

Truck Safety Regulation

January 1992

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

Program Evaluation Division

The Program Evaluation Division was established by the Legislature in 1975 as a center for management and policy research within the Office of the Legislative Auditor. The division's mission, as set forth in statute, is to determine the degree to which activities and programs entered into or funded by the state are accomplishing their goals and objectives and utilizing resources efficiently. Reports published by the division describe state programs, analyze management problems, evaluate outcomes, and recommend alternative means of reaching program goals. A list of past reports appears at the end of this document.

Topics for study are approved by the Legislative Audit Commission (LAC), a 16-member bipartisan oversight committee. The division's reports, however, are solely the responsibility of the Legislative Auditor and his staff. Findings, conclusions, and recommendations do not necessarily reflect the views of the LAC or any of its members.

The Office of the Legislative Auditor also includes a Financial Audit Division, which is responsible for auditing state financial activities.

Professional Staff

James Nobles, *Legislative Auditor*

Roger Brooks, *Deputy Legislative Auditor*

Joel Alter
David Chein
Marilyn Jackson-Beeck
Daniel Jacobson
Elliot Long
Marlys McPherson
Jan Sandberg
Kathleen Vanderwall
Jo Vos
Tom Walstrom
Deborah Woodworth
John Yunker

Support Staff

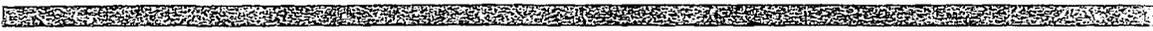
Jean Barnhill
Barbara Schmidt
Theresa Wagner





Truck Safety Regulation

January 1992



Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

Centennial Office Building, Saint Paul, MN 55155 • 612/296-4708





STATE OF MINNESOTA

OFFICE OF THE LEGISLATIVE AUDITOR

CENTENNIAL BUILDING, ST. PAUL, MN 55155 • 612/296-4708

JAMES R. NOBLES, LEGISLATIVE AUDITOR

January 15, 1992

Representative Ann H. Rest, Chair
Legislative Audit Commission

Dear Representative Rest:

On May 30, 1991, the Legislative Audit Commission directed us to evaluate truck regulation in Minnesota. We focused our study on truck safety regulation, rather than economic regulation, for two reasons. First, a dispute between the Minnesota Department of Transportation (Mn/DOT) and Department of Public Safety over truck safety regulation has caused conflict and confusion, and we thought a recommendation from us might help resolve the situation. Second, we did not want to duplicate a study of economic regulation being conducted by the House of Representative's Research Department.

While we found that both Mn/DOT and Public Safety effectively carry out their truck safety responsibilities, they do not adequately coordinate their activities with each other. We think a reordering of duties between the two departments is needed.

We recommend that all roadside inspections should be conducted by the State Patrol, which is part of the Department of Public Safety. The Patrol's other enforcement duties and its presence on roads throughout the state make it the most appropriate organization to do roadside safety inspections of trucks. We recommend that the Department of Transportation focus its attention on reviewing driver and truck safety programs at company terminals.

We want to thank the Department of Transportation and the Department of Public Safety for their cooperation, and we are pleased to see their positive response to our recommendations.

The report was researched and written by Elliot Long (project manager) and David Chein.

Sincerely,


James R. Nobles
Legislative Auditor


Roger Brooks
Deputy Legislative Auditor

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	ix
Introduction	1
Truck Safety Trends	3
Agency Responsibilities and Programs	6
Program Effectiveness	17
Conclusions and Recommendations	30
AGENCY RESPONSES	35
SELECTED PROGRAM EVALUATIONS	Back Cover

LIST OF TABLES AND FIGURES

	<u>Page</u>
<u>Tables</u>	
1 Commercial Vehicle Enforcement Section, FY 1991-92 Budgets	8
2 Types of Out-of-Service Violations, FY 1991	16
3 Roadside Inspections, April-September 1991	20
4 Out-of-Service Violations at Different Types of Roadside Inspections, April-September 1991	20
5 Safety Review Results, January 1990-March 1991	25
6 State Lead Agencies Under the Motor Carrier Safety Assistance Program	28
 <u>Figures</u>	
1 Traffic Fatalities Per 100 Million Vehicle Miles, Minnesota and the U.S., 1971-90	4
2 U.S. Truck Accident Fatalities Per 100 Million Vehicle Miles, 1977-89	5
3 Minnesota Truck Accident Fatalities Per 100 Million Vehicle Miles, 1984-90	5
4 Minnesota Truck Accidents Per Million Vehicle Miles, 1984-90	6
5 State Patrol Commercial Vehicle Enforcement Section Organization Chart	9
6 Mn/DOT Office of Motor Carrier Safety and Compliance Organization Chart	12
7 Major Features of Roadside Inspections	15
8 Major Features of Safety Reviews	16
9 Number of Minnesota Truck Inspections, 1984-91	19
10 Percent of Vehicles With Out-of-Service Violations, 1984-91	21
11 Percent of Drivers With Out-of-Service Violations, 1984-91	22

TRUCK SAFETY REGULATION

Executive Summary

Truck safety regulation is conducted by two state agencies. Overlapping responsibility has been a continuing source of conflict.

Truck safety regulation is currently under examination by Minnesota policy makers. Two state agencies, the State Patrol in the Department of Public Safety and the Office of Motor Carrier Safety and Compliance in the Minnesota Department of Transportation (Mn/DOT) are responsible for truck safety regulation. Both perform roadside inspections and conduct safety reviews at company terminals. The absence of a clear division of labor between the two agencies and the interest of both in pursuing an important role in safety regulation has led to continuing friction between the two departments.

The situation concerns legislators enough that they asked us to do a study. The main issue we addressed is:

- **How should truck safety regulation be divided between Mn/DOT and the State Patrol?**

To address this issue we asked:

- **What are the truck safety responsibilities of each department and the division of labor between them?**
- **How effectively is each agency carrying out its truck safety program?**
- **How can safety regulation be performed in a more effective and efficient manner?**

We have approached these research questions by observing each agency's operations, and by talking to front-line workers, managers, and truckers and their representatives. We reviewed statistical information on safety inspections and the results of these inspections.

Our conclusions and recommendations about truck safety regulation are derived from a consideration of the following criteria:

- **Primary responsibility for truck safety regulation should reside in the agency that is best positioned to carry out an effective program. The**

agency's other programs and responsibilities should enhance its ability to perform safety related activities.

- Truck safety regulation should be compatible with an agency's overall mission, organizational interests, incentives, and expertise.
- Responsibility for truck safety regulation should reside in the agency with the best performance record.

Many variables besides truck safety regulation affect safety, and it is reassuring to note that there has been a marked improvement in traffic accidents and truck safety in Minnesota and nationally over the last twenty years. United States traffic fatalities declined from 52,542 in 1971 to 44,529 in 1990, despite many more vehicles on the road and a near doubling of total miles driven. Minnesota had 1,024 fatalities in 1971 and only 568 in 1990. Nationally, fatalities from accidents involving trucks over 10,000 pounds declined from 5.1 per 100 million miles in 1977 to 3.1 in 1989. In Minnesota, total commercial vehicle crashes (trucks over 9,000 pounds and buses) went from 5.0 per million vehicle miles in 1984 to 2.8 in 1990.

THE FEDERAL ROLE IN SAFETY REGULATION

Safety regulation has grown rapidly since the early 1980s in response to a federal program.

The major impetus to the growth of safety regulation in Minnesota was the creation of the federal Motor Carrier Safety Assistance Program (MCSAP) in 1982, which Minnesota joined in 1984. Before MCSAP, the Minnesota Departments of Public Safety and Transportation inspected about 1,500 vehicles annually. In fiscal year 1991, these agencies conducted about 30,000 inspections. The MCSAP program funds 80 percent of the state's "enhanced" effort (beyond the 1982 level) up to a maximum amount. In the federal fiscal year ended September 30, 1991, the federal share was \$1,134,568 (\$680,740 to the State Patrol and \$453,828 to Mn/DOT).

Trucking is largely an interstate operation. The federal government has promoted the adoption of standardized truck safety requirements across the country. To receive federal funds, states must adopt federal safety standards. Neither Minnesota nor other states can impose requirements much different from those in wide use across the country if they want reciprocal treatment of their trucks in other states.

TRUCK REGULATION IN THE STATE PATROL

The overall mission of the State Patrol is law enforcement on trunk highways. Regulation of trucking within the Patrol is carried out by the Commercial Vehicle Enforcement Section. Most of the Patrol's commercial vehicle enforcement program is aimed at enforcement of vehicle weight requirements, the purpose of which is to collect revenue and to protect the roadbed from wear and tear caused by overweight trucks. Fiscal 1991 expenditures for weigh scales accounts for about \$4 million of \$6 million total expenditures for the Commercial Vehicle Enforcement Section. There are both fixed and mobile weigh scales designed to intercept the traffic entering or passing through the state on major routes.

Altogether the Patrol's Commercial Vehicle Enforcement Section consists of 140 positions, 55 people in the Twin Cities and 71 outstate. Four managers and ten additional support staff are located in the Twin Cities. About 84 of the 126 operational employees around the state are working primarily on weight regulation at fixed or mobile scales. An additional ten work on weight enforcement by inspecting bills of lading at terminals and grain elevators. Truck safety regulation in the Commercial Vehicle Enforcement Section of the Patrol is, to a significant degree, an adjunct to weigh scale operations, but there are ten inspectors financed by the MCSAP program who are dedicated full-time to truck safety.

The State Patrol carries out safety inspections largely as an adjunct to weigh-scale operations.

Twenty-seven front line employees are uniformed troopers, as are four top managers. The remaining positions in the section are held by civilian employees, 98 of whom are Commercial Vehicle Inspectors, who perform truck inspections and carry out weigh scale operations.

TRUCK REGULATION IN Mn/DOT

In the Minnesota Department of Transportation, truck safety activities are carried out by the Office of Motor Carrier Safety and Compliance. This office was originally created in the Railroad and Warehouse Commission in 1925 (later moved to the Department of Public Service) to enforce economic regulation of intrastate transportation. The office was moved to Mn/DOT in 1976 when the department was established and given responsibility for enforcement of motor carrier regulations.

Since the creation of the federal MCSAP program, Mn/DOT's safety program was expanded to cover interstate trucks. Now, intrastate and interstate, private and for-hire trucks are subject to safety regulation by Mn/DOT and the Patrol (although there are some exemptions from some requirements). Mn/DOT now has 25 employees who perform safety and economic regulatory functions and

In addition to safety, Mn/DOT is responsible for certain economic regulatory activities.

whose safety-related functions are essentially the same as those performed by Commercial Vehicle Inspectors in the Patrol. Ten of these positions are located in Mn/DOT regional offices and the remainder are in the Twin Cities. In state fiscal year 1991, Mn/DOT spent \$1,921,670 on economic and safety regulation.

In summary:

- **The Patrol has 140 people assigned to commercial vehicle law enforcement, Mn/DOT has 25. The Patrol's Commercial Vehicle Enforcement budget is around \$6 million, Mn/DOT's is about \$2 million.**
- **The Patrol conducts most roadside inspections. In the year ended September 30, 1991, the Patrol conducted 25,275 inspections and Mn/DOT conducted 5,028.**
- **Mn/DOT conducted 348 safety reviews at company terminals in the year ended September 30, 1991, the Patrol carried out 179 in the same period.**

FINDINGS AND RECOMMENDATIONS

The best organizational location of truck safety regulation depends on the fit between truck safety regulation and other agency programs, staff deployment, and organizational culture and incentives. The performance record of Mn/DOT and the Patrol in truck safety is also relevant, as is a look at how other states have organized truck safety regulation.

Based on our review of the responsibilities of Mn/DOT and the Department of Public Safety, we conclude that:

- **There is a complementary relationship between weigh scale operations and truck safety inspections. Therefore, the Patrol is the logical choice to conduct roadside inspections.**

Not only can safety inspections be performed economically as an adjunct to weigh scale operations, the yield of inspections performed at weigh scales (in terms of violations found) is as good as the yield of inspections conducted elsewhere. And the task of intercepting trucks trying to avoid being weighed is similar to the job of intercepting traffic that may not wish to undergo a safety inspection.

The Patrol weighs about 1.2 million trucks a year. It is efficient to screen trucks for safety violations at the same time they are weighed. Thousands of trucks pass through the fixed scales each day and about half of all inspections are performed there. Fixed weigh scales provide a safe place to put unsafe

The Patrol is best deployed around the state. There is a good fit between weight enforcement and safety regulation.

trucks out of service and a location from which to deploy vehicle inspectors for crash investigations or other roadside operations. The rate at which trucks are put out of service is about as high at fixed scales as elsewhere. From April through September 1991, 2,304 safety inspections were performed at mobile scales, 14 percent of the total. These inspections were also productive in terms of total violations and out-of-service violations found.

On the question of agency performance, the data we reviewed suggest that both Mn/DOT and the Patrol are effective. Both agencies met their 1991 roadside inspection and safety review commitments made through the MCSAP program, qualifying Minnesota for maximum federal financing. While Minnesota's rate of detecting violations is slightly below the national average, federal officials are pleased with the way both agencies carry out Minnesota's truck safety program.

One measure of performance is the rate at which drivers or vehicles are taken out of service as a result of roadside inspections. This rate reflects the skill and thoroughness with which the inspections are conducted, as well as other factors, such as the part of the state where the inspection occurs and the types of trucks inspected. But the Patrol and Mn/DOT choose locations and screening procedures that enhance the probability of detecting serious safety violations. Thus, the out-of-service rate is a general measure of effectiveness.

