

**SMALL COMMUNITY TRANSPORTATION SECURITY  
SECURITY ASSESSMENT AND PRACTICES PILOT PROJECT**

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## **ABSTRACT**

Today's small-community security professionals operate in an era shaped by the ever-present specter of domestic and international terrorism, increasingly interdependent webs of interaction across public and private sectors, and rapidly advancing technological innovation. In such a complex and interconnected world, there can be little doubt that the need for awareness, coordination and strategic vision on matters of transportation security is critical, even for small communities. This report is a pilot study of transportation security initiatives and activities that are underway in Stutsman County, North Dakota. The goal of this pilot study is to better understand the kinds of challenges that face security professionals in small communities and the kinds of innovative solutions that can be found. Drawing on the experiences from Stutsman County, which is wrestling with security related to multimodal transportation systems, this report will identify and share some best practices. The goal of this report is that other small communities will be able to enhance both their security preparedness and transportation system resilience by applying the most relevant lessons in their own localities.



# TABLE OF CONTENTS

1. INTRODUCTION .....	1
1.1 Objective.....	3
1.2 Organization .....	3
2. SMALL COMMUNITY TRANSPORTATION SECURITY .....	5
2.1 Community Profile .....	5
2.2 Selection Criteria and Methodology.....	6
2.3 Thinking Transportation Security.....	8
Small Community Aviation Security.....	10
Rural Highway Security .....	11
AgroTerrorism Transportation Security Issues.....	12
Freight Rail Security.....	13
Jamestown Dam and Reservoir .....	15
Pipelines and Powerlines .....	16
3. TRANSPORTATION SECURITY BEST PRACTICES .....	17
3.1 Setting Security Goals .....	17
3.2 Identifying Assets, Systems, Networks and Functions.....	18
3.3 Assessing Risks (consequence, vulnerability and threats).....	19
3.4 Prioritizing Action .....	21
3.5 Implementing Protective Programs .....	22
3.6 Measuring Effectiveness.....	22
3.7 Updating Protocols and Perspectives.....	23
4. BEST PRACTICES SUMMARY.....	25
APPENDIX A. The Transportation Security Checklist .....	27
REFERENCES.....	29



# 1. INTRODUCTION

Today's small-community security professionals operate in an era shaped by the ever-present specter of domestic and international terrorism, increasingly interdependent webs of interaction across public and private sectors, and rapidly advancing technological innovation. With these diverse forces at work, there can be little doubt that the need for awareness, coordination and strategic vision on matters of transportation security is critical. The need to secure transportation assets and operations flowing through America's small communities is a vital, yet often overlooked, dimension of defending the homeland.

Indeed, despite the need for innovative thinking about transportation security in small communities, there is a noticeable dearth of literature on the topic. Much of what is written on securing transportation systems emerges out of a homeland security disciplinary perspective. Although useful, this literature often treats transportation systems as static infrastructure, not the dynamic and complex systems that they are.

For instance, a Harvard University report, "Beyond the Beltway: Focusing on Hometown Security Recommendations for State and Local Domestic Preparedness Planning A Year After 9-11," was designed to focus attention on the most urgent local and state needs and offers a blueprint for taking the kind of action that would address them." The report mentions transportation systems security only in passing as a component of private sector security practices. (Kennedy School, 2002)

Studies that are more explicitly focused on transportation systems security tend to gain more traction over the complex elements of securing transportation infrastructure. The *National Needs Assessment for Ensuring Transportation Infrastructure Security* report is one such example of issues related to transportation security explicitly (Ham and Lockwood, 2002). Although dedicated to matters of transportation security in a post-9/11 world, this report contains no discussion of transportation security in small communities nor does it explore the differences between small community and urban transportation networks. In fact, according to the report, state departments of transportation may want to tweak their transportation security strategies based on, "characteristics such as scale, additional responder risks, crime scene management, and other factors related to the use of WMD."

There is a compelling case to be made, however, that security transportation networks in small, rural communities is different in kind, not just in scale, from approaches employed in urban and more populated areas.

In a study on rural transportation security by the University of Arkansas, which is one of the few studies that specifically address the issue of security vulnerabilities in rural transportation networks, the authors identify the factors that make securing rural transportation networks qualitatively different from urban networks (Nachtmann, et. al, 2007). Nachtmann's report was informed by previous research that had examined the differences between rural and urban healthcare providers (Stommes and Brown, 2002). That research had found that transportation networks in rural areas face higher costs due to the widely dispersed population and industry but are critical for enabling commercial shipping and for linking rural residents with distant services.

Some of the best headway in thinking about how to conceptualize threat, vulnerability and response when it comes to attacks against transportation systems is sector specific. For instance, the RAND Corporation released a report on terrorism and rail security that focused on historic

threats to, steps made in and looming challenges facing both passenger and rail security (Riley, 2004). The report, although useful in its sector specificity, does not integrate the issue of rail security into the national transportation system nor does it make mention to the stark differences between securing rail lines in the vast swaths of rural areas and in urban, highly populated areas. Although innovative thinking is being done on the tactical level with regard to enhancing the security of pipelines, maritime, aviation, and surface transportation, including highways and trucking, virtually none of this literature speaks to small and rural community transportation security nor does it adequately situate each subsector into the broader national transportation system. This report beings to address these limitations in existing transportation security literature.

North Dakota's Department of Emergency Services (NDDDES) faces the need to secure transportation networks in the state. On its website, the NDDDES states:

*North Dakota has seen its share of train derailments, downed aircraft and multi-vehicle accidents. North Dakota's most memorable transportation accident occurred in Minot at 1:40 a.m. January 18, 2002, when 31 train cars derailed, resulting in a massive anhydrous ammonia leak. At the time, it was the largest anhydrous ammonia leak in the nation. The incident required a multi-faced response from local, state, federal and private resources to address the containment of the hazardous materials and public health issues. (NDDDES, 2009)*

Stutsman County security and emergency response officials have made important strides in mitigating the threats that they can expect and preparing for the threats that they cannot. They have had to use all resources at their disposal and improvise where necessary.

There are three main reasons that Stutsman County is a useful model for thinking about small community transportation security solutions. The county's leadership is dedicated to integrating its efforts, taking a regional perspective with regard to transportation security and leveraging its limited resources in innovative ways.

First, leaders within the county have recognized that interagency integration, synchronization and coordination is critical. One important step toward integrating county law enforcement and emergency management activities is the Law Enforcement Center (LEC) building. The LEC houses the Jamestown Police Department, Stutsman County Sheriff's Office, North Dakota Highway Patrol, Veterans Services, Emergency Management, Communications Center/9-1-1 and Corrections Center. Placing these various agencies under a single roof structurally enhances the likelihood of interagency cooperation, communication and strategizing.

Equally if not more important to the success of Stutsman County's transportation security activities is the county's Local Emergency Planning Committee (LEPC). The LEPC is an interagency coordination committee, comprising up to 40 representatives from agencies across the county. It has been proactive in preparing for and handling all kinds of security incidents, including those related to transportation security. The LEPC will be a focal point of this report. Second, the county's regional perspective has helped it transcend parochial limitations. Instead, the LEPC and county leaders have been able to proactively focus on building capability and bolstering preparedness. Neighboring counties may have issues, incidents or emergencies that have bleed-over effects into Stutsman County. They may require regional support in terms of law enforcement or emergency response. Regional perspectives have helped Stutsman County's leadership better integrate federal, state, county and city needs and players.



