

Chapter 1

GENERAL

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1-1.0 INTRODUCTION

1-1.01 GENERAL

The Office of Maintenance provides expertise, leadership, direction and statewide coordination to the seven Greater Minnesota Districts and Metro Division to maintain and preserve Minnesota highways so they are safe, structurally sound, convenient to use and aesthetically pleasing. The intention of this manual is to provide information on the practices and guidelines established and practiced by MnDOT for maintenance operations. The manual does not contain all MnDOT policies, safety directives, and technical guidance for maintenance operations, but does provide links to the primary guidance in specific chapters. MnDOT [Technical Memorandums](#), [Policies](#) and Maintenance Bulletins offer added information.

Highway maintenance is defined as the preservation of all types of roadways, roadsides, structures and facilities as close as possible to their original condition. Highway maintenance also consists of performing the services and operations necessary to provide satisfactory and safer highways. Maintenance is the skill of keeping all highways full service with minimum expense and the least inconvenience to the traveling public.

Maintenance increases the lifespan of the transportation facility through a continuing program of correcting wear and deterioration caused by traffic and the environment. Maintenance should be regarded, not as a temporary policy, but as an investment and insurance against costly repairs. The job of maintaining highways takes a substantial part of the total governmental effort and dedicated funds.

1-1.02 PURPOSE

This chapter's purpose is to provide an overview of the following topics:

- Organization of the guidance presented in the manual chapters
- MnDOT District and Central Office Maintenance Organization
- Americans with Disabilities Act (ADA)

1-1.03 SCOPE

This revised manual is intended to provide general guidance on field maintenance practices with more detailed "hands-on" guidance obtained through the use of embedded links in the chapter text to readily accessible external sources of detailed task performance information. Alternatively, it is not intended to be a detailed "hands-on" guide for performing field maintenance services.

1-1.04 CHAPTER ORGANIZATION

This section is intended to inform the reader of the format for chapters 2 through 11 of this manual.

1-1.04.01 CHAPTER NUMBERING

All chapters follow the same numbering system and ordering as shown in this chapter.

1-1.04.02 CHAPTER AND SUBJECT TITLES

Subject matter contained in this manual is divided into chapters. The chapter title is shown top center of the first page and in the upper right corner of each page. Main subject titles are shown in uppercase on the left side of each page. Subject sub-titles are also shown on the left side.

1-1.04.03 PAGE NUMBERING

Page numbers are shown on the bottom right of each page.

1-1.04.04 HYPERLINKS

Hyperlinks are shown in blue and embedded in the chapter text to direct the reader to more detailed guidance on specific maintenance issues.

1-1.04.05 INDEX OF LINKS

The index at the end of each chapter lists the hyperlinks which are contained in the individual chapters along with their web addresses. The index lists hyperlinks in alphabetical order.

1-1.04.06 TABLE OF CONTENTS

The index in front of each chapter lists the titles of subject matter in numerical order. It likewise lists all exhibits including tables and figures. Each table of contents (and chapter text) is searchable using key word(s) for a specific subject.

1-1.04.07 WHOM TO CONTACT

For answers to questions regarding the contents of this manual, please contact Sue Lorentz at the following address and telephone number:

Sue Lorentz, Manual Administrator
MnDOT Office of Maintenance
395 John Ireland Boulevard
St. Paul, Minnesota 55101
651-366-3548

1-2.0 MNDOT MAINTENANCE ORGANIZATION- DISTRICTS AND SUB-AREAS

The entire state has been divided into 8 districts, each of which is administered by a District Engineer. Maintenance work in six districts is managed by a District Maintenance Engineer usually located at the District Office. Two districts, District 3 (Brainerd as main office) and District 6 (Rochester as main office) are further subdivided into maintenance areas whose functions are administered by Area Maintenance Engineers. District maintenance areas and sub-areas are subdivided into smaller areas served by Truck Stations with similar workloads. Day-to-day maintenance activities within the truck stations are supervised by the sub-area supervisor.

1-2.01 GENERAL MAPS

A map of the MnDOT Trunk Highway System is included in [Appendix 1A](#).

1-2.02 DISTRICT MAPS

Maps for each MnDOT district are found on some of the district websites. Links to the district websites are listed below:

- [District 1 \(Duluth/Virginia\)](#)
- [District 2 \(Bemidji/Crookston\)](#)
- [District 3 \(Brainerd/St. Cloud\)](#)
- [District 4 \(Detroit Lakes/Morris\)](#)
- [Metro District \(Twin Cities Metro Area\)](#)
- [District 6 \(Rochester/Owatonna/Winona\)](#)
- [District 7 \(Mankato/Winom\)](#)
- [District 8 \(Willmar/Marshall/Hutchinson\)](#)

Maps of each of the MnDOT districts are provided in [Appendix 1A](#).

1-2.03 SUB-AREA MAPS

Subarea maps showing MnDOT Maintenance areas are found on the district websites listed in the previous section.

1-3.0 ORGANIZATION CHARTS

1-3.01 MINNESOTA DEPARTMENT OF TRANSPORTATION

The [MnDOT](#) website provides the most current [Organization Chart](#) and a description of the functions of each division, office or section. Contact the corresponding group for the most current chart.

1-3.02 OFFICE OF MAINTENANCE

The Office of Maintenance is part of the [Operations Division](#). The [Office of Maintenance](#) website provides information on the office and the products and services the office provides. See the following for a description of the functions of each section within the Office of Maintenance.

1-4.0 ROLES AND RESPONSIBILITIES – MNDOT MAINTENANCE OFFICES

Roles and responsibilities for MnDOT Maintenance Offices are outlined in the following subsections.

1-4.01 DISTRICT MAINTENANCE OFFICES

The district maintenance offices under the direction of the Assistant District Engineers for Maintenance are responsible for all highway and facility maintenance within their respective districts. These responsibilities include but are not limited to pavement maintenance (patching, crack filling, limited maintenance overlays etc.), roadside maintenance (mowing, spraying, etc.), snow and ice control (plowing, deicing) drainage (culvert and drain maintenance, erosion control, etc.) and facility (buildings, other structures and grounds maintenance).

1-4.02 CENTRAL MAINTENANCE OFFICE

MnDOT's Central Maintenance Office under the direction of the State Maintenance Engineer is responsible for providing administrative, maintenance systems, contractual, equipment and material procurement and technical support to the districts. Field support responsibilities provided by the various Central Maintenance Office Sections are described further within this chapter.

1-4.03 FLEET MANAGEMENT SECTION

The Fleet Management Section is responsible for setting policy and procedures on MnDOT fleet management, equipment purchasing, plow truck fabrication, equipment maintenance, and inventory and supplies management. Additional information about this section is available online at the [Equipment Services](#) website.

