ANNUAL PERFORMANCE REPORT

1994

MINNESOTA DEPARTMENT OF TRANSPORTATION

Prepared: September 15, 1994

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AGENCY: SUMMARY

MISSION: In its mission to manage a transportation system serving the people of Minnesota, the Department of Transportation (Mn/DOT) has a mandate in M.S. 174.01, Subd. 1 "...to provide a balanced transportation system, including aeronautics, highways, motor carriers, ports, public transit, railroads, and pipelines..." and serve as the principal state agency for the "development, implementation, administration, consolidation, and coordination of state transportation policies, plans, and programs."

The department defines a "balanced" transportation system as one which offers its citizens and businesses optimal access to a mode of transportation, or combination of modes (intermodal). Intermodalism may be further defined as an integrated "door-to-door" system of multiple transportation modes providing reduced costs or time for movement of people and products from origination to destination. Although historically the predominant mode of transportation has been highways, there is increasing emphasis on alternative modes - such as mass transit, railroads, bicycles, and waterways - and the interconnection of modes.

STATE GOALS:

FIGURE 1: Statutory Transportation Goals

- To provide safe transportation for users throughout the state;
- To provide multimodal and intermodal transportation that enhances mobility and economic development and provides access to all persons and businesses in Minnesota while ensuring that there is no undue burden placed on any community;
- To provide a reasonable travel time for commuters;
- To provide for the economical, efficient, and safe movement of goods to and from markets by rail, highway, and waterway;
- To encourage tourism by providing appropriate transportation to Minnesota facilities designed to attract tourists;
- To provide transit services throughout the state to meet the needs of transit users;
- To promote productivity through system management and the utilization of technological advancements;
- To maximize the benefits received for each state transportation investment;
- To provide funding for transportation that, at a minimum, preserves the transportation infrastructure;
- To ensure that the planning and implementation of all modes of transportation are consistent with the environmental and energy goals of the state;
- To increase high occupancy vehicle use;
- To provide an air transportation system sufficient to encourage economic growth and allow all regions of the state the ability to participate in the global economy;
- To increase transit use in the urban areas by giving highest priority to the transportation modes with the greatest people moving capacity; and
- To promote and increase bicycling as an energy-efficient, nonpolluting, and healthful transportation alternative.

FEDERAL GOALS:

The Federal Intermodal Surface Transportation Efficiency Act (ISTEA) establishes 23 transportation goals. Figure 2 shows the similarities and differences between federal ISTEA and state legislative goals.

ORGANIZATION:

Mn/DOT's biennial budget is organized into eight programmatic areas: 1) Aeronautics 2) Transit 3) Railroads and Waterways 4) Motor Carrier Regulation 5) Local Roads 6) State Road Construction 7) State Road Operations and 8) General Administration.

The General Administration program is not included in this report. The program represents only about two percent of the department's expenditures (six percent of the department's staff) and has only an indirect effect on state transportation services.

In accord with the 1996-97 biennial budget structure, the equipment program has been incorporated into the other programs: State Road Operations (road equipment); State Road Construction (scientific and engineering equipment); with smaller amounts in other Mn/DOT programs.

Many of the performance impact factors in the State Road Construction and State Road Operations programs are highly interrelated. That is, both programs contribute, although in different ways, to the same, singular outcomes, e.g. safety. In the 1993 draft annual performance report the two programs were combined as a single performance reporting entity called "State Highways". Because of the importance of using an identical reporting format for both the 1994 annual performance report and the 1996-97 biennial budget documents, the department has, in keeping with its biennial budget organization, provided separate but similar discussion for the State Road Construction and State Road Operations programs.

It is likely that in the future, although the budget reporting for the State Road Construction and State Road Operations programs may continue to be separated, the department will combine these two programs for purposes of performance reporting.

WAYS TO IMPROVE PROGRAM OUTCOMES:

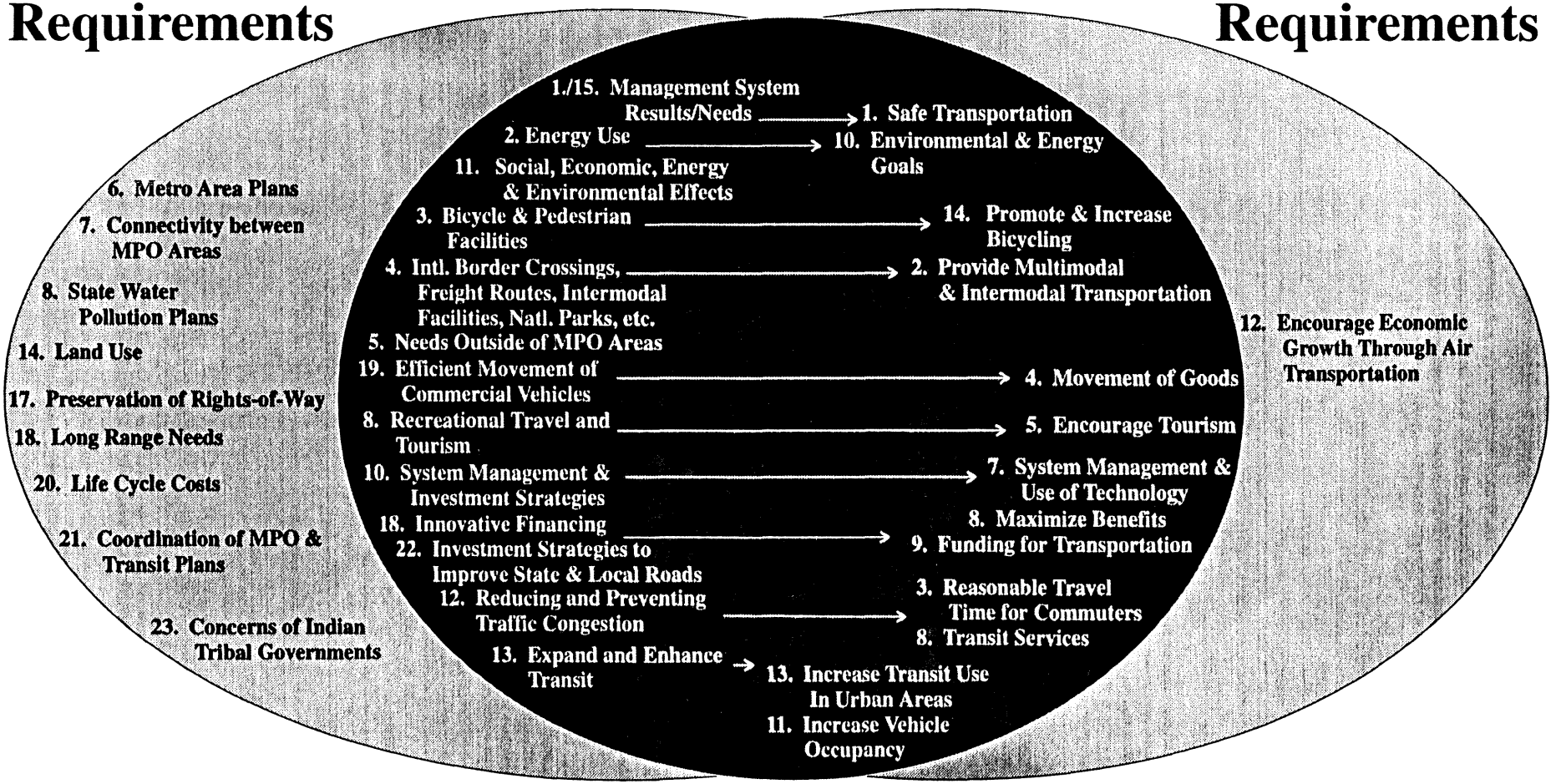
The reference to "pipelines" in Mn/DOT's statutory charge (M.S. 174.01, Subd. 1) should be removed. Responsibility for pipelines in Minnesota was transferred to the Department of Public Safety (M.S. Ch. 299J) in 1987.

Requests for billable Mn/DOT assistance by recipients of County State Aid Highway and Municipal State Aid Street funds are normally handled by transferring dollars from the State Aid administrative account to the Trunk Highway Fund. Because these funds are not returned to the operating budget of the Mn/DOT offices providing the assistance, it has been difficult to accommodate all requests for assistance received from counties and cities. Additional flexibility to charge state aid expenses directly to the administration and research accounts would enable Mn/DOT to provide additional services to local governments.

The Federal Intermodal Surface Transportation Efficiency Act, known as ISTEA, allows the use of federal highway funds for projects that have not traditionally been eligible for funding. This has created a group of project sponsors e.g., Historical Society, Park Boards, Department of Natural Resources who do not fit the traditional legal requirements for Mn/DOT partners. To serve these new partners' needs, the department must gain the ability to function in the same role as it currently does for cities and counties through the State Aid Accounts.

FIGURE 2

Similarities and Differences Between Federal and Minnesota Statewide Transportation Plan Factors



Reflecting Mn/DOT's increased emphasis on a balanced transportation system and on intermodal transportation opportunities, additional objectives and measures will be developed over the next biennium in the key result areas of intermodal choice (that is, opportunities for selection of a preferred means of conveyance by transportation users) and intermodal connection (that is, the convenient, rapid, efficient and safe transfer of people and goods between modes).

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **01 - Aeronautics**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$41,031	(4% of the department's budget)
From State Funds	$14,997	
From Federal Funds	$26,034	
Number of FTE Staff:	49.1	(1% of the department's staff)

PROGRAM GOALS:

Minnesota Statutes **(Sections 360.011 to 360.076)** establish the goals for the state's Aeronautics program. There are four primary areas of focus:

- Provide for protection and promotion of aviation safety. **(M.S. 360.011)**
- Develop a system of airports. **(M.S.360.011, 360.015)**
- Develop a system of navigation aids. **(M.S. 360.015)**
- Foster the development of aviation. **(M.S. 360.015)**

DESCRIPTION OF SERVICES:

The Aeronautics program enhances aviation safety by:

- Collecting and disseminating aviation weather information.
- Conducting pilot safety seminars.
- Inspecting the public-use airports and seaplane bases.
- Developing navigational aids to supplement the system operated by the Federal Aviation Administration (FAA).
- Fostering the development of aviation education and training programs targeted at specific age groups.

The Aeronautics Program develops Minnesota airport systems by:

- Providing financial and technical assistance to municipalities to develop airport systems.
- Managing state and federal grants which provide financial assistance for capital improvements.
- Providing grants to municipalities to reimburse a portion of operating and maintenance costs.

BACKGROUND INFORMATION:

- 15,000 licensed pilots in Minnesota
- 6,700 registered aircraft
- 138 publicly-owned airports
- 8 privately-owned, public-use airports
- 5 publicly-owned seaplane bases
- 13 privately-owned, public-use seaplane bases
- 90 state-owned electronic navigation aids
- 33,500 booklets, brochures and pamphlets promoting aviation disseminated to clients

PROGRAM DRIVERS:

Value of Time: As the value of each individual's time increases, aviation becomes a more valued mode of transportation, especially for longer trips.

Rapid Movement of Goods: Importance of aviation is increasing for the delivery of goods and materials which are time critical. Increased demand for perishable foods such as fresh fruits, vegetables and seafood is a prime example.

Transport of Medical Patients: As the management of patient care changes, especially for hospitals in greater Minnesota, aviation is playing an ever increasing role in transporting patients, particularly by helicopter.

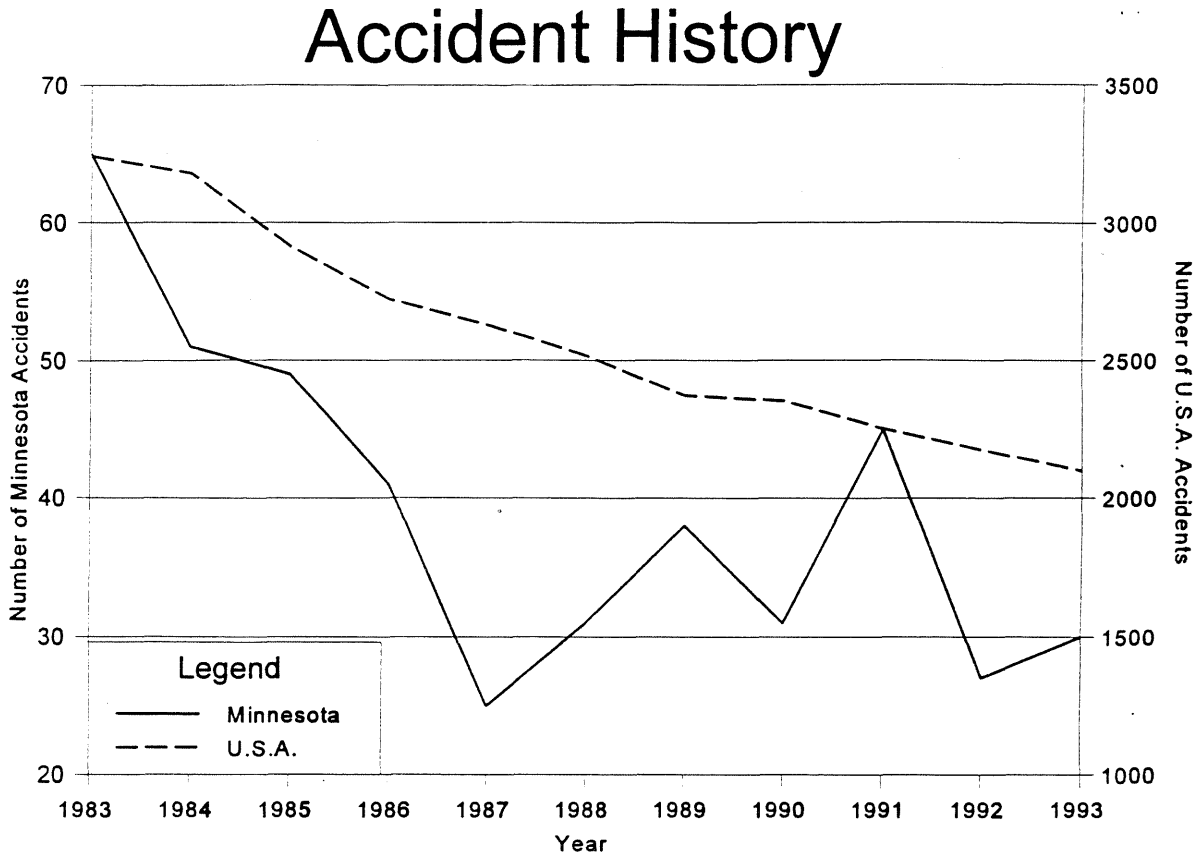
Aviation Safety: The public's expectation that aviation should function accident-free emphasizes the need for effective, ongoing safety programs.

Future Personnel Needs: The aviation industry needs a flow of properly trained personnel to remain economically healthy. Youth, especially women and minorities, need to be made aware of the career opportunities and the education they must acquire to prepare for these careers.

AGENCY: Transportation, Department of
PROGRAM: 01 - Aeronautics

OBJECTIVE, MEASURE

Objective 1: To reduce the number of aircraft accidents.



Aviation safety is consistently a top priority for the aviation program. However, because of the number of interrelated factors that are beyond the control of the agency, it is impossible to specifically measure the effectiveness of individual activities. Factors such as weather, pilot decision making, mechanical problems with aircraft, and airport maintenance all influence safety performance. Recognizing this, the agency focuses its activities on elevating an awareness of the importance of aviation safety; providing current weather information to pilots to enhance their decision making; and inspecting landing areas to see that they are maintained in a safe condition. The overall effectiveness of these activities is seen by comparing the trend in Minnesota's accident history with the national trend.

Measure (1a): Total annual attendance at pilot safety seminars.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	1,400	1,600	2,300			
Target	2,000	2,000	1,800	2,000	2,300	2,500

DEFINITION, RATIONALE, DATA SOURCE:

Numbers shown are approximate. Safety seminars provide pilots with information that prepares them to make better decisions when planning their flight and operating an aircraft. Total annual attendance at pilot safety seminars indicates how many pilots are seeking out and receiving safety information; in turn, this translates into overall concern for preventing aircraft accidents.

Based upon data provided by instructors, the agency estimates the attendance at each of the safety seminars it sponsors. Information shown is the total for the year. It is not deemed cost-effective to register each attendee solely to develop actual numbers.

DISCUSSION OF PAST PERFORMANCE:

The agency has a history of sponsoring pilot safety seminars. Some of these are sponsored solely by the agency and some are sponsored in conjunction with the FAA and other aviation organizations concerned with aviation safety.

PLAN TO ACHIEVE TARGETS:

Because this objective is so important to the aviation industry, the agency plans to continue to sponsor aviation seminars. Attendance is affected by many factors, most of which are beyond the control of the agency. However, the agency does control the agendas, the number of seminars offered annually, and the locations where they are held. To ensure success in meeting the targets, the agency will select topics that are both timely and of interest as well as strive to market the seminars in a most effective manner.

OTHER FACTORS AFFECTING PERFORMANCE:

Attendance at a safety seminar is a personal decision on the part of each pilot. Factors like individual interests, conflicts with personal schedules, and weather conditions can influence the individual's decision to attend. FAA and some aviation organizations also conduct safety training. These programs also provide safety information to pilots.

Measure (1b): Number of airports where weather data is collected for dissemination to pilots.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	32	36	39			
Target	--	--	39	40	45	47

DEFINITION, RATIONALE, DATA SOURCE:

Weather information at airports as well as weather conditions between airports is important for flight planning and greatly influences aviation safety. The agency's program of collecting weather information at airports enhances the amount of weather data collected by the FAA, the National Weather Service (NWS) and some airlines.

Numbers shown are the number of state sponsored locations reporting aviation weather. Information can be obtained from financial records or examining the hourly aviation weather reports on the national data circuit.

DISCUSSION OF PAST PERFORMANCE:

The agency's initial effort at collecting aviation weather information was to hire contract weather observers. As certified automated weather observation systems (AWOS) became available, the agency shifted to purchasing and installing this equipment since it is much more cost effective. By working in partnership with the FAA and NWS, the agency was able to get the data automatically entered into the national data circuit for nationwide distribution.

PLAN TO ACHIEVE TARGETS:

The agency plans to continue installing automated systems at selected locations and to upgrade them as new technology becomes available.

OTHER FACTORS AFFECTING PERFORMANCE:

FAA and the NWS have plans to install systems at some airports in Minnesota. The agency is coordinating its planning and installation schedule with that of the federal agencies.

Measure (1c): Number of weather products provided to pilots on computer weather terminals.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual (millions)	3.8	4.2	4.6			
Target	--	--	4.6	5.0	5.6	6.2

DEFINITION, RATIONALE, DATA SOURCE:

For this discussion, a weather product is defined as a response to a request for weather information on a computer terminal. Current weather information and access to good forecasts directly affects aviation safety since it is critical to pilot decision making.

Information is automatically gathered by the computer used by the vendor supplying the service. The vendor reports the information to the agency upon request.

DISCUSSION OF PAST PERFORMANCE:

The agency investigated the value of disseminating weather information to pilots through use of computer terminals by implementing a trial program. The test proved to be both very popular and cost-effective. Because of this response the agency has expanded this activity by providing terminals at more locations, implementing a home user program, and upgrading the system as new technology has become available.

PLAN TO ACHIEVE TARGETS:

The agency plans to install five to ten more computer weather terminals at selected locations. Programming on the system will continue to be improved to make it more user-friendly.

OTHER FACTORS AFFECTING PERFORMANCE:

Weather conditions have a major affect on flying activities. Consequently, the amount of adverse weather in a year will influence the number of inquiries. Also, an increase in the number of home computer users is expected to increase the number of inquiries on the system.

Measure (1d): Number of landing areas inspected.

	F.Y. 1[illegible]	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual	[illegible]	135	135			
Planned/Target	119	121	135	135	135	135

DEFINITION, RATIONALE, DATA SOURCE:

The agency inspects the landing areas that are open for public use, except those inspected by the FAA, to ensure that they are maintained in a safe condition. The FAA inspects those airports which have scheduled air service. Deficiencies are reported to the owner of the facility with encouragement to correct them as soon as practicable.

The agency maintains inspection files for each of the public use landing areas in the state.

DISCUSSION OF PAST PERFORMANCE:

The agency's efforts have been in conjunction with, and in support of, an FAA safety data collection program. In addition to the information required by the FAA, the agency inspects for other safety-related factors.

PLAN TO ACHIEVE TARGETS:

The agency intends to continue its annual inspection of all landing areas open for public use except those inspected by the FAA.

OTHER FACTORS AFFECTING PERFORMANCE:

None

OBJECTIVE, MEASURE

Objective 2: To develop and maintain the state airport system.

Measure (2a): State construction grants issued.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual (Number/$Million)	159/$7.0	184/$7.4	201/$5.4			
Planned/Target	150/$7.2	150/$7.2	160/$6.8	160/$6.4	160/$6.4	160/$6.4

DEFINITION, RATIONALE, DATA SOURCE:

Information shown is the number of grants issued to local units of government owning airports and the total state funds for the fiscal year. This measure is an indicator of the financial support provided for developing and improving the publicly-owned airport system. Local funds are required as a match for the state grants. In addition, there are federal grants issued in each fiscal year.

Information shown is from financial records in the Office of Aeronautics which show the grant recipient and the amount for each individual grant.

DISCUSSION OF PAST PERFORMANCE:

Total funding for grants is dependent on the appropriation for this purpose. The biennial appropriation language makes the funds for each year available in either year of the biennium. The number of grants issued is influenced by the number of requests received from the local units of government and the scope of work proposed.

PLAN TO ACHIEVE TARGETS:

The agency intends to respond to the local requests as in the past. Amount of funding available will be subject to legislative appropriation. The number of grants will continue to be influenced by local needs.

OTHER FACTORS AFFECTING PERFORMANCE:

The responsibility for developing the individual airports rests with the government agency which owns it. All of the publicly-owned airports in Minnesota are owned by local units of government except for the Piney-Pinecreek Border Airport which is jointly owned by the State of Minnesota and the Local Government District of Piney, Manitoba. Each airport owner is encouraged by Mn/DOT to develop and periodically update a long range development plan for their airport. Funding to support development projects on these airports is provided by either state or federal construction grants. Availability of federal construction grants has some influence on the demand for state construction grants.

Measure (2b): State maintenance grants issued.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual (Number/$Million)	132/$2.0	132/$2.1	132/$2.1			
Planned/Target	132/$2.1	132/$2.1	132/$2.1	132/$2.1	132/$2.1	132/$2.1

DEFINITION, RATIONALE, DATA SOURCE:

The agency provides grants to publicly-owned airports to assist with the operating and maintenance costs, thereby extending the life of the capital investments. Information shown is the number of maintenance reimbursement grants issued to publicly-owned airports and the total annual dollar amount for the grants issued for the fiscal year. This information is an indicator of the financial support provided to encourage appropriate and timely maintenance of the airport system.

Information shown is from the financial records in the Office of Aeronautics which show each recipient and the amount reimbursed to them each year.

DISCUSSION OF PAST PERFORMANCE:

The agency provides these grants subject to appropriations for that purpose. The airport must be zoned or in the process of being zoned to be eligible to receive these grants. Grants are issued upon presentation of evidence of eligible expenditures by the local unit of government. Biennial appropriation language makes funds for each year available either year of the biennium.

