

# *Special Report*

## **FUNDING AND MANAGING AMERICA'S TRANSPORTATION SYSTEMS**

by

**Clinton H. Whitehurst, Jr.**

**October 2004**

**Updated November, 2005**

**THE  
STROM THURMOND  
INSTITUTE**

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## **ABOUT THE AUTHOR**

### **Clinton H. Whitehurst, Jr.**

Clint Whitehurst holds a Ph.D. in economics from the University of Virginia and did post doctoral work in defense studies at Edinburgh University (Scotland). A majority of his research is in the area of Transportation & Logistics and Defense Studies. He is a Professor of Management and Economics Emeritus at Clemson University, an Adjunct Scholar of the American Enterprise Institute, Washington, D.C. and a Senior Fellow of the Strom Thurmond Institute of Government and Public Affairs at Clemson University.

# TABLE OF CONTENTS

	Page
<b>ABOUT THE AUTHOR</b> -----	<b>iii</b>
<b>FUNDING AND MANAGING AMERICA'S TRANSPORTATION SYSTEMS</b> -----	<b>1</b>
<b>Introduction</b> -----	<b>1</b>
<b>Military Reliance on Civilian Transportation Assets</b> -----	<b>2</b>
<b>Evolution of the Department of Defense Transportation Command</b>	<b>3</b>
<b>Evolution of the U.S. Department of Transportation</b> -----	<b>4</b>
<b>Coordination and Cooperation Between Military and Civilian Transportation Entities</b> -----	<b>4</b>
<b>Some Multi-Billion Dollar Transportation Programs and Issues That Deserve Analyses Devoid of Political Considerations</b> -----	<b>7</b>
<b>Conclusion</b> -----	<b>9</b>
<b>NOTES</b> -----	<b>11</b>
<b>BIBLIOGRAPHY</b> -----	<b>13</b>

# FUNDING AND MANAGING AMERICA'S TRANSPORTATION SYSTEMS

*So pervasive are transportation assets in a modern industrial economy that, at one and the same time, they are seen yet not seen---blending into the everyday world as to be almost invisible and only appreciated when, for whatever reason, fail in their mission.*

## Introduction

America's civilian, private sector transportation assets serve both the domestic economy and military requirements while military transportation assets serve to insure the nation's security and national interests. The importance of transportation to the total gross domestic product (GDP) and by extension to total gross national product (GNP) can be appreciated by noting that final demand for transportation related components comprise approximately 10 percent of GDP. (1) On the darker side, it should be noted that of the recognized top ten terrorist targets in the United States, at least five are transportation assets/infrastructure.

The importance of transportation to the military can hardly be overstated. No better example of this importance is the role of transportation in World War II where battlefronts were thousands of miles from the continental United States. This could also be said of the Korean and Vietnam conflicts and the two Gulf (Iraq) wars.

Compared to other industrialized nations, the management and funding of America's transportation assets and infrastructure is unique. With regards to the "path" component of four major transportation systems (highways, waterways, airports and airways, and oceans and ports) *governments* (federal, state, and local) are the owners and decision-makers. There is a federal Department of Transportation, 50 state departments of transportation together with thousands of local transportation authorities. However, the vehicles that operate on these "paths" are, for the most part, privately owned or military transportation assets. Railroad track and right of way, with the exception of Amtrak's northeast corridor and some lines on military installations, and the great majority of pipeline miles in the United States, are privately owned.

Since the nation's founding there has always been debates about which level of government and which department of government is responsible for what and how it is to be funded. In the early 1800s the federal government undertook the building of a national road to open the then northwest territory. It was a toll road; never completed, and eventually responsibility for its maintenance was left to the several states through which it passed. It was not until the 1920s that the federal government again became a major player in the nation's highway system. (2) And with respect to railroads, as the nation moved westward following the War Between the States, federal and state land grants and

loans to this transportation system became contentious issues. In the 21<sup>st</sup> century there is no lack of transportation issues or lack of debate over their solution. Many are similar in nature to those of the 19<sup>th</sup> century, the difference being the amount of money involved. (3)

## **Military Reliance on Civilian Transportation Assets**

A unique aspect of American transportation is the degree to which the military historically has depended on private sector transportation assets both in peacetime and emergency situations.