1-4.04 BUILDING SERVICES SECTION

The MnDOT Building Services Section provides planning, design, construction and maintenance management services for all MnDOT facilities. The section is responsible for the development of plans and specifications for all MnDOT buildings, other structures, water supply and wastewater management infrastructure and energy management needs.

1-4.05 FINANCIAL & SUPPORT SERVICES

This section includes Administrative Support, Information Resources and the Applications/technical Support units. These units provide general administrative support and data base and computer software and hardware support to Central Maintenance Offices.

1-4.06 OPERATIONS SECTION

The Operations Section provides support and guidance to District Maintenance Operations and other offices. The section is responsible for the Maintenance Manual; Maintenance Bulletins; Work Zone Safety; Material and Service Contract development; Maintenance Business Planning central coordination; the MnDOT Sign Shop and Striping businesses and Road Weather Technology including the Maintenance Decision Support System (MDSS) and the statewide Road-Weather Information System.

1-4.07 RESEARCH AND TRAINING SECTION

Research and Training Section administers the Maintenance Research Program and Maintenance Operations Training. The Maintenance Research Unit promotes “hands-on” research by district maintenance staff and encourages the development of new ideas and methods that improve MnDOT’s highway maintenance. The Training Unit coordinates with the [Minnesota Local Technical Assistance Program \(LTAP\)](#) to provide training to district offices, cities, counties and townships in all areas of highway maintenance. Specific training topics are listed on the MNDOT Maintenance website.

1-5.0 AMERICANS WITH DISABILITIES ACT (ADA)

1-5.01 FEDERAL POLICY

U.S. Department of Justice's regulations implement [Title III](#) of the [Americans With Disabilities Act \(ADA\)](#) which prohibits discrimination on basis of disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses).

1-5.02 MNDOT POLICY

MnDOT ADA policy can be accessed on the [MnDOT Accessibility](#) website.

In accordance with the requirements of Title III of the Americans With Disabilities Act of 1990 (updated in 2010) (ADA), the Minnesota Department of Transportation will not discriminate against qualified individuals with disabilities on the basis of disability in its services, programs or activities. MnDOT must also ensure that all of its programs, services and activities are accessible to and useable by individuals with disabilities. The [MnDOT ADA Contacts](#) can be utilized for further information.

Requirements regarding accessibility of electronic and information technology can be found at the [Section 508](#) website.

Additional recommendations for increasing the accessibility of web content can be found on the World Wide Web Consortium's (W3C) [Web Content Accessibility Guidelines \(WCAG\) 2.0](#).

1-6.0 SAFETY

Safety is paramount for both the state maintenance worker and the traveling public. General information regarding statewide worker safety can be found in the [MnDOT Employee Safety Handbook](#). This and other safety related resources including Safety Directives can be obtained from the [MnDOT Safety and Work Injuries](#) web page. Additional guidance can be obtained from MnDOT's [Safety](#) webpage.

All new MnDOT employees shall complete required E-learning and be familiar with guidance provided in the handbook. Current employees are strongly encouraged to periodically review the handbook as well. Additional guidance on work zone safety considerations can be found in the Minnesota Work Zone Safety and Mobility Policy contained in [Technical Memorandum No. 12-03-T-02](#). District maintenance employees, in coordination with their field supervisors, are encouraged to contact their District Safety Administrator for further information.

1-6.01 OPERATIONS SAFETY

Safe operations in all aspects of maintenance are of utmost importance. Maintenance operations in heavy traffic areas in urban areas and heavily traveled rural roadways require constant alertness and adherence to established safety procedures. Any maintenance activity in the right of way must be preceded by the set-up of proper traffic control. Guidance on the implementation of proper traffic control is found in the current Minnesota Manual on Uniform Traffic Control Devices ([Minnesota MUTCD](#)) - Chapter 6, [Temporary Traffic Control Zone Layouts](#).

Each roadway maintenance activity should be accomplished in accordance with a job safety analysis developed by the maintenance supervisor with input from affected field staff. Safety factors to consider include closeness to fast moving traffic, the use of large equipment (sometimes with limited visibility) and the use of hot materials or chemical additives. The basic elements of a job site safety analysis are outlined in literature given on the [University of California Berkeley's JSA](#) website. Other related safety information can be found on the following web pages: [Cornell's Department of Environmental Health and Safety - MSDS/TSCA Query](#), [The MSDS FAQ \(Where can I get MSDS's?\)](#), and the [SIRI MSDS Index from Vermont Safety Information Resource \(SIRI\)](#). The Maintenance Manual Chapters 7 and 8 should also be reviewed.

Operational safety considerations to be addressed should include use of appropriate safety procedures, operational equipment, motorized equipment, traffic barriers (signs and warning devices, etc.), personal safety equipment (high visibility clothing, dust and/or chemical control masks, etc.) and controlled safe use of maintenance materials.

1-6.02 ROADSIDE HAZARDOUS WASTE AND ROADSIDE SPILLS

MnDOT maintenance personnel frequently find abandoned containers on MnDOT right-of-way. These containers can hold a wide range of materials, some of which can be hazardous to maintenance workers or the public. Abandoned containers must be handled in a safe, efficient manner in order to protect human health and to ensure proper disposal. Field personnel should follow the guidelines if hazardous waste or roadside spills occur as described in [Technical Memorandum No. 13-16-ENV-03](#).

Similarly, state maintenance workers should be vigilant in mitigating or cleaning up roadside spills that may or may not be of hazardous materials. Maintenance employees should wear appropriate personal protective equipment (PPE) at all times when treating or removing oil spill. Guidance for dealing with vehicle fluid spills is given in [Technical Memorandum No. 11-10-M-2](#).