PLAN TO ACHIEVE TARGETS:

The agency intends to manage this program as it has in the past. Targets are set based on the number of airports that are anticipated to be eligible and the amount of funding anticipated from the biennial appropriations.

OTHER FACTORS AFFECTING PERFORMANCE:

None

Measure (2c): Federal construction grants issued.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual (Number/$Million)	21/$27.6	25/$32.8	13/$11.1			
Planned/Target	22/$30.0	24/$30.0	26/$32.0	26/$34.0	27/$40.0	28/$45.0

DEFINITION, RATIONALE, DATA SOURCE:

The FAA issues grants to eligible airports for airport construction projects. These grants require the local government to match a portion of the project cost. Minnesota statutes require the agency to approve applications for federal grants and to manage the disbursement of the funds. Information shown is the number of federal construction grants issued and received by Minnesota airports for the fiscal year. This information is an indicator of the fiscal support being provided for capital improvements to some of Minnesota's publicly owned airports by the federal government.

Information shown is from financial records in the Office of Aeronautics showing the grant recipients and the amount received.

DISCUSSION OF PAST PERFORMANCE:

The number of grants issued is influenced by the priority of the work proposed by the local units of government. Many of the airports, that have scheduled air service, receive entitlement funds under this program which they are allowed to carry forward for up to three fiscal years. A decision by any of these airports to carry forward their entitlements affects the number of grants issued and the total funding received for any given fiscal year. FY 94 results are lower due to Congress appropriating funds for only a portion of the fiscal year.

PLAN TO ACHIEVE TARGETS:

Targets for FY 96 and FY 97 are a best estimate based on anticipated appropriations by Congress. Ability to meet these targets will depend on the federal appropriations as well as how the program is structured and the funds are apportioned within the various categories of airports. The agency will strive to attain as much funding as possible for eligible airports.

OTHER FACTORS AFFECTING PERFORMANCE:

Congressional authorizations and appropriations.

OBJECTIVE, MEASURE

Objective 3: To develop and maintain a system of electronic navigational aids.

Measure (3): Number of state owned electronic navigational aids.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual	76	84	90			
Planned/Target	77	86	88	93	95	98

DEFINITION, RATIONALE, DATA SOURCE:

Electronic navigation aids are required to guide aircraft for both the enroute and landing phases of flight. The agency has developed a system of electronic navigation aids to supplement the FAA's system. The guidance supplied by the combination of the state and federal systems provides an increased margin of safety for pilots as well as increasing the utility of the airports in less than desirable weather conditions.

The amounts shown are the number of electronic navigation systems owned and operated by the agency. The increase in the number of systems indicates an increase in the amount of service provided to pilots over and above that which is provided by the FAA. In addition to addressing the statutory goal of developing a system of navigation aids, these systems permit safer operations in less than desirable weather conditions.

The agency is required to obtain and maintain a license from the Federal Communications Commission for each electronic radio system. Numbers are from the licensing files in the Office of Aeronautics.

DISCUSSION OF PAST PERFORMANCE:

A portion of the increases shown are due to the agency taking over some systems previously owned and operated by local units of government whose maintenance was less than required, thereby affecting the reliability of the systems. The increases in the later years were due to addition of new systems to the agency's program.

PLAN TO ACHIEVE TARGETS:

The agency intends to add a few additional systems subject to available appropriations each fiscal year at selected locations as the needs are identified.

OTHER FACTORS AFFECTING PERFORMANCE:

Addition of some systems require other capital improvements to the airport prior to installing the electronic system. Coordinating these projects affects meeting the goals. Implementation of the Global Positioning System (GPS), a satellite navigation system, also will affect the long term need for ground based systems. Should the FAA accelerate implementation of GPS, some of the proposed systems may not be installed.

OBJECTIVE, MEASURE

Objective 4: To stimulate a greater awareness of the role of aviation in Minnesota and opportunities for careers in the aviation industry.

Measure (4a): Number of client (students, educators, and the general public) contacts made.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual	18,000	27,000	39,000			
Planned/Target	20,000	30,000	40,000	47,000	47,000	47,000

DEFINITION, RATIONALE, DATA SOURCE:

The data shows the number of contacts made in an effort to increase an awareness of the role of aviation in Minnesota, and the opportunities for careers in aviation. The information is an indication of the effort invested in achieving this objective.

The agency feels that its efforts at fostering the development of aviation is best focused on students, educators, and the aviation community. Information provided to these groups is expected to provide a long term pay back by creating a greater awareness of the role of aviation in the lives of Minnesota citizens; developing interest in pursuing careers in aviation; and ensuring that the aviation industry will have employees with the skills and training needed to ensure its economic health.

The agency estimates the number of persons contacted as it participates in opportunities to disseminate information. The numbers are estimates for each year. There is no practical means of determining these numbers more accurately.

DISCUSSION OF PAST PERFORMANCE:

Based on input from customer focus groups, this objective has received a renewed and increased emphasis. The aviation industry needs a flow of properly trained personnel to remain economically healthy. Youth, especially women and minorities, need to be made aware of the career opportunities and the education needed to pursue these careers. Consequently, the activity levels are showing a significant increase.

PLAN TO ACHIEVE TARGETS:

Targets will be met through use of an ever expanding network of clientele (teachers, schools, public organizations, etc.). Emphasis will be placed on working with situations that will provide the greatest exposure. Emphasis also will be focused on providing information to minority populations since more persons from these groups are needed in the industry work force.

OTHER FACTORS AFFECTING PERFORMANCE:

Many of the opportunities for client contacts come through invitations to participate in events. The number of these events and corresponding invitations will have an impact on meeting the targets.

Measure (4b): Active aviation partnership initiatives.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual	5	9	13			
Planned/Target	3	6	8	15	15	15

DEFINITION, RATIONALE, DATA SOURCE:

Part of the effort of achieving this objective is accomplished by working in partnership with others who have similar interests and objectives. Partnerships have proven to be an effective method since they encourage synergy, cooperation, and enthusiasm. The partnerships may have a formal or informal structure. Partnerships may be composed of representatives from the industry, educational institutions, aviation organizations, or government agencies.

Numbers shown are determined from reviewing the activities of the agency during each year to determine the annual number. Since some of the partnerships are informal, judgement must be applied in determining the numbers.

DISCUSSION OF PAST PERFORMANCE:

The agency began reaching out to others with similar objectives and encouraging cooperative efforts. Through these efforts partnerships have developed. The most significant has been the designation of the agency as an "Aviation Resource Center" by the FAA. This designation provides access to a broad range of aviation resource materials developed by the FAA, to the FAA's technical experts, and to FAA's aviation education programs. A portion of the materials distributed to clients are secured through the Aviation Resource Center.

PLAN TO ACHIEVE TARGETS:

The agency intends to emphasize the development and use of partnerships to achieve common goals with others. This effort is expected to expand the network which has proven to be a critical element of current successes.

OTHER FACTORS AFFECTING PERFORMANCE:

Limited resources, especially time and personnel, affects the ability of some groups to become actively involved in partnerships.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **02 - Transit**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$20,196	(2% of the department's budget)
From State Funds	$9,725	
From Federal Funds	$10,471	
Number of FTE Staff:	16.4	(.3% of the department's staff)

PROGRAM GOALS:

Mobility:

To provide access to transit for persons who have no alternative mode of transportation available (*Minn. Stat.* § *174.21*).

To provide transit services throughout the state to meet the needs of transit users (*Minn. Stat.* § *174.01*).

To maintain a state commitment to public transportation (*Minn. Stat.* § *174.21*).

Performance:

To increase the efficiency and productivity of public transit systems (*Minn. Stat.* § *174.21*).

To meet the needs of individual transit systems to the extent that they are consistent with the other objectives stated above (*Minn. Stat.* § *174.21*).

DESCRIPTION OF SERVICES:

The Transit program:

- Administers state and federal transit assistance funds through the Minnesota Public Transit Assistance Program for the 80 county geographic area located outside the seven-county Twin Cities Metropolitan Area.

- Works closely with the Metropolitan Council in planning, coordinating, and providing technical assistance for transit projects having a statewide (both metro and non-metro) scope, e.g. Minneapolis-St. Paul Central Corridor Light Rail Transit Initiative. The Metropolitan Council, and not Mn/DOT, has primary responsibility for planning and funding of transit services in the seven-county metropolitan area (*Minn. Stat.* § *654, Art. 3, Subd. 115*).

- Produces and maintains the Greater Minnesota Transit Plan which targets research efforts, outlines funding needs, establishes goals, sets operation standards and provides an overall framework for local transit planning activities.

- Provides leadership in research and technical education for public and private transportation providers, e.g. Mn/DOT is a partner with Dakota County in a demonstration project (Smart DARTS) to combine automatic scheduling and vehicle location technologies.

- Monitors and evaluates Greater Minnesota transit system costs and service performance and manages a fleet replacement capital investment strategy through the Public Transit Facility and Equipment Management System (PTMS).

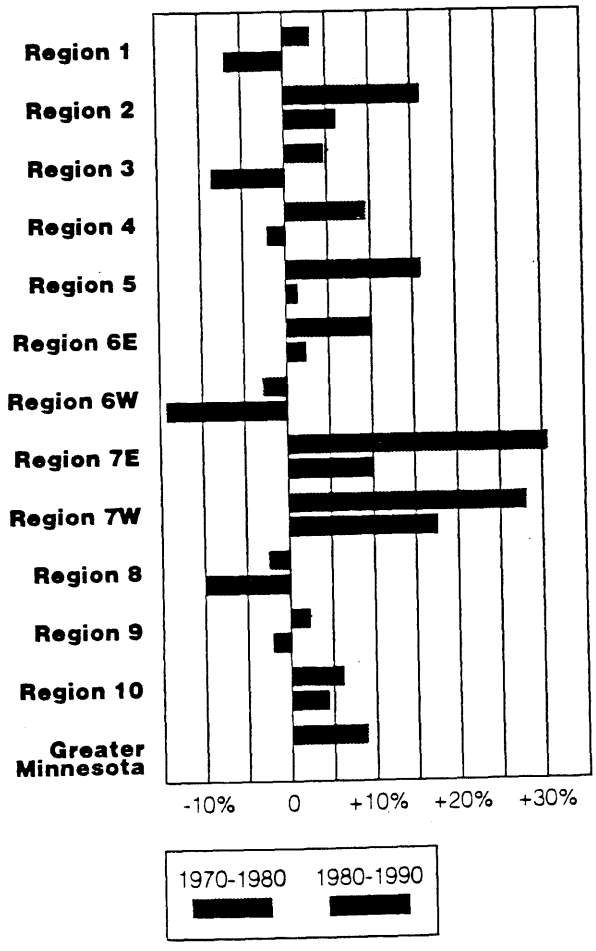
- Manages Greater Minnesota Rideshare, a program designed to supplement traditional transit systems with rideshare alternatives.

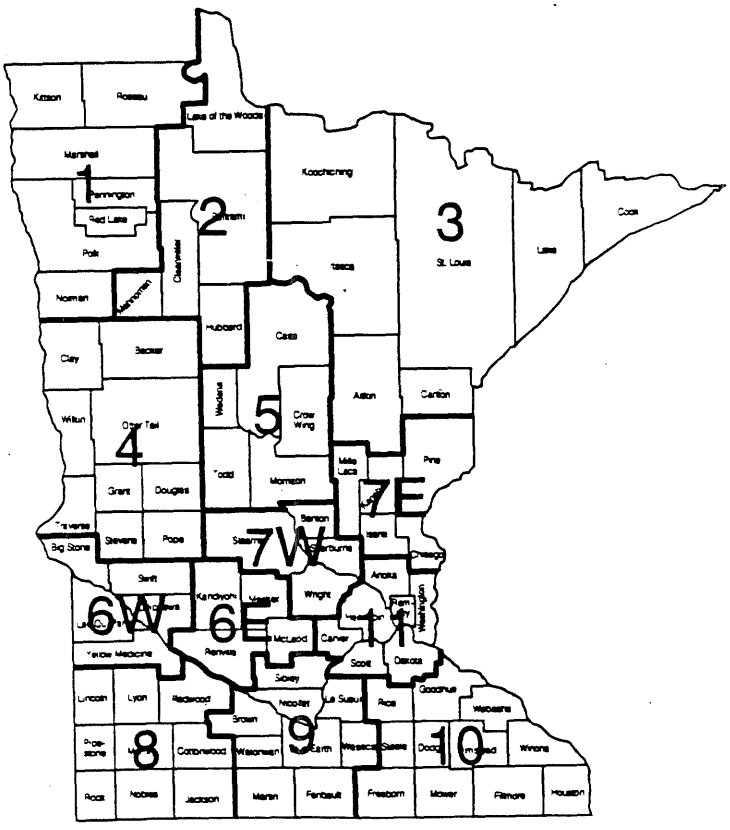
BACKGROUND INFORMATION:

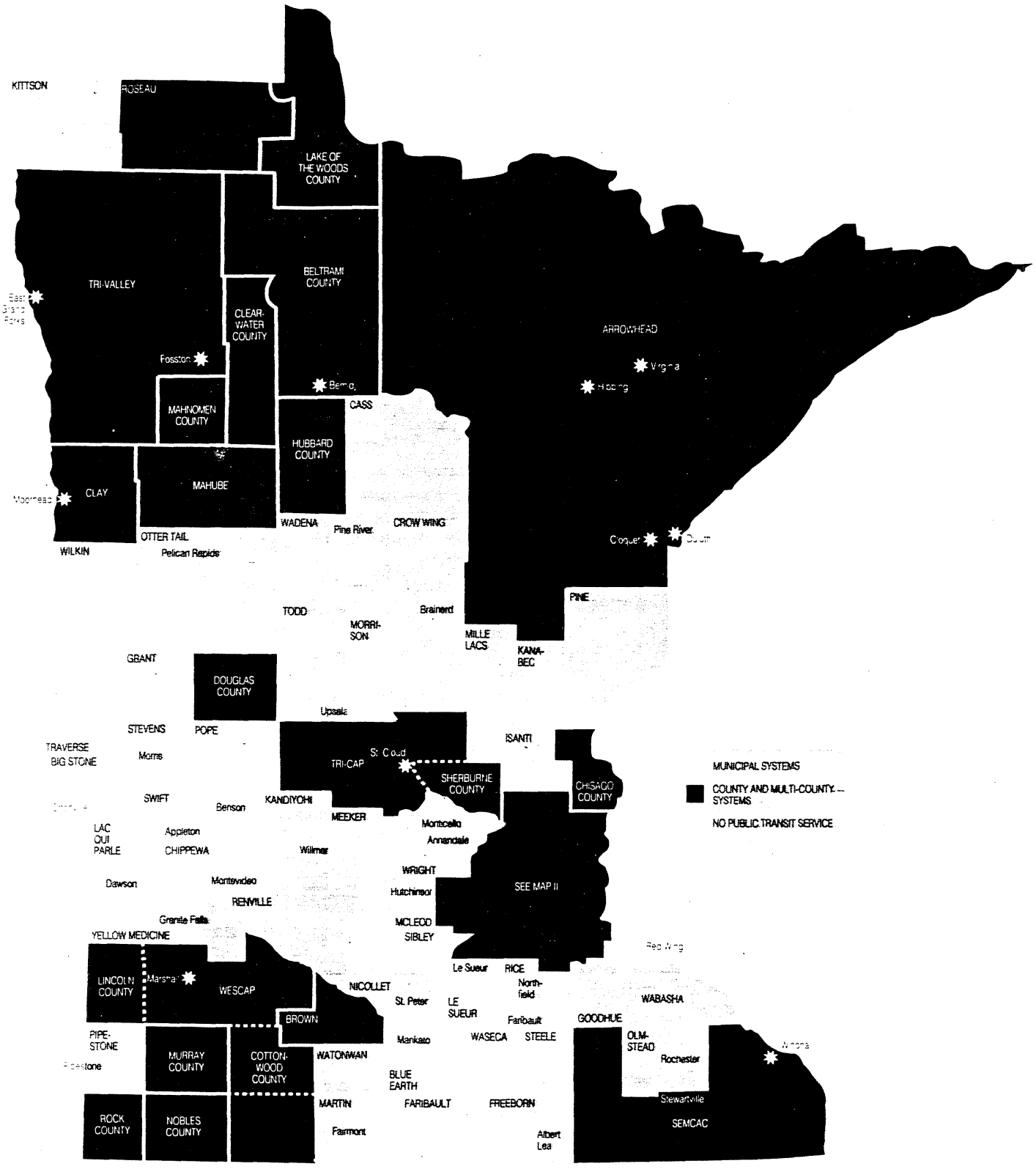
Demographic trends indicate a population that is becoming increasingly dependent on transit. Nearly 36% of Greater Minnesota's population, or about 740,000, have no access to public transportation at this time. During the 1980's many small towns and rural areas lost population through "out-migration." At the same time, however, parts of Greater Minnesota experienced population growth. Both conditions have resulted in an increased need for transit.

The existing Greater Minnesota transit service environment is shown on the state map. Slightly less than half of the 80 Greater Minnesota counties have county-wide service (39 counties). Counties with only municipal-based service account for nearly 28% of the counties (22 counties). Nineteen counties have no public transit service, approximately 24% of the counties in Greater Minnesota.

Population Change: 1970, 1980, 1990 U.S. Census By Region



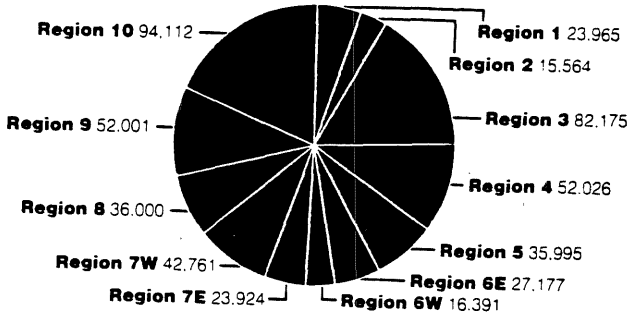




Greater Minnesota public transit services:
39 counties with county-level service
22 counties with municipal-only service
19 without service

Region 7W, which includes Stearns, Benton, Sherburne and Wright counties, showed the greatest increase in population in Greater Minnesota, with a population increase of 17% over the past decade. The region has the second lowest ratio of persons over the age of 55 years to population (16%) in Greater Minnesota. The city of St. Cloud (located in region 7W) was one of Minnesota's fastest growing urban areas during the 1980's. The City has become a regional service center. Many rely on transit for access to services. Growth in employment opportunities and college attendance have increased transit demand.

Population Over the Age of 55 Years
1990 (Residents Per Region)



In the areas of Greater Minnesota that lost population in the last decade, the percent of elderly is increasing. Region 6W, which includes Big Stone, Swift, Chippewa, Lac Qui Parle, and Yellow Medicine Counties, showed the greatest decline in population in Greater Minnesota with a loss of 15% of its population over the past ten years. More than 32% of the region's population is over the age of 55 years, the highest ratio in Greater Minnesota. This aging population resides in areas that are becoming more isolated from needed services such as medical facilities.

Five key categories were identified by participants during development of the Greater Minnesota Transit Plan:

- **County and Municipal Service** The transit-dependent population has difficulty in accessing the basics of life, such as medical attention, groceries and personal goods. Due to lack of transportation services, often times elderly, disabled and/or low-income person(s) are "forced" to relocate out of a single-family homestead or non-emergency medical care is postponed. Merchants, businesses, medical care professionals, and state and local government can be partners in providing transit service.

- **Coordination** Innovative methods to cooperate and communicate better in the delivery of transit service included: expanded usage of Section 16 vehicles; centralization of coordination efforts for dispatching and to serve as a clearinghouse for transit service information; cooperation among state department programs and operations (Department of Human Services, Veteran's Administration, Mn/DOT), public/private partnerships, and county/city coordination. A Transportation Coordination Advisory Counsel, originated by Mn/DOT and DHS, includes representatives from transit interests across the state and meets regularly to discuss coordination issues, identify barriers to coordination and develop pilot coordination projects.

- **Volunteer Drivers** Volunteer driver issues that need to be discussed include: recruiting and retaining volunteers; reimbursement rate; insurance and liability issues; and funding alternatives. Public transit volunteer drivers participate in training programs offered through the Minnesota Rural Transit Assistant Program, administered through the Transit program.

- **Inter-City Service** Issues include transportation to the Twin Cities metropolitan area; transit connections between cities within a county and between counties; and travel across state lines for medical care. In 1991, ISTEA required a percentage of federal Section 18 funds to be used for intercity bus transportation.

- **Funding** The economic climate has hindered the creation of new transit systems and has made the management of existing systems difficult. Issues include: limited matching local money; state funding not available once a system begins operation; concern that transit service may transport business away from the area; and high cost of medical assistance trips.

PROGRAM DRIVERS:

- **ISTEA** Encourages use of flexible transportation options to move people and goods from place to place. Transit funding authorized by ISTEA is managed in several different ways. Some transit funding is earmarked by Congress, part is distributed by formula and some non-operating flexible funds may be transferred from Federal Highway Administration (FHWA) to the Federal Transit Administration (FTA). Minnesota's federal funding for urbanized transit capital and operating (Section 9) is provided directly to urban area transit agencies by FTA. There are limited FTA funds available to cover administrative costs for the federal programs.

- **Access to Transit Services** In F.Y. 1995, the Transit program received a supplemental state appropriation ($1.6 million) for Greater Minnesota Transit Assistance to provide capital and operating assistance for implementing new transit service in Greater Minnesota and to maintain current service for existing transit systems in Greater Minnesota at the F.Y. 1994 level. Geographic access to transit services for medical trips has emerged as a critical issue.

- **Increases in Transit Service Costs** The challenges are: to ensure that all Greater Minnesotans have access to affordable transit service; evaluate the cost-effectiveness of transit services; identify transit service deficiencies and gaps; identify transit service options; and provide technical assistance to counties and local entities.

- **Aging Population** The number and percentage of our population aged 65 or older is rapidly increasing creating a greater need for transportation for nursing homes, home care, and other services which are heavily utilized by the elderly.

- **Funding** Fixed local share and federal eligibility rules are considered when preparing Greater Minnesota Transit Programs for FY96-97. Public transit systems in Greater Minnesota receive state assistance through a fixed-share funding formula (*Minn. Stat.* § *174.24*). This formula sets a maximum local share of the total operating cost.

  Mn/DOT serves as recipient and administrator of federal transit assistance funds for small urban and rural systems, and for planning and technical assistance funds in urbanized and statewide projects. Federal revenue sources administered through Mn/DOT include Section 3, Section 8, Section 16, Section 18, and Section 26(a). Mn/DOT also submits applications to FTA, administers contracts with local providers, and monitors their compliance with federal regulations.

  The Transit program's administrative budget consists of general, trunk highway and limited federal funds. Salaries comprise approximately 97% of the administrative budget. The program will have to address the problem of how, with fewer resources, to meet the needs of many diverse transit groups as transit service is expanded to all counties in Greater Minnesota.

- **Local Commitment** The fixed share funding formula (*Minn. Stat.* § *174.24*) illustrates the critical need for local commitment to use local funds to support transit at a local level. New system starts require a high level of involvement from the Transit program staff who work closely with local transit assistance recipients and potential recipients to assess local transportation needs, design appropriate systems, and implement services that meet the requirements of the community.