Nationally, between 1984 and 1990, about 36 percent of vehicles and seven percent of drivers inspected were taken out of service. In the early years of the MCSAP program, both the Patrol and Mn/DOT had vehicle out-of-service rates significantly below the national average but this gap was considerably reduced by 1989. We also found:

On balance, the Patrol is more effective, although both agencies have a good performance record.

- **The Patrol achieved a higher vehicle out-of-service rate than Mn/DOT between 1984 and 1990, but Mn/DOT had virtually closed the gap by 1991 when it achieved a vehicle out-of-service rate of 27 percent compared to the Patrol's 27.7 percent. Both agencies, however, lag behind the national average of 33 percent.**

Both agencies' driver out-of-service rates (the number of drivers placed out of service per inspection) were below the national norm until 1990, when the Patrol exceeded the national rate, 8.3 percent to 7.0 percent. In 1991, the Patrol's driver out-of-service rate more than doubled, to 18.9 percent. Mn/DOT's rate improved from 3 percent in 1990 to 3.6 percent in 1991, still below the national average of 7 percent and well below the Patrol's rate.

The Patrol explains its improved performance as due to increased emphasis on driver-only inspections, and emphasis on intercepting interstate trucking on interstate highways. Mn/DOT points out that many of its inspections are done in the interior of the state where a greater share of the traffic is local and either exempt from rules on how long a driver is allowed to drive without resting or less likely to be in violation of them than interstate traffic.

In summary, we believe that the data support a conclusion that the Patrol is more effective than Mn/DOT in detecting safety violations. We also reviewed the cost of conducting roadside inspections, and find that, although the data are inconclusive, the Patrol enjoys certain efficiencies owing to the more extensive statewide deployment of commercial vehicle inspectors engaged in weigh scale operations and lower travel and lodging costs that are achievable as a result.

We conclude that the State Patrol is the best organizational setting for truck safety regulation.

We recommend that:

- **All roadside enforcement activities should be assigned to the Patrol, while Mn/DOT should assume responsibility for safety reviews and complaint investigations. The Patrol should remain the lead agency in dealing with the Federal Highway Administration.**

This recommendation honors the current division of labor to a large extent since the Patrol already is the lead agency in dealing with the federal government and conducts most of the roadside inspections, and Mn/DOT conducts most safety reviews at company terminals. It would not require a major transfer of staff between agencies.

This solution recognizes that roadside safety inspections are a law enforcement function, similar to other traffic law enforcement, and consistent with the Patrol's basic mission. It is also consistent with the Patrol's superior statewide deployment of vehicle inspectors as a result of its weigh scale operations and its superior record of detecting violations.

If this solution does not resolve the dispute between the agencies, however, we recommend that all truck safety inspections, both roadside inspections and safety reviews at truck terminals, be placed under the authority of the Department of Public Safety in the State Patrol.

Mn/DOT argues that its responsibilities in economic regulation require continuing involvement in roadside and terminal inspections. Mn/DOT argues that truck safety regulation is more like an administrative regulatory process than a law enforcement function.

These points are not without merit, although we think a stronger case can be made for the Patrol when the question is which agency should conduct *roadside* inspections. Mn/DOT has demonstrated the ability to do the job, however, and judging by the high rate of serious violations detected by both agencies, there is plenty of work to do before compliance with safety standards is adequate. Thus, our recommendation to consolidate roadside operations in the Patrol does not imply that the total force now engaged in truck safety inspections should be reduced.

The Patrol should take responsibility for roadside inspections. Mn/DOT should take the lead in terminal-based safety reviews.

There is currently some pressure to upgrade the commercial vehicle inspector job to that of a licensed peace officer. In our view, the inspector job requires skill, including some training and aptitude for dealing with the public, but not the level of skill and judgment required for troopers or other uniformed peace officers. This is demonstrated by the effective use of motor transportation representatives in Mn/DOT and civilian commercial vehicle inspectors in the Patrol. It is to the Patrol's credit that it has employed civilian technicians effectively in a setting where there was reluctance to yield responsibilities formerly belonging to uniformed troopers. We think the Patrol should stick with this cost-effective way of getting the job done.

In conclusion, truck safety regulation is a small responsibility in two large departments that operate other programs related and unrelated to truck safety. The choice of which department should be responsible for truck safety inspections rests primarily on a consideration of which agency is best positioned strategically to carry out this function. In our view, strategic position depends on both geographic deployment, and organizational mission, incentives, and other organizational responsibilities. Taking these factors into account, we recommend that a dividing line of responsibility be drawn to reflect the Patrol's superior strategic position at weigh scales and on the roads, and Mn/DOT's expertise in terminal-based inspections.

TRUCK SAFETY REGULATION

Two state agencies share responsibility for truck safety regulation, the Minnesota Department of Public Safety and the Minnesota Department of Transportation (Mn/DOT). The Department of Public Safety, through the Commercial Vehicle Enforcement Section of the State Patrol, enforces weight requirements at fixed and mobile scales and inspects trucks and school buses for safety violations. Public Safety also issues drivers licenses and registers motor vehicles, and the State Patrol has general responsibility for law enforcement on state highways.

Mn/DOT's Office of Motor Carrier Safety and Compliance is also responsible for enforcing truck safety requirements. Mn/DOT workers conduct roadside inspections of trucks, investigate complaints of unsafe trucks, and conduct motor carrier safety reviews (audits of driver safety programs and truck maintenance procedures). Mn/DOT also enforces economic regulations that require truckers within the state to obtain authority to operate and to charge approved rates.¹ Mn/DOT provides carrier and shipper training and enforces hazardous materials, building mover, and special transportation service requirements.

Both departments have statutory authority for conducting roadside inspections of trucks and for conducting safety reviews. A substantial portion of their activities are federally funded and directed through the federal Motor Carrier Safety Assistance Program (MCSAP). The MCSAP program permits states to divide truck safety responsibilities between two or more agencies, but requires states to designate a lead agency. In Minnesota, the Department of Public Safety has been the lead agency since 1984, when Minnesota joined the MCSAP program.

Our review of truck safety regulation was prompted by concern, voiced by legislators and representatives of the trucking industry, about possible overlap, duplication, and poor coordination between the two agencies. A recent report by the Transportation Study Board expressed some concerns about "potential duplication, overlap, and confusion regarding the specific duties and responsibilities of each agency." The study board requested that the Legislative Auditor

¹ The independent Transportation Regulation Board, comprised of three members appointed by the Governor, is the quasi-judicial body that grants authority to provide intrastate service and approves shipping rates. Mn/DOT represents the public interest in proceedings before the board, investigates complaints that carriers are operating without proper authority or are not charging approved rates, and enforces other board rulings and orders.

There is a dispute between the State Patrol and Mn/DOT over responsibility for truck safety.

study "issues surrounding duplication of service, the level of coordination between state and federal regulatory systems, and the necessity of certain services today."²

Meetings with legislators, representatives of the trucking industry, federal officials, and the management of the two departments echoed this concern. We learned that there has been a jurisdictional dispute between the agencies for many years and that attempts to resolve the dispute have failed. This dispute centers on the question of which agency should control the state's truck safety program and how responsibilities should be divided. In particular, the agencies disagree over responsibility for conducting roadside safety stops and truck inspections.

The main purpose of this study is to recommend a solution to this inter-agency dispute. We examined the truck safety programs of the two state agencies, paying particular attention to areas of overlap and duplication. We asked:

- **What are the responsibilities of the departments of Transportation and Public Safety with regard to motor carrier safety regulation? Is there a clear division of responsibility and appropriate coordination of activities?**
- **How effectively are the departments of Transportation and Public Safety carrying out their truck safety programs?**
- **How can safety regulation be organized and performed in a more effective and efficient manner?**

There is more than one effective way to organize truck safety regulation among state agencies. The truck safety programs of the two agencies exist in a matrix of federal and state law, current and historical practices, organizational culture, and external relationships. We consider these factors in conducting our review and formulating our recommendations. We are guided in our analysis and recommendations by the following criteria:

- Primary responsibility for truck safety regulation should reside in the agency that is best positioned to carry out an effective program. The agency's other programs and responsibilities should enhance its ability to perform safety related activities.
- Truck safety regulation should be compatible with an agency's overall mission, organizational interests, incentives, and expertise.
- Responsibility for truck safety regulation should be assigned to the agency with the best regulatory performance record.

² Transportation Study Board, *Study of Minnesota's Surface Transportation Needs* (St. Paul, 1991), 103-105.

To address these issues, we interviewed management and staff of the two agencies, reviewed summary data of agency activities, accompanied staff from both agencies on roadside inspections, reviewed state and national accident statistics, and interviewed representatives of the U.S. Department of Transportation, the trucking industry, and other interested parties.

Legislators and the Transportation Study Board also expressed concern about the effectiveness of economic regulation of trucking in Minnesota. This includes questions about how well state agencies (Mn/DOT and the Transportation Regulation Board) enforce state laws concerning authority to provide trucking service at approved rates, and questions about the need for economic regulation of trucking within Minnesota in light of substantial federal deregulation of interstate trucking. This report does not deal with these economic issues, although a forthcoming report by the House Research Department discusses the impact of economic deregulation on shipping rates, safety, and service.³

This report is organized into five sections. After this introductory section, we present an overview of state and national traffic accident trends. We then discuss the agencies responsible for truck safety regulation and their programs. Next, we present our findings on their efficiency and effectiveness and discuss the conflict between them. Finally, we offer our conclusions and recommendations.

TRUCK SAFETY TRENDS

Minnesota's truck safety program is best viewed in the context of state and national motor vehicle accident trends. Data collected over the past 20 years show that:

- **There has been a marked decline in traffic accidents and fatalities, nationally and in Minnesota.**

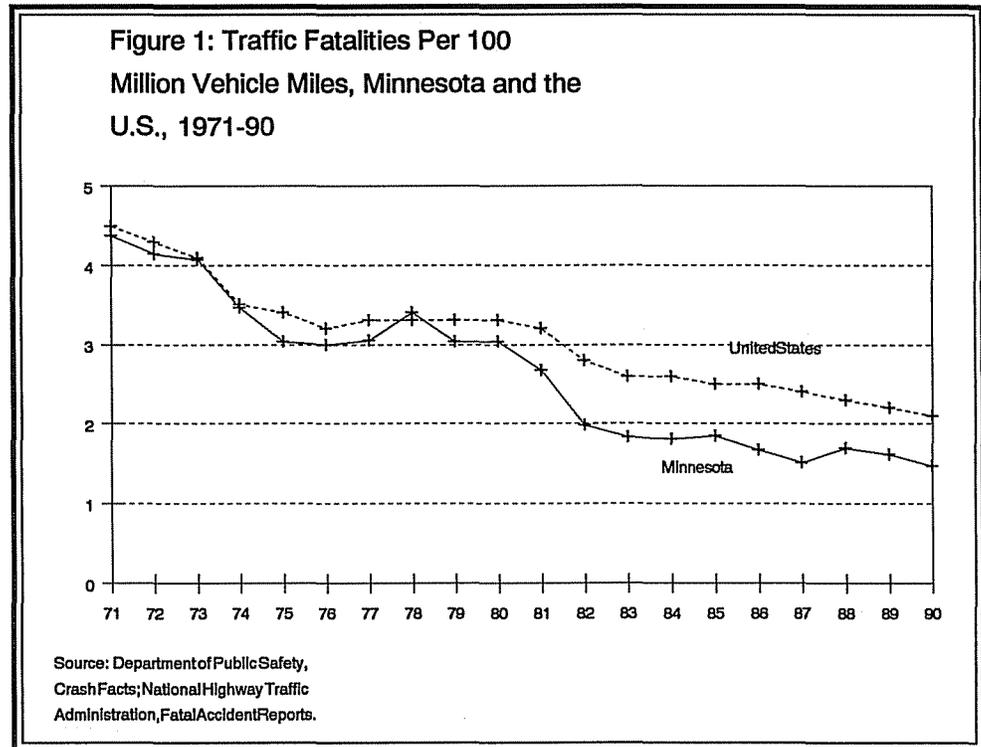
In 1971, there were 52,542 traffic fatalities in the United States. By 1990, despite many more vehicles on the road and a near doubling of the total miles driven, the number of fatalities declined to 44,529.⁴ Similarly, Minnesota had 1,024 fatalities in 1971, and only 568 in 1990.⁵

Figure 1 shows the number of traffic fatalities per 100 million vehicle miles from 1971 to 1990. It indicates a marked steady decline in fatal accident rates for both Minnesota and the U.S. In fact,

³ John Williams, *Regulation and Deregulation in the Trucking Industry*, Minnesota House Research Department (St. Paul, forthcoming).

⁴ National Highway Traffic Safety Administration, *Fatal Accident Reporting System* (Washington, DC, 1990).

⁵ Department of Public Safety, *Minnesota Motor Vehicle Crash Facts* (St. Paul, MN, 1990).



- **Traffic fatalities per 100 million vehicle miles declined by 53 percent nationally and by 66 percent in Minnesota between 1971 and 1990.**

Figure 1 also shows that Minnesota roads are safer than the national average.