APPENDIX 1A

FIGURE 1: MAP OF MINNESOTA TRUNK HIGHWAY SYSTEM

FIGURE 2: MAP OF DISTRICT 1

FIGURE 3: MAP OF DISTRICT 2

FIGURE 4: MAP OF DISTRICT 3

FIGURE 5: MAP OF DISTRICT 4

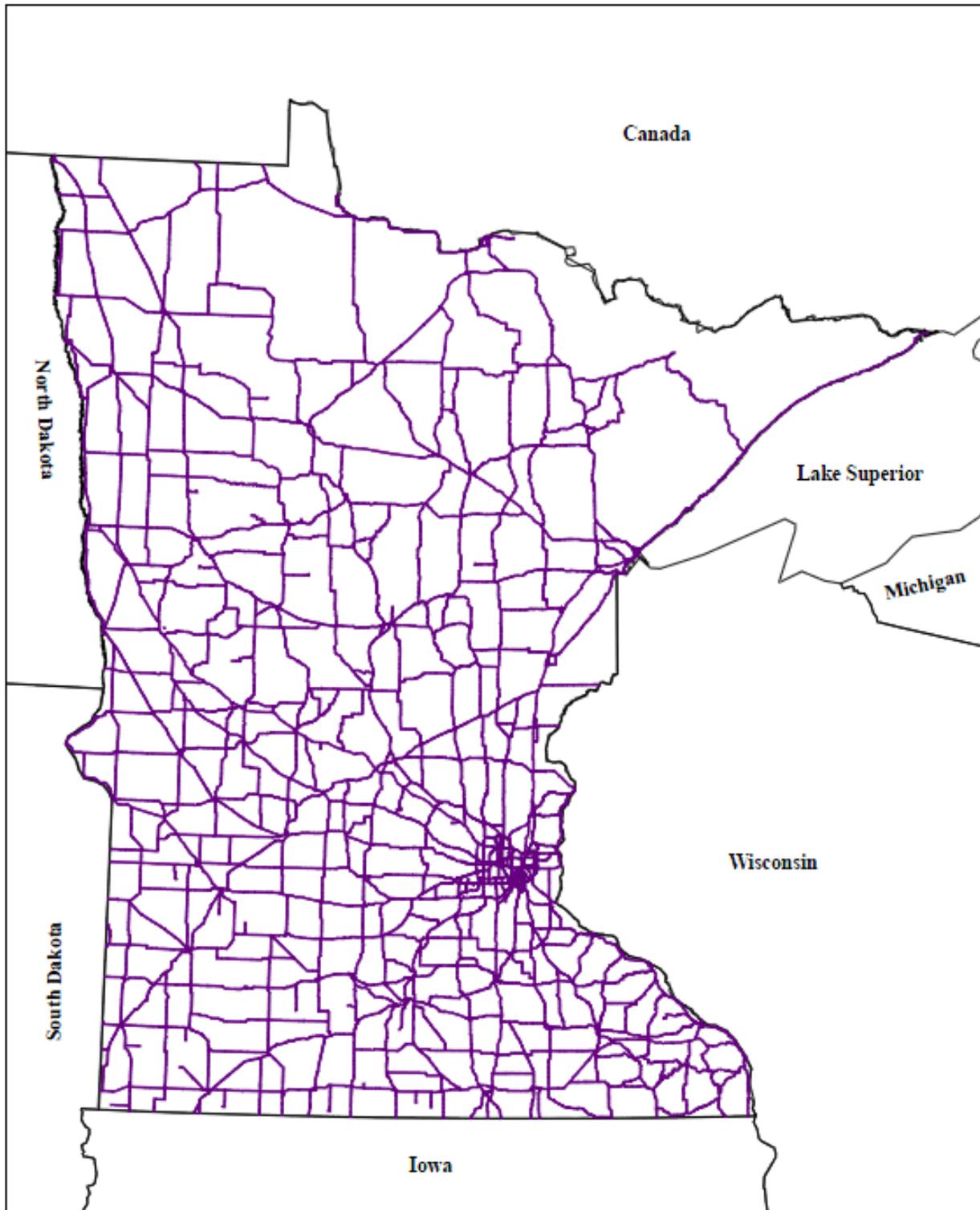
FIGURE 6: MAP OF METRO DISTRICT

FIGURE 7: MAP OF DISTRICT 6

FIGURE 9: MAP OF DISTRICT 7

FIGURE 9: MAP OF DISTRICT 8

FIGURE 1: MAP OF MINNESOTA TRUNK HIGHWAY SYSTEM



Mn/DOT - Truck Highway System

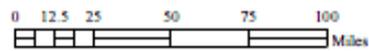
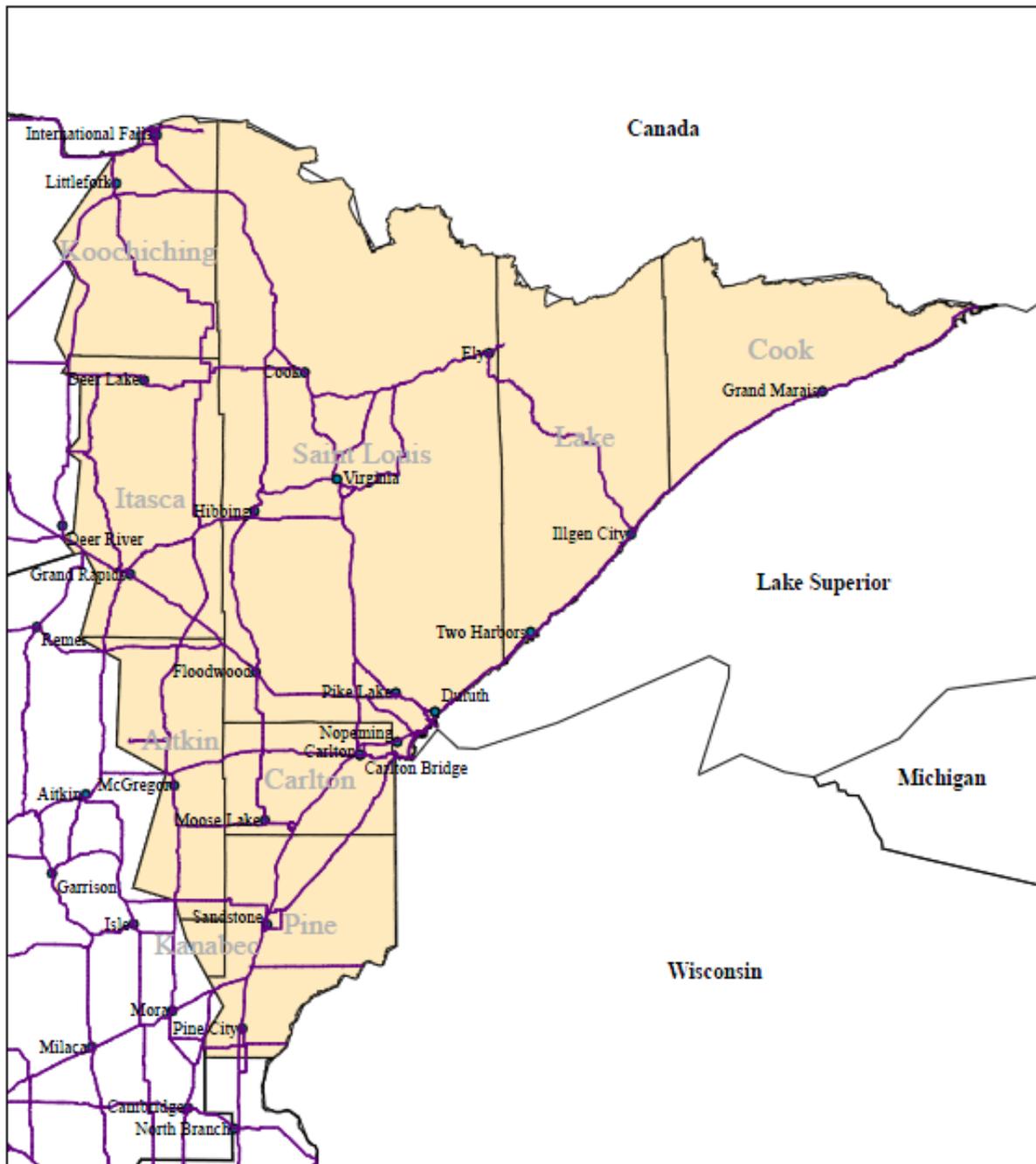