AGENCY: Transportation, Department of
PROGRAM: 02 - Transit

OBJECTIVE, MEASURE

Objective 1: To continue to increase the number of people in the general public and transit dependent people throughout Greater Minnesota with access to public transit service.

Measure (1): Percentage of population in Greater Minnesota with access to transit services.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994	C.Y. 1995	C.Y. 1996	C.Y. 1997
Population Access	60.1%	60.8%	64.5%	-	-	-
Target	-	-	-	76.59%	84.00%	100.00%

DEFINITION, RATIONALE, DATA SOURCE:

Transit service covers all forms of two or more people making a trip together from single or multiple origins to single or multiple destinations. The term includes fixed-route and paratransit services and ridesharing. Transit-dependent is a person who lacks immediate access to a private vehicle, or, because of age or health reasons, cannot drive and must rely on others for transportation.

Access to transit in Greater Minnesota is defined as an opportunity for individuals to leave their point of origin and reach their destination using transit service. Service may be provided through any combination of dial-a-ride or demand responsive transportation, fixed-route (both regular route and route deviation), ridesharing, shared-ride taxi, subscription service, and volunteer driver programs.

New public transit service is a coordinated means of providing transportation service opportunities to citizens who otherwise have no means of making the trips. The transportation services may use buses, vans, or cars with either paid or volunteer drivers. Funding for this service is provided by the federal government, state, and local community.

Population data from 1970, 1980, and 1990 U.S. Census obtained through the Minnesota Department of Administration Datanet computer system was used to determine population trends within counties. Annual transit reports prepared by the Office of Transit are used to summarize transit activities within the state.

DISCUSSION OF PAST PERFORMANCE:

In 1993, transit systems provided 78,000,000 trips for people going to work, accessing medical services, traveling to retail outlets, enjoying local recreational functions, getting to a variety of appointments, and reaching congregate meal sites. The Transit program has the responsibility for establishing a transit assistance program in the 80-county geographic area located outside the seven-county Twin Cities Metropolitan Area. The need for transit service is determined by total number of transit dependents within the geographic area and the need/opportunity for commuter trips. The Greater Minnesota Transit Plan provides a framework for a comprehensive coordinated transit network serving the citizens of every county in Greater Minnesota.

Providing transit service in Minnesota has been achieved through a long standing partnership among federal, state, and local governments. The people who benefit from this joint effort, especially in rural areas, are typically older, disabled, or economically disadvantaged.

PLAN TO ACHIEVE TARGETS:

The Greater Minnesota Transit Plan is an overview of possible transit scenarios organized by regional development commission boundaries. Each chapter provides an overview of existing public transit services and recommendations for service options based on the input received at public meetings, from local liaisons and transit colleagues in cooperation with the Transit program staff.

Detailed needs assessments are used to focus on a specific area with extensive representation from citizens and customer groups, to recognize unmet transit needs, identify available resources and develop specific transit service options to establish service to meet transit users travel needs.

The actual assessment and design of service delivery options for specific geographic areas include the following:

- Quantify major employer/activity center trip characteristics;
- Locate potential user residences;
- Develop service concepts to meet largest correlated trip patterns;
- Utilize focus group sessions and other market assessment tools to gauge potential user reaction and trouble shoot concept weak points; and
- Develop effective service options for implementation.

OTHER FACTORS AFFECTING PERFORMANCE:

Access to transit depends, in a large part, upon local commitment to providing transit service, consumer demand for services, and the willingness to use some form of transit rather than continuing to use single occupancy vehicle to move from origin to destination. Expanding transit service county-wide in Greater Minnesota by the year 2000 requires extensive cooperation between public/private organizations and individuals with a strong commitment to providing transit service focused at a local level. The extent to which effective transportation is provided in the most cost effective manner in the 80 Greater Minnesota counties is directly related to the amount of available funds from local, state and federal sources to plan, design, and implement transit service.

Measure (2): Number of transit systems in Greater Minnesota.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994	C.Y. 1995	C.Y. 1996	C.Y. 1997
Transit Systems	61	63	65	-	-	-
Target	-	-	-	76	83	93

DEFINITION, RATIONALE, DATA SOURCE:

Existing public transit service systems are systems that participate in the Transit Assistance Program administered by the Transit program. These systems include county, multi-county, and municipal systems.

State law designates that funds received under the Public Transit Assistance and Transportation Management Programs be distributed to eligible recipients for transit service activities located outside of the metropolitan area. The Transit program is responsible for monitoring recipient eligibility and distribution of funds under state law. This performance indicator measures the extent that eligible recipients have participated in the Transit Assistance Program and how the state maintained a commitment to public transportation in Greater Minnesota.

Transit program staff compile an annual transit report that summarizes all major public transit activities undertaken during the calendar year. This report is divided into two major sections - Program Overview and Transit Fact Sheets. Information is gathered from Public Transit Assistance Program Monthly Operations Reports compiled by public transit services. Information is also gathered when Transit staff meet with local representatives to negotiate contracts and review budgets.

DISCUSSION OF PAST PERFORMANCE:

The Legislature appropriated $19,038,000 for Greater Minnesota public transit for the 1994-95 biennium. The appropriation was divided between two fiscal years, $10.644 million in FY94 and $8.394 million in FY95. The FY94 amount was sufficient to do the following:

- maintain the current levels of service for existing public transit systems;
- fund detailed transit needs assessment and preliminary service design work; and
- permit the implementation of a limited number of new transit systems.

The amount available for FY95 was insufficient to fund existing systems. The 1994 Legislature made a supplemental appropriation of $1.6 million and authorized Mn/DOT to carry $1.5 million forward from FY94 to FY95.

Detailed needs assessments have been completed or are in progress in most areas of the state where public transit is not currently available. During 1994, three needs assessments were completed with an expected result of new public transit service to be implemented in seven counties. Eight additional needs assessments are in progress with anticipated completion dates in late 1994 and early 1995.

County-wide service is now available and fully operational in Brown County. Clay County service has been approved for Mn/DOT funding, and the county is in the process of procuring a vehicle and private operator.

PLAN TO ACHIEVE TARGETS:

Currently priority area allocations remain as follows:

1. Existing Systems - Operating Assistance;
2. Existing Systems - Capital Assistance; and
3. Establishing New Systems and Expansion of Existing Systems - Operating and Capital Assistance.

OTHER FACTORS AFFECTING PERFORMANCE:

Local commitment to providing transit service, consumer demand for services, and the willingness to use some form of transit rather than continuing to use single occupancy vehicle to move from origin to destination will determine county-wide transit service expansion in Greater Minnesota by the year 2000. Partnerships at the local level will determine the number of systems needed to provide county-wide transit services.

Measure (3): Number of counties in Greater Minnesota with county-wide transit systems.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994	C.Y. 1995	C.Y. 1996	C.Y. 1997
County-wide Access	37	37	39	-	-	-
Target	-	-	-	57	65	80

DEFINITION, RATIONALE, DATA SOURCE:

"County wide transit system" is defined as: when transportation facilities and/or vehicles are accessible throughout a county.

In December, 1991, ISTEA called for methods to "expand and enhance transit services and increase the use of such services." That same year, the state law was amended to "provide transit services throughout the state to meet the needs of transit users." This performance indicator measures the extent that transit services are established in the 80 counties.

Transit program staff compile a report that summarizes all major public transit activities undertaken during the calendar year. The Greater Minnesota Transit Plan provides an overview of existing public transit services by regional development commission boundaries. A Greater Minnesota Transit Service Inventory was published in 1993 by the Transit program, in cooperation with the RDC's and Area Agencies on Aging and identifies transportation providers by region, county and city. It also lists alphabetically all registered charter bus operators and all intercity service operators.

DISCUSSION OF PAST PERFORMANCE:

The Greater Minnesota Transit Plan broadly identified transit service deficiencies. Slightly less than half of the 80 Greater Minnesota counties have county-wide service (39 counties). Counties with only municipal-based service account for nearly 28% of the counties (22 counties). Nineteen counties, approximately 24% of the counties in Greater Minnesota, have no public transit service. Existing transit service is shown on the state map.

PLAN TO ACHIEVE TARGETS:

The F.Y. 1996-97 request is $16 million for F.Y. 1996 and $13.9 million for F.Y. 1997. Funding in this amount will permit continuation of the program to provide public transit service throughout Greater Minnesota, particularly in the 19 counties that currently have no service. These funds will support the following:

- Maintenance of current service level for existing service;
- Initiation of a capital investment program; and
- Public transit service in all Greater Minnesota counties.

OTHER FACTORS AFFECTING PERFORMANCE:

Access to transit depends, in large part, upon local commitment, consumer demand, and availability of funds to provide transit services. Ridership depends upon transit services available, consumer demand for services, and the willingness to use some form of transit, rather than continuing to use single occupant vehicles to move from origin to destination. Expanding transit service county-wide requires extensive cooperation between public/private organizations and individuals with a strong commitment to providing transit service focused at a county level.

Transit service in Minnesota also depends on the willingness of all public and private providers to work together with government officials to provide services that are appropriate to meet passenger needs and are consistent with the use of public transportation funding.

New starts require a high level of involvement from the Transit program staff who work closely with local transit assistance recipients and potential recipients to assess local transportation needs, design appropriate systems, and implement services that meet the requirements of the community. Increased funding is required to allow staff to preform their duties effectively, and efficiently within time frames set by all applicable Federal and State laws, regulations, FTA directives, projects, programs schedules and published policies.

Objective 2: The efficiency and productivity of public transit in Greater Minnesota will be increased.

Measure (1): Ridership on existing public transit systems in Greater Minnesota.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994*	C.Y. 1995	C.Y. 1996	C.Y. 1997
Urbanized	6,167,400	6,087,280	6,117,716	-	-	-
Target	-	-	-	6,148,305	6,179,047	6,209,942
Urbanized (E&D)	134,110	141,875	142,584	-	-	-
Target	-	-	-	143,297	144,014	144,734
Small Urban	1,286,639	1,230,204	1,236,355	-	-	-
Target	-	-	-	1,242,537	1,248,749	1,254,993
Rural	703,193	769,705	787,468	-	-	-
Target	-	-	-	916,637	976,879	1,086,123
Greater MN Total	8,291,342	8,229,064	8,284,124		-	-
Target	-	-	-	8,450,776	8,548,689	8,695,792

*Estimates

DEFINITION, RATIONALE, DATA SOURCE:

Actual transit system performance data routinely collected defines ridership according to four main areas: Urbanized, Urbanized (Elderly and Disabled), Small Urban, and Rural. Urbanized areas are geographic areas with a central city that has a population of over 50,000. Urbanized (Elderly and Disabled) areas are where transportation service is provided to persons that are physically disabled and/or elderly and live in areas with a population over 50,000. Small Urban geographic areas have a central city that has a population of between 2,500 and 50,000. Rural geographic areas have a population of less than 2,500.

Transit dependents are people who do not have immediate access to a private vehicle, or because of age or health reasons cannot drive and must rely on others for transportation.

Data for this performance measure is obtained from "Monthly Reports" submitted each month by public transit systems which participate in the public transit assistance program; and individual transit service management plans.

DISCUSSION OF PAST PERFORMANCE:

State law dictates that transit services be provided throughout the state to meet the needs of transit users and provide access to transit for persons who have no alternative mode of transportation. This outcome directly demonstrates the number of transit users in Greater Minnesota and indirectly measures the extent to which transit services are provided to transit-dependent individuals.

Ridership trends are examined when the Transit program staff meet with local representatives to negotiate contracts, conduct program reviews, review the budget, and review service design and performance. Programs targeted at increasing public knowledge of transit service, such as the "Heartland Express" project, have been accomplished using federal planning funds. In 1994, 37 public transit systems received planning funds for marketing targeted towards increasing rideshare within their service areas.

PLAN TO ACHIEVE TARGETS:

Needs assessments and system reviews are used to establish transit users basic travel needs. The information gathered through assessments and reviews enable systems to target limited marketing dollars at potential transit users. Although overall

ridership is expected to increase, rural ridership is expected to show larger increases as new systems are established to achieve county-wide services in nineteen counties without public transit and in twenty-two counties with only municipal-based service.

OTHER FACTORS AFFECTING PERFORMANCE:

Ridership directly depends upon access to services. Funding reductions lead to reduced service available to the public. Implementation of new transit service causes an increase in ridership. Needs assessments and system reviews are used to focus service where it is needed. A framework for a comprehensive coordinated transit network serving the citizens of every county will involve partnerships between federal, state, and local governments; private non-profit and for-profit transit providers; and transit customers.

Ridership also depends upon transit services available, consumer demand for services, and the willingness to use some form of transit rather than continuing to use single occupant vehicle to move from origin to destination. Ridership also is impacted by significant events within a community (i.e., 1993 flood, plant closures, country fairs, special events,).

Measure (2): Cost per passenger trip on public transit systems in Greater Minnesota.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994*	C.Y. 1995	C.Y. 1996	C.Y. 1997
Urbanized	1.76	1.83	1.88	-	-	-
Target	-	-	-	1.94	2.00	2.06
Urbanized (E&D)	7.97	6.09	6.27	-	-	-
Target	-	-	-	6.46	6.65	6.85
Small Urban	2.58	2.75	2.83	-	-	-
Target	-	-	-	2.91	3.00	3.09
Rural	5.48	5.42	5.66	-	-	-
Target	-	-	-	6.41	6.80	7.30
Greater MN Average	2.31	2.38	2.46	-	-	-
Target	-	-	-	2.64	2.77	2.94

*Estimates

DEFINITION, RATIONALE, DATA SOURCE:

Actual transit system performance data routinely collected defines transit passenger trips according to four main areas: Urbanized, Urbanized (Elderly and Disabled), Small Urban, and Rural. The classifications as defined by *Minn. Stat. 174.22* are used to determine the maximum percentage of state operating assistance funds a system is eligible to receive. The percentages shall be: large urbanized area service, 55 percent; urbanized area service and small urban area service, 40 percent; rural area service, 35 percent; and elderly and disabled service, 35 percent.

Operating cost is defined as the recurring costs of providing transit service, i.e., wages, salaries, maintenance, insurance, taxes, fuel, marketing,. A passenger trip is one person making a one-way trip from origin to destination (one round trip equals two passenger trips). The measurement reflects the cost of operating expense divided by passenger trips.

Data for this performance measure is obtained from "Monthly Reports" submitted each month by systems which participate in the public transit assistance program; individual transit service management plans; and certificates issued by Mn/DOT auditors upon completion of contract audits.

DISCUSSION OF PAST PERFORMANCE:

There is no state prescription for delivery of transit service. Service models can be very different throughout the state. The Transit program plays a leading role in developing performance measures and report requirements for transit systems which enter into contracts with Mn/DOT. *Minn. Stat. 174.21* specifically requires the Transportation Department to increase the efficiency and productivity of public transit systems.

Historically, cost per passenger trip increases as transit services are expanded into new areas. As systems mature cost per passenger trip will decrease and level out as the ridership base is established.

PLAN TO ACHIEVE TARGETS:

Transit program staff work closely with local transit assistance recipients and potential recipients to assess local transportation needs, design appropriate systems and implement services that meet the requirements of the community. Implementation of any redesigned service will emphasize four areas. First, each new system must identify and understand the needs of its customers and tailor service accordingly; second, new service must leverage the capacity of existing systems whenever possible; third, all systems must improve productivity, especially through coordination; and fourth, all partners must insist upon service excellence by delivering a product that meets local community needs.

OTHER FACTORS AFFECTING PERFORMANCE:

Ridership depends upon transit services available, consumer demand for services, and the willingness to use some form of transit rather than continuing to use single occupant vehicle to move from origin to destination.

Measure (3): Cost per passenger trip mile on public transit systems in Greater Minnesota.

Actual Performance	C.Y. 1992	C.Y. 1993	C.Y. 1994*	C.Y. 1995	C.Y. 1996	C.Y. 1997
Urbanized	2.90	2.90	2.99	-	-	-
Target	-	-	-	3.08	3.17	3.26
Urbanized (E&D)	1.72	1.80	1.86	-	-	-
Target	-	-	-	1.91	1.97	2.03
Small Urban	1.88	1.85	1.90	-	-	-
Target	-	-	-	1.96	2.02	2.08
Rural	1.49	1.46	1.53	-	-	-
Target	-	-	-	1.76	1.88	2.03
Greater MN Average	2.19	2.17	2.24	-	-	-
Target	-	-	-	2.34	2.42	2.51

*Estimates

DEFINITION, RATIONALE, DATA SOURCE:

Transit miles are defined according to four main geographic areas: Urbanized, Small Urban, and Rural. Urbanized, Small Urban and Rural areas are geographic areas classified according to specific population measures. Areas with populations over 50,000 are subdivided into Urbanized and Urbanized (Elderly and Disabled) transportation service. This distinction (*Minn. Stat. 174.22, Subd. 13*) is made to recognize service provided to persons that are physically disabled and/or elderly and are unable to use regular means of public transportation.

Transportation service can be operated over a set route or network of routes on a regular time schedule; regular route, but on demand will change the route to meet the user's needs; or, flexible routing and scheduling of relatively small vehicles to provide door-to-door or point-to-point transportation at the user's demand.

Operating cost is defined as the recurring costs of providing transit service, i.e., wages, salaries, fuel, oil, taxes, maintenance, depreciation, insurance, marketing.

A passenger mile is defined as miles accumulated during which the designated payment for a ride on a passenger vehicle has been collected.

This measure reflects the cost of operating expense divided by the number of passenger miles. Data for this performance measure is obtained from "Monthly Reports" submitted each month by systems which participated in the public transit assistance program; individual transit service management plans; and certificates issued by Mn/DOT auditors upon completion of contract audits.

DISCUSSION OF PAST PERFORMANCE:

The Transit program plays a leading role in developing performance measures and reporting requirements for transit systems which participate in public transit assistance and transportation management programs. This performance indicator measures the cost effectiveness of transit service according to specific geographic areas.

The measurement reflects the average cost per mile a transit system incurs delivering a passenger from point of origin to destination in a specific geographic area and shows that the cost is increasing over time. Historically, cost per passenger mile increases as transit services are expanded into new areas. As systems mature cost per passenger mile will decrease and level out as service routes and ridership bases are established.

PLAN TO ACHIEVE TARGETS:

The transit program requires potential recipients for public transit assistance to examine transportation services offered by other providers within the proposed service area and describes how the proposed service could be coordinated as part of the application process. A Transit Needs Assessment Study packet prepared by Transit program staff provides a local agency the minimum information necessary to conduct a transit needs assessment and the basic data requirements to create transit service options. Technical assistance is also provided to counties and local entities.

OTHER FACTORS AFFECTING PERFORMANCE:

The accumulation of miles is directly dependent on the type of transportation service used within the geographic areas. Ridership miles also depends upon consumer demand for services and the willingness to use some form of transit rather than continuing to use single occupant vehicles to move from origin to destination.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **03 - Railroads and Waterways**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$9,119	(.8% of the department's budget)
From State Funds	$8,049	
From Federal Funds	$1,070	
Number of FTE Staff:	22.5	(.4% of the department's staff)

PROGRAM GOALS:

Provide for the safe interaction of rail transportation with highway and pedestrian movements through:

- Administration of the federal grade crossing safety improvement program (23 U.S.C. 109 (E));
- Enforcement of track safety standards (M.S. 219.01);
- Enforcement of safety and service standards for clearance variances (M.S. 219.47, sub. 2);
- Advocating crossing closures (M.S. 219.073).

Use a comprehensive transportation planning process to identify opportunities for efficient movement of goods and services by rail and water transport (M.S. 222.50).

Preserve and improve rail lines for continued freight service through Minnesota's Rail Service Improvement program (M.S. 222.50).

Identify opportunities for federal, state, local, and private investment in rail and water facilities (e.g., regional and shortline railroads, shipper/receiver facilities, grain elevators) (M.S. 222.50).

DESCRIPTION OF SERVICES:

The Railroads and Waterways program:

- Fosters and develops the safest, most effective rail and waterway transportation system possible.
- Provides customer service to railroads, shipper associations, regional railroad authorities, road authorities, industry associations, other state agencies, other state transportation agencies, state and national associations, and local units of government.

- Receives and administers the federal Intermodal Surface Transportation Act of 1991 (ISTEA) grade crossing safety improvement funds and of the Minnesota Rail Service Improvement Account.

- Recognizes the importance of water transportation as a part of Minnesota's balanced transportation system and its linkages to national and international markets. However, Mn/DOT does not develop performance objectives and measures for the waterway area because of the department's limited role in this transportation alternative. The waterway activity within Mn/DOT represents less than one tenth of one percent of the department's overall budget. Mn/DOT's role is primarily that of a liaison between different levels of government, water industries and shippers in matters affecting the movement of goods by water. This includes such activities as proposed federal and state legislation and regulatory issues that may impact the movement of goods by water.

BACKGROUND INFORMATION:

Minnesota's railroad system consists of four Class I railroads, six Class II railroads, and 12 Class III railroads. The Interstate Commerce Commission (ICC) considers Class I railroads to be those with operating revenues that exceed a threshold of $96.1 million per year adjusted. Class II railroads are those with operating revenues in excess of $40.0 million per year and have 350 miles of track Class III railroads have operating revenues under $40.0 million per year. Minnesota ranks seventh in the nation with 4,798 miles of active rail lines. Minnesota serves as a major rail hub and terminal center and has a large number of main line tracks. Nearly 65 percent, or 3,100 miles of these are maintained at the Federal Railroad Administration's (FRA) Track Class of 3 or 4. The remaining mileage is at FRA Class 2 or below. FRA track classification is based on minimum standards applied to the physical characteristics of the roadbed, track geometry and track structure.

Between 1967 and 1993, railroad companies abandoned more that 3,000 miles of rail lines in Minnesota. Approximately 1,300 miles have been abandoned in the last decade, and it is anticipated that 800 to 1,000 miles of line may be abandoned in the next decade. Rail abandonments occur for several reasons, primarily economic. Consequently, light density lines become candidates for abandonment because of low volumes or marginal revenue. Mn/DOT tracks abandonments via notices from the railroad and the Interstate Commerce Commission. When railroads file for abandonment Mn/DOT can choose to oppose the abandonment, assist in the acquisition by a regional railroad authority if abandoned or acquire it for future transportation purposes through the State Rail Bank program.

Though the size of Minnesota's rail system has decreased from about 9,450 miles in 1929 to 4,800 miles today, the overall commodity movements are greater today than during the system's peak miles. Approximately more than 165 million tons of commodities were carried by rail in 1991 representing 2.2 million carloads. Assuming that commodity movements in Minnesota are reflective of the national picture, approximately 25 percent of all freight tonnage is hauled by rail.

Elevators always have been a significant factor in rail planning in Minnesota. Today there are over 150 elevators (or grain terminals) with multi-railcar grain loading facilities. This number represents about a 20 percent increase in the last five years. The trend of increasing car storage capacity is reflective of the economies of moving unit trains. Shipping cost savings is passed on to producers in the form of higher grain prices.

Minnesota has the ninth largest number of public grade crossings in the nation, totaling 5,188. In addition, Minnesota has nearly 3,500 private grade crossings on the rail system. Nearly 4,000 of the public crossings are signed with crossbucks and/ or stop signs, and more than 1,200 have flashing lights, gates, or cantilevers.