Finally, security professionals in the county have found innovative ways to stretch limited resources and creatively meet multiple objectives. In short, in an environment of scarce resources, Stutsman County has been consistently seeking to position itself ahead of the curve when it comes to transportation security.

## **1.1 Objective**

This report is a pilot project designed to better understand how small communities prepare for and respond to transportation security incidents. The hope is that the insights from this study will aid other smaller communities in North Dakota and the Upper Great Plains Region to think more critically about their own challenges, resources and opportunities.

This report attempts to accomplish three basic goals. First, it seeks to help small communities better understand what resources and measures are currently in place to help them prevent and deter acts of terrorism or damage against transportation systems, assets and operations. Second, it seeks to offer ideas for small and rural communities to enhance the resilience of their own transportation systems. And third, it will offer a series of best practices that might serve as a model for improving the cost-effective use of resources for transportation security.

## **1.2 Organization**

The decisions made by Stutsman County leaders about implementing innovative and comprehensive transportation security practices offers a number of lessons learned that might be usefully applied to other small communities. The report first introduces the relevant features of Stutsman County and its county seat of Jamestown. It explores the factors that make Stutsman County an ideal place to profile for this report on innovative approaches to transportation security in small communities.

The report then discusses the concept of risk with regard to transportation security. Defining risk as a function of threat, vulnerability and consequence, Stutsman County officials use risk to help them better prioritize the allocation of scarce financial, labor and training resources. Next, the report conducts a mode-by-mode analysis of how Stutsman County's law enforcement, emergency management and government leaders have successfully worked to mitigate a variety of potential risks, identify and resolve critical vulnerabilities and proactively prepare for the unexpected.

This analysis highlights Stutsman County's commitment to interagency coordination through the Local Emergency Planning Committee, its focus on regional over local approaches and its ongoing efforts to make the most of limited resources.

The report then teases out more specific best practices from that trifold framework by situating those lessons learned from Stutsman County in the broader context of national homeland security, critical infrastructure and key resources perspective. Finally, the report offers a transportation security checklist, which is informed by the experiences of Stutsman County, but applicable to small communities elsewhere.



## 2. SMALL COMMUNITY TRANSPORTATION SECURITY

### 2.1 Community Profile

Located in the south-east portion of North Dakota, Stutsman County was organized in 1873. It covers a total area of 2,304 square miles with a population of 22,241. Sitting at the intersection of these two major highways and midway between Bismarck (the state capitol) and Fargo (the state's largest city), Stutsman County is an important and highly trafficked node in America's increasingly complex surface transportation system.

The county seat, Jamestown, is located at the intersection of two major highways, Interstate 94 and Highway 281. Interstate 94 is the northernmost Interstate Highway that runs east-west. It connects the Great Lakes and Intermountain regions of the United States. In the west, it terminates in Billings, Montana at a junction with Interstate 90. In the east, it terminates at the American side of the Blue Water Bridge in Port Huron, Michigan, and Sarnia, Ontario, on the Canadian side.

U.S. Highway 281 is a north-south running highway. Stretching 1,872 miles, it is the longest continuous three-digit U.S. Route. Highway 281 picks up from Canadian Highway 10 at the International Peace Garden, north of Dunseith, North Dakota. The highway runs south to just short of the border with Mexico, terminating at Brownsville, Texas.

In terms of rail service, Stutsman County is served by the Burlington Northern Santa Fe Railroad (BNSF), which does not provide passenger service but does provide freight service. Trains, which pass through downtown up to 26 times daily, have raised concerns about excessive noise as well as over the movement of hazardous materials. Rail and freight security as well as hazardous materials planning is, therefore, a critical component of Jamestown's overall transportation security and emergency preparations, as stated by the Stutsman County public website.

On the aviation front, Jamestown airport is served by Northwest Airlines and features two round-trip flights to Minneapolis daily, Monday through Friday, with one round-trip flight on Saturday and one on Sunday. In addition to its role as a commercial service airport, Jamestown Regional Airport supports a variety of general aviation activities. It has become increasingly important to the business community, both for those companies owning their own aircraft and to those chartering aircraft for business trips. Flying lessons, charter flights, aircraft sales and rentals, aircraft repairs and fuel can be obtained from on-airport businesses. The Army National Guard also uses the airport for occasional helicopter operations.

Stutsman County, like numerous counties in North Dakota, also has an extensive network of underground pipelines running through it. County emergency responders must be prepared to deal with leaks or damage to the pipelines, be it inadvertent or intentional, and the potentially disastrous consequences that could result.

Jamestown Reservoir and Dam, managed by the Bureau of Reclamation, is two miles north of Jamestown on the James River, a tributary of the Missouri River. The river drains an area of more than 21,000 square miles in North and South Dakota. The area is open, accessible and frequented

as it features a modern campground, concession, boat rental, and primitive camping. The public use area is open seven days a week with overnight camping, water, and 110 electric hookups.

Four miles north of Jamestown is the Pipestem Dam, which was constructed on the Pipestem Creek for flood damage reduction, fish and wildlife enhancement, and recreation. Construction of the dam began in June 1971, and was completed in 1973. The dam measures approximately 4,000 feet in length, with a maximum height of 107.5 feet from the stream bed to the top of the dam. It is administered by the U.S. Army Corps of Engineers.

Pipestem Lake is 5.5 miles long and has a maximum depth of 30 feet. The lake drains an approximate 594 square mile area, and has a multipurpose storage capacity of 8,944 acre-feet. The public use area located immediately downstream from the dam has picnic shelters and fireplaces. Other areas offer a rifle range, and allow boating, fishing, and hunting.

The broad array of multimodal transportation networks operating in Stutsman County poses a clear set of complex challenges for its officials. The next section will explore what specifically makes Stutsman County a useful subject for this pilot study. It also discusses the concept of risk, which is the driving issue for Stutsman County emergency managers, first responders and law enforcement professionals to think about transportation security.

## 2.2 Selection Criteria and Methodology

Multiple counties in the state of North Dakota were considered for this pilot study of small community transportation security activities. Stutsman County was selected because it fulfilled three important categories. First, it has a population under 50,000, which is the conventional size cut-off for designation as a “small community.” Second, the county has multiple modes of transportation operating within its borders. These include aviation, rail freight, highway, pipelines and waterways. Third, a preliminary examination of Stutsman County’s recent activities and initiatives designed to improve transportation security in the county and beyond suggested that the county leadership was proactive on this issue.

The question of risk to small communities, particularly those in the Upper Midwest, is not one that has been seriously discussed. This study conceptualizes ‘risk’ as being a function of threat, vulnerability and consequence. By disaggregating ‘risk’ into these three, interacting concepts, it becomes easier to generate a best-practices list that can be functionally differentiated and applied.

1. **Threat:** Small and rural communities must ensure that they prioritize and allocate resources in a way that is informed by the actual threat posed to transportation systems, which tend to be punctuated in nature. In other words, threats to transportation systems occur infrequently, often separated by long periods of time without incident.

The importance of timely, accurate and reliable intelligence cannot be underestimated here. In North Dakota, the state intelligence fusion center, located in Bismarck, actively disseminates threat related intelligence to counties and localities.

