	**439**
1992	23	465	116	0	**604**
1993	50	511	66	0	**627**
1994	57	425	95	0	**577**
1995	33	296	71	0	**400**
1996	33	216	926	0	**1,175**
1997	24	156	45	0	**225**
1998	20	153	22	2	**197**
1999	12	205	35	0	**252**
2000	5	157	82	0	**244**
Total	**288**	**2,926**	**1,533**	**2**	**4,749**

Incidents

Year	Air	Highway	Rail	Water	Total
1991	299	7,644	1,155	12	**9,110**
1992	413	7,760	1,130	8	**9,311**
1993	622	11,080	1,120	8	**12,830**
1994	929	13,995	1,157	6	**16,087**
1995	814	12,764	1,153	12	**14,743**
1996	916	11,917	1,112	6	**13,951**
1997	1,028	11,863	1,103	5	**13,999**
1998	1,380	12,971	990	11	**15,352**
1999	1,576	14,443	1,061	8	**17,088**
2000	1,419	14,861	1,052	15	**17,347**
Total	**9,402**	**119,771**	**11,040**	**91**	**140,304**

NOTE: Hazardous Materials Information System data, including historical data, are updated and corrected on a regular basis.
SOURCE: U.S. Department of Transportation, Hazardous Materials Information System database, available at http://www.hazmat.dot.gov, as of July 19, 2001.

hazardous materials. The 9 classes are further disaggregated into 22 divisions to enhance the usefulness of the data for analytical purposes. These data, along with flow/exposure data provided by the Commodity Flow Survey,[1] can assist in evaluating the risk of transporting hazardous materials.

For air, highway, and rail modes, two categories of materials constitute the great majority of incidents: flammable combustible liquids and corrosive materials (table 2). This is true for water shipments, as well, but HMIS data for this mode are sparse, because only those water incidents involving packaged hazardous materials, generally in non-bulk packages, are subject to the HMIS incident reporting. Most water spills are reported to the U.S. Coast Guard (see the Energy and the Environment chapter).

Source

1. U.S. Department of Transportation, Hazardous Materials Information System database, available at http://hazmat.dot.gov, as of July 19, 2001.

Infectious Substance: Anthrax

When shipped as a material between laboratories conducting experiments, anthrax is treated as a hazardous material and falls under the infectious substance division. Shipments, thus, have to conform to the U.S. Department of Transportation (DOT) regulations, which include how the material is packaged.

Anthrax contaminated wastes generated from cleaning up private and public office buildings and post offices following the Fall 2001 mailings of envelopes containing the substance are, however, treated as infectious wastes, a category of solid wastes regulated under the Resource Conservation and Recovery Act (RCRA). The U.S. Environmental Protection Agency, which is responsible for implementing RCRA in partnership with individual states, set up special guidelines on disposal practices for the anthrax-contaminated wastes. Shipments of the wastes to disposal areas, however, must conform to DOT hazardous materials rules.

[1] The Commodity Flow Survey (CFS) is conducted every five years by the Bureau of Transportation Statistics in partnership with the U.S. Census Bureau as part of the Economic Census. Data covering 1993 and 1997 are available at http://www.bts.gov. Data and information from the 2002 CFS will be available in late 2003.

Table 2
Hazardous Materials Incidents for the Highway, Air, and Rail Modes: 1995–2000

Highway

Hazard class	1995	1996	1997	1998	1999	2000	Total 1995–2000	Percentage of total
Other regulated material, Class D[1]	1	3	1	2	0	0	7	0.01
Explosive, mass explosion hazard	5	0	1	1	2	2	11	0.01
Explosive projection hazard	0	0	1	1	0	1	3	<0.01
Explosive, fire hazard	0	1	0	0	1	1	3	<0.01
Explosive, no blast hazard	3	1	1	3	2	0	10	0.01
Very insensitive explosive	6	4	4	9	8	3	34	0.04
Extremely insensitive detonating	0	0	0	0	0	0	0	0.00
Combustible liquid	386	310	279	352	280	263	1,870	2.30
Flammable gas	131	113	102	95	89	112	642	0.80
Nonflammable compressed gas	145	118	124	171	229	266	1,053	1.30
Poisonous gas	30	35	28	21	30	25	169	0.21
Flammable/combustible liquid	5,090	4,922	4,722	5,240	5,541	5,636	31,151	39.00
Flammable solid	82	77	87	95	116	106	563	0.70
Spontaneously combustible	22	19	15	27	20	16	119	0.15
Dangerous when wet material	32	22	15	11	14	16	110	0.14
Oxidizer	333	244	376	457	408	373	2,191	2.70
Organic peroxide	99	98	96	130	158	202	783	1.00
Poisonous materials	1,154	988	924	1,055	938	890	5,949	7.50
Infectious substance (etiologic)	0	1	4	3	168	136	312	0.39
Radioactive material	7	8	9	9	8	4	45	0.06
Corrosive material	4,717	4,629	4,762	4,968	6,604	6,486	32,166	40.00
Miscellaneous hazardous materials	594	396	372	399	388	415	2,564	3.20
Total	**12,837**	**11,989**	**11,923**	**13,049**	**15,004**	**14,953**	**79,755**	**100.00**

Air

Hazard class	1995	1996	1997	1998	1999	2000	Total 1995–2000	Percentage of total
Other regulated material, Class D[1]	52	54	44	120	73	61	404	5.60
Explosive, mass explosion hazard	0	1	1	1	0	0	3	0.04
Explosive projection hazard	1	0	0	0	0	0	1	0.01
Explosive, fire hazard	0	0	1	0	2	0	3	0.04
Explosive, no blast hazard	2	3	3	10	8	10	36	0.50
Very insensitive explosive	0	0	0	0	0	0	0	0.00
Extremely insensitive detonating	0	0	0	0	0	0	0	0.00
Combustible liquid	1	2	1	0	5	3	12	0.17
Flammable gas	22	27	31	27	46	48	201	2.80
Nonflammable compressed gas	33	26	39	59	42	62	261	3.60
Poisonous gas	0	0	0	2	0	1	3	0.04
Flammable/combustible liquid	515	553	616	788	944	832	4,248	59.20
Flammable solid	4	2	4	7	10	5	32	0.45
Spontaneously combustible	0	0	1	1	1	0	3	0.04
Dangerous when wet material	4	0	1	1	3	1	10	0.14
Oxidizer	3	6	11	13	14	13	60	0.80
Organic peroxide	1	4	5	2	5	1	18	0.25
Poisonous materials	25	49	47	62	75	76	334	4.70
Infectious substance (etiologic)	2	2	6	7	4	3	24	0.33
Radioactive material	3	8	3	3	5	7	29	0.40
Corrosive material	133	157	186	227	312	260	1,275	17.80
Miscellaneous hazardous materials	21	29	34	59	38	40	221	3.10
Total	**822**	**923**	**1,034**	**1,389**	**1,587**	**1,423**	**7,178**	**100.00**

(Table 2 continues on the next page)

Table 2 (continued)
Hazardous Materials Incidents for the Highway, Air, and Rail Modes: 1995–2000

Rail

Hazard class	1995	1996	1997	1998	1999	2000	Total 1995–2000	Percentage of total
Other regulated material, Class D[1]	0	0	0	0	0	0	0	0.00
Explosive, mass explosion hazard	0	1	1	0	1	0	3	0.05
Explosive projection hazard	0	0	1	0	1	0	2	0.03
Explosive, fire hazard	0	0	0	0	0	0	0	0.00
Explosive, no blast hazard	0	0	0	0	1	0	1	0.02
Very insensitive explosive	0	0	0	0	0	0	0	0.00
Extremely insensitive detonating	0	0	0	0	0	0	0	0.00
Combustible liquid	54	59	46	34	55	59	307	4.70
Flammable gas	87	62	64	61	80	86	440	6.70
Nonflammable compressed gas	96	89	113	93	111	87	589	9.00
Poisonous gas	21	19	10	16	21	17	104	1.60
Flammable/combustible liquid	334	358	346	339	412	371	2,160	33.00
Flammable solid	2	2	4	2	1	4	15	0.23
Spontaneously combustible	1	2	0	0	0	1	4	0.06
Dangerous when wet material	2	2	3	4	2	2	15	0.23
Oxidizer	24	20	23	32	23	30	152	2.30
Organic peroxide	2	1	0	0	0	0	3	0.05
Poisonous materials	37	23	27	21	24	38	170	2.60
Infectious substance (etiologic)	0	0	0	0	0	0	0	0.00
Radioactive material	0	1	6	18	2	2	29	0.44
Corrosive material	447	416	398	314	294	305	2,174	33.20
Miscellaneous hazardous materials	59	70	78	62	49	62	380	5.80
Total	**1,166**	**1,125**	**1,120**	**996**	**1,077**	**1,064**	**6,548**	**100.00**

[1] Material, such as a consumer commodity, which presents a limited hazard during transportation due to its form, quantity, and packaging (49 CRF, ch. 1, sec. 173.144).

NOTE: Due to multiple classes being involved in a single incident, the totals above may not correspond to the totals in other reports.

SOURCE: U.S. Department of Transportation, Hazardous Materials Information System (HMIS) database, available at http://www.hazmat.dot.gov, as of July 19, 2001.

Worker Fatalities

Occupational risk from transportation incidents is often overlooked in safety analyses. However, these incidents are the largest single cause of occupational fatalities. Of the 5,915 occupational fatalities for all workers in 2000, 43 percent of them occurred as a result of a transportation incident (table 1). Among transportation occupational fatalities, 74 percent resulted from transportation incidents (table 2).

While the number of occupation fatalities for all workers in the United States fell 5 percent between 1992 and 2000, transportation causes rose 4 percent. Much of this increase may be due to highway incidents, which increased 18 percent during the period, and accounted for over half of the transportation-related occupational deaths in 2000. Just over 14 percent of all occupational fatalities in 2000 were truck drivers and 706 (83 percent) of them died in transportation incidents. Since the number of airplane accidents can vary greatly from year to year, so too do occupational deaths attributed to air transportation. The 280 deaths in 2000 were 21 percent below those in 1992, but 26 percent higher than the 223 deaths in 1998 [1].

The risk of being killed while working in a transportation occupation is more than five times the average for all occupations. Among transportation occupations, airplane pilots and navigators and taxicab drivers were at highest risk. Bus drivers had the lowest risk of being killed on the job. The risk of work-related

Table 1
Transportation-Related Occupational Fatalities: 1992 and 2000

	1992	2000
Total occupational fatalities (all causes)	**6,217**	**5,915**
Total transportation-related fatalities	**2,484**	**2,571**
Highway	1,158	1,363
Off-highway road (farm, industrial, premises)	436	399
Air transportation	353	280
Worker struck by vehicle, mobile equipment	346	370
Water transportation	109	84
Railroad transportation	66	71
Other, not elsewhere classified	16	4

NOTE: Data for 2000 are preliminary. Because these data are generated by a different methodology, they may not be consistent with other transportation fatality-by-mode data presented in this document.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Census of Fatal Occupational Injuries,* 1992 and 2000, available at http://www.bls.gov/iif/oshcfoi1.htm, as of Dec. 20, 2001.

Transportation Worker Fatalities and September 2001

Among those who died as a result of the terrorist attacks in September 2001 were 33 airline employees on 4 aircraft. Eight of the deaths were pilots; 25 were flight attendants. The Bureau of Labor Statistics (BLS) in its Census of Fatal Occupational Injuries accounts for air transportation workers in several categories. Only airplane pilot and navigator fatalities, captured within a broad category called “Technical, sales, and administrative support,” are disaggregated in published BLS data. Flight attendant deaths are included, among others, under “public transportation attendants” within BLS’s “Service occupations” category. Thus, the BLS data in tables 2 and 3 represent an undercount of actual transportation worker fatalities. BLS recorded five public transportation attendant fatalities in 2000. According to National Safety Board preliminary fatal accident data, there were 10 crew fatalities in 2000 of which 4 were flight attendants.

SOURCE: National Transportation Safety Board, “Fatal Accidents, 2000 Preliminary Data for All Operations Under 14 CFR 121 and for Scheduled Operations Under 14 CFR 135,” available at http://www.ntsb.gov/aviation/Table11.htm/, as of Dec. 19, 2001.

Table 2
Occupational Fatalities in Transportation Occupations: 2000

	Total fatalities	Transportation incidents	Assaults and violent acts	Contact with objects and equipment	Falls	Exposure to harmful substance or environment	Fires and explosions
All occupations	**5,915**	**2,578**	**932**	**1,009**	**736**	**481**	**179**
Transportation occupations	**1,264**	**939**	**82**	**147**	**48**	**37**	**11**
Truck drivers	852	706	24	73	22	16	5
Drivers (sales workers)	45	33	9	–	–	–	–
Bus drivers	21	17	–	–	–	–	–
Taxicab drivers and chauffeurs	70	25	44	–	–	–	–
Airplane pilots and navigators	130	128	–	–	–	–	–
Rail transportation occupations	21	17	–	–	–	–	–
Water transportation occupations	26	13	–	–	–	5	–
Other transportation occupations[1]	99	0	–	–	–	–	–

[1] Includes other vehicle operators, couriers, and material moving labor, etc.

KEY: – = no data reported or data that do not meet publication criteria.

NOTE: Because these data are generated by a different methodology, they may not be consistent with other transportation fatality-by-mode data presented in this document.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Census of Fatal Occupational Injuries,* available at http://www.bls.gov/iif/oshcfoi1.htm, as of Dec. 20, 2001.

fatalities for all occupations, on average, was 45 fatalities for every million employees in 2000 (table 3). In contrast, the risk for transportation occupations was 255 fatalities per million employees.

Between 1993 (the first year for which data are available) and 2000, the national average risk of work-related fatalities decreased 19 percent. For transportation occupations as a whole, however, it decreased only 4 percent, though the risk for taxicab drivers, rail transportation occupations, and water transportation occupations decreased appreciably. In 1993, the risk for taxicab drivers was 1,658 fatalities per million employees, the highest among all transportation occupations. By 2000, it fell to 538, much lower than that for airplane pilots and navigators.

Table 3
Occupational Fatality Rates of Transportation Occupations: 1993–2000
Per million employees

	1993	2000
All occupations	**56**	**45**
Transportation occupations	**267**	**255**
Truck drivers	328	326
Drivers (sales workers)	133	120
Bus drivers	28	33
Taxicab drivers and chauffeurs	1,658	538
Airplane pilots and navigators	1,188	1,152
Rail transportation occupations	464	221
Water transportation occupations	967	389

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Census of Fatal Occupational Injuries,* available at http://www.bls.gov/iif/oshcfoi1.htm, as of Dec. 20, 2001.

Source

1. U.S. Department of Labor, Bureau of Labor Statistics, *Census of Fatal Occupational Injuries,* 1992, 1993, 1998, and 2000.

Chapter 7

Economic Growth

Introduction

Transportation is a vital component of the U.S. economy. It not only enables most economic activity, but is a sizable portion of the country's Gross Domestic Product. As such, transportation employs millions of people and consumes a large amount of the economy's goods and services. About one-fifth of household spending is on transportation. Transportation is also an important element of federal, state, and local government revenues and expenditures. For instance, the federal government's motor fuel tax collected about $19 billion from households in 1999, an average of $185 per household. In addition to discussing the size of transportation in the economy, transportation employment, fuel taxes, and transportation spending by households, this chapter presents data on labor productivity, gasoline prices, highway capital stocks, and international trade.

Demand for transportation-related goods and services represents more than one-tenth of the U.S. economy and supports one in eight jobs. These goods and services encompass a whole range of activities from vehicle production and automobile insurance to road building and public transportation. The amount of goods and services produced by each worker, measured in dollars per hour of work (labor productivity), has increased markedly in most sectors of transportation over the past 45 years. In the rail industry, productivity gains have been particularly strong since deregulation in 1980. On average, a worker in the rail industry now produces more than three times as much as in 1980. This increased labor productivity has made transportation less expensive for consumers.

Households spent on average $7,400 on transportation in 2000, nearly 20 percent of that year's average household expenditures. This amount is second only to the amount they spent on housing. The vast majority of household spending on transportation goes for vehicle purchase, operation, and maintenance. Transportation expenditures have not increased as fast as vehicle-miles traveled per household. Household spending on transportation, of course, varies according to a number of factors, including age and location. For example, people in the western states spent more than those in any other region.

International trade is a growing part of the U.S. economy. The lowering of trade tariffs via the Free Trade Agreement of 1989 with

Canada and the North American Free Trade Agreement (NAFTA) of 1993 have contributed to the increasing importance of North American trade. Canada has been and remains the top trading partner of the United States. In 1999, Mexico surpassed Japan to become America's second largest trading partner. Still, trade with other countries remains very important. About 67 percent of foreign trade in 2000 was with countries other than Canada and Mexico. The vast majority of these goods are transported by ship. International waterborne trade has, therefore, grown along with international trade, while domestic waterborne transportation over the past 15 years has stayed relatively constant.

Transportation Demand in GDP Growth

Purchases of transportation-related goods and services accounted for 10.7 percent of the Gross Domestic Product (GDP) in 2000, or $1,054 billion (table 1) [1]. This broad measure, called transportation-related final demand, reflects all consumer and government purchases of goods and services and exports related to transportation. The list of purchases is diverse and extensive, including vehicles, parts, engines, fuel, maintenance, and auto insurance.

The share of transportation-related final demand in GDP has fluctuated slightly between 10.5 percent and 11.0 percent from 1975 through 2000. Only housing, health care, and food accounted for greater shares of GDP in 2000 (figure 1).

Source

1. U.S. Department of Transportation, Bureau of Transportation Statistics, 2001, based on data in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC: Various issues).

Table 1
Transportation-Related Components of U.S. Gross Domestic Product: 1975 and 2000
Billions of current dollars

	1975	2000
Personal consumption of transportation		
Motor vehicles and parts	54.8	346.8
Gasoline and oil	39.7	165.3
Transportation services	35.7	272.8
Total	***130.2***	***784.9***
Gross private domestic investment		
Transportation structures	1.4	5.2
Transportation equipment	1.9	195.9
Total	***3.3***	***201.1***
Exports (+)		
Civilian aircraft, engines, and parts	3.2	48.1
Automotive vehicles, engines, and parts	10.8	80.2
Passenger fares	1.0	20.7
Other transportation	5.8	30.2
Total	*20.8*	*179.2*
Imports (–)		
Civilian aircraft, engines, and parts	0.5	26.4
Automotive vehicles, engines, and parts	12.1	195.9
Passenger fares	2.3	24.2
Other transportation	5.7	41.1
Total	*20.6*	*287.6*
Net exports of transportation-related goods and services	***0.2***	***–108.4***
Government transportation-related purchases		
Federal	4.9	19.6
State and local	32.1	147.6
Defense-related	2.8	8.9
Total	***39.9***	***176.1***
Total transportation final demand[1]	173.6	1,053.7
Gross Domestic Product (GDP)	1,630.6	9,872.9
Total transportation in GDP (percent)	**10.6%**	**10.7%**

[1] Includes demand for transportation net exports, i.e., transportation imports subtracted from transportation exports.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, calculated from data in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* issues from 1975–October 2001.

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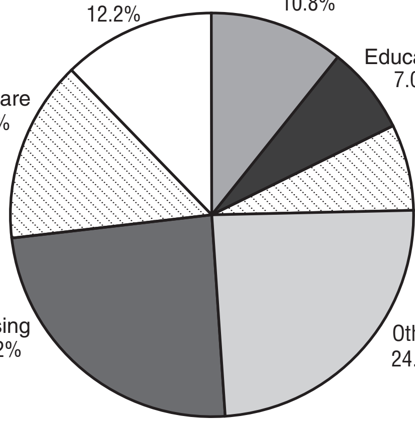
Figure 1
U.S. Gross Domestic Product by Major Societal Function: 2000



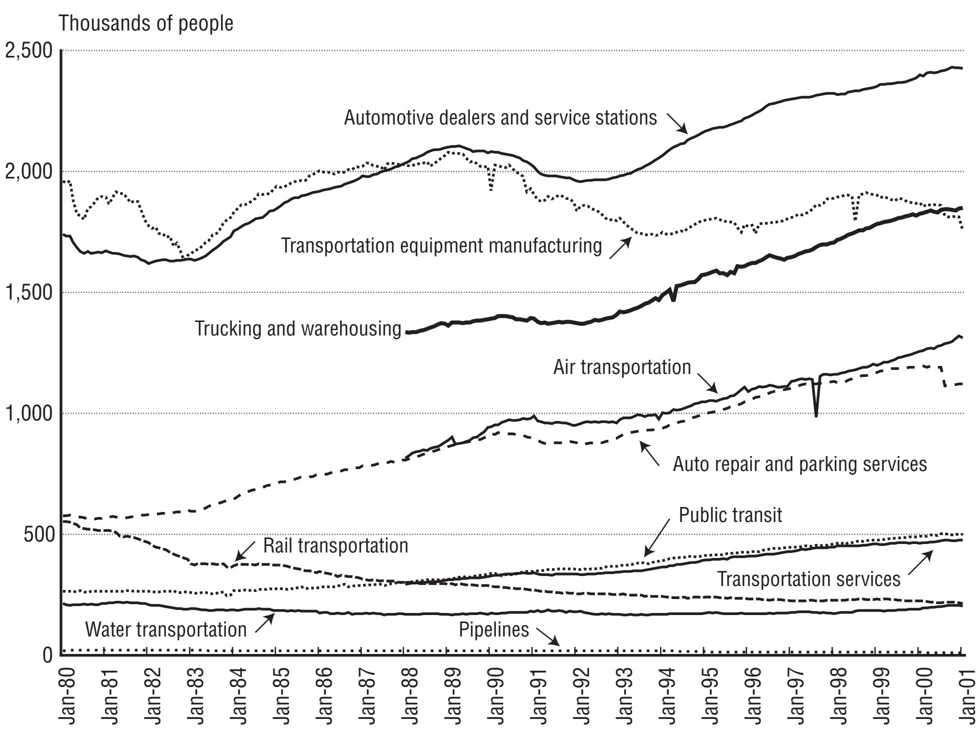
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, calculated from data in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* October 2001.

Transportation-Related Employment by Industry

Employment is an important indicator of economic growth and social well-being. At the beginning of 2001, more than 10 million people were employed in for-hire transportation, vehicle manufacturing, and related industries, such as automobile sales and repair. These jobs accounted for about 7.4 percent of total civilian employment. By the end of 2001, however, these jobs accounted for 7.3 percent (see box on the next page). The automotive dealers and service station industry has been the largest employer among transportation-related industries since the late 1980s, followed by transportation equipment manufacturing, trucking and warehousing, air transportation, and auto repair and parking services (figure 1).

Transportation-related industry employment data, however, do not include transportation occupations in nontransportation industries, such as truck drivers working for wholesale and retail stores. Based on data

Figure 1
Employment in Transportation-Related Industries: January 1980–January 2001
Seasonally adjusted



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Employees on Nonfarm Payrolls by Industry, Seasonally Adjusted," available at http://stats.bls.gov/web/empsit/supp.toc.html#btables, as of September 2001.

Transportation Employment Affected in 2001

Transportation industry employment in 2001, especially commercial aviation, was affected by the September 2001 terrorist attacks as well as a weakening economy. Air transportation employment was already declining from a high point of 1.32 million people in February 2001 when the terrorist attacks occurred. By December 2001, air transportation employment had fallen almost 10 percent to 1.19 million people. Overall employment in transportation dropped from 10.08 million people in January 2001 to 9.92 million in October, a decline of 1.5 percent [1].

from the U.S. Department of Labor's Bureau of Labor Statistics, the Bureau of Transportation Statistics estimated that in 2000 nontransportation industries employed about 2.7 million people in transportation occupations, such as truck drivers, bus drivers, and driver/sales workers; about 2.2 million in transportation-supporting occupations, such as travel agents, cargo and freight agents, and transit and rail police; and about 3.8 million in material-moving occupations, such as freight movers, truck loaders, and longshoremen. When these components are included, total transportation and related employment in 2000 would have accounted for 14 percent of employment, or one out of every seven U.S. civilian jobs [1].

Source

1. U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Indicators* (Washington, DC: April 2002).

For-Hire Transportation Industry

The for-hire transportation industry contributed $314 billion to the U.S. economy in 2000 (table 1). Its share in the Gross Domestic Product (GDP), however, has declined from 4.4 percent in 1960, to 3.6 percent in 1975, to 3.2 percent in 2000 (measured in current dollars) [1]. Many factors may explain this change, including the growth of in-house trucking services by companies that are not in the transportation business (e.g., grocery store chains) and a U.S. economy that is becoming increasingly service oriented.

Of all for-hire transportation industries, trucking and warehousing and air transportation contributed the largest share to U.S. GDP. In 2000, trucking and warehousing and air transportation contributed $126 billion and $93 billion, respectively. Together, they accounted for more than two-thirds of transportation GDP. Not surprisingly, air transportation had the highest growth rate followed by transportation services over the 1960 to 2000 period (figure 1). The trucking and warehousing industry experienced considerable growth from 1975 to 1985. While its growth rate declined from 1986 to 1995, it has picked up again since 1996 [1].

Source

1. U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product by Industry," available at http://www.bea.doc.gov/bea/dn2.htm, as of November 2001.

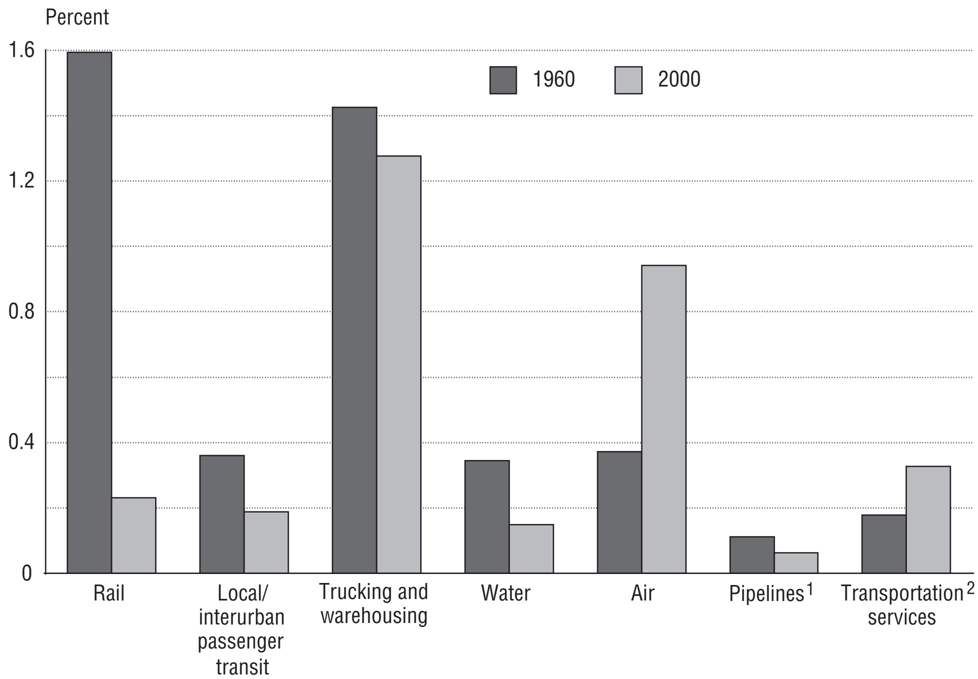
Table 1
U.S. Gross Domestic Product Attributed to For-Hire Transportation Industries
Billions of current dollars

Industry	1960	1965	1970	1975	1980	1985	1990	1995	2000
Gross domestic product	527.4	720.1	1,039.7	1,635.2	2,795.6	4,213.0	5,803.2	7,400.5	9,872.9
Transportation	**23.1**	**29.5**	**39.9**	**59.2**	**102.9**	**140.4**	**177.4**	**233.4**	**313.9**
Rail transportation	8.4	9.1	10.0	12.6	20.8	22.0	19.8	23.6	22.9
Local and interurban passenger transit	1.9	2.2	2.9	3.5	5.3	7.7	9.1	12.4	18.7
Trucking and warehousing	7.5	10.7	15.0	24.2	40.1	56.3	69.4	89.0	126.0
Water transportation	1.8	2.2	2.9	4.0	7.2	8.3	10.0	11.6	14.8
Air transportation	2.0	3.4	6.4	10.2	18.2	27.1	45.3	67.7	93.0
Pipelines, except natural gas	0.6	0.7	1.1	1.8	5.2	7.3	5.5	5.5	6.2
Transportation services[1]	0.9	1.3	1.6	3.1	6.2	11.7	18.2	23.5	32.3

[1] *Transportation services* include establishments furnishing services incidental to transportation (e.g., forwarding and packing services, and the arrangement of passenger and freight transportation) and is consistent with the U.S. Department of Labor's Standard Industrial Classification for transportation services (SIC-4700).

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product by Industry," available at http://www.bea.doc.gov/bea/dn2.htm, as of November 2001.

Figure 1
For-Hire Transportation Shares in the Gross Domestic Product: 1960 and 2000



[1] Pipelines does not include natural gas.
[2] *Transportation services* include establishments furnishing services incidental to transportation (e.g., forwarding and packing services, and the arrangement of passenger and freight transportation) and is consistent with the U.S. Department of Labor's Standard Industrial Classification for transportation services (SIC-4700).

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product by Industry," available at http://www.bea.doc.gov/bea/dn2/gpo.htm, as of November 2001.

Transportation Labor Productivity

For the last 25 years, transportation has been one of the leaders in U.S. productivity growth. As shown in figure 1, U.S. business sector productivity, measured in real output per employee, grew 46 percent between 1975 and 1999. In contrast, several transportation modes had much higher growth rates over this period. For example, between 1975 and 1999, railroad labor productivity grew 294 percent; for-hire trucking grew 105 percent; air transportation grew 95 percent; and pipeline grew 65 percent. In recent years, however, labor productivity growth in the trucking industry and air transportation flattened out. When compared with the economy as a whole, labor productivity in the railroad and pipeline industries continues to increase at a faster rate, while the bus mode fluctuates from year to year [1]. Data for water transportation are not available, because the Bureau of Labor Statistics (BLS) does not currently produce this series. The Bureau of Transportation Statistics is working with BLS to initiate data collection for this mode.

Deregulation, technological change, and labor force reductions have all contributed to higher labor productivity in transportation. Specifically, air transportation labor productivity increased because of the introduction of larger and faster aircraft, computerized passenger reservation systems, the hub-and-spoke flight network, and changes in requirements for flight personnel. In the railroad industry, consolidation of companies, more efficient use of equipment and lines, increased ton-miles, and labor force reductions have played a role.

Source

1. U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, "Historical Indexes of Output per Employee, All Published Industries, Productivity Trends for Transportation Industries," available at ftp://ftp.bls.gov/pub/special.requests/opt/dipts/oaehaiin.txt, as of October 2001.

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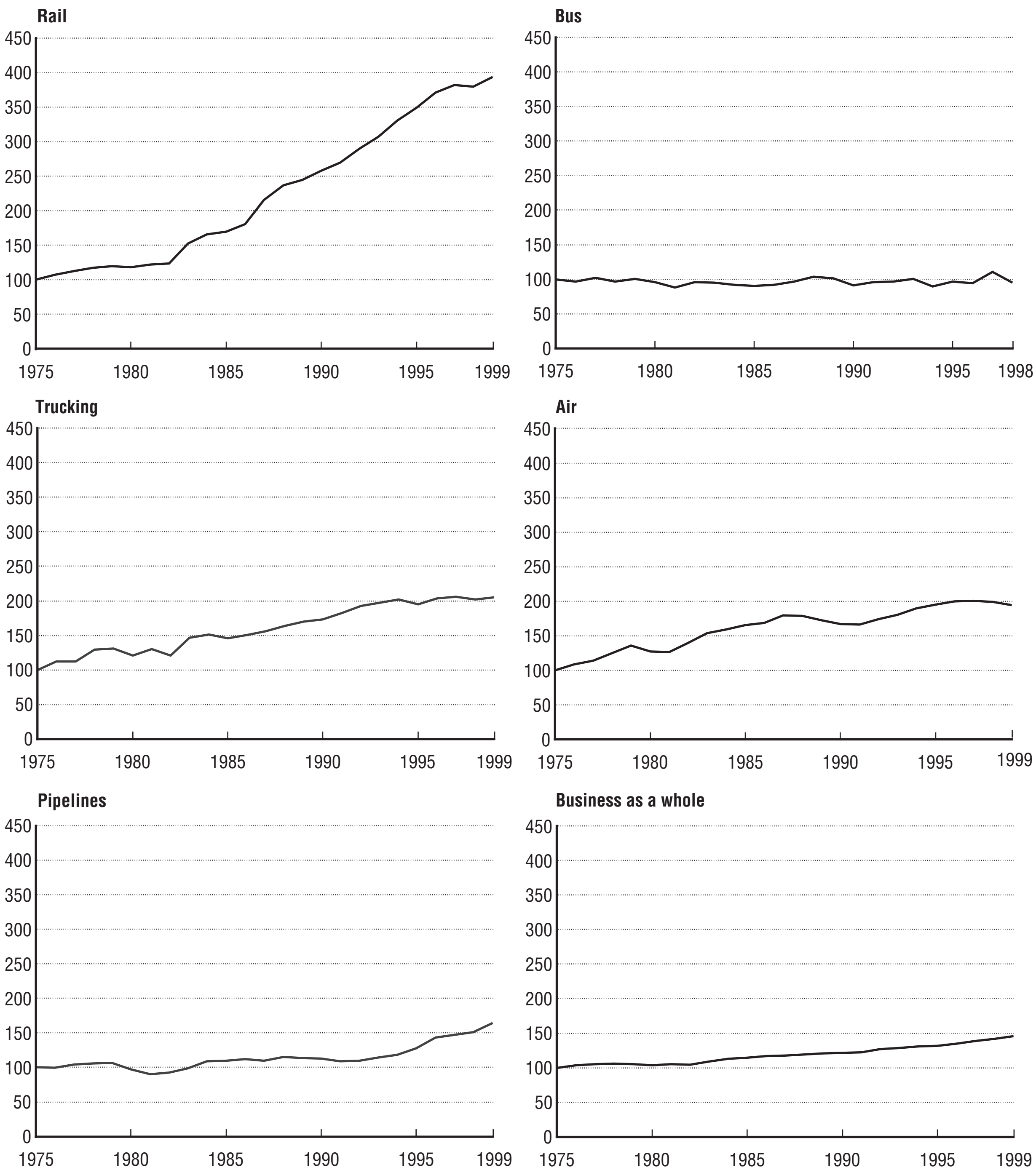
Figure 1
Labor Productivity Trends by Mode
Index: 1975 = 100



NOTES: Output is measured by quality-adjusted ton- and passenger-miles for railroad and air transportation, quality-adjusted ton-miles for trucking and pipelines, and passenger-miles for buses. Quality-adjusted refers to differences in services and handling, e.g., the difference between flying first class and coach or differences in the handling requirements and revenue generation of high- and low-value commodities. No data are available for water transportation. Most recent data available are provided.

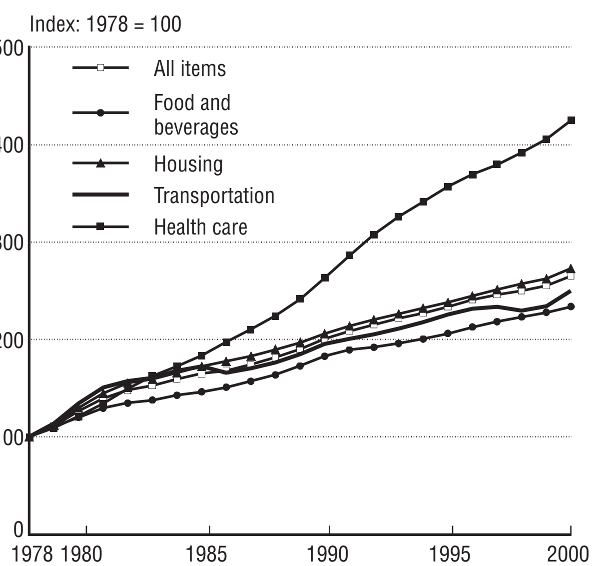
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, available at http://www.bls.gov/iprdata1.htm, as of May 2001.

Consumer Prices for Transportation

Improvements in transportation labor productivity have made transportation less expensive for consumers. Since 1978, transportation prices increased less than those for other major consumer expenditure categories. For example, the price for the same amount of goods or services increased 172 percent for housing and 322 percent for health care between 1978 and 2000 (figure 1). By comparison, the overall price of transportation increased 148 percent. In more recent years, from 1994 to 2000, price inflation for transportation was the lowest among the four major consumer expenditure categories.

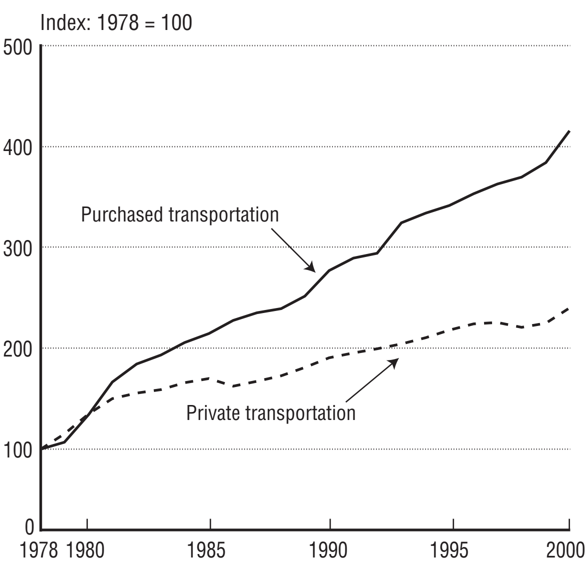
Within transportation, the price for consumer-operated transportation (e.g., private passenger car transportation) increased more slowly than for purchased transportation services. Between 1978 and 2000, the price of consumer-operated transportation increased 139 percent, while the price of purchased transportation services increased 307 percent (figure 2).

Figure 1
Consumer Price Indexes for Selected Items: 1978–2000



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, data available at http://www.bls.gov/cpihome.htm, as of May 2001.

Figure 2
Consumer Price Indexes for Purchased and Private Transportation Services: 1978–2000



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, data available at http://www.bls.gov/cpihome.htm, as of May 2001.

Gasoline Prices

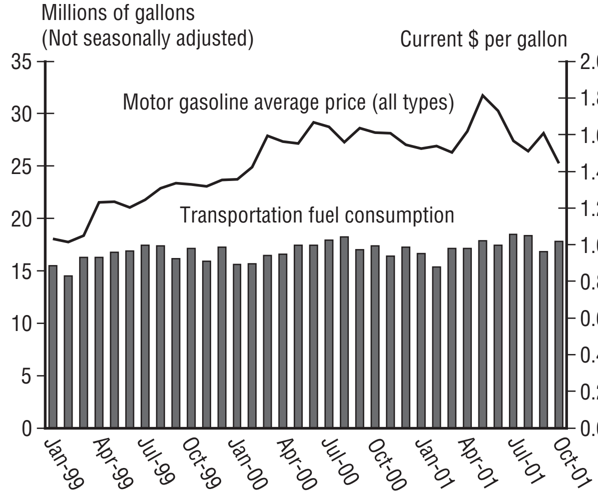
Fuel prices tend to fluctuate, affecting both individual consumers and industry. The average price of motor gasoline in the United States peaked in 2000 at $1.67 per gallon in June but hit a low of $1.56 in August. In 2001, the average price peaked at $1.81 in May. Although these fuel prices were far below record highs in real terms, the rapid rises attracted consumer attention and affected the profitability of transportation industries, whose profit margins, on average, have been less than 7 percent in the past few years [1].

One important factor underlying the volatility of motor gasoline price in the United States is the relative insensitivity of consumption to price changes (figure 1).[1] Thus, the price of motor gasoline is almost completely, at least in the short run, dependent on supply. A small shortage in supply would cause a large increase in price, while a small surplus in supply would cause a large decrease in price.

In the latter half of 2001, due to the already slowing U.S. economy and particularly the reduction in some travel after the September terrorist attacks, demand for gasoline fell short of its anticipated level. This, in turn, resulted in a short-run gasoline supply surplus. Gasoline prices reacted instantly, falling from $1.61 per gallon in September to $1.44 per gallon in October 2001.

The Bureau of Transportation Statistics has developed a method for measuring the impact of fuel price changes on the transportation industry. This analysis, based on fuel cost per dollar of net output, shows that higher fuel prices in 2000 impacted the railroad, transit, air, and trucking modes more than they did water transportation and pipelines. For instance, higher prices in 2000 cost railroads and transit an estimated additional 11 cents to produce $1 of net output, while the additional costs for water transportation and pipelines were 3 and 0.5 cents, respectively (figure 2) [2, 3, 4].

Figure 1
Price of Motor Gasoline[1] vs. Consumption: January 1999–October 2001



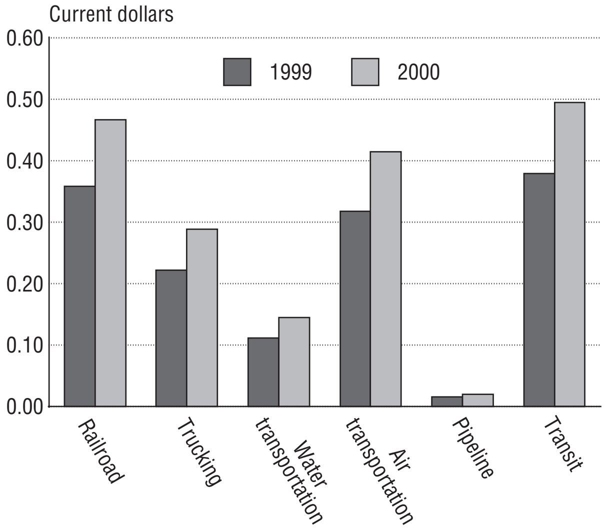
[1]Includes all types of gasoline and automotive diesel.

NOTE: Monthly motor fuel consumption data are estimated based on a total of finished motor gasoline produced and imported, subtracted from the change in stocks and exports.

SOURCES: Fuel price data—U.S. Department of Labor, Bureau of Labor Statistics, Average Price Data, U.S. City Average, Gasoline (all types), monthly, November 2001.
Fuel consumption data—U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Department of Energy, Energy Information Administration, "Energy Consumption by Transportation Sector," monthly, November 2001.

[1] A Bureau of Transportation Statistics analysis in 2000 concluded that the price of motor gasoline has to increase 14 percent for a 1 percent reduction in motor gasoline consumption to occur in the United States.

Figure 2
Fuel Cost per Dollar of Net Output of the For-Hire Transportation Industries: 1999 and 2000



SOURCE: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), estimates based on U.S. Department of Energy, Energy Information Administration, "Energy Consumption by Transportation Sector," monthly, November 2001; U.S. Department of Commerce, Bureau of Economic Analysis, "Gross Product by Industry," November 2001; and USDOT, BTS, U.S. 1996 Transportation Satellite Accounts.

Sources

1. U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* various issues.
2. ____. "Gross Domestic Product by Industry," October 2000.
3. U.S. Department of Transportation, Bureau of Transportation Statistics, estimates based on U.S. Department of Energy, Energy Information Administration, "Energy Consumption by Transportation Sector," monthly reports, 2001.
4. ____. *U.S. Transportation Satellite Accounts for 1996*, data, available at http://www.bea.doc.gov/bea/dn2. htm, as of May 2001.

Household Spending on Transportation

Households spend more money, on average, on transportation than any other expenditure category except housing. In 2000, households spent about $7,400 on transportation, or 19.5 percent of their total spending (table 1). This share was about the same as in 1984 (the first year for which data are available). Roughly 94 percent of household transportation expenditures in 2000 went to purchase, maintain, and operate cars and other private vehicles. Purchased transportation services, including airline, intercity train and bus, and mass transit, accounted for less than 6 percent of household transportation expenditures that year (table 2).

Measured in constant 1982 dollars, household transportation expenditures increased almost 17 percent between 1984 and 2000 (figure 1). During the same period, vehicle-miles traveled per household increased about 28 percent, indicating that transportation has become cheaper to consumers.

Table 1
Consumer Expenditure Trends

	1984	1990	2000
Average annual household expenditures (current $)	$21,975	$28,381	$37,027
Category	**Percentage of total expenditures**		
Housing	30.4	30.7	32.4
Transportation	19.6	18.0	19.5
Food	15.0	15.1	13.6
Personal insurance and pensions	8.6	9.1	8.8
Apparel and services	6.0	5.7	4.9
Health care	4.8	5.2	5.4
Education	2.0	2.0	1.7
Other	13.7	14.7	13.8

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1984–2000, available at http://www.bls.gov, as of April 2002.

Table 2
Household Transportation Expenditures: 2000

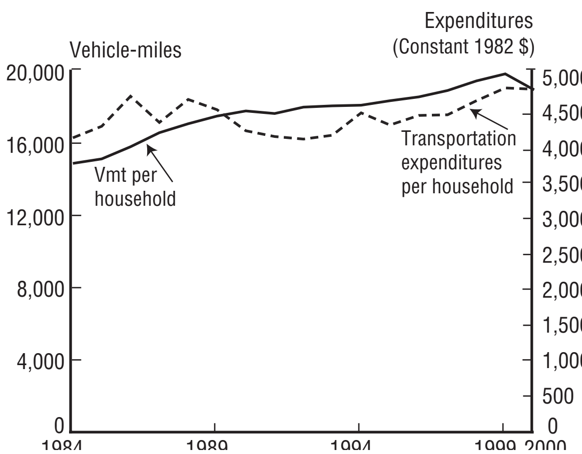
Type of expenditure	
Average annual household transportation expenditures (current $)	$7,417
Components and their shares	**Percent**
Vehicle purchases	**46.1**
Cars and trucks, new	23.9
Cars and trucks, used	21.6
Other vehicles	0.6
Gasoline and motor oil	**17.4**
Other vehicle expenses	**30.8**
Vehicle insurance	10.5
Maintenance and repairs	8.4
Vehicle rental, lease, license, and other charges	7.4
Vehicle finance charges	4.4
Purchased transportation services	**5.8**

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 2000, available at http://www.bls.gov, as of April 2002.

Household transportation expenditures vary by region (table 3). Households in the western part of the country spent more on transportation in 2000 than did households in the three other regions.[1] However, five years earlier, households in the Midwest were spending more. Transportation expenditures in the Northeast have always been the lowest both in terms of total amount and share of household spending. A reason for this phenomenon is that households in the Northeast are more reliant on public transportation. In 2000, for

[1] The regional comparisons here and the following urban/rural and age group comparisons have not been tested for statistical significance.

Figure 1
Average Household Transportation Expenditures and Vehicle-Miles Traveled: 1984–2000



SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics:
Estimates of vehicle-miles traveled (vmt) calculated from data in U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: 1984–2000).
Estimates of transportation expenditures calculated from data in U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1984–2000, available at http://www.bls.gov.cex/home.htm, as of June 2002.

instance, households in the Northeast spent an average of $600 or 9 percent of their transportation expenditures on public transportation. This compares with $283 (4 percent) in the South, $403 (5 percent) in the Midwest, and $527 (7 percent) in the West [1].

Spending on transportation differs among rural and urban households as well. During much of the 1990s, rural households, on average, spent more on transportation than urban households. In 2000, for instance, average urban household transportation expenditures were $7,410, while those of rural households were $7,467 [1].

Not surprisingly, the age of the head of the household also has an impact on transportation spending (see figure 2 on the next page). Household transportation expenditures rise as the age of the head of the household increases, peaking between 45 and 54 years of age and

Table 3
Annual Household Transportation Expenditures by Region: 1995 and 2000

	Northeast	Midwest	South	West
	Transportation expenditures (in current dollars)			
1995	$5,471	$6,367	$6,046	$6,057
2000	$6,664	$7,841	$7,211	$7,943
	Share of household total expenditures			
1995	16.6%	20.0%	20.0%	17.2%
2000	17.1%	20.0%	20.8%	19.2%

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1995 and 2000, available at http://www.bls.gov, as of April 2002.

then decreasing. In 2000, for example, households in which the head of the household was between 45 and 54 years of age spent, on average, $8,827 on transportation, while households in the under 25 years of age bracket spent about 60 percent of that amount. Spending on transportation was lowest ($2,875) in households headed by people 75 years of age or older. However, transportation as a share of total household expenditures was highest in young households, averaging 23 percent. The percentage decreased gradually as age increased, reaching its lowest point at 13 percent for households in the 75 years and over age bracket.

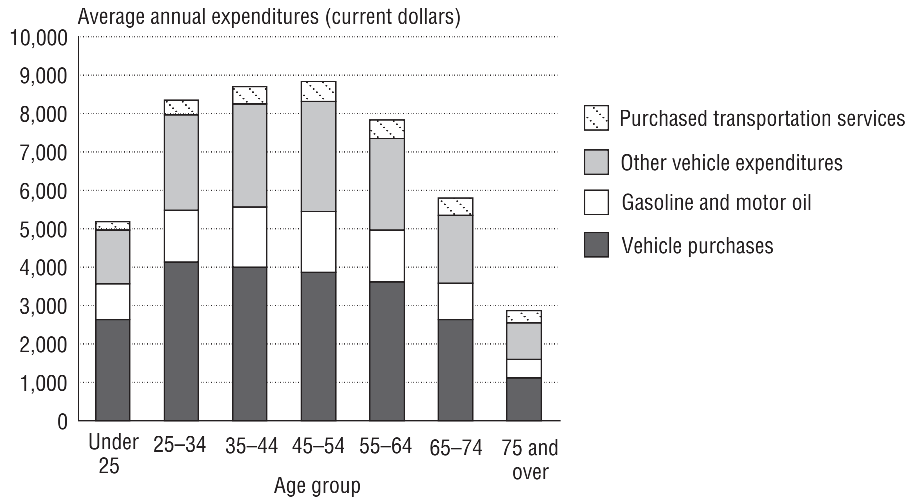
Half of the transportation expenditures in young households were to purchase vehicles, compared with 39 percent for households in the oldest age group. Moreover, younger households spent a smaller share of transportation expenditures on purchased transportation services, such as air travel, mass transit, and taxi fares [1].

Source

1. U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 2000, available at http://www.bls.gov, as of April 2002.

(continues on next page)

Figure 2
Household Transportation Expenditures by Age Group: 2000



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 2000, available at http://www.bls.gov, as of April 2002.

Government Transportation Revenues and Expenditures

Each year in the United States, federal, state, and local governments collect various transportation revenues—usually in the form of taxes—and spend these revenues to improve their transportation systems.[1] In 2001, the Bureau of Transportation Statistics (BTS) concluded a study of government transportation financial statistics covering fiscal years 1985 to 1999[2] [1].

According to the BTS study, the inflation-adjusted transportation revenues of all governments totaled $118.9 billion in 1999[3] ($126.9 billion in current dollars), an increase of 64 percent since 1985 (table 1). Between 1985 and 1999, states collected most of the revenues (47 percent, on an annual average basis), followed by the federal government (34 percent) and local governments (19 percent). Revenues of the federal government, however, grew the fastest (90 percent). But much of this growth occurred from 1997 to 1999, partly a consequence of changes in federal management of transportation funds required by the Transportation Equity Act of the 21st Century. Between 1985 and 1999, local government revenues grew 69 percent and state revenues, 42 percent.

Table 1
Government Transportation Revenues
Chained 1996 $ in billions

Fiscal year	Federal	State	Local	Total
1985	25.8	33.9	12.9	72.6
1990	26.1	40.2	15.9	82.2
1995	30.8	45.9	19.1	95.8
1999	48.9	48.2	21.8	118.9

SOURCES: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, compiled from:
Federal highways and transit: USDOT, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table FE-210, pp. IV–22 (Historical Data).
Federal air: USDOT, Federal Aviation Administration, *Budget in Brief* (Washington, DC: Annual issues), available at http://www.faa.gov/aba/html_budget/index.html, as of October 2001.
Federal water and pipeline: Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States Government: Appendix* (Washington, DC: Annual issues).
State and local: U.S. Department of Commerce (USDOC), U.S. Census Bureau, "State and Local Government Finance Estimates," available at ftp://ftp.census.gov/pub/outgoing/govs/, as of October 2001.
Chain-type price index: USDOC, Bureau of Economic Analysis, "National Income and Product Accounts Tables," 2001, table 7.1, Quantity and Price Indexes for Gross Domestic Product, available at http://www.bea.doc.gov/bea/dn/nipaweb/, as of October 2001.

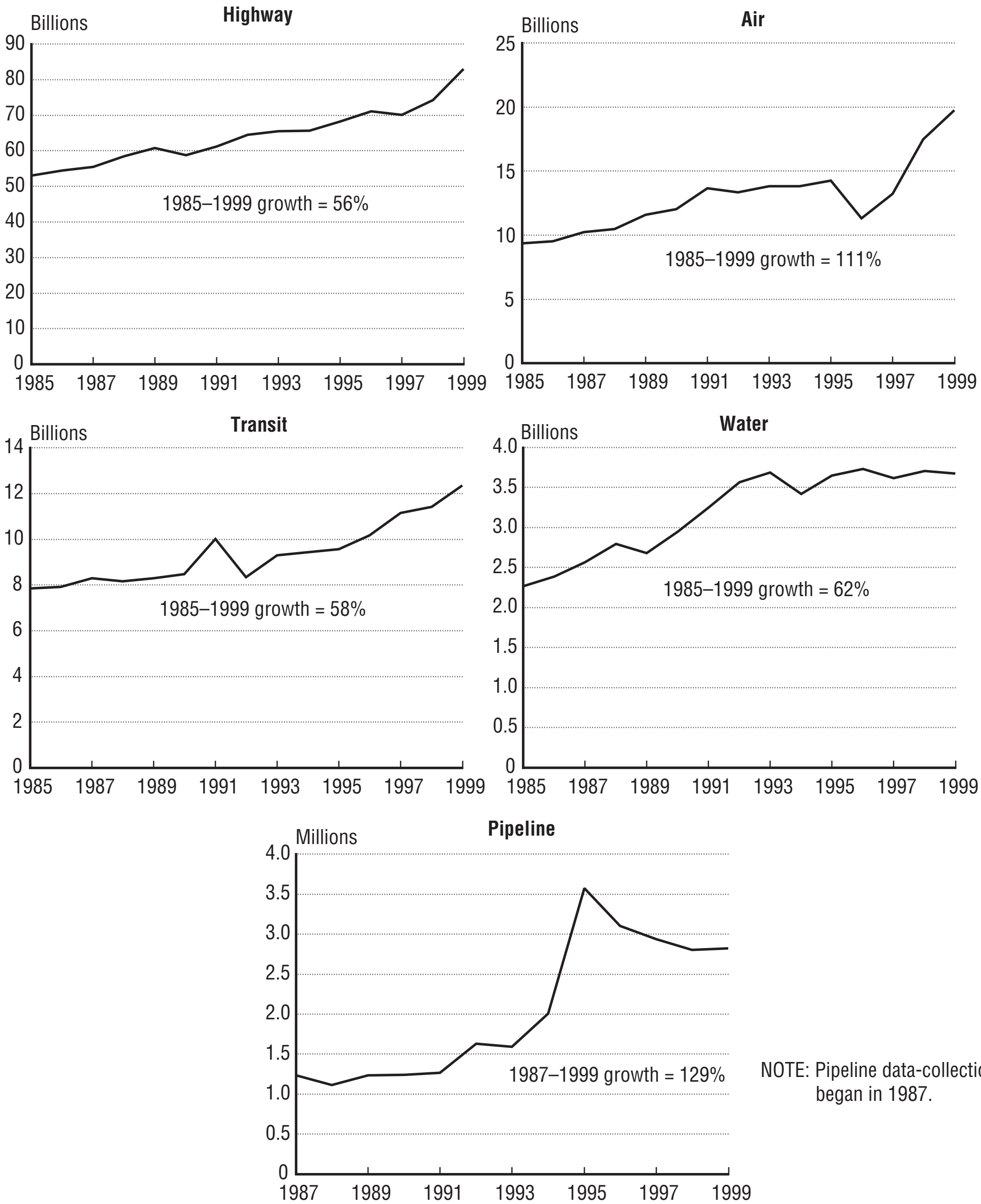
On a modal basis, revenues vary by mode and annually (figure 1). Highways, for instance, generated the most revenues between 1985 and 1999, while pipeline revenues made up less than 1 percent of the total. Federal and state motor fuel taxes and state motor vehicle taxes were the most important sources of revenues for the highway mode, averaging 80 percent of highway collections from 1985 through 1999. Federal passenger and local airport charges are the major sources of revenues for air, also aver-

[1] Transportation revenues include money received by the government from transportation-related taxes, user charges, or fees earmarked to fund transportation-related expenditures. The following types of receipts are not counted as transportation revenues: 1) taxes collected from users of the transportation system that go into a general fund; 2) nontransportation-related general fund revenues that are used to finance transportation activities; 3) proceeds from borrowing, whether short term or long term; and 4) proceeds from the sale of investments and the payment of loans.

[2] 1999 is the latest year for which the data from all three levels of government were available.

[3] The data presented here are in chained 1996 dollars, unless otherwise noted.

Figure 1
Government Transportation Revenues by Mode: FY 1985–1999
Chained 1996 dollars



NOTE: Pipeline data-collection began in 1987.

SOURCES: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, compiled from:
Federal highway, transit, rail, pipeline, and general support: USDOT, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table FE-210, pp. IV–22.
Federal air: USDOT, Federal Aviation Administration, *Budget in Brief* (Washington, DC: Annual issues), available at http://www.faa.gov/aba/html_budget/index.html, as of October 2001.
Federal water and pipeline: Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States Government: Appendix* (Washington, DC: Annual issues).
State and local: U.S. Department of Commerce (USDOC), U.S. Census Bureau, "State and Local Government Finance Estimates," available at ftp://ftp.census.gov/pub/outgoing/govs/, as of October 2001.
Chain-type price index: USDOC, Bureau of Economic Analysis, "National Income and Product Accounts Tables," 2001, table 7.1, Quantity and Price Indexes for Gross Domestic Product, available at http://www.bea.doc.gov/bea/dn/nipaweb/, as of October 2001.

aging 80 percent. The bulk of transit revenues (56 percent) were raised through local transit charges, with 30 percent coming from the transit account of the Highway Trust Fund and 14 percent from state transit charges. Local government water charges (44 percent),[4] federal water receipts (41 percent),[5] and state water charges (15 percent) were the main sources of water mode revenues.

Railroad activity also generates government revenues, but because the revenues are not specifically earmarked to fund transportation programs, they are not treated as transportation-related revenues [1]. For instance, federal taxes on rail fuel are put into the U.S. general fund and hence are not treated as transportation revenues. In addition, state and local taxes on rail property (and the property of other modes) are not treated as transportation-related revenues, because the amount of these revenues that may be used for transportation projects is not known. Amtrak, the national passenger railroad service, is not an entity of the federal government; as such, its revenues are not considered government transportation revenues.

In 1999, transportation-related spending by all levels of government reached $144.9 billion ($154.8 billion in current dollars), an increase of 35 percent over 1985 (table 2). These transportation expenditures represented about 5 percent of total government spending.

[4] Local and state water charges include, for example, canal tolls and user fees for commercial or industrial water transport and port terminal facilities.

[5] Federal water receipts include, for example, amounts received from harbor maintenance user fees, St. Lawrence Seaway toll charges, inland waterway fuel taxes, excise taxes, the Oil Spill Liability Trust Fund, the Offshore Oil Pollution Fund, and the Deep Water Port Liability Fund.

Table 2
Government Transportation Expenditures
Chained 1996 $ in billions

Fiscal year	Federal	State and local	Total
1985	39.6	67.9	107.5
1990	37.7	81.0	118.6
1995	41.6	91.8	133.5
1999	41.4	103.6	144.9

SOURCES: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, compiled from:
Federal highway, transit, rail, pipeline, and general support: USDOT, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table FE-210, pp. IV–22. Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States Government: Appendix* (Washington, DC: Annual issues).
Federal air and water: Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States FY 2002—Public Budget Database,* "Outlays," available at http://w3.access.gpo.gov/usbudget/fy2002/db.html, as of October 2001. ____. *Budget of the United States Government: Appendix* (Washington, DC: Annual issues). National Aeronautics and Space Administration, *Aeronautics and Space Report of the President* (Washington, DC: Annual issues), appendix E-3, available http://www.hq.nasa.gov/office/hqlibrary/books/nasadoc.html, as of October 2001. U.S. Army Corps of Engineers, personal communication, October 2001.
State and local: U.S. Department of Commerce (USDOC), U.S. Census Bureau, "State and Local Government Finance Estimates," available at ftp://ftp.census.gov/pub/outgoing/govs/, as of October 2001.
Chain-type price index: USDOC, Bureau of Economic Analysis, "National Income and Product Accounts Tables," 2001, table 7.1, Quantity and Price Indexes for Gross Domestic Product, available at http://www.bea.doc.gov/bea/dn/nipaweb/, as of October 2001.

State and local spending (of their own funds) together amounted to $103.6 billion in 1999 and experienced higher growth (53 percent) than did federal spending from 1985 to 1999.

During the 1985 to 1999 period, almost two-thirds (61 percent, on average) of total government transportation spending was on highways (figure 2). Rail and pipeline, meanwhile, accounted for less than 1 percent each.

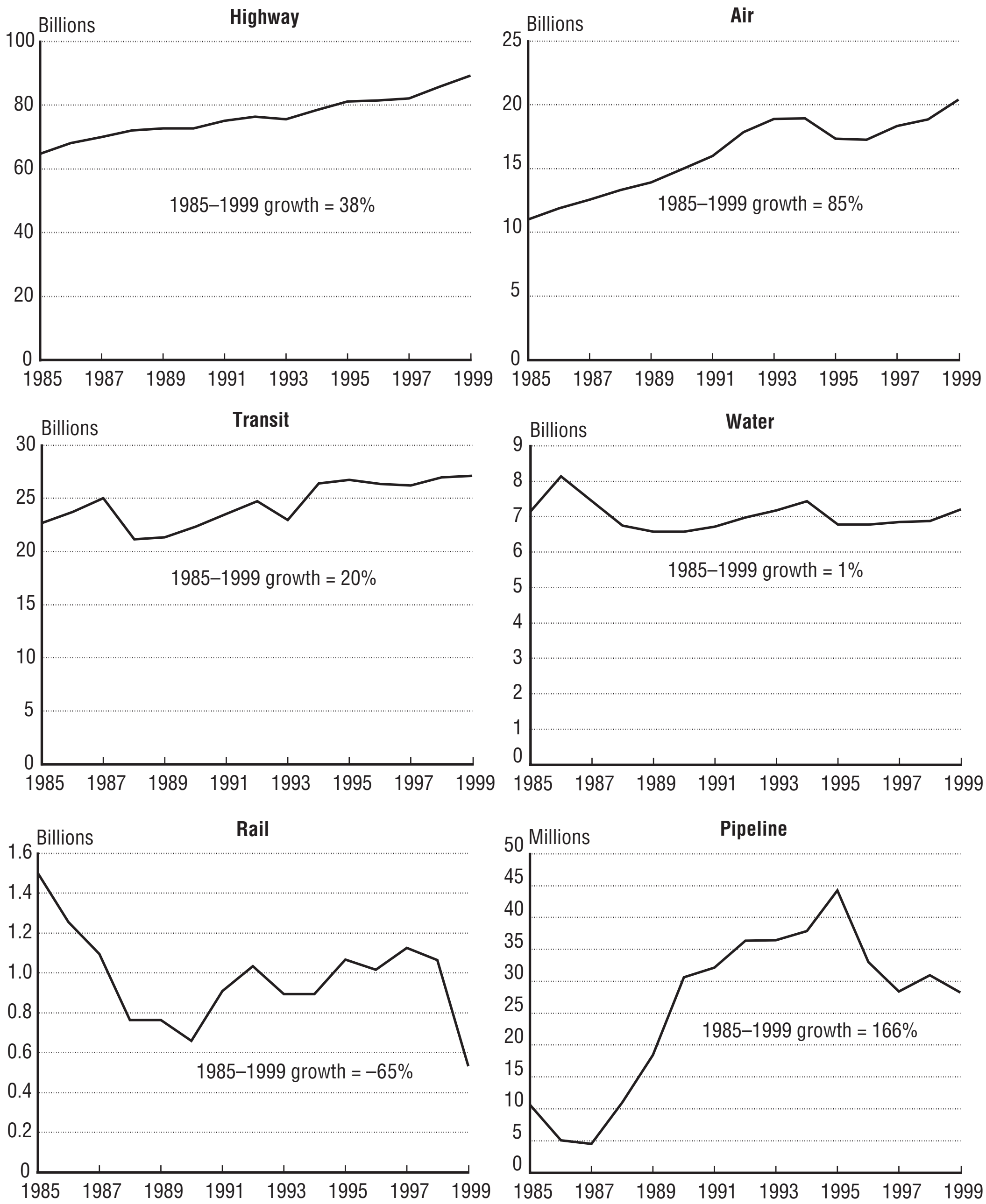
State and local governments' own transportation revenues are augmented annually by federal grants. Between 1985 and 1999, these grants remained almost constant, increasing only about 4 percent to $26.3 billion. A major share (76 percent, on average) of the federal grants went to highways, followed by transit (17 percent) and air (6 percent). Less than 1 percent of the federal grants were used for water, rail, and pipeline programs during the same period.

Per capita revenues and expenditures differ substantially at the state level. In 1999, for instance, per capita revenues fluctuated from $155 in South Carolina to $772 dollars in the District of Columbia, while per capita expenditures ranged from $288 in South Carolina to $2,054 in the District of Columbia (see maps, pages 208–209). Most states raised more and spent more per capita on transportation activities in 1999 compared with 1985.

Source

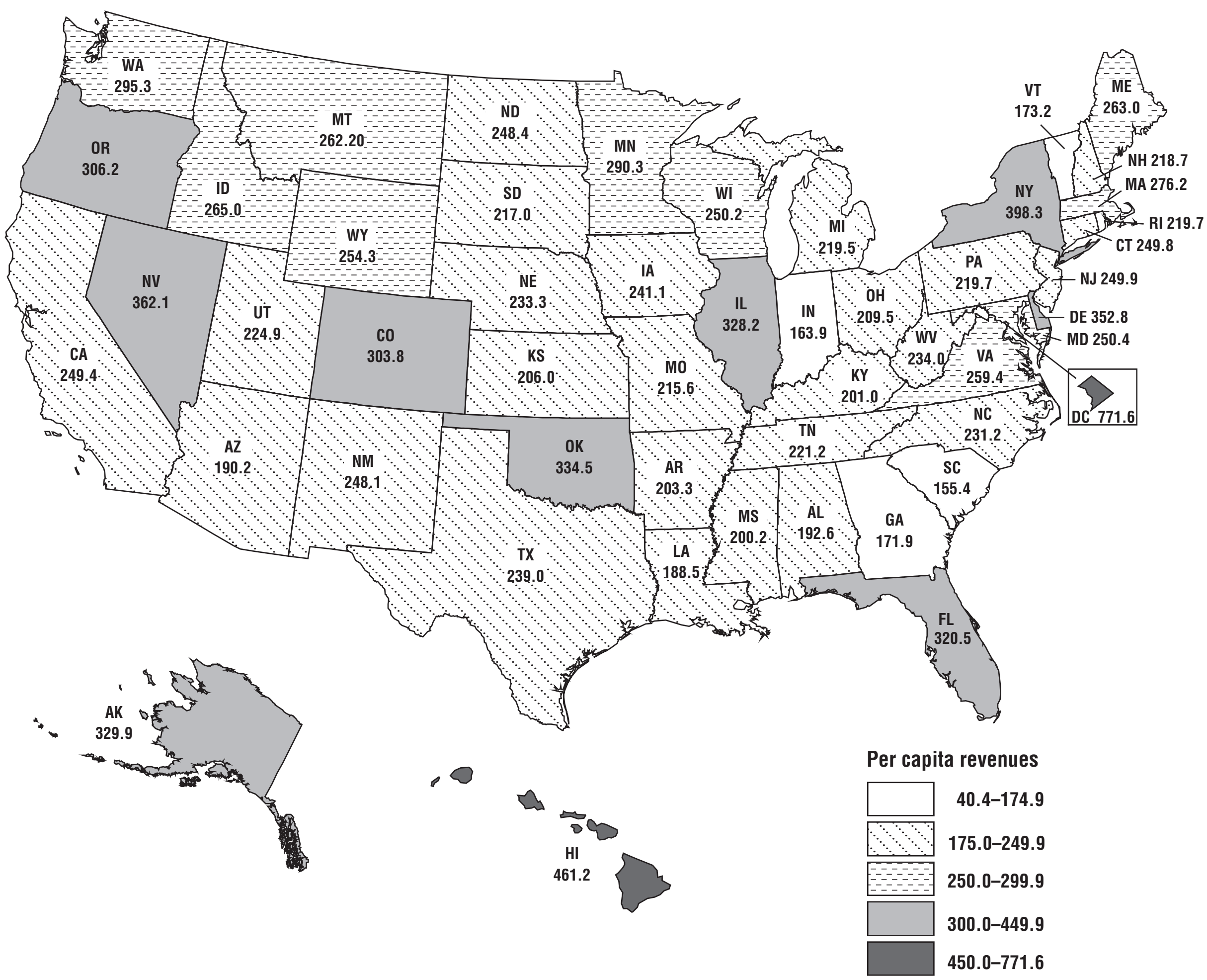
1. U.S. Department of Transportation, Bureau of Transportation Statistics, *Government Transportation Financial Statistics 2001,* available at http://www.bts.gov, as of July 2002.

Figure 2
Government Transportation Expenditures by Mode: FY 1985–1999
Chained 1996 dollars



SOURCES: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, compiled from:
Federal highway, transit, rail, pipeline, and general support: USDOT, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table FE-210, pp. IV–22. Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States Government: Appendix* (Washington, DC: Annual issues).
Federal air and water: Executive Office of the President of the United States, Office of Management and Budget, *Budget of the United States FY 2002—Public Budget Database,* "Outlays," available at http://w3.access.gpo.gov/usbudget/fy2002/db.html, as of October 2001.
____. *Budget of the United States Government: Appendix* (Washington, DC: Annual issues). National Aeronautics and Space Administration, *Aeronautics and Space Report of the President* (Washington, DC: Annual issues), appendix E-3, available http://www.hq.nasa.gov/office/hqlibrary/books/nasadoc.html, as of October 2001. U.S. Army Corps of Engineers, personal communication, October 2001.
State and local: U.S. Department of Commerce (USDOC), U.S. Census Bureau, "State and Local Government Finance Estimates," available at ftp://ftp.census.gov/pub/outgoing/govs/, as of October 2001.
Chain-type price index: USDOC, Bureau of Economic Analysis, "National Income and Product Accounts Tables," 2001, table 7.1, Quantity and Price Indexes for Gross Domestic Product, available at http://www.bea.doc.gov/bea/dn/nipaweb/, as of October 2001.

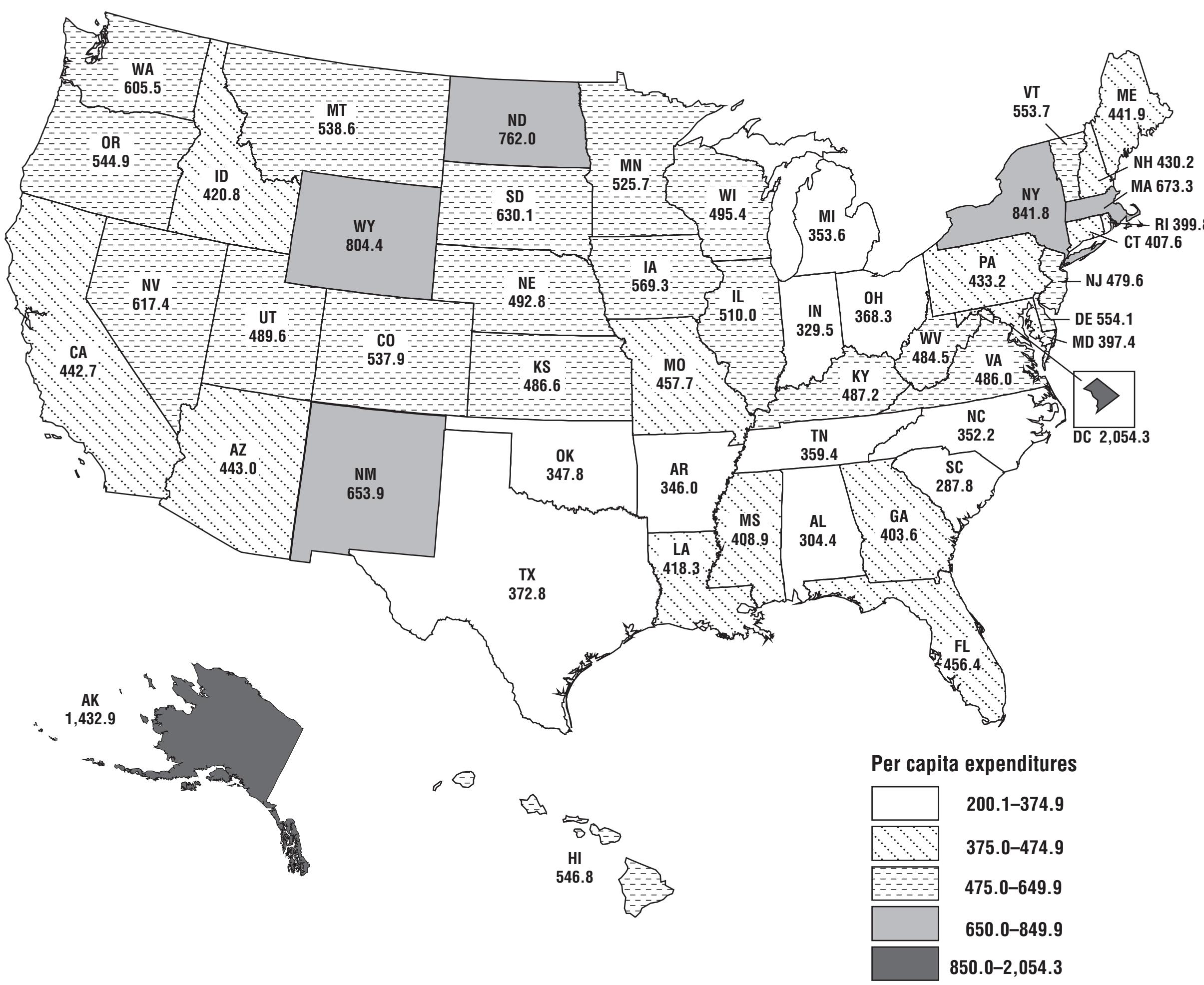
Per Capita State and Local Transportation Revenues: FY 1999
Chained 1996 dollars



NOTE: Includes highway, air, transit, and water transportation.

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Department of Commerce, U.S. Census Bureau, "State and Local Government Finance Estimates" and "State Population Estimates," 1985 and 1999.

Per Capita State and Local Transportation Expenditures After Federal Grants: FY 1999
Chained 1996 dollars



NOTE: Includes highway, air, transit, and water transportation.

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Department of Commerce, U.S. Census Bureau, "State and Local Government Finance Estimates" and "State Population Estimates," 1985 and 1999.

Fuel Tax Revenue

Over half of the revenue for the Highway Trust Fund (HTF), which provides funding for surface transportation, comes from federal motor fuel taxes paid by households (figure 1 and box). In 1970, for example, households paid $8.5 billion (chained 1998 dollars) in federal motor fuel taxes, accounting for about 50 percent of HTF revenue. By 1999, the share of federal motor fuel taxes paid by households increased to 58 percent of the HTF, or $18.8 billion.

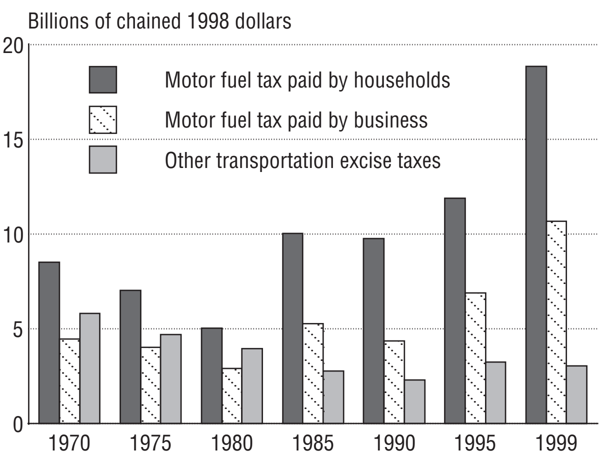
Households paid an average of $185 each in 1999 in federal fuel taxes, nearly six times the amount they did in 1966, when measured in current dollars (figure 2a). However, when the effect of inflation is removed, federal motor fuel taxes paid by the average American household increased by only 31 percent between 1966 and 1999 (figure 2b), while household real disposable income rose by 64 percent. Hence, the share of federal motor fuel tax in household disposable income decreased from 0.37 percent in 1966 to 0.29 percent in 1999 (figure 3).

Improvements in automobile fuel economy were largely responsible for the slower growth of household motor fuel consumption and hence household expenditures on the motor fuel tax relative to the growth of household income and travel demand. Between 1966 and 1999, vehicle-miles traveled per household increased 77 percent, while motor fuel consumption per household increased only 21 percent.

Where the Fuel Tax Revenues are Kept

States have collected taxes on gasoline since 1919, and in 1932 the U.S. Congress enacted the first federal tax on gasoline. These taxes were initially deposited in the General Fund. Beginning in 1956, federal motor fuel taxes were earmarked for the federal Highway Trust Fund. Since then, motor fuel taxes have increased several times (e.g., 9 cents per gallon in 1983, 14.1 cents per gallon in 1990, and 4.3 cents per gallon in 1993). Between December 1990 and October 1997, a percentage of the increase in federal motor fuel taxes was deposited in the General Fund for deficit reduction.

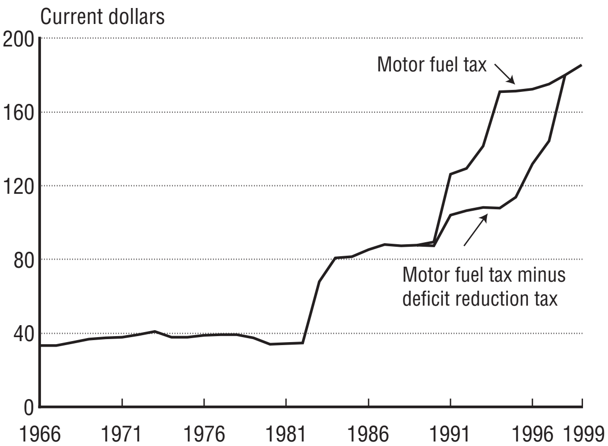
Figure 1
Highway Trust Fund Revenue Sources



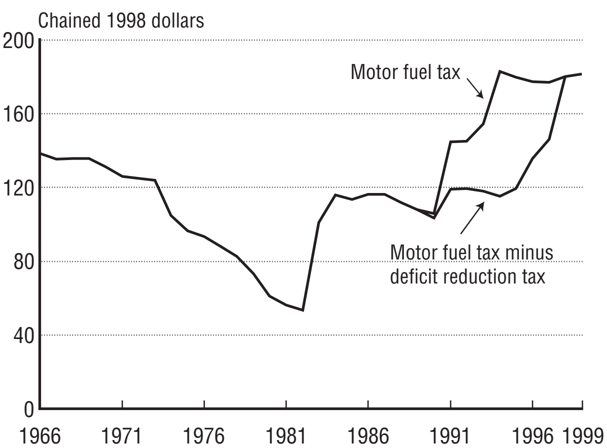
SOURCES:
U.S. Department of Transportation, Bureau of Transportation Statistics, "Federal Gas Tax: Household Expenditures from 1965 to 1995," *TranStat,* August 1997.
1999 data—U.S. Department of Transportation, Bureau of Transportation Statistics estimates based on U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* various issues; U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1999; and U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1999* (Washington, DC: 2000).

Figure 2
Federal Motor Fuel Tax per Household: 1966–1999

(a) Current dollars

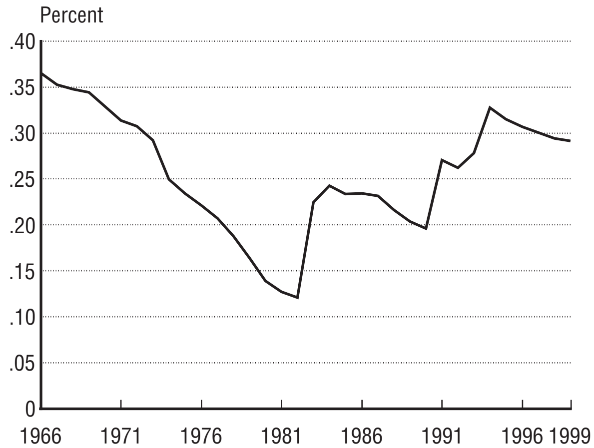


(b) Chained dollars



SOURCES:
U.S. Department of Transportation, Bureau of Transportation Statistics, "Federal Gas Tax: Household Expenditures from 1965 to 1995," *TranStat,* August 1997.
1998 and 1999 data—U.S. Department of Transportation, Bureau of Transportation Statistics estimates based on U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* various issues; U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1996, 1997, 1998, and 1999; and U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1999* (Washington, DC: 2000).

Figure 3
Share of Federal Motor Fuel Tax in Household Disposable Income: 1966–1999



SOURCES:
U.S. Department of Transportation, Bureau of Transportation Statistics, "Federal Gas Tax: Household Expenditures from 1965 to 1995," *TranStat,* August 1997.
1998 and 1999 data—U.S. Department of Transportation, Bureau of Transportation Statistics estimates based on U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* various issues; U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey," 1996, 1997, 1998, and 1999; and U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 1999* (Washington, DC: 2000).

Highway Capital Stocks

Through decades of public and private investment, the United States has developed a large and extensive transportation system that is an important component of our national wealth and a contributor to productive capacity. Currently, however, adequate economic data on transportation infrastructure and vehicle capital stocks are only available for highways, although an effort is underway to expand knowledge in this area (see box).

In 2000, the accumulated public capital stock in highways and streets was valued at $1.4 trillion (current dollars). From 1988 to 2000, the value (in chained 1996 dollars) of highway capital stock increased by 25 percent. More dramatic increases in the value of highway capital stock occurred between 1953 and 1971 when the Interstate system was under development. Figure 1 shows the growth pattern in public capital in highways and streets between 1925 and 2000. Since the early 1970s, the value of highway vehicle stocks has grown much faster than the value of highway capital stocks, indicating that highways support much more rolling stock today than they did 20 years ago.

Transportation Infrastructure Capital Stock Account

All levels of government, along with the private sector, invest in transportation infrastructure. The resulting infrastructure assets play a key role in U.S. productive capacity and also contribute to income and wealth generation. At the same time, infrastructure must be maintained to ensure adequate service. Despite its obvious importance, economic data on transportation infrastructure are inadequate.

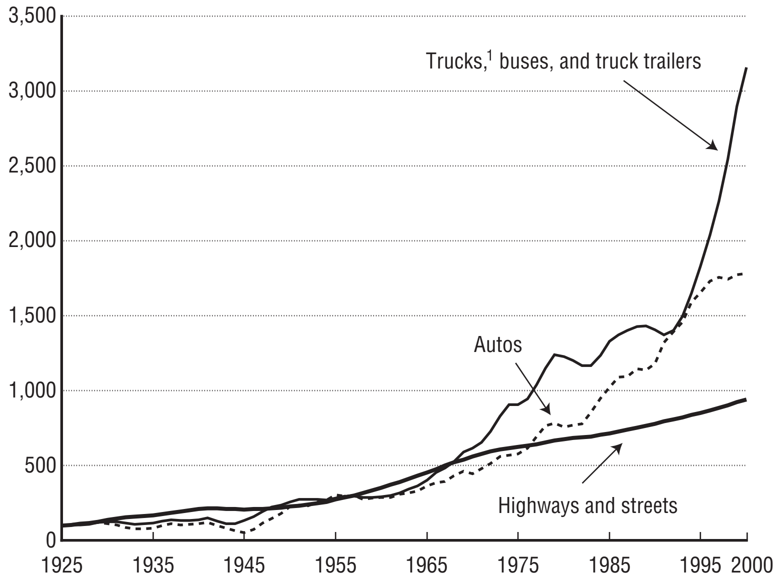
The Bureau of Transportation Statistics (BTS) of the U.S. Department of Transportation is developing a Transportation Infrastructure Capital Stock Account (TICSA) to overcome some of these data limitations. TICSA will provide comprehensive information on infrastructure investment, capital stock value, service value, asset retirement, and asset depreciation.

When completed, TICSA will include capital assets for highways and streets, airports and airways, ports and waterways, transit facilities, railroads, and pipelines. With such broad coverage, TICSA data will allow analysts to address such questions as:

1. What is the monetary value of transportation infrastructure used to support transportation operations in the U.S. economy?
2. What proportion of national income is invested in transportation infrastructure?
3. How much would need to be spent to maintain the current capacity of the transportation network or to increase its capacity to a certain level?
4. What is the rate of return of public investment in transportation infrastructure?
5. What is the relationship between transportation infrastructure investment and the growth in productivity in transportation industries?
6. How are transportation costs affected by the level of investment in transportation infrastructure, and how does this vary by mode?

BTS expects to have estimates of national highway capital stocks by late 2003.

Figure 1
Real Growth in Highway Capital Stocks Compared with Vehicle Stocks: 1925–2000
Chain-type index: 1925 = 100



[1] Includes light-duty and heavy-duty trucks.

NOTE: The highway capital stocks and vehicle stocks indices are quantity indices. They represent the relative quantity rather than the value of those goods.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, "Fixed Assets," available at http://www.bea.doc.gov/bea/dn/faweb, as of November 2001.

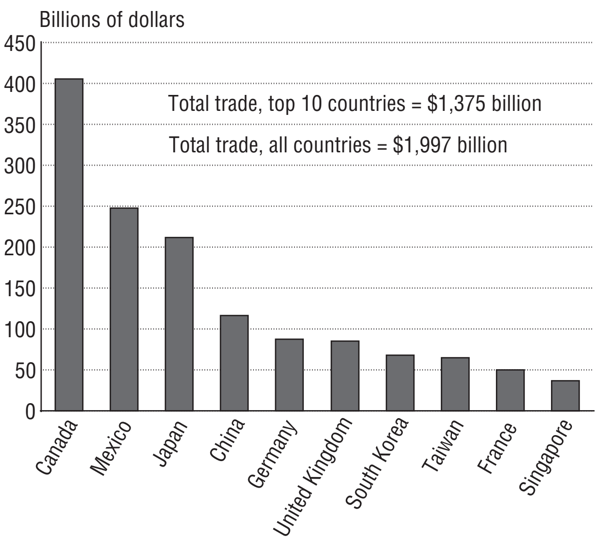
International Trade

Continuing growth of international trade is influencing the development of transportation systems and services within the United States. Increased international merchandise trade has spurred the development of marine and air cargo facilities, land border crossings, and domestic access infrastructure to connect international gateways with domestic U.S. origins and destinations. New technologies, including intelligent transportation systems, facilitate lower transportation costs and higher levels of service and speed.

Between 1997 and 2000, U.S. international merchandise trade rose 28.2 percent to $2 trillion (current dollars). Canada continued as the number one overall trade partner of the United States in 2000, a position that country has held for decades. Meanwhile, Mexico held steady in the number two position for the year, after surpassing Japan in 1999. In 2000, 10 nations accounted for almost 70 percent of all U.S. merchandise trade, and 5 of these were Asian Pacific countries (figure 1). Despite the recession in East and Southeast Asia in 1997, the overall U.S. trade relationship with many countries in the Pacific region expanded between 1998 and 2000.[1]

In 2000, higher value manufactured goods dominated U.S. trade, accounting for $1,704 billion (85 percent) of the value of all merchandise trade. Motor vehicles, electrical machinery and appliances, office machines (including computers and other automated data processing equipment) were among the top U.S. import and export commodities when measured by value. Transportation equipment was one of the leading U.S. manufactured exports, accounting for $43 billion in 2000. Agricultural goods accounted for approximately 5 percent of the value of U.S. international trade, and Japan was the top market for U.S. agricultural exports. Canada and Mexico were also leading purchasers and suppliers of

Figure 1
Top 10 U.S. Trade Partners, All Modes of Transportation: 2000



SOURCES: U.S. Department of Transporation, Bureau of Transportation Statistics, special tabulation, July 2001, based on U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise CD* and *U.S. Imports of Merchandise CD,* December 2000.

[1] U.S. overall merchandise trade with many Asian Pacific countries fell between 1997 and 1998 due to the region's recession. However, by 1999, trade with many of these same countries had risen to or exceeded the 1997 levels. Some of this trade growth was due to the expansion in imports from these countries, as these goods became relatively cheaper due to shifts in currency exchange rates.

U.S. agricultural commodities. Mineral fuels accounted for about 7 percent of the value of U.S. international trade in 2000; the majority of this trade was U.S. imports of crude petroleum and related products. Canada was the leading supplier of petroleum products to the United States in 2000, followed by Venezuela and Saudi Arabia.

Between 1997 and 2000, the relative roles of the transportation modes in carrying U.S. international trade were in flux due to the continuing growth in trade within North America and internationally. During this period, the value of U.S. international trade carried by truck increased 33 percent to $429 billion, air freight expanded 37 percent to $593 billion, while waterborne trade grew by approximately 18 percent. Despite the smaller relative increase in waterborne trade during this time, about $740 billion of U.S. exports and imports moved by this mode in 2000, accounting for about 37 percent of the value of all U.S. international trade (table 1).

By value, Japan was the leading U.S. maritime trade partner in 2000, representing over one-sixth of all U.S. waterborne trade. The ports of Los Angeles and Long Beach accounted for the majority of West Coast trade and also represented in 2000 over one-quarter of the value of overall waterborne trade for the United States (table 2).

Waterborne trade accounts for a higher percentage of U.S. international trade tonnage compared with other modes. The top four U.S. maritime trade partners by weight—Mexico, Venezuela, Canada, and Saudi Arabia (table 3)—are also the top four crude oil suppliers to the United States. Other major crude oil suppliers—Nigeria, Colombia, and the United Kingdom—are also among the top 10 maritime trade partners by weight. Houston and other Gulf Coast ports accounted for the majority of U.S. international waterborne tonnage, a large component of which is the trade of bulk commodities and crude petroleum.

Growth in air cargo, especially of high-value, time-sensitive commodities, continued into 2000. Lower shipping costs and more frequent service have made air cargo a major factor in the way global business is conducted. Air cargo is carried both by all-passenger carriers as well as air freight carriers, including integrated express carriers, such as Federal Express, United Parcel Service (UPS), DHL, Airborne Express, CF/Emery, Burlington and others. Air freight accounted for approximately 30 percent (by value) of U.S. interna-

International Trade Data

Overall and modal trade totals cited here are based on annual data reported by the Foreign Trade Division of the U.S. Census Bureau in *FT920 U.S. Merchandise Trade: Selected Highlights* (December 1999), *U.S. Exports of Merchandise CD* (December 1999), and *U.S. Imports of Merchandise CD* (December 1999). The U.S. Census Bureau also annually revises overall and country totals appearing in these products, which are then used by the U.S. Census Bureau and other federal agencies.

Accurately calculating the modal share of U.S. international trade for all transportation modes (including disaggregated land modes) was not possible until 1997 because of past collecting and processing methods. Modal data are not corrected in the revised figures provided by the U.S. Census Bureau. Therefore, this section relies on both the overall and mode of transportation data in the originally documented merchandise trade figures as cited in the report and CDs mentioned above.

Thus, this section on U.S. international trade analyzes changes between 1997 and 2000. At the same time, longer term trends are also noted and different reference years shown where necessary. Unless otherwise noted, the value of U.S. merchandise imports is based on U.S. general imports, customs value basis. Export value is f.a.s. (free alongside ship) and represents domestic and foreign exports valued at the port of exit (including the transaction price, inland freight, insurance, and other charges).

Table 1
Value of U.S. International Merchandise Trade by Mode of Transportation: 2000

Mode	Imports: Current U.S. $ (millions)	Imports: Percent	Exports: Current U.S. $ (millions)	Exports: Percent	Total trade: Current U.S. $ (millions)	Total trade: Percent
Total, all modes	**1,216,888**	**100.0**	**780,419**	**100.0**	**1,997,306**	**100.0**
Water	540,895	44.4	199,069	25.5	739,963	37.0
Air	308,642	25.4	284,356	36.4	592,999	29.7
Truck	216,485	17.8	212,215	27.2	428,700	21.5
Rail	70,755	5.8	23,442	3.0	94,198	4.7
Pipeline	23,129	1.9	463	0.1	23,592	1.2
Other and unknown	56,982	4.7	60,873	7.8	117,855	5.9

NOTES: Water: Excludes in-transit data (merchandise shipped from one foreign country to another via a U.S. water port).
Imports: Excludes imports valued at less than $1,250. Import value is based on U.S. general imports, customs value basis.
Exports: Excludes exports valued at less than $2,500. Export value is f.a.s. (free alongside ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges.

SOURCES: Compiled by U.S. Department of Transportation, Bureau of Transportation Statistics, July 2001.
Total, water, and air data: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise CD* and *U.S. Imports of Merchandise CD,* December 2000.
Truck, rail, pipeline, and other and unknown data: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transborder Surface Freight Data,* 2000, and special tabulations.

Table 2
Top 10 U.S. Maritime Ports for International Trade by Value and Weight: 2000
Preliminary data

Ranked by value	Port	Value ($ billions)	Percent	Ranked by weight	Port	Millions of metric tons	Percent
1	Los Angeles, CA	101.8	13.8	1	Houston, TX	109.2	9.4
2	Long Beach, CA	98.2	13.3	2	South Louisiana, LA	77.3	6.7
3	New York, NY	80.9	11.0	3	New Orleans, LA	67.2	5.8
4	Houston, TX	43.4	5.9	4	New York, NY	63.5	5.5
5	Seattle, WA	32.3	4.4	5	Corpus Christie, TX	54.8	4.7
6	Charleston, SC	31.5	4.3	6	Beaumont, TX	48.9	4.2
7	Norfolk, VA	25.2	3.4	7	Morgan City, LA	48.0	4.1
8	Oakland, CA	25.1	3.4	8	Long Beach, CA	40.5	3.5
9	Baltimore, MD	20.6	2.8	9	Los Angeles, CA	39.8	3.4
10	Tacoma, WA	19.8	2.7	10	Philadelphia, PA	33.2	2.9
	Total, top 10	**478.9**	**64.9**		**Total, top 10**	**582.4**	**50.3**

SOURCE: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, Annual Waterborne databanks, 2001.

tional trade in 2000. Japan was the leading trade partner for U.S. air freight, followed by the United Kingdom and Germany (figure 2). New York's John F. Kennedy (JFK) International Airport was the leading gateway for international air shipments, accounting for $132 billion in 2000. Following JFK were San Francisco, Los Angeles International Airport, and Chicago.[2]

[2] San Francisco includes the San Francisco International Airport and other smaller regional airports. Chicago includes O'Hare, Midway, and other smaller regional airports.

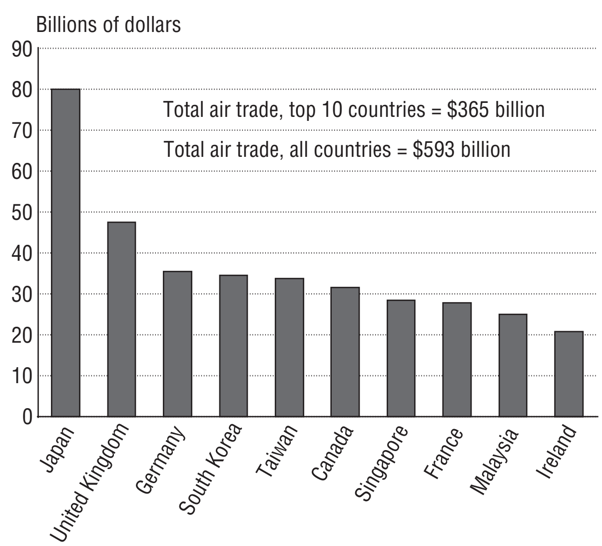
Table 3
Top 10 U.S. Maritime Trade Partners by Value and Weight: 2000

Ranked by value	Country	Value ($ billions)	Percent	Ranked by weight	Country	Millions of short tons	Percent
	All countries	**$740**	**100.0**		**All countries**	**1,273**	**100.0**
1	Japan	125	16.9	1	Mexico	119	9.4
2	China	93	12.6	2	Venezuela	116	9.1
3	Germany	41	5.5	3	Canada	95	7.4
4	South Korea	31	4.2	4	Saudi Arabia	84	6.6
5	Taiwan	28	3.8	5	Japan	79	6.2
6	United Kingdom	27	3.6	6	Nigeria	55	4.3
7	Mexico	24	3.2	7	China	50	3.9
8	Venezuela	23	3.1	8	Brazil	37	2.9
9	Saudi Arabia	17	2.4	9	Colombia	36	2.8
10	Brazil	14	2.2	10	United Kingdom	35	2.7
	Total, top 10	**426**	**57.5**		**Total, top 10**	**705**	**55.4**

NOTE: Excludes cargo in transit through the United States.

SOURCES: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, July 2001, based on U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise CD* and *U.S. Imports of Merchandise CD,* December 2000.

Figure 2
Top 10 U.S. Trade Partners by Air: 2000



SOURCES: U.S. Department of Transporation, Bureau of Transportation Statistics, special tabulation, July 2001, based on U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *U.S. Exports of Merchandise CD* and *U.S. Imports of Merchandise CD,* December 2000.

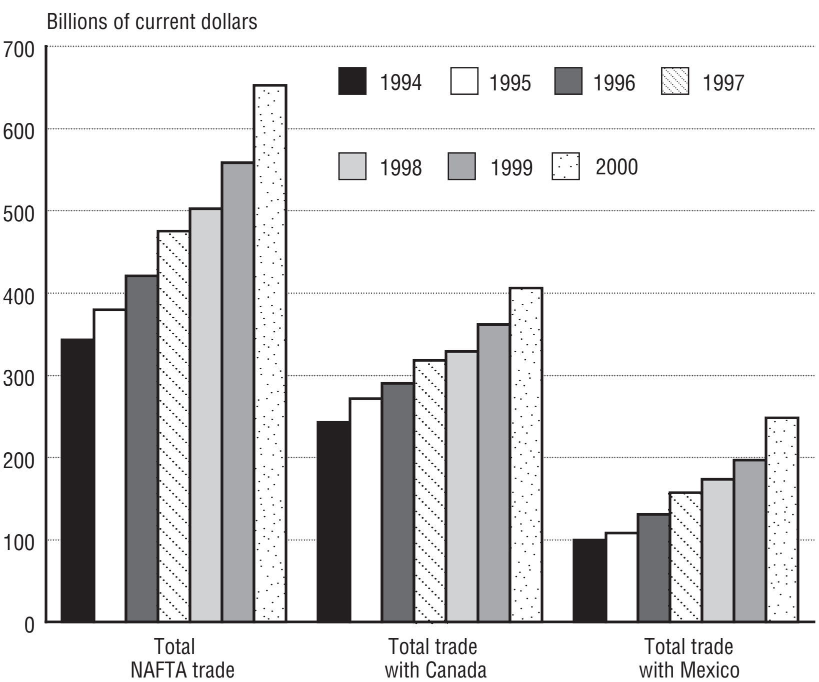
NAFTA Trade

The United States, Mexico, and Canada have signed two free trade agreements: the Free Trade Agreement in 1989 and the North American Free Trade Agreement (NAFTA) in 1993. Both agreements have led to the gradual reduction of tariffs on goods. These agreements have brought the share of U.S. merchandise trade with Canada and Mexico, now our two largest trading partners, to about 33 percent—Canada accounts for 20 percent and Mexico, 12 percent—in 2000.

Since NAFTA went into effect, the value of U.S. trade with Canada and Mexico has risen 91 percent in current dollars, from $343 billion to $653 billion (figure 1). In addition to the trade agreements, several other factors contributed to this increase, including the sustained economic expansion in the United States, U.S./Canada and U.S./Mexico exchange rates, and changes in industry manufacturing and distribution patterns.

Motor vehicles, parts, and accessories dominate NAFTA trade by value, as North

Figure 1
U.S. Merchandise Trade with NAFTA Partners: 1994–2000



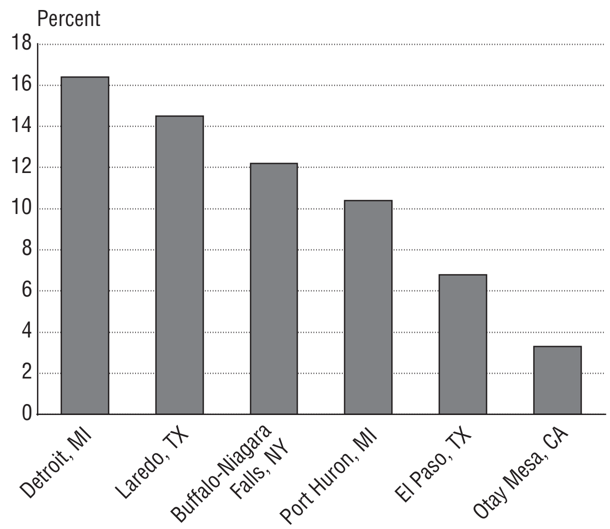
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, August 2001, based on data from U.S.Department of Commerce, U.S. Census Bureau, Foreign Trade Division.

American automobile manufacturing is increasingly integrated across the three countries. Other leading commodities traded among NAFTA partners are consumer electronics, telecommunications equipment, petroleum and petroleum products, and aircraft equipment and parts [1, 2].

In 2000, trucks transported about 66 percent of the value of NAFTA merchandise trade, a share that has remained relatively constant since 1997. Rail accounted for about 14 percent of the share, and air and water modes accounted for approximately 7 and 5 percent, respectively. In recent years, trade by air has grown more rapidly than the other modes [3].

Six ports account for 64 percent of all North American trade by land, with Detroit, Michigan, and Laredo, Texas, handling the majority of trade on each U.S. border (figure 2). Trucks carry most of the trade at each of these ports, and the number of trucks entering at these border gateways has increased, in some cases, substantially (table 1). The origins

Figure 2
Top 6 Ports for U.S. Land Trade with NAFTA Partners, by Value: 2000



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, special tabulation, August 2001.

Table 1
Major NAFTA Border Crossings: 1996 and 2000
Trucks crossing into the United States

Rank in 2000	Port name	1996 (thousands)	2000 (thousands)	Percentage change (1996–2000)	Average number of trucks per day (1996)	Average number of trucks per day (2000)
1	Detroit, MI	1,332	1,769	32.8	3,649	4,848
2	Laredo, TX	1,016	1,493	47.0	2,784	4,091
3	Buffalo-Niagara Falls, NY	996	1,198	20.3	2,729	3,282
4	Port Huron, MI	636	839	31.9	1,742	2,299
5	El Paso, TX	556	720	29.6	1,523	1,974
6	Otay Mesa/San Ysidro, CA	531	688	29.6	1,455	1,886
7	Blaine, WA	402	517	28.6	1,101	1,416
8	Champlain-Rouses Pt., NY	279	391	40.1	764	1,071
9	Hidalgo, TX	205	374	82.5	562	1,025
10	Brownsville, TX	226	299	32.4	619	820
11	Calexico East/Calexico, CA	171	279	63.0	468	764
12	Alexandria Bay, NY	203	278	37.1	556	763
13	Nogales, AZ	229	255	11.2	627	698
14	Pembina, ND	141	214	52.0	386	587
15	Calais, ME	116	154	32.7	318	422

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, special tabulation, August 2001, based on data from U.S. Department of the Treasury, U.S. Customs Service, Operations Management Warehouse database, May 2001.

and destinations of the trucks crossing at a particular port are often outside of the port state. For example, over 70 percent of the shipments that cross through the ports of Laredo and Buffalo have their respective origins or destinations outside of Texas or New York.

Ten U.S. states accounted for about two-thirds of the value of North American land trade in 2000 (table 2).[1]

Sources

1. U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *FT920 U.S. Merchandise Trade: Selected Highlights, December 1994* (Washington, DC: 1994).
2. ____. *FT920 U.S. Merchandise Trade: Selected Highlights, December 1999* (Washington, DC: 1999).
3. U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), special tabulation, August 2001, based on the following: USDOT, BTS, Transborder Surface Freight Data; and Source 2 above.

[1] State origins and destinations are based on official U.S. international trade statistics. Because of the way these data are collected, some border state activity may be overrepresented.

Table 2
Top 10 U.S. Origins/Destinations for North American Merchandise Trade: 2000
All surface modes

State	Value (billions of current U.S. dollars)
Michigan	91.2
Texas	84.4
California	53.7
New York	35.9
Ohio	29.1
Illinois	29.1
Pennsylvania	17.5
Indiana	16.8
North Carolina	13.5
Arizona	12.6
Total top 10 states	**383.8**
Percentage of total NAFTA trade	**66.7**
All U.S. states	**575.7**

NOTES: Totals may not add due to rounding.
Total for all U.S. states includes data for shipments where the U.S. state of origin or destination was unknown.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight data, special tabulation, August 2001.

U.S. Waterborne Trade

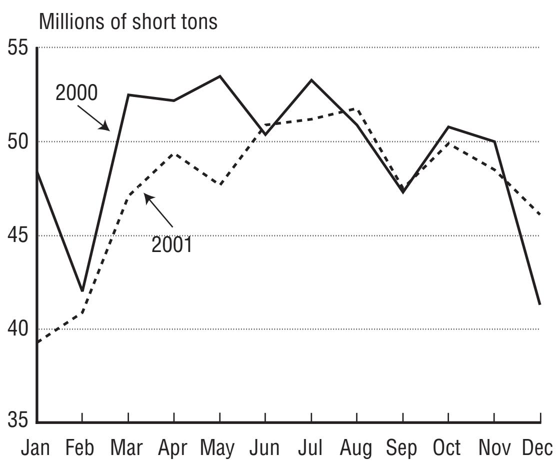
U.S. domestic waterborne trade was fairly stable from the mid-1980s until the 1990s, when U.S. coastal trade (i.e., domestic traffic over the ocean or the Gulf of Mexico) declined due to a decrease in Alaskan crude oil shipments. Internal U.S. trade, which occurs on U.S. rivers and waterways, varies monthly (figure 1). In 2000 when measured by tonnage, petroleum and petroleum product inland waterway shipments were down 5.3 percent and food and farm products were up 18.1 percent over 1999 levels. Coal shipments were down 1.7 percent over this period [1].

From 1999 to 2000, U.S. foreign waterborne trade increased 9.6 percent by value to total $737 billion and 2.4 percent by weight (to 1.2 billion metric tons) (figure 2). Liner service carried the largest share of this trade by value (65.7 percent) in 2000. However, by volume, tanker service had the largest share (51.9 percent) [2].

Sources

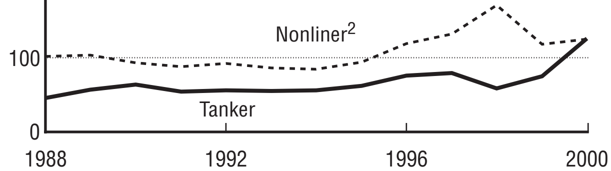
1. U.S. Army Corps of Engineers, Navigation Data Center, "Internal U.S. Waterway Monthly Tonnage Indicators," available at http://www.iwr.usace.army.mil/ndc/wcsc.htm, as of Oct. 30, 2002.
2. U.S. Department of Transportation, Maritime Administration, *U.S. Foreign Waterborne Transportation Statistics,* available at http://www.marad.dot.gov/statistics/usfwts/index.html, as of Sept. 7, 2001.

Figure 1
U.S. Domestic Waterborne Trade: 2000 and 2001



SOURCE: U.S. Army Corps of Engineers, Navigation Data Center, "Internal U.S. Waterway Monthly Tonnage Indicators," available at http://www.iwr.usace.army.mil/ndc/wcsc.htm, as of Oct. 30, 2002.

Figure 2
U.S. Foreign Waterborne Trade by Value: 1988–2000



[1] Primarily container vessels.
[2] "Tramp" or nonscheduled service.

SOURCES: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, "U.S. Imports and Exports by Customs District Ports," *U.S. Foreign Waterborne Transportation Statistics,* available at http://www.marad.dot.gov/statistics/usfwts/index.html, and "U.S. Foreign Waterborne Commerce," adapted from U.S. Department of Commerce, U.S. Census Bureau, U.S. foreign waterborne commerce data, various years.

Chapter 8

Energy and the Environment

Introduction

The U.S. Department of Transportation, under its human and natural environment strategic goal, is committed to protecting and enhancing communities and the natural environment affected by transportation. The economic and societal benefits provided by transportation also generate environmental impacts, and the sector's dependence on fossil fuels is at the root of many of these environmental problems. Construction of transportation infrastructure and facilities, and vehicle manufacturing, maintenance, use, and disposal affect the environment as well.

