

2.0 PURPOSE AND NEED

2.1 PROJECT PURPOSE

The Minnesota Department of Transportation (Mn/DOT) has conducted a comprehensive analysis of the Trunk Highway (TH) 14 West corridor during the development of the Corridor Management Plan (CMP). The analysis included roadway design, safety, growth trends, an origin-destination study, and existing and future levels of congestion in the corridor. The CMP documents the analysis of existing and forecast conditions (Chapter 3) within this segment of TH 14. The results of the studies all indicate a need to improve the roadway.

The purpose of the TH 14 West IRC project is to address present and future safety, operations, and geometric deficiencies along this 22-mile segment of TH 14, consistent with community and public expectations.

2.1.1 Deficiencies in the TH 14 West IRC Corridor

A number of deficiencies were identified that support the need for improvements to this segment of TH 14. The deficiencies are documented in Chapter 4 of the CMP and include:

- Lack of passing zones.
- High crash rates at three intersections.
- Increased traffic congestion forecast for the whole corridor as a result of high traffic volumes, high percentage of heavy commercial vehicles, and geometric deficiencies.
- Difficulty meeting Mn/DOT's IRC performance target for maintaining average speeds above 55 miles per hour in the future.
- Decreasing ability to meet Mn/DOT's access management guidelines, especially in the City of Courtland.
- Risk of adding traffic signals.
- High percentage of trucks using the roadway passing through the Cities of Courtland and Nicollet.
- Concern that TH 14 through-traffic could negatively impact community cohesiveness in the Cities of Courtland and Nicollet.

SAFETY DEFICIENCIES

No Passing Zones

The corridor averages 33 percent no passing zones compared to Mn/DOT's goal of 10 percent no passing zones for two-lane rural roads. No passing zones contribute to delay and congestion. Currently, five of the eight segments are deficient. Between New Ulm and Courtland almost 60 percent of the roadway is no passing, and between Courtland and Nicollet almost 50 percent of the roadway is no passing. The two segments in Nicollet have 100 percent no passing zones. **Table 2-1 and Figure 2-1** show the percentage of no passing zones by segment.

Table 2-1
Existing No Passing Zones

| Segment | Segment Length (miles) | Length of No Passing Zones (miles) | Percentage No Passing |
|--------------|---------------------------|---------------------------------------|--------------------------|
| 1 | 1.8 | 0.7 | 36% |
| 2 | 3.8 | 2.2 | 59% |
| 3 | 0.4 | 0.0 | 0% |
| 4 | 1.2 | 0.0 | 0% |
| 5 | 6.5 | 3.1 | 48% |
| 6 | 0.6 | 0.6 | 100% |
| 7 | 0.6 | 0.6 | 100% |
| 8 | 6.8 | 0.1 | 2% |
| Total | 21.6 | 7.2 | 33% |

Source: Mn/DOT Travel Log

Note: Mn/DOT's goal for two-lane rural roads is 10 percent no passing zones.

Access Management

Access is typically one of the key factors contributing to high crash rates. The higher the number of accesses per mile, the more likely crashes will increase due to the lack of gaps for motorists to enter the highway as traffic volumes increase.

There are two segments of TH 14 that have a greater number of accesses per mile than typically expected for the type of roadway (**Table 2-2** and **Figure 2-1**).

- In the 4-mile rural segment of TH 14 from CSAH 37 to Zieske Road there are ten accesses per mile compared to the typical average of 8 per mile for rural roadways.
- In the 1.2-mile segment in the City of Courtland there are 58 accesses per mile compared to the typical 28 accesses per mile in urban areas.

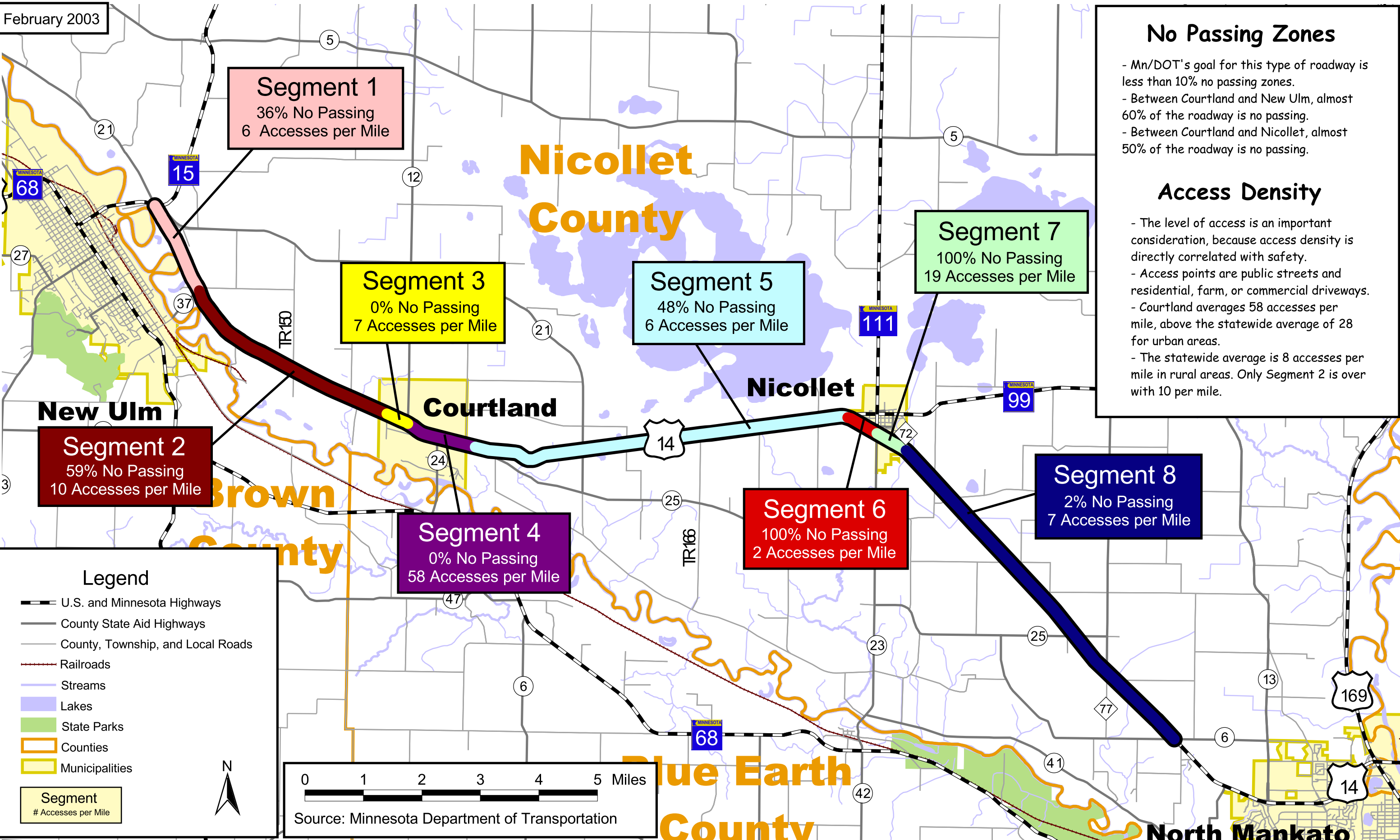
Table 2-2
Summary of Access Inventory by Segment