2. **Vulnerability:** Small and rural communities tend to have a stronger sense of their own security vulnerabilities than anyone else. It is imperative that small communities complement their intelligence-based risk assessments with self-diagnosed vulnerability assessments.

3. **Consequence:** In the rare case that a transportation security emergency occurs, small and rural communities must have a clear sense of what resources are available and how long it will take to obtain them.

The national transportation network is a vast, open, accessible, interconnected system with as much as 85% of the transportation infrastructure in the United States owned by the private sector. The sheer size and capacity of this sector, which moves, distributes, and delivers millions of passengers and goods each year, makes it a highly attractive target for terrorists and a challenge to secure.

As identified by the Transportation Research Board's recently published, *A Guide to Traffic Control of Rural Roads in an Agricultural Emergency*, several of the national planning scenarios outlined in the Homeland Security Presidential Directive/HSPD-8, National Preparedness, call on transportation agencies to prepare for their roles in the National Incident Management System (NIMS) which provides "a consistent nationwide approach for federal, state, tribal, and local governments to work effectively and efficiently together to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity."

The transportation systems sector can be usefully segmented into six key subsectors, or modes, which operate independently within both a regulated and non-regulated environment, yet are also highly interdependent. Such interdependence is a defining characteristic of the transportation system.

The six modes— aviation, maritime, mass transit, highway, freight rail, and pipeline—all contribute to transporting people, food, water, medicines, fuel, and other commodities. The combined efforts of the modes play an important role in maintaining the public health, safety, and economic well-being of the country.

- **Aviation** includes aircraft, air traffic control systems, and approximately 450 commercial airports and 19,000 additional public airfields. This mode includes civil and joint-use military airports, heliports, short takeoff and landing ports, and seaplane bases.
- **Maritime** includes the wide range of water-faring vessels and consists of approximately 95,000 miles of coastline, 361 ports, more than 10,000 miles of navigable waterways, 3.4 million square miles of Exclusive Economic Zone to secure, and intermodal landside connections, which allow the various modes of transportation to move people and goods to, from, and on the water.
- **Mass Transit** includes multiple-occupancy vehicles, such as buses, trolleybuses, vanpools, ferryboats, monorails, heavy (subway) and light rail, passenger rail (including both commuter rail and long-distance rail), automated guide-way transit, inclined planes, and cable cars, designed to transport customers on regional and local routes.
- **Highway** encompasses more than 4 million miles of roadways and supporting infrastructure. Vehicles include automobiles, buses, motorcycles, and all types of trucks, trailers, and recreational vehicles.
- **Freight Rail** consists of hundreds of railroads, more than 143,000 route-miles of track, more than 1.3 million freight cars, and roughly 20,000 locomotives.

- **Pipeline** includes vast networks of pipeline that traverse hundreds of thousands of miles throughout the country, carrying nearly all of the country's natural gas and about 65% of hazardous liquids, as well as various chemicals.

North Dakota's security professionals are concerned with four of these areas, including aviation, highway, freight rail and pipeline. They also focus, although to a lesser extent, on the mass transit category with regard to intra- and inter-city bussing. Maritime security comes into play with regard to moving exports out of the state by way of river barge on the Missouri River, and the 1710 square miles of inland water that is used to support the agricultural and energy sectors in the state.

The unique characteristics, operating models, responsibilities, and stakeholders involved in each area combined with the comparatively small amount of resources provided for safeguarding these sectors makes the challenge facing North Dakota particularly difficult.

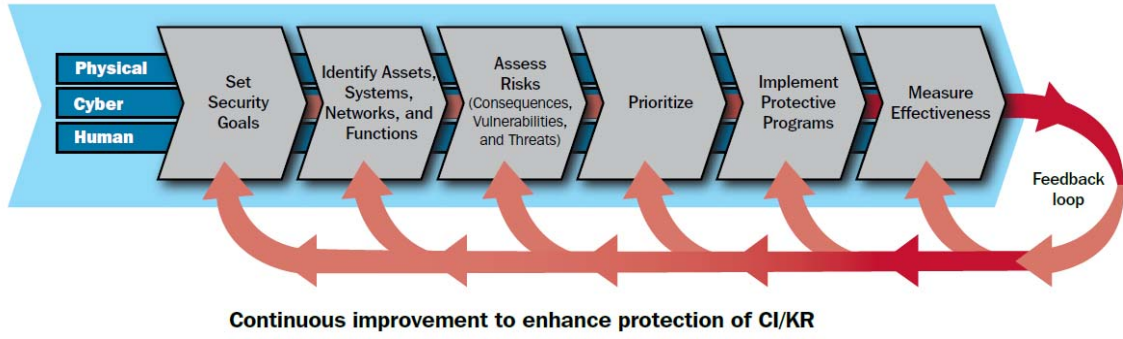
## **2.3 Thinking Transportation Security**

Protecting critical transportation infrastructure and operations is essential for security, public health and safety, economic vitality, and way of life from the national to the local level (Lofgren, 2008). There is a nationwide understanding that attacks on transportation infrastructure and operations could significantly disrupt the functioning of government and business alike and produce cascading effects far beyond the immediate location of the incident.

Direct terrorist attacks and natural, manmade, or technological hazards could produce catastrophic losses in terms of human casualties, property destruction, and economic effects, as well as profound damage to public morale and confidence. Weaponizing components of America's critical infrastructure, particularly those in the transportation sector, could have even more devastating physical and psychological consequences.

While significant resources have been dedicated to bolstering security of that infrastructure and operations on the national level and in major urban areas, less focus has been paid to small communities and rural areas. Although less immediate risk currently exists for small communities, ensuring that they are aware of, and prepared to, meet future security challenges is critical.

On a federal level, the National Infrastructure Protection Plan (NIPP) and supporting Sector-Specific Plans (SSPs) provide a coordinated approach to critical infrastructure and key resources (CI/KR) protection roles and responsibilities for federal, state, local, tribal, and private sector security partners. The NIPP sets national priorities, goals, and requirements for effective distribution of funding and resources which will help ensure that our government, economy, and public services continue in the event of a terrorist attack or other disaster.



*From the 31 July 2007 NIPP-SSP*

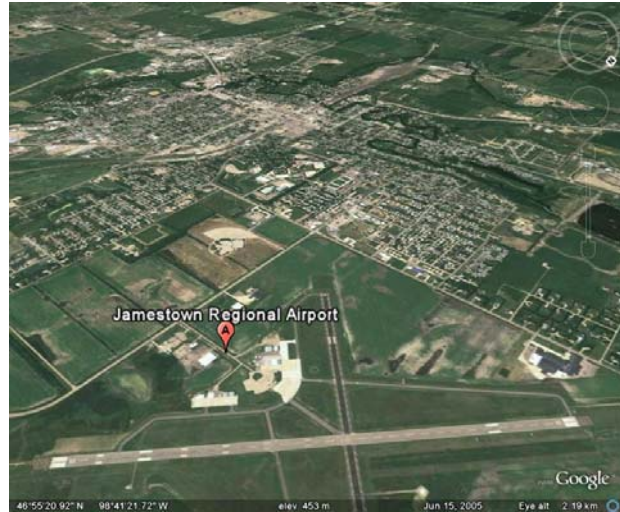
The NIPP’s sector specific plans address all modes of transportation - aviation, maritime, mass transit, highway, freight rail, and pipelines given that the national transportation system is a vast, open, interdependent networked system that moves millions of passengers and millions of tons of goods each day. Insuring its security is the mission charged to all sector partners, including government and private industry stakeholders.