Transportation energy use has grown an average of 1.5 percent per year for the past two decades. Still, this growth rate is slower than that of the Gross Domestic Product and passenger-miles of travel, reflecting in part a general decline in the energy intensity of almost all modes. Today, however, the transportation sector consumes a greater share of petroleum (66 percent) than it did in 1973 (50 percent). The use of alternative and replacement fuels to reduce foreign oil dependence and environmental impacts has increased, but, despite incentives in place to promote these fuels, they still accounted for only a small faction of total motor vehicle fuel use in 2000.

Growth in energy consumption is causing a corresponding increase in greenhouse gas (GHG) emissions. The transportation sector emitted 1,819 million metric tons of carbon dioxide in 1999, an increase of 14.9 percent since 1990. Three-quarters of GHG emissions come from the use of highway vehicles. In addition to GHG emissions, transportation remains a primary source of emissions of three of the six air pollutants regulated under the Clean Air Act: carbon monoxide, nitrogen oxides, and volatile organic compounds. However, with the exception of nitrogen oxides, these emissions have been declining since 1990.

Transportation vehicle use can result in hazardous materials and oil spills. An average of 1.5 million gallons of oil is spilled into U.S. waters each year. In 1999, 24 percent of this oil was cargo carried by marine vessels, pipelines, railcars, and tank trucks.

Transportation infrastructure and its maintenance can also be sources of environmental damage. Each year the U.S. Army Corps of Engineers dredges an average of 271 million cubic yards of sediments from navigation channels. Contaminated sediments are confined in various ways, while the balance may be used beneficially to nourish beaches and wetlands. Sediments become contaminated from pollutants released into the nation's waters. Similarly, petroleum stored in underground tanks has a history of leaking into soils and ultimately into surface and underground waters. By 2001, after a decade of focused effort by the U.S. Environmental Protection Agency (EPA), there were almost 150,085 known petroleum tank releases around the country waiting to be cleaned up. The leaking of methyl-tertiary-butyl-ether (MTBE), largely from underground storage tanks, was recognized in 2000 as an issue serious enough for EPA to ask the U.S. Congress to ban or reduce its use as an additive in gasoline.

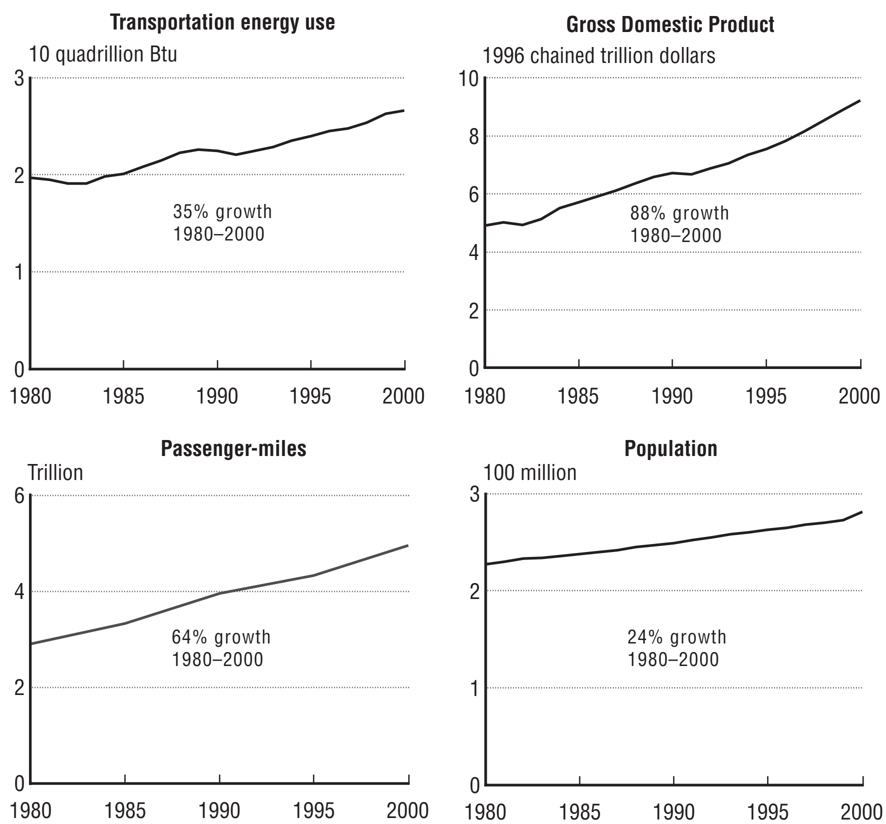
Rubber tires and lead-acid batteries are two of the few transportation wastes quantified on an annual basis. States and local governments often promote the establishment of systems to recycle these wastes at the end of their lifetime. However, while over 93 percent of the lead content of batteries was reused in 1999, only 24 percent of the 4.5 million tons of scrap tires generated were recycled. This left almost 3.5 million tons of car, truck, and motorcycle tires to be disposed of in landfills or incinerated.

Preservation of wetlands, urban sprawl, invasive species, and environmental justice are also areas of concern. The United States has an estimated 105 million acres of wetlands. An equal amount may have been lost since the 1600s, drained to develop rural and urban areas. Transportation affects wetlands when roads and railroads are built and people and cargo are moved through them and when airports and other facilities are placed in them.

Energy Use

As the economy has grown, so too has transportation energy use. From 1980 to 2000, transportation energy use grew from 19.7 quadrillion (quads) British thermal units (Btu) to 27.0 quads, an annual growth rate of 1.5 percent [1]. The overall growth rate is lower than that of the economy (as measured by Gross Domestic Product (GDP)) and the growth rate in passenger-miles, but not population (figure 1). It is influenced by a combination

Figure 1
Transportation Energy Use and Other Trends: 1980–2000



NOTE: 2000 data for passenger-miles do not include numbers for transit or general aviation.

SOURCES:
Energy use: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review,* DOE/EIA 0384(2000) (Washington DC: August 2001).
Gross Domestic Product: U.S. Department of Commerce (USDOC), Bureau of Economic Analysis, available at http://www.bea.doc.gov/, as of January 2001.
Passenger-miles: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001,* available at http://www.bts.gov.
Population: USDOC, U.S. Census Bureau, available at http://www.census.gov/, as of January 2001.

Table 1
Total Energy Consumption by End-Use Sector
Quadrillion Btu

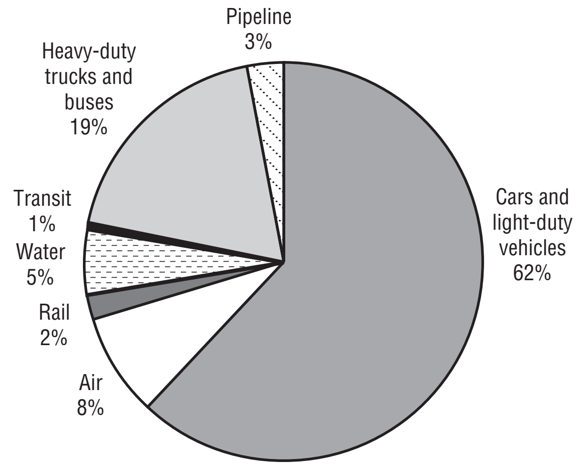
Year	Residential/ commercial	Industrial	Transportation
1980	26.551	32.192	19.695
1985	27.645	29.067	20.071
1990	30.052	31.743	22.541
1995	32.898	34.063	23.975
2000	36.141	35.844	27.101

SOURCE: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review,* November 2001, table 2.1a, available at http://www.eia.doe.gov/emeu/mer/pdf/pages/sec2_3.pdf, as of Dec. 18, 2001.

of factors, including changes in transportation intensity of U.S. GDP, vehicle fuel efficiency, and personal travel propensity.

For decades, the transportation sector has accounted for between 25 percent and 27 percent of total U.S. energy consumption (table 1). In 1999, highway vehicles accounted for just over 80 percent of transportation energy use. Passenger cars used 36 percent of the sector's total, followed by light trucks (including minivans, pickups, and sport utility vehicles) with 26 percent, and heavier trucks with 19 percent. Among the nonhighway modes, air transportation is the biggest and fastest growing energy user. The pipeline mode, which accounted for about 3 percent of total transportation energy use, is the only mode that does not depend directly on petroleum. Typically, pipelines use natural gas and/or electric pumps to move products (figure 2).

Figure 2
Transportation Energy Use by Mode: 1999



NOTE: Data are preliminary.

SOURCE: U.S. Department of Transportation, *National Transportation Statistics 2001,* table 4-6, available at www.bts.gov.

Source

1. U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2000,* DOE/EIA-0384(2000) (Washington, DC: August 2001).

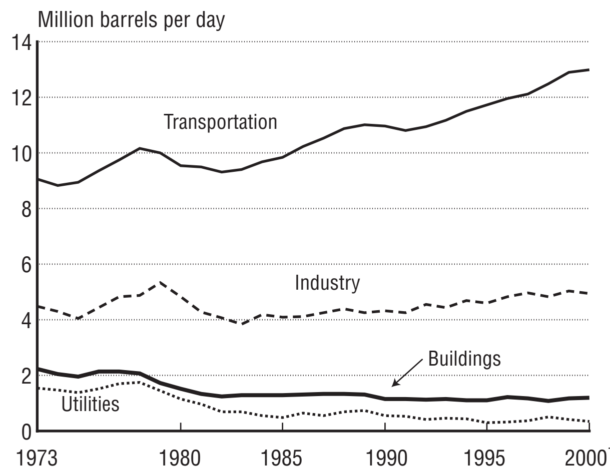
Petroleum Consumption

In the United States, petroleum consumption has risen faster in the transportation sector than in any other since 1973, before the first oil embargo. Continued growth in transportation activities has contributed, in large part, to the increase in oil consumption. While the oil price shocks of 1973–74 and 1979–80 depressed demand for a while, they did little to shake transportation's dependence on oil. Only a small fraction of transportation's energy needs are met by nonpetroleum sources, such as natural gas, methanol, and ethanol. Nonpetroleum sources are used primarily as gasoline blending agents to meet requirements of the Clean Air Act Amendments of 1990.

From 1973 to 2000, the residential and commercial buildings sector cut petroleum use in half, and the utilities sector reduced oil use by more than 60 percent. Over the same period, industrial sector oil use hovered between 4 million barrels per day (mmbd) and 5 mmbd, primarily because petroleum is an important feedstock for the petrochemicals industry. In contrast, oil use in the transportation sector rose from 9.05 mmbd in 1973 to 12.99 mmbd in 2000, an increase of about 41 percent. Due to these changes in consumption patterns among sectors, transportation today accounts for 67 percent of total U.S. petroleum demand compared with about 50 percent before 1973 [2] (figure 1).

The U.S. Department of Energy (DOE) expects the heavy concentration of oil demand in the transportation sector to continue. In fact,

Figure 1
U.S. Petroleum Use by Sector: 1973–2000



[1] 2000 data are estimates; utilities number is preliminary.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2000,* DOE/EIA-0384(00) (Washington, DC: August 2001), table 5.12a.

DOE projects overall petroleum demand to grow at an average annual rate of 1.5 percent through 2020, led by growth in the transportation sector. Given this, transportation's share of petroleum consumption would rise to 70 percent [1].

Sources

1. U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2002*, DOE/EIA-0383(2002) (Washington, DC: December 2001).
2. ____. *Annual Energy Review 2000*, DOE/EIA-0384(00) (Washington, DC: August 2001), table 5.12a.

Alternative and Replacement Fuels

Spurred by energy and environmental legislation, the use of alternative and replacement fuels in motor vehicles is growing, but not enough to indicate a trend away from the use of petroleum in the transportation sector. Between 1992 and 2000, estimated alternative fuel use grew by 5.9 percent annually (table 1). Nevertheless, alternative fuels comprise a tiny fraction of total motor vehicle fuel use—0.17 percent in 1992 and 0.22 percent in 2000. Alternate fuel growth is in proportion to the rise in the number of alternative fuel vehicles (table 2) [2].

Replacement fuels—alcohols and ethers (oxygenates)—are blended with gasoline to meet the requirements of the Clean Air Act Amendments of 1990. They comprise a larger proportion of the motor fuel market than alternative fuels, as shown in figure 1. Unlike petroleum, which is composed entirely of hydrogen and carbon atoms, alcohols and ethers contain oxygen and are derived from energy sources other than petroleum.

Table 1
Fuel Consumption in the United States: 1992 and 2000
Thousand gasoline-equivalent gallons

Type of fuel	1992	2000
Alternative fuels		
Liquefied petroleum gas	208,142	247,062
Compressed natural gas	16,823	98,351
Liquefied natural gas	585	7,121
Methanol (85%)[1]	1,069	585
Methanol, neat (100%)	2,547	437
Ethanol (85%)[1]	21	7,074
Ethanol (95%)[1]	85	13
Electricity	359	2,670
Subtotal	**229,631**	**363,313**
Replacement fuels/oxygenates		
MTBE[2]	1,175,000	3,087,900
Ethanol in gasohol	701,000	1,016,300
Biodiesel	U	6,816
Traditional fuels		
Gasoline[3]	110,135,000	125,720,000
Diesel	23,866,000	36,979,200
Total fuel consumption	**134,230,631**	**163,062,513**

[1] The remaining portion of 85% methanol and both ethanol fuels is a gasoline. Data include gasoline portion of the fuel.
[2] Methyl-tertiary-butyl-ether (MTBE) includes a small amount of other ethers, primarily tertiary-amyl-methyl-ether and ethyl-tertiary-butyl-ether.
[3] Includes ethanol in gasohol and MTBE.

KEY: U = unavailable.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Alternatives to Traditional Transportation Fuels 1999 (revised),* table 10, available at http://www.eia.doe.gov/, as of Jan. 8, 2002 (1992 data) and Oct. 29, 2002 (2000 data).

Table 2
Estimated Number of Alternative Fueled Vehicles in the United States, by Fuel: 1992 and 2000

Type of fuel	1992	2000
Liquefied petroleum gas[1]	221,000	272,193
Compressed natural gas	23,191	100,738
Liquefied natural gas	90	2,090
Methanol, 85%[2]	4,850	10,426
Methanol, neat	404	0
Ethanol, 85%[2]	172	58,621
Ethanol, 95%[2]	38	4
Electricity	1,607	11,834
Total	**251,352**	**455,906**

[1] Numbers rounded to nearest thousand.
[2] The remaining portion of 85% methanol and both ethanol fuels is gasoline.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Alternatives to Traditional Transportation Fuels 1999 (revised)*, table 1, available at http://www.eia.doe.gov/, as of Jan. 8, 2002 (1992 data) and Oct. 29, 2002 (2000 data).

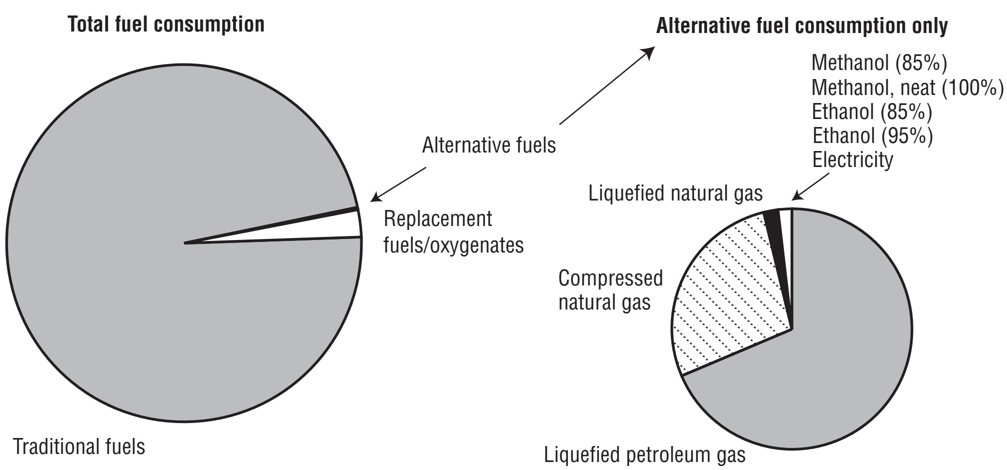
In areas where carbon monoxide emissions are a problem, fuel providers have been required since 1992 to add oxygenates to gasoline to promote more complete combustion. Gasoline that contains oxygenates is referred to as reformulated gasoline (RFG). Beginning in 1994, areas failing to attain air quality standards for ozone were required to use RFG, which must contain 2 percent oxygen by weight. In 2000, oxygenates made up 3.3 percent of the gasoline pool [2].

The most popular oxygenate is methyl-tertiary-butyl-ether (MTBE), a combination of methanol and isobutylene, made from natural gas. MTBE has several attributes that favor its use over ethanol as an oxygenate. However, the substance has been discovered—first in California in 1995—leaking from pipelines and storage tanks into drinking water. While MTBE is not classified as a carcinogen, studies have shown it can cause cancer in animals, and trace amounts of MTBE in water supplies produce an unpleasant order and taste. Various efforts are underway or being considered by 13 states, the U.S. Congress, and the U.S. Environmental Protection Agency to reduce or ban the use of MTBE as an oxygenate. As a result, the Energy Information Administration (EIA) projects that the amount of MTBE used by domestic refiners will be cut in half by 2004 to 123,000 barrels per day. Most of this decline in consumption results from a ban on MTBE in California due to begin at the end of 2002 [1]. However, subsequent to EIA's analysis, California decided to delay its ban until the end of 2003 because of a lack of infrastructure to assure adequate supplies of ethanol reformulated gasoline.

Sources

1. U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2002,* DOE/EIA-0383(2002) (Washington DC: December 2001).
2. ____. *Alternatives to Traditional Transportation Fuels 1999 (revised),* available at http://www.eia.doe.gov/fuelalternate.html, as of Jan. 8, 2002.

Figure 1
Estimated Vehicle Fuel Consumption in the United States: 2000



NOTES: The remaining portion of 85% methanol and ethanol fuels is gasoline. Figure is not proportional.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Alternatives to Traditional Transportation Fuels 1999 (revised),* table 10, available at http://www.eia.doe.gov/fuelalternate.html, as of Jan. 8, 2002.

World Crude Oil Prices

The United States imports over 50 percent of its crude oil supplies, and changes in world prices of crude oil can have significant, direct impacts on the U.S. economy. Despite volatility in these prices, however, the transportation sector is not particularly responsive (i.e., has very low elasticity of demand). The disinclination of fuel users to replace petroleum with alternative fuels is a reason for this inelasticity.

World oil prices more than tripled between January 1999 and September 2000 as a result of oil production cutbacks by the Organization of Petroleum Exporting Countries (OPEC), with the cooperation of Mexico, Norway, and Russia (figure 1). This oil price hike prompted concern that oil dependence may once again have a serious effect on the transportation sector and the economy as a whole. However, in late 2000 world crude prices started to drop from their high of $32.86 per barrel, as a worldwide economic downturn began. By the end of 2001, prices had reached $18.69 per barrel, similar to the price in July 1999.

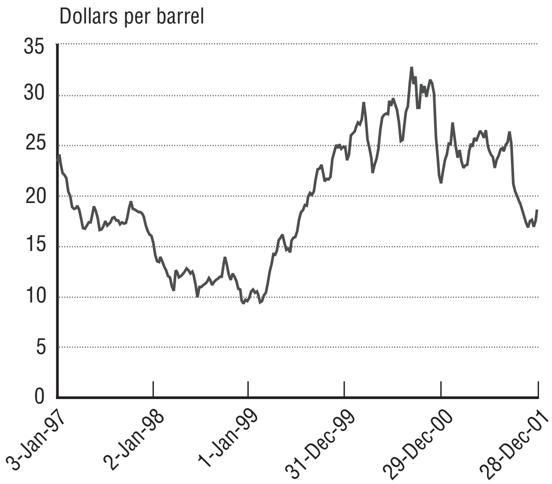
A Bureau of Transportation Statistics (BTS) analysis conducted in mid-2000 of the economic impact of the 1999/2000 increase in fuel prices estimated that, to drive the same distance and produce the same Gross Domestic Product as in 1999, U.S. households and businesses would have to spend an additional $67 billion (28 percent more) on transportation fuel in 2000 [1]. BTS concluded that households would absorb half of the additional cost and for-hire transportation firms about one-third, with the rest of the cost absorbed by nontransportation firms.

The average motor fuel cost to consumers on a per vehicle-miles traveled basis closely follows the trend in world crude oil prices (figure 2). At the beginning of 1997, on average, it cost Americans 7.5 cents to buy fuel to drive 1 mile. Then, as the world crude oil price fell below $10 per barrel (the lowest point in recent years), the fuel cost for driving 1 mile dropped to 5.5 cents, also the lowest point in recent years. Overall, the tripling of the price of crude oil in 1999 and 2000 caused the average fuel cost per mile to increase about 70 percent. Reflecting the low elasticity of demand, vehicle-miles traveled tends to fluctuate seasonally, rather than in response to world oil prices (figure 3).

Source

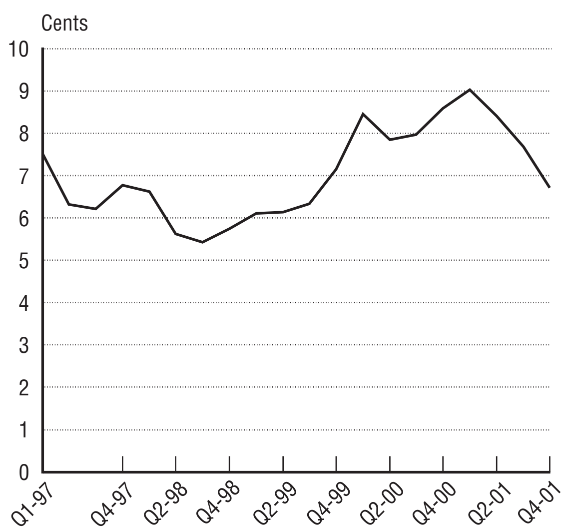
1. U.S. Department of Transportation, Bureau of Transportation Statistics, "The Economic Impact of the Recent Increase in Oil Prices," *Transportation Indicators: A Prototype,* May 2000.

Figure 1
World Crude Oil Prices
(Weekly)



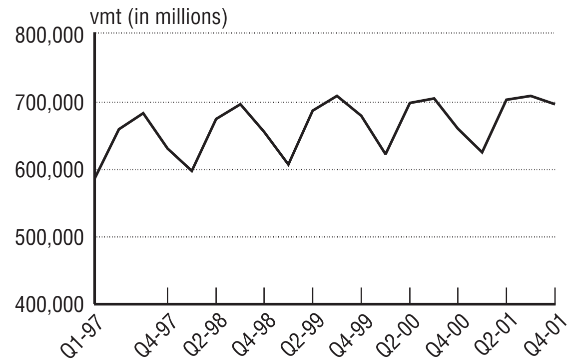
Source: U.S. Department of Energy, Energy Information Administration, available at http://www.eia.doe.gov/oil_gas/petroleum/pet_frame.html, as of March 2002.

Figure 2
Average Motor Fuel Cost per Vehicle-Mile Traveled by Consumers: 1997–2001



SOURCE: U.S. Department of Transportation, Federal Highway Administration, available at http://www.fhwa.dot.gov/ohim/tvtw/sept_tvt/tvtsept.pdf, as of June 2002.

Figure 3
Vehicle-Miles Traveled (vmt) in the United States: 1997–2001



SOURCE: U.S. Department of Transportation, Federal Highway Administration, *Traffic Volume Trends,* monthly issues, available at http://www.fhwa.dot.gov/ohim/, as of June 2002.

Energy Intensity of Passenger Travel and Freight Transportation

The amount of energy required to carry passengers and freight has declined on a per unit basis. Between 1980 and 1999, automobile energy use per passenger-mile of travel (pmt) by car fell by 13 percent (figure 1). This has occurred even though the average fuel economy of new car and light truck fleets leveled off in the 1990s [1].

Commercial air carriers reduced energy use per passenger-mile by more than 33 percent over the 1980 to 1999 period, due largely to higher occupancy [1]. Flying a full plane requires considerably less than twice the amount of fuel of a half-full one but yields twice the passenger-miles. Airlines have been increasingly successful in filling their planes; in some cases, reconfiguring seating to fit more passengers. Moreover, although newer airplanes are more efficient, this probably has less effect on energy intensity than the greater number of passengers.

The energy intensity of Amtrak intercity rail and intercity bus declined as well (–4 percent and –11 percent, respectively). At 964 British thermal units (Btu) per pmt in 1999, intercity buses are considered the most energy-efficient mode of transportation. Energy use per pmt on transit buses, however, increased 64 percent over this period to 4,610 Btu per pmt [1]. From a high of 3,828 Btu per pmt in 1994, by 1999 rail transit energy intensity had declined 17 percent to 3,168 Btu per pmt.

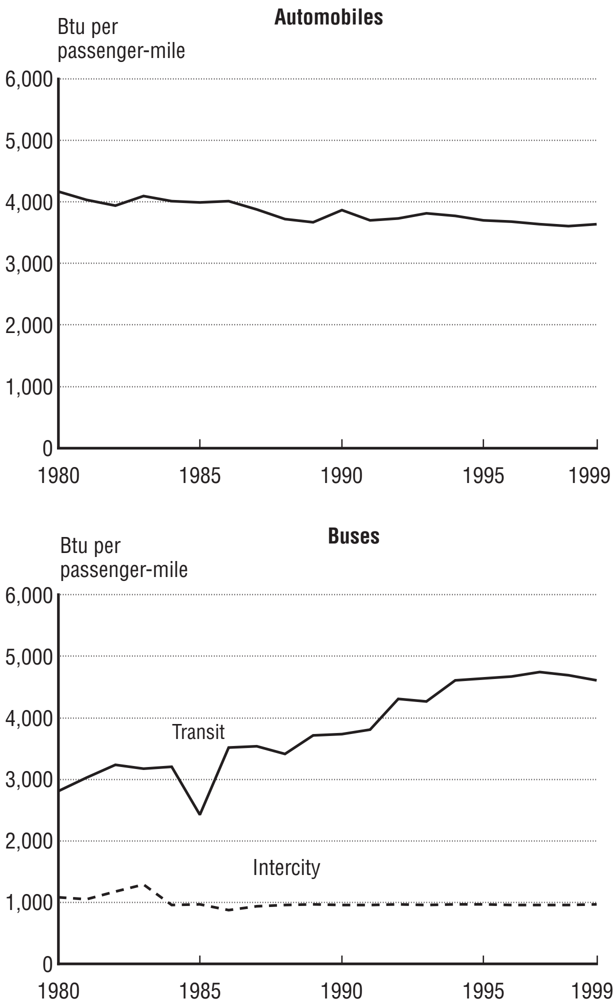
Because of data limitations and availability, less is known overall about the energy intensity of freight transportation, particularly the waterborne and heavy truck modes. Some data are available, however, and, in general, energy use per vehicle-mile has decreased, albeit slowly. The decrease in highway energy use per vehicle-mile combined with a general increase in truck size and weight limits suggest that truck energy use per ton-mile has also decreased. The energy intensity (in Btu per vehicle-mile) of heavy single-unit and combination trucks grew half a percent annually from 1989 to 1999. On a Btu per ton-miles basis, the energy intensity of Class I freight rail declined 1.9 percent while that of domestic waterborne commerce grew 1.3 percent annually between 1989 and 1999 [2].

It is important to note that intermodal comparisons should be considered approximations. Modal data are collected in different ways and based on different assumptions. Passenger-mile data are more relevant for passenger vehicles, while vehicle-mile or ton-mile data are more relevant for freight vehicles. Modes also perform different functions and serve different travel markets.

Sources

1. Davis, Stacy C., *Transportation Energy Data Book, Edition 21* (Oak Ridge TN: Oak Ridge National Laboratory, 2001), tables 2.11 and 2.12.
2. ____. Table 2.14.

Figure 1
Energy Intensities of Passenger Modes: 1980–1999



KEY: Btu = British thermal units.

SOURCE: Stacy C. Davis, *Transportation Energy Data Book, Edition 21* (Oak Ridge, TN: Oak Ridge National Laboratory, 2001), tables 2.11 and 2.12.

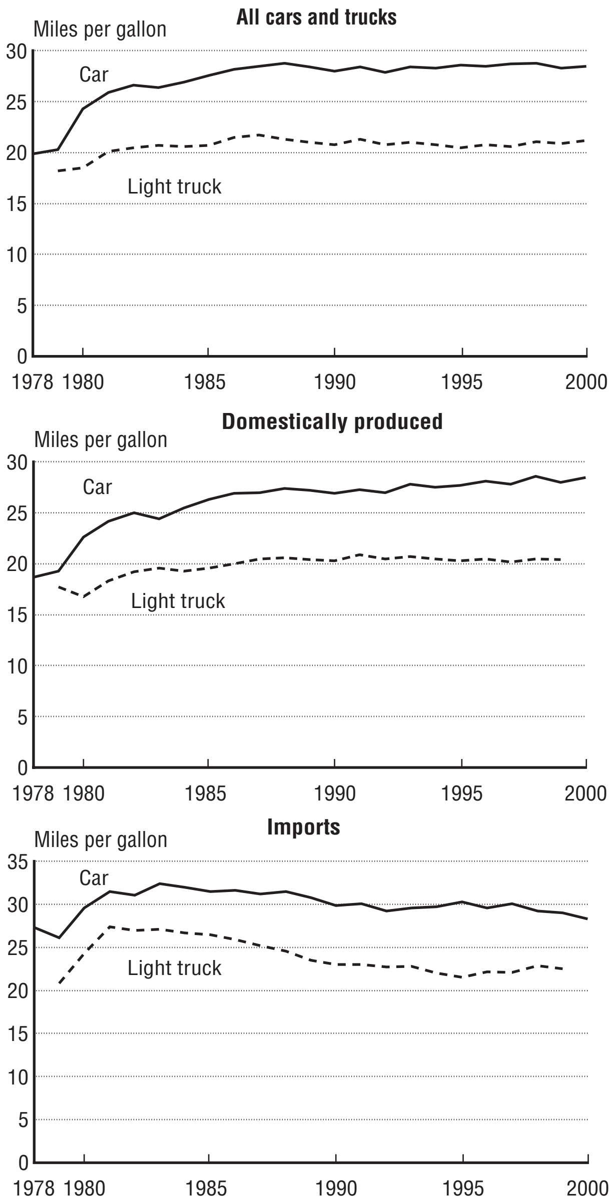
Car and Light Truck Fuel Efficiency

Passenger cars and light trucks are more fuel-efficient today than they were in 1978, when fuel economy standards were first implemented. Technologies like fuel injection engines, lockup torque in transmissions, and improved rolling resistance of tires have played a major role in this change. Between 1978 and 1988, new passenger car average fuel economy shot up from 19.9 miles per gallon (mpg) to 28.8 mpg, while light trucks improved somewhat from 18.2 mpg (1979) to 21.3 mpg. Since then, fuel economy has remained flat (figure 1).

Set by legislation, the Corporate Average Fuel Economy (CAFE) standard for new cars has been held constant at 27.5 mpg since 1990 (table 1). In 2000, the U.S. Congress asked the National Academy of Sciences to conduct a study, in consultation with the U.S. Department of Transportation, to evaluate the effectiveness and impacts of CAFE standards. A special National Research Council committee reported several findings and recommendations to Congress in 2001 but took no position on what the appropriate CAFE standards should be [1]. Subsequent to the release of the report, the National Highway Traffic Safety Administration (NHTSA) announced that it was proceeding with rulemaking for the light truck fleet for model year 2004 and is updating its mid-1990s study on the relationship between fuel economy standards and safety [4]. The passenger car standard remains at 27.5 mpg until Congress changes the current statute.

In recent years, efficiency gains have been offset by increases in vehicle weight and power and by consumer shifts to less efficient

Figure 1
New Passenger Car and Light Truck Fuel Economy Averages: Model Years 1978–2000



NOTE: As of 2000, NHTSA no longer separately reports domestically produced and imported light truck data.

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, Automotive Fuel Economy Program, "Annual Update Calendar Year 2000," July 2001, table II-6, available at http://www.nhtsa.dot.gov/cars, as of August 2001.

vehicles, such as light trucks, especially sport utility vehicles, minivans, and pickup trucks. For example, the average weight of new cars (foreign and domestic) rose from a low of 2,805 pounds in 1987 to 3,126 pounds in 2000. The average weight of new cars today is still lower than the 3,349-pound weight of new cars in 1978. Furthermore, in response to consumer demand for new high performance cars, the ratio of horsepower to 100 pounds of weight increased from 3.98 in 1987 to 5.27 in 2000. For the domestic car fleet, the average is 5.26 horsepower per 100 pounds [5].

The popularity of light trucks continues to grow. Twice as many cars as light trucks were sold in the United States in 1990. However, in 2001, retail sales of light trucks (8.7 million) for the first time surpassed car sales (8.4 million) [3]. Clearly, many consumers are finding what they want in light trucks rather than cars: roominess, more carrying capacity, greater visibility, and a perception of safety (at least for themselves). However, this trend has implications for energy consumption and for emissions, because light trucks, on average, are less fuel-efficient than cars.

Using a different method of calculation, the U.S. Environmental Protection Agency (EPA) generates fuel economy data that are lower than the official CAFE averages (reported in figure 1). For 2001 model year light-duty vehicles, for instance, EPA estimated the average fuel economy to be 20.4 miles per gallon—the lowest in 21 years—and attributes the decline to the increasing market share of light trucks, plus overall increased vehicle weights and performance. If weight and performance attributes were similar to those in 1981, the 2001 fleet could have achieved more than 25 percent higher fuel economy [2].

Table 1
Changes in Fuel Economy Standards

New cars		New light trucks	
Model year	mpg	Model year	mpg
1978	18.0	1982	17.5
1979	19.0	1983	19.0
1980	20.0	1984	20.0
1981	22.0	1985	19.5
1982	24.0	1986	20.0
1983	26.0	1987–1989	20.5
1984	27.0	1990	20.0
1985	27.5	1991–1992	20.2
1986–1988	26.0	1993	20.4
1989	26.5	1994	20.5
1990–2002	27.5	1995	20.6
		1996–2002	20.7

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, Automotive Fuel Economy Program, "Annual Update Calendar Year 2000," July 2001, table 11-1, available at http://www.nhtsa.dot.gov/cars, as of August 2000.

Sources

1. National Research Council, Transportation Research Board, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards* (Washington, DC: National Academy Press, 2001).
2. U.S. Environmental Protection Agency, *Light-Duty Automotive Technoloy and Fuel Economy Trends,* EPA420-R-01-008 (Washington DC: September 2001).
3. U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Indicators,* May 2002.
4. U.S. Department of Transportation, National Highway Traffic Safety Administration, statement of Jeffrey W. Runge, Administrator, before the Committee on Commerce, Science, and Transportation, United States Senate, Dec. 6, 2001.
5. U.S. Department of Transportation, National Highway Traffic Safety Administration, Automotive Fuel Economy Program, "Annual Update Calendar Year 2000," July 2001, available at http://www.nhtsa.dot.gov/cars, as of August 2000.

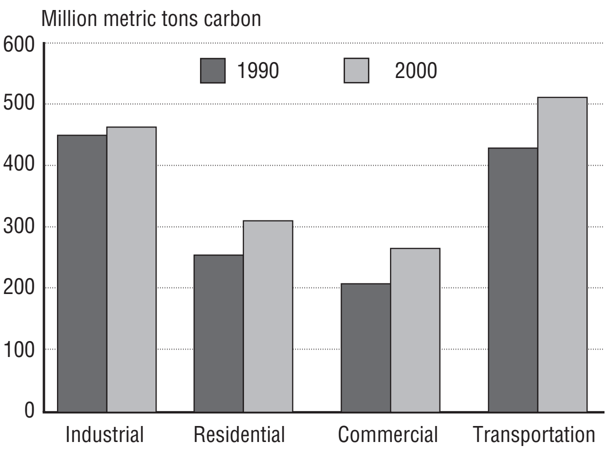
Emissions of Greenhouse Gases

Most scientists believe that rising concentrations of greenhouse gases (GHGs) in the Earth's atmosphere could cause global climate change. GHGs, such as carbon dioxide, methane, and nitrous oxide, occur naturally and can be produced by human activities. Carbon dioxide is the predominant greenhouse gas produced by human activity, accounting for 83 percent of all U.S. GHG emissions in 2000. Nearly all carbon dioxide emissions are produced by the combustion of fossil fuels. Thus, there is a high correlation between energy use and carbon emissions [1].

Today, almost all of transportation's energy needs are supplied by oil. The combustion of petroleum in the transportation sector alone is responsible for about 27 percent of all GHGs emitted in the United States. From 1990 to 2000, emissions of carbon dioxide from transportation grew 19 percent (figure 1). This growth is less than that of the residential and commercial sectors (22 and 27 percent, respectively) but six times greater than in the industrial sector (3 percent). With emissions of 515 million metric tons of carbon in 2000, however, transportation leads all sectors.

On a modal basis, highway vehicles emit almost 80 percent of U.S. transportation's GHGs, and half of those come from passenger cars (table 1). Under the United Nations Framework Convention on Climate Change, to which the United States is a party, a nation's inventory of emissions does not include those stemming from international aircraft and ships. Thus, under the U.S. Environmental Protection Agency's method of estimating U.S. GHG emissions (see box), only domestic aircraft emissions are included in the breakdown by mode. With just 6 percent of emissions attributed to aviation, this mode ranks a distant second to highway vehicles.

Figure 1
U.S. Carbon Dioxide Emissions from Energy Use by Sector: 1990 and 2000



NOTES: Electric utility emissions are distributed across end-use sectors. Numbers may not add to totals due to rounding. Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon equals 3.667 tons of carbon dioxide gas.

2000 data are preliminary.

SOURCE: U.S. Department of Energy, Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2000*, DOE/EIA-0573(00) (Washington, DC: November 2001), also available at http://www.eia.doe.gov/oiaf/1605/ggrpt/tbl5.html, as of April 2002.

The U.S. Department of Energy (DOE) has projected carbon dioxide emissions from energy use to grow 1.5 percent annually to 2,088 million metric tons of carbon equivalent (mmtce) by 2020. Transportation GHG emissions are expected to grow at a rate of

Table 1
U.S. Transportation-Related Carbon Dioxide Emissions
(Teragrams of carbon dioxide equivalents)

Vehicle type	1990	1999	Growth rate 1990–1999
Passenger cars	620.0	688.9	11%
Light-duty trucks	283.1	364.8	29%
Other trucks	206.0	269.7	31%
Buses	10.7	12.9	21%
Aircraft[1]	176.7	184.6	4%
Boats and vessels	59.4	65.6	10%
Locomotives	28.4	35.1	24%
Other[2]	90.1	94.9	5%
Total	**1,474.4**	**1,716.5**	**16%**
International Bunker Fuels[3]	114.0	107.3	–6%

[1] Aircraft emissions are from all jet fuel (less bunker fuels) and aviation gas consumption.
[2] "Other" carbon dioxide emissions are from motorcycles, construction equipment, agricultural machinery, pipelines, and lubricants.
[3] U.S. emissions from International Bunker Fuels are from both civilian and military activities, but are not included in totals.

NOTE: The equation to convert teragrams of carbon dioxide equivalents ($TgCO_2Eq.$) to million metric tons of carbon equivalent (mmtce) is: $TgCO_2Eq.$ = mmtce x (44/12).

SOURCE: U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–1999,* EPA-236-R-01-001 (Washington, DC: April 2001), table ES-4.

1.9 percent, just above the 1990 to 2000 growth rate of 1.8 percent. DOE based the transportation rate of growth on expected increases in vehicle-miles traveled and in freight and air travel, accompanied by only small gains in vehicle efficiency [1].

The Bush Administration announced new climate change policies in February 2002 [2]. The administration plans to measure overall U.S. performance by tracking the greenhouse gas intensity of the U.S. economy (figure 2). The goal is to reduce the intensity by 18 percent by 2012. Between 1990 and 2000, the intensity declined by 17 percent, while emissions grew 14 percent and the economy grew 38 percent. To help meet its goal, the Administration has proposed two new research programs: The Climate Change Research Initiative and the National Climate Change Technology Initiative. The U.S. Department of Transportation's Center for Climate Change and Environmental Forecasting, established in 1999, identifies and evaluates options to reduce GHG emissions from and impacts on transportation.

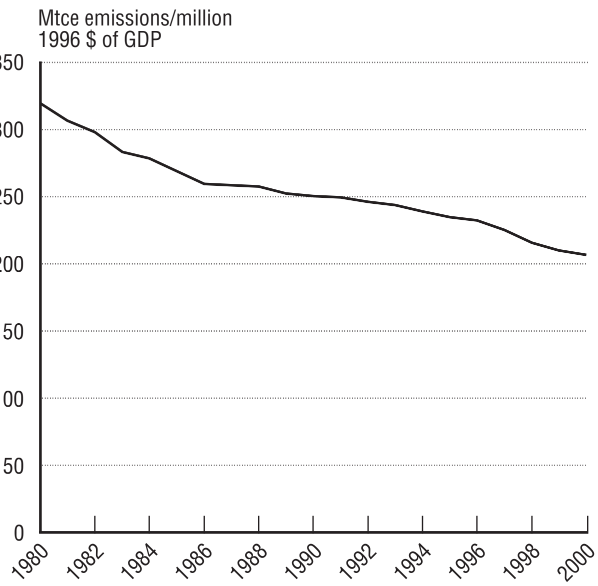
EPA and EIA Data Differ

Both the Energy Information Administration (EIA) and the U.S. Environmental Protection Agency (EPA) estimate annual U.S. greenhouse gas (GHG) emissions. EPA's data are the official inventory for the United States for reporting required under the United Nations Framework Convention on Climate Change (UNFCCC). Although EPA uses EIA fuel consumption data as a basis for some of its estimates, there are differences in the two agencies' methodologies that result in different datasets. Beginning with 1999 data, EPA reports GHG emissions data in teragrams (Tg), while EIA continues to use metric ton units. Total U.S. transportation carbon dioxide emissions in 1999 were 496 million metric tons of carbon equivalent (mmtce) according to EIA but 1,717 Tg of carbon dioxide equivalents (468 mmtce) according to EPA.

The Intergovernmental Panel on Climate Change (IPCC) was set up as the scientific body under UNFCCC, and EPA largely adheres to IPCC methodology guidelines designed to assure data harmonization among all reporting countries. EIA has more discretion in deciding which IPCC guidelines to follow. For instance, EIA's data cover 50 states and the District of Columbia, while EPA must include all U.S. territories as well. Some numbers EPA gets from EIA are revised. EIA fuel consumption data are gathered in physical units and EPA converts them to energy equivalents. In some cases, EPA emission estimates (e.g., for industrial coal) are lower than EIA's.

EIA releases its data five to six months before EPA does, and its data could be considered preliminary estimates. EPA data undergo external as well as internal review before they are released in time to meet a United Nations deadline of April each year. While EPA data are not as timely as are EIA data, EPA provides more detail of interest to transportation. For instance, EPA breaks down GHG data by modes and by various GHGs, such as carbon dioxide, nitrous oxide, and methane.

Figure 2
U.S. Greenhouse Gas Intensity of the U.S. Economy



KEY: GDP = gross domestic product; mtce = metric tons of carbon equivalent.

SOURCES: **GHG data**—U.S. Department of Energy, Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2000,* table ES-2, available at http://www.eia.doe.gov/, as of May 2002. **GDP data**—U.S. Department of Commerce, Bureau of Economic Analysis, National Accounts Data, available at http://www.bea.gov/bea/dn1.htm, as of May 2002.

Sources

1. U.S. Department of Energy, Energy Information Administration, *Annual Energy Outlook 2002*, DOE/EIA-0383(2002) (Washington, DC: December 2001).
2. The White House, "President Announces Clear Skies & Global Climate Change Initiatives," news release, Feb. 14, 2002, available at http://www.whitehouse.gov/news/releases/2002/, as of May 2002; and "Global Climate Change Policy Book," available at http://www.whitehouse.gov/news/releases/2002/02/climatechange.html/, as of May 2002.

Air Pollutants

Overall, most transportation air emissions have declined since 1980 despite significant increases in U.S. population, gross domestic product, and vehicle-miles traveled. For instance, carbon monoxide (CO), volatile organic compounds (VOC), particulates, and lead have decreased. These reductions are due primarily to vehicle tailpipe and evaporative emissions standards established by the U.S. Environmental Protection Agency (EPA), improvements in vehicle fuel efficiency, and the ban on leaded fuel for motor vehicles.

Only nitrogen oxide (NO_x) emissions, which contribute to the formation of ground-level ozone, and ammonia remain above their 1990 level (figure 1). An increase in emissions from diesel vehicles is the leading factor in NO_x growth and has led to new standards that will go into effect in 2004 [2]. For instance, NO_x emissions standards for newly manufactured gasoline- and diesel-powered heavy-duty trucks will be reduced from 4.0 to 0.20 grams per brake horsepower-hour in 2007 (diesel) and 2008 (gasoline). In addition, the existing standards for diesel particulates are being reduced from 0.10 to 0.01 grams per brake horsepower-hour in 2007. Gasoline-powered heavy-duty trucks will be subject to the same standard starting in 2008 [1].

Although progress has been made in reducing pollutants, transportation still accounts for a sizable percentage of several key pollutants. In 1999, for example, transportation contributed about 57 percent of all CO emissions, 45 percent of NO_x, 37 percent of VOC, and 12 percent of lead [3] (see box 2). With the exception of lead, highway vehicles were the primary transportation source of these pollutants. The use of lead in aircraft fuel is responsible for nearly all transportation lead emissions. Figure 2 shows 1999 emissions by mode.

In 1997, EPA added ammonia to its National Emission Inventory. Gaseous ammonia reacts in the air with sulfur dioxide and NO_x to form ammonium sulfate and nitrate particles that are found in particulate matter of 2.5 microns in diameter or smaller. In 1999, transportation, primarily highway gasoline-powered vehicles, accounted for about 5 percent of total ammonia emissions.

Box 1

Data on Toxic Air Pollutants

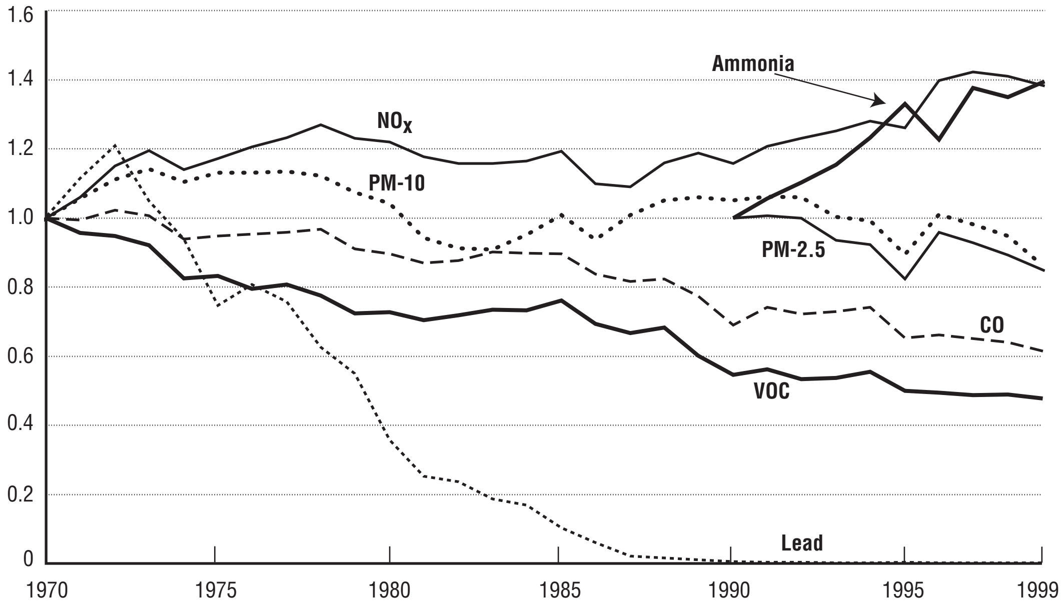
While the U.S. Environmental Protection Agency (EPA) has made annual estimates of emissions of six principal (so-called, criteria) air pollutants covering several decades, it has only recently concentrated on the larger set of hazardous (toxic) air pollutants. Two datasets on toxics are available: a 1990 to 1993 baseline and 1996. Data for 1999 may be available in 2002.

In 2000, EPA designated 21 of the 188 hazardous air pollutants (HAPs) as mobile source air toxics (MSATs). Among these, mobile sources contribute 86 percent of the nation's air emissions of methyl-tertiary-butyl-ether (MTBE), 84 percent of ethylbenzene, 79 percent of xylene, 76 percent of acetaldehyde, and 60 percent of 1,3-butadiene.[1] EPA published a final rule on controlling MSAT emissions in March 2001.[2]

[1] The Bureau of Transportation Statistics published the 1996 data on 21 MSATs in its *Transportation Statistics Annual Report 2000* (Washington, DC: 2002), also available at http://www.bts.gov.

[2] 66 *Federal Register* 17229, Control of Emissions of Hazardous Air Pollutants from Mobile Sources, Mar. 29, 2001.

Figure 1
National Transportation Emissions Trends Index: 1970–1999
Index: 1970 = 1.0; 1990 = 1.0 for PM-2.5 and ammonia



KEY: CO = carbon monoxide; NOx = nitrogen oxides; VOC = volatile organic compounds; PM-10 = particulate matter 10 microns in diameter or smaller; PM-2.5 = particulate matter 2.5 microns in diameter or smaller.

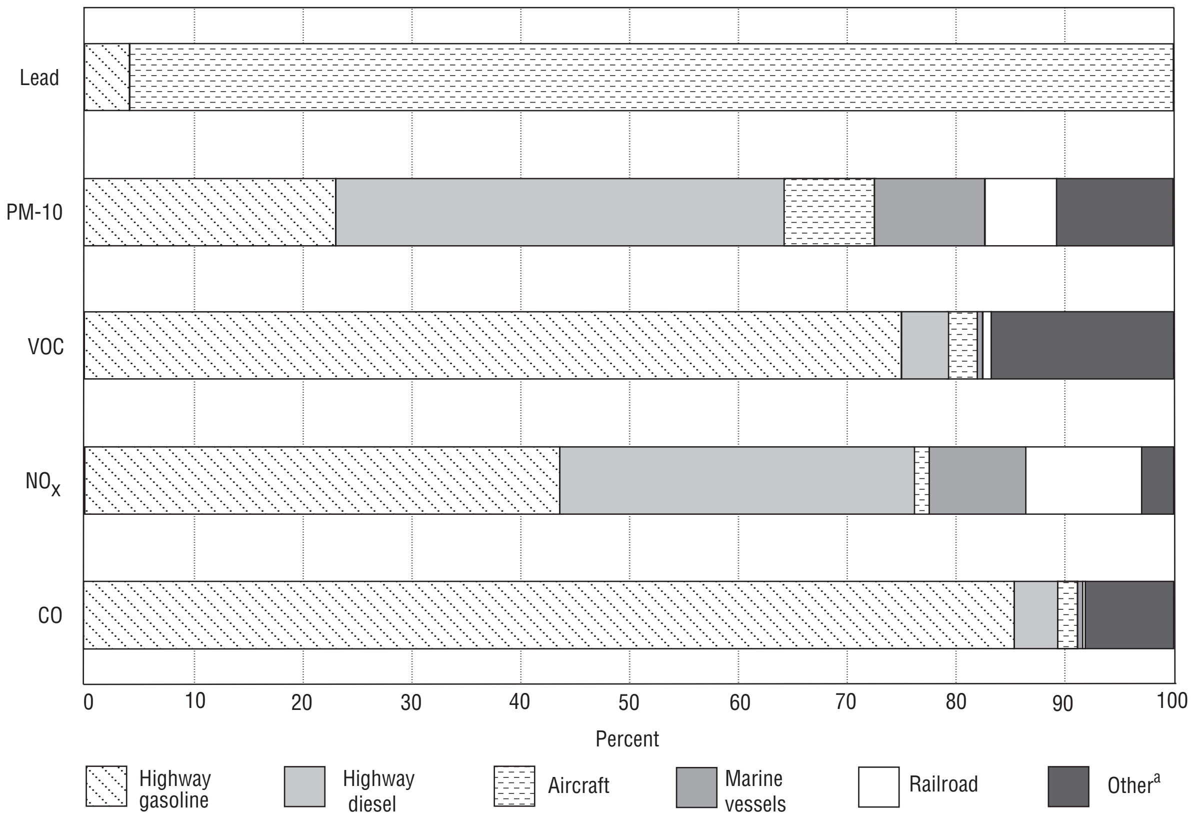
SOURCE: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, "National Emission Inventory (NEI), Air Pollutant Emission Trends," available at http://www.epa.gov/ttn/chief/trends/, as of January 2001.

The decline in emissions from transportation vehicles directly affects the nation's air quality, which is a measure of the concentration of pollutants in the atmosphere. Between 1981 and 2000, air quality based on six principal pollutants improved. The change in air quality ranges from a 14 percent decline in NO_x to a 93 percent decline in lead [2]. These data are calculated from averages of direct measurements in ambient air from monitoring sites across the country, most of which are located in urban areas.

Box 2
Mobile Source vs. Transportation Emissions

The U.S. Environmental Protection Agency's (EPA) National Emission Inventory (NEI) is updated annually and covers both mobile and stationary sources of pollution. The mobile portion contains "onroad" (highway) and "nonroad" (all other modes) emissions. However, the nonroad category also contains nontransportation sources such as farming and construction equipment, lawn and garden equipment, and logging, industrial, and light commercial equipment. While the Bureau of Transportation Statistics uses the mobile portion of the NEI to characterize transportation air emissions, it does so by first removing the nontransportation components of the data. Thus, data presented here cannot be directly compared with the EPA NEI data. For instance, the *mobile source* component of all carbon monoxide emissions in 1999 was 77 percent, nitrogen oxides were 56 percent, and volatile organic compounds were 47 percent.

Figure 2
Modal Share of Key Transportation Air Pollutants: 1999



[a] Other includes gasoline and diesel recreational vehicles, recreational marine vessels, airport service vehicles, and railroad maintenance equipment. Does not include farm, construction, industrial, logging, light commercial, and lawn and garden equipment.

KEY: CO = carbon monoxide; NO_x = nitrogen oxides; VOC = volatile organic compounds; PM-10 = particulate matter 10 microns in diameter or smaller.

SOURCE: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, "National Emission Inventory (NEI), Air Pollutant Emission Trends," available at http://www.epa.gov/ttn/chief/trends/, as of January 2001.

Sources

1. U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2001,* available at http://www.bts.gov.
2. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *Latest Findings on National Air Quality: 2000 Status and Trends*, EPA 454/K-01-002, (Washington DC: September 2001).
3. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, "National Emission Inventory (NEI), Air Pollutant Emission Trends," available at http://www.epa.gov/ttn/chief/trends/, as of January 2001.

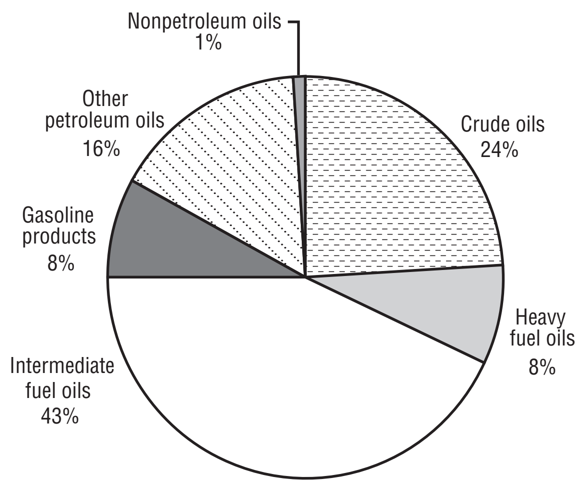
Oil Spills

Failures in transportation systems (vessels, pipelines, highway vehicles, and railroad equipment) or errors made by operators can result in spills of oil and hazardous materials. Better information is available about the extent of spill incidents than about the overall consequences of these spills on the environment and human health. The impact of each spill, for instance, will depend on the concentration and nature of the pollution, the location and volume of the spill, weather conditions, and the environmental resources affected.

When an oil spill occurs in U.S. waters, the responsible party is required to report the spill to the U.S. Coast Guard. The Coast Guard collects data on the number, location, and source of spills, volume and type of oil spilled, and the type of operation that caused spills. Between 1996 and 2000, an annual average of 1.5 million gallons of various types of oil were spilled by all sources (figure 1).

The total amount, source, and type of oil spilled varies each year (table 1). For instance, marine vessels and pipelines were responsible for 73 percent of the spills (by volume) reported in 2000, but just 40 percent in 1991 [3]. Much of the oil spilled tends to be cargo, but that too varies by year. It amounted to 51 percent of the volume of oil spilled in 1998 but just 24 percent in 1999 [1, 2]. New research suggests that, on an annual average basis, transportation of petroleum results in only a small portion of the petroleum that enters North American ocean waters each year (see box).

Figure 1
Reported Oil Spills by Type: 1996–2000
Annual average



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, *Pollution Incidents In and Around U.S. Waters, A Spill Release Compendium: 1969–2000,* available at http://www.uscg.mil/, as of March 2002.

The largest oil spill in 2000 (and the largest since 1996) occurred when a tanker grounded in the Mississippi River, resulting in the loss of 538,000 gallons of crude oil from one of its cargo tanks. The largest pipeline incident in 2000 was a leak of about 175,000 gallons of oil into a tributary of the Delaware River [3].

Sources

1. American Petroleum Institute, *Oil Spills in U.S. Navigable Waters: 1989–1998* (Washington, DC: Feb. 22, 2000).
2. _____. *Oil Spills in U.S. Navigable Waters: 1990–1999* (Washington, DC: Jan. 18, 2001).
3. U.S. Department of Transportation, U.S. Coast Guard, *Pollution Incidents In and Around U.S. Waters, A Spill Release Compendium: 1969–2000,* available at http://www.uscg. mil/hq/, as of March 2002.

Table 1
Reported Oil Spills in U.S. Waterways: 1991–2000
Thousands of gallons

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Marine vessels	696	665	1,177	1,334	1,624	1,681	381	621	576	1,034
Pipelines	49	200	362	62	12	978	224	48	36	17
Facilities	446	505	350	677	869	406	205	16	368	311
Other[1]	10	236	146	349	77	24	72	33	148	45
Unknown	674	269	32	78	56	29	60	17	45	24
Total	**1,876**	**1,876**	**2,067**	**2,499**	**2,638**	**3,118**	**943**	**885**	**1,173**	**1,431**

[1] Depending on the year, this category may include other transportation sources such as aircraft and railroad equipment.

NOTE: Numbers may not add to totals due to rounding.

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, *Pollution Incidents In and Around U.S. Waters, A Spill Release Compendium: 1969–2000,* available at http://www.uscg.mil/, as of March 2002.

Sources of Petroleum Entering North American Waters

Most of the estimated 29 million gallons of petroleum that enters North American waters[1] on average each year from anthropogenic sources is not the result of tanker and pipeline spills, according to a National Research Council (NRC) study. The study defined four categories of sources: natural seeps, petroleum extraction, transportation, and consumption. Among these latter three anthropogenic sources, releases that occur during consumption contribute nearly 86 percent of the petroleum that enters North American waters, while transportation contributes 9 percent (see table below).

NRC determined total consumption data by estimating releases from land-based runoff (including rivers), recreational marine vessels, spills from nontank vessels, operational discharges from vessels of 100 gross tons and less than 100 gross tons, and atmospheric deposition (including aircraft dumping). The study said that "... estimates for land-based sources of petroleum are the most poorly documented [of consumption data] and the uncertainty associated with the estimates range over several orders of magnitude."

Overall, however, the study concluded that accuracy of data on petroleum releases had improved since NRC had previously reported on this issue in 1985. The study also found that the environmental effects of a major oil spill are longer lasting than once thought and even small amounts of petroleum can seriously damage marine life and ecosystems.

Sources and Estimated Annual Average Amounts of Oil Entering North American Waters

	North American		Worldwide	
Source	Million gallons	Percent	Million gallons	Percent
Natural seeps	> 47.0		>180	
Petroleum extraction	0.9	3	11	5
Petroleum transportation	2.7	9	44	22
Petroleum consumption	25.0	86	140	72
Total (anthropogenic)	**29.0**		**195**	

NOTE: Percentages do not add to 100% due to rounding.

[1] North American waters include those of Canada, the United States, and Mexico.

SOURCE: National Research Council, *Oil in the Sea III: Inputs, Fates, and Effects* (Washington DC: National Academy Press, 2002).

Dredging Waterways

The nation's ports and navigation channels must be regularly dredged to maintain proper depths to accommodate shipping. The environment is affected in two ways by dredging. First, the dredging activity can, for instance, cause entrainment of fish eggs and larvae, resuspension of buried contaminated sediments, habitat loss, and collisions with marine mammals. To reduce the risks to biological resources, the U.S. Army Corps of Engineers imposes "environmental windows" on 80 percent of all federal dredging projects. Dredging is allowed to proceed during these windows, periods when adverse impacts are reduced below critical thresholds [1].

The other environmental impact of dredging is disposal of dredged sediments, especially when they are contaminated. The U.S. Environmental Protection Agency estimated that 3 million to 12 million cubic yards of material dredged each year are sufficiently contaminated to require special handling and disposal [5]. A more recent report on U.S. coastal waters concluded that, while it varies by region, 35 percent of the nation's total estuarine surface area contains contaminated sediments [4]. Contaminants include hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, and metals.

National data, which the Corps aggregates on an annual basis from individual dredging contracts, do not identify how much material is contaminated, although the data show how dredged material is managed (figure 1). Several of the reporting categories (especially confined, open water/upland, and mixed) may include contaminated sediments.

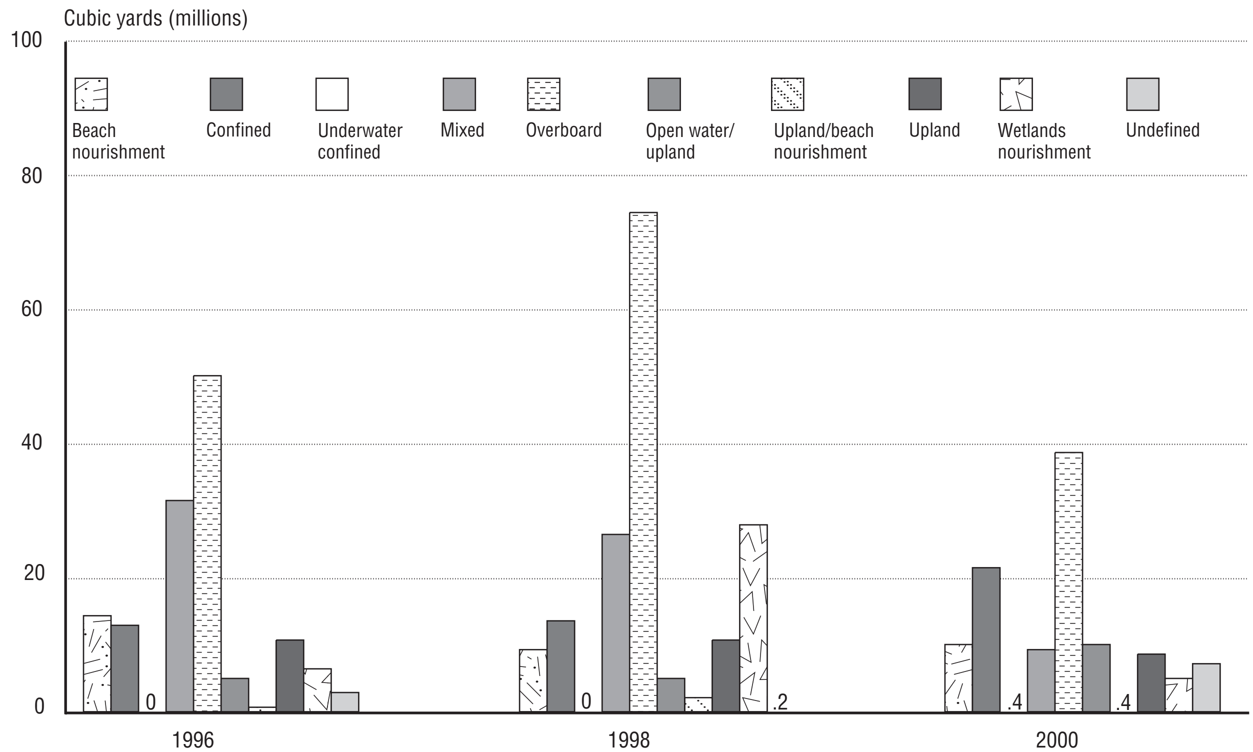
Dredging U.S. navigable waterways, the Corps produced 285 million cubic yards of materials at a total cost of $822 million in fiscal year 2000 [2]. Dredging costs per cubic yard remained fairly stable from 1990 to 1997 (figure 2). They rose 38 percent in 1998 but by 2000 had fallen back to about 23 percent above 1997. Environmental considerations can affect dredging costs. Environmental windows have cost implications as do disposal requirements. For instance, a rise in the proportion of contaminated materials in any one year can affect that year's total costs.

U.S. port authorities are responsible for dredging their berths and channels. They spent $117 million, 11 percent of their capital expenditures, on dredging in 2000 [3]. Data on disposal methods and the total amount of material dredged by ports are only occasionally available.

Sources

1. Transportation Research Board, Marine Board, *A Process for Setting, Managing, and Monitoring Environmental Windows for Dredging Projects,* Special Report 262 (Washington, DC: National Academy of Sciences, 2001).

Figure 1
Disposal/Use of Material Dredged by the U.S. Army Corps of Engineers



KEY:
Beach nourishment—beach restoration in which hydraulically pumped dredge material is directly placed onto an eroded beach.
Confined—placement of dredged material within diked nearshore or upland confined placement facilities that enclose and isolate the dredged material from adjacent waters.
Underwater confined—placement of dredged materials in an underwater area that is capped or otherwise isolated from the surrouding area.
Mixed—dredging operation that uses more than one dredged material placement alternative.
Overboard—placement of dredged material in rivers, lakes, estuaries, or oceans via pipeline or surface release from hopper dredges.
Open water/upland—combination of open water and upland placement of dredged material.
Upland/beach nourishment—combination of upland placement and beach nourishment using dredged material.
Upland—placement of dredge material on land above adjacent water surface elevation.
Wetlands nourishment—wetland restoration in which hydraulically pumped dredge material is directly placed in a wetland area.
Undefined—undefined or unknown at the time of data entry.

SOURCE: U.S. Army Corps of Engineers, Navigation Data Center, Dredging Information System, available at http://www.wrsc.usace.army.mil/ndc/drgmatdisp.htm, as of April 2002.

2. U.S. Army Corps of Engineers, Water Resources Support Center, Navigation Data Center, Dredging Information System, available at http://www.wrsc.usace.army.mil/ndc/drgmatdisp.htm, as of April 2002.
3. U.S. Department of Transportation, Maritime Administration, Office of Ports and Domestic Shipping, *United States Port Development Expenditure Report* (Washington, DC: December 2001).
4. U.S. Environmental Protection Agency, National Coastal Condition Report, EPA-620/R-01/005 (Washington, DC: September 2001).
5. U.S. Environmental Protection Agency, Office of Water, *EPA's Contaminated Sediment Management Strategy,* EPA-823-R-98-001 (Washington, DC: April 1998).

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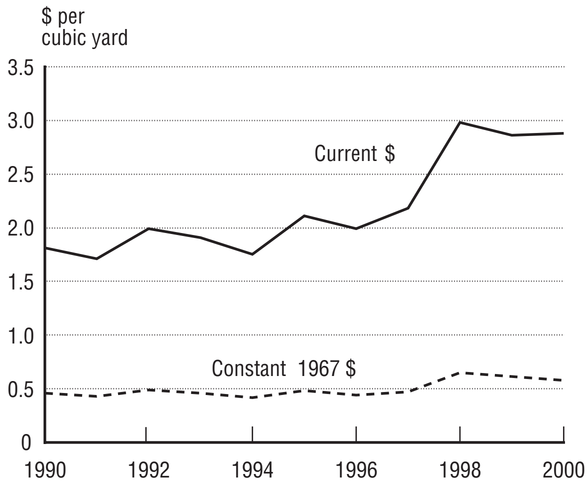
Figure 2
Cost of Dredging Navigable Waterways: 1990–2000



SOURCE: U.S. Army Corps of Engineers, Water Resources Support Center, Navigation Data Center, Dredging Information System, available at http://www.wrsc.usace.army.mil/ndc.drgmatdisp.htm, as of April 2002.

Leaking Underground Storage Tanks

Underground tanks for storing petroleum products, such as fuels for transportation, have a history of leaking petroleum into the nation's underground water. The U.S. Environmental Protection Agency (EPA) started collecting annual data on the problem and its resolution in fiscal year (FY) 1990 under the Underground Storage Tank Program.

By the end of FY 2001, EPA regions reported that there were 704,717 active underground tanks in the nation and that 1.5 million tanks had been closed [2]. Between 1990 and 2001, the number of confirmed releases[1] of petroleum from underground storage tanks (USTs) climbed at an average annual rate of 21 percent, while cleanups were completed at a rate of 29 percent per year (table 1). However, cleanups had not been initiated for nearly 39,700 releases. In addition, the U.S. General Accounting Office estimated that 29 percent of the new tanks were not being maintained and operated properly to prevent them from leaking [3].

As with oil spills in U.S. waters, these data do not reveal the overall environmental impact of releasing petroleum products into underground and surface waters. Furthermore, the data gathered show the number of incidents rather than volume; thus, even the full extent of the problem is not clear. For example, the amount of water contaminated by releases from underground tanks is not known. Petroleum products are also stored in aboveground tanks. However, no national data exist on numbers of incidents or volumes released from these tanks.

[1] A confirmed release is an identified incident and is not necessarily equivalent to the number of leaking underground storage tanks at any one site (e.g., a gasoline station).

Table 1
Leaking Underground Storage Tank Releases and Cleanups

	FY 1990	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
Total confirmed releases	87,528	341,773	371,387	397,821	412,392	418,918
Cleanups initiated	51,770	292,446	314,965	346,300	367,603	379,243
Percentage of total	59%	86%	85%	87%	89%	91%
Cleanups completed	16,905	178,297	203,247	228,925	249,759	268,833
Percentage of total	19%	52%	55%	58%	61%	64%

NOTE: Data are cumulative and are as of the end of the fiscal year.

SOURCE: U.S. Environmental Protection Agency, Office of Underground Storage Tanks, *Corrective Action Measures Archive*, available at http://www.epa.gov/swerust1/cat/camarchv.htm, as of April 2002.

In 2000, concern arose about the leaking of methyl-tertiary-butyl-ether (MTBE) from storage tanks and other sources. MTBE is a constituent of reformulated gasoline, which is used in nonattainment areas of the country to improve air quality. Once released, MTBE moves rapidly through underground water. This substance has been detected in drinking water, with the highest levels in areas of the country using reformulated gasoline. Leaking USTs appear to be a major source of groundwater contamination from MTBE, but other sources include aboveground tanks, pipelines, and recreational boats [1]. Various efforts are underway or proposed in 13 states, the U.S. Congress, and EPA to reduce or ban the use of MTBE as an oxygenate in reformulated gasoline. California has, however, delayed its ban on MTBE for one year to the end of 2003. Ethanol, the alternate oxygenate, holds a much smaller share of the current national market (see the section on Alternative and Replacement Fuels in this chapter), and the state will have to create a new infrastructure to assure a sufficient supply of this type of reformulated gasoline.

Sources

1. U.S. Environmental Protection Agency, A*chieving Clean Air and Clean Water: The Report of the Blue Ribbon Panel on Oxygenates in Gasoline,* Executive Summary and Recommendations (Washington, DC: July 27, 1999).
2. U.S. Environmental Protection Agency, Office of Underground Storage Tanks, *Corrective Action Measures Archive,* available at http://www.epa.gov/swerust1/cat/camarchv.htm, as of April 2002.
3. U.S. General Accounting Office, *Environmental Protection: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks,* GAO-01-464 (Washington DC: May 4, 2001).

Transportation Wastes

Transportation equipment and infrastructure eventually become wastes. For instance, over 11.6 million passenger cars and trucks were scrapped in 1999 [3]. Additional wastes are generated as equipment (e.g., vehicles, aircraft, vessels, and locomotives) and parts are repaired during their lifetime. Scrapped equipment is generally dismantled, with some parts or materials recycled and the rest disposed. Fluids, such as used motor oils and refrigerants, may be regenerated or disposed. Improper disposal of any of these materials or fluids can pose environmental problems. Used tire piles can ignite, releasing toxic chemicals into the air. Oil can contaminate water bodies.

There are few data on the extent of transportation wastes created annually. Overall, people in the United States generated an estimated 230 million tons of municipal solid waste in 1999 [4]. Tires and batteries from passenger cars, trucks, and motorcycles contributed 6.6 million tons to this total (figures 1 and 2). The balance of transportation wastes, such as equipment, other batteries and tires, discards from dismantling operations, and motor oils, are not included, nor are infrastructure construction debris.[1]

The recovered portion of lead-acid batteries and tires is reused in some form and therefore does not end up in waste landfills or incinerators. Batteries are dismantled and 97 percent of the lead content and a significant portion of the polypropylene casing were recycled in 1999. Only 26 percent (by weight) of tires were recycled, however.

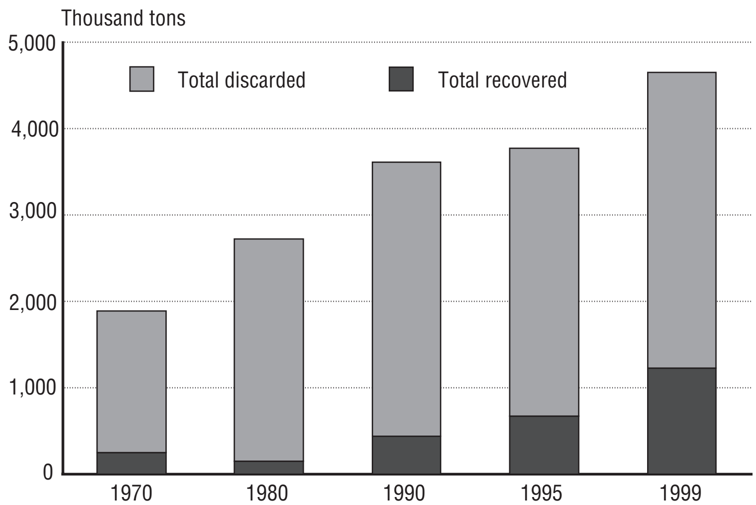
The transportation sector used an estimated 1,260 million gallons of lubricants in 1999, 50 percent of the lubricants consumed by all sectors that year [2]. Motor oils become wastes throughout a vehicle's lifecycle and may be burned as fuel, placed in landfills, rerefined, or incinerated. In addition, some are illegally dumped. The amount of waste motor oils generated each year and how it is disposed are estimated only periodically. About 250 million gallons of motor oil were recycled in 1997 [1].

[1] The Federal Highway Administration issued a Formal Policy on the Use of Recycled Materials in highway applications in February 2002.

Sources

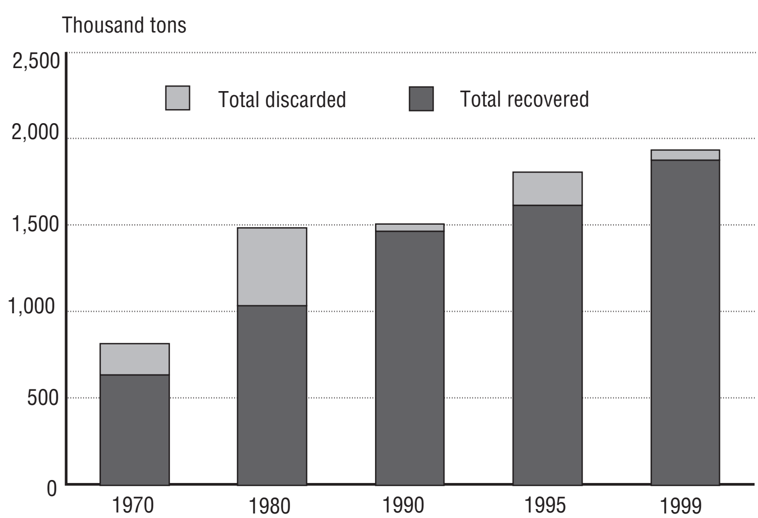
1. American Petroleum Institute, "Used Motor Oil: Collection and Recycling," available at http://www.recycleoil.org/Usedoilflow.htm, as of March 2002.
2. U.S. Department of Energy, Energy Information Administration, *State Energy Data Report 1999,* tables 11 and 15, available at http://www.eia.doe.gov/emeu/sedr/contents.html#PDF Files/, as of March 2002.
3. U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2000* (Washington DC: 2001), table 4-54.
4. U.S. Environmental Protection Agency, *Municipal Solid Waste in the United States: 1999 Facts and Figures,* EPA530-R-01-014 (Washington, DC: July 2001).

Figure 1
Disposition of All Used Rubber Tires
Passenger cars, trucks, and motorcycles



SOURCES:
U.S. Environmental Protection Agency, *Municipal Solid Waste in the United States: 1999 Facts and Figures,* EPA530-R-01-014 (Washington DC: July 2001).
_____. *Characterization of Municipal Solid Waste in the U.S.* (Washington, DC: Various years).

Figure 2
Disposition of All Used Lead-Acid Batteries
Passenger cars, trucks, and motorcycles



SOURCES:
U.S. Environmental Protection Agency, *Municipal Solid Waste in the United States: 1999 Facts and Figures,* EPA530-R-01-014 (Washington DC: July 2001).
_____. *Characterization of Municipal Solid Waste in the U.S.* (Washington, DC: Various years).

Wetlands

Wetlands provide many environmental benefits. They serve as wildlife habitats and spawning grounds for fish, provide vast amounts of food for aquatic species, and help remove organic pollutants from bodies of water. Yet, it is only during the last few decades that the United States has considered wetlands a natural resource worth enhancing and preserving. This change in thinking occurred after an estimated half of the wetlands acreage believed to exist in the 1600s had been drained [5]. By 1997, the nation had an estimated 105.5 million acres of wetlands, having suffered a net loss of almost 650,000 acres of wetlands between 1986 and 1997[1] [3].

Transportation infrastructure and its use has contributed to the loss of wetlands, but it is unclear to what extent. For instance, when the Fish and Wildlife Service made their 1997 estimates, transportation activities were not reported separately but considered part of urban development, a category accounting for an estimated 30 percent of all wetland losses. Because federal policy requires compensatory mitigation to restore, create, or enhance impacted wetlands, developers of roads, airports, rail systems, and marine facilities must determine whether their projects will affect wetlands. If so, they may need to obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers.

The only national trend data on transportation wetlands impacts have been collected, since 1996, by the Federal Highway Administration (table 1). These data cover wetlands acreage affected by federal-aid highways, which constitute 24 percent of the total miles of public roads in this country [4]. Although the Federal Aviation Administration (FAA) does not collect data on wetlands impacted by airports, airport runway expansion often involves an evaluation of those effects. FAA is particularly concerned that mitigation projects do not create habitats that would attract wildlife known to affect aircraft operations.

Table 1
Wetlands Lost and Created Under the Federal-Aid Highway Program: 1996–2000

Fiscal year	Acres impacted	Acres mitigated	Ratio of wetlands created to wetlands lost
1996	1,568	3,554	2.3:1
1997	1,699	4,484	2.6:1
1998	1,167	2,557	2.2:1
1999	2,354	5,409	2.3:1
2000	2,041	7,671	3.8:1
2001	1,905	4,017	2.11:1
Total	**10,734**	**27,692**	**2.6:1**

SOURCES: 1996–2000—U.S. Department of Transportation, Federal Highway Administration, *Wetlands Mitigation Data Report for the Federal-Aid Highway Program, Fiscal Year 2000* (Washington DC: 2001).

2001 data—_____. *Wetlands Mitigation Data Report for Federal-Aid Highway Projects, Fiscal Year 2001* available at http://www.fhwa.dot.gov/environment/wetland/mitrpt01.htm, as of March 2002.

[1] This amounts to an average annual rate of loss of 58,500 acres, according to the Fish and Wildlife Service. An alternate source of wetlands data—the U.S. Department of Agriculture, Natural Resources Conservation Service—has estimated an average annual loss of 32,600 acres between 1992 and 1997.

Some of the sediments the U.S. Army Corps of Engineers dredges from navigation channels are used to nourish wetlands. The amount varies each year; in fiscal year 2000, the Corps applied 96 million cubic yards of sediment to wetlands [1]. This was just over 4 percent of all Corps-dredged material that year compared with 16 percent (39 million cubic yards) in 1998.

While the available data provide some insight into transportation infrastructure's relative effect on wetlands, there are no data on impacts from runoff of salt, oils, and rubber from highways and other facilities, and air pollutants emitted by vehicles, locomotives, airplanes, and vessels as they move along or through wetland areas. Furthermore, acreage data provide no information on the quality of wetlands as measured by their value to society [2].

Sources

1. U.S. Army Corps of Engineers, Dredging Information System, available at http://www.wrsc.usace.army.mil/ndc/dcgmatdisp.htm, as of March 2002.
2. U.S. Congress, Congressional Research Service, "Wetlands Issues," Aug. 7, 2001.
3. U.S. Department of the Interior, Fish and Wildlife Service, *Status and Trends of Wetlands in the Conterminous United States: 1986 to 1997* (Washington, DC: December 2000).
4. U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000* (Washington, DC: 2001), table HM-14.
5. U.S. Environmental Protection Agency, Office of Water, "What are Wetlands? Status and Trends," available at http:// www.epa.gov/owow/wetlands/vital/status.html, as of March 2002.

Transportation Environmental Indicators

Indicators are quantitative data that can be used to assess the magnitude of problems, help set priorities, develop performance measures and track progress toward goals, or educate stakeholders. To assess problems and measure progress, trend data are needed. The full range of environmental effects of the transportation system is extensive but few good indicators are available.

Figure 1 is a conceptual diagram of the environmental effects of transportation from a lifecycle perspective. Phases (or stages) of transportation include fuel production, vehicle manufacturing, fixed infrastructure development, travel (or vehicle use), maintenance, and disposal. Activities occurring during the phases result in environmental outcomes (e.g., pollution releases and changes in wetlands acreage). Outcomes can, in turn, affect the environment and human health, creating impacts that are usually negative (e.g., cancers, birth defects, asthma, stunted tree growth, and fish kills). Impacts, which can be chronic or acute, are highly dependent on two variables: concentration and exposure.

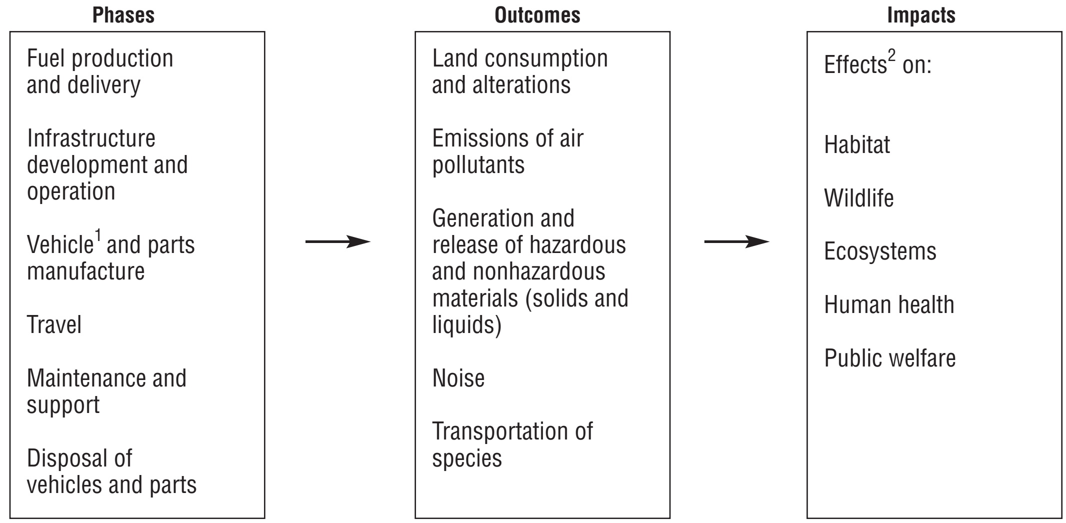
Activity, outcome, or impact data can be the source for indicators. However, outcome indicators are most commonly used for transportation. Activities are only indirectly related to environmental consequences. Increases in passenger car vehicle-miles traveled may or may not result in increased pollutant releases. Similarly, the volume of oil transported by marine vessels is not indicative of harm caused by oil spills at sea. Most available impact data do not directly identify sources, such as transportation. For instance, the U.S. Environmental Protection Agency (EPA) reports annually on changes in the nation's air quality. These data come from monitoring stations that measure concentrations of pollutants in the atmosphere. The sources of the pollutants may be factories, powerplants, dry cleaning facilities, printing shops, storage tanks, and so on, as well as vehicles.

Readily available data for outcome indicators are not comprehensive, especially for all modes and lifecycle phases. National trend data for outcomes are estimated, modeled, or collected only for some pollutants.

The most often used transportation environmental indicator comprises six criteria air pollutants regulated under the Clean Air Act (see page 225). The data are estimated annually by EPA and show the relative outcome contribution of these pollutants by mode (except pipelines) during the travel phase. With the emergence of the global climate change issue, an additional indicator is available. EPA and the Energy Information Administration, U.S. Department of Energy, now annually estimate the amount of six greenhouse gases emitted by the transportation sector.

(continues on next page)

Figure 1
Effects of Transportation on the Environment



[1] Vehicle here includes highway vehicles, airplanes, marine vessels, railroad cars and locomotives, and transit equipment.
[2] Dependent on ambient levels or concentrations of pollutants and exposure to those outputs.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, based on U.S. Environmental Protection Agency, *Indicators of the Environmental Impacts of Transportation* (Washington, DC: October 1999), figure 1-1.

Appendices

Appendix A: List of Acronyms and Initialisms

AADT	average annual daily traffic
ADA	Americans with Disabilities Act
AFV	alternative fuel vehicle
BAC	blood alcohol concentration
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BTS	Bureau of Transportation Statistics
Btu	British thermal unit
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CFR	Code of Federal Regulations
CFS	Commodity Flow Survey
CO	carbon monoxide
CO_2	carbon dioxide
CRAF	Civil Reserve Air Fleet
DGPS	Differential Global Positioning System
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
dwt	deadweight tons
EDS	Explosive Detection Systems
EIA	Energy Information Administration
EJ	environmental justice
EPA	U.S. Environmental Protection Agency
ETC	electronic toll collection
ETMS	Enhanced Traffic Management System
FAA	Federal Aviation Administration
FAF	Freight Analysis Framework
FARs	Federal Aviation Regulations
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	fiscal year

GA	general aviation
GAO	General Accounting Office
GDD	Gross Domestic Demand
GDP	Gross Domestic Product
GHG	greenhouse gas
GIS	geographic information systems
GPRA	Government Performance and Results Act
GPS	Global Positioning System
HAPs	hazardous air pollutants
HELP	Heavy Vehicle Electronic License Plate
HMIS	Hazardous Materials Information System
HPMS	Highway Performance Monitoring System
HSR	high-speed rail
HTF	Highway Trust Fund
IBET	Intermodal Bottleneck Evaluation Tool
INS	Immigration and Naturalization Service
IPCC	Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act
IT	information technology
ITS	intelligent transportation system
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LTV	light trucks and vans
MARAD	Maritime Administration
MMLD	Merchant Mariner Licensing Documentation
mmtc	million metric tons of carbon
mpg	miles per gallon
mph	miles per hour
MPO	metropolitan planning organization
MSATs	mobile source air toxics
MSP	Maritime Security Programs
MSW	municipal solid waste
MTBE	methyl-tertiary-butyl-ether
NAFTA	North American Free Trade Agreement
NAS	National Airspace System plan
NASS GES	National Automotive Sampling System General Estimates System
NDRF	National Defense Reserve Fleet
NHTS	National Household Travel Survey
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NPIAS	National Plan of Integrated Airport Systems
NPL	National Priorities List
NPTS	Nationwide Personal Transportation Survey
NTL	National Transportation Library
NTSB	National Transportation Safety Board

OMB	Office of Management and Budget
OPEC	Organization of Petroleum Exporting Countries
OPS	Office of Pipeline Safety
OSRA	Ocean Shipping Reform Act
PFD	personal flotation device
PM-2.5	particulate matter of 2.5 microns in diameter or smaller
PM-10	particulate matter of 10 microns in diameter or smaller
pmt	passenger-miles of travel
PSC	Port State Control
PSR	Present Serviceability Rating
PTC	positive train control
PUV	personal-use vehicle
quads	quadrillion
RFG	reformulated gasoline
ROR	run-off-the-road
RRF	Ready Reserve Fleet
RSPA	Research and Special Programs Administration
SCTG	Standard Classification of Transported Goods
SO_2	sulfur dioxide
STRAHNET	Strategic Highway Network
SUV	sport utility vehicle
TEA-21	Transportation Equity Act for the 21st Century
TEU	20-foot equivalent container unit
TICSA	Transportation Infrastructure Capital Stock Account
TTI	Texas Transportation Institute
UNFCC	United Nations Framework Convention on Climate Change
USCG	U.S. Coast Guard
USGS	U.S. Geological Survey
UST	underground storage tank
vmt	vehicle-miles of travel
VOC	volatile organic compounds

Appendix B: Glossary

14 CFR 121 (air): *Code of Federal Regulations,* Title 14, part 121. Prescribes rules governing the operation of domestic, flag, and supplemental air carriers and commercial operators of large aircraft.

14 CFR 135 (air): *Code of Federal Regulations,* Title 14, part 135. Prescribes rules governing the operations of commuter air carriers (scheduled) and on-demand air taxi (unscheduled).

ACCIDENT (aircraft): As defined by the National Transportation Safety Board, an occurrence incidental to flight in which, as a result of the operation of an aircraft, any person (occupant or nonoccupant) receives fatal or serious injury or any aircraft receives substantial damage.

ACCIDENT (automobile): See Crash (highway).

ACCIDENT (gas): 1) An event that involves the release of gas from a pipeline or of liquefied natural gas (LNG) or other gas from an LNG facility resulting in personal injury necessitating in-patient hospitalization or a death; or estimated property damage of $50,000 or more to the operator or others, or both, including the value of the gas that escaped during the accident; 2) an event that results in an emergency shutdown of an LNG facility; or 3) an event that is significant in the judgment of the operator even though it did not meet the criteria of (1) or (2).

ACCIDENT (hazardous liquid or gas): Release of hazardous liquid or carbon dioxide while being transported, resulting in any of the following: 1) an explosion or fire not intentionally set by the operator; 2) loss of 50 or more barrels of hazardous liquid or carbon dioxide; 3) release to the atmosphere of more than 5 barrels a day of highly volatile liquids; 4) death of any person; 5) bodily harm resulting in one or more of the following—a) the loss of consciousness, b) the necessity of carrying a person from the scene, c) the necessity for medical treatment, d) disability that prevents the discharge of normal duties, and 6) estimated damage to the property of the operators and/or others exceeding $50,000.

ACCIDENT (highway-rail grade-crossing): An impact between on-track railroad equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, or pedestrian or other highway user at a designated crossing site. Sidewalks, pathways, shoulders, and ditches associated with the crossing are considered to be part of the crossing site.

ACCIDENT (rail): A collision, derailment, fire, explosion, act of God, or other event involving operation of railroad on-track equipment (standing or moving) that results in railroad damage exceeding an established dollar threshold.

ACCIDENT (recreational boating): An occurrence involving a vessel or its equipment that results in 1) a death; 2) an injury that requires medical treatment beyond first aid; 3) damage to a vessel and other property, totaling more than $500 or resulting in the complete loss of a vessel; or 4) the disappearance of the vessel under circumstances that indicate death or injury. Federal regulations (33 CFR 173–4) require the operator of any vessel that is numbered or used for recreational purposes to submit an accident report.

ACCIDENT (transit): An incident involving a moving vehicle, including another vehicle, an object, or person (except suicides), or a derailment/left roadway.

AIR CARRIER: The commercial system of air transportation comprising large certificated air carriers, small certificated air carriers, commuter air carriers, on-demand air taxis, supplemental air carriers, and air travel clubs.

AIR TAXI: An aircraft operator who conducts operations for hire or compensation in accordance with 14 CFR 135 (for safety purposes) or FAR Part 135 (for economic regulations or reporting purposes) in an aircraft with 30 or fewer passenger seats and a payload capacity of 7,500 pounds or less. An air taxi operates on an on-demand basis and does not meet the flight schedule qualifications of a commuter air carrier (see below).

AIRPORT: A landing area regularly used by aircraft for receiving or discharging passengers or cargo.

ALTERNATIVE FUELS: The Energy Policy Act of 1992 defines alternative fuels as methanol, denatured ethanol, and other alcohol; mixtures containing 85 percent or more (but not less than 70 percent as determined by the Secretary of Energy by rule to provide for requirements relating to cold start, safety, or vehicle functions) by volume of methanol, denatured ethanol, and other alcohols with gasoline or other fuels. Includes compressed natural gas, liquid petroleum gas, hydrogen, coal-derived liquid fuels, fuels other than alcohols derived from biological materials, electricity, or any other fuel the Secretary of Energy determines by rule is substantially not petroleum and would yield substantial energy security and environmental benefits.

AMTRAK: Operated by the National Railroad Passenger Corporation, this rail system was created by the Rail Passenger Service Act of 1970 (Public Law 91-518, 84 Stat. 1327) and given the responsibility for the operation of intercity, as distinct from suburban, passenger trains between points designated by the Secretary of Transportation.

ARTERIAL HIGHWAY: A major highway used primarily for through traffic.

ASPHALT: A dark brown to black cement-like material containing bitumen as the predominant constituent. The definition includes crude asphalt and finished products such as cements, fluxes, the asphalt content of emulsions, and petroleum distillates blended with asphalt to make cutback asphalt. Asphalt is obtained by petroleum processing.

AVAILABLE SEAT-MILES (air carrier): The aircraft-miles flown in each interairport hop multiplied by the number of seats available on that hop for revenue passenger service.

AVERAGE HAUL: The average distance, in miles, one ton is carried. It is computed by dividing ton-miles by tons of freight originated.

AVERAGE PASSENGER TRIP LENGTH (bus/rail): Calculated by dividing revenue passenger-miles by the number of revenue passengers.

AVIATION GASOLINE (general aviation): All special grades of gasoline used in aviation reciprocating engines, as specified by American Society of Testing Materials Specification D910 and Military Specification MIL-G5572. Includes refinery products within the gasoline range marketed as or blended to constitute aviation gasoline.

BARREL (oil): A unit of volume equal to 42 U.S. gallons.

BLOOD ALCOHOL CONCENTRATION (highway): A measurement of the percentage of alcohol in the blood by grams per deciliter.

BRITISH THERMAL UNIT (Btu): The quantity of heat needed to raise the temperature of 1 pound (approximately 1 pint) of water by 1 °F at or near 39.2 °F.

BULK CARRIER (water): A ship with specialized holds for carrying dry or liquid commodities, such as oil, grain, ore, and coal, in unpackaged bulk form. Bulk carriers may be designed to carry a single bulk product (crude oil tanker) or accommodate several bulk product types (ore/bulk/oil carrier) on the same voyage or on a subsequent voyage after holds are cleaned.

BUS: Large motor vehicle used to carry more than 10 passengers, including school buses, intercity buses, and transit buses.

CAFE STANDARDS: See Corporate Average Fuel Economy Standards.

CAR-MILE (rail): The movement of a railroad car a distance of one mile. An empty or loaded car-mile refers to a mile run by a freight car with or without a load. In the case of intermodal movements, the designation of empty or loaded refers to whether the trailers or containers are moved with or without a waybill.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (air carrier): A certificate issued by the U.S. Department of Transportation to an air carrier under Section 401 of the Federal Aviation Act authorizing the carrier to engage in air transportation.

CERTIFICATED AIR CARRIER: An air carrier holding a Certificate of Public Convenience and Necessity issued by the U.S. Department of Transportation to conduct scheduled services interstate. These carriers may also conduct nonscheduled or charter operations. Certificated air carriers operate large aircraft (30 seats or more or a maximum load of 7,500 pounds or more) in accordance with FAR Part 121. See also Large Certificated Air Carrier.

CERTIFICATED AIRPORTS: Airports that service air carrier operations with aircraft seating more than 30 passengers.

CHAINED DOLLARS: A measure used to express real prices, defined as prices that are adjusted to remove the effect of changes in the purchasing power of the dollar. Real prices usually reflect buying power relative to a reference year. The "chained-dollar" measure is based on the average weights of goods and services in successive pairs of years. It is "chained" because the second year in each pair, with its weights, becomes the first year of the next pair. Prior to 1996, real prices were expressed in constant dollars, a weighted measure of goods and services in a single year. See also Constant Dollars and Current Dollars.

CLASS I RAILROAD: A carrier that has an annual operating revenue of $250 million or more after applying the railroad revenue deflator formula, which is based on the Railroad Freight Price Index developed by the U.S. Department of Labor, Bureau of Labor Statistics. The formula is the current year's revenues multiplied by the 1991 average index or current year's average index.

COASTWISE TRAFFIC (water): Domestic traffic receiving a carriage over the ocean or the Gulf of Mexico (e.g., between New Orleans and Baltimore, New York and Puerto Rico, San Francisco and Hawaii, Alaska and Hawaii). Traffic between Great Lakes ports and seacoast ports, when having a carriage over the ocean, is also considered coastwise.

COLLECTOR (highway): In rural areas, routes that serve intracounty rather than statewide travel. In urban areas, streets that provide direct access to neighborhoods and arterials.

COMBINATION TRUCK: A power unit (truck tractor) and one or more trailing units (a semitrailer or trailer).

COMMERCIAL BUS: Any bus used to carry passengers at rates specified in tariffs; charges may be computed per passenger (as in regular route service) or per vehicle (as in charter service).

COMMERCIAL SERVICE AIRPORT: Airport receiving scheduled passenger service and having 2,500 or more enplaned passengers per year.

COMMUTER AIR CARRIER: Different definitions are used for safety purposes and for economic regulations and reporting. For safety analysis, commuter carriers are defined as air carriers operating under 14 CFR 135 that carry passengers for hire or compensation on at least five round trips per week on at least one route between two or more points according to published flight schedules, which specify the times, days of the week, and points of service. On March 20, 1997, the size of the aircraft subject to 14 CFR 135 was reduced from 30 to fewer than 10 passenger seats. (Larger aircraft are subject to the more stringent regulations of 14 CFR 121.) Helicopters carrying passengers or cargo for hire, however, are regulated under CFR 135 whatever their size. Although, in practice, most commuter air carriers operate aircraft that are regulated for safety purposes under 14 CFR 135 and most aircraft that are regulated under 14 CFR 135 are operated by commuter air carriers, this is not necessarily the case.

For economic regulations and reporting requirements, commuter air carriers are those carriers that operate aircraft of 60 or fewer seats or a maximum payload capacity of 18,000 pounds or less. These carriers hold a certificate issued under section 298C of the Federal Aviation Act of 1958, as amended.

COMMUTER RAIL (transit): Urban passenger train service for short-distance travel between a central city and adjacent suburb. Does not include rapid rail transit or light rail service.

COMPRESSED NATURAL GAS: Natural gas compressed to a volume and density that is practical as a portable fuel supply. It is used as a fuel for natural gas-powered vehicles.

CONSTANT DOLLARS: Dollar value adjusted for changes in the average price level by dividing a current dollar amount by a price index. See also Chained Dollars and Current Dollars.

CORPORATE AVERAGE FUEL ECONOMY STANDARDS (CAFE): Originally established by Congress for new automobiles and later for light trucks. This law requires automobile manufacturers to produce vehicle fleets with a composite sales-weighted fuel economy not lower than the CAFE standards in a given year. For every vehicle that does not meet the standard, a fine is paid for every one-tenth of a mile per gallon that vehicle falls below the standard.

CRASH (highway): An event that produces injury and/or property damage, involves a motor vehicle in transport, and occurs on a trafficway or while the vehicle is still in motion after running off the trafficway.

CRUDE OIL: A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface-separating facilities.

CURRENT DOLLARS: Dollar value of a good or service in terms of prices current at the time the good or service is sold. See also Chained Dollars and Current Dollars.

DEADWEIGHT TONNAGE (water): The carrying capacity of a vessel in long tons (2,240 pounds). It is the difference between the number of tons of water a vessel displaces "light" and the number of tons it displaces when submerged to the "load line."

DEMAND RESPONSIVE VEHICLE (transit): A nonfixed-route, nonfixed-schedule vehicle that operates in response to calls from passengers or their agents to the transit operator or dispatcher.

DIESEL FUEL: A complex mixture of hydrocarbons with a boiling range between approximately 350 and 650 °F. Diesel fuel is composed primarily of paraffins and naphthenic compounds that auto-ignite from the heat of compression in a diesel engine. Diesel is used primarily by heavy-duty road vehicles, construction equipment, locomotives, and by marine and stationary engines.

DISTILLATE FUEL OIL: A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. Distillate fuel oil is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation.

DOMESTIC FREIGHT (water): All waterborne commercial movement between points in the United States, Puerto Rico, and the Virgin Islands, excluding traffic with the Panama Canal Zone. Cargo moved for the military in commercial vessels is reported as ordinary commercial cargo; military cargo moved in military vessels is omitted.

DOMESTIC OPERATIONS (air carrier): All air carrier operations having destinations within the 50 United States, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands.

DOMESTIC PASSENGER (water): Any person traveling on a public conveyance by water between points in the United States, Puerto Rico, and the Virgin Islands.

DRY CARGO BARGES (water): Large flat-bottomed, nonself-propelled vessels used to transport dry-bulk materials such as coal and ore.

ENERGY EFFICIENCY: The ratio of energy inputs to outputs from a process, for example, miles traveled per gallon of fuel (mpg).

ENPLANED PASSENGERS (air carrier): See Revenue Passenger Enplanements.

ETHANOL: A clear, colorless, flammable oxygenated hydrocarbon with a boiling point of 78.5 °C in the anhydrous state. It is used in the United States as a gasoline octane enhancer and oxygenate (10 percent concentration). Ethanol can be used in high concentrations in vehicles optimized for its use. Otherwise known as ethyl alcohol, alcohol, or grain-spirit.

FATAL CRASH (highway): A police-reported crash involving a motor vehicle in transport on a trafficway in which at least 1 person dies within 30 days of the crash as a result of that crash.

FATAL INJURY (air): Any injury that results in death within 30 days of the accident.

FATALITY: For purposes of statistical reporting on transportation safety, a fatality is considered a death due to injuries in a transportation crash, accident, or incident that occurs within 30 days of that occurrence.

FATALITY (rail): 1) Death of any person from an injury within 30 days of the accident or incident (may include nontrain accidents or incidents); or 2) death of a railroad employee from an occupational illness within 365 days after the occupational illness was diagnosed by a physician.

FATALITY (recreational boating): All deaths (other than deaths by natural causes) and missing persons resulting from an occurrence that involves a vessel or its equipment.

FATALITY (transit): A transit-caused death confirmed within 30 days of a transit incident. Incidents include collisions, derailments, personal casualties, and fires associated with transit agency revenue vehicles, transit facilities on transit property, service vehicles, maintenance areas, and rights-of-way.

FATALITY (water): All deaths and missing persons resulting from a vessel casualty.

FEDERAL ENERGY REGULATORY COMMISSION (FERC): The federal agency with jurisdiction over, among other things, gas pricing, oil pipeline rates, and gas pipeline certification.

FERRYBOAT (transit): Vessels that carry passengers and/or vehicles over a body of water. Generally steam or diesel-powered, ferryboats may also be hovercraft, hydrofoil, and other high-speed vessels. The vessel is limited in its use to the carriage of deck passengers or vehicles or both, operates on a short run on a frequent schedule between two points over the most direct water routes other than in ocean or coastwise service, and is offered as a public service of a type normally attributed to a bridge or tunnel.

FOSSIL FUELS: Any naturally occurring organic fuel formed in the Earth's crust, such as petroleum, coal, and natural gas.

FREIGHT REVENUE (rail): Revenue from the transportation of freight and from the exercise of transit, stopoff, diversion, and reconsignment privileges as provided for in tariffs.

FREIGHTERS (water): General cargo carriers, full containerships, partial containerships, roll-on/rolloff ships, and barge carriers.

GAS TRANSMISSION PIPELINES: Pipelines installed for the purpose of transmitting gas from a source or sources of supply to one or more distribution centers, or to one or more large volume customers; or a pipeline installed to interconnect sources of supply. Typically, transmission lines differ from gas mains in that they operate at higher pressures and the distance between connections is greater.

GASOHOL: A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume of alcohol.

GASOLINE: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives that have been blended to produce a fuel suitable for use in spark ignition engines. Motor gasoline includes both leaded or unleaded grades of finished motor gasoline, blending components, and gasohol. Leaded gasoline is no longer used in highway motor vehicles in the United States.

GENERAL AVIATION: 1) All civil aviation operations other than scheduled air services and nonscheduled air transport operations for taxis, commuter air carriers, and air travel clubs that do not hold Certificates of Public Convenience and Necessity. 2) All civil aviation activity except that of air carriers certificated in accordance with Federal Aviation Regulations, Parts 121, 123, 127, and 135. The types of aircraft used in general aviation range from corporate multiengine jet aircraft piloted by professional crews to amateur-built single-engine piston-driven acrobatic planes to balloons and dirigibles.

GENERAL ESTIMATES SYSTEM (highway): A data-collection system that uses a nationally representative probability sample selected from all police-reported highway crashes. It began operation in 1988.

GROSS DOMESTIC PRODUCT (U.S.): The total output of goods and services produced by labor and property located in the United States, valued at market prices. As long as the labor and property are located in the United States, the suppliers (workers and owners) may be either U.S. residents or residents of foreign countries.

GROSS VEHICLE WEIGHT RATING (truck): The maximum rated capacity of a vehicle, including the weight of the base vehicle, all added equipment, driver and passengers, and all cargo.

HAZARDOUS MATERIAL: Any toxic substance or explosive, corrosive, combustible, poisonous, or radioactive material that poses a risk to the public's health, safety, or property, particularly when transported in commerce.

HEAVY RAIL (transit): An electric railway with the capacity to transport a heavy volume of passenger traffic and characterized by exclusive rights-of-way, multicar trains, high speed, rapid acceleration, sophisticated signaling, and high-platform loading. Also known as "subway," "elevated (railway)," or "metropolitan railway (metro)."

HIGHWAY-RAIL GRADE CROSSING (rail): A location where one or more railroad tracks are crossed by a public highway, road, street, or a private roadway at grade, including sidewalks and pathways at or associated with the crossing.

HIGHWAY TRUST FUND: A grant-in-aid type fund administered by the U.S. Department of Transportation, Federal Highway Administration. Most funds for highway improvements are apportioned to states according to formulas that give weight to population, area, and mileage.

HIGHWAY-USER TAX: A charge levied on persons or organizations based on their use of public roads. Funds collected are usually applied toward highway construction, reconstruction, and maintenance.

INCIDENT (hazardous materials): Any unintentional release of hazardous material while in transit or storage.

INCIDENT (train): Any event involving the movement of a train or railcars on track equipment that results in a death, a reportable injury, or illness, but in which railroad property damage does not exceed the reporting threshold.

INCIDENT (transit): Collisions, derailments, personal casualties, fires, and property damage in excess of $1,000 associated with transit agency revenue vehicles; all other facilities on the transit property; and service vehicles, maintenance areas, and rights-of-way.

INJURY (air): See Serious Injury (air carrier/general aviation).

INJURY (gas): Described in U.S. Department of Transportation Forms 7100.1 or 7100.2 as an injury requiring "in-patient hospitalization" (admission and confinement in a hospital beyond treatment administered in an emergency room or out-patient clinic in which confinement does not occur).

INJURY (hazardous liquid pipeline): An injury resulting from a hazardous liquid pipeline accident that results in one or more of the following: 1) loss of consciousness, 2) a need to be carried from the scene, 3) a need for medical treatment, and/or 4) a disability that prevents the discharge of normal duties or the pursuit of normal duties beyond the day of the accident.

INJURY (highway): Police-reported highway injuries are classified as follows:

Incapacitating Injury: Any injury, other than a fatal injury, that prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred. Includes severe lacerations, broken or distorted limbs, skull or chest injuries, abdominal injuries, unconsciousness at or when taken from the accident scene, and inability to leave the accident scene without assistance. Exclusions include momentary unconsciousness.