| Segment | Segment Type | Segment Length (Miles) | Total Number of Access Points | Access Density |
|--------------|------------------------|---------------------------|----------------------------------|----------------|
| 1 | Rural Area | 1.8 | 11 | 6 |
| 2 | Rural Area | 3.8 | 36 | 10 |
| 3 | Urbanizing Growth Area | 0.4 | 3 | 7 |
| 4 | Urban Growth Area | 1.2 | 70 | 58 |
| 5 | Rural Area | 6.5 | 40 | 6 |
| 6 | Urbanizing Growth Area | 0.6 | 1 | 2 |
| 7 | Urban Growth Area | 0.6 | 11 | 19 |
| 8 | Rural Area | 6.8 | 49 | 7 |
| Total | | 21.6 | 221 | 10 |

Notes: The statewide average is 8 accesses per mile in rural areas and 28 accesses per mile in urban areas.

(Source: Mn/DOT Traffic Safety Fundamentals Handbook)

Source: Mn/DOT Travel Log



No Passing Zones

- Mn/DOT's goal for this type of roadway is less than 10% no passing zones.
- Between Courtland and New Ulm, almost 60% of the roadway is no passing.
- Between Courtland and Nicollet, almost 50% of the roadway is no passing.

Access Density

- The level of access is an important consideration, because access density is directly correlated with safety.
- Access points are public streets and residential, farm, or commercial driveways.
- Courtland averages 58 accesses per mile, above the statewide average of 28 for urban areas.
- The statewide average is 8 accesses per mile in rural areas. Only Segment 2 is over with 10 per mile.

Legend

- U.S. and Minnesota Highways
- County State Aid Highways
- County, Township, and Local Roads
- Railroads
- Streams
- Lakes
- State Parks
- Counties
- Municipalities

Segment # Accesses per Mile

0 1 2 3 4 5 Miles

Source: Minnesota Department of Transportation

High Crash Rates

Safety deficiencies were identified along the segment between TH 15 and CSAH 37 and at the following three intersections (**Figure 2-2**):

- TH 14 / TH 15 / CSAH 21
- TH 14 / CSAH 37
- TH 14 / TH 111 / CSAH 23

Segment 1: TH 15 / CSAH 21 to CSAH 37 Has Safety Deficiencies

The actual crash rate in this segment is 2.0 crashes per vehicle mile, which is twice Mn/DOT's target and exceeds the critical crash rate of 0.6. Although this segment is just over 1.5 miles long, most of the crashes occurred at the intersection of TH 14 / TH 15 / CSAH 21 at the western end of this segment. Within this segment, 50 percent of the crashes were turn-related (right angle and left turn), which exceeds the expected rate of around 32 percent. In addition, the severity rate is three times the expected rate due to the four fatalities and 70 percent of the injuries occurring at the deficient intersection. Aside from the single deficient intersection within this segment, the balance of the segment has no obvious safety deficiencies.

TH 14 / TH 15 / CSAH 21

This intersection has a crash rate of 1.4 crashes per vehicle mile, which is 40 percent higher than Mn/DOT's goal for intersections on the Interregional Corridor (IRC) system, the highest intersection crash rate of any along the corridor. (Mn/DOT's goal is to have a crash rate below 1.0 crashes per vehicle mile.) Most of the intersection crashes are left turn (45 percent) or right turn (36 percent) crashes. The Minnesota average for rural intersections is 8 percent and 28 percent, respectively. The severity rate at this intersection is over four times the expected severity rate. All four fatalities and nearly 70 percent of the injuries for the 22-mile corridor occurred at this intersection. It appears that the key contributing factor to crashes at this intersection is the fact that the TH 14 legs are at 90 degrees to one another, requiring through traffic to make a right or left turn in order to continue on TH 14.

TH 14 / CSAH 37

This intersection is a T-intersection connecting into New Ulm, with vehicles on CSAH 37 stopping for through traffic on TH 14. Although the crash rate for the intersection is less than the goal for Mn/DOT's IRC system, the crash rate is 25 percent higher than the Minnesota average for this type of intersection. The severity rate is over two times the expected rate. Two-thirds of the crashes at this intersection occur when a vehicle is turning onto or off of CSAH 37 in front of an eastbound vehicle on TH 14. Further review indicated that from the stop sign on CSAH 37, motorists have adequate intersection sight distance, but are having difficulty selecting a safe gap for left-turn movements.

TH 14 / TH 111 / CSAH 23

This is a through-STOP controlled intersection located in the City of Nicollet. TH 14 is the through movement with traffic on TH 111/CSAH 23 being stopped. Overhead warning flashers were in place until September 2001 when they were replaced with warning flashers

TH 14 / TH 15 / CSAH 21

- * Highest crash rate in the corridor
- * Crash rate is 40% higher than Mn/DOT's goal
- * Four times expected severity rate
- * 4 fatal crashes

