
NATIONAL EMPHASIS ON SECURITY: IMPLICATIONS FOR STATE AND LOCAL TRANSPORTATION POLICY

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INTRODUCTION

Since September 11, 2001, federal, state and local governments and most other institutions in the U.S. have focused their attention on “security”—looking for ways to make our nation and communities safer from terrorism and other threats to public safety, health and welfare. In time, some of that focus will shift to other issues, but security concerns will almost certainly influence public policy for many years to come.

This paper examines the implications of this emphasis on security for state and local transportation policy, using Thomas Dye’s very broad definition of public policy:

Public policy is whatever governments choose to do—or not to do. (1)

The paper is concerned with the implications of the national emphasis on security relative to what state and local governments have done or may choose to do, or not do, in the transportation arena.

The attacks on September 11th were directed against the United States—the entire nation, not just New York City, New York State, the District of Columbia, or the State of Virginia. The terrorists aimed at buildings with national significance and killed people simply because they were Americans or worked in America. Likewise, anthrax spores were sent through the U.S. Postal Service to the offices of national leaders, without regard to state or city boundaries. Appropriately, the federal government has mobilized in response to these horrific acts and other serious threats to our national security.

The federal government has the duty to “provide for the common defense,” and the federal government has acted accordingly. Relative to transportation, the U.S. Department of Transportation has taken aggressive action on several fronts, through the Office of the Secretary, the Federal Aviation Administration, the U.S. Coast Guard, the newly created Transportation Security Administration (TSA), and other modal administrations. Congress has passed legislation to enhance security in aviation and other components of the overall transportation system. The President and Congress have identified transportation as part of the nation’s “critical infrastructure” that must be protected.

However, state and local government also have significant responsibilities relative to security and transportation. Table 1 is a reminder of the extent of state and local governments in the United States. As shown in the table, the federal government is but one of almost 40,000 “general purpose” governments (including states, counties, municipalities, towns and township), most with security and transportation responsibilities. Also, of the “special districts” identified

by the Bureau of the Census, almost 1,200 had transportation as their primary purpose, 721 districts whose primary purpose was “highways” and another 476 whose purpose was “air transportation.” (2)

TABLE 1. GOVERNMENTS IN THE UNITED STATES (2)

National government	1
State governments	50
Counties	3,043
Municipalities	19,372
Towns and townships	16,629
School districts	13,726
Special purpose districts	<u>34,683</u>
Total	87,504

An important premise of this paper is that, while transportation security is certainly a national issue, state and local governments are more than spectators. State and local governments have considerable influence over the development of national policies and initiatives. Also, state and local governments are often the implementing agencies for federal programs, such as the federal-aid highway program, and state and local governments have considerable discretion in administering those programs. Finally, state and local governments have the power and, arguably, the resources to act independently and help ensure the security of their transportation systems and their citizens.

One final introductory note is that the circumstances driving and surrounding federal, state, and local governments relative to transportation security are still very dynamic. Many of the events that will determine the ultimate changes in state and local transportation policy may not have even occurred. The despicable acts on September 11th will influence policy, probably for generations, but our national leaders and security officials tell us that additional acts of terrorism are likely. State and local policies will change over time and will be heavily influenced by whatever subsequent attacks may occur, the consequences in terms of human injury and death, economic costs, and assessments of what we might have done to prevent or mitigate the incident.

Also, more time will have to pass before we will know the levels of risk that are socially, economically, and politically acceptable. Those decisions will also depend on the events yet to occur, on whatever successes we have in preventing further acts, and the characteristics of the strategies or programs that are material in those successes. The levels of acceptable risks may also be influenced by other demands on state and local budgets and other threats to public health, safety, or welfare.

Nonetheless, the emphasis on security does have immediate implications for state and local transportation policy—for what state and local governments are doing, or may or may not do, relative to transportation. The remainder of this paper examines some of those implications, beginning with an overview of the “national transportation system,” the framework within which state and local governments make transportation policy decisions. To some extent this paper examines what state and local governments have already done, and the paper ends with some

suggestions for further consideration. However, most of the paper is devoted to examining the context for state and local transportation policy and trying to identify key questions and issues relative to the new emphasis on security.

COMPONENTS OF NATIONAL TRANSPORTATION INFRASTRUCTURE

Just what do we mean by our “national transportation system” or our “national transportation infrastructure”? The “system” is really a set of separate but interrelated components owned, operated, and paid for by a jumble of governments, special purpose authorities, private companies, shippers, and passengers. At the highest policy levels, state and local governments are concerned with the entire system, the security of the entire system, and how transportation security affects the health, safety and welfare of the citizens. However, state and local governments, and various transportation “authorities” created or enabled by state and local governments, play different roles in different components of the system.

To help describe this context for transportation policy, Table 2 lists the major components of the national transportation system and identifies for each component: (1) the typical “owner,” (2) primary source(s) of capital funds, (3) primary source(s) of operating funds, (4) provider of day-to-day security and (5) first responders during crisis.

The listed “owners” in Table 2 reflect the arrangements that are most common throughout the nation, but exceptions can be found in virtually every state. Some transportation authorities own roads, bridges and tunnels as well as transit systems or ports. Some state agencies own air carrier airports, public transit systems, and railroads. The federal government owns roads within national parks and other federal lands. Regardless of the exceptions, the “owners” information highlights two important facts.

First, the federal government owns only a few components of our national transportation infrastructure, specifically the air navigation and traffic control system, the navigable waterway system, most locks and dams, and Amtrak. For all of the components, except Amtrak, the federal government provides only part of the infrastructure, and private sector providers deliver the services. Amtrak is unique in that the federal agency actually delivers the service, using infrastructure provided in part by the private sector.

Second, Table 2 highlights the important role of the private sector. The private sector is typically the owner of one-third of the components shown in the table. Further, for many of the publicly owned components, the private sector is an essential partner, such as with highways, bridges and tunnels as well as Amtrak and the air carrier and general aviation airports. The private sector operates the trucks and the airplanes and provides the track for Amtrak. Further, some communities contract with private companies to help operate public transit systems and traffic management centers and to maintain roadways.