Nonincapacitating Evident Injury: Any injury, other than a fatal injury or an incapacitating injury, evident to observers at the scene of the accident. Includes lumps on head, abrasions, bruises, minor lacerations, and others. Excludes limping.

Possible Injury: Any injury reported or claimed that is not evident. Includes, among others, momentary unconsciousness, claim of injuries not obvious, limping, complaint of pain, nausea, and hysteria.

INJURY (highway-rail grade crossing): 1) An injury to one or more persons other than railroad employees that requires medical treatment; 2) an injury to one or more employees that requires medical treatment or that results in restriction of work or motion for one or more days, or one or more lost work days, transfer to another job, termination of employment, or loss of consciousness; 3) any occupational illness affecting one or more railroad employees that is diagnosed by a physician.

INJURY (rail): 1) Injury to any person other than a railroad employee that requires medical treatment, or 2) injury to a railroad employee that requires medical treatment or results in restriction of work or motion for one or more workdays, one or more lost workdays, termination of employment, transfer to another job, loss of consciousness, or any occupational illness of a railroad employee diagnosed by a physician.

INJURY (recreational boating): Injury requiring medical treatment beyond first aid as a result of an occurrence that involves a vessel or its equipment.

INJURY (transit): Any physical damage or harm to a person requiring medical treatment or any physical damage or harm to a person reported at the time and place of occurrence. For employees, an injury includes incidents resulting in time lost from duty or any definition consistent with a transit agency's current employee injury reporting practice.

INJURY (water): All personal injuries resulting from a vessel casualty that require medical treatment beyond first aid.

INLAND AND COASTAL CHANNELS: Includes the Atlantic Coast Waterways, the Atlantic Intracoastal Waterway, the New York State Barge Canal System, the Gulf Coast Waterways, the Gulf Intracoastal Waterway, the Mississippi River System (including the Illinois Waterway), the Pacific Coast Waterways, the Great Lakes, and all other channels (waterways) of the United States, exclusive of Alaska, that are usable for commercial navigation.

INTERCITY CLASS I BUS: As defined by the Bureau of Transportation Statistics, an interstate motor carrier of passengers with an average annual gross revenue of at least $1 million.

INTERCITY TRUCK: A truck that carries freight beyond local areas and commercial zones.

INTERNAL TRAFFIC (water): Vessel movements (origin and destination) that take place solely on inland waterways located within the boundaries of the contiguous 48 states or within the state of Alaska. Internal traffic also applies to carriage on both inland waterways and the water on the Great Lakes; carriage between offshore areas and inland waterways; and carriage occurring within the Delaware Bay, Chesapeake Bay, Puget Sound, and the San Francisco Bay, which are considered internal bodies of water rather than arms of the ocean.

INTERSTATE HIGHWAY: Limited access, divided highway of at least four lanes designated by the Federal Highway Administration as part of the Interstate System.

JET FUEL: Includes kerosene-type jet fuel (used primarily for commercial turbojet and turboprop aircraft engines) and naphtha-type jet fuel (used primarily for military turbojet and turboprop aircraft engines).

LAKEWISE OR GREAT LAKES TRAFFIC: Waterborne traffic between U.S. ports on the Great Lakes system. The Great Lakes system is treated as a separate waterways system rather than as a part of the inland system.

LARGE CERTIFICATED AIR CARRIERS: An air carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958, as amended, that: 1) operates aircraft designed to have a maximum passenger capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, or 2) conducts operations where one or both terminals of a flight stage are outside the 50 states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands. Large certificated air carriers are grouped by annual operating revenues: 1) majors (more than $1 billion in annual operating revenues), 2) nationals (between $100 million and $1 billion in annual operating revenues), 3) large regionals (between $20 million and $99,999,999 in annual operating revenues), and 4) medium regionals (less than $20 million in annual operating revenues).

LARGE REGIONALS (air): Air carrier groups with annual operating revenues between $20 million and $99,999,999.

LARGE TRUCK: Trucks over 10,000 pounds gross vehicle weight rating, including single-unit trucks and truck tractors.

LEASE CONDENSATE: A mixture consisting primarily of pentanes and heavier hydrocarbons, which are recovered as a liquid from natural gas in lease or field separation facilities. This category excludes natural gas liquids, such as butane and propane, which are recovered at natural gas processing plants or facilities.

LIGHT-DUTY VEHICLE: A vehicle category that combines light automobiles and trucks.

LIGHT RAIL: A streetcar-type vehicle operated on city streets, semi-exclusive rights-of-way, or exclusive rights-of-way. Service may be provided by step-entry vehicles or by level boarding.

LIGHT TRUCK: Trucks of 10,000 pounds gross vehicle weight rating or less, including pickups, vans, truck-based station wagons, and sport utility vehicles.

LIQUEFIED NATURAL GAS (LNG): Natural gas, primarily methane, that has been liquefied by reducing its temperature to –260 °F at atmospheric pressure.

LIQUEFIED PETROLEUM GAS (LPG): Propane, propylene, normal butane, butylene, isobutane, and isobutylene produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

LOCOMOTIVE: Railroad vehicle equipped with flanged wheels for use on railroad tracks, powered directly by electricity, steam, or fossil fuel, and used to move other railroad rolling equipment.

LOCOMOTIVE-MILE: The movement of a locomotive unit, under its own power, the distance of 1 mile.

MAINS (gas): A network of pipelines that serves as a common source of supply for more than one gas service line.

MAJORS (air): Air carrier groups with annual operating revenues exceeding $1 billion.

MEDIUM REGIONALS (air): Air carrier groups with annual operating revenues less than $20 million.

MERCHANDISE TRADE EXPORTS: Merchandise transported out of the United States to foreign countries whether such merchandise is exported from within the U.S. Customs Service territory, from a U.S. Customs bonded warehouse, or from a U.S. Foreign Trade Zone. (Foreign Trade Zones are areas, operated as public utilities, under the control of U.S. Customs with facilities for handling, storing, manipulating, manufacturing, and exhibiting goods.)

MERCHANDISE TRADE IMPORTS: Commodities of foreign origin entering the United States, as well as goods of domestic origin returned to the United States with no change in condition or after having been processed and/or assembled in other countries. Puerto Rico is a Customs district within the U.S. Customs territory, and its trade with foreign countries is included in U.S. import statistics. U.S. import statistics also include merchandise trade between the U. S. Virgin Islands and foreign countries even though the Islands are not officially a part of the U.S. Customs territory.

METHANOL: A light, volatile alcohol produced commercially by the catalyzed reaction of hydrogen and carbon monoxide. Methanol is blended with gasoline to improve its operational efficiency.

METHYL-TERTIARY-BUTYL-ETHER (MTBE): A colorless, flammable, liquid oxygenated hydrocarbon that contains 18.15 percent oxygen. It is a fuel oxygenate produced by reacting methanol with isobutylene.

MINOR ARTERIALS (highway): Roads linking cities and larger towns in rural areas. In urban areas, roads that link but do not penetrate neighborhoods within a community.

MOTORBUS (transit): A rubber-tired, self-propelled, manually steered bus with a fuel supply onboard the vehicle. Motorbus types include intercity, school, and transit.

MOTORCYCLE: A two- or three-wheeled motor vehicle designed to transport one or two people, including motor scooters, minibikes, and mopeds.

NATIONALS (air): Air carrier groups with annual operating revenues between $100 million and $1 billion.

NATURAL GAS: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geologic formations beneath the Earth's surface, often in association with petroleum. The principal constituent is methane.

NATURAL GAS PLANT LIQUIDS: Liquids recovered from natural gas in processing plants or field facilities, or extracted by fractionators. They include ethane, propane, normal butane, isobutane, pentanes plus, and other products, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, and distillate fuel oil produced at natural gas processing plants.

NEAR MIDAIR COLLISION (air): An incident in which the possibility of a collision occurred as a result of aircraft flying with less than 500 feet of separation, or a report received from a pilot or flight crew member stating that a collision hazard existed between two or more aircraft.

NONOCCUPANT (Automobile): Any person who is not an occupant of a motor vehicle in transport (e.g., bystanders, pedestrians, pedalcyclists, or an occupant of a parked motor vehicle).

NONSCHEDULED SERVICE (air): Revenue flights not operated as regular scheduled service, such as charter flights, and all nonrevenue flights incident to such flights.

NONSELF-PROPELLED VESSEL (water): A vessel without the means for self-propulsion. Includes dry cargo barges and tanker barges.

NONTRAIN INCIDENT: An event that results in a reportable casualty, but does not involve the movement of ontrack equipment and does not cause reportable damage above the threshold established for train accidents.

NONTRESPASSERS (rail): A person lawfully on any part of railroad property used in railroad operations or a person adjacent to railroad premises when injured as the result of railroad operations.

NONVESSEL-CASUALTY-RELATED DEATH (water): A death that occurs onboard a commercial vessel but not as a result of a vessel casualty, such as a collision, fire, or explosion.

OCCUPANT (highway): Any person in or on a motor vehicle in transport. Includes the driver, passengers, and persons riding on the exterior of a motor vehicle (e.g., a skateboard rider holding onto a moving vehicle). Excludes occupants of parked cars unless they are double parked or motionless on the roadway.

OCCUPATIONAL FATALITY: Death resulting from a job-related injury.

OPERATING EXPENSES (air): Expenses incurred in the performance of air transportation, based on overall operating revenues and expenses. Does not include nonoperating income and expenses, nonrecurring items, or income taxes.

OPERATING EXPENSES (rail): Expenses of furnishing transportation services, including maintenance and depreciation of the plant used in the service.

OPERATING EXPENSES (transit): The total of all expenses associated with operation of an individual mode by a given operator. Includes distributions of "joint expenses" to individual modes and excludes "reconciling items," such as interest expenses and depreciation. Should not be confused with "vehicle operating expenses."

OPERATING EXPENSES (truck): Includes expenditures for equipment maintenance, supervision, wages, fuel, equipment rental, terminal operations, insurance, safety, and administrative and general functions.

OPERATING REVENUES (air): Revenues from the performance of air transportation and related incidental services. Includes l) transportation revenues from the carriage of all classes of traffic in scheduled and nonscheduled services, and 2) nontransportation revenues consisting of federal subsidies (where applicable) and services related to air transportation.

OTHER FREEWAYS AND EXPRESSWAYS (highway): All urban principal arterials with limited access but not part of the Interstate system.

OTHER PRINCIPAL ARTERIALS (highway): Major streets or highways, many of multi-lane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel.

OTHER RAIL REVENUE: Includes revenues from miscellaneous operations (i.e., dining- and bar-car services), income from the lease of road and equipment, miscellaneous rental income, income from nonoperating property, profit from separately operated properties, dividend income, interest income, income from sinking and other reserve funds, release or premium on funded debt, contributions from other companies, and other miscellaneous income.

OTHER REVENUE VEHICLES (transit): Other revenue-generating modes of transit service, such as cable cars, personal rapid transit systems, monorail vehicles, inclined and railway cars, not covered otherwise.

OTHER 2-AXLE 4-TIRE VEHICLES (truck): Includes vans, pickup trucks, and sport utility vehicles.

OXYGENATES: Any substance that when added to motor gasoline increases the amount of oxygen in that gasoline blend. Includes oxygen-bearing compounds such as ethanol, methanol, and methyl-tertiary-butyl-ether. Oxygenated fuel tends to give a more complete combustion of carbon into carbon dioxide (rather than monoxide), thereby reducing air pollution from exhaust emissions.

PASSENGER CAR: A motor vehicle designed primarily for carrying passengers on ordinary roads, includes convertibles, sedans, and stations wagons.

PASSENGER-MILE: 1) Air: One passenger transported 1 mile; passenger-miles for 1 interairport flight are calculated by multiplying aircraft-miles flown by the number of passengers carried on the flight. The total passenger-miles for all flights is the sum of passenger-miles for all interairport flights. 2) Auto: One passenger traveling 1 mile; e.g., 1 car transporting 2 passengers 4 miles results in 8 passenger-miles. 3) Transit: The total number of miles traveled by transit passengers; e.g., 1 bus transporting 5 passengers 3 miles results in 15 passenger-miles.

PASSENGER REVENUE: 1) Rail: Revenue from the sale of tickets. 2) Air: Revenues from the transport of passengers by air. 3) Transit: Fares, transfer, zone, and park-and-ride parking charges paid by transit passengers. Prior to 1984, fare revenues collected by contractors operating transit services were not included.

PASSENGER VESSELS (water): A vessel designed for the commercial transport of passengers.

PEDALCYCLIST: A person on a vehicle that is powered solely by pedals.

PEDESTRIAN: Any person not in or on a motor vehicle or other vehicle. Excludes people in buildings or sitting at a sidewalk cafe. The National Highway Traffic Safety Administration also uses an "other pedestrian" category to refer to pedestrians using conveyances and people in buildings. Examples of pedestrian conveyances include skateboards, nonmotorized wheelchairs, rollerskates, sleds, and transport devices used as equipment.

PERSON-MILES: An estimate of the aggregate distances traveled by all persons on a given trip based on the estimated transportation-network-miles traveled on that trip.

PERSON TRIP: A trip taken by an individual. For example, if three persons from the same household travel together, the trip is counted as one household trip and three person trips.

PERSONAL CASUALTY (transit): 1) An incident in which a person is hurt while getting on or off a transit vehicle (e.g., falls or door incidents), but not as a result of a collision, derailment/left roadway, or fire. 2) An incident in which a person is hurt while using a lift to get on or off a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire. 3) An incident in which a person is injured on a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire. 4) An incident in which a person is hurt while using a transit facility. This includes anyone on transit property (e.g., patrons, transit employees, trespassers), but does not include incidents resulting from illness or criminal activity.

PETROLEUM (oil): A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

PROPERTY DAMAGE (transit): The dollar amount required to repair or replace transit property (including stations, right-of-way, bus stops, and maintenance facilities) damaged during an incident.

PUBLIC ROAD: Any road under the jurisdiction of and maintained by a public authority (federal, state, county, town or township, local government, or instrumentality thereof) and open to public travel.

RAPID RAIL TRANSIT: Transit service using railcars driven by electricity usually drawn from a third rail, configured for passenger traffic, and usually operated on exclusive rights-of-way. It generally uses longer trains and has longer station spacing than light rail.

REFORMULATED GASOLINE: Gasoline whose composition has been changed to meet performance specifications regarding ozone-forming tendencies and release of toxic substances into the air from both evaporation and tailpipe emissions. Reformulated gasoline includes oxygenates and, compared with gasoline sold in 1990, has a lower content of olefins, aromatics, volatile components, and heavy hydrocarbons.

RESIDUAL FUEL OIL: The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to American Society for Testing and Materials Specifications D396 and 976. Includes, among others, Navy Special oil used in steam-powered vessels in government service and No. 6 oil used to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

REVENUE: Remuneration received by carriers for transportation activities.

REVENUE PASSENGER: 1) Air: Person receiving air transportation from an air carrier for which remuneration is received by the carrier. Air carrier employees or others, except ministers of religion, elderly individuals, and handicapped individuals, receiving reduced rate charges (less than the applicable tariff) are considered nonrevenue passengers. Infants, for whom a token fare is charged, are not counted as passengers. 2) Transit: Single-vehicle transit rides by initial-board (first-ride) transit passengers only. Excludes all transfer rides and all nonrevenue rides. 3) Rail: Number of one-way trips made by persons holding tickets.

REVENUE PASSENGER ENPLANEMENTS (air): The total number of passengers boarding aircraft. Includes both originating and connecting passengers.

REVENUE PASSENGER LOAD FACTOR (air): Revenue passenger-miles as a percentage of available seat-miles in revenue passenger services. The term is used to represent the proportion of aircraft seating capacity that is actually sold and utilized.

REVENUE PASSENGER-MILE: One revenue passenger transported one mile.

REVENUE PASSENGER TON-MILE (air): One ton of revenue passenger weight (including all baggage) transported one mile. The passenger weight standard for both domestic and international operations is 200 pounds.

REVENUE TON-MILE: One short ton of freight transported one mile.

REVENUE VEHICLE-MILES (transit): One vehicle (bus, trolley bus, or streetcar) traveling one mile, while revenue passengers are on board, generates one revenue vehicle-mile. Revenue vehicle-miles reported represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.

ROAD OIL: Any heavy petroleum oil, including residual asphaltic oil, that is used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades from zero, the most liquid, to five, the most viscous.

ROLL ON/ROLL OFF VESSEL (water): Ships that are designed to carry wheeled containers or other wheeled cargo and use the roll on/roll off method for loading and unloading.

RURAL HIGHWAY: Any highway, road, or street that is not an urban highway.

RURAL MILEAGE (highway): Roads outside city, municipal district, or urban boundaries.

SCHEDULED SERVICE (air): Transport service operated on published flight schedules.

SCHOOL BUS: A passenger motor vehicle that is designed or used to carry more than 10 passengers, in addition to the driver, and, as determined by the Secretary of Transportation, is likely to be significantly used for the purpose of transporting pre-primary, primary, or secondary school students between home and school.

SCHOOL BUS-RELATED CRASH: Any crash in which a vehicle, regardless of body design and used as a school bus, is directly or indirectly involved, such as a crash involving school children alighting from a vehicle.

SCOW (water): Any flat-bottomed, nonself-propelled, rectangular vessel with sloping ends. Large scows are used to transport sand, gravel, or refuse.

SELF-PROPELLED VESSEL: A vessel that has its own means of propulsion. Includes tankers, containerships, dry bulk cargo ships, and general cargo vessels.

SERIOUS INJURY (air carrier/general aviation): An injury that requires hospitalization for more than 48 hours, commencing within 7 days from the date when the injury was received; results in a bone fracture (except simple fractures of fingers, toes, or nose); involves lacerations that cause severe hemorrhages, or nerve, muscle, or tendon damage; involves injury to any internal organ; or involves second- or third-degree burns or any burns affecting more than 5 percent of the body surface.

SMALL CERTIFICATED AIR CARRIER: An air carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958, as amended, that operates aircraft designed to have a maximum seating capacity of 60 seats or fewer or a maximum payload of 18,000 pounds or less.

STATE AND LOCAL HIGHWAY EXPENDITURES: Disbursements for capital outlays, maintenance and traffic surfaces, administration and research, highway law enforcement and safety, and interest on debt.

STREETCARS: Relatively lightweight passenger railcars operating singly or in short trains, or on fixed rails in rights-of-way that are not always separated from other traffic. Streetcars do not necessarily have the right-of-way at grade crossings with other traffic.

SUPPLEMENTAL AIR CARRIER: An air carrier authorized to perform passenger and cargo charter services.

TANKER: An oceangoing ship designed to haul liquid bulk cargo in world trade.

TON-MILE (truck): The movement of one ton of cargo the distance of one mile. Ton-miles are calculated by multiplying the weight in tons of each shipment transported by the miles hauled.

TON-MILE (water): The movement of one ton of cargo the distance of one statute mile. Domestic ton-miles are calculated by multiplying tons moved by the number of statute miles moved on the water (e.g., 50 short tons moving 200 miles on a waterway would yield 10,000 ton-miles for that waterway). Ton-miles are not computed for ports. For coastwise traffic, the shortest route that safe navigation permits between the port of origin and destination is used to calculate ton-miles.

TRAFFICWAY (highway): Any right-of-way open to the public as a matter of right or custom for moving persons or property from one place to another, including the entire width between property lines or other boundaries.

TRAIN LINE MILEAGE: The aggregate length of all line-haul railroads. It does not include the mileage of yard tracks or sidings, nor does it reflect the fact that a mile of railroad may include two or more parallel tracks. Jointly-used track is counted only once.

TRAIN-MILE: The movement of a train, which can consist of many cars, the distance of one mile. A train-mile differs from a vehicle-mile, which is the movement of one car (vehicle) the distance of one mile. A 10-car (vehicle) train traveling 1 mile is measured as 1 train-mile and 10 vehicle-miles. Caution should be used when comparing train-miles to vehicle-miles.

TRANSIT VEHICLE: Includes light, heavy, and commuter rail; motorbus; trolley bus; van pools; automated guideway; and demand responsive vehicles.

TRANSSHIPMENTS: Shipments that enter or exit the United States by way of a U.S. Customs port on the northern or southern border, but whose origin or destination is a country other than Canada or Mexico.

TRESPASSER (rail): Any person whose presence on railroad property used in railroad operations is prohibited, forbidden, or unlawful.

TROLLEY BUS: Rubber-tired electric transit vehicle, manually steered and propelled by a motor drawing current, normally through overhead wires, from a central power source.

TRUST FUNDS: Accounts that are designated by law to carry out specific purposes and programs. Trust Funds are usually financed with earmarked tax collections.

TUG BOAT: A powered vessel designed for towing or pushing ships, dumb barges, pushed-towed barges, and rafts, but not for the carriage of goods.

U.S.-FLAG CARRIER OR AMERICAN FLAG CARRIER (air): One of a class of air carriers holding a Certificate of Public Convenience and Necessity, issued by the U.S. Department of Transportation and approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries.

UNLEADED GASOLINE: See Gasoline.

UNLINKED PASSENGER TRIPS (transit): The number of passengers boarding public transportation vehicles. A passenger is counted each time he/she boards a vehicle even if the boarding is part of the same journey from origin to destination.

URBAN HIGHWAY: Any road or street within the boundaries of an urban area. An urban area is an area including and adjacent to a municipality or urban place with a population of 5,000 or more. The boundaries of urban areas are fixed by state highway departments, subject to the approval of the Federal Highway Administration, for purposes of the Federal-Aid Highway Program.

VANPOOL (transit): Public-sponsored commuter service operating under prearranged schedules for previously formed groups of riders in 8- to 18-seat vehicles. Drivers are also commuters who receive little or no compensation besides the free ride.

VEHICLE MAINTENANCE (transit): All activities associated with revenue and nonrevenue (service) vehicle maintenance, including administration, inspection and maintenance, and servicing (e.g., cleaning and fueling) vehicles. In addition, it includes repairs due to vandalism or to revenue vehicle accidents.

VEHICLE-MILES (highway): Miles of travel by all types of motor vehicles as determined by the states on the basis of actual traffic counts and established estimating procedures.

VEHICLE-MILES (transit): The total number of miles traveled by transit vehicles. Commuter rail, heavy rail, and light rail report individual car-miles, rather than train-miles for vehicle-miles.

VEHICLE OPERATIONS (transit): All activities associated with transportation administration, including the control of revenue vehicle movements, scheduling, ticketing and fare collection, system security, and revenue vehicle operation.

VESSEL CASUALTY (water): An occurrence involving commercial vessels that results in 1) actual physical damage to property in excess of $25,000; 2) material damage affecting the seaworthiness or efficiency of a vessel; 3) stranding or grounding; 4) loss of life; or 5) injury causing any person to remain incapacitated for a period in excess of 72 hours, except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.

VESSEL-CASUALTY-RELATED DEATH (water): Fatality that occurs as a result of an incident that involves a vessel or its equipment, such as a collision, fire, or explosion. Includes drowning deaths.

WATERBORNE TRANSPORTATION: Transport of freight and/or people by commercial vessels under U.S. Coast Guard jurisdiction.

WAYBILL: A document that lists goods and shipping instructions relative to a shipment.

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EXHIBIT 114

SHIP PRODUCTION COMMITTEE
FACILITIES AND ENVIRONMENTAL EFFECTS
SURFACE PREPARATION AND COATINGS
DESIGN/PRODUCTION INTEGRATION
HUMAN RESOURCE INNOVATION
MARINE INDUSTRY STANDARDS
WELDING
INDUSTRIAL ENGINEERING
EDUCATION AND TRAINING

August 1990
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THE NATIONAL SHIPBUILDING RESEARCH PROGRAM

1990 Ship Production Symposium

Paper No. 8A-1: In Search of a Level Playing Field: The Shipbuilders Council of America and the Issue of Foreign Shipbuilding Subsidies

U.S. DEPARTMENT OF THE NAVY
CARDEROCK DIVISION,
NAVAL SURFACE WARFARE CENTER

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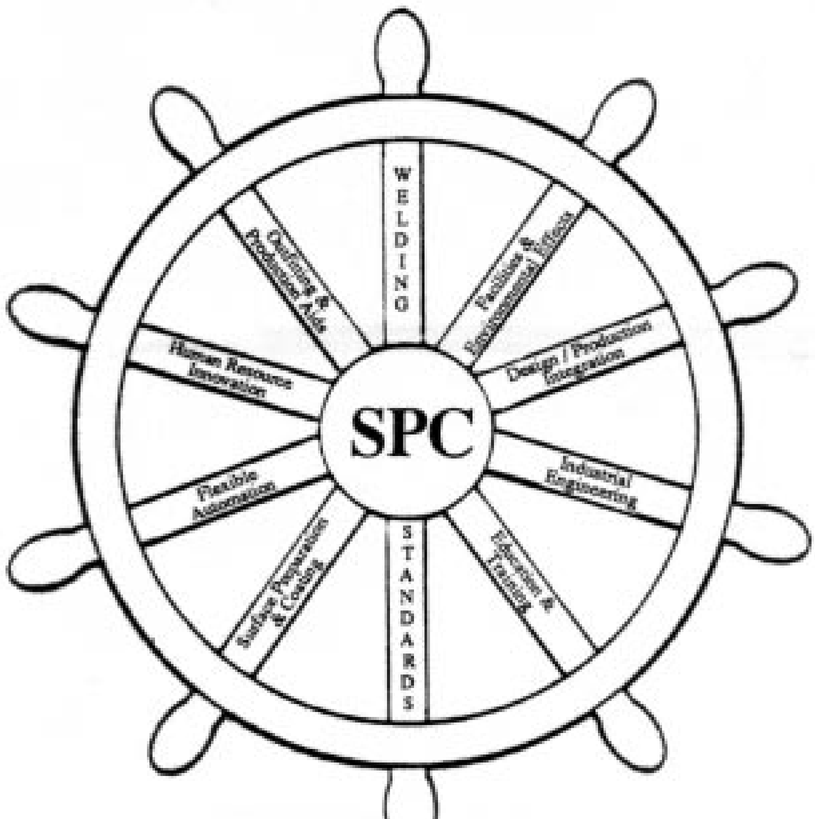

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In Search of a Level Playing Field: The Shipbuilders Council of America and the Issue of Foreign Shipbuilding Subsidies

8A-1

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ABSTRACT

This paper discusses the origins of decision by the Shipbuilders Council of America to file a petition under section 301 of the Trade Act of 1974 charging Japan, South Korea, West Germany and Norway with unfair trade practices in shipbuilding and ship repair. The progress of negotiations between the U.S. Trade Representative and foreign governments is presented as are the actions of the Organization for Economic Cooperation and Development (OECD) to address the reduction of unfair subsidies. The paper provides insight into the future course of action of the U.S. Government as well as the Shipbuilders Council of America in their continuing effort to provide for the reentry of U.S. shipbuilders into the worldwide commercial shipbuilding and ship repair markets.

BACKGROUND

During much of the 1980s, traditional shipyards throughout the world suffered from the worst shipbuilding recession in history, precipitated by the oil crisis of the mid-1970s and its subsequent detrimental effect on seaborne trade. Figure 1 shows the world shipbuilding orderbook in gross tons from 1970 to 1990.

The severity of the situation reflected not only the cyclical nature of the shipbuilding business responding to fluctuations in the shipping market, but also the massive overbuilding of shipbuilding capacity that had been undertaken in Japan and Europe in response to an unprecedented, highly-speculative demand for new ships--particularly tankers--during the 1960s and the early 1970s. During a ten-year period, for example, Europe increased its shipbuilding capacity by 136 percent and Japan by 650 percent. Exacerbating the situation was the entry into the marketplace of new, government-supported yards such as South Korea employing cheap labor.

The response of most governments of the world in the 1980s to this situation was to provide increased measures of shipbuilding assistance. If the success of these measures can be defined as keeping merchant shipbuilding capability alive, then these governments achieved some degree of success. Only three governments responded to the crisis by terminating commercial shipbuilding subsidies. The United States was first in 1981.

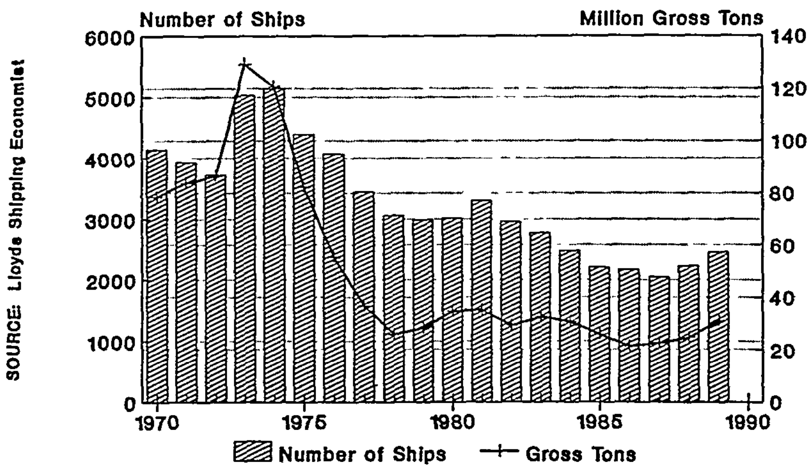

Figure 1. World Shipbuilding Orderbook.

followed later in the decade by Canada and Sweden. It is interesting to note that these three countries are also the only ones to suffer a complete collapse of commercial shipbuilding markets in the 1980s.

In the United States, all aid to domestic commercial shipbuilding, including the Construction-Differential Subsidy (CDS) program, was terminated. Forced to compete without government subsidies in a market dominated by government subsidies, American shipbuilders were unable to attract commercial customers. Until February 1990, when Matson Navigation ordered a containership from the San Diego-based National Steel and Shipbuilding Company (NASSCO). the last order for a large, oceangoing commercial ship placed with a U.S. yard was in 1984. Figure 2 shows the number of commercial ships on order at U.S. yards from 1970.

Lacking commercial customers, the U.S. shipbuilding industry turned to the U.S. Navy--and, to a lesser extent, the U.S. Coast Guard--for work in the 1980s. Government contracts alone, however, could not sustain the U.S. shipbuilding industrial base. The Shipbuilders Council of America (SCA) tracks shipyard closures from the baseline established by the Navy and the Maritime Administration's October 1982 Shipyard Mobilization Base of 110 shipyards, including both ship construction and ship repair facilities. By 1989, 46 shipyards had closed--a 42 percent decline --thereby putting the Shipyard Mobilization Base at 64 yards. Shipyard production worker employment in 1982 was 112,455. By 1989, that number had decreased to 76,282, representing a loss of 35,173 production workers, which is a 31 percent decline. Figure 3 shows the decline in the private U.S. shipyard base from 1982.

FACTORS IMPACTING SCA'S DECISION TO FILE PETITION

Decline in Navy Work Forecasted

During the early 1980s, the Navy's extensive rebuilding program sustained at least a portion of the nation's shipbuilding base, including those yards that normally would be considered commercial yards. Competition for Navy work was fierce, however, and, as the decade wore on, began to take its toll. At the same time, it was becoming clearer that the Navy workload would inevitably decline. Currently, the Shipbuilders Council predicts that the decline in FYs 1991 and 1992 will continue to be moderate, but that the remainder of the decade could well see

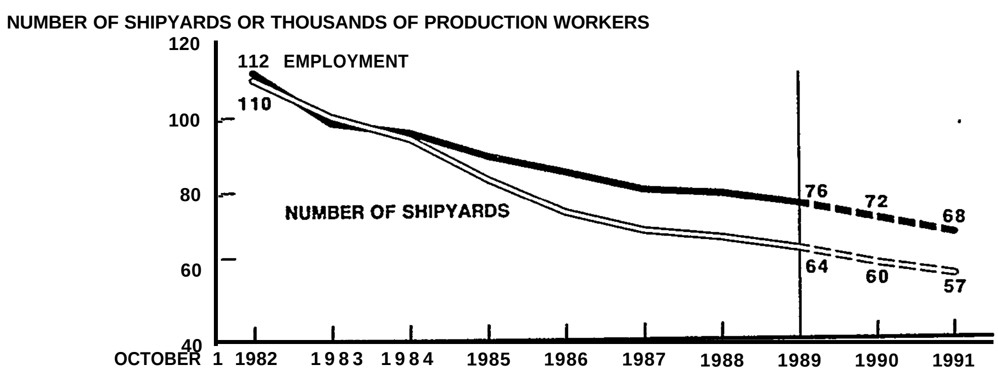

Figure 2. Private U.S. Shipyard Base.

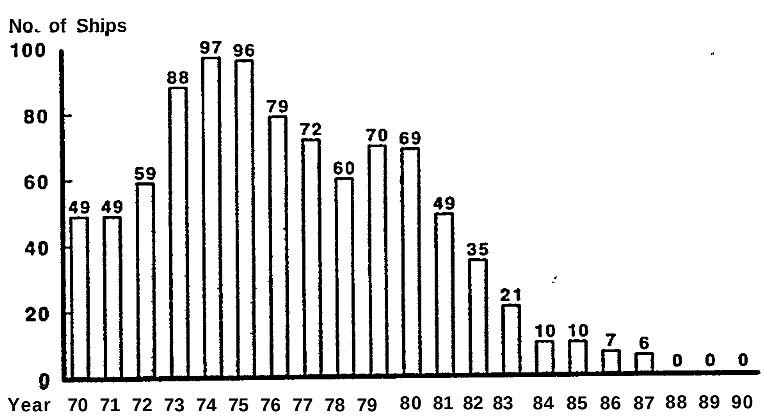

Figure 3. Commercial Ships on Order at U.S. Private Yards.

a much sharper decline, concomitant with decreases in the budget for naval ship construction. Consequently, U.S. shipbuilders cannot continue to count on Navy work.

Positive Changes in the Commercial Market

All of the shipbuilding forecasts during the past year and a half predict a significantly improved demand and increased prices for commercial ships in the 1990s. The primary reason for this optimism is the need for replacement ships. The world's merchant fleet is old: By 1992, more than 40 percent of the current fleet would be more than 20 years of age, and another 25 percent would be 15 to 19 years old.

Conditions in the commercial shipbuilding market are already improving. As of January 1, 1990, the number of commercial ships on order worldwide represented a 41 percent increase over the January 1, 1989 orderbook, and a 75 percent increase over two years ago. During the first quarter of 1990, there was even greater growth in the number of new ship orders. The shipyards of both Japan and South Korea have substantial backlogs. By the mid to late 1990s, deadweight tons (dwt) on order is expected to be at least double and as much as quadruple that of 1989.

Figure 4 shows the world orderbook for commercial ships to 1990 in millions of gross tons and a composite of orderbook forecasts from 1990 to 2000./1

Concurrent with the rise in new ship demand is the rise in ship prices. For example, five years ago, the average price of a medium-size very large crude carrier (VLCC) was around $44 million. Today, the price is more than double, and is still rising. Tight shipbuilding capacity is one important factor in continuing ship price escalation.

Subsidies Have Kent the U.S. out of Commercial Shipbuilding

With the anticipated decline in the Navy market, it is the commercial market that offers a long-term future for American yards. But the U.S. shipbuilding industry can only be a player in the international market if foreign shipbuilding subsidies are eliminated. The subsidization of commercial shipbuilding by foreign governments has effectively denied market access to American shipyards for nearly a decade. Not only have these subsidies been used to shore up shipbuilding industries and attract export customers, they have enabled the practice of producing ships at or below costs.

The impact of direct and indirect government subsidies on ship prices was summed up as follows by Drewry Shipbuilding Consultants in their November 1988 report, "World Market; Prospects to 2000":/2Shipbuilding

> "Directly, government assistance has led to reduced newbuilding prices by providing direct subsidies to individual

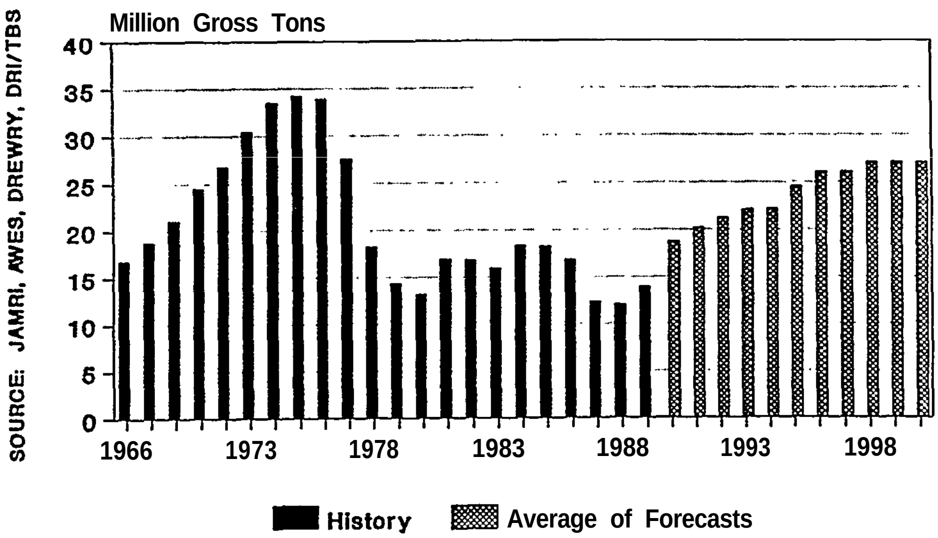

Figure 4. World Commercial Shipbuilding, History and Forecasts.

contracts and by providing an environment which allows yards to make available cheap finance. Indirectly, governments have allowed yards to run up substantial losses on newbuildings operations and have underwritten such losses."

In his presentation at the Shipbuilders Council of America's Marketing Seminar in January 1990/[3], Dr. Martin Stopford, Senior Shipping Economist at the Chase Manhattan Bank in London, explained that through subsidies governments prolonged shipbuilding overcapacity problems and depressed ship prices. He said that they did this partly for political reasons, partly in response to South Korea's shipbuilding expansion, and partly because they failed to understand the severity of the crisis. According to Dr. Stopford:

> "Instead of tackling the capacity reduction with a single clean cut, most shipbuilders tackled restructuring as a series of steps down, interspersed with periods of consolidation, during which each shipyard sought to maintain its market share at the expense of others by means of price cutting backed by subsidy."

At a conference in Genoa, Italy, in November 1989, Werner Fante, Director of the Association of West European Shipbuilders Association (AWES) also addressed the phenomenon of unprofitable pricing policies followed by shipbuilders during the 1980s:/[4]

> "Officially, it was pretended that low prices were based on high efficiency and losses were explained as the deplorable results of variations in exchange rates, higher material costs, and unforeseen burdens of ship financing. In a very few cases, the failure of wrong market strategies and fixing of prices without making provision for technical and commercial risks were admitted."

During this time, the U.S. Government unwittingly encouraged and supported shipbuilding subsidization by foreign governments in a variety of ways, while at the same time it demanded that U.S. shipbuilders "go it alone" in the international market. One of the U.S. Government's actions that was post damaging to American shipbuilders was the Section 615 amendment to the 1936 Merchant Marine Act. This special legislation allowed U.S.-flag operators receiving Operating-Differential Subsidy (ODS) payments from the U.S. government to buy from subsidized foreign yards during a temporary one-year "window" that subsequently was stretched to five years.

Of the 33 new ships built in foreign shipyards under the Section 615 amendment, all but three were built in the three countries that most heavily distorted the shipbuilding marketplace during the 1980s: South Korea, Japan, and West Germany. As one example, West German federal and regional governments contributed nearly $165 million to have two of its shipyards build five U.S.-flag containerships for American President Lines, which so far has received approximately $19 million from the U.S. Government to operate them. /5,6

Thus, the U.S. Government, through Section 615 legislation, encouraged one of its own subsidized industries to take advantage of a market distorted by the actions of foreign governments. It put our government in the position of rewarding the subsidy practices of our trading partners at the expense of our own country's shipbuilding industry.

Types of Subsidies

SCA's decision to file a Section 301 petition requesting the United States Trade Representative (USTR) to take action to terminate foreign shipbuilding subsidies followed its own preliminary investigation of the extent of these subsidies. The results of this investigation were published in October 1988 as a study of the subsidy programs of the then top-ten ship producing countries in the free world./7' The information contained in that study has subsequently been refined and expanded as more data has become available. In general, the major types of shipbuilding subsidies that have been and are still being provided are the following:

Special Financing (Credits). This category includes government-subsidies related to the financing of ship purchases for export or domestic customers and can include loans from government banks as well as interest subsidies and/or loan guarantees from federal and regional governments.

Construction Subsidv Grants. This type of subsidy encompasses direct government payments to shipyards for building ships, amounting to a certain percentage of the contract price. The Sixth Directive of the European Community, for example, specifically allows this type of subsidy and sets a limit on the percentage of the contract price that can be paid. This limit was 28 percent in 1988, 26 percent in 1989, and 20 percent in 1990. The limit, however, does not apply to contracts with shipowners from those nations that are defined as less-developed countries (LDCs).

Shipyard Reorganization Aid. After a long period of hesitation, the EC and Japan finally began to recognize that they had overbuilt shipbuilding facilities in response to speculative ordering, and that they would have to take steps to reduce excess capacity. To ease the pain of restructuring, government-provided shipyard reorganization aid was instituted in Japan and the EC. This category covers a wide range of government subsidies to help shipyards modernize their facilities or to otherwise adjust to downsizing, and has included capital infusions, loan subsidies and guarantees, government buy-ups of redundant or outmoded facilities, and special tax benefits.

At times, the distinction has been blurred between reorganization aid for the purpose of shipyard rationalization and Shipyard Investment Aid--i.e., funding from governments to help shipyards build better shipbuilding plants and improve production techniques or to bail them out of financial difficulties.

Research and Development Aid. This type of aid involves government funding of research and development programs related to ship and/or ship production technology.

Tax Benefits. This category encompasses governmental tax measures to shipowners and/or shipbuilders that are not generally available to all other industries within that country. It includes tax reductions or tax exemptions to shipowners, such as special depreciation for ships and depreciation write-offs before the ship is delivered; and special tax provisions for shipyards, such as tax reductions on capital investments and exemptions from import taxes on materials.

The Omnibus Trade Act of 1988

In August 1988, awareness of the significant decline of the U.S. industrial base, coupled with the growing trade imbalance between the U.S. and its trading partners, precipitated stronger legislation to encourage foreign countries to accept American exports and to provide for retaliatory measures against countries that engage in unfair trade practices. Heartened by the legislation--which amends the 1974 Trade Act and was passed by overwhelming margins in both the House and the Senate--the Shipbuilders Council of America, as the trade association of the country's major shipbuilders, began to explore the options available to the U.S. shipbuilding industry under the new law.

Because the Tariff Schedules of the United States as well as judicial precedent have determined that ships are not "merchandise" or "articles" of import, it was concluded that Section 301, as strengthened in the Omnibus Trade Act of 1988 represented the most fruitful avenue for U.S. shipbuilders to pursue. Section 301 provides for U.S. Government action to respond to unfair trading practices. Among other things, the amendments of the 1988 Trade Act specified additional practices actionable under the Act, shortened the time limits for responding to a petition, transferred section 301 authority from the President to the United States Trade Representative (USTR), and provided a new mandatory retaliation requirement in cases involving violations of trade agreements or other "unjustifiable" practices.

The decision of the SCA to file a 301 petition was in line with the objectives of the Shipyard Recovery Program, the SCA-developed plan to restore the competitiveness of the U.S. shipbuilding industry in the commercial market. The Shipyard Recovery Program recognized that U.S. Government action to end worldwide shipbuilding subsidy practices was critical to dissolving the market distortions created by government subsidies.

THE 301 PETITION

Filing the Petition

The SCA hired the law firm of Collier, Shannon & Scott to prepare its Section 301 petition, which it filed with the Office of the U.S. Trade Representative on June 8, 1989./[8] The petition requested the USTR to take action to eliminate subsidies to foreign shipbuilding and repair industries and documented specific policies and practices of four countries. Under the terms of the Trade Act, the USTR had 45 days in which to weigh the petition's merits and to decide whether or not to initiate an investigation of the petition's allegations. The petition was examined by an interagency review group, comprised of representatives from various government agencies, including the Departments of State, Commerce, Justice, Transportation, Defense, Labor, Treasury, the Office of Management and Budget, the Council of Economic Advisers, and the U.S. Trade Representative.

Before and after filing the petition, the SCA worked to garner political support for it on Capitol Hill. Ultimately, the petition received the support of 280 members of Congress --230 representatives and 50 senators--who signed letters urging the USTR to begin negotiations to eliminate foreign shipyard subsidies.

Countries Targeted in SCA Petition

The SCA's Section 301 Petition targeted the shipbuilding and repair subsidies in four countries: South Korea, Japan, West Germany, and Norway. Although all of the major shipbuilding nations engage in unfair subsidy practices, the Shipbuilders Council focused on these four because they have the most blatant subsidies which have caused the shipbuilding industry in the U.S. the most harm, and because together they accounted for over 55 percent of the world's commercial tonnage on order at the time of the filing. (At the end of 1989 the percentage had grown to 60 percent.) Table I compares the major kinds of shipbuilding aid programs in these countries against those of the United States. Table II shows the estimated amounts of shipbuilding aid budgeted in Japan and West Germany for 1987 and 1988, as compared with the United States. A narrative summary of the programs in each of the countries named in the petition, along with subsidy actions subsequent to the petition filing, follows:

South Korea. The South Korean government, largely through the state-owned Korea Development Bank, underwrote shipbuilding programs from their inception, allowing South Korea yards to pile up enormous debts while under-cutting ship prices worldwide. At the time of the filing of SCA's petition, the debt of the four major South Korean

Table I
SHIPBUILDING AID IN 301-TARGETED NATIONS COMPARED WITH UNITED STATES

Country	Shipowner Special Financing.	Construction Subsidies	Yard Reorg. Aid; Investment Aid	Ship R&D Funding	Tax Benefits
JAPAN	Yes ***	unknown	Yes ***	Yes **	Yes
S.KOREA	Yes	unknown	Yes ***	unknown	Yes
WEST GERMANY	Yes	Yes ***	Yes ***	Yes	Yes
NORWAY	Yes ***	unknown	Yes	Yes	Yes
UNITED STATES	NO	NO	NO	Limited	Limited

Keyed where known: *** Very Significant, ** Significant, * Some

Table II
COMPARATIVE SHIPBUILDING SUBSIDIES BY COUNTRY
($ in Millions)

	UNITED STATES		W. GERMANY		JAPAN	
	1987	1988	1987	1988	1987	1988
Special Financing, Export Ships	0	0	197.6	139.8	138.3	210.6
Construction Subsidies	0	0	230.7	414.7	.1	0
Investment Aid	0	0	62.5	21.5	22.9	29.5
Restructuring Aid	0	0	7.0	106.1	562,6	4.1
Other Indirect Aid	1.4	.3	70.9	141.7	484.1	327.6
	$1.4	.3	8568.7	823.8	$1208.0	571.8

yards, equivalent to four times their equity capital, was $4 billion.

Subsequent to the petition filing, the South Korean government approved a rescue package for Daewoo and two other yards consisting of interest-free loans, debt moratoriums, tax exemptions, and other benefits, for Daewoo shipbuilders, the Korea Shipbuilding & Engineering Company (KSEC) and Inchon Shipbuilding Company. By far the biggest recipient of the government's largess was Daewoo. Repayment of Won250 billion ($372.7 million) of its Wonl.4 trillion ($2.1 billion) debt was put off for seven years, and the yard was given a new loan of Won150 billion ($223.6 million). The South Korean government also has ship finance programs.

Japan. Since 1978, the Japanese government has helped its shipbuilders to reduce their massive overcapacity, the buildup of which the government had encouraged in the first place. In return for a commitment by the industry to down- size, the government allowed the industry to form a cartel and provided financial aid and loan guarantees associated with the mothballing of facilities, as well as other subsidies, which allowed the yards to operate in the red for a number of years. Now that the market has vastly improved, shipbuilders are modernizing and reopening their mothballed facilities.

The Japanese government has always been heavily involved in ship and shipbuilding-related research and development. In JFY 1989 the Government adopted a new program described by the Director-General of the Maritime Technology and Safety Bureau, Ministry of Transport (MOT), as "a system to encourage technical development efforts to materialize such sophisticated ships which could well meet the needs of the next generation."/9 Projects include development of 3 five-year fast cargo ship project called Techo-Superliner 93 and a high reliability diesel engine for ships.

The Japanese government also provides partial funding for export ships through the Export-Import Bank, and for domestic ships (particularly high-technology ships) through the Japan Development Bank. Regarding domestic ship financing, subsequent to the SCA's 301 filing, the MOT announced that its JFY 1990 budget request was Yen66.4 billion (about $458 million), which was considerably higher than the JFY 1989 budget./1O

West Germany. Both federal and regional governments subsidize commercial shipbuilding in West Germany through direct cash infusions, ship production grants, preferential financing, and credit guarantees. On the federal level, money for shipbuilding subsidies has been paid out of budgets for defense and for economic assistance to developing countries, as well as from funds for direct shipbuilding assistance. Regarding the latter, subsequent to SCA's filing of the 301 petition, the German government announced that it would add Dm300 million ($101.7) more to its ship production aid program for FY 1990, bringing this year's allotment to Dm343 million ($174.4 million)./11

Two shipbuilding groups have particularly benefitted from government subsidies: state-owned Howaldtswerke Deutsche-Werft (HDW) and partially government-owned Bremer Vulkan. Most of the ships on order at the HDW yard in 1987, 1988, and 1989 received some government subsidy, with the level of aid particularly high in 1987 and 1988. Two of the contracts were especially controversial, although they ultimately received approval from the EC Commission: the previously-mentioned American President Lines (APL) containership deal and Zim Israel containership deal. Of the subsidies paid for the APL ships (three built at HDW and two at Bremer Vulkan), Dm125 million ($69.4 million) came out of funds from the German Ministry of Defense despite the fact that the vessels are merchant ships and cannot contribute to the NATO sealift pool since they are operating in the Pacific and cannot transit the Panama Canal. The U.S. Government contributed to this process by waiving research and development costs on the German purchase of HARPOON.

In the Zim Israel case, the West German government termed Israel a "lesser-developed country" so that it could bypass EC rules and pay a 25.4 percent on an estimated $100 million contract to build four containerships. (Originally, two of the ships were to be built at the Bremer Vulkan yard, but the entire order was transferred to HDW.) In 1989, the German government provided Zim Israel with another low-credit package and a 30 percent subsidy so that HDW could build three more ships.

Information on German R&D programs has been difficult to come by. It was not known until after the filing of the 301 petition, for example, that the Federal Ministry of Research and Technology (BMFT) and the Federal Ministry of Economics are subsidizing R&D in computer-controlled ship production techniques.

NorwaY. The government of Norway

provides domestic and foreign shipowners with a variety of attractive financing programs for the purchase of ships, fishing vessels, and equipment. One program, for example, offers interest rates as low as two percent. Another program makes loans available at four percent, with 12 years to repay, including a three-year grace period.

THE GOVERNMENT'S RESPONSE

USTR's Request to Withdraw Petition

On July 21, 1989, the Shipbuilders Council of America and the United States Trade Representative announced that they had reached an agreement: The SCA would withdraw its petition temporarily to allow the USTR a period of time in which to pursue the termination of shipbuilding subsidies through traditional negotiating channels before using the more confrontational remedies provided under Section 301 of the Trade Act.

In a formal statement, USTR Carla Hills acknowledged that foreign government subsidization of ship construction and repair was a "serious problem." She announced that the countries named in, SCA's 301 petition had declared their willingness to negotiate [with West Germany represented only through the European Community (EC)], and that she intended to engage in talks with these countries, primarily through the mechanisms of the Organization for Economic Cooperation and Development (OECD) and the Uruguay Round of the General Agreement on Tariffs and Trade (GATT). Ambassador Hills promised that if insufficient progress was not made in these negotiations by March 31, 1990, then the SCA would be invited to resubmit its petition.

N e g o t i a t i o n s six

Immediately after the agreement was reached between the USTR and the SCA, a U.S. Trade Policy Review Group (TPRG) began devising a strategy for negotiating a multilateral agreement to discipline shipbuilding subsidies. The U.S. State Department had already talked with officials at the OECD's shipbuilding group, Working Party Six, and had applied for full membership in June 1989, thus paving the way to use that body as a forum for subsidy talks. (Other members of Working Party Six are Japan, Germany, Norway, Finland, Great Britain, France, Ireland, Denmark, the Netherlands, Sweden, Belgium, Italy, and Spain. South Korea, which is not an OECD member, is represented through a special liaison group.) In addition, Working Party Six already had on the books an agreement to remove shipbuilding subsidies that could be used as a framework.

The RGA. The "Revised General Arrangement (RGA) for the Progressive Removal of Obstacles to Normal Competitive Conditions in the Shipbuilding Industry," was adopted by the OECD Council on Feb. 23, 1983. Signed by 14 nations plus an EC representative, the RGA committed the signatories to refrain from increasing aid or adding new shipbuilding subsidies, and to gradually eliminate existing subsidies. That commitment, however, was largely ignored. In general, shipbuilding aid in the countries participating in the agreement was not reduced; moreover, in many of the countries, the level of aid was increased and new shipbuilding subsidy programs instituted.

Among the "obstacles to normal competitive conditions in the shipbuilding industry" the RGA signatories pledged to reduce were:

a) Government-subsidized export credits;
b) Direct subsidies to the shipbuilding industry;
c) Customs tariffs or any other import barrier;
d) Discriminatory tax policies;
e) Discriminatory official regulations or internal practices;
f) Specific aid for investments;
g) Subsidies for restructuring of the domestic shipbuilding industry;
h) All other forms of indirect public aid which are obstacles to normal competitive conditions in the shipbuilding industry.

The U.S. Proposal. On October 16, 1989, the U.S. delegation brought to the Working Party Six negotiating table its proposal to accelerate implementation of the RGA. Under the terms of the proposed agreement, participating governments would be required to refrain immediately from implementing new or increased measures of shipbuilding assistance and to develop individual timetables for eliminating existing shipbuilding subsidies, with final termination by the end of 1991. The proposal included a provision calling for the development of a mechanism to enforce the agreement.

The U.S. proposal also attempted to more clearly define the types of shipbuilding subsidies encompassed by the general categories stated in the RGA. Tied aid (mixed foreign aid and supplier credits used to sell ships to developing countries) and government ownership of merchant shipyards were added to the list of market distorting practices to be eliminated.

Although there were objections to

different parts of the U.S. proposal from the individual member-nations of Working Party Six, the overall response was to "agree in principle" to eliminate shipbuilding subsidies and to continue negotiations. Various drafts of proposals and counter-proposals were presented over the next five months. The U.S. negotiating team eliminated tied aid from its proposal and added language to exempt purely domestic programs from the scope of measures of assistance to be eliminated. Tied aid was to be taken up in other negotiations involving the U.S. Treasury Department.

PROGRESS TO DATE

The Current Draft Document

General Description. As of this writing, the format of the draft document consists of the subsidy convention--which basically describes the purpose and scope of the agreement. More importantly, it establishes mechanisms to monitor, verify, and enforce the provisions of the agreement. Annex I identifies the subsidies to be prohibited. Annex 2 sets the timetable for implementation of the agreement, and Annex 3 contains 3 list of programs that would be exempted from coverage under the subsidy convention. Each country has proposed a program that would be included in Annex III, which at the time of this writing had not yet been prepared.

Annex I. The following are the types of shipbuilding and repair subsidies that are under negotiation for termination (keep in mind that the preparation date of this paper is considerably earlier than the date of its presentation, and that the draft agreement may have changed by August):

a) Officially-supported export credits at terms more favorable than those of the OECD Understanding on Export Credits for Ships; i.e., 80 percent loans over 8½ years at 8 percent interest. In other words, this subsidy will continue as currently allowed. However, it appears that sometime in the future ship export credits will be shifted out of Working Party Six and into the OECD's Export Credit group. When that happens, ships will be subject to the same export credit provisions allowed within the OECD for other industries; namely. government-supported financing at the commercial interest reference rate (CIRR) in each country.

b) Direct official support for the operations of the commercial shipbuilding and repair industry, such as grants, below-market loans and loan guarantees, debt forgiveness, equity infusions, and the provision of other preferential goods and services.

c) Direct official support for investment in the commercial shipbuilding and repair industry, including the categories of aid mentioned above under operational aid, plus aid for research and development and restructuring Support. What constitutes acceptable R&D support is still under negotiation. Acceptable restructuring support would include measures tied to permanent closings of shipbuilding capacity and/or aid linked to the social effects of closures, such as problems associated with worker displacements.

d) Customs tariffs. This item is still under negotiation.

e) Tax policies and practices favoring the shipbuilding and repair industry. Exceptions still need to be spelled out.

f) Official regulations and practices and import barriers other than tariffs for new-built ships. The scope of this item still has to be determined.

g) Other forms of indirect support to yard activities. Agreement on the scope of this item has not yet been reached.

h) Publicly-owned shipyards. The survival of this item as a prohibited measure is doubtful, although the U.S., Japan and South Korea are pushing the EEC to adopt the provision.

j) Private practices. This item is under negotiation.

The European Commission, which is negotiating on behalf of the member nations of the European Community, has introduced an anti-dumping proposal which, when and if it is accepted, probably would be incorporated into this annex. The purpose of the proposal is to discourage builders from selling ships at "unfair" prices; meaning prices insufficient to cover the full cost of production plus a reasonable margin of profit. The U.S. endorses such a proposal.

Annex II, This section deals with the time period for phasing out the shipbuilding subsidies proscribed in Annex I. Current proposals range from immediate to five full years for termination of some measures of government support. The U.S. proposal says that it would require two years to repeal whatever statutes are on U.S. books that relate to shipbuilding support.

Missed Deadlines. The U.S. negotiating team pressed for a signed document by March 31, 1990, the deadline promised U.S. shipbuilders by USTR Carla Hills. When the date was not met, the SCA expressed "extreme disappointment" that the signatory nations had not been able to agree on a text outlining the practices to be outlawed and the details of the mechanism by which the countries would monitor, verify, and enforce the agreement.

Nevertheless, SCA felt that significant progress had been achieved, and, in consultation with the USTR, decided to defer refiling a 301 petition in order to allow the Administration more time. The SCA was hopeful that an agreement would be achieved by May 31, 1990, in time for the OECD Ministerial Conference, as was originally intended when the negotiating schedule was set in the summer of 1989. However, this was not to be. The U.S. trade negotiators returned from the May 5 and 6 OECD Working Party No. Six meeting in Paris without a signed agreement and extremely frustrated by their lack of success. Interestingly, the fact that subsidies for American shipbuilders were cut off over eight years ago has made the position of the U.S. negotiators more difficult. They have very little leverage in the talks because the unsubsidized U.S. shipbuilding industry has nothing of trade-off value to give up.

WHAT'S NEXT?

At this point, the U.S. team is prepared to keep on with the negotiations. The team feels that enough progress has been made to allow the process to continue. The next negotiations among the full working party are scheduled for June 18, 1990. Among the issues that need to be ironed out: the subsidy definitions in Annex 1 still need clarification; the minimum vessel size to which the subsidy prohibitions apply; what current programs will be exempt from the agreement (grandfathered); the time frame for the subsidies' phaseout; and how to set up the remedy process.

The SCA's concern is that the negotiations could continue to drag on interminably. Time is of the essence to U.S. shipbuilders, since they will continue to be denied access to the commercial market as long as foreign shipbuilding subsidies remain in place. The tenacity of the U.S. trade team might indeed result in an eventual victory, but it will be a hollow victory if it comes too late for U.S. yards.

It is already clear that the goal of the U.S. proposal to have all shipbuilding subsidies terminated by the end of 1991 will not be accomplished. If there is no resolution of the outstanding issues during the June Working Party Six meetings, then the negotiations are likely to slow down until the spring of 1991, since by fall the U.S. trade team will be heavily involved in the concluding sessions of the Uruguay Round of GATT (General Agreement on Tariffs and Trade) negotiations.

Even under the most optimistic scenario, which assumes that agreement is reached between the parties at the June Working Party Six meetings, shipbuilding aid could not be eliminated until the end of 1992. This means that for at least the next two years, the U.S. industry-- as the only unsubsidized shipbuilders in 'the world actively represented in Working Party Six--will not be able to benefit from the commercial shipbuilding boom of the 1990s as the subsidized shipyards of the world consolidate their market position.

An option currently under consideration by the SCA is to refile its 301 trade complaint, perhaps widening the scope of the petition to include those countries within the EEC that have been the most obstructionist in the negotiations. But whether remedies are pursued under Section 301 of the U.S. Trade Act, through the OECD, or through some other mechanism, it is clear that effective action can only come from the government level. In the last analysis, the achievement of a level playing field--and the survival of the U.S. shipbuilding industry--will depend on the willingness of the U.S. government to do whatever it takes to get foreign governments to stop the practices that are distorting the international shipbuilding market and to do it before market demand disappears.

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Additional copies of this report can be obtained from the National Shipbuilding Research and Documentation Center:

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November 1, 1998

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HEAVY SEAS: The U.S. Shipbuilding Industry Struggles To Stay On Course

Article Published in the Armed Forces Journal International

In summer of 1990, as the Soviet empire was rapidly unraveling, the U.S. Navy's Sea Systems Command prepared an assessment of the U.S. shipbuilding industry. As the main organization responsible for the construction, modification and repair of U.S. naval vessels, the command had an obvious interest in understanding how the waning of the Cold War might affect the health of the domestic shipbuilding business. What it found was not comforting.

Despite the Reagan Administration's hundred-billion-dollar shipbuilding program aimed at achieving a "600-Ship Navy," the industry had not fared all that well in the 1980s. During its first year in office, the administration had won repeal of the "construction differential subsidy," a program designed to bolster the competitiveness of the U.S. industry in the global market for commercial vessels. Unilateral termination of the subsidies — other nations continued to provide support to their shipyards — effectively destroyed the commercial shipbuilding business in the United States. The number of large, oceangoing commercial vessels on order in U.S. yards plummeted from 69 the year President Reagan was elected to zero his last year in office. Industry employment never again reached the level seen in 1981 (the highest year since World War II), and no new oceangoing commercial vessels were ordered after 1984 for the rest of the decade.

The impact of the repealed subsidies received relatively little notice while the Reagan Administration's naval expansion was in progress, but by 1990, when the Sea Systems Command released its assessment of the industry, the boom in naval shipbuilding was beginning to wind down. The command found that the number of domestic shipyards capable of building large, oceangoing vessels of any kind had been cut nearly in half, from 37 to 20. It found that "the Navy now provides more than 90 percent of the work for the private sector." It found that the vast preponderance of Navy ship-construction funds — about 95 percent — went to a mere five shipyards. And it found that because of this high concentration of federal funding, only one or two yards remained that could produce key types of warships such as aircraft carriers or submarines.

The implication was clear: if the naval shipbuilding boom went bust, much of the domestic ship-construction industry would go bust with it. For example, the command estimated that a notional fleet of 300 warships — about half the size of the Reagan-era Navy at its peak — would require construction of ten new ships per year, a level of effort that "could provide a modest workload for two or three major yards and three smaller yards." The labor force needed to support this amount of production plus naval repair work expected to be available to the private sector was projected at 50,000 personnel, less than half of the industry's employment in 1990. Similar erosion was predicted in the subcontractor and supplier base.

The Industry Today

Today, nearly a decade later, many of the Sea Systems Command's worries about the industry and its main customer have come true. The number of naval vessels on order at domestic yards has fallen from 88 in 1988 to 51 in April of this year. The projected annual rate of warship construction has declined from ten in the Navy's 1992-1997 spending plan to less than six in the 1998-2003 plan. Every year the size of the fleet shrinks a little further toward the 300-vessel "worst case" envisioned in the command's 1990 assessment. The service currently has about 330 ships in the active fleet, down from 354 last fall, and is expected to have 315 in the fall of 1999.

In the early years after the Soviet collapse, some of the biggest domestic shipyards seriously pursued business in the global commercial shipbuilding market as a way of filling the gap in revenues left by declining Navy orders. They were encouraged to do so by the Clinton Administration, which provided loan guarantees and other incentives for commercial work while trying to reduce the subsidies foreign nations provide to their own shipyards. But it has become clear that U.S. shipbuilders cannot compete profitably against yards in Japan and South Korea, both of which claim about a third of the global market for large, oceangoing commercial vessels. Of the 2,600 such ships on order around the world at the beginning of 1998, only about a dozen had been ordered from U.S. yards.

With barely one percent of the gross tonnage on order globally, most U.S. shipbuilders now believe it will not be feasible for the industry to become a major factor in the commercial market without massive federal assistance — assistance no one seriously expects. While it may seem strange that the world's biggest trading nation and preeminent naval power cannot compete profitably in the business of building large, empty commercial vessels, that is the situation the domestic industry has faced throughout most of the current century. Except when major wars artificially stimulated the demand for shipping, the U.S. has seldom been a leading producer or operator of commercial ships. Why this is so — wage rates, foreign subsidies, lack of capital investment, etc. — is a source of endless debate. Whatever the explanation, the biggest U.S. yards have one by one scaled back or ended their most recent forays into the commercial market.

That means the U.S. Navy will be the main customer of the domestic shipbuilding industry for the foreseeable future. But Navy dollars today, as in the past, flow disproportionately to a handful of the biggest and most capable yards. Although the U.S. Maritime Administration reports that there are 18 yards in the U.S. capable of building large, oceangoing vessels and more than 500 other private-sector establishments engaged in various aspects of ship construction, modification, maintenance and repair, almost all of the Navy's shipbuilding funds go to half a dozen yards. These six yards are the real core of the American shipbuilding industry, and every one of them is heavily dependent on the sea service for their survival.

The Big Six

Although there is considerable overlap in the generic shipbuilding skills of the big six yards, the structure of the domestic shipbuilding industry can best be understood in terms of what Congressional Research Service analyst Ronald O'Rourke calls "four paired groups" — groups defined by the special competencies of particular yards. One such group, arguably the most important from a national-security perspective, is the pair capable of producing nuclear-powered warships. Only Newport News Shipbuilding of Hampton Roads, Virginia and the Electric Boat division of General Dynamics (a defense conglomerate also headquartered in Virginia) can claim this status.

Newport News Shipbuilding integrates nuclear-powered aircraft carriers and attack submarines at the largest shipyard in the United States, a 550-acre complex that stretches for two miles along the James River in Hampton Roads, near the Navy's sprawling base at Norfolk. Newport News is probably the most capable shipyard in the world, and is the only domestic shipyard possessing all the skills necessary to design, build, repair and refuel the full range of naval surface and undersea combatants. It delivered the Navy's first nuclear-powered aircraft carrier, the Enterprise, in 1961 and today is the sole shipyard in the U.S. able to build and refuel the current Nimitz cla

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Shipbuilding Agreement - Overview

I. Background

1. In December 1994, the Commission of the European Communities, and the Governments of Finland, Japan, the Republic of Korea, Norway, Sweden and the United States signed the Final Act of the "Agreement Respecting Normal Competitive Conditions in the Commercial Shipbuilding and Repair Industry". The Agreement was scheduled to enter into force on 15 July 1996 after all Parties to it had concluded their national ratification procedures. However, the United States has still not ratified the Agreement, and as a consequence, the Agreement is not yet in force. The goal of the Agreement is to establish, in a legally binding manner, normal, *i.e* subsidy and dumping-free, competitive conditions in the shipbuilding industries of OECD countries. In this way, it will provide a "level playing field" for nearly 80 per cent of the world shipbuilding industry.

2. The negotiations on the Agreement were launched by the US Government in the autumn of 1989, in the framework of the OECD Council Working Party on Shipbuilding. The intention of the US Government was to create a new discipline for all government support to shipbuilding. For its part, the European Commission proposed that "unfair pricing" or dumping practices - later called 'injurious pricing' in the Agreement - also be covered. Government support and private dumping practices are thus the two targets of the Agreement. To ensure effectiveness, the Agreement was intended from the beginning of the negotiations to be legally binding, with provisions for dispute settlement, 'remedies' to be applied in case of violation, and 'sanctions' to enforce implementation of the remedies.

3. The Agreement can be seen as a response to some important features of shipbuilding, namely a strong tendency for governments to assist their industries, and a pronounced cyclicality of shipbuilding activity which induces companies in bad times to engage in the shipbuilding equivalent of price dumping, resulting in distortion of competition among countries and shipbuilding companies alike. These problems have existed for a long time and severe crises, such as in the 1970s and 1980s, have made them particularly apparent, prompting OECD governments to develop policy responses for one of the causes of distortion of competition, namely subsidies: an General Guidelines for Government Policies in the Shipbuilding Industry (first negotiated in 1969), a General Guidelines for Government Policies in the Shipbuilding Industry (1972), and General Guidelines for Government Policies in the Shipbuilding Industry (1976) were concluded over the years. But their effectiveness was limited because of their non-binding nature.

4. Much hope was placed in the Agreement Respecting Normal Competitive Conditions in the Commercial Shipbuilding and Repair Industry because of its legally binding character, because it deals with all kinds of state support - direct and indirect - and, moreover, because it also covers dumping practices of shipyards - which had been considered by some countries to be a problem that warranted the provision of offsetting subsidies. With an initial coverage of about 80 per cent of the world shipbuilding market, the Agreement was expected to have a gravitational effect on other shipbuilding countries to accede to it once in force, thereby extending the area of fair competition beyond its initial bounderies (major other countries are Brazil, China, Russia and Ukraine).

II. Main Elements of the Agreement

Government Support

5. The Agreement sets a stringent discipline for government support to the shipbuilding industry, whether it is provided directly to the shipbuilder or indirectly through shipowners or other parties. The Agreement details, comprehensively, the kinds of support that would be prohibited in the future. This includes financial support as well as administrative regulations in favour of the domestic shipbuilding industry. In practice, direct subsidies, loans and guarantees are the most important types of support. However, the Agreement also prohibits other types, such as forgiveness of debts, provision of equity capital not consistent with usual investment practices, assistance to suppliers of goods and services, and others [see below: "The Agreement at a Glance "].

6. In order to prevent "last minute" support from being given, there was an understanding among the Participants to the Agreement that they would not, from the signing of the Final Act (i.e. December 1994), increase the subsidy level of existing support measures or introduce new measures, pending entry into force of the Agreement. In the same spirit, all support, or undertaking to provide support, with regard to vessels that were to be delivered after 1998, was forbidden.

7. Although the catalogue of prohibited government support is comprehensive and detailed, not all government support to the shipbuilding industry would be banned under the Agreement. There were five exceptions, four of which were to be permanent. First, officially supported export credits would continue to be permitted on condition that they respect the provisions of the Understanding on Export Credits for Ships which severely limits any concessional element. This Understanding, which has existed since 1969, was revised in the context of the negotiations on the Agreement and was to become effective in its revised form upon the entry into force of the Agreement (but of course, this has not yet happened). Its main new provisions were the commercial interest reference rates

(replacing the hitherto fixed interest rate of 8 per cent), the repayment period of 12 years (extended from previously 8 1/2 years) to take account of the reality in ship financing, and the prohibition of aid credits for vessels that are commercially viable. This was in line with the 1992 revision of the OECD Arrangement on Guidelines for Officially Supported Export Credits.

8. Second, "home credits", that is, government assisted loans and guarantees to domestic buyers of ships, intended for the modernisation of the domestic fleet would be allowed, subject to a stringent discipline. Such credits could be given only if they met specific conditions which are principally that they are no more "concessional" than permitted for export credits - the logic being to treat domestic and foreign buyers of ships in an equal manner.

9. The third and fourth exceptions were support for research and development and for shipbuilding workers losing their employment. R&D and new technologies are increasingly playing a pivotal role in the shipbuilding industry, both in the development of high performance ships and in ship construction itself. Government support for R&D activities would therefore be permitted generously, but in descending order of intensity the closer the activity is to the market. In addition, R&D undertaken by small and medium sized ship yards as well as R&D related to safety and the environment could benefit from higher than 'normal' rates. The social dimension of the Agreement was reflected by provisions that permit support to be provided to workers who lose their employment or retirement benefits. Finally, the shipyard restructuring that was underway in some countries (Korea, Belgium, Portugal and Spain) was permitted to continue as planned at the time when the Agreement was concluded, but no new restructuring programmes could be permitted.

10. A special feature of the Agreement was the treatment of the "Jones Act" of the United States. As an exception from the prohibition of official regulations and practices which favour the domestic shipbuilding industry, the United States retained the domestic build provision of some of its laws. However, this exception was to be subject to transparency and possible sanctions for abuse.

11. To ensure effectiveness of the Agreement, a binding dispute settlement and enforcement mechanism was devised to deal with violations of the discipline on Government support. In such a case, and if violation was confirmed by the binding judgement of an independent international Panel, the illegal support measure would have to be eliminated and the illegal benefit paid back, with interest, by the shipbuilder who received it ('remedy'). Should the government not terminate the support, or the shipbuilder did not pay back the illegal benefit, 'sanctions' could be authorised. They could take two forms: the suspension by the party (or parties) adversely affected by the illegal benefit, of GATT concessions related to products associated with shipbuilding, and/or the denial to the illegally subsidised shipbuilder of the right to complain about dumping (injurious pricing) by other shipbuilders.

Injurious Pricing

12. The Injurious Pricing Code of the Agreement would make anti-dumping applicable to shipbuilding for the first time. The Code condemns injurious pricing (export sales of ships below normal value) if it causes or threatens injury to an established shipbuilding industry or retards the establishment of a domestic industry of another Party. It is based on the Anti Dumping Code of GATT 1994 and adjusts it to the particularities of shipbuilding. These are mainly the fact that ships are not normally imported for sale - and thus escape the GATT anti-dumping mechanism which is enforced through anti-dumping duties on imported goods - and the non-series production of ships.

13. If the shipbuilding industry in one Party to the Agreement claims to have been injured by the sale to a buyer within that country of a ship from another Party, at a price below that which it should normally command, the investigating authorities of the first may determine whether injurious pricing has indeed occurred. They would apply a multi-step approach: first, they would determine whether their industry had had a sufficient prospect of making the sale and whether it had met other criteria to be eligible to complain ('initiation'); second, they would determine the existence of injurious pricing (determination of injurious pricing') and the impact of the sale below normal value on the domestic industry (determination of injury).

14. As a rule, the provisions of the Injurious Pricing Code of the Agreement regarding the determination of injurious pricing and of injury would follow closely the Anti Dumping Code of GATT 1994. For example, in determining injurious pricing, the investigating authorities would compare the export price of the vessel in question with (1) the domestic price of the like vessel, or (2) the export price of a like vessel to a third country, or (3) the cost of production plus normal profit in the exporting country. In the examination of the impact on the domestic industry, i.e. the determination of injury, the investigating authorities would evaluate all relevant economic factors having a bearing on the state of the industry; this would include actual and potential decline in sales, profits, output, market share, productivity, return on investments, or utilisation of capacity; factors affecting domestic prices; the magnitude of the margin of injurious pricing; actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital or investments.

15. If the investigating authorities have to confirm injurious pricing and impose a levy upon the vessel in question, this 'injurious pricing charge' would have to be paid by the exporting shipbuilder - in contrast to the provisions in the GATT Anti Dumping Code, where the charge would be paid by the importer in the form of extra import duties. The shipbuilder would have to pay the charge within 180 days or later if payment within that period would render it insolvent. But the shipbuilder would have the option to void the sale in question or to comply with an alternative remedy.

16. As in the case of illegally received Government support, 'sanctions' are foreseen if the shipbuilder does not pay the injurious pricing charge (or void the sale, or comply with an alternative remedy). These are severe: the country that has investigated the injurious pricing case may, on its own initiative, deny onloading and offloading privileges for a maximum period of four years after delivery to certain

vessels built by that shipbuilder (i.e. vessels contracted for during a period of four years after public notice). Because of the requirement of prior public notice this would discipline the shipbuilder via the threat of losing orders, but it would not injure innocent shipbuyers. A Panel could extend or limit this countermeasure.

III. Outlook

17. When (and if) the Agreement enters into force, its functioning would be subject to close supervision through a 'Parties Group'. There would be regular consultations and permanent transparency on matters such as ship prices, provision of permitted assistance, and others. The procedures foreseen for dealing with violations, whether in the area of government support or of injurious pricing, are such that a balance between all parties would be assured and that there would always be the possibility of recourse to the Panel or the Parties Group in case of differences of views. Three years after the Agreement enters into force, a major review is foreseen to examine the experience to that date.

18. There is the expectation that if the Agreement were to come into force, it would have a sustained positive impact on the world shipbuilding market by repressing government support which has been a serious problem for years, and by punishing dumping practices that were judged to be damaging other shipbuilders. Non-availability of government support and the prosecution of injurious pricing would bring to light the economic advantages of the various countries and the true competitivity of individual shipbuilders.

19. Shipowners, for their part, would be confronted with a situation where ships are no longer available at subsidised or dumped prices. They may consequently change their expectation as to the profits they can make with a vessel, especially from speculative buying and selling of ships. Changed ordering behaviour for ships may, in turn, therefore contribute to stabilising the shipbuilding market and thus contribute to establishing normal competitive conditions in the shipbuilding industry.

Related Documents

The Agreement at a glance

Shipbuilding Agreement - Full text

EXHIBIT 117

An official website of the United States government Here's how you know

U.S. Maritime and Shipbuilding Industries: Strategies to Improve Regulation, Economic Opportunities and Competitiveness

STATEMENT OF
MARK H. BUZBY
ADMINISTRATOR
MARITIME ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION

BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES

HEARING ON
U.S. MARITIME AND SHIPBUILDING INDUSTRIES:
STRATEGIES TO IMPROVE
REGULATION, ECONOMIC OPPORTUNITIES AND COMPETITIVENESS

MARCH 6, 2019

Good morning, Chairman Maloney, Ranking Member Gibbs, and members of the Subcommittee. I appreciate the opportunity to discuss strategies to improve economic opportunities and the competitiveness in the U.S. maritime and shipbuilding industries.

The U.S. Merchant Marine, U.S. shipbuilding and repair facilities, the Nation's port system, and supporting industries (collectively referred to as the U.S. maritime industry) integrates our economy with a vast global system that moves more than 90 percent of the world's trade by tonnage, including energy, consumer goods, agricultural products, and raw materials. Of the goods that the U.S. imports and exports, approximately 69 percent by weight and 40 percent by value move by water and through our national port system. These industries, vessels, infrastructure, and personnel also play critical roles in national security, supporting our Nation's ability to provide sealift for the Department of Defense (DOD) during times of war and national emergency.

The mission Congress gave the Maritime Administration (MARAD) is to foster, promote, and develop the maritime industry of the United States to meet the Nation's economic and security needs. Unfortunately, over the last few decades, the U.S. maritime industry has suffered losses as companies, ships, and jobs moved overseas. To reverse this multi-decade trend, MARAD is continuing to work with its industry stakeholders to identify ways our U.S.-flag commercial fleet can better compete for international cargoes and our U.S. shipbuilding and repair industry can grow and continue to meet commercial and military shipbuilding needs. In addition, MARAD continues to leverage its existing congressionally authorized programs to support mariner training, improve port infrastructure, and assist industry to address environmental challenges.

U.S.-flag Fleet

U.S. strategic sealift consists of 61 Government-owned vessels maintained in reduced operating status, augmented by the U.S.-flag commercial fleet. Commercial vessels crewed with civilian mariners transport equipment and supplies around the world and provide the pool of mariners with the unlimited tonnage/horsepower qualifications needed to provide the additional crew for Government ships when they are activated. Our Nation relies on the fleet of large oceangoing self-propelled commercial vessels operating in the domestic (Jones Act) and international trades to provide employment for these highly qualified mariners and auxiliary sealift capacity when needed.

U.S.-flag Vessels in U.S. Domestic Trades

U.S.-flag vessels operating in domestic trades sail on U.S. inland and intracoastal waterways, lakes, oceans along the coasts of the United States, and between non-contiguous States and U.S. territories. The domestic water transportation market is served by a diverse array of approximately 41,000 vessels owned, operated, and largely built by U.S. citizens.   The majority of vessels in the domestic trades consist of tugs and barges, with a smaller number of work and supply vessels used in the offshore oil industry, and specialty vessels such as dredges. As of February 4, 2019, 99 of the vessels operating in the domestic market were large cargo-carrying, merchant-type vessels capable of self-propelled operation in the deep oceans. These are the types of vessels needed to provide an employment base for mariners with the unlimited credentials and training required to also crew Government ships when needed to meet DOD sealift requirements.

U.S.-flag Ships in International Trades

Cargo preference laws require shippers of Government-impelled cargo to use U.S.-flag vessels for the ocean-borne transport of a significant portion of certain cargoes purchased or guaranteed with Federal funds. Specifically, 100 percent of military cargo, and at least 50 percent of most non-military Government-owned or impelled cargo transported by ocean, must be carried on U.S.-flag vessels subject to a MARAD determination of vessel availability. U.S.-flag carriers engaged in international trading believe that shipping required by cargo preference laws provides critical revenue that significantly contributes to the economic viability of this portion of the U.S.-flag fleet.

As of February 4, 2019, there were 82 large, U.S.-flag merchant-type vessels operating in international trades. Estimates using 2016 U.S. Census foreign trade data indicate that just 1.5 percent of U.S. waterborne imports and exports by tonnage move on oceangoing commercial vessels registered in the U.S. The last year in which the U.S.-flag fleet carried at least ten percent of our trade by tonnage was 1960 when the U.S.-flag commercial fleet consisted of well over 1,000 ships; the share remained close to four percent from 1977 until 1993, and fell to two percent as of 2003.

U.S.-flag ships must compete against foreign-flag carriers that benefit from major subsidies or state ownership. For example, one large Chinese-flag carrier that is wholly state-owned has received at least $1.95 billion in state assistance over the last several years, and will soon carry the single largest share of containerized imports to the United States. Other foreign-flag carriers also receive state support through various means.[1] Absent other measures, cargo preference helps support the sustainment of a minimal U.S.-flagged, privately-owned internationally-trading commercial fleet and the continued employment of the associated American merchant mariners.

Supply of Qualified Mariners

To ensure that qualified mariners remain available to satisfy DoD sealift requirements, the Department of Transportation (DOT) and MARAD are firmly committed to mariner officer development at the U.S. Merchant Marine Academy (USMMA) and six State Maritime Academies.[2] Together, these academies graduate more than 1,000 entry-level new officers each year.

Hiring veterans makes good business sense, and in the case of the maritime industry, skills and experience from the sea services translate directly into qualifications needed in the U.S. Merchant Marine and maritime sector. In 2014, at MARAD's request, the U.S. Committee on the Marine Transportation System (CMTS) formed the Military to Mariner Task Force to help coordinate Federal efforts to facilitate the transition from military service to civilian employment in the U.S. Merchant Marine and other positions within the U.S. Marine Transportation System. The Maritime Administrator and the Executive Director of the Military Sealift Command lead this Task Force, with participation from all the sea services. As a direct result of this partnership, Federal agencies have committed time and resources to:

- crosswalk military ship-board training and qualifications to civilian mariner credential requirements,
- assign permanent staff to the Navy and USCG Credentialing Opportunity Online (COOL) projects,
- enable USCG Academy graduates to receive a 100 Ton Master-Near Coastal Credential upon graduation,
- increase the number of service training courses approved for Merchant Mariner Credentials, and
- identify ways to recruit, train, and retain Merchant Mariners to support both national Defense and Federal mission accomplishment.

I am extremely proud of the Executive Order the President signed this week to address long-standing challenges to the transition of active-duty uniformed service mariners into civilian merchant mariners crewing U.S.-flag commercial vessels. The Military to Mariner Executive Order also directs the CMTS to pursue innovative ways to support merchant mariner credentialing through the existing Military to Mariner (M2M) Task Force and to provide a yearly status report on its efforts.

Ensuring the availability of sufficient qualified contract and obligated mariners for a prolonged activation of U.S. reserve sealift capacity is a continuing concern. In 2017, Congress directed MARAD to convene a Maritime Workforce Working Group (MWWG) to assess the size of the pool of U.S. citizen-mariners necessary to crew the sealift fleet in times of national emergency. At that time, U.S. Coast Guard data indicated that 33,125 U.S. mariners held unlimited credentials, however the MWWG estimated a value of 11,768. The MWWG determined that the disparity between these values will remain unresolved until more research is completed.

U.S. Shipbuilding

Among the foremost challenges to the U.S. Merchant Marine and shipbuilding industry are low-cost foreign competitors (including heavily subsidized, state-owned fleet operators), diminishing government cargoes, and reduced commercial ship orders. Over the last several decades, large U.S. shipyards and their skilled labor forces have atrophied due to the uneven playing field of low-cost, highly-subsidized international shipbuilding competition among other factors, resulting in shipyard closures and reductions in the U.S. vendor base.

The few remaining large U.S. commercial shipyards rely on the small U.S. domestic market. The successful, multi-decade industrial policies of the principal shipbuilding nations have virtually eliminated the ability for U.S. shipyards to compete in the global market. Over 90% of global shipbuilding occurs in three countries; China, Korea, and Japan. While the United States remains a global leader in naval shipbuilding, which represents the majority of the Nation’s shipbuilding revenue, our large commercial shipyards are struggling to remain afloat. U.S. commercial shipbuilding of large merchant-type ships has been locked into a downward spiral of decreasing demand and an increased divergence between domestic and foreign shipbuilding productivity and pricing.

In the case of large self-propelled oceangoing vessels, U.S. shipyards still lack the scale, technology, and the large volume “series building” order books needed to compete effectively with shipyards in other countries.[3] The five largest U.S. commercial shipyards construct limited numbers of large cargo vessels for domestic use, averaging five such vessels per year over the last five years, with a peak of ten such vessels in 2016. This production is small, however, relative to the worldwide production of 1,408 such ships in 2016.

U.S. shipyards have opportunities for growth. The expanding energy sector, and the Liquefied Natural Gas (LNG) market in particular, presents a unique opportunity to grow the U.S. shipping and shipbuilding industry, provided domestic LNG import demand can be grown to the needed levels. The global LNG market, however, is anticipated to expand over the next 20 years and it is estimated that the number of LNG ships necessary to service the market will nearly double by 2040.   The U.S. could capitalize on this growing industry. Ship owners are more likely to be able to secure financing and invest in the construction of LNG vessels in the U.S. if there are long-term contracts for coastwise transportation for LNG that would provide a reliable flow of cargo for new vessels to carry at the necessary price levels once completed. Therefore, encouraging demand for U.S.-flag coastwise vessels in the domestic LNG market could foster an improved prospect for domestic construction of LNG tankers, and more LNG bunkering vessels.

The Jones Act requirement that vessels serving domestic markets must generally be built in the U.S, the Capital Construction Fund (CCF), and Construction Reserve Fund (CRF) programs are all tools Congress established to sustain U.S. shipyards. In addition, the Small Shipyard Grant Program is an important program for shipyard modernization. Since 2008, this program has provided grants totaling $203.79 million to 216 shipyards.

Port Infrastructure/Freight Movement

Another challenge the U.S. maritime industry faces is the state of our Nation’s gateway port infrastructure. The ability of our ports to increase capacity and handle cargo more efficiently is vital to the health of many domestic industries. Freight volumes are projected to increase by 31 percent, and U.S. foreign trade will more than double between 2015 and 2045.

There is great potential to improve this system by increasing the efficiency of our ports. The newest tool available for DOT to improve efficiency is Port Infrastructure Development grants. The FY 2019 Consolidated Appropriations Act, Pub. L. 115–141, appropriated a total of $292.7 million for the Port Infrastructure Development Program, which is authorized under 46 U.S.C. § 50302. Through this program, MARAD will provide grants for coastal seaports for infrastructure improvement projects that are directly related to port operations, or intermodal connections to a port that improve the safety, efficiency, or reliability of the movement of goods into, out of, or around coastal seaports. Funds for the FY 2019 grants will be awarded on a competitive basis.

MARAD is also working through its America’s Marine Highway Program to develop and expand services to move freight along our waterways and coastlines and to relieve land-side congestion. Given the immense economic and environmental benefits of increased waterborne transportation, this program represents an opportunity to enhance American supply-chain competitiveness. Working with local sponsors, this program is gaining support and making a difference for regional economies and transportation infrastructure. For example, a new Baton Rouge-to-New Orleans, LA, barge service was recently established to transport heavy weight export containers. In the past 90 days, more than 11,000 truckloads have moved via the Marine Highway, reducing highway congestion by one million vehicle miles traveled. The FY 2019 Consolidated Appropriations Act included $7 million in grant funding for the program.

Environmental Issues

Finally, there is opportunity to foster the competitiveness of the U.S. maritime industry through MARAD's Maritime Environmental and Technical Assistance (META) program. Since maritime transportation is, by its nature, a global industry in most cases, U.S. vessel compliance with international environmental standards is required to compete in this realm. This program supports applied research and development to facilitate environmental compliance and enhance sustainability across the marine industry. Leveraging resources with the private sector and other government agencies, META's goal is to identify economically sustainable solutions to emerging maritime environmental challenges. The FY 2019 Consolidated Appropriations Act includes $3 million for the META program. Following on the META model, MARAD is also exploring other areas in which partnerships with the private sector and other government agencies can be leveraged to further research, development, and technology transfer to make our fleets and ports safer, more efficient, and more competitive.

Thank you for the opportunity to highlight MARAD's programs that support the strength and competitiveness our U.S. maritime industry. I appreciate this Subcommittee's continued support for the U.S. Merchant Marine and look forward to working with you to address the challenges facing the U.S. maritime industry and take advantage of opportunities to enhance and improve the U.S. maritime transportation system. I am happy to respond to any questions you may have.

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[1] Cho Si-young, "Korean government pledges $6 bn subsidy promotion for shipping sector," Pulse, October 31, 2016. https://pulsenews.co.kr/view.php?year=2016&no=759165

[2] The six State Maritime Academies (SMA's): California Maritime Academy, Maine Maritime Academy, Massachusetts Maritime Academy, Great Lakes Maritime Academy, Texas A&M Maritime Academy, and the State University of New York Maritime College.

[3] The issue of government subsidies to foreign shipyards has received significant attention recently. See, for instance, Nick Savvides, "Japan complains over Korean shipyard subsidies," Fairplay, April 11, 2017, https://fairplay.ihs.com/ship-construction/article/4284711/japan-complains-over-korean-shipyard-subsidies, and Myrto Kalouptsidi, "Detection and impact of industrial subsidies: The case of Chinese shipbuilding," VOX, September 9, 2017, https://voxeu.org/article/chinas-hidden-shipbuilding-subsidies.

Witness
MARK H. BUZBY
Testimony Date
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EXHIBIT 118

ALLIANCE FOR american manufacturing

New Legislation Aims to Revive America's Shockingly Small Shipbuilding Industry

By Elizabeth Brotherton-Bunch

JUL 23 2019 | INFRASTRUCTURE SECURITY TRADE

A giant floating crane sits in front of Busan Shipbuilding & Offshore Co., Ltd., in Busan, South Korea. Although the U.S. once led the world in shipbuilding, nearly all new shipbuilding now takes place overseas, with South Korea accounting for about 37 percent of global ship construction. | Getty Images

America is painstakingly behind the rest of the world when it comes to making ships. It's a problem.

The United States is in the midst of an energy boom and is exporting a lot of liquefied natural gas (LNG) to the rest of the world.

But there's a problem: The U.S. doesn't have enough American-made ships to transport it.

Well, it doesn't have any, actually.

The good 'ole U-S-A is *entirely reliant* on foreign-made vessels to transport its LNG exports. In fact, America is embarrassingly dependent on the rest of the world for ships in general. Only one-third of 1 percent of new commercial shipbuilding now takes place in the United States.

Legislation introduced Tuesday by Rep. John Garamendi (D-Calif.) and Sen. Roger Wicker (R-Miss.) aims to begin to address this problem by requiring that vessels built in the United States transport 15 percent of total seaborn LNG exports by 2041 and 10 percent of total seaborne crude oil exports by 2033.

Although the percentages are relatively small, the legislators say that this requirement will spur the construction of more than 40 ships — 28 LNG carriers and 12 oil tankers — creating thousands of good-paying shipyard jobs.

But just as importantly, it also would begin to shore up a gaping hole in our national defense.

"This legislation would strengthen our shipbuilding industry, support American maritime jobs, and ensure the United States has enough American-flagged, crewed, and built ships to transport its growing oil and natural gas exports in times of conflict," Wicker said. "Our geopolitical rivals have invested heavily in their shipbuilding capacity, and the U.S. should keep pace."

The United States once led the world in shipbuilding, making more than 75 commercial ships in 1975 alone. But in 1981, the U.S. stopped subsidizing its shipbuilding industry, turning things over to the free market.

There was a problem, however. Other countries continued to subsidize their shipbuilding industries, including in places like Japan, South Korea and Europe. The U.S. government, meanwhile, did nothing to enforce its new laissez-faire outlook on making ships.

Foreign shipbuilders were gifted a massive competitive advantage, and the U.S. commercial shipbuilding industry fell into a steady decline. South Korea now makes up 37 percent of global ship construction, Japan maintains 27 percent, and China makes up 21 percent, according to the Eno Center for Transportation.

The shipbuilding that does take place in the United States today is focused on building warships for the U.S. Navy or for ships that confine their operations to routes within the United States.

And that's only because the Jones Act requires that all goods transported by water between ports be built in the United

States and owned and crewed by U.S. citizens or permanent residents.

But even that effort is very small. The current U.S. merchant marine consists of about 175 vessels that are on average, 30 years old.

The new legislation — aptly titled the Energizing American Shipbuilding Act — is aiming to use the LNG and crude oil boom to begin to rebuild the U.S. strategic domestic shipbuilding and maritime industries.

"Rising U.S. exports of America's strategic LNG and crude oil exports present a unique opportunity to create middle-class jobs by strengthening our nation's crucial domestic shipbuilding, advanced manufacturing, and maritime industries—which are key to national security and our ability to project American military power abroad," Garamendi said, noting that Russia enacted similar requirements for its oil and natural gas exports in 2018.

"American shipyards and mariners are ready for the job, and our bill ensures they are no longer expected to compete against heavily subsidized foreign shipyards in Korea, China, and elsewhere."

The Alliance for American Manufacturing (AAM) is among the many organizations backing the bill. We think it is a win-win — not only will it strengthen a very neglected part of our national defense, it will create thousands of shipbuilding jobs and even more throughout the industrial supply chain.

"The recent growth in U.S. energy exports offers a unique opportunity to foster a robust and resilient shipbuilding industry to meet our maritime commerce and security needs while also providing a boost to our economy," said AAM President Scott Paul. "We encourage Congress to pass this commonsense legislation."

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EXHIBIT 119

Ships built by country of building, annual

MEASURE Gross Tonnage

YEAR	2014	2015	2016	2017	2018	2019	2020	2021	2022
ECONOMY									
Argentina	-	115	270	-	-	-	-	-	-
Australia	2,245	6,488	1,721	11,032	329	31,459	11,497	18,939	3,718
Austria	-	191	-	-	-	-	-	-	-
Azerbaijan	-	-	947	26,062	-	-	8,728	5,371	13,894
Bahrain	-	-	280	-	-	-	-	-	-
Bangladesh	15,220	22,954	6,099	22,371	23,726	56,798	85,349	37,954	41,995
Brazil	237,708	397,166	175,091	377,035	228,473	142,898	2,982	-	9,292
Bulgaria	-	2,797	1,708	307	2,201	2,134	-	-	-
Canada	19,312	938	480	148	5,814	465	-	140	130
Chile	5,500	7,754	442	5,286	4,721	6,014	-	-	1,423
China	22,851,302	25,275,424	22,365,449	23,682,160	23,259,789	23,074,209	23,257,200	26,863,204	25,893,611
China, Hong Kong SAR	6,597	5,385	4,212	-	250	1,476	492	970	542
China, Taiwan Province of	574,208	724,867	468,038	550,502	343,131	403,904	302,617	179,971	496
Colombia	..	..	..	..	..	..	..	..	3,500
Croatia	37,687	74,810	74,445	122,883	23,963	26,722	35,613	26,415	80,759
Cuba	-	-	946	-	294	-	-	-	-
Denmark	233	-	24,937	-	-	1,792	-	925	-
Ecuador	-	-	200	-	-	-	-	-	-
Egypt	1,212	2,934	-	945	1,178	1,431	2,364	3,990	926
Estonia	-	1,848	-	1,098	-	977	-	-	102
Finland	101,546	115,054	108,085	173,136	138,189	334,879	181,808	221,100	244,767
France	483	3,194	227,862	173,053	360,243	353,139	132,141	177,290	593,546
Germany	499,217	383,355	430,671	469,633	478,696	487,267	288,228	382,735	320,581
Greece	-	4,058	9,228	2,653	10,312	6,867	-	4,312	732
Hungary	1,916	-	-	-	-	-	-	-	-
India	93,984	30,066	37,422	96,658	26,335	20,717	21,251	72,137	39,997
Indonesia	66,941	121,813	71,858	65,820	163,188	110,028	36,388	64,473	42,661
Iran (Islamic Republic of)	1,523	146	-	64,121	-	665	-	1,076	794
Italy	303,951	219,455	420,501	469,558	477,316	527,024	518,236	498,889	730,956
Japan	13,392,130	12,899,210	13,363,959	13,113,388	14,440,056	16,241,929	12,827,375	10,726,209	9,585,299
Korea, Republic of	21,871,925	23,756,983	25,455,551	22,616,947	14,633,292	21,670,363	18,173,891	19,687,307	16,254,013
Lithuania	3,134	499	-	-	-	-	-	7,984	-
Malaysia	57,513	61,115	30,957	35,635	23,141	22,645	21,697	20,919	27,769
Mauritius	371	-	470	-	-	-	-	-	-
Mexico	-	1,312	442	469	-	2,721	-	-	938
Myanmar	-	-	-	-	-	121	-	-	-
Netherlands (Kingdom of the)	130,754	133,653	173,835	106,005	58,357	43,054	109,164	117,900	78,508
New Zealand	200	438	349	349	-	-	174	-	-

Ships built by country of building, annual

MEASURE Gross Tonnage

YEAR	2014	2015	2016	2017	2018	2019	2020	2021	2022
Norway	248,654	167,231	134,762	68,211	84,356	198,365	76,642	147,257	76,738
Pakistan	306	-	-	-	-	-	-	-	-
Paraguay	-	538	-	-	-	405	-	962	-
Peru	910	-	700	421	-	-	-	-	-
Philippines	1,864,658	1,772,379	1,204,019	1,980,322	1,987,637	802,366	608,211	643,456	395,586
Poland	54,822	15,119	36,922	45,599	5,660	3,475	13,839	17,033	2,693
Portugal	-	6,820	-	-	-	9,923	7,823	9,923	9,934
Qatar	495	882	1,283	431	-	-	-	-	-
Romania	329,061	403,049	848,255	591,265	99,135	34,680	35,783	70,560	25,000
Russian Federation	44,916	44,546	58,864	52,686	82,588	99,662	241,843	135,694	251,722
Saudi Arabia	4,302	-	-	-	-	-	-	-	-
Singapore	79,834	47,004	59,205	28,735	72,184	84,858	9,667	7,725	157,798
South Africa	180	1,019	3,459	2,516	-	154	225	455	231
Spain	31,376	13,005	54,366	46,923	207,280	193,186	26,878	24,942	47,400
Sri Lanka	12,566	12,704	3,383	11,322	3,200	3,639	-	2,976	3,607
Sweden	-	-	-	-	150	-	-	-	105
Thailand	1,236	1,503	229	742	3,698	795	542	-	1,164
Türkiye	140,240	118,635	107,215	115,404	90,717	146,931	103,119	132,471	77,700
Ukraine	1,162	616	1,232	1,023	-	994	-	-	792
United Arab Emirates	13,679	11,289	4,029	5,998	2,850	2,629	3,544	5,043	3,144
United Kingdom	523	400	1,452	-	500	2,014	711	15,609	-
United States of America	212,113	355,067	351,092	225,593	201,678	131,415	71,289	32,343	72,679
Viet Nam	335,862	574,181	435,512	344,818	480,930	555,081	544,699	372,492	444,033
Total	63,653,707	67,800,009	66,762,434	65,709,263	58,025,557	65,842,270	57,762,010	60,739,151	55,541,275
China %	35.90%	37.28%	33.50%	36.04%	40.09%	35.04%	40.26%	44.23%	46.62%
US %	0.33%	0.52%	0.53%	0.34%	0.35%	0.20%	0.12%	0.05%	0.13%
Ratio China / US	107.73	71.18	63.70	104.98	115.33	175.58	326.24	830.57	356.27

Source: UNCTADstat

Ships built by country of building, annual

Theme: Maritime transport

Description:
This table shows data on the merchant fleet built between 1 January and 31 December of a given year

Source:
UNCTAD, Division on Technology and Logistics, based on data supplied by *Clarkson Research Services*

Note:
Data are presented in gross tonnage (GT) and refer to the indicated year.
The figures cover seagoing propelled merchant ships of 100 gross tons (GT) and above, excluding inland waterway vessels, fishing vessels, military vessels, yachts, and offshore fixed and mobile platforms and barges (with the exception of floating production, storage and offloading vessels [FSPO] and drillships).

The value 0 is reported for countries without shipbuilding observed for a given year. This is in order to distinguish countries where shipbuilding is assessed to be zero for some years, from countries without shipbuilding at any point of the time series.
Dimensions:

- YEAR
- SERIES
- ECONOMY
  Economy in which ships are built
- SHIP TYPE

Indicators:

- Percentage of total all economies
- Gross Tonnage
- Gross Tonnage in hundred
- Gross Tonnage in thousands
- Gross Tonnage in billions

EXHIBIT 120

Vessel Delivery Data for Active U.S. Shipyards

	NASSCO		Bollinger		Bollinger Houma (Gulf Island)		Chouest		Fincantieri (Sturgeon Bay)	
Year of delivery	Govt	Commercial	Govt	Commercial	Govt	Commercial	Govt	Commercial	Govt	Commercial
2000	2	0	13	6	0	0	0	10	0	1
2001	3	0	13	20	0	0	0	2	0	2
2002	1	0	6	15	0	0	0	4	0	3
2003	0	2	2	11	0	0	0	4	0	2
2004	0	1	4	16	0	0	0	3	0	3
2005	0	2	9	15	0	0	0	3	0	4
2006	1	1	0	9	0	0	0	4	0	3
2007	3	0	0	19	0	0	0	6	0	3
2008	2	0	6	19	0	0	0	10	0	2
2009	2	3	2	10	0	3	0	12	0	2
2010	2	2	0	5	0	3	0	5	0	0
2011	2	0	2	4	0	6	0	1	0	0
2012	2	0	4	3	0	9	0	8	0	0
2013	1	0	6	2	0	1	0	7	0	3
2014	1	0	5	2	0	2	0	9	0	0
2015	1	2	5	3	0	0	0	5	0	3
2016	0	6	5	1	0	0	0	1	0	4
2017	0	2	5	0	0	0	0	1	0	4
2018	1	0	5	1	0	0	0	15	0	2
2019	1	0	6	2	0	0	0	0	0	0
2020	0	2	6	2	0	0	0	0	0	2

	Halter Marine		Halter Marine Offshore		AMFELS		Philly		Vigor Seattle		Vigor Portland	
Year of delivery	Govt	Commercial	Govt	Commercial	Govt	Commercial	Govt	Commercial	Govt	Commercial	Govt	Commercial
2000	0	0	0	0	0	1	0	0	0	0	0	0
2001	0	0	0	0	0	2	0	0	0	0	0	0
2002	0	2	0	2	0	2	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	1	2	0	0	0
2004	0	3	0	1	0	1	0	1	0	0	0	1
2005	2	1	0	0	0	0	0	1	0	0	0	0
2006	2	6	0	0	0	2	0	1	0	0	0	0
2007	1	2	0	0	0	2	0	3	1	0	0	1
2008	0	6	0	2	1	4	0	2	0	0	0	4
2009	1	5	0	0	0	1	0	3	0	0	0	4
2010	1	10	0	0	0	4	0	3	2	0	0	2
2011	1	7	0	0	0	3	0	1	2	0	0	2
2012	1	2	0	0	0	0	0	1	0	0	0	1
2013	0	4	0	0	0	1	0	1	0	0	0	0
2014	0	8	0	0	0	2	0	1	1	1	0	3
2015	0	7	0	0	0	0	0	3	1	0	0	2
2016	1	5	0	0	0	1	0	3	1	1	1	4
2017	0	0	0	0	0	0	0	3	1	0	0	1
2018	0	2			0	0	0	1	1	0	0	1
2019	0	2			0	0	0	1	0	0	0	0
2020	0	2			0	0	0	0	0	0		

Source: "U.S. Builders of Large Ships," Shipbuildinghistory.com

NASSCO

San Diego CA

Most recent update: January 23, 2022.

NASSCO started life in 1905 as California Iron Works but was renamed National Iron Works in 1922. It expanded into shipbuilding by building barges for the Army in 1944 but switched to tuna seiners after acquiring two neighboring yards - Lynch Shipbuilding in 1949 and Martinolich Shipbuilding in 1957 - and changed its name to National Steel & Shipbuilding Company, or NASSCO. In 1960, its potential in reflected by it being acquired by three major construction companies - Morrison-Knudson, Henry J. Kaiser and F. E. Young, although in 1974 M-K bought out the other two. NASSCO did well through the bo but when times got hard in 1989, M-K sold the company to its employees. It continued to do well, however, and in 1998, the owner-managers sold the company to General Dynamics for $415mm. Since then repair business by acquiring yards in Norfolk VA, Portsmouth VA, Bremerton WA and Mayport FL. Visit the shipyard at www.nassco.com and see it from the air on Google here.