During the American Revolution and the War of 1812 it was American privateers (privately owned and armed merchant ships), as much as the American Navy, that convinced England to grant independence to its North American colonies. In the Mexican War of 1845 and the Spanish American War of 1898, the Army, having no sealift capability, relied on privately owned ships to transport troops and supplies to Vera Cruz and some 50 years later, troops and supplies to Cuba.

World War I exposed a glaring deficiency with respect to the country's civilian merchant fleet in its role as a naval and military auxiliary. In an attempt to remedy this deficiency, the Merchant Marine Act of 1936 required that officers serving on subsidized merchant ships, if eligible, be members of the merchant marine naval reserve and that ships built with construction subsidies incorporate national defense features.

During World War II both the Army and Navy operated worldwide air transportation systems. Both of these commands began with commercial planes and crews. The role of the civilian-crewed merchant marine in moving military equipment and supplies to combat theaters of operation thousands of miles from American ports cannot be overstated. At the end of the war there were approximately 250,000 civilian merchant seamen that served on over 3,000 ships. Their casualties, in percent terms, were only exceeded by those in the Marine Corps.

In the Korean War, military airlift was supplemented by civilian aircraft. These assets moved 56 percent of military cargo and 67 percent of military passengers. (4) In recognition of the importance of civilian airlift supplementing military capability in an emergency, the Civil Reserve Air Fleet (CRAF) was established in 1951.

In both the Korean and Vietnam conflicts, civilian manned merchant ships augmented military sealift capability. Both conflicts proved the value of the National Defense Reserve Fleet (NDRF) that was created at the end of World War II and composed of excess merchant and naval tonnage. (5) Management of this fleet was given to the U.S. Maritime Commission, an independent civilian agency created with passage of the Merchant Marine Act of 1936.

## **Evolution of the Department of Defense Transportation Command**

Recognizing the lack of a military sealift capability, at the end of the Spanish American War of 1898, the War Department established the Army Transport Command with an initial purchase of six British merchant-type vessels. (6) The Command's initial task was to transport troops to the Philippines to suppress a growing insurrection.

When the United States entered World War I the Army operated its own troop and supply fleet with civilian crews but later turned the responsibility over to the Navy's newly established Naval Overseas Transport Service that later became the Naval Transport Service. The Army Transport Service, however, remained a component in the War Department's Table of Organization.

During World War II both the Army and Navy operated worldwide air and ocean transportation systems. For the Army it was the Air Transport Command and the Military Transport Service. For the Navy, the Naval Air Transport Service and a naval auxiliary fleet.

Following the end of World War II, emphasis changed from winning the war without regard to cost, to developing a more efficient military establishment. It was in this context that Congress passed the National Security Act of 1947 that established the Departments of the Army, Navy and Air Force subordinate to a Department of Defense (DoD).

In successive moves to insure the efficient management of military transportation, in 1948 the Navy's Naval Air Transport Service was combined with the Army's Air Transport Command to form the Military Air Transport Service (MATS). In 1949, the Military Sea Transport Service (MSTS) was created from the Naval Transport Service and the Army Transport Service. In 1956 the Army was given responsibility for all land military traffic management. In 1962 this responsibility was extended to include common user military terminals. The designated agency was the Military Traffic Management and Terminal Service (MTMTS).

Over the next three decades, MTMTS became the Military Traffic Management Command (MTMC). One of its responsibilities was coordinating military requirements with respect to the National Defense and Interstate Highway System.