Despite a relatively high number of grade crossings in Minnesota, the motor vehicle-train accident/ incident rate is ranked 31st in the nation (accidents/incidents per 10,000 motor vehicle registrations) as reported by the Rail-Highway Crossing Accident/Incident and Inventory Bulletin, No. 14, 1991 Federal Railroad Administration. The reduction in the national accident rate points to the effectiveness of current crossing improvements and education efforts by Operation Lifesaver, law enforcement agencies, and railroads in alerting the public to the dangers at rail grade crossings.

Mn/DOT has continually improved warning systems and surfaces at grade crossings throughout the state. Over the last 15 years, active warning devices have been installed at 700 crossings and 250 grade crossing surfaces have been improved. Mn/DOT plans to continue to improve grade crossings at a rate of about 30 signals and 20 surfaces per year. If fully funded, ISTEA would provide $4.1 million annually for Minnesota's railroad-highway grade crossing safety initiative. Area Transportation Partnerships are now being formed around the state to aid the prioritization process for administration of the grade crossing safety funds. These partnerships involve Mn/DOT, Regional Development Commissions, Area Planning Organizations and others.

Two important grade crossing studies were recently completed by Mn/DOT: Grade Crossing Safety, a report by the Governor's Railroad Safety Advisory Committee, January 1991; and Rail-Highway Grade Crossing Safety Improvement Study, a report submitted to the Governor and Legislature, 1992. Both studies make recommendations addressing various aspects of highway-railroad grade crossing safety issues.

The 1991 legislature directed Mn/DOT to conduct a comprehensive grade crossing inventory in the state because one had not been done for many years. When complete, it will provide a detailed data base (e.g., information on visibility, crossing configurations, clearance, number of tracks,) on which to make significant program decisions.

Minnesota Rail Service Improvement Program (MRSI)

In 1976, two important pieces of legislation were passed, one state and one federal, which together form the basis for Minnesota's rail service improvement efforts. The federal Local Rail Freight Assistance Program (LRFA) and the Minnesota Rail Service Improvement Program (MRSI) have combined to substantially improve the local rail system and help provide Minnesota with an integrated, multi-modal transportation system.

The Minnesota Rail Service Improvement Program (MRSI), authorized by the Minnesota Legislature in 1976, was created to improve the use of rail service by providing state funds for rail rehabilitation and other rail service improvements. Under the MRSI Program there must be financial participation by the rail users, the railroads and the state. Rail users are repaid by the railroads out of operating revenues produced on the line. The state is repaid once the shippers have been repaid. State reimbursements are returned to the rail service improvement account for future rehabilitation projects.

The state develops eligibility rules for railroads that want to participate in the program. The criteria includes any anticipated economic and social benefits to the state and anticipated economic viability of the project.

MRSI is comprised of four programs:

- Rail Purchase Assistance Program

The Rail Purchase Assistance Program assists Regional Rail Authorities (RRA) in acquiring rail lines that can be operated on a self sustaining basis for the purpose of providing local rail service. Subject to funding limitations, Mn/DOT will assist RRA's in acquiring rail lines, providing up to 75 percent of the acquisition cost. State funds are secured with a lien on the property and require repayment if the line is sold or ceases to serve a transportation use.

- Rail Rehabilitation Program

The Rail Rehabilitation Program assists railroads in rehabilitating and preserving rail properties that are financially viable, have financial participation from shippers and have the potential to increase rail use. Lines are eligible for rehabilitation if they do not haul 263,000 tons and do not meet Class II track standards. In addition, lines are eligible if adequate terms and conditions of contract can be negotiated, i.e., viability of project and qualifications of the contractor. A financial analysis, marketing survey and rehabilitation needs assessment are conducted to determine which lines are prospective rail projects. As part of the programming process, an overall benefit/cost analysis is also conducted to determine if the prospective rail projects could progress to the implementation stage.

- Capital Improvement Loan Program

The Capital Improvement Loan Program provides rail users with funds for projects that improve rail services on lines that were rehabilitated with state or federal funding. Interest-free state loans are available to shippers who participate in rail rehabilitation projects to improve rail service. Eligible capital improvement loan projects include the purchase, rehabilitation, construction or reconstruction of physical facilities or equipment. Loans are limited to a maximum of $200,000, with a maximum ten year duration. Any shipper or rail user is eligible for an interest-free loan for up to 100 percent of the project if:

- The project will strengthen the financial conditions of the associated line;
- The project will improve rail service or rail use; and
- The project is economically feasible and adequate collateral or guarantees are provided.

- Demonstration Projects

The Demonstration Projects enable shippers to off-set up to 50 percent of the costs of projects that improve rail service or alleviate the impacts of rail abandonments. To be eligible, two or more shippers or rail users must participate in the proposed project and the project must not have been funded previously under the MRSI Program. The benefits of the project must be greater than the cost of the project. Funding of demonstration projects are subject to availability of funds.

State Rail Bank Program

In 1980 the Minnesota Rail Service Improvement Program (MRSI) was further amended to include the State Rail Bank Program (SRB). During the 1981 legislative session, bonding authority for the SRB Program was established. Mn/DOT is responsible for administering the SRB Program along with the MRSI Program and the Rail User Loan Guarantee Program. In 1984, Mn/DOT began acquiring lines through the SRB Program.

The purpose of the SRB Program is to acquire and preserve abandoned rail lines for future transportation use. All future uses must be for public or commercial use and must serve the public by providing passenger or freight transportation or transmission of energy, fuel or other commodities. Rail, electrical transmission line, transit, highway, and pipeline are the types of transportation and transmission modes that are considered for SRB purposes. Rail lines that are to be acquired for preserving rail service receive top priority over other lines competing for funding. Other priority considerations include any type of expected benefit to the state or multi-modal use of a proposed rail line.

In choosing SRB candidates, Mn/DOT conducts an analysis of the state's rail system to determine which lines are the most likely candidates for the rail banking purposes. The analysis involves all of Minnesota's 4,798 miles of rail line, which includes 212 miles of line currently in abandonment status.

The analysis includes three basic screening steps:

- Review abandoned lines to determine if they are available for acquisition;
- Determine which lines have identifiable future transportation or transmission uses; and
- Identify the abandonment status of the lines.

All abandoned lines that have been sold and lines that have no identifiable use are dropped from consideration as a SRB candidate. The analysis results in the development of three lists: preliminary list of rail lines, possible future projects list, and project candidates list.

Rail User & Railroad Company Loan Guarantee Program

The Minnesota Rail Service Improvement Program (MRSI) was amended in 1978 to include the Rail User Loan Guarantee Program. It was awarded again in 1994 to establish the Rail User and Railroad Company Loan Guarantee Program. It was developed to assist rail users and railroad companies in obtaining loans for rail rehabilitation and capital improvements by guaranteeing up to 90 percent of the borrower's loan. The program will guarantee loans from any state or federally chartered bank or from revenue bonds and will defer four percent of the borrower's payments on a loan over seven percent per annum.

Loans cover the costs of projects involving:

- Rail line rehabilitation;
- Capital improvements to reduce the impact of rail abandonments;
- Capital improvements to improve rail service;
- Capital improvements to railroads for rehabilitation of locomotives, railcars, etc.

Requirements of the borrower are:

- Payback on a deferred interest loan must be 10 years or less and the borrower must reimburse the state for the deferred interest with one year after the last payment is made on the loan;
- The borrower must provide a personal guarantee and collateral to the Commissioner of Mn/DOT sufficient to protect the interest of the state.

PROGRAM DRIVERS:

Intermodal: Intermodal traffic on the railroads is growing substantially and technologies are changing rapidly. By some estimates, intermodal traffic may grow by as much as five to seven percent a year for the next 10 years. Where intermodal traffic may have accounted for less than five percent of traffic for the major carriers in 1980, intermodal traffic has grown to an estimated 15-20 percent of rail traffic today. In Minnesota, intermodal revenue units shipped increased four-fold amongst the railroads in the last decade. The railroad industry has experienced comparable growth nationwide from about three million units shipped in 1982 to approximately seven million units shipped by 1992 (Association of American Railroads). Although Mn/DOT has not played a major role in creation or facilitation of intermodal traffic in the past, the new policy direction that ISTEA provides suggests a substantial shift for the department in the future.

Grade Crossing Safety: Increased and higher speed rail traffic and increased vehicle traffic on the public road system increases exposure to incidents at highway railroad grade crossings. Mn/DOT will continue to work with Railroads and Area Transportation Partnerships prioritize crossings for safety improvements, educate the public of the dangers at railroad-highway grade crossings, and encourage a program to close crossings.

Abandonments: Abandonments are expected to level off to around 100-150 miles per year over the next ten years. A careful analysis of these lines is required to determine its value as an operating rail line or as a transportation corridor for some future use. Lines subject to abandonment today are much more critical, in terms of value for commodities and shippers as the least profitable and least efficient; duplicate services were abandoned in the early 1980's.

Mergers & Consolidations: The pending merger and consolidation applications of major railroads throughout the country will have a significant impact on rail service in Minnesota. While long haul interstate service is very likely to benefit from these actions it is also possible that local rail service will be adversely affected, either by abandonment of marginal lines or the sale of some lines to create shortline or regional rail operations. Demand on the Minnesota Rail Service Improvement program could be greatly affected by these types of transactions.

AGENCY: Transportation, Department of
PROGRAM: 03 - Railroads and Waterways

OBJECTIVE, MEASURE

Objective 1: To reduce the public's exposure to railroad-highway grade crossing hazards.

Measure (1):Number of crossing safety improvements (signals, signs and/or pavement markings, closures & surfaces)

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	1,060	1,541				
Planned/Targets	80	1,675	587	1,001	433	50

DEFINITION, RATIONALE, DATA SOURCE:

This outcome measure is a direct indicator that the safety of the travelling public is increased as a result of crossing improvements. A national study conducted by the Federal Railroad Administration and Federal Highway Administration has shown that safety at railroad grade crossings is increased (measured in reduction of accidents) as follows:

- Going from passive signing to flashing lights reduces accidents by 70 percent.
- Going from passive signing to signals with gates reduces accidents by 83 percent.
- Going from flashing lights to signals with gates reduces accidents by 69 percent.

In addition, a study conducted by the Transportation Research Board, "Transportation In An Aging Society - Improving Mobility and Safety for Older Persons" determined that safety for elderly persons is greatly improved with the use of more visible (increased reflectiveness and larger) signing. The signing and pavement marking initiative included in this performance measure is the department's response to increasing the public awareness when approaching railroad grade crossings.

DISCUSSION OF PAST PERFORMANCE:

Over the last 15 years, Mn/DOT has been continually improving warning systems and surfaces at grade crossings throughout the state. Active warning devices have been installed at 700 crossings and 250 grade crossing surfaces have been improved.

PLAN TO ACHIEVE TARGETS:

Mn/DOT will receive and administer federal ISTEA grade crossing safety improvement funds and continue making improvements to reduce the publics' exposure to crossing hazards.

OTHER FACTORS AFFECTING PERFORMANCE:

Several factors, beyond agency control, may affect performance including weather conditions, persons driving under the influence of alcohol or controlled substance(s), and the consistency with which laws governing the crossing of railroad grades

are enforced. Availability of state and federal funds for safety improvement projects relates directly to accomplishment of this objective. In addition, the local decision making process developed to satisfy requirements of ISTEA may influence the number of safety projects receiving high priority for funding when compared to other projects in a given area of the state.

Objective 2: To improve transportation alternatives to shippers through preservation and improvement of rail service.

Measure (1): Number of carloads shipped/received on project lines.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	89,503	77,971				
Targets			78,000	88,000	89,500	90,000

DEFINITION, RATIONALE, DATA SOURCE:

Number of carloads shipped/received is a direct indicator that the rail line acquired and improved is being used by the primary client of this program, that being the shippers.

Each of these project lines would have been abandoned and railroad service lost were this program not in place. The usage of these lines as demonstrated by the carloadings indicates that rail shipping offers an attractive transportation alternative for shippers. Without rail service, trucking becomes the only viable transportation service.

Annual carloading figures are tracked by each of the project rail lines and provided to the department on request.

DISCUSSION OF PAST PERFORMANCE:

In the past, Mn/DOT has provided opportunity and access to rail service so that shippers have another viable transportation option by assisting in the acquisition, preservation, and rehabilitation of rail lines threatened by abandonment.

PLAN TO ACHIEVE TARGETS:

Mn/DOT will continue to analyze rail abandonment applications and railroad line sales and mergers to identify opportunities for public investment that will preserve rail as a transportation alternative for shippers.

OTHER FACTORS AFFECTING PERFORMANCE:

The most significant factor affecting performance is the weather. Most of the project lines are dependent on agriculture traffic. The volume of grain available for shipping is largely determined by the quality of the growing season.

Measure (2): Additional revenue earned by producers (cents/bushel) when shipping via rail.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	.05	.05				
Targets			.05	.06	.06	.06

DEFINITION, RATIONALE, DATA SOURCE:

This measure provides an indicator of the direct economic benefit that shippers/producers realize as a result of the availability of rail shipping. The additional revenue is an indicator of the efficiencies of moving grain by rail versus the only other transportation choice, the truck.

That shippers using the rail lines acquired and preserved under this program is evidenced by the carloadings in Measure #1. This indicator provides the economic link, in terms of shipper benefit, as to why having a transportation alternative becomes critical.

In 1990, the Office of Railroads and Waterways conducted a survey of shippers on project lines. This survey and updates as provided by rail shipper associations is the basis for measuring this indicator. Additional surveys would be necessary to accurately measure the accomplishment of future objectives.

In addition, to determine if the State's expenditures in these projects was a good investment the Office of Railroads and Waterways requested that the Minnesota Department of Revenue run these total investments through their "Regional Economic Model, Inc." (REMI). Results of the model output indicated a output multiplier of 1.3, which output multiplier represents the amplified effect of the investment on state income. It is generally recognized that when an economic multiplier for a public investment is greater than 1.0 the investment is worthwhile from a public policy standpoint.

DISCUSSION OF PAST PERFORMANCE:

Mn/DOT has little control over whether or not additional revenue is earned by shippers. However, by investing public funds and making rail service available to shippers as a transportation alternative additional revenue is earned because rail transportation is more efficient than truck transportation in most markets.

PLAN TO ACHIEVE TARGETS:

Mn/DOT will conduct periodic surveys of shippers on project lines to insure that they continue to realize benefit from having a modal choice.

OTHER FACTORS AFFECTING PERFORMANCE:

Mn/DOT has little control or ability to influence this performance measure. The key to this measure is that shippers need to have competitive transportation alternatives from which to choose. This measure can best be accomplished through efforts to preserve rail transportation as a viable alternative for shippers.

Measure (3): Miles of rail line acquired and rehabilitated for freight service

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	114	44				
Planned/Targets	13	44	102	188	150	74

DEFINITION, RATIONALE, DATA SOURCE:

Miles of rail line acquired or rehabilitated is a measure of rail service preserved and improved through the Minnesota Rail Service Improvement program. Acquisition and rehabilitation of rail lines provides the opportunity for modal choice by allowing for continuation and improvement of rail service that might otherwise be lost.

Preservation and improvement of rail lines that would otherwise be abandoned provides shippers the choice of transporting and receiving goods in the most economical way. The benefits of the availability of this choice is reflected in additional earnings by shippers as evidenced by a shipper survey conducted in 1990 that indicated an increase of eight cents per bushel for producers on project rail lines.

Miles of rail line acquired or rehabilitated is from records maintained by the Office of Railroads and Waterways.

DISCUSSION OF PAST PERFORMANCE:

Mn/DOT has analyzed past abandonments and determined the viability of the rail line for continued rail service. Where community and shipper interest exists Mn/DOT has made an investment of public funds to preserve and improve rail service.

PLAN TO ACHIEVE TARGETS:

If and when rail line abandonments or sales are identified by the railroad company, Mn/DOT will analyze those lines to determine the significance of those rail lines and financial capability to succeed as a shortline or regional railroad. If local community and shipper interest exists, the department will then determine the need for public investment to maintain rail service.

OTHER FACTORS AFFECTING PERFORMANCE:

The rail industry is not predictable in terms of identifying rail lines that may be abandoned or put up for sale (spun-off). Mn/DOT must be in a position to react to a rail company's business decisions but cannot predict those decisions. The ability to acquire and improve a rail line is contingent on shipper, railroad, and regional railroad cooperation and funding support.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **04 - Motor Carrier Regulation**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$2,373	(.2% of the department's budget)
From State Funds	$1,914	
From Federal Funds	$459	
Number of FTE Staff:	52.6	(1% of the department's staff)

PROGRAM GOALS:

Minnesota Statutes Chapters 174A and 221 establish motor carrier licensing and regulation. Minnesota Statutes Chapter 221 requires that all persons who provide for-hire freight and passenger service must obtain operating authority (a license) to operate as a for-hire carrier from the Transportation Regulation Board. The Department of Transportation, Office of Motor Carrier Services, is delegated the responsibility of performing the administrative and enforcement duties for the Transportation Regulation Board. Chapter 221 also establishes safety regulations for all motor carriers and safety licensing programs for transportation providers which are not required to obtain operating authority, and requires education of new motor carriers.

The program works with other state and federal agencies, principally the Minnesota Transportation Regulation Board (TRB), Minnesota Department of Public Safety (DPS), Minnesota Pollution Control Agency (PCA), U.S. DOT, Interstate Commerce Commission (ICC), and Federal Highway Administration (FHWA) to develop, implement, and administer responsive policies, programs, and educational activities.

Statutory Responsibilities for the Motor Carrier Regulation Program are as follows:

- Administer and enforce motor carrier licensing, safety and insurance programs for all for-hire motor carriers operating in and through Minnesota; also, to directly manage safety, licensing, and insurance programs for transportation providers which are not required to obtain an operating authority. (M.S. 174.30, 221.021, 221.0335, 221.035, 221.037, 221.111, 221.121, 221.131, 221.141, 221.296, 221.60, 221.605, 221.81, 221.84, 221.85)

- Register hazardous material transporters and shippers and enforce federal and state safety and hazardous materials regulations, by conducting audits, inspections, and evaluations. (M.S. 221.031, 221.033, 221.0335, 221.034, 221.035, 221.036, 221.037, 221.221, 221.605)

- Conduct an initial motor carrier contact course for new intrastate for-hire carriers, regarding economic and safety regulations. (M.S. 221.124)

- Accept tariffs for filing and assure that carriers charge rates and fares contained in the tariffs. (M.S. 221.041, 221.161)

- Implement a agreement between Mn/DOT and DPS that allocates motor carrier regulatory responsibilities between the two departments, in order to avoid unnecessary overlap or duplication of duties and to promote cooperation and sharing of data resources. ("Agreement Between the Minnesota Department of Transportation and the Minnesota Department of Public Safety Regarding Truck Safety Regulation and Related Issues," dated March 2, 1992)

The Motor Carrier Regulation Program long-term strategic goals include: play a significant and distinctive role to meet the needs of carriers, shippers, passengers and the public; ensure safety in the transportation of people and property on Minnesota's public highways; form and maintain cooperative relationships with motor carriers, shippers and manufacturers, in order to obtain compliance with Minnesota's motor carrier laws and rules; improve highway safety through motor carrier educational and enforcement programs; and, create and support transportation alternatives that balance personal, social, economic and environmental values.

DESCRIPTION OF SERVICES:

The Motor Carrier Services program:

- Administers and enforces the safety and economic regulations governing the for-hire and private motor carrier industry in Minnesota.

- Regulates for-hire motor carriers of freight and passengers, carriers who transport commodities which are exempt from economic regulation, private carriers hauling their own goods, building movers, hazardous material and waste transporters, special transportation services which provide transportation to the elderly, handicapped, or disabled, and operators of limousine services.

- Administers comprehensive programs to ensure compliance with federal and state laws relating to: driver qualifications, driver's maximum hours of service requirements, safe operation of vehicles, vehicle inspection, repair and maintenance procedures, vehicle standards, insurance, hazardous materials packaging and transportation, hazardous material emergency response standards, accident reporting, operating authority, and tariffs.

- Educates shippers, carriers, and law enforcement officials about state and federal motor carrier laws and rules.

- Administers and enforces motor carrier licensing and insurance programs for all for-hire motor carriers and other transportation providers operating in and through Minnesota.

- Enforces motor carrier safety regulations, hazardous materials transportation regulations and economic operating regulations.

- Educates carriers and shippers that motor carrier rates must be reasonable, compensatory, and nondiscriminatory, and enforces the common carrier obligation to provide service to all authorized points. (M.S. 221.161 states the Commissioner of Transportation "...shall not accept for filing tariffs that are unjust, unreasonable, unjustly discriminatory, unduly preferential or prejudicial...")

- Implements the agreement between Mn/DOT and DPS to more efficiently allocate motor carrier regulatory responsibilities in order to avoid duplication of duties and promote cooperation and sharing of data resources.

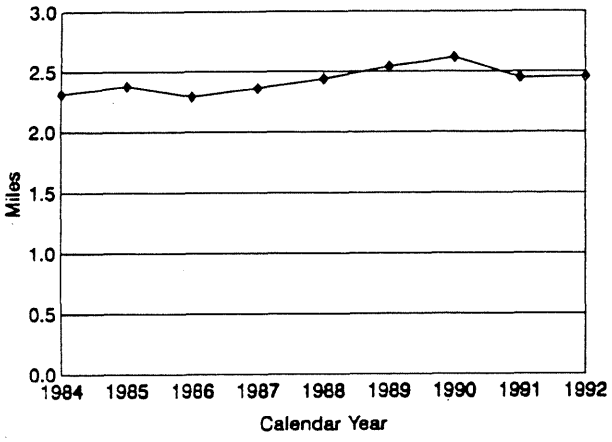
BACKGROUND INFORMATION:

In 1992, the legislature enacted the Motor Carrier Modernization Act, and determined that for-hire transportation in Minnesota should continue to be subject to a competitive entry process carriers must show that there is a need for the service to be provided, that they can provide it most efficiently and that there is need for regulation of the rates and fares charged by the carriers.

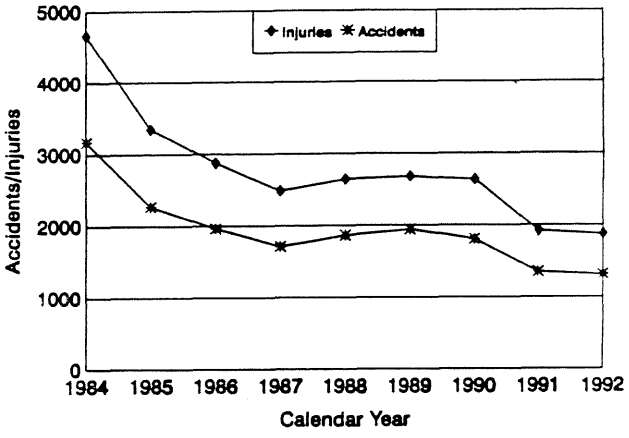
In Minnesota, it is estimated that there are 170 special transportation services for disabled persons, over 100 limousine services, 70 building movers, 3,000 hazardous waste and materials shippers and carriers, 8,000 interstate motor carriers, and 2,500 Minnesota-based intrastate motor carriers.