Defending against and preparing for threats to transportation systems means confronting at least two major challenges: first, there are complex implementation issues for industry and state and local governments. Second, they have a very high materiality (i.e., very significant consequence and plausible likelihood). Strategic risks, such as the use of some element of the transportation network as a weapon of mass destruction (WMD), have a multi-jurisdictional and sector-wide effect.

Like most counties in North Dakota, Stutsman County is home to a broad array of transportation systems. The Jamestown airport offers commercial access to the national aviation sector. The powerlines and pipelines serve both commercial and residential needs as they move energy, water and natural gas. Highways connect Stutsman County’s businesses and residents with the rest of the state, region and nation and also serve as a vital pass-through for international commerce. Each of the activities and operations associated with those transportation systems provide important opportunities for County residents, the state of North Dakota and the nation. This section conducts a brief multimodal survey of Stutsman County’s transportation activities, infrastructure and operations. It will identifies the kinds of security challenges about which Stutsman County officials have been thinking and addressing. Importantly, it will seek to situate those transportation security challenges in a regional and national context.

## Small Community Aviation Security

Small aviation is an important part of connecting small communities like Stutsman County with the national transportation system. The state of North Dakota includes 90 public airports, 72 of which are paved and 18 of which are grass surfaces. Another 220 private airfields are not included in this number. Eight of the 90 public airports are commercial service airports including Fargo, Grand Forks, Bismarck, Jamestown, Williston, Minot, Devils Lake and Dickinson.



Retaining the service of small airports in the midst of diminishing resources and increasing regulations has been a stated national priority for several years. The Small Aircraft Transportation System (SATS) is a concept that was introduced by the U.S. National Aeronautics and Space Administration. SATS is a public/private partnership which aims to make small aircraft and small airports a more viable element of the country's mass transportation network by 2025. It discusses the goals, possible challenges and criticisms against the SATS program (Croft, 2005).

Smaller airports in rural areas face numerous challenges. In a *Time* magazine article on the financial difficulties faced by the airlines industry, Mark L. Gerchick, a Washington, D.C.-based aviation consultant and adjunct professor at George Washington University, commented that, "airlines can't fly their bigger, more efficient jets in and out of small airports" (Donnelly, 2003).

Eclat Consulting, a Virginia-based company that advises airlines and monitors traffic at 200 of the nation's smallest commercial airports, argued that the number of passengers moving through those airports has declined since the mid-1990s and fell by half between 2000 and 2003 (Brush, 2003). This trend has only increased as airlines come under continued pressure to shift service away from small airports that they cannot serve profitably.

The North Dakota Aeronautics Commission recently contended that passenger boardings at the state's eight commercial airports in November 2008 were down three percent from November 2007. Interim Aeronautics director Mark Holzer believed that the severe winter weather could be the reason for the decrease. According to Hozler, 54,203 people boarded airplanes in November 2008 in North Dakota, down by 1,651 passengers. Bismarck had the biggest decrease in boardings in November 2008, down by 1,135 passengers.

With such a relatively few number of people boarding commercial aircraft at small airports, some have argued that security funding ought to be decreased. In 2008, seven airports in Montana requested a multi-million dollar budget from Transportation Security Administration (TSA) to screen departing planes that carry only comparatively few passengers a day when compared to larger airports around the country. Montana officials said that additional screeners will would help security and draw passengers to the small airports. "TSA security would increase our ridership considerably," said John Rabenberg, aeronautics director of the Montana Aeronautics Board (Frank, 2008).



At the time, then spokeswoman for the Transportation Security Administration (TSA), Ellen Howe, said that the request was being considered, but that there was, "some internal debate about the effectiveness" of setting up checkpoints to screen so few passengers. The TSA's reluctance has incited Montana officials. Senator Max Baucus said he and fellow Montana Democrat Senator Jon Tester, "will continue to hold TSA's feet to the fire until this screening is up and running." Baucus said he wants Montanans to be "safe and secure." One of the leading advocates for the TSA checkpoints has been the Billings, Montana-based Big Sky Airlines, the only commercial carrier serving the seven airports. All of the airline's flights from the seven airports go to Billings Logan International Airport. (Frank, 2008)

At least 22 U.S. airports have lost or are losing all airline flights in the past three years, little-known casualties of harsher economics that are changing air travel. About 190 airports in the continental USA rely on a single airline, including 34 served by US Airways, Allen says. Four of the 13 airports that lost all airlines since 2002 had US Airways commuter service: Latrobe, PA; Lancaster, PA; Worcester, MA; and Topeka, KS (De Lollis, 2003). Jamestown Regional Airport, however, seems to be bucking the national trend. According to airport officials, July 2008 was the busiest month in terms of airport customers in 30 months (Stutsman County Minutes, August 2008)

North Dakota's aviation system, like those in other small states, face a variety of potential security threats, including intentional subversion or serving as an entry-point into the national system for acts terrorism. Terrorism poses a unique threat as terrorists may rely on a distinct set of attack methods, they can adjust their attack strategies based on past responses. As a result, unlike natural disasters or accidents, the time and place of terrorist attacks cannot easily be predicted. This places enormous pressure on smaller airports to maintain the same high level of readiness and preparedness as larger, better-funded ones.

### **Rural Highway Security**

At the heart of Stutsman County are two major interstate highways. Interstate 94 is the northernmost Interstate Highway that runs east-west in the United States. It connects the Great Lakes and Intermountain regions of the United States. It is a major thoroughfare for regional commerce and transit. U.S. Highway 281 is a north-south running highway. Stretching 1,872 miles, it is the longest continuous three-digit U.S. Route. Highway 281 picks up from Canadian Highway 10 at the International Peace Garden, north of Dunseith, ND. The highway runs south nearly to the border with Mexico, terminating at Brownsville, TX.

Perhaps less a potential target of nefarious activity, Stutsman County's unique proximity to these two major trans-continental transportation routes, is nonetheless ideally situated as a point of entry or pass-through for those who may wish to do this nation harm.

Although significant focus is placed on safety and security of the major interstate highways in this country, there is relatively less interest in securing rural roads that are not proximate to interstate borders. Recent trends, however, suggests that these roads are becoming more trafficked, not less.

More than two-thirds of all roads in the United States are located in, or near, areas with populations of less than 5,000. Approximately 70% percent of federal aid highway lane miles are in rural areas. In 2007, for instance, the Ohio Department of Transportation (ODOT) noted that Thanksgiving traffic spills beyond the interstate highways (Doulin, 2007). Traffic flow was up forty percent on Ohio's rural highways the day before the holiday, reported ODOT. And although

ODOT was trying to clear as many work zones as possible, it warned drivers to slow down in construction areas.

Providing system redundancy is one solution to addressing security needs in rural areas. Although rural highways are not typically prime targets for terrorist activities, they can serve as a conduit for the evacuation of people and emergency response personnel in the event of a natural or man-made disaster. Improving mobility by adding capacity along major rural routes provides a level of system redundancy. Other states are considering enhancing the regional highway grid while providing relief in a time of emergency by dedicating resources to developing and expanding rural highways.