In 1955, the Commission on Organization of the Executive Branch of Government noted that both the Army, Navy and Air Force were still operating cargo and passenger services in addition to MATS operations. This was remedied in 1966 when MATS became the Military Air Command (MAC). The new agency was given responsibility for all DoD airlift services.

In 1979 the Joint Chiefs of Staff formed the Joint Deployment Agency (JTA) to establish a single manager for deployment of American military forces. For a number of reasons it failed in its purpose. In 1987 the Secretary of Defense ordered the

establishment of a Unified Transportation Command that later became the U.S. Transportation Command.

In 2004 military transportation is the responsibility of the U.S. Transportation Command (TRANSCOM). This agency is the single owner/manager of DoD's distribution process. Subordinate units are the Surface Deployment Distribution Command, the Military Sealift Command and the Air Mobility Command. The Transportation Command reports to the Secretary of Defense through the Chairman, Joint Chiefs of Staff,

## **Evolution of the U.S. Department of Transportation**

Federal input with respect to private and state-owned transportation assets is accomplished through the commerce clause of the U.S. Constitution that designates interstate and foreign commerce as a responsibility of the federal government and "power of the purse" as administered by Congress. The present U.S. Department of Transportation (7) has evolved not unlike the Department of Defense U.S. Transportation Command. Predecessor components that were housed in various cabinet level departments included the Office of Steamboat Inspection, the Lighthouse Service, the U.S. Bureau of Public Roads, the Civil Aviation Administration, the Civil Aeronautics Board, the U.S. Shipping Board, the Maritime Commission, the Maritime Administration, Urban Mass Transit Administration, and until 2003, the U.S. Coast Guard. (8)

The overriding purpose for collecting various civilian transportation administrations under a single roof was economic efficiency, that is, giving responsibility for preparing federal transportation budgets to one department as opposed to different agencies in different cabinet level departments maximizing their budget requests without considering the nation's transportation needs as a whole.

In 2005 units within the U.S. Department of Transportation with direct dollar input into the nation's transportation infrastructure include the Federal Aviation Administration, Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration and the Maritime Administration.

## **Coordination and Cooperation Between Military and Civilian Transportation Entities**

As noted above, there is a long history of military reliance on civilian transportation personnel and assets in both peace and times of national emergency. In 2005 this cooperation and coordination is more important than ever. First, civilian and military transportation budgets are anything but small which mandates efficient use of transportation funds in a time of a large federal debt and continuing annual federal deficits. Second, transportation systems are high priority terrorist targets that demand cooperation between all responsible military and civilian transportation agencies.

The evolution of a federal Department of Transportation and the Department of Defense Transportation Command has not been without debate both in Congress and the affected agencies. Notwithstanding, in 2004 it can be fairly said that there is a greater degree of coordination and cooperation between civil and military transportation users and various levels of government—federal, state and local—than ever before in our history. The below list of cooperative efforts, while not exhaustive, clearly makes that point

- Use of civilian seamen in manning a large part of the ocean tonnage needed in military point to point service and the Navy's underway replenishment requirements.
- Use of civilian seamen in manning the military's worldwide pre-positioned logistics vessels.
- Use of civilian seamen to crew the military's Ready Reserve Force (RRF) made up of logistics support ships that are maintained in constant readiness to meet military surge requirements. This fleet of 68 special purpose and roll on/roll off vessels supported the 2003 military buildup that became Operation Iraqi Freedom.
- A historic example of military and civilian agencies working together is the cooperation between the Army's Corps of Engineers and state agencies in insuring that America's seaports and waterways are maintained to the degree necessary to support both military and commercial requirements.
- Another example of inter-agency cooperation is the management and funding of the RRF. Funding is by the Department of Defense; management is tasked to the Department of Transportation's Maritime Administration.
- Chartering of privately owned merchant ships by the Military Sealift Command in peacetime and time of national emergency.
- Military call-up of privately owned merchant ships enrolled in the Maritime Security Program in time of national emergency. (9)
- Use of civilian port facilities and equipment under the Voluntary Inter-modal Sealift Agreement. This program is administered by the Maritime Administration.
- Military call-up of civilian-owned commercial aircraft enrolled in the Civil Reserve Air Fleet program in time of national emergency. (10)
- Reliance on privately owned shipyards to meet the Navy's building programs. Reliance on privately owned aircraft manufacturers to meet Army, Navy and Air Force plane requirements.