Data obtained by DPS indicates that the number of commercial vehicle accidents has dropped from approximately 7,000 in 1989 to 5,000 in 1992. The commercial vehicle fatalities have declined from approximately 100 in 1989 (this includes private pick-up trucks) to 86 in 1992. Direct cause/effect for the decrease in accidents cannot be made. However, during those years, DPS, Mn/DOT and the FHWA increased the number of vehicle inspections and safety reviews conducted in carrier offices each year.

COMMERCIAL VEHICLE MILEAGE
(In Millions)



COMMERCIAL MOTOR VEHICLES
INJURY ACCIDENTS/INJURIES



Many variables affect highway safety. These variables include: weather; condition of the road; behavior of other drivers; amount and type of law enforcement performed by the Minnesota State Patrol, local police and sheriff officials; extent to which motor carrier employers exercise care in the selection and training of their drivers; behavior of automobile drivers when operating around motor carriers; enforcement efforts of many other agencies.

Changes made to data collection requirements affect the ability to evaluate and utilize the data. For example, until 1991, pick-up trucks were included as commercial motor vehicles in DPS accident statistics, thus obscuring the actual number of accidents or fatalities attributable to commercial motor vehicles; also, no information was collected about cargo, hazardous materials, or vehicle configuration.

The collection and use of motor carrier data is crucial in fulfilling the responsibilities and providing the services as mandated in Minnesota Statutes. The Motor Carrier Information System (MCIS) is a data management system that contains information collected, used and disseminated by the Minnesota State Patrol, the Office of Motor Carrier Services and the Minnesota Transportation Regulation Board, to implement and enforce economic and safety regulations of motor carriers and transportation providers in Minnesota. The FHWA local division Office of Motor Carrier is linked to MCIS. MCIS is also linked with Safetynet, the federal nationwide carrier safety database. The system is updated daily and most data is public.

The MCIS contains data about all regulated freight and passenger carriers and services in Minnesota, including carrier, owner, location, number and identification of vehicles, insurance company, policy number, cancellation date, inspection records, audit records, carrier federal safety rating, hazardous material shippers and carriers, financial data on for-hire carriers regulated by the TRB, fees collected, and an internal audit function.

The MCIS processes all licensing, permit, certificate, and decal transactions. All inspections and audits performed by DPS and Mn/DOT are input and those records pertaining to interstate carriers are uploaded weekly to FHWA, Washington, D.C. The TRB inputs information about permits and certificates granted to for-hire carriers in Minnesota. All three agencies use data in the system. Through the MCIS, Mn/DOT and DPS have access to the national Safetynet database into which the inspection data are loaded.

In the agreement between Mn/DOT and DPS to perform motor carrier responsibilities, Mn/DOT was assigned the responsibility for designing, developing, modifying and maintaining the MCIS. Additionally, the Office maintains the network connections for all users in all connected agencies.

The Office continually is improving the MCIS to automate processing functions, record keeping and licensing activities in order to better identify and meet the needs of motor carriers and shippers, the department and the public.

Mn/DOT has funded a project to test the installation of a high speed communication line between MCIS and the fixed inspection/weigh scale sites staffed by the State Patrol. The purpose of the project is to test the feasibility, cost and cost savings of having inspections electronically transmitted to the MCIS and giving scale employees immediate on-line access to violation history, insurance status, and other information about carriers in the MCIS database.

MEASURES OF ACTIVITIES (A), WORKLOAD (W), UNIT COSTS (UC), OTHER DATA (O)

Type	Measure	F.Y. 1993	F.Y. 1994
W	Hazardous Materials Dock Audits	25	26
W	Interstate Carrier Safety Reviews	447	381
W	Intrastate Carrier Audits	68	51
W	Hazardous Materials Shippers Reviews	25	20
W	Special Transportation Services for Disabled-Audits	141	136
W	Special Transportation Services for Disabled-Vehicle Inspections	1087	1106
W	Special Transportation Services for Disabled-Random Inspections	216	221
A	3-day Hazardous Materials Training Classes	5	14
A	Certificates of Insurance Filed	11,162	11,007
A	Trucking Regulation Information Packages Distributed (*FY 93-94)	12,000	*
A	Safety Regulation Fact Sheets (7 Topics) Distributed	0	46,500

PROGRAM DRIVERS:

- Frequent changes to federal regulations and state statutes for carriers and other transportation providers requiring changes in administrative and enforcement activities not only by Mn/DOT, but in the roles and responsibilities of other agencies.

- Increasing concern about the safety of hazardous materials and waste shipments.

- Significantly more requests for training and informational materials about new laws and rules from carriers which are trying to comply with complex motor carrier safety and hazardous materials and waste regulations.

- Increasing participation by Mn/DOT in establishing uniform, standard or base state regulatory programs that reduce the regulatory burden on carriers, by reducing unnecessary paperwork and through consolidating of other requirements and activities.

- Less emphasis on enforcement and more emphasis on seeking compliance through training, education and cooperation.

- Other variables affect highway safety. These variables include: weather; condition of the road; behavior of other drivers; amount and type of law enforcement performed by the Minnesota State Patrol, local police and sheriff officials; extent to which motor carrier employers exercise care in the selection and training of their drivers; behavior of automobile drivers when operating around motor carriers; enforcement efforts of many other agencies.

AGENCY: Transportation, Department of
PROGRAM: 04 - Motor Carrier Regulation

OBJECTIVE, MEASURE

Objective 1: To reduce hazardous material and waste spills and accidents by: 1) conducting training classes for shippers and carriers so they can comply with state and federal hazardous material transportation regulations; 2) conducting shipping dock audits to detect violations; and, 3) conducting shipper reviews to instruct shippers and carriers on how to package, handle and transport hazardous materials and waste.

Measure (1): Number of Three-day Classes Offered.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	3	5	14	-	-	-
Planned/Target	-	-	-	20	20	20

Measure (2): Number of Dock Audits Conducted

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	4	25	26	-	-	-
Planned/Target	-	-	-	40	50	50

Measure (3): Number of Hazardous Materials Shippers Safety Reviews Conducted

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	25	25	20	-	-	-
Planned/Target	-	-	-	40	50	50

DEFINITION, RATIONALE, DATA SOURCE:

Minnesota and federal law require shippers and carriers of hazardous materials and waste to comply with the regulations designed to protect the public from injury, death, or property damage caused by the inadvertent release of hazardous materials and waste during transportation. In recent years, federal law has become stricter and the states are required to adopt federal hazardous material transportation regulations and enforce them locally, placing a tremendous educational burden on shippers and carriers who transport these materials. The department is required by M.S. Section 221.033 to enforce these regulations.

Hazardous Material Specialists go to carrier loading docks and inspect packages and containers of hazardous materials waiting to be loaded on trucks and to detect violations before they cause accidents or injuries. The department contacts shippers who have not properly packaged or labeled hazardous materials and provides instruction on how to safely ship hazardous materials, thus averting future problems. Penalties may be imposed in certain cases.

Information from dock audits is entered into the Motor Carrier Information System (MCIS) and uploaded to the Federal Highway Administration.

Mn/DOT and DPS are not the only agencies involved in receiving reports of accidents or hazardous materials and waste spills. The Minnesota Pollution Control Agency and the Minnesota Department of Agriculture also receive reports. Therefore, there is no reliable method for assessing the actual quantity of events. The number of transportation-related hazardous materials spills reported to the Minnesota Department of Public Safety, Division of Emergency Management was 71 in 1992, 234 in 1993 and 489 in 1994. Mn/DOT Hazardous Materials Specialists were contacted for advice or assistance in all of these cases. The increase in the numbers of spills reported can be partially attributed to education efforts about the requirement to report spills; and, in FY 1993, the Division of Emergency Management implemented a new and better database system.

The department provides optional, three-day training classes and informational materials for carriers and shippers to instruct them about how to comply with the regulations governing the packaging, marking, labeling, handling and transportation of these materials. Encouraging and assisting in voluntary compliance with regulations is a more efficient method of enforcement. It is more effective, productive, and environmentally sound to prevent violations by providing instruction in advance rather to wait until there have been violations or accidents and then take enforcement action.

The primary service population for this objective is approximately 3,000 Minnesota-based carriers and shippers of hazardous materials and waste; the department is only just beginning to register and permit these carriers and shippers.

DISCUSSION OF PAST PERFORMANCE:

Experience indicates that the more motor carrier training that occurs, the more questions people ask, and the more classes and inspections they request, serving to avert future problems, by assuring educated, and therefore safer handling of hazardous materials and waste.

The federal government constantly is changing the hazardous material transportation regulations so that constant re-education and updating of current materials, classes and information is necessary.

PLAN TO ACHIEVE TARGETS:

To encourage more attendees at training courses, by contacts with Technical Colleges, carrier and shipper trade associations and direct mail newsletters.

To increase the number of contacts made with shippers and carriers and provide increased information and assistance, by increasing the number of dock audits and shipper reviews.

To survey carriers in order to evaluate the effectiveness of training sessions, assess the usefulness and helpfulness of the efforts provided by the department in assisting carriers to comply with regulations, and identify customer needs and satisfaction level.

To impose penalties when necessary to deter future violations.

OTHER FACTORS AFFECTING PERFORMANCE:

Prevention of hazardous material and waste spills and accidents is affected by the willingness or ability of shippers and carriers to comply with hazardous material transportation regulations, the limited resources of the Office of Motor Carrier Services to conduct dock audits and shippers reviews, and the inability for the department to inspect every one of the thousands of daily shipments of hazardous materials that occur in Minnesota.

Every accident or hazardous material release is not reported to the department. Therefore, there is no reliable method for determining whether there has been a reduction in spills and accidents and the extent of that reduction.

Carriers and shippers are not required to attend the courses that are offered.

Accident rates are affected by the variables listed previously (e.g., weather, driver attitude, highway design)

Objective 2: To maintain the state's comparably low accident rate of 1.7 accidents per million vehicle miles.

Measure (1): Number of Safety Reviews Conducted.(**)

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	462	447	381	-	-	-
Planned/Target	-	-	-	**	**	**

(**) The FHWA has discontinued the funding of Safety Reviews. In order to maintain safety, the Office will increase the number of Compliance Reviews, through which penalties are assessed.

Measure (2): Number of Compliance Reviews Conducted.(**)

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	2	35	25	-	-	-
Planned/Target	-	-	-	300	300	300

DEFINITION, RATIONALE, DATA SOURCE:

Motor carrier safety reviews are non-enforcement educational audits of safety records and practices maintained by motor carriers. The Motor Transportation Representative examines records of driver qualification, vehicle maintenance, insurance, accident reports, and drivers' hours-of-service records. The Office provides carriers with forms and instructional materials.

Effective September 15, 1994, the FHWA discontinued the funding of Safety Reviews, and required states to substitute Compliance Reviews. Compliance Reviews are larger and more complex than Safety Reviews and involve the assessment of penalties.

In 1992, the U.S. General Accounting Office conducted a study and found that financial viability was a predictor of carrier safety.

The primary service population for this objective are interstate motor carriers based in Minnesota, estimated at 8,000

Accident data is reported by state and local agencies and tabulated by the Department of Public Safety. Data is reported annually in "Crash Facts" and current and historical data is maintained on the Transportation Information System (TIS) database.

Data from safety and compliance reviews is maintained in the Motor Carrier Information System and uploaded to the FHWA. It is used to determine the carrier's safety fitness rating.

DISCUSSION OF PAST PERFORMANCE:

Educating and assisting motor carriers in complying promotes safety on the highway.

Most motor carriers wish to comply with state and federal transportation motor carrier safety regulations. The regulations are very complex, are promulgated by the FHWA, must be adopted and enforced by every state, and change frequently.

PLAN TO ACHIEVE TARGETS:

To train additional employees to perform compliance reviews.

To establish a procedure for taking enforcement action against violators.

OTHER FACTORS AFFECTING PERFORMANCE:

In an ideal situation, the department would measure the safety improvement of every carrier and determine that there were no violations. This is impossible since the number of carriers is constantly increasing and the safety of motor carrier operators is affected by variables other than safety reviews. Variables include weather, driver and carrier attitude, activities of other enforcement agencies, highway design, and effectiveness of regulations adopted by the FHWA.

The states' accident rate is affected by the ability and willingness of carriers and shippers to comply with safety regulations, the ability of all state and federal law enforcement agencies to detect violations, and the variables listed previously, such as weather and highway design.

Objective 3: To improve safety by improving compliance of intrastate motor carriers with safety regulations by establishing intrastate motor carrier safety audits.

Measure (1): Number of Intrastate Motor Carrier Audits Conducted.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	-	-	-	-	-	-
Target (New	-	-	-	200	300	400

Measure (2): Number of Intrastate Motor Carriers Which Receive a Safety Rating.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	-	-	-	-	-	-
Target (New	-	-	-	200	300	400

DEFINITION, RATIONALE, DATA SOURCE:

Intrastate motor carrier safety audits will be conducted to enforce state and federal safety and hazardous material laws. The safety and compliance reviews do not apply to intrastate carriers; therefore, the Office is developing a similar program for these carriers.

The Office is developing an intrastate carrier safety rating system modeled on the system the FHWA uses for interstate carriers. The Office will create a computerized program that will extract safety-related data and assign a safety rating. The rating will be used to identify carriers for education and training or enforcement and will allow prioritization in order to target carriers most in need of attention.

Data from audits will be entered into the Motor Carrier Information System.

The primary service population for this objective is Minnesota-based intrastate motor carriers, estimated at 2,500.

DISCUSSION OF PAST PERFORMANCE:

This is a new measure; results from data collection and evaluation will be measured in future years.

Experience with existing motor carrier inspection procedures indicate that the number of complaints received and violations detected increases every year. It is difficult to determine if there are actually more violations or if motor carriers feel freer to report violations because they know the department will try to address them cooperatively, fairly and reasonably. Unless the department is able to examine every movement of a motor carrier conducted in Minnesota, the extent of compliance cannot be determined.

PLAN TO ACHIEVE TARGETS:

In 1994, the Office implemented a new, computerized record keeping system that will be utilized to determine whether those carriers which are audited show improved performance.

The creation of a motor carrier safety rating system will provide a way to focus on unsafe carriers for audit and education. It will be used in conjunction with the department's random audit program and educational programs, and will be based on records that describe the carrier's safety and financial stability.

OTHER FACTORS AFFECTING PERFORMANCE:

The willingness of carriers to comply with regulations determines the number of violations issued and addressed.

Objective 4: To assure that Special Transportation Services provided to elderly and disabled persons who are unable to use regular means of travel are safe.

Measure (1): Number of Provider Audits Conducted.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	N/A	141	136	-	-	-
Planned/Target	-	-	-	140 (a)	140 (a)	140 (a)

(a) The number of service providers and vehicles fluctuates each year. Mn/DOT audits all providers and inspects all vehicles in service; therefore, this number will reflect actual providers/vehicles.

Measure (2): Number of Vehicle Inspections Conducted.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	N/A	1087	1106			
Planned/Target	-	-	-	1100 (a)	1100 (a)	1100 (a)

Measure (3): Number of Random, Unannounced Inspections Conducted.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	N/A	216	221	-	-	-
Planned/Target	-	-	-	0 (b)	0 (b)	0 (b)

(b) State law currently requires that Mn/DOT conduct on a quarterly basis random, unannounced inspections of 5% of Special Transportation Services vehicles. In the 1995 Legislative session Mn/DOT intends to request repeal of this specific requirement because it is ineffective, inefficient and was enacted before Mn/DOT was doing annual inspections and audits. (Refer to *Discussion of Past Performance* for further explanation)

Measure (4): Number of Training Class Audits Conducted.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	N/A	0	4	-	-	-
Planned/Target	-	-	-	25	30	30

DEFINITION, RATIONALE, DATA SOURCE:

Special Transportation Services are those provided to the elderly, handicapped or disabled. Special Transportation Service (STS) providers and vehicles fluctuates slightly each year. The providers subject to this law are those that receive government funding to provide the service.

Mn/DOT audits all providers and inspects all vehicles in service each year. Mn/DOT must report noncompliance to Mn/DOT's Office of Transit and to the Minnesota Department of Human Services. Both departments provide funds for these services. State law prohibits funding Special Transportation Services that do not comply.

In the late 1980's there were several serious accidents involving these services and reports of vulnerable passengers having been molested by drivers. Stricter rules were adopted by Mn/DOT in 1992, and as required by law Mn/DOT has been conducting annual audits and inspections to assure safety of the services.

The Office is required by M.S 174.30 to audit the records of every STS provider each year. The auditor looks at driver qualification records, vehicle maintenance records, accident records, insurance records, whether the driver has had a criminal background check, and whether the vehicle dimensions comply with the Americans with Disabilities Act (ADA) requirements. Vehicle and wheelchair securement services must be inspected.

DPS and Mn/DOT have an interagency agreement that allows Mn/DOT to conduct wheelchair securement device inspections on these vehicles. However, securement device requirements are established and enforced by DPS. In order to be more efficient, both inspections on STS vehicles are conducted by Mn/DOT, rather than have both departments conduct separate inspections. This reduces the burden on the provider and conserves government resources.

Mn/DOT prescribes training requirements for drivers in how to transport and assist disabled passengers, first aid, vulnerable adult abuse prevention, and defensive driving. Training classes are subject to approval and audit by Mn/DOT to assure that proper training is conducted. Additional audits will be conducted in response to complaints that proper training is not being provided.

Data from audits and inspections is entered in the MCIS.

DISCUSSION OF PAST PERFORMANCE:

In the late 1980's, there were several serious accidents involving services for the handicapped, disabled and elderly and reports of vulnerable passengers having been molested by drivers. Stricter rules were adopted by Mn/DOT in 1992, and as required by law Mn/DOT has been conducting annual audits and inspections to assure safety of the services.

State law currently requires that on a quarterly basis, Mn/DOT conduct random, unannounced inspections of 5% of Special Transportation Services vehicles. Because these inspections must be both random (Mn/DOT uses computer selection to obtain a random group) and unannounced, Mn/DOT cannot schedule groups of vehicles to be inspected together or give the provider advance notification. As a result, inspectors often arrive at a provider's garage and find no vehicles available for inspection because all vehicles are in use. This method of inspections also requires a good deal of travelling.

The random inspection requirement was enacted at the request of advocates for the disabled, and since the time when this law was enacted, Mn/DOT instituted the practice of performing annual inspections and audits of STS providers and vehicles; it is proposed that the random, unannounced inspection requirement is no longer necessary.

In the 1995 Legislative session, Mn/DOT intends to request repeal of this specific requirement because it is ineffective, inefficient and was enacted before Mn/DOT was doing annual inspections and audits.

PLAN TO ACHIEVE TARGETS:

To train additional personnel to conduct training class audits.

To work together with Mn/DOT's Office of Transit to audit and improve the quality and availability of classes.

To increase audits of classes in response to complaints that proper training is not being provided.

To conduct more thorough audits of driver qualifications, specifically by examining driving records for every driver and by obtaining a criminal background check for every driver.

To improve the MCIS so that it can track whether defects in vehicles have been corrected.

OTHER FACTORS AFFECTING PERFORMANCE:

The willingness of providers to comply with regulations.

The ability of the department to provide additional training to assist with compliance.

Drivers' wages in this field typically are low; services have a difficult time attracting qualified drivers.

Service providers have expressed difficulty with maintaining vehicles and paying drivers with the current reimbursement rates that are paid by the Minnesota Department of Human Services.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **05 - Local Roads**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$421,327	(36% of the department's budget)
From State Funds	$331,223	
From Federal Funds	$90,104	
Number of FTE Staff:	24.8	(.5% of the department's staff)

PROGRAM GOALS:

In M.S. 162.02 and 162.09 the Commissioner of Transportation is charged with promulgating the rules under which the state aid systems will be operated. Since the Commissioner is responsible for overseeing the program, which is implemented by the cities and counties, it is appropriate that some of the goals for the state transportation system identified in M.S. 174.01 and Mn/DOT Strategic Directions be reflected in the goals of the Local Roads program.

Statute Goals (M.S. 174.01)

- Safe statewide transportation;
- Maximum benefit for investment; and
- Funding to preserve the infrastructure.

Strategic Directions

- Access for all to goods and services; and
- Transportation alternatives which balance personal, social, economic and environmental values.

The Commissioner, through the State Aid for Local Transportation Division, administers the program but the actual operation and implementation of the program is done by the local road authorities.

DESCRIPTION OF SERVICES:

The purpose of the Local Roads program is to provide technical assistance and leadership in the development and maintenance of the County State Aid Highway (CSAH) system and the Municipal State Aid Street (MSAS) system to provide

an integrated and coordinated network of roads and bridges for the movement of people and goods particularly in rural areas and small cities. The program also provides assistance to a limited extent to the township road and bridge system.

The State Aid for Local Transportation Division works with the local agencies in providing this network by:

- Administering the allocation and distribution of funds from the Highway User Tax Distribution Fund to the 116 municipalities (whose population is 5000 or more), the 87 counties and the townships of Minnesota as required by M. S. Chapters 161 and 162;

- Acting as agent for the local authority in the administration of federal construction contracts;

- Managing and granting funds to the local road authorities from the Minnesota State Transportation Fund for replacement of deficient bridges; and

- Providing technical assistance to local authorities that utilize state or federal monies to insure compliance with state and federal requirements.

BACKGROUND INFORMATION:

87 counties with 30,133 miles of County State Aid Highway.

116 cities with 2,471 miles of Municipal State Aid Streets.

19,639 bridges in the state, 14,827 of which are on the local road system.

PROGRAM DRIVERS:

Infrastructure: The state aid system includes many miles of roads that have never been engineered and graded to an appropriate standard. Because of this, roads must be totally reconstructed, sometimes on new alignment, rather than simply being treated with spot preservation projects.

Heavier and Longer Trucks: The trend toward larger trucks throughout the nation has an impact on the structural ability of the state aid routes to carry the loads which travel on them to get to markets. These large trucks also require geometric design changes like larger corner radii or flatter curves.

Multi-modal Goals: Because much of the basic system needs to be brought up to a reasonable and safe standard, there is an inability of the local agencies to concentrate on larger multi-modal goals.

Increasing Complexity: The amount of time it takes and the costs involved to simply bring a project to contract letting have multiplied. Requirements for public involvement, environmental and historical documentation and environmental and historical mitigation are slowing the ability of the local agencies to build the system.

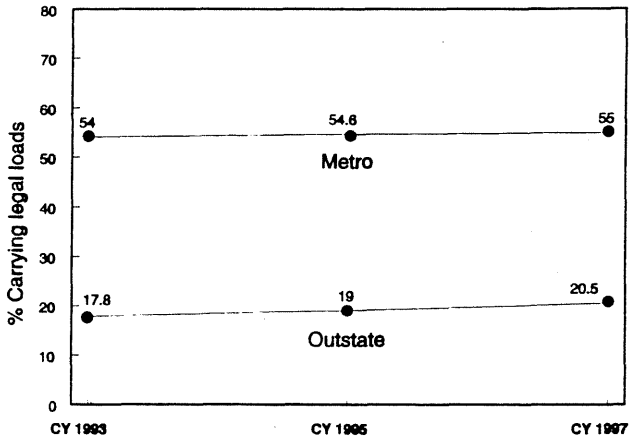
Accident Analysis: The inability to provide meaningful accident statistics on anything but a large regional basis limits the ability to use them for project identification or improvement selection except in rare cases. Because the volumes on these individual routes are low, a single completely random accident or accident caused by factors unrelated to highway design can skew the statistics.