Component of the Transportation Infrastructure	Typical Owner	Primary Source of Capital Funds	Primary Source of Operating Funds	Provider of Day-to-Day Security	First Responders During Crisis
Deep-draft seaports, Great Lakes, inland, and intracostal ports	Authority	Revenue bonds, federal, state, and local governments	Authority**	Authority police, contract security, USCG	Local/state police, local fire services, EMS, USCG
Marine terminals, equipment, and port intermodal facilities	Private	Private	Private	Private	Local/state police, local fire services, EMS, USCG
Marine vessels, containers, barges, and equipment	Private	Private	Private	Private	Local/state police, local fire services, EMS, other local
Inland and intracostal waterways	Federal government	Federal Authority**	Federal	USCG, state and local police	Local/state police, local fire services, EMS, USCG
Waterway locks and dams	Federal government	Federal government	Federal	Corps of Engineers or other federal	Local/state police, local fire services, EMS, other local
Air carrier airports	Authority	Federal, state and local governments	Authority**	Authority police	ARFF, authority/ local/state police, fire services, EMS
Airline passenger terminals	Authority	Revenue bonds, federal, state, and local governments	Authority**	Authority police	ARFF, authority/ local/state police, fire services, EMS
General aviation airports	Local government or authority	Federal, state, and local governments	Authority,** local government	Local police, contract security	Local/state police, local fire services, EMS, other local
Air navigation and traffic control system	Federal government	Federal government	Federal government	Federal government	Local/state police, local fire services, EMS, other local
Airfreight and package express systems, terminals, and hubs	Private	Private	Private	Private	Local/state police, local fire services, EMS, other local

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Component of the Transportation Infrastructure	Typical Owner	Primary Source of Capital Funds	Primary Source of Operating Funds	Provider of Day-to-Day Security	First Responders During Crisis
Passenger and cargo aircraft	Private	Private	Private	Private	Local/state police, local fire services, EMS, other local
Rail public transit systems (heavy rail, light rail, commuter)	Authority	Federal, state, and local governments	Fares, local and state governments	Authority, state, and local police	Local/state police, local fire services, EMS, other local
Bus public transit systems	Authority or local government	Federal, state, and local governments	Fares, local and state governments	State and local police	Local/state police, local fire services, EMS, other local
Passenger ferries	Authority or state government	Federal or state government	Fares, state or local governments	Local and state police	Local/state police, local fire services, EMS, other local
Transit passenger stations and stops	Authority or local government	Federal government	Authority, local & state governments	Authority, state, and local police	Local/state police, local fire services, EMS, other local
Intercity bus systems, terminals fleet	Private	Private	Private	Private	Local/state police, local fire services, EMS, other local
National Rail Passenger Corporation (Amtrak) system	Federal government	Federal government	Fares, federal government	Amtrak police	Amtrak/local/state police, local fire services, EMS
Intermodal passenger terminals	Authority or local government	Federal, state, and local governments	Authority, local & state governments	Authority, state, and local police	Local/state police, local fire services, EMS, other local

* Largely from dedicated fuel taxes, vehicle registration fees, and other user taxes and fees such as tolls

** Primarily from fees paid by users and lease revenues from tenants

Abbreviations used: EMS—Emergency Medical Services
 USCG—U.S Coast Guard
 ARFF—Aircraft Rescue and Firefighting (on-airport fire and rescue services)

Relative to funding, Table 2 shows that the federal government, while not a major owner of transportation infrastructure, is an important source of funding especially for capital improvements for highways, airports, and public transit. Obviously, the federal government also pays for expenses related to the components of the system that are federally owned, such as the air traffic control and navigation system, but also for activities such as harbor dredging, training of state and local transportation officials, transportation research, the work of the National Transportation Safety Board (NTSB), the National Motor Carrier Safety Administration (NMCSA), the U.S. Coast Guard, and other federal agencies that serve or support the transportation industry.

Another important consideration is that the majority of the public funds used to build and operate the transportation infrastructure come from direct or indirect user fees. Motor fuel taxes and vehicle registration fees, for instance, are the primary sources of state and federal funding for highways. Public transit operators receive significant portions of their revenues from passenger fares. Ports and airports rely heavily on revenues from leases and various user fees. Some freeways, turnpikes, bridges and tunnels are supported, at least in part, by tolls.

Of course, the railroads, pipeline companies, airlines, air cargo and express operators, trucking companies, steamship companies, barge operators, intercity bus companies, and other privately-owned transportation providers must rely on private financing for their capital improvements and must eventually pay all of their bills with revenues from their customers.

The column headed “Responsibility for Day-to-day Security” shows that the routine security of the transportation infrastructure is provided in a number of different ways. Most components of the highway system, from major Interstates down to city streets, rely on state and local police for day-to-day security. The major railroads, rail transit authorities, many deep-water port authorities, and the largest airport authorities have their own police departments. Some transportation providers hire private companies to guard specific locations. Others rely entirely on their non-security personnel and local police patrols. Although not shown in the table, some tunnels and bridges have special security patrols. The Corps of Engineers and the U.S. Coast Guard (USCG) provide some day-to-day security for ports, locks and dams, and waterways.

In the column labeled “First Responders During Crisis,” the answer is virtually the same for every component. Most of the first responders to serious incidents of any kind, even at federally-owned facilities, will always be local or state—law enforcement officers (local and, in some locations, state), local firefighters, local emergency medical personnel, local emergency managers, and local or state transportation, public works and utility workers. Many federal agencies will eventually respond to the incident, but except for incidents on military bases, the most highly secured federal facilities, and the ports patrolled by the U.S. Coast Guard, the first responders will all be from state and local agencies, mostly local. In some rural areas many of the first responders will be volunteers.

This broad overview of the “national transportation system” describes the general framework within which state and local transportation policy is made. Many exceptions can be found, and circumstances and priorities vary in important ways among the states and localities. For instance, the states that are home to the nation’s seaports and the states that border Canada and Mexico have some unique transportation issues. States with military installations, nuclear power plants,

and other sensitive facilities also have special issues, as do cities with major bridges or tunnels, intermodal terminals, and international airports. However, the system is complex in every state and community.

IMPLICATIONS FOR STATE AND LOCAL TRANSPORTATION POLICY

Recognizing the uncertainty of the situation and the complexity of the transportation system, some of the security implications for state and local transportation policy are discussed below, under the following headings:

- Institutional issues
- Financial issues
- Planning and design issues
- Human resource issues
- Communication and information management
- Building on experience
- Accelerating current initiatives

Institutional Issues

Security issues are now receiving the direct, personal, and sometimes undivided attention of many national leaders as well as the top executives in state and local governments –including governors, state DOT secretaries and commissioners, mayors, city managers, public transit directors, airport managers, and public works directors. Circumstances have demanded high-level attention. However, as we move beyond crisis management, responsibilities for security will be institutionalized and integrated into overall decision-making processes.

The federal government moved quickly in creating new agencies, reassigning responsibilities and resources, and breaking down some traditional boundaries. Two of the most notable actions from a transportation perspective were the creation of the Transportation Security Administration (TSA) within the U.S. Department of Transportation and the subsequent appointment of a career law enforcement officer to head the TSA. (3)

The TSA's initial focus is on screening airline passengers and baggage and performing other security activities at the more than 400 U.S. airports with scheduled airline passenger service. The Federal Aviation Administration (FAA) already had oversight responsibilities for these activities, and the employees in the FAA's Office of Civil Aviation Security are moving to the TSA.

However, the TSA is also hiring thousands of new employees, and TSA employees will soon be conducting security inspections at the 400 plus airports. Each airport will have a Security Director employed by the federal government. Passengers will be screened, not by airline or airport employees, private contractors, airport police officers, or local or state law enforcement officer, but by a federal agent. The situation is not totally unprecedented, since U.S. Customs agents have full responsibility for other activities in many of these same airline terminals, but the scale is certainly different.

