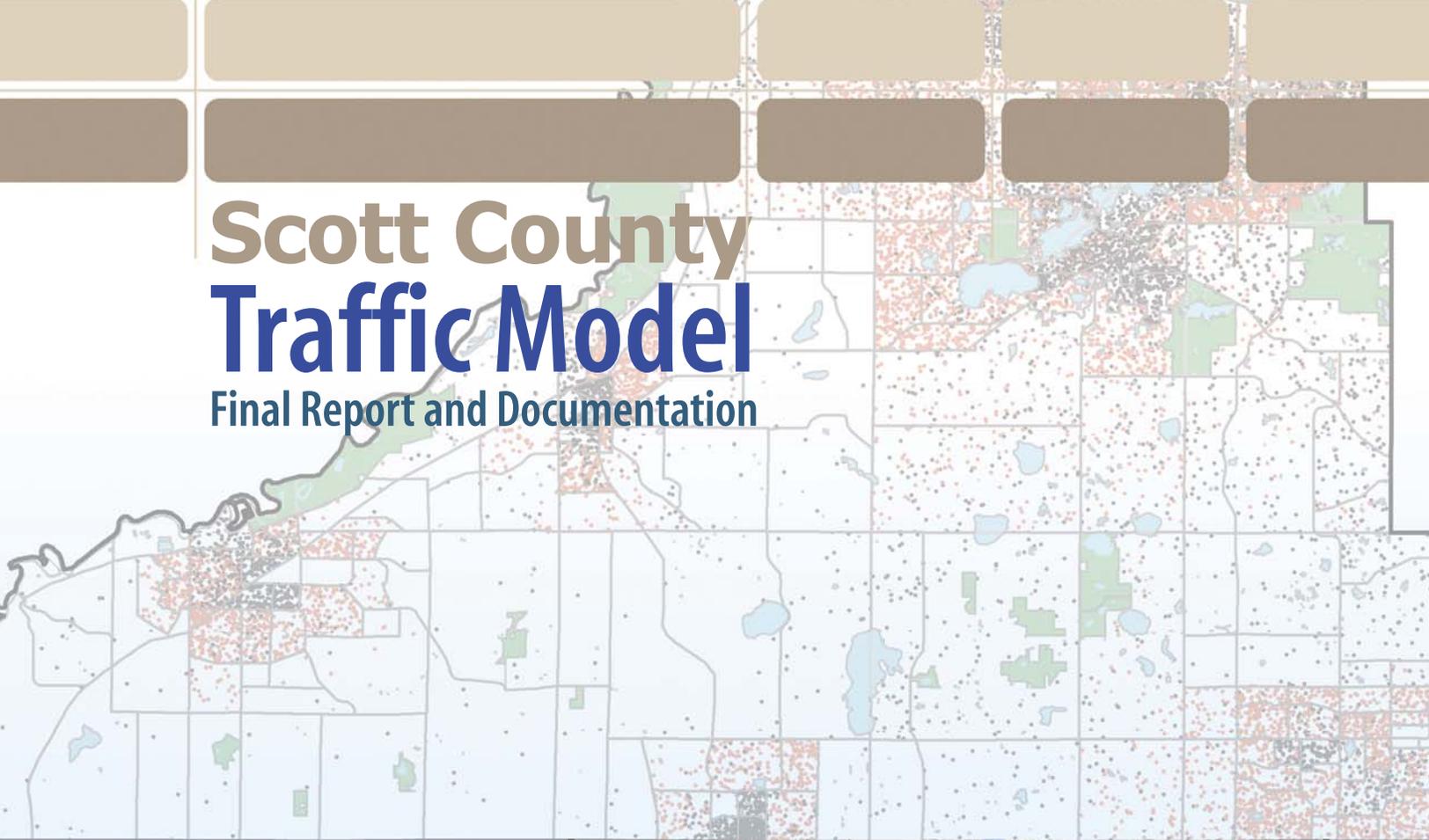


**APPENDIX C-6 - TRAFFIC MODELING REPORT, SRF CONSULTING  
GROUP**

# Scott County Traffic Model

Final Report and Documentation



March 2008

# **Scott County Traffic Model**

## **Final Report and Documentation**

**March 2008**

**Prepared for: Scott County**  
**Prepared by: SRF Consulting Group, Inc**

**SRF Consulting Group, Inc.**  
**One Carlson Parkway**  
**Minneapolis, MN**

**SRF No. 076129**

**SCOTT COUNTY TRAFFIC MODEL  
FINAL REPORT AND DOCUMENTATION**

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- Development Assumptions By TAZ
- Documentation of Model Structure
- Summary of Meetings With Local Communities

# **SCOTT COUNTY TRAFFIC MODEL FINAL REPORT AND DOCUMENTATION**

## **BACKGROUND AND PURPOSE**

Scott County is updating its comprehensive plan in part as a response to Metropolitan Planning Act Requirements. To assist that effort the County has developed a traffic model capable of:

- 1) Estimating future traffic volumes for the purposes of identifying capacity deficiencies and facility needs
- 2) Estimating the effect of long-range land use decisions
- 3) Supporting local comprehensive plan updates and traffic studies by providing the opportunity for a consistent method of estimating traffic volumes
- 4) Supporting future land use and transportation project planning

The structure of the model is such that County staff, using existing GIS datasets, will be able to maintain the input and forecast year records required as inputs to the model. Thus Scott County will be able to update its transportation plans and forecasts more cost-effectively by reducing the reliance on outside services for model development and maintenance.

The model was prepared in a manner to make it consistent with the Metropolitan Council's travel demand model. The County used the results of the model in developing its transportation chapter of the Scott County Transportation Plan.

Travel demand models are used to forecast the amount of travel on transportation facilities given assumptions of future development and transportation system improvements. The forecasts generated provide basic information about facility use (such as roadway volumes or transit ridership) and generalized travel impacts (such as vehicle miles of travel and vehicle hours of travel).

Travel demand forecasts developed for Scott County were based on a modified version of the Twin Cities regional travel demand model known as the "Collar County Model", which was developed for the Minnesota Department of Transportation (Mn/DOT) in 2005 to better estimate travel demand in the portions of the Twin Cities area. The model structure, software and nearly all of the parameters of the model are the same as that used by the Metropolitan Council in order to maintain consistency. However, the Collar County model provides more realistic results and relationships with the counties outside of the Metropolitan Council's jurisdiction, in this case LeSeuer, Rice and Sibley counties.

The model was refined to include sufficient detail to provide sufficient forecast volumes on county road segments. Some refinement of the forecasts may be warranted within urbanized areas to address local needs.

Two sets of forecasts were developed:

**2030 Existing plus Committed**, with development assumptions as directed by the Metropolitan Council Regional Development Framework (as of January 2007), regional roadway assumptions consistent with the Metropolitan Council Transportation Policy Plan (adopted in 2005), and selected county road improvements either programmed or identified in the current Scott County Transportation Plan. Descriptions of these improvements are listed in Table 3.

**2050 Illustrative Land Use**, with an unofficial estimate of potential development levels and resulting transportation needs that may be experienced by the year 2050. Roadway assumptions included those in the 2030 existing plus committed network, a new Minnesota River crossing connection between TH 169 and TH 41, additional capacity improvements and new facilities within Scott County. Descriptions of these improvements are listed in a subsequent section of this report.

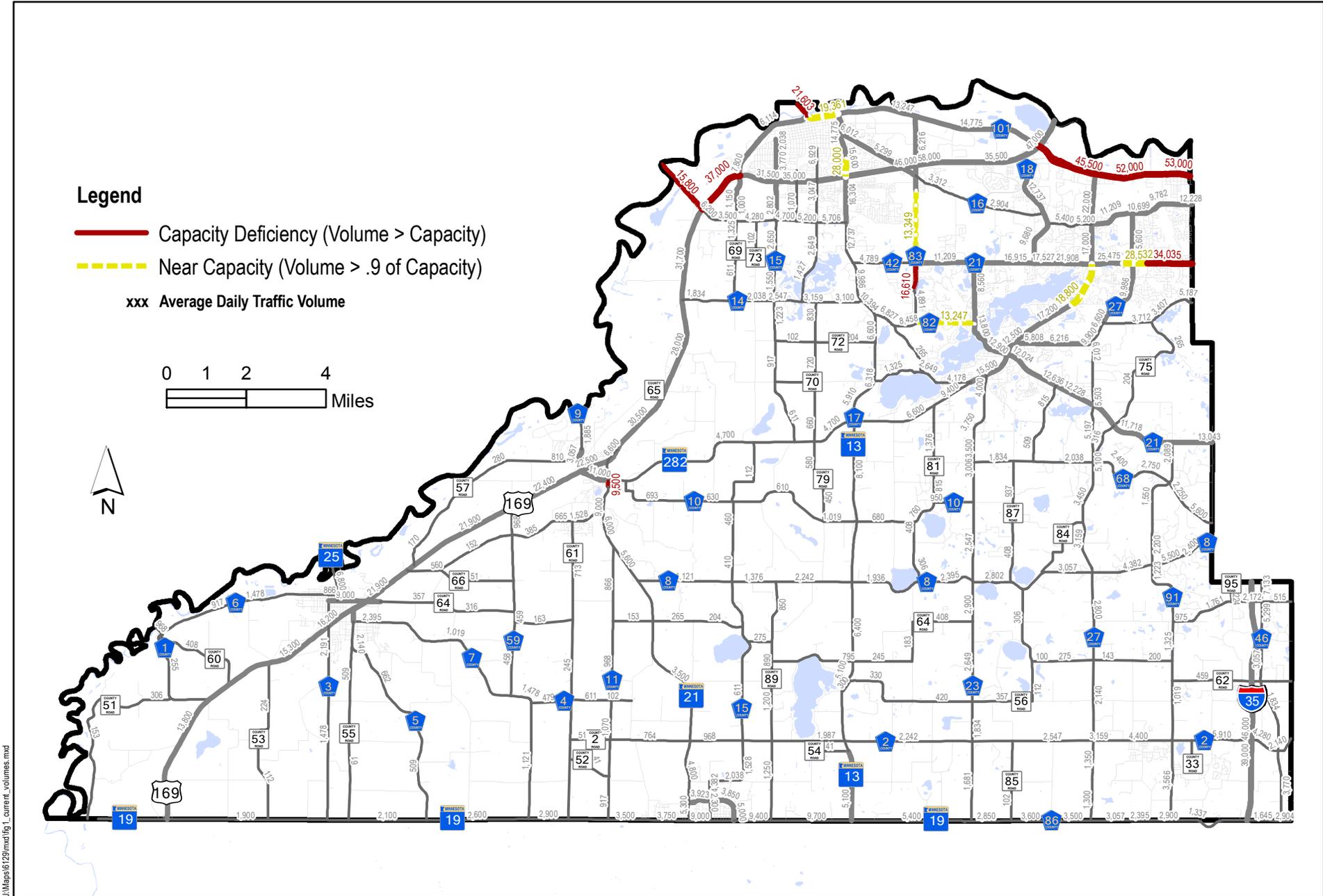
### **EXISTING CONDITIONS/ROADWAY DEFICIENCIES**

Figure 1 shows existing traffic volumes and current capacity deficiencies in Scott County. These deficiencies are based on generalized capacity assumptions as shown in Table 1. Analysis in this report defines congestion as the maximum value of the ranges shown in Table 1. Capacities in Table 1 reflect overall roadway lane-capacity with general consideration of access and access control, and not specific intersection-level capacity deficiencies.

The locations of current capacity problems are:

- TH 41, west of TH 169
- TH 169, between TH 41 and CSAH 69
- CSAH 83, south of CSAH 42
- TH 21, south of TH 282
- CSAH 42, east of CSAH 27
- TH 13, between TH 169 and CSAH 5 in Dakota County

Several other locations are nearing capacity as also shown in Figure 1.



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**EXISTING VOLUMES AND CAPACITY DEFICIENCIES**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

Figure 1

**Table 1  
Roadway Traffic Capacity Planning-Level Daily Thresholds**

<b>Cross-Section</b>	<b>Maximum Two-way ADT</b>
Two-lane undivided rural	ADT = 14,000 – 15,000
Two-lane undivided urban	ADT = 8,000 – 10,000
Two-lane divided urban ( <i>Three-lane</i> )	ADT = 14,000 – 17,000
Four-lane undivided urban	ADT = 18,000 – 22,000
Four-lane divided urban ( <i>Five-lane</i> )	ADT = 28,000 – 32,000
Four-lane expressway	ADT = 36,000 – 42,000
Four-lane divided rural	ADT = 35,000 – 38,000
Six-lane divided rural	ADT = 48,000 – 60,000
Four-lane freeway	ADT = 60,000 – 80,000
Six-lane freeway	ADT = 80,000 – 120,000

Definitions:

*Undivided* – An undivided roadway does not have a raised median separating opposing traffic or left-turn lanes for turning traffic.