- **In 1990, there were 2.1 fatalities per 100 million vehicle miles nationally but only 1.5 fatalities in Minnesota.**

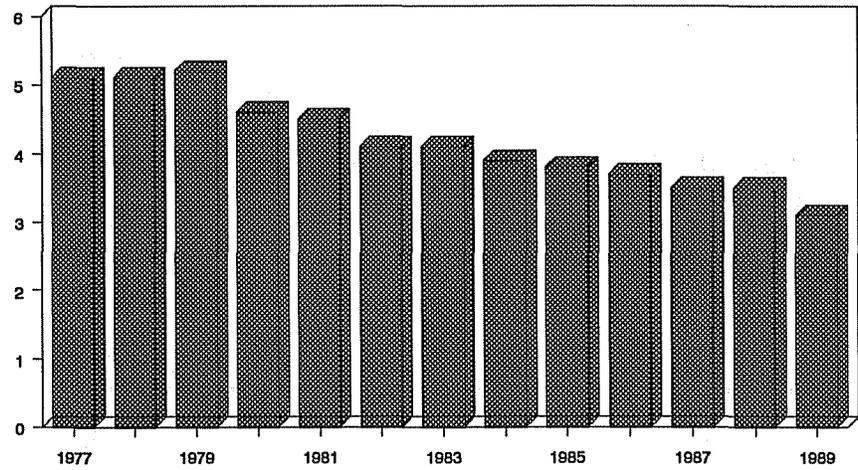
There is no reliable national data on total crashes, but in Minnesota, total crashes declined from 104,030 in 1971 to 99,236 in 1990. Total crashes per hundred million vehicle miles declined from 445 in 1971 to 256 in 1990, a 42 percent decline.⁶

Truck accidents and fatalities have declined nationally and in Minnesota.

The trend has been the same for accidents involving trucks, although reliable data do not go back as far and national and state statistics are not precisely comparable. Figure 2 shows that, nationwide, fatalities per 100 million vehicle miles involving trucks over 10,000 pounds went from 5.1 in 1977 to 3.1 in 1989. Figure 3 shows that in Minnesota, fatalities involving commercial vehicles (trucks over 9,000 pounds and buses) went from 5.5 per 100 million vehicle miles in 1984 to 3.3 in 1990. Finally, Figure 4 shows that total commercial vehicle crashes in Minnesota went from 5.0 per million vehicle miles in 1984 to 2.8 in 1990.

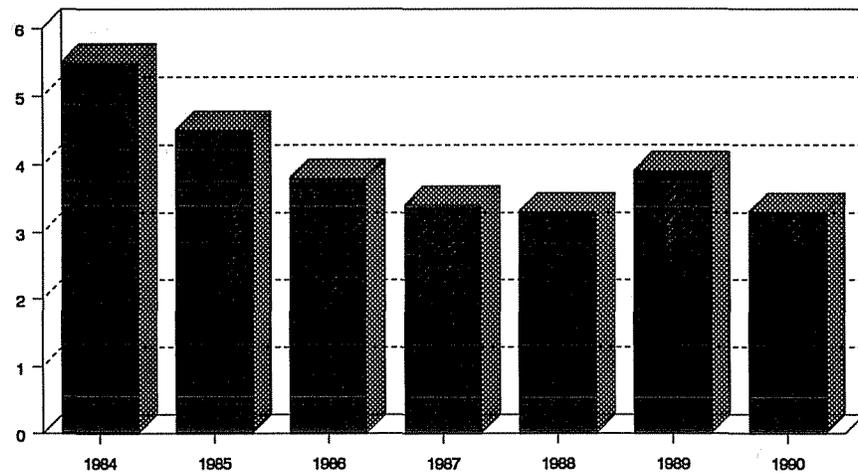
⁶ Department of Public Safety, *Crash Facts*.

**Figure 2: U. S. Truck Accident
Fatalities Per 100 Million Vehicle
Miles, 1977-89**

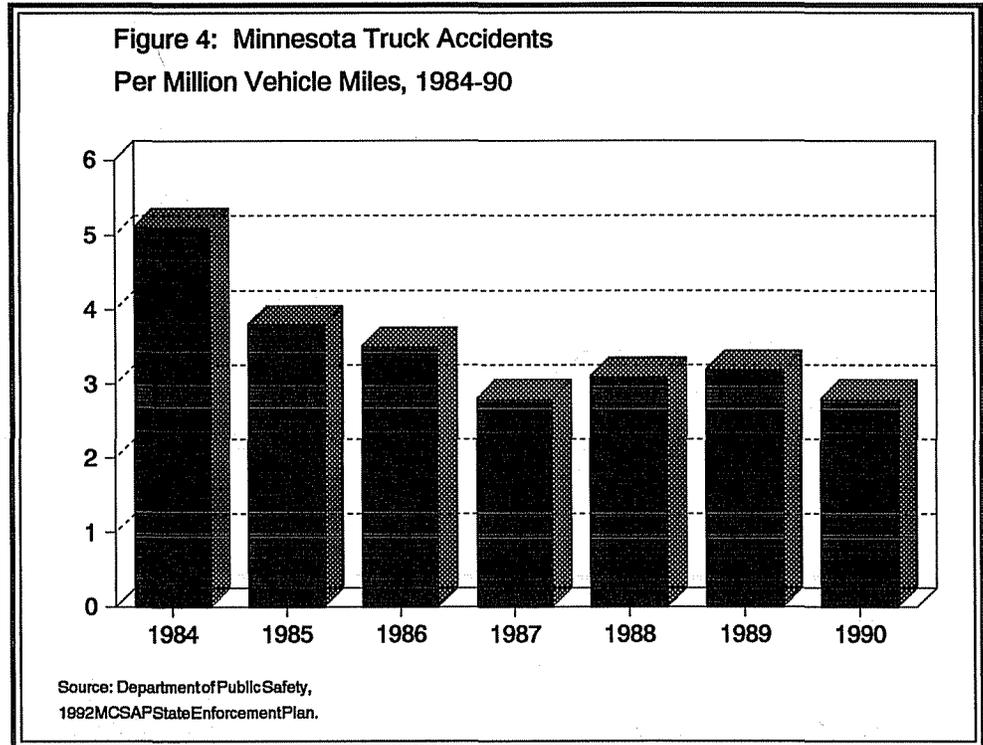


Source: National Highway Traffic Safety Administration, Fatal Accident Reports.

**Figure 3: Minnesota Truck Accident
Fatalities Per 100 Million Vehicle
Miles, 1984-90.**



Source: Department of Public Safety, 1992 MCSAP State Enforcement Plan.



Despite the improvement in safety, there are still many accidents involving injury, loss of life, and property damage each year. In 1990, there were 6,712 truck-involved accidents in Minnesota resulting in 83 fatalities and 2,390 personal injuries. Accidents involving trucks were more likely to involve fatalities than non-truck accidents. About seven percent of all 1990 traffic accidents and 15 percent of fatal accidents involved at least one truck.⁷

AGENCY RESPONSIBILITIES AND PROGRAMS

Agency Responsibilities

In this section, we discuss the federal government's role in truck safety regulation and describe the programs of the two state agencies, the Department of Public Safety and the Department of Transportation, that are responsible for enforcing federal and state truck safety regulations. These agencies carry out the two major components of truck safety regulation: *roadside inspections* of trucks and truck drivers to determine whether they meet federal and state safety standards, and *safety reviews* with company executives or fleet managers covering their practices and policies regarding vehicle maintenance, driver qualifications and training, and other truck safety matters.

⁷ Department of Public Safety, *Crash Facts*.

The Federal Role

Although both Mn/DOT and the State Patrol undertook limited safety efforts prior to the 1980s, the major impetus to safety enforcement was the creation of the federal Motor Carrier Safety Assistance Program which became operational in Minnesota in 1984.⁸ Before the MCSAP program, Minnesota's state agencies inspected about 1,500 vehicles annually and conducted no safety reviews.⁹ In contrast, the two agencies inspected over 30,000 vehicles and conducted over 500 safety reviews in the year ended September 30, 1991.¹⁰ The MCSAP program funds 80 percent of the state's "enhanced" truck safety activities (expenditures above a 1982 base level) up to a maximum amount determined by federal appropriations. In the fiscal year ended September 30, 1991, the federal share amounted to \$1,134,568 (\$680,740 was allocated to the State Patrol and \$453,828 to Mn/DOT).

The federal government exerts considerable influence over Minnesota's truck safety program.

The federal government exerts considerable influence over Minnesota's truck safety program. To receive federal funds, states must adopt federal motor carrier safety regulations.¹¹ These regulations set safety standards for trucks, including brakes, tires, lights, suspension, steering, and other equipment. Trucks with defective equipment may receive citations, and those with serious violations may be taken out of service. Federal regulations also require truck drivers to pass medical examinations and have minimum rest periods when driving for extended periods. Drivers who fail to provide evidence that they meet these requirements may also be taken out of service.

In addition to setting safety standards, the federal government specifies procedures and reporting requirements for roadside inspections of trucks and reviews of motor carrier safety practices (safety reviews), and it oversees the state's performance.¹² The state is required to have an approved State Enforcement Plan that designates the number of roadside inspections, safety reviews, and other activities that each agency is expected to conduct during the fiscal year. Any additional efforts must be state funded.

The federal government also employs eight investigators based in St. Paul who conduct safety reviews of some Minnesota-based interstate carriers (primarily passenger carriers and hazardous materials carriers) and do follow-up compliance reviews for carriers that do not receive a satisfactory rating on their initial safety reviews.

⁸ The MCSAP program was established by the Surface Transportation Assistance Act of 1982 (*Public Law 97-424*) and is administered by the U.S. Department of Transportation's Federal Highway Administration, Office of Motor Carriers.

⁹ Department of Public Safety, *1992 State MCSAP Enforcement Plan*, 14.

¹⁰ Department of Public Safety, *MCSAP Quarterly Reports*.

¹¹ 49 CFR Sec. 390-398.

¹² Actual methods of inspecting trucks and criteria for removing unsafe trucks from service are established with U.S. and Canadian government input by the Commercial Vehicle Safety Alliance, an association of most U.S. states and Canadian provinces.

Truck safety regulation is carried out by the State Patrol in the Department of Public Safety.

Department of Public Safety

Within the Department of Public Safety, regulation of trucking is carried out by the Commercial Vehicle Enforcement Section of the State Patrol. The State Patrol was transferred from the Highway Department (the forerunner to Mn/DOT) to the newly created Department of Public Safety in 1969.¹³ The Patrol's overall mission is to direct traffic, insure safety, and enforce laws relating to the protection and use of trunk highways.¹⁴ The Patrol is also responsible for weighing trucks and inspecting school buses. In 1984, the Governor designated the Patrol to be the lead agency in the federal MCSAP program. Other Public Safety divisions issue drivers licenses and register vehicles.

The Commercial Vehicle Enforcement Section has a complement of 140 positions and a budget of about \$6 million. Table 1 presents the section budget for fiscal years 1991 and 1992 in total and for each major program area. The Patrol recently reorganized the Commercial Vehicle Enforcement Section from two to three operating divisions, each headed by a patrol lieutenant who reports to a major who heads the section. Figure 5 shows the new organization.

Table 1: Commercial Vehicle Enforcement Section, FY 1991-92 Budgets

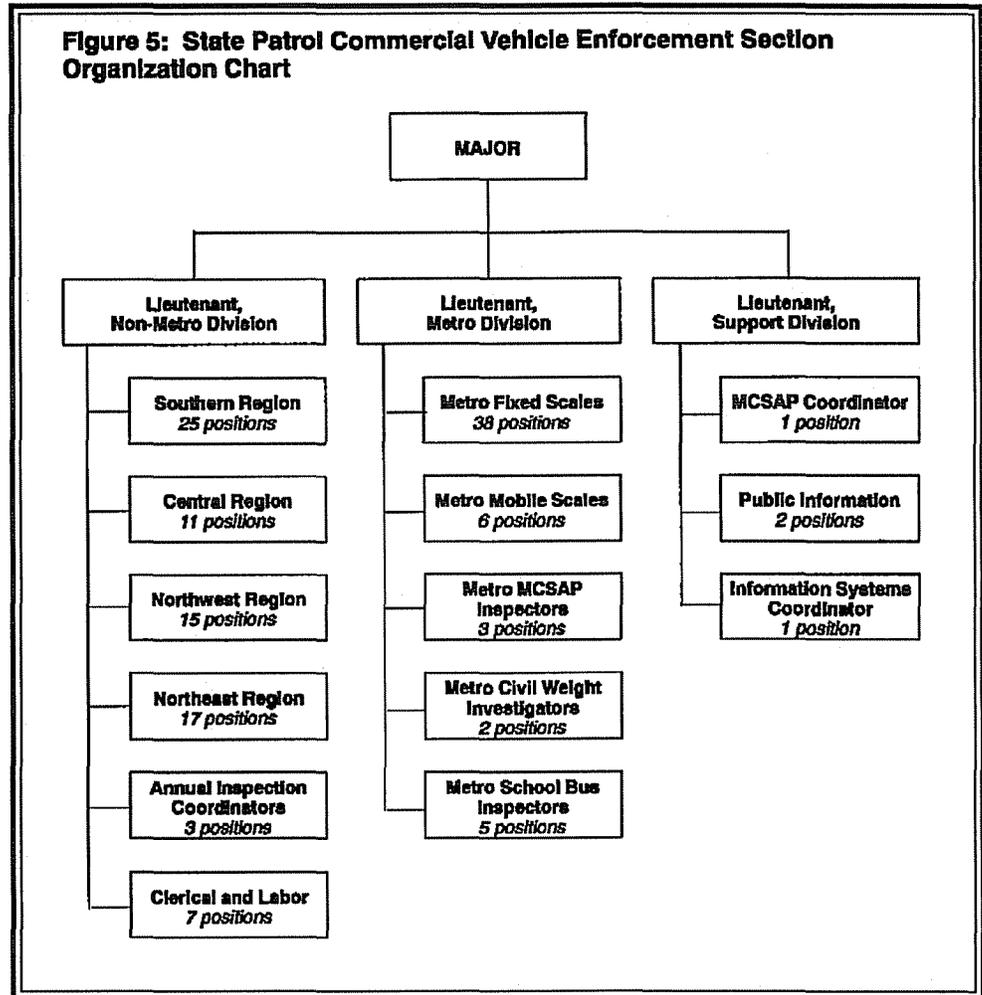
<u>Program</u>	<u>1991 Budget</u>	<u>1992 Budget</u>
Weigh Scales	\$4,089,829	\$4,037,290
School Bus Inspection	433,540	430,000
Annual Truck Inspections	226,977	201,000
Safety Inspection	<u>1,370,131</u>	<u>1,163,178</u>
Total	\$6,120,477	\$5,831,468

Source: Statewide Accounting System, *Managers Financial Report*.