Do the TSA activities relative to airports signal a broad change in federal policy? Is this the first step toward direct federal control of security throughout the transportation industry? Will federal agents conduct security checks for other modes of passenger travel? What about security in ports, rail terminals, and air cargo hubs? John Magaw, the Under Secretary of Transportation for Security, made the following statement to a House committee on January 23, 2002:

The TSA is charged with security for all the modes of transportation, and a focus on aviation mandates must not slow the TSA's pace in addressing the security needs of other transportation modes. Across every mode, we must continue to develop measures to increase the protection of critical transportation assets, addressing freight as well as passenger transportation. We will maintain a commitment to measure performance relentlessly, building a security regime that provides both world-class security, and world-class customer service, to the American people. (4)

In the meantime, will state and local governments make any institutional changes relative to transportation security? In December of last year, the National Emergency Management Association reported that:

While most states had terrorism task forces or WMD (weapons of mass destruction) working groups in place prior to September 11, many states felt the need to give terrorism preparedness a heightened awareness. At least eighteen states have created new task forces, commissions, advisory panels or similar bodies to further address terrorism preparedness. These are interagency, executive-level bodies that serve a number of purposes including review of: the state's existing emergency operations plans . . . critical infrastructure security and cyber terrorism issues, terrorism preparedness funding and resource needs and state authorities to deal with acts of terrorism. (5)

A more recent scan of state government Web sites indicates that most of these coordinating groups include the heads of cabinet-level agencies responsible for public safety and law enforcement, military (National Guard), public health, agriculture, transportation, and the state's emergency management agency responsible for "all-hazards" planning and response. Many also include representatives of agencies responsible for information technology, environment and natural resources, and other state functions. Also, every Governor has now designated a person as the state's point of contact with the President's Office of Homeland Security, and most of those contacts seem to be either the chair of the coordinating group or the director of the emergency management (all-hazards) agency.

The key point here is that state governments seem to be relying on coordination among existing state agencies and refocusing the resources of those agencies, rather than creating new organizational units. State transportation agencies are integral parts of those coordination efforts in most, if not all, states. New agencies could be created in the future, but for now the success of state efforts to improve transportation security seems dependent on developing new or more effective internal and interagency working relationships.

Especially important will be the working relationships between transportation agencies and the agencies responsible for public safety and security. What will these relationships look like? To

what extent will transportation agencies be responsible for security? To what extent will law enforcement agencies be responsible for transportation? How will decisions be made about: appropriate levels of funding, privatizing security functions, or assignment of security responsibilities? How will state and local agencies work together, work with federal agencies, and work with private transportation providers?

Regardless of what the Transportation Security Administration does, state and local transportation officials will have to develop new relationships with federal, state, and local law enforcement agencies. A unique aspect of this situation is that the federal-state-local transportation relationships are well developed and comprehensive, especially in the highway, public transit and airport programs. In many cases, the state and local agencies are, in effect, the implementing agents for the federal programs. However, federal, state, and local law enforcement agencies generally have completely separate jurisdictions and responsibilities, and seem to work together more on a project basis.

The American Association of State Highway and Transportation Officials (AASHTO) conducted a “Security and Emergency Response Survey” of state transportation agencies in November and December 2001. Some of the survey questions asked about outside agencies that had been consulted by the transportation agencies in preparing emergency response plans. By the end of January 2002, 51 agencies had responded. The results, shown in Table 3, point to some areas where new relationships may be needed. (6)

Of the twenty-nine agencies or categories of agencies listed in Table 3, the majority of the state DOTs consulted only five—FHWA, state emergency management agencies, state law enforcement and public safety agencies, and airports. Almost all of the DOTs consulted FHWA and their respective state emergency management agency. Fewer than a third of the DOTs consulted with any of the private sector organizations. Only nine consulted with a Metropolitan Planning Organization or Council of Governments, and fewer than a dozen consulted FRA, FTA, or the Research and Special Projects Administration (RSPA).

TABLE 3. NUMBER OF STATE DOT'S CONSULTING WITH OTHER FEDERAL, STATE AND PRIVATE SECTOR ORGANIZATIONS ON EMERGENCY RESPONSE PLANS (51 TOTAL RESPONSES) (6)

Number Consulting with Agencies of U.S. DOT		Number Consulting with Other Federal Agencies	
FHWA	48	FEMA	18
FAA	24	DOD	16
FMCSA	18	Security Agencies	12
U.S. Coast Guard	16	U.S. Treasury	7
FRA	11	Homeland Security	7
FTA	9	DOE	5
RSPA	2	HHS	3
		EPA	1
Number Consulting with Other State Agencies		Number Consulting with Private Sector Organizations	
Emergency Management	45	Railroads	15
Law Enforcement	38	Utilities	12
Public Safety	37	Motor Carrier Associations	13
Airports	26	Oil and Gas Companies	8
Health Departments	22		
Transit Agency	22		
State's Attorney	18		
Ports	15		
Bridge/Tunnel	11		
MPO/COG	9		

The point is not to criticize the DOTs that did not consult with one agency or another. In all likelihood, many of the other agencies also made decisions about emergency management with out consulting with their respective DOT. In some cases the DOT may not have *needed* to consult with all of the listed agencies. The point is that some of the listed agencies and the DOTs have common, overlapping, or mutually dependent responsibilities relative to security, and circumstances seem to call for closer working relationships.

Also, transportation agencies must decide on internal roles and responsibilities for security. As noted earlier, most of the large airport authorities, transit and port authorities, and railroads already have their own police departments, but "security" can involve many different activities. Responsibilities for those activities could be divided among different units, even in organizations with their own police forces. Within a state DOT, should a special unit be organized to promote (or oversee) security considerations throughout the department? Currently, many of the state transportation CEOs seem to be filling that role, but are procedures in place to ensure that information flows downward and throughout the organization as needed? (The AASTHO survey

found that only 28% of the CEOs for state transportation agencies had a federal law enforcement security clearance, although another 20% were "in the process" of obtaining a clearance.) (7)

Financial Issues

No one doubts that increased transportation security will have a financial cost. In some cases, new equipment or facilities will be needed. In other cases, the new concerns about security will increase the costs of otherwise needed capital improvements. In virtually every transportation organization, the greater emphasis on security will add to the costs of operations.

Even setting aside the costs of the damages inflicted on September 11th, all levels of government anticipate significant increases in spending. The President's budget proposal for FY 2003 includes almost \$38 billion dollars for "homeland security," not including expenditures to combat terrorism abroad. (8) The National Governor's Association estimates that the costs to state governments during the year following September 11th will exceed \$4 billion, with about \$3 billion devoted to bioterrorism preparedness and emergency communication and \$1 billion for guarding critical infrastructure. (9) The U.S. Conference of Mayors estimates that the twelve-month costs for the cities with over 30,000 population will be \$2.1 billion. (10)

And where will the money come from? Improvements in security at the state and local levels will require additional revenues or reduced expenditures for other purposes—or both. At the federal level, security spending is being blamed for the return to "deficit spending."