Hull #	O.N.	Original Name or #	Original Owner	Ship Type	GT	Price ($mm)	Contract Award	Keel Laying	Launch	Delivery	Days on Ways	Days in Water	Total Days	Notes/Disposit
1-90		BK 3872-3961	U.S. Army	KD Barges		3.0				1944				90 104-ft barges
91-141		BK 3972-4022	U.S. Army	KD Barges		7.1				1944				51 104-ft barges
142	248090	Juana	Henry M. Dobbs	Tuna Seiner	41				13-May-45	1945				
143	248323	Lady	United States Holding	Tuna Seiner	42				23-Jun-45	1945				
144	248427	Golden Bear	Frank M. Gorey	Tuna Seiner	42				27-Jul-45	1945				
145	249272	Pico	Robert J. King	Tuna Seiner	94					1945				
146		No name		Barge						1945				
147		No name		Barge						1945				
148		Bell Boy		Tug						1945				
149	250791	Jenita	Gilbert W. McHenry	Tuna Seiner	261				1-Nov-46	1946				
150	251794	Mary Barbara	Nat'l Tuna Clippers	Tuna Seiner	262				1-Mar-47	1947				
151	253738	Lucky Star	Manuel H. Freitas	Tuna Seiner	278				23-Aug-47	1947				
152	254380	Lucy Elena	William H. Schmidt	Tuna Seiner	288				22-Nov-47	1947				
153	252612	Ruthie B.	Melvin N. Wilson	Tuna Seiner	301				1-May-47	1947				
154	255750	Velero IV	U. of Southern Cal.	Marine Lab.	292				1-Apr-48	1948				
155	Mexico	Barca de Oro	Prod. Cong. Guaymas	Shrimp Boat	50					1948				
156	Mexico	Santa Clara	Prod. Cong. Guaymas	Shrimp Boat	50					1948				
157	Mexico	Argonauta	Prod. Cong. Guaymas	Shrimp Boat	50					1948				
158	Mexico	Juan Francisco	Prod. Cong. Guaymas	Shrimp Boat	50				1-Oct-48	1948				
159	256939	Carol Virginia	Nat'l Tuna Clippers	Tuna Seiner	317				8-Jan-49	1948				Later Carol S
160	Mexico	Macapule	Pesq. de Topolobampo	Shrimp Boat	50				1-Jun-49	1949				
161	Mexico	Maviri	Pesq. de Topolobampo	Shrimp Boat	50					1949				
162	Mexico	Colorado	Pesq. de Topolobampo	Shrimp Boat	50					1949				
163	Mexico	Siboney	Pesq. de Topolobampo	Shrimp Boat	50					1949				
164	Mexico	Altamura	Pesq. de Topolobampo	Shrimp Boat	50					1949				
165	Mexico	Martha	Prod. Cong. Guaymas	Shrimp Boat	50					1950				
166	Mexico	Vera Cruz	Prod. Cong. Guaymas	Shrimp Boat	50					1950				
167	Mexico	Gracielita	Prod. Cong. Guaymas	Shrimp Boat	50					1950				
168	261500	Antoinette B.	Edward X. Madruga	Tuna Seiner	318			7-Aug-50	27-Jan-51	1951				
169		La Gordinta	Frank K. Anderson	Shrimp Boat	50				1-Sep-50	1950				
170	Mexico	Patscuaro Santa Paula	Refrig. del Noroeste	Shrimp Boat	50					1950				
171	Mexico	Sergio San Ignacio	Refrig. del Noroeste	Shrimp Boat	50					1950				
172	Mexico	Chavillo	Refrig. del Noroeste	Shrimp Boat	50					1950				
173	262453	Conte Bianco	Stefano Massa	Tuna Seiner	349				21-Jul-51	1951				
174	263017	Ecuador	Manuel O. Medina	Tuna Seiner	445				20-Jul-51	1951				Foundered 1975
175	262480	Equator	Manuel O. Medina	Tuna Seiner	411				15-Dec-51	1951				Foundered 1962
176		Tina		Shrimp Boat	50				22-Oct-51	1952				
177	263220	Sea Preme	E. R. Kovalchek	Tuna Seiner	359				22-Jan-61	1952				
178-183		BC 6091-6096	U.S. Army	Deck Barge						1952				6 120-ft barges
184-190		BC 6104-6110	U.S. Army	Deck Barge						1952				7 120-ft barges
191	France	Cyclamen (MSC 119)	French Navy	Minesweeper	390d					5-Oct-53				M 674, struck 1983

192	France	Glaieul (MSC 120)	French Navy	Minesweeper	390d					25-Oct-53				M 678, returned 1974
193	France	Lilas (MSC 93)	French Navy	Minesweeper	390d					3-Feb-54				M 682, scrapped 1986
194	France	Marguerite (MSC 94)	French Navy	Minesweeper	390d					5-Mar-54				M 686, to Uruguay 1969 as Rio Negro (MS 13)
195	France	Alysse (MSC 95)	French Navy	Minesweeper	390d					7-May-54				M 652, struck 1976
196		ST 2065	U.S. Army	Small Tug	25d					Sep-52				
197		ST 2066	U.S. Army	Small Tug	25d					Sep-52				
198		ST 2067	U.S. Army	Small Tug	25d					Sep-52				
199		ST 2068	U.S. Army	Small Tug	25d					Sep-52				
200		ST 2069	U.S. Army	Small Tug	25d					Oct-52				
201		ST 2070	U.S. Army	Small Tug	25d					Oct-52				
202		ST 2071	U.S. Army	Small Tug	25d					Oct-52				
203		ST 2072	U.S. Army	Small Tug	25d					Nov-52				
204		ST 2073	U.S. Army	Small Tug	25d					Nov-52				
205		ST 2074	U.S. Army	Small Tug	25d					Dec-52				
206	1243985	T 437	U.S. Army	Cargo-Psgr	80d					Mar-53				Now Surfbird (USF&WS)
207	CG020859	T 438	U.S. Army	Cargo-Psgr	80d					Apr-53				Now Cub (Cal Maritime)
208	CF2945YB	T 439	U.S. Army	Cargo-Psgr	80d					May-53				Later Gryphon (Sea Scouts), active in Redwood City
209	616610	T 440	U.S. Army	Cargo-Psgr	80d					Jun-53				Later Dolly S, Dragon Lady, YFRT 521, now Lodesta
210	560031	T 441	U.S. Army	Cargo-Psgr	80d					Jun-53				Later Thieme Song, UConn, T-441, now Defiance
211		T 442	U.S. Army	Cargo-Psgr	80d					Jul-53				
212	533309	T 443	U.S. Army	Cargo-Psgr	80d					Aug-53				Later Alaskan Salvor
213	CG010108	T 444	U.S. Army	Cargo-Psgr	80d					Sep-53				Now Little Bear (Cal Maritime)
214	1152018	T 445	U.S. Army	Cargo-Psgr	80d					Sep-53				Later Equinox, Sea Link, Golden Anchor, G.A. II, T-4
215	265234	T 446	U.S. Army	Cargo-Psgr	80d					Oct-53				Later Curlew
216		T 447	U.S. Army	Cargo-Psgr	80d					Oct-53				
217	1068754	T 448	U.S. Army	Cargo-Psgr	80d					Nov-53				Now Polaris
218	1089945	T 449	U.S. Army	Cargo-Psgr	80d					Nov-53				Later T 449, now Neleh II
219	698738	T 450	U.S. Army	Cargo-Psgr	80d					Feb-54				Later Barclay Stephens, abandoned in Stockton CA
220	932679	T 451	U.S. Army	Cargo-Psgr	80d					Feb-54				To Alcatraz as Warden Blackwell, later Hobbit, now
221	511579	T 452	U.S. Army	Cargo-Psgr	80d					Mar-54				To Alcatraz as Warden P J Madigan, later Karen N, r
?	533312				65					1953				Converted T-boat, now Shelikof
222		LT 2075	U.S. Army	Large Tug	285d					Jun-54				Later Marine Exporter 1984, Marauder 1992, now Cy
223	1201059	LT 2076	U.S. Army	Large Tug	285d					Jul-54				Later New Guinea, now Relief
224	645691	LT 2077	U.S. Army	Large Tug	285d					Aug-54				To USN as Mizar (YTM 759), later Marine Explorer 1
225	965565	LT 2078	U.S. Army	Large Tug	285d					Sep-54				To USN as Yuma (YTM 748), later Delaware, Mobile
226		LT 2079	U.S. Army	Large Tug	285d					Oct-54				Retired
227		LT 2080	U.S. Army	Large Tug	285d					Oct-54				Retired
228		LT 2081	U.S. Army	Large Tug	285d					Nov-54				Later San Sapor, now Irrua
229		LT 2082	U.S. Army	Large Tug	285d					Dec-54				To USN as Kaukauna (YTM 749), returned 1987
230	1057346	LT 2083	U.S. Army	Large Tug	285d					Jan-55				To USN as Owatonna (YTM 756), now Tairona
231		LT 2084	U.S. Army	Large Tug	285d					Mar-55				To USN as Wahpeton (YTM 757), now Lynne
232		LT 2085	U.S. Army	Large Tug	285d					Mar-55				Later Anzio, active
233		LT 2086	U.S. Army	Large Tug	285d					Mar-55				Later Bataan, retired 1994
234		LT 2087	U.S. Army	Large Tug	285d					Apr-55				Later Kwajalein, retired 1994, abandoned in the Fras
235	919234	T 478	U.S. Army	Cargo-Psgr	80d					May-54				Later S. E. Raymond, Scotsman, now T-Sarge
236		T 479	U.S. Army	Cargo-Psgr	80d					May-54				
237	1031369	T 480	U.S. Army	Cargo-Psgr	80d					Jul-54				Later Onar, SES Propeller, YTB Propeller, now S.S.S.
238	533311	T 481	U.S. Army	Cargo-Psgr	80d					Aug-54				Now Pauline B
239	595204	T 482	U.S. Army	Cargo-Psgr	80d					Aug-54				Later SES Whidbey, now Kaizen
240	533313	T 483	U.S. Army	Cargo-Psgr	80d					Sep-54				Later Trooper, Grey Eagle, now Indigo
241		T 484	U.S. Army	Cargo-Psgr	80d					Sep-54				
242		T 485	U.S. Army	Cargo-Psgr	80d					Oct-54				Later Tudor
243		ST 2137	U.S. Army	Small Tug	25d					Feb-53				
244		ST 2138	U.S. Army	Small Tug	25d					Feb-53				
245		ST 2139	U.S. Army	Small Tug	25d					Mar-53				

246		ST 2130	U.S. Army	Small Tug	25d					Mar-53				
247	1172749	ST 2141	U.S. Army	Small Tug	25d					Mar-53				Now Abaco
248		ST 2142	U.S. Army	Small Tug	25d					Apr-53				
249		ST 2143	U.S. Army	Small Tug	25d					Apr-53				
250		ST 2144	U.S. Army	Small Tug	25d					Apr-53				
251		ST 2145	U.S. Army	Small Tug	25d					Apr-53				
252		ST 2146	U.S. Army	Small Tug	25d					Apr-53				
253		ST 2147	U.S. Army	Small Tug	25d					May-53				
254		ST 2148	U.S. Army	Small Tug	25d					May-53				
255		ST 2149	U.S. Army	Small Tug	25d					May-53				
256		ST 2150	U.S. Army	Small Tug	25d					Jun-53				
257		ST 2151	U.S. Army	Small Tug	25d					Jun-53				
258		ST 2152	U.S. Army	Small Tug	25d					Jun-53				
259		ST 2153	U.S. Army	Small Tug	25d					Jun-53				
260		ST 2154	U.S. Army	Small Tug	25d					Jun-53				Now Catharine
261		ST 2155	U.S. Army	Small Tug	25d					Jun-53				
262		ST 2156	U.S. Army	Small Tug	25d					Jun-53				
?	1148370	54 NS 811	U.S. Navy	Harbor Tug	78					1954				Sold 2003 as Bernice Lind
?	1221792	54 NS 812	U.S. Navy	Harbor Tug	78					1954				Sold 2007 as Guam Shipyard Tug Two
?		54 NS 813	U.S. Navy	Harbor Tug	78					1954				
?	1178781	54 NS 814	U.S. Navy	Harbor Tug	78					1954				Sold 2006 as Guam Shipyard Tug One
263-297		BC 6507-6541	U.S. Army	Barges						1954				25 barges
298		C 12738	U.S. Army	Box Boat						1955				
299		C 12739	U.S. Army	Box Boat						1955				To City of Long Beach, sold
300	550924	C 12740	U.S. Army	Box Boat	61					1955				Sold as Odin, Western Profit, now IUWGI
301		C 12741	U.S. Army	Box Boat						1955				
302	681775	C 12742	U.S. Army	Box Boat	66					1955				Later Reliant (Sea Scouts)
303		C 12743	U.S. Army	Box Boat						1955				
304	268720	Cabrillo	Joseph P. Soares	Tuna Seiner	372				25-Sep-54	Nov-54				
305	268896	Dominator	George P. Soares	Tuna Seiner	372				30-Oct-54	1954				
306	270192	Independence	MV Independence Inc.	Tuna Seiner	372				4-Jul-55	1955				Later Colorado 1 1985
307	270585	Concho	MV Concho Inc.	Tuna Seiner	372					1955				
308	270789	Missouri	MV Missouri Inc.	Tuna Seiner	372					1955				
309	271426	Westport	MV Westport Inc.	Tuna Seiner	372					1956				
310	271940	Elsinore	Blue Pacific Inc.	Tuna Seiner	372					1956				
311		LTC John U. D. Page	U.S. Army	Beach Lighter	1,900			7-Dec-56	28-Sep-57	25-Nov-58	295	423	718	Retired 1992
312	273327	United States	Galapagos Inc.	Tuna Seiner	372					1957				Later Sea Boy
313	274490	San Juan	San Juan Inc.	Tuna Seiner	372					1957				
314		TRB 33	U.S. Navy	Torpedo Retriever						1957				
315	275716	Mary Barbara	Pacific Clippers Inc.	Tuna Seiner	372					1957				Later Francesca Lynn
316	1225104	Surveyor	N.O.A.A.	S2-S-RM28a	2,650			22-Mar-58	25-Apr-59	29-Apr-60	399	370	769	To NDRF 1981, sold 1995, now OSS 2
317	276533	Carol Virginia	Ocean Fisheries Inc.	Tuna Seiner	372			6-Nov-58	22-Mar-58	1958				
318	283936	Export Agent	Am. Export Lines	C3-S-38a	7,800			22-Jan-59	30-Jan-60	9-Jan-61	373	345	718	To NDRF 1980 as Agent
319	284516	Export Aide	Am. Export Lines	C3-S-38a	7,800			22-May-59	4-Jun-60	3-Apr-61	379	303	682	To NDRF 1980 as Aide
320		Summerland No. 1	Standard Oil	Drilling Barge	180 ft.				3-May-58	13-Jun-58		41		
321	277813	Lois Seaver	Coronado Fisheries	Tuna Seiner	372			15-May-58	1-Nov-58	1958	170			
322	278454	Elsie A.	Sun Splendor Inc.	Tuna Seiner	372			20-Oct-58		1959				Later Mary Jo 1975, Colorado 3 1985
323	278930	Larry Roe	Tradewinds Inc.	Tuna Seiner	372			20-Nov-58		1959				Later Marla Marie 1975, Colorado 2 1985
324	286124	Export Banner	Am. Export Lines	C3-S-46a	10,700	10.1		15-Feb-60	17-Dec-60	16-Oct-61	306	303	609	To NDRF 1980 as Banner, scrapped 2008
325	286965	Export Bay	Am. Export Lines	C3-S-46a	10,700	10.1		4-Jun-60	8-Apr-61	18-Dec-61	308	254	562	To NDRF 1980 as Bay
326	287381	Export Builder	Am. Export Lines	C3-S-46a	10,700	10.1		17-Dec-60	12-Aug-61	5-Mar-62	238	205	443	To NDRF 1980 as Builder, scrapped 2008
327	288076	Export Buyer	Am. Export Lines	C3-S-46a	10,700	10.1		8-Apr-61	25-Nov-61	21-May-62	231	177	408	To NDRF 1980 as Buyer
328	289547	M.M. Dant	States Lines	C4-S-1u	12,700	11.0		12-Aug-61	5-May-62	26-Nov-62	266	205	471	Later Mormacsaga 1977, Am. Saga 1983, Mormacsag
329	290262	C.E. Dant	States Lines	C4-S-1u	12,700	11.0		25-Nov-61	18-Aug-62	6-Feb-63	266	172	438	Later Santa Ana 1974, to RRF 1993 as Cape John
330	AFS 1	Mars	U.S. Navy	Fleet Stores	16,000d			5-May-62	15-Jun-63	18-Dec-63	406	186	592	Sunk as target 2006

331	AFS 2	Sylvania	U.S. Navy	Fleet Stores	16,000d			18-Aug-62	10-Aug-63	30-Jun-64	357	325	682	Scrapped 2001
332	506446	Sensibar Bros.	Sensibar Bros.	Dredge	1,100d			11-May-62	11-Jul-62	1-Aug-62	61	21	82	Now Florida
333	289579	T.E.C. No. 26	Connolly-Pacific Co.	Deck Barge	642			22-Aug-62	7-Sep-62	8-Sep-62	16	1	17	Active
334	289614	T.E.C. No. 27	Connolly-Pacific Co.	Deck Barge	642			10-Sep-62	22-Sep-62	24-Sep-62	12	2	14	Active
335	296779	Oregon Mail	Am. Mail Lines	C4-S-1sa	12,800	11.3		15-Jun-63	20-Mar-64	19-Dec-64	279	274	553	Later President Kennedy 1975, President Wilson 198
336	297570	Canada Mail	Am. Mail Lines	C4-S-1sa	12,800	11.3		10-Aug-63	30-May-64	12-Mar-65	294	286	580	Later H. H. Hess (T-AGS 38) 1977, to NDRF 1993
337	292596	Barge 19	Derrick Barge 8, Inc.	Derrick Barge	663			8-Jul-63	11-Oct-63	23-Oct-63	95	12	107	Now D.S. 801
338	500484	President Polk	Am. President Lines	C4-S-1qa	12,800	12.4		20-Mar-64	23-Jan-65	4-Nov-65	309	285	594	To RRF 1986 as Grand Canyon State
339	501712	President Harrison	Am. President Lines	C4-S-1qa	12,800	12.4		30-May-64	22-May-65	9-Feb-66	357	263	620	To RRF 1985 as Gem State
340	502569	President Monroe	Am. President Lines	C4-S-1qa	12,800	12.4		23-Jan-65	2-Oct-65	25-Apr-66	252	205	457	To RRF 1984 as Keystone State
341	297673	Oliver J. Olson III	Olson	Tank Barge	3,223			4-May-64	7-Oct-64	24-Nov-64	156	48	204	Now NRC Resolute
342	297914	John C. Olson	Olson	Tank Barge	3,223			10-Oct-64	2-Mar-65	26-Mar-65	143	24	167	
343	AFS 3	Niagara Falls	U.S. Navy	Fleet Stores	16,000d			22-May-65	20-Mar-66	26-Apr-67	302	402	704	Sunk as target 2012
344	AFS 4	White Plains	U.S. Navy	Fleet Stores	16,000d			2-Oct-65	23-Jul-66	25-Oct-68	294	825	1,119	Sunk as target 2002
355	AFS 5	Concord	U.S. Navy	Fleet Stores	16,000d			25-Mar-66	17-Dec-66	21-Nov-68	267	705	972	Sunk as target 2012
346	297472	T.E.C. No. 28	Connolly Pacific	Deck Barge	642			30-Nov-64	31-Dec-64	2-Jan-65	31	2	33	Active
347	297702	T.E.C. No. 29	Connolly Pacific	Deck Barge	642			4-Jan-65	30-Jan-65	30-Jan-65	26	0	26	Active
348	298614	Foss 180	Foss Marine	Deck Barge	946			8-Mar-65	20-Apr-65	10-May-65	43	20	63	Now GC 173
349	298790	Foss 181	Foss Marine	Deck Barge	946				7-May-65	10-May-65		3		Now SBBVIII
350		C. P. 1	N.S.F.	Drilling Platform										Cancelled
351	502777	Foss 182	Foss Marine	Deck Barge	946			21-Feb-66	15-Apr-66	13-May-66	53	28	81	Now EMS 1185
352	502778	Foss 183	Foss Marine	Deck Barge	946			21-Feb-66	15-Apr-66	13-May-66	53	28	81	Active
353	508160	Hyak	Washington State	Ferry	2,700			23-Jul-66	17-Dec-66	6-Jul-67	147	201	348	Active
354	508604	Kaleetan	Washington State	Ferry	2,700			23-Jul-66	11-Mar-67	6-Jan-68	231	301	532	Active
355	511823	Yakima	Washington State	Ferry	2,700			17-Dec-66	20-May-67	15-Mar-68	154	300	454	Active
356	512324	Elwha	Washington State	Ferry	2,700			17-Dec-66	16-Dec-67	14-Jun-68	364	181	545	Active
357	AFS 6	San Diego	U.S. Navy	Fleet Stores	16,000d	21.5		11-Mar-67	13-Apr-68	14-Apr-69	399	366	765	Scrapped 2007
358	505531	T.E.C. No. 35	Connolly Pacific	Rock Barge	586			5-Aug-66	9-Sep-66	9-Sep-66	35	0	35	Now C.M.C. No. 35
359	505664	T.E.C. No. 36	Connolly Pacific	Rock Barge	586			24-Aug-66	22-Sep-66	23-Sep-66	29	1	30	Now C.M.C. No. 36
360	538330	H.M.B.-1	Lockheed Martin	Barge	8,241			1-Jul-71	15-Jan-72	4-Apr-72	198	80	278	Now Redwood City
361	LST 1182	Fresno	U.S. Navy	Landing Ship	8,576d	14.7		16-Dec-67	28-Sep-68	22-Nov-69	287	420	707	Sunk as target 2014
362	LST 1183	Peoria	U.S. Navy	Landing Ship	8,576d	14.7		22-Feb-68	23-Nov-68	1-Jan-70	275	404	679	Sunk as target 2004
363	LST 1184	Frederick	U.S. Navy	Landing Ship	8,576d	14.7		13-Apr-68	8-Mar-69	11-Apr-70	329	399	728	To Mexico 2002 as Usumacinta (A 412): active
364	LST 1185	Schenectady	U.S. Navy	Landing Ship	8,576d	14.7		2-Aug-68	24-May-69	1-May-70	295	342	637	Sunk as target 2004
365	LST 1186	Cayuga	U.S. Navy	Landing Ship	8,576d	14.7		28-Sep-68	12-Jul-69	1-Jun-70	287	324	611	To Brazil 1994 as Mattoso Maia (G 28): active
366	LST 1187	Tuscaloosa	U.S. Navy	Landing Ship	8,576d	14.7		23-Nov-68	6-Sep-69	24-Oct-70	287	413	700	In reserve 1994, for foreign transfer
367	LST 1188	Saginaw	U.S. Navy	Landing Ship	8,576d	14.7		24-May-69	7-Feb-70	23-Jan-71	259	350	609	To Australia 1994 as Kanimbla (L 51): decommission
368	LST 1189	San Bernardino	U.S. Navy	Landing Ship	8,576d	14.7		12-Jul-69	28-Mar-70	1-Feb-71	259	310	569	To Chile 1995 as Valdivia (R 93): decommissioned 20
369	LST 1190	Boulder	U.S. Navy	Landing Ship	8,576d	14.7		6-Sep-69	22-May-70	4-Jun-71	258	378	636	In reserve 1994, for foreign transfer
370	LST 1191	Racine	U.S. Navy	Landing Ship	8,576d	14.7		13-Dec-69	15-Aug-70	9-Jul-71	245	328	573	In reserve 1993, to Peru 2008
371	LST 1192	Spartanburg County	U.S. Navy	Landing Ship	8,576d	14.7		7-Feb-70	7-Nov-70	1-Sep-71	273	298	571	To Malaysia 1994 as Sri Indera Putera (L 1505): activ
372	LST 1193	Fairfax County	U.S. Navy	Landing Ship	8,576d	14.7		28-Mar-70	19-Dec-70	16-Oct-71	266	301	567	To Australia 1994 as Manoora (L 52): decommission
373	LST 1194	La Moure County	U.S. Navy	Landing Ship	8,576d	14.7		22-May-70	13-Feb-71	18-Dec-71	267	308	575	Sunk as target 2001
374	LST 1195	Barbour County	U.S. Navy	Landing Ship	8,576d	14.7		15-Aug-70	15-May-71	1-Feb-72	273	262	535	Sunk as target 2004
375	LST 1196	Harlan County	U.S. Navy	Landing Ship	8,576d	14.7		7-Nov-70	24-Jul-71	1-Mar-72	259	221	480	To Spain 1995 as Pizarro (L 42): active
376	LST 1197	Barnstaple County	U.S. Navy	Landing Ship	8,576d	14.7		19-Dec-70	2-Oct-71	1-May-72	287	212	499	To Spain 1995 as Hernan Cortes (L 41): active
377	LST 1198	Bristol County	U.S. Navy	Landing Ship	8,576d	14.7		13-Feb-71	4-Dec-71	27-Jul-72	294	236	530	To Morocco 1994 as Sidi Mohammed ben Abdallah (
378	507641	P. T. & S. 378	Pacific Towboat	Deck Barge	946			3-Mar-67	31-Mar-67	5-Apr-67	28	5	33	Now R E S 178
379	507642	P. T. & S. 379	Pacific Towboat	Deck Barge	946			3-Mar-67	14-Apr-67	19-Apr-67	42	5	47	Active
380	508544	Foss 184	Foss Marine	Deck Barge	946			31-Mar-67	23-May-67	9-Jun-67	53	17	70	Now GC 184
381	508945	Foss 185	Foss Marine	Deck Barge	946			14-Apr-67	6-Jun-67	9-Jun-67	53	3	56	Scrapped
382	550200	Ultramar	Ultramar	OB8-S-90a	39,827	30.0		28-Apr-72	17-Feb-73	8-Aug-73	295	172	467	Scrapped 1996
383	555146	Ultrasea	Ultramar	OB8-S-90a	39,827	30.0		17-Feb-73	20-Oct-73	19-Mar-74	245	150	395	Scrapped 1996
384	553623	Coronado	Apex Marine	T6-S-93a	22,357	18.2		27-Oct-72	30-Jun-73	28-Dec-73	246	181	427	Later Coastal Houston 1999, Houston 2002, Ousto 20
385	557503	Cherry Valley	Apex Marine	T6-S-93a	22,357	18.2		30-Aug-73	9-Mar-74	10-Jul-74	191	123	314	Scrapped 2003

386	562416	Chelsea	Apex Marine	T6-S-93a	22,357	18.2		9-Mar-74	19-Oct-74	28-Feb-75	224	132	356	Scrapped 2006
387	AFS 7	San Jose	U.S. Navy	Fleet Stores	16,000d	24.8		8-Mar-69	13-Dec-69	30-Sep-70	280	291	571	To NDRF 2013
388	577738	Chestnut Hill	Apex Marine	T6-S-93a	22,000	18.2		15-Oct-75	22-Jun-76	1-Dec-76	251	162	413	Scrapped 1997
389	579572	Kittanning	Apex Marine	T6-S-93a	22,000	18.2		20-Feb-76	17-Sep-76	1-Mar-77	210	165	375	Scrapped 1997
390	559936	Golden Dolphin	Apex Marine	T8-S-100b	44,900	27.9		22-May-73	19-Jan-74	10-Oct-74	242	264	506	Exploded and sank 1982
391	561433	Golden Endeavor	Apex Marine	T8-S-100b	44,900	27.9		23-Oct-73	15-Jun-74	12-Dec-74	235	180	415	Scrapped 1995
392	566090	Golden Monarch	Apex Marine	T8-S-100b	44,900	27.9		15-Jun-74	1-Feb-75	25-Jun-75	231	144	375	Scrapped 2003
393	AOR 7	Roanoke	U.S. Navy	Replenishment	28,000d	51.0		19-Jan-74	7-Dec-74	14-Oct-76	322	677	999	To NDRF 1998
394	570876	Worth	Apex Marine	T8-S-100b	42,000	28.2		7-Dec-74	19-Jul-75	19-Feb-76	224	215	439	To RRF 1986 as T-AH 19 Mercy
395	572359	Beaver State	Apex Marine	T8-S-100b	42,000	28.2		1-Feb-75	11-Oct-75	14-Apr-76	252	186	438	Later Liberty Belle 1988, scrapped 1995
396	575056	Rose City	Apex Marine	T8-S-100b	42,000	28.2		5-May-75	12-Feb-76	23-Jul-76	283	162	445	To RRF 1987 as T-AH 20 Comfort
397	577343	American Heritage	Apex Marine	T8-S-100b	42,000	28.2		19-Jul-75	10-Apr-76	30-Dec-76	266	264	530	Scrapped 1994
398	583412	Overseas Chicago	Overseas Shipholding	Crude Carrier	42,000	29.9		15-Apr-75	16-Nov-76	30-Jun-77	581	226	807	Scrapped 2004
399	586647	Overseas Ohio	Overseas Shipholding	Crude Carrier	42,000	29.9		30-Jun-76	26-Jan-77	20-Oct-77	210	267	477	Later S/R Hinchinbrook 2000, scrapped 2004
400	588001	Overseas New York	Overseas Shipholding	Crude Carrier	42,000	29.9		22-Nov-76	22-Jun-77	8-Dec-77	212	169	381	Scrapped 2004
401	588955	Overseas Washington	Overseas Shipholding	Crude Carrier	42,000	29.9		2-Feb-77	21-Jul-78	15-Mar-78	534	-128	406	Scrapped 2006
402	569257	Mormacstar	Moore-McCormack	T6-S-93a	22,354	21.0		23-Oct-74	31-May-75	10-Dec-75	220	193	413	Scrapped 2002
403	573770	Mormacsun	Moore-McCormack	T6-S-93a	22,354	21.0		31-May-75	17-Jan-76	23-Jun-76	231	158	389	Scrapped 2003
404	578288	Mormacsky	Moore-McCormack	T6-S-93a	22,354	21.0		17-Jan-76	21-Aug-76	1-Feb-77	217	164	381	Scrapped 2003
405	590208	B.T. Alaska	Marine Tpt. Lines	Crude Carrier	89,000	67.0		21-Sep-76	21-Jul-77	28-Jan-78	303	191	494	Later S/R Columbia Bay 2003, sold foreign 2006 as C
406	598680	B.T. San Diego	Marine Tpt. Lines	Crude Carrier	89,000	67.0		25-Jul-77	22-Jun-78	31-Jul-78	332	39	371	Later Denali 1994, sold foreign 2006, now FPSO Lew
407			Marine Tpt. Lines	Crude Carrier	89,000									Option not exercised
408	614544	Arco Alaska	ARCO	Crude Carrier	89,000	60.0		28-Feb-78	22-Mar-78	4-Dec-79	22	622	644	Later Polar Alaska 2000, sold foreign 2006, now FPS
409	623291	Arco California	ARCO	Crude Carrier	89,000	60.0		28-Feb-79	5-Jan-80	15-Jul-80	311	192	503	Later Polar California 2000, sold foreign 2006, now F
410			ARCO	Crude Carrier	89,000									Option not exercised
411	AD 41	Yellowstone	U.S. Navy	Destroyer Tender	13,300d	162.7		27-Jun-77	27-Jan-79	31-May-80	579	490	1,069	To NDRF 2001
412	AD 42	Acadia	U.S. Navy	Destroyer Tender	13,300d	143.5		14-Feb-78	28-Jul-79	6-Jun-81	529	679	1,208	Sunk as target 2010
413	AD 43	Cape Cod	U.S. Navy	Destroyer Tender	13,300d	173.8		27-Jan-79	2-Aug-80	15-Feb-82	553	562	1,115	To NDRF 2001
414	AD 44	Shenandoah	U.S. Navy	Destroyer Tender	13,300d	184.9		2-Aug-80	6-Feb-82	26-Jul-83	553	535	1,088	To NDRF 2001
415	633428	Blue Ridge	Union Oil	Product Carrier	24,500	75.0		3-Mar-80	1-Nov-80	27-Jun-81	243	238	481	Scrapped 2011
416	638709	Coast Range	Union Oil	Product Carrier	24,500	75.0		2-Jun-80	10-Jan-81	29-Sep-81	222	262	484	Scrapped 2011
417	641804	Sierra Madre	Union Oil	Product Carrier	24,500	75.0		26-Aug-80	2-May-81	18-Dec-81	249	230	479	Later Keystone Texas 1997, scrapped 2009
418	ARC 7	Zeus	U.S. Navy	Cable Repair	8,300d	107.0		20-May-81	30-Oct-82	19-Mar-84	528	506	1,034	Active
419	647470	Eileen Ingram	Ingram Tankers	Product Carrier	24,500	50.0		24-Feb-81	7-Nov-81	21-May-82	256	195	451	Later Exxon Yorktown 1984, Overseas New Orleans
420	656742	Hunter B. Armistead	Ingram Tankers	Product Carrier	24,500	50.0		10-Jun-82	4-Feb-83	30-Jun-83	239	146	385	Later Exxon Princeton 1984, Overseas Philadelphia 1
421-423			Ingram Tankers	Product Carrier	24,500									Options not exercised
424	650468	Chesapeake Trader	American Trading	Crude Carrier	28,000	50.0		17-Jul-81	8-May-82	6-Oct-82	295	151	446	Later S/R Galena Bay 2001, scrapped 2010
425	653547	Delaware Trader	American Trading	Crude Carrier	28,000	50.0		17-Dec-81	30-Jun-82	17-Dec-82	195	170	365	Later Arco Trader 1999, Polar Trader 2000, Delaware
426	655201	Potomac Trader	American Trading	Crude Carrier	28,000	50.0		13-May-82	18-Dec-82	10-May-83	219	143	362	Later S/R Puget Sound 2000, Puget Sound 2004, Ove
427-429			American Trading	Crude Carrier	28,000									Options not exercised
430	641083	SGT Matej Kocak (AK 3005)	U.S. Navy	Prepositioning (C)	32,000d	87.0		7-Oct-83	15-Feb-84	3-Oct-84	131	231	362	Prepositioned
431	641084	PFC Eugene A. Obregon (AK 3006)	U.S. Navy	Prepositioning (C)	32,000d	87.0		23-Jan-84	13-Jun-84	15-Jan-85	142	216	358	Prepositioned
432	655332	MAJ Stephen W.Pless (AK 3007)	U.S. Navy	Prepositioning (C)	32,000d	87.0		25-May-84	28-Sep-84	1-May-85	126	215	341	Prepositioned
433	545201	Algol (AKR 287)	U.S. Navy	Fast Sealift (C)	29,700d	45.0		15-Mar-83	9-Dec-83	22-Aug-84	269	257	526	NDRF
434	546383	Bellatrix (AKR 288)	U.S. Navy	Fast Sealift (C)	29,700d	45.0		12-Jul-83	3-Feb-84	10-Sep-84	206	220	426	NDRF
435	545200	Regulus (AKR 292)	U.S. Navy	Fast Sealift (C)	29,700d	30.1		27-Jul-84	23-Jan-85	28-Aug-85	180	217	397	NDRF
436	570876	Mercy (AH 19)	U.S. Navy	Hospital (C)	24,750d	168.1		25-Jan-85	20-Jul-85	19-Dec-86	176	517	693	RRF
437	575056	Comfort (AH 20)	U.S. Navy	Hospital (C)	24,750d	168.1		24-Jul-85	4-Jan-86	1-Dec-87	164	696	860	RRF
438	692966	Exxon Valdez	Exxon	Crude Carrier	110,831	125.0		29-Jul-85	7-Jun-86	11-Dec-86	313	187	500	Later Exxon Mediterranean 1990, S/R Mediterranea Ocean 2009, Oriental Nicety 2010, scrapped 2012
439	692967	Exxon Long Beach	Exxon	Crude Carrier	110,831	125.0		11-Dec-85	23-Oct-86	2-Apr-87	316	161	477	Later S/R Long Beach 1993, scrapped 2012
440	AOE 6	Supply	U.S. Navy	Fleet Supply	19,700d	290.1		24-Feb-89	6-Oct-90	1-Apr-93	589	908	1,497	T-AOE 6 2001: active
441	AOE 7	Rainier	U.S. Navy	Fleet Supply	19,700d	242.7		31-May-90	28-Sep-91	1-Nov-93	485	765	1,250	T-AOE 7 2003: active
442	AOE 8	Arctic	U.S. Navy	Fleet Supply	19,700d	197.6		2-Dec-91	8-Mar-93	3-Jun-94	462	452	914	T-AOE 8 2002: active
443	AOE 9	Unnamed	U.S. Navy	Fleet Supply	19,700d									Cancelled

444	AOE 10	Bridge	U.S. Navy	Fleet Supply	19,700d	365.8		2-Aug-94	24-Aug-96	31-Mar-98	753	584	1,337	T-AOE 10 2004: active
445	979814	R. J. Pfeiffer	Matson Navigation	Containership	31,573	129.6		27-Mar-91	15-Feb-92	9-Aug-92	325	176	501	Active
446-447														Not used
448	AKR 295	Shughart	U.S. Navy	Sealift (C)	33,200d	211.6				7-May-96				Ex-Laura Maersk, active
449	AKR 297	Yano	U.S. Navy	Sealift (C)	33,200d	211.6				8-Feb-97				Ex-Leise Maersk, active
450	AKR 299	Soderman	U.S. Navy	Sealift (C)	33,200d	211.6				15-Nov-97				Ex-Lica Maersk, now GYSGT Stockham
451	AKR 310	Watson	U.S. Navy	Sealift	36,100d	269.1		23-May-96	26-Jul-97	23-Jun-98	429	332	761	Active
452	AKR 311	Sisler	U.S. Navy	Sealift	36,100d	218.0		15-Apr-97	28-Feb-98	1-Dec-98	319	276	595	Active
453	AKR 312	Dahl	U.S. Navy	Sealift	36,100d	218.0		12-Nov-97	2-Oct-98	13-Jul-99	324	284	608	Active
454	AKR 313	Red Cloud	U.S. Navy	Sealift	36,100d	207.0		29-Jun-98	7-Aug-99	18-Jan-00	404	164	568	Active
455	AKR 314	Charlton	U.S. Navy	Sealift	36,100d	200.0		4-Jan-99	11-Dec-99	23-May-00	341	164	505	Active
456	AKR 315	Watkins	U.S. Navy	Sealift	36,100d	227.0		24-Aug-99	28-Jul-00	2-Mar-01	339	217	556	Active
457	AKR 316	Pomeroy	U.S. Navy	Sealift	36,100d	195.0		25-Apr-00	10-Mar-01	14-Aug-01	319	157	476	Active
458	AKR 317	Soderman	U.S. Navy	Sealift	36,100d	230.6		31-Oct-00	26-Apr-02	24-Sep-02	542	151	693	Active
459-466														Not used
467	AKR 3017	GYSGT Stockham	U.S. Navy	Sealift (C)						1-Mar-01				Ex-Soderman
468-470														Not used
471	AKE 1	Lewis and Clark	U.S. Navy	Combat Support	18,973d	406.9	18-Oct-01	22-Apr-04	21-May-05	20-Jun-06	394	395	789	Active
472	AKE 2	Sacagawea	U.S. Navy	Combat Support	18,973d	301.6	18-Oct-01	8-Jun-05	24-Jun-06	27-Feb-07	381	248	629	Active
473	AKE 3	Alan Shepard	U.S. Navy	Combat Support	18,973d	289.9	16-Jul-02	14-Feb-06	6-Dec-06	26-Jun-07	295	202	497	Active
474	AKE 4	Richard E. Byrd	U.S. Navy	Combat Support	18,973d	287.6	18-Jul-03	17-Jul-06	15-May-07	14-Nov-07	302	183	485	Active
475	AKE 5	Robert E. Peary	U.S. Navy	Combat Support	18,973d	289.1	27-Jan-04	11-Dec-06	27-Oct-07	5-Jun-08	320	222	542	Active
476	AKE 6	Amelia Earhart	U.S. Navy	Combat Support	18,973d	289.1	27-Jan-04	29-May-07	26-Apr-08	30-Oct-08	333	187	520	Active
477	AKE 7	Carl Brashear	U.S. Navy	Combat Support	18,973d	293.3	12-Jan-05	2-Nov-07	18-Sep-08	4-Mar-09	321	167	488	Active
478	AKE 8	Wally Schirra	U.S. Navy	Combat Support	18,973d	293.3	12-Jan-05	14-Apr-08	8-Mar-09	1-Sep-09	328	177	505	Active
479	AKE 9	Matthew Perry	U.S. Navy	Combat Support	18,973d	317.1	30-Jan-06	3-Oct-08	16-Aug-09	24-Feb-10	317	192	509	Active
480	AKE 10	Charles Drew	U.S. Navy	Combat Support	18,973d	459.8	31-Jan-08	17-Mar-09	27-Feb-10	14-Jul-10	347	137	484	Active
481	AKE 11	Washington Chambers	U.S. Navy	Combat Support	18,973d	470.4	12-Dec-08	25-Aug-09	11-Sep-10	23-Feb-11	382	165	547	Active
482	AKE 12	William McLean	U.S. Navy	Combat Support	18,973d	470.4	12-Dec-08	28-Mar-10	16-Apr-11	23-Aug-11	384	129	513	Active
483	AKE 13	Medgar Evers	U.S. Navy	Combat Support	18,973d	412.3	26-Feb-10	26-Oct-10	12-Nov-11	24-Apr-12	382	164	546	Active
484	1154199	Alaskan Frontier	BP Oil Shipping Co.	Crude Carrier	111,000	210.0	15-Sep-00	20-Jan-03	5-Nov-03	11-Aug-04	289	280	569	Active
485	1163384	Alaskan Explorer	BP Oil Shipping Co.	Crude Carrier	110,693	210.0	15-Sep-00	7-Nov-03	2-Jul-04	21-Mar-05	238	262	500	Active
486	1172490	Alaskan Adventurer	BP Oil Shipping Co.	Crude Carrier	111,693	210.0	15-Sep-00	8-Jul-04	10-Apr-05	22-Nov-05	276	226	502	Active
487	1184822	Alaskan Legend	BP Oil Shipping Co.	Crude Carrier	111,693	210.0	21-Sep-01	9-Dec-04	30-May-06	18-Aug-06	537	80	617	Active
488			BP Oil Shipping Co.	Crude Carrier	111,693									Option not exercised
489			BP Oil Shipping Co.	Crude Carrier	111,693									Option not exercised
488	AKE 14	Cesar Chavez	U.S. Navy	Combat Support	18,973d	412.3	26-Feb-10	9-May-11	5-May-12	24-Oct-12	362	172	534	Active
490	1128203	Midnight Sun	TOTE	Trailership	35,825	175.0	6-Dec-99	9-Oct-01	26-May-02	15-Apr-03	229	324	553	Active
491	1139532	North Star	TOTE	Trailership	35,825	175.0	6-Dec-99	3-Jun-02	4-Dec-02	18-Aug-03	184	257	441	Active
495	1256049	Isla Bella	TOTE	Containership	36,751	255.0	4-Dec-12	1-May-14	18-Apr-15	16-Oct-15	352	181	533	Active
496	1256050	Perla del Caribe	TOTE	Containership	36,912	255.0	4-Dec-12	23-Jun-14	29-Aug-15	27-Jan-16	432	151	583	Active
497-499			TOTE	Containership										Options not exercised
501	1205805	Golden State	Am. Pet. Tankers	Product Carrier	29,527	110.0	7-Aug-06	11-Dec-07	20-Aug-08	9-Jan-09	253	142	395	Active
502	1218103	Pelican State	Am. Pet. Tankers	Product Carrier	29,527	110.0	7-Aug-06	2-Jun-08	14-Mar-09	15-Jun-09	285	93	378	Active
503	1222406	Sunshine State	Am. Pet. Tankers	Product Carrier	29,527	110.0	7-Aug-06	25-Nov-08	11-Sep-09	3-Dec-09	290	83	373	Active
504	1225143	Empire State	Am. Pet. Tankers	Product Carrier	29,527	110.0	7-Aug-06	3-Jun-09	10-Apr-10	13-Jul-10	311	94	405	Active
505	1229506	Evergreen State	Am. Pet. Tankers	Product Carrier	29,527	110.0	7-Aug-06	16-Nov-09	18-Sep-10	7-Dec-10	306	80	386	Active
506-513			Am. Pet. Tankers	Product Carrier	29,527	110.0								Options not exercised
513-540														Not used
541	ESD 1	Montford Point	U.S. Navy	Mobile Base	39,900d	438.0	27-May-11	19-Jan-12	13-Nov-12	14-May-13	299	182	481	Active
542	ESD 2	John Glenn	U.S. Navy	Mobile Base	39,900d	438.0	27-May-11	5-Dec-12	15-Sep-13	12-Mar-14	284	178	462	Active
543	ESB 3	Lewis B. Puller	U.S. Navy	Mobile Base	35,000d	420.0	26-Feb-12	5-Nov-13	7-Nov-14	12-Jun-15	367	217	584	Active
544	ESB 4	Hershel "Woody" Williams	U.S. Navy	Mobile Base	35,000d	498.0	19-Dec-14	14-Oct-15	19-Aug-17	22-Feb-18	675	185	860	Active
545	ESB 5	Miguel Keith	U.S. Navy	Mobile Base	35,000d	498.0	29-Dec-16	30-Jan-18	10-Aug-18	15-Nov-19	397	465	862	Active
546	ESB 6	John L. Canley	U.S. Navy	Mobile Base	35,000d	542.0	23-Aug-19							Building

547	ESB 7	Robert E. Simanek	U.S. Navy	Mobile Base	35,000d	542.0	23-Aug-19							Building
548	ESB 8		U.S. Navy	Mobile Base	35,000d	542.0								Option
549	ESB 9		U.S. Navy	Mobile Base	35,000d									Planned
550	ESB 10		U.S. Navy	Mobile Base	35,000d									Planned
551	1260989	Lone Star State	Am. Pet. Tankers	Product Carrier	29,923	125.0	31-May-13	6-Mar-15	17-Oct-15	4-Dec-15	225	48	273	Active
552	1259662	Independence	Sea-Vista LLC	Product Carrier	29,923	125.0	10-Sep-13	5-May-15	12-Dec-15	3-May-16	221	143	364	Active
553	1260991	Magnolia State	Am. Pet. Tankers	Product Carrier	29,923	125.0	31-May-13	26-Jun-15	23-Apr-16	20-May-16	302	27	329	Active
554	1260988	Garden State	Am. Pet. Tankers	Product Carrier	29,923	125.0	31-May-13	30-Jun-15	7-May-16	25-Jul-16	312	79	391	Active
555	1260986	Bay State	Am. Pet. Tankers	Product Carrier	29,923	125.0	31-May-13	4-Aug-15	16-Jul-16	26-Sep-16	347	72	419	Active
556	1260100	Constitution	Sea-Vista LLC	Product Carrier	29,923	125.0	10-Sep-13	30-Sep-15	27-Aug-16	8-Nov-16	332	73	405	Active
557	1260101	Liberty	Sea-Vista LLC	Product Carrier	29,923	125.0	12-Nov-13	18-Dec-15	10-Dec-16	1-Mar-17	358	81	439	Texas Voyager 2017
558	1260990	Palmetto State	Am. Pet. Tankers	Product Carrier	29,923	125.0	16-Jun-14	23-Sep-16	25-Mar-17	7-Jun-17	183	74	257	Active
559-570														Not used
571	AO 205	John Lewis	U.S. Navy	Fleet Oiler	22,515d	640.0	30-Jun-16	13-May-19	12-Jan-21					Building
572	AO 206	Harvey Milk	U.S. Navy	Fleet Oiler	22,515d		30-Jun-16	3-Sep-20						Building
573	AO 207	Earl Warren	U.S. Navy	Fleet Oiler	22,515d		30-Jun-16							Building
574	AO 208	Robert F. Kennedy	U.S. Navy	Fleet Oiler	22,515d		30-Jun-16							Building
575	AO 209	Lucy Stone	U.S. Navy	Fleet Oiler	22,515d		30-Jun-16							Building
576	AO 210	Sojourner Truth	U.S. Navy	Fleet Oiler	22,515d		30-Jun-16							Building
	AO 211-23	13 more ships	U.S. Navy	Fleet Oiler	22,515d									Planned
601	1274143	Lurline	Matson Navigation	Con-Ro	37,462		25-Aug-16	4-May-18	15-Jun-19	2-Jan-20	58	28	86	Active
602	1274123	Matsonia	Matson Navigation	Con-Ro	37,462		25-Aug-16	18-Jul-19	6-Jul-20	21-Dec-20	50	24	74	Active

BOLLINGER SHIPYARDS

Lockport and Amelia LA

Most recent update: January 23, 2022.

Bollinger Shipyards is a privately held corporation that operates two construction yards, in addition to several repair yards. The original Bollinger Machine Shop yard, in Lockport, builds high-value, high-complexity small ships, while Bollinger Marine Fabricators, in Amelia, builds simpler vessels. The Amelia yard was formerly McDermott Shipbuilding, acquired by Bollinger in 1998: to see its construction record as McDermott, click here. Bollinger also acquired Gretna Machine & Iron Works, in Gretna LA, in 2001 but closed it and razed the property in 2011: to see Gretna's prior record of shipbuilding, click here. In 2015, the business was sold to a third-generation member of the Bollinger family, Ben Bordelon, with additional investment by the Chouest family. Visit Bollinger at www.bollingershipyards.com and see an aerial view on Google of the Lockport yard here and the Amelia yard here. In the table below, the yard codes are L for Lockport, A for Amelia, G for Gretna, C for Calcasieu, H for Houston and M for Matthews. If anyone sees any errors or omissions in the table below, please send your info to timcolton@aol.com

Hull #	O.N.	Yard	Original Name	Original Owner	Ship Type	GT	Ft.	$mm	Delivery	Disposition
	265263	L	Etienette Bollinger	B & B Marine	Tug	23	45		1953	Later Hot-Shot
	265768	L	Denise D. Defelice	DeFelice Marine	Tug	46	51		1953	
	295911	L	Ingram Dredge No. 3	Ingram Construction	Dredge	377	130		1953	Later Mr. Bill
	267734	L	Blackie	Don Bollinger	Launch	10	31		1953	
	269195	L	Pappy Boyd	Acme Towing	Tug	31	46		1953	
1	268839	L	Moss Bluff	Coyle Lines	Pushboat	100	62		1954	
2	269627	L	DOC II		Tug	70	56		1955	
3	269910	L	ITCO I	Independent Towing	Tug	72	58		1955	
4	270508	L	Lloyd M. Defelice	DeFelice Marine	Tug	98	66		1955	
5	270682	L	Margaret B	Belcher Towing	Tug	72	58		1955	Later Patsy L
6	270752	L	Ralph Bollinger	B & B Marine	Pushboat	47	47		1955	
7	270806	L	Lamarco I	Louisiana Marine	Tug	98	66		1956	Later Kanawha, Capt Edward F. Smith
8	271228	L	Daisy McDermott II		Tug	118	70		1956	Later Alex Barker
9	271537	L	ITCO II	Independent Towing	Tug	72	58		1956	
10	271590	L	Offshore Lafourche	Tidewater Marine	Supply Boat	98	85		1956	Later Pan Tide
11	272578	L	Offshore Leeville	Tidewater Marine	Supply Boat	98	85		1956	Later Lee Tide
12	271964	L	Offshore Lockport	Tidewater Marine	Supply Boat	98	85		1956	Later Lock Tide
13	272827	L	Offshore Lafitte	Tidewater Marine	Supply Boat	98	85		1956	Later Lafitte Tide
14	272150	L	Miss Lana	Peter Kiewit	Tug	95	72		1956	
15	273077	L	George Bollinger	B & B Marine	Tug	72	58		1956	Later George H, now Vigorous
16	273286	L	Dick Bollinger	B & B Marine	Tug	72	58		1956	
17	273638	L	Don Bollinger	B & B Marine	Tug	72	58		1957	
18		L	C.D.W. No. 1		Barge				1957	

19 ?	274315	L	Rosalie Paula		Barge	185	110		1957	
20		L	M.A.D. No. 1		Barge				1957	
21	274373	L	Bill Miller		Tug	38	45		1957	
22		L							1957	
23		L	Alex		Spud Barge				1957	
24		L	Lester		Spud Barge				1957	
25		L	BCW #2		Barge				1957	
26		L			Barge				1957	
27		L	S-80		Spud Barge				1958	
28		L	Carol M		Tug				1958	
29		L	Jane S		Tug				1958	
30		L	LLML #6		Barge				1958	
31		L	LLML #7		Barge				1958	
32		L	LLML #8		Barge				1958	
33		L	Brant		Tug				1959	
34		L	AG-1		Barge				1959	
35		L	AG-2		Barge				1959	
36		L	AG-3		Barge				1959	
37		L	AG-4		Barge				1959	
38		L	AG-5		Barge				1959	
39	281063	L	Bud Bollinger	B & B Marine	Tug	72	58		1960	
40	286701	L	Alamo II	Louisiana Tugs	Tug	141	70		1961	
41	287403	L	J. J. Griffin	Griffin Towing	Tug	109	68		1962	
42	287681	L	ITCO IV	Independent Towing	Tug	32	47		1962	Later Cherokee Warrior
43	290717	L	Robert Frank	Hunter & Pitre	Tug	82	65		1963	
44	289737	L	Nick V. Candies	Otto Candies	Tug	143	76		1962	
45	291466	L	ITCO V	Independent Towing	Tug	32	47		1963	Later James Bordelon, Sandy Dyess
46	292718	L	Todd Rick	Galliano Tugs	Tug	193	84		1963	Later Coastal Gulf Stream, now Cindy E
47	294962	L	Lionel Tim	Leeville Tugs	Tug	193	84		1964	Now Sea Rock
48	297369	L	Andy Martin		Tug	202	85		1964	
49	297072	L	Dolly Ann II	Hebert Boat Rental	Tug	77	56		1964	
50		L	Friendship II		Utility Boat				1965	
51		L	Georgia		Supply Boat				1965	
52	298942	L	Dad	Delta Towing	Tug	99	75		1965	Now John Francis
53		L	A. W. Martin		Tug				1965	

54		L	Ralph Bollinger	B & B Marine	Tug				1965	
55	502116	L	Gulf Tiger		Tug	178	88		1966	Now Tiger
56	505746	L	Bayport	Bayport Inc.	Tug	40	47		1966	Now Coastal Challenger
57	504524	L	Donald Bollinger	B & B Marine	Tug	147	70		1966	Now Ybor City
58	508462	L	Etienette Bollinger	B & B Marine	Tug	147	70		1967	Now Atlantic Raider
59 ?	502913	L	Doris		Tug	96	87		1966	Active
60	506455	L	Elfer Guidry		Tug	199	99		1966	Later Gwen Anne, Sea Tern, now Patriot
61		L	Bay Port		Tug				1966	
62		L	Rosita II		Tug				1966	
63	513008	L	Mike and Harry		Ferry	113	69		1968	Now Mary Cody, inactive
64		L	Dusty Dawn		Fishing Vessel	136			1967	Active
65	514546	L	Nelly Rose	Joe Viet Tran	Fishing Vessel	118	72		1968	Now St. Mary I
66	516240	L	Mr. Tommy	Martin & Kiff	Fishing Vessel	123	72		1968	Now Clint G
67	518571	L	Capt. Timmy	Timmy J. Guidry	Fishing Vessel	123	72		1969	Now Cajun Mama
68		L	W. K. Boyd	Leesville Tugs	Tug	180			1969	Scrapped
69 ?		L	Mary Theresa		Fishing Vessel	123			1969	Active
70	522048	L	ITCO VIII	Ind. Towing	Tug	119	56		1969	Now M/V Alexis Alanie
71	523973	L	David F. Kadinger	David F. Kadinger	Tug	98	65		1969	Now F. Dawson
72		L	Jonas H							
73	531320	L	George Castigliola		Fishing Vessel	186	85		1971	Later Tam Ran, now Bon-Su-Mar
74		L	Steffi							
75	536877	L	Admiral Lee	Adm. Lee Towing	Tug	195	91		Jan-72	Active
76		L	North Queen	Seafman C.A.	Fishing Vessel	232			1973	Active
77		L		Bordelon Marine	Work Barge				1972	
78	541812	L	D-32 Steven	D & B Boat Rentals	Supply Boat	81	111		1972	Active
79		L	Jennifer Anne		Drilling Rig				1972	
80	543871	L	Lady Mary	Lady Mary, Inc.	Passenger	88	61		1972	Active
81		L		Rebstock Drilling	Drilling Barge				1972	
82	545067	L	Romanda Sue	S & K Offshore	Supply Boat	91	94		1972	Active
83	546937	L	Timmy Danos	Timmy Danos	Supply Boat	91	94		May-73	Active
84	549994	L	Portilla		Supply Boat	142	86		Aug-73	Now Muzon
85		L	Pacific Sun	Alba S.A.	Fishing Vessel	300			1973	Active
86	554079	L	Dick Bollinger	A-1 Towing	Tug	195	91		Jan-73	Now Captain D.
87	552660	L	Wilken A. Falgout	Falgout Bros.	Tug	183	91		Jan-73	Later Night Eagle, now Delta Faith

88	556118	L	Charlotte		Supply Boat	97	94		1974	Later Emily Sue, now Tiffany Louisa
89 ?	560543	L	Kim Lee	Lee Boats, Inc.	Tug	98	55		1974	Now Capt. Leroy
90	559788	L	James Danos	James Danos	Tug	189	91		Sep-74	Now Spence
91	566365	L	Captain Martin		Tug	183	98		Jun-75	Later Danielle 1985, now Thomas Dann
92	566364	L	Mister M		Tug	183	98		Jun-75	Later New Jersey, now Tradewind Service
93		L		2R Drilling	Drilling Barge				1975	
94		L							1975	
95		L	Quetzacoatl	Govt of Mexico	Tug	313			1975	Active
96		L	G. A. Bollinger	B & B Marine	Tug	165			1975	Later Cetta 1976, now Franco P 1998
97		L	Bourg 10		Deck Barge				1975	
98	572625	L	Cheramie Bo-Truc No. 23	L. & M. Bo-Truc	Supply Boat	189	158		May-76	Later Reliance I, now American Victory
99	575255	L	Cheramie Bo-Truc No. 24	L. & M. Bo-Truc	Supply Boat	189	158		Jul-76	Now Melinda B. Adams
100		L	Cheramie Bo-Truc No. 25	L. & M. Bo-Truc	Supply Boat	189	158		Aug-76	Now Gulf Diver III
101	577629	L	Cheramie Bo-Truc No. 26	L. & M. Bo-Truc	Supply Boat	189	158		May-77	Later Goliad, sank 2000
102	578598	L	Cheramie Bo-Truc No. 27	L. & M. Bo-Truc	Supply Boat	189	158		Jan-77	Now Sea Brooke
103	581312	L	Cheramie Bo-Truc No. 29	L. & M. Bo-Truc	Supply Boat	189	158		Apr-77	Now Ms Robin
104	585710	L	Cheramie Bo-Truc No. 30	L. & M. Bo-Truc	Supply Boat	189	158		Sep-77	Now Sea Cecile
105	588434	L	Reed Danos	Reed Danos	Tug	180	98		Dec-77	Active
106		L		2R Drilling	Drilling Barge				1977	
107		L	Captain Jake		Tug				1977	
108	589286	L	J. A. Belcher, Sr.	Belcher Towing	Tug	191	106		1977	Now Valentine Moran
109	591048	L	Cheramie Bo-Truc No. 31	L. & M. Bo-Truc Rentals	Supply Boat	189	157		Apr-78	Now Jambon Supplier
110	593341	L	Ocean Carrier I	Offshore Specialty Fab.	Deck Barge	2,282	250		Jun-78	Active
111	599608	L	Cheramie Bo-Truc No. 32	L. & M. Bo-Truc Rentals	Supply Boat	198	156		Nov-78	Now Roseanna
112		L	Eagle		Liftboat				1978	
113	596738	L	George Bollinger	B & B Marine	Crew Boat	99	95		Jan-78	Later Sea Cat, now Triton Liberty
114	600265	L	Marc G.	Gilbeau Marine	Tug	187	101		Dec-78	Now M/V Calusa Coast
115	596737	L	Captain Tracy II	L. K. Cardenas	Fishing Vessel	56	60		May-78	Active
116	598078	L	Shoreline I	Shoreline Liftboats	Liftboat	99	58		Feb-78	Now Diamond 30
117		L	Shoreline II	Shoreline Liftboats	Liftboat	99	58		1978	
118	599907	L	Shoreline III	Shoreline Liftboats	Liftboat	99	58		1978	Now Superior Result
119		L	Odom Sea Trac		Supply Boat	100			1979	Now Sea Hopper
120		L	Falcon		Liftboat				1979	
121		L	Gerry Bordelon	Bordelon Marine	Utility Boat				1979	
122	610097	L	Midnight Crusader		Supply Boat	187	171		Aug-79	Now Buffalo River

123		L	Ventura		Supply Boat	654			Nov-79	Now Spurn Haven II
124	612291	L	Little Indian	Quality Lift Svces	Supply Boat	99	58		May-79	Now Global Lift 5
125		L	W. J. 1		Supply Boat				1980	
126		L	June Bollinger	B & B Marine	Supply Boat				1980	
127	624365	L	Cheramie Bo-Truc No. 35	L. & M. Bo-Truc	Supply Boat	200	160		Jul-80	Now Emily G
128	625263	L	Katrina G		Tug	181	92		1980	Now Katrina
129	620039	L	Mr. Lefty		Towboat	99	62		1980	Active (Venezuela)
130		L	Gov. David Treen		Utility Boat				1980	
131	625823	L	Shoreline V	Shoreline Liftboats	Liftboat	144	58		1980	
132	626734	L	Shoreline VI	Shoreline Liftboats	Liftboat	144	60		1980	Later Wolverine, OCS 1, Russell W. Peterson, now L/B Vision
133	628315	L	Shoreline VII	Shoreline Liftboats	Liftboat	144	63		1980	Active (Nigeria)
134	626695	L	Falcon Rig 28	R & B Falcon	Drilling Rig	2,493	220		Nov-80	Now Hercules 28
135	637906	L	Todd Danos	Todd Danos	Tug	141	98		Jul-81	Active
136	633211	L	Domar Lieutenant	Dome Petroleum	Tug	194	95		Apr-81	Later Rob Roy, Bayridge Service, now Carly Michelle
137		L	Alianza	Panama Canal	Tug	347			1981	Active
138	638103	L	Shoreline X	Shoreline Liftboats	Liftboat	144	75		Sep-81	Active
139		L	Ryan Bollinger		Supply Boat				1981	
140	635947	L	Falcon Rig 29	R & B Falcon	Drilling Rig	2,510	220		Nov-81	Now Hercules 29
141		L	Progreso	Panama Canal	Tug	347			1981	Active
142		L	Cheramie Bo-Truc No. 36	L. & M. Bo-Truc	Supply Boat	200	160		1981	
143	640197	L	Shoreline XI	Shoreline Liftboats	Liftboat	144	75		1981	Active (Nigeria)
144		L	D & C 19	Danos & Curole	Work Barge				1981	
145	643830	L	Falcon Rig 30	R & B Falcon	Drilling Rig	2,510	220		Nov-81	Now Hercules 30
146	640675	L	Blue Max	Schlumberger	Supply Boat	90	57		Jul-81	Active
147	640676	L	Shoreline XIV	Shoreline Liftboats	Liftboat	90	57		Sep-81	Deleted
148	643706	L	Shoreline XVII	Shoreline Liftboats	Liftboat	90	58		May-81	Active
149		L	Shoreline XVIII	Shoreline Liftboats	Liftboat	90	58		1981	
150	644062	L	Stella	Eymard & Co.	Supply Boat	90	63		Aug-81	Active
151										Not used
152		L	Booker Rig #951	Booker Oil	Platform Rig				1981	
153		L	Booker Rig #952	Booker Oil	Platform Rig				1981	
154	637905	L	Top Trooper	Bollinger Larose	Tug	44	42		Dec-81	Active
155	647661	L	Falcon Rig 31	R & B Falcon	Drilling Rig	2,510	220		Nov-82	Now Hercules 31

156	652390	L	Falcon Rig 32	R & B Falcon	Drilling Rig	2,510	220		Nov-82	Now Hercules 32
157	647935	L	Mona G.	Gilbeau Marine	Tug	185	120		May-82	Now East Coast
158	653464	L	Energy Altair	Energy Tptn	Tug	272	113		Dec-82	Now Volunteer
159		L	Booker Rig #953	Booker Oil	Platform Rig				1982	
160		L	Amistad	Panama Canal	Tug	347			1982	Active (Panama)
161	647329	L	Shoreline XIX	Shoreline Liftboats	Liftboat	110	62		Sep-82	Active (Nigeria)
162	647330	L	Shoreline XX	Shoreline Liftboats	Liftboat	110	62		Sep-82	Now Jasper
163	653737	L	Nolty Theriot II	Theriot	Tug	175	114		Dec-82	Now Crosby Trojan
164	655036	L	Edmund A. Curole	Sea & Sea Marine	Tug	175	114		Mar-83	Now Crosby Admiral
165	655583	L	Danielle B.	Offshore Tugs	Tug	413	114		Jul-83	Now La Sauvage
166		L	No name	Otto Candies	Houseboat				1983	Active
167		L	Big D	Bollinger Shipyards	Drydock				1984	Active
168		L	No name	Panama Canal	Drydock				1984	Active
169	692844	L	Lili Bisso	Bisso Marine	Deck Barge	1,533	187		Jun-86	Active
170	WPB 1301	L	Farallon	U.S. Coast Guard	Patrol Boat	117d	110	7	21-Feb-86	Active
171	WPB 1302	L	Manitou	U.S. Coast Guard	Patrol Boat	117d	110	7	28-Mar-86	Stretched 2005, struck 2007
172	WPB 1303	L	Matagorda	U.S. Coast Guard	Patrol Boat	117d	110	7	2-May-86	Stretched 2004, struck 2007
173	WPB 1304	L	Maui	U.S. Coast Guard	Patrol Boat	117d	110	7	6-Jun-86	Active
174	WPB 1305	L	Monhegan	U.S. Coast Guard	Patrol Boat	117d	110	7	11-Jul-86	Stretched 2004, struck 2007
175	WPB 1306	L	Nunivak	U.S. Coast Guard	Patrol Boat	117d	110	7	15-Aug-86	Stretched 2004, struck 2007
176	WPB 1307	L	Ocracoke	U.S. Coast Guard	Patrol Boat	117d	110	7	19-Sep-86	Active
177	WPB 1308	L	Vashon	U.S. Coast Guard	Patrol Boat	117d	110	7	24-Oct-86	Stretched 2004, struck 2007
178	WPB 1309	L	Aquidneck	U.S. Coast Guard	Patrol Boat	117d	110	7	28-Nov-86	Active
179	WPB 1310	L	Mustang	U.S. Coast Guard	Patrol Boat	117d	110	7	2-Jan-87	Active
180	WPB 1311	L	Naushon	U.S. Coast Guard	Patrol Boat	117d	110	7	6-Feb-87	Active
181	WPB 1312	L	Sanibel	U.S. Coast Guard	Patrol Boat	117d	110	7	13-Mar-87	Active
182	WPB 1313	L	Edisto	U.S. Coast Guard	Patrol Boat	117d	110	7	17-Apr-87	Active
183	WPB 1314	L	Sapelo	U.S. Coast Guard	Patrol Boat	117d	110	7	22-May-87	Active
184	WPB 1315	L	Mantinicus	U.S. Coast Guard	Patrol Boat	117d	110	7	26-Jun-87	Active
185	WPB 1316	L	Nantucket	U.S. Coast Guard	Patrol Boat	117d	110	7	31-Jul-87	Active
186	WPB 1317	L	Attu	U.S. Coast Guard	Patrol Boat	117d	110	7	5-Sep-88	Stretched 2004, struck 2007
187	WPB 1318	L	Baranof	U.S. Coast Guard	Patrol Boat	107d	110	7	10-Oct-88	Active
188	WPB 1319	L	Chandeleur	U.S. Coast Guard	Patrol Boat	107d	110	7	14-Nov-88	Active
189	WPB 1320	L	Chincoteague	U.S. Coast Guard	Patrol Boat	107d	110	7	19-Dec-88	Decommissioned 2014
190	WPB 1321	L	Cushing	U.S. Coast Guard	Patrol Boat	107d	110	7	23-Jan-89	Active

191	WPB 1322	L	Cuttyhunk	U.S. Coast Guard	Patrol Boat	107d	110	7	27-Feb-89	Active
192	WPB 1323	L	Drummond	U.S. Coast Guard	Patrol Boat	107d	110	7	3-Apr-89	Active
193	WPB 1324	L	Key Largo	U.S. Coast Guard	Patrol Boat	107d	110	7	8-May-89	Active
194	WPB 1325	L	Metomkin	U.S. Coast Guard	Patrol Boat	107d	110	7	12-Jun-89	Stretched 2004, struck 2007
195	WPB 1326	L	Monomy	U.S. Coast Guard	Patrol Boat	107d	110	7	17-Jul-89	Active
196	WPB 1327	L	Orcas	U.S. Coast Guard	Patrol Boat	107d	110	7	21-Aug-89	Active
197	WPB 1328	L	Padre	U.S. Coast Guard	Patrol Boat	107d	110	7	25-Sep-89	Stretched 2004, struck 2007
198	WPB 1329	L	Sitkinak	U.S. Coast Guard	Patrol Boat	107d	110	7	30-Oct-89	Active
199	WPB 1330	L	Tybee	U.S. Coast Guard	Patrol Boat	107d	110	7	4-Dec-89	Active
200	WPB 1331	L	Washington	U.S. Coast Guard	Patrol Boat	107d	110	7	8-Jan-90	Active
201	WPB 1332	L	Wrangell	U.S. Coast Guard	Patrol Boat	107d	110	7	12-Feb-90	Active
202	WPB 1333	L	Adak	U.S. Coast Guard	Patrol Boat	107d	110	7	19-Mar-90	Active
203	WPB 1334	L	Liberty	U.S. Coast Guard	Patrol Boat	107d	110	7	23-Apr-90	Active
204	WPB 1335	L	Anacapa	U.S. Coast Guard	Patrol Boat	107d	110	7	28-May-90	Active
205	WPB 1336	L	Kiska	U.S. Coast Guard	Patrol Boat	107d	110	7	2-Jul-90	Active
206	WPB 1337	L	Assateague	U.S. Coast Guard	Patrol Boat	107d	110	7	6-Aug-90	Active
207		L	No name	Bollinger Shipyards	Dry Dock				1990	Active
208	968591	L	Doc Candies	Otto Candies	Tug	482	112		Dec-90	Later Tecumseh, S/R Providence, Emma M. Rochrig, now Greenland Sea
209	964536	L	Marcel Danos	Danos & Curole	Liftboat	190	79		Oct-90	Now Pilot Fish
210		M	36LCPL901	U.S. Navy	Landing Craft	10	36		1990	Active
211		M	36LCPL902	U.S. Navy	Landing Craft	10	36		1990	Active
212		M	36LCPL903	U.S. Navy	Landing Craft	10	36		1990	Active
213		M	36LCPL904	U.S. Navy	Landing Craft	10	36		1990	Active
214		M	36LCPL905	U.S. Navy	Landing Craft	10	36		1990	Active
215		M	36LCPL906	U.S. Navy	Landing Craft	10	36		1990	Active
216		M	36LCPL907	U.S. Navy	Landing Craft	10	36		1990	Active
217		M	36LCPL908	U.S. Navy	Landing Craft	10	36		1990	Active
218	965698	L	L/B Bobby	Montco Offshore	Liftboat	173	79		Apr-90	Now Alliance I
219	968587	L	L/B Christie	Montco Offshore	Liftboat	173	79		Jan-90	Now Alliance II
220	WPB 1338	L	Grand Isle	U.S. Coast Guard	Patrol Boat	153d	110	7	14-Dec-90	To Pakistan 2016
221	WPB 1339	L	Key Biscayne	U.S. Coast Guard	Patrol Boat	153d	110	7	18-Jan-91	To Pakistan 2016
222	WPB 1340	L	Jefferson Island	U.S. Coast Guard	Patrol Boat	153d	110	7	22-Feb-91	To Georgia 2015
223	WPB 1341	L	Kodiak Island	U.S. Coast Guard	Patrol Boat	153d	110	7	29-Mar-91	Active
224	WPB 1342	L	Long Island	U.S. Coast Guard	Patrol Boat	153d	110	7	3-May-91	To Costa Rica 2017

225	WPB 1343	L	Bainbridge Island	U.S. Coast Guard	Patrol Boat	153d	110	7	7-Jun-91	Sold 2014
226	WPB 1344	L	Block Island	U.S. Coast Guard	Patrol Boat	153d	110	7	12-Jul-91	Sold 2014 as Jules Verne
227	WPB 1345	L	Staten Island	U.S. Coast Guard	Patrol Boat	153d	110	7	16-Aug-91	To Georgia 2015
228	WPB 1346	L	Roanoke Island	U.S. Coast Guard	Patrol Boat	153d	110	7	20-Sep-91	To Costa Rica 2017
229	WPB 1347	L	Pea Island	U.S. Coast Guard	Patrol Boat	153d	110	7	25-Oct-91	Sold 2014 as Farley Mowat
230	WPB 1348	L	Knight Island	U.S. Coast Guard	Patrol Boat	153d	110	7	29-Nov-91	Active
231	WPB 1349	L	Galveston Island	U.S. Coast Guard	Patrol Boat	153d	110	7	3-Jan-92	Active
232		M	No name	Tidewater Marine	Work Boat				1990	Active
233		M	No name	Tidewater Marine	Work Boat				1990	Active
234		M	No name	Tidewater Marine	Work Boat				1990	Active
235		M	No name	Tidewater Marine	Work Boat				1990	Active
236		M	No name	Tidewater Marine	Work Boat				1990	Active
237		M	No name	Tidewater Marine	Work Boat				1990	Active
238		M	No name	Tidewater Marine	Work Boat				1990	Active
239		M	No name	Tidewater Marine	Work Boat				1990	Active
240		M	No name	Tidewater Marine	Work Boat				1990	Active
241		M	No name	Tidewater Marine	Work Boat				1990	Active
242	972233	L	Hoku-Loa	Young Brothers	Tug	477	108		Feb-91	Active
243	973434	L	Hoku-Kea	Young Brothers	Tug	477	108		Apr-91	Active
244	PC 1	L	Cyclone	US Navy	Patrol Ship	341d	178	11	7-Aug-93	To USCG 2000, to the Philippines 2004 as General Mariano Alvares
245	PC 2	L	Tempest	US Navy	Patrol Ship	341d	178	11	21-Aug-93	Active
246	PC 3	L	Hurricane	US Navy	Patrol Ship	341d	178	11	15-Oct-93	Active
247	PC 4	L	Monsoon	US Navy	Patrol Ship	341d	178	11	22-Jan-94	Active
248	PC 5	L	Typhoon	US Navy	Patrol Ship	341d	178	11	12-Feb-94	Active
249	PC 6	L	Scirocco	US Navy	Patrol Ship	341d	178	11	11-Jun-94	Active
250		L	ECO-100	Ecomarine	Oil Skimmer				1991	Prototype
251		L	ECO-200	Ecomarine	Oil Skimmer				1991	Prototype
252	PC 7	L	Squall	US Navy	Patrol Ship	341d	178	11	4-Jul-94	Active
253	PC 8	L	Zephyr	US Navy	Patrol Ship	341d	178	11	15-Oct-94	To USCG 2004 as WPC 8
254	980381	L	Aimee Danos	Danos & Curole	Liftboat	183	79		Oct-91	Now Rudderfish
255		L	No name	Saudi Govt.	Patrol Boat				1991	Prototype
256		L	Warlock		Yacht					Not built
257	PC 9	L	Williwaw	US Navy	Patrol Ship	341d	178	9	26-Jan-95	Active
258	PC 10	L	Chinook	US Navy	Patrol Ship	341d	178	9	10-Jun-95	Active

259	PC 11	L	Torrent	US Navy	Patrol Ship	341d	178	9	1-Jul-95	Active
260	PC 12	L	Lightning	US Navy	Patrol Ship	341d	178	9	7-Oct-95	Active
261	PC 13	L	Shamal	US Navy	Patrol Ship	341d	178	9	27-Jan-96	Active
262		L	Enforcer	US Navy	Patrol Boat				1992	Prototype
263		M	30RB9301	US Navy	NSW RIB		30		1993	Active
264		M	30RB9302	US Navy	NSW RIB		30		1993	Active
265		M	30RB9303	US Navy	NSW RIB		30		1993	Active
266		M	30RB9304	US Navy	NSW RIB		30		1993	Active
267		M	30RB9305	US Navy	NSW RIB		30		1993	Active
268	1183583	M	30RB9306	US Navy	NSW RIB	13	30		1993	Now Gus
269		M	30RB9307	US Navy	NSW RIB		30		1993	Active
270		M	30RB9308	US Navy	NSW RIB		30		1993	Active
271	1225860	M	30RB9309	US Navy	NSW RIB	13	30		1993	Now Zeus
272		M	30RB9310	US Navy	NSW RIB		30		1993	Active
273		M	30RB9311	US Navy	NSW RIB		30		1993	Active
274		M	30RB9312	US Navy	NSW RIB		30		1993	Active
275		M	30RB9313	US Navy	NSW RIB		30		1993	Active
276		M	30RB9314	US Navy	NSW RIB		30		1993	Active
277	1201669	M	30RB9315	US Navy	NSW RIB	13	30		1993	Now Odin
278		M	30RB9316	US Navy	NSW RIB		30		1993	Active
279		M	30RB9317	US Navy	NSW RIB		30		1993	Active
280		M	30RB9318	US Navy	NSW RIB		30		1993	Active
281		L	Unnamed	Mersea Ships	Ferry					Cancelled
282		L	Unnamed	Mersea Ships	Ferry					Cancelled
283	1025598	L	Micky Gilbert	G. & B. Marine	Supply Boat	97	129		Jan-94	Now Rosite G
284	1029108	L	Joyce	Bollinger Shipyards	Supply Boat	97	129		Jan-95	Now Int'l Courage
285		L	Lady Luck Casino	Lady Luck Casino	Casino Vessel				1995	Active
286		L	Irish Sea Pioneer	Halliburton	Liftboat	2,692	179		29-Mar-96	Active (Panama)
287		L	Vibra-Ram		Liftboat				1994	
288		M	No name		Al-Safe RIB				1994	
289		M	No name		Al-Safe RIB				1994	
290	1042005	L	Sean Candies	Otto Candies	Tug	662	115		1-Jul-96	Now Patriot Service
291	1046029	L	Grant Candies	Otto Candies	Tug	195	115		15-Nov-96	Now Eagle Service
292	1032269	L	Andre Danos	Danoe Marine	Supply Boat	167	79		Jun-95	Deleted 2006
293	1037187	L	Dutra Dipper	Dutra Dredging	Dredge	571	150		Oct-95	Now Maricavor (Panama)

294	1040774	L	Antone	Dutra Dredging	Dredge	1,259	191		Jul-96	Later Tauracavor (Panama), sank 2007
295	1045921	L	Man-O-War	Global Industries	Liftboat	188	128		7-Jan-97	Active
296	1049274	L	Kingfish	Global Industries	Liftboat	188	128		15-Jan-97	Active
297		L	Hull only	North American SB	Supply Boat				15-Feb-96	Active
298		L	Hull only	North American SB	Supply Boat				15-Aug-96	Active
299		M	No name	Ambar Marine	RIB				1996	Active
300		M	No name	Ambar Marine	RIB				1996	Active
301		M	No name	Ambar Marine	RIB				1996	Active
302		M	No name	Ambar Marine	RIB				15-Apr-96	Active
303		M	No name	Ambar Marine	RIB				15-Apr-96	Active
304		M	No name	Ambar Marine	RIB				15-Nov-96	Active
305		M	No name	Ambar Marine	RIB				15-Nov-96	Active
306		M	No name	Ambar Marine	RIB				15-Nov-96	Active
307	1050508	L	Celeste Elizabeth	Cheramie Boats	Supply Boat	90	131		15-Mar-97	Active (Saint Vincent)
308	1052663	L	Sea Horse I	Seacor Marine	Supply Boat	90	131		15-Jun-97	Now Rana Miller
309	1059402	L	Hilton Joseph	Gilco Supply Boats	Supply Boat	90	131		15-Dec-97	Out of registry 2011
310	DB 6800	L	Keystone State	U.S. Army	Derrick Barge	1,999	200		15-Mar-98	Active
311	DB 6801	L	Sacketts Harbor	U.S. Army	Derrick Barge	1,999	200		20-Jun-98	Active
312	1052392	L	L/B Juan	Montco Offshore	Liftboat	128	122		15-May-97	Active
313	1062037	L	L/B Tammy	Montco Offshore	Liftboat	128	122		15-Mar-98	Active
314	WPB 87301	L	Barracuda	U.S. Coast Guard	Patrol Boat	91d	87	9	7-Apr-98	Active
315	1052662	L	Betty C. Cheramie	C. & E. Boats	Supply Boat	93	131		15-Jul-97	Now Int'l Brave
316	1056274	L	Captain Bud	United Tugs	Tug	88	86		15-Aug-97	Active
317	1052908	L	D. L. Hanson	Superior Energy	Liftboat	177	122		15-Jun-97	Later Superior Challenge, now Seacor Intervention
318	1059404	L	Dean Andrew	Gilco Supply Boats	Supply Boat	90	131		15-Dec-97	Active (Marshall Islands)
319	1059403	L	Sea Horse II	Seacor Marine	Supply Boat	90	131		15-Dec-97	
320	1060683	L	W. Lopez	Superior Energy	Liftboat	139	122		Jan-98	Later Superior Endeavor, now Seacor Endeavor
321	1062039	L	P. G. Jones	Superior Energy	Liftboat	139	122		Feb-98	Later Superior Vision, now Seacor Supporter
322	1062038	L	Sea Horse III	Seacor Marine	Supply Boat	90	131		17-Mar-98	Now Max Cheramie
323	DB 6802	L	Saltillo	U.S. Army	Derrick Barge	1,999	200		15-Nov-99	Active
324	WPB 87302	L	Hammerhead	U.S. Coast Guard	Patrol Boat	91d	87	6	29-Jul-98	Active
325	WPB 87303	L	Mako	U.S. Coast Guard	Patrol Boat	91d	87	6	9-Sep-98	Active
326	WPB 87304	L	Maklin	U.S. Coast Guard	Patrol Boat	91d	87	6	2-Dec-98	Active

327	WPB 87305	L	Stingray	U.S. Coast Guard	Patrol Boat	91d	87	6	13-Jan-99	Active
328	WPB 87306	L	Dorado	U.S. Coast Guard	Patrol Boat	91d	87	6	24-Feb-99	Active
329	WPB 87307	L	Osprey	U.S. Coast Guard	Patrol Boat	91d	87	6	7-Apr-99	Active
330	PC 14	L	Tornado	US Navy	Patrol Ship	360d	178	23	30-Apr-00	Active
331		L	Egyptian	Egyptian Navy	Fast Patrol Boat				1998	Prototype
332	1064590	L	Sea Horse IV	Seacor Marine	Supply Boat	90	131		30-Jun-98	Now Poppa John
333	DB 6803	L	Springfield	U.S. Army	Derrick Barge	1,999	200		Mar-00	Active
334	1064603	L	Sea Horse V	Seacor Marine	Supply Boat	90	131		1-Jul-98	Now Elliott Cheramie
335	WPB 87308	L	Chinook	U.S. Coast Guard	Patrol Boat	91d	87	6	19-May-99	Active
336	WPB 87309	L	Albacore	U.S. Coast Guard	Patrol Boat	91d	87	6	30-Jun-99	Active
337	1075801	L	Harry Joseph	Gilco Supply Boats	Supply Boat	90	131		8-Jan-99	Now Gis-Bianca
338	1077092	L	Emelie Ann	Gilco Supply Boats	Supply Boat	90	131		26-Feb-99	Now Todd G
339	1077091	L	Gary John	Gilco Supply Boats	Supply Boat	90	130		1-Apr-99	Now Clean Ocean
340	1074504	L	Ben	Transport Sources	Deck Barge	209	115		1998	Now SD 1203
341	1074505	L	Max	Transport Sources	Deck Barge	209	115		1998	Now SD 1204
342	1086279	L	Vera Bisso	Bisso Marine	Tug	98	100		22-Nov-99	Active
343	DB 6804	L	Delaware	U.S. Army	Derrick Barge	1,999	200		Nov-00	Active
344	1082131	L	Crosby Express	Crosby Marine	Tug	88	86		11-Jun-99	Active
345	1082754	L	Crosby Knight	Crosby Marine	Tug	88	86		15-Jul-99	Active
346	WPB 87310	L	Tarpon	U.S. Coast Guard	Patrol Boat	91d	87	6	11-Aug-99	Active
347	WPB 87311	L	Cobia	U.S. Coast Guard	Patrol Boat	91d	87	6	08-Sep-99	Active
348	WPB 87312	L	Hawksbill	U.S. Coast Guard	Patrol Boat	91d	87	6	06-Oct-99	Active
349	WPB 87313	L	Cormorant	U.S. Coast Guard	Patrol Boat	91d	87	6	03-Nov-99	Active
350	WPB 87314	L	Finnback	U.S. Coast Guard	Patrol Boat	91d	87	6	01-Dec-99	Active
351	WPB 87315	L	Amberjack	U.S. Coast Guard	Patrol Boat	91d	87	6	29-Dec-99	Active
352	WPB 87316	L	Kittiwake	U.S. Coast Guard	Patrol Boat	91d	87	6	26-Jan-00	Active
353	WPB 87317	L	Blackfin	U.S. Coast Guard	Patrol Boat	91d	87	6	23-Feb-00	Active
354	WPB 87318	L	Bluefin	U.S. Coast Guard	Patrol Boat	91d	87	6	22-Mar-00	Active
355	WPB 87319	L	Yellowfin	U.S. Coast Guard	Patrol Boat	91d	87	6	19-Apr-00	Active
356	WPB 87320	L	Manta	U.S. Coast Guard	Patrol Boat	91d	87	6	17-May-00	Active
357	WPB 87321	L	Coho	U.S. Coast Guard	Patrol Boat	91d	87	6	14-Jun-00	Active
358	WPB 87322	L	Kingfisher	U.S. Coast Guard	Patrol Boat	91d	87	6	12-Jul-00	Active
359	WPB 87323	L	Seahawk	U.S. Coast Guard	Patrol Boat	91d	87	6	09-Aug-00	Active
360	WPB 87324	L	Steelhead	U.S. Coast Guard	Patrol Boat	91d	87	6	06-Sep-00	Active
361	WPB 87325	L	Beluga	U.S. Coast Guard	Patrol Boat	91d	87	6	04-Oct-00	Active

362	WPB 87326	L	Blacktip	U.S. Coast Guard	Patrol Boat	91d	87	6	01-Nov-00	Active
363	WPB 87327	L	Pelican	U.S. Coast Guard	Patrol Boat	91d	87	6	29-Nov-00	Active
364	WPB 87328	L	Ridley	U.S. Coast Guard	Patrol Boat	91d	87	6	27-Dec-00	Active
365	WPB 87329	L	Cochito	U.S. Coast Guard	Patrol Boat	91d	87	6	24-Jan-01	Active
366	WPB 87330	L	Manowar	U.S. Coast Guard	Patrol Boat	91d	87	6	21-Feb-01	Active
367	WPB 87331	L	Moray	U.S. Coast Guard	Patrol Boat	91d	87	6	21-Mar-01	Active
368	WPB 87332	L	Razorbill	U.S. Coast Guard	Patrol Boat	91d	87	6	18-Apr-01	Active
369	1092132	L	Ocean Intervention II	Oceaneering	Supply Boat	2,255	227		29-Jun-00	Active
370	1093265	L	Helen III	Maybank Shipping	Deck Barge	3,780	299		24-Jul-00	Now Crimson Tide
371	WPB 87333	L	Adelie	U.S. Coast Guard	Patrol Boat	91d	87	6	16-May-01	Active
372	WPB 87334	L	Gannett	U.S. Coast Guard	Patrol Boat	91d	87	6	13-Jun-01	Active
373	WPB 87335	L	Narwhal	U.S. Coast Guard	Patrol Boat	91d	87	6	11-Jul-01	Active
374	WPB 87336	L	Sturgeon	U.S. Coast Guard	Patrol Boat	91d	87	6	08-Aug-01	Active
375	WPB 87337	L	Sockeye	U.S. Coast Guard	Patrol Boat	91d	87	6	05-Sep-01	Active
376	WPB 87338	L	Ibis	U.S. Coast Guard	Patrol Boat	91d	87	6	03-Oct-01	Active
377	WPB 87339	L	Pompano	U.S. Coast Guard	Patrol Boat	91d	87	6	31-Oct-01	Active
378	WPB 87340	L	Halibut	U.S. Coast Guard	Patrol Boat	91d	87	6	28-Nov-01	Active
379	WPB 87341	L	Bonito	U.S. Coast Guard	Patrol Boat	91d	87	6	26-Dec-01	Active
380	WPB 87342	L	Shrike	U.S. Coast Guard	Patrol Boat	91d	87	6	23-Jan-02	Active
381	WPB 87343	L	Tern	U.S. Coast Guard	Patrol Boat	91d	87	6	20-Feb-02	Active
382	WPB 87344	L	Heron	U.S. Coast Guard	Patrol Boat	91d	87	6	20-Mar-02	Active
383	WPB 87345	L	Wahoo	U.S. Coast Guard	Patrol Boat	91d	87	6	17-Apr-02	Active
384	WPB 87346	L	Flyingfish	U.S. Coast Guard	Patrol Boat	91d	87	6	15-May-02	Active
385	WPB 87347	L	Haddock	U.S. Coast Guard	Patrol Boat	91d	87	6	12-Jun-02	Active
386	1103037	L	Jean Gilbert	G. & B. Marine	Supply Boat	96	151		16-Jan-01	Active
387	1105951	L	Clay Ella	G. & B. Marine	Supply Boat	96	151		23-Apr-01	Active
388	1100026	A	Lytal Ashley	Lytal Supply Boats	Supply Boat	90	131		5-Oct-00	Later Odyssea Explorer, now MS Sophia Rose
389	1104088	A	Lytal Andre	Lytal Supply Boats	Supply Boat	90	131		19-Mar-01	Later Odyssea Endeavor, now MS Emelie Rose
390	1109622	L	Bootsie B.	Riverway Co.	Towboat	828	177		May-01	Active
391	1103038	L	Sea Horse VI	Seacor Marine	Supply Boat	86	131		15-Dec-00	Active
392	1100670	A	Marmac 400	McDonough Mar.	Deck Barge	340	383		Mar-01	Active
393		A	TS 117	Transport Services	Hopper Barge	1,544			Nov-00	Active (Colombia)
394		A	TS 118	Transport Services	Hopper Barge	1,544			Nov-00	Active (Colombia)
395	1108177	L	Taylor R. Martin	AMT Marine	Supply Boat	86	131		23-Mar-01	Now Odyssea Mariner

396	1105786	A	WB-100	North American SB	Water Barge	655	195		2001	Active
397	1105789	A	WB-200	North American SB	Water Barge	655	195		2001	Active
398	1120898	A	Superior Storm	Superior Energy	Liftboat	174	132		Apr-02	Now Seacor Storm
399	1124970	A	Superior Gale	Superior Energy	Liftboat	173	132		Dec-02	Now Seacor Gale
400	1111783	L	Wes Bordelon	Bordelon Marine	Supply Boat	90	131		6-Jun-01	Active
401	1111784	L	Terry Bordelon	Bordelon Marine	Supply Boat	90	131		5-Jul-01	Active
402	1113614	L	Bunny Bordelon	Bordelon Marine	Supply Boat	90	131		2-Aug-01	Active
403										Not used
404	1107318	A	EM 1004	Kristra Investments	Deck Barge	1,072	192		Mar-01	Active (Canada)
405	1107319	A	EM 1005	Kristra Investments	Deck Barge	1,072	192		May-01	Active
406	1107320	A	EM 1006	Kristra Investments	Deck Barge	1,072	154		Apr-01	Active
407	1107321	A	EM 1007	Kristra Investments	Deck Barge	1,072	154		May-01	Active
408	1113563	L	Ms. Caroline	Guilbeau Marine	Supply Boat	449	131		24-Aug-01	Active
409	1116283	L	Chad G.	Guilbeau Marine	Supply Boat	449	131		21-Sep-01	Active
410	1128392	L	Savannah	Crescent Towing	Tug	290	92		10-Sep-02	Active
411										Not used
412	1125196	L	L/B Myrtle	Montco Offshore	Liftboat	173	132		Jul-02	Active
413	1120138	L	Andi N. Martin	AMT Marine	Supply Boat	86	131		12-Dec-01	Now Odyssea America
414	1116282	L	Seacor Eagle	Seacor Marine	Supply Boat	86	131		6-Nov-01	Now Isla Colorada (Mexico)
415	1117746	L	Seacor Hawk	Seacor Marine	Supply Boat	86	131		16-Nov-01	Now Isla Verde (Mexico)
416	1119760	G	DBL 101	K-Sea Tptn.	Tank Barge	7,159	381		24-Jul-02	Active
417	1132231	G	DBL 81	K-Sea Tptn.	Tank Barge	5,896	321		31-Jan-03	Active
418	WPB 87348	L	Brant	U.S. Coast Guard	Patrol Boat	91d	87	6	10-Jul-02	Active
419	WPB 87349	L	Shearwater	U.S. Coast Guard	Patrol Boat	91d	87	6	07-Aug-02	Active
420	WPB 87350	L	Petrel	U.S. Coast Guard	Patrol Boat	91d	87	6	04-Sep-02	Active
421	1137538	G	DBL 82	K-Sea Tptn.	Tank Barge	5,896	321		23-Jun-03	Active
422	1146491	G	DBL 102	K-Sea Tptn.	Tank Barge	7,159	381		19-Dec-03	Active
423	1131594	L	Ms Sarah Jane	MNM Boats	Supply Boat	1,544	185		6-Dec-02	Active
424	1135442	L	Ms Jolie	MNM Boats	Supply Boat	1,544	185		27-Feb-03	Active
425	1114610	A	Gracie B	Big R Enterprises	Deck Barge	1,072	192		Sep-01	Now Bisso 201
426	1120887	L	A. A. Martin	AMT Marine	Supply Boat	86	131		9-Jan-02	Now Odyssea Atlas
427	1125202	A	Alec Scott	Seahorse Marine	Liftboat	109	122		Sep-02	Active
428	1134269	L	Joel Paul	Gremillion Marine	Supply Boat	96	150		18-Dec-02	Now Andi Nicol
429	1125197	L	Seacor Master	Seacor Marine	Supply Boat	140	131		21-Jun-02	Now KC Commander (Canada ON 842944)
430	1131239	L	Seacor Mariner	Seacor Marine	Supply Boat	86	131		13-Sep-02	Active

431	1139762	L	Jane A. Bouchard	Bouchard Tptn.	Tug	293	125		20-Jun-03	Active
432	1139764	G	B. No. 225	Bouchard Tptn.	Tank Barge	8,799	411		29-May-03	Active
433	1154328	L	Morton S. Bouchard IV	Bouchard Tptn.	Tug	293	125		5-May-04	Active
434	1154327	G	B. No. 242	Bouchard Tptn.	Tank Barge	11,089	487		30-Apr-04	Active
435	1136167	L	Seacor Madison	Seacor Marine	Supply Boat	86	187		4-Jun-03	Active
436	1141431	L	Seacor Washington	Seacor Marine	Supply Boat	86	187		24-Sep-03	Active
437	1132802	L	Seacor Merchant	Seacor Marine	Supply Boat	86	131		24-Dec-03	Active
438	1145388	L	Donny Paul Scott	Seahorse Marine	Liftboat	109	122		Dec-03	Now L/B Donny Paul
439	1145691	L	Seacor Jefferson	Seacor Marine	Supply Boat	86	187		7-Jan-04	Active
440	1145048	L	Lousteau Tide	Tidewater Marine	Supply Boat	1,624	187		19-Dec-03	Active (Mexico)
441	1043875	L	Deville Tide	Tidewater Marine	Supply Boat	1,624	187		8-Jan-04	Active (Vanuatu)
442	1151073	L	Jonathan Rozier	Tidewater Marine	Supply Boat	1,624	187		6-Feb-04	Active
443	1151985	L	Bourgeois Tide	Tidewater Marine	Supply Boat	1,624	187		29-Apr-04	Active
444	WPB 87351	L	P-51	Maltese Mar. Sq.	Patrol Boat	91d	87		13-Nov-02	Active (Malta)
445										Not used
446		A	No name	US Navy	INLS Barge				2002	Prototype
447	WPB 87352	L	Sealion	U.S. Coast Guard	Patrol Boat	91d	87	10	19-Nov-03	Active
448	WPB 87353	L	Skipjack	U.S. Coast Guard	Patrol Boat	91d	87	10	17-Dec-03	Active
449	WPB 87354	L	Dolphin	U.S. Coast Guard	Patrol Boat	91d	87	10	14-Jan-04	Active
450	WPB 87355	L	Hawk	U.S. Coast Guard	Patrol Boat	91d	87	10	11-Feb-04	Active
451	1147704	H	OC 4126	Otto Candies	Deck Barge	9,480	384		19-Jan-04	Active
452	1155957	L	Cheramie Botruc No. 38	L & M Botruc	Supply Boat	198	180		20-Jul-04	Active
453	1160676	L	Cheramie Botruc No. 39	L & M Botruc	Supply Boat	198	180		14-Oct-04	Active
454	WPB 87356	L	Sailfish	U.S. Coast Guard	Patrol Boat	91d	87	10	10-Mar-04	Active
455	WPB 87357	L	Sawfish	U.S. Coast Guard	Patrol Boat	91d	87	10	7-Apr-04	Active
456		A	TS 119	Transport Services	Hopper Barge	1,544			2004	Active (Colombia)
457		A	TS 120	Transport Services	Hopper Barge	1,544			2004	Active (Colombia)
458	WPB 87---	L	P-52	Maltese Mar. Sq.	Patrol Boat	91d	87		2004	Active (Malta)
459										Not used
460										Not used
461										Not used
462	1150188	A	Leftovers 2	LA Generating	Hopper Barge	407	115		15-Nov-04	Active
463		A	TS 122	Transport Services	Hopper Barge	1,544			2004	Active (Colombia)
464		A	Big Bo	Bollinger Gulf Repair	Dry Dock				2004	Active

465		A	TS 123	Transport Services	Hopper Barge	1,544			2004	Active (Colombia)
466	1162736	L	Capt. Rudy	Seahorse Marine	Supply Boat	92	149		17-Nov-04	Active
467	WPB 87358	L	Swordfish	U.S. Coast Guard	Patrol Boat	91d	87	10	15-Mar-05	Active
468	WPB 87359	L	Tiger Shark	U.S. Coast Guard	Patrol Boat	91d	87	10	12-Apr-05	Active
469	WPB 87360	L	Blue Shark	U.S. Coast Guard	Patrol Boat	91d	87	10	10-May-05	Active
470	WPB 87361	L	Sea Horse	U.S. Coast Guard	Patrol Boat	91d	87	10	7-Jun-05	Active
471	WPB 87362	L	Sea Otter	U.S. Coast Guard	Patrol Boat	91d	87	10	5-Jul-05	Active
472	WPB 87363	L	Manatee	U.S. Coast Guard	Patrol Boat	91d	87	10	2-Aug-05	Active
473	WPB 87364	L	Ahi (ex-Diamondback)	U.S. Coast Guard	Patrol Boat	91d	87	10	30-Aug-05	Active
474	WPB 87365	L	Pike (ex-Piranha)	U.S. Coast Guard	Patrol Boat	91d	87	10	27-Sep-05	Active
475	WPB 87366	L	Terrapin (ex-Skate)	U.S. Coast Guard	Patrol Boat	91d	87	10	25-Oct-05	Active
476	1164529	A	Horizon 3030	Horizon Maritime	Asphalt Barge	1,754	297		Jan-05	Now CTCO 3030
477	1165911	A	Horizon 3031	Horizon Maritime	Asphalt Barge	1,754	297		Feb-05	Now CTCO 3031
478	1165910	A	Horizon 3032	Horizon Maritime	Asphalt Barge	1,754	297		Mar-05	Now CTCO 3032
479	1167591	A	Horizon 3033	Horizon Maritime	Asphalt Barge	1,754	297		Apr-05	Now CTCO 3033
480	na	H	Guadalupe-Blanco	Guadalupe-Blanco River	Deck Barge	9,480			2004	Active
481	1161359	A	Weeks 229	Weeks Marine	Crane Barge	224	78		17-Jul-04	Active
482	1170370	G	GCS 238	Gellatly & Criscione	Tank Barge	3,130	285		20-Jul-05	Now Chemoil New York
483	1176595	L	L/B Kayd	Montco Offshore	Lift Boat	173	132		21-Dec-05	Active
484		A	TS 124	Transport Services	Hopper Barge	1,544			Jun-05	Active (Colombia)
485		A	TS 125	Transport Services	Hopper Barge	1,544			Jun-05	Active (Colombia)
486		A	TS 126	Transport Services	Hopper Barge	1,544			Jul-05	Active (Colombia)
487		A	TS 127	Transport Services	Hopper Barge	1,544			Aug-05	Active (Colombia)
488		A	TS 128	Transport Services	Hopper Barge	1,544			Sep-05	Active (Colombia)
489	1181626	G	B No. 280	Bouchard Tptn.	Tank Barge	6,496	382		28-Apr-06	Active
490	1170633	A	DBL 103	K-Sea Tptn.	Tank Barge	7,132	381		9-Dec-05	Active
491										Not used
492	1191747	G	B No. 205	Bouchard Tptn.	Tank Barge	11,089	411		5-Jan-07	Active
493	1174839	L	Sarah Bordelon	Bordelon Marine	Supply Boat	498	149		7-Oct-05	Active
494	1175352	L	Marcelle Bordelon	Bordelon Marine	Supply Boat	498	149		13-Dec-05	Active
495	1178527	L	Irene B	JCH Marine	Supply Boat	498	149		18-Jan-06	Active
496	1178813	A	DBL 28	K-Sea Tptn.	Tank Barge	1,754	297		14-Mar-06	Active
497	1180995	A	DBL 29	K-Sea Tptn.	Tank Barge	1,754	297		10-May-06	Active
498	1181446	A	Montville	Moran Towing	Dry Bulk Barge	7,153	402		4-May-06	Active
499	1173547	A	Horizon 3034	Horizon Maritime	Asphalt Barge	1,754	297		7-Oct-05	Now EMS 3034

500	1189191	L	Linda Lee Bouchard	Bouchard Tptn.	Tug	687	125		5-Jan-07	Active
501	1185952	L	Mary Martin	AMT Marine	Supply Boat	98	180		1-Sep-06	Now Odyssea Leader
502										Not used
503										Not used
504	1184523	A	DBL 26	K-Sea Tptn.	Tank Barge	1,754	297		9-Aug-06	Active
505	1188127	A	PBL 3002	Progressive BL	Tank Barge	1,754	297		31-Oct-06	Active
506	1187774	A	Long Island	Moran Towing	Tank Barge	4,887	334		11-Oct-06	Active
507	1193988	A	DBL 27	K-Sea Tptn.	Tank Barge	1,754	297		5-Jan-07	Active
508	1196471	A	Energy 6506	Hornbeck Off.	Tank Barge	5,778	346		8-Aug-07	Active
509	1196549	A	Energy 6507	Hornbeck Off.	Tank Barge	5,778	346		10-Aug-07	Active
510	1196474	A	Energy 6508	Hornbeck Off.	Tank Barge	5,568	346		10-Apr-08	Active
511	1204610	G	B No. 282	Bouchard Tptn.	Tank Barge	7,132	382		25-Oct-07	Active
512										Not used
513	1187672	A	GCS 239	Gellatly & Criscione	Tank Barge	3,130	297		22-Nov-06	Now Stone Navigator
514	1193787	A	DBL 104	K-Sea Tptn.	Tank Barge	7,132	381		14-Mar-07	Active
515	1196599	L	Eagle	Edison Chouest	Lift Boat	196	132		11-Jun-07	Now Seacor Eagle
516	1200276	L	Hawk	Edison Chouest	Lift Boat	196	132		10-Sep-07	Now Seacor Hawk
517	1198669	A	DBL 22	K-Sea Tptn.	Tank Barge	1,754	297		18-Jun-07	Active
518	1203120	A	DBL 23	K-Sea Tptn.	Tank Barge	1,754	297		20-Sep-07	Now DBZ-1
519	1205954	A	DBL 24	K-Sea Tptn.	Tank Barge	1,754	297		12-Dec-07	Active
520	1207733	A	DBL 25	K-Sea Tptn.	Tank Barge	1,754	297		29-Feb-08	Active
521	1195773	L	First and Ten	Rigdon Marine	PSV	1,702	173	12	6-Aug-07	Active
522	1200748	L	Double Eagle	Rigdon Marine	PSV	1,702	173	12	19-Sep-07	Active
523	1203989	L	Triple Play	Rigdon Marine	PSV	1,702	173	12	5-Nov-07	Active
524	1204678	L	Grand Slam	Rigdon Marine	PSV	1,702	205	12	7-Dec-07	Active
525	1204681	L	Slam Dunk	Rigdon Marine	PSV	1,702	205	12	14-Jan-08	Active
526	1204682	L	Touch Down	Rigdon Marine	PSV	1,702	205	12	14-Feb-08	Active
527	1204683	L	Hat Trick	Rigdon Marine	PSV	1,702	173	12	1-Apr-08	Active
528	1204684	L	Slap Shot	Rigdon Marine	PSV	1,702	205	12	6-May-08	Now Jermaine Gibson
529	1204685	L	Home Run	Rigdon Marine	PSV	1,702	205	12	18-Jun-08	Active
530	1204686	L	Knock Out	Rigdon Marine	PSV	1,702	205	12	5-Aug-08	Active
531	1200667	A	RTC 26	Reinauer Tptn.	Tank Barge	1,754	297		26-Sep-07	Active
532	1200668	A	RTC 27	Reinauer Tptn.	Tank Barge	1,754	297		1-Nov-07	Active
533	1209866	A	DBL 76	K-Sea Tptn.	Tank Barge	5,221	322		29-May-08	Active

534	1212984	A	DBL 77	K-Sea Tptn.	Tank Barge	5,234	322		29-May-08	Active
535	1198671	A	B No. 231	Bouchard Tptn.	Tank Barge	3,759	285		31-Jul-07	Active
536	1209484	A	B No. 233	Bouchard Tptn.	Tank Barge	3,759	285		13-May-08	Active
537	1219893	A	DBL 106	K-Sea Tptn.	Tank Barge	7,132	382		31-Mar-10	Active
538	WPB 87367	L	Sea Devil	U.S. Coast Guard	Patrol Boat	91d	87		11-Jan-08	Active
539	WPB 87368	L	Sea Dragon	U.S. Coast Guard	Patrol Boat	91d	87		20-Jun-08	Active
540		C	Mr. Brett	Bollinger Shipyards	Dry-Dock				31-Dec-08	Active
541		G		Bollinger Shipyards	Dry-Dock				2008	Active
542	1210060	G	B No. 260	Bouchard Tptn.	Tank Barge	5,706	334		30-Jun-08	Active
543	1212792	A	RTC 28	Reinauer Tptn.	Tank Barge	1,754	297		17-Sep-08	Active
544		A		Bollinger Shipyards	Dry-Dock				2008	Active
545	1217693	L	Busy Bee	Bee Mar LLC	210-ft PSV	1,596	197		23-May-09	Now Harvey Wind
546	1217694	L	Worker Bee	Bee Mar LLC	210-ft PSV	1,596	197		1-Jul-09	Now Harvey Rain
547	1214462	A	GCS 235	Gellatly & Criscione	Tank Barge	3,130	285		5-Nov-08	Active
548	1218566	A	GCS 236	Gellatly & Criscione	Tank Barge	3,130	285		29-Jul-09	Active
549										Not used
550	WPB 87369	L	Crocodile	U.S. Coast Guard	Patrol Boat	91d	87		13-Aug-08	Active
551	WPB 87370	L	Diamond Back	U.S. Coast Guard	Patrol Boat	91d	87		17-Sep-08	Active
552	WPB 87371	L	Reef Shark	U.S. Coast Guard	Patrol Boat	91d	87		22-Oct-08	Active
553	WPB 87372	L	Alligator	U.S. Coast Guard	Patrol Boat	91d	87		26-Nov-08	Active
554	WPB 87373	L	Sea Dog	U.S. Coast Guard	Patrol Boat	91d	87		4-Feb-09	Active
555	WPB 87374	L	Sea Fox	U.S. Coast Guard	Patrol Boat	91d	87		11-Mar-09	Active
556	1214647	L	Odyssea Champion	Odyssea Marine	193-ft PSV	98	180		19-Dec-08	Active
557	1214648	L	Odyssea Defender	Odyssea Marine	193-ft PSV	98	180		24-Dec-08	Active
558	1215084	A	M 6000	Martin Midstream	Tank Barge	4,550	334		20-Apr-09	Active
559	1222436	L	Mister B	Bollinger Shipyards	Pushboat	83	60		18-Aug-09	Active
560	1216336	A	B No. 262	Bouchard Tptn.	Tank Barge	5,720	334		27-Mar-09	Active
561	1225718	A	B No. 264	Bouchard Tptn.	Tank Barge	5,720	334		20-May-10	Active
562	1216341	G	B No. 284	Bouchard Tptn.	Tank Barge	7,132	382		9-Jun-09	Active
563	1217695	L	Honey Bee	Bee Mar LLC	210-ft PSV	1,596	197		11-Aug-09	Now Harvey Seas
564	1218414	L	Bayou Bee	Bee Mar LLC	210-ft PSV	1,596	197		8-Oct-09	Now Harvey Storm
565	1218415	L	Bee Sting	Bee Mar LLC	210-ft PSV	1,596	197		8-Dec-09	Now Harvey Hurricane
566	1218416	L	Bumble Bee	Bee Mar LLC	234-ft PSV	1,786	221		30-Mar-10	Now Harvey Rover
567	1218417	L	Queen Bee	Bee Mar LLC	234-ft PSV	1,786	221		25-May-10	Now Harvey Pioneer
568	1218418	L	Bee Hive	Bee Mar LLC	234-ft PSV	1,786	221		1-Sep-10	Now Harvey Leader

569	1218419	A	Drone Bee	Bee Mar LLC	234-ft PSV	1,786	221		22-Jul-11	Now Harvey Legend
570	1218420	A	Mason Bee	Bee Mar LLC	234-ft PSV	1,786	221		21-Dec-11	Now Stimstar Arabian Gulf
571		A		Bollinger Shipyards	Dry-Dock				2011	Active
572		A		Bollinger Shipyards	Dry-Dock				2011	Active
573	1240445	A	Hunts Point	City of New York	Sludge Carrier	2,828	280	28	24-Dec-13	Active
574	1240446	A	Port Richmond	City of New York	Sludge Carrier	2,828	280	28	29-May-14	Active
575	1240447	A	Rockaway	City of New York	Sludge Carrier	2,828	280	28	2-Sep-14	Active
576	1231889	A	Ocean Wave	Crowley Maritime	Ocean Tug	1,258	136		3-May-12	Active
577	1231890	A	Ocean Wind	Crowley Maritime	Ocean Tug	1,258	136		17-Oct-12	Active
578	WPB 87375	L	Sana'a	U.S. Coast Guard	Patrol Boat	91d	87	14	2011	Active (Yemen)
579	WPB 87376	L	Aden	U.S. Coast Guard	Patrol Boat	91d	87	14	2011	Active (Yemen)
580		A	Bubba Dove	Terrebonne Parish	Flood Gate				2013	Active
581	1231891	A	Ocean Sun	Crowley Maritime	Ocean Tug	1,258	145		15-May-13	Active
582	1231892	A	Ocean Sky	Crowley Maritime	Ocean Tug	1,258	145		18-Jun-13	Active
583	1235496	A	B. No. 250	Bouchard Tptn.	Tank Barge	4,361	304		14-Aug-12	Active
584-590										
591	1247944	A	Ms Charlotte	Edison Chouest	PSV	3,117	300		5-Jun-14	Active
592	1247945	A	Honey Bee/Rene	Edison Chouest	PSV	3,117	300		5-Feb-15	Active
593-600										
601	WPC 1101	L	Bernard C. Webber	U.S. Coast Guard	Patrol Craft	353d	153	88	10-Feb-12	Active
602	WPC 1102	L	Richard Etheridge	U.S. Coast Guard	Patrol Craft	353d	153	47	26-May-12	Active
603	WPC 1103	L	William Flores	U.S. Coast Guard	Patrol Craft	353d	153	47	15-Aug-12	Active
604	WPC 1104	L	Robert Yered	U.S. Coast Guard	Patrol Craft	353d	153	47	17-Nov-12	Active
605	WPC 1105	L	Margaret Norvell	U.S. Coast Guard	Patrol Craft	353d	153	41	21-Mar-13	Active
606	WPC 1106	L	Paul Clark	U.S. Coast Guard	Patrol Craft	353d	153	41	21-May-13	Active
607	WPC 1107	L	Charles David Jr	U.S. Coast Guard	Patrol Craft	353d	153	41	16-Aug-13	Active
608	WPC 1108	L	Charles Sexton	U.S. Coast Guard	Patrol Craft	353d	153	41	10-Dec-13	Active
609	WPC 1109	L	Kathleen Moore	U.S. Coast Guard	Patrol Craft	353d	153	45	28-Mar-14	Active
610	WPC 1110	L	Raymond Evans	U.S. Coast Guard	Patrol Craft	353d	153	45	25-Jun-14	Active
611	WPC 1111	L	William Trump	U.S. Coast Guard	Patrol Craft	353d	153	45	25-Nov-14	Active
612	WPC 1112	L	Isaac Mayo	U.S. Coast Guard	Patrol Craft	353d	153	45	13-Jan-15	Active
613	WPC 1113	L	Richard Dixon	U.S. Coast Guard	Patrol Craft	353d	153	43	14-Apr-15	Active
614	WPC 1114	L	Heriberto Hernandez	U.S. Coast Guard	Patrol Craft	353d	153	43	14-Jul-15	Active

615	WPC 1115	L	Joseph Napier	U.S. Coast Guard	Patrol Craft	353d	153	43	20-Oct-15	Active
616	WPC 1116	L	William Griesser	U.S. Coast Guard	Patrol Craft	353d	153	43	23-Dec-15	Active
617	WPC 1117	L	Donald Horsley	U.S. Coast Guard	Patrol Craft	353d	153	43	5-Mar-16	Active
618	WPC 1118	L	Joseph Tezanos	U.S. Coast Guard	Patrol Craft	353d	153	43	2-May-16	Active
619	WPC 1119	L	Rollin Fritzch	U.S. Coast Guard	Patrol Craft	353d	153	43	15-Aug-16	Active
620	WPC 1120	L	Lawrence Lawson	U.S. Coast Guard	Patrol Craft	353d	153	43	20-Oct-16	Active
621	WPC 1121	L	John McCormick	U.S. Coast Guard	Patrol Craft	353d	153	43	17-Dec-16	Active
622	WPC 1122	L	Bailey Barco	U.S. Coast Guard	Patrol Craft	353d	153	43	7-Feb-17	Active
623	WPC 1123	L	Benjamin Dailey	U.S. Coast Guard	Patrol Craft	353d	153	43	20-Apr-17	Active
624	WPC 1124	L	Oliver Berry	U.S. Coast Guard	Patrol Craft	353d	153	43	27-Jun-17	Active
625	WPC 1125	L	Jacob Poroo	U.S. Coast Guard	Patrol Craft	353d	153	43	5-Sep-17	Active
626	WPC 1126	L	Joseph Gerczak	U.S. Coast Guard	Patrol Craft	353d	153	43	9-Nov-17	Active
627	WPC 1127	L	Richard Snyder	U.S. Coast Guard	Patrol Craft	353d	153	43	8-Feb-18	Active
628	WPC 1128	L	Nathan Bruckenthal	U.S. Coast Guard	Patrol Craft	353d	153	43	29-Mar-18	Active
629	WPC 1129	L	Forrest Rednour	U.S. Coast Guard	Patrol Craft	353d	153	43	7-Jun-18	Active
630	WPC 1130	L	Robert Ward	U.S. Coast Guard	Patrol Craft	353d	153	43	21-Aug-18	Active
631	WPC 1131	L	Terrell Horne	U.S. Coast Guard	Patrol Craft	353d	153	53	25-Oct-18	Active
632	WPC 1132	L	Benjamin Bottoms	U.S. Coast Guard	Patrol Craft	353d	153	53	8-Jan-19	Active
633	WPC 1133	L	Joseph Doyle	U.S. Coast Guard	Patrol Craft	353d	153	53	21-Mar-19	Active
634	WPC 1134	L	William Hart	U.S. Coast Guard	Patrol Craft	353d	153	53	30-May-19	Active
635	WPC 1135	L	Angela McShan	U.S. Coast Guard	Patrol Craft	353d	153	53	1-Aug-19	Active
636	WPC 1136	L	Daniel Tarr	U.S. Coast Guard	Patrol Craft	353d	153	53	7-Nov-19	Active
637	WPC 1137	L	Edgar Culbertson	U.S. Coast Guard	Patrol Craft	353d	153	53	6-Feb-20	Active
638	WPC 1138	L	Harold Miller	U.S. Coast Guard	Patrol Craft	353d	153	53	30-Jul-20	Active
639	WPC 1139	L	Myrtle Hazard	U.S. Coast Guard	Patrol Craft	353d	153	48	28-May-20	Active
640	WPC 1140	L	Oliver Henry	U.S. Coast Guard	Patrol Craft	353d	153	48	31-Jul-20	Active
641	WPC 1141	L	Charles Moulthrop	U.S. Coast Guard	Patrol Craft	353d	153	48	22-Oct-20	Active
642	WPC 1142	L	Robert Goldman	U.S. Coast Guard	Patrol Craft	353d	153	48	21-Dec-20	Active
643	WPC 1143	L	Frederick Hatch	U.S. Coast Guard	Patrol Craft	353d	153	48	10-Feb-21	Active
644	WPC 1144	L	Glen Harris	U.S. Coast Guard	Patrol Craft	353d	153	48	22-Apr-21	Active
645	WPC 1145	L	Emlen Tunnel	U.S. Coast Guard	Patrol Craft	353d	153	49	1-Jul-21	Active
646	WPC 1146	L	John Scheuerman	U.S. Coast Guard	Patrol Craft	353d	153	49	21-Oct-21	Active
647	WPC 1147	L	Clarence Sutphin	U.S. Coast Guard	Patrol Craft	353d	153	49	6-Jan-22	Active
648	WPC 1148	L	Pablo Valent	U.S. Coast Guard	Patrol Craft	353d	153	49		Building

649	WPC 1149	L	Douglas Denman	U.S. Coast Guard	Patrol Craft	353d	153	49		Building
650	WPC 1150	L	William Chadwick	U.S. Coast Guard	Patrol Craft	353d	153	49		Building
651	WPC 1151	L	Warren Deyampert	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
652	WPC 1152	L	Maurice Jester	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
653	WPC 1153	L	John Patterson	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
654	WPC 1154	L	William Sparling	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
655	WPC 1155	L	Melvin Bell	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
656	WPC 1156	L	David Duren	U.S. Coast Guard	Patrol Craft	353d	153	50		Building
657	WPC 1157	L	Florence Finch	U.S. Coast Guard	Patrol Craft	353d	153	51		Building
658	WPC 1158	L	John Witherspoon	U.S. Coast Guard	Patrol Craft	353d	153	51		Building
659	WPC 1159	L	Earl Cunningham	U.S. Coast Guard	Patrol Craft	353d	153	51		Building
660	WPC 1160	L	Frederick Mann	U.S. Coast Guard	Patrol Craft	353d	153	51		Building
661	1247946	A	Honey Bee/Gemi	Edison Chouest	PSV	3,400	300		21-Oct-14	Active
662	1247947	A	Bayou Bee/Brooke	Edison Chouest	PSV	3,400	300		15-May-15	Active
	WPC 1161	L	Olivia Hooker	U.S. Coast Guard	Patrol Craft	353d	153			Building
	WPC 1162	L	Vincent Danz	U.S. Coast Guard	Patrol Craft	353d	153			Building
	WPC 1163	L	Jeffrey Palazzo	U.S. Coast Guard	Patrol Craft	353d	153			Building
	WPC 1164	L	Marvin Perrett	U.S. Coast Guard	Patrol Craft	353d	153			Building
663-670										
671	1258838	A	Robin	Edison Chouest	PSV	2,500	250		6-Nov-15	Active
672	1258842	A	Lucy	Edison Chouest	PSV	2,500	250		16-Apr-19	Active
673	1258843	A	Millie	Edison Chouest	PSV	2,500	25		2-Feb-21	Active
674-683										
684	1274226	L	Cole Guidry	Lorris G. Towing	Towboat	192	78		16-Dec-16	Active
685-689										
690	1281896	A	OSRB-4	Alaska Ventures	OSR Barge	8,522	382		3-Apr-18	Active
691	1292046	A	B. No. 252	Bouchard Tptn.	Tank Barge	4,361	304		8-Mar-19	Active
692										
693	1285078	A	Rodanthe	North Carolina DoT	Ferry	552	183	10	2-May-19	Active
694	1286017	L	Aveogan	Crowley Fuels	ATB Tug	756	128		31-Mar-20	Active
695										

696	1296706	A	Oliver Leavitt	Crowley Fuels	Tank Barge	8,164	384		31-Mar-20	Active
699	1303224	A	Holland	GDEB	SP Barge	8,364	369		2021	Active
		A		GDEB	Floating Dock		618		2021	Building

GULF ISLAND FABRICATORS

Houma LA

Most recent update: April 18, 2021.