- Use of Civil Air Patrol planes, pilots and personnel in search and rescue missions and aerial reconnaissance for homeland security. The Civil Air patrol is the U.S. Air Force auxiliary.
- Use of civilian U.S. Coast Guard Auxiliary boats and crews in search and rescue operations and maritime security missions.
- Training of civilian merchant marine officers and seamen. During World War II it was the responsibility of the federal government to recruit and train the thousands of seamen needed to crew the largest merchant fleet in the nation's history. Today the recruitment and training of merchant marine officers and seamen is a shared responsibility as between the federal government (Department of Transportation), the several states and seamen unions. Funding the U.S. Merchant Marine Academy is a responsibility of the Maritime Administration. This agency also partially supports the operation of six state maritime schools. Graduates of both the federal and state school, if eligible, may be commissioned in the U.S. Naval Reserve. The Seafarers International Union's Paul Hall Center for Maritime Training and Education provides resident training for merchant seaman recruits as well as a number of upgrade classes for experienced mariners. In the event of an extended mobilization the Paul Hall Center will, in all probability, be the model for federal training programs and facilities.
- Probably no better example of appreciation for the role of the civilian merchant marine is the year in, year out testimony before Congress by armed forces flag officers on the importance of the merchant marine in the context of national security. The same could be said of military support of the Civil Reserve Air Fleet and the Civil Air Patrol.
- Organizations such as the National Defense Transportation Association offer forums for the exchange of ideas and concepts between members of the armed forces and civilian managers of the nation's transportation systems. The list of NDTA sustaining civilian organization members is a veritable "Who's Who" among American transportation and transportation related companies.

With respect to administering transportation programs at the federal level, both civilian and military, not much more can be done organization-wise. For certain there will always be fine tuning within TRANSCOM and DOT with respect to programs, personnel, and responsibilities and the inevitable in-house disputes, but major organizational changes are not likely in the foreseeable future.

Thus, while the management of transportation programs can be considered reasonably efficient at the operational level, i.e. managing the funds provided by Congress, such cannot be said at the next level—the Congressional appropriation process. It is at this level that efficiency gives way to politics. It is at this level that Congress will choose one weapon system over another, in many cases depending on where the system will be built and the number of jobs created in that state or congressional district rather than adhering

to DoD recommendations, Where Senator X will trade his vote for funds to build a subway system in a city in his state where the vote between political parties is evenly divided. And in all too many cases, Congress will provide funds for a member's pet project that was not requested in the administration's budget proposal. (11)

## **Some Multi-Billion Dollar Transportation Programs and Issues That Deserve Analyses Devoid of Political Considerations**

\* What to do with a failed, government sponsored, passenger rail system, i.e., the National Railroad Passenger Corporation (Amtrak)? This "for profit" corporation has yet to come close to showing a profit by any measure; cannot project a profit in the foreseeable future and has cost the taxpayer some \$30 billion in operating subsidies since its creation in 1970. In FY 2005 it received \$1.82 billion and has requested \$1.82 billion for FY 2006.

To its credit, Congress has attempted to control Amtrak's money hemorrhage. In 1997 it passed the Amtrak Reform and Accountability Act (PL-105-34). Its purpose was to eliminate federal subsidies by the year 2002. Obviously, it was a failed attempt.

If it is granted that past billions of dollars spent on Amtrak are sunk costs and not relevant to future decisions, the question becomes—What is the opportunity cost of future billions spent on a failed transportation enterprise, that is, what more worthy transport program(s) could the money fund?