In addition to direct federal expenditures, by the Department of Defense, the Coast Guard, the TSA, and other agencies, the federal government has added significant new dollars to existing security-related grant programs and has proposed new grant programs and even higher levels of funding in upcoming years. Federal grants will be available to help improve public health systems, buy new equipment for first responders, upgrade emergency training, and help pay for other needed improvements. However, with one exception, no new federal funding has been set aside for transportation purposes, and it appears that, at least for the immediate future, state and local transportation agencies will have to rely on their existing revenue sources. The exception is a new Port Security Grants Program, administered by the TSA, to "finance security enhancements at critical national seaports." (11)

State and local transportation agencies are already facing significant budget problems. Travel is growing much faster than the capacity of the transportation system, and the unit costs of adding capacity are growing even faster. Maintenance and operating costs are demanding larger shares of transportation budgets each year. The yields on gasoline and motor fuel taxes, the mainstay of federal and state highway funding, are not keeping pace with travel, because vehicles are more fuel efficient and alternate, untaxed fuels are more widely used.

Further, some of the long-standing support for dedicated funding for transportation seems to be eroding. Maintenance and operating expenditures usually do not attract the same kind of political support as "new projects." Also, the overall strain on state budgets is putting "trust funds" in jeopardy.

Regardless, the most direct way to pay for more security would be to increase transportation user fees—taxes on fuel and vehicle registration, passenger fares, tolls, leases and rentals, and ticket taxes. The federal government has added a \$2.50 per segment (boarding) “security fee” on airline tickets, with the revenues dedicate to help pay for more security at airports.

In many cases, however, the benefit to the transportation user may not be so direct or so easy to calculate. Even agreeing on the actual costs of security may be tough. Sometimes transportation improvements will be specifically for security enhancements, and the security costs can easily be separated from other costs. Other times, however, improvements in security will be imbedded in larger programs and projects, and cost allocation will be difficult.

Also, equity issues have to be addressed. Should gasoline taxes be raised to pay for investments in system redundancy, or should general fund tax revenues pay some of those additional costs for economic security? Should transit passengers be charged higher fares to improve security at the downtown transit mall, or should property taxes cover some of the costs? Should specific roadway and bridge tolls be raised to help pay for more troopers assigned throughout the state?

State and local transportation officials, as well as private transportation providers, may also need to consider the costs they would have to absorb from an act of terrorism. Direct federal intervention and federal assistance would be expected, but which parts of the direct and indirect cost would the federal government pay? How much help could the state government provide to the local governments? Obviously, state and local governments have ongoing financial risk management programs that consider all types of emergencies and potential losses, but terrorism presents some new challenges. A group known as the Coalition to Insure Against Terrorism, which includes the American Association of Railroads and the Associated General Contractors, is asking Congress to enact a terrorism insurance plan or “security net” to “ensure that comprehensive terror-related coverage is both available and affordable” for the private sector. (12)

Human Resource Issues

State and local governments will also have to address a range of human resource issues. According to the Bureau of the Census, in March 2000, state and local governments employed more than 13 million full-time employees and almost 5 million part-time (15 million full-time equivalents). (13) All of those employees are concerned about security in their work places and about what new responsibilities they may have in preventing or responding to acts of terrorism.

The people most directly concerned are the police, fire fighters, emergency medical personnel, and other first responders who are most at risk. The Census reports that state and local governments employ approximately 870,000 law enforcement personnel and approximately 270,000 firefighters. (14) The Bureau of Labor Statistics estimates that another 170,000 people worked in 2000 as emergency medical technicians and paramedics. (15) The national Office of Homeland Security estimates that another 750,000 Americans are volunteer firefighters. (16) The above numbers total to 1.3 million full-time emergency responders and another 750,000 volunteers. (For comparison, the total active duty force for the U.S. military—Army, Navy, Marine Corps, and Air Force combined, was approximately 1.4 million people in 2000.) (17)

Many of the state and local first responders have questions about pay and benefits in relation to new job requirements, hazardous duty criteria, policies for overtime work, additional training to deal with weapons of mass destruction, the adequacy of their personal protection equipment, whether or not they have access to complete information about current threats, and other issues specific to their job, community, or personal circumstances. Many hospital and public health employees have similar questions.

Another 800,000 state and local employees work in transportation jobs (highway, airports, water transportation and terminals, and public transit), and some state and local officials have suggested that these workers should be the “eyes and ears” to protect the transportation infrastructure. (18) What will this mean in terms of actual day-to-day responsibilities, working conditions, and pay? What kinds of new training will be offered? What if one of these workers overlooks a threat? What if an overzealous transportation worker causes harm to innocent people?

State and local governments must also contend with human resource issues involving National Guard and Reserve forces. As an employer, state and local governments lose the services of valuable employees when they are called to active duty, and most state and local governments extend special benefits to ensure that the individuals and their families do not suffer financially while serving on military duty. Could long term or frequent use of National Guard and Reserve forces leave some public agencies seriously shorthanded and with unbudgeted expenses?

On the other hand, these reserve forces, especially the National Guard, are integral resources in responding to domestic emergencies of all kinds. National Guard troops have been very visible in U.S. airports since September 11th and have been guarding critical infrastructure throughout the nation.

The National Guard has dual missions, (federal and state), reporting to their respective Governors during normal circumstances, but subject to being “federalized” when needed for national emergencies and may even be used as part of overseas military action. In addressing the new concerns for security, what roles do the state governments see for their Army and Air National Guard units relative to security and how do those expectations match with the expectations of the federal government and the Department of Defense?

Finally, state and local governments will have to deal with issues related to background investigations and identification (ID) cards for people who work in transportation and other sensitive jobs. Some business and government leaders have proposed that a national system be established to issue ID cards for all citizens. Others have proposed national systems for transportation workers. (19)

Rear Admiral James Underwood of the Department of Transportation’s Office of Intelligence and Security, made the following statement to a Congressional committee in February, 2001:

The credentialing of transportation workers is but one part of a security system, and it is likely the most challenging because it raises fundamentally important concerns about individual privacy and interoperability. (20)

Regardless of what happens in Washington, state and local governments may require security checks for their own transportation employees and even for private sector employees working around public infrastructure. Some controversy will be unavoidable, not to mention the difficulties of administering background checks and IDs. Privacy and confidentiality issues will abound. The time and expense for thorough investigations will be substantial. Inevitably, some current employees with years of honorable service will not meet the established criteria because of some previously undisclosed incident in their backgrounds. Policy makers will have to weigh all of the likely controversies and costs against the risks of not performing such checks and not issuing IDs.