The long-established offshore construction company, Gulf Island Fabrication, expanded into the shipbuilding business in 2008, under the name Gulf Island LLC, changing this first to Gulf Island Marine Fabricators and later to Gulf Island Shipyards after buying Quality Shipyards and Leevac Shipyards, both of which have now been closed. The Houma shipyard was sold to Bollinger Shipyards in 2021 and Gulf Island has reverted to being an offshore construction company. See the yard from the air on Google here.

Hull #	O.N.	Original Name	Original Owner	Vessel Type	GT	Ft.	Delivery	Disposition
Built by Gulf Island LLC								
101	1217464	Danny L. Whitford	Hunter Marine Transport	Towboat	445	119	3-Feb-09	Active
102	1224033	Don Boling	Pine Bluff Sand & Gravel	Towboat	907	157	30-Dec-09	Active
103	1225191	Bill Atkinson	Pine Bluff Sand & Gravel	Towboat	907	157	8-Apr-10	Active
104	1227293	Gerald Majors	Pine Bluff Sand & Gravel	Towboat	907	157	7-Jul-10	Active
105	1221907	AEP Leader	AEP River Operations	Towboat	825	157	29-Sep-09	Active
106	1229250	AEP Legacy	AEP River Operations	Towboat	825	157	3-Nov-10	Active
107	1230719	AEP Future	AEP River Operations	Towboat	825	157	11-Feb-11	Active
108	1231791	Mike Weisend	Florida Marine	Towboat	825	157	1-Jun-11	Active
109	1234601	Paul Tobin	Florida Marine	Towboat	825	157	29-Sep-11	Now Dan Elder
Built by Gulf Island Marine Fabricators LLC								
6012	na	Al Basrah (OSV 401)	Riverhawk Sea Frames	Patrol Boat	1,191	181	17-Jul-12	Subcontract, active
6013	na	Al Fayhaa (OSV 402)	Riverhawk Sea Frames	Patrol Boat	1,191	181	18-Sep-12	Subcontract, active
6014	1237383	LB Robert	Montco	Liftboat	487	178	12-Mar-12	Active
6018	1250359	The Bellator	C. S. Liftboats	Liftboat	1,770	145	19-Dec-13	Active
6019	1234953	CBC 1271	Canal Barge	Deck Barge	2,515	250	1-Nov-11	Active
6020	1236769	CBC 1272	Canal Barge	Deck Barge	2,515	250	20-Nov-11	Active
6021	1231431	Nashville Hunter	HF Marine	Towboat	852	136	29-Dec-11	Active
6022	1237745	Louisiana Bayou	ARTCO	Harbor Boat	114	64	5-Apr-12	Active
6023	1238248	Louisiana Heritage	ARTCO	Harbor Boat	114	64	1-Jun-12	Active
6024	1240252	Louisiana Lagniappe	ARTCO	Harbor Boat	114	64	27-Jul-12	Active
6025	1242087	Louisiana Pride	ARTCO	Harbor Boat	114	64	4-Oct-12	Active
6026	1243494	Louisiana Star	ARTCO	Harbor Boat	114	64	16-Nov-12	Active
6028	1244012	Kenny Billiot	Wood Towing	Towboat	151	64	28-Dec-12	Active
6033	1252618	LB Jill	Montco	Liftboat	498	178	21-Nov-14	Active
6036	1253342	Cape Horn	PSV Venture No. 1	PSV	1,426	196	30-Oct-14	Active

6037	1253341	Cape Cod	PSV Venture No. 1	PSV	1,426	196	17-Mar-15	Active
Built by Gulf Island Shipyards LLC								
6048	1262685	Rick Calhoun	Marquette Tptn.	Towboat	1,094	173	22-Sep-15	Active
6049	1266830	Loree Eckstein	Marquette Tptn.	Towboat	1,094	173	18-May-16	Active
6054	1272284	Chad Pregracke	Marquette Tptn.	Towboat	1,094	173	6-Oct-16	Active
6057	1262608	J B Barthelemy	Florida Marine	Towboat	772	180	25-Jul-16	Active
6085	1274185	U 1505	Marmac LLC	Deck Barge	534	144	29-Mar-17	Active
6086	1274257	U 1506	Marmac LLC	Deck Barge	534	144	6-Mar-17	Active
6091	1276224	U 1507	Marmac LLC	Deck Barge	534	144	2-May-17	Active
6092	1276225	U 1508	Marmac LLC	Deck Barge	534	144	2-May-17	Active
6094	1278996	U 1509	Marmac LLC	Deck Barge	534	144	18-Sep-18	Active
6095	1276225	U 1510	Marmac LLC	Deck Barge	534	144	18-Sep-18	Active
6096		Taani	NSF/Oregon State U.	Research		199		Building
6097		Resolution	NSF/U of Rhode I.	Research		199		Building
6098		Gilbert R. Mason	NSF/Oregon State U.	Research		199		Building
6099			NSF/LUMCON	Research		199		Option
6111	T-ATS 6	Navajo	U.S. Navy	Salvage Tug		263		Building
6112	T-ATS 7	Cherokee Nation	U.S. Navy	Salvage Tug		263		Building
6113	T-ATS 8	Saginaw Ojibwe Anishinabek	U.S. Navy	Salvage Tug		263		Building
6114	T-ATS 9	Lenni Lenape	U.S. Navy	Salvage Tug		263		Building
6115	T-ATS 10	Muscogee Creek Nation	U.S. Navy	Salvage Tug		263		Building
	T-ATS 11		U.S. Navy	Salvage Tug		263		Option
	T-ATS 12		U.S. Navy	Salvage Tug		263		Option
	T-ATS 13		U.S. Navy	Salvage Tug		263		Option
6119	1293054	Tori Pasentine	Florida Marine	Towboat	99	278	16-Jan-20	Active
6120	1296290	Brandon T. Pasentine	Florida Marine	Towboat	99	278	21-Apr-20	Active
		Avon	North Carolina DoT	Ferry		184		Transferred from Jennings ?
	1316739	Salvo	North Carolina DoT	Ferry		184		Transferred from Jennings ?
			Texas DoT	Ferry		300		Transferred from Jennings ?

NORTH AMERICAN SHIPBUILDING

Larose LA, Houma LA, Gulfport MS, Tampa FL

Most recent update: December 31, 2021.

North American Shipbuilding (NAS) is wholly owned by Edison Chouest Offshore (ECO) and almost all the boats built by NAS have been for ECO or one of ECO's associated companies. Visit the company at www.chouest.com. The shipyard in Larose was started in 1974. Chouest added North American Fabricators, (NAF), in Houma, in 1996, Estaleiro NavShip, in Brazil, in 2005, Gulf Ship, in Gulfport MS, in 2007, Tampa Ship, the former Tampa Bay Shipbuilding, in 2008, and La Ship, in Houma, in 2011. This latest addition, La Ship, has now absorbed NAF. See the Larose yard from the air on Google here, the Houma yard here, the Gulfport yard here and the Tampa yard here. Find the Tampa yard's table of previous experience here.

Hull #	O.N.	Yard	Original Name	Original Owner	Ship Type	GT	Ft.	Delivery	Disposition
101		L	Kirt Chouest	Edison Chouest Offshore	Harbor Tug	196		Jan-75	Now Luisa C (Venezuela)
102	566554	L	Kodiak King	Amak Towing	Tug	106	73	Mar-75	Active
103	563748	L	Moby III	Robert K. Greger	Tug	83	70	Jan-75	Now Amy Elise
104	571411	L	Corey Chouest	Edison Chouest Offshore	Harbor Tug	199	90	Jan-75	Now Taurus
105	574918	L	Edison Chouest	Edison Chouest Offshore	AHTS	298	166	Jul-76	Now Geco Manta (Vanuatu)
106	579581	L	Dionne Chouest	Edison Chouest Offshore	AHTS	267	166	Feb-77	Now Ms Maggie
107	586073	L	Carolyn Chouest	Edison Chouest Offshore	Supply	285	166	Sep-77	Now M/V Rene
108									
109	592156	L	R. L. Perkins	Edison Chouest Offshore	Supply	196	166	May-78	Now Miss Ginger
110		L	Kellie Chouest	Edison Chouest Offshore	Tug	280		Sep-78	Later Amanda
111	600288	L	Dolores Chouest	Edison Chouest Offshore	Supply	294	228	Dec-78	Active
112	596828	L	Sidney C	R. J. Guidry, Inc.	Passenger	89	111	Sep-78	Now Miss Anna
113									
114	610269	L	Dino Chouest	Edison Chouest Offshore	Seismic	296	166	Jul-79	Now Jonathan Chouest
115	613664	L	Lena C. Candies	Otto Candies	Supply	95	103	1979	Now Gale Chouest (Vanuatu)
116	609064	L	Nor' Quest	Diamondback Seafoods	Fishing	96	103	Mar-79	Active
117	613665	L	Lolita Chouest	Grand Isle Offshore	Supply	97	103	Jan-79	Inactive
118	624870	L	Loop Lifter	Holiday Offshore	Supply	298	185	Jan-80	Active
119	630555	L	Julien Chouest	North American Offshore	Supply	187	103	Jan-81	Now Julien (Vanuatu)
120	625319	L	Loop Loader	United Marine Holdings	Supply	99	82	Feb-80	Active
121	627806	L	Loop Line	United Marine Holdings	Supply	99	82	Feb-80	Active
122	637056	L	Casey Chouest	Edison Chouest Offshore	Seismic	246	169	Nov-80	Now GGS Atlantic (Marshall I)
123	644592	L	Ross Chouest	Edison Chouest Offshore	Supply	298	192	Jan-82	Now Pearl Chouest
124	648171	L	Gary Chouest	Edison Chouest Offshore	Seismic	289	224	Jan-82	Now Deep Stim III
125	652225	L	Eddie Chouest	Edison Chouest Offshore	Supply	487	215	Jan-82	Now Skye Falgout
126	655627	L	Dino Chouest	Holiday Offshore	Supply	295	187	Jan-83	Now FMS Liberty

127	659377	L	Trailblazer	Holiday Offshore	Survey	179	134	Jul-83	Active
128									
129	670533	L	Edison Chouest	Edison Chouest Offshore	Seismic	298	199	Jan-84	Now Fairfield Challenger
130	680844	L	Laney Chouest	Edison Chouest Offshore	MSV	497	210	Jul-85	Now Acergy Legend
131	694201	L	New Venture	Alpha Marine Services	Seismic	298	223	Feb-86	Now Fairfield New Venture
132	906136	L	Damon Chouest	Edison Chouest Offshore	AHTS	499	218	Oct-86	Active
133	952220	L	C-Tractor 1	Alpha Marine Services	Harbor Tug	189	96	Sep-89	Now William M
134	954163	L	C-Tractor 2	Alpha Marine Services	Harbor Tug	189	96	Sep-89	Active
135	959785	L	C-Tractor 3	Alpha Marine Services	Harbor Tug	189	96	Feb-90	Active
136	959786	L	C-Tractor 4	Alpha Marine Services	Harbor Tug	189	96	Apr-90	Active
137	981475	L	Nathaniel B. Palmer	Edison Chouest Offshore	Research	6,174	281	Feb-92	Active
138	986161	L	Loop Responder	Alpha Marine Services	Ocean Tug	398	144	Jul-92	Active
139	990155	L	Geco Marlin	Alpha Marine Services	Seismic	2,722	214	Feb-93	Now Discoverer 2 (Bahamas)
140	1040497	L	Ross Chouest	Alpha Marine Services	PSV	1,596	231	Jul-93	Active
141	995631	L	Amy Chouest	Edison Chouest Offshore	PSV	499	218	Sep-93	Active
142									
143	997967	L	C-Tractor 5	Alpha Marine Services	Harbor Tug	189	96	Dec-93	Active
144	1020547	L	Carolyn Chouest	Edison Chouest Offshore	PSV	1,586	223	Jun-94	Active
145	1023636	L	C-Tractor 6	Alpha Marine Services	Harbor Tug	147	83	Aug-94	Active
146	1023637	L	C-Tractor 7	Alpha Marine Services	Harbor Tug	147	83	Aug-94	Active
147	1023638	L	C-Tractor 8	Alpha Marine Services	Harbor Tug	147	83	Aug-94	Active
148	1023639	L	C-Tractor 9	Alpha Marine Services	Harbor Tug	147	83	Aug-94	Active
149	1023640	L	C-Tractor 10	Alpha Marine Services	Harbor Tug	147	83	Aug-94	Active
150	1023641	L	C-Tractor 11	Alpha Marine Services	Harbor Tug	147	83	Sep-94	Active
151	1030759	L	Conrad Bruckmann	Alpha Marine Services	AHTS	476	205	May-95	Now Ryan Chouest
152	1047947	L	C-Captain	Alpha Marine Services	PSV	2,042	241	Nov-96	Active
153	1049948	L	C-Clipper	Alpha Marine Services	PSV	2,042	241	Mar-97	Active
154	1057229	L	Lawrence M. Gould	Edison Chouest Offshore	Research	1,595	207	Oct-97	Active
155	1035206	L	Margaret B. Chouest	Edison Chouest Offshore	PSV	3,857	286	Nov-95	Now Akira Chouest
156	1038519	L	Kellie Chouest	Alpha Marine Services	MSV	1,590	292	Feb-96	Active
157	1040498	L	C-Tractor 12	Alpha Marine Services	Harbor Tug	190	96	Apr-96	Active
158	1040499	L	C-Tractor 13	Alpha Marine Services	Harbor Tug	190	96	May-96	Active
159	1047946	L	Mr. Jessie	Alpha Marine Services	PSV	2,043	241	Jul-97	Active
160	1049949	L	C-Commando	Edison Chouest Offshore	Seismic	291	203	Feb-97	Active
161	1049950	L	C-Crusader	Edison Chouest Offshore	Seismic	2,089	251	Apr-97	Now Deep Stim II
162	1053959	H	C-Commander	Alpha Marine Services	PSV	1,891	222	Jul-97	First boat built in Houma, active
163	1059076	L	Casey Chouest	Edison Chouest Offshore	AHTS	2,990	236	Apr-98	Active

164	1053960	P	C-Champion	Alpha Marine Services	Seismic	1,699	249	Jul-97	Now Deep Stim
165	1060716	P	C-Courageous	Edison Chouest Offshore	PSV	1,699	203	Sep-97	Active
166	1053961	P	C-Cadet	Chouest Offshore Services	Research	1,699	251	Jun-97	Now Inspiration
167	1061879	P	C-Commodore	Edison Chouest Offshore	PSV	1,962	203	Jan-98	Now C-Champion
168	1059074	P	C-Challenger	Alpha Marine Services	PSV	1,699	252	Oct-97	Active
169	1059069	H	C-Chariot	Edison Chouest Offshore	PSV	1,699	253	Dec-97	Active
170	1072353	L	Gary Chouest	Alpha Marine Services	AHTS	3,969	250	Dec-98	Active
171	1075679	L	Edison Chouest	Edison Chouest Offshore	AHTS	3,969	250	Mar-99	Active
172	1087360	L	Alex Chouest	Edison Chouest Offshore	AHTS	3,969	250	Nov-99	Active
173	1062600	H	Osca Challenger	Alpha Marine Services	PSV	1,961	222	Mar-98	Now C-Commodore
174	1064438	H	C-Ruler	Edison Chouest Offshore	PSV	2,092	222	Jun-98	Active
175	1061880	L	C-Carrier	Edison Chouest Offshore	PSV	1,891	222	Mar-98	Active
176	1061881	L	C-Contender	Edison Chouest Offshore	PSV	1,891	222	Oct-98	Active
177	1064439	L	Osca Discovery	Edison Chouest Offshore	PSV	2,163	222	Aug-98	Now C-Discovery
178	1064441	L	C-Emperor	Edison Chouest Offshore	PSV	2,092	222	Sep-98	Now Stim Star II
179	1064451	L	C-Empress	Edison Chouest Offshore	PSV	2,092	222	Nov-98	Active
180	1072354	H	C-Endeavor	Edison Chouest Offshore	PSV	2,092	222	Feb-99	Active
181	1072355	L	Stim Star	Edison Chouest Offshore	Well Stim	2,248	222	Feb-99	Active
182	1077920	H	C-Ranger	Edison Chouest Offshore	PSV	2,092	222	Apr-99	Active
183	1077917	H	C-Retriever	Edison Chouest Offshore	PSV	2,092	222	Jun-99	Active
184	1084512	H	C-Express	Edison Chouest Offshore	PSV	2,092	222	Aug-99	Active
185	1077000	L	C-Admiral	Chouest Offshore Services	PSV	1,200	176	Apr-99	Active
186	1077916	L	C-Adventurer	Chouest Offshore Services	PSV	1,200	176	Jun-00	Active
187	1090360	L	C-Aggressor	Chouest Offshore Services	PSV	1,200	176	Feb-00	Active
188	1093196	H	C-Atlas	Chouest Offshore Services	PSV	1,200	176	Apr-00	Active
189	1093195	H	C-Atlantis	Chouest Offshore Services	PSV	1,200	176	Jun-00	Active
190									
191									
192	1072357	H	C-Acclaim	Chouest Offshore Services	PSV	1,200	176	Nov-98	Active
193	1075677	H	C-Ambassador	Chouest Offshore Services	PSV	1,200	176	Mar-99	Active
194									
195	1075678	L	Geco Pegasus	Chouest Offshore Services	Seismic	1,200	176	Mar-99	Active
196	1088377	H	C-Promoter	Edison Chouest Offshore	PSV	2,092	222	Jan-00	Active
197	1077918	H	C-Provider	Edison Chouest Offshore	PSV	2,092	222	Jun-99	Active
198	1090359	H	C-Performer	Edison Chouest Offshore	PSV	2,092	222	Mar-00	Active
199	1084510	H	C-Enforcer	Edison Chouest Offshore	PSV	2,092	222	Oct-99	Active
200									

201	1082755	L	Merle Rowan	Edison Chouest Offshore	AHTS	2,137	226	Jul-99	Now Seacor Reliant
202	1090362	L	Stella Rowan	Edison Chouest Offshore	AHTS	2,137	226	Mar-00	Now Seacor Relentless
203	1084511	L	C-Rover	Edison Chouest Offshore	PSV	2,092	222	Sep-99	Active
204	1090361	H	C-Escort	Edison Chouest Offshore	PSV	2,092	222	Feb-00	Active
205	1093264	L	Heddie Rowe	Edison Chouest Offshore	AHTS	2,137	226	May-00	Now Seacor Resolve
206	1096765	L	Louise Provine	Edison Chouest Offshore	AHTS	2,137	226	Aug-00	Now Seacor Rigorous
207	1087359	H	C-Rambler	Edison Chouest Offshore	PSV	2,092	222	Nov-99	Active
208	1077919	L	C-Tractor 14	Alpha Marine Services	Tug	190	96	Jul-99	Active
209	1105465	H	C-Pioneer	Alpha Marine Services	PSV	2,295	241	Jan-01	Active
210	1109162	H	C-Pacer	Alpha Marine Services	PSV	2,295	241	Jan-01	Active
211	1130032	L	ECO 100	Edison Chouest Offshore	Poll. Control	525	172	Mar-02	Now Tranquility
212	1121214	H	Blue Shark	Nautical Ventures	Well Stim	2,940	244	Apr-02	Active (Vanuatu)
213									
214									
215	1124235	H	Stim Star III	Nautical Ventures	Well Stim	3,191	244	Apr-02	Active
216	1132635	L	Laney Chouest	Edison Chouest Offshore	AHTS	5,922	317	Feb-03	Active
217	1129685	H	C-Hero	Alpha Marine Services	PSV	2,282	244	Aug-02	Active
218	1135176	H	C-Leader	Edison Chouest Offshore	PSV	3,045	26	Feb-03	Active
219	1138822	H	C-Legend	Edison Chouest Offshore	PSV	3,045	264	May-03	Active
220	1148430	H	C-Liberty	Edison Chouest Offshore	PSV	3,045	264	Nov-03	Now Amber
221	1151580	L	C-Legacy	Edison Chouest Offshore	PSV	3,045	264	Mar-04	Active
222	1155899	H	C-Liberty	Edison Chouest Offshore	PSV	3,045	264	Jun-04	Active
223	1159775	H	Kobe Chouest	Edison Chouest Offshore	PSV	3,045	264	Nov-04	Active
224	1169958	L	Sea Venture	Edison Chouest Offshore	Survey	9,926	311	Sep-05	Active
225	1169676	H	Dionne Chouest	Edison Chouest Offshore	PSV	2,994	262	Jun-05	Active
226	1176541	H	Christian Chouest	Edison Chouest Offshore	PSV	2,994	280	Nov-05	Active
227	1178758	L	Dante	Edison Chouest Offshore	PSV	2,994	262	1-Feb-06	Active
228	1195545	L	VADM K. R. Wheeler	Reel Pipe LLC	OPDS	5,565	314	4-Sep-07	Active
229	1181292	H	Allie Chouest	Edison Chouest Offshore	PSV	2,994	262	15-Mar-06	Active
230	1185543	H	Mia	Edison Chouest Offshore	PSV	2,994	262	5-Jul-06	Active
231	1190785	H	Hannah Chouest	Edison Chouest Offshore	PSV	2,994	262	27-Oct-06	Active
232	1193955	L	Max Chouest	Reel Pipe LLC	AHTS	4,918	262	9-Mar-07	Active
233	1193951	H	Carol Chouest	Reel Pipe LLC	PSV	2,994	262	15-Feb-07	Active
234	1203475	L	Joshua Chouest	Reel Pipe LLC	PSV	2,994	262	16-Nov-07	Active
235	1195538	H	Nanuq	Nautical Ventures	Arctic PSV	3,542	280	1-May-07	Active
236	1201702	H	Celena Chouest	Nautical Ventures	AHTS	4,918	262	4-Sep-07	Active
237	1207856	L	Dino Chouest	Edison Chouest Offshore	AHTS	5,999	317	28-Apr-09	Active

238	1204808	H	C Freedom	Edison Chouest Offshore	PSV	2,998	262	17-Jan-08	Active
239	1213707	L	Kirt Chouest	Edison Chouest Offshore	AHTS	4,918	262	29-Oct-08	Active
240	1206106	H	C Fighter	Edison Chouest Offshore	PSV	2,994	262	1-Apr-08	Active
241	1201240	G	SP Amber	Alpha Marine Services	Tractor Tug	297	103	20-Mar-08	Active
242	1201242	G	SP Coral	Alpha Marine Services	Tractor Tug	297	103	26-Mar-08	Active
243	1201238	G	SP Ivory	Alpha Marine Services	Tractor Tug	297	103	26-Mar-08	Active
244	1201239	G	SP Pearl	Alpha Marine Services	Tractor Tug	297	103	26-Mar-08	Active
245	1223078	L	Holiday	Holiday LLC	AHTS	4,918	262	11-May-10	Active
246									
247	1237683	L	Aiviq	Edison Chouest Offshore	AHTS Ice	6,575	360	13-Apr-12	Active
248	1210979	H	Andrea Chouest	Edison Chouest Offshore	PSV	2,998	262	29-May-08	Now Jacky Chouest
249	1211932	H	Gavea	Nautical Solutions	PSV	2,998	262	7-Aug-08	Active
250	1213714	H	Ms Virgie	Edison Chouest Offshore	PSV	2,998	264	31-Oct-08	Active
251	1215834	H	Corcovado	Nautical Solutions	PSV	2,998	264	21-Jan-09	Active
252	1216539	H	Mr. Sydney	Edison Chouest Offshore	PSV	2,998	262	9-Apr-09	Active
253	1218372	H	Pao de Acucar	Edison Chouest Offshore	PSV	3,045	262	29-May-09	Active
254	1220625	H	Ella G	Edison Chouest Offshore	PSV	3,045	262	6-Aug-09	Now Bob
255	1219716	L	BJ Blue Dolphin	Edison Chouest Offshore	Well Stim	4,769	278	Dec-09	Now Blue Dolphin
256	1217185	G	C-Tractor 19	Galliano Marine Services	Tractor Tug	297	104	4-May-09	Active
257	1217186	G	C-Tractor 20	Galliano Marine Services	Tractor Tug	297	104	29-May-09	Active
258	1217187	G	C-Tractor 21	Galliano Marine Services	Tractor Tug	297	104	11-Aug-09	Active
259	1217189	G	C-Tractor 22	Galliano Marine Services	Tractor Tug	297	104	11-Aug-09	Active
260	1222345	H	Norbert Bouziga	Nautical Solutions	PSV	3,045	262	23-Sep-09	Active
261	1223077	H	Ingrid	Nautical Solutions	PSV	3,045	262	Dec-09	Now Doug
262	1224614	H	Joe Griffin	Island Ventures	PSV	2,998	262	2-Mar-10	Active
263	1226288	H	Blue Tarpon	Nautical Solutions	Well Stim	4,957	278	22-Jun-10	Active
264	1223605	L	Forte	Edison Chouest Offshore	Tractor Tug	1,495	157	29-Apr-10	Active
265	1240194	G	Roger White	Edison Chouest Offshore	PSV	3,045	299	10-Aug-12	Active
266	1238612	T	Jack Edwards	Edison Chouest Offshore	PSV	3,045	299	13-Jun-12	Active
267	1239022	L	Robert Adams	Edison Chouest Offshore	PSV	3,045	299	5-Jul-12	Active
268	1240193	H	Russell Bouziga	Edison Chouest Offshore	PSV	3,045	299	27-Sep-12	Active
269	1227085	L	Lyman Martin	Edison Chouest Offshore	PSV	2,998	262	21-Jul-10	Active
270	1229785	H	Deepstim Brasil I	Edison Chouest Offshore	Well Stim	5,914	318	22-Aug-11	Now chem carrier Guyana Hero
271	1235116	H	Alyssa Chouest	Edison Chouest Offshore	PSV	3,045	299	5-Jan-12	Active
272	1236257	H	Deepstim Brasil II	Edison Chouest Offshore	Well Stim	5,914	318	20-Jun-12	Now chem carrier C Confidence
273	1244383	G	Ted Smith	Edison Chouest Offshore	PSV	3,242	299	11-Feb-13	Active
274	1242697	L	Gary Rook	Edison Chouest Offshore	PSV	3,242	299	15-Nov-12	Active

275	1244385	T	Clarence Triche	Edison Chouest Offshore	PSV	3,242	299	21-Feb-13	Active
276	1243792	L	Juan C	Edison Chouest Offshore	PSV	3,242	299	27-Mar-13	Active
277	1247046	H	Russell Adams	Edison Chouest Offshore	PSV	3,242	299	23-Aug-13	Active
278	1246341	G	Charlie Comeaux	Edison Chouest Offshore	PSV	3,242	299	3-Jul-13	Active
279									
280	1246885	H	Blue Orca	Edison Chouest Offshore	Well Stim	5,914	318	5-Sep-13	Active
281	1247019	L	C-Installer	Edison Chouest Offshore	MPPSV	3,546	312	12-Feb-14	Active
282	1247918	T	C-Endurance	Edison Chouest Offshore	PSV	3,242	299	18-Oct-13	Active
283	1252298	H	Great Expectations	Edison Chouest Offshore	PSV	1,595	299	9-Jul-14	Active
284	1250605	L	Grand Isle	Edison Chouest Offshore	MPPSV	3,546	312	23-Jul-14	Active
285	1251360	G	Timbalier Island	Edison Chouest Offshore	MPPSV	3,546	312	5-May-14	Active
286	1252257	T	Brad Dartez	Edison Chouest Offshore	MPPSV	3,546	312	23-May-14	Active
287	1250603	H	Clarence Moore	Edison Chouest Offshore	PSV	3,242	299	4-Feb-14	Active
288	1253395	H	Avery Island	Edison Chouest Offshore	PSV	4,828	299	3-Nov-14	Active
289	1258532	L	Pecan Island	Edison Chouest Offshore	PSV	4,828	299	21-Apr-15	Active
290	1252958	G	Ship Island	Edison Chouest Offshore	PSV	4,828	299	30-Oct-14	Active
291	1255030	T	Horn Island	Edison Chouest Offshore	PSV	4,828	299	3-Nov-14	Active
292	1257727	T	Sanibel Island	Edison Chouest Offshore	PSV	4,828	299	16-Mar-15	Active
293	1257750	L	Cat Island	Edison Chouest Offshore	PSV	4,828	299	31-Mar-15	Active
294	1262977	T	Paradise Island	Edison Chouest Offshore	PSV	4,828	278	26-Feb-18	Active
295	1261549	L	Pelican Island	Edison Chouest Offshore	PSV	4,649	278	5-Feb-16	Active
296	1256870	L	Stim Star IV	Edison Chouest Offshore	Well Stim	7,080	318	16-Apr-15	Active
297	1262978	G	Dauphin Island	Edison Chouest Offshore	PSV	4,649	278	5-Feb-16	Active
298	1311043	L	C Constructor	Edison Chouest Offshore	PSV	5,768	278	9-Jun-21	Active
299	1259152	H	Wine Island	Edison Chouest Offshore	PSV	4,828	299	19-Jun-15	Active
300	1277566	H	Fantasy Island	Edison Chouest Offshore	PSV	4,539	278	13-Jul-17	Active
301	1262635			Edison Chouest Offshore	PSV	4,828	299		Building
302	1266925	H	Marsh Island	Edison Chouest Offshore	PSV	4,828	299	29-Jan-18	Active
303									
304									
305									
306									
307									
308									
309	1286410	G	CC Gregory	CC Tugs	Harbor Tug	293	96	18-Jul-18	Active
310									
311	1286413	G	CC Portland	CC Tugs	Harbor Tug	293	96	10-Aug-18	Active

312	1286411	G	CC La Quinta	CC Tugs	Harbor Tug	293	96	16-Oct-18	Active
313									
314	1286412	G	CC Aransas	CC Tugs	Harbor Tug	293	96	24-Oct-18	Active
315	1281953	G	Elrington	Alaska Ventures LLC	Harbor Tug	293	96	24-Jan-18	Active
316	1281954	G	Latouche	Alaska Ventures LLC	Harbor Tug	293	96	9-Mar-18	Active
317	1283113	G	Bainbridge	Alaska Ventures LLC	Harbor Tug	293	96	5-Apr-18	Active
318	1283116	G	Ingot	Alaska Ventures LLC	Harbor Tug	293	96	17-Apr-18	Active
319									
320	1281031	L	Commander	Alaska Ventures LLC	Tug	1,161	129	30-Jan-18	Active
321	1281030	L	Courageous	Alaska Ventures LLC	Tug	1,437	129	27-Mar-18	Active
322									
323									
324	1283119	L	Contender	Alaska Ventures LLC	Tug	1,437	129	17-May-18	Active
325	1283120	L	Champion	Alaska Ventures LLC	Tug	1,161	129	13-Apr-18	Active
326	1283124	L	Challenger	Alaska Ventures LLC	Tug	1,437	129	1-May-18	Active
327									
328									
329									
330									
331		L	Viking Mississippi	Viking Cruises	Passenger		450		Building
332	1315350	T	Emily	Edison Chouest Offshore	Harbor Tug	498	93	13-Sep-21	Active
333	1315351	T	Jack	Edison Chouest Offshore	Harbor Tug	498	93	21-Dec-21	Active
334	1315352	G	Matthew	Edison Chouest Offshore	Harbor Tug	498	93	23-Sep-21	Active
335	1315353	G	Morgan	Edison Chouest Offshore	Harbor Tug	498	93	15-Nov-21	Active
336		G		Edison Chouest Offshore	Harbor Tug	498	93		Building
337		G		Edison Chouest Offshore	Harbor Tug	498	93		Building
338		L		Orsted Offshore	Wind Svce. Vsl.		260		Building

HALTER MARINE OFFSHORE

Pascagoula MS

Most recent update: October 11, 2017.

Halter Marine Offshore was created in the 1990s by Ham Marine, which later became part of Friede Goldman Offshore. It was a new facility, developed with Title XI financing for the construction, conversion and repair of offshore drilling rigs. It was acquired by Signal International in 2002 out of the bankruptcy of Friede Goldman Halter, but Signal filed for Chapter 11 in 2015 and the company was restructured at the end of that year as World Marine LLC. Most recently, World Marine sold it to VT Halter Marine, whose Pascagoula shipyard lies immediately to the north, on the west side of Bayou Casotte. See the yard from the air on Google here.

Hull #	O.N.	Original Name	Original Owner	Vessel Type	GT	Ft.	Delivery	Disposition
Built by Friede Goldman Offshore								
		Marine 500	Marine Drilling	Semi-Submersible			1998	Now Pride South Pacific
		Marine 700	Marine Drilling	Semi-Submersible			1998	Now Pride North America
		Eirik Raude	Ocean Rig ASA	Semi-Submersible			2002	Active
		Leiv Eriksson	Ocean Rig ASA	Semi-Submersible			2002	Active
Built by Signal International								
	1162687	Mr T	Signal International	Deck Barge	871		2004	Active
	na	Neptune TLP	BHP Billiton	Tension-Leg Platform			22-Feb-08	Subcontract
	na	J. P. Bussell	Rowan Companies	Jack-Up			19-Nov-08	Subcontract

BAY SHIPBUILDING

Sturgeon Bay WI

Most recent update: January 17, 2022.

Bay Shipbuilding was created in 1967, when Manitowoc Corporation closed its yard in Manitowoc and acquired two shipyards in Sturgeon Bay - Sturgeon Bay Shipbuilding & Dry Dock, and Christy Corp. The first of these, Sturgeon Bay SB, had started life as Rieboldt, Wolter & Co., subsequently becoming Universal Shipbuilding Co. and Sturgeon Bay Dry Dock Co. The other, Christy Corp., had formerly been Leathem D. Smith Towing & Wrecking Co., Leathem D. Smith Dock Co. and Leathem D. Smith Shipbuilding & Dry Dock Co. In 2008, Manitowoc sold its Marine Group, comprising Bay Shipbuilding, Marinette Marine and Cleveland Ship Repair, to Fincantieri and it is now called Fincantieri Marine Group, with this shipyard now being called Fincantieri Bay Shipbuilding. Visit the shipyard at www.bayshipbuildingcompany.com and see it from the air on Google here.

Hull #	O.N.	Original Name	Original Owner	Ship Type	GT	Ft.	Delivery	Disposition
Built by Rieboldt, Wolter & Co. in Sheboygan								
	95868	H. M. Van Ellis		Tug	28		1885	
	116093	Sheboygan		Tug	63		Jun-86	
	95970	Helena		Cargo Vessel	2,083		Aug-88	
		Cataract	City of Milwaukee	Fire Boat	129		1888	
	81203	Welcome		Launch	10		1888	
	81218	W. H. Simpson	Milwaukee Tugboat Line	Tug	49		May-89	
	92099	Milwaukee		Tug	52		1889	
	92102	Marion		Cargo Vessel	1,206		Jun-89	
	116269	Starke		Tug	49		1889	
	76883	John Schroeder		Cargo Vessel	372		Jun-90	
	81258	Welcome		Tug	78		Apr-90	
	96063	Hoffnung Bros.		Tug	56		1890	
	145600	Two Brothers		Fishing Vessel	38		Sep-91	
	164562	No. 5		Barge	94		1891	
	164561	No. 6		Barge	94		1891	
	163077	No. 7		Dredge	292		1891	
	164054	No. 7		Barge	151		1892	
	164055	No. 8		Barge	158		1892	
	136315	E. A. Shores Jr.		Cargo Vessel	520		Aug-92	
	141224	Luise M		Fishing Vessel	19		1892	
	150577	P. Reckinger		Fishing Vessel	43		1892	
	164056	No. 8		Dredge	385		1893	
	130654	James Foley	City of Milwaukee	Fire Boat	136		1893	Later No. 17
	86236	Gunderson Bros.		Tug	46		Jan-93	
	164028	No. 1		Barge	200		1893	
	164029	No. 2		Barge	200		1893	
	164053	No. 3		Barge	190		1893	
	116628	Satisfaction		Tug	48		Jun-94	
		No. 1	U.S. Army Corps of Engineers	Pile Driver		66	1894	
		Drydock No. 1	Rieboldt, Wolter & Co	Floating Dock		215		
		Drydock No. 2	Rieboldt, Wolter & Co	Floating Dock		170		
		Drydock No. 3	Rieboldt, Wolter & Co	Floating Dock		150		
		Drydock No. 4	Rieboldt, Wolter & Co	Floating Dock		100		
Built by Rieboldt, Wolter & Co. in Sturgeon Bay								
	130711	August F. Janssen	City of Milwaukee				1896	Later No. 23
				Piledriver Scow		60	1896	
			Pankratz Lumber Co.	Barge		150	1900	
			Pankratz Lumber Co.	Barge		150	1900	
			Pankratz Lumber Co.	Barge		150	1900	

			Pankratz Lumber Co.	Barge		150	1900	
	162499	Porto Lapidum		Barge	722		1900	
	77521	J. Bomner		Tug	74	83	1901	Later Bath City
	136927	Elsie Neil		Fishing Vessel	41	62	1901	
	117140	Sylvia		Fishing Vessel	48	51	1902	
	203279	Junior		??	339		1906	
	203898	Peter Reiss	C. Reiss Coal Co.	Tug	95	76	1906	
		No. 2	U.S. Army Corps of Engineers	Pile Driver		60	1906	
	163629	Andrew		Barge	287	112	1908	
		No.2	U.S. Army Corps of Engineers	Derrick Barge		84	1908	
		Riprap	U.S. Army Corps of Engineers	Barge		140	1911	
	209271	A. W. Luebke	Luebke & Luebke	Tug	52	62	1911	
	164792	No. 1		Dredge	293		1911	
	211740	Charles M. Hyttel		Fishing Vessel	62	61	1913	
				Barge			1914	
				Barge			1914	
				Barge			1914	
			Wisconsin Dredge & Dock	Barge		125	1914	
	173489	No. 9		Barge	240		1915	
	213686	Chief		Fishing Vessel	25	44	1915	
			National Brick Co.	Barge		120	1916	
	216276	Sturgeon Bay	Lake & Ocean Navigation	Cargo Vessel	2,383	250	1918	
Built by Universal Shipbuilding								
1	222863	Commodore	U.S. Shipping Board	Tug (1055/2478)	763	142	1919	Cancelled but completed privately and sold 1923 as Waukegan
2	222887	Commander	U.S. Shipping Board	Tug (1055/2479)	763	142	1919	Cancelled but completed privately and sold 1923 as Kenosha
3	222985	Lieutenant	U.S. Shipping Board	Tug (1055/2480)	763	142	1919	Cancelled but completed privately and sold 1923 as Sheboygan
Built by Sturgeon Bay Dry Dock								
4	221409	M. H. Stuart	Traverse City Tptn.	Cargo Vessel	192	104	1921	
5	223706	Gilbert	Lake Sand Corp.	Dredge	1,108	195	1924	
6		DSS 3	U.S. Army Corps of Engineers	Scow		80	1924	
7		DSS 4	U.S. Army Corps of Engineers	Scow		80	1924	
8		FLS-31	U.S. Army Corps of Engineers	Scow		81	1924	
Built by Sturgeon Bay Shipbuilding & Dry Dock								
9	258629	Neenah	U.S. Army Corps of Engineers	Tug	46	60	1928	Sold as Shamrock
10	227538	Edward E. Gillen	Edward E. Gillen Towing	Tug	68	73	1928	
11	228581	Welcome	William Jepson	Passenger	58	61	1929	
12			U.S. Army Corps of Engineers	Derrick Barge			1930	
Built by Sturgeon Bay Shipbuilding & Dry Dock (under new owners)								
101	237885	Cheerio	Richard Jacobsen	Fishing Vessel	22	36	1935	Now Resolute
102	235715	Manville L.	Manville Lafond & Sons	Fish Tug	30	42	1936	
103	236809	F. de Vet & Sons	Frank De Vet & Sons	Fish Tug	34	42	1937	
104		Algoma	U.S. Army Corps of Engineers	Tender		45	1939	
105	239265	Dam Yank	Lynch Bros. Co.	Towboat	47	61	1939	
106	239198	Tadpole	Lea River Lines	Towboat	47	61	1939	Later Martee, Herman K, Sue Ann, Jess Lee, Mean Gene, now Ralph Sykes
107	240091	Polliwog	Lea River Lines	Towboat	84	53	1940	Now Principio
108	240194	Frog	Lea River Lines	Towboat	82	53	1940	Now Marsha L
109	294428	Holland	U.S. Army Corps of Engineers	Tender	27	42	1940	Sold 1997 as Captain Roy, now Ethan George
110		Pep	Mid-Continent Barge Lines	Towboat		42	1942	Built on spec.
111		Pard	Mid-Continent Barge Lines	Towboat		42	1942	Built on spec.
112	240191	Neptune II	Wallace Green	Fishing Vessel	28	38	1940	
113	240269	Bullfrog	Lea River Lines	Towboat	111	76	Jan-41	Later Chief Powhatan, Nancy Jene, now Bullfrog

114	240858	Anker L. Christy	Pure Oil S S Co.	Towboat	250	102	Jul-41	Later Kay D, Chief Reelfoot, Miss Birdie Mae, Carl
115		Capt. Hemenway	U.S. Army Corps of Engineers	Tender		53	1941	
116		Greer	U.S. Army Corps of Engineers	Tender		53	1942	
117		Moore	U.S. Army Corps of Engineers	Tender		53	1942	
118	240518	Inca	Indian River Line	Towboat	78	61	1941	
119	240540	Waterbug	Petroleum Carriers Corp.	Tug	33	47	Apr-41	
120			U.S. Army Corps of Engineers	Tug			Dec-41	
121	518955	L 92	U.S. Army QM Corps	Dist. Box Boat		64	Nov-41	Sold 1969 as Kathy L
122		L 93	U.S. Army QM Corps	Dist. Box Boat		64	Nov-41	
123		L 94	U.S. Army QM Corps	Dist. Box Boat		64	Nov-41	
124		L 95	U.S. Army QM Corps	Dist. Box Boat		64	Nov-41	
	287429	Ex-L-boat ?		Freight Ship	61	60	1941	Later T-473, Mariner, now ABC-1
	532590	Ex-L-boat ?		Tug	58	60	1941	Sold 1971 as Dawn, later Fawn, Acushnet.
125	240679	Cajun	Petroleum Carriers Corp.	Tug	55	56	1941	Sold to USACOE 1945 as Fife
126		L 96	U.S. Army QM Corps	Dist. Box Boat		64	Mar-42	
127		L 97	U.S. Army QM Corps	Dist. Box Boat		64	Mar-42	
128		L 98	U.S. Army QM Corps	Dist. Box Boat		64	Apr-42	
129		L 99	U.S. Army QM Corps	Dist. Box Boat		64	Apr-42	
130		Owen M Frederick	U.S. Army Corps of Engineers	Tug	56	64	Jan-41	
131	505517	Pina	U.S. Army Corps of Engineers	Tender	29	49	1941	To USA as ST 900, to CoE as Elsie, sold 1966, later R H Vaughan, Lauren E, now Shenandoah
132	241943	Chas. W Snider	Pure Oil Co.	Towboat	292	108	Jan-41	
133		H 2	U.S. Army QM Corps	Retrieving Vessel	493	158	Jan-43	Later Morrow
134		H 3	U.S. Army QM Corps	Retrieving Vessel	493	158	Dec-42	Later Van Nostrand, Ensenada II (Mexico)
135		H 4	U.S. Army QM Corps	Retrieving Vessel	493	158	Jan-43	Later Miller, Babun (Honduras)
136		H 5	U.S. Army QM Corps	Retrieving Vessel	493	158	May-43	Later Beck
137		H 6	U.S. Army QM Corps	Retrieving Vessel	493	158	May-43	Later Colgan, Aleutian Queen
138		H 7	U.S. Army QM Corps	Retrieving Vessel	493	158	May-43	Later Chandler, Jean Arnoux
139		H 8	U.S. Army QM Corps	Retrieving Vessel	493	158	May-43	Later Bane, Rene Nicolau
140		H 9	U.S. Army QM Corps	Retrieving Vessel	493	158	Jun-43	Later Bower
141		F 5	US Army Tptn. Corps	Coastal Freighter	168	99	Jun-43	
142		F 6	US Army Tptn. Corps	Coastal Freighter	168	99	Jun-43	To the Philippines as Governor Forbes
143		F 7	US Army Tptn. Corps	Coastal Freighter	168	99	Jul-43	
144	201731	F 8	US Army Tptn. Corps	Coastal Freighter	168	99	Aug-43	Later Dona Rosario
145		F 9	US Army Tptn. Corps	Coastal Freighter	168	99	Aug-43	To the Philippines as Governor Wood
146		F 10	US Army Tptn. Corps	Coastal Freighter	168	99	Aug-43	
147		F 11	US Army Tptn. Corps	Coastal Freighter	168	99	Aug-43	
148		F 12	US Army Tptn. Corps	Coastal Freighter	168	99	Sep-43	To Surinam as Albina
149		F 13	US Army Tptn. Corps	Coastal Freighter	168	99	Sep-43	Later Vestrefjord, Tyfon Sjovik
150		F 14	US Army Tptn. Corps	Coastal Freighter	168	99	Sep-43	
151	244705	Sturshipco	William J. Wolter	Tug	19	41	1943	Now Bayship
152		H 10	U.S. Army QM Corps	Retrieving Vessel	493	158	Jul-43	Later Stone, Avis (China)
153		H 11	U.S. Army QM Corps	Retrieving Vessel	493	158	Aug-43	
154		ST 171	US Army Tptn. Corps	Tug	18	45	Feb-43	
155		ST 172	US Army Tptn. Corps	Tug	18	45	Feb-43	
156	966982	ST 173	US Army Tptn. Corps	Tug	18	45	Mar-43	Sold as Robert Purcell
157	252691	ST 174	US Army Tptn. Corps	Tug	18	45	Mar-43	Sold as Kenneth
158	250473	ST 175	US Army Tptn. Corps	Tug	18	45	Mar-43	Sold 1946 as Jane T, now Gretchen B
159		ST 176	US Army Tptn. Corps	Tug	18	45	Apr-43	
160		ST 177	US Army Tptn. Corps	Tug	18	45	Apr-43	
161	250830	ST 178	US Army Tptn. Corps	Tug	18	45	Apr-43	Sold as Lakewyn
162		ST 179	US Army Tptn. Corps	Tug	18	45	Apr-43	
163		ST 180	US Army Tptn. Corps	Tug	18	45	May-43	

164		F 126	US Army Tptn. Corps	Coastal Freighter	168	99	Oct-43	
165		F 127	US Army Tptn. Corps	Coastal Freighter	168	99	Oct-43	
166		F 128	US Army Tptn. Corps	Coastal Freighter	168	99	Oct-43	
167		F 129	US Army Tptn. Corps	Coastal Freighter	168	99	Oct-43	
168		F 130	US Army Tptn. Corps	Coastal Freighter	168	99	Dec-43	
	911172	Ex-ST ?		Tug	28	45	1943	Now Barry J
		Ex-ST ?		Tug	18	42	1943	Now James Harris
		Ex-H-boat?		Fishing Vessel	490	148	1943	Now Sea Fisher
	509766	Derrick No. 43	Roen Salvage Company	Derrick Barge	139	75	1944	
169		H 12	U.S. Army QM Corps	Retrieving Vessel	493	158	May-44	
170	288164	FS 361	US Army Tptn. Corps	Coastal Freighter	560	176	Mar-44	To USN 1947 as Ryer (AG 138), later AKL 9, sold 1962 as Ahti
171	202803	FS 362	US Army Tptn. Corps	Coastal Freighter	560	176	Mar-44	To the Philippines as Grace I
172		FS 363	US Army Tptn. Corps	Coastal Freighter	560	176	May-44	To China as Poppy
173	212220	FS 364	US Army Tptn. Corps	Coastal Freighter	560	176	Mar-44	To Guam as FS 364, later Sirena
174	205597	FS 365	US Army Tptn. Corps	Coastal Freighter	560	176	Apr-44	Later Governor Wright
175	203623	FS 366	US Army Tptn. Corps	Coastal Freighter	560	176	Apr-44	To the Philippines as Sorsogon
176		FS 367	US Army Tptn. Corps	Coastal Freighter	560	176	May-44	Retained by USA
177	315884	FS 368	US Army Tptn. Corps	Coastal Freighter	560	176	Jul-44	To USN 1950 as AKL 26, namrf Temac 1952, struck 1959, later New Providence
178		FS 369	US Army Tptn. Corps	Coastal Freighter	560	176	Jul-44	To USN 1950 as AKL 27, struck 1966
179		FS 370	US Army Tptn. Corps	Coastal Freighter	560	176	Jul-44	To USN 1947 as AKL 28, named Brule 1952, to Korea 1974
180		FS 371	US Army Tptn. Corps	Coastal Freighter	560	176	Aug-44	To USN 1950 as AKL 29, later Menara Mas (Panama)
181	205499	FS 372	US Army Tptn. Corps	Coastal Freighter	560	176	Aug-44	To the Philippines as Victor
182	205597	FS 373	US Army Tptn. Corps	Coastal Freighter	560	176	Sep-44	Later Governor Wright
183	288598	FS 374	US Army Tptn. Corps	Coastal Freighter	560	176	Oct-44	Sold as fishing vessel Midas, later Akutan, scuttled 2018
184		ST 879	US Army Tptn. Corps	Tug	148	86	Apr-45	Now ASC Legazpi
185	293577	ST 880	US Army Tptn. Corps	Tug	148	86	May-45	To USACOE as Avondale, sold 1964 as Adrienne-B, now Old Mission
186		ST 881	US Army Tptn. Corps	Tug	148	86	Jul-45	Later TD 43
187		ST 882	US Army Tptn. Corps	Tug	148	86	Jul-45	Sold 19xx as Miguelito (Dom Rep)
188		ST 883	US Army Tptn. Corps	Tug	148	86	Jul-45	
189		ST 884	US Army Tptn. Corps	Tug	148	86	Aug-45	To Turkey 194x as Pilot I. then 2008 yacht Marinel 1, lost 2010
190		ST 885	US Army Tptn. Corps	Tug	148	86	Apr-46	To China as No. 10
191		ST 886	US Army Tptn. Corps	Tug	148	86	May-46	To China as No. 11
192		ST 887	US Army Tptn. Corps	Tug	148	86	Jun-46	To China as No. 12
193		ST 888	US Army Tptn. Corps	Tug	148	86	Jul-46	To China as No. 13
194	289334	ST 918	US Army Tptn. Corps	Tug	45	45	Apr-45	To USACOE as Lucas, sold 1962 as Keni JW, then Northport Light
195		ST 919	US Army Tptn. Corps	Tug	45	45	Apr-45	
196		ST 920	US Army Tptn. Corps	Tug	45	45	Apr-45	
197		ST 921	US Army Tptn. Corps	Tug	45	45	Apr-45	
198		ST 922	US Army Tptn. Corps	Tug	45	45	Apr-45	
199		ST 923	US Army Tptn. Corps	Tug	45	45	Apr-45	
200		ST 924	US Army Tptn. Corps	Tug	45	45	Apr-45	
201		ST 925	US Army Tptn. Corps	Tug	45	45	Apr-45	
202		ST 926	US Army Tptn. Corps	Tug	45	45	Apr-45	
203	282348	ST 927	US Army Tptn. Corps	Tug	45	45	Apr-45	Sold 1960 as Tom W, then Dorchester, Salem
204		ST 928	US Army Tptn. Corps	Tug	45	45	Apr-45	To Marad as PF 27, sold 1991 as Little Toot, scrapped 2011
205	287368	ST 929	US Army Tptn. Corps	Tug	45	45	Apr-45	Sold 19xx as James Edward, then David E, then Brandon E, now Danielle E, Heidi?
206	248987	Lucky Star	Lester T Vickers	Fishing Vessel	119	85	Nov-45	
207	250390	Barbara C. Angell	Wm. Angell	Fishing Vessel	119	85	Sep-46	
208		??						
209	248986	C.W. Lind	Clarence Lind	Fishing Vessel	23	39	1945	
210	248988	Skipper	Howard O. Weborg	Fishing Vessel	23	39	1945	
211	249029	Ruby Ann	William Barbeau	Fishing Vessel	23	39	1945	

212		??						
213	252399	John Roen IV	Roen Tptn. Co.	Tug	592	142	Jun-47	Completion of LT 833, Tampa Marine's Hull 43
214	251612	Weatherwood	United States Gypsum	Towboat	176	85	1947	Later Andrew Louis
215	256805	Derrickboat No.10	Luedtke Engineering	Derrick Barge	396	130	1946	Active
216	251041	Silver Bay	Silver Bay Inc.	Fishing Vessel	163	88	Dec-46	
217		??						
218	252094	Sirius Star	William J. Wolter	Fishing Vessel	198	104	1947	Now Michigan
219	252918	Marjelea	Lea River Lines	Tug	282	103	1947	Later Triple Power, Kentuckian
220	252256	West Shore	Bay City Boat Lines	Passenger	94	60	1947	
221	253170	Mackinac Islander	Arnold Transit	Ferry	84	78	1947	Now Drummond Islander
222	255631	Aztec	Indian River Lines	Towboat	500	110	1948	Later Bill Henry
223			City of Green Bay	Scow		26	1948	
224	Federal	Kankakee	U.S. Army Corps of Engineers	Launch		46	1948	
225	257910	Bill Wolter	William J. Wolter	Tug	376	108	Jun-49	Completion of an LSM, later Robert P. Bonnie, Molly Smith
226	257498	Sturgeon Bay Queen	Mid-Continent Barge Line	Tug	273	105	May-49	Later Mid-Continent Queen, Bayou La Reine
227	260029	R. H. McElroy	Pure Oil Co.	Tug	506	108	Jun-50	Later L W Sweet, Ann Murdock, John Giles Pater, Kevin D, Russell Ray, now Smitty
228	258929	Wisconsin	John Roen	Fishing Vessel	226	110	Nov-49	
229	259864	C. G. Richter	Washington Island Ferry	Ferry	82	65	1950	Now Treasure Seeker
230	261069	Polliwog	Lea River Lines	Towboat	271	90	Dec-50	
231	261102	Emily Jean	G.W. Gladders Towing	Towboat	271	90	Dec-50	Later Rising Sun
232	262300	Inca	Indian River Lines	Towboat	271	90	1951	Later Barbara Lee, Inca, Alton Simms, deactivated 2006
234	262467	Petco 20	Petco Corp.	Towboat	271	90	Sep-51	Later Clark St Paul, Wisconsin, Sibley
235	266045	Island Creek	Island Creek Fuel & Tpt.	Towboat	271	90	1952	
236	264096	Irving Crown	Material Service Corp.	Towboat	271	90	Aug-52	Now David E
237	266363	Inwaco	Inlands Waterways Corp.	Towboat	397	111	Oct-53	Later Carrie S, Clarke Frame, Cheri Conway, David E, Kristin Lee Hannah
238	283866	Islander III	Hugh Lapointe	Yacht	51	52	1954	Later Eleanor Lapointe, Black River
239	267685	Wm. M. Miller	Lee Miller	Passenger	96	60	1954	Now Princess Wenonah
240	270589	Tugboat Hannah	Inland Waterways Tptn.	Tug	133	78	1955	Later Tugboat Pantex, Gustavo P.
241	270690	Harbor Ace	Chicago Towing Co.	Tug	134	78	1955	Later Gopher State, Miss Peggy, Betty Gale, Hannah D. Hannah, now Coloma L Warner.
242		??						
243	271911	Shuttler	Lea River Lines	Towboat	167	84	1956	Later Margaret M Hannah, now Margaret M
244	274924	James J Versluis	City of Chicago	Tug	126	78	Sep-57	Active
245	272775	Dispatcher	Lea River Lines	Towboat	167	84	1956	
246	275731	Harbor King	Chicago Towing Co.	Tug	134	78	1957	Later Red Wing, lost 1999
247	278908	Nokomis	Famous Soo Locks Cruise	Passenger	70	65	1959	Active
248	279095	La Voyageur	Famous Soo Locks Cruise	Passenger	70	65	1959	Active
249	278833	Mary P	John H. Purves Inc.	Freight Barge	444	140	1959	Active
250	279083	Put-In-Bay	Lee Miller	Ferry	98	91	1959	Now Sacre Bleu.
251	282089	Voyageur	Washington I. Ferry Line	Ferry	98	60	1960	Active
252		??						
253	285127	Marlyn	Shoreline Marine Co.	Ferry	70	65	1961	Active
254	286011	Peach State	Great Lakes Dredge	Tug	19	42	1961	Active
255	288127	RL 1401	Indiana Michigan Corp.	Barge	470	192	1962	
256	289010	Beaver Islander	Beaver Island Boat Co.	Ferry	95	87	1962	Active.
257	289960	Massachusetts	Boston Fishing Boat Co	Fishing Vessel	238	114	Nov-62	Active
258	290638	Sturgeon Bay	Charlevoix Transit Co.	Fishing Vessel	238	114	Apr-63	Now Provider.
259	1034261	Mysis	Northeastern University	Passenger	37	50	1963	Active
260	WLIC 75306	Clamp	U.S. Coast Guard	Tender	145	75	24-Nov-64	Active
261	292315	Derrick 93	Asher Marine Rentals	Derrick Barge	208	100	Jul-63	Lost 1969
262	WLIC 75307	Wedge	U.S. Coast Guard	Tender	145	75	10-Dec-64	Struck 1996
263	1047286	Derrick Scow No. 3	Edward E. Gillen Co.	Derrick Barge	218	93	1963	
264	639319	Eastward	Duke University	Research Ship	284	104	Sep-64	Active

265	298268	Bay State	Bay State Trawler Corp.	Fishing Vessel	212		Apr-65	Active
266	502064	Victor	Bethel Inc.	Fishing Vessel	164	80	1965	Now Vila Novo da Corvo
267	505311	Smaragd	Ellingsen Fishing Corp.	Fishing Vessel	147	85	1966	Now Emerald Sea
268	507438	Pat-San-Marie	Boat Pat-San-Marie Inc.	Fishing Vessel	183		1966	Now Gulf Spirit
269	507439	Chas. Asher	Roen Salvage Inc.	Tug	39	49	1967	Active
270	509672	Dorothy M Oï¿½Hara	Jeanne Dï¿½Arc Inc.	Fishing Vessel	196	101	1967	Now Patience
271	515712	Old Colony	Old Colony Trawling Corp.	Fishing Vessel	311		Oct-68	Now Jupiter
Built by Leathem D. Smith Towing & Wrecking Co.								
	218940	Active	U.S. Shipping Board	Tug (1086/2154)	177	100	Oct-19	To USN 1925 as Diligent (YT 113), sold 1936
	218785	Diligent	U.S. Shipping Board	Tug (1086/2155)	177	100	Aug-19	Later Niagara
	218939	Energy	U.S. Shipping Board	Tug (1086/2156)	177	100	Sep-19	Later Niagara, YT 332, Kenmore
	219079	Bison	U.S. Shipping Board	Tug (1086/2784)	177	100	Oct-19	Later Mary T. Tracy
	219144	Bullock	U.S. Shipping Board	Tug (1086/2785)	177	100	Nov-19	Later Reliance, George W. Stevens, C. H. Hix
	219145	Ox	U.S. Shipping Board	Tug (1086/2786)	177	100	Dec-19	Later Claremont
	219483	Bear	U.S. Shipping Board	Tug (1086/2787)	177	100	Jan-20	
	219565	Burro	U.S. Shipping Board	Tug (1086/2788)	177	100	Feb-20	Later Geo. N. Barrett
	219635	Camel	U.S. Shipping Board	Tug (1086/2789)	177	100	Jun-20	
		Elk	U.S. Shipping Board	Tug (1086/2790)	177	100		Cancelled
		Moose	U.S. Shipping Board	Tug (1086/2791)	177	100		Cancelled
		Ram	U.S. Shipping Board	Tug (1086/2792)	177	100		Cancelled
			Holt Lumber Co.	Barge			May-20	
Built by Leathem D. Smith Dock Co.								
250	292246	DK-S 4	U.S. Army Corps of Engineers	Barge			1925	Later 504
251	228149	Chambers Bros.	Clifford D. Chambers	Tug	41	49	1928	
252		Winneconne	U.S. Army Corps of Engineers	Dredge	217d	100	1926	
253	228371	Material Service	Leathem Smith-Putnam Nav.	Barge	1,077	240	Sep-29	
254	532237	Gilbert	U.S. Coast & Geodetic Survey	Research Ship	79	70	1930	Sold 1971 as tug R & I Tolmie, later Redoubt
255	230194	Jeka	L.T. Durocher Co.	Tug	32	55	Sep-30	Later Betty D, Killarney, now Karl E Luedtke
256	230036	Jean R	Otto Rodal	Tug	47	51	1930	
257	230347	Jeka	John & Michael Jeka	Tug	41	61	1930	Later Tipperary, now George W Roper II
258	261415	No. 107	U.S. Army Corps of Engineers	Tender	9		Aug-30	Later Tugboat Annie
259	269814	No. 108	U.S. Army Corps of Engineers	Tender	16		Aug-30	Later Elise
260		Tompkins	U.S. Army Corps of Engineers	Dredge	410d	114	1931	
261		Cherry	U.S. Lighthouse Service	WAGL 258	323d	202	19-May-32	Sold 1965
262	1217131	Pilot	U.S. Army Corps of Engineers	Tender	34	56	Mar-41	
263	580897	Escort	U.S. Army Corps of Engineers	Tender	34	56	Mar-41	Sold 19xx as tug Bay Jack, now derelict
264	531311	Convoy	U.S. Army Corps of Engineers	Tender	36	56	Apr-41	Sold 1971 as tug Cotton J, later Eastern Star
265	295596	Scusset	U.S. Army Corps of Engineers	Tug	44	56	Apr-41	Sold 1964 as Josie, later James R Steers, New York State Reef Builder
Built by Leathem D. Smith Shipbuilding								
266	PC 496		U.S. Navy	Sub Chaser	284d	174	26-Feb-42	Torpedoed and lost off Bizerte 4-Jun-43
267	PC 550		U.S. Navy	Sub Chaser	284	174	5-May-42	To Free French 1944 as Le Vigilant (W 62), scrapped 1959
268	PC 551		U.S. Navy	Sub Chaser	284	174	19-May-42	To Free French 1944 as Mameluk (W 113), scrapped 1958
269	168467	Alden Gifford	U.S. Maritime Commission	N3-S-A1/417	1,793	250	Nov-42	To Britain, foundered off the West of England 1944
270	168488	Kimball Harlow	U.S. Maritime Commission	N3-S-A1/418	1,793	250	Dec-42	To Britain, sold 1949 as Spruceland, Rondane 1952, foundered 1972
271	168494	Freeman Hatch	U.S. Maritime Commission	N3-S-A1/419	1,793	250	Dec-42	To Britain, sold 1950 as Charles M, Houston 1953, sunk at the Bay of Pigs invasion 1961
272	168476	Waldo Hill	U.S. Maritime Commission	N3-S-A1/420	1,793	250	Feb-43	To Britain, sold 1949 as Andrew M, Maharashmi 1953, scrapped 1972
273	168491	William Homan	U.S. Maritime Commission	N3-S-A1/421	1,793	250	Apr-43	To Britain, sold 1951 as Edenglen, Haxby 1951, Maria Cosulich 1952, wrecked and scrapped 1964
274	168487	Laban Howes	U.S. Maritime Commission	N3-S-A1/422	1,793	250	Apr-43	To Britain, sold 1949 as Kinsale Head, Tela 1953, Mariangela B 1960, scrapped 1962
275	168493	William Howland	U.S. Maritime Commission	N3-S-A1/423	1,793	250	Apr-43	To Britain, sold 1949 as Malin Head, Ocean Swell 1951, Cocal 1953, wrecked and scrapped 1969
276	169556	Ashbel Hubbard	U.S. Maritime Commission	N3-S-A1/424	1,793	250	May-43	To Britain, sold 1949 as Solidarity, foundered 1951
277	169576	Clement T. Jayne	U.S. Maritime Commission	N3-S-A1/425	1,793	250	Jun-43	To Britain, sold 1949 as Dunmore Head, Bjogna 1953, Nunzia 1964, Pistis 1967, scrapped 1968

278	PC 588		U.S. Navy	Sub Chaser	284	174	22-Jun-42	Named Houghton 1956, sold 1960
279	PC 589		U.S. Navy	Sub Chaser	284	174	23-Jul-42	Named Metropolis 1956, scrapped 1959
280	PC 590		U.S. Navy	Sub Chaser	284	174	5-Oct-42	Destroyed by typhoon Louise 9-Oct-45
281	PC 591		U.S. Navy	Sub Chaser	284	174	26-Oct-42	To Free French 1944 as Spahi (W 123), scrapped 1959
282	PC 1225		U.S. Navy	Sub Chaser	284	174	12-Jan-43	Named Waverly 1956, scrapped 1958
283	PC 1226		U.S. Navy	Sub Chaser	284	174	12-Feb-43	To Free French 1944 as Legionnaire (W 82), scrapped 1958
284	PC 1227		U.S. Navy	Sub Chaser	284	174	23-Feb-43	To Free French 1944 as Lancier (W 111), scrapped 1960
285	PC 1228		U.S. Navy	Sub Chaser	284	174	21-May-43	Named Munising 1956, scrapped 1958
286	PC 1229		U.S. Navy	Sub Chaser	284	174	11-Jun-43	Named Wauseon 1956, scrapped 1958
287	PC 1230		U.S. Navy	Sub Chaser	284	174	15-Jul-43	Named Grinnell 1956, sold 1960s, later Bolivar, Grinnell
288	PC 1260		U.S. Navy	Sub Chaser	284	174	24-Apr-43	Named Durango 1956, struck 1959
289	PC 1261		U.S. Navy	Sub Chaser	284	174	May-43	Sunk by shore batteries off Normandy 6-Jun-44
290	PC 1262		U.S. Navy	Sub Chaser	284	174	29-Jun-43	To Taiwan 1954 as Chung Kiang (PC 115), scrapped 1974
291	PC 1263		U.S. Navy	Sub Chaser	284	174	28-Jul-43	Named Milledgeville 1956, to Taiwan 1959 as To Kiang (PC 125)
292	PC 821		U.S. Navy	Sub Chaser	284	174	23-Jun-44	To MARAD 1948
293	PC 822		U.S. Navy	Sub Chaser	284	174	2-Jun-44	Named Asheboro 1956, scrapped 1959
294	PC 823		U.S. Navy	Sub Chaser	284	174	24-Jul-44	To Korea 1949 as Pak Tu San (PC 701), scrapped 1960
295	PC 824		U.S. Navy	Sub Chaser	284	174	28-Aug-44	To Mexico 1948 as GC-33
296	PC 825		U.S. Navy	Sub Chaser	284	174	20-Sep-44	To MARAD 1948
297	PC 1171		U.S. Navy	Sub Chaser	284	174	24-Sep-43	To France 1951 as L'Inconstant (P 636), to Cambodia 1956 as E 312, to Phil. 1976 as PS 26, scrapped 1989
298	PC 1172		U.S. Navy	Sub Chaser	284	174	6-Oct-43	Named Olney 1956, sold 1961, later Gleaner
299	PC 1173		U.S. Navy	Sub Chaser	284	174	1-Nov-43	Named Andalusia 1956, sunk as target 1965
300	PC 1174		U.S. Navy	Sub Chaser	284	174	5-Nov-43	Named Fredonia 1956, reefed off Ocean Ridge FL 1968
301	PC 1175		U.S. Navy	Sub Chaser	284	174	1-Dec-43	Named Vandalia 1956, to Taiwan 1957 as Han Klang (PC 124), scrapped 1972
302	PC 1176		U.S. Navy	Sub Chaser	284	174	20-Nov-43	Named Minden 1956, to Venezuela 1960 as Petrel (P 05), scrapped 1978
303	PC 1177		U.S. Navy	Sub Chaser	284	174	20-Dec-43	Named Guymon 1956, scrapped 1961
304	PC 1178		U.S. Navy	Sub Chaser	284	174	22-Jan-44	Named Kewaunee 1956, scrapped 1960
305	PC 1179		U.S. Navy	Sub Chaser	284	174	22-Jan-44	Named Morris 1956, scrapped 1961
306	PC 1180		U.S. Navy	Sub Chaser	284	174	10-Feb-44	Named Woodstock 1956, scrapped 1961
307	PF 64	Knoxville	U.S. Maritime Commission	S2-S2-AQ1/1488	1,430	304	29-Apr-44	Weather ship 1944, to Dom Rep 1947 as Pres Peynado (F 104), Gen Santana 1962, scrapped 1982
308	PF 65	Chattanooga/Uniontown	U.S. Maritime Commission	S2-S2-AQ1/1489	1,430	304	15-Sep-44	Weather ship 1944, to Argentina 1947 as Sarandi (P 33), scrapped 1968
309	PF 66	Reading	U.S. Maritime Commission	S2-S2-AQ1/1490	1,430	304	19-Aug-44	Weather ship 1944, to Argentina 1947 as Heroina (P 32), scrapped 1966
310	PF 67	Peoria	U.S. Maritime Commission	S2-S2-AQ1/1491	1,430	304	15-Oct-44	Weather ship 1944, to Cuba 1947 as Antonio Maceo (F 302), scrapped 1976
311	PF 68	Brunswick	U.S. Maritime Commission	S2-S2-AQ1/1492	1,430	304	3-Oct-44	Weather ship 1944, scrapped 1947
312	PF 69	Davenport	U.S. Maritime Commission	S2-S2-AQ1/1493	1,430	304	15-Feb-45	Weather ship 1944, scrapped 1947
313	PF 70	Evansville	U.S. Maritime Commission	S2-S2-AQ1/1494	1,430	304	4-Dec-44	To USSR as EK-28 1945, to Japan 1953 as Keyaki (PF 295), YAC 21 1970, scrapped 1977
314	PF 71	New Bedford	U.S. Maritime Commission	S2-S2-AQ1/1495	1,430	304	17-Jul-44	Scrapped 1947
315	PC 1560		U.S. Navy	Sub Chaser	284	174	15-Apr-44	To the Free French as Coutelas (W 22, later P 604)
316	PC 1561		U.S. Navy	Sub Chaser	284	174	5-Jun-44	To the Free French as Dague (A 623, later P 606)
317	PC 1562		U.S. Navy	Sub Chaser	284	174	5-Jun-44	To the Free French as Javelot (W 23)
318	PC 1563		U.S. Navy	Sub Chaser	284	174	2-Jul-48	To the Philippines 1945 as Negros Oriental (C 26, later PS 26), sunk 1962 by Typhoon Karen
319	PC 1564		U.S. Navy	Sub Chaser	284	174	2-Jul-48	To the Philippines 1947 as Capiz (C 27, later PS 27)
320	PC 1565		U.S. Navy	Sub Chaser	284	174	11-Dec-47	Reclassified PGM 29, to Greece 1947 as Plotharkis Chatziconstandis (P 96), scrapped 1977
321	PC 1566		U.S. Navy	Sub Chaser	284	174	7-Apr-47	Reclassified PGM 30, sold 1947
322	PC 1567		U.S. Navy	Sub Chaser	284	174	Jul-50	Reclassified PGM 31, to Taiwan 1954 as Chu Kiang (P 117)
323	PC 1568		U.S. Navy	Sub Chaser	284	174	27-Oct-47	Reclassified PGM 32, sold 1947
324	PC 1569		U.S. Navy	Sub Chaser	284	174	Nov-60	Named Anacortes 1956, to Viet Nam 1960 as Van Don (HQ-06)
325	246837	Poinsett	U.S. Maritime Commission	C1-M-AV1/2159	3,805	389	7-Feb-45	To USN as AK 205, sold 1947 as Carina, Masan 1953, scrapped 1979
326		Pontotoc	U.S. Maritime Commission	C1-M-AV1/2160	3,805	389	22-Mar-45	To USN as AK 206, sold 1947 as Taurus, Tadgera 1960, Myriam 1964, scrapped 1968
327	263082	Richland	U.S. Maritime Commission	C1-M-AV1/2161	3,805	389	22-Apr-45	To USN as AK 207, scrapped 1972

328		Rockdale	U.S. Maritime Commission	C1-M-AV1/2162	3,805	389	26-Jun-45	To USN as AK 208, sold 1947 as Apollo, Thabor 1952, Etienne Denis 1960, Hong Kong Pioneer 1962, scrapped 1970
329	248956	Schuyler	U.S. Maritime Commission	C1-M-AV1/2163	3,805	389	13-Jul-45	To USN as AK 209, scrapped 1971
330	248958	Screven	U.S. Maritime Commission	C1-M-AV1/2164	3,805	389	2-Aug-45	To USN as AK 210, sold 1947 as Norlindo, to Peru 1959 as Ilo (A 133), scrapped 1968
331		Sebastian	U.S. Maritime Commission	C1-M-AV1/2165	3,805	389	11-Sep-45	To USN as Coastal Highflyer (AK 211), to USA 1967 as Resolve, scrapped 1976
332	248951	Somerset	U.S. Maritime Commission	C1-M-AV1/2166	3,805	389	20-Sep-45	To USN as Coastal Sentry (AK 212), scrapped 1968
333	551889	Sussex	U.S. Maritime Commission	C1-M-AV1/2167	3,805	389	Sep-45	To USN as AK 213, scrapped 1970
334	248684	Tarrant	U.S. Maritime Commission	C1-M-AV1/2168	3,805	389	18-Sep-45	To USN as Coastal Advocate (AK 214), sold 1947 as Rio Guapore, Itamar 1948, Rio Guapore 1952, scrapped 1969
335	248678	Tipton	U.S. Maritime Commission	C1-M-AV1/2169	3,805	389	9-Oct-45	To USN as AK 215, to USCG 1946 as Unalga (WAK 185), sold 1974 as fish factory ship Sea Alaska, scrapped 2007
336	248682	Traverse	U.S. Maritime Commission	C1-M-AV1/2170	3,805	389	Apr-45	To USN as Coastal Merchant (AK 216), sold 1946 as Norlantic, Leif Viking 1959, wrecked and scrapped 1962
337	248680	Tulare	U.S. Maritime Commission	C1-M-AV1/2171	3,805	389	May-45	To USN as Coastal Challenger (AK 217), sold 1946 as Pachitea, Dunstan 1954, Sallust 1958, Malacca 1959, Tong Hong 1963, disappeared 1967
338	248679	Washtenaw	U.S. Maritime Commission	C1-M-AV1/2172	3,805	389	16-Jul-45	To USN as Coastal Guide (AK 218), to USA 1947 as SGT George Peterson, to USN 1950, sold 1971 as Marsha Lynn, Al Ind Esk A Sea 1980, burnt and sank 1982
339		Westchester	U.S. Maritime Commission	C1-M-AV1/2173	3,805	389	27-Jun-45	To USN as Coastal Defender (AK 219), sold 1956 as Rio Maracana, scrapped 1969
340		Wexford	U.S. Maritime Commission	C1-M-AV1/2174	3,805	389	Jul-45	To USN as Coastal Crusader (AK 220), to USA 1947 as PVT Joe R. Hastings, to USN 1964 as Coastal Crusader (T-AGM 16), converted 1969 to T-AGS 36, scrapped 1977
341	AN 87	Passaic	U.S. Navy	Net Layer	650	168	6-Mar-45	YN 113, to the Dominican Republic 1976 as Calderas (P 209), active
342	AN 88	Shakamaxon	U.S. Navy	Net Layer	650	168	5-May-45	YN 114, to Micronesia 1968 as Hafa Adai, discarded
343	AN 89	Tonawanda	U.S. Navy	Net Layer	650	168	9-May-45	YN 115, to Haiti 1960 as Jean Jacques Dessalines (MH 101), discarded
344	AN 90		U.S. Navy	Net Layer	650	168		Cancelled
345	AN 91		U.S. Navy	Net Layer	650	168		Cancelled
346	AN 92		U.S. Navy	Net Layer	650	168		Cancelled
344		Bight Knot	U.S. Maritime Commission	C1-M-AV1/2505	3,805	389		Transferred to Globe SB
345		Ocean Plat	U.S. Maritime Commission	C1-M-AV1/2506	3,805	389		Transferred to Globe SB
346		Magnus Hitch	U.S. Maritime Commission	C1-M-AV1/2507	3,805	389		Transferred to Globe SB
347		Coastal Liberator	U.S. Maritime Commission	C1-M-AV7/2508	3,805	389	Mar-46	To Uruguay 1948 as Carrasco, Punta Beagle 1971, scrapped 1982
348	YW 123		U.S. Navy	Water Barge	440d	174	May-45	Scrapped 1990
349	YW 124		U.S. Navy	Water Barge	440d	174	May-45	Later YOG 105, then YO 264, struck 1985
350	YW 125		U.S. Navy	Water Barge	440d	174	Jun-45	To the Philippines 1975 as BRP Lake Lanao (Y 42)
351	YW 126		U.S. Navy	Water Barge	440d	174	Jun-45	Sunk as target 2001
352	YW 127		U.S. Navy	Water Barge	440d	174	Jul-45	Reefed off New Jersey 1998
353	YW 128		U.S. Navy	Water Barge	440d	174	Jul-45	To Peru 1980
354	YW 129		U.S. Navy	Water Barge	440d	174	Aug-45	Sunk as target 1975
355	YW 130		U.S. Navy	Water Barge	440d	174	Aug-45	To the Philippines 1975
356	YW 131		U.S. Navy	Water Barge	440d	174	Sep-45	To Ecuador 1977 as Atahualpa
357	YW 132		U.S. Navy	Water Barge	440d	174	Sep-45	Scrapped 1974
Built by Christy Corp.								
?	253124		McMullen & Pitz	Barge	238	137	Oct-45	Later Oshkosh No. 15
358	298616	No. 15	Cook & Brown Lime Co.	Barge	234	100	1946	Later No. 43
359	Federal	Seneca	U.S. Army Corps of Engineers	Launch		35	1948	
360	Federal	Havana	U.S. Army Corps of Engineers	Launch		35	1948	
361	Federal	Lacon	U.S. Army Corps of Engineers	Launch		35	1948	
362	522662	Queen of the Lake		Passenger	55	57	1949	Later Red Cloud
363	258490	Oil Queen	Cecil E. Anderson	Tank Barge	50	65	1949	Active
364	259834	Derrick Boat No. 11	Luedtke Engineering	Derrick Barge	264	100	1949	Active
365		Joseph Medill	City of Chicago	Fireboat			Nov-49	Scuttled off Algoma WI as dive attraction 2002
366		Victor L. Schlaeger	City of Chicago	Fireboat			Nov-49	Tour boat in Sturgeon Bay WI
367	254253	G 1	Cargill	Barge	1,892		1950	Sank 1991

368	260922	Carport	Cargill	Tug for G 1	99		1950	Later Chief, sank 1991
369	264500	Spartan	Lake Michigan Car Ferry	Ferry	4,200	395	1952	Laid up in Ludington MI
370	265156	Badger	Lake Michigan Car Ferry	Ferry	4,200	395	1953	Active
371	262440	Sue Lee	Leland H. Kent	Houseboat	15		Aug-51	
372	LST 1166	Washtenaw County	U.S. Navy	Landing Ship	2,590d	384	29-Oct-53	Now a museum (ON 928068)
373	LST 1167	Westchester County	U.S. Navy	Landing Ship	2,590d	384	10-Mar-54	To Turkey 1974 as Serdar (L 402): active
374	LST 1168	Wexford County	U.S. Navy	Landing Ship	2,590d	384	15-Jun-54	To Spain 1971 as Martin Alvarez (L 12): struck 1998
375	LST 1169	Whitfield County	U.S. Navy	Landing Ship	2,590d	384	14-Sep-54	To Greece 1977 as Kos (L 116): active
376	LST 1170	Windham County	U.S. Navy	Landing Ship	2,590d	384	14-Dec-54	To Turkey 1973 as Ertugrul (L 401): active
377	268653	Derrick Boat No. 12	Luedtke Engineering	Derrick Barge	396	130	1953	Active
378	269388	Emerald Isle	Beaver Island Boat Co.	Ferry	82	65	1955	Now Diamond Jack
379	271954	Sandra Marie	Dixie Carriers	Towboat	141	90	Aug-56	Later Vonnie Dee
380	LCU 1610	No name	U.S. Navy	Landing Craft	172d	135	1957	Later YFU 100, scrapped 2005
381	LCU 1611	No name	U.S. Navy	Landing Craft	172d	135	1957	Active
382	LCU 1612	No name	U.S. Navy	Landing Craft	172d	135	1957	Later YFU 101, sunk as target 1986
383	276292	Robinson Bay	St. Lawrence Seaway Auth.	Tug	213	97	1958	Active.
384	274789	Christy 211	Frame Barge Co.	Barge	1,085	240	Aug-57	
385	277361	Ranger III	National Parks Service	Passenger/Cargo	648	153	1958	Active
386	YTB 752	Edenshaw	U.S. Navy	Yard Tug	286d	109	5-Feb-60	To USCG 1994 as WYTB 752, active.
387	YTB 753	Marin	U.S. Navy	Yard Tug	286d	109	6-Jun-60	To NDRF 1994, sold as Marin (ON 1123700), active
388	279148	Samson II	Johnson Construction	Deck Barge	297	90	1959	
389	279149	Samson III	Johnson Construction	Deck Barge	297	90	1959	Active
390	279396	JK 416	Johnson Construction	Sectional Barge	6	21	1959	
391	279397	JK 417	Johnson Construction	Sectional Barge	6	21	1959	
392	279398	JK 418	Johnson Construction	Sectional Barge	6	21	1959	
393	279399	JK 419	Johnson Construction	Sectional Barge	6	21	1959	
394	279400	JK 420	Johnson Construction	Sectional Barge	6	21	1959	
395	279401	JK 421	Johnson Construction	Sectional Barge	6	21	1959	
396	279402	JK 422	Johnson Construction	Sectional Barge	6	21	1959	
397	279403	JK 423	Johnson Construction	Sectional Barge	6	21	1959	
398	279404	JK 424	Johnson Construction	Sectional Barge	6	21	1959	
399	279405	JK 425	Johnson Construction	Sectional Barge	6	21	1959	
400	279406	JK 426	Johnson Construction	Sectional Barge	6	21	1959	
401	279407	JK 427	Johnson Construction	Sectional Barge	6	21	1959	
402	279408	JK 428	Johnson Construction	Sectional Barge	6	21	1959	
403	279409	JK 429	Johnson Construction	Sectional Barge	6	21	1959	
404	279410	JK 430	Johnson Construction	Sectional Barge	6	21	1959	
405	279411	JK 431	Johnson Construction	Sectional Barge	6	21	1959	
406	279412	JK 432	Johnson Construction	Sectional Barge	6	21	1959	
407	279413	JK 433	Johnson Construction	Sectional Barge	6	21	1959	
408	279414	JK 434	Johnson Construction	Sectional Barge	6	21	1959	
409	279415	JK 435	Johnson Construction	Sectional Barge	6	21	1959	
410	279416	JK 436	Johnson Construction	Sectional Barge	6	21	1959	
411	279417	JK 437	Johnson Construction	Sectional Barge	6	21	1959	
412	279418	JK 438	Johnson Construction	Sectional Barge	6	21	1959	
413	279419	JK 439	Johnson Construction	Sectional Barge	6	21	1959	
414	283295	Myrtle C	S. & S. Marine Towing	Towboat	268	98	Nov-60	Later Barbara Waxler, Barbara Taylor, W Goat, now Miss Abby
415	AGOR 4	James M. Gillis	U.S. Navy	Research	1400d	209	5-Nov-62	To Mexico 1983 as Altair (H 5): active
416	AGOR 5	Charles H. Davis	U.S. Navy	Research	1400d	209	25-Jan-63	Scrapped 1997
417	Federal	Harvey	U.S. Army Corps of Engineers	Derrick Barge			1961	
418	295172	Tustumena	State of Alaska	Ferry	4,529	266	1964	Active
419	R 444	David Starr Jordan	N.O.A.A.	Research	993d	171	15-Jan-66	Sold as Ocean Starr (ON 1237165)

420	WMEC 618	Active	U.S. Coast Guard	Cutter	1000d	210	31-Jul-65	Active
421	Federal		U.S. Army Corps of Engineers	Barge			1967	
422	AGS 27	Kane	U.S. Navy	Survey	1320d	209	19-May-67	To Turkey 2001 as Canadarli (A 588): active
423	295135	Tanker II	Forrest Montgomery	Tank Barge	60	64	1964	Inactive
424	511590	Big Al	Johnson Construction	Derrick Barge	541	120	1967	Now The Big Elmer
Built by Bay Shipbuilding								
701	517485	G.L. 43	Great Lakes Dredge & Dock	Dump Scow	1,877	235	Nov-68	NLD
702		No name	Great Lakes Dredge & Dock	Water Inlet		105	1970	
703	521963	G.L. 113	Great Lakes Dredge & Dock	Barge	214	70	Dec-69	
704		Derrick Barge 257	Panama Canal Comm.	Derrick Barge		105	Dec-69	
705	529154	Tremont	Boston Fish Market	Trawler	621	116	Nov-70	Now Alaskan Rose
706	527592	Eyrabaki	Washington Island Ferry	Ferry	95	83	1970	Active
707	Federal	Nicolet	U.S. Army Corps of Engineers	Derrick Barge		120	May-71	
708	538651	G.L. 30	Great Lakes Dredge & Dock	Dump Scow	2,107	225	Apr-72	
709	538652	G.L. 31	Great Lakes Dredge & Dock	Dump Scow	2,107	225	Apr-72	Active
710	550954	Charles E. Wilson	American Steamship	Laker	13,862	667	Sep-73	Now John J. Boland
711	556460	H. Lee White	American Steamship	Laker	14,499	691	May-74	Active
712	564002	Sam Laud	American Steamship	Laker	11,619	615	Apr-75	Active
713	561819	Umpqua 12	Umpqua Division	Dump Scow	2,462	225	Dec-74	Now G.L. 34
714	571875	St. Clair	American Steamship	Laker	25,000	762	Apr-76	Active
715	574870	Joseph L. Block	Inland Steel	Laker	15,600	715	Aug-76	Active
716	585852	Belle River	American Steamship	Laker	40,000	989	Aug-77	Now Walter J. McCarthy
717	592377	Lewis Wilson Foy	Bethlehem Steel	Laker	40,000	989	Jun-78	Later Oglebay Norton, now American Integrity
718	600648	Edwin H. Gott	U.S. Steel	Laker	40,000	989	Feb-79	Active
719	610401	Indiana Harbor	American Steamship	Laker	40,000	989	Aug-79	Active
720	618479	Burns Harbor	Bethlehem Steel	Laker	40,000	989	Jul-80	Active
721	596352	Buffalo	American Steamship	Laker	12,000	615	Sep-78	Active
722	606421	Fred R. White, Jr.	Oglebay Norton	Laker	12,000	615	May-79	Now American Courage
723	619736	American Mariner	American Steamship	Laker	15,000	715	Apr-80	Active
724	633579	American Republic	American Steamship	Laker	12,000	625	May-81	Active
725	625979	Marie Tilton	Turecamo Towing	Tank Barge	4,892	380	Aug-80	Later Morania 440, RTC 105, NLD
726	635289	Columbia Star	Oglebay Norton	Laker	33,000	160	May-81	Now American Century
727	629735	Hannah 6301	Hannah Marine	Tank Barge	3,126	407	Dec-80	Later E-63, now Spartan II
728	646730	Erol Beker	Beker Shipping	Dry Bulk Barge	14,337	586	Jul-82	Later Mary Turner, now Ashtabula
729	639499	Energy Freedom	Universal American Shipg.	Dry Bulk Barge	14,500	550	Aug-81	Now American Freedom
730	641530	Oceanport	Ocean Barge	Dry Bulk Barge	14,379	550	Oct-81	Later Peggy Palmer, NLD
731	650771	Amoco Great Lakes	Amoco Oil	Tank Barge	5,000	414	Sep-82	Later Great Lakes
732	650770	Amoco Michigan	Amoco Oil	Tug	293	112	Sep-82	Now Michigan.
733	650209	G.L. 175	Great Lakes Dredge & Dock	Deck Barge	1,107	210	Jul-82	Active
734	667454	Thoroughbred Topper	Lamberts Point Barge	Dry Bulk Barge	14,379	550	Jun-84	Later Pat Cantrell, now Louisiana Enterprise
735	910306	Sea-Land Anchorage	Sea-Land Service	Containership	20,965	679	Jul-87	Later CSX Anchorage 2000, Horizon Anchorage 2003, now Matson Anchorage
736	910307	Sea-Land Tacoma	Sea-Land Service	Containership	20,965	679	Sep-87	Later CSX Tacoma 2000, Horizon Tacoma 2003, now Matson Tacoma
737	910308	Sea-Land Kodiak	Sea-Land Service	Containership	20,965	679	Nov-87	Later CSX Kodiak 2000, Horizon Kodiak 2003, now Matson Kodiak
738	907115	G.L. 61	Great Lakes Dredge & Dock	Dump Scow	3,382	266	Nov-86	Active
739	907116	G.L. 62	Great Lakes Dredge & Dock	Dump Scow	3,382	266	Nov-86	Active
740	1044267	Integrity	LaFarge Cement	Dry Bulk Barge	7,557	441	31-Jul-96	Active
741	1053037	Put-In Bay	Miller Boat Line	Ferry	94	131	30-Apr-97	Active
742	1064167	Joyce L. Van Enkevort	Bark River Towing	Tug	1,179	130	23-Apr-97	Active.
743	1081409	Dorothy Ann	Interlake Tptn.	Tug	1,090	119	25-Jun-99	Active.
744	1077537	New York	Great Lakes Dredge & Dock	Dredge	1,485	192	17-May-99	Active
745	1090503	Seneca	Mobil Oil	Tank Barge	10,303	474	13-Dec--99	Later S/R New York, now DBL 140

749	1117966	Liberty Island	Great Lakes Dredge & Dock	Dredge	5,300	302	12-Dec-01	Active
747	1102692	James B.	Lake Michigan Contractors	Dump Scow	1,679	240	8-Sep-00	Now Charleston
748	1112990	Evening Star	Shoreline Marine	Passenger	93	79	Jun-01	Active
749	1132685	550-3	Vessel Management Svces.	Tank Barge	11,457	482	14-Nov-02	Active
750	1132500	G.L. 65	Great Lakes Dredge & Dock	Dump Scow	3,380	266	31-Aug-02	Active
751	1134952	550-4	Vessel Management Svces.	Tank Barge	11,457	482	10-Dec-02	Active
752	1140323	Arni J. Richter	Washington Island Ferry	Ferry	92	100	May-03	Active
753	1140326	Bright Star	Shoreline Marine	Ferry	93	79	May-03	Active
754	1162823	Key West	Penn Maritime	Tank Barge	10,256	461	10-Dec-04	Active
755	1162822	Capt. Hagen	Penn Maritime	Tug	760	116	10-Dec-04	Active
756	1161563	New Hampshire	Moran Towing	Tank Barge	8,460	408	9-Dec-04	Active
757	1161559	Georgia	Moran Towing	Tank Barge	8,460	408	30-Jun-05	Active
T338	1170699	Energy 11103	Hornbeck Offshore Services	Tank Barge	8,343	370	30-Jun-05	Started by Toledo Shipyard, now GM 11103
758	1173624	Energy 11104	Hornbeck Offshore Services	Tank Barge	8,268	370	7-Sep-05	Active
759	1175715	Energy 11105	Hornbeck Offshore Services	Tank Barge	8,251	370	28-Oct-05	Now GM 11105
760	1184532	Innovation	Lafarge Cement	Dry Bulk Barge	8,757	441	31-May-06	Active
761	1187192	Double Skin 141	Vane Line Bunkering	Tank Barge	10,256	461	12-Dec-06	Active
762	1190827	Olympic Spirit	Harley Marine	Tank Barge	6,673	360	12-Dec-06	Active
763	1197244	Charleston	Moran Towing	Tank Barge	6,310	408	21-Jun-07	Active
764	1202002	Double Skin 143	Vane Line Bunkering	Tank Barge	10,256	461	12-Oct-07	Active
765	1205750	Houston	Moran Towing	Tank Barge	6,310	408	16-Nov-07	Active
766	1208463	Petrochem Producer	U. S. Shipping	Tank Barge	10,884	492	22-Aug-08	Active
767	1211796	Petrochem Trader	U. S. Shipping	Tank Barge	10,314	521	4-Nov-08	Active
768	1211793	Petrochem Supplier	U. S. Shipping	Tank Barge	9,726	492	31-Jul-09	Active
769			U. S. Shipping	Tank Barge	10,884	492		Cancelled
770	1220015	DBL 185	K-Sea Tptn.	Tank Barge	13,895	543	29-Oct-09	Active
Built by Fincantieri Bay Shipbuilding								
771	1245529	Dean Edward Taylor	Tidewater Marine	PSV	3,746	279	28-Oct-13	Active
772	1245534	Miss Marilene Tide	Tidewater Marine	PSV	3,746	279	10-Dec-13	Active
773	1250286	NDC 285	Norfolk Dredging	Dredge	2,500	285	25-Oct-13	NLD
774	1257867	Texas	Moran Towing	Tank Barge	9,992	463	20-May-15	Active
775	1267671	Louisiana	Moran Towing	Tank Barge	7,841	442	24-May-16	Active
776	1267675	Barbara Carol Ann Moran	Moran Towing	ATB Tug	297	116	16-May-16	Active
777	1261974	Mississippi	Moran Towing	Tank Barge	9,992	463	25-Sep-15	Active
778	1261986	Leigh Ann Moran	Moran Towing	ATB Tug	297	116	20-Oct-15	Active
779	1271629	Kirby 155-01	Kirby Offshore Marine	Tank Barge	10,240	492	31-Oct-16	Active
780	1271377	Heath Wood	Kirby Offshore Marine	ATB Tug	273	116	31-Oct-16	Active
781	1277060	Kirby 155-02	Kirby Offshore Marine	Tank Barge	10,240	492	28-Jul-17	Active
782	1277062	Paul McLernan	Kirby Offshore Marine	ATB Tug	273	116	28-Jul-17	Active
783	1289973	Kirby 155-03	Kirby Offshore Marine	Tank Barge	10,240	492	7-Dec-18	Active
784	1289982	Ronnie Murphy	Kirby Offshore Marine	ATB Tug	286	124	28-Nov-18	Active
785	1281261	1964	Wawa Inc.	Tank Barge	11,940	543	17-Dec-17	Active
786	1281260	Millville	Wawa Inc.	ATB Tug	296	116	17-Dec-17	Active
787	1304610	Michigan Trader	Van Enkevort Tug & Barge	Dry Bulk Barge	16,525	740	10-Aug-20	Active
788		Mark W. Barker	Interlake Steamship	Laker		639	2022	Building
789	1303582	Madonna	Washington I. Ferry Line	Ferry	92	124	17-Jul-20	Active
790	1320367	Clean Canaveral	Polaris New Energy	LNG Bunker Barge	5,752	326	23-Nov-21	Active
			Crowley Marine	LNG Bunker Barge		416	2024	Building

HALTER MARINE

Pascagoula, Moss Point and Escatawpa MS

Most recent update: October 3, 2021.

After the bankruptcy in 2002 of Friede Goldman Halter, VT Halter Marine, (VTHM), was created as a wholly owned subsidiary of ST Engineering, Singapore's largest defense contractor, to be the parent company of the six remaining Halter shipyards. The new company sold off Halter's Gulfport, Lockport and Port Bienville shipyards, and relocated the company's headquarters from Gulfport to Pascagoula. In 2016, they installed a new Panamax floating dry dock at the south end of the Pascagoula yard and expanded into the ship repair business. Then, in 2017, they acquired the former FGO Pascagoula yard, which occupied the balance of the west side of Bayou Cosotte, and expanded into the rig market. Most recently, they have dropped the initial letters VT and reverted to being Halter Marine, with a new logo. In this connection, the Moss Point yard - see it here - and the Escatawpa (Moss Point Marine) yard - see it here - have both been stripped, and all reference to them removed from the web site, which suggests that the new Halter intends to concentrate all its future work in the three adjoining Pascagoula yards. Visit the company at www.vthm.com and see an aerial view on Google of the Pascagoula yard here. Note that the table below covers only those projects completed since VTHM took over from Halter: the hull numbers continue Halter's series. To see the pre-VTHM construction records of the individual shipyards, go to Pascagoula, Moss Point, Moss Point Marine. and FGO Pascagoula.