\* How to insure an efficient and profitable domestic and international passenger air transport system? In October 2005, three major airlines are operating under Chapter 11 bankruptcy protection, Delta, United and Northwest. These are the carriers that operate the long range, wide-bodied aircraft so prized by the military in the CRAF program.

\* Federal funding for mass transit and light rail systems. Annual funding has increased from approximately \$4.3 billion in 1995 to a requested \$8.78 billion in FY 2006. In 2005 there are 26 existing mass transit and light rail projects under construction. The Federal Transit Administration has requested \$1.53 billion to continue funding these projects including funds for new starts. If history is any guide, few, if any, of these new starts will be completed under budget. In retrospect, there are no better examples of cost overruns than in mass transit projects. Nor is there more potential for "bringing home the bacon" to a Congressman's or Senator's district or state.

Advocates for mass transit funding argue that public transportation systems will encourage Americans to limit the use of their automobiles which would be environmentally friendly and limit the demand for fossil fuels. In support of their FY 2005 budget request, the Federal Transit Administration stated that presently funded and proposed mass transit projects, when completed, would carry over 243 million riders annually. In its FY 2006 budget request, FTA noted that passenger miles traveled on transit systems has increased every year since 1995, taking riders off city streets,

commuting thoroughfares, and freight routes, and curbing the rise in road congestion. In assessing FTA's projections and rationale, one should remember that Amtrak's ridership has also increased annually but has not diminished its need for federal subsidies.

\*How to allocate and manage federal highway dollars. The Mother of all highway cost overruns can only be the Central Artery Third harbor Tunnel Project, an undertaking to relieve congestion in the city of Boston, MA. In 1985 the estimated cost was \$2.5 billion. In 1996 the General Accounting Office estimated the cost to be over \$10 billion (12). In 2004, the estimated completion date, total cost was estimated at \$14.475 billion (13) And its not over, continuing problems continue to plague the project in 2005.

\* In FY 2004, the Federal Railroad Administration received \$37 million to support next generation, high-speed rail development. In 2005 it received \$19 million. In terms of comparative magnitude these amounts are small when contrasted with DOT's FY 2006 request of \$59.5 billion. (14) But just as Amtrak garners support from the Congress because of the states and districts it serves, the potential for regional rail systems becoming, next to highways, a favored vehicle for pork barrel horse-trading, is many times greater. Seldom included in the calculations and projections of regional rail system advocates is the question---If regional rail systems are demanded by the public and hence potentially profitable, why the lack of interest by the nation's private sector freight railroads? With the exception of the Northeast corridor, a majority of Amtrak's rail passenger service operates on freight railroad tracks.

\* A comprehensive review of the role the nation's freight railroads play in the overall U.S. transportation system is long overdue. The return of privately owned railroads from the near disaster 1970s to a major component of the U.S. freight transportation system has received little attention from Congress with the exception of periodic attempts at re-regulation.

In 2004, with 70 percent of the trackage of the 1960s and half that in 1945, railroads moved 42 percent of all inter-city freight yet their share of the revenue generated was less than 10 percent. In 2003 the top 100 motor freight carriers had combined revenues of \$79.3 billion while the total freight revenue for all railroads was \$35.4 billion. (15)

Railroads are a capital intense industry. Fifteen to eighteen percent of revenues earned are earmarked for capital expenditures contrasted to 4-5 percent for U.S. manufacturing. In 2004 railroads do not earn sufficient revenues to entirely fund needed capital projects. (16) Between 1985 and 2002, the mean return on equity (ROE) for Class I railroads was 7.49 percent while the mean ROE for the Fortune 500 companies was 12.48 percent. (17)

Railroad track and right of way are underutilized assets. An estimated 50-60 percent of present right of way could be double tracked. The feasibility and cost of this option should be compared to the cost of increasing interstate highway capacity from 4 to 6 to 8 to 12 and beyond. (18)

\* Future railroad mergers. From 1980 to 2001 there were 14 mergers between major railroads. During this period average rail return on equity increased from under 4 percent to 7.2 percent. In 2005 there are seven major North American railroads, five American and two Canadian.