One Commercial Vehicle Enforcement Section division oversees Twin Cities operations and is divided into several program units including school bus inspection, fixed scale operations, mobile scale operations, MCSAP inspectors, and civil weight enforcement. The second division serves the remainder of the state and is divided into four regional offices, each supervised by a sergeant. Each regional office oversees the same activities that are conducted in the metro area. In addition, this division contains the annual inspection program staffed by three inspection coordinators and a six-person clerical section that provides support for the entire enforcement section. The third division provides MCSAP program direction, information systems staff, and is also responsible for planning and training. Excluding top management and clerical support positions, the Commercial Vehicle Enforcement Section consists of 55 Twin Cities positions and 72 positions outstate.

¹³ *Minn.Stat. Sec. 299D.02.*

¹⁴ *Minn.Stat. Sec. 299D.03.*



Fixed and Mobile Weigh Scales

Central to the Patrol's operation are six fixed scales and 11 mobile scale units located around the state. The fixed scales are staffed by "commercial vehicle inspectors" (CVIs). Although unarmed and not licensed peace officers, CVIs have the authority to arrest and issue citations for violations of truck safety regulations.¹⁵ As a matter of policy, CVIs are not permitted to pursue vehicles suspected of violations, but can flag vehicles to the side of the road for safety inspections or a weigh scale check. Each of the mobile scale units are staffed by one state trooper and one or two CVIs.

MCSAP Investigators

In addition to the weigh scale operations, the Commercial Vehicle Enforcement Section employs 10 CVIs called MCSAP investigators. Unlike other Commercial Vehicle Enforcement Section staff who perform safety inspections as an adjunct to weigh-scale operations, MCSAP investigators work full

Truck safety activities are performed as an adjunct to weigh scale operations in the Patrol.

¹⁵ Minn. Stat. Sec. 299D.06.

time at truck safety inspections. A MCSAP program coordinator prepares required funding applications and statistical reports.

Civil Weight

Ten troopers work in the civil weight program. This program, started in 1984, is designed to collect revenue to cover the damage done by overweight trucks. Because a lot of truck traffic is seasonal--tied to the agricultural harvest or the peak construction season--it is unrealistic for the weigh scale operation to intercept all the overweight traffic during the peak periods. Thus, the civil weight troopers examine bills of lading at grain elevators and other terminals. When an investigator finds evidence that trucks were significantly overweight, the Patrol sends the carrier a "demand letter" for payment of the civil penalty prescribed by law.

Annual Inspections

Beginning in 1991, all trucks registered in Minnesota must undergo an annual safety inspection. The required annual inspections are performed by inspectors trained and certified by the three coordinators who staff the annual inspection program. Inspectors are typically trucking company employees or employees of independent repair shops. In addition to certifying inspectors, the coordinators review a sample of the inspected trucks, investigate complaints, and examine repair records.

School Bus Inspections

Fifteen commercial vehicle inspectors around the state perform annual safety inspections of school buses. School bus inspections are much like truck inspections with the addition of some standards covering the interior of the vehicle.

Department of Transportation

Mn/DOT's motor carrier safety activities are carried out by its Office of Motor Carrier Safety and Compliance in the Program Management Division. This office was originally created in the Railroad and Warehouse Commission to enforce economic regulation of intrastate transportation. The office moved to the Department of Public Service in 1967 and to Mn/DOT in 1976 when Mn/DOT was established and was given responsibility for administration and enforcement of motor carrier regulations.

From 1925 to 1967, intrastate motor carrier rates and authority were regulated by the Railroad and Warehouse Commission, which also regulated warehouses, grain elevators, and intrastate telephone service. In 1967, the Legislature created the Public Service Commission (renamed Public Utilities Commission in 1980) to assume regulatory responsibilities over transportation, telephone, and, beginning in 1974, the newly regulated natural gas and electric utilities industries. Transportation regulation was transferred to a new

**Mn/DOT's
Office of Motor
Carrier Safety
and
Compliance is
responsible for
enforcing
economic and
safety
regulations.**

Transportation Regulation Board in 1983. The board issues certificates and permits for intrastate for-hire trucking companies to operate, and it reviews the rates they charge.¹⁶

Mn/DOT's Office of Motor Carrier Safety and Compliance represents the public interest before the Transportation Regulation Board in rate setting proceedings and in matters relating to the granting of authority to provide for-hire motor carrier service. Mn/DOT is also empowered to adopt and enforce rules relating to truck safety and operation.¹⁷

When the Office of Motor Carrier Safety and Compliance moved to Mn/DOT in 1976, its eight "motor transportation representatives" were primarily engaged in enforcing economic regulations. Safety enforcement activities were limited and were mostly confined to for-hire carriers. In 1981, Mn/DOT added two hazardous materials specialists and in 1983, it added three additional motor transportation representatives.

Since Minnesota joined the MCSAP program in 1984, Mn/DOT has added additional staff and safety enforcement efforts have expanded to interstate and intrastate trucks engaged in both private and for-hire business.¹⁸ Mn/DOT now has 25 motor transportation representatives who divide their time between safety and economic enforcement activities. Ten of these are situated in regional offices and the remainder are based in South St. Paul. In the fiscal year ended June 30, 1991, Mn/DOT spent \$1,921,670 on economic and safety regulation.¹⁹

The division has recently undergone a reorganization to add supervisory positions and to place more emphasis on training and education. Figure 6 presents the current organization chart. Most safety activities are carried out by 25 motor transportation representatives assigned to the Operation Section's three area units and the hazardous materials unit. However, these staff also do economic investigations, usually related to complaints about motor carriers operating without authority or beyond the scope of their authority or allegations that motor carriers are not charging filed rates.

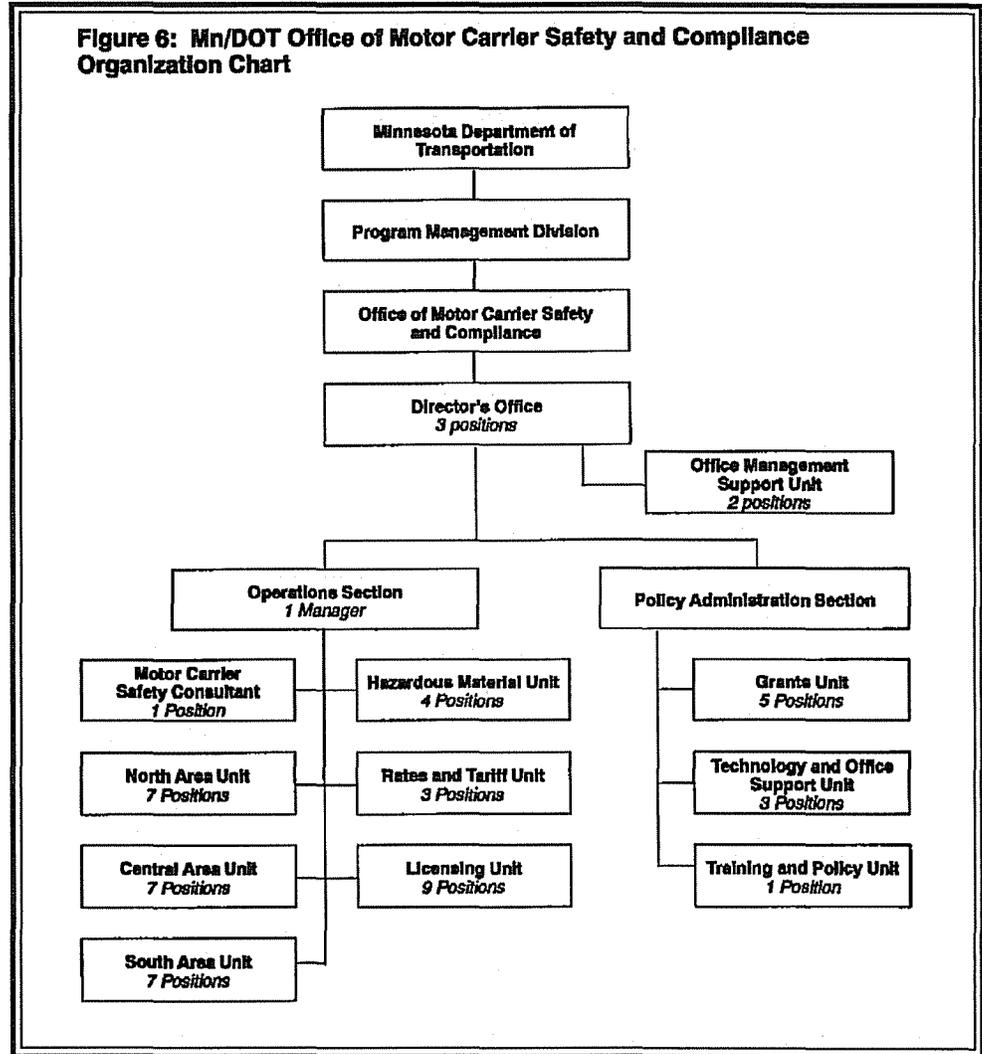
The motor transportation representatives are divided into four units. Three units are divided along geographical lines but staff from one unit may assist others when needed. These units perform roadside truck inspections, conduct

¹⁶ A "for-hire" trucking company provides trucking service for another company or individual for compensation. It is contrasted with "private" trucking, where a company transports its own products in its own vehicles. Private trucking is not subject to economic regulation. Certain for-hire carriers (petroleum carriers and "regular route" carriers providing scheduled service between fixed points) must charge rates approved by the board.

¹⁷ *Minn. Stat. Sec. 221.031.*

¹⁸ In 1980, trucks transporting certain agricultural and forestry products, specifically exempted from intrastate motor carrier regulation, were made subject to safety requirements. In 1983, the Legislature specifically defined private carriers (carriers transporting materials within the scope of a business other than transportation) and subjected them to Mn/DOT's safety authority. *Minn. Stat. 221.011, subd. 26 and 221.031, subd. 2.*

¹⁹ *Statewide Accounting System, Managers Financial Report.*



safety reviews, conduct training programs, and investigate complaints about economic regulation and truck safety. They also do several safety and economic compliance audits each year, involving extensive searches of trucking company records to determine whether they are operating outside the scope of their authority, charging inappropriate rates, or systematically ignoring safety regulations. The fourth unit specializes in enforcing hazardous materials regulations. This includes providing technical advice in responding to transportation incidents (such as accidents or spills) involving hazardous materials and providing training and assistance to hazardous materials shippers. This unit also regulates cargo tanks that ship petroleum and other hazardous material. Staff from this unit also assist on roadside inspections and other assignments.

The Operations Section has two additional units that deal primarily with economic regulation. The small rates and tariff unit analyzes rate filings of permit carriers to make sure they are complete and checks that they are compensatory and non-discriminatory. The licensing unit processes all applications, issues carrier identification cards, ensures that insurance forms and tariffs are properly filed, collects fees, and performs other clerical and data entry functions.

The units in the Policy Administration Section support all office safety and economic activities, coordinate safety activities with the federal government, maintain files, and organize and submit data forms. The office has recently hired a training and public information coordinator.

Truck Safety Programs

As we discussed earlier, two programs form the core of federal and state truck safety regulation: roadside inspections of trucks and safety reviews of motor carrier safety procedures conducted at truck terminals. Both Mn/DOT and the Patrol perform each of these. In general, both agencies follow federally prescribed procedures for conducting safety reviews and roadside inspections, but each agency's organizational structure and other responsibilities influence the way they deploy and focus their resources.

Roadside Inspections

Most roadside inspections are conducted by the Patrol. In the year ended September 30, 1991, the Patrol conducted 25,275 vehicle inspections and Mn/DOT conducted 5,028. Thirty-four percent of the vehicles inspected were engaged in intrastate commerce and 66 percent were interstate.

About half of the Patrol inspections are conducted at fixed scale weigh stations.

About half of the truck inspections were conducted at the fixed scales. There are six regularly operating fixed scale weigh stations located near the state's borders at Erskine (Highway 2 in northwest Minnesota), Saginaw (Highway 2 near Duluth), Worthington (I-90 in southwest Minnesota), Orchard Gardens (I-35 near Lakeville), and St. Croix (I-94 at the Wisconsin border).²⁰ The St. Croix and Orchard Gardens scales are the biggest. The St. Croix scale is open 24 hours every day of the year and the Orchard Gardens scales are open 24 hours on weekdays. These two sites employ 38 of the 54 fixed scale investigators.