*Divided* – A divided roadway has a raised median separating opposing traffic, left-turn lanes and right-turn lanes.

*Rural* – A rural design implies higher speeds, fewer cross streets/accesses and cross streets/accesses with low volumes.

*Urban* – An urban design implies lower speeds, more cross streets/accesses and cross streets/accesses with higher volumes.

*Expressway* – An expressway implies a divided roadway, higher speeds, and few cross streets (signalized), with a median separating opposing traffic, left-turn lanes and right-turn lanes.

*Freeway* – A freeway is a divided roadway with limited access and no traffic signals or other traffic control.

*The above table provides planning-level capacity thresholds for different roadway cross-sections. These thresholds can be used to identify existing and future capacity problems. However, because of variations in traffic peaking as well as roadway characteristics, which do not always fall neatly into the above categories, capacity/operational issues should be confirmed through other sources if possible.*

## 2030 FORECASTS

Future-year traffic volumes (and congestion levels) are determined by running the traffic model using assumptions regarding development levels and roadway system improvements for the forecast year of 2030.

### DEVELOPMENT ASSUMPTIONS

Table 2 shows the estimated existing and 2030 population, households and employment for each community in Scott County. The development assumptions used in this analysis are consistent with the Metropolitan Council's regional development framework totals (as of January 1, 2007).

The travel demand model uses sub-community geographic allocations, referred to as Transportation Analysis Zones (or TAZs) to better represent the impact of development on specific roadways. TAZ information, discussed in greater detail in the appendix, was developed for existing conditions primarily using parcel-level information from the Scott County geographic information systems database.

Meetings were held with planning and engineering staffs or representatives from each of the communities in Scott County and with County staff to discuss local planning issues, information availability and status of comprehensive plan updates for the Metropolitan Council. Information from these meetings was used to confirm existing development and transportation systems, and to identify future locations of development and roadway improvements. This data was used as input to the travel demand model.

New Prague, partially located in LeSeuer County, is not under the land planning jurisdiction of the Metropolitan Council but is also preparing a comprehensive plan update. The lands of the Shakopee Mdewakanton Sioux (Dakota) Community are similarly not under the jurisdiction of the Metropolitan Council. However, staffs of the MSDC and Scott County have shared available information. Appendix C summarizes the meetings held with the local communities.

It should be noted that for the purposes of this analysis if local communities estimated 2030 development levels were higher than those approved by the Metropolitan Council the growth was scaled back proportionately to match the Council's totals. Adjustments took into consideration municipal boundary shifts of orderly annexation agreements as of July 1, 2007.

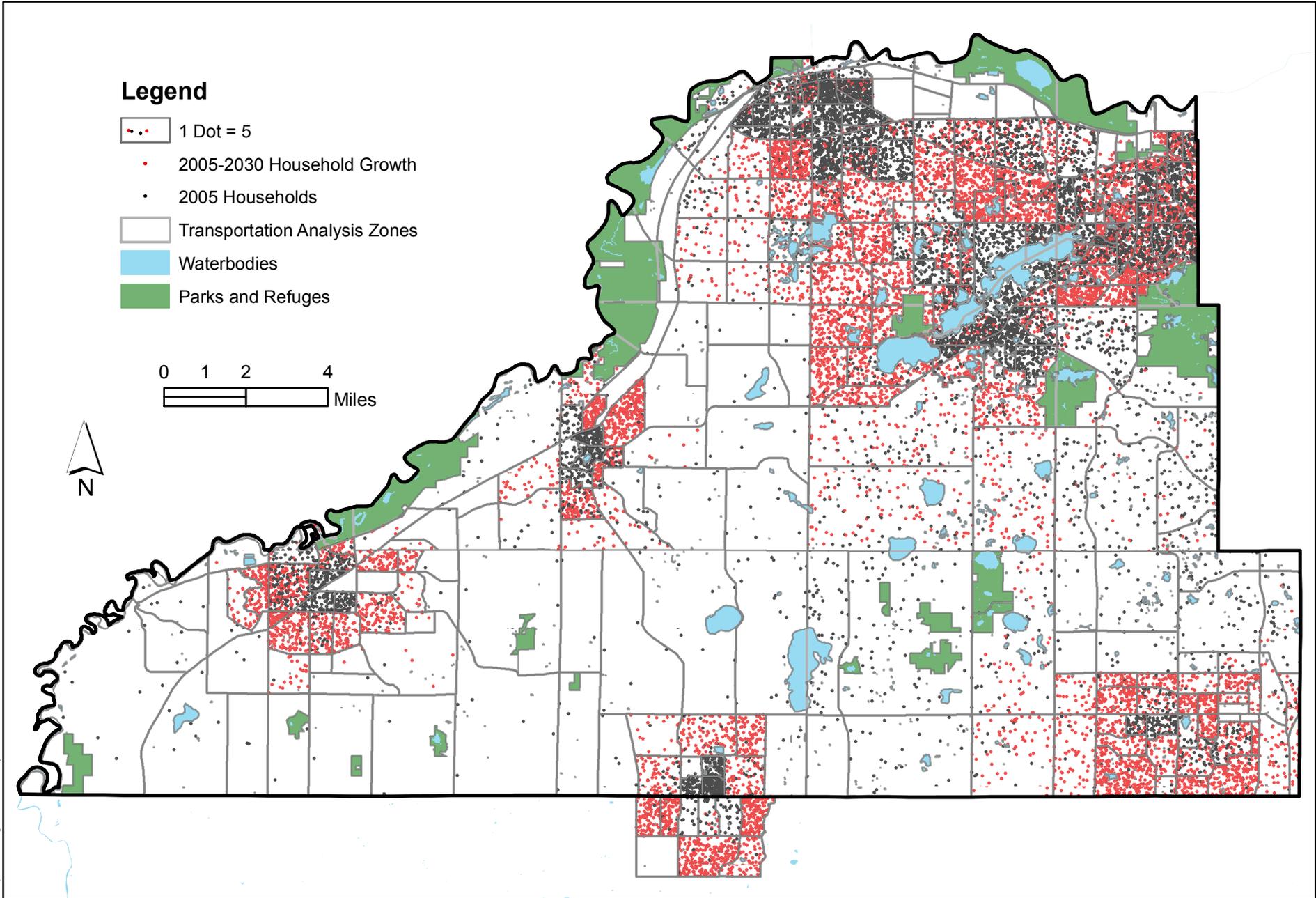
Figure 2 (for households) and Figure 3 (for employment) show a graphic representation of the forecast growth in Scott County. Much of the areas of Savage, northern Shakopee and Prior Lake area near-fully developed, as are the cores of the smaller urban communities (Jordon, Belle Plaine, New Prague and Elko-New Market). Growth in the future will continue to be dominated by expansion of the metropolitan core to the south (through Savage, Prior Lake and Shakopee), although the smaller cities will continue to urbanize. From 2000 to 2006 Scott County's population grew by 39 percent, making it the 21<sup>st</sup> fastest growing county in the U.S.

**Table 2**

Estimated Existing and 2030 Population, Households and Employment by Community in Scott County

Community	2005				2030			
	Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
Belle Plaine	6,590	2,360	500	1,280	16,300	6,500	1,000	1,700
Belle Plaine Twp.	910	310	10	90	1,300	500	10	80
Blakeley Twp.	470	170	0	50	800	310	0	80
Cedar Lake Twp.	2,740	910	0	90	3,700	1,400	40	40
Credit River Twp.	4,810	1,560	20	260	5,200	1,940	40	300
Elko New Market	3,310	1,070	70	390	20,800	8,000	130	1,120
Helena Twp.	1,680	530	50	410	2,200	800	10	100
Jackson Twp.	1,350	480	30	60	1,670	650	350	520
Jordan	5,150	1,830	360	1,330	11,500	4,600	360	1,510
Louisville Twp.	1,340	430	40	340	1,700	600	50	410
New Market Twp.	3,490	1,130	90	420	5,700	1,950	40	360
New Prague (pt)	4,250	1,580	250	1,780	7,200	3,000	400	2,750
Prior Lake*	21,540	8,050	750	7,670	40,000	17,200	1,500	13,000
St. Lawrence Twp.	510	170	10	110	1,400	500	20	200
Sand Creek Twp.	1,690	530	70	230	2,100	750	60	210
Savage	25,070	8,530	1,990	5,370	42,700	16,000	3,100	5,600
Shakopee	30,970	11,610	5,120	11,590	52,000	21,500	9,170	13,630
Spring Lake Twp.	3,790	1,270	80	270	5,500	1,990	70	230
<i>Total</i>	<i>119,660</i>	<i>42,520</i>	<i>9,440</i>	<i>31,740</i>	<i>221,770</i>	<i>88,190</i>	<i>16,350</i>	<i>41,840</i>

\*Prior Lake includes 1,200 additional households and 2,000 additional jobs in 2030 to account for potential increases in the Mdewakanton Sioux community.



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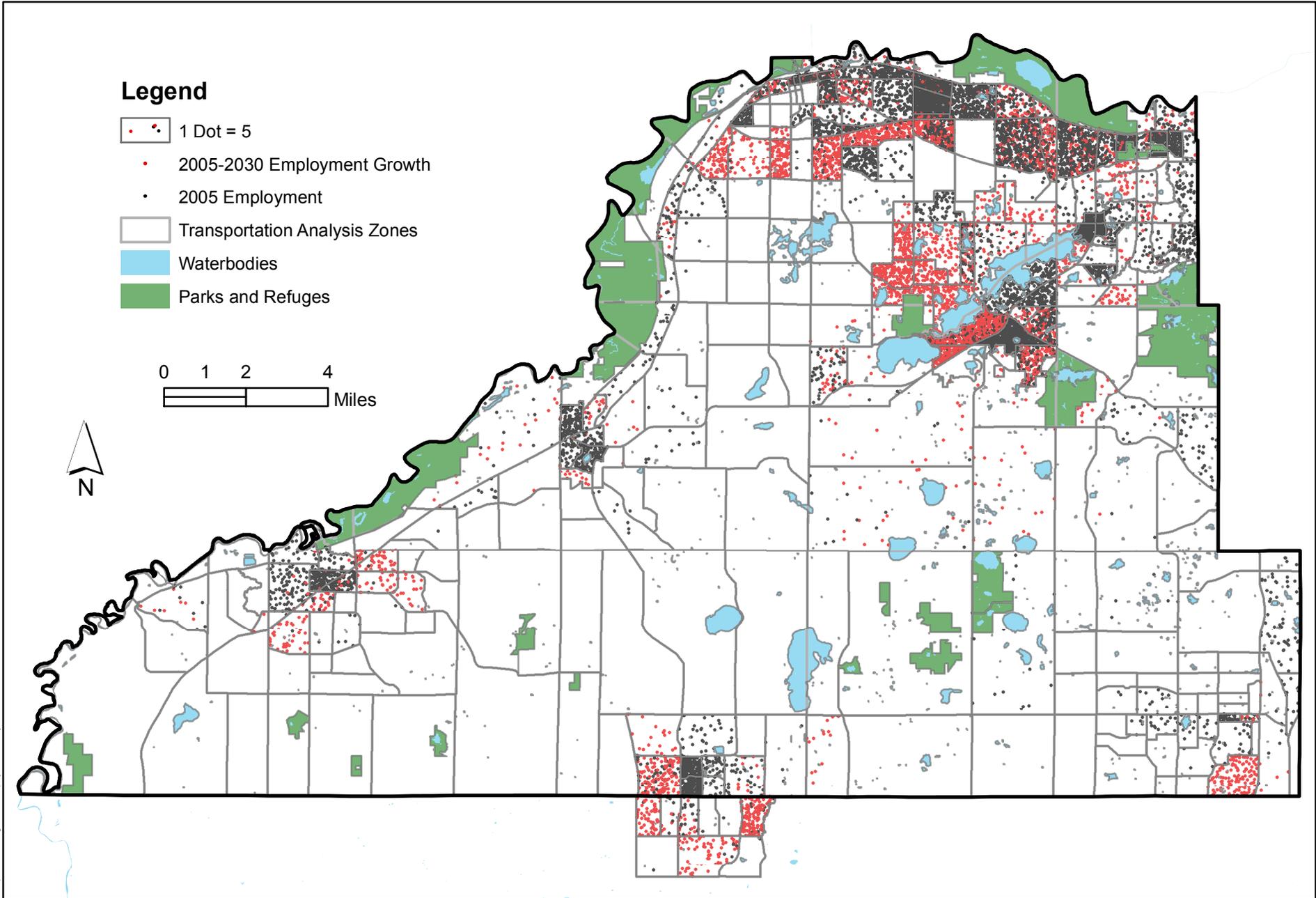


**2005 - 2030 RESIDENTIAL GROWTH FORECAST**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 2**



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**2005 - 2030 EMPLOYMENT GROWTH FORECAST**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 3**

## 2030 ROADWAY ASSUMPTIONS

The 2030 forecasts assume regional roadway improvements roadway improvements that are under construction and/or have already been programmed or funded. Scott County identified several improvements from its 2020 Transportation Plan (December 2000) that is still under consideration. The improvements are summarized in Table 3 and shown on a map in Figure 4.