FIGURE 2: MAP OF DISTRICT 1



- Legend**
- District 1
 - Trunk Highways
 - Truck Station

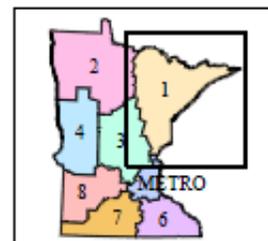
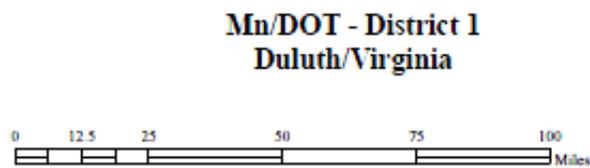


FIGURE 3: MAP OF DISTRICT 2

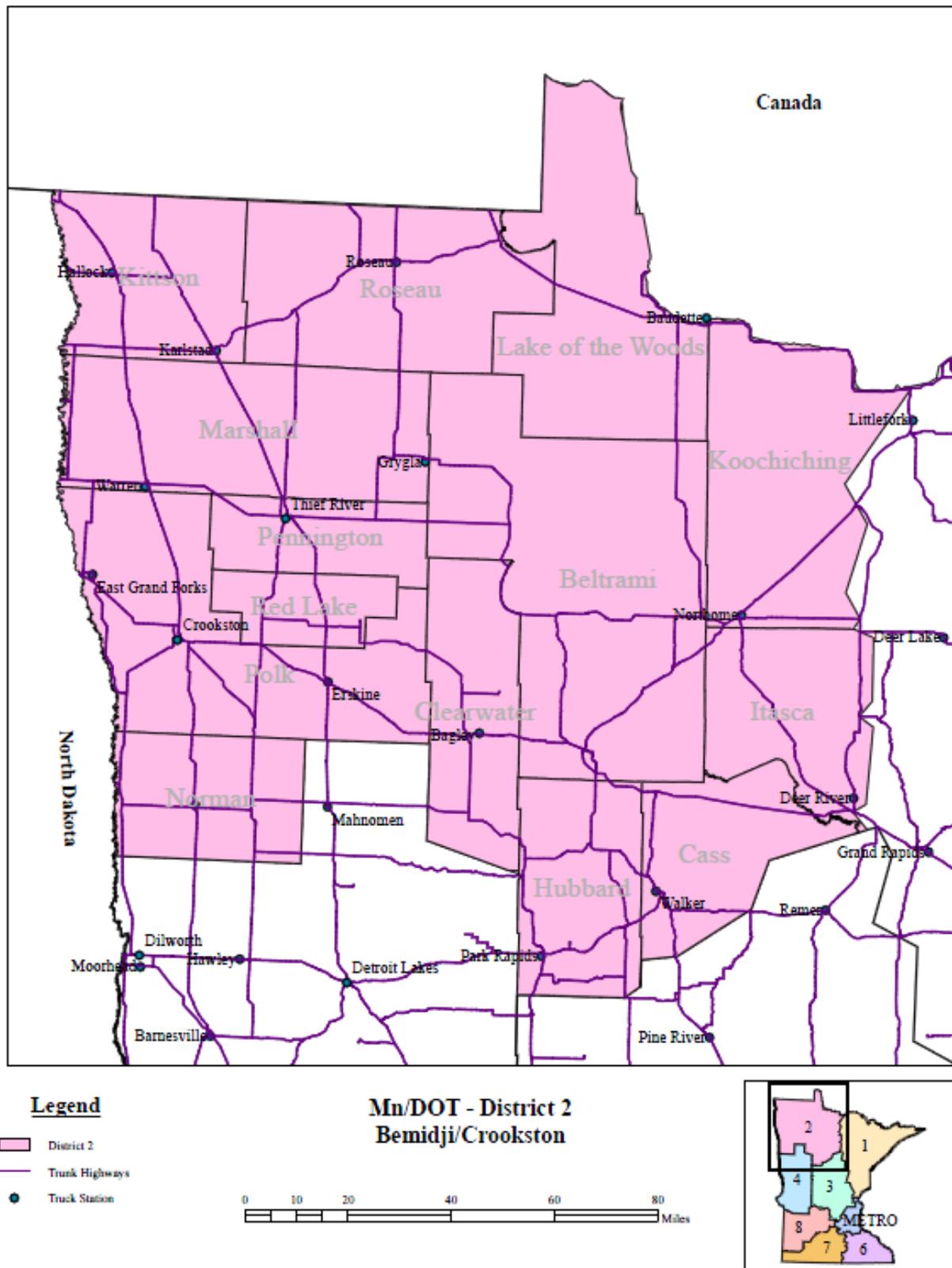
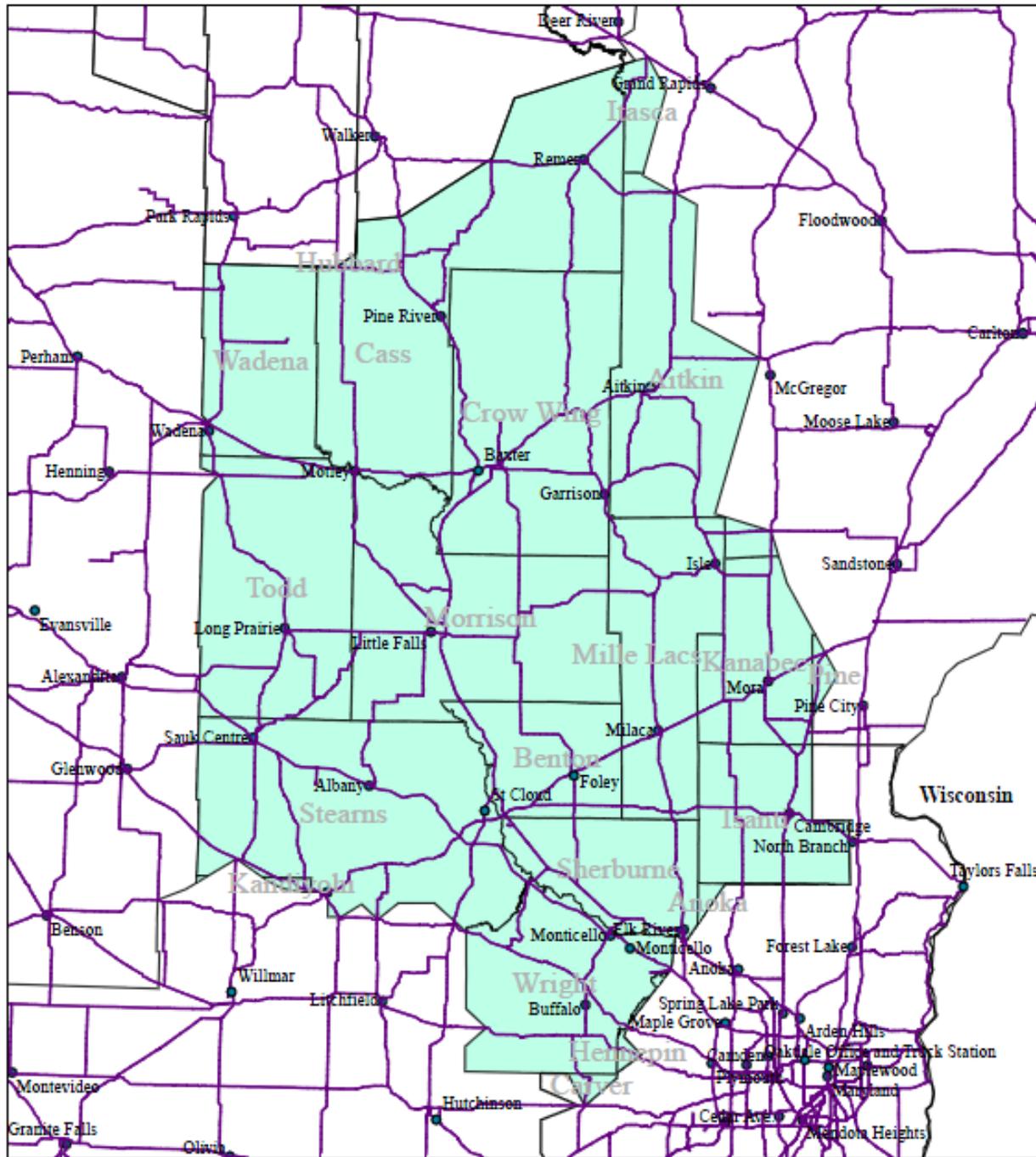