North Dakota's rural highways also play an important role in national defense. In addition to the Interstate System, the Strategic Highway Corridor Network is essential for emergency mobilization and peacetime movement of military assets. In North Dakota, military installations, like missile sites, are located on major collector routes and local roads. Thinking about rural highway security is, therefore, not a trivial matter.

Border enforcement is also a major consideration in North Dakota. Maintaining a secure border involves complex coordination between the Canadian and U.S. federal governments, local law enforcement and private property owners. Because truck traffic potentially poses a major threat to security, pre-clearance programs for freight should be implemented. These programs have an added benefit in that they not only ensure cargoes are safe, but they can expedite or eliminate processing delays for haulers who do not present a security threat.

### **AgroTerrorism Transportation Security Issues**

The potential for terrorist attacks against targets that are agricultural in nature is commonly referred to as agroterrorism. Specifically, agroterrorism refers to the deliberate introduction of an animal or plant disease with the goal of generating fear over the safety of food, causing economic losses and fomenting widespread fear. Agrosecurity has received significant attention in recent years, particularly in rural areas like North Dakota (Monke, 2007; Collins, 2003).

The report, "Surface Transportation Security," for instance, contains traffic control plans for small communities facing a plant or animal disease outbreak. These protocols are useful guidelines for small communities seeking to enhance their preparedness in this area. The report suggests that a confirmed foreign plant or animal disease will most likely require an immediate quarantine radius of several miles. In a rural county, a 3- to 6-mi (5- to 10-km) quarantine radius could involve 10 to 35 vehicle entry and exit points along the quarantine boundary that must be barricaded or staffed to control traffic.

While police officers and sheriff's deputies have the most experience with law enforcement road blocks and traffic stops, they are often not aware of the proper quarantine procedures for an agricultural emergency. Small community and rural law enforcement may also not have adequate resources and personnel for effective traffic control on the scale necessary for a quarantine that covers over 100 square miles (259 square kilometers) and that may last two months or longer.

The NCHRP guide describes three levels of traffic control that can be used in an agricultural emergency, including

**Level 1:** Traffic check points with cleaning and disinfection stations—Traffic checkpoints prevent the spread of disease by ensuring traffic is controlled and only

authorized vehicles are allowed to move in or out of the quarantine area. Level 1 checkpoints are used with the added provision of a station to clean and disinfect vehicles and equipment and to disinfect individuals exiting a quarantine zone. In an agricultural emergency, the quarantine applies directly to plants or animals, but individuals and vehicles may spread the disease if disinfection efforts are not utilized.

**Level 2:** Traffic checkpoints—Vehicles are screened and those related to agriculture are returned to their places of origin or holding sites, or they are allowed to proceed under permit.

**Level 3:** Road closures—Roads are barricaded and all traffic movement is stopped.

Establishing these types of quarantines in rural areas, where resources and manpower are limited, and geographic distances are widespread, requires significant pre-incident thinking on preparedness.

### Freight Rail Security

North Dakota is a significant bridge for the nation's rail traffic. In 2006, BNSF railroad had 1,605 employees, spent \$85,960,135 in payroll and contributed \$12,596,008 in state taxes in North Dakota.

According to the Department of Homeland Security, the efficient operation of America's critical interstate rail system requires a uniform nationwide approach to security. However, the challenges faced in rural areas with regard to rail freight often differ from those faced in other parts of the country.

Both DHS and the United States Department of Transportation (DOT) have conducted a variety of risk assessments and security reviews, particularly with regard to hazardous materials regulations. The DOT regulations at 49 CFR Sections 172.704 and 172.800-804 require each transporter of hazardous materials, for instance, to develop and implement security plans and to train appropriate employees in security measures.

DHS and DOT are issuing these voluntary action items as measures that should be considered when security plans are developed, implemented, and revised. The action items are voluntary in order to allow the railroad carriers to adopt measures best suited to their particular circumstances provided the measures are consistent with existing regulations. In small communities, the need for coordination between railroad carriers and county emergency managers is critical.

According to a RAND (2005) study on rail security, in the aftermath of the September 11 attacks, the leadership of the freight rail industry generated more than 100 action items, a multi-stage alert system, and round-the-clock communications with homeland security and national defense officials (RAND, 2005). These action items were based on the results of a strategic review of the



transportation of hazardous materials, the security of the industry's information infrastructure, freight rail operations and infrastructure, and military needs relating to the rail network.

The RAND report identified the most critical action items including:

- Integrate protective housings, valves and fittings into hazardous transport infrastructure to prevent tampering and facilitate emergency response.
- Increase surveillance of freight equipment, thorough training of staff on observation and the installation of video surveillance equipment.
- Improve operations by monitoring for signal tampering; requiring crews and dispatchers to verify communications for train movements and dispatches; and locking locomotive doors to prevent hijackings.
- Secure the information infrastructure that terrorists could use to enhance attacks or cause systemic shutdowns.
- Collaborate with the Department of Defense (DoD) to ensure the viability of STRACNET (Strategic Rail Corridor Network)-designated rail lines that are capable of meeting unique DoD requirements, such as the ability to handle heavy, high or wide loads.

The Department of Homeland Security (DHS) provided \$15 million to freight railroad carriers under the Freight Rail Security Grant Program (FRSGP) in Fiscal Year (FY) 2008. DHS will fund security initiatives for freight rail carriers that transport Rail Security-Sensitive Materials (SSM) through designated high population-density areas.

For the purposes of the FRSGP and this grant cycle, Rail SSM includes certain explosives, materials poisonous by inhalation, and Class 7 radioactive materials. The FRSGP guidance provides specific definitions of Rail SSM and high population-density areas, specific to this grant program.

**Class I carriers** may request funds to support security awareness and emergency response training for frontline employees provided that they have completed an acceptable vulnerability assessment and security plan.

BNSF Railroad, for instance, significantly expanded its programs and procedures designed to prevent or mitigate criminal acts and terrorist threats to property following the events of Sept. 11, 2001. BNSF joined with other railroads through the Association of American Railroads (AAR) in order to develop a comprehensive risk analysis and security management plan for all U.S. railroads (known as the Security Plan). In addition, the railroad developed its own 'Security Management Plan' that applies these security strategies to its network.

The national BNSF Security Management Plan (SMP) called for five teams of subject matter experts, within and outside the rail industry, to address train operations, communication and cyber-security; to identify and protect critical assets; to examine transportation of hazardous materials; and to provide a military liaison. The Security Plan developed by these teams includes a database of critical rail assets, assessments of rail vulnerabilities, analysis of the terrorist threat, calculations of risk, identifications of countermeasures to reduce risk, definitions of alert levels

and a list of countermeasures for each alert level. The plan also outlines the functions of the AAR Operations Center and the Railway Alert Network.

**Class II and Class III carriers** may request funds to conduct a vulnerability assessment and develop security plans. The carriers may also request funds to support security awareness and emergency response training for frontline employees provided they have completed an acceptable vulnerability assessment and security plan.

The TSA's security action items have been divided into three categories: 1) system security; 2) access control; and 3) en-route security. System security and access control refer to practices affecting the security of the railroad and its property. En-route security refers to the actual movement and handling of railcars containing TIH materials. DHS and DOT recognize that no one solution fits all locations and circumstances. These security action items allow for flexibility in implementation based upon the assessed vulnerability of a particular process or operation. Where applicable, implementation of these action items to their fullest extent practicable should be the goal of the affected property owner and operator.