**Table 3  
Roadway Improvements Assumed by 2030**

### **Scott County Improvements 2005-2030**

CSAH 21 new alignment between CSAH 42 and CSAH 18

CSAH 16 (Eagle Creek Blvd) local turnback between CSAH 17 and CSAH 83

CSAH 15 expand to 4-lane divided between TH 169 and 17th Ave

CSAH 17 expand to 4-lane divided between St. Francis and CSAH 42

CSAH 42 expand to 6-lane divided between Boone and Louisiana

CSAH 42 expand to 6-lane divided near Huntington and Glendale

CSAH 27 and CSAH 44 expand to 4-lane divided between Prior Lake CL and 0.3 mile north of CSAH 44

CR 81 realigned to north-south between CSAH 82 and CSAH 12

Intersection improvements at TH 21 and TH 282

New north-south roadway west of TH 169 between CR 64 and CSAH 5

CR 87 paved between CR 56 and CSAH 8

CR 56 paved between CSAH 23 and CR 87

New collector roadway between CSAH 68 and CSAH 21

CSAH 2 expand to 4-lanes between I-35 and CR 33

CSAH 37 new alignment between TH 21 and Naylor Ave

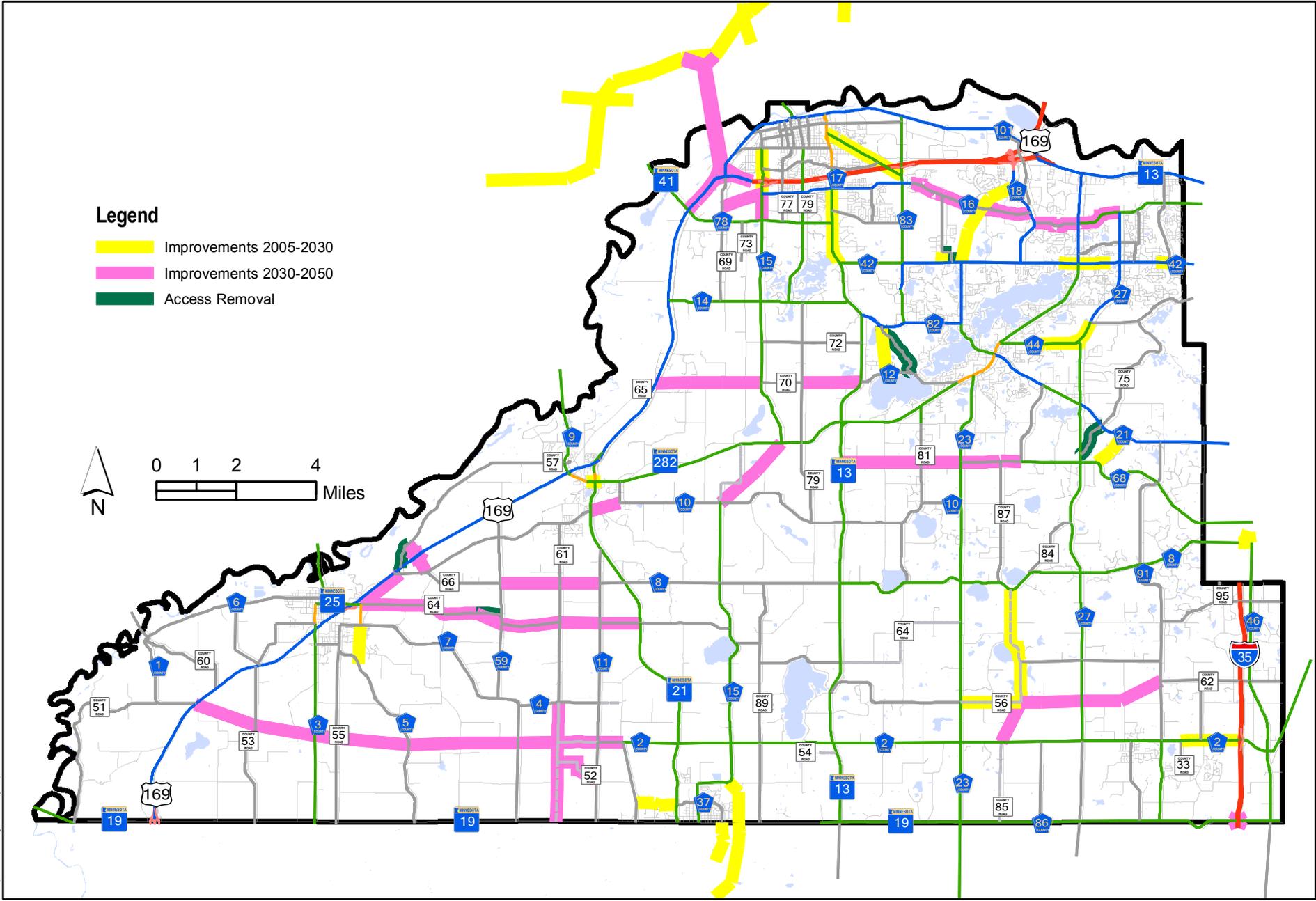
CSAH 15 new alignment between 270th St and Alton Ave

### **Regional Improvements 2005-2030**

TH 212 new 4-lane freeway between TH 5 and existing CSAH 140 (Carver Co)

Interchange reconstruction at I-35 and CSAH 70 (Dakota Co)

Improvements beyond the County borders were consistent with funded improvements from the current Mn/DOT Metropolitan District Transportation System Plan (2005). The main improvements include the completion of the new TH 212 freeway from Eden Prairie to Carver, reconstruction of the I-35/CSAH 50/60/70 interchanges in Dakota County and improvements to the TH 169/I-494 interchange.



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**Scott County Roadway Network Improvements**

Scott County Traffic Model  
 Scott County, Minnesota

**Figure 4**

## 2030 RESULTS

Scott County was estimated to have 42,520 households and 41,180 jobs in the year 2005, or a ratio of 0.97 jobs per household. By 2030 it is forecast that the residential growth will outpace commercial/industrial growth, such that the jobs/housing ratio will decrease to 0.63. One effect of this expected development pattern is that there will be additional commuting from the county to surrounding counties, resulting in higher traffic demand.

The Scott County traffic model estimates that vehicle miles of travel will increase from the current 3.1 million vehicle miles per day to 5.75 million vehicle miles per day (model estimate) by 2030, an increase of 86 percent. The increase will be particularly high on arterial and collector roadways.

**Table 4**  
**Scott County Transportation Model**  
**Vehicle Miles of Travel 2005 – 2030**

Facility Type	2005	2030	2005-2030 Percent Change
Freeway	643,251	912,692	42%
Expressway	605,569	1,066,471	76%
Ramps	51,026	67,450	32%
Divided Arterial	486,102	1,021,156	110%
Undivided Arterial	902,121	1,772,660	96%
Three-lane Roadway	36,572	59,318	62%
Collector	362,414	845,781	133%
Gravel Road	8,722	6,651	-24%
<i>Total</i>	<i>3,095,777</i>	<i>5,752,180</i>	<i>86%</i>

*Source: SRF, Scott County model*

Increases in traffic volumes in Scott County by 2030 result in a number of locations where congested is expected. These locations are depicted in Figure 5. Forecast daily traffic volumes for 2030 are also shown.

**Legend**

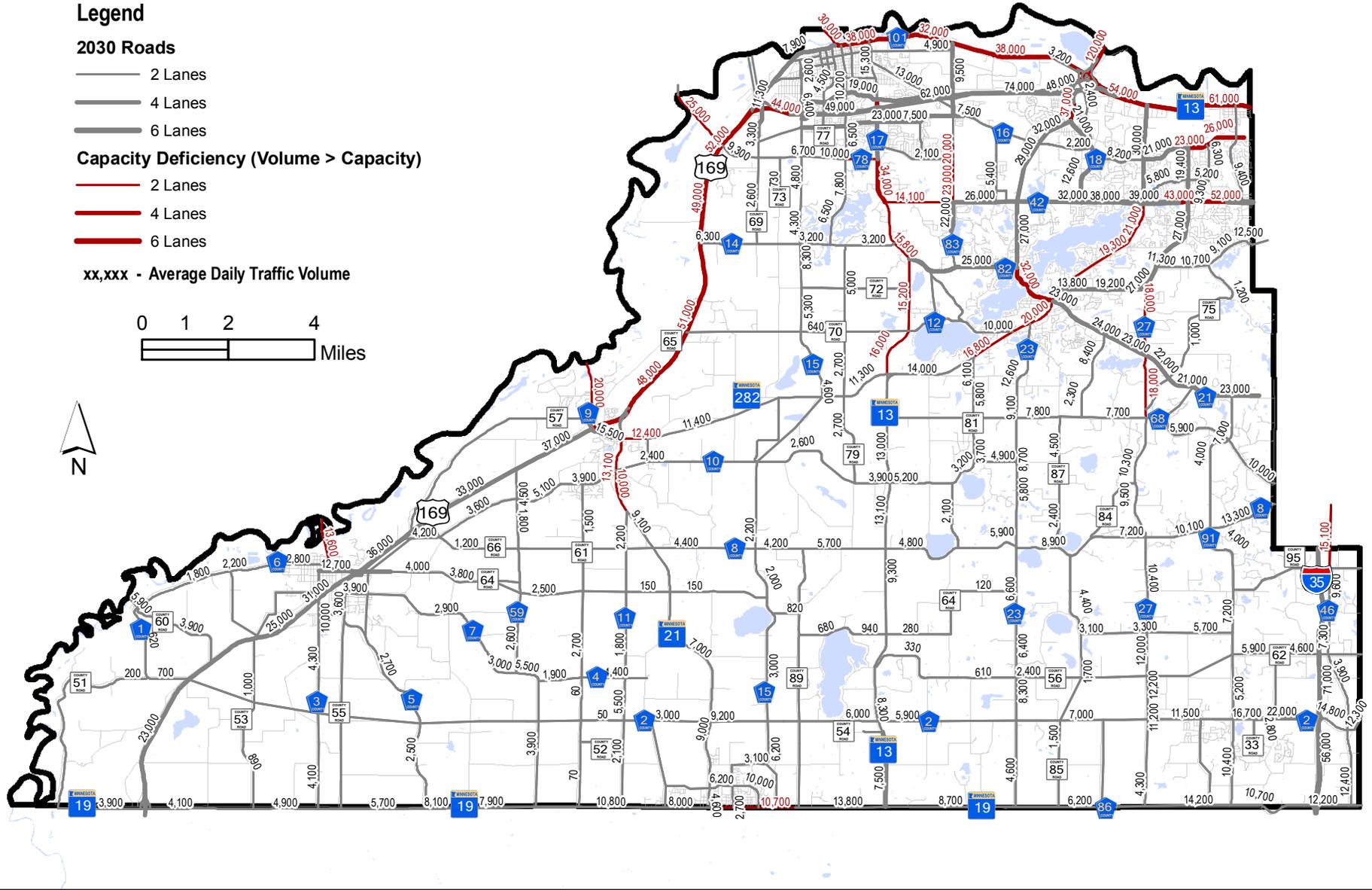
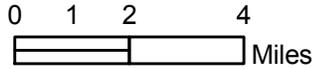
**2030 Roads**

- 2 Lanes
- 4 Lanes
- 6 Lanes

**Capacity Deficiency (Volume > Capacity)**

- 2 Lanes
- 4 Lanes
- 6 Lanes

xx,xxx - Average Daily Traffic Volume



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**2030 FORECAST VOLUMES AND CAPACITY DEFICIENCIES**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 5**

## ILLUSTRATIVE 2050/BUILDOUT SCENARIO

An illustrative planning scenario was modeled to assess transportation needs beyond 2030. For the purpose of modeling, the forecasts are estimated as nominally occurring in the Year 2050. Forecasts beyond that time frame involve a significant amount of uncertainty with respect to roadway assumptions, travel behavior as well as development patterns, such that the value of the forecasts is diminished. However, this alternative provides a reasonable snapshot of a potential condition in the County. The land capacity in Scott County is capable of accommodating significantly more development than described in this section.