Hull #	O.N.	Yard	Original Name	Original Owner	Vessel Type	GT	Ft.	Price ($mm)	Delivery	Disposition
1873	1163979	P	Jean Anne	Pasha Hawaii	Car/Truck Carrier	37,548	549	70	4-Mar-05	Active
1874	na	P		Pasha Hawaii	Car/Truck Carrier	37,548	549			Not built
1944	R 224	M	Oscar Dyson	N.O.A.A.	Fisheries Research	2,218	194	41	5-Jan-05	Active
1945	LSV 7	M	SSGT Robert T. Kuroda	U.S. Army	Logistics Support	1,600	273	27	15-Jul-05	Active
1946	1124714		Mr. Sage	Kim Susan, Inc.	PSV	1,706	212		31-Jul-02	Last Lockport hull, now Katrina Fagan, active
1947										Not used
1948										Not used
1949	1129491		Capella	Pacific Hawaiian Line	Tank Barge	5,790	316		30-Aug-02	Last Gulfport hull, active
1950	1140485	M	Seacor Pride	Seacor Marine	PSV	1,243	203	10	5-Jan-04	Active
1951										Not used
1952	LSV 8	M	MGEN Robert Smalls	U.S. Army	Logistics Support	1,600	273	27	21-Jun-06	Active
1953	R 225	M	Henry B. Bigelow	N.O.A.A.	Fisheries Research	2,218	194	39	22-Jun-06	Active
1954	1153441	P	Caribena	Fajardo-Culebra Line	Ferry	95	90	3	28-Apr-04	Active
1955	1156429	P	Columbia Boston	Columbia Coastal Tpt	Container Barge	4,650	324	10	13-Jul-04	Active
1956	R 226	M	Pisces	N.O.A.A.	Fisheries Research	2,218	194	38	6-Jun-09	Active
1957	R 227	M	Bell M. Shimada	N.O.A.A.	Fisheries Research	2,218	194	38	3-Feb-10	Active
1958	na	P	Unnamed	Drummond Co.	Bulk Handling Barge			5	May-05	Active
1959	na	E	Safa	Govt. of Egypt	Escort Tug	359	93	9	14-Mar-06	Active
1960	na	E	Marwa	Govt. of Egypt	Escort Tug	359	93	9	15-May-06	Active
1961	1182051	M	Pacific Reliance	Crowley Marine	ATB Tug	248	122		2-May-06	Active
1962	1182052	M	Gulf Reliance	Crowley Marine	ATB Tug	248	122		8-Aug-06	Active
1963	1182053	P	650-1	Crowley Marine	Tank Barge	11,147	560	42	3-May-06	Active
1964	1182054	P	650-2	Crowley Marine	Tank Barge	11,147	560	42	8-Dec-06	Active
1965	S 250	M	Ferdinand R. Hassler	N.O.A.A.	Mapping Vessel	809	124	15	23-May-11	Active
1966	1188126	M	Island Home	Nantucket SS Authority	Ferry	1,567	235	32	15-Feb-07	Active
1967	na	P	Unnamed	Washington Group	Catamaran Barge			16	2007	Active
1968	1197646	P	650-3	Crowley Marine	Tank Barge	11,147	560	47	12-Sep-07	Active
1969	1197647	P	650-4	Crowley Marine	Tank Barge	11,147	560	47	16-Jan-08	Active
1970	1197648	P	650-5	Crowley Marine	Tank Barge	11,147	560	47	8-Jul-08	Active
1971	1197649	P	650-6	Crowley Marine	Tank Barge	11,147	560	47	11-Feb-09	Active
1972	1197653	E	Resolve	Crowley Marine	ATB Tug	465	130		1-Oct-07	Active
1973	1197650	E	Integrity	Crowley Marine	ATB Tug	465	130		10-Jan-08	Active

1974	1197652	E	Courage	Crowley Marine	ATB Tug	465	130		28-Jul-08	Active
1975	1197651	E	Commitment	Crowley Marine	ATB Tug	465	130		26-Mar-09	Active
1976	FMC 682	P	S. Ezzat	Egyptian Navy	Fast Missile Craft	600d	207	210	19-Nov-13	Active
1977	FMC 684	P	F. Zekry	Egyptian Navy	Fast Missile Craft	600d	207	210	6-Dec-13	Active
1978	FMC 686	P	M. Fahmy	Egyptian Navy	Fast Missile Craft	600d	207	210	17-Sep-14	Active
1979	AGM 25	P	Howard O. Lorenzen	U.S. Navy	Range Inst'n. Ship	17,420	535	199	10-Jan-12	Active
1980	1204293	M	Eva Leigh Cutler	Poling & Cutler	Tank Barge	5,844	316		21-Mar-08	Active
1981	1217330	E	Pride	Crowley Marine	ATB Tug	465	130		24-Jul-09	Active
1982	1217328	E	Achievement	Crowley Marine	ATB Tug	465	130		13-Jan-10	Active
1983	1217329	E	Innovation	Crowley Marine	ATB Tug	465	130		29-Jun-10	Active
1984	1217331	E	Vision	Crowley Marine	ATB Tug	465	130		18-Jan-11	Active
1985	1214912	P	650-7	Crowley Marine	Tank Barge	11,147	560	60	2-Jul-09	Active
1986	1214913	P	650-8	Crowley Marine	Tank Barge	11,147	560	60	28-Jan-10	Active
1987	1214914	P	650-9	Crowley Marine	Tank Barge	11,147	560	60	26-Jul-10	Active
1988	1214915	P	650-10	Crowley Marine	Tank Barge	11,147	560	60	4-May-11	Active
1989										
1990	1214383	E	HOS Coral	Hornbeck Offshore	PSV	3,300	266	23	6-Feb-09	Active
1991	AGS 66	M	Maury	U.S. Navy	Survey Ship	3,288d	323	87	16-Feb-16	Active
1992	1211824	M	Freedom	Barges Unlimited	Tank Barge	5,844	316		5-Dec-08	Now DBL 85
1993	1223284	P	750-1	Crowley Marine	Tank Barge	22,515	557	85	7-Nov-11	Active
1994	1223285	P	750-2	Crowley Marine	Tank Barge	22,515	557	85	23-May-12	Active
1995	1223286	P	750-3	Crowley Marine	Tank Barge	22,515	557	85	28-Feb-13	Active
7800	1216365	P	OSG Vision	OSG America	ATB Tug	997	145		16-Mar-10	Completion of Bender hull, active
7801	1223554	P	OSG 350	OSG America	Tank Barge	27,439	620		16-Mar-10	Completion of Bender hull, active
7900	1229614	P	OSG Horizon	OSG America	ATB Tug	997	145		25-Mar-11	Completion of Bender hull, active
7901	1229615	P	OSG 351	OSG America	Tank Barge	27,439	620		25-Mar-11	Completion of Bender hull, active
1996	1216898	M	Cheramie Bo-Truc No. 40	L. & M. BoTruc	PSV	1,750	215	25	25-Mar-10	Active
1997	1216899	M	Cheramie Bo-Truc No. 41	L. & M. BoTruc	PSV	1,750	215	25	23-Aug-10	Active
1998	1219737	E	Peyton Candies	Candies Shipbuilding	PSV	3,336	272	9	27-Jul-10	Hull only, active
1998	1219732	M	Joshua Candies	Candies Shipbuilding	PSV	3,336	272	9	19-Nov-10	Hull only, active
1999	na	P		American Heavy Lift	Product Carrier					Bow modules, cancelled
2000	na	P		American Heavy Lift	Product Carrier					Bow modules, cancelled
2001	na	P		American Heavy Lift	Product Carrier					Bow modules, cancelled
2002	FMC 688	P	A. Gad	Egyptian Navy	Fast Missile Craft	600d	207	165	17-Sep-14	Active
2003	1231405	M	OSG Courageous	OSG America	ATB Tug	267	131	11	17-Jun-11	Active
2004	1231406	M	OSG Endurance	OSG America	ATB Tug	267	131	11	28-Sep-11	Active
2005	1241578	P	Marjorie C	Pasha Hawaii	Container RoRo	47,279	667	144	17-Apr-15	Active
2006	1234828	M	Evening Star	Bouchard Tptn.	ATB Tug	188	106		21-Sep-12	Active
2007	1244578	P	HOS Commander	Hornbeck Offshore	PSV	3,835	294	45	22-Oct-13	Active
2008	1244587	P	HOS Carolina	Hornbeck Offshore	PSV	3,835	294	45	14-Jan-14	Active
2009	1244588	P	HOS Claymore	Hornbeck Offshore	PSV	3,835	294	45	19-Feb-14	Active
2010	1244589	P	HOS Captain	Hornbeck Offshore	PSV	3,835	294	45	28-May-14	Active
2011	1244579	P	HOS Clearview	Hornbeck Offshore	PSV	3,835	294	45	25-Jun-14	Active
2012	1244584	P	HOS Crockett	Hornbeck Offshore	PSV	3,835	294	45	1-Oct-14	Active
2013	1244585	P	HOS Caledonia	Hornbeck Offshore	PSV	3,835	294	45	5-Jan-15	Active
2014	1244586	P	HOS Crestview	Hornbeck Offshore	PSV	3,835	294	45	13-Jan-15	Active

2015	1246521	P	HOS Cedar Ridge	Hornbeck Offshore	PSV	3,835	294	45	10-Aug-15	Active
2016	1246522	P	HOS Carousel	Hornbeck Offshore	PSV	3,835	294	45	9-Apr-15	Active
2017	1251312	M	Denise A. Bouchard	Bouchard Tptn.	ATB Tug	184	106		23-May-14	Active
2018	1257372	E	Kim M. Bouchard	Bouchard Tptn.	ATB Tug	299	143		10-Jul-15	Active
2019	1257373	P	B No. 270	Bouchard Tptn.	Tank Barge	16,139	589		10-Jul-15	Active
2020	1257374	E	Donna J. Bouchard	Bouchard Tptn.	ATB Tug	299	143		13-Jan-16	Active
2021	1257375	P	B No. 272	Bouchard Tptn.	Tank Barge	16,139	589		19-Jan-16	Active
2022	1272288	P	El Coqui	Crowley Marine	Container RoRo	37,462	720	175	20-Jul-18	Active
2023	1272242	P	Taino	Crowley Marine	Container RoRo	37,462	720	175	18-Dec-18	Active
2024	1265315	E	Morton S. Bouchard, Jr.	Bouchard Tptn.	ATB Tug	273	125		28-Jan-16	Active
2025	1265316	E	Frederick E. Bouchard	Bouchard Tptn.	ATB Tug	273	125		2-Jun-16	Active
2026	1264503	P	Columbia Freedom	Eastco Barges	Container Barge	604	324	150	14-Oct-16	Active
2027	1292391	P	Powhatan	Virginia DoT	Ferry	1,265	252	16	25-Sep-19	Active
2028	1282121	P	Evening Breeze	Bouchard Tptn.	ATB Tug	195	106		7-Mar-19	Active
2029	1284182	P	Q-Ocean Service	Q-LNG Transport LLC	ATB Tug	499	128		13-Aug-20	Active
2030	1284183	P	Q-LNG 4000	Q-LNG Transport LLC	LNG Barge	5,660	324		13-Aug-20	Active
2031	1291236	P	Evening Stroll	Bouchard Tptn.	ATB Tug	195	106			Building
		P		Bouchard Tptn.	ATB Tug	195	106			Option
	APL(S) 67	P		U.S. Navy	Barracks Barge	2,647d	269	39	27-Aug-21	Active
	APL(S) 68	P		U.S. Navy	Barracks Barge	2,647d	269	39		Building
	APL(S) 69	P		U.S. Navy	Barracks Barge	2,647d	269	40		Building
	APL(S) 70	P		U.S. Navy	Barracks Barge	2,647d	269	40		Building
	APL(S) 71	P		U.S. Navy	Barracks Barge	2,647d	269	41		Building
	APL(S) 72	P		U.S. Navy	Barracks Barge	2,647d	269	41		Option
	AGS 67	P		U.S. Navy	Survey Ship	3,288d	323			Building
	WMSP 21	P		U.S. Coast Guard	Polar Security Cutter	~14,000d	~400	746	2024	Building
	WMSP 22	P		U.S. Coast Guard	Polar Security Cutter	~14,000d	~400	600	2025	Option
	WMSP 23	P		U.S. Coast Guard	Polar Security Cutter	~14,000d	~400	600	2027	Option

KEPPEL AMFELS

Brownsville TX

Most recent update: December 26, 2020.

Keppel AMFELS was originally established in 1971 by Marathon Manufacturing, to supplement the capacity of its Vicksburg facility: it was renamed Marathon LeTourneau in 1975 when Marathon teamed up with LeTourneau Engineering. After the collapse of the offshore market in the mid-1980s, the yard was sold to local investors called Allison/McDermid, but when the market picked up again in 1991, Keppel FELS bought it and renamed it AMFELS, the AM standing for the previous owners, but they changed it to Keppel AmFELS in 2004, the Am standing for American. Visit the company at www.keppelfels.com.sg and see an aerial view of the yard on Google here. Note that LeTourneau had a single series of hull numbers regardless of where a rig was built: the list below is believed to be complete, despite the many breaks in the numbering. See the LeTourneau table for the full list.

Hull #	O.N.	Original Name	Original Owner	Rig Type	GT	Ft.	Price ($mm)	Delivery	Disposition
Built by Marathon Manufacturing									
41		BND Tug No. 1	Brownsville Nav. Dist.	Towboat	91	60		1972	Active
42	543039	BND Tug No. 2	Brownsville Nav. Dist.	Towboat	91	60		1972	Active
		Ste. Genevieve	Norman Bros.	Towboat				1972	Now Landon Young
	548851	John C. Byrd	Ole Man River Towing	Towboat	486	126		1973	Now Thomas Golding
	558719	Tallahatchie	W. & M. Transportation	Towboat	549	114		1974	Now Bethany Dawn
58	7367457	Pentagone 82	Forex Neptune	Semi-Submersible	7,365	325	23	Oct-73	Now Pride Mexico
Built by Marathon LeTourneau									
66	562372	Penrod 71	Penrod Drilling	Semi-Submersible	21,503	288		Feb-75	Now Petrobras 27
67	8753665	Penrod 72	Penrod Drilling	Semi-Submersible	20,390	288	20	Sep-75	Now Molly Brown
73	8753691	Penrod 75	Penrod Drilling	Semi-Submersible	20,048	288		Aug-76	Now Estesco
88	568267	Shenandoah	Atwood Oceanics	Jack-Up	5,403	248		Nov-75	Now Kedarnath
93	8752142	Key Largo	Key International	Jack-Up	7,345	247		May-76	Now Pride Wisconsin
96	574668	Penrod 68	Penrod Drilling	Jack-Up	7,208	250		Oct-76	Now Ensco 68
117	583169	W. D. Kent	Reading & Bates	Jack-Up	5,837	300		Jul-77	Active
120	589096	Penrod 98	Penrod Drilling	Jack-Up	4,631	200		Dec-77	Now Noble Ed Noble
123	587762	Texas Star		Jack-Up	2,272	148		Dec-77	Now Perro Negro 4
126	595116	Galveston Key	Key International	Jack-Up	6,100	248		Jul-78	Now GSF Galveston Key
129	599308	Mr. Dave	Fluor Drilling	Jack-Up	4,158	207		Nov-78	Now Ocean Columbia
130	601699	Randolph Yost	Reading & Bates	Jack-Up	4,702	243		Feb-79	Active
132	607238	Western Triton II	Western Oceanic	Jack-Up	4,572	207		Jun-79	Now Noble Earl Frederickson
137	613747	Western Triton III	Western Oceanic	Jack-Up	3,847	207		Nov-79	Now Sonora
138	8756540	Gulfstream	Chiles Offshore	Jack-Up	2,272	148	30	Aug-79	Now Rig 26
144	8756370	Trident IV	Sedco Forex	Jack-Up	5,876	243		Mar-80	Active
146	621977	Keyes 250	Keyes Drilling	Jack-Up	4,072	207		May-80	Now Ensco 97
152	625086	Gulfwind	Chiles Offshore	Jack-Up	2,503	153		Aug-80	Wrecked 2005

158	629256	Key Manhattan	Key International	Jack-Up	6,334	243		Dec-80	Now GSF Key Manhattan
160	631075	Glomar High Island V	Global Marine	Jack-Up	4,659	206		Feb-81	Now GSF High Island V
161	636550	Glomar Adriatic I	Global Marine	Jack-Up	4,776	233		Jun-81	Now GSF Adriatic I
162	640037	Glomar Adriatic II	Global Marine	Jack-Up	4,776	233		Sep-81	Now GSF Adriatic II
165	634110	Penrod 86	Penrod Drilling	Jack-Up	4,783	207		Dec-81	Now Ensco 86
168	645637	Penrod 88	Penrod Drilling	Jack-Up	4,699	200		Mar-82	Now Ensco 88
169	647859	Penrod 90	Penrod Drilling	Jack-Up	4,699	200		Jun-82	Now Ensco 90
175	652063	Rowan Halifax	Rowan Drilling	Jack-Up	6,456	243		Dec-82	Active
182	653116	Seabee	Chiles Offshore	Jack-Up	4,843	207		Nov-82	Now Noble Tom Jobe
212	663783	Glomar Baltic I	Global Marine	Jack-Up	10,529	270		Dec-83	Now GSF Baltic I
214	682070	Penrod 99	Penrod Drilling	Jack-Up	4,631	200		May-85	Now Ensco 99
Built by AMFELS									
163		Maersk Rig 21	Maersk Venezuela	Drilling Barge				1991	Now GP-21
164		Maersk Rig 22	Maersk Venezuela	Drilling Barge				1992	Now GP-22
165		Maersk Rig 51	Maersk Venezuela	Drilling Barge	1,781	190		1994	Now Rig 12
166		Maersk Rig 52	Maersk Venezuela	Drilling Barge	1,781	190		1994	Now Rig 52
167		Maersk Rig 61	Maersk Venezuela	Drilling Barge	2,864	200		Dec-94	Now Rig 61
168		Maersk Rig 62	Maersk Venezuela	Drilling Barge	2,864	200		Jan-95	Now Rig 62
			City of New York	Skimmer Vessel				1993	Active
172	1037624	Margaret Sue	Martin Gas Marine	Tank Barge	6,179	432		Feb-96	Active
67	1056225	B.B.C. Barge No. 2	Brownsville Barge & Crane	Deck Barge	220			Aug-97	Active
105		B.B.C. Barge No. 5	Brownsville Barge & Crane	Deck Barge		200		Feb-99	Inactive
115	1089972	B.B.C. Falcon	Brownsville Barge & Crane	Derrick Barge	823	140		Mar-00	Active
135	1103983	B.B.C. Eagle	Brownsville Barge & Crane	Derrick Barge	757	134		Jan-01	Active
178	8764420	Chiles Columbus	Chiles Offshore	Super 116 Jack-Up	7,157	92		May-99	Later Ensco 74, destroyed 2008
179	8764626	Chiles Magellan	Chiles Offshore	Super 116 Jack-Up	7,157	92		Oct-99	Later Ensco 75, Valaris JU-75
180	8764212	Maersk Pioneer	Maersk Venezuela	Drilling Barge	3,075	200		Oct-98	Now Pioneer
181		Maersk Pathfinder	Maersk Venezuela	Drilling Barge	3,075	200		Dec-98	Now Pathfinder
182	1122763	Q4000	Caldive International	Multi-Purpose Ship	14,802	312	156	Apr-02	Active
183		Prince TLP	El Paso Production	Tension Leg P'form		216		3-Aug-01	Active
187	8765163	Chiles Galileo	Chiles Offshore	Super 116 Jack-Up				3-Oct-02	Later Ensco 105, Valaris JU-105, scrapped
Built by Keppel AmFELS									
188	8765165	Central Tonala	Perforadora Central	KFELS-B Jack-Up				19-Feb-04	Now Tonala

189	Mexico	Ha-Ku-M	Petroleos Mexicanos	Accomm Platform				13-Oct-06	Active
190	Mexico	Ha-Ku-S	Petroleos Mexicanos	Accomm Platform				29-Nov-06	Active
191	914528	Red Hook	City of New York	Sludge Carrier	3,135	350	333	7-Nov-08	Active
193	8768452	Offshore Courageous	Scorpion Offshore	Super 116 Jack-Up	7,157	243	87	31-May-07	Now West Courageous
194	8768335	Ocean Scepter	Diamond Offshore	KFELS-B Jack-Up	10,200	236		31-Jul-08	Later Shelf Drilling Scepter
195	8768476	Offshore Resolute	Scorpion Offshore	Super 116 Jack-Up	7,157	243	87	25-Apr-08	Later West Resolute, now Shelf Drilling Resourceful
196	8768464	Offshore Defender	Scorpion Offshore	Super 116 Jack-Up	7,157	243	87	2-Nov-07	Now West Defender
197	8768830	Offshore Vigilant	Scorpion Offshore	Super 116 Jack-Up	7,157	243	87	10-Sep-08	Now West Vigilant
198	8768842	Offshore Intrepid	Scorpion Offshore	Super 116 Jack-Up	7,157	243	87	23-Jan-09	Now West Intrepid
199	8769078	Atwood Aurora	Atwood Oceanics	Super 116E Jack-Up	7,366		150	22-Dec-08	Later Ensco 112, Valaris JU-142
200	8770132	Tuxpan	Perforadora Central	Super 116E Jack-Up	7,307	233	195	2-Feb-10	Active
201	9584451	Rowan EXL I	Rowan Companies	Super 116E Jack-Up	7,279	233	195	30-Apr-10	Active
202	8771150	Rowan EXL II	Rowan Companies	Super 116E Jack-Up	7,279	233	195	29-Aug-10	Later Valaris JU-144
203	8770211	Rowan EXL III	Rowan Companies	Super 116E Jack-Up	7,279	233	195	28-Dec-10	Later Valaris JU-145
204	8770223	Rowan EXL IV	Rowan Companies	Super 116E Jack-Up	7,279	233	195	1-Sep-11	Active
205	9621443	Papaloapan	Perforadora Central	Super 116E Jack-Up	7,307	233	195	12-Apr-13	Active
206	9659294	Coatzalcoalcos	Perforadora Central	Super 116E Jack-Up	7,307		205	25-Nov-14	Active
208	9714044	Uxpanapa	Perforadora Central	KFELS-B Jack-Up	7,307		240	14-Jul-16	Active
316	1236710	Sea Wolf	South Coast Maritime	Deck Barge	299	120		5-Mar-11	Active
317	1234118	Sea Dragon	South Coast Maritime	Deck Barge	299	120		31-Dec-11	Active
307	1256368	Atlantic Giant II	South Coast Maritime	Crane Barge	3,553	225		26-May-14	Active
326	1289010	George III	Pasha Hawaiian	Containership		774			Building
327	1289008	Janet Marie	Pasha Hawaiian	Containership		774			Building
			Pasha Hawaiian	Containership		774			Option
			Pasha Hawaiian	Containership		774			Option
		Charybdis	Dominion Energy	Wind Turbine Inst. Vessel		472			Building

PHILLY SHIPYARD

Philadelphia PA

Most recent update: November 17, 2021.

Aker Philadelphia Shipyard, Inc., was created in 1998-2000 as Kvaerner Philadelphia Shipyard, utilizing Docks 4 and 5 of the Philadelphia Naval Ship Yard and the adjoining area and waterfront. It was originally a subsidiary of the Norwegian conglomerate Kvaerner, and later of Aker Yards, after Aker took control of Kvaerner. Since then, it has been traded on the Oslo Stock Exchange. For a time, a majority interest was held by Aker Solutions, which is Aker's offshore engineering company and not related to Aker's other shipbuilding interests, but in 2015, Aker spun off the shipyard as a wholly independent company, called Philly Shipyard, Inc. Visit the shipyard at www.phillyshipyard.com and see it from the air on Google here.

Hull #	*O.N.*	*Original Name*	*Original Owner*	*Ship Type*	*GT*	*DWT*	*Price*	*Delivery*	*Disposition*
Built by Kvaerner Philadelphia Shipyard									
1	1141163	Manukai	Matson Navigation	Containership	32,575	29,400	115	4-Sep-03	Active
2	1153166	Maunawili	Matson Navigation	Containership	32,575	29,400	115	30-Jul-04	Active
3	1168529	Manulani	Matson Navigation	Containership	32,575	29,400	145	19-May-05	Active
4	1181627	Maunalei	Matson Navigation	Containership	31,600	30,000	145	12-Jul-06	Active
Built by Aker Philadelphia Shipyard									
5	1190626	Overseas Houston	American Shipping	Product Carrier	29,000	46,000	83.3	9-Feb-07	Active
6	1197822	Overseas Long Beach	American Shipping	Product Carrier	29,000	46,000	83.3	26-Jun-07	Active
7	1197824	Overseas Los Angeles	American Shipping	Product Carrier	29,000	46,000	83.3	20-Nov-07	Active
8	1197823	Overseas New York	American Shipping	Product Carrier	29,000	46,000	83.3	11-Apr-08	Active
9	1207236	Overseas Texas City	American Shipping	Product Carrier	29,000	46,000	83.3	19-Sep-08	Active
10	1207239	Overseas Boston	American Shipping	Product Carrier	29,000	46,000	83.3	19-Feb-09	Active
11	1215187	Overseas Nikiski	American Shipping	Product Carrier	29,000	46,000	83.3	11-Jun-09	Active
12	1223293	Overseas Martinez	American Shipping	Product Carrier	29,000	46,000	115	11-Dec-09	Active
13	1225545	Overseas Anacortes	American Shipping	Product Carrier	29,000	46,000	83.3	14-May-10	Active
14	1225533	Overseas Tampa	American Shipping	Product Carrier	29,000	46,000	83.3	2-Sep-10	Active
15	1226143	Overseas Chinook	OSG America	Shuttle Tanker	29,000	46,000	115	17-Dec-10	Active
16	1221232	Overseas Cascade	OSG America	Shuttle Tanker	29,000	46,000	83.3	29-Apr-11	Active
17	1239985	Pennsylvania	Crowley Marine	Product Carrier	29,000	46,000	~125	30-Aug-12	Active
18	1243025	Florida	Crowley Marine	Product Carrier	29,000	46,000	~125	31-Jan-13	Active
19	1248594	Liberty Bay	SeaRiver Maritime	Crude Carrier	62,318	115,000	~200	11-Jun-14	Washington 2018
20	1248595	Eagle Bay	SeaRiver Maritime	Crude Carrier	62,318	115,000	~200	13-Mar-15	California 2018
Built by Philly Shipyard									
21	1255199	Ohio	Crowley Marine	Product Carrier	29,000	46,000	~125	1-Oct-15	Active

22	1255200	Texas	Crowley Marine	Product Carrier	29,000	46,000	~125	23-Dec-15	Active
23	1255182	Louisiana	Crowley Marine	Product Carrier	29,000	46,000	~125	15-Apr-16	Active
24	1255198	West Virginia	Crowley Marine	Product Carrier	29,000	46,000	~125	12-Aug-16	Active
25	1266156	American Endurance	Kinder Morgan	Product Carrier	29,000	46,000	125	1-Dec-16	Active
26	1266796	American Freedom	Kinder Morgan	Product Carrier	29,000	46,000	125	29-Mar-17	Active
27	1266795	American Liberty	Kinder Morgan	Product Carrier	29,000	46,000	125	26-Jul-17	Active
28	1266794	American Pride	Kinder Morgan	Product Carrier	29,000	46,000	125	20-Nov-17	Active
29	1274136	Daniel K. Inouye	Matson Navigation	Containership	49,000	51,000	209	1-Nov-18	Active
30	1274135	Kaimana Hila	Matson Navigation	Containership	49,000	51,000	209	29-Mar-19	Active
31		Empire State	MARAD/TOTE	Training Ship			315	2023	Building
32		Bay State	MARAD/TOTE	Training Ship			315	2023	Building
33		State of Maine	MARAD/TOTE	Training Ship			315	2024	Building
34		Lone Star State	MARAD/TOTE	Training Ship			315	2024	Building
35			MARAD/TOTE	Training Ship			315	2025	Option
36			Great Lakes D & D	Subsea Rock Installation Vessel			197	2024	Building
37			Great Lakes D & D	Subsea Rock Installation Vessel			185	2025	Option

VIGOR SEATTLE

Seattle WA

Most recent update: October 24, 2021.

Robert Moran and his brothers first established a marine repair facility in Seattle in 1882 and the following year they became involved in a shipyard called Seattle Dry Dock & Shipbuilding Company. This yard was destroyed by fire in 1889 but the Morans built a new yard, called Moran Brothers Company, to replace it. This company absorbed Seattle Dry Dock & Shipbuilding but in 1906, the Morans sold out and the name was changed to Moran Company. In 1911, the company was restructured yet again, this time as Seattle Construction & Dry Dock Co. Ltd., which lasted until 1916, when it was bought by Todd Shipyards and renamed Todd Dry Dock & Construction Co. The yard was at the foot of Charles Street on the Seattle waterfront. In May 1918, Todd sold this yard to the Emergency Fleet Corporation, which combined it with the adjoining Skinner & Eddy yard. Todd then bought property for a repair yard on Seattle's Harbor Island and for a construction yard in Tacoma's Commencement Bay. After WWI, Todd closed its Tacoma yard and renamed the Seattle operation Todd Dry Docks, Inc. In 1940, Todd acquired additional property on Harbor Island in order to create additional construction capacity. This yard, which was designed to build destroyers and was built with $9mm from the Navy, employed 17,000 people at its peak, while the repair yard employed another 5,500. After the war, Todd acquired the Navy's investment in the new facilities and the combined yard remains in operation today. In 2011, Todd was acquired by Vigor Industrial. Visit the Seattle shipyard here and see it from the air on Google here.

Hull #	*O.N.*	*Original Name*	*Original Owner*	*Type*	*GT*	*Ft.*	*Delivered*	*Disposition*
Built by Seattle Dry Dock & Shipbuilding								
		No name	City of Seattle	Garbage Scow			1890	
	116387	Snoqualmie	City of Seattle	Fire Boat	110		1890	Later Robert Eugene
	25295	Utopia	Capt. McGregor	Cargo	423	124	1893	
Built by Moran Bros.								
1	Federal	Rowan	US Navy	Torpedo Boat	210	170	1-Apr-99	Later TB 8, sold 1918
2	Federal	Golden Gate	US Revenue Service	Tug	250	110	17-Jun-97	Later WYT 94, sold 1947
3	127290	Charles H. Hamilton	N. Am. Tptn. & Trading	Cargo	595	190	Aug-97	Assembled in Alaska
4	128085	Seattle No. 1	Seattle-Yukon Tptn.	Cargo	447		Sep-97	Assembled in Alaska
5		Get There	N. Am. Tptn. & Trading	Tug			1897	Parts lost en route to Alaska
6	121085	Florence S.	Seattle-Yukon Tptn.	Tug	100	75	May-98	Assembled in Alaska
7		Starkey	Seattle-Yukon Tptn.	Tug	93		May-98	Assembled in Alaska
8	67380	New York	N. Am. Tptn. & Trading	Barge	450		1898	Assembled in Alaska
9	51303	Michigan	N. Am. Tptn. & Trading	Barge	450		1898	Assembled in Alaska
10	116854	Seattle No. 3	Seattle-Yukon Tptn.	Cargo	438	151	May-98	Assembled in Alaska
11		Petrolia	Standard Oil of Cal.	Tank Barge			May-98	
12a		Barge No. 4	Empire Tptn.	Barge	142		May-98	
12b		Barge No. 5	Empire Tptn.	Barge	142		May-98	
12c		Barge No. 6	Empire Tptn.	Barge	142		May-98	
12d		Barge No. 7	Empire Tptn.	Barge	142		May-98	
12e		Barge No. 8	Empire Tptn.	Barge	142		May-98	
13	161114	Klondyke	N. Am. Tptn. & Trading	Cargo	406	121	Aug-98	Assembled in Alaska
14	17334	John Cudahy	N. Am. Tptn. & Trading	Cargo	819	192	Jul-98	Assembled in Alaska
15	57992	Seattle No. 4	Seattle-Yukon Tptn.	Barge	600		Jul-98	Assembled in Alaska
16	16537	John H. Dwight	N. Am. Tptn. & Trading	Barge	375		1898	Assembled in Alaska
17	145790	T. C. Power	N. Am. Tptn. & Trading	Cargo	819	192	Jul-98	Assembled in Alaska
18	16538	John J. Mitchell	N. Am. Tptn. & Trading	Barge	80		1898	Assembled in Alaska
19	34331	Chas. L. Hutchinson	N. Am. Tptn. & Trading	Barge	80		1898	Assembled in Alaska
20		No name	Seattle Blue Star	Barge			1898	

21		No name	Seattle Blue Star	Barge			1898	
22		J. P. Light	British-American Corp.	Cargo	718	176	25-May-98	
23	157509	D. R. Campbell	Seattle-Yukon Tptn.	Cargo	718	176	25-May-98	
24	121071	F. K. Gustin	Seattle-Yukon Tptn.	Cargo	718	176	25-May-98	
25	116817	Seattle	Empire Tptn.	Cargo	718	176	25-May-98	
26		Tacoma	Empire Tptn.	Cargo	718	176	25-May-98	
27	116811	Victoria	Empire Tptn.	Cargo	718	176	25-May-98	
28	116816	St. Michael	Empire Tptn.	Cargo	718	176	25-May-98	
29		Western Star	Blue Star Navigation	Cargo	718	176	25-May-98	Lost on delivery voyage
30		Mary F. Graff	Seattle-Yukon Tptn.	Cargo	718	176	25-May-98	
31	150778	Pilgrim	British-American Corp.	Cargo	718	176	25-May-98	
32	111180	Robert Kerr	British-American Corp.	Cargo	718	176	25-May-98	
33	155318	Oil City	Standard Oil of Cal.	Cargo	718	176	25-May-98	
	107458	Alaska	Empire Tptn.	Tug	60		1899	
	107448	Active	Seattle Tug Company	Tug	57	74	1899	Built in Tacoma
	51393	Moran No. 1	Moran Bros.	Barge	33		Mar-00	
34	Federal	Geo. W. Dickenson	Pacific Clipper Line	Cargo	1,275	195	Apr-00	Completed for US Army as Seward
35	157507	Dolphin	Admiralty Tug Co.	Tug	62	69	Mar-00	
36	161145	King County	King County	Ferry	412	115	May-00	
37	145846	Tatoosh	Puget Sound Tug Co.	Tug	277	119	Jul-00	
38		Minnie A. Caine	Captain E. E. Caine	Cargo	880		Dec-00	
39		James Johnson	Captain E. E. Caine	Cargo	1,149		May-01	
		Dry-Dock No. 2	Moran Bros.	Dry Dock			1902	
	3957	Bahada	Admiralty Tug Co.	Tug	132	86	Feb-03	
	81850	Wyadda	Admiralty Tug Co.	Tug	132	86	Feb-03	
40	Federal	Heather	US Lighthouse Svce.	Tender	731	165	10-Jun-03	To US Army 1940 as FS 534, sold in China 1949 as Mahamaya, scrapped 1955
	162071	B. D. Brown	Brown Alaska Co.	Barge	144		1903	
	162182	North Coast	North Coast Lighterage	Barge	46		1904	
		Clutha	Moran Bros.	Launch	11		1904	
	162715	Rosario	Robert Moran	Barge	62		1906	
41	BB 14	Nebraska	US Navy	Battleship	14,948	441	1-Jul-07	Scrapped 1923
Assembled by Moran Bros. from KD Kits Built by Lewis Nixon (Elizabethport NJ)								
		Barge No. 1	International Nav. Co.	Barge	383		1898	Nixon Hull #47
		Barge No. 2	International Nav. Co.	Barge	383		1898	Nixon Hull #48
	31577	Barge No. 3	International Nav. Co.	Barge	383		1898	Nixon Hull #49
	31578	Barge No. 4	International Nav. Co.	Barge	383		1898	Nixon Hull #50
	35541	Dawson	International Nav. Co.	Barge	383		1898	Nixon Hull #51
	59482	Tanana	International Nav. Co.	Barge	383		1898	Nixon Hull #52
	65058	Yukon	International Nav. Co.	Barge	383		1898	Nixon Hull #53
	51280	Munook	International Nav. Co.	Barge	383		1898	Nixon Hull #54
		International	International Nav. Co.	Barge	115		1898	Nixon Hull #55
		Empire	International Nav. Co.	Barge	115		1898	Nixon Hull #56
Built by The Moran Company								
42	204468	Seward	North Western SS Co.	Cargo	2,471	279	Sep-07	Torpedoed and lost 1917
43	204458	Tyee Junior	Tyee Whaling Co.	Whaler	157	98	1907	

44	204913	Chicago	Booth Fisheries Co.	Trawler	443	139	Mar-08	Brico 1930, beached 1968
45	205052	Stanley Dollar	Robert Dollar Co.	Cargo	1,838	240	Apr-08	Skagway 1919, burnt 1929
46	205174	Riverside	Charles Nelson Co.	Cargo	1,838	240	Jul-08	Wrecked Blunts Reef 1913
47	205095	Falcon	Charles Nelson Co.	Cargo	1,838	240	Apr-08	Santa Inez 1913, wrecked in China 1941
48	205055	Ajax	Southern Pacific RR	Tug	175	103	Apr-08	
49	205044	Northland	Northland SS Co.	Cargo	697	140	Apr-08	Admiral Nicholson 1919, wrecked Reedsport 1924
50	207935	Latouche	Alaska SS Co.	Cargo	2,332	240	Sep-09	Azuchi Maru 1942, bombed and sunk 1944
51			Kennecott Copper	Barge			1909	Assembled in Alaska
52		Gulkana	Kennecott Copper	Passenger	180		1909	Assembled in Alaska
53		Nizina	Kennecott Copper	Passenger	345		1909	Assembled in Alaska
54		Tonsina	Kennecott Copper	Passenger	450		1909	Assembled in Alaska
55	SS 22	Pickerel (F-3)	US Navy	Submarine	330d	143	5-Aug-12	In collision and sank 1917
56	SS 23	Skate (F-4)	US Navy	Submarine	330d	143	3-May-13	Sold 1922
57	207780	Kulshan	Puget Sound Nav.	Ferry	926	100	Jul-10	Scrapped 1938
58	208278	Sioux	Puget Sound Nav.	Ferry	461	148	Dec-10	Olympic 1925, COL Franklin S. Leisenring 1942, deleted 1951
59	SS 30	Garfish (H-3)	US Navy	Submarine	358d	150	16-Jan-14	Scrapped 1931
60	208757	Paterson	Am. Pac. Whaling Co.	Whaler	119	87	1911	
61	208756	Moran	Am. Pac. Whaling Co.	Whaler	120	87	1911	
62	SS 35	Walrus (K-4)	US Navy	Submarine	392d	154	24-Oct-14	Scrapped 1931
Built by Seattle Construction & Dry Dock Company								
63	200870	Star I	US Whaling	Whaler	143	96	1912	
64	209700	Star II	US Whaling	Whaler	145	96	1912	
65	209701	Star III	US Whaling	Whaler	196	96	1912	
66		Hoquiam	Am. Pac. Whaling	Whaler	116	88	1912	
67	209877	Westport	Am. Pac. Whaling	Whaler	116	88	1912	
68	210133	Sol Duc	Puget Sound Nav.	Passenger	1,085	189	1912	To USN 1941 as YHB 8, scrapped 1947
		Henrietta	Clarence W. Riley	Yacht	25		1912	
	Federal	Gate No. 2	Puget Sound NSY	Dock Gate			1912	
		Dry-Dock No. 3	Seattle DD & Const'n.	Dry Dock			1913	Scrapped 1935
69	Chile	Iquique	Chilean Navy	Submarine	310		1914	To Canada 1914 as CC 1, scrapped 1925
70	Chile	Antofogasta	Chilean Navy	Submarine	310		1914	To Canada 1914 as CC 2, scrapped 1925
71	210378	Potlatch	Puget Sound Nav.	Passenger	575	150	1912	Deleted 1929
72	Federal	COL P. S. Michie	Corps of Engineers	Dredge	3,354		1913	
73	211198	Tacoma	Puget Sound Nav.	Passenger	836	209	24-Jun-13	Scrapped 1938
74	211319	Comanche	Puget Sound Nav.	Cargo	686	134	1913	To USN 1941 as YHB 12, scrapped 1947
75		Cypress	Colonel D. C. Jackling	Yacht			1914	
76	211599	Milwaukee	Chicago, St. Paul & Mil. RR	Tug	222	107	1913	
77a	YC 277		Puget Sound NSY	Open Lighter	170	110	1913	Disposed of 1948
77b	YC 278		Puget Sound NSY	Open Lighter	170	110	1913	
77c	YC 279		Puget Sound NSY	Open Lighter	170	110	1913	Scrapped 1943
77d	YC 280		Puget Sound NSY	Open Lighter	170	110	1913	YE 35 1921
77e	YC 281		Puget Sound NSY	Open Lighter	170	110	1913	To MARAD 1947
77f	YC 282		Puget Sound NSY	Open Lighter	170	110	1913	
77g	YC 283		Puget Sound NSY	Open Lighter	170	110	1913	To MARAD 1947
77h	YC 284		Puget Sound NSY	Open Lighter	170	110	1913	

77i	YC 285		Puget Sound NSY	Open Lighter	170	110	1913	
78	AS 2	Bushnell	US Navy	Sub Tender	3,142	350	24-Nov-15	To MARAD 1947
79	AT 14	Arapaho	US Navy	Tug	575	122	2-Dec-14	YT 121 1936, sold 1937
80	AT 15	Mohave	US Navy	Tug	575	122	2-Dec-14	Wrecked and scrapped 1928
81	AT 16	Tillamook	US Navy	Tug	575	122	2-Dec-14	YT 122 1936, sold 1947
Built by Todd Dry Dock & Construction Company								
82	SS 53	N-1	US Navy	Submarine	348	147	26-Sep-17	Scrapped 1931
83	SS 54	N-2	US Navy	Submarine	348	147	26-Sep-17	Scrapped 1931
84	SS 55	N-3	US Navy	Submarine	348	147	26-Sep-17	Scrapped 1931
85	214559	Cauto	US Shipping Board	Cargo Ship	5,100	351	9-Dec-16	Wrecked 1937
86	214668	Panuco	US Shipping Board	Cargo Ship	5,100	351	9-Jan-17	Burnt 1941
87	DD 71	Gwin	US Navy	Destroyer	1,125	315	18-Mar-20	Sold 1939
88	Norway	Golden Gate	US Shipping Board	Cargo Ship	7,500	431	10-May-17	Goviken 1936, torpedoed and lost 1942
89	Norway	Key West	US Shipping Board	Cargo Ship	7,500	431	16-Jun-17	Suderholm 1930, Rodos 1947, scrapped 1953
90	Norway	Storviken	US Shipping Board	Cargo Ship	7,500	431	23-Jul-17	Torpedoed and lost 1943
91	216218	Walter A. Luckenbach	US Shipping Board	Cargo Ship	7,500	431	31-May-18	Mardin 1949, scrapped 1959
92	215939	Sacramento	US Shipping Board	Cargo Ship	7,500	431	28-Jan-18	Point Bonita 1937, Bonita 1940, Othello 1946, Kongshavn 1951, scrapped 1953
93	216043	Sutherland	US Shipping Board	Cargo Ship	7,500	431	16-Mar-18	Okeanos 1946, wrecked 1947
94	216182	Kitsap	US Shipping Board	Cargo Ship	7,500	431	24-Apr-18	Later Bremerton, H. F. De Bardeleben 1930, foundered 1932
95	216491	Vittorio Emanuelle III	US Shipping Board	Cargo Ship	7,500	431	27-Jun-18	Vitorlock 1938, Wazan Maru 1941, torpedoed and lost 1944
96-107	na		US Shipping Board	Cargo Ship				Transferred to Todd Tacoma
108	217129	Willimantic	US Shipping Board	Cargo Ship	5,237	379	Nov-18	Torpedoed and lost 1942
109	217406	Deranof	US Shipping Board	Cargo Ship	5,227	379	Dec-19	Scrapped 1931
110	218467	Delight	US Shipping Board	Cargo Ship	5,141	371	Sep-19	Completed at Harbor Island, Point Ancha 1931, Macon 1940, torpedoed and lost 1941
111	219353	Gaffney	US Shipping Board	Cargo Ship	4,827	380	Dec-19	Completed at Harbor Island, Barreado 1928, Ruth 1940, torpedoed and lost 1942
112-127	na		US Shipping Board	Cargo Ship				Transferred to Todd Tacoma
Built by Seattle-Tacoma Shipbuilding, Seattle Division								
1	DD 493	Carmick	US Navy	Destroyer	1,630	348	28-Dec-42	DMS 33, scrapped 1972
2	DD 494	Doyle	US Navy	Destroyer	1,630	348	27-Jan-43	DMS 34, scrapped 1972
3	DD 495	Endicott	US Navy	Destroyer	1,630	348	25-Feb-43	DMS 35, scrapped 1970
4	DD 496	Farley/McCook	US Navy	Destroyer	1,630	348	15-Mar-43	DMS 36, scrapped 1973
5	DD 497	Frankford	US Navy	Destroyer	1,630	348	31-Mar-43	Sunk as target 1973
6	DD 624	Baldwin	US Navy	Destroyer	1,630	348	30-Apr-43	Scuttled 1961
7	DD 625	Harding	US Navy	Destroyer	1,630	348	25-May-43	DMS 28, scrapped 1947
8	DD 626	Satterlee	US Navy	Destroyer	1,630	348	1-Jul-43	Scrapped 1972
9	DD 627	Thompson	US Navy	Destroyer	1,630	348	10-Jul-43	DMS 38, scrapped 1972
10	DD 628	Welles	US Navy	Destroyer	1,630	348	16-Aug-43	Scrapped 1969
11	DD 554	Franks	US Navy	Destroyer	2,050	376	30-Jul-43	Scrapped 1973
12	DD 555	Haggard	US Navy	Destroyer	2,050	376	31-Aug-43	Scrapped 1946
13	DD 556	Hailey	US Navy	Destroyer	2,050	376	30-Sep-43	To Brazil 1961 as Pernambuco (D 30), struck 1982
14	DD 557	Johnston	US Navy	Destroyer	2,050	376	27-Oct-43	Sunk by Japanese ships off Samar 1944
15	DD 558	Laws	US Navy	Destroyer	2,050	376	18-Nov-43	Scrapped 1973
16	DD 559	Longshaw	US Navy	Destroyer	2,050	376	4-Dec-43	Grounded on Okinawa and sunk by shore batteries 1945
17	DD 560	Morrison	US Navy	Destroyer	2,050	376	18-Dec-43	Sunk by kamikaze off Okinawa 1945

18	DD 561	Pritchett	US Navy	Destroyer	2,050	376	15-Jan-44	To Italy 1970 as Geniere (D 555), struck 1975
19	DD 562	Robinson	US Navy	Destroyer	2,050	376	3-Jan-44	Sunk as target 1982
20	DD 563	Ross	US Navy	Destroyer	2,050	376	21-Feb-44	Sunk as target 1978
21	DD 564	Rowe	US Navy	Destroyer	2,050	376	13-Mar-44	Sunk as target 1978
22	DD 565	Smalley	US Navy	Destroyer	2,050	376	31-Mar-44	Scrapped 1966
23	DD 566	Stoddard	US Navy	Destroyer	2,050	376	15-Apr-44	Target hulk 1980
24	DD 567	Watts	US Navy	Destroyer	2,050	376	29-Apr-44	Scrapped 1974
25	DD 568	Wren	US Navy	Destroyer	2,050	376	20-May-44	Featured in movie "Operation Petticoat", scrapped 1975
26	DD 799	Jarvis	US Navy	Destroyer	2,050	376	3-Jun-44	To Spain 1960 as Alcala Galiano (D 24), struck 1989
27	DD 800	Porter	US Navy	Destroyer	2,050	376	24-Jun-44	Scrapped 1974
28	DD 801	Colhoun	US Navy	Destroyer	2,050	376	8-Jul-44	Sunk by Japanese aircraft off Okinawa 1945
29	DD 802	Gregory	US Navy	Destroyer	2,050	376	29-Jul-44	Sunk as target 1971
30	DD 803	Little	US Navy	Destroyer	2,050	376	19-Aug-44	Sunk by kamikaze off Okinawa 1945
31	DD 804	Rooks	US Navy	Destroyer	2,050	376	2-Sep-44	To Chile 1962 as Cochrane (D 15), struck 1983
32	DD 777	Zellars	US Navy	Destroyer	2,200	376	25-Oct-44	To Iran 1971 as Babr (D 61), struck
33	DD 778	Massey	US Navy	Destroyer	2,200	376	24-Nov-44	Scrapped 1974
34	DD 779	Douglas H. Fox	US Navy	Destroyer	2,200	376	26-Dec-44	To Chile 1973 as Ministro Portales (D 17), struck 1990
35	DD 780	Stormes	US Navy	Destroyer	2,200	376	27-Jan-45	To Iran 1972 as Palang (D 62), struck
36	DD 781	Robert K. Huntington	US Navy	Destroyer	2,000	376	3-Mar-45	To Venezuela 1973 as Falcon (D 22), struck 1981
37	DD 782	Rowan	US Navy	Destroyer	2,425	390	31-Mar-45	To Taiwan 1976 as Chao Yang (D 916), sunk 1977
38	DD 783	John A. Bole/Gurke	US Navy	Destroyer	2,425	390	12-May-45	To Greece 1976 as Toumbazis (D 215), hulked 1997
39	DD 784	McKean	US Navy	Destroyer	2,425	390	9-Jun-45	To Turkey 1981 for parts
40	DD 785	Henderson	US Navy	Destroyer	2,425	390	4-Aug-45	To Pakistan 1980 as Tughril
41	DD 786	Richard B. Anderson	US Navy	Destroyer	2,425	390	26-Oct-45	To Taiwan 1977 as Kai Yang (D 915), active
42	DD 787	James E. Kyes	US Navy	Destroyer	2,425	390	8-Feb-46	To Taiwan 1973 as Chien Yang (D 921), active
43	DD 788	Hollister	US Navy	Destroyer	2,425	390	29-Mar-46	To Taiwan 1983 as Chen Yang (D 928), active
44	DD 789	Eversole	US Navy	Destroyer	2,425	390	10-May-46	To Turkey 1973 as Gayret (D 352), museum in Yzmit 1995
45	DD 790	Shelton	US Navy	Destroyer	2,425	390	21-Jun-46	To Taiwan 1973 as Lao Yang (D 920), struck 1999
46	DD 791	Seaman	US Navy	Destroyer	2,425	390	25-Jun-46	Never completed, scrapped 1961
47	AD 25	Yellowstone	US Navy	Destroyer Tender	7,664	492	11-Jan-46	Transferred from Tacoma, scrapped 1976
48	AD 29	Isle Royale	US Navy	Destroyer Tender	7,664	492	2-Jul-46	Transferred from Tacoma, scrapped 1977
49	AD 30	Great Lakes	US Navy	Destroyer Tender	7,664	492		Transferred from Tacoma, cancelled 1946
50	252908	Chinook	Puget Sound Nav.	Ferry	4,106	286	Jun-47	Later Chinook II 1955, Sechelt Queen 1963, Muskegon Clipper 1992
Built by Todd Shipyards Corp., Seattle Division								
1	BD 66--	No name	U.S. Army	Crane Barge	420d	140	22-Aug-52	YD 190, scrapped 1975
2	BD 66--	No name	U.S. Army	Crane Barge	420d	140	26-Sep-52	YD 191, to the Philippines 1980
3	BD 6655	No name	U.S. Army	Crane Barge	420d	140	11-Mar-54	YD 192
4	BD 66--	No name	U.S. Army	Crane Barge	420d	140	29-Jun-54	YD 193, sold 2000, now Weeks 566
5	BD 66--	No name	U.S. Army	Crane Barge	420d	140	12-Aug-54	YD 195, now Weeks 568
6	268448	Husky No. 2	Manson Osberg Co.	Dredge	302	110	31-Mar-54	Later Husky, deleted 2002
7	271105	Foss 180	Foss Maritime	Deck Barge	806	163	26-Mar-56	Inactive
8	271106	Foss 181	Foss Maritime	Deck Barge	806	163	26-Mar-56	Inactive
9	YPD 42	No name	U.S. Navy	Pile Driver	220	104	30-Dec-57	Scrapped 1988
10	YPD 41	No name	U.S. Navy	Pile Driver	220	104	30-Dec-57	Struck 1993
11	YPD 61	No name	U.S. Navy	Pile Driver	220	104	16-Jul-56	YPD 37, struck 2002

12	274325	Foss 182	Foss Maritime	Deck Barge	806	163	19-Jun-57	Now Madison Rose
13	274326	Foss 183	Foss Maritime	Deck Barge	806	163	19-Jun-57	Later PT & S 173, now LBM No. 3
14	275963	Shannon Foss	Foss Maritime	Harbor Tug	162	85	27-Jul-57	Later Judi M, now Shannon
15	276766	Carol Foss	Foss Maritime	Harbor Tug	162	85	29-Aug-57	Now Marauder
16	275413	A. G. Lang	Ideal Cement	Cement Barge	1,306	170	6-Feb-58	Inactive
17	275414	T. W. Rosebaugh	Ideal Cement	Cement Barge	1,306	170	6-Feb-58	Inactive
18	DDG 9	Towers	U.S. Navy	Destroyer	3,370	437	31-May-61	Sunk as target 2002
19	280405	No. 539	Columbia River Towing	Hopper Barge	1,665	319	30-Apr-58	Later Foss 118
20	281009	Standard No. 18	Standard Oil of Cal.	Tank Barge	1,300	260	18-May-58	Now TBL 3
21	DDG 14	Buchanan	U.S. Navy	Destroyer	3,370	437	31-Jan-62	Sunk as target 2000
22		No name	Standard Oil of Cal.	Float			25-Aug-58	
23	278798	Foss 184	Foss Maritime	Deck Barge	806	170	6-May-59	
24	278799	Foss 185	Foss Maritime	Deck Barge	806	170	6-May-59	Now GC 175
25								
26	DDG 23	Richard E. Byrd	U.S. Navy	Destroyer	3,370	437	26-Feb-64	To Greece 1993 for spares
27	DDG 24	Waddell	U.S. Navy	Destroyer	3,370	437	21-Aug-64	To Greece 1999 as Nearchos, active
	288082	Foss 99	Foss Maritime	Deck Barge	1,058	189	20-Apr-62	Later GC 191
29	288083	Foss 186	Foss Maritime	Deck Barge	1,027	189	20-Apr-62	Later P T & S 36
30	291267	Foss 111	Foss Maritime	Tank Barge	1,325	200	1-May-63	Later Ibis, now Resolve Ibis
31	292346	Barbara S.	American Tug Boat	Harbor Tug	23	80	Jul-63	Now Saratoga
32	293537	ATB 95	American Tug Boat	Deck Barge	811	170	Dec-63	Inactive
33		Malemute	Manson Osberg Co.	Dredge			Nov-63	
34	294820	ATB 50	American Tug Boat	Gravel Barge	642	150	May-64	Now GC-155
35	295279	ATB 51	American Tug Boat	Gravel Barge	642	150	Jun-64	Inactive
36	295558	Skykomish	American Tug Boat	Deck Barge	394	130	Jun-64	Active
37	296469	Lorna M	Honolulu Owners	Harbor Tug	23	39	Sep-64	Now Polar Scout
38	DE 1052	Knox	U.S. Navy	Frigate	4,060	438	28-Mar-69	Struck 1995: to be museum
39	DE 1053	Roark	U.S. Navy	Frigate	4,060	438	14-Nov-69	Scrapped 2004
40	DE 1054	Gray	U.S. Navy	Frigate	4,060	438	27-Mar-70	Scrapped 2001
41	DE 1062	Whipple	U.S. Navy	Frigate	4,060	438	13-Aug-70	To Mexico 2002 as Almirante Francisco Javier Mina, active
42	DE 1064	Lockwood	U.S. Navy	Frigate	4,060	438	1-Dec-70	Scrapped 2000
43	DE 1066	Marvin Shields	U.S. Navy	Frigate	4,060	438	1-Apr-71	To Mexico 1997 as E 51: active
44	DE 1070	Downes	U.S. Navy	Frigate	4,060	438	29-Jun-71	Sunk as target 2003
45	502560	Foss 265	Foss Maritime	Tank Barge	830	180	Feb-66	Later Chet Roberts, now GC 183
46	515337	Chevron Tongass	Foss Maritime	Tank Barge	744	168	Jul-68	Later Foss Tongass, now Cispri Responder
47	AGOR 16	Hayes	U.S. Navy	Sound Trials Ship	3,677	246	21-Jul-71	Now T-AG 195, active
48	520249	Vanliner 280		Dry Cargo Barge	2,247	280	1969	Now ITB 280
49	na	President Van Buren	A.P.L.	Containership			23-Feb-72	Conversion: scrapped
50	na	President Taft	A.P.L.	Containership			24-Jun-72	Conversion: scrapped
51	na		A.P.L.	Containership				Cancelled
52	532598	OB 6	Yukon Fuel Co.	Tank Barge	484	175	18-May-71	Active
53	544785	Spokane	Washington State	Ferry	3,300	429	13-Feb-73	Active
54	546382	Walla Walla	Washington State	Ferry	3,300	429	12-Apr-73	Active
55	500484	President Polk	A.P.L.	Containership	17,128		22-Sep-72	Conversion: now Grand Canyon State
56	501712	President Monroe	A.P.L.	Containership	17,128		29-Nov-72	Conversion: now Gem State

57	502569	President Harrison	A.P.L.	Containership	17,128		16-Feb-73	Conversion: now Keystone State
58		Theriot Offshore I	Theriot Offshore	AHTS	3,000	253	15-Jun-74	Later Scotoil I, Maureen Sea, American Empress, Naeraberg, Ocean Empress, now Almirante Maximiano
59	933627	Theriot Offshore II	Theriot Offshore	AHTS	3,000	253	15-Jul-74	Now Pacific Glacier
60	935475	Theriot Offshore III	Theriot Offshore	AHTS	3,000	253	17-Sep-74	Later Scotoil III, Claymore Sea, now Vulkan Ksudach (Russia)
61		Theriot Offshore IV	Theriot Offshore	AHTS	3,000	253	18-Nov-74	Later Scotoil IV, Tartan Sea, now Nordik Express (Canada)
62	940866	Theriot Offshore V	Theriot Offshore	AHTS	3,000	253	3-Feb-75	Now f/v Arctic Fjord
63		Theriot Offshore VI	Theriot Offshore	AHTS	3,000	253	17-Mar-75	Now Heather Express
64	571742	Barge 250-9	Crowley Maritime	Deck Barge	2,246	239	23-Mar-76	Active (Paraguay)
65	572537	Barge 250-10	Crowley Maritime	Deck Barge	2,246	239	30-Apr-76	Now ITB 251
66	567400	Faustina	St. Philip Towing	Dry Bulk Barge	16,528	486	22-Aug-75	Now Diana T
67		Pierce	St. Philip Towing	Dry Bulk Barge	16,528	486	30-Mar-76	
68	AALC	Jeff-A	U.S. Navy	Hovercraft	90		14-Nov-76	Struck
69		Maoz	Govt. of Israel	Tug	1,258		23-Oct-75	Later Ashdod, now Nir
70-74			Theriot Offshore	AHTS				5 boats, cancelled
75	573677	Barge 250-11	Crowley	Deck Barge	2,638	250	15-Jun-76	Now ITB 250-11
Built by Todd Pacific Shipyards Corp., Seattle Division								
76	FFG 10	USS Duncan	U.S. Navy	Frigate	4,100	445	24-May-80	To Turkey 1998 for spares, sunk as target 2017
77	FFG 17	HMAS Adelaide	U.S. Navy/RAN	Frigate	4,100	445	6-Nov-80	To Australia as F 01: active
78	FFG 18	HMAS Canberra	U.S. Navy/RAN	Frigate	4,100	445	21-Mar-81	To Australia as F 02: active
79	575451	Barge 250-1	Crowley	Deck Barge	2,638	239	11-Aug-76	Later EM1146, Unimak Trader, scrapped 2012
80	FFG 20	USS Antrim	U.S. Navy	Frigate	4,100	445	26-Sep-81	To Turkey 1998 as Giresun (F 491): active
81	FFG 22	USS Fahrion	U.S. Navy	Frigate	4,100	445	16-Jan-82	To Egypt 1998 as Sharm el Sheik (F 901): active
82	FFG 28	USS Boone	U.S. Navy	Frigate	4,100	445	15-May-82	Decommissioned 2012, to be sold
83	FFG 31	USS Stack	U.S. Navy	Frigate	4,100	445	23-Oct-82	Scrapped 2006
84	FFG 35	HMAS Sydney	U.S. Navy/RAN	Frigate	4,100	445	29-Jan-83	To Australia as F 03: active
85	FFG 37	USS Crommelin	U.S. Navy	Frigate	4,100	445	18-Jun-83	Decommissioned 2012, to be sold
86	FFG 40	USS Halyburton	U.S. Navy	Frigate	4,100	445	7-Jan-84	To Turkey 2013
87	FFG 44	HMAS Darwin	U.S. Navy/RAN	Frigate	4,100	445	21-Jul-84	To Australia as F 04: active
88	FFG 48	USS Vandegrift	U.S. Navy	Frigate	4,100	445	24-Nov-83	To Thailand 2015
89	FFG 52	USS Carr	U.S. Navy	Frigate	4,100	445	27-Jul-85	To Taiwan 2013
90	ARDM 5	Arco	U.S. Navy	Dry-Dock	5,400	492	27-Feb-86	Active
na	WHEC 717	Mellon	U.S. Coast Guard	Cutter	3,250	378	18-Mar-88	Major modernization, active
na	WHEC 720	Sherman	U.S. Coast Guard	Cutter	3,250	378	14-Aug-88	Major modernization, active
na	WHEC 724	Munro	U.S. Coast Guard	Cutter	3,250	378	10-Jan-89	Major modernization, active
na	WHEC 723	Rush	U.S. Coast Guard	Cutter	3,250	378	19-Jun-89	Major modernization, active
na	WHEC 719	Boutwell	U.S. Coast Guard	Cutter	3,250	378	15-Apr-89	Major modernization, active
na	WHEC 722	Morgenthau	U.S. Coast Guard	Cutter	3,250	378	12-Apr-90	Major modernization, active
na	WHEC 725	Jarvis	U.S. Coast Guard	Cutter	3,250	378	20-Sep-90	Major modernization, to Bangladesh 2013 as Somudra Joy (F 28)
na	WHEC 726	Midgett	U.S. Coast Guard	Cutter	3,250	378	30-Apr-92	Major modernization, active
91	1052576	Tacoma	Washington State	Ferry	4,988	440	18-Aug-97	Active
92	1061309	Wenatchee	Washington State	Ferry	4,988	440	1-Jun-98	Active
93	1061310	Puyallup	Washington State	Ferry	4,988	440	25-Dec-98	Active
94	na	Margarita II	MAN B&W/Enron	Power Barge	7,933		30-Apr-99	Active
95	na	No name	Washington State	Caisson			2003	Active

96	na	No name	Washington State	Caisson			2003	Active
97	Federal	No name	Corps of Engineers	Const. Barge			Nov-07	Active
98	Federal	No name	U.S. Navy	Caisson			Mar-10	Active
Built by Vigor Industrial - Seattle								
98	1251144	Tokitae	Washington State	Ferry	3,525	345	16-May-14	Active
99	1228643	Chetzemoka	Washington State	Ferry	4,623	257	28-Sep-10	Active
100	1229903	Salish	Washington State	Ferry	4,623	257	13-Jun-11	Active
101	1229902	Kennewick	Washington State	Ferry	4,623	257	28-Dec-11	Active
102	1251777	Samish	Washington State	Ferry	3,525	345	10-Apr-15	Active
103	1255038	Global Pilot	Maxum Petroleum	Tank Barge	1,348	206	7-Oct-14	Active
104	1266319	Chimacum	Washington State	Ferry	3,525	345	25-Apr-17	Active
105	1261015	Fireboat 3	City of San Francisco	Fireboat	207	80	5-May-16	Active
143	1263069	Dale R. Lindsey	Harley Marine	ATB Tug	454	91	7-Jul-16	Active
144	1272842	Suquamish	Washington State	Ferry	3,525	347	19-Jul-18	Active
			Washington State	Ferry	3,525	347	2022	Building
			Washington State	Ferry	3,525	347	2024	Building
			Washington State	Ferry	3,525	347	2026	Building
			Washington State	Ferry	3,525	347	2027	Building
			Washington State	Ferry	3,525	347	2028	Building

VIGOR PORTLAND

Portland OR

Most recent update: April 1, 2020.

The Swan Island Shipyard in Portland was originally an emergency yard, built with 8 ways in the fifth wave of shipbuilding expansion, with $23mm from the USMC. The yard was one of the four specifically designed to build T-2 tankers: see their production record here. It was built on land belonging to the Port of Portland, which bought the yard after the war and operated it as a common-user ship repair facility until 1999, when it sold it to its principal tenant, Cascade General, Inc., who continued to market it as a repair yard until 2005, when they formed a joint venture with Oregon Iron Works called US Barge and began building barges, later changing the name, first to US Fab and then to Vigor Fab. Since then, they have added the former Todd Seattle (now Vigor Seattle), Alaska Ship & Dry Dock and Seward Ship's Dry Dock (together now Vigor Alaska), Kvichak Marine (now Vigor Ballard), Oregon Iron Works (now Vigor Clackamas and Vigor Vancouver), Marine Industries Northwest (now Vigor Tacoma), and Washington Marine Repair (now Vigor Port Angeles). Visit the company here and see the Portland shipyard from the air on Google here.

Hull #	*O.N.*	*Original Name*	*Original Owner*	*Vessel Type*	*GT*	*Ft.*	*Delivery*	*Disposition*
Built by Cascade General								
		Esperanza	Puerto Quetzal Power	Power Barge			2004	Active
Built by US Barge								
1	1205188	Hou'omaka Hou	Young Brothers	Deck Barge	4,511	326	15-Sep-07	Active
2	1206934	Left Coast Lifter	American Bridge	Crane Barge	7,695	384	28-Feb-08	Active
3	1208635	Maka'ala	Young Brothers	Deck Barge	4,505	326	25-Jun-08	Active
4	1214969	Kala'enalu	Young Brothers	Deck Barge	4,505	326	2-Dec-08	Active
5	1219456	Ha'aheo	Young Brothers	Deck Barge	4,511	326	18-Sep-09	Active
6	1214967	David Fanning	Harley Marine	Tank Barge	2,724	239	10-Dec-08	Active
7	1217419	Bernie Briere	Harley Marine	Tank Barge	2,724	239	2-Mar-09	Active
8	1218201	Lily Blair	Harley Marine	Tank Barge	2,724	239	1-Jun-09	Active
9	1219418	Nathan Schmidt	Harley Marine	Tank Barge	2,724	239	27-Jul-09	Active
10	1223665	Sixty Five Roses	Harley Marine	Tank Barge	6,699	404	17-Mar-10	Active
11	1228172	Anne Elizabeth	Harley Marine	Tank Barge	2,746	239	14-Oct-10	Active
12	1231400	Cauneq	Northside Gas	Tank Barge	364	155	25-Apr-11	Active
13	1235165	Betsy Arntz	Harley Marine	Tank Barge	2,724	239	30-Nov-11	Active
14		Hull 73	Georgia Pacific	Covered Barge	527		May-12	Active
15				Mooring Barge				
16	1249384	Iliuliuk Bay	Harley Marine	Deck Barge	2,003	239	28-Jan-14	Active
Built by Vigor Fab								
17	1249684	Freedom	American Const'n.	Hopper Barge	2,398	232	6-Apr-14	Active
18	na	Unnamed	King County	Maint. Barge	na		2014	Active

19	1254584	Crown Point	Tidewater B.L.	Tugboat	516	98	4-Aug-15	Active
20	1259541	Granite Point	Tidewater B.L.	Tugboat	516	98	23-Feb-16	Active
21	1259618	Ryan Point	Tidewater B.L.	Tugboat	516	98	23-Jun-16	Active
22	1251829	Fight Fanconi Anemia	Harley Marine	Tank Barge	6,685	404	8-Jul-15	Active
23	1255404	Fight A.L.S.	Harley Marine	Tank Barge	6,695	404	11-Feb-16	Active
		Sea Hunter	DARPA	Drone Ship			2016	Active
Built by Vigor Industrial - Portland								
137	1268451	Antril S	Hyak Leasing	Tank Barge	5,765	313	19-May-16	Active
138	1271009	Harvest	Savage Marine	Ammonia Barge	18,042	483	17-Jul-17	Active
		OE Buoy	Ocean Energy	Ocean Buoy	3,525		2018	Building

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BENDER SHIPBUILDING

Mobile AL

Most recent update: October 8, 2020.

Bender Welding & Machine Co., Inc., was originally established in 1928 and was primarily a builder of fishing boats until that market died. Around 1980, it changed its name to Bender Shipbuilding & Repair Co., Inc., upgraded its facilities and became a major player in the OSV market, but it had a very uneven record of success and folded in 2010. Most of its assets were then acquired by Signal International, which renamed it Signal Ship Repair, but sold it in 2018 to World Marine of Alabama. See the yard from the air on Google here: in this view, World Marine is the yard on the left, downtown, side of the Mobile River. In the table below, the ships are listed first by year of delivery and then by Official Number. Bender's hull numbering system is very strange: there are obviously gaps in the table below but it is not clear which represent ships built and which represent other types of activity. If anyone can add to the table below, please send your info to me at timcolton@aol.com

Hull #	O.N.	Original Name	Original Owner	Ship Type	GT	Ft.	Delivery	Disposition
Built by Bender Welding & Machine Co., Inc.								
32	274486	Swan	Bay Towing & Dredging	Towboat	104	58	1957	Later James Edwin, NLD
	293923	Sandra Sue	C & H Towing, Inc	Towboat	131	54	1964	NLD
	297194	Beverly	Waterways Towing	Towboat	78	52	1964	NLD
	299189	Sylvia	Black Stack Towing	Towboat	78	52	1965	Now Judy J
	501191	Bect No. 1	Bect 1 Inc	PSV	97	97	1965	NLD
122	502443	Regentsea	USG Enterprises Inc	Passenger	97	97	1966	Active
	503346	Miss Dina	Nolan A. Suttoon	Towboat	40	42	1966	Now Charlie T
	505931	Rooster	James Brothers Inc	Towing	74	47	1966	Later Blackhawk, Millie B, now Ashley Renee
	506264	Gulf Surveyor	Galaxie Marine Service	Freighter	186	97	1966	Active (Venezuela)
301	506396	Big Bear	Waterways Towing	Towboat	74	47	1965	NLD
602	506452	Miss Kaci	Iron Horse Seafood, Inc	Fishing	96	67	1966	NLD
	508062	Helen G		Fishing	103	67	1967	Later Isle Royal, NLD
	508305	Cascabel	El Cascabel Inc	Fishing	97	67	1967	NLD
607	508926	Lady Love	Thuy Lai Thi Ha	Fishing	99	67	1967	Active
	510419	El Toro	Tom Bender	Passenger	98	96	1967	Later Entrepreneur I, Lady Christine, now Affinity
	510665	Bay Queen		Fishing	97	67	1967	Later Rapids, NLD
638	511466	El Alazan	Three Captains Corp	Fishing	99	67	1967	NLD
639	511831	High Chapparal	Cadillac Joe Inc	Fishing	99	67	1967	NLD
640	512044	Tiempo Bueno	Rubina & Lisa Inc	Fishing	99	67	1967	NLD
	512191	Melanie	Melanie	Fishing	140	95	1967	Active
		Nana II		Ferry	129		1967	Active
660	512462	Racketeer		Fishing	131	73	1968	Now Carmela
	512612	Enterprise		Fishing	95	67	1968	Active
	512991	Coral Master	I D S Leasing	Fishing	133	73	1968	NLD
	513267	Bolillo Prieto	Bolillo Prieto Inc	Fishing	97	67	1968	NLD
	514945	Mark & Eric		Fishing	131	73	1968	Later Sagres, NLD

	514964	Ruff & Reddy	Ruff & Reddy	Fishing	131	73	1968	Active
656	515433	Saint Joseph	Jones LV	Fishing	131	73	1968	NLD
661	515534	Renegade		Fishing	100	67	1968	Later Rio San Marcos, NLD
	515556	Candy Man	Flamin Mamie Trawling	Fishing	131	73	1968	Active
	515659	Little Ike	Little Ike LLC	Fishing	99	67	1968	Active
	515729	Kamikaze Maru		Fishing	101	67	1968	Now Miss D. M. C. Lehn (Mexico)
666	515937	Cape Fear		Fishing	101	67	1969	Later Tan An, now Cousins
	516196	Honeyo		Fishing	100	67	1968	Later Quoc Thai III, NLD
673	516202	Jewel B	Bryant OD	Fishing	131	73	1968	Active (El Salvador)
	516518	Desire	Marvin E Titus Sr.	Fishing	97	67	1968	Later Amber Dawn, NLD
674	516830	Scorpion		Fishing	130	73	1968	Later El Jefe, Capt. Wesley, Mario Arturo, Mia Alejandra
682	516880	Western Seas	California Shellfish Co	Fishing	99	67	1968	Active
	516881	Coastwise	Victory At Sea Inc.	Recreational	98	67	1968	Active
659	517442	Moonlighter		Fishing	134	73	1968	Later Ocean Cape, NLD
	517631	Hillbilly	PMS Fisheries	Fishing	132	79	1968	Now Perseverance
		Bobby D	San Roman	Fishing	151	80	1968	Active
		Brenda & Ron	San Roman	Fishing	151	80	1968	Active
		Eddie D	Transportes y Fletes	Tug	151	80	1968	Active
		Hope II		Fishing	132	79	1968	Now Jordyn & Danielle
		Margaret E	San Roman	Fishing	151	80	1968	Active
		Miss Rhonda		Fishing	100	67	1968	Active
	517024	Raney Grasso		Fishing	171	87	1969	Now Marcy J
179	518937	Pacific Challenger	Peterson CT	Fishing	159	107	1969	Active
	520337	Irene H	Irene H	Fishing	125	75	1969	Active
	520358	Long Island	D E Kiesel	Fishing	130	79	1969	NLD
	521200	Bay Islander	Bay Islander	Fishing	131	79	1969	Active
694	522597	Cougar	Cougar Industries	Fishing	169	80	1969	Active
	522677	Warrior	Warrior & Gulf Nav	Towboat	150	80	1969	Now Miss Lauren Elizabeth
	522949	State Jack	Swamp Irish	Fishing	158	80	1969	Now Success
	522950	Let It Ride	Let It Ride Fishing Corp	Fishing	159	80	1969	NLD
404	523032	Scaup	Radcliff Materials	Towboat	284	82	1969	Later Tesoro Admiral, Martin Admiral, Elin Gertrude
	523216	Ciapesc II	Brasea	Fishing	130	79	1969	NLD
	523219	Mar Del Norte	Mar del Norte	Fishing	154	87	1969	Active
	523220	Rey Mar Austin	A. & V. Fishing, Inc.	Fishing	154	80	1969	Later Josephine Marie, NLD
	523423	Pacific Venture	Peterson CT	Fishing	166	85	1969	Active
	523428	Stevie	Ted L Morehouse	Fishing	166	85	1969	Now Morzhovui
405	523485	Skimmer	Radcliff Materials	Towboat	284	82	1969	Active
406	523751	Gobbler	Radcliff Materials	Towboat	284	82	1969	Later Tesoro Commodore, Martin Commodore, now K Lorraine

	524000	Rey Mar Jacinto	Frederick W Lakeman	Fishing	154	78	1969	Later Medrick, NLD
	524001	Mar Pacifico	Mar Pacifico	Fishing	172	88	1969	Active
	524422	Lucil	M/V Yankee Clipper Inc	Fishing	154	80	1969	Now Yankee Clipper
242	524423	Arleen	Olsen TA	Fishing	198	98	1969	Now Western Dawn
	524452	Mar Atlantico	Atlantico Inc	Fishing	185	89	1969	Now Atlantico
	524524	Mar Del Sud	Mar Del Sud	Fishing	210	103	1969	Active
		Drew		Fishing	132		1969	Now H. M. P. XXV
		Edward Paul		Fishing	158	80	1969	Now Vega
		Mar Del Oro	Sea Fare	Fishing	156	80	1969	Active
		Mar Del Plata	Huffington RM	Fishing	156	80	1969	Active
		Mirage		PSV	143		1969	Active
		Miss Happy		Fishing	133		1969	Now Barcelona
		State Mate		Fishing	159	80	1969	Now Osprey
246	524908	Ocean Harvester	Recovery	Fishing	100	67	1970	Active
236	525825	Point Omega	F/V Carolyn Jean Inc	Fishing	96	67	1970	Active
251	527411	Karen June		Fishing	130	260	1970	Later Karen Wood, Karen June, Prelude, American Champion, now Geco Triton
264	529060	Hoang Tam	Christopher Loc Nguyen	Fishing	99	67	1970	Now Capt Timmy
	529318	Barry G	American Workboats Inc	Passenger	98	94	1970	Now American Islander
	529696	Spartan	Henrichs RJ	Fishing	135	77	1970	NLD
268	530164	Jeanoah	Fairweather Fisheries	Fishing	105	67	1970	Active
210	530292	Orion	B & H Fisheries	Fishing	153	80	1970	Active
267	531055	Jeanne Arain	Michael C Wheeler	Fishing	76	62	1970	Active
269	530990	Dick Baron	Peter Hue Van Tran	Fishing	112	69	1971	Later Capt. Peter, Capt. Dylan, Capt. Connor, NLD
	532081	Dawn	Burch Bros	Fishing	152	92	1971	Active
410	533455	Missy	Waterways Towing	Towboat	43	41	1971	Active
291	534759	Joyce Wilcox		Fishing	112	69	1971	Now El Pescador (Costa Rica)
298		George Thomas	Liberty Frozen Foods	Fishing	111	69	1971	Active
299		Golden Dolphin	Liberty Frozen Foods	Fishing	111	69	1971	Active
311		Lobsta-1	David Handrigan	Fishing	105	67	1971	Capsized and snk off Point Judith 1978
312	536873	Gerry D	Mark E Cooper	Fishing	154	76	1971	Now Perseverance
		Katmai	O. Joos	Fishing	113	69	1971	Sank 1972
315	538018	Lin J	Northern Queen	Fishing	172	80	1972	Total loss 1999
411	539043	Glen Autry G	San Juan Bunkers Inc	Passenger	95	94	1972	Now Kruger B
	539618	Ultima Chansa	Lopez Flores Inc	Fishing	67	62	1972	NLD
	539694	X Professor Too	James W Mills	Fishing	111	69	1972	Later Elvira, NLD
	540938	Steven D. Clark	Senora Bonita Inc	Fishing	69	62	1972	Now Senora Bonita
	541767	Surprise	Canaveral Deep Sea	Fishing	110	68	1972	Active (Haiti)
341	542076	Tani Rae	Icicle Seafoods	Fishing	161	82	1972	Active
344		Flower No. 3		Fishing	110	68	1972	Active
345		Flower No. 5		Fishing	110	68	1972	Active

353	542206	Audrey Lee	Capt Walley Inc	Fishing	110	68	1972	Now Capt. Kent
352	542207	Saint Anne	Start Young Inc	Fishing	112	68	1972	Now Princess Anna
	542225	Leatherneck	Leatherneck	Fishing	109	68	1972	NLD
355	542633	Gordon Gould		Fishing	110	68	1972	Later Capt. G. D. A., now Capt Edwin
360	543020	Rendezvous	Dos Caballeros	Fishing	109	68	1972	Now Senor do Senores
	543021	Mary Ellen	Palmer Pederson	Fishing	120	68	1972	Later Miss Jane, now Autumn
	543931	Miss Thriftway	Texas Clipper	Fishing	110	68	1972	Active (Mexico)
359	544481	Jody Ann	Deep Sea Fisheries Inc	Fishing	164	82	1972	Active
379	545496	Rugged But Right	Mesa Trawler Inc	Fishing	110	68	1972	Now Cristy & Crystal
365	545856	Dominator	Louis Egnatovich	Fishing	110	68	1972	Now Lady Grace
319	606361	Cien D	Ocean Proteins	Fishing	110	68	1972	Now Venture West
		Deko		Fishing	110	68	1972	Active
		Matsumoto Maru		Fishing	110	68	1972	Now Captain Junior
	Venezuela	Italia	Cannavo	Fishing	141		1972	Active
	Venezuela	San Luis I	Cannavo	Fishing	141		1972	Active
	545795	Capt. Bligh	Levesque V	Fishing	110	68	1973	Active
374	547803	Request	Rascals	Fishing	108	68	1973	Now Linda Labin
	548180	Charlie	Borden MR	Fishing	110	68	1973	Active
371	548487	Mariner	Daniel W Sims	Fishing	118	68	1973	Now Matilda Bay
	548491	Midnite Sun	Irene H	Fishing	126	68	1973	Active
	549367	Ruby Guy	Cajun Shrimp	Fishing	110	68	1973	Active
378	549569	Camano	Wards Cove Packing	Fishing	181	82	1973	Active
	550725	Secret	Pete Shrimp	Fishing	110	68	1973	NLD
386	551533	Desire	Jimguy Trawling	Fishing	110	68	1973	Active
	553396	Sea Clipper	Sea Pacific	Fishing	181	86	1973	Active
	554279	Progressive I	Progressive Trawlers	Fishing	110	68	1973	NLD
		State Flag		Fishing	110	68	1973	Now Mr. T
		State King		Fishing	110	68	1973	Now Taino
420	553420	Barbara M	World Wide Marketers	Fishing	110	68	1974	Active
421	553421	Nancy M	Silva Fishing	Fishing	110	68	1974	Later Katheryn Ann, now Ocean Joy
	556529	Dawn Treader	James Hansey	Fishing	118	68	1974	Later Moriah, sank 1995
	556533	Sugam No. 21	Dole Food	Fishing	110	68	1974	NLD
393	557441	Cascade	Miller Enterprises	Fishing	186	92	1974	Now Cascade Mariner
460	559053	Jupiter	Bowers AT	Fishing	180	82	1974	Active
	582167	Pandion I	Boat Sea Queen	Fishing	121	68	1974	Later Sea Queen, sank 2008
		Pandion II		Fishing	122		1974	Now Emule
		Pandion V		Fishing	121		1974	Now Tsukwei
	563140	Eagle	Alaska Packers	Fishing	176	82	1975	Active
	563421	Icelander	Icelander	Fishing	192	82	1975	Active
463	565816	New Venture	Northland Producers	Fishing	179	82	1975	Active

465	568874	Hollie Ann Vizier	Hollie Ann Vizier, Inc	Towing	79	70	1975	Active
		Sechong No. 7		Fishing	111		1975	Now Coresmar No. 1
317	578559	Sunflower	A & M Fishing	Fishing	146	75	1976	NLD
	Liberia	Mesurado 24	Mesurado Fishing	Fishing	115		1976	NLD
	Liberia	Mesurado 25	Mesurado Fishing	Fishing	115		1976	NLD
	Liberia	Mesurado 26	Mesurado Fishing	Fishing	115		1976	NLD
	Liberia	Mesurado 27	Mesurado Fishing	Fishing	115		1976	NLD
220	576314	Defender		Tug	199	129	1977	Active
356	579384	Maria Angela	Mendonca D	Fishing	147	74	1977	Now Sea Explorer
	581723	Sao Paulo	Borges J	Fishing	146	75	1977	NLD
470	581823	Persistence	Persistence Fisheries	Fishing	156	76	1977	Active
	581831	Lutador II	Lady Patricia Inc	Fishing	145	75	1977	Now Lady Patricia
218	583721	Sigried K	Arctic Sole Seafoods Inc	Fishing	195	91	1977	Later Ocean Cape, now Pacific Capes
734	583771	Saint Anthony	Pham T	Fishing	111	68	1977	Now Lucky Nine
735	583772	Maude Lee		Fishing	111	68	1977	Now Judy Ann
471	584292	Santo Antonio	Santo Antonio Fishing	Fishing	148	75	1977	Active
	584519	Vila de Dihavo	M & M Fishing	Fishing	149	75	1977	NLD
467	584692	Miss Vicky	Sasha Fishing Corp	Fishing	143	75	1977	Now Perola do Corvo
	585098	Hattie Rose	Leber Marine	Fishing	149	75	1977	Active
	585222	Imigrante	Boat Imigrante	Fishing	145	75	1977	Active (South Africa)
	585708	Brenda Louise	City Viewer	Fishing	143	75	1977	Now Sisu
217	586976	Praia da Figueira	M & J Fishing	Fishing	146	75	1977	Active
240	587469	Burrus P. Hicks	My Girl Inc	Fishing	145	74	1977	Now My Girl
737	587577	Ida B.	Ida B	Fishing	110	68	1977	Active
	588578	Bernice C	Benthic Fishing	Fishing	184	83	1977	Now Krystle James
330	Nigeria	Opuro 6	Nigerian Nat. Shrimp	Fishing	113		1977	Active
331	Nigeria	Opuro 7	Nigerian Nat. Shrimp	Fishing	113		1977	Active
332	Nigeria	Opuro 8	Nigerian Nat. Shrimp	Fishing	113		1977	Active
333	Nigeria	Opuro 9	Nigerian Nat. Shrimp	Fishing	113		1977	Active
334	Nigeria	Opuro 10	Nigerian Nat. Shrimp	Fishing	113		1977	Active
335	Nigeria	Opuro 11	Nigerian Nat. Shrimp	Fishing	113		1978	Active
336	Nigeria	Opuro 12	Nigerian Nat. Shrimp	Fishing	113		1978	Active
337	Nigeria	Opuro 13	Nigerian Nat. Shrimp	Fishing	113		1978	Active
338	Nigeria	Opuro 14	Nigerian Nat. Shrimp	Fishing	113		1978	Active
339	Nigeria	Opuro 15	Nigerian Nat. Shrimp	Fishing	113		1978	Active
340	Nigeria	Opuro 16	Nigerian Nat. Shrimp	Fishing	113		1978	Active
213	590065	Trade Wind	Kathryn Ann Fishing Inc	Fishing	199	88	1978	Now Kathy Ann
328	590758	California Horizon	Horizon Trawlers	Fishing	181	82	1978	Active
307	591140	Northern Lady	Surland Inc	Fishing	198	82	1978	Active
	591971	Nordic Pride	Celtic Fisheries LLC	Fishing	199	88	1978	Now Celtic

	592211	Hazel Lorraine	BTI VI	Fishing	126	77	1978	Now Arctic Ram
308	592291	Karin Lynn	Deep Sea Fisheries	Fishing	194	121	1978	Active
361	594154	Hickory Wind	Harville DP	Fishing	150	92	1978	Active
302	595289	Westward Wind	Highland Light Seafoods	Fishing	441	156	1978	Active
	595311	Lady Lena		Fishing	110		1978	Active
	596397	Triunfo		Fishing	128	68	1978	Active
309	596514	Trailblazer	Alaska Seafood	Fishing	377	120	1978	Active
303	597612	Patricia Lee	KDS	Fishing	195	117	1978	Active
738	592242	Endurance	Endurance	Fishing	196	93	1978	Later Arctic Hunter, scrapped 2013
740	596135	Rebel	Sea King	Fishing	189	92	1978	Active
741	597611	Gold N Star	St George Marine	Fishing	194	90	1978	Now Jennifer A
746	599585	Golden Pisces	Golden Pisces	Fishing	184	90	1978	Active
747	602351	Enterprise	Freeport Sea Clam Co.	Fishing	195	117	1978	Now Scandies Rose
761	602177	New Janet Ann	Janet A Favalora	Fishing	136	69	1979	Active
750	602386	Northwind	Nordic Fishing	Fishing	195	82	1979	Active
	603402	Blue Pacific	Roglew	Fishing	189	88	1979	NLD
744	604215	Arctic Lady	Nordic Star Fisheries	Fishing	407	121	1979	Active
752	604581	Pacific Sun	Deaver D	Fishing	324	108	1979	Active
743	604998	Constellation	Constellation Fisheries	Fishing	194	116	1979	Active
791	605508	Ocean Star	Lee R	Fishing	135	69	1979	Active
	605674	Alaska Spirit	US Marine	Fishing	193	90	1979	Active
749	606357	Becky M.	Tam V Nguyen	Fishing	184	83	1979	Later Thai Binh, sank 2019
763	606358	Venka M	Nick Mirkovich	Fishing	185	83	1979	Active (Paraguay)
755	606800	Saga	Hiner CL	Fishing	198	94	1979	Active
751	608399	Nordic Viking	Nordic Viking	Fishing	194	117	1979	Now Alaska Endeavor
756	608657	Ocean Challenger	George W Johnson	Fishing	193	82	1979	Active
795	609117	Annihilator	Edwards JC	Fishing	137	69	1979	Active
768	609369	Alaska Trojan	Oregon Seafood	Fishing	381	117	1979	Active
798	611519	Shishaldin	Sjong JK	Fishing	198	94	1979	Now Brenna A
794	615085	Bender Rover	Kristjan Laxfoss	Fishing	219	87	1979	Now Lady Gudny
769	618355	Dianne Lynn	Boat Diane Lynn LLC	Fishing	135	83	1980	Now Amber Nicole
758	619338	Westport	Westport Scalloping	Fishing	199	88	1980	Active
	620343	Regulus	Fleming Fisheries LLC	Fishing	199	88	1980	Later Wild Thing, now Flying Ocean
346	620431	Sally J	Fishing North Wind Inc	Fishing	488	164	1980	Now Bluefin
760	623488	Canton	Westport Scalloping	Fishing	199	88	1980	Now Kayla Rose
799	624429	Skipbladnir		Fishing	439	124	1980	Now Blue Attu
767	626591	Kathy & Maureen	Future Fisheries Inc	Fishing	199	88	1980	Later Heritage, now Sea Ranger
748	1083261	Chapman (R 446)	N.O.A.A.	Research	385	126	1980	Sold 1999
Built by Bender Shipbuilding & Repair Co., Inc.								
131	615563	Margaret Lyn	Great West Seafoods	Fishing	199	109	1980	Active

130	621756	Generation	Future Fisheries	Fishing	199	88	1980	Active
136	625095	Alaska Invader	Ocean Ventures LLC	Fishing	199	91	1980	Now Zolotoi
135	625096	Pacific Invader	Ocean Ventures LLC	Fishing	199	82	1980	Later Golden Sable, now Savannah Ray
132	632517	Arctic Dreamer	Miller Fisheries	Fishing	199	82	1980	Sank 1983
138		Cordova		Fishing	199		1980	Now Regulus
139	642436	Pelagic Ranger	T. A. Olsen	Fishing	199	94	1980	Later Francis M, now McKinley
151		Lady Debbie		PSV	224		1980	Now Cangak
158	631954	Miss Kathryn	Hilburn Towing	Towboat	160	65	1981	Now St. Andrew
	633575	William Lee	Waterways Towing	Towboat	62		1981	Active
1085	634430	Tommy Munro	Gulf Coast Research Labs	Research	150	87	Mar-81	Active
155	636839	Amelia L		PSV	89	98	1981	Now Freyoux Tide (Belize)
951	642161	Aleutian Falcon		Fish Factory	1,087	215	1981	Active
154		A L No. 2		PSV	200		1981	Now Sea Reliance
160		Saam	S.A.A.M.	Tug	132		Nov-81	Now Tramarsa
163	Sierra Leone	Sierra 6	Sierra Fishing	Fishing	110		May-82	Active
164	Sierra Leone	Sierra 7	Sierra Fishing	Fishing	110		May-82	Active
165	Sierra Leone	Sierra 8	Sierra Fishing	Fishing	110		Jul-82	Active
166	Sierra Leone	Sierra 9	Sierra Fishing	Fishing	110		Jul-82	Active
167	Sierra Leone	Sierra 10	Sierra Fishing	Fishing	110		Sep-82	Active
168	Sierra Leone	Sierra 11	Sierra Fishing	Fishing	110		Sep-82	Activev
169	Sierra Leone	Sierra 12	Sierra Fishing	Fishing	110		Sep-82	Active
1160	Mexico	Bucanero	Atunera del Golfo	Fishing	1,487		Mar-82	Active
1161	Mexico	Bruja del Mar	Atunera del Golfo	Fishing	1,487		Jul-82	Active
1162	Mexico	Centauro del Norte	Atunera Tris S.A.	Fishing	1,651		Dec-82	Now Caribe
1163	Mexico	El Audaz		Fishing	1,651		Dec-82	Now San Nanumea
	647298	Geomar III	Geomar	Research	283	160	Apr-82	Later Cape Scott, NLD
	653784	Noho-Loa	Uaukewai Diving	Passenger	87	97	1982	Active
1001	647303	State Spirit	State Offshore Services	PSV	300	175	Jun-82	Later Pacific Horizon, now Tijereto (Venezuela)
1002	650997	State Glory	State Offshore Services	PSV	300	175	Sep-82	Later OMS Harris, AET Harris, now Rappahannock
1003	652259	State Chief	State Offshore Services	PSV	300	175	Oct-82	Later Point Chief, HOS Chief, Chief, now Midnight Chief (Panama)
1004	653141	State Belle	State Offshore Services	PSV	300	175	Dec-82	Later Point Belle, HOS Belle, Belle, City of Vegas, now Allure Shadow
1005		State Power	State Offshore Services	PSV	300	175	May-83	Later Pacific Adventurer, Sea Challenge, Seawitch, Sea Witch, now Sultan (Sharjah)
1006		State Vigor	State Offshore Services	PSV	300	175	Jun-83	Later Pacific Vigor, Sea Phoenix, Sea Whip, now Haroon (Comoros)
1007	Guyana	Fat Snook	Guyana Fisheries	Fishing	109		Sep-83	Active
1008	Guyana	Pacuma	Mohamed T	Fishing	109		Sep-83	Active

	622819	Ocean Bounty	American Fishing	Fishing	195	130	1983	Active
175	664799	Pacific Trawler		Fishing	194	117	1983	Active (Uruguay)
176	664882	Aleutian Bounty		Fishing	194	117	1983	Now Legacy
170	665130		Todd Shipyards	Dry Dock	49,611	671	1983	Now Pete B
177	Guyana	Cavalli	Guyana Fisheries	Fishing	108		Jun-83	Active
178	Guyana	Sea Trout	Guyana Fisheries	Fishing	108		Jun-83	Active
179	Guyana	Shark	Umraow & Sons	Fishing	108		Jun-83	Active
180	Guyana	Bangamary	Dhamo H. & C.	Fishing	108		Jun-83	Active
181	Guyana	Butterfish	F. A. Amin	Fishing	108		Jun-83	Now Three Brothers
182	Guyana	Croaker	Williams C. & S.	Fishing	108		Jul-83	Active
183	Guyana	Grouper	Sookhram Singh	Fishing	108		Jul-83	Active
184	Guyana	Red Snapper	Thomas M.	Fishing	108		Jul-83	Active
185	Guyana	Grey Snapper	Sookhram Singh	Fishing	108		Jul-83	Active
186	Guyana	Rock Shrimp	Guyana Fisheries	Fishing	108		Jul-83	Active
187	Guyana	Creole Fish	Guyana Fisheries	Fishing	108		Jul-83	Active
188	Guyana	Cat Shark	Noble House Seafoods	Fishing	108		Sep-83	Active
189	Guyana	Angel Wing	Meghan B.L.	Fishing	108		Sep-83	Active
190	Guyana	Kukwarri	Noble House Seafoods	Fishing	108		Sep-83	Active
191	Guyana	Salmon	Barclay P.	Fishing	108		Sep-83	Active
192	Guyana	Silverside	Guyana Fisheries	Fishing	108		Feb-84	Active
193	Guyana	Ladyfish	Noble House Seafoods	Fishing	108		Feb-84	Active
194	Guyana	Mullet	Romar	Fishing	108		Jun-84	Active
195	Guyana	Bonito	Romar	Fishing	108		Aug-84	Active
196	Guyana	Dorado	Dhamo H. & C.	Fishing	108		1984	Active
140	677464	Pilgrim Belle	West Travel Inc	Passenger	1,470	174	1984	Later Spirit of 98, now Legacy
1164	678236	Ocean Enterprise	Ocean Enterprise Inc.	Fishing	896	140	Dec-84	Now Ocean Explorer
1165	678237	Pacific Enterprise	Pacific Enterprise Inc.	Fishing	896	140	Dec-84	Now Pacific Explorer
1009	670742	Traveller	Eileen Marie Fishing Inc	Fishing	190	88	1984	Later Eileen Marie, now Blue North
174	653783	Alliance Fury		PSV	95	97	Feb-85	Now Fernanda M (Vanuatu)
1010	678234	Arctic I	Arctic Fisheries	Fishing	152	99	Jan-85	Now Nordic Explorer
1011	678235	Arctic II	Arctic Fisheries	Fishing	152	99	Jan-85	NLD
1024	Nigeria	Mustapha	Wingate Holdings	Fishing	120		Dec-86	Active
1025	Nigeria	Mountaha	Wingate Holdings	Fishing	120		Dec-86	Active
1026	Nigeria	Sari I	Onome Foods	Fishing	120		Jan-87	Active
1027	Nigeria	Sari II	Onome Foods	Fishing	120		Jan-87	Active
	1227965	Elizabeth II		Passenger	95	73	1987	Active
	936302	Arctic IV	Arctic Fisheries	Fishing	892	140	1989	Now Arctic Explorer
1101	Kuwait	Al Mutaheda 1	United Fisheries	Fishing	131		Sep-92	Active
1102	Kuwait	Al Mutaheda 2	United Fisheries	Fishing	131		Sep-92	Active
1103	Kuwait	Bubiyan 5	Bubiyan Fisheries	Fishing	131		Oct-92	Active
1104	Kuwait	Al Mutaheda 3	United Fisheries	Fishing	131		Oct-92	Active

1105	Kuwait	Al Mutaheda 4	United Fisheries	Fishing	131		Oct-92	Active
1106	Kuwait	Al Mutaheda 5	United Fisheries	Fishing	131		Nov-92	Active
1107	Kuwait	Bubiyan 6	Bubiyan Fisheries	Fishing	131		Dec-92	Active
1108	Kuwait	Al Mutaheda 6	United Fisheries	Fishing	131		Dec-92	Active
1109	Kuwait	Al Mutaheda 7	United Fisheries	Fishing	131		Jan-93	Active
1110	Kuwait	Al Mutaheda 8	United Fisheries	Fishing	131		Jan-93	Active
1111	Kuwait	Bubiyan 7	Bubiyan Fisheries	Fishing	131		Sep-93	Active
1112	Kuwait	Bubiyan 8	Bubiyan Fisheries	Fishing	131		Sep-93	Active
	Colombia	Tenerife (LR 181)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Tarapaca (LR 182)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Mompox (LR 183)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Orocue (LR 184)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Calamar (LR 185)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Magangue (LR 186)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Monclart (LR 187)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Caucaya (LR 188)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
	Colombia	Mitu (LR 189)	Colombian Navy	Patrol Craft	21d	40	Oct-93	Active
1031	983114	Gulf Coast Responder	M.S.R.C.	OSRV	499	192	Jan-93	Active
1032	983115	Louisiana Responder	M.S.R.C.	OSRV	499	192	Mar-93	Active
1033	983116	Texas Responder	M.S.R.C.	OSRV	499	192	May-93	Active
1034	983117	Mississippi Responder	M.S.R.C.	OSRV	499	192	Jul-93	Now Lone Star Responder
1041		ENSCO VIII	Ensco	Drilling Barge	2,300		Mar-93	Active
1042		ENSCO X	Ensco	Drilling Barge	2,300		May-93	Active
3001	997578	Star Casino	Harrah's Star	Passenger	3,498	249	22-Aug-93	Now SJS-09
	Colombia	Jose Maria Garcia de Toledo (GC 113)	Colombian Coast Guard	Patrol Craft	131d		Jun-94	Active
	Colombia	Juan Nepomucena Eslava (GC 114)	Colombian Coast Guard	Patrol Craft	131d		Jun-94	Active
1057	1025171	GEN Roy S. Kelley	Port of New Orleans	Fireboat	190	83	May-94	Active
3004	1025416	Treasure Chest Casino	Treasure Chest Casino	Passenger	1,582	213	15-May-94	Active
3005	1000320	Queen of the Red	Horseshoe Entertainment	Passenger	2,606	276	26-Dec-94	Now Treble Clef
3006	1026498	Harrah's North	Harrahs N Kansas City	Passenger	2,170	259	22-Aug-94	Active

		Star						
3007	1027353	Casino Rouge	Louisiana Casino Cruises	Passenger	3,899	241	20-Dec-94	Active
	na	Windward (YFB 92)	U.S. Navy	Ferry	200d	136	30-Jan-95	Now R. W. Huntington
	na	Leeward (YFB 93)	U.S. Navy	Ferry	200d	136	30-Jan-95	Now William H. Allen
3003	1038831	Lady Luck Bettendorf	Isle of Capri-Bettendorf	Passenger	3,560	281	27-Feb-95	Later Bettendorf Capri, now American Duchess
3008	1028318	Grand Palais	Grand Palais Riverboats	Passenger	3,800	318	8-Feb-95	Active
3009	1028319	Crescent City Queen	Louisiana-I Gaming	Passenger	3,615	318	24-Aug-95	Now Boomtown Belle II
6670	1071956	Agnes Candies	Otto Candies	PSV	1,900	202	5-Oct-98	Later DMT Topaz, Lewek Ambassador, now AMC Ambassador (Singapore)
6680	1071957	Juanita Candies	Otto Candies	PSV	1,900	202	13-Jan-99	Active (Mexico)
6690	1071958	Rita Candies	Otto Candies	PSV	1,900	202	26-Apr-99	Active (Mexico)
6700	1071959	Ashley Candies	Otto Candies	PSV	1,900	202	21-Oct-99	Active (Mexico)
6750	1077129	Highland Guide	Gulfmark Offshore	PSV	1,900	202	7-Jul-99	Now Markabi Guide (Qatar)
6760	1077128	Highland Scout	Gulfmark Offshore	PSV	1,900	202	25-Aug-99	Active (Brazil)
6900	1086925	R. C. Baker	Tidewater Marine	PSV	1,900	203	22-Oct-99	Later Bobby Rawle Tide, NLD
6910	1091373	Nicki Candies	Otto Candies	PSV	2,100	221	31-Jan-00	Later DMT Diamond, now Seacor Diamond
6930	1096764	Sidney Candies	Otto Candies	AHT	1,000	134	7-Jun-00	Now Kurt J. Crosby
6940	1099759	Kelly Candies	Otto Candies	AHT	1,000	134	20-Jul-00	Active
6950	1104256	Devin Candies	Otto Candies	AHT	1,000	134	31-Oct-00	Active
7180		Eagle II	Hanover Co.	Well Test Barge	1,069		Jul-01	Active
7200	1127463	Anne Candies	Otto Candies	PSV	2,068	221	31-May-02	Active
7201	1129810	Kelly Ann Candies	Otto Candies	PSV	2,068	221	31-Jul-02	Later DMT Sapphire, now Ocean Patriot
7202	1133134	Kimberly Candies	Otto Candies	PSV	2,068	221	4-Oct-02	Active
7250	na		Santa Maria Shipping	Containership	6,000			Cancelled
7255	na		Santa Maria Shipping	Containership	6,000			Cancelled
7270	1133382	Collins Tide	Tidewater Marine	PSV	1,931	202	23-Oct-02	Active
7280	1135063	Ed Kyle	Tidewater Marine	PSV	1,931	202	17-Dec-02	Active
7330	1137027	Pattarozzi Tide	Tidewater Marine	PSV	1,888	202	28-Feb-03	Active
7340	1139180	Fortier Tide	Tidewater Marine	PSV	1,888	202	15-Apr-03	Active
7390	1142551	Loving Tide	Tidewater Marine	PSV	1,888	202	26-Jun-03	Active
6875	na	LCPL Roy M. Wheat	Military Sealift Com	T-AKR			3-Oct-03	Ex-Vladimir Vaslyayev, conversion, active
7175	na	Enterprise	U.S. Maritime Admin.	School Ship			Nov-03	Ex-Cape Bon, conversion
7395	Mexico	Pionero	Naviera Tamaulipas	PSV	1,670		22-Dec-03	Active (Mexico)
7440	1145998	Ebanks Tide	Tidewater Marine	PSV	1,888	202	5-Jan-04	Active
7290	Federal	Choctawatchee	Corps of Engineers	Derrick Barge			Mar-04	Active
7421	1151394	Orleans	Rigdon Offshore	PSV	1,700	234	13-May-04	Active

7422	1156133	Bourbon	Rigdon Offshore	PSV	1,700	234	9-Jul-04	Active
7423	1159200	Royale	Rigdon Offshore	PSV	1,700	234	20-Aug-04	Active
7424	1160318	Chartres	Rigdon Offshore	PSV	1,700	234	1-Oct-04	Active
7425	1163367	Iberville	Rigdon Offshore	PSV	1,700	234	29-Nov-04	Active
7426	1163970	Bienville	Rigdon Offshore	PSV	1,700	234	3-Jan-05	Active
7427	1163313	Conti	Rigdon Offshore	PSV	1,700	234	8-Mar-05	Active
7428	1167668	St. Louis	Rigdon Offshore	PSV	1,700	234	13-Apr-05	Active
7429	1169977	Toulouse	Rigdon Offshore	PSV	1,700	234	14-Jun-05	Active
7430	1173548	Esplanade	Rigdon Offshore	PSV	1,700	234	24-Aug-05	Active
7749	1176102	AB DF 2	Bender Shipbuilding	Unclassified	7,813	203	21-Feb-05	Active
7770	1190616	DMT Emerald	Deep Marine 2	IMR	4,193	269	7-Jun-07	Now Surf Challenger (Singapore)
7873	1198441	John Coghill	Seacor Marine	PSV	2,174	247	7-Sep-07	Active
7874	1201451	Norman F. McCall	Seacor Marine	PSV	2,184	247	27-Sep-07	Active
7875	1205365	Seacor Grant	Seacor Marine	PSV	2,168	247	4-Oct-07	Active
7788	1207249	Dry Dock No. 2	Bender Shipbuilding	Launch Pontoon	2,975	240	28-Nov-07	Active
7877	1205367	Seacor Lee	Seacor Marine	PSV	2,188	247	4-Jun-08	Active
8065	1212011	Trico Mystic	Trico Marine	PSV	1,708	194	29-Jul-08	Later Posh Plover, Rodrigo DPL, now Posh Honesto (Singapore)
8066	1215615	Trico Moon	Trico Marine	PSV	1,708	194	29-Oct-08	Later Posh Petrel, Caballo Monacerus, now Posh Galante (Singapore)
7878	1205368	Seacor Davis	Seacor Marine	PSV	2,188	247	11-Feb-09	Active
7800	1216365	OSG Vision	OSG America	ATB Tug	997	145	16-Mar-10	Completed by VT Halter Marine
7801	1223554	OSG 350	OSG America	Tank Barge	27,615	620	16-Mar-10	Completed by VT Halter Marine
7900	1229614	OSG Horizon	OSG America	ATB Tug	997	145	25-Mar-11	Completed by VT Halter Marine
7901	1229615	OSG 351	OSG America	Tank Barge	27,615	620	25-Mar-11	Completed by VT Halter Marine
8015	1231405	OSG Courageous	OSG America	ATB Tug	997	145	17-Jun-11	Built by VT Halter Marine
8016	1231406	OSG Endurance	OSG America	ATB Tug	997	145	28-Sep-11	Built by VT Halter Marine
7876	1205366	Seacor Sherman	Seacor Marine	PSV	2,188	247	2-May-12	Burnt, completed by Eastern SB as Keith Cowan
8000		OSG Quest	OSG America	ATB Tug				Cancelled
8001		OSG 352	OSG America	Tank Barge				Cancelled
8130		OSG Endeavor	OSG America	ATB Tug				Cancelled
8131		OSG 296	OSG America	Tank Barge				Cancelled
8140		OSG Mariner	OSG America	ATB Tug				Cancelled
8141		OSG 297	OSG America	Tank Barge				Cancelled
8150		OSG Discovery	OSG America	ATB Tug				Cancelled
8151		OSG 298	OSG America	Tank Barge				Cancelled
8184			Gulfmark Offshore	PSV				Cancelled
8188			Gulfmark Offshore	PSV				Cancelled
8192			Gulfmark Offshore	PSV				Cancelled

AVONDALE SHIPYARDS

New Orleans LA

Most recent update: December 26, 2020.

Avondale Shipyards was founded in 1938 as Avondale Marine Ways, in Westwego LA, on the west bank of the Mississippi river in New Orleans. The original owners were James Viavant, Harry Koch and Perry Ellis. Initially the yard built barges and a few tugs but when the war effort started, it expanded to build large tugs and small cargo ships for the U.S. Maritime Commission. After the war, it expanded to its present site and also to a repair yard on the Harvey Canal. In May 1959, the original owners sold it to Ogden Corporation for $14 million and it became Avondale Shipyards Inc. as of July 1st, 1960. In 1985 Ogden sold it, together with a number of other Ogden interests, to an ESOP called Connell Partnership and the new group became Avondale Industries. In 1987 the shipyard was spun off from the rest of the group as Avondale Industries. The new company was then publicly traded until it was acquired by Litton Industries in 1999 and became Litton Ship Systems, Avondale Operations. Litton was itself acquired by Northrop Grumman in 2001 and Avondale was integrated with Ingalls and became formally known as Northrop Grumman Ship Systems, Avondale Operations. In January 2008, Northrop Grumman Ship Systems was integrated with Newport News as part of Northrop Grumman Shipbuilding. In July 2010, Northrop Grumman announced its intention to close Avondale after it completed LPD 25, which was expected to be in late 2013. In 2011, Northrop Grumman Shipbuilding was spun off as Huntington Ingalls Industries, (HII), which confirmed the decision to close the yard after it completed LPD 25. In October 2013, LPD 25 was delivered and, shortly after, the yard was closed. See the shipyard from the air on Google here

Over the years, Avondale also operated several small yards. Their original yard, Avondale Marine Ways, in Westwego, closed in 1963, was reopened in 1988 as the Avondale Boats Division and closed in 1998. This yard also encompassed an entity called Safticraft, which built steel launches for both commercial and recreational uses: it was sold in 1951. The original repair yard, Harvey Quick Repair, was sold to Bollinger in 1994. In 1987, Avondale took over Todd Shipyardsï¿½ repair yard in Algiers LA, and operated it as Avondale Ship Repair: it closed in 2004. Another small yard, known as the Bayou Black Division, was opened in the late 1960s, in Morgan City LA: it closed in the mid-1970s. A Hovercraft Division was established in 1985, in Gulfport MS, to build air cushion landing craft, (LCACs) for the Navy: it closed in 1993. Finally, a Composites Manufacturing Division was established in 1990, also in Gulfport MS, to build mine hunters, (MHCs) for the Navy: it became Northrop Grummanï¿½s Composites Manufacturing Division and closed in 2014.