Legal Considerations

State governments have been quick to act on the legislative front, beginning with a package approved by the New York state legislature on September 17, 2001. The New York package added six new penal offenses, expanded the scope of the state's death penalty, loosened restrictions on eavesdropping, and authorized New York to join other states in the Emergency Management Assistance Compact (EMAC). (21)

Most, if not all, of the other state governments have also launched reviews of their state statutes and regulations, and bills are being debated in a number of states. The Web page for the "Suggested State Legislation" program sponsored by the Council of State Governments offers seven anti-terrorism bills that were enacted by state legislators prior to September 2001, along with a host of other bills that have been or are now being considered. (22)

In these various bills state legislators have attempted to deal with many different subjects, including cyber terrorism, paid leave for state employees who volunteer for emergency relief work, mutual aid pacts, possession of weapons of mass destruction or biological agents, protection of crops, requirements for drivers licenses and hazardous material endorsements, aerial spraying for agricultural purposes, and organizational changes within state government to facilitate homeland security. Many of these bills specify or clarify that certain acts are illegal and then prescribe minimum or standard penalties for violations of the anti-terrorism statutes. In some cases, the laws also impose penalties for making terrorist *threats*. Also, a number of states are considering bills that would amend Freedom of Information statutes and limit public access to certain records.

Relative to transportation, bills have been introduced or proposed in at least eleven states, including Michigan, Maryland, Virginia, and Florida, requiring background checks for flight training applicants or photo identification cards for aircraft pilots. The Aircraft Pilots and Owners Association (AOPA) has opposed the background checks for U.S. citizens and argued that any government issued ID card with a photograph should be adequate. (23) (Pilots' licenses are issued by the Federal Administration Agency (FAA) through a system of designated examiners. Some states also require a pilot to "register" in that state.)

The Florida legislature passed a bill in May 2001 that is now receiving national attention because the bill sets out standards for security at Florida's 14 deep-water ports. One provision requires that each port conduct background investigations and issue identification cards to all port workers, including truckers who move loads to and from the port. The American Trucking Association, the Teamsters and others are complaining that

requiring a separate ID at each port is unreasonable. (24)

Beyond the initial flurry of action, an array of other legislative or regulatory questions may still need to be addressed in many communities. When emergency plans are updated, agencies may need new powers, and new questions may be discovered. Which state or local regulations might need to be suspended or streamlined during emergencies? Who would have the authority? Can the police department tow away suspicious vehicles without waiting the normal time specified in the statute for abandoned vehicles? Can public transit vehicles and school buses be used interchangeably during emergencies? Which agency will have legal responsibility under different scenarios?

More broadly, do transportation workers, volunteers, or others who respond to incidents that are not part of their normal job duties have sufficient protection against liability? Can public funds be used to protect privately owned infrastructure, e.g., railroads, pipelines, and truck or river terminals? Can state and local governments justify such actions on the basis of public *interest*? What if the security of the private infrastructure is breached anyway?

Communication and Information Management

Transportation officials also must grapple with some thorny communication and information management issues. The overarching policy challenge is to ensure that secrecy for the sake of security does no more harm than good. Many of the basic issues related to secrecy and public information will be debated and eventually resolved at the national level. At every level of government the media and various public interest groups will be alert to abuses, and the courts may have the final say on some of the issues.

In the meantime, after decades of striving for more extensive public involvement in transportation planning and decision-making, circumstances now seem to call for secrecy and suppression of information. State and local governments have moved quickly to ensure that some information is more closely guarded. An article in the Lexington Herald-Leaders noted that, “State legislators from Florida to Washington are debating what should be concealed in the interest of public safety, such as blueprints for bridges, tunnels and airports.” The article questions whether state legislators are going too far in restricting information for public safety. (25)

Federal and state officials are in a quandary about the well-developed system for the placement of “placards” on buildings, tank cars, trucks, and other containers to alert emergency responders to the presence of hazardous materials. These placards may also identify the vehicle, containers, or building as an attractive target for malicious or deranged acts. Are the advantages of these placards in emergency situations enough to offset the risks? Can the information be made available to emergency responders in some other, more secure, way?

Public officials are also scrutinizing the information posted on the Internet. An article in the New York Times began with:

The Pataki administration has quietly ordered state agencies to restrict information available on the Internet and limit its release through New York's Freedom of Information

Law to prevent terrorists from using the material, . . . which includes maps of electrical grids and reservoirs as well as building floor plans. The state's new policy guidelines to restrict information and tighten security are occurring in lock step with the national debate over how to balance the need for safety and the public's right to information. (26)

The following message was posted on the Web site for the National Pipeline Mapping System, an initiative led by the Research and Special Projects Administration (RSPA) of the U.S. DOT:

The Office of Pipeline Safety (OPS) has discontinued providing open access to the National Pipeline Mapping System (NPMS). Recent events have focused additional security concerns on critical infrastructure systems. Due to these concerns, OPS no longer provides unlimited access to the Internet mapping application, . . . At this time, OPS is providing pipeline **data** (not access to the Internet mapping application) to pipeline operators and local, state, and Federal government officials **only**. (27)

Also, the Container Working Group, an offshoot of the National Infrastructure Security Committee, created by Transportation Secretary Norman Mineta shortly after the September 11 attacks, has announced that it “will not release the details of its recommendations to help prevent terrorists from launching an attack by using some of the estimated 5.7 million shipping containers that enter the country each year.” (28)

In addition to protecting specific items of information, transportation policy makers face some questions about public involvement in sensitive processes. As security becomes an integral part of transportation planning and decision-making, how will we ensure that the interests of all stakeholders are represented without compromising security? Will some participants be asked to “leave the room,” figuratively or literally, when certain subjects are discussed, or will those subjects be discussed off line from other transportation decisions?

Also, new standards and protocols seem to be needed for communication of risk information. How should transportation departments and authorities, private transportation providers, shippers, and law enforcement and other emergency response agencies share information among themselves and with the public and the new media? Which items of information will be shared, and how will the information be communicated? How will information be assembled and evaluated to present a comprehensive picture of vulnerabilities, threats, and potential consequences? Who will have access to the “big “picture”?”

Perhaps the toughest question: What information does the public need to make informed decisions? How much does the public need to know about vulnerabilities in the transportation system? Should the public be informed about specific threats? Should efforts be made to educate the public on how to interpret risk information?

All other issues aside, the public will have to rely on key public officials—state and local elected officials, department heads, transportation board members, airport authority, transit and port authority board members, transportation labor leaders, and others—to ensure that the public interest is served, even with less public scrutiny of the decision-making processes.

Planning and Design Issues

The emphasis on security also adds yet another factor for transportation planners and designers to consider. We now want our transportation systems to be “safe, effective, efficient, and *secure*.” New criteria may be needed for the planning and design processes, and efforts may have to be redoubled to involve law enforcement, fire services, and other emergency workers in the planning and design process. In many cases, the railroads, pipelines, trucking companies, airlines and other private transportation providers may need to be consulted sooner and more often.

Many of the questions about planning and design are technical, but many also have important policy implications. Planners, for instance, may need to consider whether additional capacity should be added, not on the existing route, but on a nearby but separate location to ensure redundant access during emergencies. Tradeoffs will have to be made between construction and the costs of more secure operations, between user costs and user security, and possibly even between an alternate that is easier to secure and one that provides a higher level of service.