TH 14 / CSAH 37

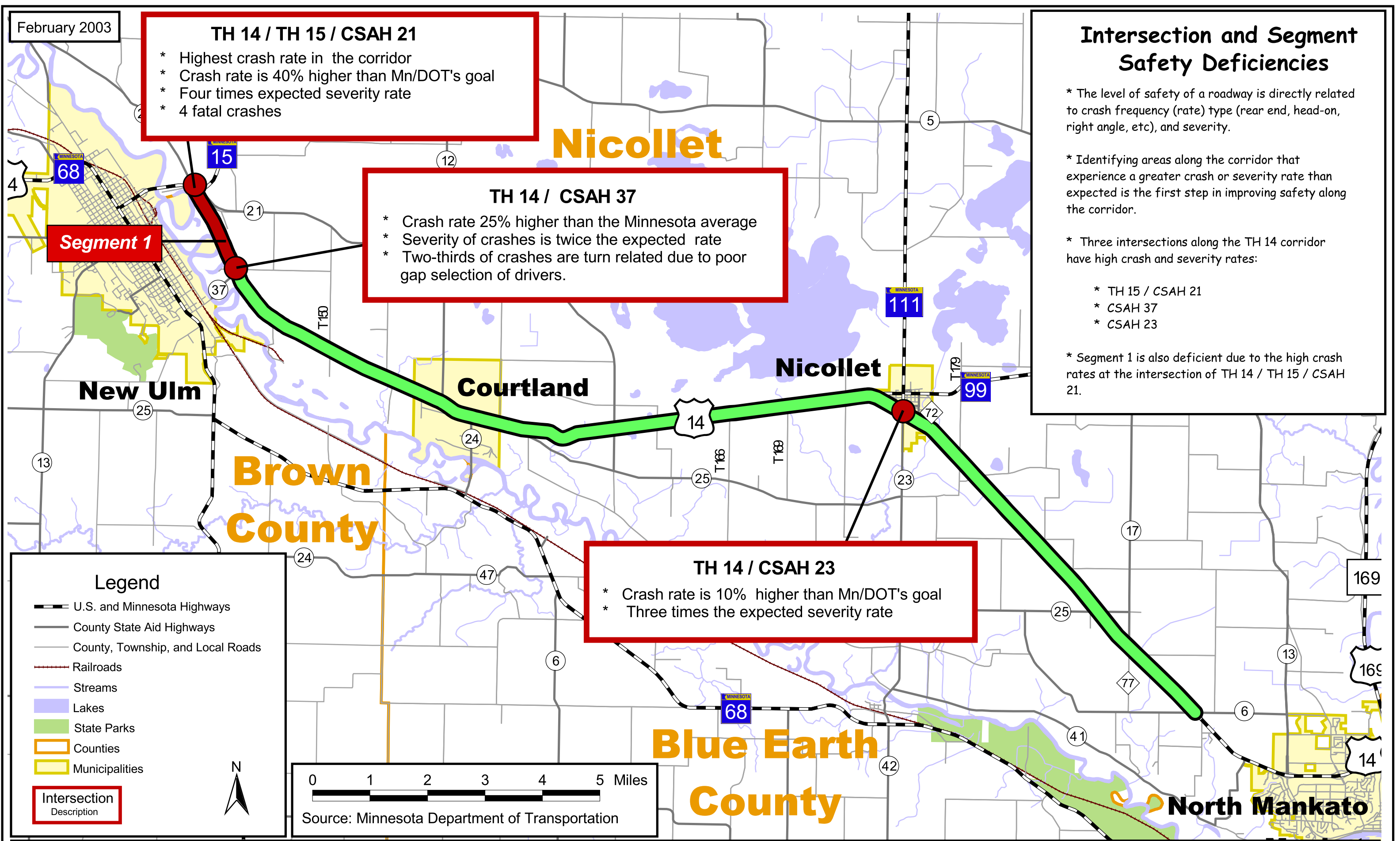
- * Crash rate 25% higher than the Minnesota average
- * Severity of crashes is twice the expected rate
- * Two-thirds of crashes are turn related due to poor gap selection of drivers.

TH 14 / CSAH 23

- * Crash rate is 10% higher than Mn/DOT's goal
- * Three times the expected severity rate

Intersection and Segment Safety Deficiencies

- * The level of safety of a roadway is directly related to crash frequency (rate) type (rear end, head-on, right angle, etc), and severity.
- * Identifying areas along the corridor that experience a greater crash or severity rate than expected is the first step in improving safety along the corridor.
- * Three intersections along the TH 14 corridor have high crash and severity rates:
 - * TH 15 / CSAH 21
 - * CSAH 37
 - * CSAH 23
- * Segment 1 is also deficient due to the high crash rates at the intersection of TH 14 / TH 15 / CSAH 21.



Legend

- U.S. and Minnesota Highways
- County State Aid Highways
- County, Township, and Local Roads
- Railroads
- Streams
- Lakes
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- Municipalities

Intersection Description

0 1 2 3 4 5 Miles

Source: Minnesota Department of Transportation

mounted on the STOP signs. The existing crash rate is 10 percent higher than Mn//DOT's goal for IRC intersections. The severity rate, at 2.2, is almost three times the expected rate.

Over 90 percent of the crashes at this intersection were right angle crashes, much higher than the Minnesota average of 28 percent at urban intersections. It appears that the skewed angle of minor street approaches is a key factor in contributing to the much higher than expected frequency of angle crashes.

TRAFFIC OPERATIONS DEFICIENCIES

Traffic Volumes

The existing Year 2000 Average Daily Traffic (ADT) volumes on this section of TH 14 range from 4,800 to 7,100 vehicles per day (vpd). A regression analysis of historic volumes suggests that by 2025, the ADT in the TH 14 corridor is expected to range from 9,000 vpd to 12,800 vpd, an increase of 60 to 80 percent (**Figure 2-3**).

Percentage of Heavy Commercial Vehicles (Trucks)

Heavy commercial vehicles (trucks) refer to a wide assortment of vehicle combinations, which include semi-trucks with trailers, cement trucks, or other similar vehicle classifications. Traditionally the highest make-up of trucks occurs on Interstate highways. For example, I-35 in southern Minnesota carries approximately 16 percent trucks. Unlike I-35, TH 14 is only a two-lane highway through the study area with limited passing opportunities. Therefore, the presence of large numbers of trucks would have a larger impact on traffic operations along TH 14 than on four-lane divided facilities.