Avondale's hull numbers reached 2500, because most of its output was barges (including over 1000 LASH barges) and small vessels. Boats and barges built by Avondale Marine Ways, in Westwego, were given numbers in the same series as the main yard, but when it was revived in 1988 as Avondale's Boats Division, the boats built there were given a new series of numbers. Finally, a surprising number of the barges built by Avondale cannot be found in the register, resulting in a lot of gaps: if anyone can fill any of these gaps, please send your info to me at timcolton@aol.com

Hull #	O.N.	Original Name	Original Owner	Type or MA Design	GT	L x B	Delivered	Disposition
1			Hardaway Construction	Deck Barge			Oct-38	
2	176575	G.R. Co. 205	Gulf Refining Co. (Del.)	Deck Barge	117	92' x 26'	Nov-38	Not documented until 1946
3	176569	G.R. Co. 207	Gulf Refining Co. (Del.)	Deck Barge	117	92' x 26'	Nov-38	Not documented until 1946
4	176570	G.R. Co. 208	Gulf Refining Co. (Del.)	Deck Barge	117	92' x 26'	Nov-38	Not documented until 1946
5	176571	G.R. Co. 209	Gulf Refining Co. (Del.)	Deck Barge	117	92' x 26'	Nov-38	Not documented until 1946
6	Federal	B	Corps of Engineers, Galveston	Tank Barge		100' x 32'	Mar-39	
7	Federal	C	Corps of Engineers, Galveston	Tank Barge		100' x 32'	Mar-39	
8		Adams No. 1	L. M. Adams	Deck Barge	120	60' x 20'	Apr-39	
9	Federal	I.W.C. 819	Federal Barge Lines	Derrick Barge		96' x 36'	Dec-39	
10	174596	C.B.C. No. 2	Canal Barge Co.	Tank Barge	79	74' x 24'	Nov-39	Later BT-2
11	174626	Apalachee	Coast Transportation Co.	Freight Barge	619	150' x 32'	Jan-40	Later YFN 1164, YFN 684, SC 3 (ON 500541)
12	174673	Avon 800	Avondale Marine Ways	Freight Barge	487	170' x 35'	Feb-40	Later Colle 141
13	174797	C.B.C. No. 7	Canal Barge Co.	Freight Barge	618	195' x 35'	Jun-40	Possibly originally Avon 600, later A.O.& R. Co. No.39
14	240107	Pay Day	R. C. Huffman Construction Co.	Tug	57	61' x 17'	Aug-40	Sold 1942
15		Adams No. 2	L. M. Adams	Deck Barge	155	75' x 24'	May-40	
16	174859	Manatee	Coast Transportation Co.	Freight Barge	1,115	180' x 40'	Aug-40	Later YFN 572, destroyed 1947
17	240252	Chipola	Coast Transportation Co.	Tug	117	75' x 20'	Dec-40	Later A. J. Harper, now Windflower
18	240287	Merry Queen	Merry Bros. Brick & Tile Co.	Tanker	420	161' x 33'	Feb-41	YO-134 1942, Merry Queen 1946, Val T 1953, Pittston T 1964, Special T 1969
19	174961	C.B.C. No. 802	Canal Barge Co.	Tank Barge	512	170' x 35'	Jan-41	Later John Kirchner
20	174980	C.B.C. No. 801	Canal Barge Co.	Tank Barge	512	170' x 35'	Jan-41	Later Petco 5, Tarheel
21	240909	Hard Cider	Canal Barge Co.	Tug	114	75' x 20'	Jun-41	Later Russel 5 1946
22	175003	KE-16	Koch & Ellis, New Orleans	Tank Barge	512	170' x 35'	Jun-41	
23	176503	KE-17	Koch & Ellis, New Orleans	Tank Barge	532	170' x 35'	Jun-41	Not documented until 1946
24	176504	KE-18	Koch & Ellis, New Orleans	Tank Barge	532	170' x 35'	Jun-41	Not documented until 1946
25	175279	Immokalee	Coast Transportation Co.	Freight Barge	400	170' x 38	Jul-41	Later YFN 573, destroyed 1947
26	175368	Ochlocknee	Coast Transportation Co.	Freight Barge	400	170' x 38'	Jul-41	Later YFN 572, destroyed 1947
27	175292	Chalmette No. 1	Chalmette Petroleum	Tank Barge	655	195' x 35'	Jul-41	Later Esso Barge No. 243, TJ- 75
28			United Dredging Company	Tug			Jul-41	
29	175294	No. 16	Standard Oil of Kentucky	Tank Barge	450	170' x 35'	Aug-41	
30	175301	J C T No. 10	J. C. Tourne	Tank Barge	450	170' x 35'	Aug-41	
31	175449	J C T No. 11	J. C. Tourne	Tank Barge	450	170' x 35'	Aug-41	
32	175395	Allen 701	Allen Boat Co.	Tank Barge	332	150' x 34'	1941	Built at Harvey
33		Meco No. 1	Mechanical Equipment Co.	Towboat		54' x 15'	Jul-41	
34	WAGL 63	Forsythia	U.S. Coast Guard	Tender	230d	114' x 26'	15-Feb-43	Later WLR 63, decommissioned 1977

35		B.A. 907	Butcher-Arthur Co.	Tank Barge	600	177' x 38'	Jun-41	
36	249156	Ethel H	Dr. O. J. McMillan	Shrimp Boat	69		Jan-46	Completion delayed by war, to Venezuela 1948
37	242021	Seguin	U.S. Maritime Commission	V4-M-A1 575	1,117	185' x 38'	Jan-43	Scrapped 1976
38	242898	Sand Key	U.S. Maritime Commission	V4-M-A1 576	1,117	185' x 38'	Mar-43	Scrapped 1977
39	243085	Sanibel Island	U.S. Maritime Commission	V4-M-A1 577	1,117	185' x 38'	Apr-43	Scrapped 1972
40	243170	Sabine Pass	U.S. Maritime Commission	V4-M-A1 578	1,117	185' x 38'	Apr-43	Scrapped 1978
41	243385	Libby Island	U.S. Maritime Commission	V4-M-A1 1011	1,117	185' x 38'	Aug-43	Sold 1971, later Northern Retriever, scrapped
42	244162	St. Simon	U.S. Maritime Commission	V4-M-A1 1012	1,117	185' x 38'	Sep-43	Scrapped 1977
43	244332	Petit Manan	U.S. Maritime Commission	V4-M-A1 1013	1,117	185' x 38'	Oct-43	Scrapped 1976
44	244327	Burnt Island	U.S. Maritime Commission	V4-M-A1 1014	1,117	185' x 38'	Oct-43	To Mexico 1969 as R 5, scrapped 1979
45		Allen H. Knowles	U.S. Maritime Commission	N3-S-A2 1615	1,885	250' x 42'	Mar-44	To Poland 1944 as Kolno, Allen L. Knowles 1947, breakwater in NC 1984
46	245572	Charles Hull	U.S. Maritime Commission	N3-S-A2 1616	1,885	250' x 42'	Apr-44	To Italy 1948 as Marechiaro, scrapped 1972
47	245797	George W. Tucker	U.S. Maritime Commission	N3-S-A2 1617	1,885	250' x 42'	Jun-44	To the Philippines 1945, scrapped 1963
48	245960	E. C. Gardner	U.S. Maritime Commission	N3-S-A2 1618	1,885	250' x 42'	Jun-44	To China 1946, scrapped
49	246031	William S. Colley	U.S. Maritime Commission	N3-S-A2 1619	1,885	250' x 42'	Jul-44	To China 1946, wrecked and abandoned 1955
50	246028	Nathaniel Ingersoll	U.S. Maritime Commission	N3-S-A2 1620	1,885	250' x 42'	Aug-44	To China 1946, scrapped
51	247446	Samuel S. Curwen	U.S. Maritime Commission	N3-S-A2 2542	1,885	250' x 42'	Feb-45	To Britain 1945 as Northern Master, sold 1947, exploded and sank 1948
52		Josiah A. Mitchell	U.S. Maritime Commission	N3-S-A2 2543	1,885	250' x 42'	Mar-45	To China 1947, scrapped
53		Charles Porter Low	U.S. Maritime Commission	N3-S-A2 2544	1,885	250' x 42'	Apr-45	To Britain 1945 as Northern Traveller, sold 1947, scrapped 1966
54	247908	Richard W. Dixie	U.S. Maritime Commission	N3-S-A2 2545	1,885	250' x 42'	May-45	To USA 1949, to USN 1951 as Cepheus (AK 265), scrapped 1960
55	248118	Charles McDonnell	U.S. Maritime Commission	N3-S-A2 2546	1,885	250' x 42'	Jul-45	Scrapped 1964
56	248357	John B. Joyce	U.S. Maritime Commission	N3-S-A2 2547	1,885	250' x 42'	Aug-45	To Italy 1948 as Sardegna, later Isola di Sardegna, scrapped 1968
57	248606	John Leckie	U.S. Maritime Commission	N3-S-A2 2548	1,885	250' x 42'	Oct-45	Sold 1948 as Caribe, later Pensacola, foundered 1966
58	248734	Ephraim Harding	U.S. Maritime Commission	N3-S-A2 2549	1,885	250' x 42'	Nov-45	To Italy 1948 as Belluno, scrapped 1970
59	176112	Allen 901	Allen Boat Company	Tank Barge	463	150' x 33'	Nov-44	Built at Harvey
60	176121	Allen 902	Allen Boat Company	Tank Barge	463	150' x 33'	Dec-44	Built at Harvey
61	176238	Allen 903	Allen Boat Company	Tank Barge	463	150' x 33'	Jun-45	Built at Harvey
62	Federal		U.S. Army	Deck Barge			Apr-45	
63	176187	Allen 201	Allen Boat Company	Tank Barge	117	92' x 26'	Aug-45	Built at Harvey
64	176329	Allen 202	Allen Boat Company	Tank Barge	116	92' x 26'	Aug-45	Built at Harvey
65			Allen Boat Company	Tank Barge			Sep-45	
66	176334	Harris No. 5	A. B. Harris & Co.	Tank Barge	366	150' x 35'	Jul-45	Later 522 N, BC 15, active
67	176331	Harris No. 6	A. B. Harris & Co.	Tank Barge	366	150' x 35'	Sep-45	
68	176521	G. R. Co. 315	Gulf Refining Co.	Misc. Barge	34	55' x 20'	Jul-45	Later G.O.C. 3027
69	176522	G. R. Co. 316	Gulf Refining Co.	Deck Barge	21	45' x 18'	Jul-45	Later G.O.C. 3028
70	176523	G. R. Co. 317	Gulf Refining Co.	Deck Barge	21	45' x 18'	Jul-45	Later G.O.C. 3029
71	176538	G. R. Co. 318	Gulf Refining Co.	Deck Barge	9	30' x 16'	Jul-45	
72	176539	G. R. Co. 319	Gulf Refining Co.	Deck Barge	9	30' x 16'	Jul-45	
73	176540	G. R. Co. 320	Gulf Refining Co.	Deck Barge	49	60' x 20'	Jul-45	Later BWW Swab Barge #2
74	176524	G. R. Co. 323	Gulf Refining Co.	Deck Barge	129	94' x 26'	Jul-45	
75			Thomas Jordan & Co.	Deck Barge			Oct-45	
76			Louis J. Walet	Deck Barge			Sep-45	
77			Thomas Jordan & Co.	Deck Barge			Oct-45	
78			Thomas Jordan & Co.	Deck Barge			Oct-45	
79			Thomas Jordan & Co.	Deck Barge			Nov-45	
80	176375	CBC-101	Canal Barge Co.	Deck Barge	111	92' x 26'	Oct-45	
81	176384	CBC-102	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
82	176388	CBC-103	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
83	176392	CBC-104	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
84	176399	CBC-105	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
85	176338	KE-19	Koch-Ellis Marine	Tank Barge	458	170' x 35'	Sep-45	
86	176339	KE-20	Koch-Ellis Marine	Tank Barge	458	170' x 35'	Sep-45	
87	176359	Billy Hayes	Hayes Barge Line	Tank Barge	458	170' x 35'	Sep-45	
88	176360	Jimmy Hayes	Hayes Barge Line	Tank Barge	458	170' x 35'	Sep-45	

89	176361	Judy Hayes	Geo. C. Gabler	Tank Barge	458	170' x 35'	Sep-45	
90	176362	Larry Hayes	Hayes Barge Line	Tank Barge	458	170' x 35'	Sep-45	
91	176386	PT-801	Producers Transport & Marketing	Tank Barge	458	170' x 35'	Oct-45	
92	176387	PT-802	Producers Transport & Marketing	Tank Barge	458	170' x 35'	Oct-45	
93	176411	PT-803	Producers Transport & Marketing	Tank Barge	458	170' x 35'	Oct-45	
94	176400	GATCO 82	Gulf Atlantic Transportation. Co.	Tank Barge	458	170' x 35'	Oct-45	Later 98, McAllister 102
95	176423	707	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Oct-45	
96	176424	708	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Oct-45	
97	176445	709	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Nov-45	
98	176513	710	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Nov-45	Later 275
99	176514	711	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Dec-45	
100	176608	A.G.T. No. 54	A. G. Thomas	Deck Barge	165	100' x 28'	Sep-45	
101	176609	A.G.T. No. 56	A. G. Thomas	Deck Barge	165	100' x 28'	Oct-45	
102			Allen Boat Company	Tank Barge			Nov-45	
103			Allen Boat Company	Tank Barge			Dec-45	
104	176431	Avon 104	H.L. Seabright	Deck Barge	165	100' x 28'	Dec-45	
105	176412	Allen 300	H.L. Seabright	Deck Barge	165	100' x 28'	Sep-45	
106		Barge 1	Marine Welding, Scaling & Sales Co.	Deck Barge	250	90' x 25'	Jan-46	
107	176425	Allen 301	Allen Boat Company	Deck Barge	165	100' x 28'	Mar-45	
108		P.D. No.3	Texas Pacific & Missouri Pacific RR	Pile Driver Barge	196	70' x 40'	Jan-46	
109		F.S. No. 108	Freeport Sulphur Co.	Sulphur Barge	128	100' x 28'	Feb-46	Hulls 109-114 originally assigned to MC Hulls 2872-2877 but cancelled
110	176417	CBC-106	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
111	176421	CBC-107	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
112	176422	CBC-108	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
113	176475	Barge 7	Superior Oil Company	Misc. Barge	196	100' x 28'	Dec-45	
114		S 10	The California Co.	Deck Barge	169	100' x 26'	Dec-45	
115	176296	Avondale	Allen Boat Company	Fishing Barge	169	86' x 86'	1945	
116	294195	S 11	The California Co.	Deck Barge	169	100' x 26'	Dec-45	Later T-100, L A Fuel 100, B-3, HC 110, now Coffee Pot
117		S 12	The California Co.	Deck Barge	169	100' x 26'	Dec-45	
118		S 13	The California Co.	Deck Barge	169	100' x 26'	Dec-45	
119	252992	Caribbean	McWilliams Dredging Co.	Dredge	1,785	195' x 48'	Aug-46	Hull only
120	Argentina	Chicago	McWilliams Dredging Co.	Dredge	1,785	195' x 48'	Oct-46	Hull only, sold to Argentina upon completion
121	176600	Patco No. 4	Avondale Marine Ways, Inc.	Tank Barge	153	100' x 28'	Mar-46	Out of documentation 1948
122	176620	CBC-201	Canal Barge Co.	Deck Barge	153	100' x 28'	Apr-46	Later 'No. 1' for Moline Consumers Co.
123	176621	CBC-202	Canal Barge Co.	Deck Barge	153	100' x 28'	Apr-46	Later 'No. 2' for Moline Consumers Co.
124	176636	CBC-203	Canal Barge Co.	Deck Barge	153	100' x 28'	Apr-46	Later No. 44
125	176441	CBC-109	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
126	176442	CBC-110	Canal Barge Co.	Deck Barge	111	92' x 26'	Nov-45	
127	176493	CBC-111	Canal Barge Co.	Deck Barge	111	92' x 26'	Dec-45	
128	176515	712	Louisiana Materials Co. Inc.	Freight Barge	253	120' x 32'	Dec-45	
129	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	Original names for the 11 Mexican shrimp boats include "San Nicholas",
130	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	"Santa Cecil", "Santa Lucia", "Carmelita", "Maria Elina" and "San Luis"
131	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	
132	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	
133	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	
134	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jun-46	
135	250236	Mauritania	C. W. Drake	Tuna Clipper	442	124' x 30'	Aug-46	
136		Bob Jones	Freeport Sulphur Co.	Drilling Barge	261	80' x 36'	Apr-46	
137			Rathbone Land	Work Boat			1946	
138	176494	CBC-112	Canal Barge Co.	Deck Barge	111	92' x 26'	Dec-45	
139	176495	CBC-113	Canal Barge Co.	Deck Barge	111	92' x 26'	Dec-45	
140		Barge 6	Superior Oil Company	Deck Barge	191	110' x 30'	1946	
141	250946	Barge 11	Superior Oil Company	Deck Barge	192	110' x 30'	Oct-46	Active
142	251118	Barge 13	Superior Oil Company	Deck Barge	458	170' x 35'	Oct-46	

143	251119	Barge 14	Superior Oil Company	Deck Barge	458	170' x 35'	Oct-46	
144	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jul-46	
145	Mexico		Productos Congelados	Shrimp Boat	68	60' x 18'	Jul-46	
146	176727	Barre	Union Producing Co. (Del.)	Deck Barge	139	90' x 28'	Mar-46	
147	176729	Lirette	Union Producing Co. (Del.)	Deck Barge	139	90' x 28'	Mar-46	
148	250688	Paramount	Edward Madruga	Tuna Clipper	448	124' x 30'	Oct-46	Foundered 1982
149	250944	Sun Hilarita	Virgil Paixaio & Assoc.	Tuna Clipper	448	124' x 30'	Nov-46	Now Jo Linda
150			Union Oil of CA	Work Boat	19		May-46	
151			Rathbone Land	Work Boat			Jun-46	
152	Mexico		Prod. Marinas de Guaymas	Shrimp Boat	68	60' x 18'	Sep-46	
153	250694	Charles Z. Crain	Charles Crain	Shrimp Boat	68	60' x 18'	Oct-46	Later Lazy Lobo, now Endeavour
154	Mexico		Prod. Marinas de Guaymas	Shrimp Boat	68	60' x 18'	Nov-46	
155	Mexico		Prod. Marinas de Guaymas	Shrimp Boat	68	60' x 18'	Nov-46	
156	257750	Grand Lake	Superior Oil Company	Tender	68	60' x 18'	Nov-46	
157	251946	Sun Jason	Peter Bullen/Lazaro M Massa et al	Tuna Clipper	448	124' x 30'	Mar-47	Later Redonda, Jeanna Lynn, foundered 1980
158	293847	305-028	Louisiana Dept. of Highways	Ferry Barge	87	60' x 32'	Dec-46	
159	293848	305-029	Louisiana Dept. of Highways	Ferry Barge	85	60' x 32'	Dec-46	
160	511971	305-030	Louisiana Dept. of Highways	Ferry Barge	93	60' x 32'	Dec-46	
161		305-031	Louisiana Dept. of Highways	Ferry Barge	87	60' x 32'	Dec-46	
162	526423	305-032	Louisiana Dept. of Highways	Ferry Barge	83	60' x 32'	Dec-46	
163	250628	5	Ayers Marine Svce.	Freight Barge	31	50' x 20'	Sep-46	
164			Standard Oil Co. of KY	Pontoon			Sep-46	
165			Standard Oil Co. of KY	Pontoon			Sep-46	
166			Jones Lumber	Derrick Barge			Oct-46	
167			Louisiana State Dep. Of Highways	Ferry Barge			Oct-46	
168			Superior Oil Company	Tank Barge	209		Nov-46	
169			Superior Oil Company	Tank Barge	209		Nov-46	
170			Hugh Hawthorne	Work Boat			Nov-46	
171		FS-7	Freeport Sulphur Co.	Tank Barge	252	150' x 30'	Jan-47	
172		Harvey Quick Repair	Avondale Marine Ways	Dry Dock		260' x 80'	Jan-47	
173		M. W. No. 2	Marine Welding, Scaling & Sales Co.	Pontoon		30' x 15'	Dec-46	
174		Arkansas ?	McWilliams Dredging Co.	Dredge		186' x 34'	Oct-47	
175	Venezuela		Creole Petroleum Corp.	Dry/Tank Barge	192		Feb-47	
176	Venezuela		Creole Petroleum Corp.	Dry/Tank Barge	192		Feb-47	
177	Venezuela		Creole Petroleum Corp.	Dry/Tank Barge	192		Feb-47	
178	Venezuela		Creole Petroleum Corp.	Dry/Tank Barge	192		Feb-47	
179			Marine Welding, Scaling & Sales Co.	Work Barge			Jan-47	
180			Standard Oil Co. of NJ	Dry/Tank Barge	192		Apr-47	
181			Standard Oil Co. of NJ	Dry/Tank Barge	192		Apr-47	
182-192	Venezuela		Standard Oil Co. of NJ/Creole	Crew Launch			Jun-47	11 'Flying Bridge' style launches
193-198	Venezuela		Standard Oil Co. of NJ/Creole	Crew Launch			Jul-47	6 'Sedan' style launches
199	256766	HO & R No. 81	Humble Oil & Refining Co. (Tex.)	Tank Barge	194	110' x 30'	Jul-47	
200	255449	HO & R No. 82	Humble Oil & Refining Co. (Tex.)	Tank Barge	194	110' x 30'	Jul-47	
201	256107	HO & R No. 85	Humble Oil & Refining Co. (Tex.)	Tank Barge	194	110' x 30'	Jul-47	
202	256646	HO & R No. 83	Humble Oil & Refining Co. (Tex.)	Tank Barge	194	110' x 30'	Jul-47	
203	258964	HO & R No. 84	Humble Oil & Refining Co. (Tex.)	Tank Barge	335		Jul-47	
204	Venezuela		Creole Petroleum Corp.	Launch			Jul-47	
205			Standard Oil Co. of NJ	Launch			Oct-47	
206			Standard Oil Co. of NJ	Launch			Oct-47	
207			Standard Oil Co. of NJ	Launch			Oct-47	
208	Venezuela	Creole No. 2142	Creole Petroleum Corp.	Power Barge	2,360	174' x 70'	Jul-48	
209			Jackson Machinery	Deck Barge			Jul-47	
210	254328	Santa Helena	Van Camp Seafood Co.	Tuna Clipper	456	128' x 30'	Dec-47	Later Cathy Lynn

211			Standard Oil Co. of NJ	Launch			1948	
212			Standard Oil Co. of NJ	Launch			1948	
213	255097	Harry Truman	Inland Waterways Corp.	Tug	636	90' x 54'	Apr-48	Later Bayou Orleans
214		Harry Truman ?	Inland Waterways Corp.	Barge	392	100' x 54'	Apr-48	Paired with Hull 213
215-229	Venezuela		Creole Petroleum Corp.	Psgr. Launches	50	40' x 13'	Jan-48	50 boats
230-233			Alcoa Steamship Co. (NY)	Psgr. Launches	50	40' x 13'	Jan-48	4 boats
234			J. R. McDermott Inc.	Work Boat			Dec-47	
235	255154	A. L. Moore	Humble Oil & Refining Co.	Service Launch	23	39' x 13'	Jan-48	
236	Federal	4802	Corps of Engineers, Memphis	Mooring Barge		400' x 45'	Mar-48	
237	Federal	4801	Corps of Engineers, Memphis	Mattress Barge		177' x 54'	Mar-48	
238			Standard Oil Co. of NJ	Tank Barge			Mar-48	
239			Standard Oil Co. of NJ	Tank Barge			Mar-48	
240	Venezuela		Creole Petroleum Corp.	Launch			1948	
241	254778	I.O.C. No. 6	Independent Oil Co.	Tank Barge	628	195' x 35'	Mar-48	
242			Standard Vacuum Co.	Launch			Apr-48	
243		Albert S. Prinz	Stoll Oil Refining Co.	Tank Barge	458	170' x 35'	Apr-48	
244			Alcoa Steamship Co. (NY)	Psgr. Launch	50	40' x 13'	May-48	
245		Moore	The Texas Company	Equipment Barge	120	75' x 28'	May-48	
246		Belanger	The Texas Company	Equipment Barge	120	75' x 28'	May-48	
247		Simone	The Texas Company	Equipment Barge	120	75' x 28'	May-48	
248		Jarvaux	The Texas Company	Equipment Barge	120	75' x 28'	May-48	
249	Venezuela	75-10	Creole Petroleum Corp.	Work Boat		65'	Aug-48	
250	Venezuela	75-11	Creole Petroleum Corp.	Work Boat		65'	Aug-48	
251	Venezuela	San Carlos	Creole Petroleum Corp.	Tug	68		Dec-48	
252	Venezuela	San Benito	Creole Petroleum Corp.	Tug	68		Dec-48	
253	Venezuela	Santa Cruz	Creole Petroleum Corp.	Tug	98		Jan-49	
254	Venezuela		Lago Oil & Transport	Launch			Dec-48	
255-274	Venezuela		Creole Petroleum Corp.	Launch			Dec-48	20 launches
275	257179	Humble 105	Humble Oil & Refining Co.	Tank Barge	195	110' x 30'	Feb-49	
276	256983	Humble 107	Humble Oil & Refining Co.	Deck Barge	197	110' x 30'	1948	
277	257180	Humble 106	Humble Oil & Refining Co.	Tank Barge	195	110' x 30'	Feb-49	
278	256991	Humble 108	Humble Oil & Refining Co.	Deck Barge	328	110' x 30'	1948	
279	257145	Humble 103	Humble Oil & Refining Co.	Deck Barge	195	110' x 30'	Feb-49	
280	257178	Humble 104	Humble Oil & Refining Co.	Deck Barge	195	110' x 30'	Feb-49	
281	256809	Humble 101	Humble Oil & Refining Co.	Tank Barge	346	150' x 32'	Dec-48	Now T.L.C. 104
282	256810	Humble 102	Humble Oil & Refining Co.	Tank Barge	346	150' x 32'	Dec-48	Now Offshore 2
283	Venezuela	San Rafael	Creole Petroleum Corp.	Tug	70		Apr-49	
284	Venezuela	San Juan	Creole Petroleum Corp.	Tug	70		Apr-49	
285	Venezuela	San Jose	Creole Petroleum Corp.	Tug	70		May-49	
286	Venezuela	San Pablo	Creole Petroleum Corp.	Tug	70		Jun-49	
287	Venezuela	San Cristobal	Creole Petroleum Corp.	Tug	70		May-49	Later Noord, Alicia
288	Venezuela	San Felix	Creole Petroleum Corp.	Tug	70		Jun-49	
289	Venezuela	Santa Barbara	Creole Petroleum Corp.	Tug	101		Jun-49	
290	257671	J. G. Sloan	Humble Oil & Refining Co.	Launch	24	44' x 13'	1949	Later Porpoise
291	Federal	761	Corps of Engineers, New Orleans	Aluminum Barge		21' x 11'	Aug-49	
292	258374	Sea Magic	Manuel Fernandez	Tuna Clipper	436		Jul-49	Later Beverly Lynn, foundered 1976
293	258530	Excalibur	Azelino Gonzales etal	Tuna Clipper	436		Aug-49	Foundered 1959
294	259646	Santa Anita	Wendell Fernandez etal	Tuna Clipper	436		Sep-49	Deleted 2001
295		Humble 112	Humble Oil & Refining Co.	Deck Barge	86	80' x 24'	Apr-49	
296	284694	Humble 113	Humble Oil & Refining Co.	Launch	24	50' x 18'	Apr-49	
297	284806	Humble 137	Humble Oil & Refining Co.	Launch	24	50' x 18'	May-49	
298	Venezuela		Lago Oil & Transport	Launch	8		Oct-49	To Venezuela

299			D. W. Rhea	Barge	185		Aug-49	
300			D. W. Rhea	Barge	185		Aug-49	
301			San Diego Owners	Launch			1949	
302			San Diego Owners	Launch			1949	
303			San Diego Owners	Launch			1949	
304	258599	Barnacle Bill	J. R. Moore, Jr.	Launch	20	44' x 13'	Sep-49	
305	Federal	Nodaway	Corps of Engineers	Launch	25	46' x 14'	Dec-49	
306	Federal	Saline	Corps of Engineers	Launch	25	46' x 14'	Dec-49	
307			Shell Oil	Barge	14	30' x 12'	Oct-49	
308			Delta Ironworks	Barge	24		Nov-49	
309			Fourth Jeff. Drainage Dist.	Barge	45		Jan-50	
310			Marietta Transport (USATC)	Arctic Cargo Boat			Aug-50	
311			Marietta Transport (USATC)	Arctic Cargo Boat			Aug-50	
312			The Texas Company	Tank Barge	824		Jan-50	
313			D. W. Rhea	Tank Barge	223		Jan-50	
314			Rowan Drilling Co.	Drilling Barge	1,000	164' x 54'	May-50	
315			Rowan Drilling Co.	Power Barge	400	100' x 34'	Apr-50	
316	259422	I.O.C. No. 7	Independent Oil Co.	Tank Barge	627	195' x 35'	Mar-50	
317			Superior Oil Company	Boiler Barge	600	100' x 46'	Apr-50	
318	Federal		U.S. Coast Guard	Water Barge			Feb-50	
319			Penrod Drilling Company	Drilling Barge			Jul-50	
320	259983	B. & M. 2001	B. & M. Towing Co.	Tank Barge	1,142	245' x 50'	Jun-50	Later B. & M. 1601, REB 1601
321	259984	B. & M. 2002	B. & M. Towing Co.	Tank Barge	1,142	245' x 50'	Jun-50	Later B. & M. 2402
322		B.A. 1401	Butcher-Arthur Inc.	Tank Barge	555	195' x 35'	Jul-50	
323		B.A. 1402	Butcher-Arthur Inc.	Tank Barge	555	195' x 35'	Jul-50	
324		B.A. 1403	Butcher-Arthur Inc.	Tank Barge	555	195' x 35'	Jul-50	
325	260916	No. 28	Standard Oil Co. Inc. of KY	Tank Barge	638	195' x 35'	Oct-50	Later Brown 28
326		M. G. Rowe	Rowan Drilling Co.	Drilling Barge	461	200' x 54'	Oct-50	
327		G.O.C. No. 610	Gulf Refining Company	Deck Barge		110' x 30'	Aug-50	
328		A. H. Stall	J. Ray McDermott & Co. Inc.	Dragline Barge	675	150' x 50'	Jan-51	
329		Ora No. 1	Mrs Miles Pellegrin	Tank Barge	276	140' x 32'	Aug-50	
330			J. Ray McDermott & Co. Inc.	Dredge Hull	580	150' x 50'	Aug-50	
331		Citizens No. 3	Citizens Oil Co. Inc.	Tank Barge	772	195' x 40'	Oct-50	
332			H. G. Koch	Deck Barge		110' x 30'	Oct-50	
333			H. G. Koch	Deck Barge		110' x 30'	Oct-50	
334	261243	Gulf Star	Charles L. Kaufmann	Fishing Vessel	378	114' x 28'	Feb-51	
335	261072	Carinthia	Olympic Towing Corp.	Tug	140	91' x 24'	Dec-50	Later Thomas St. Philip, Catherine M
336	261420	Challenger	Lewis L. Livesley	Fishing Vessel	378	114' x 28'	Mar-51	
337		S. & R. No. 15	Scrivner & Richardson	Deck Barge	170	115' x 28'	Oct-50	
338		S. & R. No. 16	Scrivner & Richardson	Deck Barge	170	115' x 28'	Oct-50	
339		Robert W. Wright	Freeport Sulphur Co.	Drilling Barge	304	100' x 38'	Jan-51	
340		Walter L. Russ	Freeport Sulphur Co.	Drilling Barge	304	100' x 38'	Jan-51	
341			Freeport Sulphur Co.	Drilling Barge	304	100' x 38'	Jan-51	
342	260966	MBL 603	A.L. Mechling Barge Lines Inc.	Tank Barge	1,138	240' x 50'	Sep-50	
343	260967	MBL 604	A.L. Mechling Barge Lines Inc.	Tank Barge	545	110' x 50'	1950	
344	262063	Saint Charles	Louisiana Dept. of Highways	Ferry	234	96' x 36'	Jun-51	Active
345			Louisiana Dept. of Highways	Landing Pontoon			Jun-51	
346			Louisiana Dept. of Highways	Landing Pontoon			Jun-51	
347	Venezuela	Esso C 59	Creole Petroleum Corp.	Tank Barge	580	150' x 35'	Apr-51	Later C-59
348	262088	Lady Ree	Greenville Towing Co.	Towboat	259	95' x 26'	Feb-51	Hull only, completed by Marine Welding & Repair Wks. Greenville Mis.
349	262034	Joan E	Texas Towing Co.	Towboat	299	120' x 30'	Mar-51	Many names, Jane T, now Crimson White
350			Charles Kaufman	Launch			Apr-51	
351	261420	Challenger	Lewis L. Livesley	Fishing Vessel	377	114' x 28'	May-51	Later Determined
352	261452	Fella C	Koch-Ellis Marine Contractors	Towboat	40	51' x 17'	Jun-51	Now West Pearl River

353			Humble Oil & Refining Co.	Drilling Barge	900	185' x 38'	Mar-51	
354		L. J. Hartmangruber	Rowan Drilling Co.	Drilling Barge	1,200	200' x 54'	Jun-51	
355		KE 24	Koch-Ellis Marine Contractors	Tank Barge	458	170' x 35'	May-51	
356			Superior Oil Company	Drilling Barge	900	150' x 50'	Jun-51	
357	262682	Socony 11	Socony-Vacuum Oil Co.	Tug	208	97' x 25'	Oct-51	Later Mobil 11, Gothic, now Dorothy Elizabeth
358	262492	Frank W. Banta	Plaquemine Towing Corp.	Towboat	188	91' x 26'	Sep-51	Later David E. Moran, Bill Dyer, now Vikki Inman
359	275061	T-7000	Texas Towing Co.	Tank Barge	1,429	299' x 50'	Jul-51	Later H 2500
360		BA 2014	Commercial Petroleum Co.	Tank Barge	1,000	240' x 50'	Aug-51	
361	na	YC 1366	U.S. Navy	Deck Barge	120d	110' x 35'	Apr-52	
362	na	YC 1367	U.S. Navy	Deck Barge	120d	110' x 35'	Jun-52	
363	na	YC 1368	U.S. Navy	Deck Barge	120d	110' x 35'	Apr-52	
364	na	YC 1369	U.S. Navy	Deck Barge	120d	110' x 35'	Dec-51	
365	na	YC 1370	U.S. Navy	Deck Barge	120d	110' x 35'	Dec-51	
366	na	YC 1371	U.S. Navy	Deck Barge	120d	110' x 35'	Dec-51	
367	na	YC 1372	U.S. Navy	Deck Barge	120d	110' x 35'	Dec-51	
368	na	YC 1373	U.S. Navy	Deck Barge	120d	110' x 35'	Jan-52	
369	na	YC 1374	U.S. Navy	Deck Barge	120d	110' x 35'	Feb-52	
370	na	YC 1375	U.S. Navy	Deck Barge	120d	110' x 35'	Mar-52	
371	na	YC 1376	U.S. Navy	Deck Barge	120d	110' x 35'	Apr-52	
372	na	YC 1377	U.S. Navy	Deck Barge	120d	110' x 35'	Apr-52	
373	na	YC 1378	U.S. Navy	Deck Barge	120d	110' x 35'	May-52	
374	na	YC 1379	U.S. Navy	Deck Barge	120d	110' x 35'	May-52	
375	262125	Ora No. 3	Pellegrin Towing Co.	Tank Barge	247	140' x 32'	Jun-51	
376			Rowan Drilling Co.	Boiler Barge		200' x 54'	Jul-51	
377		Clifford Yancey	Rowan Drilling Co.	Drilling Barge	1,200	200' x 54'	Sep-51	
378		Sharon	T. Smith & Son Co. Inc.	Derrick Barge	675	200' x 50'	Aug-51	
379	504203	Drill Barge No. 2	Sun Oil Company	Drilling Barge	1,540	200' x 54'	Feb-52	Later Julaine
380		FS-12	Freeport Sulphur Co.	Ind. Tank Barge	459	224' x 39'	May-52	
381		FS-13	Freeport Sulphur Co.	Ind. Tank Barge	459	224' x 39'	May-52	
382	na	YC 13xx	U.S. Navy	Open Lighter	120d	110' x 34'	Jan-52	
383	na	YC 13xx	U.S. Navy	Open Lighter	120d	110' x 34'	Jan-52	
384	na	YC 13xx	U.S. Navy	Open Lighter	120d	110' x 34'	Jan-52	
385	na	YC 13xx	U.S. Navy	Open Lighter	120d	110' x 34'	Jan-52	
386	na	U-32 1497	U.S. Army	Covered Lighter	160d	110' x 34'	Feb-52	Later YFN 1176
387	na	U-32 1498	U.S. Army	Covered Lighter	160d	110' x 34'	Feb-52	Later YFN 1194
388	na	U-32 1499	U.S. Army	Covered Lighter	160d	110' x 34'	Feb-52	Later YFN 1177
389	na	U-32 1500 ?	U.S. Army	Covered Lighter	160d	110' x 34'	Feb-52	Later YFN 11xx
390	na	LTI 2196	U.S. Army	Towboat	187	120' x 27'	Nov-53	
391	Venezuela	C-60	Creole Petroleum Corp.	Tank Barge	720	200' x 40'	Jan-52	
392	Venezuela	C-61	Creole Petroleum Corp.	Tank Barge	720	200' x 40'	Jan-52	
393	Venezuela	C-62	Creole Petroleum Corp.	Tank Barge	720	200' x 40'	Feb-52	Later Leeward Islander
394	Venezuela	C-4	Creole Petroleum Corp.	Piledriver Barge	1,587	210' x 70'	Jul-52	
395	na	LT 1936	U.S. Army	Large Tug	295d	107' x 26'	Nov-52	
396	na	LT 1937	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	Later named SGT William W. Seay, out of service 2001
397	na	LT 1938	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	
398	na	LT 1939	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	
399	na	LT 1940	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	
400	na	LT 1941	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	
401	na	LT 1942	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	
402	na	LT 1943	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	To USACOE as Manamet, commercial as Deborak K Warriner ON 1245037
403	1105613	LT 1944	U.S. Army	Large Tug	295d	107' x 26'	Dec-52	Later Washington, Sea Chief
404	na	LT 1945	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	
405	na	LT 1946	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	Later Bingol III, now Pilot 2 (in Turkey)
406	na	LT 1947	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	Later Estelle Stone ON 298031 (1965)

407	na	LT 1948	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	
408	na	LT 1949	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	Bingol IIII (Turkey 1969)
409	na	LT 1950	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	
410	na	LT 1951	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	
411	na	LT 1952	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	
412	na	LT 1953	U.S. Army	Large Tug	295d	107' x 26'	Jan-53	Later Salerno
413	na	LT 1954	U.S. Army	Large Tug	295d	107' x 26'	Feb-53	
414	na	LT 1955	U.S. Army	Large Tug	295d	107' x 26'	Feb-53	
415	na	LT 1956	U.S. Army	Large Tug	295d	107' x 26'	Feb-53	Later Fredericksburg, sold, now American Patriot (in Guyana)
416	na	LT 1957	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	
417	na	LT 1958	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	
418	na	LT 1959	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	Later Dolphin, Murfreesboro, out of service 1988
419	na	LT 1960	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	Later Lundy's Lane, out of service 2002
420	na	LT 1961	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	Sold 1961, now Rebound
421	na	LT 1962	U.S. Army	Large Tug	295d	107' x 26'	Mar-53	
422	na	LT 1963	U.S. Army	Large Tug	295d	107' x 26'	Apr-53	
423			H. G. Koch	Deck Barge		110' x 30'	Oct-51	
424			H. G. Koch	Deck Barge		110' x 30'	Oct-51	
425	LT 2202	LT 2202 (U25-1425)	U.S. Army	Towboat	295d	107' x 26'	Jan-53	Built for USAF, returned, sold, now Olmsted (ON 1083185), active in Seattle WA
426	263022	Ayers 107	Thomas G. Nicholson	Freight Barge	270	120' x 32'	Nov-51	NLD
427	263023	Ayers 207	Thomas G. Nicholson	Freight Barge	270	120' x 32'	Nov-51	NLD
428		FS-14	Freeport Sulphur Co.	Ind. Tank Barge	459	224' x 39'	May-52	
429	262818	Manitou	Ingram Products Co. (Del.)	Tank Barge	948	204' x 50'	1951	
430	262819	White Bear	Ingram Products Co. (Del.)	Tank Barge	948	204' x 50'	1951	
431		Jules Guidry	Freeport Sulphur Co.	Drill Barge	304	100' x 38'	Feb-52	One of these three hulls was
432		R. M. Murray	Freeport Sulphur Co.	Drill Barge	304	100' x 38'	Feb-52	later documented as
433		J. D. Truelove	Freeport Sulphur Co.	Drill Barge	304	100' x 38'	Feb-52	Kathleen C (ON 500672)
434			H. J. Collings	Deck Barge	160	110' x 30'	Jan-52	
435			D. W. Rhea	Deck Barge	160	110' x 30'	Feb-52	
436			D. W. Rhea	Deck Barge	160	110' x 30'	Feb-52	
437			Marine Welding, Scaling, Sales Co.	Deck Barge	160	110' x 30'	Jan-52	
438	Venezuela		Creole Petroleum Corp.	Deck Barge	282	110' x 40'	Jul-52	
439	Venezuela		Creole Petroleum Corp.	Deck Barge	282	110' x 40'	Jul-52	
440	Venezuela		Creole Petroleum Corp.	Deck Barge	282	110' x 40'	Jul-52	
441	Venezuela		Creole Petroleum Corp.	Deck Barge	282	110' x 40'	Jul-52	
442	Venezuela		Creole Petroleum Corp.	Deck Barge	282	110' x 40'	Jul-52	
443	Venezuela		Creole Petroleum Corp.	Deck Barge		60' x 21'	Jul-52	
444	Venezuela		Creole Petroleum Corp.	Deck Barge		60' x 21'	Jul-52	
445	Venezuela		Creole Petroleum Corp.	Deck Barge		60' x 21'	Jul-52	
446	Venezuela		Creole Petroleum Corp.	Deck Barge		60' x 21'	Jul-52	
447	PCE 1607	Wolf	Royal Netherlands Navy	Frigate	640d	180' x 33'	26-Mar-54	F 817: scrapped 1985
448	PCE 1608	Panter	Royal Netherlands Navy	Frigate	640d	180' x 33'	11-Jun-54	F 821: scrapped 1987
449	PCE 1609	Jaguar	Royal Netherlands Navy	Frigate	640d	180' x 33'	11-Jun-54	F 822: scrapped 1988
450		Ralph T. McDermott	J. Ray McDermott & Co. Inc.	Dragline Barge	750	150' x 50'	Dec-52	
451			Scott Castin	Deck Barge	196	110' x 30'	Jul-52	
452			D. W. Rhea	Deck Barge	196	110' x 30'	Aug-52	
453			D. W. Rhea	Deck Barge	196	110' x 30'	Aug-52	
454		F.S. No. 301	Freeport Sulphur Co.	Work Barge	25	48' x 16'	Jul-52	
455		F.S. No. 302	Freeport Sulphur Co.	Work Barge	25	48' x 16'	Jul-52	
456			The California Co.	Compressor Barge	35	60' x 24'	Oct-52	
457			The California Co.	Compressor Barge	35	60' x 24'	Oct-52	
458		FS-121	Freeport Sulphur Co.	Deck Barge	196	110' x 30'	Aug-52	
459		FS-122	Freeport Sulphur Co.	Deck Barge	196	110' x 30'	Aug-52	
460 - 655	C.200000-C.200195		U.S. Navy	LCM(8)	58d	74' x 21'	Jul-53 - Oct-53	196 boats

656	LCU 1504	Hampton Roads	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	YFB 94 1972, struck 1998, sold to United Dredging 2004, same name, active
657	LCU 1505		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Left in Vietnam
658	LCU 1506		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Left in Vietnam
659	LCU 1507	Chippewa	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1992
660	LCU 1508	Attu	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1992
661	LCU 1509	Antietam	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	To Marshall Islands 1996, wrecked 1998
662	LCU 1510	Atlanta	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1991
663	LCU 1511	Cumberland	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Sold 1994 as Neptune, sank 1999
664	LCU 1512	Cerro Gordo	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	To Bangladesh 1991 as Shah Parah (L-901)
665	LCU 1513		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
666	LCU 1514	Delaware	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Sold 1986 as Tarlang, wrecked 1986
667	LCU 1515		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Abandoned on Weno, in Micronesia
668	LCU 1516	Shenandoah	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	YFB 95 1972, retired 1990, now Island Trader (Bahamas)
669	LCU 1517		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
670	LCU 1518		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired, later Krystal ON 298182
671	LCU 1519	El Paso	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990
672	LCU 1520		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
673	LCU 1521	Eniwetok	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	To Marshall Islands 1993, wrecked 1996
674	LCU 1522	Lorraine	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	To Colombia 1992
675	LCU 1523		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
676	LCU 1524	Chapultepec	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Wrecked 1979
677	LCU 1525	Hollandia	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Served in Marshall I, retired 1990
678	LCU 1526	Leyte	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990
679	LCU 1527	Guadalcanal	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990
680	LCU 1528	Lingayen Gulf	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1991, sold commercial same name, O.N. 1242721
681	LCU 1529		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
682	LCU 1530		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
683	LCU 1531		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
684	LCU 1532		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
685	LCU 1533		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired, (later Lucy ON 284779)
686	LCU 1534	Saipan	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990
687	LCU 1535		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
688	LCU 1536		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
689	LCU 1537		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
690	LCU 1538		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
691	LCU 1539		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
692	LCU 1540	Pusan	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	Jan-52	To American Samoa 1994 as Ataata O Samoa
693	LCU 1541		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	To Vietnam 1971
694	LCU 1542	Malolos	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1995
695	LCU 1543	Carolina	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990
696	LCU 1544		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
697	LCU 1545	Meuse-Argonne	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1990, reefed off North Carolina 2008
698	LCU 1546		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
699	LCU 1547	Solomon Islands	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired 1971
700	LCU 1548		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1954	Retired
701	LCU 1549	Guam	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1990
702	LCU 1550	White Wing	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1989
703	LCU 1551		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
704	LCU 1552		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
705	LCU 1553		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
706	LCU 1554		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
707	LCU 1555		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
708	LCU 1556	Zapople River	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1991
709	LCU 1557		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1990

710	LCU 1558		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired
711	LCU 1559		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	To Mexico 1990 as El Castor, later Free-Lance Salvor, wrecked 2004
712	LCU 1560	Rhineland	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1989
713	LCU 1561	Manila	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	YFU 61 1972, struck 1989
714	LCU 1562	Inchon	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Retired 1990
715	LCU 1563		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Lost 2-Nov-70
716	LCU 1564		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	Laid up in Seward AK
717	LCU 1565		U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	To Panama as Magnus, active
718	LCU 1566	Cadgell	U.S. Navy (for U.S. Army)	LCU 1466	180d	115' x 34'	1955	To Bangladesh 1992 as Shah Makhdoom (L-902)
719		Humble 157	Humble Oil	Deck Barge	219	50'	Oct-52	
720	266373	S-32	The California Co.	Work Barge	48	60' x 24'	Sep-52	
721	269158	B-1	Paul Smith Construction Co.	Deck Barge	157	92' x 30'	Sep-52	
722			Julius B. Chauvin	Deck Barge	196		Sep-52	
723	Venezuela		Creole Petroleum Corp.	Deck Barge	156		Dec-52	
724	264613	Neilson-1	Neilson Barges, Inc.	Deck Barge	177	110' x 30'	Oct-52	
725	264612	Neilson-2	Neilson Barges, Inc.	Deck Barge	177	110' x 30'	Oct-52	
726		Murray Mac	Mutual Oil Co.	Tank Barge	825	210' x 48'	Dec-52	
727	268565	Coastal 7	Coastal Petroleum Corp.	Tank Barge	1,046	247' x 50'	Feb-53	
728	265760	McDermott Derrick Barge No. 7	J. Ray McDermott & Co. Inc.	Derrick Barge	4,443	300' x 90'	Dec-53	
729	265722	Ayers 105	Richard J. McGinity	Freight Barge	220	120' x 30'	Jun-53	
730	265991	GMR 10	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Jun-53	
731	265992	GMR 20	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Jun-53	
732	265993	GMR 30	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Jun-53	
733	265994	GMR 40	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Jun-53	
734	265995	GMR 50	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Jun-53	
735			The California Co.	Compressor Barge	100	42'	1954	
736			The California Co.	Compressor Barge	100	42'	1954	
737		SC-737	Scott Chotin Inc.	Deck Barge	600	110' x 30'	Jul-53	
738	266928	George W. Banta	J. W. Banta Towing Co.	Tug	269	95' x 30'	1954	Active
739	YD 200	BD-6661	U.S. Navy for US Army	Derrick Barge	920d	140' x 70'	1-Jan-54	Active
740	YD 201	BD-6662	U.S. Navy for US Army	Derrick Barge	920d	140' x 70'	1-Jan-54	Sold 2004
741	267157	GR Co. 711	Gulf Refining Co.	Tank Barge	200	110' x 30'	1-Jan-53	Later Gulf 0711, G.O.Co. 711
742		Pequeco II	Philadelphia Quartz Co.	Dry Bulk Barge	480	170' x 35'	Oct-53	
743			AMVH	Barge	900		1954 ?	
744			AMVH	Barge	900		1954 ?	
745		FS-19	Freeport Sulphur Co.	Ind. Tank Barge	460	224' x 39'	Apr-54	Hulls 745 and 756 may be the same barge
746	266875	APW-103	Ace Terminal & Transport Corp.	Tank Barge	953	199' x 42'	1-Feb-53	Later Humble 826
747			A. P. Ward & Son Inc.	Tank Barge	745	225' x 40'	1954	
748			A. P. Ward & Son Inc.	Tank Barge	745	225' x 40'	1954	
749	YD 202	BD-2861	U.S. Navy/US Army	Derrick Barge	920d	140' x 70'	Apr-55	Scrapped 1983
750	267935	McDermott Tidelands No.1	J. Ray McDermott & Co. Inc.	Deck Barge	1,995	240' x 72'	Jun-54	
751			Garrett & Carter	Barge			1955	
			Sinclair Oil	Platform Barge	850		Nov-55	
752	268387	Bayou Avery	Oil Transport Co.	Tank Barge	1,298	264' x 50'	Aug-54	Later CBL 101
753	268388	Bayou Blue	Oil Transport Co.	Tank Barge	926	180' x 50'	Sep-54	
754	268423	Bayou Chene	Oil Transport Co.	Tank Barge	926	180' x 50'	Sep-54	
755	268424	Bayou Dulac	Oil Transport Co.	Tank Barge	1,328	264' x 50'	Sep-54	Later CBL 194
756		F.S. 19	Freeport Sulphur Co.	Tank Barge	460	224' x 39'	1955	Hulls 745 and 756 may be the same barge
757	269585	R.P. Clark	Caribbean Marine Service	Catamaran Barge	21	50' x 20'	1954	Completed by Canal Marine Repairs
758	268399	Kenyon Dredge No. 2	Kenyon Dredging Co. Inc.	Dragline Barge	855	175' x 50'	Aug-54	
759	268911	Mike	Tidewater Associated Oil Co.	Launch	21	48' x 18'	1954	
760	270123	CSCC-200	Columbia Southern Chemical Corp.	Tank Barge	752	195' x 35'	1-Feb-54	
761	270124	CSCC-201	Columbia Southern Chemical Corp.	Tank Barge	752	195' x 35'	1-Feb-54	
762	270125	CSCC-202	Columbia Southern Chemical Corp.	Tank Barge	752	195' x 35'	1-Feb-54	

763	269163	McDermott Derrick Barge No. 8	J. Ray McDermott & Co. Inc.	Derrick Barge	4,476	300' x 90'	Feb-55	
764	269677	McDermott Derrick Barge No. 9	J. Ray McDermott & Co. Inc.	Derrick Barge	4,416	300' x 90'	May-55	
765	270070	McDermott Tidelands No. 2	J. Ray McDermott & Co. Inc.	Deck Barge	1,995	240' x 72'	Mar-55	
766	270083	McDermott Tidelands No. 3	J. Ray McDermott & Co. Inc.	Deck Barge	1,995	240' x 72'	Apr-55	
767	270084	McDermott Tidelands No. 4	J. Ray McDermott & Co. Inc.	Deck Barge	1,995	240' x 72'	Apr-55	Later Intermac Barge No. 4
768	271376	Mobile	Ingram Products Co.	Tank Barge	775	155' x 50'	Jan-55	
769	269220	CL-110	Coyle Lines Inc.	Sulphur Barge	756	220' x 40'	Apr-55	
770	269823	GMR 60	Gulf Marine Rental Service, Inc.	Tank Barge	417	140' x 40'	Apr-55	
771	269520	Myrtle D. No. 83	James Marine Equipment Co.	Deck Barge	275	128' x 32'	Mar-55	
772	269521	Maggie D. No. 84	James Marine Equipment Co.	Deck Barge	275	128' x 32'	Mar-55	
773		Charlie D. No. 85	James Marine Equipment Co.	Deck Barge	275	128' x 32'	Mar-55	
774	269524	Paul D. No. 86	James Marine Equipment Co.	Deck Barge	275	128' x 32'	Apr-55	
775	269541	Bayou Eloi	Oil Transport Co.	Tank Barge	1,298	264' x 50'	May-55	
776	269540	Bayou Ferblanc	Oil Transport Co.	Tank Barge	926	180' x 50'	May-55	
777	269700	Bayou Gentilly	Oil Transport Co.	Tank Barge	926	180' x 50'	May-55	
778	269701	Bayou Heron	Oil Transport Co.	Tank Barge	1,328	264' x 50'	May-55	
779		S-55	Chevron Oil Co.	Sub. Drill Barge	3,259	190' x 150'	Mar-56	
780		C-101	Texas Towing Co.	Tank Barge	1,050	225' x 48'	1955	
781		C-102	Texas Towing Co.	Tank Barge	1,050	225' x 48'	1955	
782	270155	Alabama	Ingram Barge Co.	Tank Barge	941	199' x 42'	Jun-55	NLD
783	269843	Florida	Ingram Barge Co.	Tank Barge	941	199' x 42'	Jun-55	Later Mary Gellatly
784	270099	J. A. O'Neill	Ingram Barge Co.	Tug	142	81' x 24'	Aug-55	
785	269795	BCG-100	BCG Partnership	Tank Barge	412	150' x 35'	Jun-55	
786	270825	McDermott Derrick Barge No. 10	J. Ray McDermott & Co. Inc.	Derrick Barge	2,462	240`x 72`	Jan-56	
787	270104	CBC 845	Canal Barge Co. Inc.	Tank Barge	1,327	260' x 50'	Jul-55	
788	LST 1171	De Soto County	U.S. Navy	Landing Ship	3,560d	445' x 62'	7-Jun-57	To Italy 1972 as Nave Grado (L 9890): scrapped 1989
789	LST 1174	Grant County	U.S. Navy	Landing Ship	3,560d	445' x 62'	17-Dec-57	To Brazil 1973 as Duque de Caxias (G 26): decommissioned 2000
790	270274	SBI No. 1	Seley Barges, Inc.	Freight Barge	621	195' x 35'	Aug-55	
791		S-45	Chevron Oil Co.	Sub. Drill Barge	1,040	156' x 90'	May-56	
792	270284	DXE 21	Dixie Carriers, Inc.	Tank Barge	1,254	264' x 50'	Aug-55	
793	270344	DXE 22	Dixie Carriers, Inc.	Tank Barge	1,254	264' x 50'	Aug-55	
794	283871	T-2100	Texas Towing Co.	Tank Barge	1,345	264' x 48'	1955	Not documented until 1961
795	270413	Ayers 108	Ayers Marine Service	Freight Barge	275	128' x 38'	1955	Later Spud Barge Ayers 108
796	270416	Ayers 208	Ayers Marine Service	Freight Barge	275	128' x 38'	1955	Later Spud Barge Ayers 208
797	270448	Ayers 308	Ayers Marine Service	Freight Barge	275	128' x 38'	1955	NLD
798	270481	Ayers 408	Ayers Marine Service	Freight Barge	275	128' x 38'	1955	NLD
799		Gertrude K	Mutual Oil Company	Tank Barge	884	220' x 50'	1955	
800		Citizens No. 4	Citizens Oil Co. Inc.	Tank Barge	883	220' x 50'	1-Feb-55	Later Bay 160
801	AK 270	Eltanin (C1-ME2-13a #46)	U.S. Navy	Break-Bulk Cargo Ship	1,850d	266' x 52'	12-Oct-57	Later AGOR 8, to NDRF 1990, scrapped 1992
802	AK 271	Mirfak (C1-ME2-13a #47)	U.S. Navy	Break-Bulk Cargo Ship	1,850d	266' x 52'	31-Dec-57	To NDRF 1980, scrapped 2003
803	AK 272	Mizar (C1-ME2-13a #48)	U.S. Navy	Break-Bulk Cargo Ship	1,850d	266' x 52'	7-Mar-58	Later AGOR 11, to NDRF 1992, scrapped 2005
804	270564	GMR 70	Gulf Marine Rental Service, Inc.	Tank Barge	182	110' x 30'	Oct-55	
805	270565	GMR 80	Gulf Marine Rental Service, Inc.	Tank Barge	182	110' x 30'	Oct-55	
806	270712	GWG 201	G.W. Gladders Towing Co. Inc.	Tank Barge	1,254	264' x 50'	1-Jan-55	
807	270735	GWG 202	G.W. Gladders Towing Co. Inc.	Tank Barge	1,254	264' x 50'	1-Feb-55	Cut in half 2009 as GWG 202 (ON 1157249) and GWG 202 A (ON 1157252)
808	272960	SEDCO No. 8 - Rig 22	Southeastern Drilling Corp.	Drilling Barge	1,196	156' x 90'	1-Feb-56	
809	270617	BCG-200	BCG Partnership	Tank Barge	182	110' x 30'	1-Jan-55	
810	270627	BCG-300	BCG Partnership	Deck Barge	182	110' x 30'	1-Jan-55	
811	270708	BCG-400	BCG Partnership	Deck Barge	182	110' x 30'	1-Feb-55	
812	271036	W. G. H. No. 21	W. G. Hougland & Sons	Tank Barge	926	180' x 50'	Mar-56	
813	271037	W. G. H. No. 31	W. G. Hougland & Sons	Tank Barge	926	180' x 50'	Mar-56	
814	270709	BCG-500	BCG Partnership	Tank Barge	182	110' x 30'	1-Feb-55	
815	Venezuela	C-5	Creole Petroleum Corp.	Piledriver Barge	1,590	210' x 70'	1956	
816			Avondale Marine Ways	Barge	1,039	188' x 50'	1956	Built on spec:

817	272768	Delta Offshore No. 1	Delta Offshore Drilling	Drilling Barge	1,737	156' x 90'	1-Jan-56	
818	270841	KE-32	Koch-Ellis Marine Contractors Inc.	Tank Barge	875	190' x 50'	1956	Later Louisiana, Harms 65, Bollinger No. 10, now B 10
819	270901	KE-33	Koch-Ellis Marine Contractors Inc.	Tank Barge	811	190' x 50'	1956	Later Alabama, Harms 66, now Bollinger No. 9
820	270914	GMR 90	Gulf Marine Rental Service Inc.	Tank Barge	182	110' x 30'	Jan-56	
821	270938	GMR 105	Gulf Marine Rental Service Inc.	Tank Barge	182	110' x 30'	Feb-56	
822	270939	GMR 115	Gulf Marine Rental Service Inc.	Tank Barge	182	110' x 30'	Feb-56	
822	270825	Derrick Barge No. 10	J. Ray McDermott Inc.	Derrick Barge	2,462	240' x 72'	1956	
823	546025	CSCC-226	Columbia -Southern Chemical Corp.	Tank Barge	636	195' x 35'	Apr-56	Later PPG 226, BC 226
824	546024	CSCC-227	Columbia -Southern Chemical Corp.	Tank Barge	636	195' x 35'	May-56	Later PPG 227, BC 227
825		T-2200	Texas Towing Co.	Tank Barge	1,345	264' x 48'	1956	
826	Venezuela	Floating Power Plant No.1	Creole Petroleum Corp.	Power Barge	1,275	200' x 50'	1957	
827		Rowan Drill Barge No. 20	Rowan Drilling Co.	Drilling Barge	1,000	180' x 40'	1956	
828	Federal	5601	Corps of Engineers	Mooring Barge	500	180' x 20'	1956	
829	Federal	5602	Corps of Engineers	Mooring Barge	500	180' x 20'	1956	
830		Paraffin No. 1	Garrett & Carter	SP Tank Barge		25' x 14'	1956	
831		Paraffin No. 2	Garrett & Carter	SP Tank Barge		25' x 14'	1956	
832	272057	Bayou Indigo	Oil Transport Co.	Tank Barge	1,298	264' x 50'	Aug-56	
833	271801	Bayou Jean	Oil Transport Co.	Tank Barge	927	180' x 50'	Jul-56	
834	272230	Bayou Kent	Oil Transport Co.	Tank Barge	720	150' x 50'	Sep-56	
835	271953	Bayou LaFourche	Oil Transport Co.	Tank Barge	926	180' x 50'	Jul-56	
836	272069	Bayou Maxent	Oil Transport Co.	Tank Barge	1,262	264' x 50'	Aug-56	
837	626824	HT 541	Offshore Constructors	Drill Barge	1,401	200' x 59'	1956	Not documented until c1980, now Weeks 541
838	283870	T-1250	Texas Towing Co.	Tank Barge	791	160' x 48'	1956	Active
839	279446	S-66	Barge Facilites Inc.	Drilling Barge	4,141	217' x 100'	Apr-59	Now Ocean 66
840	DE 1033	Claud Jones	U.S. Navy	Destroyer Escort	1,340d	301' x 38'	10-Feb-59	To Indonesia 1974 as Mongisidi (F 343): decommissioned 2003
841	DE 1034	John R. Perry	U.S. Navy	Destroyer Escort	1,340d	301' x 38'	5-May-59	To Indonesia 1974 as Samadikun (F 341): decommissioned 2005
842	272544	Big Louie	Avondale Marine Ways	Towboat	53	45' x 20'	Oct-56	
843	Venezuela	C-229	Creole Petroleum Corp.	Deck Barge	260	110' x 40'	Apr-57	
844	Venezuela	C-230	Creole Petroleum Corp.	Deck Barge	260	110' x 40'	Apr-57	
845	Venezuela	C-231	Creole Petroleum Corp.	Deck Barge	260	110' x 40'	Apr-57	
846	Venezuela	C-232	Creole Petroleum Corp.	Well Serv. Barge	375	110' x 50'	May-57	
847	Venezuela	C-233	Creole Petroleum Corp.	Well Serv. Barge	375	110' x 50'	May-57	
848	Venezuela	C-234	Creole Petroleum Corp.	Well Serv. Barge	375	110' x 50'	Jun-57	
849	Venezuela	C-235	Creole Petroleum Corp.	Well Serv. Barge	375	110' x 50'	Jun-57	
850	Venezuela	C-236	Creole Petroleum Corp.	Well Serv. Barge	375	100' x 50'	May-57	
851	Venezuela	C-239	Creole Petroleum Corp.	Well Serv. Barge	375	100' x 50'	May-57	
852	Venezuela	C-240	Creole Petroleum Corp.	Well Serv. Barge	375	100' x 50'	Jun-57	
853	Venezuela	C-246	Creole Petroleum Corp.	Well Serv. Barge	375	100' x 50'	Jul-57	
854	Venezuela	C-247	Creole Petroleum Corp.	Well Serv. Barge	375	100' x 50'	Jul-57	
855	272995	B-117	Jessie E. Brent	Tank Barge	1,039	189' x 50'	1956	
856	Federal		Corps of Engineers, Vicksburg	Barge	150		1957	
857	Federal		Corps of Engineers, Vicksburg	Barge	150		1957	
858	274640	V-882	Valley Transportation Co.	Tank Barge	1,628	280' x 50'	1957	
859		Citizens No. 5	Citizens Oil Co. Inc.	Tank Barge	1,050	220' x 50'	Mar-57	Later Bay 161, Tenneco 161
860	273509	Ayers 508	Ayers Marine Service	Freight Barge	275	150' x 32'	1957	NLD
861	273622	Ayers 608	Ayers Marine Service	Freight Barge	275	150' x 32'	1957	NLD
862	273875	Ayers 708	Ayers Marine Service	Freight Barge	275	150' x 32'	1957	NLD
863	273954	Ayers 808	Ayers Marine Service	Freight Barge	275	150' x 32'	1957	NLD
864		KD 7	Koch-Dupuis Partnership	Deck Barge	400	110' x 30'	Apr-57	
865		KD 8	Koch-Dupuis Partnership	Deck Barge	400	110' x 30'	Apr-57	
866	274962	Offshore 1401	Offshore Towing Co.	Tank Barge	940	210' x 40'	Sep-57	
867	275084	Offshore 1402	Offshore Towing Co.	Tank Barge	940	210' x 40'	Oct-57	Active
868		J.S. No. 1	Sabine Dredging Co.	Dredge	190	65' x 22'	Apr-57	
869	273890	GMR 125	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	Apr-57	

870	273956	GMR 135	Gulf Marine Rental Service, Inc.	Deck Barge	182	110' x 30'	May-57	
871		KD 9	Koch-Dupuis Partnership	Deck Barge	400	110' x 30'	Apr-57	
872	275363	Albany Sears	Sears Oil Co. Inc.	Tank Barge	1,284	230' x 43'	Sep-57	Later Ingram Bay, HRB 1, Bay Trader 195, now CMC 641
873		KD 10	Koch-Dupuis Partnership	Deck Barge	240	110' x 30'	Jun-57	
874		KD 11	Koch-Dupuis Partnership	Deck Barge	240	110' x 30'	Jun-57	
875		KD 12	Koch-Dupuis Partnership	Deck Barge	240	110' x 30'	Jun-57	
876	Venezuela	Floating Power Plant No.2	Creole Petroleum Corp.	Power Barge	1,200	200' x 50'	Oct-58	
877	274676	Ayers 1001	Ayers Materials	Freight Barge	331	150' x 32'	1957	NLD
878	274768	Ayers 1002	Ayers Materials	Freight Barge	331	150' x 32'	1957	NLD
879	274860	Ayers 1003	Ayers Materials	Freight Barge	331	150' x 32'	1957	NLD
880	274918	Ayers 1004	Ayers Materials	Freight Barge	331	150' x 32'	1957	NLD
881	275131	Chemical 801	Chemical Towing Co.	Tank Barge	738	195' x 35'	Oct-57	
882	275187	Chemical 802	Chemical Towing Co.	Tank Barge	738	195' x 35'	Oct-57	Now W-728, active
883	275246	AB 701	Coyle Lines Inc.	Freight Barge	1,316	200' x 50'	1957	
884	275439	AB 702	Coyle Lines Inc.	Freight Barge	1,316	200' x 50'	1957	
885	275659	AB 703	Coyle Lines Inc.	Freight Barge	1,316	200' x 50'	1957	
886	275133	AB 751	Coyle Lines Inc.	Freight Barge	1,880	280' x 50'	1957	
887	275362	Syracuse Sears	Sears Oil Co. Inc.	Tank Barge	1,284	230' x 43'	Sep-57	Later M & M 19, now Syracuse
888	276397	McDermott Derrick Barge No. 11	J. Ray McDermott & Co. Inc.	Derrick Barge	5,125	300' x 90'	Apr-58	
889		Penrod Rig No. 42	Penrod Drilling Company	Drilling Barge		186' x 30'	Oct-57	
890		CSCC-228	Columbia-Southern Chemical Corp.	Ind. Tank Barge	777	205' x 40'	Mar-58	Later PPG 204
891		CSCC-203	Columbia-Southern Chemical Corp.	Ind. Tank Barge	777	205' x 40'	Apr-58	Later PPG 203
892	276284	Cities Service No. 1	Cities Service Oil Co.	Ind. Tank Barge	1,412	250' x 47'	Mar-58	
893	275403	AB 752	Coyle Lines Inc.	Freight Barge	1,880	280' x 50'	1957	
894	275660	AB 753	Coyle Lines Inc.	Freight Barge	1,880	280' x 50'	1957	
895	275910	M-11	Monsanto Chemical Co.	Tank Barge	632	195`x 35'	Feb-58	Active
896	276066	M-12	Monsanto Chemical Co.	Tank Barge	632	195`x 35`	Mar-58	Active
897	276067	M-13	Monsanto Chemical Co.	Tank Barge	632	195`x 35'	Mar-58	Active
898	275975	I.O.C. No. 10	Independent Oil Co.	Tank Barge	833	220' x 50'	1958	Later Bay 150, Tenneco 150, now LD 8
899	276626	M-21	Monsanto Chemical Co.	Tank Barge	774	195' x 35'	May-58	
900	276702	M-22	Monsanto Chemical Co.	Tank Barge	774	195' x 35'	Jun-58	Active
901	277656	Allied Chemical No. 3	Allied Chemical Corp.	Ind. Tank Barge	1,643	240' x 43'	Oct-58	Later General Chemical No. 3, PR3
902	276641	AB 704	Coyle Lines Inc.	Freight Barge	1,316	200' x 50'	May-58	
903	276668	AB 754	Coyle Lines Inc.	Freight Barge	1,880	280' x 50'	May-58	
904	Federal	Markham	Corps of Engineers	Hopper Dredge	5,386		Feb-60	Active
905	DE 1035	Charles Berry	U.S. Navy	Destroyer Escort	1,340d	301' x 38'	25-Nov-59	To Indonesia 1974 as Martadinata (F 342): decommissioned 2005
906	DE 1036	McMorris	U.S. Navy	Destroyer Escort	1,340d	301' x 38'	4-Mar-60	To Indonesia 1974 as Ngurah Rai (F 344): decommissioned 2003
907		A.O. & R. Co. 100	Ashland Oil & Refining Co.	Ind. Tank Barge	864	195' x 35'	1-Jan-58	
908	168906	Sunoco No. 3	Sun Oil Company	Drill Barge	1,000	200'x 54'	May-59	
909		A.D. 135	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
910		A.D. 136	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	Sep-58	
911		A.D. 137	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	Sep-58	
912		A.D. 138	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
913		A.D. 139	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
914		A.D. 140	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
915		A.D. 141	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
916		A.D. 142	A.D. Barge Lines Inc.	Dry Bulk Barge	754	195' x 35'	1958	
917			Williams McWilliams Industries Inc.	Pontoon Barge			1958	
918			Williams McWilliams Industries Inc.	Pontoon Barge			1958	
919	277645	MSF 21	MSF Company Inc.	Freight Barge	572	195' x 35'	Oct-58	
920	277646	MSF 22	MSF Company Inc.	Freight Barge	572	195' x 35'	Oct-58	
921	277760	MSF 23	MSF Company Inc.	Freight Barge	754	195' x 35'	Oct-58	
922	277761	MSF 24	MSF Company Inc.	Freight Barge	754	195' x 35'	Oct-58	
923	277919	B-217	Jessie E. Brent	Tank Barge	1,039	188' x 50'	1-Feb-58	

924	277904	TS-3	Towing Service, Inc.	Freight Barge	754	195' x 35'	1-Feb-58	Now Bunge 3
925	277905	TS-4	Towing Service, Inc.	Freight Barge	754	195' x 35'	1-Feb-58	Now Bunge 4
926	277978	MTC 103	Magnolia Towing Co. Inc.	Freight Barge	754	195' x 35'	1958	Now RF 201
927	277979	MTC 105	Magnolia Towing Co. Inc.	Freight Barge	754	195' x 35'	1958	Now RF 202
928	278008	MTC 107	Magnolia Towing Co. Inc.	Freight Barge	754	195' x 35'	Mar-59	Now RF 203
929	278009	MTC 109	Magnolia Towing Co. Inc.	Freight Barge	754	195' x 35'	Mar-59	Now RF 204
930	291194	JIHCO 75	John I. Hay Inc.	Freight Barge	813	195' x 35'	Feb-59	
931	291195	JIHCO 76	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-59	
932	291196	JIHCO 77	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-59	
933	291197	JIHCO 78	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-59	
934	291198	JIHCO 79	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-59	
935	278394	Coastal No.1	Coastal Fabricators	Derrick Barge	1,528	200`x 60'	3. 1959	Later McDermott Tidelands No. 86, McDermott Derrick Barge No.5
936	291185	JIHCO 61	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-59	
937	291186	JIHCO 62	John I. Hay Inc.	Freight Barge	813	195' x 35'	Apr-59	
938	291187	JIHCO 63	John I. Hay Inc.	Freight Barge	856	195' x 35'	Apr-59	
939		Caillou Bay	Brewster Bartle Drilling Co. Inc.	Drill Barge	950	200' x 54'	Sep-59	
940	279117	ATC 1700	Offshore Towing Co.	Ind. Tank Barge	1,399	264' x 50'	Jun-59	Later UMI 2550
941	279118	ATC 1701	Offshore Towing Co.	Ind. Tank Barge	1,430	264' x 50'	Jun-59	Later UMI 2551
942	278857	SP 1	Southern Terminal & Transport Co.	Tank Barge	1,332	250' x 50'	May-59	Later B. No. 30
943	284680	Del Rio (C3-S-43a 82)	Delta S.S. Lines Inc.	Break-Bulk Cargo Ship	10,325	485' x 70'	24-Mar-61	Scrapped 1985
944	285171	Del Sol (C3-S-43a 83)	Delta S.S. Lines Inc.	Break-Bulk Cargo Ship	10,325	485' x 70'	3-May-61	Scrapped 1985
945	286185	Del Oro (C3-S-43a 84)	Delta S.S. Lines Inc.	Break-Bulk Cargo Ship	10,325	485' x 70'	19-Jul-61	Scrapped 1985
946	279975	O.M.C.C. No. 4	Olin Mathiesen Chemicals Corp.	Tank Barge	1,064	215'x 39'	Sep-59	Later NL 4, OL 4, now DL 4
947	280332	James 101	James Marine Equipment Co.	Freight Barge	332	150' x 32'	Sep-59	
948	280333	James 201	James Marine Equipment Co.	Freight Barge	332	150' x 32'	Sep-59	
949	280440	605	Diamond Alkali Co.	Chlorine Barge	514	175' x 26'	Jan-60	
950	279336	James 701	James Marine Equipment Co.	Freight Barge	332	150' x 32'	1959	
951	279337	James 801	James Marine Equipment Co.	Freight Barge	331	150' x 32'	1959	
952		AD 163	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Aug-59	
953		AD 164	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Aug-59	
954		AD 165	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Aug-59	
955		AD 166	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Aug-59	
956		AD 167	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Aug-59	
957		AD 168	A.D. Barge Lines Inc.	Hopper Barge	763	195' x 35'	Sep-59	
958	DDG 18	Semmes	U.S. Navy	Destroyer	3,370d	437' x 47'	30-Nov-62	To Greece 1999 as Kimon (D 218): decommissioned 2004
959	DDG 19	Tattnall	U.S. Navy	Destroyer	3,370d	437' x 47'	29-Mar-63	Scrapped 1999
960	279772	JK11	Delaware River Dredgers	Deck Barge	624	175'x 40'	Oct-59	
961	279773	JK12	Delaware River Dredgers	Deck Barge	624	175'x 40'	Oct-59	Now JMC 27
962	279774	JK13	Delaware River Dredgers	Deck Barge	624	175'x 40'	Oct-59	Now JMC 28
963	279933	B-316	Brent Towing Co.	Tank Barge	907	225 x 44'	1959	Later CM 202
964	279891	JK14	Delaware River Dredgers	Dredge	149	70' x 40'	Oct-59	
965	280132	CBL 1252	Chemical Barge Lines	Tank Barge	678	195' x 35'	1-Jan-59	Later CBC 125, now Gonsoulin 301
966		Chotin 966	Chotin Towing Co.	Tank Barge	896	180 x 50'	1-Feb-59	
967		Chotin 967	Chotin Towing Co.	Tank Barge	896	180 x 50'	1-Feb-59	
968		J-301	James Enterprises Inc.	Freight Barge	332	150' x 32'	Feb-60	
969		J-401	James Enterprises Inc.	Freight Barge	331	150' x 32'	Feb-60	
970	281030	W-701	Williams McWilliams Industries	Derrick Barge	1,139	180' x 60'	Feb-60	
971	291188	JIHCO 64	John I. Hay Inc.	Freight Barge	826	195' x 35'	Feb-60	
972	291189	JIHCO 65	John I. Hay Inc.	Freight Barge	843	195' x 35'	Feb-60	
973	291190	JIHCO 66	John I. Hay Inc.	Freight Barge	813	195' x 35'	Feb-60	
974	291191	JIHCO 67	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-60	
975	291192	JIHCO 68	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-60	Now TX TX 202
976	291193	JIHCO 69	John I. Hay Inc.	Freight Barge	813	195' x 35'	Mar-60	
977	283632	Mary K	Union Texas Natural Gas	Propane Barge	1,536	273' x 41'	Aug-60	Now Kirby 15803

978	283631	Mark J	Union Texas Natural Gas	Propane Barge	1,536	273' x 41'	Aug-60	Later John T, now Kirby 15802
979	282032	MTC 111	Magnolia Towing Co. Inc.	Hopper Barge	840	195' x 35'	1960	Later RF 205
980	282033	MTC 113	Magnolia Towing Co. Inc.	Hopper Barge	840	195' x 35'	1960	Later RF 206
981	282267	MTC 115	Magnolia Towing Co. Inc.	Hopper Barge	840	195' x 35'	1960	Later RF 207
982	282268	MTC 117	Magnolia Towing Co. Inc.	Hopper Barge	840	195' x 35'	1960	Later RF 208
983	283022	MTC 119	Magnolia Towing Co. Inc.	Hopper Barge	829	195' x 35'	1960	Later RF 209
984	283033	MTC 121	Magnolia Towing Co. Inc.	Hopper Barge	829	195' x 35'	1960	Later RF 210
985	DE 1037	Bronstein	U.S. Navy	Destroyer Escort	2,360d	350' x 40'	8-Jun-63	To Mexico 1993 as Nicolas Bravo (E 42): active
986	DE 1038	McCloy	U.S. Navy	Destroyer Escort	2,360d	350' x 40'	17-Oct-63	To Mexico 1993 as Hermenegilda Galeana (E 40): active
987	283728	Wychem 111	Wyandotte Transportation Co.	Chlorine Barge	765	195' x 35'	Jan-61	
988	283729	Wychem 112	Wyandotte Transportation Co.	Chlorine Barge	765	195' x 35'	Jan-61	
989	284652	Mary Lee	East-Dill Corp.	Ammonia Barge	1,850	305' x 44'	Mar-61	
990	284653	Marjorie B	East-Dill Corp.	Ammonia Barge	1,776	280' x 44'	Apr-61	
991	Libya	L-3	Humble Oil & Refining Co.	Deck Barge	1,955	186' x 90'	Jun-61	
992	286336	Wychem 115	Wyandotte Transportation Co.	Tank Barge	716	195' x 35'	Jul-61	
993		Kerr-McGee Rig 54	Kerr-McGee Oil	Drill Barge	5,000	330' x 330'	Jan-63	
994	286783	Bayou Zachary	Oil Transport Co.	Tank Barge	1,247	235' x 45'	1961	
995	286722	JN-102	J. Neilson Inc.	Tank Barge	678	207' x 35'	1961	
996	286723	JN-103	J. Neilson Inc.	Tank Barge	678	207' x 35'	1961	
997	287013	B-421	Brent Towing , Inc.	Tank Barge	1,251	264' x 50'	1961	
998	287014	B-521	Brent Towing , Inc.	Tank Barge	1,251	264' x 50'	1961	
999			Western Contracting Co.	Barge	100		1961	
1000	292614	Aimee Lykes (C3-S-37c 132)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	9,397	474' x 69'	18-Sep-63	To RRF 1984 as Cape Canso
1001	293220	Christopher Lykes (C3-S-37c 133)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	9,397	474' x 69'	9-Nov-63	To RRF 1984 as Cape Catoche
1002	293555	Margaret Lykes (C3-S-37c 134)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	9,397	474' x 69'	27-Dec-63	To RRF 1984 as Cape Carthage
1003	293817	Allison Lykes (C3-S-37c 135)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	9,397	474' x 69'	26-Feb-64	To RRF 1984 as Cape Canaveral
1004	294625	Gulf Farmer (C3-S-37d 136)	Gulf and South America Line	Break-Bulk Cargo Ship	9,495	474' x 69'	1-May-64	To NDRF 1984, scrapped 2009
1005	295249	Gulf Banker (C3-S-37d 137)	Gulf and South America Line	Break-Bulk Cargo Ship	9,495	474' x 69'	26-Jun-64	To NDRF 1984, scrapped 2013
1006	286786	James 301	James Marine Equipment Co.	Freight Barge	332	150' x 32'	1961	
1007	286787	James 401	James Marine Equipment Co.	Freight Barge	332	150' x 32'	1961	
1008		KD 14	Koch-Dupuis Partnership	Deck Barge	240	110' x 30'	Nov-61	
1009		KD 15	Koch-Dupuis Partnership	Deck Barge	240	110' x 30'	Nov-61	
1010	289090	Angela	Atlantic Barge Corp.	Cement Barge	8,512	420' x 80'	Jul-62	
1011	DE 1043	Edward McDonnell	U.S. Navy	Destroyer Escort	2,624d	390' x 44'	29-Jan-65	Scrapped 2001
1012	DE 1044	Brumby	U.S. Navy	Destroyer Escort	2,624d	390' x 44'	26-Jul-65	Scrapped 1994
1013	DE 1045	Davidson	U.S. Navy	Destroyer Escort	2,624d	390' x 44'	16-Nov-65	To Brazil 1989 as Paraiba (D 28): sank under tow 2005
1014	291125	Ocean Driller	Ocean Drilling & Exploration Co.	Semisubmersible	1,108	326' x 377'	Apr-63	Out of service
1015	290273	Alexandra	Atlantic Barge Corp.	Cement Barge	8,512	420' x 80'	Jan-63	Now Cement Transporter I
1016	288441	James 601	James Marine Equipment Co.	Freight Barge	331	150' x 32'	May-62	
1017	288442	James 901	James Marine Equipment Co.	Freight Barge	331	150' x 32'	May-62	
1018	288713	James 1001	James Marine Equipment Co.	Freight Barge	331	150' x 32'	May-62	
1019	292779	Sensibar Sons	Construction Aggregates Corp.	Dredge	1,109	192' x 49'	Sep-62	Now California
1020	289066	Elizabeth S	Morrison-Knudsen of Portugal Ltd	Freight Barge	409	128' x 40'	1962	
1021	289067	Janet P	Morrison-Knudsen of Portugal Ltd	Freight Barge	409	128' x 40'	Jul-62	Later Colonet (British)
1022	289098	Esther G	Morrison-Knudsen of Portugal Ltd	Freight Barge	415	128' x 40'	1962	
1023	289097	Eleanor K	Morrison-Knudsen of Portugal Ltd	Crane Barge	563	128' x 50'	Jul-62	Later Coleanor (British)
1024	289065	Bernice G	Morrison-Knudsen of Portugal Ltd	Freight Barge	100	70' x 34'	Jul-62	
1025	289064	Ann J	Morrison-Knudsen of Portugal Ltd	Freight Barge	100	70' x 34'	Jul-62	
1026	289069	Vera A	Morrison-Knudsen of Portugal Ltd	Freight Barge	100	70' x 34'	1962	
1027	289068	Mary R	Morrison-Knudsen of Portugal Ltd	Freight Barge	100	70' x 34'	1962	
1028	290101	CBC 31	Jena Marine Corp.	Tank Barge	1,818	295' x 52'	Nov-62	Now GSS 31
1029	290348	CBC 32	Jena Marine Corp.	Tank Barge	1,879	295' x 52'	Jan-63	
1030	290185	CBC 33	Jena Marine Corp.	Tank Barge	1,418	220' x 52'	Dec-62	Now GSS 33
1031	290102	CBC 34	Jena Marine Corp.	Tank Barge	1,362	220' x 52'	Nov-62	Later SC-218, now CMC 452

1032			Penrod Drilling Company	Drilling Barge	1,500	200' x 50'	Feb-63	
1033	292613	Fritze Jahncke	Jahncke Services, Inc.	Dredge	1,263	186' x 48'	Aug-63	Now G. D. Morgan
1034			Armco Steel Corp.	Hopper Barge	700	195' x 35'	1963	
1035	292097	Adelaide	Atlantic Cement Carriers Inc.	Cement Barge	8,512	414' x 80'	Jul-63	Now Cement Transporter II
1036			Union Carbide Corp.	Tank Barge	1,209	195' x 52'	Nov-63	
1037	296404	Gulf Trader (C3-S-37d 168)	Gulf and South America Line	Break-Bulk Cargo Ship	9,475	474' x 69'	23-Sep-64	To NDRF 1984
1038	296880	Gulf Shipper (C3-S-37d 169)	Gulf and South America Line	Break-Bulk Cargo Ship	9,475	474' x 69'	10-Nov-64	To NDRF 1984
1039	297329	Gulf Merchant (C3-S-37d 170)	Gulf and South America Line	Break-Bulk Cargo Ship	9,475	474' x 69'	5-Jan-65	To NDRF 1984, scrapped 2008
1040	299938	Louise Lykes (C4-S-66a 156)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,954	517' x 76'	20-Aug-65	To NDRF 1984, scrapped 1995
1041	500702	Elizabeth Lykes (C4-S-66a 157)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,954	517' x 76'	29-Jan-66	To NDRF 1984, scrapped 1995
1042	502928	Ruth Lykes (C4-S-66a 156)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,954	517' x 76'	9-May-66	To NDRF 1984, scrapped 1995
1043		Letitia Lykes (C4-S-66a 171)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,954	517' x 76'		Destroyed by Hurricane Betsy while outfitting 9-Sep-65
1044	291878	B-821	Brent Towing Co. Inc.	Tank Barge	1,253	264' x 50'	1963	
1045	292223	B-921	Brent Towing Co. Inc.	Tank Barge	1,253	264' x 50'	1963	
1046	292273	GW 100	G. W. Partnership	Tank Barge	1,097	240' x 50'	1963	
1047	292775	Paul H. Chotin	Chotin Transportation Inc.	Tug	247	87' x 30'	Sep-63	Later A. A. McKinney, now Emmanuel Chibb
1048	293676	CBC 35	Webster Marine Corp.	Tank Barge	1,818	295' x 52'	Jan-64	Now GSS 35
1049	293619	CBC 36	Webster Marine Corp.	Tank Barge	1,856	295' x 52'	Dec-63	Active
1050	295030	San Juan 1	San Juan Barge Co. Inc.	Tank Barge	3,035	280' x 60'	Jan-64	Built in Morgan City, active
1051	294327	James Sheridan	Sheridan Towing Co. Inc.	Freight Barge	6,074	350' x 66'	Mar-64	Now ATC-12000
1052		Genevieve Lykes (C4-S-66a 159)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'		Destroyed by Hurricane Betsy while outfitting 9-Sep-65
1053	505406	Mason Lykes (C4-S-66a 172)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	20-Sep-66	To RRF 1985 as Cape Blanco
1054	504077	Mallory Lykes (C4-S-66a 173)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	9-Jun-66	To RRF 1987 as Galveston Bay, scrapped 1997
1055	504982	Stella Lykes (C4-S-66a 174)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	15-Aug-66	To RRF 1987 as Tampa Bay, scrapped 1996
1056	296607	Ocean Explorer	Ocean Drilling & Exploration Co.	Semisubmersible	1,061	326' x 377'	Sep-64	Out of service
1057	294790	Wychem 117	Wyandotte Transportation Co.	Tank Barge	614	106' x 50'	Apr-64	
1058	295072	Wychem 118	Wyandotte Transportation Co.	Tank Barge	614	106' x 50'	May-64	
1059	295365	Wychem 119	Wyandotte Transportation Co.	Tank Barge	614	106' x 50'	Jun-64	
1060	294469	B-1120	Brent Boat Rental Co.	Tank Barge	1,075	220' x 50'	1964	
1061	294788	B-1014	Brent Boat Rental Co.	Tank Barge	780	160' x 50'	May-64	
1062	WHEC 715	Hamilton	U.S. Coast Guard	Cutter	2,716d	378' x 43'	20-Feb-67	To Philippines 2011 as Gregorio del Pilar (PF-15)
1063	295706	CBC 194	Canal Barge Co.	Tank Barge	1,396	195' x 50'	Jul-64	Built in Morgan City, later EMC 494, now AT 1401
1064		Fred Holder	Freeport Sulphur Co.	Drilling Barge	900	114' x 70'	Aug-64	
1065	299139	Ocean Queen	Ocean Drilling & Exploration Co.	Semisubmersible	1,415	272' x 217'	Jan-65	Out of service
1066	506812	Frederick Lykes (C4-S-66a 179)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	3-Feb-67	To RRF 1985 as Cape Bover
1067	507344	Howell Lykes (C4-S-66a 180)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	2-May-67	To RRF 1985 as Cape Borda
1068	508378	Dolly Turman (C4-S-66a 181)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	15-May-67	To RRF 1985 as Cape Breton
1069	509652	Velma Lykes (C4-S-66a 182)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	15-Jul-67	To RRF 1985 as Cape Bon, Enterprise 2001, now Kennedy
1070	DE 1056	Connole	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	22-Aug-69	To Greece 2000 as Epirous (F 456): active
1071	DE 1059	W. S. Sims	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	12-Dec-69	To Turkey 1999 for spares, scrapped 2002
1072	DE 1061	Patterson	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	27-Feb-70	Scrapped 2000
1073	DE 1068	Vreeland	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	30-May-70	To Greece 2001 as Makedonia (F 458): active
1074	DE 1072	Blakely	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	2-Jul-70	Scrapped 2000
1075	DE 1075	Trippe	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	11-Sep-70	To Greece 2000 as Thraki (F 457): active
1076	DE 1077	Ouellet	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	3-Dec-70	To Thailand 1996 as Phutta Loetla Naphalai (F 462): active
1077	298509	Kathleen Sheridan	Sheridan Barge Corp.	Dry Bulk Barge	6,074	350' x 66'	Apr-65	Now CIFC-3
1078			Houston Contracting Co	Spud Barge	300		1965	
1079	500398	Ingram Derrick Barge No.3	Ingram Contractors Inc.	Derrick Barge	5,720	300' x 100'	Aug-65	NLD
1080	298314	Ingram Offshore 101	Ingram Contractors Inc.	Deck Barge	1,564	220' x 60'	Mar-65	Built in Gibson LA, NLD
1081	501739	M-23	Monsanto Chemical Co.	Tank Barge	791	195' x 35'	Dec-65	Later OCC 1111
1082?	504444	Avon Senior	Avondale Shipyards Inc	Derrick Barge	553	300' x 68'	Jul-66	Conversion of T2 midbody (ADDSCO Hull 340), now Dynamic D B 650
1083	Suriname	Akantroesoe	Alcoa Steamship Co. (NY)	Towboat	250	98' x 20'	Apr-66	
1084	297836	Ayers 1007	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Feb-65	Now RPC No. 1
1085	297752	Ayers 1008	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Feb-65	NLD

1086	297753	Ayers 1009	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Feb-65	NLD
1087	501906	Mary Ormston	Energy Transportation Co.	Dry Bulk Barge	9,815	430' x 80'	Dec-65	Later Bulk Transporter, now CIFC-2
1088	502087	Deloris Rodgers	Energy Transportation Co.	Dry Bulk Barge	9,815	430' x 80'	Jan-66	Later Anthony P III, DXE 1800, ATC 1800
1089	298543	Ayers 1010	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Apr-65	Built in Morgan City
1090	298544	Ayers 1011	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Apr-65	Built in Morgan City
1091	298724	Ayers 1012	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Apr-65	Built in Morgan City
1092	298725	Ayers 1013	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Apr-65	Built in Morgan City
1093	298856	Ayers 1014	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	May-65	Built in Morgan City
1094	298857	Ayers 1015	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	May-65	Built in Morgan City
1095	298957	Ayers 1016	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	May-65	Built in Morgan City
1096	298958	Ayers 1017	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	May-65	Built in Morgan City
1097	299174	Ayers 1018	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Jun-65	Built in Morgan City
1098	299175	Ayers 1019	Ayers Materials Co. Inc.	Dry Bulk Barge	332	150' x 32'	Jun-65	Built in Morgan City
1099	299797	S - P - 2	Southern Terminal Tptn.	Phosph. Acid Barge	3,425	290' x 62'	Jul-65	Subcontract from Equitable, in collision and sank 13-Oct-75
1100	502244	Ocean Traveler	Ocean Drilling & Exploration Co.	Semisubmersible	1,460	272' x 217'	Mar-66	Out of service
1101	WHEC 716	Dallas	U.S. Coast Guard	Cutter	2,716d	378' x 43'	1-Oct-67	To the Philippines 2012 as Ramon Alcaraz (PF-16)
1102	WHEC 717	Mellon	U.S. Coast Guard	Cutter	2,716d	378' x 43'	22-Dec-67	Active
1103	WHEC 718	Chase	U.S. Coast Guard	Cutter	2,716d	378' x 43'	1-Mar-68	To Nigeria 2012 as Thunder (F-90)
1104	Mexico	Independencia	Perforadora Mexico S.A.	Drilling Barge	2,000	381' x 75'	Jan-66	Hull built by Wiley Mfg. ?
1105	Mexico	Reforma	Perforadora Mexico S.A.	Drilling Barge	2,000	381' x 75'	Mar-66	Hull built by Wiley Mfg.
1106	Mexico	Revolucion	Perforadora Mexico S.A.	Drilling Barge	2,000	381' x 75'	Apr-66	Hull built by Wiley Mfg.
1107	504809	BAR 267	Brown & Root Inc.	Deck Barge	8,581	380' x 100'	1966	Later OPI 2500
1108	692028	HCC-101	Houston Chemical Corp.	Tank Barge	688	195' x 35'	Jul-66	Now Kirby 7800
1109	502588	Ben Candies	Otto Candies Inc.	Tug	193	111' x 31'	Mar-66	Later Krystal K. Peterson now Marianne McAllister
1110	502823	Patricia Sheridan	Sheridan Towing Co. Inc.	Dry Bulk Barge	5,320	350' x 64'	Apr-66	Now CIFC-4
1111	505756	B-2100	Brent Chemical Barge Co.	Tank Barge	1,364	220' x 54'	Nov-66	Later DXE 1003, Kirby 10600, NLD
1112	505754	B-1700	Brent Chemical Barge Co.	Tank Barge	984	145' x 52'	Nov-66	Now DXE 1001
1113	505755	B-1900	Brent Chemical Barge Co.	Tank Barge	1,117	165' x 54'	Nov-66	Now DXE 1002
1114	504142	B-2300	Brent Chemical Barge Co.	Tank Barge	2,499	270' x 54'	1966	Now Kirby 20850
1115	512187	Letitia Lykes (C4-S-66a 208)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	26-Jan-68	Replacement for Hull 1042, to NDRF 1984, scrapped 1995
1116	513140	Genevieve Lykes (C4-S-66a 209)	Lykes Bros. SS Co.	Break-Bulk Cargo Ship	10,723	517' x 76'	9-Apr-68	Replacement for Hull 1053, to NDRF 1984, scrapped 1995
1117	503997	T-200	River Transportation Inc.	Tank Barge	678	207' x 35'	Jun-66	Later EIDC 68
1118	1164884	EIDC 53	E. I. DuPont	Tank Barge	2,328	298' x 53'	Apr-67	Now DCBL 53
1119	1217496	EIDC 54	E. I. DuPont	Tank Barge	2,328	298' x 53'	May-67	Now STC 2508
1120	572233	DXE 3001	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Oct-66	Active
1121	572071	DXE 3002	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Sep-66	Now B 329
1122	571657	DXE 3003	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Nov-66	Now IBE 501
1123	571658	DXE 3004	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Nov-66	Now B 429
1124	572234	DXE 3005	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Nov-66	Now IBE 503
1125	572072	DXE 3006	Dixie Carriers Inc.	Tank Barge	1,617	298' x 53'	Dec-66	Now STCO 502
1126	515976	Colorado (C4-S-69b 210)	States Steamship Co. NV.	Break-Bulk Cargo Ship	13,053	605' x 82'	19-Sep-68	To NDRF as American Titan, scrapped 1991
1127	517617	Montana (C4-S-69b 211)	States Steamship Co. NV.	Break-Bulk Cargo Ship	13,053	605' x 82'	8-Jan-69	To NDRF as American Trojan, sold 1991 as Santa Victoria
1128	518434	Idaho (C4-S-69b 212)	States Steamship Co. NV.	Break-Bulk Cargo Ship	13,053	605' x 82'	19-Mar-69	To NDRF as American Spitfire, scrapped 1991
1129	519937	Wyoming (C4-S-69b 213)	States Steamship Co. NV.	Break-Bulk Cargo Ship	13,053	605' x 82'	11-Aug-69	To NDRF as American Monarch, scrapped 1991
1130	521550	Michigan (C4-S-69b 214)	States Steamship Co. NV.	Break-Bulk Cargo Ship	13,053	605' x 82'	26-Aug-69	To NDRF as American Spartan, scrapped 1983
1131	505540	GW 200	Gulf States Fishing & Rental Tools	Tank Barge	537	120' x 50'	1966	Now SMI 110
1132	505541	GS 100	G & W Partnership	Tank Barge	537	120' x 50'	1966	Now LDP 100
1133	CG016154	PPG 213	PPG Industries Inc.	Dry Bulk Barge	637	195' x 35'	Jun-67	Active
1134	CG004481	PPG 214	PPG Industries Inc.	Dry Bulk Barge	637	195' x 35'	Jun-67	active
1135	CG004531	PPG 215	PPG Industries Inc.	Dry Bulk Barge	637	195' x 35'	Jul-67	active
1136	CG017889	PPG 216	PPG Industries Inc.	Dry Bulk Barge	637	195' x 35'	Aug-67	Active

1137	WHEC 719	Boutwell	U.S. Coast Guard	Cutter	2,716d	378' x 43'	14-Jun-68	Active
1138	WHEC 720	Sherman	U.S. Coast Guard	Cutter	2,716d	378' x 43'	23-Aug-68	Active
1139	WHEC 721	Gallatin	U.S. Coast Guard	Cutter	2,716d	378' x 43'	20-Dec-68	Active
1140			Wood Hopkins Inc.	Deck Barge	400	120' x 40'	Nov-66	
1141	CG006353	CC 115	Union Carbide Corp.	Tank Barge	1,126	214' x 50'	Apr-67	Now Kirby 14830
1142	CG006403	CC 116	Union Carbide Corp.	Tank Barge	1,126	214' x 50'	May-67	Now Kirby 14832
1143	994280	CC 117	Union Carbide Corp.	Tank Barge	1,126	214' x 50'	Jun-67	Now Kirby 14801
1144	509367	CC 118	Union Carbide Corp.	Tank Barge	1,126	214' x 50'	Sep-67	Now Kirby 14800
1145	507495	Ocean 90	Interstate Oil Transport Co.	Tank Barge	6,409	400' x 66'	Mar-67	Now KTC 90
1146	DE 1078	Joseph Hewes	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	6-Apr-71	To Taiwan 1999 as Lan Yang (F 935): active
1147	DE 1079	Bowen	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	17-May-71	To Turkey 1997 as Karadeniz (F 255): scrapped
1148	DE 1080	Paul	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	14-Oct-71	To Turkey 2000 for spares, scrapped 2002
1149	DE 1081	Aylwin	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	9-Dec-71	To Taiwan 1999 as Ning Yang (F 938): active
1150	DE 1082	Elmer Montgomery	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	14-Oct-71	To Turkey 1999 for spares
1151	DE 1083	Cook	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	9-Dec-71	To Taiwan 1999 as Hae Yang (F 936): decommissioned 2015
1152	DE 1084	McCandless	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	3-Mar-72	To Turkey 1998 as Trakya (F 254): scrapped
1153	DE 1085	Donald B. Beary	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	25-Jun-72	To Turkey 1998 as Akdeniz (F 257): scrapped
1154	DE 1086	Brewton	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	18-Jun-72	To Taiwan 1999 as Feng Yang (F 933): active
1155	DE 1087	Kirk	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	27-Aug-72	To Taiwan 1999 as Fen Yang (F 934): active
1156	DE 1088	Barbey	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	15-Oct-72	To Taiwan 1999 as Hwai Yang (F 937): active
1157	DE 1089	Jesse L. Brown	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	8-Dec-73	To Egypt 1998 as Damiyat (F 961): active
1158	DE 1090	Ainsworth	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	1-Feb-73	To Turkey 1999 as Ege (F 256): scrapped
1159	DE 1091	Miller	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	13-Apr-73	To Turkey 1999 for spares
1160	DE 1092	Thomas C. Hart	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	8-Jun-73	To Turkey 1998 as Zafer (F 253): sunk as target 2016
1161	DE 1093	Capodanno	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	18-Oct-73	To Turkey 1998 as Muavenet (F 250): scrapped
1162	DE 1094	Pharris	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	14-Dec-73	To Mexico 1999: active
1163	DE 1095	Truett	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	24-May-74	To Thailand 1999 as Phutta Yotfa Chulalok (F 461): active
1164	DE 1096	Valdez	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	12-Jul-74	To Taiwan 1998 as Yi Yang (F 939): active
1165	DE 1097	Moinester	U.S. Navy	Destroyer Escort	3,077d	415' x 47'	17-Oct-74	To Egypt 1998 as Rasheed (F 962): active
1166	508974	278	Brown & Root Inc.	Pipelay Barge	3,890	290' x 72'	Jun-67	Now Global Seneca
1167	507414	G 15	LeBeouf Bros. Towing	Tank Barge	1,159	230' x 50'	1967	Active
1168	508015	B-100	LeBeouf Bros. Towing	Tank Barge	1,334	264' x 50'	1967	NLD
1169	507824	LBT 76	LeBeouf Bros. Towing	Tank Barge	1,128	194' x 50'	1967	NLD
1170	510254	Sparkling Waters	Spentonbush Transport Services	Waste Water Barge	2,776	298' x 50'	Aug-67	Later Leo Frank, now Enlightened Energy
1171	515200	PPG 251	PPG Industries Inc.	Dry Bulk Barge	1,633	262' x 52'	May-68	Built in Morgan City, active
1172	515291	PPG 253	PPG Industries Inc.	Dry Bulk Barge	1,633	262' x 52'	May-68	Built in Morgan City, active
1174	510652	Interstate 50	Interstate Marine Transport Co.	Tank Barge	3,164	300' x 62'	Sep-67	Now MSRC 402
1175	514966	Freeport 1	Midland Enterprises Inc.	Dry Cargo Barge	10,851	472' x 80'	Jun-68	Now Bahia de Tampa
1176	516722	Freeport 2	Midland Enterprises Inc.	Dry Cargo Barge	10,851	472' x 80'	Oct-68	Later Dana Dunn, scrapped 2011
1177	WHEC 722	Morgenthau	U.S. Coast Guard	Cutter	2,716d	378' x 43'	14-Feb-69	Active
1178	511528	Hygrade 95	Tanker Hygrade No. 95 Inc.	Tank Barge	6,293	390' x 68'	Nov-67	Later Energy 9801, now Connor
1179	515042	Ocean 115	Ocean 115 Co.	Tank Barge	6,430	390' x 68'	Jun-68	Later KTC 115, now Lambert Spirit (Canadian)
1180	523626	Esso San Francisco	Esso Shipping Corp.	Crude Carrier	38,144	764' x 125'	12-Dec-69	Later Exxon SF, S/R SF, Sandy Bay, Sabine San Francisco, scrapped 2001
1181	524619	Esso Baton Rouge	Esso Shipping Corp.	Crude Carrier	38,144	764' x 125'	Mar-70	Later Exxon BR, S/R BR, Sabine Baton Rouge, scrapped 2001
1182	526792	Esso Philadelphia	Esso Shipping Corp.	Crude Carrier	38,144	764' x 125'	Jun-70	Later Exxon PH, S/R PH, Mary Bay, Sabine Philadelphia, scrapped 2001
1183	WHEC 723	Rush	U.S. Coast Guard	Cutter	2,716d	378' x 43'	3-Jul-69	Active
1184	529255	Lash Italia (C8-S-81b 228)	Prudential Grace Lines Inc.	Barge Carrier	26,406	738' x 100'	23-Nov-70	Scrapped 1987
1185	530143	Lash Turkiye (C8-S-81b 229)	Prudential Grace Lines Inc.	Barge Carrier	26,406	738' x 100'	11-Feb-71	To NDRF 1987 as Cape Florida
1186	530144	Lash Espana (C8-S-81b 230)	Prudential Grace Lines Inc.	Barge Carrier	26,406	738' x 100'	28-Apr-71	To NDRF 1993 as Cape Fear
1187	530137	Thomas E. Cuffe (C8-S-81b 231)	Pacific Far East Line Inc.	Barge Carrier	26,456	738' x 100'	16-Jul-71	Later President Hoover, now Lihue

1188	530138	Golden Bear (C8-S-81b 232)	Pacific Far East Line Inc.	Barge Carrier	26,456	738' x 100'	20-Sep-71	Later President Grant, Chief Gadao, scrapped 2006
1189	530139	Pacific Bear (C8-S-81b 233)	Pacific Far East Line Inc.	Barge Carrier	26,456	738' x 100'	30-Nov-71	Later President Harrison, scrapped 1996
1190	530140	Japan Bear (C8-S-81b 234)	Pacific Far East Line Inc.	Barge Carrier	26,456	738' x 100'	3-Mar-72	Later President Tyler, Ewa, scrapped 2006
1191	530141	China Bear (C8-S-81b 235)	Pacific Far East Line Inc.	Barge Carrier	26,456	738' x 100'	26-May-72	Later Austral Rainbow, scrapped 2000
1192	530145	Lash Atlantico (C8-S-81b 236)	Prudential Line Inc.	Barge Carrier	26,406	738' x 100'	11-Oct-74	Scrapped 1996
1193	530146	Lash Pacifico (C8-S-81b 237)	Prudential Line Inc.	Barge Carrier	26,406	738' x 100'	11-Oct-74	Later American Kestrel, scrapped 1995
1194	530142	Philippine Bear (C8-S-81b 238)	Pacific Far East Line Inc.	Barge Carrier	26,656	738' x 100'	19-Mar-73	Later American Veteran, scrapped 1995
1195	517896	Sea Star	Red Star Towing Co.	Dry Cargo Barge	6,074	350' x 66'	Jan-69	Later Mary J. Sheridan, ATC-350
1196	521855	McDermott Lay Barge No. 22	J.R. McDermott & Co.	Pipelay Barge	11,381	420' x120'	Jun-69	Now Olmeca II (Mexico)
1197	523233	Ocean 96	Interstate Materials Tptn. Co.	Tank Barge	6,278	400' x 66'	Nov-69	Now KTC 96
1198	523741	Interstate 52	Interstate Oil Transport Co.	Tank Barge	3,164	300' x 62'	Dec-69	Now MSRC 403
1199	524335	S. B. Whittington	C. F. Bean Corp.	Dredge	528	145' x 39'	1970	Built in Harvey, now United I
1200-1559	525001-525360	PL 1-0001 to PL 1-0360	Prudential Line Inc.	LASH Barges	200	61' x 31'	1970-1971	360 barges
1560	WHEC 724	Munro	U.S. Coast Guard	Cutter	2,716d	378' x 43'	10-Sep-71	Active
1561	WHEC 725	Jarvis	U.S. Coast Guard	Cutter	2,716d	378' x 43'	30-Dec-71	To Bangladesh 2013 as Samudra Joy (F 28)
1562	WHEC 726	Midgett	U.S. Coast Guard	Cutter	2,716d	378' x 43'	17-Mar-72	Active
1563-1627	525361-525425	PL-01-0361 to PL 1-0425	Prudential Line Inc.	LASH Barges	200	61' x 31'	1972	65 barges
1628-1927	530301-530600	PFE-LB-1 to PFE-LB 300	Pacific Far East Lines Inc.	LASH Barges	200	61' x 31'	1972	300 barges
1929	524972	O.C. 251	Otto Candies Inc. LA	Deck Barge	2,193	200' x 72'	Mar-70	Later HPL 111, now BBCCI 901.361
1929	526083	O.C. 252	Otto Candies Inc. LA	Deck Barge	2,235	200' x 72'	Mar-70	Later HPL 112, now Bella
1930	526806	G.L. 135	Great Lakes Dredge & Dock Co. Inc.	Spud Barge	499	135' x 44'	May-70	Built in Harvey, active
1931	528730	CBC 501	Canal Barge Co. Inc.	Tank Barge	1,714	291' x 50'	1970	Built in Morgan City, now SMI 501
1932	528970	CBC 502	Canal Barge Co. Inc.	Tank Barge	1,798	295' x 50'	1970	Built in Morgan City, active
1933	528971	CBC 503	Canal Barge Co. Inc.	Tank Barge	1,333	220' x 50'	1970	Built in Morgan City, now DES 1625
1934	528952	CBC 504	Canal Barge Co. Inc.	Tank Barge	1,300	220' x 50'	1970	Built in Morgan City, active
1935	530062	Interstate 53	Interstate Materials Transp. Co. Inc.	Tank Barge	3,166	300' x 62'	Jan-71	Built in Morgan City, now VB 53, to Mexico
1936	Panama	Salvage Barge No. 1	Panama Canal Commission	Deck Barge	180	90' x 30'	Feb-71	Built in Harvey, active
1937	Panama	Salvage Barge No. 2	Panama Canal Commission	Deck Barge	180	90' x 30'	Feb-71	Built in Harvey, active
1938	Panama	Salvage Barge No. 3	Panama Canal Commission	Deck Barge	180	90' x 30'	Feb-71	Built in Harvey, active
1939								
1940								
1941	549153	Delta Mar (C8-S-81d 259)	Delta Steamship Lines Inc.	Barge Carrier	32,325	738' x 100'	11-Jul-73	To RRF 1986 as Cape Farewell
1942	550900	Delta Norte (C8-S-81d 260)	Delta Steamship Lines Inc.	Barge Carrier	32,325	738' x 100'	12-Sep-73	To RRF 1986 as Cape Flattery
1943	553105	Delta Sud (C8-S-81d 261)	Delta Steamship Lines Inc.	Barge Carrier	32,325	738' x 100'	29-Nov-73	Scrapped 1989
1944	Panama	Ocean Victory	Ocean Drilling & Exploration Co.	Semisubmersible	4,644	320' x 65'	Oct-72	Scrapped 2018
1945	535641	DXE 231 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later Kirby 22301
1946	535947	DXE 232 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later Kirby 23300
1947	536268	DXE 233 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later Kirby 23303
1948	536442	DXE 234 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later Kirby 23304
1949	557033	Robert E. Lee (C8-S-81d 262)	Waterman Steamship Corp.	Barge Carrier	32,269	738' x 100'	25-May-74	Scrapped 2002
1950	557034	Stonewall Jackson (C8-S-81d 263)	Waterman Steamship Corp.	Barge Carrier	32,269	738' x 100'	25-Jun-74	Scrapped 2002
1951	559035	Sam Houston (C8-S-81d 264)	Waterman Steamship Corp.	Barge Carrier	32,269	738' x 100'	25-Sep-74	Scrapped 2002
1952	559623	Green Valley (C8-S-81d 265)	Central Gulf Steamship Corp.	Barge Carrier	32,287	738' x 100'	6-Sep-74	Scrapped 2001
1953-2048	534301-534396	PFE-LB-301 to PFE-LB-396	Pacific Far East Lines Inc.	LASH Barges	200	61' x 31'	1971-72	96 barges
2049	536742	DXE 235 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later STCO 2310, now Kirby 22300
2050	536875	DXE 236 DC	Dixie Carriers Inc.	Dry Bulk Barge	1,424	273' x 50'	1971	Later STCO 2306, now Kirby 20306
2051	546763	SEDCO 702	SEDCO Maritime Inc.	Semisubmersible	7,931	295' x 245'	Apr-73	Scrapped 2016
2052	Norway	Waage Drill I	Waage Drilling A/S & Co.	Semisubmersible	8,308	320' x 65'	Oct-73	Later Aladdin, Dan Baroness, Ocean Baroness, scrapped 2018