Nuclear plants, other power generation and transmission facilities, fuel storage areas, chemical plants, intermodal terminals, military installations all need good access to the various components of the transportation system for daily operation and for emergency response. Designers will be challenged to provide that level of service but also a high level of security against unauthorized access.

The concern for security also calls for designers to be more mindful of the demands placed on transportation facilities during emergencies. How will emergency responders reach the scene? How will injured persons be evacuated from the scene? How will traffic be diverted, short term and for extended periods? Should areas be designed specifically for staging of emergency workers and equipment or storage of debris? How would firefighters get water to the scene? Could normal highway configurations (lane and ramp directions, traffic signals, signing) and transit routes be altered systematically to facilitate large-scale evacuations?

To ensure that security concerns are fully addressed in the planning and design processes, the agencies responsible for security and emergency response along with private sector transportation providers need to be involved in those planning and design processes. However, most law enforcement officers, fire service officials, and other emergency workers, as well as private sector transportation providers, can become frustrated with the slow and often laborious processes involved in transportation planning. Transportation planners and designers sometimes may not understand the need for immediate decisions and operational expedience. These communication issues are not new, but the need for solutions seems more urgent.

Influence of Federal Actions

In what ways will the federal government influence state and local policies relative to transportation security? How will the federal government use its authority and financial resources to encourage state and local government to carry out national priorities relative to security and transportation? Probably in all of the following ways:

- Laws or regulations that apply to all individuals and corporations
- Mandates directed specifically at state or local governments or the transportation industry
- Categorical funding programs specifically for transportation security

- Security requirements for use of federal funds under broad program categories
- Funding incentives or disincentives for specific actions
- Earmarked funds
- Training and other technical assistance delivered by federal agencies

Until now, the federal government has focused more on direct federal action, and the impacts on state and local government have been limited. In addition to the actions of the Transportation Security Administration, the FAA has closed three Washington, D.C. area airports for extended periods and established “no-fly” zones in numerous states. (29) Increased federal funding for specific programs has required increased state and local matching funds to help first responders buy equipment and to upgrade public health systems. FEMA, the Department of Justice, and the U.S. DOT are sponsoring new training programs and seminars.

However, major federal decisions with long-term implications for transportation are just ahead. The legislation that authorizes the federal surface transportation programs will expire on September 30, 2003, and the “reauthorization” process is underway. This is occurring at a time when the Administration and Congress have responded to the immediate security crises and are now able to consider using some or all of the powers listed above (e.g., laws and regulations, mandates, categorical funding) to advance transportation security.

Many of the current federal programs were initiated under the Intermodal Surface Transportation Efficiency Act, known as ISTEA, or the subsequent bill, known as TEA-21 (Transportation Equity Act for the 21st Century). With the new emphasis on security, might the next authorization be known as “SecureTEA”?

The new bill will influence state and local transportation policies for several years into the future. Will (or should) security be a driving influence? Should Congress use all of its powers to foster security, or simply add “security” to the list of eligible uses of federal transportation dollars? Should state and local governments have to prepare Security Impact Statements (SISs) for major projects in the future? Should law enforcement officials be designated participants in the Metropolitan Planning Organizations? Should new types of plans or planning processes be mandated? Should federal agencies have a “security veto” over state or local transportation decisions?

The money, of course, will get the most attention during the reauthorization process. State and local agencies and various interest groups will lobby to ensure that their respective jurisdictions and programs receive a fair (or better) share of the authorized federal dollars, that the funds can be used for purposes that are consistent with state, local, and interest group priorities, and that the federal “strings” will be tolerable. The process will not always be orderly, but most state and local officials and interest group representatives know how to participate.

However, two ingredients of this mix seem especially unclear. First, many state and local governments may not yet have a clear vision of what their role *should* be in transportation security and, therefore, may not be sure of their best interests in the new authorization. Second, no interest group exists to promote “security” in the same ways as other groups promote environmental protection, traffic safety, sustainable transportation, or economic growth. For both

of these reasons, organizations that represent the governors, mayors, and legislative officials, as well as AASHTO, the American Public Transit Association (APTA), and other transportation interest groups, will be especially important to the process. Hopefully, these groups can come to agreement on some basic priorities relative to security and ensure that the security provisions of the new bill will influence state and local transportation policy in constructive ways.

Building on Experience

All of the above notwithstanding, state and local governments have considerable experience that can be applied or adapted to deal with the increased emphasis on transportation security. State and local governments have know-how from planning and executing hurricane evacuations, preparing and executing plans for earthquakes, nuclear evacuation planning and drills, managing special events that stress the transportation system, all-hazards emergency management planning, including responses to inclement weather, floods and other natural disasters, and, of course, law enforcement.

The Coastal states that are in the path of hurricanes have significant experience in planning and executing emergency responses on a large scale. In these situations, critical components of the transportation system may be damaged or destroyed over a wide area at a time when the system is needed to evacuate people and to move emergency personnel and equipment. Concurrently, other critical or sensitive infrastructure, including power generation facilities, chemical plants, military installations, and hospitals, may also have been severely damaged or in danger. State and local governments in these states have experiences that seem almost directly transferable to dealing with security threats or attacks.

Other states, especially California, have experience in preparing for and dealing with earthquakes, both the associated damage to the transportation system and the exceptional demands placed on the system. The pictures of the collapsed upper deck of the Cypress Freeway (I-880) and the failed section of the San Francisco-Oakland Bay Bridge were probably the most widely seen images of the Loma Prieta Earthquake in 1989. The Northridge earthquake in 1994 caused bridge failures on freeways in the Los Angeles area. These and other earthquakes caused severe damage to the transportation system, placed exceptional demands on the system for emergency response, required accelerated work to repair the damages, and required the system to function for extended periods without full capacity. States and local governments would face the same challenges following a widespread, deliberate attack.

Since 1980, every nuclear power plant in the United States has been required by federal law to prepare emergency response plans and to ensure that “off-site” plans exist to protect public health and safety. The off-site plans, approved by the Nuclear Regulatory Commission (NRC) and the Federal Emergency Management Agency (FEMA), must provide for protective responses for the community in 10-mile and 50-mile “emergency planning zones.” Each site must test its plan biennially in an emergency exercise. State and local governments, including transportation officials, participate in the biennial exercise. The Nuclear Energy Institute reports that several nuclear emergency plans have been used successfully to cope with other types of local emergencies, such as chemical spills and fires. (30)

Most states and local governments have experience in preparing for and managing special events that stress the transportation system. State and local officials, with help from federal agencies and the private sector, have provided effective and secure transportation services for events as large as the Olympics, most recently in Atlanta and Salt Lake City, the Millennium celebrations, political conventions, Super Bowls, and other recurring events such as Mardi Gras, New Year's Eve at Times Square, athletic and sporting events, and a wide range of national and international conferences and local events. Large numbers of people and vehicles are moved to and from these events, often in very short periods of time, requiring extensive planning and precise execution.