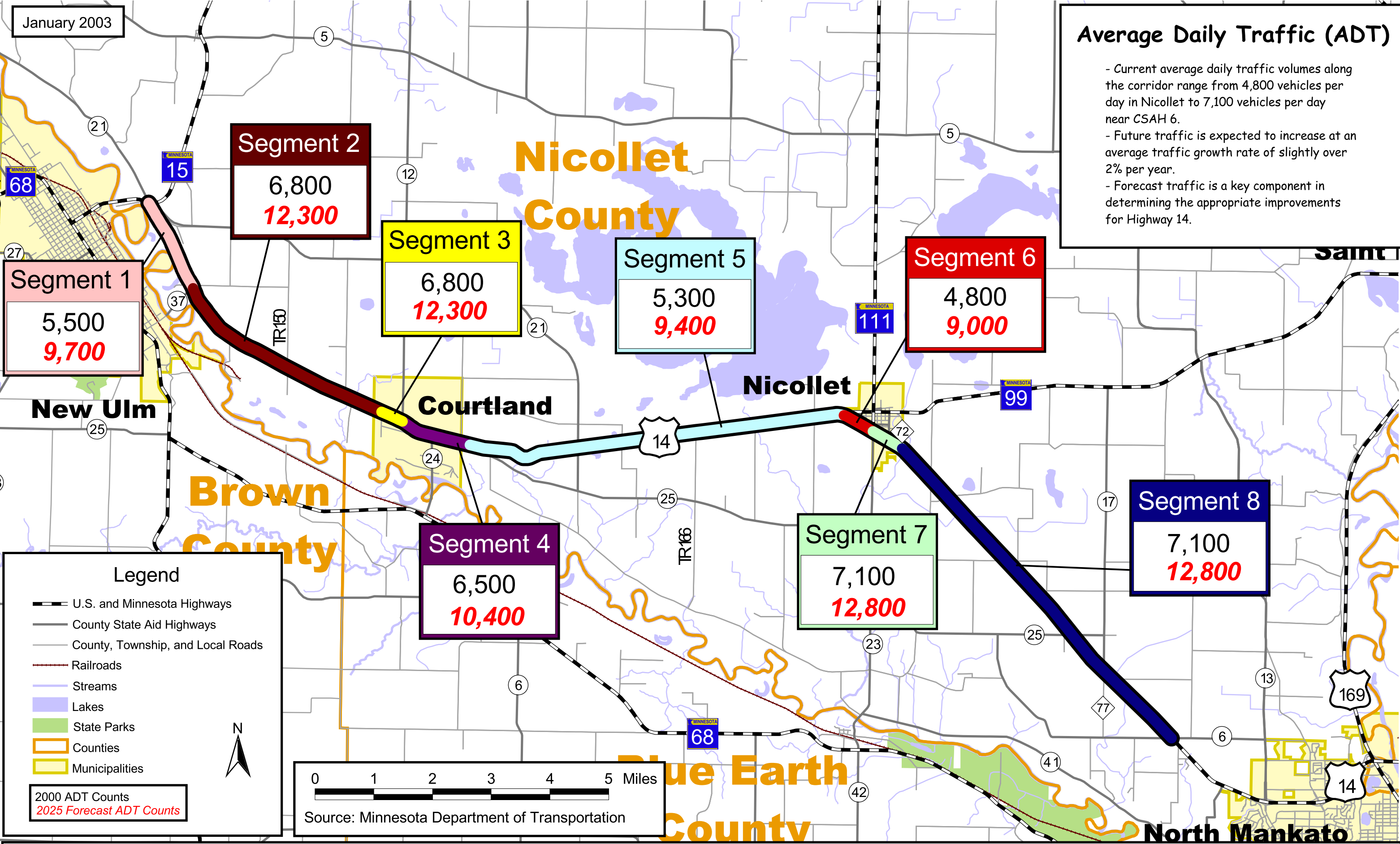
In this TH 14 corridor, approximately 15 percent of the vehicle flow is comprised of heavy commercial vehicles. East of Nicollet, trucks account for approximately 13 percent of the vehicle flow. West of the junction of TH 99 in Nicollet, TH 14 vehicle traffic consists of over 16 percent trucks.

Assuming the percentage of trucks remains the same in the future, the number of trucks is forecast to increase from 730 to 1,400 vpd by 2025.

January 2003

Average Daily Traffic (ADT)

- Current average daily traffic volumes along the corridor range from 4,800 vehicles per day in Nicollet to 7,100 vehicles per day near CSAH 6.
- Future traffic is expected to increase at an average traffic growth rate of slightly over 2% per year.
- Forecast traffic is a key component in determining the appropriate improvements for Highway 14.



Legend

- U.S. and Minnesota Highways
- County State Aid Highways
- County, Township, and Local Roads
- Railroads
- Streams
- Lakes
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- Municipalities

2000 ADT Counts
2025 Forecast ADT Counts

0 1 2 3 4 5 Miles

Source: Minnesota Department of Transportation

Level of Congestion

In order to estimate the quality of traffic flow, or level of congestion, on a roadway or at an intersection, traffic engineers use a technique called Level of Service (LOS). The results of a LOS analysis are typically presented in the form of a letter grade (A through F). Much like an academic report card, LOS A represents conditions with “free-flow” traffic with little or no delays. Conversely, LOS F conditions are represented by extreme congestion with long delays and queuing. The typical capacity of a two-lane rural roadway ranges from 10,000 vpd to 12,000 vpd, which corresponds to LOS E-F.

The LOS C-D boundary has been selected as the threshold of congestion for this segment of TH 14 due to the rural nature of the roadway and Mn/DOT’s objectives for mobility along the most important highway segments connecting regional centers around the state. **Figure 2-4** illustrates a general level of service description for two-lane rural roadways.

Currently, only two segments of TH 14 are congested, but by 2025, with the typical two percent traffic growth rate indicated, congestion is forecast for the whole corridor if no improvements are made. The results of the analysis are shown on **Table 2-3** for roadway capacity and on **Table 2-4** for intersection capacity.