While community-level and TAZ-level were developed for the purposes of operating the travel demand model, they are not included in this report since they do not represent any officially adopted forecast. The purpose was to provide an order-of-magnitude forecast for the County.

### DEVELOPMENT ASSUMPTIONS

One of the impetuses for the forecasts is a potential new wastewater treatment facility on the Minnesota River between Jordan and Belle Plaine, which would greatly expand the ability to serve residential development with sewer services. In addition, the Elko New Market area will be served by the metropolitan wastewater treatment system by 2010, resulting in increased development opportunities in that area.

The general assumptions used in developing 2050 growth allocations (summarized in Table 5 and depicted graphically in Figures 5 and 6) were as follows:

- Residential growth will still occur primarily in the urbanized portions of the County, with an assumed 2/3rds of the growth in the existing metropolitan urban service area of Savage, Shakopee and Prior Lake or the small urban centers of Elko New Market, New Prague, Belle Plaine and Jordan
- To the extent to which infill or typical suburban densification may occur, development will continue in the northern tier of communities contiguous to the metropolitan core (Prior Lake, Savage, and Shakopee) consistent with recent development patterns
- The remainder of residential development will occur in the rural area at densities as determined by the County, including expansion of small urban areas and development at the fringe of the urban areas.
- Employment growth was assumed at rates faster than that for residential development, to increase the balance of jobs and housing in Scott County to the regional level
- A new commercial center was assumed in the area surrounding TH 13/TH 282/CSAH 17.
- Retail growth proportional to population growth in TAZs

A control target of 375,000 population was used for Scott County, which approximates an extrapolation of a 2035 projection from the Minnesota State Demographer's office adjusted to reflect the Metropolitan Council's 2030 forecast.

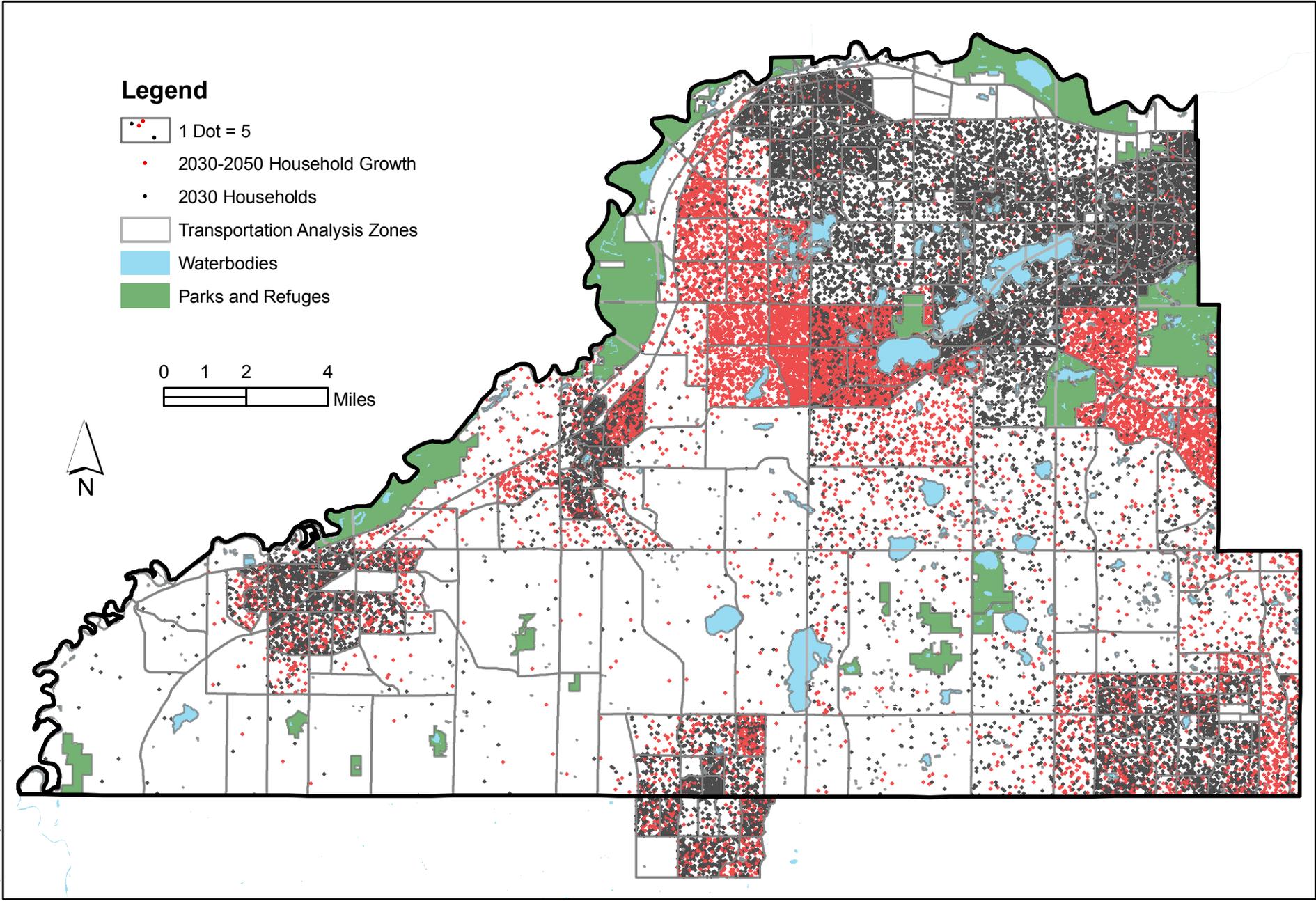
**Table 5  
Scott County General Growth Assumptions**

	2005		2030		2050	
	Households	Employment	Households	Employment	Households	Employment
Metropolitan Urban	28,200	32,500	54,700	48,700	78,900	86,600
Small Urban	6,900	6,000	22,100	9,000	37,300	33,200
Rural/Other	7,500	2,700	11,400	3,400	30,700	37,700
Total	42,600	41,200	88,200	61,100	146,900	157,500

Development outside of the Scott County area was assumed to increase as well in order to better reflect potential interaction with areas outside of Scott County. While no official 2050 forecasts exist, background information from the Metropolitan Council's *Water Supply Planning in the Twin Cities Metropolitan Area Technical Report (January, 2007), Appendix E* was used as a general guide to establish growth patterns from 2030 to 2050. Retail development was forecast to be consistent with the amount and location of residential locations (primarily in the currently developing suburban areas or the next tier of urban area). Other employment was generally assumed to develop consistent with 2030 growth patterns and to maintain the current jobs/housing balance in the region.

The overall seven-county metropolitan area totals for the 2050 scenario were:

- Population: 4.26 million
- Households: 1.73 million
- Employment: 2.46 million



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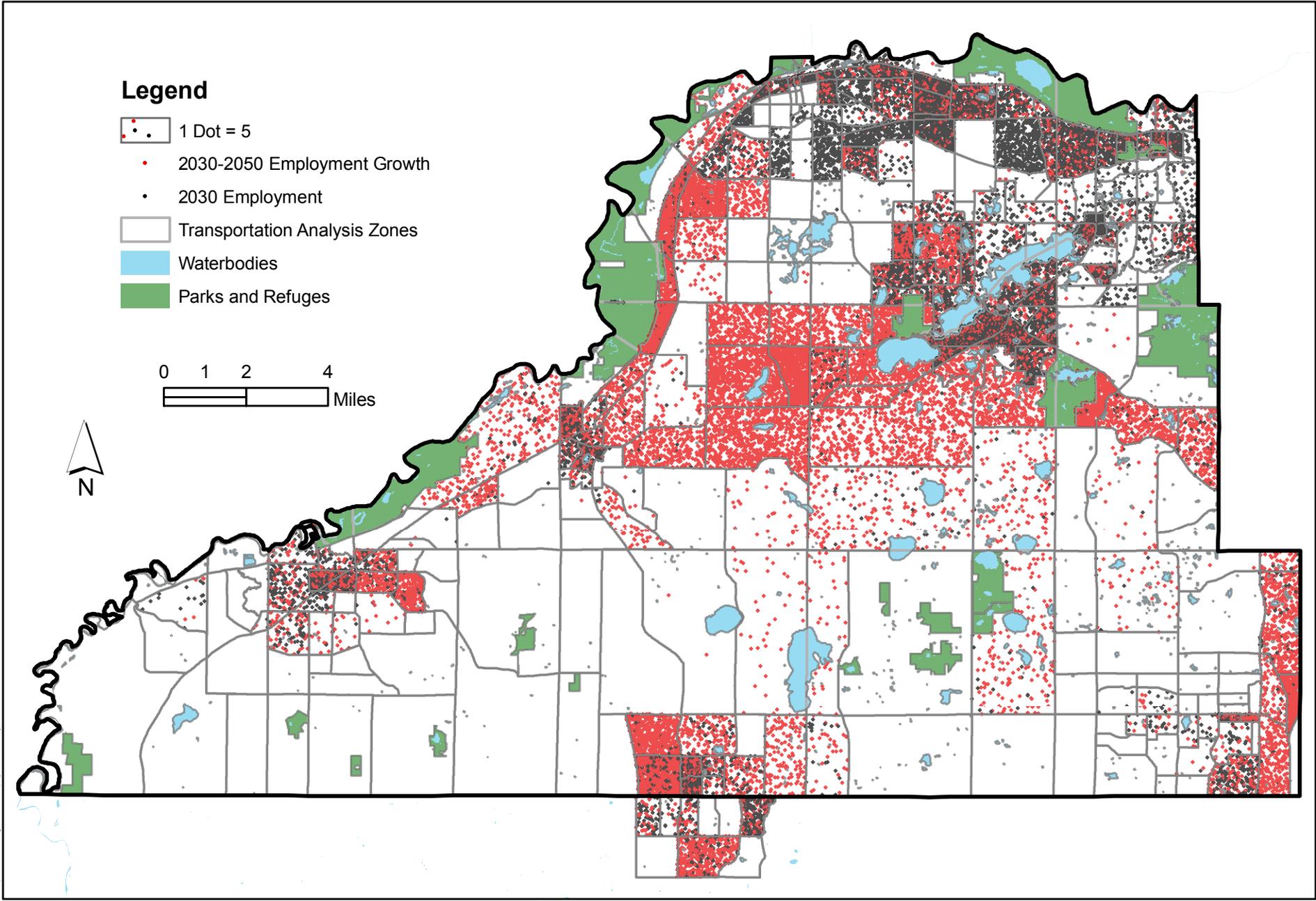


**2030 - 2050 RESIDENTIAL GROWTH FORECAST**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 6**



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**2030 - 2050 EMPLOYMENT GROWTH FORECAST**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 7**

## ILLUSTRATIVE 2050/BUILDOUT ROADWAY ASSUMPTIONS

The following county road improvements were assumed as part of the base 2050 scenario:

- CSAH 15 expand to 3-lane roadway between CSAH 16 and CSAH 78
- CSAH 16 expand to 4-lane divided between CSAH 27 and CSAH 83
- CSAH 16 new 4-lane divided roadway between CSAH 15 and CR 69
- CR 61 paved between CSAH 4 and TH 19
- CR 71 realignment between TH 282 and CSAH 10
- TH 169 upgraded to 4-lane freeway between CR 69 and TH 41
- Bohnsack Way paved between CR 61 and CSAH 11
- New 2-lane roadway on CSAH 70 alignment between TH 169 and CSAH 15
- New 2-lane roadway on CSAH 70 alignment between CR 79 and CSAH 17
- New 2-lane roadway on CSAH 68 alignment between CSAH 17 and CSAH 23
- New 2-lane roadway connecting CR 64 between CR 61 and CSAH 11
- New 2-lane roadway on CSAH 2 alignment between TH 169 and CR 61
- New 2-lane roadway on CR 56 alignment between CR 87 and CR 91
- New 2-lane roadway on CR 87 alignment between BR 56 and CSAH 2
- New 3-lane roadway between CR 10 and TH 21 in Jordan
- New frontage road along east side of TH 169 between CR 64 and CSAH 7
- New interchange at I-35 and CSAH 86
- New interchange on TH 169 at CR 66 and Park Blvd
- New regional river crossing between TH 169 and TH 212 (Scott Co and Carver Co)

## TRAFFIC ANALYSIS

As seen in Table 6 significant increases could be expected along the freeway corridors (which would include TH 169 by 2050), which would correspond to the development of Belle Plaine and Jordan. The greatest increases would be for the currently-undivided arterials, which would be consistent with the need to expand the capacity of those roadways as the urbanized areas expand into currently rural parts of the County.