FIGURE 4: MAP OF DISTRICT 3



Legend

- District 3
- Trunk Highways
- Truck Station

**Mn/DOT - District 3
Brainerd/St. Cloud**

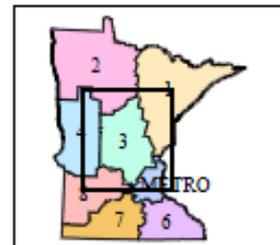
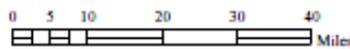


FIGURE 5: MAP OF DISTRICT 4

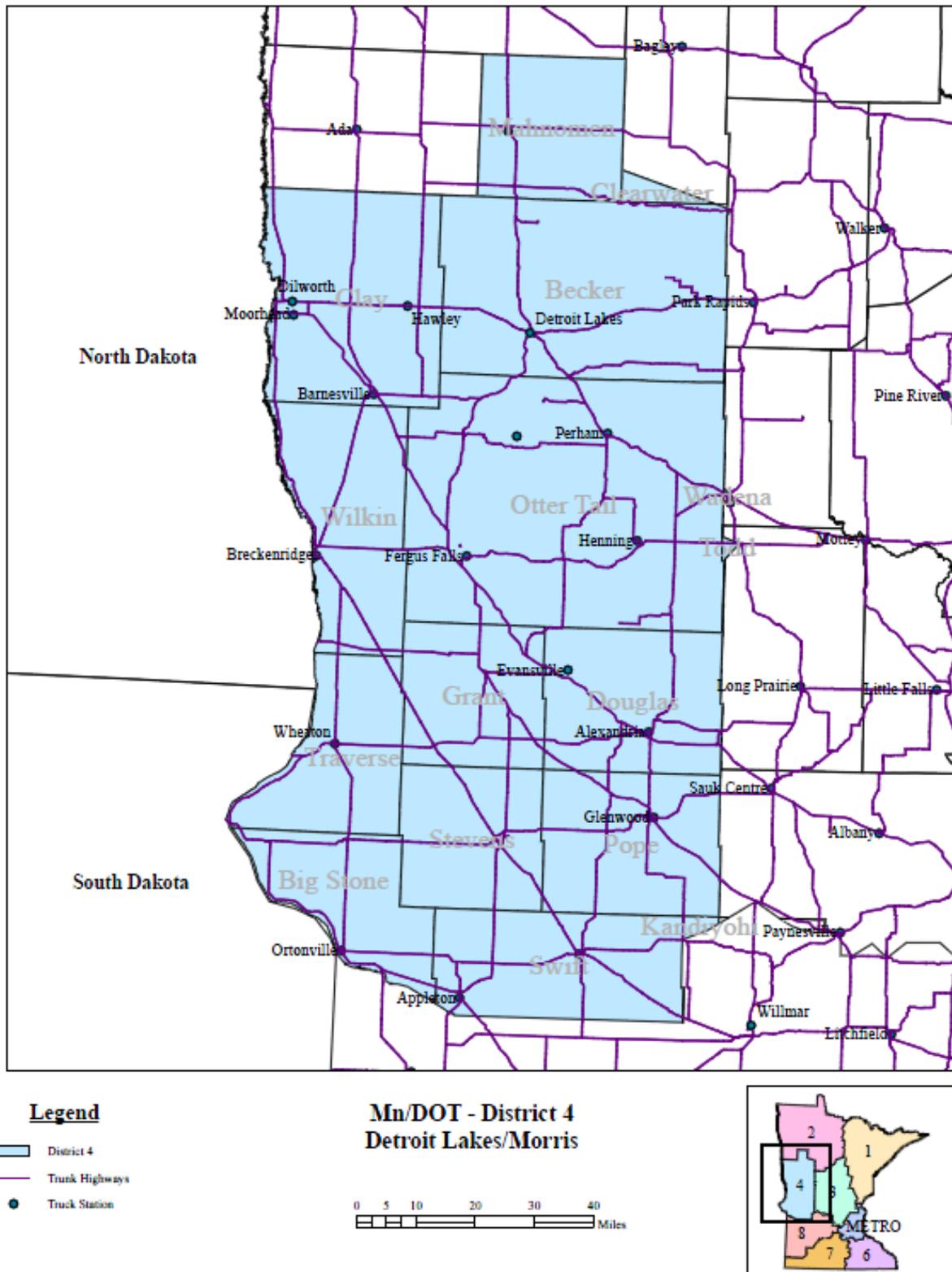