At the St. Croix weigh station, trucks pass over a scale that weighs them while still moving. A computer automatically directs some of these to another scale, including those that the first scale indicates are close to or over the weight limit. These are then weighed on a more accurate stationary scale. At all of the weigh stations, some trucks are also selected for full inspections. Trucks coming through the scales that do not show required inspection stickers and those that show some external appearance of a safety violation are likely to be subjected to a safety inspection. The Patrol prefers to do a large percent of its inspections at weigh stations because of the high volume of truck traffic that passes through, the efficiency gained by using the same staff and location to do both weighing and inspections, the ability to use the weighing process as an initial screening for potentially unsafe trucks, and the fact that weigh stations

²⁰ The Orchard Gardens site consists of two scales, one northbound and one southbound. There are also scales at Rosemount, Elk River and Winona that are used occasionally by the State Patrol and Mn/DOT for roadside inspections. The Legislature has authorized a seventh fixed scale at I-94 near Moorhead and construction is about to begin there. Future plans call for fixed scales at I-35 near Albert Lea and I-90 near Nodine in Southeast Minnesota.

provide a convenient and safe spot to perform inspections and put trucks out of service when necessary.

Recognizing that overweight and unsafe trucks may bypass fixed scales, the Patrol has mobile scale teams based in each of its eleven districts. Each team is headed by a trooper and has one or two commercial vehicle inspectors following in a van with portable scales and other equipment. Two teams (six workers) operate in the Twin Cities metro area and nine teams (24 workers) are based in the non-metro districts. A typical strategy of mobile scale teams is to set up a scale on heavily used routes, especially those likely to be used by trucks avoiding the fixed scales. Trucks that appear to be running overweight are flagged to the roadside and weighed. Those that show signs of safety violations may be subjected to a safety inspection as well.

Mobile scale teams detect overweight and unsafe trucks that avoid fixed scales.

Each Patrol district also employs a commercial vehicle inspector dedicated solely to truck safety enforcement (MCSAP investigators). MCSAP investigators patrol the highways, stopping and inspecting unsafe trucks. They usually work alone, but may join with MCSAP inspectors from other districts or with mobile scale teams in a larger operation to stop all trucks on a particular road. However, the Patrol prefers not to do this on a very large scale to avoid overnight lodging and meals expenses.

In contrast to the Patrol, Mn/DOT has no truck weight enforcement responsibilities. Mn/DOT conducts its inspections at roadside locations around the state. These sites are selected to intercept heavy truck traffic or to cover routes where trucks can bypass the weigh stations. Mn/DOT does not normally consult with the Patrol in advance about where and when to conduct its inspections but it does provide the Patrol with a copy of its monthly inspection schedule. Mn/DOT's inspections are best characterized as "saturation stops." All trucks are stopped and checked for appropriate documents. As is the case with the Patrol, Mn/DOT's inspection coordinators use their discretion to select some trucks for full inspections.

Inspectors for both agencies follow the North American Standard Inspection Procedure and complete a federally-approved form for each inspection. Inspectors check for compliance with driver, vehicle, and cargo requirements. Figure 7 lists some of the major areas that are checked. To a large extent, roadside inspections cover the same safety standards familiar to anyone who drives a car, such as lights, tires, brakes, and steering. However, trucks are significantly more complex than cars. They have more wheels, axles, and brakes, all of which need to be checked to see if they are operating properly. Truck inspectors must also be concerned with coupling devices, cargo securement, tanks, air brakes, and suspension systems. In addition, there are requirements that truck drivers must be qualified (licensed and medically fit) and that they must maintain proper documentation that shows that they have adequate rest periods when driving long distances. In general, federal rules prohibit driving more than 60 hours per week and require drivers to rest eight hours after fifteen consecutive hours on duty.

Truck inspection procedures are standardized.

Figure 7: Major Features of Roadside Inspections

Driver Requirements:

- Drivers license
- Medical certificate
- Record of duty status (driver log documenting hours on and off duty)
- Shipping papers

Vehicle Requirements

- Brake system
- Steering mechanism
- Wheels and tires
- Coupling devices
- Suspension
- Frame and body
- Fuel and exhaust system
- Lighting
- Cargo securement

Additional Hazardous Material Requirements

- Check for presence of hazardous materials
- Proper labeling of hazardous material
- Proper display of decals
- Check for leaks, spills, and unsecured cargo

Source: Commercial Vehicle Safety Alliance and Federal Highway Administration, "North American Standard Inspection Procedure."

There are no sophisticated instruments used in roadside inspections. Inspectors do not have to be certified mechanics but they must complete a federally approved training program before they are certified to conduct roadside inspections. In addition, inspectors receive specialized training on brake systems and other truck parts. Inspections typically take 15 to 40 minutes, including 10 to 15 minutes to complete required inspection forms.

Serious safety violations result in drivers or vehicles placed out of service.

Trucks that violate safety regulations may receive misdemeanor citations but inspectors usually issue warnings rather than citations.²¹ Federal and state regulations require inspectors to remove drivers from service if they exceed maximum driving time and to remove vehicles from service that are likely to cause an accident or breakdown.²² Both agencies follow the North American Uniform Out-of-Service Criteria in making these determinations. Mn/DOT staff also check that for-hire carriers have proper authority to provide transportation services, have paid appropriate taxes and fees, and comply with hazardous materials regulations.

Table 2 summarizes the driver and vehicle out-of-service violations in Minnesota for the year ended September 30, 1991. Most driver out-of-service violations are for driving excessive hours without a rest. The most common vehicle

²¹ Citations are misdemeanors under the jurisdictions of county courts. Courts follow a uniform fine and bail schedule adopted by the Minnesota Judges Association. Fines typically range from \$25 to \$100, but violations of regulations pertaining to hazardous materials carry a fine up to \$700.

²² 49 CFR Sec. 395.13, 396.9; MCAR Secs. 8850.8950, 8850.8400.

Table 2: Types of Out-of-Service Violations, FY 1991

<u>Violation</u>	<u>Number</u>	<u>Percent</u>
Excessive Hours of Service	4,879	17%
Other Driver Violations	957	3
Brakes	12,307	44
Lighting	3,670	13
Tires and Wheels	1,863	7
Suspension	1,202	4
Steering	755	3
Other Vehicle Defects	<u>2,264</u>	<u>8</u>
Total	27,897	100%

Note: Figures are for the federal fiscal year ending September 30, 1991.

Source: State Patrol, MCSAP Quarterly Reports.

out-of-service violations are for defective brakes, lights, steering, suspension, and tires.

Safety Reviews

In addition to roadside inspections, both agencies conduct safety reviews of company policies and procedures regarding truck safety. Safety reviews are conducted at motor carriers' headquarters and are intended primarily to educate companies about state and federal truck safety requirements and to instruct them on areas of their operation that need improvement. However, companies that cannot show that they have established appropriate safety procedures are subject to follow-up reviews (called *compliance reviews*) conducted by federal inspectors, and civil penalties may be levied if deficiencies are not corrected. Figure 8 shows the main issues covered in a safety review.

Safety reviews are intended to educate companies about truck safety requirements.

Figure 8: Major Features of Safety Reviews

General:

- Knowledge of federal truck safety regulations and procedures for ensuring compliance with them

Drivers:

- Adherence to regulations on driver qualifications, medical certificates, and licenses
- Proper accident reporting forms and procedures
- Use of driver daily logs and documentation of hours worked
- Safety training and accident prevention
- Policies on alcohol and drug use

Vehicles:

- Proper repair, inspection and maintenance procedures, and documentation
- Use of driver's daily vehicle inspection reports

Source: Federal Highway Administration.

Safety reviews are currently being conducted for all types of interstate carriers (private and for-hire) based on lists provided by the federal government. Reviewers must complete a federally approved training course and ask a list of questions contained on Federal Highway Administration forms. Results are sent to the Federal Highway Administration which rates carriers as satisfactory, conditional, or unsatisfactory. Federal inspectors conduct more comprehensive compliance reviews of the unsatisfactory and some of the conditional companies. Mn/DOT has requested federal approval to do some of the compliance reviews but has not yet received it. Mn/DOT staff conducted 348 safety reviews in the year ended September 30, 1991 and Patrol staff completed 179.

Related Programs

In addition to its roadside safety inspections and reviews of carrier safety procedures, Mn/DOT investigates safety related complaints about intrastate and interstate carriers. Complaints come from drivers, competitors, shippers, local authorities, and motorists. During the year ended September 30, 1991, there were 234 safety related complaints.²³ Many of these, such as complaints about unsecured loads, were resolved by contacting the carrier and discussing the problem. Others required visits to the carrier and some resulted in extensive audits of company maintenance and repair records.

As the result of 1991 legislation, Mn/DOT has begun to administer the Initial Motor Carrier Contact Program.²⁴ This program requires all new for-hire intrastate carriers to participate in an educational program to inform them about economic and safety regulations. Mn/DOT held its first seminar under this program in October 1991 and plans to schedule future seminars every month. In addition, Mn/DOT has an extensive education program and has conducted over 100 classes in 1991 for truckers, company managers, company safety directors, and those involved in shipping hazardous materials.

PROGRAM EFFECTIVENESS

Overall Program Effectiveness

While the national and state accident trends discussed earlier show a reduction in truck-related accidents and fatalities, the reasons for this are unclear. Fatalities were declining before the onset of the federal MCSAP program and have continued to decline. Furthermore, fatal accidents have declined for all vehicles, not just trucks. Among the contributing factors may be safer cars and trucks, better driver education and training, safer roads, greater seat belt use, and a toughening of DWI statutes and enforcement. The specific impact of the federal MCSAP program and Minnesota's truck safety program on accident

²³ Mn/DOT also investigated 234 economic complaints and 17 complaints that related to both safety and economic matters.

²⁴ *Laws of Minn.*, 1991, Ch. 333, Sec. 35.

The specific impact of safety programs on accident rates is not known.

rates is unknown. We do know that, under the MCSAP program, many over-worked drivers and unsafe trucks with a potential for accidents have been taken out of service and forced to correct the deficiencies and that many companies have been informed about truck safety regulations. Trucking industry representatives we spoke with generally accepted safety standards and out-of-service criteria despite the fact that it is costly to truckers to have a vehicle put out of service.

The impact of safety regulation on accident rates is not clear, but for a variety of reasons policy makers assume that such a program is worthwhile and want it to be well run. In our study, we examined the implementation of safety regulatory programs. The 1991 State Enforcement Plan called for the State Patrol to conduct 22,000 roadside inspections and for Mn/DOT to conduct 5,000 roadside inspections in the year ended September 1991. The Patrol completed 25,275 inspections and Mn/DOT completed 5,028.²⁵ The 1991 State Enforcement Plan also called for Mn/DOT to conduct 300 safety reviews and for the Patrol to conduct 80. In the year ended September 30, 1991, Mn/DOT completed 348 safety reviews and the Patrol 179. Therefore, it is clear that:

- **Both agencies have met their 1991 roadside inspection and safety review goals.**

In addition, federal officials told us that federal staff have accompanied state staff on inspections and safety reviews and that they are satisfied with the quality of both agencies' safety reviews and roadside inspections and, in general, with Minnesota's truck safety program.

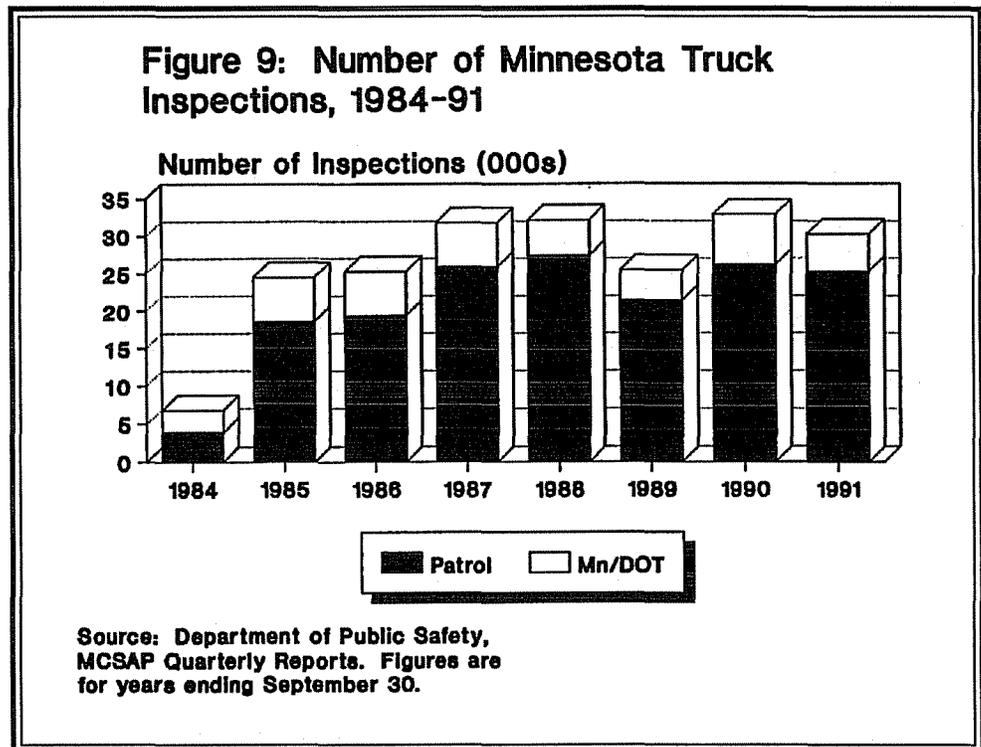
Roadside Inspections

To review the effectiveness of each agency's roadside inspections, we looked at the location of inspections, the percent of inspections that detected safety violations, the costs of inspections, and the training and supervision of inspectors.