On a more comprehensive basis, the Federal Emergency Management Agency (FEMA) and counterpart agencies in each state, large city, and many counties conduct ongoing "all-hazards" planning. These emergency management agencies also coordinate the use of resources needed in response to hurricanes, earthquakes, industrial or transport accidents involving hazardous materials, floods, snow and ice storms, and other emergencies. In May of 2001, FEMA announced the availability of new terrorism preparedness planning guidance for state and local governments. The purpose according to FEMA was to give state and local emergency planners:

- Information and a framework for developing supplemental emergency operations plans to address the consequences of terrorist acts involving weapons of mass destruction; and
- A consistent planning approach to help foster efficient integration of state, local, and federal terrorism consequences management activities.

The new guidance was published as a supplement to a publication entitled *Guide for All-Hazard Emergency Operations Planning*. (31)

Of course, law enforcement agencies at all levels of government and in the private sector were concerned about transportation security issues long before September 2001. Federal, state and local law enforcement agencies have extensive experience with transportation of drugs, stolen goods, and other contraband; hijacking; human trafficking; evading fares and tolls; evading inspections; and the safety and security of passengers and cargo. The railroads, steamship companies, warehouse operators, major shippers, insurance companies, and other private sector organizations have developed procedures and technologies to avoid, detect and respond to the theft of cargo. Railroad and transportation authority police forces work constantly to prevent unauthorized access and to apprehend violators. The report of the Interagency Commission on Crime and Security in U.S. Seaports (Fall, 2000) considered the possible threat of terrorist acts, but focused on theft of cargo and other crimes. (32)

Also, state agencies inspect all commercial vehicles trucks and license all motor vehicle operators. Federal, state and local agencies enforce environmental laws and regulations. State and local law enforcement agencies observe vehicles on the roadways, enforce state and local traffic laws, and deal with a wide range of "ordinary crimes" that involve transportation directly or indirectly.

Further, many state and local transportation agencies had incorporated terrorism preparedness in their security planning long before September 2001. Most large public transit agencies, for

instance, have formal safety and security plans based on joint efforts by the transit industry, the Federal Transit Administration, and the Transit Cooperative Research Program.

State and local transportation officials can draw on all of the experiences described above in responding to the new emphasis on security. Of course, state and local governments in Oklahoma, New York, Virginia and other states also have direct experience with major acts of terrorism.

Accelerating Current Transportation Initiatives

The increased emphasis on security should give new impetus to a number of transportation initiatives that were underway before September 11th and have the potential to make our transportation system more secure as well as more effective, efficient, and reliable. The tendency, of course, will be for advocates of every transportation initiative to argue that their program or project will “also improve security.” In fact, most improvements in the transportation system will have some security advantages, if only by making the system more resilient to attack. However, a few major initiatives, as described below, seem to have distinct promise.

The set of initiatives, usually described as Intelligent Transportation Systems (ITS), can contribute to security in a number of ways. For all components of surface transportation, video cameras and electronic sensors that monitor key components of the system can improve security for those components. System-wide monitoring allows for more informed responses when problems do occur, alerting transportation officials to problems and allowing quick and effective responses.

For highways, the information collected via cameras and other sensors are usually monitored in a “traffic management center.” These centers often house law enforcement agencies as well as transportation agencies, and virtually every center has direct communications, using multiple technologies, with law enforcement agencies, fire services, emergency medical services, other emergency responders, public transit operators, and public works agencies. Virtually all of the centers have backup power sources and many are designed to continue operations under adverse conditions, ensuring effective communication during emergencies.

Using the information gathered from the field, transportation and law enforcement officials in the traffic management can adjust traffic signals, ramp meters, and dynamic message signs along the roadway, or send travel information to the news media or directly to motorists. The center can also notify or dispatch emergency responders as needed.

An initiative often related to the deployment of ITS is “traffic incident management,” focusing on the prompt and effective response to crashes and other incidents (e.g., disabled vehicles, debris in the roadway) as well as special events. Such initiatives are usually built on coordination among transportation agencies, police, fire services, emergency medical services, and towing and recovery operators. Often, the transportation agency will establish a “freeway service patrol” to augment the resources already provided by the emergency response agencies. The programs usually target day-to-day incidents that create congestion on high-volume urban freeways, but the working relationships and resources developed as part of such programs have proven useful in responding to incidents that impact entire corridors over long periods of time

The potential security benefits of ITS are not limited to highways or to dealing with traffic congestion. For instance, the use of Geographic Positioning System (GPS) and other technology for tracking vehicles and cargo can enhance security and emergency response for trucking as well as rail and water transport. Advances in radio communications, enhanced commercial vehicle operations and driver credentialing technologies, access control, and other technologies offer multiple benefits for security. Further the integration of GPS with Geographic Information Systems (GIS), databases, and the Internet can allow delivery of powerful information for tracking and for responding to any incidents that might occur.

Other initiatives that seem to have important secondary benefits for transportation security include:

- Increasing the focus on, and commitment of resources to, highway “operations and management,” including regional efforts to facilitate communication and joint response to system disruptions
- Improving freight security and developing more effective working relationships between the public and private transportation sectors
- Developing technology, software, and operating procedures to facilitate effective on-scene communication between police, fire, emergency responders, other emergency responders, transportation officials and others who respond to transportation emergencies
- Enhancing public safety and security against *all* crimes at passenger terminals, bus and train stations, other passenger waiting areas, cargo terminals, and intermodal facilities
- Implementing projects that will help reduce traffic congestion as well as make the system more resilient or better able to respond to attacks

Finally, state and local governments may choose to accelerate projects or programs that have multi-state significance. Projects to assess or improve physical connections between states (especially major highway and rail bridges, ferries, or commuter rail services) may warrant special attention.

SUGGESTIONS FOR ADDITIONAL CONSIDERATION

The information presented in this paper is too general and the circumstances too unsettled to warrant sweeping recommendations. However, some ideas for further attention, discussion, and research are offered below in six broad categories, expressed as goals for state and local transportation agencies:

- Ensure clarity of institutional responsibilities
- Conduct comprehensive risk assessments and establish risk management procedures for state and local transportation
- Enhance working relationships with private sector transportation providers
- Enhance response capabilities for events that might target or stress the transportation system
- Incorporate security in transportation planning, design and operations

- Accelerate initiatives with comprehensive benefits

Ensure Clarity of Institutional Responsibilities

As noted above, most state and local governments seem to be relying on existing organizations and agencies to deal with transportation security issues. That approach has many advantages, but success will require that all of the existing organizations have a clear understanding of their new responsibilities. Change does not come easily in any organization, even when the stakes are very high.

A special issue for state governments is that some of the critical components of the transportation infrastructure from a state (or even national) perspective may be located in a small city or rural community with very limited resources for security or emergency response. Which agencies of state government will provide those resources? Or, will state government help the local governments develop expanded resources?

Also new working relationships are needed between and among federal, state, and local *transportation* agencies and federal, state, and local *law enforcement* agencies. As noted above, state and local transportation officials cannot assume that those relationships will develop automatically, and state and local transportation officials may need to take the initiative.