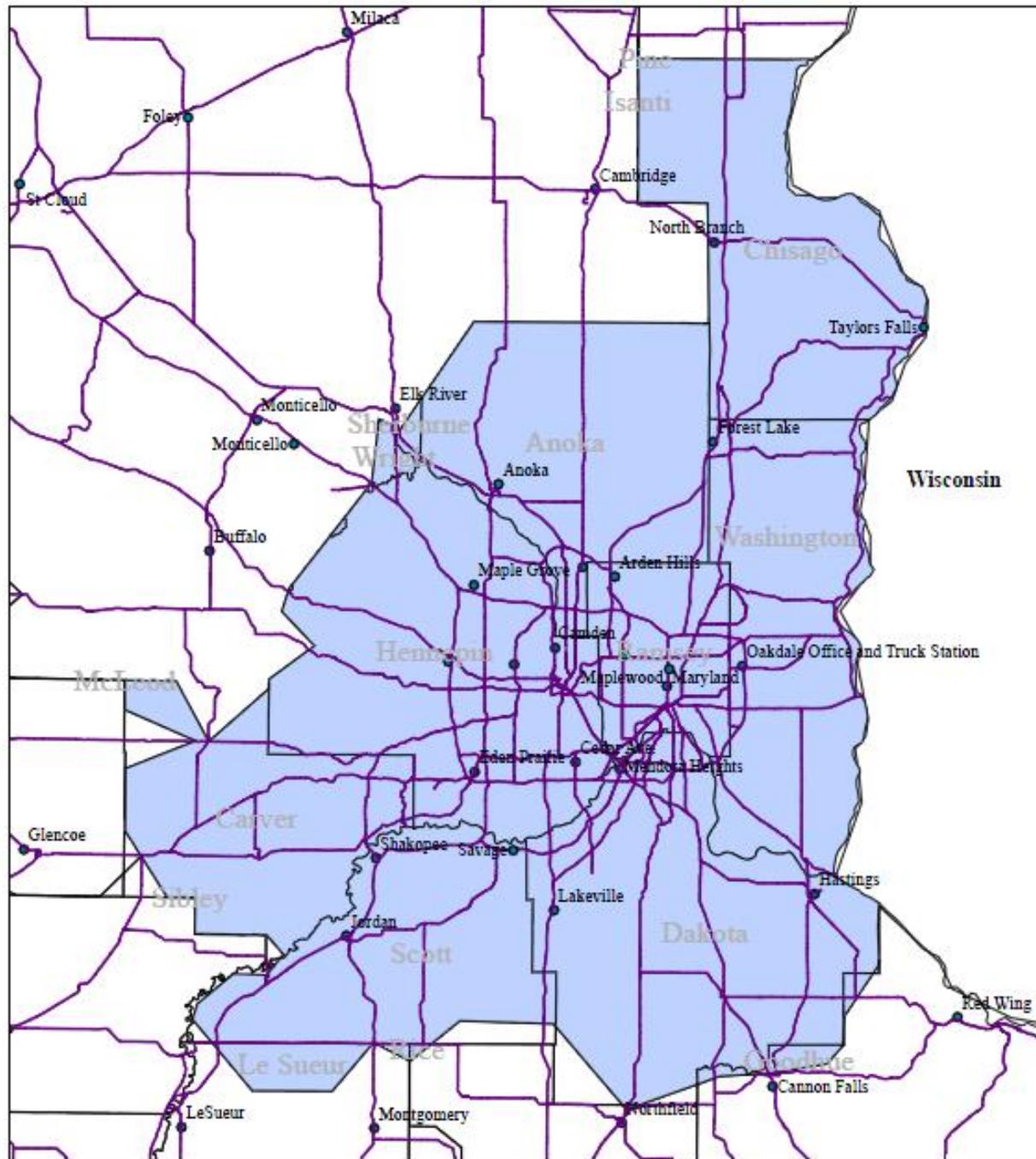


FIGURE 6: MAP OF METRO DISTRICT



- Legend**
- Metro District
 - Truck Highways
 - Truck Station

**Mn/DOT - Metro District
Twin Cities Metro Area**

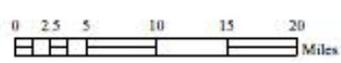
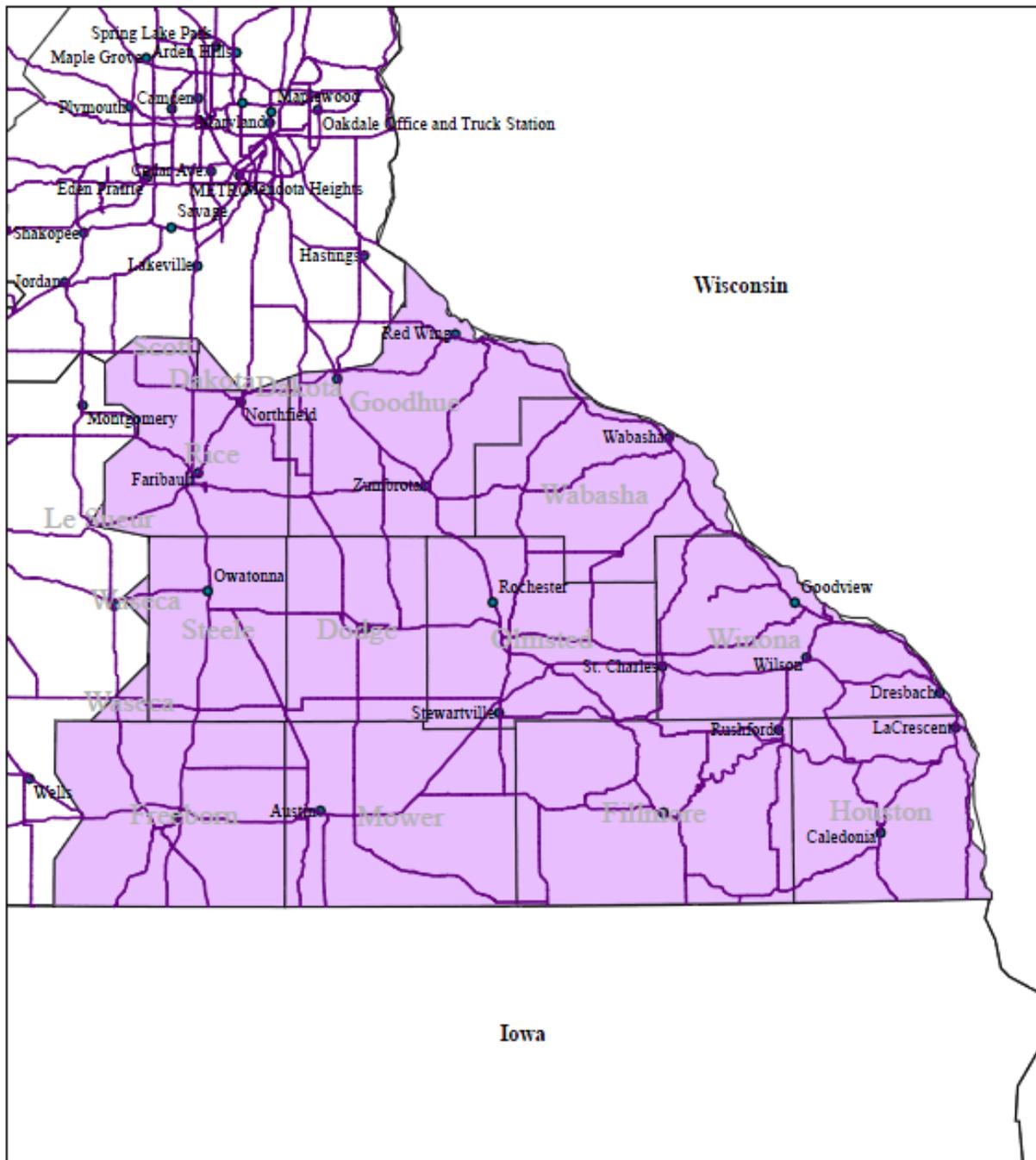