**Table 6**  
**Vehicle Miles of Travel: 2005-2050**

Facility Type	2005	2030	2050	2030-2050 Percent Change
Freeway	643,251	912,692	1,507,699	65%
Expressway	605,569	1,066,471	1,451,925	36%
Ramps	51,026	67,450	153,183	127%
Divided Arterial	486,102	1,021,156	1,507,057	48%
Undivided Arterial	902,121	1,772,660	3,190,179	80%
Three-lane Roadway	36,572	59,318	89,299	51%
Collector	362,414	845,781	1,737,105	105%
Gravel Road	8,722	6,651	11,474	73%
<i>Total</i>	<i>3,095,777</i>	<i>5,752,180</i>	<i>9,647,921</i>	<i>68%</i>

Source: SRF, Scott County model

**Legend**

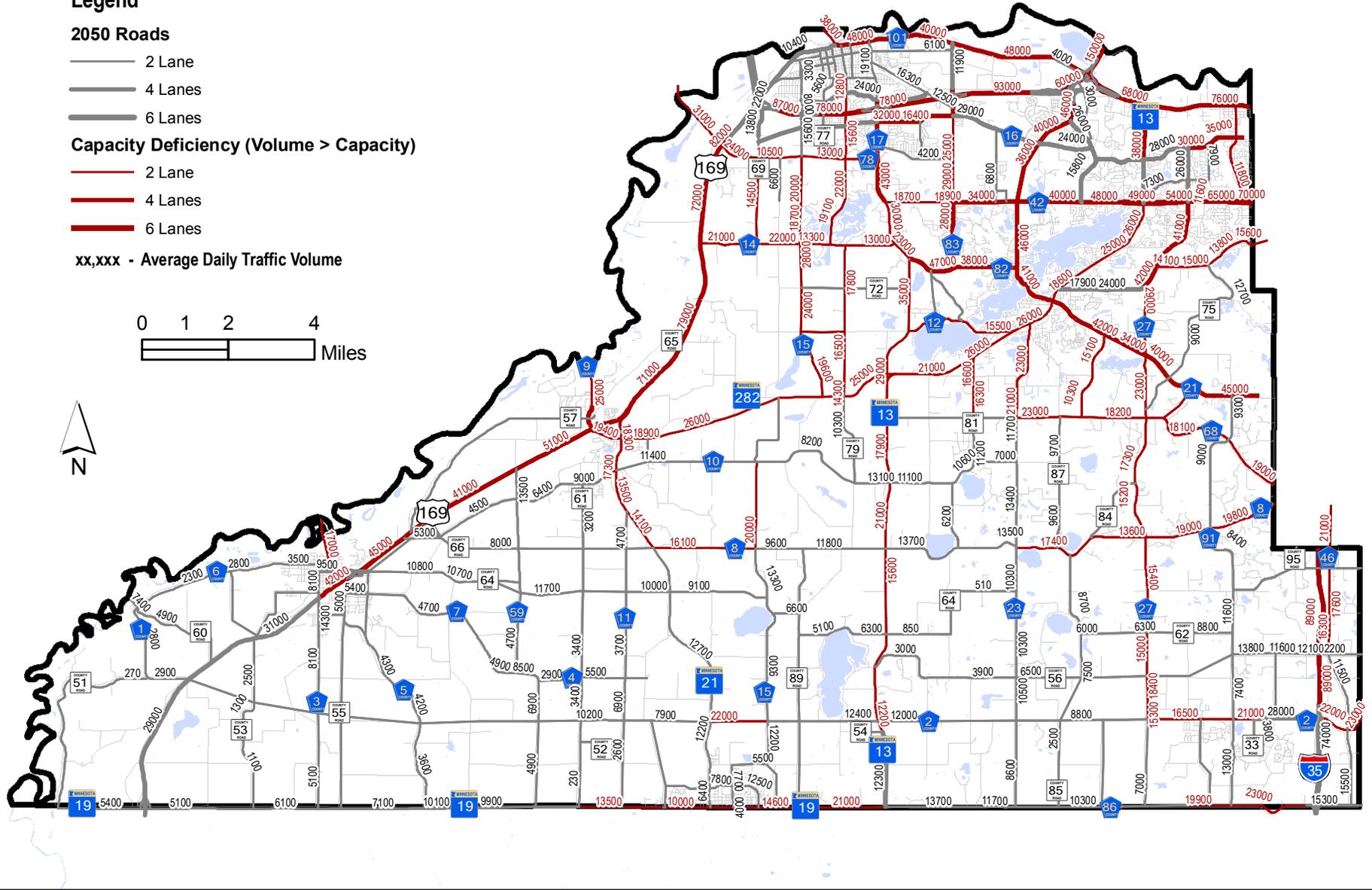
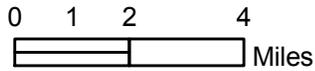
**2050 Roads**

- 2 Lane
- 4 Lanes
- 6 Lanes

**Capacity Deficiency (Volume > Capacity)**

- 2 Lane
- 4 Lanes
- 6 Lanes

xx,xxx - Average Daily Traffic Volume



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**ILLUSTRATIVE 2050 BUILDOUT FORECAST VOLUMES AND CAPACITY DEFICIENCIES**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 8**

## SCOTT COUNTY TRAFFIC MODEL DEVELOPMENT

The Scott County model was developed for use by Scott County, its local communities and others to prepare and analyze the traffic impacts of potential land development or transportation scenarios. The primary applications of the model are intended to be:

1. Estimating future traffic volumes for the purposes of identifying capacity deficiencies and facility needs
2. Estimating the effect of long-range land use decisions
3. Supporting local comprehensive plan updates and traffic studies by providing the opportunity for a consistent method of estimating traffic volumes
4. Supporting future land use and transportation project planning

The model was prepared in a manner to make it consistent with the Metropolitan Council's travel demand model. The County used the results of the model in developing its transportation chapter of the Scott County Transportation Plan.

The Scott County model is based on a modified version of the Twin Cities regional travel demand model known as the "Collar County Model", which was developed for Mn/DOT in 2005 to better estimate travel demand in the portions of the Twin Cities area. The Collar County model provides more realistic results and relationships with the counties outside of the Metropolitan Council's jurisdiction, in this case LeSeuer, Rice and Sibley counties. Scott County is located entirely outside of the I-494/I-694 beltway, which is considered the point at which the Twin Cities regional model clearly performs more realistically. Sensitivity tests show

The model structure, software and nearly all of the parameters of the model are the same as that used by the Metropolitan Council in order to maintain consistency. Consequently, any user with experience and familiarity with the Metropolitan Council's travel demand model should be readily able to use the Scott County model.

The model was validated through multiple iterations until the travel patterns and choices of modes and routes reflected the current traffic patterns. Then, future socioeconomic and future roadway system data was incorporated into the model to generate the various forecast scenarios.

### TRAVEL DEMAND MODELING PROCESS

Figure 8 shows the general flow of the Scott County model.

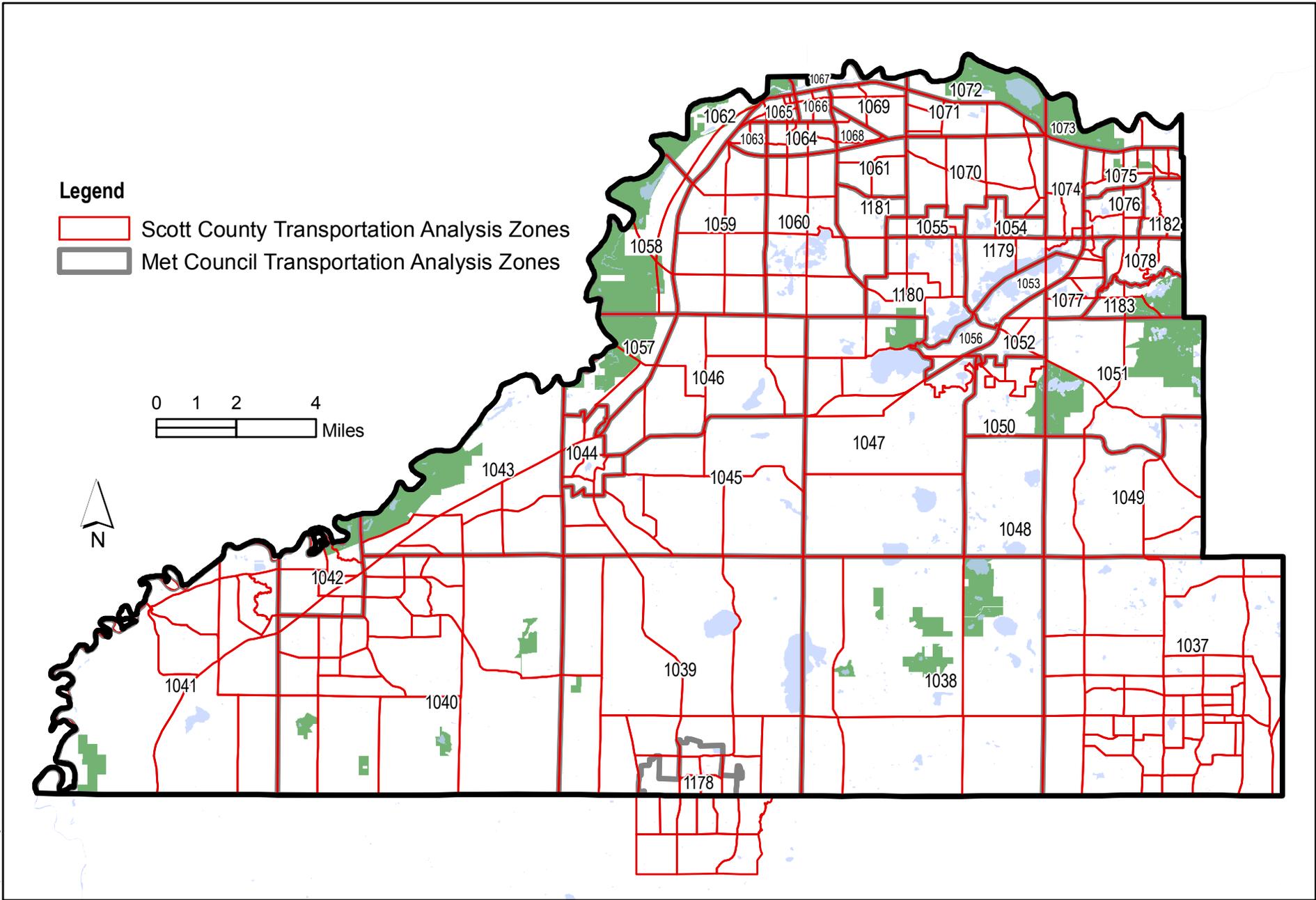
#### **Zonal Data Representation**

The travel demand model uses development activity as expressed by population, household, retail employment and non-retail employment to estimate travel activity. Scott County area is represented by 48 zones (transportation analysis zones, also known as TAZs) in the Metropolitan Council and Collar County model, which were further divided into a total of 300 zones to better reflect the location of development within Scott County. Additionally, Collar County zone number 1417 in Le Sueur County was divided into nine zones to provide additional detail around the City of New Prague.

The Scott County GIS-based parcel data file was used to identify the quantities of various land uses within each County model TAZ. Conversion rates were used to estimate the socio-economic totals from the land uses contained in the parcel data. One dwelling unit was considered to be one household and the average household size was 2.81 persons throughout Scott County. Employment land uses were calculated using the rates below.

- Office: 3.11 non-retail employees per 1,000 square feet
- Retail: 2.62 retail employees per 1,000 square feet
- Hotel/Motel: 0.48 retail employees per 1,000 square feet
- Institutional: 1.26 non-retail employees per 1,000 square feet
- Industrial: 1.10 non-retail employees per 1,000 square feet

Local communities provided input for the allocation of existing and future-year development data into the zones. However, in some cases the locally planned development levels exceeded those of the Metropolitan Council's regional development framework. Where that occurred, the County scaled back the local growth to meet the regional control totals for the purposes of the 2030 forecast.