### **Jamestown Dam and Reservoir**

Since 1993, Jamestown, ND has been part of eight presidential disaster declarations for flooding and one for a severe winter storm. The city faces two major disaster threats—flooding and hazardous materials accidents. The city's water tables remain consistently high, causing ground saturation and overland flooding. As a result, damages have occurred to homes, the city's infrastructure and roads.

Jamestown Dam and Reservoir in central North Dakota provides flood protection and serves as potential municipal water supply for the city of Jamestown, ND. When the Garrison Diversion Unit is constructed, Jamestown Reservoir will control and reregulate water required for irrigation of lands downstream along the James River to near the South Dakota border. The reservoir also provides recreation opportunities and fish and wildlife conservation.



In response to the Sept. 11, 2001 attacks, the state of North Dakota responded with aggressive increases in security statewide. The Highway Patrol began providing extra security at the border. Jamestown Regional Airport increased its enforcement of additional security measures. Additionally, North Dakota Governor John Hoeven said, "We're going to increase patrols on any potential targets like the reservoirs and oil terminals." The City of Jamestown "isn't as

vulnerable to sabotage at Pipestem or Jamestown dams as it would be in the spring when the reservoirs are at high retention levels said Bob Martin manager of Pipestem Dam." (*Jamestown Sun*, 2001)

In 2002, for example, security checks increased significantly. For instance, a secure building at Jamestown Reservoir and Stutsman Rural Water District facilities had 268 security checks by law enforcement. Routine checks of these facilities during patrol became an ongoing part of the sheriff 's office's homeland security responsibilities (*Jamestown Sun*, 2005).

## **Pipelines and Powerlines**

Vast networks of pipelines traverse hundreds of thousands of miles to transport nearly all of the natural gas and about 65 percent of hazardous liquids, including crude and refined petroleum products consumed within the United States. Pipelines are an efficient and fundamentally safe means of transportation. However, pipelines also transport hydrocarbons that potentially can cause deaths and injuries to the general public, and/or inflict damage to the environment. Most pipelines are privately-owned and operated, and, with rare exceptions, are buried underground.

Basic power service is critical to any community. In small and rural communities, where long spans of geography separate communities from power sources and less redundancy is built into the system, there are more opportunities for loss of power due to natural catastrophes or acts of intentional subversion. In September 2001, the Federal Emergency Management Administration (FEMA) approved \$1.3 Million in storm-recovery aid for Minnkota Power Cooperative, which aided in the repair to 29 transmission towers and one building owned by the power cooperative in Kidder and Stutsman counties, which were damaged by a tornado that touched down that summer.

"When catastrophes strike, the burden of putting things back together often lingers," North Dakota Governor John Hoeven said at the time. "It's great to see that FEMA, the state, and the Minnkota Power Cooperative in Kidder and Stutsman counties responded so quickly and efficiently to the needs of the people." (North Dakota Governor's Office, 2001)

The assistance was available because of a federal disaster declaration for severe storms, flooding and ground saturation from March 1, 2001, through August 9, 2001 in 36 North Dakota counties and two Indian reservations.

### **3. TRANSPORTATION SECURITY BEST PRACTICES**

Stutsman County is fortunate to have a team of dedicated and innovative professionals at the helm of its emergency services and homeland security efforts. Specifically, Jamestown and Stutsman County's efforts offer insights into small community best practices along physical, cyber and human dimensions, which include:

1. Setting Security Goals
2. Identifying Assets, Systems, Networks and Functions
3. Assessing Risks (consequence, vulnerability and threats)
4. Prioritizing Action
5. Implementing Protective Programs
6. Measuring Effectiveness
7. Updating Protocols and Perspectives

The following section highlights some areas of particularly innovative or proactive measures being taken in Stutsman County.

#### **3.1 Setting Security Goals**

Stutsman County officials have been particularly forward-thinking in their focus on goal-setting, particularly since 9/11. In addition to the series of exercises and simulations that Stutsman was conducting after 2001, county officials aggressively sought to identify short- and medium- term preparedness objectives.

In December 2007, for instance, Stutsman County accepted a Hazardous Materials Preparedness Grant, which was structured as a 80/20 - \$12,000 Federal/\$3,000 local. The grant was designed to help the county meet its goal of revising its hazardous material response plan.

Again in October 2008, the Stutsman County Commission set the goal of updating its initial Multi-Hazard Mitigation Plan that was first approved in 2003. Toward that goal, the county's Emergency Manager aggressively sought funds to update the plan and continue obtaining assistance under certain disaster programs relating to mitigation and public assistance.

Security professionals in small communities must begin any transportation security assessment process by identifying and prioritizing their security goals. Ensuring that these goals are as comprehensive as possible while still being realistic and attainable is critical.

Questions included in any small community's transportation security goal-setting process ought to include things like:

- What are we concerned about?
- What are we currently doing about it?
- What does an optimal solution look like?
- Can we achieve the optimal solution? If so, how? If not, are there alternatives?
- What is the impact of a particular scenario on human life and physical well-being?
- What is the impact of a particular scenario on State, and local economies?
- What are the expected costs of response and recovery?
- What is the expected cost of rebuilding assets or systems?

- To what extent will business operations and/or supply chains be disrupted and for how long?
- What is the impact of a particular scenario on our ability to maintain order, deliver essential public services, ensure public health and safety, and maintain order?
- What is the impact of a particular scenario on public morale and confidence in economic and political institutions?
- If public confidence were to suffer, what would be the associated impacts on governance and the economy?

### **3.2 Identifying Assets, Systems, Networks and Functions**

One of the challenges for small and rural communities is budgeting for staffing, particularly given that security and emergency response in small communities is characterized by periods of relatively low activity punctuated by emergency situations requiring significant personnel. Planning and paying for full-time staff in such situations can be difficult.

In 2007, the 9-1-1 Coordinator/Emergency Manager of Stutsman County reviewed the 9-1-1, Disaster Emergency Services and Dispatch budgets and concluded that the current structure was unsustainable given the amount of unpaid overtime required by county staff in order to maintain viable coverage. As a way of working around the county's limitations in staffing, the Stutsman County Emergency Manager raised the notion of adding two part-time employee positions into the county dispatch budget to compensate for short-staffing on police dispatch.

Transportation security professionals must identify assets, systems and networks under their authority to effectively manage and reduce the risk associated with key nodes, links, and flows within critical transportation systems to improve over-all network survivability. It is important to establish an ongoing dialog and/or protocols with those entities that own or operate assets that are within their jurisdiction.

Many transportation systems contain a small number of critical assets that, if attacked, could result in catastrophic failure. These assets can take the form of a node, a link, or a flow. Security strategies must be identified to shift the threat away from these critical assets via risk management.

The preferred risk management technique is to reduce risk; although, in certain cases, hedging, transferring, or even accepting the risk may be acceptable and warranted. If it is desired to reduce the risk, various approaches could be used, including deterrence and vulnerability reduction measures or consequence mitigation measures, including hardening and increasing the redundancy of the key assets.