AGENCY: Transportation, Department of
PROGRAM: 05 - Local Roads

OBJECTIVE, MEASURE

Objective 1: By 1997, 20.5 percent of the outstate district CSAH systems, and 55 percent of the Metro Division CSAH system, will carry legal loads year round.

Measure (1): Percent of the CSAH system carrying unrestricted loads year round.



CSAH System Carrying Legal Loads

DEFINITION, RATIONALE, DATA SOURCE:

This measure is a percentage of the number of miles of hard surfaced County State Aid Highways that have no springtime load restrictions placed on them by the total number of CSAH miles. A springtime load restriction is placed on a road which will break up during the spring thaw if heavy loads are carried on them. A legal load on an unrestricted road is called 9 Ton, which means that a vehicle can be carrying 9 Tons for each axle and can legally travel on the roadway.

The State Aid for Local Transportation Division has a CSAH Needs Unit which determines each county's share of the Highway User Tax Distribution Fund for each calendar year. Forty percent of the allocation, according to M. S. 162, is based on the annual amount of money it would take to bring the individual county's entire system up to current standards over a period of 25 years. A major component of this measure is the ability to carry legal loads all year long.
This objective directly measures whether we are making any progress toward the program purpose of providing a network of roads that allows for the movement of goods in an unrestricted manner.

The CSAH Needs Unit of the State Aid for Local Transportation Division maintains a database including these statistics among many others. The data is updated on a yearly basis by the counties reporting any changes to Mn/DOT. Previous years are deleted so we are unable to look back to 1992. We will begin tracking the progress over time saving the past years as the new data becomes available.

DISCUSSION OF PAST PERFORMANCE:

Because the past years are deleted from the database, it is difficult to verify the past performance. We have a single printout from 1981 which indicates at that time 6.8 percent of the outstate district CSAH systems, and 37.3 percent of the Metro

Division CSAH system, could carry legal loads. This data indicates that progress has been made over the past twelve years but it does not indicate the rate at which it has occurred.

PLAN TO ACHIEVE TARGETS:

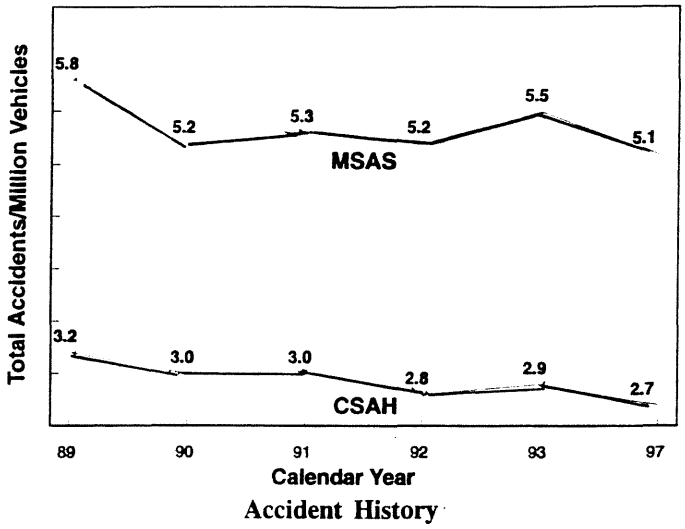
The State Aid for Local Transportation Division is encouraging the local agencies to bring state aid routes up to 9 Ton or greater strength by including that requirement in the design standards for all routes reconstructed that carry 150 vehicles per day or more.

OTHER FACTORS AFFECTING PERFORMANCE:

Each county board prioritizes the projects on which they will spend the state aid dollars available to their county. There may be safety, economic or political factors that impact the decision. Not every dollar is spent on projects that improve the structural capacity of the roadway as measured by State Aid. An example of a worthwhile safety improvement that uses state aid funds, but does not necessarily improve the structural capacity, is a traffic signal with left and right turn lanes.

Objective 2: By 1997, the accident rate on the MSAS system statewide will decrease to 5.1 and the accident CSAH system statewide will be reduced to 2.7.

Measure (2): Accidents per million vehicle miles traveled.



Accident History

DEFINITION, RATIONALE, DATA SOURCE:

This measure represents the total number of accidents which were reported on the total system in a year divided by the total number of vehicle miles which were traveled on those same roads.

The Division of State Aid for Local Transportation, with the help of the State Aid Rules Committee established in statute, promulgates the rules and standards which govern state aid operations. A major component in the decision of what geometric design standards should be established is the desire for safe roads. Minnesota has consciously chosen to set standards which are higher than the American Association of State Highway and Transportation Officials' minimum recommendations. A review of the accident rates is an indicator of how well we are doing at accomplishing a safe road system by setting high design standards.

Mn/DOT's Office of Traffic Engineering keeps accident statistics on all roads in Minnesota. They get the data from the Department of Public Safety, who collects it from all the Peace Officers in the state on a continuous basis. The Office of Traffic Engineering also monitors national trends.

DISCUSSION OF PAST PERFORMANCE:

The state aid system was established in 1957. At that time the geometric design standards were minimal compared to those in effect today. Through time, the standards have been raised to reflect the growing concern for safety of the motorists.

PLAN TO ACHIEVE TARGETS:

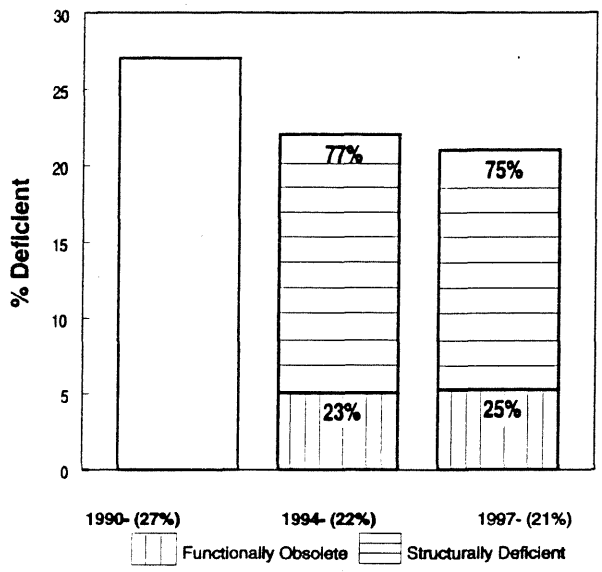
The Division of State Aid for Local Transportation will continue to support high geometric standards that support safety.

OTHER FACTORS AFFECTING PERFORMANCE:

The limited amount of state aid funds that are available to each city and county are not adequate to bring all of their roads up to the desired geometric standards. Many roads have known deficiencies that simply cannot be corrected because of the limited amount of funds. In addition, most counties supplement their state aid funds with local property tax dollars. When they use local dollars on a state aid route they are not held to the same high geometric standards and may choose to reconstruct to something lower that may not have the same impact on the accident rate.

Objective 3: By 1997, less than 22% of the bridges on the local roads system will be deficient.

Measure (3): Percent of the bridges considered deficient by federal rating criteria.



Deficient Bridges on Local Systems

DEFINITION, RATIONALE, DATA SOURCE:

A bridge is considered deficient if the structural condition does not meet certain minimum federal criteria. A bridge also is considered deficient if the geometrics or hydraulic capacity does not meet federal criteria. Such a bridge is considered deficient because it is functionally obsolete. It may be open to traffic but most likely are restricted to trucks carrying heavy loads or are so narrow that vehicles should not meet on the structure.

By statute, any structure that is 10 feet or longer, measured along the centerline of the roadway, is considered a bridge.

Bridges are critical links in the transportation network, and the replacement of bridges on the local roads system is a measure of how well state aid is providing for the network. The State Aid for Local Transportation Division allocates state bridge replacement funds to the highest priority non-trunk highway bridges throughout the state on the county, city and township road systems. The federal funds are allocated through the Area Transportation Partnership process.

If a bridge is closed due to unsafe conditions, the roads it connects cannot serve the function of moving people and goods.

The Bridge Data Section of the Mn/DOT Office of Bridges and Structures maintains an inventory of all the bridges in the state which carry or cross over a public roadway. This data is updated as each local agency submits the information with a complete update occurring each spring for submittal to the Federal Highway Administration.

DISCUSSION OF PAST PERFORMANCE:

In 1977 the State Legislature provided the first separate state funding for the replacement of local bridges. At that time there were about 4800 deficient bridges on the county, city and township road systems. The Division of State Aid for Local

Transportation has continued to request funding for the program and in 1988 the number of deficient structures was down to about 4000.

PLAN TO ACHIEVE TARGETS:

While the program has made progress toward eliminating the deficient bridge problem in Minnesota it has not progressed as quickly as desired. We will continue to request funding and to encourage the local agencies to submit plans for approval and funding.

OTHER FACTORS AFFECTING PERFORMANCE:

Bridge replacement funds are allocated by the State Legislature and Congress. The level of funding that these bodies are willing to commit determines the progress we are able to make toward replacing deficient structures.

Bridges have an average service life of 60 years. There are currently about 800 bridges that will reach this 60 year age between now and the year 2000. Most of these bridges are deteriorating and will reach the point of deficiency, significantly increasing the number of deficient bridges. If we are to make real progress toward decreasing the percent of deficient structures when so many more are being added to the list we will need to increase the amount of funds targeted toward this effort.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **06 - State Road Construction**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$459,745	(40% of the department's budget)
From State Funds	$453,904	
From Federal Funds	$181,206	
Number of FTE Staff:	1904.9	(38% of the department's staff)

PROGRAM GOALS:

The State Road Construction (SRC) program has adopted the following five goals based on Minnesota Statute 174.01 Subdivision 2:

- Fiscal Stewardship - a state highway system that utilizes and extends the value of transportation investments.
- Accessibility - a broad based system of state-aided highways, which provides access to all areas of the state.
- Safety - a safe highway system for all users.
- Economic Development - a preserved or improved standard of living for Minnesota citizens through reliable and predictable transportation systems and services and a reduced total cost of transportation.
- Environmental Stewardship - an environment that is preserved and enhanced through proactive programs.

DESCRIPTION OF SERVICES:

State Road Construction--a combination of the FY94-FY95 State Road Construction (SRC) and Highway Program Delivery programs (HPD). Combining the two programs reflects how the performance of these Mn/DOT functions are highly interrelated.

Program Purpose: The purpose of the State Road Construction program is to manage the investments that preserve and improve the quality of travel on Minnesota's 12,100 mile State Trunk Highway system.

State Road Construction programs and services are provided so that Trunk Highway users have:

- Access to opportunities;
- Mobility to get around freely with reasonable travel time;
- Safe and comfortable facilities to travel on;
- Information with which to make good travel decisions;
- Pleasing roadsides to travel along; and
- Predictable trips from origin to destination.

These needs are met in the overall context of environmental and fiscal stewardship. These objectives are met to the extent that there are resources available from the Federal Government or in the Trunk Highway Fund.

The State Road Construction Program services include market research and program planning and development with the eight Area Transportation Partnerships (ATP's). Other services include programming, designing and contracting to have transportation projects built as well as monitoring construction to see that specifications are met or necessary modifications made. Mn/DOT's goal is to obtain upfront public involvement in planning and design. These services mentioned above are provided in cooperation with cities, counties, regional and state agencies, and with public involvement and input. Private contractors build the projects.

The state and federal social, economic and environmental processes are the frameworks within which balanced transportation decisions take place. Initially, major concept and design decisions are made. Next, additional technical engineering services are provided to ensure safe and well designed transportation projects are built to proper standards and with proper construction techniques. Once a road is built, maintenance and operations services occur to ensure the roads continuing useability. (See State Road Operations Program) Mn/DOT also provides technical services to cities and counties such as training, lab testing, and design information.

BACKGROUND INFORMATION:

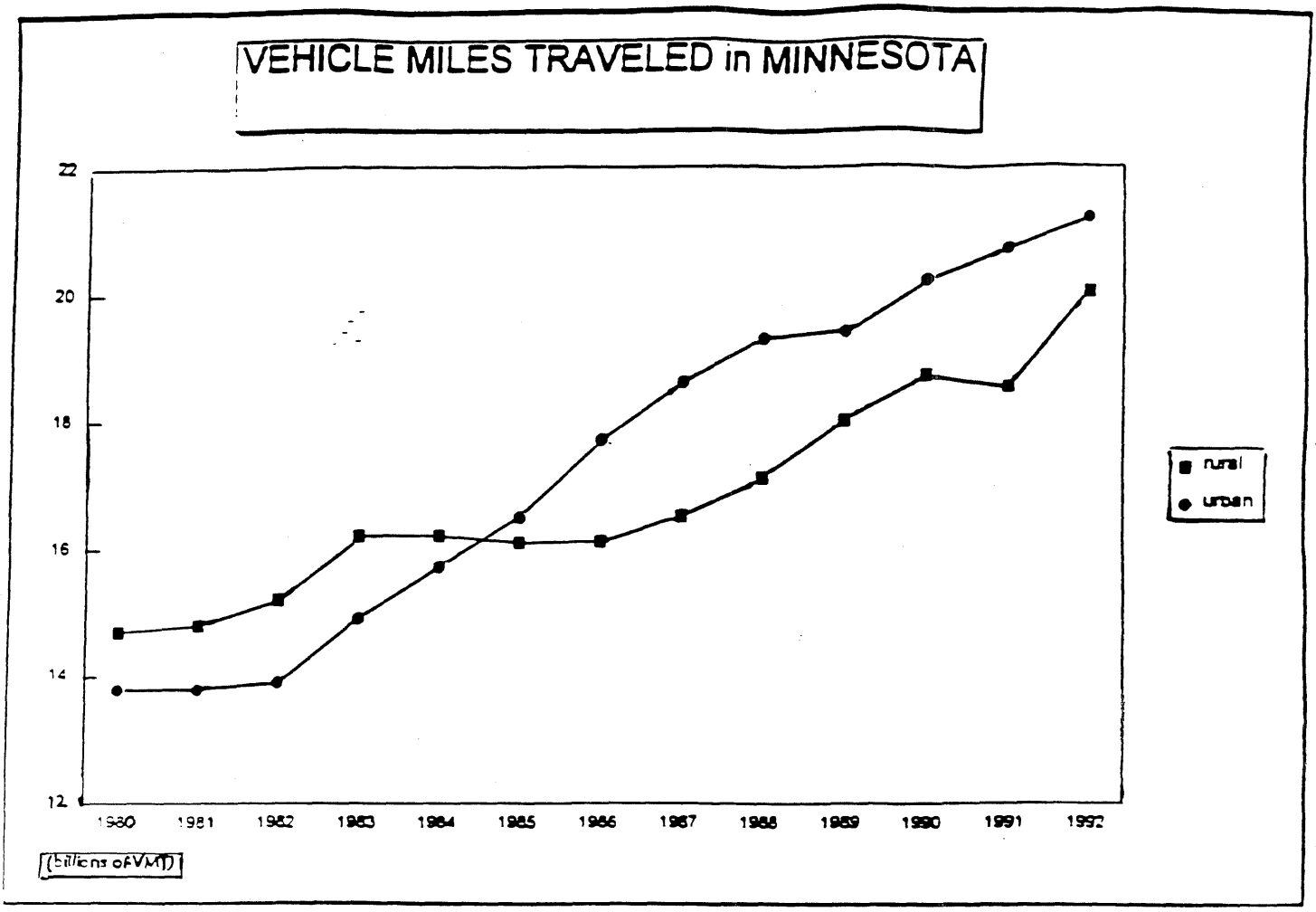
Objectives and Measures	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995
Accessibility				
Population near state-aided roads [%]	99	99	99	99
Percent dollar sales in centers served	87	87	87	87
Percent bridges rated sufficient.	87	87	87	87
Percent of highways rated sufficient	70	70	72	71
Preservation of Infrastructure				
Pavement quality index				
--Principal arterials	3.3	3.3	3.3	3.2
--Minor arterials	3.2	3.1	3.1	3.0
--Collectors and local roads	3.1	3.1	3.0	2.9
Key Construction Accomplishments				
--Road Resurfacing and Reconditioning				
miles	521	616	605	487
cost	$63,900	$62,300	$78,400	$67,500
--Major Road Construction and Reconstruction				
miles	86	127	94	58
cost	$107,300	$123,300	$104,100	$111,700
--Total Road Construction				
miles	607	743	699	545
cost	$171,200	$185,600	$182,500	$179,200
--Bridge Improvement				
bridges	36	22	19	20
cost	$15,900	$5,000	$7,200	$6,500
--Bridge Replacement				
bridges	41	31	10	22
cost	$57,000	$49,000	$19,700	$44,600
--Total Bridge Construction				
bridges	77	53	29	42
cost	$72,900	$53,000	$26,900	$51,100

Objectives and Measures	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995
Accident Rates				
Accidents/million Vehicle miles traveled (VMT)	1.6	1.6	1.5	1.4
Fatal accidents/100 million VMT	1.0	1.0	1.0	1.0
Injury accidents/million VMT	0.5	0.6	0.5	0.5
Property damage accidents/million VMT	1.3	1.3	1.3	1.3
Travel Time				
Percent congested Twin City Metropolitan Hwy. miles	33	34	35	36
Percent drivers satisfied with travel time	90	89	89	87
Miles of highway good or fair for bicycles	N/A	N/A	6,310	6,390
Air Quality				
Urbanized areas not in compliance	3	2	1	1
Environmental Responsibility				
Recycled Bituminous used in Construction				
tons	800,000	700,000	650,000	700,000
percent	18	20	22	23
Recycled Concrete used in Construction				
tons	315,800	147,000	105,000	122,500
percent	42	33	35	35
Highway Corridor Resources				
Landscape Partnerships				
projects	9	16	34	35
dollars	$70	$125	$200	$250
Positive Balance in State Wetlands (acres)	380	400	380	440
Designated Wildflower Routes				
number	6	6	6	8
miles	250	250	250	360
Program Delivery Efficiency				
Percent Design Engineering cost/construction dollars let	11	12	11	12
Percent Construction Engineering cost/construction dollars let	14	14	14	15

PROGRAM DRIVERS:

Vehicle Miles of Travel: Annual vehicle miles of travel increased by nearly 45 percent between 1980 and 1992 (see chart on next page). This growth has occurred on a stable system of streets and highways. Increasing travel demand may suggest a corresponding need for an increase in the number of traffic lanes in the system. Congestion grew on the Twin Cities Metropolitan Highway System from 27 percent of miles in 1984 to 34 percent in 1993.

Intermodal Surface Transportation Efficiency Act (ISTEA): This 1991 federal act provides a new framework for planning and decision making. ISTEA encourages multi-modal planning, has greater non-federal participation and control and a greater emphasis on cooperative planning of how limited federal dollars will be spent, and emphasizes environmental concerns, especially in the area of air pollution. This act presents an opportunity for early and continuous public involvement in the statewide long range plan and the Statewide Transportation Improvement Program (STIP). Public participation is an integral part of the investment process.


VEHICLE MILES TRAVELED in MINNESOTA
22
20
18
16
14
12
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
rural
urban
(billions of VMT)

Intelligent Transportation System (ITS): There has been a marked increase in research and development of new technologies to deal with safety and mobility problems. Mn/DOT, through Minnesota Guidestar is at the forefront of these studies which may eventually bring about significant changes in the efficiency and safety of the highway system we design and build.

Financial Resources: The uncertainty of funding increases for transportation and, in particular, state road construction greatly affects how well the program goals can be met and desired outcomes achieved.

Transit: The importance of people making a choice to drive alone to work and to other destinations will become more important as congestion grows in the Twin Cities Metropolitan Area. All forms of transit will need to be considered for the betterment of the broader public and the environment. Shifts in public attitudes are crucial yet difficult to effect. Existing land use favors auto mobility. The shift to transit will be small and gradual unless major oil shortages or fuel price increases occur. The state road construction program includes high occupancy vehicle lanes, other preferential treatments, transit facilitation projects, park and ride lots, and bicycle enhancements, in addition to conventional highway projects.

System Preservation: The mix of state road construction projects has emphasized preservation of the existing system over expansion type of programs and projects. As the system ages, and the shortage of resources becomes more acute, the shift to keeping roads smooth and passable becomes a higher priority than new/major construction or complete reconstruction. If this trend continues, congestion is likely to increase as more costly needs will not be addressed. Miles of congestion on the Twin Cities Metropolitan Highway system are projected to increase from 35 percent today to 42 percent by the year 2000.

Aging Population: As the population ages and the "baby boomers" gray, the percentages of older drivers will increase which will likely create the need for design standard changes that take into account diminished driver capabilities. The accessibility of health care also has become a larger factor in transportation services.

Partnerships: The development of partnerships with diverse interests will be critical to implementation of the long range plan through the statewide transportation improvement program (STIP). The focus of the area transportation partnerships should shift from the STIP to each area's long range plan. There will be a greater emphasis on partnering with local communities which need trunk highway improvements and have the means to help finance them. There also may be partnerships with private sector companies to create toll facilities when normal funding of improvements by conventional means (motor fuel taxes, motor vehicle registration fees and federal highway trust fund allocations) is projected to occur too far in the future.

Environment: Greater emphasis is being placed on balancing transportation needs with environmental concerns (air noise, water, etc.). Achieving this balance often means project delivery timelines are extended, project types change in terms of size and mode mix, and project costs for both engineering and construction tend to go up. Public involvement and agency involvement increases as Mn/DOT attempts to achieve an acceptable balance for all involved.

Social & Economic Analysis: Environmental analyses will reemphasize the equal importance of social and economic aspects of studies and projects.

AGENCY: Transportation, Department of
PROGRAM: 06 - State Road Construction

OBJECTIVE, MEASURE

Objective 1: To provide unobstructed state-aided public highway accessibility to all areas of the state.

Measure (1): Percent of population within 10 minutes or 5 miles of state aided public roads.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	99	99	99	-	-	-
Planned/Targets	99	99	99	99	99	99

Measure (2): Percent of wholesale and retail sales in the 65 significant economic centers served by unrestricted (10-ton) market artery routes.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	87	87	87	-	-	-
Planned/Targets	87	87	87	87	87	87

Measure (3): Percent of trunk highway bridges sufficient in load capacity, vertical and horizontal clearance. (Bridges with a sufficiency rating of 80 or greater)

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	87	87	87	-	-	-
Planned/Targets	-	-	-	87	87	87

Measure (4): Percent of state trunk highway system with good or excellent sufficiency rating index (combined measure of highway pavement quality, safety, and preservation characteristics).

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	70	70	72	-	-	-
Planned/Targets	70	70	69	71	70	69

DEFINITION, RATIONALE, DATA SOURCE:

A land area band width of ten miles is plotted on state roadway maps for state aided public highways and census density maps are examined to determine the percent of the population within ten minutes or five miles of state-aided public highways. State-aided public highways total 44,270 miles and are all at least partially financed by state collected highway user taxes; motor fuel tax and vehicle license fees.

The measure indicates availability of either a State Trunk Highway, County State Aid Highway or Municipal State Aid Street within a reasonable travel time for a preponderance of the state's population. The roadways that are eligible are in good condition and have high safety standards. These all weather roads provide fast, safe and efficient access and are a vital element in helping people maintain their quality of life.