Existing Congestion Levels

Roadway Capacity

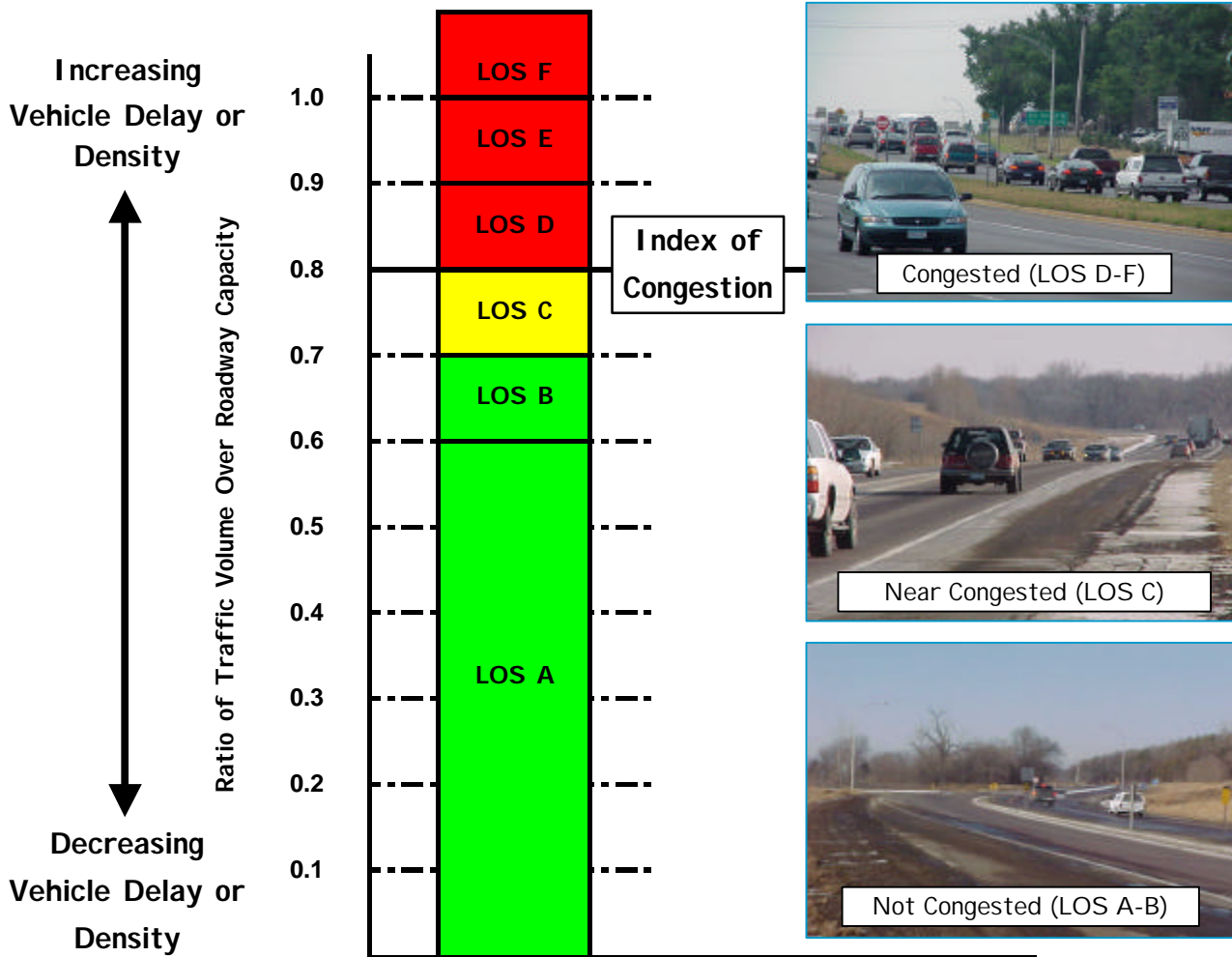
The results of the capacity analysis conducted for this segment of TH 14 found that two segments, Segment 2 from CSAH 37 to Zieske Road and Segment 7 from TH 111 / CSAH 23 to CR 72 are currently operating at LOS D (above the adopted threshold of congestion) indicating the roadway is congested. The remaining portion of TH 14 is operating at LOS C.

Intersection Capacity

The capacity of an intersection is determined by the geometry (number of turn and through lanes), traffic control (traffic signal, stop sign, etc.), and traffic volumes. The capacity analysis of the six key intersections included in the study found that all intersections currently operate at LOS A.

Figure 2-5 shows the existing roadway and intersection level of service.

**Figure 2-4
Level of Service Concept**



Definition of LOS: Level-of-Service (LOS) is an Estimate of the Quality of Traffic Flow.

Calculations

Based On:

2000 Highway Capacity Manual (Transportation Research Board)

Key Factors in

Determining LOS:

1. Roadway Geometry
2. Traffic Volume Characteristics
3. Intersections / Interchanges

LOS Used to

Describe Traffic

Flow at or on:

1. Segments - 2-Lane Rural Highway vs. Urban Arterial, etc...
2. Intersections - Signalized vs. Unsignalized

**Table 2-3
Existing and Future Segment Capacity**

| Segment | Start Point (West) | End Point (East) | Typical Section | 2000 ADT | 2025 ADT | 2025 Percent Increase in Traffic | 2000 Segment LOS | 2025 Segment LOS |
|---------|--------------------|------------------|-------------------|----------|----------|----------------------------------|------------------|------------------|
| 1 | TH 15 / CSAH 21 | CSAH 37 | 2 Lane Rural | 5,500 | 9,700 | 76% | C | E |
| 2 | CSAH 37 | Zieske Road | 2 Lane Rural | 6,800 | 12,300 | 81% | D | E |
| 3 | Zieske Road | CSAH 12 | 2 Lane Urbanizing | 6,800 | 12,300 | 81% | C | E |
| 4 | CSAH 12 | CSAH 25 | 2 Lane Urban | 6,500 | 10,400 | 60% | C | E |
| 5 | CSAH 25 | TH 99 | 2 Lane Rural | 5,300 | 9,400 | 77% | C | E |
| 6 | TH 99 | TH 111 / CSAH 23 | 2 Lane Urbanizing | 4,800 | 9,000 | 88% | C | E |
| 7 | TH 111 / CSAH 23 | CR 72 | 2 Lane Urban | 7,100 | 12,800 | 80% | D | E |
| 8 | CR 72 | CSAH 6 | 2 Lane Rural | 7,100 | 12,800 | 80% | C | E |

Source: Howard R. Green Company

**Table 2-4
Existing and Future Intersection Capacity**

| Intersection of: | | Location | Traffic Control | 2002 Intersection Level of Service | 2025 Intersection Level of Service |
|------------------|------------------|-----------|-----------------|------------------------------------|------------------------------------|
| TH 14 | TH 15 / CSAH 21 | Rural | Thru Stop | A | F |
| | | | All Stop | A | B |
| TH 14 | CSAH 37 | Rural | Thru Stop | A | B |
| TH 14 | CSAH 24 | Courtland | Thru Stop | A | A |
| TH 14 | TH 99 | Nicollet | Thru Stop | A | A |
| TH 14 | TH 111 / CSAH 23 | Nicollet | Thru Stop | A | C |
| TH 14 | CSAH 6 | Rural | Thru Stop | A | B |

Source: Howard R. Green Company

Forecast 2025 Congestion Levels

The forecast 2025 traffic volumes were used in conjunction with the existing roadway geometry and traffic control to determine the future roadway and intersection capacity.

Roadway Capacity

With the expected increase in traffic volumes in the year 2025, the results of the capacity analysis found that the entire corridor is expected to operate at LOS E, which is above the C/D threshold of congestion.