The planning phase should be viewed as an ongoing process that is continually upgraded and refined as threats are better understood and as resources and technologies become available. Some important tasks within this step include,

- Identify major industrial/market routes through the county;
- Develop standard detour routes through the county;
- Inventory traffic control devices, such as signs, barricades, changeable message signs, etc.;
- Identify other available local items that might be used to provide traffic control;



- Establish a command structure with personnel and responsibilities specific to a foreign animal or plant disease outbreak (within the context of state and federal protocols);
- Develop traffic control plans for road blocks, traffic checkpoints, and disinfection stations;
- Foster relationships among stakeholders (e.g. law enforcement, producers, public works, state highway departments, private industry and public health officials);
- Develop a communications plan for informing the public of road closure;
- Determine legal authority for initiating and enforcing a quarantine or stop movement order;
- Identify, with the help of public health officials and veterinarians, the appropriate personal protective equipment (PPE) and disinfectants to stock in case of an emergency;
- Train responders on traffic control procedures, such as establishing road blocks, traffic checkpoints and cleaning and disinfection stations;
- Plan for response measures in the event that a bordering county or state suspects or confirms animal or plant disease;
- Form emergency management assistance compacts with surrounding law enforcement and highway or public works agencies;
- Identify contractors with equipment or trained personnel that may be available to assist in an emergency response;
- Determine areas in which to shelter diverted livestock; and
- Determine if sufficient quantities of common radio channels, protocols, and equipment are available.

### **3.3 Assessing Risks (consequence, vulnerability and threats)**

This report advocates the understanding of risk as a function of consequence, vulnerability and threat. There are several strategies for dealing with risk. Eliminating the risk altogether is the most reliable albeit most difficult strategy. Reduction or threat mitigation is often more feasible but for small communities with limited resources, this strategy can only be applied to the most critical infrastructure and operations. For the rest, risk retention is usually the strategy that is employed. The implementation not only includes the acceptance and budgeting for a certain amount of tolerable risk but also building in a responsiveness to deal with the after-effects in the case that an incident occurs.

Any small community transportation security plan must be responsive to the hazards that face the community in light of the threat context, probability, and the cost to either defend against or respond, recover and build from, an incident.

Stutsman County officials have made important strides in assessing risk to the county and constituent communities. In December 2007, the Stutsman County Emergency Manager presented a resolution to apply for \$61,765 FY2008 pre-disaster mitigation grant application. The grant was proposed to identify all hazards that exist in the County and it would establish a plan to alleviate the hazards. The grant was a 75/25 - \$45,000 Federal/\$16,765 local - grant. Such comprehensive and aggressive pre-disaster mitigation efforts help small communities get a firm handle on the panoply of challenges that small communities like Jamestown face.

The Stutsman County Emergency Management office reached out to the Aero-Metric company in order to digitally photograph the City of Jamestown. After conferring with Interstate Engineering and the State's Attorney, Stutsman County brought a contract to the commission for consideration in October of 2008. This is an important step forward as digital photography of small

communities provides a variety of benefits for security professionals in terms of risk assessment, asset prioritization and local knowledge.

City planners should conduct a detailed analysis of the hazards which have affected the community in the past and are believed to currently face the community, taking account of the frequency of past incidents, extent of areas affected, duration of impact, intensity, as well as casualties and property damage.

This effort should include determining the population and facilities located in specific risk areas such as flood plains, hurricane risk areas, and areas vulnerable to hazardous materials releases. If a hazard analysis already exists, it should be updated before proceeding with planning.

Because of the difficulty in predicting terrorist threats, subversive activities that could undermine a particular system or sector, or identifying the numerous vulnerabilities that may exist in any given transportation system, the transportation sector is increasingly adopting a view of risk primarily driven by consequence.

$$\text{Relative Risk} = f(\text{Threat, Vulnerability, Consequence})$$

*Likelihood of a Successful Attack*      *Cost/Impact of a Successful Attack*

If risk reduction is the priority, various approaches could be used, including deterrence and vulnerability reduction measures or consequence mitigation measures, including hardening and increasing the redundancy of the key assets and enhancing the capacity for rapid and flexible response and recovery to all-hazards events. Doing so, though, requires response and recovery activities like first-responder actions and the plans, training, and exercises that support them. These activities can be difficult for short-staffed small community agencies. One way around increasing staff is to pre-establish re-routing procedures, emergency suppliers, and evacuation processes – exactly the kind of activities being done in Stutsman County.

As there is generally insufficient information to establish precise statistical probability of specific types of incidents occurring, a qualitative scale (such as likely, occasional, unlikely, very unlikely) is generally used.

Among the source materials that may be helpful in the hazard analysis effort are:

- Historical data on previous disasters from local records
- Population data
- Information on special-needs facilities, such as schools, hospitals and dependent care
- Data on facilities that make, use, or store hazardous materials
- Land use, zoning, and floodplain maps
- Maps depicting transportation routes, known hazards (such as floodways and Hazardous materials sites), and special needs facilities
- Regional asset locations
- Coordination with neighboring communities and state plans
- Communication systems interoperability and redundancy

### 3.4 Prioritizing Action

In 2004, Stutsman County held a simulated disaster based on the realistic possibility that a crop duster collided over Jamestown Reservoir with a Mesaba airplane coming in to land at Jamestown Regional Airport. The simultaneous chemical spill leaked into Little Britches pond, which threatened to contaminate Jamestown Reservoir.

The scenario provided a unique opportunity for emergency response teams to simulate their responsibilities at the scene – either the airport or the reservoir - or from other locations. The exercise was funded by a grant through the Homeland Security Exercise Program and included the land administered by the Jamestown airport as well as the Bureau of Reclamation at the reservoir.

The evaluation of the full-scale disaster exercise raised the need to improve the public response. The emergency manager, reflecting on the exercise, said those involved later rated different areas of the exercise at different levels of satisfaction. Overall, 214 people participated as emergency response teams, victims, homeland security program evaluators, family members and neutral observers.

In addition to the reservoir simulation, Stutsman County has sought funding for ongoing training around a range of issues that directly impact transportation security. For instance, in 2007, Stutsman County's emergency manager had requested approval of the North Dakota Association of Counties and North Dakota League of Cities, for a training and exercise contract centered on National Incident Management (NIMS), including full disaster emergency exercise and a table top disaster emergency exercise training.

What has become clear is that raw intelligence feeds are not useful to small community security professionals. This is largely due to the lack of available time and manpower to process, analyze and further disseminate the intelligence. Rather, finished intelligence and ongoing communication with information-sharing bodies who collect, process, analyze and disseminate intelligence in appropriately cleared packages is far more useful for stakeholders to understand threat in the context of a broader systems perspective.

In the real world, prioritizing action is a messy process, one that requires expert knowledge to align sector resources with the highest priority transportation security risks using both risk and economic analyses as decision criteria. To make the process of risk management both tenable and effective, leaders from across the sector, including private industry, should meet to discuss priority strategic risks. Strategic objectives based on the materiality of certain consequences and the inability of the owner/operator community to address the priority risk without some form of assistance can be developed as a baseline for prioritization and action. Full cooperation from the leaders of the sector, both public and private industry, is essential to establishing appropriate, realistic strategic objectives.