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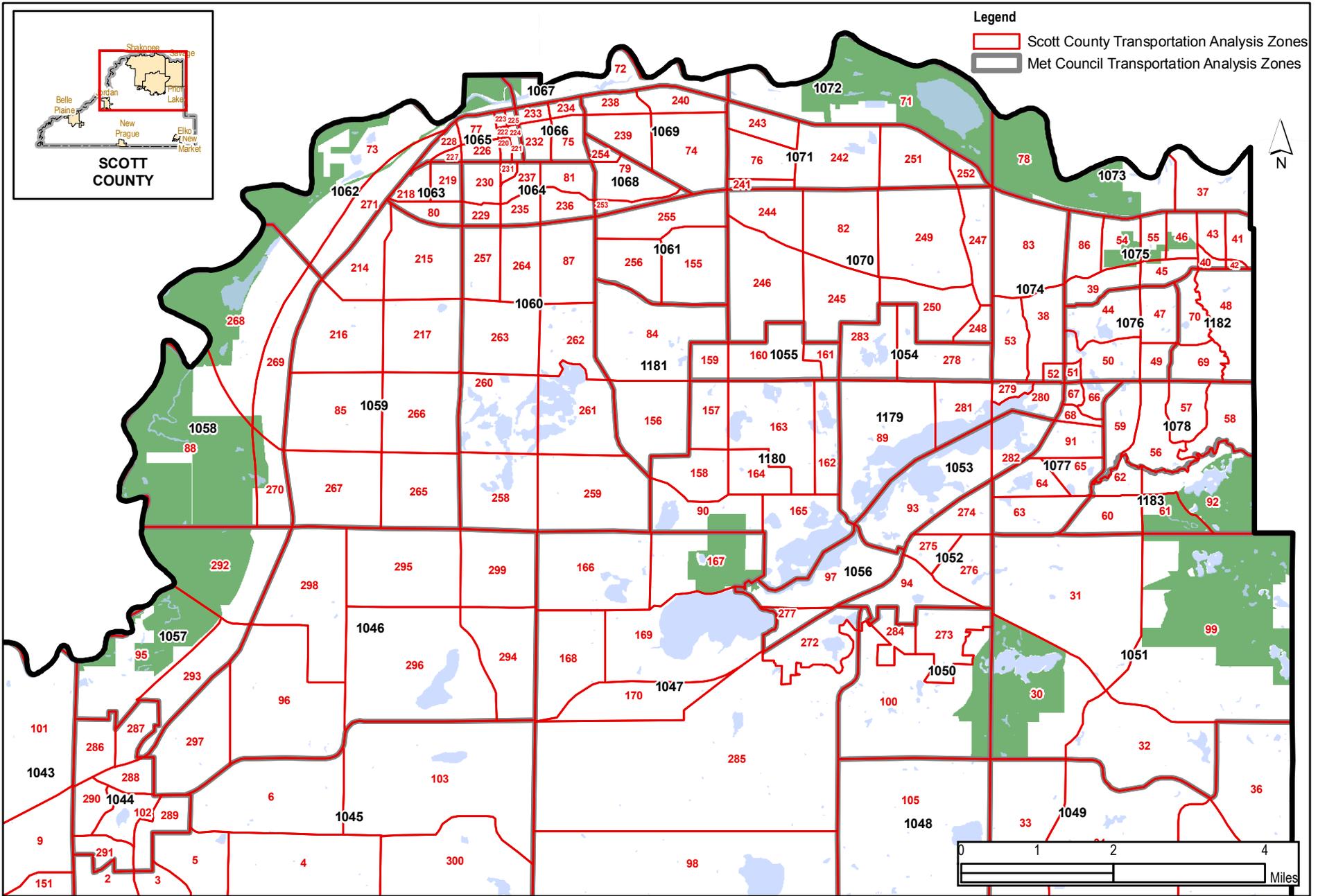


**SCOTT COUNTY AND METROPOLITAN COUNCIL ZONES**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

Figure 9



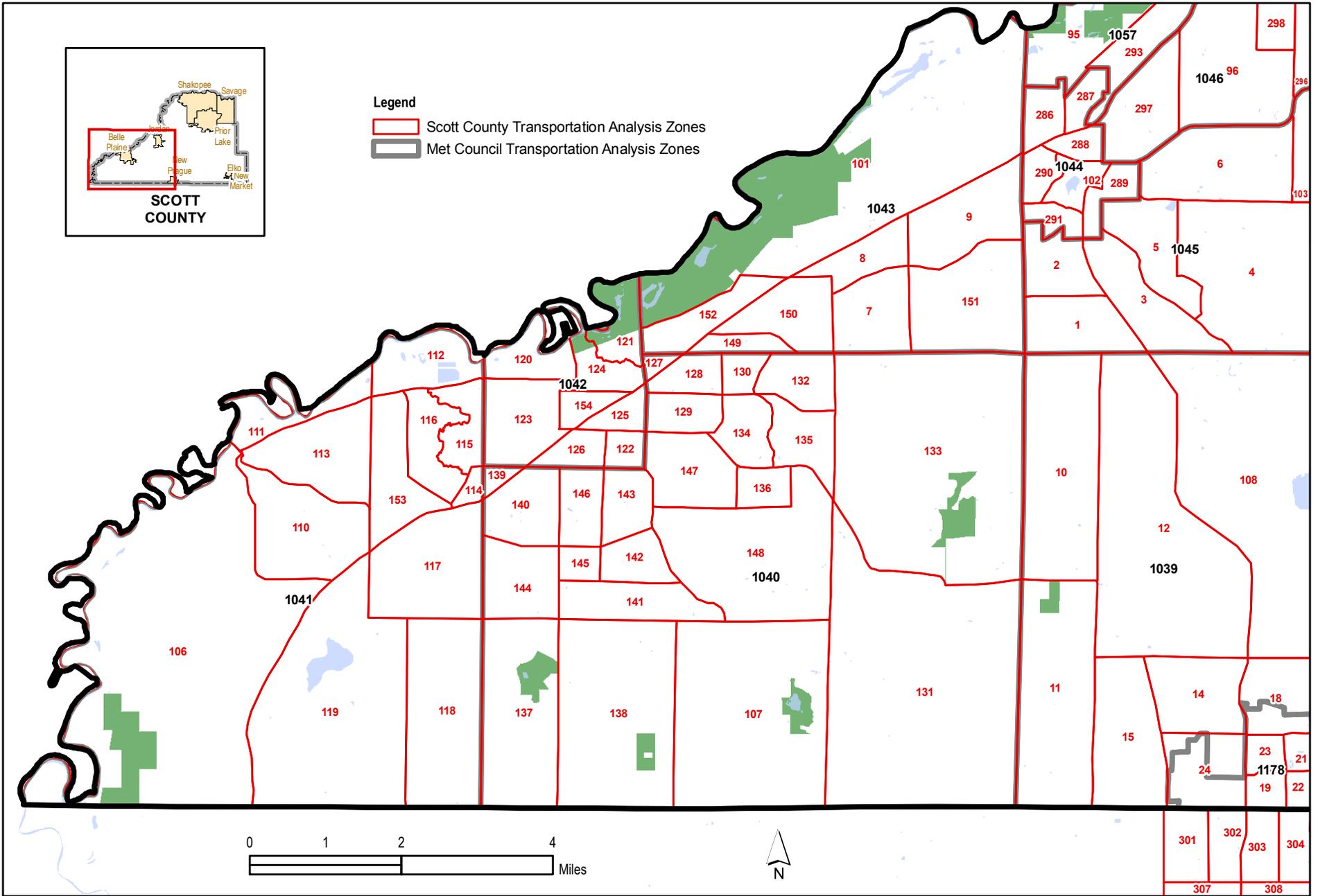
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**SCOTT COUNTY AND METROPOLITAN COUNCIL ZONES**

SCOTT COUNTY TRAFFIC MODEL  
Scott County, Minnesota

Figure 9-A

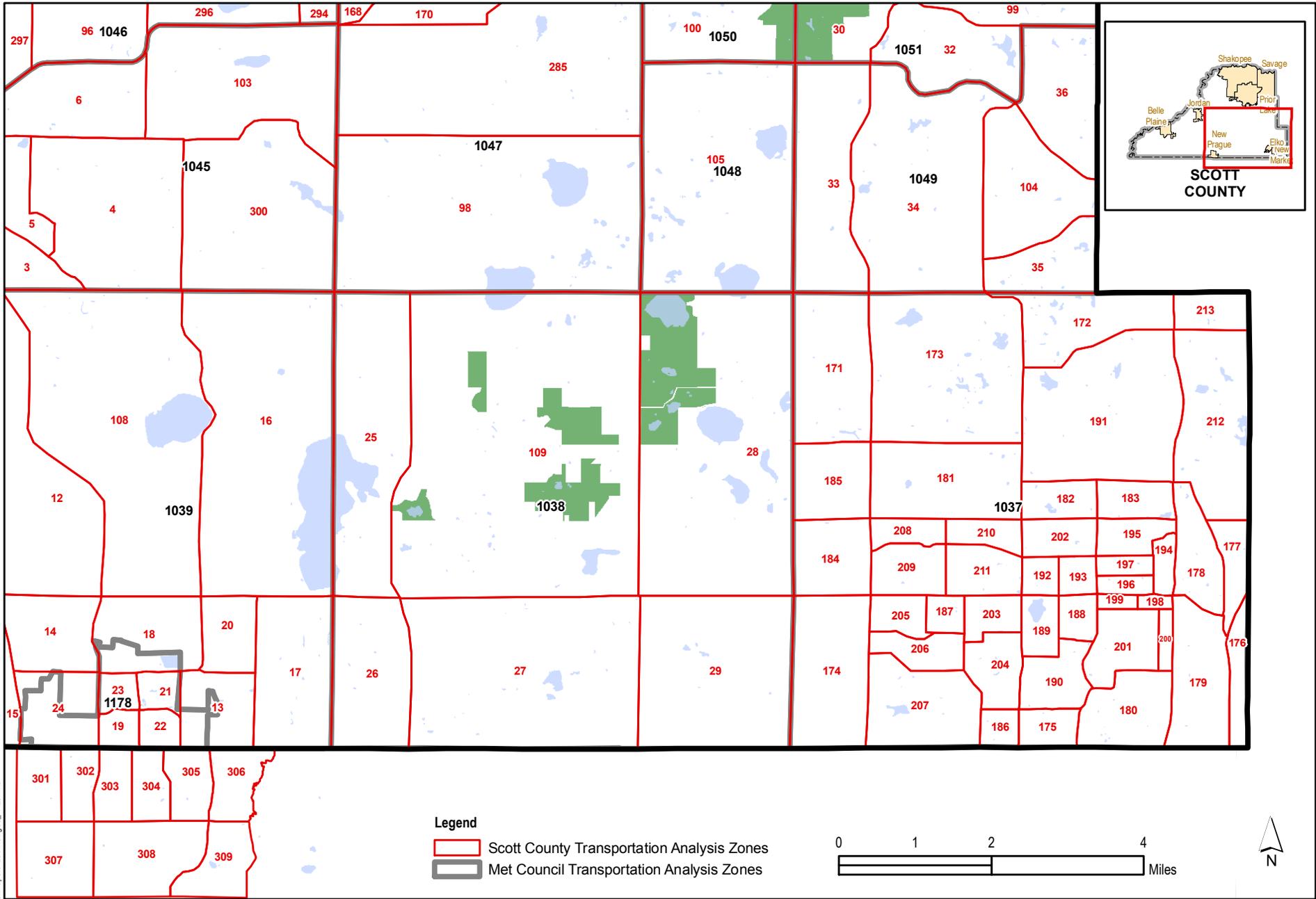


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**SCOTT COUNTY AND METROPOLITAN COUNCIL ZONES**  
 SCOTT COUNTY TRAFFIC MODEL  
 Scott County, Minnesota

Figure 9-B



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**SCOTT COUNTY AND METROPOLITAN COUNCIL ZONES**

SCOTT COUNTY TRAFFIC MODEL

Scott County, Minnesota

**Figure 9-C**

## **Roadway Network Representation**

The base year roadway system is presented in the travel demand model as a representation of attributes, such as area type, facility type, length, speed, number of lanes and capacity. The level of detail in the highway network was expanded throughout Scott County to include all county roadways and selected local roadways. The model was developed using a Geographic Information System-based approach to provide more efficient analysis and output. The level of detail in the highway network was expanded throughout Scott County to include all county roadways. Future year assumptions and improvements were included as previously described. Network speeds in Scott County were modified, where necessary to reflect known local conditions, with adjustments for the presence of traffic control devices.

## **Trip Generation**

Trip generation is the process by which the number of trips attributed to a zone is estimated based on the amount and type of socioeconomic activity in that zone (i.e., population, households and employment). The end result of trip generation estimation is the total number of trips produced by and attracted to each zone.

The regional travel demand model uses trip rates from the 2000 travel behavior inventory, which are generally lower than those found in the *ITE Trip Generation* manual, which is widely used for traffic studies. Consequently, traffic studies performed for specific developments may yield different results.