2053	Norway	Waage Drill II	Waage Drilling A/S & Co.	Semisubmersible	8,308	320' x 65'	Apr-74	Later Sindbad, Dan Countess, Ocean Star, scrapped 2016
2054	537751	G.W. 400	G. W. Partnership	Deck Barge	2,235	250' x 72'	Feb-72	Later Foss 257, Kupono, now KRS 250-1
2055	Panama	Ocean Rover	ODECO	Semisubmersible	4,644	320' x 65'	Jun-73	Active
2056-2155	Dutch	CB-LLO-3405 to CB-LLO-4485	Holland-America Line	LASH Barges	200	61' x 31'	1971-72	100 barges
2156	538528	Azteca	Santa Fe Pomeroy Inc.	Deck Barge	2,227	250' x 72'	Mar-72	Now Kvichak Trader
2157-2256	540426-540525	PL-2-0426 to PL-2-0525	Prudential Lines Inc.	LASH Barges	200	61' x 31'	1971-72	100 barges
2257	561453	Green Harbor (C8-S-81d 274)	Central Gulf Steamship Corp.	Barge Carrier	32,278	738' x 100'	10-Dec-74	Scrapped 2001
2258	562594	Green Island (C8-S-81d 275)	Central Gulf Steamship Corp.	Barge Carrier	32,278	738' x 100'	25-Feb-75	Scrapped 2002
2259	Dutch	CB-LLO-1119	Holland-America Line	LASH Barge	200	61' x 31'	May-72	
2260	Dutch	CB-LLO-1125	Holland-America Line	LASH Barge	200	61' x 31'	Jun-72	
2261	553910	SEDCO 703	SEDCO Maritime Inc.	Semisubmersible	7,734	295' x 245'	Jul-74	Scrapped 2015
2262	560108	Western Pacesetter III	Western Oceanic Inc.	Semisubmersible	9,824	260' x 200'	Sep-74	Later Falcon 100, scrapped 2015
2263	553579	McDermott Tideland 12	J. R. McDermott Inc.	Deck Barge	2,570	240' x 72'	Mar-74	Built in Morgan City
2264	553580	McDermott Tideland 14	J. R. McDermott Inc.	Deck Barge	2,570	240' x 72'	Mar-74	Built in Morgan City
2265	556673	Ocean 155	Interstate Oil Transport Co.	Tank Barge	9,401	450' x 80'	May-74	Now DBL 155
2266		El Paso Columbia (LG9-S-107a 296)	El Paso Natural Gas	LNG Carrier	60,000	887' x 140'	1978	Not accepted, wrecked 17-Dec-81, scrapped 1987
2267	598731	El Paso Savannah (LG9-S-107a 297)	El Paso Natural Gas	LNG Carrier	60,000	887' x 140'	1978	Not accepted, OBO Golden Phoenix 1983, later Coastal Golden, scrapped 2000
2268	589729	El Paso Cove Point (LG9-S-107a 298)	El Paso Natural Gas	LNG Carrier	60,000	887' x 140'	1978	Not accepted, OBO Jade Phoenix 1983, now Apollo Spirit (FSO)
2269	560225	G.L. 54	Great Lakes Dredge & Dock Co. Inc.	Dredge	1,120	185' x 60'	Nov-73	Built at Harvey, active
2270	551949	Ginny Howell	Electro-Coal Transfer Corp.	Tug	97	60' x 24'	Dec-73	Built at Harvey, active
2271								
2272								
2273								
2274	562452	Ocean 190	Interstate Marine Transportation Co.	Tank Barge	10,668	476' x 84'	Mar-75	Now OSG 215
2275	565314	Ocean States	Interstate Marine Transportation Co.	Tank Barge	10,668	476' x 84'	Jun-75	Now OSG 214
2276	568838	Zapata Concord	Zapata Offshore Co.	Semisubmersible	8,609	260' x 200'	Oct-75	Later Arethusa Concord, Ocean Concord, scrapped 2015
2277	571193	Zapata Lexington	Zapata Offshore Co.	Semisubmersible	8,609	260' x 200'	Mar-76	Later Arethusa Lexington, Ocean Lexington, scrapped 2015
2278	557078	Hollywood 1115	Hollywood Towing	Tank Barge	945	195' x 35'	Jan-74	Later Kirby 10760
2279	557351	Hollywood 1116	Hollywood Towing	Tank Barge	945	195' x 35'	Jan-74	Later Kirby 10700
2280	575526	Zapata Saratoga	Zapata Offshore Co.	Semisubmersible	8,612	260' x 200'	Sep-76	Later Arethusa Saratoga, Ocean Saratoga, scrapped 2015
2281	562346	Westchester	Pittston Marine Transp. Corp.	Tank Barge	4,179	316' x 59'	Feb-75	Active
2282	Liberia	SEDCO 707	SEDCO	Semisubmersible	7,031	295'x 245'	Sep-76	Scrapped 2015
2283	578592	Zapata Yorktown	Zapata Offshore Co.	Semisubmersible	8,593	260' x 200'	Dec-76	Later Arethusa Yorktown, Ocean Yorktown, scrapped 2015
2284	568190	Avondale Drydock	Avondale Shipyards Inc.	Drydock	88,038	900' x 269'	1975	Active
2285		T5-M-119a	United Shipping Inc.	Product Carrier	25,000			Cancelled Aug-77
2286		T5-M-119a	Ajax Marine Shipping Co.	Product Carrier	25,000			Cancelled Aug-77
2287		T5-M-119a	Achilles Marine	Product Carrier	25,000			Cancelled Aug-77
2288	509957	Mission Viking	Mission Viking Inc	Drill Ship	11,680		1974	Conversion of AP 140, scrapped 1987; wrong hull #?
2289	552706	Austral Entente	Farrell Lines	Containership			May-77	Midbody only
2290	541868	Austral Envoy	Farrell Lines	Containership			Nov-77	Midbody only
2291			Mission Drilling	Semisubmersible				Cancelled Sep-76
2292			Offshore Co.	Semisubmersible				Cancelled Sep-76
2293			Ogden Marine Drilling	Semisubmersible				Cancelled Sep-76
2294			Ogden Marine Drilling	Semisubmersible				Cancelled Sep-76
2295	586128	Atigun Pass	Keystone Shipping Company	Crude Carrier	88,263	866' x 173'	Nov-77	Scrapped 2001
2296	586129	Keystone Canyon	Keystone Shipping Company	Crude Carrier	88,263	866' x 173'	Feb-78	Scrapped 2002
2297	586130	Brooks Range	Keystone Shipping Company	Crude Carrier	88,263	866' x 173'	May-78	Scrapped 2002
2298	586131	Thompson Pass	Keystone Shipping Company	Crude Carrier	88,263	866' x 173'	Aug-78	Scrapped 2002
2299	600477	Esso North Slope	Esso Shipping Corp.	Crude Carrier	75,272	875' x 173'	Feb-79	Scrapped 2003
2300	600478	Esso Benicia	Esso Shipping Corp.	Crude Carrier	75,272	875' x 173'	Jun-79	Scrapped 2003
2301	587045	CF-1	C.F. Industries Inc.	Dry Bulk Barge	16,248	556' x 75'	Dec-77	Later Gayle Eustace, now Florida Enterprise
2302	580274	Illinois	Great Lakes Dredge & Dock Co.	Dredge	1,407	220' x 56'	Mar-77	NLD
2303	AO 177	Cimarron	U.S. Navy	Oiler	9,000d	591' x 88'	15-Dec-80	Jumboized 1991, to NDRF 1999, scrapped 2012

2304	AO 178	Monongahela	U.S. Navy	Oiler	9,000d	591' x 88'	28-May-81	Jumboized 1991, to NDRF 2001
2305	AO 179	Merrimack	U.S. Navy	Oiler	9,000d	591' x 88'	5-Nov-81	Jumboized 1991, to NDRF 2001, scrapped 2013
2306	599418	APMC Rig 7	Atlantic Pacific Marine Corp.	Drilling Barge	2,326	200' x 54'	Nov-78	Built in Harvey, later Falcon Rig 7, Hercules 07
2307	624457	Benjamin Harrison (C9-S-81f 336)	Waterman Steamship Corp.	Barge Carrier	30,500	738' x 100'	24-Jul-80	Later Sea-Land Spirit 1990, CSX Spirit 2000, Horizon Spirit 2003, Spirit 2015
2308	625873	Edward Rutledge (C9-S-81f 337)	Waterman Steamship Corp.	Barge Carrier	30,500	738' x 100'	2-Jan-81	Later Sea-Land Reliance 1990, CSX Reliance 2000, Horizon Reliance 2003, Reliance 2015
2309	604111	Verret Tide	Tidewater Ventures Inc.	Supply Vessel	297	175' x 40'	Apr-79	Scrapped 2010
2310	606595	Jensen Tide	Tidewater Ventures Inc.	Supply Vessel	297	175' x 40'	Jun-79	Active (Nigeria)
2311	607756	Mire Tide	Tidewater Ventures Inc.	Supply Vessel	297	175' x 40'	Jun-79	Now Green Fleet III (Panama)
2312	608076	Ramey Tide	Tidewater Ventures Inc.	Supply Vessel	297	175' x 40'	Jul-79	Active (India)
2313	615171	APMC Rig 8	Atlantic Pacific Marine Corp.	Drilling Barge	2,326	200' x 54'	1979	Built at Harvey, active (Vanuatu)
2314	AO 180	Willamette	U.S. Navy	Oiler	9,000d	591' x 88'	27-Aug-82	Jumboized 1991, to NDRF 2001
2315	AO 186	Platte	U.S. Navy	Oiler	9,000d	591' x 88'	27-Jan-83	Jumboized 1991, to NDRF 2001
2316	599904	Tide Mar 24	Twenty Grand Marine Service Inc.	Deck Barge	1,870	240' x 72'	1978	NLD
2317	606890	S.T. 112	Amerada Hess Corp.	Tank Barge	6,925	420' x 70'	Jun-79	Later Energy 11101
2318	638899	Ogden Dynachem	Ogden Marine Inc.	Product Carrier	32,328	613' x 106'	Sep-81	Now Seabulk Trader
2319	642151	Ogden Hudson	Ogden Marine Inc.	Product Carrier	32,328	613' x 106'	Dec-81	Now Seabulk Challenge
2320	630823	Eagle 1	C.F. Bean Corp.	Dredge	5,715	311' x 68'	Apr-81	Now Terrapin Island
2321	608351	S.T. 114	Amerada Hess Corp.	Tank Barge	6,925	420' x 70'	Jul-79	Later Energy 11102
2322	Federal	Wheeler	Corps of Engineers	Dredge	10,614	408' x 78'	Sep-82	Active
2323	631333	Oxy 4101 (IB6-MT-130a 343)	Occidental Petroleum Corp.	ITB Tank Barge	17,126	592' x 99'	18-Mar-81	Later SMT Two, scrapped 2010
2324	631332	Oxy Trader (IB6-MT-130a 343)	Occidental Petroleum Corp.	ITB Tug	1,594	127' x 90'	18-Mar-81	Later Julius Hammer, SMT Chemical Trader, now Trader (Comoros)
2325	635251	Oxy 4102 (IB6-MT-130a 344)	Occidental Petroleum Corp.	ITB Tank Barge	17,126	592' x 99'	9-Jun-81	Wrecked, later forebody of Seabulk America, scrapped 2011
2326	635250	Oxy Producer (IB6-MT-130a 344)	Occidental Petroleum Corp.	ITB Tug	1,594	127' x 90'	9-Jun-81	Wrecked and lost
2327	638766	Oxy 4103 (IB6-MT-130a 345)	Occidental Petroleum Corp.	ITB Tank Barge	17,126	592' x 99'	16-Sep-81	Later SMT One, scrapped 2010
2328	638765	Oxy Grower (IB6-MT-130a 345)	Occidental Petroleum Corp.	ITB Tug	1,594	127' x 90	16-Sep-81	Later Frances Hammer, SMT Chemical Explorer, scrapped 2010
2329	651627	President Lincoln (C9-M-132b 348)	American President Lines, Ltd.	Containership	40,627	820' x 106'	21-Oct-82	Now Manoa
2330	653424	President Washington (C9-M-132b 349)	American President Lines, Ltd.	Containership	40,627	820' x 106'	29-Dec-82	Now Mahimahi
2331	655397	President Monroe (C9-M-132b 350)	American President Lines, Ltd.	Containership	40,627	820' x 106'	29-Mar-83	Now Mokihana
2332	648540	Stuyvesant	Stuyvesant Dredging Company	Dredge	7,110	347' x 70'	Jun-82	Active
2333	620694	ASI Slop Barge No. 1	Avondale Shipyards Inc .	Slop Barge	40	50' x 16'	Feb-79	Active
2334	627807	Mr. Glenn	Glendel Drilling Company	Drilling Barge	1,579	190' x 50'	Nov-80	Built in Morgan City, later Falcon Rig 1, Hercules 01
2335	658493	Exxon Charleston	Exxon Shipping Company	Product Carrier	31,452	613' x 106'	21-Oct-83	Later S/R Charleston, Charleston, scrapped 2016
2336	658494	Exxon Wilmington	Exxon Shipping Company	Product Carrier	31,452	613' x 106'	Apr-84	Later S/R Wilmington, scrapped 2011
2337	658495	Exxon Baytown	Exxon Shipping Company	Crude Carrier	32,204	613' x 106'	Jul-84	Later S/R Baytown, scrapped 2010
2338	649301	Maria T.	Atlantic Cement Company	Dry Bulk Barge	8,865	420' x 80'	Aug-82	Now Cement Transporter 6500
2339	na	Sidney A Murray Jr. Power Plant	Vidalia Power Project	Power Module	25,000d	456' x 144'	1989	Modular hydroelectric power plant
na	T-AKR 294	Antares	U.S. Navy	Sealift Ship	29,700d		1-Jun-84	Conversion of SL7, now in NDRF
na	T-AKR 291	Altair	U.S. Navy	Sealift Ship	29,700d		1-Nov-85	Conversion of SL7, now in NDRF
na	T-AKR 290	Pollux	U.S. Navy	Sealift Ship	29,700d		1-Apr-86	Conversion of SL7, now in NDRF
2340	T-AO 187	Henry J. Kaiser	U.S. Navy	Oiler	9,500d	677' x 97'	19-Dec-86	Prepositioned
2341	T-AO 188	Joshua Humphreys	U.S. Navy	Oiler	9,500d	677' x 97'	3-Apr-87	Active
2342	684689	Gus W. Darnell	Tampa Shipyards Inc.	Product Carrier	8,900d	598' x 90'	Sep-85	Forebody for T-AOT 1121, now Houston
2343	684688	Paul Buck	Tampa Shipyards Inc.	Product Carrier	8,900d	598' x 90'	Jun-85	Forebody for T-AOT 1122, now in NDRF
2344	684690	Samuel L. Cobb	Tampa Shipyards Inc.	Product Carrier	8,900d	598' x 90'	Nov-85	Forebody for T-AOT 1123, now in NDRF
2345	684691	Richard G. Mathiesen	Tampa Shipyards Inc.	Product Carrier	8,900d	598' x 90'	Feb-86	Forebody for T-AOT 1124, now in NDRF
2346	684692	Lawrence H. Gianella	Tampa Shipyards Inc.	Product Carrier	8,900d	598' x 90'	Apr-86	Forebody for T-AOT 1125, now in NDRF
2347	T-AO 189	John Lenthall Jr.	U.S. Navy	Oiler	9,500d	677' x 97'	25-Jun-87	Active
2348	T-AO 190	Andrew J. Higgins	U.S. Navy	Oiler	9,500d	677' x 97'	22-Oct-87	To Chile 2010 as Alm. Montt (AO 52)
2349	LSD 44	Gunston Hall	U.S. Navy	Assault Ship	12,434d	610' x 84'	24-Feb-89	Active
2350	LSD 45	Comstock	U.S. Navy	Assault Ship	12,434d	610' x 84'	12-Jan-90	Active
2351	LSD 46	Tortuga	U.S. Navy	Assault Ship	12,434d	610' x 84'	7-Sep-90	Active
2352	LSD 47	Rushmore	U.S. Navy	Assault Ship	12,434d	610' x 84'	26-Apr-91	Active

2353	LSD 48	Ashland	U.S. Navy	Assault Ship	12,434d	610' x 84'	12-Mar-92	Active
2354	T-AO 193	Walter S. Diehl	U.S. Navy	Oiler	9,500d	677' x 97'	2-Sep-88	Active
2355	T-AO 195	Leroy Grumman	U.S. Navy	Oiler	9,500d	677' x 97'	2-Aug-89	Active
2356	T-AO 197	Pecos	U.S. Navy	Oiler	9,500d	677' x 97'	6-Jul-90	Active
2357	927000	Hui Mana	PRI International Inc.	Tank Barge	2,299	276' x 80'	1-Feb-88	NLD
2358	T-AO 194	John Ericsson	U.S. Navy	Oiler	9,500d	677' x 97'	19-Mar-91	Active
2359	T-AO 196	Kanawha	U.S. Navy	Oiler	9,500d	677' x 97'	12-Jun-91	Active
2360	LSD 49	Harpers Ferry	U.S. Navy	Assault Ship	11,894d	610' x 84'	2-Aug-94	Active
2361	T-AO 198	Big Horn	U.S. Navy	Oiler	9,500d	677' x 97'	21-May-92	Active
2362	T-AO 200	Guadalupe	U.S. Navy	Oiler	9,500d	677' x 97'	25-Sep-92	Active
2363	T-AO 202	Yukon	U.S. Navy	Oiler	9,500d	677' x 97'	31-Aug-93	Active
2364	T-AO 204	Rappahannock	U.S. Navy	Oiler	9,500d	677' x 97'	30-Jun-94	Active
2365	T-AO 199	Tippecanoe	U.S. Navy	Oiler	9,500d	677' x 97'	8-Feb-93	Active
2366	T-AO 201	Patuxent	U.S. Navy	Oiler	9,500d	677' x 97'	7-Jun-95	Active
2367	T-AO 203	Laramie	U.S. Navy	Oiler	9,500d	677' x 97'	5-Apr-96	Active
2368	979896	Vernon C. Bain	City of New York	Prison Barge	47,326	625' x 127'	May-91	Active
2369	LSD 50	Carter Hall	U.S. Navy	Assault Ship	11,894d	610' x 84'	14-Jul-95	Active
2370	T-AGS 45	Waters	U.S. Navy	Survey Ship	7,300d	457' x 69'	26-May-93	Active
2371	LSD 51	Oak Hill	U.S. Navy	Assault Ship	11,894d	610' x 84'	23-Mar-96	Active
2372	WAGB 20	Healy	U.S. Coast Guard	Icebreaker	15,350d	420' x 82'	20-Oct-99	Active
2373	T-AKR 300	Bob Hope	U.S. Navy	Sealift Ship	35,500d	951' x 106'	18-Nov-98	Prepositioned
2374	T-AKR 301	Fisher	U.S. Navy	Sealift Ship	35,500d	951' x 106'	17-Jun-99	Prepositioned
2375	T-AKR 302	Seay	U.S. Navy	Sealift Ship	35,500d	951' x 106'	10-Mar-00	Prepositioned
2376	T-AKR 303	Mendonca	U.S. Navy	Sealift Ship	35,500d	951' x 106'	30-Jan-01	Prepositioned
2377	T-AKR 304	Pililaau	U.S. Navy	Sealift Ship	35,500d	951' x 106'	12-Jul-01	Prepositioned
2378	T-AKR 305	Brittin	U.S. Navy	Sealift Ship	35,500d	951' x 106'	10-Jun-02	Prepositioned
2379	LSD 52	Pearl Harbor	U.S. Navy	Assault Ship	11,894d	610' x 84'	30-Apr-98	Active
2380	1046031	Captain Downing	American Heavy Lift Shipping Co.	Product Carrier	24,458		3-Oct-96	Conversion to double-hull, scrapped 2011
2381	1046708	Anasazi	American Heavy Lift Shipping Co.	Product Carrier	24,458		16-Jan-97	Conversion to double-hull, scrapped 2011
2382	1046707	New River	American Heavy Lift Shipping Co.	Product Carrier	23,538		5-Jun-97	Conversion to double-hull, scrapped 2011
2383	1046706	The Monseigneur	American Heavy Lift Shipping Co.	Product Carrier	24,458		22-Sep-97	Conversion to double-hull, scrapped 2011
2384-2433	1034690-1034743	ING 2000-2049	Ingram Ohio Barge Co.	Hopper Barges	764	200' x 35'	1995-96	86 of these 100 barges were built at Westwego
2434-2483	1038898-1038955	ING 2050-2099	Ingram Ohio Barge Co.	Hopper Barges	764	200' x 35'	1996-97	
na			Primorsk Shipping	Product Carriers				Contract for seven ships, cancelled
na			Maritrans Ocean Transport	Product Carriers				Contract for six ships, cancelled
2484	LPD 17	San Antonio	U.S. Navy	Assault Ship	18,991d	684' x 105'	13-May-05	Active
2485	LPD 18	New Orleans	U.S. Navy	Assault Ship	18,991d	684' x 105'	22-Dec-06	Active
2486	LPD 19	Mesa Verde	U.S. Navy	Assault Ship	18,991d	684' x 105'	28-Sep-07	Built by Ingalls, active
2487	LPD 20	Green Bay	U.S. Navy	Assault Ship	18,991d	684' x 105'	29-Aug-08	Active
2488	LPD 21	New York	U.S. Navy	Assault Ship	18,991d	684' x 105'	21-Aug-09	Active
2489	LPD 22	San Diego	U.S. Navy	Assault Ship	18,991d	684' x 105'	19-Dec-11	Built by Ingalls, active
2490	LPD 23	Anchorage	U.S. Navy	Assault Ship	18,991d	684' x 105'	17-Sep-12	Active
2491	LPD 24	Arlington	U.S. Navy	Assault Ship	18,991d	684' x 105'	7-Dec-12	Built by Ingalls, active
2492	LPD 25	Somerset	U.S. Navy	Assault Ship	18,991d	684' x 105'	18-Oct-13	Active
2493	LPD 26	John P. Murtha	U.S. Navy	Assault Ship	18,991d	684' x 105'	13-May-16	Built by Ingalls, active
2494	LPD 27	Portland	U.S. Navy	Assault Ship	18,991d	684' x 105'	18-Sep-17	Built by Ingalls, active
2495	LPD 28	Fort Lauderdale	U.S. Navy	Assault Ship	18,991d	684' x 105'		Built by Ingalls, active

2496	T-AKR 306	Benavidez	U.S. Navy	Sealift Ship	35,500d	951' x 106'	10-Sep-03	Active
2497	1106807	Polar Endeavour	Polar Tankers Inc.	Crude Carrier	85,387	854' x 157'	30-Apr-01	Active
2498	1119822	Polar Resolution	Polar Tankers Inc.	Crude Carrier	85,387	854' x 157'	30-May-02	Active
2499	1137026	Polar Discovery	Polar Tankers Inc.	Crude Carrier	85,387	854' x 157'	3-Sep-03	Active
2500	1151753	Polar Adventure	Polar Tankers Inc.	Crude Carrier	85,387	854' x 157'	13-Aug-04	Active
2501	1172477	Polar Enterprise	Polar Tankers Inc.	Crude Carrier	85,387	854' x 157'	29-Jun-06	Active
Built at Avondale's Facility on Lorraine Road in Gulfport MS								
	LCAC 15	No name	U.S. Navy	Landing Craft	102d	88' x 47'	20-Sep-88	Active
	LCAC 16	No name	U.S. Navy	Landing Craft	102d	88' x 47'	4-Nov-88	Active
	LCAC 17	No name	U.S. Navy	Landing Craft	102d	88' x 47'	1989	Active
	LCAC 18	No name	U.S. Navy	Landing Craft	102d	88' x 47'	1989	Active
	LCAC 19	No name	U.S. Navy	Landing Craft	102d	88' x 47'	May-90	Active
	LCAC 20	No name	U.S. Navy	Landing Craft	102d	88' x 47'	Sep-90	Active
	LCAC 21	No name	U.S. Navy	Landing Craft	102d	88' x 47'	1990	Active
	LCAC 22	No name	U.S. Navy	Landing Craft	102d	88' x 47'	Nov-90	Active
	LCAC 23	No name	U.S. Navy	Landing Craft	102d	88' x 47'	15-Jun-91	Active
	LCAC 34	No name	U.S. Navy	Landing Craft	102d	88' x 47'	31-May-92	Active
	LCAC 35	No name	U.S. Navy	Landing Craft	102d	88' x 47'	31-May-92	Active
	LCAC 36	No name	U.S. Navy	Landing Craft	102d	88' x 47'	1-May-92	Active
	LCAC 49	No name	U.S. Navy	Landing Craft	102d	88' x 47'	16-Oct-92	Active
	LCAC 50	No name	U.S. Navy	Landing Craft	102d	88' x 47'	28-Feb-93	Active
	LCAC 51	No name	U.S. Navy	Landing Craft	102d	88' x 47'	Jun-93	Active
Built at Avondale's Facility on Seaway Road in Gulfport MS								
	MHC 53	Pelican	U.S. Navy	Minehunter	800d	188' x 36'	15-Dec-94	To Greece 2007 as Efniki (M-61)
	MHC 54	Robin	U.S. Navy	Minehunter	800d	188' x 36'	16-Jun-95	Struck 2007, to be transferred to Taiwan but still in the NDRF 2013
	MHC 56	Kingfisher	U.S. Navy	Minehunter	800d	188' x 36'	9-Aug-96	Struck 2007, to be transferred to Lithuania but still in the NDRF 2013
	MHC 57	Cormorant	U.S. Navy	Minehunter	800d	188' x 36'	3-Jan-97	Struck 2007, to be transferred to Lithuania but still in the NDRF 2013
Built at Avondale Boats Division, Westwego LA								
100	WLR 75500	Kankakee	U.S. Coast Guard	Tender	135d	75' x 24'	15-Jan-90	Active
101	WLR 75501	Greenbrier	U.S. Coast Guard	Tender	135d	75' x 24'	12-Apr-90	Active
102	954300	Metro Manhattan	Tri-State Marine Transport Inc.	Ferry	98	91' x 34'	1989	Later Sea Jet II, LRS Renaissance, now Aqua (Cayman I.)
103	993719	Shuttle VI	Hemingway Express LC	Ferry	98	91' x 34'	1993	Left incomplete for 3 years, active
104	978046	Karen K	National Marine Service	Towboat	994	159' x 45'	1991	Later Carol P, now Dan Jaworski
105	979002	Cindy Celeste	National Marine Service	Towboat	994	159' x 45'	1991	Active
106	980668	Elizabeth Dewey	National Marine Service	Towboat	994	159' x 45'	1992	Active
107	981151	Capt. Bud Bisso	E. N. Bisso and Son, Inc.	Tug	94	105' x 34'	Feb-92	Active
108	996188	Alix Anne Eckstein	Marquette Transportation	Towboat	994	159' x 45'	1993	Active
109	1023758	Belle of Baton Rouge	Catfish Queen Partnership	Casino Vessel	1,479	214' x 72'	1994	Now Argosy III
110			EGMOPOL	Skimmer			1993	
111			EGMOPOL	Skimmer			1993	
112	1024005	Boomtown Belle	Louisiana Gaming Enterprises	Casino Vessel	1,436	231' x 72'	1994	Now Bayou Belle
113								
114	1033140	Belle of Orleans	Belle of Orleans LLC	Casino Vessel	1,480	312' x 73'	1995	Active
115								
116								
117	1043872	PH61	P & H Leasing	Freight Barge	764	200' x 35'	1996	Active
118	1043873	PH62	P & H Leasing	Freight Barge	764	200' x 35'	1996	Active

ALABAMA SHIPYARD

Mobile AL

Most recent update: September 20, 2021.

Alabama Dry Dock & Shipbuilding Company (ADDSCO) was formed in January 1917 by D. R. Dunlap, of Alabama Iron Works, and George H. Dunlap, of Ollinger & Bruce Dry Dock, they merged their two companies with the wooden-ship shipbuilder, Mobile Marine Ways, and two other Mobile companies - Gulf City Boiler Works and Gulf Dry Dock. They only built eight shIps before the war ended, including three minesweepers - and established a steel-hull shipbuilder called Mobile Shipbuilding.. Between the wars, ADDSCO became a major builder of barges, especially for Tennessee Coal & Iron, who had invested in the property used for the shipyard. In WWII, ADDSCO was one of the original nine WWII emergency yards, with four ways, built in 1941 with $19mm from the U.S. Maritime Commission and eight more added in the third wave of shipbuilding expansion to allow it to build T2 tankers. The labor force peaked at about 18,500, of whom about 6,000 were African-American. After WWII, the yard reverted to building barges while developing its ship repair business. It was reorganized in 1980 as two companies, with the new construction work assigned to Alabama Maritime Corporation, with a new sequence of hull numbers, while ship repair was done under the original company name. Then in 1989 it was sold to Atlantic Marine Holdings and the new construction side became Alabama Shipyard, while the repair side became Atlantic Marine Mobile. More change came in 2006, when it was sold to JFL Partners, Inc., (former SECNAV John Lehman), who only kept it for four years, selling it to BAE Systems in 2010. It declined under BAE's ownership, however, and was sold yet again in 2018 to Epic Alabama Shipyard LLC, a subsidiary of Epic Companies, LLC, a Houston-based offshore construction and decommissioning company. See the shipyard from the air on Google here.

Hull #	O.N.	Original Name	Original Owner	Type	GT	Ft.	Built	Disposition
Built by Alabama Dry Dock & Shipbuilding Co. (ADDSCO)								
1	214655	Ruth		Sternwheeler			1916	
2	216269	Rena A Murphy	Capt. J. G. Murphy	Schooner	483		1918	Stranded on Cape Corrientes, Cuba, 1924
3	na	Floating Dry Dock	ADDSCO	Dry Dock			Mar-20	10,000 ton lift capacity
4	216887	Banago (USSB 332)	U.S. Shipping Board	Wooden Hull	2,551		1918	Scrapped 1924
5	217979	Alta (USSB 333)	U.S. Shipping Board	Wooden Hull	2,551		1919	Scrapped 1924
6	AM 35	Swan	United States Navy	Minesweeper	950d	188	1919	Reclassified AVP 7 1936, scrapped 1947
7	AM 36	Whippoorwill	United States Navy	Minesweeper	950d	188	1919	Reclassified ATO 169 1944, scrapped 1947
8	AM 37	Bittern (AM 37)	United States Navy	Minesweeper	950d	188	1919	Damaged in air raid on Cavite 1941 and scuttled
9	Panama	Darien	Panama Canal Co.	Coal Barge	3,916	336	1920	Later Darien (ON 231665), Debardeleben Marine III, Texas Gulf Sulphur 8
10	Panama	Mamei	Panama Canal Co.	Coal Barge	3,916	336	1920	Later Mamei (ON 231666), Patricia Sheridan
11	Mexico		R. W. Hillcoat & Co.	Barge			May-21	For Mexico
12	Mexico		R. W. Hillcoat & Co.	Barge			May-21	For Mexico
13	Mexico		R. W. Hillcoat & Co.	Barge			May-21	For Mexico
14		T.C.I. No. 1	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
15		T.C.I. No. 2	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
16		T.C.I. No. 3	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
17		T.C.I. No. 4	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
18		T.C.I. No. 5	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	Later W-5 (ON 175823)
19		T.C.I. No. 6	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
20		T.C.I. No. 7	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
21		T.C.I. No. 8	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
22		T.C.I. No. 9	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1923	
23		T.C.I. No. 10	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	Later W-10 (ON 175824)
24		T.C.I. No. 11	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	
25		T.C.I. No. 12	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	
26		T.C.I. No. 13	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	Later W-13 (ON 175825)
27		T.C.I. No. 14	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	
28		T.C.I. No. 15	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	
29		T.C.I. No. 16	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	
30		T.C.I. No. 17	Tennessee Coal Iron & R.R. Co.	Barge	315	140	1924	Later W-17 (ON 175826)
31				Barge	315	140	1925	
32				Barge	315	140	1925	
33				Barge	315	140	1925	
34				Barge	315	140	1925	
35				Barge	315	140	1926	
36				Barge	315	140	1926	
37				Barge	315	140	1926	
38				Barge	315	140	1926	
39				Barge	315	140	1926	
40				Barge	315	140	1926	
41				Barge	315	140	1926	
42				Barge	315	140	1926	
43				Barge	315	140	1926	
44			Tennessee Coal Iron & R.R. Co.	Barge	315	140	1926	
45			Tennessee Coal Iron & R.R. Co.	Barge	315	140	1926	
46			Tennessee Coal Iron & R.R. Co.	Barge	315	140	1926	
47			Tennessee Coal Iron & R.R. Co.	Barge	315	140	1927	
48			W. G. Coyle & Co.	Barge	240	99	1927	
49	169751	T.C.I.S.G. No. 1	Tennessee Coal Iron & R.R. Co.	Barge	428	140	Apr-27	Sank 1927 off Mobile Bar
50	169752	T.C.I.S.G. No. 2	Tennessee Coal Iron & R.R. Co.	Barge	428	140	Apr-27	
51	169753	T.C.I.S.G. No. 3	Tennessee Coal Iron & R.R. Co.	Barge	428	140	Apr-27	
52	169754	T.C.I.S.G. No. 4	Tennessee Coal Iron & R.R. Co.	Barge	428	140	Apr-27	
53	169981	T.C.I.S.G. No. 5	Tennessee Coal Iron & R.R. Co.	Barge	428	140	1928	
54	169992	T.C.I.S.G. No. 6	Tennessee Coal Iron & R.R. Co.	Barge	428	140	1928	

55	170098	T.C.I.S.G. No. 7	Tennessee Coal Iron & R.R. Co.	Barge	428	140	1928	
56	170099	T.C.I.S.G. No. 8	Tennessee Coal Iron & R.R. Co.	Barge	428	140	1928	
57	170100	T.C.I.S.G. No. 9	Tennessee Coal Iron & R.R. Co.	Barge	428	140	1928	
58	Federal	Blackwater	Coeps of Engineers	Dredge Hull		150	1929	
59		WGN 67	Warrior & Gulf Navigation Co.	Barge	348		1928	
60		WGN 68	Warrior & Gulf Navigation Co.	Barge	348		1928	
61		WGN 69	Warrior & Gulf Navigation Co.	Barge	348		1928	
62		WGN 70	Warrior & Gulf Navigation Co.	Barge	348		1928	
63		WGN 71	Warrior & Gulf Navigation Co.	Barge	348		1928	
64		WGN 72	Warrior & Gulf Navigation Co.	Barge	348		1928	
65		WGN 73	Warrior & Gulf Navigation Co.	Barge	348		1928	
66		WGN 74	Warrior & Gulf Navigation Co.	Barge	348		1928	
67		WGN 75	Warrior & Gulf Navigation Co.	Barge	348		1928	
68		WGN 76	Warrior & Gulf Navigation Co.	Barge	348		1928	
69		WGN 77	Warrior & Gulf Navigation Co.	Barge	348		1928	
70		WGN 78	Warrior & Gulf Navigation Co.	Barge	348		1928	
71		WGN 79	Warrior & Gulf Navigation Co.	Barge	348		1928	
72		WGN 80	Warrior & Gulf Navigation Co.	Barge	348		1928	
73		WGN 81	Warrior & Gulf Navigation Co.	Barge	348		1928	
74		WGN 82	Warrior & Gulf Navigation Co.	Barge	348		1928	
75		WGN 83	Warrior & Gulf Navigation Co.	Barge	348		1928	
76		WGN 84	Warrior & Gulf Navigation Co.	Barge	348		1928	
77	172345	F. 34	ADDSCO	Tank Barge	48	60	1929	
78				Barge				
79		I.W.C. 661	Inland Waterways Corporation	Covered Barge		230	Jun-31	Later DPC-61 1944, No. 3205
80		I.W.C. 662	Inland Waterways Corporation	Covered Barge		230	Aug-31	Later DPC-62 1944
81		I.W.C. 663	Inland Waterways Corporation	Covered Barge		230	Aug-31	Later DPC-63 1944, Atlantis
82		I.W.C. 664	Inland Waterways Corporation	Covered Barge		230	Sep-31	Later DPC-64 1944
83		I.W.C. 665	Inland Waterways Corporation	Covered Barge		230	Oct-31	Later DPC-65 1944, Golden Rod
84		I.W.C. 666	Inland Waterways Corporation	Covered Barge		230	Nov-31	Later DPC-67 1944
85		I.W.C. 667	Inland Waterways Corporation	Covered Barge		230	Dec-31	Later DPC-69 1944
86		I.W.C. 668	Inland Waterways Corporation	Covered Barge		230	Jan-32	Later DPC-70 1944
87		I.W.C. 669	Inland Waterways Corporation	Covered Barge		230	Feb-32	Later DPC-71 1944
88		I.W.C. 670	Inland Waterways Corporation	Covered Barge		230	Mar-32	Later DPC-72 1944, No. 3206
89				Barge			1932	
90								
91			Pure Oil Co.	Tank Barge			1932	
92	171566	Barge No.1	Three Rivers Oil Corp.	Tank Barge	283	130	1932	Later LTC No. 16 1941
93	171533	M.T.C. No. 101	Texas Co.	Tank Barge	266	131	1932	Later Texaco 354 1937
94	171534	M.T.C. No. 102	Sun Oil Co.	Tank Barge	266	131	1932	Later Sunoco 23 1937, Swanee 101 1946
95								
96	25403	No. 96	Standard Dredging Corp.	Tank Barge	204		1932	Later Florida 1952
97								
98	173941	Alabama	McWilliams Dredging Co.	Dredger Hull	737		1933	Completed by McWilliams Dredging
99	271733	Sam Houston	Atlantic Gulf & Pacific Co.	Dredger Hull	863		1933	Completed in Galveston TX
100	174973	A. G. & P. Co. No. 30	Atlantic Gulf & Pacific Co.	Dredger Hull	107	60	1934	
101								
102	Federal	No. 256 & No. 258	Corps of Engineers	Barge		120	1934	Conversion ?
103	Federal	No. 271 & No. 274	Corps of Engineers	Barge		120	1934	Conversion ?
104?	233632	Alabama	ADDSCO	Ferry	52		1934	Scrapped 1973
105	Federal	ODA 1	Corps of Engineers	Barge		61	1935	
106	Federal	ODA 2	Corps of Engineers	Barge		61	1935	
107	271974	Chester	Corps of Engineers	Towboat	48	66	1936	Later Elizabeth
108	Federal	No. 6	Corps of Engineers	Derrick Boat		64	1935	
109	Federal	No. 7	Corps of Engineers	Derrick Boat		50	1935	
110	Federal	No. 53	Corps of Engineers	Barge		100	1935	
111	Federal	No. 54	Corps of Engineers	Barge		100	1936	
112				Barge		158	1936	
113				Barge		128	1936	
114				Barge		128	1936	
115	173890	Florence	Hyer Towing Co.	Tank Barge	221	121	1935	
116				Barge				
117								
118	Mexico	Tonina	CN San Cristobal S.A.	Barge	608	150	Aug-35	Later Pemex 431 1943
119	172107	Hempstead No. 2	Warrior Mobile Gulf Towing	Tank Barge	308	128	1936	
120	172285	Shepco 10	Shell Producers Co.	Tank Barge	303	128	1936	
121	172599	No. 97	Q. D. Ainsley	Tank Barge	265	128	1936	Later McAllister No. 101 1962
122								
123	Mexico	CNCS Narval	CN San Cristobal S.A.	Tank Barge	584	200	Jan-36	Later Pemex 504 1943
124	Mexico	CNSC 260	CN San Cristobal S.A.	Tank Barge	120	101	1936	
125	Mexico	CNSC 261	CN San Cristobal S.A.	Tank Barge	120	101	1936	
126	172877	Iroquois	Gulf Oil Corp.	Tank Barge	997	208	Jun-36	Later LT 461 1949
127	172878	Onondaga	Gulf Oil Corp.	Tank Barge	997	208	Jun-36	

128	172502	A.G.T. No. 28	A. G. Thomas	Tank Barge	265	128	1936	Later Gahagan No. 7 1952
129	172503	A.G.T. No. 30	A. G. Thomas	Tank Barge	265	128	1936	
130	Mexico	CNSC 262	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 451 1943
131	Mexico	CNSC 263	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 452 1943
132	Mexico	CNSC 264	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 453 1943
133	Mexico	CNSC 265	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 454 1943
134	Mexico	CNSC 266	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 455 1943
135	Mexico	CNSC 267	CN San Cristobal S.A.	Tank Barge	120	101	Sep-36	Later Pemex 456 1943
136	Mexico	CNSC Ballena	CN San Cristobal S.A.	Tank Barge	608	200	Dec-36	Later Pemex 502 1943
137	Mexico	CNSC Bonito	CN San Cristobal S.A.	Tank Barge	608	150	Dec-36	Later Pemex 432 1943
138			Orange State Oil Co.	Tank Barge		128	1937	
139	172635	Linda Lou	Citizen's Oil Co. Inc.	Tank Barge	265	128	Jan-37	
140				Tank Barge		128	1937	
141				Tank Barge		128	1937	
142	Mexico	CNSC Mojarra	CN San Cristobal S.A.	Tank Barge	120		Feb-37	
143	Mexico	CNSC Delfin	CN San Cristobal S.A.	Tank Barge	230	101	Mar-37	Later Pemex 501 1943
144	Mexico	CNSC Cornuda	CN San Cristobal S.A.	Tank Barge	190	96	Mar-37	Later Pemex 508 1943
145				Tank Barge		128	1937	
146				Tank Barge		128	1937	
147	Mexico	CNSC 280	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 457 1943
148	Mexico	CNSC 281	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 458 1943
149	Mexico	CNSC 282	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 459 1943
150	Mexico	CNSC 283	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 460 1943
151	Mexico	CNSC 284	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 461 1943
152	Mexico	CNSC 285	CN San Cristobal S.A.	Tank Barge		101	Mar-37	Later Pemex 462 1943
153				Barge		35	1937	
154	172760	A.G.T. No. 32	A. G. Thomas	Tank Barge	265	128	1937	
155	172761	A.G.T. No. 34	F. L. Stanford	Tank Barge	265	128	1937	
156	173668	A.G.T. No. 36	A. G. Thomas	Tank Barge	265	128	1937	
157	173669	A.G.T. No. 38	A. G. Thomas	Tank Barge	265	128	1937	
158	284949	Leguy	Nello L. Teer Co.	Dredge	232	128	1937	Scrapped 1966
159				Tank Barge	265	128	1937	
160				Tank Barge	265	128	1937	
161				Tank Barge	265	128	1937	
162				Tank Barge	265	128	1937	
163				Tank Barge	265	128	1937	
164				Tank Barge	265	128	1937	
165				Tank Barge	265	128	1937	
166				Tank Barge	265	128	1937	
167				Tank Barge	265	128	1937	
168				Tank Barge	265	128	1937	
169				Tank Barge	265	128	1937	
170				Tank Barge	265	128	1937	
171				Tank Barge	265	128	1937	
172				Tank Barge	265	128	1937	
173				Tank Barge	265	128	1937	
174				Tank Barge	265	128	1937	
175	173500	Coastal Petroleum Corp No. 1	Coastal Petroleum Corp.	Tank Barge	269	128	1937	
176				Tank Barge	265	128	1937	
177	173747	C-M.L. 50	Agwilines Inc	Tank Barge	529	160	Nov-37	Later Loveland 50 1946, Blue Line 50 1949, Marine Fuel No. 50 1952, VAL No. 50 1958, Pittston 50 1962
178	173858	Citizen No. 1	Citizens Oil Co.	Tank Barge	269	128	Feb-38	
179	Cuba			Tank Barge	269	128	1938	
180		Todd Johnson 17	Todd Johnson Drydocks Inc.	Tank Barge	213	92	Jul-38	
181	174113	No. 10	Standard Oil Co. of KY	Tank Barge	723	225	Sep-38	
182	174114	No. 11	Standard Oil Co. of KY	Tank Barge	723	225	Sep-38	
183		SK-	Southern Kraft Corporation	Tank Barge	269	128	Jul-38	
184		SK-	Southern Kraft Corporation	Tank Barge	269	128	Jul-38	
185		SK-	Southern Kraft Corporation	Tank Barge	269	128	Jul-38	
186		SK-	Southern Kraft Corporation	Tank Barge	269	128	Jul-38	
187		SK-	Southern Kraft Corporation	Tank Barge	269	128	Aug-38	
188		SK-	Southern Kraft Corporation	Tank Barge	269	128	Aug-38	
189	174852	J.H.C. No. 4	J. H. Coppedge	Tank Barge	362	135	Aug-38	Later Gatco 52 1952
190			for stock	Tank Barge	269	128	1939	
191	175293	M-31	Arundel Corp.	Tank Barge	269	128	1939	
192	174326	B 5	Atlantic Dredging	Dredge Hull	511	150	Dec-38	
193	174363	Sherman No. 701	Sherman & Sons	Tank Barge	265	128	1939	
194	174364	Sherman No. 702	Sherman & Sons	Tank Barge	265	128	1939	
195	174396	Sherman No. 703	Sherman & Sons	Freight Barge	265	128	1939	
196	174450	Sherman No. 704	Sherman & Sons	Freight Barge	265	128	1939	
197		C-105		Tank Barge		70	1939	Later YOG 104
198	174566	A.G.T. No. 46	A.G. Thomas	Tank Barge	167	100	1939	

199				Tank Barge	167	100	1939	
200	174516	Comola No. 1	Commercial Molasses Corp.	Tank Barge	336		Jun-39	
201	174567	Comola No. 2	Commercial Molasses Corp.	Tank Barge	352		Oct-39	
202	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1939	
203	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1939	
204	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1939	
205	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1939	
206	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1940	
207	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1940	
208	na	Bankhead Tunnel	Arundel Corporation	Tunnel Section			1940	
209		SK-124	Southern Kraft Corporation	Tank Barge		105	Jan-40	
210		SK-125	Southern Kraft Corporation	Tank Barge		105	Jan-40	
211		SK-126	Southern Kraft Corporation	Tank Barge		105	Jan-40	
212		SK-127	Southern Kraft Corporation	Tank Barge		105	Jan-40	
213		SK-128	Southern Kraft Corporation	Tank Barge		105	Apr-40	
214		SK-129	Southern Kraft Corporation	Tank Barge		105	Apr-40	
215		SK-130	Southern Kraft Corporation	Tank Barge		105	May-40	
216		SK-131	Southern Kraft Corporation	Tank Barge		105	Jun-40	
217		SK-132	Southern Kraft Corporation	Tank Barge		105	Jun-40	
218							1939	
219	174609	No. 14	Standard Oil Co.	Tank Barge	420	163	Dec-39	
220	240381	Pan-Pennsylvania	National Bulk Carriers	Tanker	7,294		Mar-41	Later Petrofuel 1941, Sabrina 1948, Arabella 1954, wrecked 1958 and scrapped
221				Tank Barge		105	Feb-40	
222				Tank Barge		105	Feb-40	
223	240865	William C. McTarnahan	National Bulk Carriers	Tanker	7,300		Jul-41	Torpedoed 1942, repaired, to USSR 1944 as Donbass, returned, sold 1946 as St. James, barge Kerr-McGee No. 1 1966
224		D. & E. No. 12	Doullot & Ewin	Crane Barge		100	1941	
225		U.S. Gypsum No. 5	U.S. Gypsum	Deck Barge		128	1941	
226				Tank Barge		105	Mar-41	
227				Tank Barge		105	Mar-41	
228	241341	Joseph M. Walsh	Mobile Towing	Tug	252	104	Apr-42	
229	241675	Richard Walsh	Mobile Towing	Tug	252	104	1942	
230	272994	John T. Walsh	Mobile Towing	Tug	268	104	Dec-42	Later LT 331, Susan Watson 1981, now Elizabeth B
231	241520	J L M Curry	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	15-May-42	Broke up in the North Atlantic and scuttled, 1943
232	241738	John Marshall	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-May-42	Scrapped 1971
233	241847	Henry Clay	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	30-Jun-42	Scrapped 1967
234	241864	Arthur Middleton	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	8-Jul-42	Torpedoed and lost off Algeria, 1943
235	241863	Alexander H. Stephens	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	23-Jul-42	Scrapped 1973
236	241861	Thomas Heyward	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Jul-42	Reefed off Destin FL, 1977
237	242047	Judah P. Benjamin	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	15-Aug-42	Scrapped 1961
238	242068	Jefferson Davis	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	25-Aug-42	Scrapped 1961
239	242150	Thomas Lynch	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Aug-42	Scrapped 1965
240	242183	Joel Chandler Harris	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	12-Sep-42	Sold 1949, later Grain Shipper 1956, Pacific Explorer 1958, Montego Sea 1960, Toxon 1961, Fanmar 1962, Fanjil 1965, scrapped 1968
241	242280	Nathaniel Bacon	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	30-Sep-42	Wrecked 1942, repaired, CTL 1946, salvaged, converted 1951 as Boccadasse, scrapped 1963
242	242316	Israel Putman	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	19-Oct-42	Sunk as target 1965
243	242404	Joseph Wheeler	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Oct-42	Bombed in Bari, 1943, scrapped
244	1239049	YFD 4	U. S. Navy	Dry Dock	6,400	616	Oct-42	Later AFDM 2, now Gulf Copper's Mr. Morris
245	242813	Arickaree	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	11-Mar-43	Sold 1948, later Action 1963, scrapped 1968
246	242850	Birch Coolie	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Mar-43	Sold 1948, later Memory 1957, scrapped 1960
247	242851	Buffalo Wallow	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	24-Apr-43	Sold as F. O. Prior 1948, later Pan-Connecticut 1951, Amoco Connecticut 1955, scrapped 1981
248	243938	Camas Meadows	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	11-May-43	Sold 1948, wrecked and scrapped 1955
249	243087	Canyon Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-May-43	Sold as Esso Burlington 1948, later Trinity Mariner 1956, scrapped 1964
250	243513	Cedar Mills	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	15-Jul-43	Mined and lost off Ancona 1945
251	243518	Hat Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Jul-43	Sold 1948, later Amoco Virginia 1957, Point Judy 1978, Point Milton 1981, scrapped 1982
252	243523	Julesburg	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	24-Aug-43	Sold 1948, scrapped 1976
253	243263	Little Big Horn	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	18-Jun-43	Sold 1948 as Spirit of Liberty, later Point Sur 1964, Hong Kong Evergreen 1961, Performance 1974, scrapped 1975
254	243264	McClellan Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	2-Jul-43	Sold 1947 as Elizabeth A. Flanagan, later Kathleen Richardson 1955, Winnebago 1957, Mobil Marketer 1963, scrapped 1965
255	243803	Pine Ridge	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Aug-43	Sold 1948, wrecked 1960, combined with Redstone as Meadowbrook 1962, scrapped

								1983
256	243804	Powder River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	9-Sep-43	Sold 1948, later Hess Bunker 1955, Capricorn 1977, scrapped 1984
257	244063	Quemado Lake	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	20-Sep-43	Sold 1948, later Marchcal 1956, Naeco 1959, scrapped 1972
258	244064	Rosebud	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Sep-43	Sold as Arizona 1948, later Andrea Zanchi 1956, Capo Andrea 1963, scrapped 1977
259	244197	Red Canyon	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	12-Oct-43	Sold 1948, later Hess Voyager 1956, Timbo 1963, scrapped 1993
260	244301	Sappa Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-Oct-43	To USN 1948 as AO 141, to NDRF 1960, scrapped 1975
261	244562	Sweetwater	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	13-Nov-43	Sold 1948, scrapped 1961
262	244766	Wagon Box	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	11-Dec-43	Sold 1948, converted to self-unloader Coral Venture 1963, later Dima 1977, scrapped 1986
263	244895	Washita	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Dec-43	Sold 1948 as Trinity, later Amelia 1955, scrapped 1964
264	244412	Abiqua	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Oct-43	To USN 1956 as AO 158, sold and converted to bulker 1968, later Assos 1974, Ulrica 1974, scrapped 1978
265	244646	Touchet	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	26-Nov-43	Torpedoed and lost in the Gulf of Mexico 1943
266	244735	Evans Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Nov-43	Sold 1948, later Hess Petrol 1955, Virgo 1976, scrapped 1982
267	244864	Skull Bar	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Dec-43	Sold as Saint Christopher 1948, later Scherzo 1956, scrapped 1963
268	244971	Four Lakes	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	26-Jan-44	Sold 1948, later V. A. Fogg 1971, blew up 1972
269	244987	Cayuse	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Jan-44	Sold as Ivy 1948, later Andros Lark 1957, Valiant Torch 1959, Mar Caspio 1965, in collision and scrapped 1982
270	245058	Wolf Mountain	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	16-Feb-44	Sold as A. W. Peake 1948, later Pan-Delaware 1951, Amoco Delaware 1956, Delaware Sea 1985, Delaware Star 1987, scrapped 1987
271	245176	Wyoming Valley	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-Feb-44	Sold as Atlantic Voyager 1948, later Wang Cavalier 1958, Kingston 1959, Anne Marie 1960, scrapped 1962
272	245193	Apache Canyon	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	9-Mar-44	Sold 1948, later World Triumph 1956, scrapped 1965
273	245306	Autossee	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	21-Mar-44	Sold as Amalfi 1948, scrapped 1961
274	245309	White River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Mar-44	Sold 1948, later World Tradition 1956, converted to bulker World Commander 1959, Commander 1963, American Grain 1973, Santa Elia 1973, stranded and scrapped 1975
275	245439	Wood Lake	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	17-Apr-44	Sold as Petit Couronne 1947, later Ronsard 1947, Caribbean Sky 1960, converted to bulker Aspronisos 1962, Lake Placid 1966, Garanda 1970, wrecked and scrapped 1973
276	245432	Beaver Dam	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	28-Apr-44	Sold 1948, converted to bulker 1963, Eastern Eagle 1968, Psara Flag 1977, scrapped 1963
277	245560	Callabee	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	8-May-44	Sold 1948, scrapped 1965
278	245695	Cahawba	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-May-44	Sold as Tectarius 1948, scrapped 1961
279	245772	Horseshoe	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	16-Jun-44	Sold as Tenagodus 1948, scrapped 1962
280	246013	Wahoo Swamp	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	18-Jul-44	Sold as Gulfswamp 1948, later Emspirol 1960, Nereid 1968, scrapped 1972
281	242490	James Hoban	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	21-Nov-42	Scrapped 1961
282	242544	Clark Mills	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	30-Nov-42	Torpedoed from the air off Bizerta, 1944, salvaged, scrapped 1949
283	242563	Benjamin H. Latrobe	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	15-Dec-42	Sold as Vercors 1947, Manolis 1964, scrapped 1968
284	242651	Simon Willard	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Dec-42	Scrapped 1969
285	242695	Colin P. Kelly Jr.	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Dec-42	Mined off Belgium 1945, scrapped 1948
286	242781	William C. Gorgas	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	27-Jan-43	Torpedoed and lost in the North Atlantic, 1943
287	242787	Lawton B. Evans	War Shipping Admin.	Liberty (EC2-S-C1)	7,200	440	31-Jan-43	Scrapped 1960
288	244329	Fort Laramie	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Oct-43	Sold as R. F. McConnell 1948, later Amoco Louisiana 1958, scrapped 1973
289	245050	Fort Bridger	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-Feb-44	Sold 1948, later Archer 1963, scrapped 1970
290	244935	Fort Fetterman	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	15-Jan-44	Sold 1948, scrapped 1976
291	245310	Wilson's Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	17-Apr-44	Sold as Frontignan 1947, later Oceanic Hunter 1963, Agios Loukas 1963, Pescara 1964, Marco R 1966, scrapped 1969
292	245566	San Juan Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	19-May-44	Sold as Monitor 1948, later Washington Trader 1957, scrapped 1973
293	245694	Bear Paw	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-May-44	Sold as Wilchief 1948, later Wilpower 1960, converted to bulker Wildura 1963, Windsor 1968, Bear Paw 1968, scrapped 1970
294	245776	Platte Bridge	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	16-Jun-44	Sold as Atlantic Shipper 1948, later Wang Buccaneer 1957, Ozark 1959, Glenbrook 1960,

								scrapped 1966
295	245888	Pocket Canyon	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Jun-44	Sold as Atlantic Producer 1948, later Producer 1957, converted to bulker 1961, American Rice 1972, Termini 1974, scrapped 1974
296	245889	Tule Canyon	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Jun-44	Sold as Alberto Fassio 1948, scrapped 1963
297	246014	White Bird Canyon	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	28-Jul-44	Sold as Gonfreville 1948, later Good Hope 1962, converted to bulker San Patrick 1962, wrecked 1964
298	246137	El Caney	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Jul-44	Sold as Republic 1948, scrapped 1964
299	246143	The Cabins	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	14-Aug-44	Sold 1948, later William T. Steele 1972, Penuelas 1975, scrapped 1978
300	Export	Nordahl Grieg	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	22-Aug-44	To Norway 1944, sold 1946, converted to bulker Emporos 1962, later Cosmopolitan 1966, Holy Cross 1973, scrapped 1978
301	246356	The Cottonwoods	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-Aug-44	Sold as Hammersborg 1948, later Potomac 1960, scrapped 1966
302	246353	Barren Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Aug-44	Sold 1948, later Phyllis T. Conway 1960, scrapped 1975
303	246420	Bemis Heights	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	19-Sep-44	Sold as Esso Wheeling 1947, wrecked 1948
304	246429	Briar Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	21-Sep-44	Sold as North Carolina 1948, later Texaco North Carolina 1960, Oswego Tarmac 1973, in collision and scrapped 1977
305	246539	Camp Defiance	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	28-Sep-44	Sold as Lavera 1947, later Ventose 1952, Transasia 1961, Don Segundo Sombra 1965, wrecked under tow to scrap yard 1980
306	246542	Chatterton Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Sep-44	Sold as Hyrcania 1947, scrapped 1963
307	246653	Fort Stevens	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	12-Oct-44	Sold 1948, scrapped 1959
308	246687	North Point	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	21-Oct-44	Sold 1948, later Esso Colon 1956, scrapped 1960
309	246688	Paulus Hook	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	27-Oct-44	Sold 1948, later Caltex Wellington 1952, Texaco Wellington 1968, scrapped 1982
310	246740	Quaker Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Oct-44	Sold 1948, later Caltex Karachi 1951, scrapped 1966
311	246814	Red Bank	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	10-Nov-44	Sold 1948, later Bank 1959, scrapped 1960
312	246812	Grand River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	15-Nov-44	Sold 1948, later Caltex Delft 1950, scrapped 1964
313	246864	Cottonwood Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	22-Nov-44	Sold 1948, later Brissac 1955, converted to bulker Bulk Mariner 1959, Cottonwood Creek 1960, wrecked 1970
314	246868	Little Butte	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	27-Nov-44	Sold as Mermaid 1948, scrapped 1963
315	246865	Fort Ridgely	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Nov-44	Sold 1948, later Caltex Leiden 1950, Chevron Leiden 1968, exploded and scrapped 1976
316	246971	Rogue River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	12-Dec-44	Sold 1948, later Hunsfos 1959, converted to bulker Apache 1960, Pacmerchant 1968, scrapped 1977
317	246973	The Yakima	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	18-Dec-44	Sold as Federico G. Fassio 1948, later Articulo 32 Constitucional 1962, Janill 1963, Lake Luzerne 1966, scrapped 1968
318	247013	Beecher Island	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	22-Dec-44	Sold 1948, scrapped 1959
319	Export	Ash Hollow	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Dec-44	To Norway 1944 as Kirkenes, later Hidlefjord 1947, Oswego Transporter 1959, damaged and scrapped 1960
320	247099	Mobile Bay	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	8-Jan-45	Sold as Zeitolin 1948, later Modal 1959, Penn Exporter 1961, damaged and scrapped 1970
321	247100	Pit River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	19-Jan-45	Sold as Memory 1947, later National Peace 1957, wrecked 1959 and scrapped
322	247098	Fort Robinson	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	22-Jan-45	Sold as Esso Binghampton 1948, later Marine transoil 1963, scrapped 1965
323	247180	Palo Duro	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Jan-45	Sold as Theliconus 1947, scrapped 1962
324	247179	Crow Wing	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Jan-45	Sold as Tectus 1947, scrapped 1961
325	247250	Pawnee Rock	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	13-Feb-45	Sold 1948, later Caltex Dublin 1951, scrapped 1965
326	247253	Sandy Lake	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	19-Feb-45	Sold as Berre 1947, later Prairial 1947, Segovia 1959, Serena 1964, Sandy Lake 1965, scrapped 1975
327	247319	Piqua	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	22-Feb-45	Sold as Pan-Pennsylvania 1948, later Amoco Pennsylvania 1955, Carma Zulia 1957, scrapped 1964
328	247318	Fort Pitt	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	26-Feb-45	Sold as Pan-Virginia 1946, later Amoco Virginia 1955, Carma Falcon 1957, scrapped 1968
329	247387	Sideling Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	28-Feb-45	Sold 1948, later Caltex Rome 1953, Texaco Rome 1968, scrapped 1981
330	247381	Blue Licks	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	13-Mar-45	Sold 1948, later Caltex Utrecht 1950, Praia Branca 1966, scrapped 1966
331	247468	Golden Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	23-Mar-45	Sold as Gulfpeak 1948, later Montauk Point 1960, converted to bulker Westhampton 1962, Granapolis 1963, Norina 1963, Peary 1968,

								Penn Leader 1970, Lorana 1974, scrapped 1977
332	247536	War Bonnet	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Mar-45	Sold 1948, later Caltex Pernis 1950, scrapped 1967
333	Export	Honningsvaag	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	11-Apr-45	To Norway 1945, sold as Thorunn 1947, converted to bulker Saint Christopher 1962, Globe Traveler 1964, Overseas Traveler 1968, Traveler 1978, scrapped 1983
334	247557	Kathio	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	19-Apr-45	Sold as Gulfkey 1948, later Gulfseal 1958, Point Revere 1979, scrapped 1983
335	247563	Spirit Lake	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	26-Apr-45	Sold as Esso Bridgeport 1947, converted to sulfur tanker Marine Texan 1963, scrapped 1988
336	247686	Kaposia	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Apr-45	Sold 1948, later Punta Arenas 1960, scrapped 1972
337	247681	Chicaca	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	15-May-45	Sold 1948, later Caltex Saigon 1952, Texaco Saigon 1968, Texaco Singapore 1975, scrapped 1981
338	247786	Ackia	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	23-May-45	Sold as Tagelus 1948, scrapped 1961
339	247787	Boonesborough	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-May-45	Sold 1948, later Caltex The Hague 1950, Chevron The Hague 1967, scrapped 1983
340	247896	Council Grove	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	12-Jun-45	Sold 1948, later Cove Tide 1980, scrapped 1983
341	247899	Gold Creek	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	21-Jun-45	Sold as Pan-Georgia 1947, converted to dredger Sealane 1955, Asialane 1981, scrapped 1983
342	247990	Dobytown	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Jun-45	Sold as La Mede 1947, later Celimene 1948, Finisterre 1961, converted to bulker Skopelos 1963, Asteri 1965, Mount Athos 1973, scrapped 1978
343	247999	Wagon Mound	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	13-Jul-45	Sold 1948, later Caltex Stockholm, Loyal Hunters 1967, scrapped 1969
344	248079	Phantom Hill	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	24-Jul-45	Sold as Merrimac 1947, later Barbara 1957, Julie 1972, Mount Julie 1973, scrapped 1976
345	248080	Raton Pass	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	31-Jul-45	Sold as Gulfpass 1948, later Mona Pass 1965, scrapped 1973
346	248326	Archers Hope	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	28-Aug-45	Sold 1948, later Joseph S. Young 1956, H. Lee White 1969, Sharon 1974, scrapped 1990
347	245437	Ninety-Six	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	29-Aug-45	Sold as Atlantic Transporter 1947, Pan-Oceanic Transporter 1956, Penn Transporter 1959, Henna 1970, sank 1971
348	248608	Moccasin Gap	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	11-Sep-45	Sold 1948, later Caltex Suez 1952, scrapped 1962
349	248698	Cabusto	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	26-Sep-45	Sold 1948, later Caltex Venice 1952, Chevron Venice 1968, scrapped 1977
350	248736	Fort Mims	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	1-Oct-45	Sold 1948, later Arizona Standard 1962, in collision and scrapped 1972
351	248743	Seneca Castle	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	12-Oct-45	Sold 1948, later Caltex Adelaide 1951, scrapped 1962
352	248802	Rock Landing	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	24-Oct-45	Sold 1948, later Hawaii Standard 1952, Nevada Standard 1972, scrapped 1977
353	248800	Black River	War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523	30-Oct-45	Sold as Ponca City 1947, later Marine Leader 1948, Maxton 1956, Potomac 1962, scrapped 1982
354			War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523		Cancelled
355			War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523		Cancelled
356			War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523		Cancelled
357			War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523		Cancelled
358			War Shipping Admin.	T2 Tanker (T2-SE-A1)	10,200	523		Cancelled
359		SK 133	Southern Kraft Corp.	Freight Barge			1947	
360		SK 134	Southern Kraft Corp.	Freight Barge			1947	
361		SK 135	Southern Kraft Corp.	Freight Barge			1947	
362		SK 136	Southern Kraft Corp.	Freight Barge			1947	
363		SK 137	Southern Kraft Corp.	Freight Barge			1948	
364		SK 138	Southern Kraft Corp.	Freight Barge			1948	
365		SK 139	Southern Kraft Corp.	Freight Barge			1948	
366		SK 140	Southern Kraft Corp.	Freight Barge			1948	
367		SK 141	Southern Kraft Corp.	Freight Barge			1948	
368		SK 142	Southern Kraft Corp.	Freight Barge			1948	
369		SK 143	Southern Kraft Corp.	Freight Barge			1948	
370	Mexico	Pemex 464	Cia Petroleos Mexicanos	Tank Barge		101	1947	
371	Mexico	Pemex 465	Cia Petroleos Mexicanos	Tank Barge		101	1947	
372	Mexico	Pemex	Cia Petroleos Mexicanos	Tank Barge		101	1947	
373	Mexico	Pemex	Cia Petroleos Mexicanos	Tank Barge		101	1947	
374	Mexico	Pemex	Cia Petroleos Mexicanos	Tank Barge		101	1947	
375	Mexico	Pemex	Cia Petroleos Mexicanos	Tank Barge		101	1947	
376	Mexico	Pemex	Cia Petroleos Mexicanos	Tank Barge		101	1947	

377		SK 144	Southern Kraft Corp.	Freight Barge			1948	
378		SK 145	Southern Kraft Corp.	Freight Barge			1948	
379		NCPX S-1	North Carolina Pulp Co.	Freight Barge			1948	
380		NCPX S-2	North Carolina Pulp Co.	Freight Barge			1948	
381				Freight Barge			Jun-49	
382				Freight Barge			Jun-49	
383	271351	D.E. 44	Duval Enginering & Constn	Freight Barge	254	128	Jun-49	
384	258242	S-10	Benton & Co. Inc.	Freight Barge	266	128	Jun-49	
385	258795	Papoose	Warrior & Gulf Navigation	Towboat	54	50	1949	
386		No.2	Ideal Cement Co.	Barge			Jun-49	
387		Blakeley	Alabama, Tenn & Northern RR	Car Float	670		Jan-50	
388		SK 146	Southern Kraft Corp.	Deck Barge	220		Jun-50	
389		SK 147	Southern Kraft Corp.	Deck Barge	220		Jun-50	
390		SK 148	Southern Kraft Corp.	Deck Barge	220		Jun-50	
391	Federal		U S Army Corps of Engineers	Tank Barge			Jun-50	
392	Federal		U S Army Corps of Engineers	Tank Barge			Jun-50	
393	Federal		U S Army Corps of Engineers	Hopper Barge			Jun-50	
394	Federal		U S Army Corps of Engineers	Hopper Barge			Jul-50	
395	Federal		U S Army Corps of Engineers	Hopper Barge			Jul-50	
396	Federal		U S Army Corps of Engineers	Hopper Barge			Jul-50	
397	Federal		U S Army Corps of Engineers	Hopper Barge			Jul-50	
398			The Texas Company	Tank Barge			1951	
399			The Texas Company	Tank Barge			1951	
400			The Texas Company	Tank Barge			1951	
401	260615	Barge No. 15	Belcher Towing Co.	Tank Barge	415	146	Jul-50	
402		Barge No.	Belcher Towing Co.	Tank Barge	415	146	1951	
403	264036	Gatco 50	General Atlantic Towing Co.	Tank Barge	279	128	1952	Later Globe 11
404	264037	Gatco 51	General Atlantic Towing Co.	Tank Barge	279	128	1952	
405	261436	OBL Expeditor	Ohio Barge Line Inc.	Towboat	62	60	Mar-51	Later F. V. Johnson
406		P.O. 2001	Pure Oil Co.	Tank Barge	1,368	240	Mar-51	Later Hannah 2001
407		P.O. 2002	Pure Oil Co.	Tank Barge	1,368	240	Apr-51	Later Hannah 2002
408		P.O. 2003	Pure Oil Co.	Tank Barge	1,368	240	May-51	Later Hannah 2003
409		P.O. 2004	Pure Oil Co.	Tank Barge	1,368	240	May-51	Later Hannah 2004
410				Barge				
411	273140	I.W.C. 150	Inland Waterways Corp	Hopper Barge	970	175	May-52	Later FBL 150
412	273141	I.W.C. 151	Inland Waterways Corp	Hopper Barge	970	175	May-52	Later FBL 151
413	273142	I.W.C. 152	Inland Waterways Corp	Hopper Barge	970	175	May-52	Later FBL 152
414	273143	I.W.C. 153	Inland Waterways Corp	Hopper Barge	970	175	Jun-52	Later FBL 153
415	273144	I.W.C. 154	Inland Waterways Corp	Hopper Barge	90	175	Jun-52	Later FBL 154
416	273136	I.W.C. 137	Inland Waterways Corp	Hopper Barge	725	128	Jul-52	Later FBL 137
417	273137	I.W.C. 138	Inland Waterways Corp	Hopper Barge	725	128	Jul-52	Later FBL 138
418	273138	I.W.C. 139	Inland Waterways Corp	Hopper Barge	725	128	Aug-52	Later FBL 139
419	273139	I.W.C. 140	Inland Waterways Corp	Hopper Barge	725	128	Aug-52	Later FBL 140
420	Surinam	S.BX.M. 1	Surina Bamache Bauxite	Deck Barge	534	160	Feb-52	
421	Surinam	S.BX.M. 2	Surina Bamache Bauxite	Deck Barge	534	160	Feb-52	
422	Surinam	S.BX.M. 3	Surina Bamache Bauxite	Deck Barge	534	160	Feb-52	
423	Surinam	S.BX.M. 4	Surina Bamache Bauxite	Deck Barge	534	160	Feb-52	
424	264456	L.C.D. & T. CO.No. 101	Lake Charles Dredging	Deck Barge	1,107	240	Sep-52	
425	264457	L.C.D. & T. CO.No. 103	Lake Charles Dredging	Deck Barge	1,107	240	Oct-52	
426	264458	L.C.D. & T. CO.No. 102	Lake Charles Dredging	Deck Barge	1,107	240	Oct-52	
427	264459	L.C.D. & T. CO.No. 104	Lake Charles Dredging	Deck Barge	1,107	240	Oct-52	
428		BA-1501	Butcher - Arthur Co.	Tank Barge	927	220	Aug-52	
429		BA-1503	Butcher - Arthur Co.	Tank Barge	927	220	Sep-52	
430		BA-1505	Butcher - Arthur Co.	Tank Barge	927	220	Nov-52	
431		BA-1502	Butcher - Arthur Co.	Tank Barge	943	220	Sep-52	
432		L.T.C. No. 44	Lake Tankers Corporation	Tank Barge	1,065	253	Feb-53	
433		L.T.C. No. 45	Lake Tankers Corporation	Tank Barge	1,065	253	Feb-53	
434	264594	GISSEL 1605	J. S. Gissel & Co.	Tank Barge	866	212	Dec-52	
435	264595	GISSEL 1606	J. S. Gissel & Co.	Tank Barge	866	212	Dec-52	
436				Barge			1952	
437	270267	Humble 120	Humble Oil & Refining Co.	Tank Barge	365	150	Jun-52	Later Exxon 120
438		BA-1504	Butcher - Arthur Co.	Tank Barge	943	220	Sep-52	
439		BA-1506	Butcher - Arthur Co.	Tank Barge	943	220	Nov-52	
440		P.O. 2701	Pure Oil Co.	Tank Barge		290	Dec-52	
441		P.O. 2702	Pure Oil Co.	Tank Barge		290	Dec-52	
442		TJ-220	Thomas Jordan Inc.	Freight Barge	164	100	1952	
443		TJ-221	Thomas Jordan Inc.	Freight Barge	164	100	1952	
444	264628	TJ-222	Thomas Jordan Inc.	Freight Barge	164	100	1952	
445	264629	TJ-223	Thomas Jordan Inc.	Freight Barge	164	100	1952	
446		TJ-224	Thomas Jordan Inc.	Freight Barge	164	100	1952	
447		TJ-225	Thomas Jordan Inc.	Freight Barge	164	100	1952	
448		TJ-226	Thomas Jordan Inc.	Freight Barge	164	100	1952	
449		TJ-227	Thomas Jordan Inc.	Freight Barge	164	100	1952	

450		TJ-228	Thomas Jordan Inc.	Freight Barge	164	100	1952	
451	265774	CBC-301	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
452	265775	CBC-302	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
453	265776	CBC-303	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
454	265777	CBC-304	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
455	265778	CBC-305	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
456	265779	CBC-306	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
457	265780	CBC-307	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
458	265781	CBC-308	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
459	265782	CBC-309	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
460	265783	CBC-310	Canal Barge Co. Inc.	Freight Barge	149	100	1953	
461		J.H.C. 718	J. H. Coppedge Co.	Freight Barge	282	128	1954	
462	274922	J.H.C. 719	J. H. Coppedge Co.	Freight Barge	277	128	1954	Later 719
463	279972	J.H.C. 720	J. H. Coppedge Co.	Freight Barge	282	128	1954	
464		J.H.C. 721	J. H. Coppedge Co.	Freight Barge	282	128	1954	
465		J.H.C. 722	J. H. Coppedge Co.	Freight Barge	282	128	1954	
466	269705	J.H.C. 723	J. H. Coppedge Co.	Freight Barge	282	128	1954	
467		J.H.C. 724	J. H. Coppedge Co.	Freight Barge	282	128	1954	
468	268880	S-11	Benton & Co. Inc.	Freight Barge	282	128	Dec-54	
469	268881	S-12	Benton & Co. Inc.	Freight Barge	282	128	Dec-54	
470		C-92	Creole Petroleum Corp.	Deck Barge	1,290	180	May-55	
471		C-94	Creole Petroleum Corp.	Deck Barge	1,290	180	May-55	
471		J.H.C. 701	J. H. Coppedge Co.	Freight Barge	296	128	Feb-53	
472		J.H.C. 702	J. H. Coppedge Co.	Freight Barge	296	128	1953	
473		J.H.C. 703	J. H. Coppedge Co.	Freight Barge	296	128	1953	
474		J.H.C. 704	J. H. Coppedge Co.	Freight Barge	296	128	1953	
475		J.H.C. 705	J. H. Coppedge Co.	Freight Barge	296	128	1953	Later Barge 705
476		J.H.C. 706	J. H. Coppedge Co.	Freight Barge	296	128	1953	
477		J.H.C. 707	J. H. Coppedge Co.	Freight Barge	296	128	1953	
478		J.H.C. 708	J. H. Coppedge Co.	Freight Barge	296	128	1953	
479		J.H.C. 709	J. H. Coppedge Co.	Freight Barge	296	128	1953	
480	273413	J.H.C. 710	J. H. Coppedge Co.	Freight Barge	281	128	1953	
481		J.H.C. 711	J. H. Coppedge Co.	Freight Barge	281	128	1953	
482		J.H.C. 712	J. H. Coppedge Co.	Freight Barge	281	128	Jun-53	
483		J.H.C. 713	J. H. Coppedge Co.	Freight Barge	281	128	1953	
484		J.H.C. 714	J. H. Coppedge Co.	Freight Barge	281	128	1953	
485		J.H.C. 715	J. H. Coppedge Co.	Freight Barge	281	128	1953	
486		J.H.C. 716	J. H. Coppedge Co.	Freight Barge	281	128	1953	
487	1043140	J.H.C. 717	J. H. Coppedge Co.	Freight Barge	264	128	1953	Now Barge 717
488	265018	G.T.C. - 5	Greenville Towing Co.	Tank Barge	1,166	240	1953	
489	265614	Dorothy Jean No. 81	James Marine Equipment	Freight Barge	281	128	1953	
490	265616	Sambo D. No. 82	Glenn E Daulton Co.	Freight Barge	281	128	1953	
491		Belcher Towing Co. No. 16	Belcher Towing Co.	Deck Barge			Jun-53	
492	275578	F.S.C. 141	Frederick Snare Corporation	Freight Barge	281	128	1953	
493	265244	L.C.D. & T. CO.No. 105	Lake Charles Dredging	Deck Barge	1,107	240	Apr-53	
494	265245	L.C.D. & T. CO.No. 106	Lake Charles Dredging	Deck Barge	1,107	240	Apr-53	
495			J. E. Jumonville	Barge			1953	
496			J. E. Jumonville	Barge			1953	
497			J. E. Jumonville	Barge			1953	
498			J. E. Jumonville	Barge			1953	
499			J. E. Jumonville	Barge			1953	
500			J. E. Jumonville	Barge			1953	
501			J. E. Jumonville	Barge			1953	
502		Pinto	Alabama, Tenn & Northern RR	Car Float	670	253	Aug-53	
503	266512	Blue Mountain	James McWilliams Blue Line	Hopper Barge	1,512	232	Nov-53	Now Witte 3001
504	266513	Blue Crest	Bay of New York Coal Corp.	Hopper Barge	1,512	232	Nov-53	Now Witte 3002
505			J. E. Jumonville	Barge			1953	
506			J. E. Jumonville	Barge			1953	
507			J. E. Jumonville	Barge			1953	
508			J. E. Jumonville	Barge			1953	
509			J. E. Jumonville	Barge			1953	
510		Beardslee No. 24	Beardslee Launch & Barge	Barge	250	100	Apr-53	
511	267427	Coastwise No.2	Coastwise Transportation Line	Hopper Barge	1,420	230	May-54	Later ATC 260, now DBL 16
512		S-44 Rig No. 12	The California Company	Drill Barge	1,052	240	1954	Later Losco II
513	267751	CBC-501	Canal Barge Co. Inc.	Hopper Barge	745		1954	Later CB 93
514	267752	CBC-502	Canal Barge Co. Inc.	Hopper Barge	745		1954	Later CB 94
515	267753	CBC-503	Canal Barge Co. Inc.	Hopper Barge	745		1954	Later WGH 75
516	267754	CBC-504	Canal Barge Co. Inc.	Hopper Barge	745		1954	Later WGH 76
517		No. 138	Warrior & Gulf Navigation	Barge	299	140	1954	
518		No. 139	Warrior & Gulf Navigation	Barge	299	140	1954	
519		No. 140	Warrior & Gulf Navigation	Barge	299	140	1954	
520		No. 141	Warrior & Gulf Navigation	Barge	299	140	1954	
521		No. 142	Warrior & Gulf Navigation	Barge	299	140	1954	

522		No. 143	Warrior & Gulf Navigation	Barge	299	140	1954	
523		No. 144	Warrior & Gulf Navigation	Barge	299	140	1954	
524		No. 145	Warrior & Gulf Navigation	Barge	299	140	1954	
525		No. 146	Warrior & Gulf Navigation	Barge	299	140	1954	
526		No. 147	Warrior & Gulf Navigation	Barge	299	140	1954	
527		No. 148	Warrior & Gulf Navigation	Barge	299	140	1954	
528		No. 149	Warrior & Gulf Navigation	Barge	299	140	1954	
529		SK 201	International Paper Co.	Deck Barge	565	180	Jun-54	
530		SK 202	International Paper Co.	Deck Barge	565	180	Jun-54	
531		SK 203	International Paper Co.	Deck Barge	565	180	Jun-54	
532		SK 204	International Paper Co.	Deck Barge	565	180	Jun-54	
533		SK 205	International Paper Co.	Deck Barge	565	180	Jul-54	
534		SK 206	International Paper Co.	Deck Barge	565	180	Jul-54	
535	270477	JHC 1000	J. H. Coppedge Co.	Freight Barge	555	150	1954	
536			A. C. Thomas	Barge			1954	
537	268882	Bernard N. 1	J. C. C. Bernard	Freight Barge	124	70	1954	
538		SK 207	International Paper Co.	Deck Barge	570	180	Feb-55	
539		SK 208	International Paper Co.	Deck Barge	570	180	Feb-55	
540		SK 209	International Paper Co.	Deck Barge	570	180	Feb-55	
541			McDonough Construction	Barge			1955	
542			McDonough Construction	Barge			1955	
543	268974	L.C.D. & T. CO.No. 107	Lake Charles Dredging	Deck Barge	1,107	240	Dec-54	
544	268975	L.C.D. & T. CO.No. 108	Lake Charles Dredging	Deck Barge	1,107	240	Jan-55	
545	268976	L.C.D. & T. CO.No. 109	Lake Charles Dredging	Deck Barge	1,107	240	Jan-55	
546		SK 210	International Paper Co.	Deck Barge	570	180	Mar-55	
547		SK 211	International Paper Co.	Deck Barge	570	180	Apr-55	
548		SK 212	International Paper Co.	Deck Barge	570	180	Jun-55	
549		SK 213	International Paper Co.	Deck Barge	570	180	Jun-55	
550		SK 214	International Paper Co.	Deck Barge	570	180	Jun-55	
551		SK 215	International Paper Co.	Deck Barge	570	180	Jul-55	
552		SK 216	International Paper Co.	Deck Barge	570	180	Aug-55	
553	269424	ADDSCO 553	ADDSCO	Hopper Barge	1,100	240	May-55	
554	269477	ADDSCO 554	ADDSCO	Hopper Barge	1,100	240	May-55	Later ODC 1603, EMI 1607
555	269497	ADDSCO 555	ADDSCO	Hopper Barge	1,100	240	May-55	
556	269630	ADDSCO 556	ADDSCO	Hopper Barge	1,100	240	Jun-55	
557	269631	ADDSCO 557	ADDSCO	Hopper Barge	1,100	240	Jun-55	
558		GR Co. No. 0822	Gulf Refining Co.	Tank Barge	230	110	Sep-55	Later G.O.C. 0822
559	269736	ADDSCO 559	ADDSCO	Hopper Barge	1,100	240	Jun-55	
561	270063	D-202	Dixie Carriers Inc.	Tank Barge	1,056	200	Jul-55	Later UMI 2222B
562	270064	D-203	Dixie Carriers Inc.	Tank Barge	1,056	200	Jul-55	Later UMI 2223B
563		Humble 174	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
564		Humble 175	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
565		Humble 176	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
566		Humble 177	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
567		Humble 178	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
568		Humble 179	Humble Oil & Refining Co.	Deck Barge	200	110	Aug-55	
569		Humble 180	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
570		Humble 181	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
571		Humble 182	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
572		Humble 183	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
573		Humble 184	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
574		Humble 185	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
575		Humble 186	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
576		Humble 187	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
577		Humble 188	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
578		Humble 189	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
579		Humble 190	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
580		Humble 191	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
581		Humble 192	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
582		Humble 193	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
583	270521	L.C.D. & T. CO.No. 110	Lake Charles Dredging	Deck Barge	1,107	240	Oct-55	
584	270522	L.C.D. & T. CO.No. 111	Lake Charles Dredging	Deck Barge	1,100	240	Nov-55	
585	270523	L.C.D. & T. CO.No. 112	Lake Charles Dredging	Deck Barge	1,100	240	Nov-55	
586	269456	Caroline	Central Marine Corp	Tug	253	99	1955	Built in JV with Nashville Bridge Co.
587	270450	Albatross	Bay Towing & Dredging	Dredge	556	136	1955	
588		Humble 805	Humble Oil & Refining Co.	Deck Barge	200	110	Sep-55	
589		Humble 806	Humble Oil & Refining Co.	Deck Barge	200	110	Dec-55	
590		Humble 807	Humble Oil & Refining Co.	Deck Barge	200	110	Dec-55	
591		Humble 808	Humble Oil & Refining Co.	Deck Barge	200	110	Dec-55	
592		Humble 809	Humble Oil & Refining Co.	Deck Barge	200	110	Dec-55	
593		Humble 810	Humble Oil & Refining Co.	Deck Barge	200	110	Dec-55	
594			McDonough Construction	Barge			1955	
595	270624	ADDSCO 595	ADDSCO	Hopper Barge	1,100	240	Nov-55	

596	270625	ADDSCO 596	ADDSCO	Hopper Barge	1,100	240	Dec-55	
597	270626	ADDSCO 597	ADDSCO	Hopper Barge	1,100	240	Dec-55	
598	273625	Margaret	Ocean Drilling & Exploration	Drillling Barge	1,159	300	Mar-57	
599	273704	Mr. Arthur	Coral Drilling Co, Inc,	Submersible	2,372	180	Apr-57	Scrapped
600		SK 217	International Paper Co.	Deck Barge	565	180	Apr-57	
601		SK 218	International Paper Co.	Deck Barge	565	180	Apr-57	
602		SK 219	International Paper Co.	Deck Barge	565	180	Apr-57	
603		SK 220	International Paper Co.	Deck Barge	565	180	Apr-57	
604		SK 221	International Paper Co.	Deck Barge	565	180	May-57	
605		SK 222	International Paper Co.	Deck Barge	565	180	May-57	
606	272702	ADDSCO 606	ADDSCO	Hopper Barge	888	200	Nov-56	Active
607	272703	ADDSCO 607	ADDSCO	Hopper Barge	888	200	Nov-56	
608	272704	ADDSCO 608	ADDSCO	Hopper Barge	888	200	Nov-56	
609	272948	ADDSCO 609	ADDSCO	Hopper Barge	888	200	Jan-57	
610	272949	ADDSCO 610	ADDSCO	Hopper Barge	888	200	Jan--57	
611	273377	ADDSCO 611	ADDSCO	Hopper Barge	888	200	Feb-57	
612	273378	ADDSCO 612	ADDSCO	Hopper Barge	888	200	Feb-57	
613	273379	ADDSCO 613	ADDSCO	Hopper Barge	888	200	Mar-57	
614	244235	Neches	Sabine Towing	Tanker Midbody	11,405		Aug-57	
615	275787	El Dorado	Ocean Drilling & Exploration	Submersible	4,828	300	May-58	Scrapped
616	Mexico	MGO 74	Mene-Grande Oil Co.	Deck Barge	430	120	Jun-57	
617	Mexico	MGO 75	Mene-Grande Oil Co.	Deck Barge	430	120	Jun-57	
618	Mexico	MGO 76	Mene-Grande Oil Co.	Deck Barge	430	120	Jul-57	
619	Mexico	MGO 77	Mene-Grande Oil Co.	Deck Barge	430	120	Jul-57	
620								
621								
622								
623	Mexico	MGO 80	Mene-Grande Oil Co.	Deck Barge	360	120	Dec-57	
624	Mexico	MGO 81	Mene-Grande Oil Co.	Deck Barge	360	120	Dec-57	
625	Mexico	MGO 82	Mene-Grande Oil Co.	Deck Barge	360	120	Dec-57	
626	Mexico	MGO 83	Mene-Grande Oil Co.	Deck Barge	360	120	Dec-57	
627	275871	J.H.C. 800	J. H. Coppedge Co.	Deck Barge	345	120	Jan-58	
628	275872	J.H.C. 801	J. H. Coppedge Co.	Deck Barge	345	120	Jan-58	
629	275886	J.H.C. 802	J. H. Coppedge Co.	Deck Barge	345	120	Feb-58	Later Loveland 22, Jax III
630	275887	J.H.C. 803	J. H. Coppedge Co.	Deck Barge	345	120	Jan-58	Later F.S.C. 146
631	281015	ADDSCO	ADDSCO	Towboat	14	28	Apr-60	
632	277249	Chem IV	Commercial Transport Corp.	Tank Barge	677	195	Aug-58	
633			City of Mobile	Barge			Aug-58	
634	277673	CBC 131	Canal Barge Co. Inc (1962)	Deck Barge	710	123	1958	Later PA 131
635	244464	Gaines Mill	Chas. Kurz & Co. Inc.	Tanker Midbody	12,179		Mar-58	Built at Sun Ship as Hull 262
636	244468	Mill Spring	Chas. Kurz & Co. Inc.	Tanker Midbody	12,188		Aug-58	Built at Sun Ship as Hull 307
637	245831	Texaco New Jersey	Texaco Inc.	Tanker Midbody	12,261		Aug-59	Ex-Lake Erie (Sun Ship Hull 439)
638	277390	139	H. J. Branigan & Co.	Deck Barge	284	115	Aug-58	Later Loveland 34
639	277391	140	H. J. Branigan & Co.	Deck Barge	284	115	Aug-58	Later Loveland 31
640	278104	Sabtow One	Sabine Towing	Tank Barge	1,600	231	Jan-59	Later Tide-Mar No. 1, B. No. 100
641	278587	F.T.C. 120	Findlay Towing Co. Inc.	Deck Barge	1,261	220	Apr-59	
642	278588	F.T.C. 121	Findlay Towing Co. Inc.	Deck Barge	1,261	220	Apr-59	
643	278660	R.B. No. 5	River Barges Inc.	Deck Barge	1,203	215	1959	
644	245175	Texaco Nevada	Texaco Inc.	Tanker Midbody	12,300		Dec-59	Ex Williamsburg (Sun Ship Hull 304)
645	278756	TTC 36	Tutts Towing Co.	Deck Barge	1,188	210	1959	
646	279512	BMC-142	BMC - 145 Inc.	Deck Barge	324	130	Aug-59	Later Loveland 33
647	246600	Trinity	Sabine Towing	Tanker Midbody	11,386		Jul-59	Ex Battle Mountain (Kaiser Portland Hull 91)
648	244230	Texaco Kansas	Texaco Inc.	Tanker Midbody	14,153		Sep-60	Ex Crown Point (Sun Ship Hull 321)
649	242845	Texaco Nebraska	Texaco Inc.	Tanker Midbody	14,251		Feb-61	Ex Fort Washington (Kaiser Portland Hull 4)
650	na		ADDSCO	Pontoon		80	Feb-61	Reconstruction of DD#2 including new pontoons
651	na		ADDSCO	Pontoon		80	Feb-61	Reconstruction of DD#2 including new pontoons
652	na		ADDSCO	Pontoon		80	Feb-61	Reconstruction of DD#2 including new pontoons
653	246993	Texaco Illinois	Texaco Inc.	Tanker Midbody	14,324		Jul-61	Ex San Pasqual (Sun Ship Hull 455)
654	243048	Texaco Wyoming	Texaco Inc.	Tanker Midbody	14,242		Nov-61	Ex Buena Vista (Sun Ship Hull 280)
655	242636	Houston	Trinidad Corporation	Tanker Midbody	14,671		Jun-62	Ex Caribbean (Sun Ship Hull 273)
656	290740	501	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
657	290788	502	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
658	290804	503	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
659	290863	504	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
660	290952	505	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
661	291017	506	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
662	291051	507	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
663	291115	508	McPhillips Packing Corp.	Hopper Barge	1,100	240	1963	
664	291351	401	McPhillips Packing Corp.	Barge	434	160	1963	
665	291386	402	McPhillips Packing Corp.	Barge	434	160	1963	

666	291387	403	McPhillips Packing Corp.	Barge	434	160	1963	
667	291461	404	McPhillips Packing Corp.	Barge	434	160	1963	
668	291462	405	McPhillips Packing Corp.	Barge	434	160	1963	
669	291513	406	McPhillips Packing Corp.	Barge	434	160	1963	
670	291559	407	McPhillips Packing Corp.	Barge	434	160	1963	
671	291560	408	McPhillips Packing Corp.	Barge	434	160	1963	
672	248408	Sturgis	U S Army	Midbody			1965	Ex Charles H Cugle (Jones Hull 105)
673	247563	Marine Texan	Marine Sulphur Carriers Corp.	Forebody	10,065		Jan-64	Conversion to sulphur carrier
674	295790	Motowco 100	St. Thomas Lighterage	Freight Barge	777	160	Jul-64	Later Magens Bay
675	294383	Jirafa	J. Ray McDermott Co. Inc.	Midbody for Barge	1,762		May-64	Ex-Jirafa (Le Tourneau Vicksburg Hull 15)
676	296967	McDermott Oceanic No. 91	J. Ray McDermott Co. Inc.	Barge	4,939	300	Nov-64	Now Weeks 299
677	297274	McDermott Oceanic No. 92	J. Ray McDermott Co. Inc.	Barge	4,939	300	Dec-64	Later McDermott Jet Barge No.2
678	246984	Hawaiian Monarch	Matson Navigation	Midbody	17,807		Oct-65	Ex Marine Dragon (Sun Ship Hull 346)
679	246343	Hawaiian Queen	Matson Navigation	Midbody	17,504		Dec-65	Ex Marine Devil (Sun Ship Hull 344)
680	507295	McDermott Tidelands No. 09	J. Ray McDermott Co. Inc.	Barge	2,509	240	Feb-67	Now Lamex 01
681	507294	McDermott Tidelands No. 010	J. Ray McDermott Co. Inc.	Barge	2,509	240	Feb-67	Now Weeks 547
682	508263	McDermott Tidelands No. 07	J. Ray McDermott Co. Inc.	Barge	2,509	240	May-67	Later Intermac No. 7
683	508264	McDermott Tidelands No. 08	J. Ray McDermott Co. Inc.	Barge	2,509	240	May-67	Now 245
684				Barge			1968	
685				Barge			1968	
686				Barge			1968	
687	ASR 21	Pigeon	U.S. Navy	Sub Rescue Ship	3,706d	251	29-Jan-72	Scrapped 2012
688	ASR 22	Ortolan (ASR 22)	U.S. Navy	Sub Rescue Ship	3,706d	251	17-May-72	Scrapped 2
689	296967	McDermott Oceanic No. 91	J. Ray McDermott Co. Inc.	Midbody for Barge	6,718	402	Apr-68	
690	523114	690	St. Charles Dredging & Towing	Barge	374	135	Oct-69	
691	523061	691	St. Charles Dredging & Towing	Barge	374	135	Oct-69	Later S.D. 265
692	531048	IOS 3301	Ingram Corp.	Tank Barge	15,579	585	Mar-71	Later Ocean 240, scrapped
693	266181	American Argosy	United States Lines	Midbody	15,864		Sep-70	Ex Cotton Mariner (Ingalls Hull 461)
694	267444	American Mist	United States Lines	Midbody	15,864		Nov-70	Ex Peninsula Mariner (Ingalls Hull 463)
695	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			Aug-70	
696	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			Nov-70	
697	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			1970	
698	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			1971	
699	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			1971	
700	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			1971	
701	na	Interstate-10 Tunnel	Mobile Tunnel Constructors Inc.	Tunnel Section			Sep-71	
702		SK-152	International Paper Co.	Barge		150	1972	
703		SK-153	International Paper Co.	Barge		150	1972	
704		SK-154	International Paper Co.	Barge		150	1972	
705		SK-155	International Paper Co.	Barge		150	1972	
706	552669	Diamond M Century	Diamond M Drilling Co.	Semi-Submersible	4,600	270	Nov-73	Later Ocean Century, retired 2004
707	560234	Diamond M New Era	Diamond M Drilling Co.	Semi-Submersible	5,800	283	Sep-74	Later Ocean New Era, scrapped 2014
708		SK-156	International Paper Co.	Barge		150	1973	
709		SK-157	International Paper Co.	Barge		150	1973	
710		SK-158	International Paper Co.	Barge		150	1973	
711		SK-159	International Paper Co.	Barge		150	1973	
712		SK-160	International Paper Co.	Barge		150	1973	
713			ADDSCO	Vacuum Barge			1973	
714	571206	Diamond M General	Diamond M Drilling Co.	Semi-Submersible	5,800	283	Feb-76	Later Ocean General, General, scrapped 2016
715	579842	Diamond M Epoch	Diamond M Drilling Co.	Semi-Submersible	5,800	283	Feb-77	Later Ocean Epoch, scrapped 2015
716	Bahamas	Semac I	Semac N.V.	Pipe Lay Barge	29,700	188	Jan-76	Active
717	247350	Guadalupe	Sabine Towing	Forebody	17,985		Nov-78	Jumboized T2 tanker (MarinShip Hull 72)
Built by Alabama Maritime								
1	624100	Goldrus Marine 1	Red Fox Corporation	Drill Barge Hull	743	209	Jul-80	Completed by owner
2	627457	Goldrus Marine 2	Red Fox Corporation	Drill Barge Hull	743	209	Dec-80	Completed by owner
3	630602	Goldrus Marine 3	Red Fox Corporation	Drill Barge Hull	743	209	Jan-81	Completed by owner
4	633325	Goldrus Marine 4	Red Fox Corporation	Drill Barge Hull	743	209	Mar-81	Completed by owner
5	642738	Diamond M Hunter	Diamond M Drilling	Semi-Submersible	5,800	283	Dec-81	Later Hunter, Atwood Hunter, scrapped 2015
6	649432	Diamond M Eagle	Diamond M Drilling	Semi-Submersible	7,584	318	Feb-82	Later Eagle, Atwood Eagle, scrapped 2017
7	653713	Diamond M Falcon	Diamond M Drilling	Semi-Submersible	7,783	318	Mar-83	Later Falcon, Atwood Falcon, scrapped 2017
8			Tampa Shipbuilding	T5 Tanker Deckhouse			1985	Subcontract
9			Tampa Shipbuilding	T5 Tanker Deckhouse			1985	Subcontract
10			Tampa Shipbuilding	T5 Tanker Deckhouse			1985	Subcontract
11			Tampa Shipbuilding	T5 Tanker Deckhouse			1985	Subcontract
12			Tampa Shipbuilding	T5 Tanker Deckhouse			1985	Subcontract
Built by Alabama Shipyard								
13	Bermuda	Corona	Govt. of Bermuda	Ferry		59	1990	Transferred to Atlantic Marine
14	Bermuda	Georgia	Govt. of Bermuda	Ferry		59	1990	Transferred to Atlantic Marine
15	Bermuda	Coralita	Govt. of Bermuda	Ferry		59	1990	Transferred to Atlantic Marine
16	Federal	YON 307	U.S. Navy	Fuel Barge	382	184	4-Jan-90	Active
17	Federal	YON 308	U.S. Navy	Fuel Barge	382	184	29-Dec-89	Sold 2011 as No. 308 (ON 1245655)
18	Federal	YON 309	U.S. Navy	Fuel Barge	382	184	9-Jan-90	Reclassified 2013 as IX 550
19	Federal	YOS 35	U.S. Navy	Storage Barge	725	184	14-Jun-90	Struck 1996

20	Federal	YOS 36	U.S. Navy	Storage Barge	725	184	19-Jun-90	Active
21	Federal	YD 246	U.S. Navy	Crane Barge	2,134	175	1-Feb-91	Active
22	Federal	YD 247	U.S. Navy	Crane Barge	2,134	175	1-Apr-91	Active
23	Federal	YD 248	U.S. Navy	Crane Barge	2,134	175	1-Jun-91	Active
24	Federal	YD 249	U.S. Navy	Crane Barge	2,134	175	1-Aug-91	Active
25	Federal	YD 250	U.S. Navy	Crane Barge	2,134	200	21-Nov-91	Active
26	Federal	YCV 19	U.S. Navy	Aircraft Lighter	480	200	26-Apr-90	Active
27	Federal	YCV 20	U.S. Navy	Aircraft Lighter	480	200	26-Apr-89	Active
28	Federal	YCV 21	U.S. Navy	Aircraft Lighter	480	200	31-Mar-90	Sold 2009 as Weeks 192 (ON 1220102)
29	973716	Robert C. Lanier	State of Texas	Ferry	1,157	237	Mar-91	Active
30	Federal	YCV 22	U.S. Navy	Aircraft Lighter	480	200	1-Apr-91	Active
31	Federal	YCV 23	U.S. Navy	Aircraft Lighter	480	200	1-Feb-91	Struck 2012
32	Federal	YFP ???	U.S. Navy	Power Barge			1992	No record
33	Federal	YD 254	U.S. Navy	Crane Barge	2,134	175	22-Sep-93	Active
34	Federal	YD 255	U.S. Navy	Crane Barge	2,134	175	8-Dec-93	Active
35	Federal	YD 256	U.S. Navy	Crane Barge	2,134	175	14-Dec-93	Active
36	Federal	YD 257	U.S. Navy	Crane Barge	2,134	175	30-Mar-94	Active
37	Federal	YD 258	U.S. Navy	Crane Barge	2,134	175	24-Mar-94	Sold 2001
38	Federal	YD 259	U.S. Navy	Crane Barge	2,134	175	13-Oct-93	Active
39	Federal	YD 260	U.S. Navy	Crane Barge	2,134	175	7-Jul-94	Active
40	Federal	YD 261	U.S. Navy	Crane Barge	2,134	175	5-Nov-93	Active
41	1024067	Argosy IV	Argosy Gaming	Casino Boat	1,477	219	15-Jul-94	Sold 2018, to India
42	1027618	Atlantic	Penn Maritime	Asphalt Barge	8,327	460	21-Jan-95	Active
43	1027617	Caribbean	Penn Maritime	Asphalt Barge	8,327	460	21-Jun-95	Active
44		Columbia I	Cooper/T. Smith	Crane Barge			23-Dec-94	Active
45		Columbia II	Cooper/T. Smith	Crane Barge			23-Dec-94	Active
46	Denmark	Amalienborg	Dannebrog Rederi	Chem Carrier	11,290	440	Apr-98	Now Algoma Hansa (Canada)
47	Denmark	Aggersborg	Dannebrog Rederi	Chem Carrier	11,290	440	Nov-98	Now Algosea (Canada)
48	1084593	Trident Crusader	Searex	Lift Boat	2,518	165		Completed by Ingalls: sold 2004, now in UAE
49	1034008	REM 101	Pavin	Fuel Oil Barge	1,404	258	25-Aug-95	Active
50	1048305	Pavin Vision	Pavin	Fuel Oil Barge	800	175	10-Dec-95	Later DBL 10, now Double Skin 8
51	1043146	Sara B.	Burnside Terminal	Crane Barge	1,075	192	26-Jan-96	Active
52	na	Trident Explorer	Searex	Lift Boat				Cancelled
53	na		Searex	Lift Boat				Cancelled
54	na		COSCO	Containership	23,850			Cancelled
55	na		COSCO	Containership	23,850			Cancelled
56	na		COSCO	Containership	23,850			Cancelled
57	na		COSCO	Containership	23,850			Cancelled
58	na		Searex	Lift Boat				Cancelled
59	na							Not used
60	na							Not used
61	na							Not used
62	1089422	RTC 135	Reinauer Tptn	Tank Barge	10,077	459	10-Dec-99	Active
63-81	na							Not used
82	1098321	Miss Belterra	Pinnacle Ent.	Casino Vessel	3,281	314	24-Jul-00	Active
83	na							Not used
84	na							Not used
85	1106287	Weeks 112	Weeks Marine	Hopper Barge	3,516	284	19-Mar-01	Active
86	1106288	Weeks 113	Weeks Marine	Hopper Barge	3,516	284	19-Mar-01	Active
87	1120514	RTC 145	Reinauer Tptn	Tank Barge	10,460	459	6-Jan-02	Active
88	1120513	Christian Reinauer	Reinauer Tptn	Tug	863	119	6-Jan-02	Active
89	1109460	Weeks 264	Weeks Marine	Hopper Barge	3,624	284	18-Jun-01	Active
90	1124421	HOS Stormridge	Hornbeck Offshore	OSV	2,520	241	9-Aug-02	Active
91	1124424	HOS Sandstorm	Hornbeck Offshore	OSV	2,520	241	16-Oct-02	Active
92	1123631	ATC 21	Allied Transportation	Tank Barge	9,439	423	3-May-02	Active
93	1123632	Sea Hawk	Allied Transportation	Tug	863	119	4-May-02	Active
94	1131692	Penn 90	Penn Maritime	Tank Barge	7,592	395	4-Sep-02	Active
95	1134602	Penn 120	Penn Maritime	Tank Barge	9,424	407	22-Nov-02	Active
96	1134603	Penn 121	Penn Maritime	Tank Barge	9,424	407	28-Jan-03	Active
97	na							Not used
98	na							Not used
99	1139735	RTC 150	Reinauer Tptn	Tank Barge	10,460	459	6-Oct-03	Active
100	na							Not used
101	na							Not used
102	1180182	Glenn Edwards	Manson Construction	Hopper Dredge	9,500	368	1-Mar-06	Active
Built by Atlantic Marine Alabama								
103	na		AHL Shipping	Product Carrier	25,000		2010	Sold incomplete as American Phoenix
104	na		AHL Shipping	Product Carrier	25,000		2010	Scrapped incomplete
105	na		AHL Shipping	Product Carrier	25,000		2011	Scrapped incomplete
Built by BAE Systems Southeast								
103	1233425	American Phoenix	Mid-Ocean Tankers	Product Carrier	30,718	589	11-Jul-12	Active
104	na	Magdalen	Weeks Marine	Hopper Dredge				Transferred to Eastern SB
105	na		Gulfmark Offshore	PSV				Cancelled

106	na		Gulfmark Offshore	PSV				Cancelled
107	1250742	G.L. 701	Great Lakes Dredge	Dump Scow	3,682	283	30-Dec-13	Active
108	1250743	G.L. 702	Great Lakes Dredge	Dump Scow	3,682	283	23-Dec-13	Active
109	na		Great Lakes Dredge	Dump Scow				Cancelled
110	na		Great Lakes Dredge	Dump Scow				Cancelled
111	1267677	Hercules	Gulfmark Americas	PSV	4,092	267	6-Jun-16	Active
112	1275895	Pegasus	Gulfmark Americas	PSV	4,092	267		Building
113	1273940	Ocean Evolution	Oceaneering	Subsea Support	7,647	323	7-Mar-19	Active