Intersection Capacity

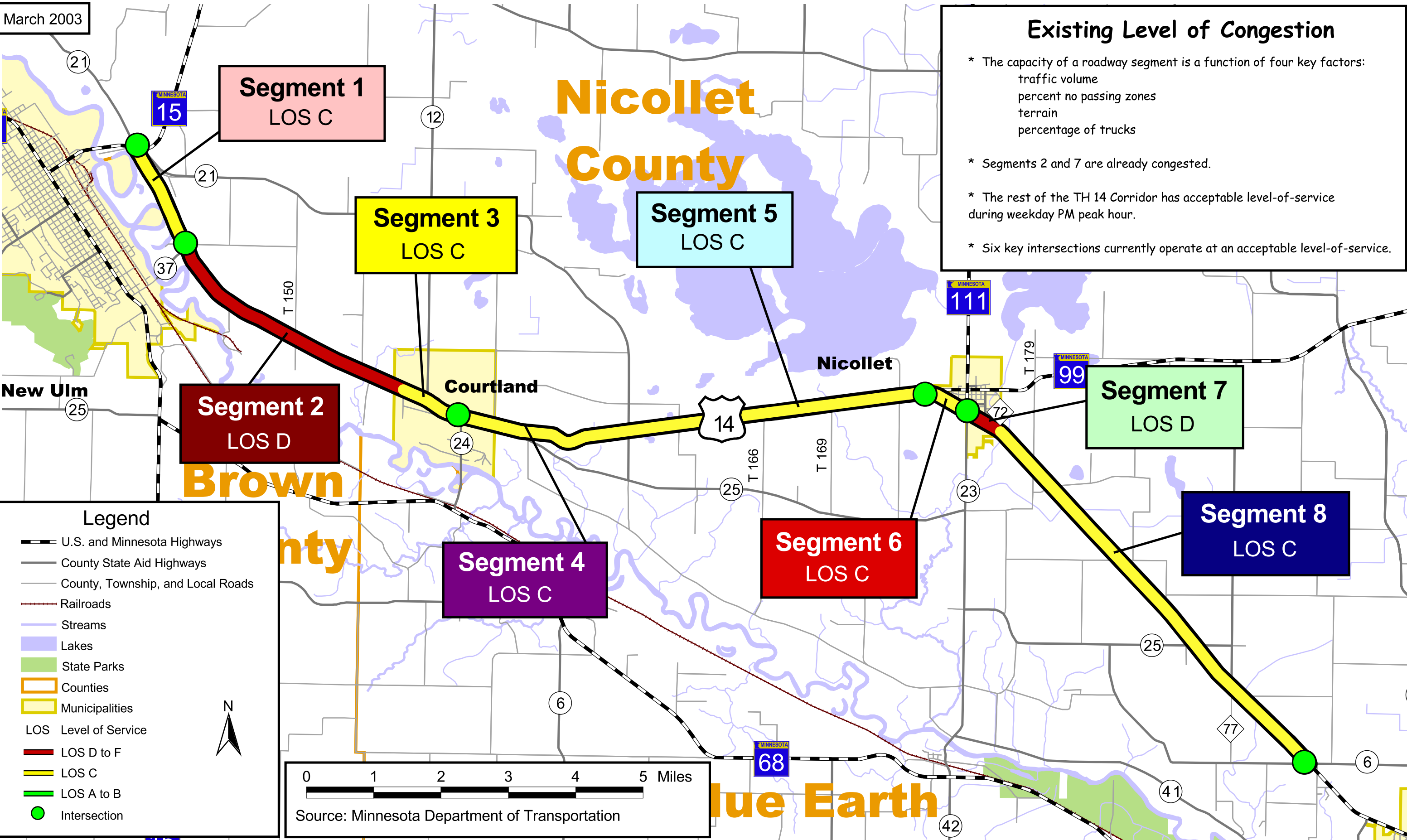
The 2025 intersection capacity analysis found that all intersections are expected to operate at LOS C or better except the intersection of TH 14 / TH 15 / CSAH 21. This intersection will operate at LOS F if traffic control remains as a through-STOP. The intersection was also analyzed with the traffic control increased to a four-way STOP that resulted in the intersection operating at LOS B.

Figure 2-6 shows the forecast 2025 roadway and intersection level of service.

March 2003

Existing Level of Congestion

- * The capacity of a roadway segment is a function of four key factors:
 - traffic volume
 - percent no passing zones
 - terrain
 - percentage of trucks
- * Segments 2 and 7 are already congested.
- * The rest of the TH 14 Corridor has acceptable level-of-service during weekday PM peak hour.
- * Six key intersections currently operate at an acceptable level-of-service.