## **Trip Distribution/Destination Choice**

The destination-choice trip distribution process converts the person-trips estimated in the trip generation process to movements between pairs of zones based on the amount of travel activity in a zone and a generalized travel time between the producing zone and other zones.

The Scott County model differs from the collar county and regional trip distribution model in one respect: a river crossing impedance file has been added to supplement the K-factors included in the regional model. The adjustment represents additional travel time and distance modeled between specific origins and destinations that would use a river crossing. The penalties are necessary because the model over-estimates travel between these areas while having available capacity on the river crossing; consequently there is no other mechanism within the model to reduce demand because of congestion. Potential highway assignment bias is eliminated because this adjustment is calibrated on the base year and applied to all future scenarios, and also because it is applied at a trip interchange-level rather than a bridge-specific location. Trip distribution travel times may also be affected by bridge congestion penalties as described under the section on highway assignment.

## **Mode Choice**

The mode choice process takes the number of person-trips between each pair of zones and determines whether the trips are made by single-occupant vehicles, carpools or transit. No specific modifications were made to the mode choice process for this project: the model accounts for any changes assumed in transit services in the county

## **Zone-splitting Process**

In this model, split zones are aggregated to Collar County zone totals and used to run the trip generation, trip distribution, and mode choice steps of the modeling process. The mode choice production and attraction results are then divided among the Scott County split zones according to the split-zone socio-economic totals to mimic the trip generation model. Highway assignment is then completed at a split zone level. The reason for this procedure is that while roadway volumes are more precisely defined by zone disaggregation, the overall quantities, travel flows and modes are not more accurate because they are based on general regional or sub-regional parameters. Furthermore, increasing the number of zones through the entire modeling process would significantly increase the time it takes for the model to run. Finally, this process increases the flexibility of the model in maintaining its correspondence to the Metropolitan Council's model structure.

## **Time-of-Day Modeling**

Traffic from the model is separated into various time periods for the subsequent purpose of assigning the traffic to the roadway network. The travel demand model estimates peak and offpeak trips, by trip purpose, separately as part of the trip distribution process. Consequently, the role of the time-of-day model is to further divide the peak and offpeak trips. The highway assignment model functions with four time periods instead of 24 as included in the Metropolitan Council model. However, the time periods from the Metropolitan Council model could be readily substituted for the Collar County process. The four time periods used are:

AM Peak	6:45 AM – 9:30 AM
Midday	9:30 AM – 2:30 PM
PM Peak	2:30 PM – 6:00 PM
Evening/Night	6:00 PM – 6:45 AM

Aggregation of time periods allows more spreading of the peaks, whereas discrete hourly time periods would show more acute levels of congestion. Whereas the capacity analysis in the Scott County plan uses generalized capacities, treatment of peak congestion was not considered to be a major determinant of model structure.

## **Highway Assignment**

Highway trips for each of the four periods were routed from zone-to-zone along the roadway system using an equilibrium assignment process. This process reflected congested conditions at appropriate times of the day for any given portion of the highway system. The hourly assignments were summed to produce a daily traffic volume.

A dynamic river crossing bridge penalty function is included to better balance the reasonableness of volumes to capacity. River crossings, because they typically involve limited alternate routes, frequently show unrealistically high volumes. In addition, many non-freeway bridges are affected by signalized intersection capacity that is not well-modeled in a travel demand model.

The bridge penalty function calculates an additional travel time equivalent to be applied in the highway assignment and in determining travel times for trip distribution and mode choice. The function is only activated if, in a particular time period and direction, the capacity of the bridge is exceeded. The penalty is reset for each model iteration and time period.

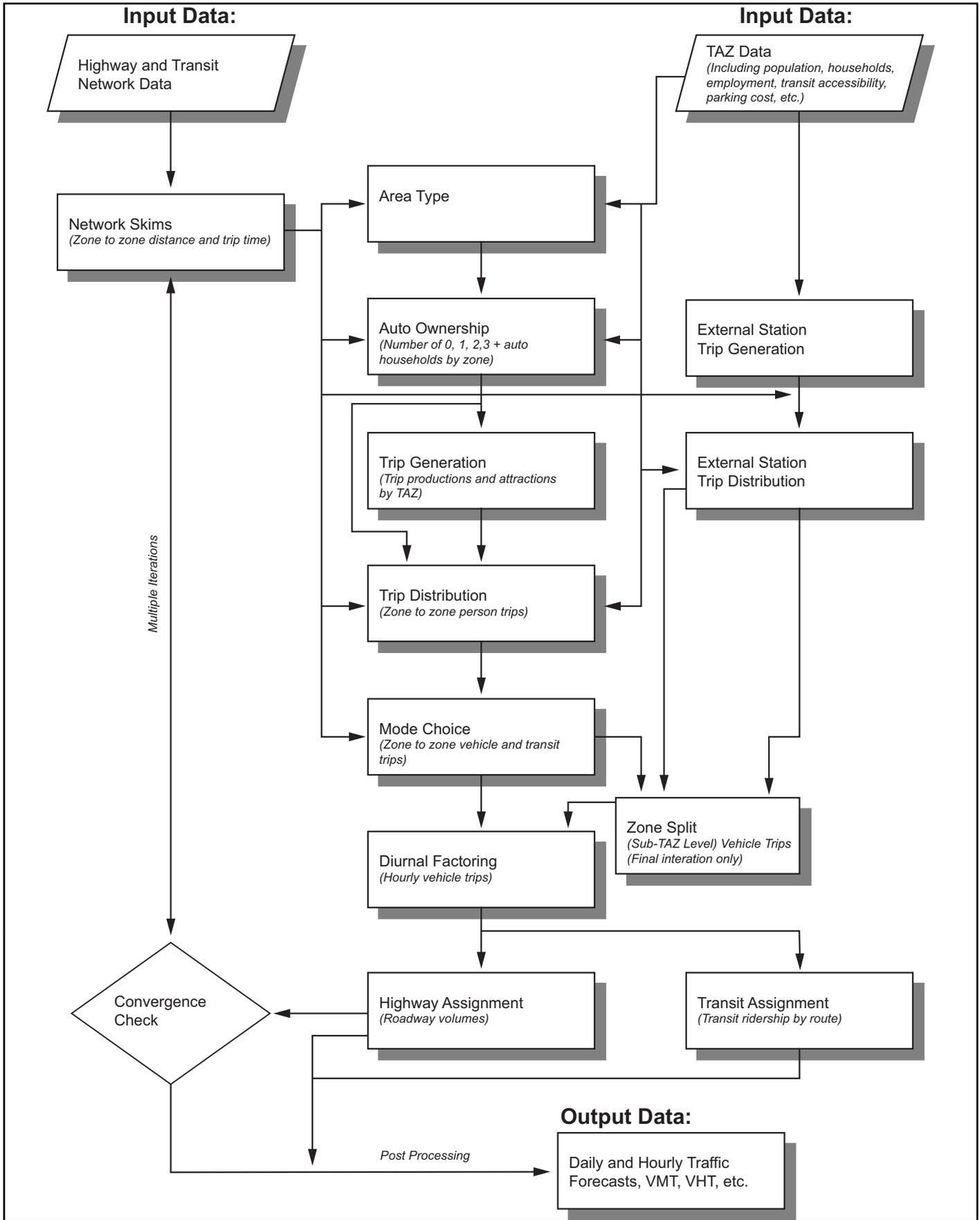
The penalty is applied, or potentially applied, to all crossings along the Minnesota River throughout the regional model. It is applied all future scenarios, *including any new river crossings*.

### **External/Collar Trips**

The Scott County model, because it is based on the MnDOT Collar County model, uses a feature that assesses the likely travel pattern of trips from the uses assumed projections of Collar County model based on the type of roadway (freeway or arterial), the distance from development, and the results of travel surveys. These locations are at the outer edges of the counties surrounding the metropolitan area. Future volumes are input to the model based on historical growth patterns.

### **Model Convergence**

The Scott County Travel Demand model “iterates” to provide a more realistic impact of congestion on all areas of travel behavior. Congestion can affect the number of trips a person makes, the destinations they choose, the attractiveness of activity locations, the modes (transit or carpooling) they might use, and the roadways they may choose for their trips. After each pass of the model, a comparison is made between travel times on a roadway and those from the previous pass. When the weighted difference is within five percent, the model is considered to be finished.



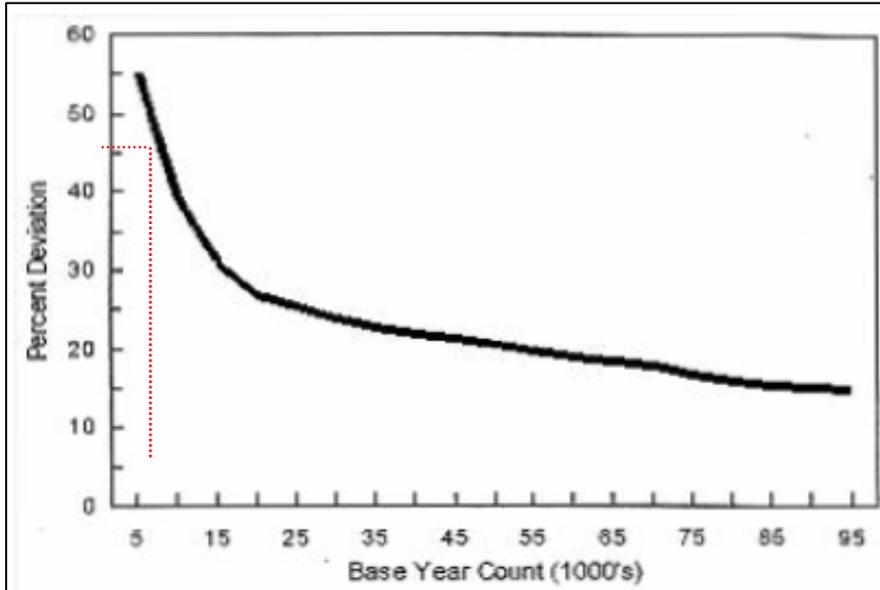
## **Model Validation**

For the purpose of this study, model validation is defined to include the degree to which the travel demand model replicates known ground counts. Three areas of validation were considered. These criteria are based on the Federal Highway Administration's *Model Validation and Reasonableness Checking Manual* (1997).

*Correlation:* A correlation of determination value of 0.88 was achieved, matching the FHWA's recommended minimum. This establishes that higher-volume roadways overwhelmingly achieve higher model volumes, and that lower-volume roadways model with low volumes.

*Link Root Mean Squared Error (RMSE):* The average error of the model can be estimated in two ways. The first, the average arithmetic error compares the average modeled volume with the average count volume. For this measure, the Scott County model has an error of -2.1 percent, which is well within the acceptable tolerance of +/- 5 percent. However, analysts frequently use a more restrictive measure called Root Mean Squared Error (RMSE) that does not allow a too-high volume to be averaged and offset against a too-low volume. Furthermore, error on higher volume facilities is weighed more heavily. For the Scott County model an RMSE of 44 percent was achieved. While this value is high, it is logical based on the large number of rural-area counts with low volumes where a small numeric error the model can tolerate high percentage errors with low actual numeric differences, as shown in Figure 11.