FIGURE 7: MAP OF DISTRICT 6



- Legend**
- District 6
 - Trunk Highways
 - Truck Station

**Mn/DOT - District 6
Rochester/Owatonna/Winona**

0 4.5 9 18 27 36 Miles

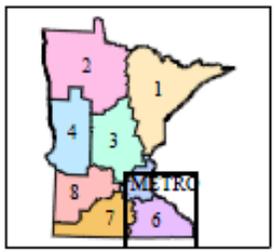
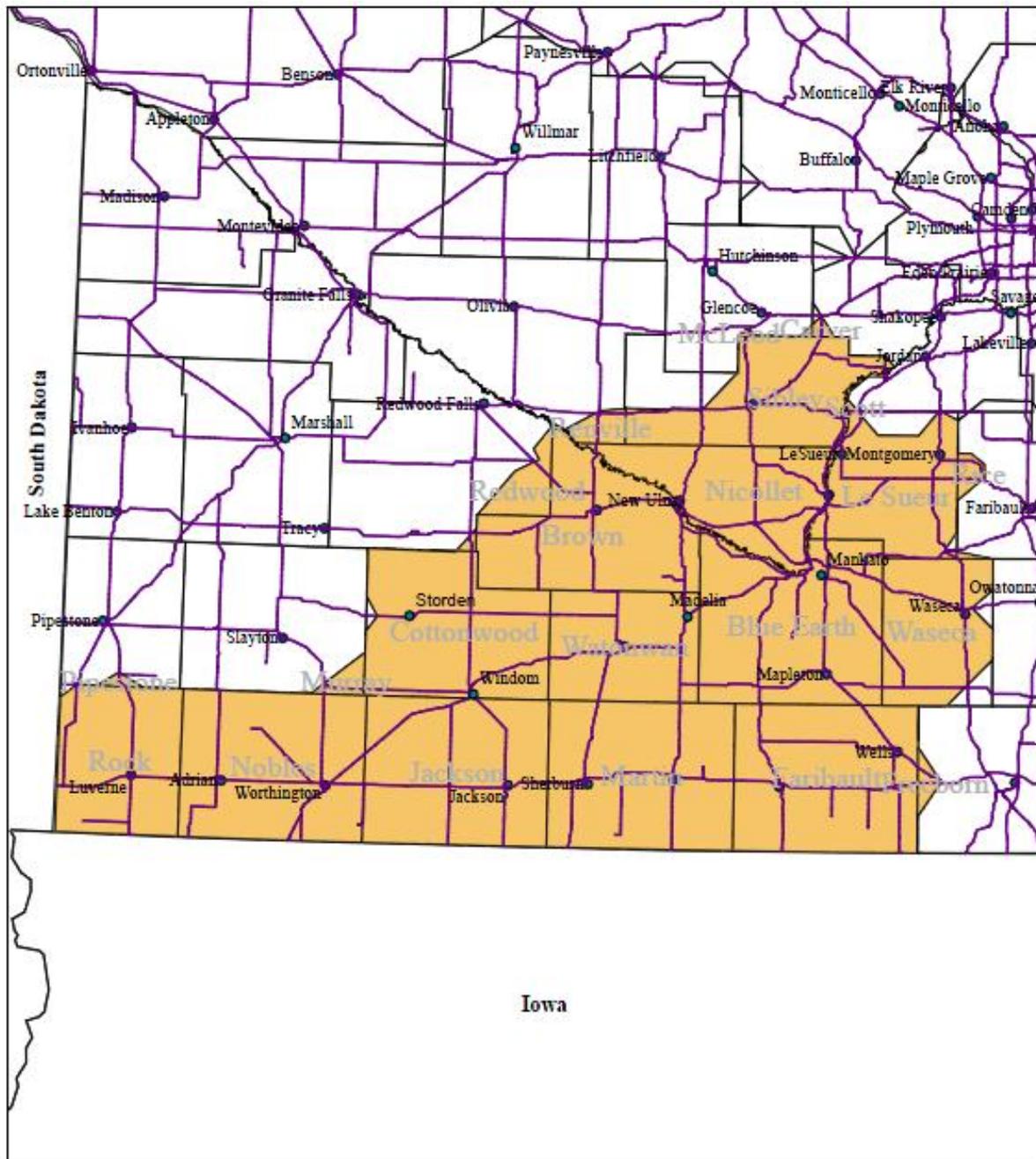