Location of Inspections

Figure 9 shows that most of the roadside inspections conducted since the MCSAP program became operational in Minnesota in 1984 were done by the Patrol. In federal fiscal year 1991, the Patrol conducted 83 percent of the roadside inspections and Mn/DOT conducted 17 percent. The Patrol conducts most of the inspections because it operates truck weigh scales and its workers are strategically located, both at the weigh stations and at regional offices around the state. In addition to having 54 staff assigned to the fixed scale weigh stations, the Patrol has 30 investigators in two- or three-person teams around the state operating mobile scales and an additional contingent of 10 MCSAP inspectors whose basic responsibility is truck safety. In contrast, Mn/DOT has ten positions located in regional offices and 15 in the Twin Cit-

²⁵ These figures include 231 bus inspections by the Patrol and 90 by Mn/DOT.



ies. Mn/DOT inspections typically involve teams of four to seven inspectors. Thus, in order for Mn/DOT to schedule an outstate roadside truck inspection, inspectors from the Twin Cities or other regions must drive to the inspection site. Therefore, we conclude that:

- **The Patrol is better positioned strategically to conduct truck inspections and, accordingly, performs the bulk of them.**

Nevertheless, Mn/DOT inspections are productive. State and federal officials we talked to say that unsafe trucks can easily avoid the fixed scale sites by taking alternate routes. Furthermore, most fixed scales are positioned near the state's borders to make sure that interstate trucks have paid appropriate weight-based fees. Relying solely on those sites to inspect trucks would mean that trucks that operate away from the borders would be missed. For this reason, as Table 3 shows, only 51 percent of the truck inspections conducted from April through September 1991 were at the fixed scales. The remainder were conducted by the Patrol at mobile scales (14 percent), by Patrol MCSAP investigators (17 percent) and by Mn/DOT inspectors (18 percent) at locations around the state.

To test the reasonableness of this deployment strategy, we reviewed inspection report results for April through September, 1991.²⁶ Table 4 reports the percent of inspections resulting in at least one violation and the percent resulting in at least one out-of-service violation. Table 4 shows that 83 percent of the vehi-

²⁶ All inspection results are entered into the federal SAFETYNET information system. As the MCSAP lead agency, the Patrol coordinates data entry for Minnesota inspections.

Table 3: Roadside Inspections, April-September 1991

	<u>Number of Inspections</u>	<u>Percent</u>
Patrol		
Fixed Scales	8,494	51%
Mobile Scales	2,304	14
MCSAP Investigators	2,771	17
Mn/DOT	<u>3,064</u>	<u>18</u>
Total	16,633	100%

Source: Department of Public Safety, SAFETYNET data system.

cles inspected had at least one violation and 42 percent had at least one out-of-service violation.²⁷ Table 4 also shows a higher out-of-service rate at the fixed scale locations, but inspectors found many trucks with violations at all locations. As a result, we conclude that:

- **Minnesota's strategy of concentrating its efforts at the fixed scale weigh stations and supplementing this with alternative strategies to select trucks for inspection is reasonable.**

Detection of Violators

One measure of effective performance is the ability of investigators to detect violations, measured by the number of violations found per vehicle and the per-

Table 4: Out of Service Violations at Different Types of Roadside Inspections, April-September 1991

<u>Type of Inspection</u>	<u>Percent of Vehicles with One or More Violations</u>	<u>Average Number of Violations Per Vehicle</u>	<u>Percent of Vehicles With One or More Out-of-Service Violations</u>	<u>Average Number of Out-of-Service Violations Per Vehicle</u>
PATROL				
Fixed Scales	85%	4.5	48%	1.1
Mobile Scales	79	6.0	38	1.0
MCSAP Investigators	86	6.1	42	1.1
Mn/DOT	<u>79</u>	<u>3.2</u>	<u>28</u>	<u>0.7</u>
Total (16,633 inspections)	83%	4.7	42%	1.0

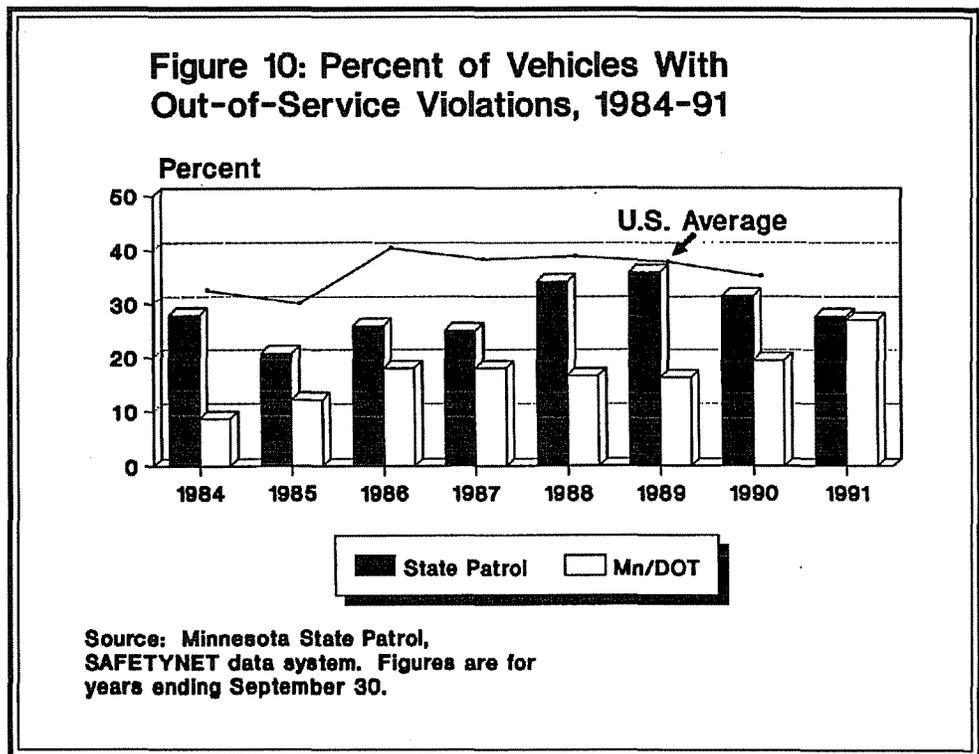
Source: Department of Public Safety, SAFETYNET data system.

²⁷ The SAFETYNET information system did not separate driver and vehicle violations in this breakdown.

centage of drivers and vehicles taken out of service as the result of roadside inspections. Effective investigation includes deploying inspectors at locations that maximize the likelihood of finding violators, screening trucks (selecting certain trucks for full inspections) that pass through those locations, and finding safety violations in the trucks that are inspected. All these factors are captured by the out-of-service rate measure. In general, appropriate deployment of inspectors, effective screening, and thorough inspections should result in higher out-of-service rates. There are conceivably other factors that could influence the out-of-service rates but we do not believe they are significant. If either Mn/DOT or the Patrol fails to achieve a reasonable out-of-service rate at one type of setting, it should deploy its inspectors someplace else.

The Federal Highway Administration reports that nationally, between 1984 and 1990, about 36 percent of the vehicles and seven percent of the drivers inspected were taken out of service.²⁸ Figures 10 and 11 show the percent of Patrol and Mn/DOT roadside inspections resulting in vehicles (Figure 10) and drivers (Figure 11) receiving out-of-service violations. The figures also present national out-of-service averages through 1990.

Figure 10 shows that in the earlier years of the MCSAP program, both the Patrol and Mn/DOT had vehicle out-of-service rates below the national norm, although the gap has narrowed. It is also worth noting that the Patrol had a higher out-of-service rate than Mn/DOT until 1991. Mn/DOT managers suggest that this resulted from recording practices rather than poor performance.

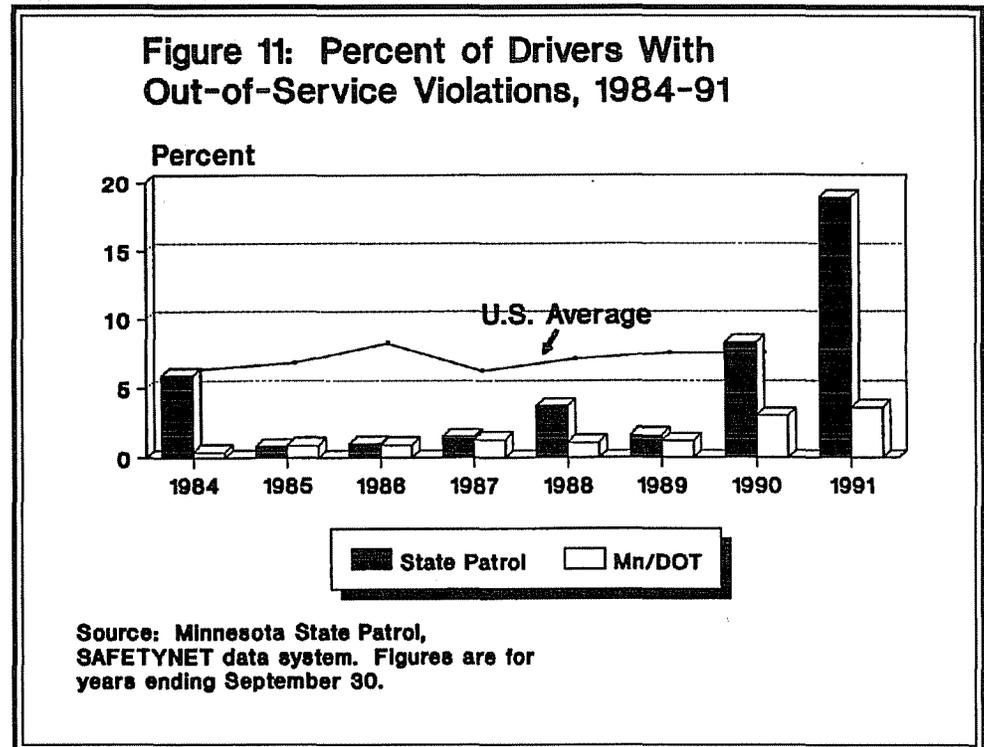


28 Federal Highway Administration, *MCSAP FY 1990 Program Activity Review*.

In 1991, the Patrol was more effective than Mn/DOT in finding violations at roadside inspections.

They say that Mn/DOT inspectors were not recording vehicles as out-of-service when the driver repaired the violation on the spot (such as adjusting the brakes or replacing burned out bulbs). At any rate, Mn/DOT's 1991 out-of-service vehicle rate of 27 percent is about the same as the Patrol's 27.7 percent rate, but both still lag behind the 1990 national norm of 33.8 percent.

Figure 11 shows that until 1990, both state agencies' out-of-service driver rates were well below the national norm. In 1990, the Patrol's out-of-service driver rate exceeded the national average (8.3 percent vs. 7.0 percent) and in 1991, the Patrol's out-of-service driver rate more than doubled to 18.9 percent. Mn/DOT, on the other hand, improved its out-of-service driver rate to 3.0 percent in 1990 and 3.6 percent in 1991, still below the national seven percent norm and well below the Patrol's performance. For all types of violations, those serious enough to remove the driver or vehicle from service, and those only subjecting the carrier to a potential fine, the Patrol found 5.2 violations per vehicle in federal fiscal year 1991 and Mn/DOT found 4.7.



We asked Patrol managers how the Patrol was able to increase its out-of-service rate to such a high level. They said that as a result of federal directives, they have increased the number of driver-only inspections and stopped a higher proportion of interstate drivers on the major freeways. Interstate drivers generally travel greater distances than intrastate drivers, so there is a greater likelihood that they exceed the number of consecutive hours they are permitted to drive. We recalculated the Patrol's 1991 out-of-service driver rate excluding the driver-only inspections and found that 13.3 percent of the drivers were taken out-of-service, still nearly twice the national norm.

Mn/DOT managers say that many of their roadside inspections are located away from major interstate highways and that many of the trucks they stop are local. As a result, many of the trucks it stops are within 100 miles of their terminals, and not subject to the continuous driving restrictions that result in most of the driver out-of-service violations.²⁹ Since Mn/DOT's inspections are away from the major interstate highways, it conceivably could see a higher percentage of unsafe trucks trying to avoid the weigh stations, and a higher number of small operators that may be less knowledgeable about safety requirements. These factors would increase the potential for a higher out-of-service rate for Mn/DOT. At any rate, the results presented earlier in Table 4 show that Mn/DOT inspections find fewer total violations and out-of-service violations per vehicle than each of the types of Patrol inspections, those located at the border weigh stations (fixed scales) and those conducted around the state at locations similar to Mn/DOT's (MCSAP investigators and mobile scales).

While there may be legitimate reasons for agency differences, we conclude that:

- **The Patrol is more effective than Mn/DOT at finding violations at roadside inspections.**

Cost of Inspections

There is no simple method to measure the cost of inspections and the two state agencies do not keep comparable data. The cost of inspections is the result of the salaries of inspectors, the length of time it takes to complete inspections (including travel time), transportation and other equipment costs, and department overhead and administration. However, Mn/DOT safety inspections include time checking for conformity with economic regulations (authority and rates) and the Patrol's inspections are often combined with truck weighing and sometimes with accident investigations, and the accounting systems currently in place do not isolate the costs of inspections.