Best practices will emerge as state and local governments gain institutional experience with these new priorities, organizational structures, inter-agency relationships, and the interrelated related human resource, legal and funding implications. Research will be needed to identify those best practices and to learn from unsuccessful approaches.

Establish Comprehensive Risk Management Procedures for State And Local Transportation

Much work has been done and more is being done to assess the vulnerabilities of our national transportation system, develop means of protecting the system, and prepare effective responses for threats or attacks that impact the system. However, unique state and local needs and circumstances also need attention.

New tools will be needed to help state and local transportation officials understand their unique problems and develop appropriate responses. Which components of the state or local transportation infrastructure are the most important from a distinct state and local perspective? Which are the most vulnerable? What are the critical interrelationships between components of the transportation infrastructure and between transportation and other infrastructure, e.g. power, communications? What protection and response strategies would be the most effective for state and local governments? What proportion of state and local resources should be devoted to hardening versus improving response capabilities?

Enhance Working Relationships with Private Sector Transportation Providers

The emphasis on security is one more reason for state and local governments to have effective working relationships with the railroads, trucking companies, terminal operators, pipeline companies, airlines, and other private sector transportation providers that serve or traverse their respective communities. The public and private sectors have obvious common interests at

locations where the public and private infrastructure connect, intersect, or are in close proximity, e.g., intermodal facilities, highway-railroad crossings, pipeline crossings, fuel storage areas, and intercity bus terminals. Of course, the private sector transportation providers are critical to the overall transportation system in the state and community.

The emphasis on security also calls for a particular level of coordination with local representatives of the railroads, trucking companies, pipeline companies, intercity bus companies, and other providers. In many cases the local fire services have pre-planned responses to emergencies at private sector terminals and other sites, and the local police have worked with the railroad police, private security, or company officials on crime and law enforcement issues. However, comprehensive security and emergency response plans may not have been prepared, and state and local *transportation* officials may not have been participants.

Finally, state and local officials should recognize that private transportation providers, like other businesses, rely on public utilities and communication systems for essential services. Plans for protection and, when necessary, restoration of utilities and communication should recognize the importance of the private sector transportation providers in the overall transportation system.

Improve Response Capabilities for Events that Might Target or Stress the Transportation System

Whatever is done or not done by the federal government, state and local governments will still be the first responders to terrorist attacks, natural disasters, and other emergencies. The first calls for help will be answered by city police, airport police, port police, county sheriffs, state police, local fire services, emergency medical services, emergency managers, hazardous material workers, highway and transit workers, other employees of local government, and local representatives of railroads, trucking companies, pipeline operators, airlines and other private transportation providers.

However, a National League of Cities (NLC) survey of 465 cities following September 11th found that only 55 percent had terrorism readiness plans. (33) Undoubtedly, many new plans have been prepared in subsequent months and many old plans have been reviewed and updated. However, how many cities, counties, or states have effective, on-going planning processes that address transportation issues in depth and include meaningful involvement by transportation officials, public and private?

For events that target or stress the transportation system, once the first responders have the scene under control, the focus will shift to state and local transportation officials. Are workable plans in place? Can the needed resources, including people and equipment, be marshaled in a reasonable period of time? Are responsibilities clear?

As noted above, state and local governments have a wide range of experiences in responding to emergencies of all types. A 1999 report entitled “Improving Surface Transportation Security Through Research and Development,” by the National Research Council (NRC) committee, recommended the following:

(Security should be considered) as part of a broader picture, not a wholly new and different problem but one that is similar and closely connected to the transportation community's previous experience in responding to accidents, natural disasters, and hazardous materials. (34)

What may be lacking, however, is a “unified assessment” of all these experiences, and the related tools and techniques, to identify the collective best practices. (35) Which approaches are most likely to work in response to which circumstances? How can all of the transportation lessons from past disasters and emergencies be assimilated to advance the state-of-the-art and the state-of-the-practice for all major disasters, natural and manmade?

Incorporate Security in Transportation Planning, Design and Operations

State and local governments and private businesses are attempting to harden the existing transportation systems in a variety of ways. When the existing infrastructure was designed and built, security was not a primary concern. When existing operating procedures were developed, security was not a primary concern. Physical and procedural retrofits and adaptations have been necessary.

For the future, security should be a primary consideration in the planning and design of facilities and services and in the development and implementation of operating procedures. Transportation planners and engineers will need new planning and design guidelines and procedures. The modal administrations within the U.S. DOT and the various trade and professional organizations in the transportation industry will all have roles in developing the new guidelines and procedures.

State and local transportation officials will also have a role in developing the guidelines and procedures, but, more important, state and local transportation officials will make almost all of the decisions about whether security is actually incorporated in planning, design, and operations. Further, the success of the new guidelines and decisions-making processes will depend largely on whether state and local law enforcement, local fire services, emergency medical services, and other emergency responders have participated in the processes. In developing new guidelines and procedures, equal attention should be given to the processes for involving law enforcement and emergency response agencies in transportation planning, design and operations.

Accelerate Initiatives with Multiple Benefits

The National Research Council (NRC) committee report, cited above, advocated “the value of taking a *dual-use* approach, in which security objectives are furthered at the same time as other transportation goals.” (36) The new emphasis on security seems to reinforce that notion.

Transportation projects that have a security benefit, even if the security benefits are secondary, should receive priority over projects without security benefits. Likewise, security projects that have other transportation benefits should receive priority over projects solely for security purpose. Of course, the choices may not be so obvious, but the new emphasis on security should move certain projects higher on the priority list, such as:

- ITS projects that enhance security as well as safety and help reduce traffic congestion

- Traffic incident management programs that improve the capabilities for dealing with major disruptions
- Law enforcement actions that would improve transportation security against terrorism as well as assaults, theft and other criminal activities directed against passengers and cargo
- Physical and operational improvements that would improve security and help reduce congestion, for highways, airports, railroads, seaports and other components of the transportation system

Also, efforts to combat cyber terrorism have to be mentioned. The potential for a cyber attack should not be overlooked in every aspect of the transportation system. FAA is certainly aware of the threats to the air traffic control system, and the IT professionals in every transportation business and public agency are aware of the damages that can be caused by viruses and hackers. ITS technologies are being deployed at a rapid rate by state and local transportation agencies, and protection of the ITS systems should be recognized as a particular vulnerability.

CLOSING

This paper raises far more questions than it answers. Hopefully, the questions are relevant and will contribute to constructive discussion of the emphasis on security and the implications for state and local transportation policy.

In the end, state and local transportation officials will sometimes have to choose between projects or programs that will improve security and those that will improve highway safety, reduce congestion, or accomplish other important goals. Few would argue that security warrants a higher priority than in the past, but more that more than 40,000 people are killed in highway crashes in the U.S. each year, including more than 5,000 pedestrians. (37) Congestion on the nations highways is costing billions of dollars each year, \$78 billion just in the urban areas with over 100,000 population. (38) Congestion is also a growing problem for our airports, seaports, and railroads. Environmental protection, accessibility, and sustainability are still important. State and local transportation officials will have to sort through all of the competing priorities, considering all of the implications.

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