FIGURE 8: MAP OF DISTRICT 7



Legend

-  District 7
-  Trunk Highways
-  Truck Station

**Mn/DOT - District 7
Mankato/Window**

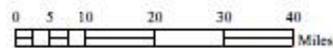
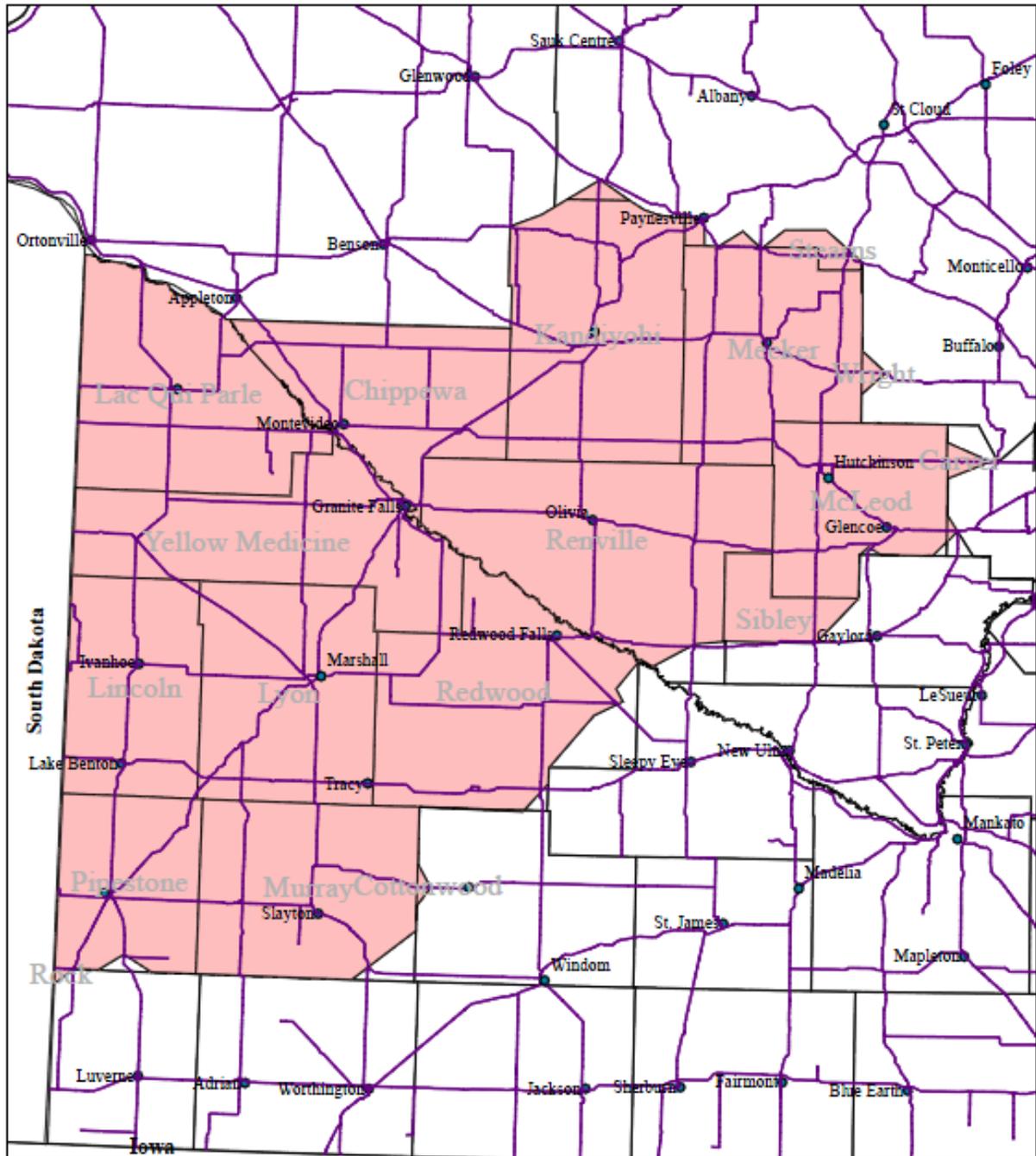


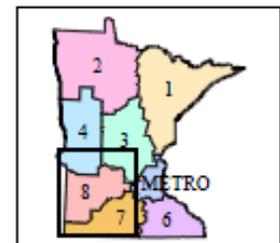
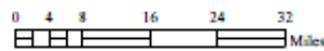
FIGURE 9: MAP OF DISTRICT 8



Legend

-  District 8
-  Trunk Highways
-  Truck Station

**Mn/DOT - District 8
Willmar/Marshall/Hutchinson**



INDEX OF LINKS

Americans With Disabilities Act (ADA)

<http://www.ada.gov/>

District 1 (Duluth/Virginia)

<http://www.dot.state.mn.us/d1/>

District 2 (Bemidji/Crookston)

<http://www.dot.state.mn.us/d2/>

District 3 (Brainerd/St. Cloud)

<http://www.dot.state.mn.us/d3/>

District 4 (Detroit Lakes/Morris)

<http://www.dot.state.mn.us/d4/>

District 6 (Rochester/Owatonna/Winona)

<http://www.dot.state.mn.us/d6/>

District 7 (Mankato/Windom)

<http://www.dot.state.mn.us/d7/>

District 8 (Willmar/Marshall/Hutchinson)

<http://www.dot.state.mn.us/d8/>

Equipment Services

<http://www.dot.state.mn.us/maintenance/equipment/>

Maintenance Bulletins

Website under development

Metro District (Twin Cities Metro Area)

<http://www.dot.state.mn.us/metro/>

Minnesota Local Technical Assistance Program (LTAP)

<http://www.mnltap.umn.edu/>

MnDOT

<http://www.dot.state.mn.us/>

MnDOT Accessibility

<http://www.dot.state.mn.us/ada/policy.html>

MnDOT ADA Contacts

<http://www.dot.state.mn.us/ada/contacts.html>

MnDOT Employee Safety Handbook

<http://ihub/safetyandworkerscomp/documents/safetyemployeehandbook.pdf>

MnDOT Safety Resources

<http://ihub/safetyandworkerscomp/safety.html>

Office of Maintenance

<http://www.dot.state.mn.us/maintenance/index.html>

Organization Chart

<http://www.dot.state.mn.us/information/orgchart.html>

Policies

<http://www.dot.state.mn.us/policy/operations.html>

Safety

<http://www.dot.state.mn.us/safety/index.html>

Section 508

<http://www.section508.gov/>

Technical Memorandum No. 10-08-ENV-02

<http://dotapp7.dot.state.mn.us/edms/download?docId=977175>

Technical Memorandum No. 12-03-T-02

<http://dotapp7.dot.state.mn.us/edms/download?docId=1156501>

Technical Memorandums

<http://techmemos.dot.state.mn.us/>

Temporary Traffic Control layouts

<http://www.dot.state.mn.us/trafficeng/publ/fieldmanual/index.html>

Title III

http://www.ada.gov/regs2010/titleIII_2010/titleIII_2010_regulations.htm

Web Content Accessibility Guidelines (WCAG) 2.0

<http://www.w3.org/TR/WCAG/>