It is these strategic objectives that help security professionals in small communities to clarify “what to focus on” based on the best available information. The strategic goals clarify “how to focus” based on public and private sector national priorities and lessons learned. Once strategic objectives have been identified, countermeasure programs to address those objectives can be coordinated within and across the security partners that compose the Transportation Systems Sector.

### **3.5 Implementing Protective Programs**

Although not specifically related to security, many risk mitigation activities can be used to engage stakeholders and assess current protocol. In August 2007, the Stutsman County Fair Board appeared at the County Commission meeting to answer questions about reconfiguring the beer gardens at the fairgrounds keep underage individuals away from the alcohol. Their goal had come in response to some earlier problems with underage drinking at the 2007 fair. Although the Deputy Sheriff had been able to professionally and effectively handle the situation, implementing a protective program that mitigated the risk of future problems had become a priority for the community.

Importantly, this conversation was being held in the context of creating a broader emergency plan for the county fair, which included exit paths and dealt directly with safe transportation routes in the case of an evacuation. Although having such a plan was required and funded by the Department of Homeland Security, recognizing vulnerabilities and implementing protective programs is critical for small communities seeking to minimize risks.

Implementation of consequence-based security solutions in small and rural communities requires several key steps. These include:

- Facilitating the development of security guidelines, standards, regulations, and assessments;
- Planning and implementing response and recovery activities and communication following an incident or event;
- Sharing credible intelligence and other relevant security information through communication mechanisms that are appropriate and effective;
- Identifying and implementing the information-sharing mechanisms;
- Working jointly to enhance existing working groups and, when necessary, establish additional working groups.
- Establishing measures to ensure sustainability and integration for current and future stakeholders and assets.

### **3.6 Measuring Effectiveness**

Planning and implementation is of little value if the programs are ineffective. Therefore, developing descriptive and output metrics that measure progress made by all critical infrastructure and key resources in implementing the risk management framework is critical for success, particularly in small and rural communities.

In 2008, Stutsman County announced that, by working in conjunction with 34 agencies, has acquired technology, including video conferencing equipment for the meeting rooms in the lower level of the Law Enforcement Center. The importance of seeking and installing this kind of communication technology is that it allows small and rural communities and their respective agencies to maintain contact, assess vulnerabilities earlier and measure their effectiveness in implementing protective programs in response.

Some core metrics that might be useful for transportation security professionals, particularly in small and rural communities, include:

- Identifying the total number of assets by class (mode);

- Knowing the percentage of medium- and high-consequence assets rated as high risk;
- Recognizing the percentage of formal security partner agreements by sector and geographic location;
- Monitoring the percentage of assets reduced from high risk.

These performance measures help empower stakeholders to track whether their program portfolios are behind or ahead of schedule and observe the degree to which their activities are supporting the achievement of their strategic objectives. Monitored, collected performance measures also enable executives to communicate progress toward specific Transportation Systems Sector security partners and oversight entities. The findings that result from these measures will lead to continuous improvements

To conduct these evaluations, measures of effectiveness must be developed and monitored for each countermeasure program. These effectiveness measures flow from maps of activities, outputs, and outcomes—also known as performance logic models.

### **3.7 Updating Protocols and Perspectives**

In 2007, the Stutsman County 9-1-1 Coordinator/Emergency Manager produced and released an emergency preparedness booklet was sent to all mailing addresses in the County. The booklet had been developed by the Emergency Management office in conjunction with the Local Emergency Planning Committee (LEPC) with all costs paid by grant funds.

Applying feedback to existing plans and programs is a critical step in keeping transportation security protocols updated and relevant. Some questions that may be included in any update to existing protocol include:

- How much would it cost federal, state, and local governments to implement this countermeasure?
- What economic impact could implementing this countermeasure package have on transportation stakeholders.
- How much does the projected countermeasure package’s effectiveness depend on assumptions?
- What is the confidence level that the projection is accurate
- Is the package a long shot, but with a very high payoff if successful?
- Does the package have minimal impact, but is very easy to achieve?
- Is the sector capable of executing the countermeasure package?
- How long will it take to implement the countermeasure?
- How soon can the first countermeasure begin?
- Are there clear implications with regard to privacy associated with the countermeasure?
- Any hidden implications?
- What other possible legal implications exist—regulatory, reporting, conflicts of jurisdiction, etc.?



## **4. BEST PRACTICES SUMMARY**

Stutsman County, North Dakota, offers a useful model for thinking about what kinds of steps small communities can take to mitigate risk and increase preparedness with regard to transportation security. The county leadership has demonstrated through consistent performance that its approach to transportation security is not only effective in its context but that it may have applicability beyond Stutsman County.

Stutsman County's dedication to interagency integration, synchronization and coordination has been integral to its success. The establishment of and routine meetings held by the Local Emergency Planning Committee (LEPC) is perhaps the county's greatest success in this area. Bringing together representatives from agencies across the county has helped its government to be more proactive in preparing for and handling all kinds of security incidents, including those related to transportation security.

The county's regional perspective to preparedness has helped it to more proactively focus on building capability and bolstering preparedness. This has led the county to take steps that empower its law enforcement and emergency responders with a broader reach and effectiveness than counties traditionally aspire to have.

Finally, security professionals in the county have found innovative ways to stretch limited resources and creatively meet multiple objectives. In short, in an environment of scarce resources, Stutsman County has been consistently seeking to position itself ahead of the curve when it comes to transportation security.





## APPENDIX A.

# THE TRANSPORTATION SECURITY CHECKLIST

Security checklists are critical resources for small community emergency managers and security providers. The Florida Department of Transportation developed eight key principles for securing transportation systems that can be usefully adopted in North Dakota. They include:

1. **Be proactive and assume responsibility at the local level.** Similar to the Intelligent Transportation Systems (ITS) strategic plans that have been developed and updated during the past ten years, develop a plan. While at the national level, the Department of Homeland Security (DHS) is trying to do its part, state, regional, and local levels should demand the same level of planning and analysis for the transportation elements of homeland security.
2. **Be strategic-minded and develop a long-range plan with specific short-term security elements.** Departments of Transportation and transportation security professionals to set priorities and focus on the critical links in the transportation system infrastructure and its most vulnerable assets, such as tunnels, bridges, and major interchanges. Performing a comprehensive SWOT (strengths, weaknesses, opportunities, and threats) and RM (Risk Management) analysis helps with strategic planning.
3. **Be systematic in developing a strategic plan.** A systematic approach will show how all the elements fit as part of one system. Use truly coordinated and integrated systems. This means systematic decision making as well as utilizing a systems engineering approach to adapt the most fail-safe system to support the output process.
4. **Be expeditious in the procurement process.** Homeland security can be implemented more rapidly by incorporating homeland security strategies into current and pending ITS projects.
5. **Consider a wide range of threats.** Preparation must be made for terrorist attacks that may occur in multiple locations, incurring many casualties, widespread contaminations, and major challenges for first responders.
6. **Build upon the current ITS infrastructure.** Building upon current ITS infrastructure is the quickest and least costly means of deploying an effective homeland security strategy.
7. **Consider the current emergency response plans, but revise them to meet the new threat of terrorism in our cities and neighborhoods.** Response to a coordinated terrorist attack involves many variables. Emergency response plans must be dynamic, considering all of the variables in the “equation to effective emergency response.”
8. **Think beyond current institutional frameworks.** The past decade may well be remembered as the era of institutional cooperation within the transportation communities.



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