March 2003

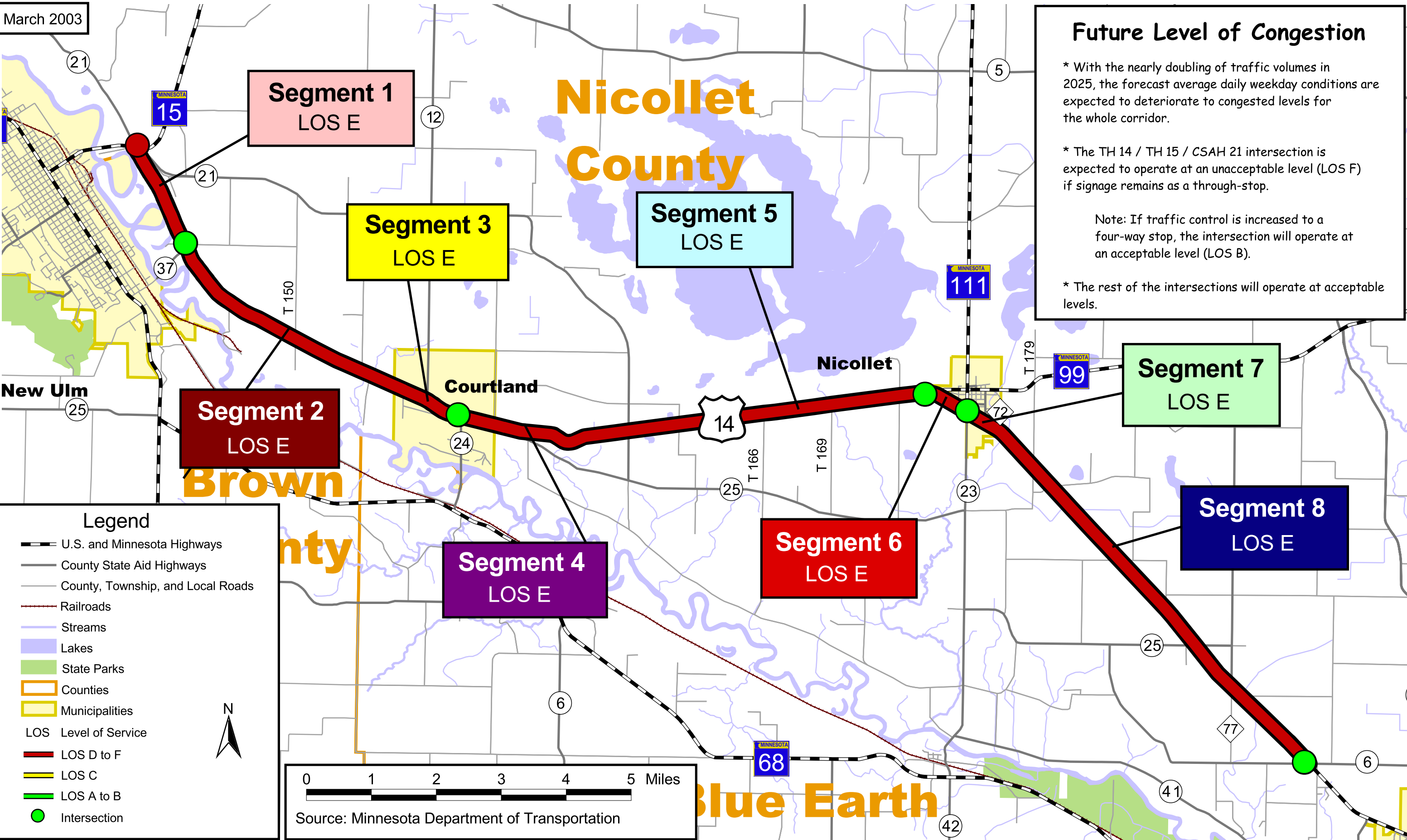
Future Level of Congestion

* With the nearly doubling of traffic volumes in 2025, the forecast average daily weekday conditions are expected to deteriorate to congested levels for the whole corridor.

* The TH 14 / TH 15 / CSAH 21 intersection is expected to operate at an unacceptable level (LOS F) if signage remains as a through-stop.

Note: If traffic control is increased to a four-way stop, the intersection will operate at an acceptable level (LOS B).

* The rest of the intersections will operate at acceptable levels.



14 West Interregional Corridor:
North Mankato to New Ulm

Figure 2-6
Year 2025 Intersection and Segment Level of Service



Signal Proliferation

The assessment of the probability of future traffic signal installation is one of the primary components used to estimate future levels of congestion and travel times along the corridor. An intersection is at risk of installing a traffic signal if the traffic volumes at the intersection exceed the thresholds identified in the Minnesota Manual on Uniform Traffic Control Devices. The signal risk evaluation in **Chapter 4 of the CMP** indicates the following intersections have a high risk for signal proliferation:

- TH 14 / TH 15 / CSAH 21
- TH 14 / CSAH 37
- TH 14 / TH 111 / CSAH 23.

It should be noted that installing traffic signals along rural highway corridors is considered to create a risk because of documented adverse effects on both intersection safety and corridor mobility.

Mobility - Existing and Future Travel Times

Mn/DOT's target goal for mobility for medium priority corridors such as TH 14 is 55 mph and above. The existing and future travel speeds in each segment are shown on **Table 2-5**. Currently, three of the four segments that are deficient are located in the Cities of Courtland and Nicollet, which have posted speed limits of 35 and 45 miles per hour, respectively. Overall, the corridor is currently operating at an average speed of 57 mph, above the Mn/DOT target goal.

The analysis of future travel speed consistent with Mn/DOT IRC guidelines indicates that estimated 2025 peak hour travel speeds are expected to drop to an average of 50 mph, which is below the 55 mph goal. The segments with the lowest travel speeds are located within urban or urbanizing areas.

GEOMETRIC DEFICIENCIES

Skew Angles – The basic alignment of the TH 14 West corridor runs at an angle that results in multiple intersections with skewed minor street approaches. The skewed angle approaches contribute to sight distance concerns. For example, the safety deficiencies at the TH 14 intersection with TH 111/CSAH 23 appear to be related to this type of skew angle.

Sight Distance – Two intersections have poor sight distance.

- CSAH 21 enters the mainline on the inside of a curve.
- CSAH 37- Horizontal and vertical curves to the west limit sight distances.

Horizontal Curves – The curve radius on the east leg of the TH 14/TH 15 intersection does not meet the 60 mph design speed.

**Table 2-5
Existing Year 2002 and Future Year 2025 Travel Times**

| Segment | 2002 Travel Speed (mph) | 2002 Performance | 2025 Travel Speed (mph) | 2025 Performance |
|--------------|-------------------------|------------------|-------------------------|------------------|
| 1 | 55.0* | Below | 49.1 | Below |
| 2 | 60.7 | At | 50.8 | Below |
| 3 | 56.6 | At | 31.2 | Below |
| 4 | 41.9 | Below | 27.9 | Below |
| 5 | 59.8 | At | 57.7 | At |
| 6 | 53.5 | Below | 41.0 | Below |
| 7 | 53.0 | Below | 27.8 | Below |
| 8 | 58.8 | At | 55.5 | At |
| Total | 57.3 | At | 50.2 | Below |

Source: Howard R. Green Company

*Note: Mn/DOT's performance goal is *above* 55 mph.

A summary of deficiencies in the TH 14 Corridor is shown on **Figure 2-7**. For a more detailed analysis that supports the safety, operational, and geometric deficiencies, see the **CMP, Chapter 3, Existing and Forecast Conditions, and Chapter 4, Identification of Deficiencies**.

MUNICIPAL COHESIVENESS

The existing alignment of TH 14 is located within the municipal boundaries of Courtland and Nicollet. Within the City of Courtland, the core of the City is concentrated along TH 14, with a mix of residential and commercial land use on the north and south side of the Corridor. Future land use plans include industrial development to the west and residential development to the northeast and south.

Within the City of Nicollet, development is concentrated to the north, consisting of mostly residential and commercial land uses. Commercial, industrial, and multi-family residential exist to the south of TH 14. Future development includes residential to the north of the City and commercial and industrial on the south at the west end of the Corridor. A school is also planned for construction to the north.

High truck traffic (approximately 15 percent of total daily traffic) and expected increases in traffic volumes act as a barrier between existing and future development, restricting the cohesiveness desired by the communities.