In June 2001 the Department of Transportation's Surface Transportation Board (19) proposed new rules governing rail mergers. Under the old rules firms were required to show that the proposed merger would preserve competition; under the proposed new rules merging companies had to show how the merger would increase competition. (20) Logic suggests that the STB's position is that henceforth rail mergers will be considered anti-competitive, i.e. that there are no further economic efficiencies to be gained by future rail mergers.

## Conclusion

Action on the proposed FY 2005 multi-billion highway bill was postponed until Congress returned in January 2005. With respect to the FY 2005 highway bill and highway transportation and transportation policy in general, the Wall Street Journal, in a September 20, 2004 editorial observed:

*Though (the bill) is not as gargantuan as the Members (of Congress) once hoped, it remains a pork-barrel monster that misallocates taxpayer resources at a time of war...What's missing here is a policy debate. The interstate highway system, which is why this logrolling started 50 years ago, is effectively complete. what we have now is a federal exercise in shoving all manner of unrelated spending under the "transportation umbrella." (21)*

In August of 2005, President Bush signed into law the \$286.4 billion *Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users* (title is not a joke) Act. The legislation provides \$50+ billion for railroad and mass transit programs. Amtrak will receive \$3.3 billion in operating subsidies through 2009 and \$4.9 billion for capital improvements. Thirty other programs, including safety programs, received lesser amounts. Overall, highway projects received approximately 80 percent of the total appropriation. As in the past, approximately \$35 billion went to "port barrel" projects in Congressional districts, most having a dubious relationship with respect to building and maintaining a national highway transportation system.

While it is unlikely that Congress will give up log rolling and pork barrel politics, there are precedents for providing individual members of Congress political cover in votes that should put the national interest ahead of reelection politics.

The Balanced Budget and Emergency Control Act of 1986 established maximum deficit amounts. If deficits exceeded these amounts, the President was required to issue a sequester order to reduce all non-exempt spending by a uniform percentage.

The proposed closing of a military installation in a congressional district or state historically has triggered objections by the affected Congressman or Senator. In the post World War II era, and later in the post Cold War era, log rolling reached new highs, that is, trading votes to block base closings without regard to DoD's recommendations. In 1988 a first round of base closings was recommended by an independent Base Realignment and Closing (BRAC) Commission, a commission created by Congress to make such recommendations and, in effect, provide a degree of cover for representatives from affected districts and states. The Act has been periodically extended. As of 2004, the net savings occasioned by closing surplus bases is estimated at \$17.5 billion. In 2005 Congress voted to close 22 major bases and restructure 33 others at an estimated savings of \$6 billion.

While it cannot be said that the above imposed congressional restraints on congressional spending have been implemented without exceptions, the legislation does indicate that Congress is willing to give up some prerogatives and examine and act upon independent recommendations made from a national interest viewpoint.

This paper concludes that the management and administration of transportation monies appropriated by Congress, civilian and military, are about as efficient as can be expected and that cooperation and coordination between civilian and military agencies in maximizing use of the nation's transportation systems leaves little to be desired. It also concludes, as the *Wall Street Journal* notes, all manner of unrelated spending is taking place under a "transportation umbrella."

The recommendation made in this paper is creation of an independent National Transportation Advisory Commission composed of individuals with acknowledged transportation experience and expertise. Both civilian and military interests would be represented. The Commission would annually review the state of our national transportation system, set priorities, and make recommendations with respect to funding.

Should an advisory commission, as described above, Congress could request the General Accounting Office, its investigative arm, to issue an annual report on the state of transportation in the United States, including funding priorities as well as recommendations with respect to new and existing programs.