However, several organizational factors suggest that Mn/DOT's costs per inspection are higher than the Patrol's. Mn/DOT conducts roadside inspections all over the state that usually require staff assistance from other regions or from the Twin Cities office. Thus, travel expenses are normally high, accounting for about half of Mn/DOT's direct inspection costs (excluding clerical support, data entry, follow-up and prosecution of violators, and department overhead).³⁰

²⁹ *Minn. Stat. Sec. 221.031* exempts certain drivers from maximum driving requirements including farmers, vehicles used in construction going to and from the site, and agricultural vehicles traveling within a 50 mile radius of their business location. Federal regulations also contain exemptions. For example, drivers who travel within a 100 mile radius of their company headquarters do not have to maintain detailed driver logs.

³⁰ For the federal fiscal year ended September 30, 1991, Mn/DOT calculates that each inspection costs an average of \$9.96 in salary and fringe benefits and an additional \$9.92 for mileage, meals, lodging, and supplies for inspectors.

The Patrol's deployment around the state reduces travel costs.

The Patrol, by contrast, is already deployed at weigh stations and operating mobile scales to weigh trucks and does not require additional travel expenses to inspect trucks. In addition, Patrol commercial vehicle inspector salary scales are slightly lower than Mn/DOT motor transportation representative salary scales.³¹ Excluding management, clerical and support positions, the Patrol has 57 percent of its personnel located outside the Twin Cities and so it spends less time and money traveling between districts.

Enforcement and Follow-Up

Serious out-of-service equipment violations result in trucks being kept on the side of the road until they are repaired or towed to a service station. In other less serious cases, truckers are permitted to return to their headquarters. Companies are then required to submit a form to the inspection agency (Mn/DOT or the Patrol) within 15 days certifying that repairs were made or that the truck is no longer in service. Mn/DOT monitors these submittals for the inspections it conducts and sends out a letter of inquiry to Minnesota-based carriers who have not responded within 15 days. A second follow-up letter goes out after 45 days. The Patrol is planning to implement a computer generated program in January 1992 to automatically send out letters to carriers that have not responded within 15 days.

In response to a 1990 federal requirement, Mn/DOT instituted an additional follow-up program in February 1991 to audit a portion of carriers that certify that they made the required repairs to see if they in fact have actually done so. Mn/DOT sends an investigator, unannounced, to inspect vehicles or maintenance records for about ten percent of Minnesota based carriers whose vehicles were taken out of service at Mn/DOT roadside inspections. (Vehicles repaired at the inspection site are excluded.) If the vehicle is still in service and has not been repaired, the carrier will be cited and subject to a fine up to \$700. As of September 30, 1991, Mn/DOT had selected 70 vehicles for re-inspection and had completed 55 inspections. In all but two cases, the repairs had been made and documented. In the other two cases, the trucks had not been repaired but the carrier claimed they were not being used.

These results indicate that roadside inspections are achieving the desired results. We think that Mn/DOT should continue to monitor the results of these follow-ups. If this high rate of compliance continues, follow-up inspections are probably not necessary, and Mn/DOT should discuss with the Federal Highway Administration the possibility of reducing or eliminating the follow-up inspection program.

³¹ In December 1991, Mn/DOT motor transportation representatives earned between \$24,701 and \$31,090 and its hazardous materials specialists earned between \$26,184 and \$32,907. Patrol commercial vehicle inspectors earned between \$20,483 and \$29,378 per year. Patrol troopers, who conduct relatively few inspections, earned between \$25,117 and \$35,788 per year in June 1991. Negotiations for FY 1992 trooper salary scales are still in progress.

Safety Reviews

Minnesota has completed over 2,200 safety reviews since 1987. The federal strategy has been to make sure that all interstate carriers receive initial safety reviews.³² Federal Highway Administration staff periodically check on the number of reviews completed by Mn/DOT and Patrol staff and the thoroughness of the reviews. Federal staff also receive summaries of safety review outcomes. During the past year, federal staff accompanied Mn/DOT and Patrol staff on 11 safety reviews. Federal authorities request that Mn/DOT and the Patrol reassign staff who do not meet federal expectations on the number and quality of reviews. As a result, while there were 33 state employees doing reviews in 1989, most of the reviews today are conducted by six Mn/DOT and three Patrol workers.³³ Federal authorities are generally satisfied with the current safety review performance of both agencies.

Safety reviews are completed on federally approved forms. Completed forms are submitted to the Federal Highway Administration in Washington, where they are scored. Carriers are rated as satisfactory, conditional, or unsatisfactory. Table 5 summarizes the results of safety reviews between January 1990 and March 1991. It indicates that both Minnesota agencies and the federal staff in Minnesota are fairly close in their evaluations of carriers. Between 47 and 53 percent of the carriers have satisfactory safety procedures in place. Minnesota has a slightly higher percentage of carriers rated satisfactory than the regional or national average. Federal authorities attribute this to the state's good safety program, although it is also possible that Minnesota reviewers (including federal staff) are more lenient.

Table 5: Safety Review Results, January 1990-March 1991

	Number Conducted	Percent Rated:		
		Satisfactory	Conditional	Unsatisfactory
Minnesota				
Mn/DOT	176	53%	40%	6%
Patrol	97	47	39	11
Federal Staff	228	56	32	9
Region 5 ^a	1,338	42	35	17
National	3,844	39	35	21

Source: Federal Highway Administration, Office of Motor Carriers.

^aIncludes Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.

³² Interstate for-hire carriers are required to obtain operating authority from the Interstate Commerce Commission. Interstate private carriers are required to register with the U.S. Department of Transportation. From these filings, the U.S. Department of Transportation compiles a register of carriers. It then periodically assigns Minnesota-based carriers to Mn/DOT, the Patrol, and its own staff to conduct safety reviews of these carriers.

³³ Another eight Mn/DOT employees recently completed the safety review training program.

Safety reviews are intended to be primarily educational. Citations are not issued when violations are uncovered, but states must report violations of insurance requirements to the Federal Highway Administration for possible civil penalties. Carriers that fail to achieve satisfactory ratings and those with high accident rates and frequent out-of-service violations are subject to follow-up compliance reviews.³⁴ Compliance reviews involve extensive investigations of company records on vehicle maintenance, driver training, driver work hours, company record keeping, and other safety requirements. They are more comprehensive than initial safety reviews and violators of federal regulations are subject to federal civil penalties. The eight federal safety investigators based in Minnesota conduct these compliance reviews.³⁵

Safety reviews are not targeted to high-risk carriers.

Currently, safety reviews are not targeted to high risk carriers. While we think it would be wise to concentrate on carriers with above average out-of-service and accident rates, the selection of carriers to be reviewed is determined by federal authorities. State staff must follow federal directives to receive reimbursement. Federal authorities want all interstate carriers to receive an initial review before targeting carriers for future reviews. They report that Minnesota has completed most of the carriers on the original list of Minnesota-based interstate carriers and are now turning their attention to new carriers.

We recommend that:

- **Mn/DOT should work with the Federal Highway Administration to develop a program to target safety reviews to companies with many out-of-service violations or frequent accidents.**

There is no safety review program for intrastate carriers. Mn/DOT is working on a request for federal funding for an intrastate safety review program. As of now, no states receive such funding. However, federal authorities expect the MCSAP reauthorization bill pending in Congress to include an increase in funding, and funds for intrastate safety reviews may become available.

Data Systems

Mn/DOT and the Patrol enter all roadside inspection results and serious accidents into a federally sponsored computerized information system called "SAFETYNET". The Patrol maintains the system. Information can be automatically transmitted to and from the Federal Highway Administration in Washington, D.C. The system also generates several reports that enable the Patrol and Mn/DOT to monitor the performance of individual inspectors and track the results of inspections over time. The system can also group out-of-service violations and accident data by carrier. This information could be used to target certain carriers for safety reviews and closer on-the-road scrutiny.

³⁴ All passenger and hazardous materials carriers automatically get compliance reviews.

³⁵ Four Mn/DOT staff have had compliance review training but have not received federal approval to do them.

The Patrol has been hampered by insufficient disk storage capacity. It has to store data on floppy disks and must spend considerable time producing customized summary reports. The Patrol has purchased a new computer with greater storage capacity so this should not be a problem in the future. The Patrol has also purchased lap top personal computers so inspectors can enter results from the field directly into the system.

Mn/DOT has a carrier-based information system that includes descriptive data on all of the for-hire intrastate carriers subject to state economic regulation. It includes information on their operating authority, required insurance filings, numbers of trucks, complaints, and citations. It also keeps safety information on over 60,000 interstate and intrastate, for-hire and private carriers. Mn/DOT also has recently purchased lap top computers to conduct safety reviews. These computers permit inspectors to record the answers to safety review questions and provide the carrier with a printed copy, including a list of needed improvements. The results can be transmitted to the Federal Highway Administration in Washington.

Staff Training and Supervision

Truck safety is carried out by uniformed troopers and civilian inspectors in the Patrol, and by civilian inspectors in Mn/DOT. All inspectors must complete federally approved courses on safety regulations and inspection procedures. Investigators must complete a federal course in safety reviews and receive supervised training before they can conduct reviews on their own. Both agencies' inspectors have training in basic hazardous materials regulation such as properly labeling and securing hazardous loads, but Mn/DOT also has a hazardous materials unit whose staff have had additional training in responding to incidents involving hazardous materials leaks and spills. Mn/DOT investigators have additional training in economic regulation, cargo tanks and customer relations.

All Patrol staff receive annual performance appraisals. The Patrol has a hierarchical command structure with four sergeants supervising the trooper and non-trooper staff in the outstate regions. Mn/DOT staff told us that until the last two years, they received few performance evaluations. In addition, one supervisor was responsible for scheduling assignments, coordinating work, and reviewing the performance of all 25 motor transportation representatives. Mn/DOT management has recently begun to require annual performance evaluations and its new organization chart divides supervisory responsibilities among four new supervisory positions.

Interagency Coordination

In reviewing Minnesota's system for organizing truck safety regulatory responsibilities, we looked at how other states assign responsibility. We found that other states use a variety of organizational structures. Table 6 presents the designated lead agencies for the states in the MCSAP program. Table 6 shows

Table 6: State Lead Agencies Under the Motor Carrier Safety Assistance Program

<u>State Agency</u>	<u>Number of States</u>	<u>Percent</u>
Department of Transportation ^a	14	29%
Public Safety or State Patrol/Police	26	54
Public Service or Utilities Commission	7	15
Taxation and Revenue Department	<u>1</u>	<u>2</u>
Total	48	100%

Source: Federal Highway Administration.

^aIncludes Arkansas and Wisconsin, where the lead agency is the State Patrol Division of the Transportation Department.

that public safety departments or state patrols are the lead agencies in 26 states; departments of transportation are lead agencies in 14 states (including two states where the Patrol is in the transportation department); and public service commissions are the lead agencies in seven states. Thus, while states differ in how they fit truck safety into their organizational framework,

- **The majority of states have designated their state patrols as the lead MCSAP agency.**

In Minnesota, both Mn/DOT and the Patrol have statutory responsibility for truck safety and neither agency has sufficient personnel to conduct all of the inspections and safety reviews required by the federal government. Each agency has developed a safety program that fits in with its other responsibilities. As a result, two agencies have separate programs to do essentially the same thing--inspect trucks on the highway and review motor carrier safety procedures.

Our interviews with both agencies' staff and managers, as well as our discussions with legislators and others, indicated to us that:

- **The two agencies have a strained relationship and have not been able to agree on a unified approach and division of responsibilities.**

The principal disagreement between the agencies centers on roadside truck inspections. The Patrol believes that roadside inspections are a highway law enforcement function that should be its responsibility. Patrol managers feel that Mn/DOT should restrict its truck safety efforts to office audits of trucking firms. As a result, the Commissioner of Public Safety has rescinded its designation of Mn/DOT truck inspection vehicles as emergency vehicles and Mn/DOT vehicles are no longer equipped with flashing red lights.³⁶ Mn/DOT

³⁶ The Commissioner of Public Safety had originally issued written permission for Mn/DOT's three hazardous response vehicles to use red lights when responding to emergencies. Mn/DOT vehi-

believes that roadside inspections are a necessary and integral part of its safety and economic enforcement program. Its managers have resisted the Patrol's attempts to curtail Mn/DOT's activities and are particularly resentful of the removal of their red lights. They maintain that it is now more difficult for Mn/DOT inspectors to force an unsafe truck to pull over.

Mn/DOT and the Patrol do not coordinate roadside inspections.

Because of the strained inter-agency relationship, there is no overall coordinated effort with regard to roadside truck safety inspections. Each agency schedules and conducts its own roadside inspections. While Mn/DOT provides the Patrol with a monthly inspection schedule, the two agencies do not jointly plan staff deployment to maximize coverage of the state or to develop an integrated strategy. The Patrol has turned down Mn/DOT requests for trooper assistance at roadside inspections, arguing that it does not provide troopers to assist in many of its own truck inspections and that troopers could be more usefully deployed patrolling the highways and responding to accidents. As a result, Mn/DOT has turned to county and city law enforcement for assistance when needed.

On the other hand, coordination and cooperation is less important for the safety review program because federal authorities assign each agency separate lists of carriers eligible for safety reviews and federal authorities oversee safety review performance.

Despite these coordination problems, both agencies' staff report generally good relationships between their staff counterparts, although joint efforts are generally not undertaken. There are few substantiated instances of duplications of inspections. Mn/DOT and Patrol inspectors tell us that they do not reinspect trucks that provide evidence of a recent inspection from the other agency or from another state. Truckers we interviewed expressed a general concern with the myriad of regulations and regulatory agencies they must deal with, but they provided almost no specific examples of conflicting regulations or duplicative inspections from Mn/DOT and the Patrol.