The data sources include the census, geographic place maps and the map of the state highway system. The data is updated when new roadway maps and census data becomes available.

Minnesota Rule 8.815 defines significant economic centers based primarily on: population, manufacturing employment, wholesale and retail sales. A Market Artery Network (MAN) includes the designated state highways (market artery routes) that provide year round unrestricted access to these significant centers, ensuring predictable highway services. Market artery routes are designated by the Commissioner of Transportation. The MAN presently includes 4,775 miles or 40 percent of the state highway system.

The data source for the information needed to develop and maintain the list of significant economic centers are as follows: U.S. Census of Population, Retail Sales, Wholesale Sales, and Manufacturing Employment. The U.S. Economic, Transportation and Employment Census reports are released to the public every five years. The U.S.Census of Population is released every ten years.

The bridge inventory for all Minnesota bridges on state and local roads is maintained by the Mn/DOT Office of Bridges and Structures. As of July, 1994, there were 3,680 bridges on the Trunk Highway system 20 feet or greater in length. The sufficiency rating system is a federal rating system that provides an indication of the condition of a bridge and its adequacy to remain in service. Based on the data obtained from an actual field inspection, a sufficiency rating between 0-100 is calculated for each bridge with 100 being a structure in excellent condition. Bridges (20 feet or greater in length) with sufficiency ratings less than 80 are considered deficient and eligible for federal rehabilitation funding. Bridges (20 feet or greater in length) with ratings less than 50 are eligible for replacement funding.

The sufficiency rating (SR) is a measure of the condition, safety, and service of the state highways. It measures the physical and operating characteristics of the state highway system. Each segment of the state highway system is compared to a set of minimum tolerable conditions to arrive at its sufficiency rating. Thus, the sufficiency rating also identifies the deficiencies in the system.

The SR is based on information gathered from the construction plans for highway improvement projects and from field surveys of actual conditions. The data is resident in the Transportation Information System (TIS) maintained by Mn/DOT.

DISCUSSION OF PAST PERFORMANCE:

The existing systems of state highways, county state aid highways and municipal state aid streets was identified and codified in state legislation in the 1950's. The systems have changed little since then. They provide for the major inter-state, inter-county, inter-city and intra-city movements.

The market artery study focused on activities that are dependent on trucking and in particular heavy trucks. Thus, the economic indicators were selected for that purpose. The economic census reports are updated on a five year cycle. The market artery study is scheduled to be updated upon the availability of new data. The first cycle established the present performance measures. Past performance indicates that 40 percent of the state highways and four percent of the state's roadways connect centers where 87 percent of wholesale and retail activity occurs.

The percentage of Trunk Highway bridges with Sufficiency Ratings of 80 or greater has remained constant at 87% for 1992-1994. Due to the ongoing efforts of Mn/DOT to maintain existing bridges and replace aging structures.

The investment in highway construction has maintained a stable sufficiency rating for the state highway system. Minnesota's state and state-aided highway system has the lowest percent of poor roads in the nation -- only 1%.

An annual schedule that includes 500-600 miles of minor improvements and 60-80 miles of rehabilitation, replacement and expansion has kept the performance measures relatively stable.

PLAN TO ACHIEVE TARGETS:

A mature system exists and should continue to serve the targets. If it does not, Mn/DOT's plan is to construct the roads necessary to maintain accessibility to the system at the current level.

The targets do not vary greatly over short periods of time. Over a longer term the share of economic activity will increase in significant centers. Should new significant centers emerge, Mn/DOT will, if funding allows, expand the Market Artery Network to maintain service to areas with 87% of the state's wholesale and retail sales. The short term targets will not vary due to the timeliness of the data.

Mn/DOT Districts will continue to schedule Bridge Improvement (BI) and Bridge Replacement (BR) projects to repair or replace deteriorating structures. Additionally, district maintenance forces continually perform routine preventive maintenance to extend the service life of existing bridges (refer to the State Road Operations Program). The target goals reflect the intention to preserve the overall present condition of our Trunk Highway bridge network to prevent a decline.

OTHER FACTORS AFFECTING PERFORMANCE:

Redistribution of population and population density are beyond Mn/DOT's direct control. Increasing urbanization may make it more difficult to provide reasonable accessibility to all parts of the state in a similar fashion.

Population and business growth throughout the state affects the designation of significant centers and market artery routes. The availability and reliability of the data will affect the development of the performance measures. Local land use decisions also affect the results.

The primary factor that affects the ability to achieve the performance measures is funding for bridge construction and maintenance. Funds for all types of transportation projects and maintenance activities must compete with one another.

OBJECTIVE, MEASURE

Objective 2: Preserve and extend the useful life of the infrastructure.

Measure (1): Pavement Quality Index. (0 = worst possible, 4.5 = best possible)

Actual Performance State Highway	%VMT	Lane Miles	FY92	FY93	FY94	FY95	FY96	FY97
Principal Arterials	78%	14780	3.3	3.3	3.3	3.2	3.1	3.0
Minor Arterials	20%	11700	3.2	3.1	3.1	3.0	2.9	2.8
Collectors and Local	2%	2470	3.1	3.1	3.0	2.9	2.8	2.7

Measure (2): Key Construction accomplishments.

Road Resurfacing and Reconditioning:

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Miles	521	616	605	-	-	-
Cost	$63,900	$62,300	$78,400	-	-	-
Planned/Targets						
Miles	418	554	576	487	474	468
Cost	$52,900	$65,200	$57,500	$67,500	$58,000	$55,000

Major Road Construction and Reconstruction:

Actual Performance						
Miles	86	127	94	-	-	-
Cost	$107,200	$123,300	$104,100	-	-	-
Planned/Targets						
Miles	79	91	104	58	88	119
Cost	$93,200	$125,500	$114,000	$111,700	$80,100	$142.[illegible]

Total Road Construction:

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. [illegible]
Actual Performance						
Miles	607	743	699	-	-	-
Cost	$171,200	$185,000	$182,500	-	-	-
Planned/Targets						
Miles	497	645	680	545	562	587
Cost	$146,100	$190,700	$171,500	$179,200	$138,100	$197,600

Bridge Improvement:

Actual Performance						
Bridges	36	22	19	-	-	-
Cost	$15,900	$5,000	$7,200	-	-	-
Planned/Targets						
Bridges	-	-	-	20	40	17
Cost	$15,200	$8,200	$15,000	$6,500	$24,400	$11,400

Bridge Replacement:

Actual Performance						
Bridges	41	31	10	-	-	-
Cost	$57,000	$49,000	$19,700	-	-	-
Planned/Targets						
Bridges	36	22	29	22	13	17
Cost	$47,000	$45,600	$23,200	$44,600	$17,500	$31,000

Total Bridge Construction:

Actual Performance						
Bridges	77	53	29	-	-	-
Cost	$72,900	$54,000	$26,900	-	-	-
Planned/Targets						
Bridges	-	-	-	42	53	34
Cost	$62,200	$53,800	$38,200	$51,100	$41,900	$42,400

DEFINITION, RATIONALE, DATA SOURCE:

Pavement Quality Index (PQI) is an indicator of the overall quality of a highway's driving surface. The range of PQI values is from 0 for the worst possible to 4.5 for the best possible --"The higher the number the better the pavement." A road with a PQI of 3.2 is one that highway users rarely find objectionable. The indicator shows preservation of the overall quality of the roadway driving surface of the state's highway system through investment strategies.

Each road segment of the State Highway System is rated for PQI once every two years. Data is stored in the Condition Rating file of the Transportation Information System database. The data is available for various types of roads on the Trunk Highway system with the percentage of vehicle miles travelled (VMT) on each system.

The investment in a variety of construction solutions for similar problems permits a broad base of improvements to the system. The ability to preserve the entire system rather than making large investments in small portions of the system is necessary to provide service to diverse geographic areas of the state, its people and businesses.

The key construction accomplishments are the miles of road improved and the number of bridges improved or replaced.

The investment in the state trunk highway system is based on a fifty year life cycle for most aspects of the highway system. The life cycle management of the investment in highway improvements indicates that at least 400 miles of minor improvements and 210 miles of rehabilitation are necessary each year to maintain a fifty year investment cycle. Since the existing system is not on a fifty year cycle, a catch up provision of 100 miles/year for twenty years would be necessary. Improvements to the system of approximately 30 miles per year also are necessary. The 50 year life cycle needs far outweigh the revenues available. Preservation of the existing system therefore becomes the highest priority. A balance of preservation and rehabilitation is necessary to extend the useful life of the highway system

DISCUSSION OF PAST PERFORMANCE:

State "PQI" ranking: Minnesota's state and state-aided highway system has the lowest percent of poor roads in the nation -- only 1%. As mentioned under the first objective, investment in highway construction has maintained stable road and bridge sufficiency ratings for the state highway system.

PLAN TO ACHIEVE TARGETS:

A departure from this past performance is evident in the anticipated program. A change in the investment pattern will be necessary to maintain the existing condition of the system. The guidance for developing the statewide transportation improvement program (STIP) will be based on the performance measured in future years and goals for the performance measures.

OTHER FACTORS AFFECTING PERFORMANCE:

Factors affecting this index include availability of funds and priority of projects. Different sections of highway can have dramatically different investment costs per mile to construct, reconstruct or maintain due to varying traffic volumes, soil and drainage conditions, bridges, business interruptions, availability of nearby alternate routes and their traffic volumes, need to preserve historical sites and/or preserve a neighborhood's character as well as many other factors.

The impact of public participation in the program development and project development processes is a major factor in determining the ability to maintain or extend the life of the highway system. The ability of elected officials to provide adequate, stable funding also is critical.

OBJECTIVE, MEASURE

Objective 3: Maintain the state's low accident rates.

Measure (1): Total accidents per million vehicle miles traveled on state highways.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	1.6	1.6	1.5	-	-	-
Planned/Targets	1.5	1.5	1.5	1.4	1.4	1.4

Measure (2): Total fatal accidents per 100 million vehicle miles traveled on state highways.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	1.0	1.0	1.0	-	-	-
Planned/Targets	1.0	1.0	0.9	1.0	0.9	0.9

Measure (3): Total injury accidents per million vehicle miles traveled on state highways.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	0.5	0.6	0.5	-	-	-
Planned/Targets	-	-	-	0.5	0.4	0.4

Measure (4): Total property damage accidents per million vehicle miles traveled on state highways.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	1.3	1.3	1.3	-	-	-
Planned/Targets	-	-	-	1.3	1.2	1.2

DEFINITION, RATIONALE, DATA SOURCE:

Total Accident Rate=the total number of crashes occurring each year for all vehicles (per million vehicle miles) on all state highways by type of state highway. Fatal Accident Rate=the total number of fatal accidents occurring each year for all vehicles on all the states highways divided by the total miles of travel (expressed in 100's of million of vehicle miles) for all vehicles on all the states highways.
The data is reported by state and local agencies and tabulated by the Department of Public Safety. Data is reported annually in "Crash Facts" and current and historical data is maintained on the Transportation Information System (TIS) computer files. Only four states had fewer fatal motor vehicle accidents per 100 million vehicle miles in 1993.

The measures indicate the relative safety of travel on Minnesota's State Highway system.

DISCUSSION OF PAST PERFORMANCE:

The fatality rate within the state has been declining for a lengthy period of time. The safety rate for fatal accidents has improved through better vehicles and roadways. A major factor has been the increase in the Emergency Medical Technicians

in the communities around the state. These quick response teams have saved many lives and contributed to the safety record of the state. Improvements to the vehicle and changes in attitudes about alcohol, speed, and seat belts also have been an asset to the safety record. An emphasis on safety in roadway design also has been a factor in safety.

PLAN TO ACHIEVE TARGETS:

The continued analysis of the benefits and costs will determine the most effective safety standards for roadway improvements. An effective focus on personal injury and property damage accidents will become more of a priority now that fatal accidents are literally random statistically.

OTHER FACTORS AFFECTING PERFORMANCE:

Factors such as driver behavior, vehicle condition, travel speeds, enforcement of traffic laws, enforcement in sparsely populated areas, weather conditions, and availability of emergency life support services can affect the indicators. In the future, the driver will continue to be the focus for education efforts regarding seatbelts, speed, and alcohol in order to improve the safety record. Mn/DOT's State Road Operations Program also contributes to the safety measures, as shown on page 87 under "State Road Construction objectives shared with State Road Operations." The Department of Public Safety, and in particular the State Highway Patrol, play a key role in many of these factors affecting the indicators.

OBJECTIVE, MEASURE

Objective 4: Provide reasonable travel time for travelers.

Measure (1): Percent of the Twin Cities Metropolitan Highway System miles with congestion.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	33	34	35	-	-	-
Planned/Targets	33	34	35	36	37	38

Measure (2): Percent of drivers satisfied with travel time.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	90	89	89	-	-	-
Planned/Targets	89	89	88	87	86	86

Measure (3): Miles of trunk highway rated "good" or "fair" for bicycle travel.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	-	-	6,310	-	-	-
Planned/Targets	6,100	6,180	6,260	6,390	6,470	6,560

DEFINITION, RATIONALE, DATA SOURCE:

Congestion occurs if a segment of freeway is above its capacity for more than two hours a day. Congestion levels are determined by comparing segment peak period traffic data with the segment capacity. The capacity is a function of the roadway's number of lanes, design, and traffic characteristics. The congestion measures shown are based on a liner projection from a 1986 Mn/DOT study of actual Twin Cities Metropolitan Highway System congestion in 1984 and projected congestion for the year 2000.

The first measure indicates the extent of travel delays experienced by Twin Cities Metropolitan Highway travelers. Since the Twin Cities contains roughly half of the state's population in 1.5 percent of the land area, the metro freeway congestion affects significantly more people than congestion occurring elsewhere in the state. To keep all traffic moving freely and quickly in the metro area, with its high population density and resultant high number of intersecting roads, numerous costly bridges would be required so that intersections are not "at-grade" and traffic on one road can travel over the other without causing delays. It is generally recognized that it is ineffective, inefficient, and cost prohibitive to build freeways to serve peak period single occupant automobile travel.

Great emphasis is being placed on transit, high occupancy vehicles (HOV), ramp metering, "Highway Helper" services, and new technology to limit or manage freeway congestion.

Mn/DOT's Traffic Management Center (TMC) currently operates 353 ramp meters (shown to increase capacity, reduce accidents and congestion, and positively impact the environment). From 1974 to 1988, ramp metering increased peak period speeds 35% from 34 mph to 46 mph and reduced accidents 38 percent from 3.40 per million vehicle miles traveled to 2.11 on I-35W between downtown Minneapolis and County Road 42 in Burnsville. An additional 40 ramp meters will be installed this year throughout the metro area, with a long term target of 490 meters by 1998. On I-394, during peak morning hours, 106 inbound transit buses carrying 3200 passengers use the reversible HOV lanes. Mn/DOT operates 49 HOV ramp meter bypasses in the Metro Area and will build 40 more by the end of 1995. Highway Helper motorist assists increased

from 8,234 in 1992 to 12,798 in 1993, minimizing congestion by quickly removing stalled vehicles and occupants from driving lanes.

The basic data is collected from Department of Transportation loop detection traffic counters (hour readings), automatic traffic recording stations (monthly readings), traffic flow maps (yearly).

The second measure, satisfaction with travel time, includes all aspects of travel; drivers or passengers, for all types of vehicles or road conditions. To continually improve service to HOV and transit facilities, Mn/DOT participates in an interagency cooperative effort, "Team Transit", which plans and implements infrastructure changes that promote operational efficiencies.

The "percent drivers satisfied" figures were derived from market research telephone interviews (800 randomly sampled Minnesota citizens) which asked, "How satisfied are you with how long it takes to get where you want to go?" The University of Minnesota, Center for Survey Research included the "travel time satisfaction" question in their omnibus surveys in 1989 and 1992. Results are statistically accurate to plus or minus 3.5 percent of a survey of the entire population.

The third measure, relative quality and perceived safety for bicycle traffic (mainly on rural sections of trunk highway) is determined by suitable widths of paved shoulder. The suitability is a function of number of roadway lanes and lane width, motor vehicle traffic volumes and paved shoulder width. Data is collected from Mn/DOT's Transportation Information System (TIS).

DISCUSSION OF PAST PERFORMANCE:

The Texas Transportation Institute produces information on the level of congestion on freeways and principal arterials in 30 urban areas in the United States. A roadway congestion index shows that Minneapolis-St. Paul metro area ranked 5th lowest in terms of congestion in 1990.* This represented a 26 percent increase in congestion since 1982. The study points out that many urban areas are falling further and further behind in mitigating congestion.

In a related study, the 1990 census data looked at the average commute times. In a comparative study of the twenty-five largest metropolitan areas, the Twin Cities with a travel time for commuting of 21.1 minutes, was the second lowest of the twenty-five.** Travel time had increased 4.9 percent from 1980 to 1990 by this measure. Given this data, Twin Cities traffic problems, while a source of concern, are not currently as bad as most other large urban areas.

The number of good or fair trunk highway miles has been increasing for bicycle users. Preliminary data for 1994 indicates that the actual miles are greater than the prior projection.

* Source: "Estimates of Urban Road Congestion-1990," Texas Transportation Institute.
**Source: Metropolitan Council, "How Does the Twin Cities Area Compare?" - April 1993.

PLAN TO ACHIEVE TARGETS:

Mn/DOT plans to do "Team Transit" projects to allow buses to bypass auto congestion, and build some capacity improvements where long term commitments are in place. In addition, Mn/DOT will implement spot safety and capacity improvements, encourage telecommuting, carpooling, vanpooling, transit use and a variety of transportation system management strategies. Rapid incident detection and clearing is the aim of the "Highway Helper Program". Incidents account for a relatively high percentage of total congestion. Road pricing is also being considered as an innovative strategy to test since some evidence exists that only 44 percent or less of the afternoon peak-period traffic is work-to-home or linked to that journey. Intelligent Transportation Systems (ITS) projects are being developed which may eventually help motorists avoid congested areas by providing them with real-time information about congestion and alternate routes.
The Mn/DOT State Bicycle Transportation System Plan (1987) is used by Mn/DOT District Offices to guide implementation of bicycle-friendly highway development.

OTHER FACTORS AFFECTING PERFORMANCE:

The expected decline in peak hour mobility is reasonable but not necessarily desirable. It is reasonable because peak period traffic volumes continue to grow at a higher rate than new freeway capacity is added. More auto drivers travel alone and fewer people use transit in all forms, despite efforts to encourage high occupancy vehicle forms. Low density land use development patterns continue to require a high degree of auto mobility. At the same time, sufficient funding to add significant amounts of new capacity is unavailable, public concern about major facility additions sometimes occurs (example, I-35W expansion), and environmental issues loom large when Mn/DOT considers adding new capacity (examples: The Clean Air Act and ISTEA discourages adding new capacity unless for non-solo drivers, neighborhoods many times consider wider roads disruptive). The net effect of these factors is that congestion is likely to grow -- at least in the foreseeable future. Satisfaction with travel times will likely go down as well.

Decreased congestion may or may not be desirable, depending on whether the increasing congestion encourages changes in solo driving patterns of behavior, transit use, and/or development patterns. It would be undesirable if congestion continues to grow, and along with it environmental and other problems actually worsen without the intended mode shifts. The general public may expect relatively congestion free travel all day long, but may not get that type of service during rush hours. The federal Intermodal Surface Transportation Efficiency Act (ISTEA) encourages the capacity constrained approach noted above because of clean air concerns.

The implementation for increasing the "good" or "fair" trunk highway miles for bicycles is largely a part of road construction planning and programming. Performance is affected by the willingness of District personnel, availability of funds for trunk highway construction, right of way and other constraints. As motor vehicle traffic volumes increase, suitability may be reduced in some locations. The increased use of rumble strips on non-Interstate highway shoulders also reduces suitability but has not been included as a measure factor. More emphasis is being placed on urban bicycle traffic; this is not well reflected in this state-agency measure since Mn/DOT has little control over urban county and city decisions regarding their roads and bike path development.

OBJECTIVE, MEASURE

Objective 5: Avoid or mitigate the negative impacts of the transportation system on air quality.

Measure (1):	Number of Urbanized Areas not in compliance with Federal Standards for a safe air quality environment.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	3	2	1	-	-	-
Planned/Targets	3	2	1	1	0	0

DEFINITION, RATIONALE, DATA SOURCE:

Measuring compliance with federal national ambient air quality standards for carbon monoxide (CO) emissions. Urbanized Areas are monitored for compliance by the Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA). Two violations at a monitoring location in one year determine non-compliance for the area.

Transportation sources account for approximately 70 percent of CO emissions. Mn/DOT's congestion management practices, technical support and coordination efforts with the Minnesota Interagency Air Quality/Transportation Planning Task Force help ensure compliance with federal standards and rules.

Measure indicates compliance with Federal Standards for a safe air quality environment. State Road Construction Program attempts to minimize the negative impact of automobile use by providing roads that are designed and managed to keep vehicles moving at a constant rate to reduce emissions and disperse, rather than concentrate, pollutants in the air. This is done by controlling traffic flow on freeways with ramp entrance meters.

Data is collected and reported by the Environmental Protection Agency and the Minnesota Pollution Control Agency on an annual basis.

DISCUSSION OF PAST PERFORMANCE:

Since 1992, two areas in Minnesota, St. Cloud and Duluth, have been redesignated to attainment status (i.e. in compliance with federal metropolitan air quality standards by the U.S. Environmental Protection Agency). No violations of CO standards have been measured in the Twin Cities since 1992.

PLAN TO ACHIEVE TARGETS:

Minnesota plans to request redesignation of the Twin Cities to attainment status in 1995.

OTHER FACTORS AFFECTING PERFORMANCE:

Factors affecting compliance include weather conditions (temperature inversions), driver patterns and behaviors, establishment and revision of national air quality standards.

OBJECTIVE, MEASURE

Objective 6: Be environmentally responsible in purchase, use, storage and disposal of resources.

Measure (1): Recycled bituminous used in TH road construction.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Tons	800,000	700,000	650,000	-	-	-
Percent	18	20	22	-	-	-
Planned/Targets						
Tons	875,000	950,000	1,050,000	700,000	750,000	800,000
Percent	18	20	22	23	23	23

Measure (2): Recycled concrete used in TH pavement construction.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Tons	315,800	147,300	105,000	-	-	-
Percent	42	33	35	-	-	-
Planned/Targets						
Tons	290,000	300,000	310,000	122,500	140,000	175,000
Percent	20	23	27	35	35	35

DEFINITION, RATIONALE, DATA SOURCE:

Measure one indicates the number of tons of recycled asphalt pavement (RAP) used in Trunk Highway road construction and the RAP used as a percent of total asphalt (bituminous) used in Trunk Highway road construction. The program is designed to promote and increase the use of waste material for cost savings and environmental reasons. Project summary data collected on a calendar year basis was used.

Measure two indicates the concrete pavements that are removed and meet current aggregate quality specifications that are recycled into new concrete pavements. The source of the original aggregate can be traced through the roadway history and pavement core reports.

DISCUSSION OF PAST PERFORMANCE:

Actual tonnages in measure one were lower than projections due to a smaller reconstruction program and a larger resurfacing and reconditioning program.