## NOTES

- (1) Final sales is gross domestic product (GDP) minus change in private inventories.
- (2) The authority of the federal government to play a major role in developing a highway system is found in Article 1, Sections 3 and 8 of the U.S. Constitution which delegates to Congress the authority to “regulate commerce with foreign nations, and among the several states and with the Indian Tribes” and to “establish post offices and post roads.
- (3) The 2004 debate in Congress over the future of a federally funded national rail passenger system is a case in point. In October 1970, to insure a rail passenger system in the United States, Congress passed the Rail Passenger Service Act which created a “for profit” *National Railroad Passenger Corporation* (Amtrak). Among other things it insured competition for long distance bus companies such as Greyhound and Trailways, companies, as it turned out, that could ill afford a federally subsidized competitor.
- (4) Whitehurst, Clinton H., Jr. *The Defense Transportation System: Competitor or Complement to the Private Sector*. (Washington, D.C.: American Enterprise Institute, 1976) p. 20.
- (5) In both the Korean and Vietnam wars, hundreds of government owned ships that were in lay-up at NDRF anchorages were activated to supplement the tonnage needed to support American forces in Asia.
- (6) *The Defense Transportation System: Competitor or Complement to the Private Sector*. p. 13.
- (7) The United States Department of Transportation is a cabinet level department established by Congress on October 15, 1966.
- (8) In 2003, the U.S. Coast Guard was transferred to the newly created Department of Homeland Security.
- (9) The MSP program is one wherein privately owned shipping companies commit their vessels to a military call-up in time of emergency as determined by the Department of Defense. In return, federal subsidies are paid to the operators to compensate for lower cost foreign flag competition. In 2004 there are 47 ships in the program. In its FY 2005 budget DOT requested \$98.7 million for the MSP program.
- (10) As of January 23, 2003 thirty-three carriers had committed 927 aircraft to the CRAF program. Of these, 593 were wide-bodied aircraft with a minimum range of 3500 miles. These planes in time of emergency would augment the Air

Mobility Command's fleet of C-5, C-141 and C-17 long range aircraft. As a program incentive, the federal government restricts bidding for its peacetime business to airlines in the CRAF program or airlines that offer their planes but are not in the program.

- (11) The exchange of political votes in the context of economic theory is analyzed in *The Calculus of Consent* by James Buchanan and Gordon Tullock. (University of Michigan Press, 1962).
- (12) U.S. Congress, *House Report 104-631 Department of Transportation and Related Agencies Appropriation Bill 1997*.
- (13) Massachusetts Turnpike Authority, "*Turnpike News*" 2004. Technically, the Central Artery Third Harbor Tunnel Project is funded as a highway program. Argued here is that given the length (miles) and anticipated traffic flow, it can fairly be classified as a mass transit project.
- (14) U.S. Department of Transportation, *FY 2006 Budget in Brief-Federal Railroad Administration*.
- (15) *Commercial Carrier Journal Magazine* (August 2004) and American Association of Railroads, Web Home Page-Statistics- (October 2004).
- (16) The most pressing capital improvements are replacing older terminals and transfer points. Congestion at these points increases transit time between origin and destination and are impediments to full utilization of the nation's rail network.
- (17) Association of American Railroads, Policy and Economics Department, "*Railroad Profitability*." (July 2003)
- (18) The Federal Highway Administration FY 2006 request for the Federal-aid Highway Program was \$34.4 billion.
- (19) *The ICC Termination Act of 1995* removed numerous restrictive railroad regulations administered by the ICC. Remaining regulatory authority was transferred to the Department of Transportation's Surface Transportation Board.
- (20) The proposed new rule came about after an appellate court upheld an earlier STB 15 month moratorium on new rail mergers following a proposed Burlington Northern-Santa Fe-Canadian National railroad merger. The merger was later called off by both roads citing that the delays and uncertainty were not in their shareholders best interest.
- (21) *Wall Street Journal*. "Highway Jobbery." September 2004) p. A2

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