The strained relationship between Mn/DOT and the Patrol has existed since the onset of the federal MCSAP program. Before the 1980s, the two agencies had distinct responsibilities. Mn/DOT was responsible for enforcing economic regulations governing intrastate for-hire trucking. This included insuring that carriers with unsafe trucks not be allowed to provide service. The Patrol was responsible for weighing trucks and highway public safety, which also included an obligation to keep unsafe trucks off the road. These responsibilities required that both agencies have statutory authority to stop and inspect trucks. However, neither agency had a significant truck safety program until federal MCSAP funds became available in 1984.

cles and vehicles used by the Patrol's non-trooper investigators now have amber lights.

CONCLUSIONS AND RECOMMENDATIONS

Both agencies have well-run programs, but their relationship with each other is a continuing problem.

In general, both agencies have done a good job of designing and operating a truck safety program. Both agencies have exceeded their requirements for inspections and safety reviews under the federal MCSAP program and federal authorities are generally pleased with their performance. In addition, truck accidents and fatalities have declined in Minnesota, and Minnesota has a lower rate of traffic accident fatalities than the nation as a whole.

On the other hand, there is a dysfunctional relationship between Mn/DOT and the Patrol characterized primarily by resentment and distrust at the managerial level. The central area of dispute is the appropriate powers and responsibilities of the two agencies. As a result, efforts are not always coordinated and may not always result in maximum utilization of available resources. Managers from both agencies told us that several attempts over the years to mediate the dispute and reach an agreed upon division of responsibilities have failed.

We can find no fundamental reason why truck safety responsibilities should be divided between two agencies. In Minnesota, this has occurred because truck safety programs evolved separately in each agency as an adjunct to other agency responsibilities. The rapid growth of truck safety regulation after the 1982 enactment of MCSAP resulted in increased workloads that could be handled most efficiently by integrating new employees into the two existing programs. While dual agency responsibility might have worked, this has not been the case. The issue then becomes, which agency should have primary responsibility for management of the truck safety program, and what, if anything, should be the role of the other agency? We address this question using the criteria set forth at the beginning of this report.

In our view, either agency could effectively manage the truck safety program and, as we noted earlier, there is no single pattern of how other states assign truck safety regulation. However, we believe that:

- **The Patrol's overall mission and responsibilities are more in line with motor carrier safety than Mn/DOT's.**

In general, Mn/DOT's major responsibilities are transportation planning and the design, construction and maintenance of highways. The Patrol's mission is law enforcement on trunk highways, including enforcing traffic laws, vehicle weight limits, and highway public safety. The Patrol has a large staff of troopers and civilians that operate the fixed and mobile scales around the state, which makes it well situated to operate a truck safety program. In addition, it has over 400 troopers patrolling the state's highways who could be called upon when needed.

While both agencies have well-managed programs and adequately perform their responsibilities, the Patrol outperformed Mn/DOT on one measure of effectiveness. Patrol roadside inspectors detect more violations and remove a

On balance, the Patrol is better positioned strategically, and has a better performance record.

higher percentage of drivers from service than do Mn/DOT inspectors. The Patrol's out-of-service driver rate is currently above the national average, while Mn/DOT's rate has lagged behind. On the other hand, Mn/DOT has recently improved its vehicle out-of-service rate to that of the Patrol's. In this regard, federal authorities told us that while they do not wish to interfere with a state's organizational structure, they would prefer that the Patrol handle all of the roadside inspections and that Mn/DOT do all of the safety reviews.

In our view, the best resolution to the interagency dispute is:

- **All road enforcement activities should be assigned to the Patrol and Mn/DOT should be responsible for safety reviews, complaint investigations, and the repair follow-up program. The Patrol should retain lead agency status.**

This division of labor honors to the current division of labor since the Patrol already conducts most of the roadside inspections and Mn/DOT does the majority of safety reviews. It would not require a major transfer of staff between agencies, although some staff may desire to transfer if they prefer one type of activity over the other. This solution recognizes that on-the-road truck safety inspection is a law enforcement function, similar to other types of traffic law enforcement, and is consistent with the Patrol's law enforcement mission. It also recognizes the Patrol's better record of detecting violations and putting trucks and drivers out of service. Federal authorities prefer this to the current arrangement.

Mn/DOT managers and staff told us that removing Mn/DOT from responsibility for roadside inspection might weaken economic enforcement. They also believe that they need to keep involved with roadside inspections to keep abreast of current technology and safety problems. Mn/DOT maintains that economic and safety issues are inter-related and should not be divided between two separate agencies.

In our view, these arguments are insufficient to retain the status quo or to shift all truck regulation responsibility to Mn/DOT. The relationship between economic regulation and safety is questionable in light of declining truck-related accident rates during an era of federal deregulation of interstate trucking. Even if there is a relationship, economic regulation only pertains to intrastate for-hire carriers, a very small segment of the truck traffic in Minnesota.³⁷ In addition, separate activities are involved in economic and safety regulation, and except for checking for authority at roadside checks, the same staff do not have to be engaged in both activities. Most economic investigations result

³⁷ According to the Census Bureau, there were 109,000 large trucks (excluding pickups, panel trucks, mini-vans, utility trucks, and station wagons) based in Minnesota in 1987. Only 6,600 of those trucks were engaged in for-hire intrastate commerce and subject to economic regulation. This represents six percent of large trucks registered in Minnesota. On a mileage basis, intrastate and local for-hire trucking represents 15 percent of the miles driven by large trucks registered in Minnesota. But many trucks based in other states operate on Minnesota roads. Thus, even if economic regulation does improve safety, it affects only a small percentage of trucks that operate on Minnesota's roads. U.S. Department of Commerce, Bureau of the Census, Truck Industry and Use Survey (Washington, 1987).

from complaints, not roadside stops, and investigations center on audits of carrier shipping records. Furthermore, Patrol investigators could receive training on economic authority issues and contact Mn/DOT when they suspect a problem. Patrol managers also tell us that Mn/DOT could assist on some roadside inspections in order to keep abreast of safety issues.

Some have suggested that all commercial vehicle inspectors should be licensed peace officers. They maintain that this would reduce inter-union conflicts and perceptions by non-troopers that they are not treated equally. We believe that non-trooper commercial vehicle investigators, along with Mn/DOT's motor transportation representatives, have demonstrated their ability to conduct truck safety inspections and that it would be costly and unnecessary to assign peace officers to that role. Thus, our recommendation assumes continuing the use of non-trooper commercial vehicle investigators to weigh and inspect trucks.

It would be costly and unnecessary to assign peace officers to do truck safety inspections.

In reaching our conclusion, we considered several other possible solutions. One option is to maintain the status quo and urge the parties to work out their differences. This has been tried and failed in the past, however it remains a possibility. With new commissioners in both agencies, there is again an opportunity for them to reach an agreement and develop a more cooperative relationship. However, this problem has persevered over previous changes in leadership.

Another option is to assign all truck safety regulation to Mn/DOT. This would not work well unless weigh scale operations were also transferred because the functions are complementary. We feel that such a major reorganization would be unwarranted to correct a problem that relates to such a small part of these agencies' budgets. Moving the entire truck safety program to Mn/DOT would still require coordination between Mn/DOT and Patrol troopers, and the issue of authority to use red lights and make roadside stops would still be a source of conflict. Finally, we believe that truck safety regulation fits better with the Patrol's law enforcement emphasis than with Mn/DOT's primary responsibilities of transportation planning and highway design.

A third option is to assign all truck safety regulation - in terminals, at weigh scales, and on the road - to the Patrol. This would provide for a unified program with a single administration and direction in the agency whose mission and other functions are most closely allied with the truck safety program. It would require fewer personnel shifts and would be less disruptive to existing programs and personnel. (Since there is plenty of work to do, judging from the high numbers of violations found, most of Mn/DOT's motor transportation representatives should be transferred to the Patrol if this option is chosen.) Mn/DOT's role would be restricted to regulatory and enforcement activities related to economic authority and rates under this option.

We believe that our recommendation, having the Patrol responsible for roadside inspections and Mn/DOT responsible for safety reviews and other investigations at truck company headquarters, will succeed if both agencies'

management accept it and agree to it. If they do not, or if they fail to improve cooperation and coordination under this arrangement, the Legislature should consider moving the entire truck safety program to the Patrol.

December 31, 1991

Mr. James Nobles
Legislative Auditor
1st Floor Veterans Service Building
St. Paul, Minnesota 55155

Dear Mr. Nobles:

Thank you for the opportunity to respond to your Program Evaluation Division report on Truck Safety Regulation. As identified in your report, there is an unclear division of labor between our two agencies that has led to ongoing friction. Past efforts to resolve this source of friction have been unsuccessful.

The completion of your report is the first step toward what we feel will be the successful resolution of the division of labor issues between our two departments. A second, and very important step, is our joint commitment, as newly appointed Commissioners, to reach final resolution in a thoughtful and purposeful manner.

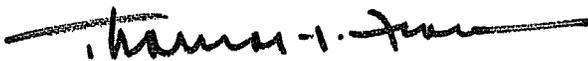
To that end, our response to your report is to immediately undertake an effort between our two agencies to reach agreement on the division of labor issues that have so long perplexed this important activity. The objective of this joint resolution effort must be to meet the needs of our customers; the public who pays for these services and shares the road with trucks, the trucking industry, and the shippers of goods.

The result of our efforts will be a plan, jointly prepared, that will describe our mutual agreement on the administration and enforcement of truck safety regulation laws in Minnesota. The plan will include a timetable for implementation.

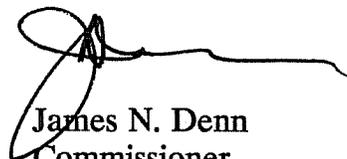
We expect this effort will require 6 months to complete. A copy of our final plan will be forwarded to your office upon its completion. We are confident that this plan will address the concerns contained in your report and will meet the needs of our diverse customers.

Thank you for the efforts put forth by your staff. Their report will serve as the framework for reaching resolution of this important issue.

Sincerely,



Thomas Frost
Commissioner
Department of Public Safety



James N. Denn
Commissioner
Department of Transportation

Recent Program Evaluations

<i>Insurance Regulation</i> , January 1986	86-01
<i>Tax Increment Financing</i> , January 1986	86-02
<i>Fish Management</i> , February 1986	86-03
<i>Deinstitutionalization of Mentally Ill People</i> , February 1986	86-04
<i>Deinstitutionalization of Mentally Retarded People</i> , February 1986	86-05
<i>Management of Public Employee Pension Funds</i> , May 1986	86-06
<i>Aid to Families with Dependent Children</i> , January 1987	87-01
<i>Water Quality Monitoring</i> , February 1987	87-02
<i>Financing County Human Services</i> , February 1987	87-03
<i>Employment and Training Programs</i> , March 1987	87-04
<i>County State Aid Highway System: Follow-Up</i> , July 1987	87-05
<i>Minnesota State High School League</i> , December 1987	87-06
<i>Metropolitan Transit Planning</i> , January 1988	88-01
<i>Farm Interest Buydown Program</i> , January 1988	88-02
<i>Workers' Compensation</i> , February 1988	88-03
<i>Health Plan Regulation</i> , February 1988	88-04
<i>Trends in Education Expenditures</i> , March 1988	88-05
<i>Remodeling of University of Minnesota President's House and Office</i> , March 1988	88-06
<i>University of Minnesota Physical Plant</i> , August 1988	88-07
<i>Medicaid: Prepayment and Postpayment Review - Follow-Up</i> , August 1988	88-08
<i>High School Education</i> , December 1988	88-09
<i>High School Education: Report Summary</i> , December 1988	88-10
<i>Statewide Cost of Living Differences</i> , January 1989	89-01
<i>Access to Medicaid Services</i> , February 1989	89-02
<i>Use of Public Assistance Programs by AFDC Recipients</i> , February 1989	89-03
<i>Minnesota Housing Finance Agency</i> , March 1989	89-04
<i>Community Residences for Adults with Mental Illness</i> , December 1989	89-05
<i>Lawful Gambling</i> , January 1990	90-01
<i>Local Government Lobbying</i> , February 1990	90-02
<i>School District Spending</i> , February 1990	90-03
<i>Local Government Spending</i> , March 1990	90-04
<i>Administration of Reimbursement to Community Facilities for the Mentally Retarded</i> , December 1990	90-05
<i>Review of Investment Contract for Workers' Compensation Assigned Risk Plan</i> , April 1990	90-06
<i>Pollution Control Agency</i> , January 1991	91-01
<i>Nursing Homes: A Financial Review</i> , January 1991	91-02
<i>Teacher Compensation</i> , January 1991	91-03
<i>Game and Fish Fund</i> , March 1991	91-04
<i>Greater Minnesota Corporation: Organizational Structure and Accountability</i> , March 1991	91-05
<i>State Investment Performance</i> , April 1991	91-06
<i>Sentencing and Correctional Policy</i> , June 1991	91-07
<i>Minnesota State High School League Update</i> , June 1991	91-08
<i>University of Minnesota Physical Plant Operations: A Follow-Up Review</i> , July 1991	91-09
<i>Truck Safety Regulation</i> , January 1992	92-01
<i>Regional Transit Planning</i> , forthcoming	
<i>State Contracting for Professional/Technical Services</i> , forthcoming	
<i>Public Defender System</i> , forthcoming	
<i>Administrative Spending for Higher Education</i> , forthcoming	

Evaluation reports can be obtained free of charge from the Program Evaluation Division, Centennial Office Building, First Floor South, Saint Paul, Minnesota 55155, 612/296-4708.