Concrete pavements that have been recycled into new concrete pavements seem to be performing well.

PLAN TO ACHIEVE TARGETS:

To continue promotion of RAP use in hot mix asphalt as well as expanding use in aggregate base and cold-in-place applications.

Recycling of concrete pavements into new concrete pavements most likely will not increase much from the current projections. All existing concrete pavements that meet the requirements are being recycled. Recycling of concrete pavements is a relatively new program (15 years) and is continuously being studied. Approximately 100% of removed concrete pavement is recycled into new construction material. Pavements that are not recycled because of failing qualities or fine particle consistency are used for base or shoulder material. The high cost of disposal of material promotes recycling.

OTHER FACTORS AFFECTING PERFORMANCE:

Mn/DOT has initiated several cold-in-place (CIP) recycle projects where an existing asphalt pavement is picked up, crushed and relaid in place as a pavement base. In essence, this provides for 100% RAP usage without significant material handling or stockpiling of recyclable material. The concept is relatively new with limited applications but provides an opportunity to increase RAP usage and decrease existing stockpiles.

OBJECTIVE, MEASURE

Objective 7: Encourage activities that preserve or enhance scenic, historical, recreational or archeological resources along the state highway corridors.

Measure (1): "Landscape Partnership" projects per year.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Projects	9	16	34	-	-	-
Dollars	$70	$125	$200	-	-	-
Planned/Targets						
Projects	9	16	34	35	38	38
Dollars	N/A	N/A	N/A	$250	$300	$300

Measure (2): Positive balance in state wetlands bank (acres).

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	380	400	380	-	-	-
Planned/Targets	479	478	487	440	390	340

Measure (3): Number and miles of wildflower routes.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Routes	6	6	6	-	-	-
Miles	250	250	250	-	-	-
Planned/Targets						
Routes	6	8	10	8	8	10
Miles	250	336	420	360	360	360

DEFINITION, RATIONALE, DATA SOURCE:

Measure one indicates the number of "Minnesota Community Roadside Landscape Partnership Program" projects. The program is designed to provide technical assistance to communities that are interested in the preservation, beautification and enhancement of scenic state highway right of way within their communities. The program supports the Federal Highway Administration Environmental Policy Statement by:

- Actively seeking opportunities to protect and enhance the environment.
- Seeking partnerships, joint ventures and a wide range of innovative involvement techniques.
- Asking local governments, as well as the state, to take leadership roles concerning environment and transportation.

Measure one also indicates two major service goals:

- Roadside Enhancement and Beautification.
- Community Improvement and Involvement.

Through partnerships, Mn/DOT has fostered over $3.0 million dollars of roadside landscape enhancements, while spending one-third that amount in Trunk Highway Fund dollars.

Measure two indicates the acres of wetlands that Mn/DOT has created statewide. The department has created a greater number of acres of wetlands in its road construction activities than it has displaced.

Measure three indicates the total number of highway routes and corresponding lane miles where wild flowers and native grasses have been planted and shows an improved environment due to restoration of endangered grass and wildflower species, improved scenic and recreational resources along the highway corridor and driver satisfaction.

Mn/DOT Office of Environmental Services measures the number of approved projects each year and the number of wildflower routes and mileage.

DISCUSSION OF PAST PERFORMANCE:

Measure two includes the effect of a delay in The Parnel Impoundment Project, which would have made it inexpensive to create a large number of wetland acres. The project was delayed by the Army Corps of Engineers when they redirected their 1994 efforts to flood research in the Red River Valley. This action reduced the 1995 projection for the positive balance in the state wetlands bank from 1,130 to 443 acres, a figure much closer to recent balances.

The actual number and miles of wildflower routes (measure three) were considerably below prior projections for FY93 and FY94 since the Minnesota Trade and Economic Development agency is no longer assisting Mn/DOT in designating wildflower routes.

PLAN TO ACHIEVE TARGETS:

Mn/DOT will undertake actions to avoid or mitigate highway-related impacts to air quality, water quality, wetlands, and noise-sensitive areas.

OTHER FACTORS AFFECTING PERFORMANCE:

The availability of funding, as well as extreme weather conditions affect the department's ability to influence outcomes.

OBJECTIVE, MEASURE

Objective 8: Efficient design and monitoring of construction of Trunk Highways.

Measure (1): Percent design engineering cost*/state road construction dollars let.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	11	12	11	-	-	-
Planned/Targets	11	11	10	12	12	12

Measure (2): Percent construction engineering cost**/state road construction dollars let.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	14	14	14	-	-	-
Planned/Targets	13	13	14	15	15	15

*Design engineering costs include the preconstruction and contract administration costs directly attributable to projects by central office functional groups.

**Construction engineering costs include the preconstruction and contract administration costs directly attributable to projects by district and metro division functional groups.

DEFINITION, RATIONALE, DATA SOURCE:

To ensure that as many construction and maintenance projects (actual capital investments in infrastructure) as possible can be completed with Trunk Highway Funds, the State Road Construction Program seeks to spend only that amount necessary on engineering to meet the goals spelled out for it in statute, while producing the highest quality design plans and providing thorough monitoring of construction quality. Traditionally, engineering costs have been looked at in proportion to the corresponding construction activity by the construction industry to determine efficiency.

DISCUSSION OF PAST PERFORMANCE:

Mn/DOT is increasingly responsible for completing smaller projects which result in higher production costs than larger projects which have greater economies of scale with regard to engineering. Inflation in engineering labor costs has exceeded inflation in the construction industry due to construction's lower wage increases and productivity improvements through mechanization. Mn/DOT employees are seeking out more public and agency involvement in environmental issues than ever before. Design and construction engineering now must perform more costly multi-modal analysis. Overall, Mn/DOT has also assumed a higher level of involvement under the Intermodal Surface Transportation Efficiency Act (ISTEA). The Federal Highway Administration has delegated certain reviews, approvals, and inspections to Mn/DOT for certain types of projects, thus increasing the department's workload. In addition, because the substantial number of recent retirements, there are fewer experienced employees than five years ago, requiring more training (expenditure of time and money).

PLAN TO ACHIEVE TARGETS:

Attempts will be made to keep costs at a minimum through automation improvements, quality improvement, programs and efforts partnering, project development process improvement, and the use of better project management techniques and tools.

OTHER FACTORS AFFECTING PERFORMANCE:

The Federal government is increasingly relying on states to carry out design and construction activities in which the Federal government previously had a role, e.g. Minnesota Acceptance Plan, Minnesota Transportation Plan procedures. Also, under ISTEA, increased planning with public and governmental unit involvement is required in deciding what projects are to be included in the construction program. The transition to a new way of doing business has been time consuming. As communications and relations specified by the ISTEA continue, many of the problems are being resolved.

SUMMARY

AGENCY: **Transportation, Department of**
PROGRAM: **07 - State Road Operations**

EXPENDITURES AND STAFFING (F.Y. 1994)

	($ in Thousands)	
Total Expenditures:	$175,002	(15% of the department's budget)
From State Funds	$174,974	
From Federal Funds	$28	
Number of FTE Staff:	2684.8	(53% of the department's staff)

PROGRAM GOALS:

The State Road Operations program has adopted the following five goals based on Minnesota Statute 174.01 Subdivision 2:

- Fiscal Stewardship - a state highway system that utilizes and extends the value of transportation investments.
- Accessibility - a broad based system of state-aided highways, which provides access to all areas of the state.
- Safety - a safe highway system for all users.
- Economic Development - a preserved or improved standard of living for Minnesota citizens through reliable and predictable transportation systems and services and a reduced total cost of transportation.
- Environmental Stewardship - an environment that is preserved and enhanced through proactive programs.

DESCRIPTION OF SERVICES:

Program Purpose: The purpose of the State Road Operations (SRO) program is to manage the investments that maintain the quality of travel on Minnesota's 12,100 mile State Trunk Highway system.

Investments are those maintenance expenditures that make the 28,840 lane mile Minnesota Trunk Highway system one of the best in the nation. Highly effective and timely sanding, snow and ice removal during the winter months, with a special focus on roads with high traffic counts (in the interest of safety), provides Minnesota with one of the lowest accident rates in the nation -- despite a harsher climate than most states.

During the warmer months, SRO attends to patching, repairing, bridge-painting and overlaying of the highway system. This provides users with a smooth ride and safe cargo movement while preserving the existing physical road and bridge infrastructure. Automobile and truck suspension components experience less wear when the driving surfaces are kept as smooth as possible.

Throughout the year, State Road Operations activities (signing, signaling, lighting, pavement painting, guardrail and median repairing, detour management, mowing, and radio dispatching of highway helper and obstruction removal crews) provide the motoring public and truckers with highways that are safe and convenient to use. Truckers are also provided with over-weight permits, over-dimension permits and route determination. Beginning in FY'96 the Metro Traffic Management Center

will be part of the State Road Operations program, instead of Highway Program Delivery program, to better reflect its operations- oriented mission. The Metro Traffic Management Center monitors the freeway system with hundreds of video cameras. This ensures that incident responses occur quickly and efficiently, and that commuters are informed of potential delays and alternate routes. Highway users can rely on consistent quality and minimal trip times due to SRO's conscientious employees, modern equipment and well-maintained support buildings. SRO maintenance employees promptly and effectively respond to all constituent concerns.

The above services are provided through 7 greater Minnesota districts, the Metropolitan division, and 13 maintenance areas located throughout the state. In addition, State Road Operations operates a central equipment shop at Fort Snelling, a truck services center in South St. Paul and will soon operate the Metro Traffic Management Center in Minneapolis.

The level of service provided above is determined through periodic internal review as well as public survey and safety forums throughout the state. Input is also received through safety rest area surveys where comments from the traveling public are collected for review and monitoring. The services result in the safe uninterrupted travel of constituents, and the provision of a consistent level of service statewide that is responsive to clients expressed needs.

BACKGROUND INFORMATION:

Measure	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995
Maintenance Preservation Accomplishments.				
Bridges repaired by maintenance				
Number	N/A	N/A	N/A	N/A
Total cost	$5,352	$6,032	$5,661	$5,700
Maintenance road repair cost per mile	$3.9	$3.9	$3.6	$6.0
Highway Accessibility				
Snow and ice removal percent satisfied	92	92	91	91
Environmental Responsibility				
Tons of deicing salt per million VMT	N/A	N/A	N/A	N/A
Highway Corridor Resources				
Roadside appearance percent satisfied	88	88	87	87

PROGRAM DRIVERS:

State Road Operations, perhaps more than any other Mn/DOT program, is driven by highway user's needs. Highway users provide feedback to Mn/DOT in a wide variety of ways. Today, highway users are particularly concerned about getting the most possible useful life from their existing infrastructure to keep their highway user gasoline tax and motor vehicle registration fees low.

Highway users want smooth roads to minimize trip and goods delivery times, minimize wear to their vehicles suspension, as well as to provide a comfortable ride. They expect signs and pavement markings to be sufficient in number, mounted correctly and readable day or night. Environmental concerns are increasingly causing persons to want minimal use of road salt, and roads and roadsides kept free of litter and other ugly or hazardous debris.

With families comprised more and more of two full-time workers or single parents and businesses relying more and more on "just-in-time" inventory practices, State Road Operations snow and ice control and traffic congestion management services take on particular significance with these time-conscious highway users.

Mn/DOT's State Road Operations group continuously seeks more and better ways to obtain unbiased feedback from highway users so that their program is "driven in the right direction".

AGENCY: Transportation, Department of
PROGRAM: 07 - State Road Operations

OBJECTIVE, MEASURE

Objective 1: Preserve and extend the useful life of the infrastructure.

Measure (1): Maintenance preservation accomplishments.

Bridges repaired by maintenance:

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance						
Number	N/A	N/A	N/A	-	-	-
Total Cost	$5,352	$6,032	$5,661	-	-	-
Planned/Targets						
Number	-	-	-	-	-	-
Total Cost	-	-	-	$5,700	$5,700	$5,700

Cost of road repair per Trunk Highway mile performed by maintenance:

Actual Performance	$3.9	$3.9	$3.6	-	-	-
Planned/Targets	$3.8	$3.8	$4.7	$6.0	$4.8	$4.8

DEFINITION, RATIONALE, DATA SOURCE:

The cost of bridge repairs comes from the Statewide Summary of Maintenance Operation Costs report in the Mn/DOT cost accounting system and includes the cost of Mn/DOT's bridge crews as well as repair work contracted out. The current system cannot tell us how many bridges were repaired, but a new cost accounting system to be installed by FY97 or sooner, will be able to obtain that information. The cost of road repairs comes from the same cost accounting report and the per mile rate is obtained by dividing the cost by the 12,100 total trunk highway miles. These are good measures of performance because they isolate the dollars invested by maintenance that actually extend the life of the infrastructure (example: patching roads and painting bridges prevents destructive moisture from entering a road or contacting bridge steel while mowing roadsides does not). The investments also maintain a smooth driving surface. (see... Shared Objective with State Road Construction, on the last page of this program narrative and the State Road Construction program annual performance report.)

DISCUSSION OF PAST PERFORMANCE:

The percent trunk highway bridges sufficient (Objective 1, Measure 3 in the State Road Construction Program Annual Performance Report) has been maintained at 87% in part due to the bridge repair activity shown above. The cost of road repair per mile in FY94 was $1.1 lower than the prior projection. A project priority list has been developed by management to make sure the most vital repairs are completed first. The dollars not invested in FY94 will be invested in FY95. The percent of state trunk highway system with a good or excellent sufficiency index (State Road Construction Program, Objective 2, Measure 2) has been maintained at around 70% in part due to the road repair activity shown above.

PLAN TO ACHIEVE TARGETS:

Bridge repair activity is expected to continue at approximately the same level as in recent years. The percent trunk highway bridges sufficient (Objective 1, Measure 3 in the State Road Construction Program Annual Performance Report) is projected to remain at 87%. The State Road Operations Program plans to invest the road repair dollars in FY95 that were not invested due to project prioritization work in FY94 and then resume annual investment levels similar to the average of the FY94 and FY95 levels. The percent of state trunk highway system with a good or excellent sufficiency index (State Road Construction Program, Objective 2, Measure 2) is projected to remain at around 70%.

OTHER FACTORS AFFECTING PERFORMANCE:

Factors affecting this index include availability of funds and priority of projects. An important aspect of highway investment activity is that different sections of highway can have dramatically different costs per mile to maintain due to varying traffic volumes, soil and drainage conditions, bridges, business interruptions, availability of nearby alternate routes and their traffic volumes, need to preserve historical sites and/or preserve a neighborhoods character as well as many other factors. Year to year cost per mile for individual highway segments vary greatly depending on the projects scheduled for a particular year, so an overall system-wide average cost per mile is used as a measure instead.

OBJECTIVE, MEASURE

Objective 2: Provide unobstructed state-aided public highway accessibility to all areas of the state.

Measure (1):	Percent of population satisfied with snow and ice removal along major highway routes.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	92	92	91	-	-	-
Planned/Targets	N/A	N/A	N/A	91	91	90

DEFINITION, RATIONALE, DATA SOURCE:

Snow and ice control satisfaction information is from the University of Minnesota Omnibus survey of 800 randomly selected households. This question appears in the survey every third year. Statistics are accurate to within plus or minus 3.5% of those based on a survey of the entire population.

DISCUSSION OF PAST PERFORMANCE:

Mn/DOT has always prioritized snow and ice removal to achieve its safety goals, so the level of satisfaction has remained relatively constant. (See the earlier discussion of objectives shared with the State Road Construction Program.)

PLAN TO ACHIEVE TARGETS:

Mn/DOT hopes to continue the same snow and ice control performance as in the past. However, limited availability of funds for this activity (due to stable highway user tax rates and competing investment priorities) may cause a slight decrease in the public's satisfaction with snow and ice control.

OTHER FACTORS AFFECTING PERFORMANCE:

Counties and cities may vary their service levels, which could affect this measure since highway users cannot always determine which roads are "major highways" or which level of government owns a particular road.

OBJECTIVE, MEASURE

Objective 3: Be environmentally responsible in purchase, use, storage and disposal of resources.

Measure (1):	Tons of deicing salt per million vehicle miles traveled, adjusted by the weather index.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	N/A	N/A	N/A	-	-	-
Planned/Targets	-	-	-	N/A	N/A	N/A

DEFINITION, RATIONALE, DATA SOURCE:

While safety of the traveling public is the primary concern of snow and ice control efforts (see discussion of "Objectives shared with the State Road Construction Program" at the end of this program narrative), environmental responsibility is also a high priority. We are directing efforts to minimize salt usage in a way that will not adversely affect safe travel.

Mn/DOT's maintenance management system currently tracks deicing salt use, labor and equipment hours, material used, and application rates per accumulated lane miles of service (lane miles of service=total miles plow-spreader trucks are driven in a season). However, the total quantity of salt that needs to be used each year depends on the type of weather conditions experienced in a given year in each area of the state. Ideally, the weather that is about to enter an area and up to the minute pavement conditions should be used to provide the plow drivers with the correct sand and salt mixture for that weather forecast and pavement condition. Accurate timing of application will also minimize the annual accumulated lane miles of service required. Therefore, Marquette University was contracted to research the development of a chemical demand weather index that would allow Mn/DOT to relate salt use to an objective needs measurement. This chemical demand weather index is scheduled to be developed by Fiscal 1995.

Deicing salt can contaminate groundwater and have a negative effect on certain plants. The cost of deicing salt for Minnesota is approximately 180 thousand tons x $26 per ton = $5 million per year. Deicing salt also corrodes road and bridge components made of metal and metal motor vehicle components.

The data sources for the information needed to develop and maintain this performance measure are the maintenance management system, weather data from road weather information systems, and National Weather Service data and forecasts.

DISCUSSION OF PAST PERFORMANCE:

Mn/DOT has only recently developed the ability to measure tons of salt use per accumulated lane miles of service with its new maintenance management system. It is proving extremely beneficial in allowing plow drivers to select the proper mixture of sand, salt and rate of application based on examining the results experienced by their fellow drivers. Salt use was 13% below the FY91-93 average in FY94.

PLAN TO ACHIEVE TARGETS:

The installation of pavement weather sensors and development of the weather index will allow accurate timing of the plowing, sanding and salting service activity during each type of weather situation, to allow just-in-time crew scheduling and also a reduction in the need to sometimes service the same road multiple times during a given weather situation. Marquette University has completed an interim report showing the weather index project is on schedule. Mn/DOT will use the chemical demand weather index and sensors to develop a database of actual chemical use and actual road snow and ice conditions to determine the relationships between them in the first few years, and then establish targets for each. Plow drivers will then

be able to obtain information about what chemical mixtures are best and what road conditions exist, several times a day if necessary, depending on weather conditions.

OTHER FACTORS AFFECTING PERFORMANCE:

The weather index may not be fully tested and perfected for several years. Weather that affects road conditions varies widely across the 85,000 square miles of land and 12,100 Trunk Highway miles in Minnesota.

OBJECTIVE, MEASURE

Objective 4: Minnesota will encourage activities that preserve or enhance scenic, historical, recreational or archeological resources along the state highway corridors.

Measure (1):	Percentage respondents indicating they are satisfied with appearance (cleanliness) of roadsides along major highway routes.

	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Actual Performance	88	88	87	-	-	-
Planned/Targets	N/A	N/A	87	87	87	87

DEFINITION, RATIONALE, DATA SOURCE:

Data is from the University of Minnesota Omnibus telephone survey of 800 randomly selected households. The survey is accurate to within plus or minus 3.5% compared to a measurement of the entire population.

DISCUSSION OF PAST PERFORMANCE:

A 1990 litter survey benchmarked the amount of litter found along state highways. It was conducted prior to implementing the Adopt-a-Highway program and assisted in establishing a public awareness of the growing litter problem.

PLAN TO ACHIEVE TARGETS:

Public participation in the stewardship of roadsides will continue to be encouraged through the Adopt-a-Highway program. The goal of the program is two-fold: 1) to help pick-up litter on highway rights of way; and 2) to educate volunteers about the magnitude and recurring nature of the problem. When motorists drive past volunteer crews picking up litter, their level of satisfaction with roadside appearance may increase.

OTHER FACTORS AFFECTING PERFORMANCE:

Extreme weather conditions and availability of funds can affect performance. Also, the very existence of the Adopt-a-Highway program may increase the public's expectations.

NOTE: There are additional objectives and measures located in the State Road Construction Program that are joint objectives and measures of the State Road Operations and State Road Construction Programs. They are not repeated in this program in the interest of being concise. The following is a list of the additional objectives that apply to this program that can be found in the State Road Construction Section of this report:

State Road Construction (SRC) objectives shared with State Road Operations:

SRC OBJECTIVE 2: Preserve and extend the useful life of the infrastructure.

State Road Operations assists in keeping the road at its original capacity and prevents deterioration by means of joint renovation, crack sealing, pothole patching, and road restriction management.

SRC OBJECTIVE 3: Maintain the state's low accident rate.

State Road Operations strives to keep the public informed and safe through use of public service announcements, work zone safety education, advanced warning systems, traffic control devices, remote control vehicles, bright signs/markings and guardrails. In addition, they manage lane closures to minimally disrupt traffic, and they work to prevent the loss of friction on the roadways during inclement weather .

SRC OBJECTIVE 4: Provide reasonable travel time for travelers.

State Road Operations continues to emphasize preventative work rather than reactive. This directly impacts (reduces) travel disruption. In addition, they manage lane closures and use night crews to minimally disrupt traffic. They also work to prevent the loss of friction on the roadways during inclement weather.

APPENDICES

Agency Performance Report Process

Mn/DOT assembled a project team under the co-leadership of the Director of the Office of Financial Management and the Director of the Office of Measurement and Evaluation. Project team members worked closely with each of the department's budget program leadership groups (and staff) to develop the information contained in this report.

Data Sources, References

There are additional sources within Mn/DOT that are developing information that is critical to strategic planning and performance measurement:

A Minnesota Statewide Transportation Plan will be published in the final quarter of 1994. This plan identifies and recommends policy statements and strategies in three areas: 1) critical access to goods and services for all; 2) integrated, multi-modal transportation systems; and 3) transportation alternatives that support energy, access, economic, and environmental values. In each of these theme areas objectives and measures are stated.

Contact Person: Randy Halvorson

In the area of department-wide strategic management, progress has been made to the point that a phase one, Strategic Implementation proposal has been circulated to encourage Offices and Districts to submit projects that support the Department's Strategic Directions. The Strategic Implementation Document suggests outcomes and possible measures in the areas of: customer focus, Mn/DOT's role, seamless transportation, and investments that support the community. The Strategic Implementation Document invites projects that help us reach desired outcomes in these areas and also asks for project related measures to accompany each request.

Contact Person: Gene Ofstead

Mn/DOT has established an Office of Measurement and Evaluation that has as its charge the design and production of a process to develop customer outcomes and performance measures. For now, this effort is focused on the department and office/district level; eventually it will be expanded to the team level throughout the department. Because of the timeline for the Annual Performance Report, these two processes have been carried on in parallel. Currently the Office of Measurement and Evaluation is engaged in a project at the department level to define and track measures that indicate how Mn/DOT "optimizes the transportation investment". As these projects progress and the measures are defined, they will be incorporated into the Annual Performance report.

Contact Person: Janet Blacik