2.2 PROJECT NEED

The deficiencies in the TH 14 corridor indicate that the needs of this project include:

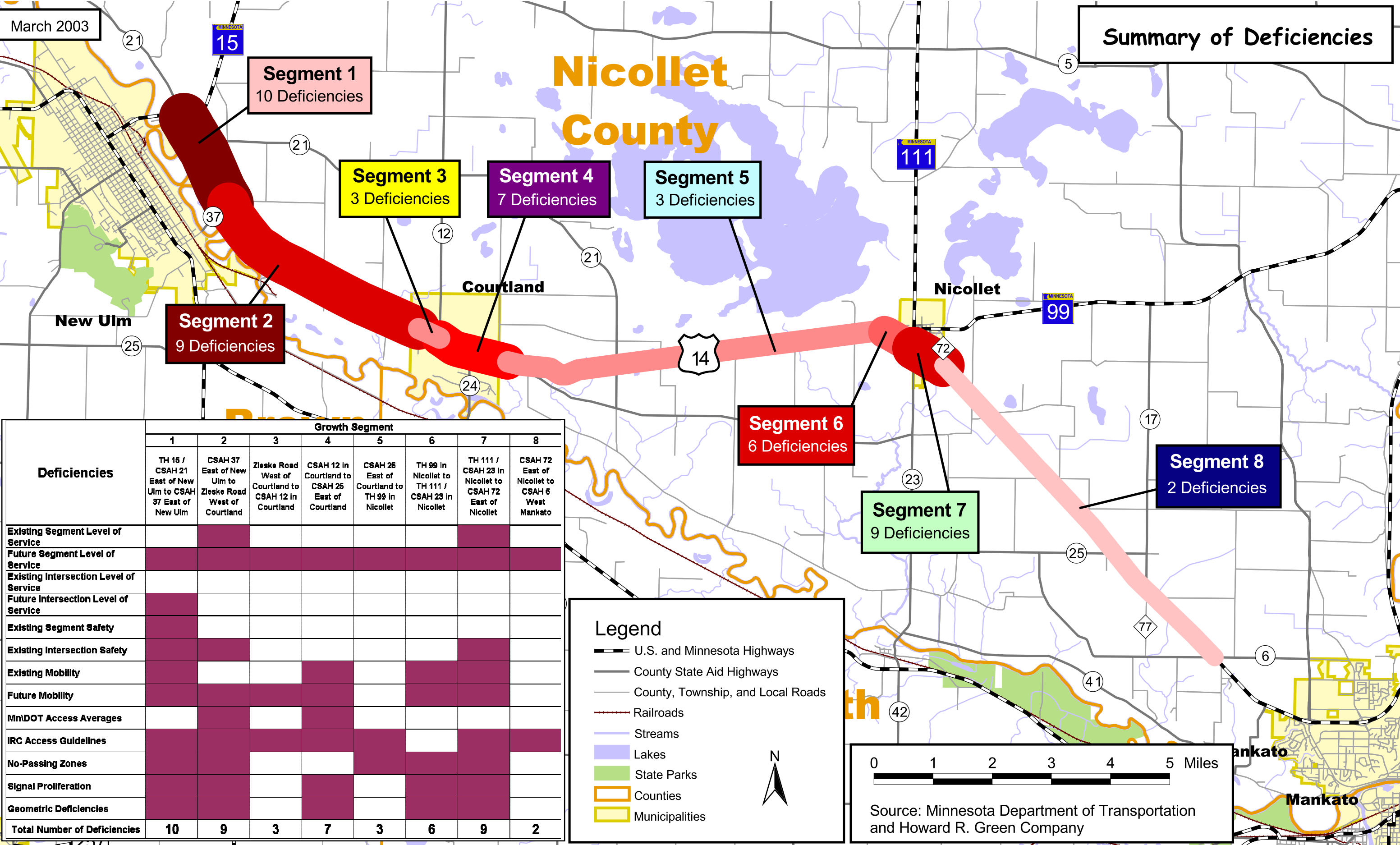
- Provide additional opportunities for safe passing.
- Provide intersection geometry and roadway design that have the potential to reduce the number of crashes on the roadway and at intersections.
- Maintain mobility on the roadway by limiting the number of traffic signals and managing access.
- Provide roadway capacity to accommodate forecast traffic volumes and meet Mn/DOT's *above 55 mph* IRC performance target.
- Maintain community cohesiveness.
- Provide reliable travel times for freight haulers.
- Maintain year round 10-ton status of roadway.

Figure 2-8 illustrates the purpose and need for the 14 West IRC: North Mankato to New Ulm project.

March 2003

Summary of Deficiencies

Nicollet County



| Deficiencies | Growth Segment | | | | | | | |
|--|----------------|----------|----------|----------|----------|----------|----------|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| TH 16 / CSAH 21 East of New Ulm to CSAH 37 East of New Ulm | | | | | | | | |
| CSAH 37 East of New Ulm to Zieske Road West of Courtland | | | | | | | | |
| Zieske Road West of Courtland to CSAH 12 in Courtland | | | | | | | | |
| CSAH 12 in Courtland to CSAH 25 East of Courtland | | | | | | | | |
| CSAH 25 East of Courtland to TH 99 in Nicollet | | | | | | | | |
| TH 99 in Nicollet to TH 111 / CSAH 23 in Nicollet | | | | | | | | |
| TH 111 / CSAH 23 in Nicollet to CSAH 72 East of Nicollet | | | | | | | | |
| CSAH 72 East of Nicollet to CSAH 6 West Mankato | | | | | | | | |
| Existing Segment Level of Service | | | | | | | | |
| Future Segment Level of Service | | | | | | | | |
| Existing Intersection Level of Service | | | | | | | | |
| Future Intersection Level of Service | | | | | | | | |
| Existing Segment Safety | | | | | | | | |
| Existing Intersection Safety | | | | | | | | |
| Existing Mobility | | | | | | | | |
| Future Mobility | | | | | | | | |
| MnDOT Access Averages | | | | | | | | |
| IRC Access Guidelines | | | | | | | | |
| No-Passing Zones | | | | | | | | |
| Signal Proliferation | | | | | | | | |
| Geometric Deficiencies | | | | | | | | |
| Total Number of Deficiencies | 10 | 9 | 3 | 7 | 3 | 6 | 9 | 2 |

Legend

- U.S. and Minnesota Highways
- County State Aid Highways
- County, Township, and Local Roads
- Railroads
- Streams
- Lakes
- State Parks
- Counties
- Municipalities

Source: Minnesota Department of Transportation and Howard R. Green Company

14 West Interregional Corridor:
North Mankato to New Ulm

Figure 2-7
Summary of Deficiencies

PROJECT PURPOSE AND NEED

Purpose:

Address present and future safety, operations, and geometric deficiencies along this 22-mile segment of TH 14, consistent with community and public expectations.

Needs:

Address these deficiencies:

Safety

- High crash rates at 3 intersections
- Lack of passing opportunities
- High levels of access, especially in Courtland

Traffic Operations

- Increasing traffic congestion
- High percentage of trucks
- Decreasing mobility
- High risk of adding traffic signals

Roadway Geometry

Community Cohesiveness in Courtland and Nicollet