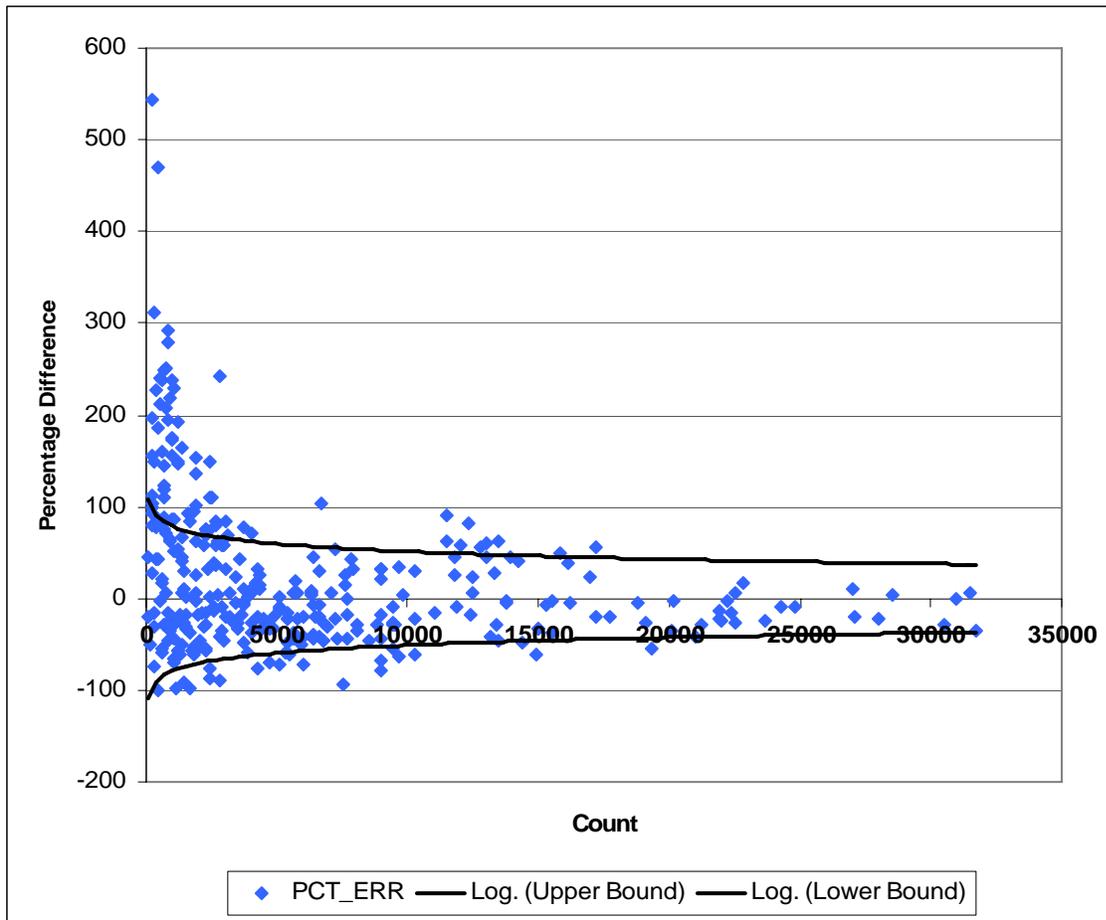
**Figure 11**  
**Maximum Desirable Error for Link Volumes**



Source: *Model Validation and Reasonableness Checking Manual* (FHWA, 1997).

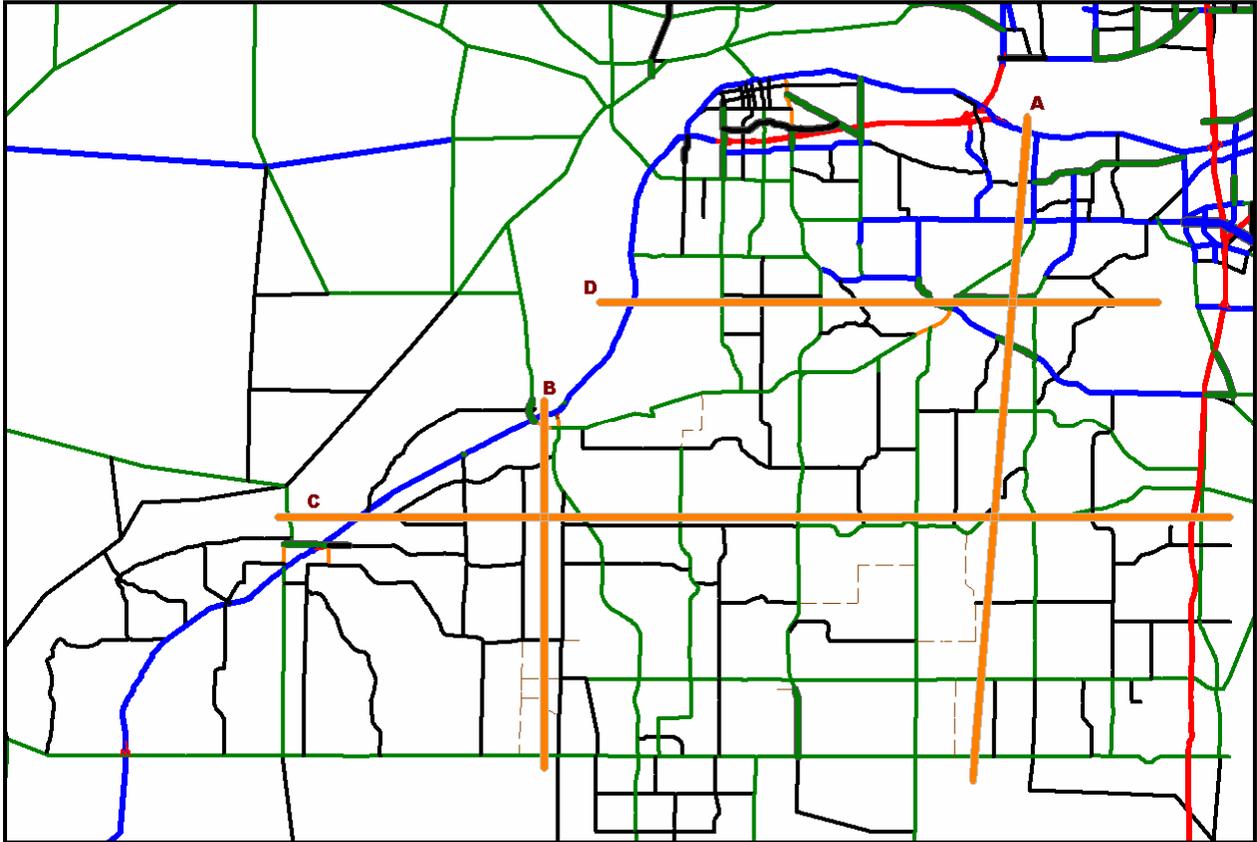
*Link Deviation from Count:* Differences between modeled volumes and ground counts are expected in a model. The significance of any difference is a function of whether the difference affects roadway requirements (such as the number of lanes) and the accuracy or stability of a traffic count. The Scott County model attained a 47 percent threshold, which necessitated applying the adjustment process described in the following section. Numerically the error tended to be on very low volume roadways as shown in Figure 12.

**Figure 12**  
**Maximum Desirable Error for Link Volumes**



*Screenline Analysis:* Screenlines were used to evaluate overall traffic flow performance in the validation model. Two east-west screenlines and two north-south screenlines were established across Scott County and are shown below in Figure 13. The results of this analysis are given in Table 7.

**Figure 13  
Screenline Locations**



**Table 7  
Validation Model Screenline Analysis**

Screenline	2005 AADT (vpd)	2005 Model (vpd)	Percent Difference
A	122,640	133,719	9%
B	38,690	32,384	-16%
C	106,015	91,818	-13%
D	74,190	74,366	0%

**MODEL ADJUSTMENT PROCESS**

While the Scott County model is validated to base year (2005-2006) counts, there is always a certain base-year discrepancy in each link or residual error in the model. To account for this discrepancy, forecast year volumes should be adjusted on a link-by-link basis. It is recommended

that this practice be used consistently to account Volume adjustments should be applied consistent with the methods described in NCHRP 255 (Highway Traffic Data for Urbanized Area Project Planning and Design) based on:

- The difference between model and count
- The ratio of the model to count
- The magnitude of growth between existing and future

Table 8 shows the conditions under which each of these methods is appropriate. In general, the ratio method provides potentially volatile and unstable adjustments where the travel demand model is extremely different than the counts, or where growth is proportionately high. Consequently, it is never used on its own. In most cases, the average method should be appropriate.

**Table 8  
Model Adjustment Process**

Condition	Implications of Condition	Method Used
$\frac{FutureVolume}{BaseVolume} > 3$	High model growth may cause the ratio method to result in unreasonably high adjusted volumes.	Difference Method
$\frac{BaseCount}{BaseVolume} > 1.5$	A large underestimation by the model in the base year may cause the ratio method to result in unreasonably high adjusted volumes.	Difference Method
$\frac{BaseVolume}{BaseCount} > 1.5$	A large overestimation by the model in the base year may cause the ratio method to result in unreasonably low adjusted volumes.	Difference Method
All Other Cases		Average Method

Ratio Method:

$$AdjustedVolRatio = AssignedVolume * (BaseCount / BaseAssignedVolume)$$

Difference Method:

$$AdjustedVolDifference = AssignedVolume + (BaseCount - BaseAssignedVolume)$$

Average Method:

$$AdjustedVolDifference = 0.5 * (AdjustedVolDifference + AdjustedVolRatio)$$

There are cases where none of these methods are appropriate, for example on a new facility or on a facility which is experiencing a major change in capacity in the future. This adjustment method may be applied across a screenline in those cases. Reasonable engineering/planning judgment should be used in using any adjustment technique, as well as in using unadjusted future volumes. The modeling process as developed includes a field to identify locations where additional manual adjustments were made.

**APPENDIX A**  
**DEVELOPMENT ASSUMPTIONS BY TAZ**

**Appendix A**  
**Scott County Transportation Model Socio-Economic Data**

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
171	1037	New Market Twp.	70	23	0	0	70	23	0	0
172	1037	New Market Twp.	378	122	1	0	378	122	1	0
173	1037	New Market Twp.	296	95	0	26	296	95	0	26
174	1037	New Market Twp.	85	28	0	0	953	339	0	0
175	1037	New Market Twp.	15	5	0	0	892	352	0	0
176	1037	New Market Twp.	37	12	0	0	244	86	0	0
177	1037	New Market Twp.	88	28	0	59	396	139	0	59
178	1037	New Market Twp.	91	29	0	10	193	66	12	10
179	1037	New Market Twp.	107	34	0	32	614	216	20	32
180	1037	New Market Twp.	91	29	0	0	2,126	836	0	681
181	1037	New Market Twp.	177	57	0	0	177	57	0	0
182	1037	New Market Twp.	107	34	0	0	107	34	0	0
183	1037	New Market Twp.	119	39	0	0	197	67	0	0
184	1037	New Market Twp.	23	8	0	0	532	190	0	0
185	1037	New Market Twp.	37	12	0	0	37	12	0	0
186	1037	New Market Twp.	26	8	0	0	151	53	0	0
187	1037	Elko New Market	611	198	0	28	739	259	0	28
188	1037	Elko New Market	80	26	20	18	909	355	20	18
189	1037	Elko New Market	206	67	20	31	286	102	20	31
190	1037	Elko New Market	580	188	2	15	1,087	398	2	15
191	1037	New Market Twp.	490	158	0	0	490	158	0	0
192	1037	New Market Twp.	5	2	0	0	794	314	0	0
193	1037	New Market Twp.	11	3	0	0	824	325	0	0
194	1037	New Market Twp.	5	2	0	0	216	86	0	0
195	1037	New Market Twp.	8	3	0	0	764	302	0	0
196	1037	New Market Twp.	0	0	0	0	0	0	0	0
197	1037	New Market Twp.	5	2	0	0	202	80	0	0
198	1037	New Market Twp.	3	1	16	28	3	1	16	62
199	1037	Elko New Market	3	1	12	144	3	1	12	144
200	1037	New Market Twp.	15	5	0	0	461	182	0	0
201	1037	Elko New Market	848	274	0	106	1,490	542	0	106
202	1037	New Market Twp.	21	7	0	0	347	124	0	0
203	1037	Elko New Market	977	316	19	44	978	333	19	44
204	1037	New Market Twp.	47	15	0	0	755	296	0	0
205	1037	New Market Twp.	21	7	0	0	552	217	0	0
206	1037	New Market Twp.	44	14	0	0	585	229	0	0
207	1037	New Market Twp.	93	30	0	0	3,384	1,334	0	0

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
208	1037	New Market Twp.	41	13	0	0	663	260	0	0
209	1037	New Market Twp.	29	9	14	0	1,442	569	14	0
210	1037	New Market Twp.	21	7	0	0	686	270	0	0
211	1037	New Market Twp.	430	139	38	11	959	356	38	11
212	1037	New Market Twp.	426	137	17	225	487	160	17	225
213	1037	New Market Twp.	29	9	0	24	29	9	0	24
<b>TAZ Total</b>	<b>1037</b>		<b>6,796</b>	<b>2,196</b>	<b>159</b>	<b>801</b>	<b>26,498</b>	<b>9,949</b>	<b>191</b>	<b>1,516</b>
25	1038	Cedar Lake Twp.	600	199	0	0	600	199	0	0
26	1038	Cedar Lake Twp.	80	27	0	0	80	27	85	0
27	1038	Cedar Lake Twp.	388	129	0	0	388	129	0	0
28	1038	Cedar Lake Twp.	580	193	0	92	972	394	0	92
29	1038	Cedar Lake Twp.	249	83	0	0	817	371	0	0
109	1038	Cedar Lake Twp.	843	280	0	0	843	280	0	0
<b>TAZ Total</b>	<b>1038</b>		<b>2,740</b>	<b>911</b>	<b>0</b>	<b>92</b>	<b>3,700</b>	<b>1,400</b>	<b>85</b>	<b>92</b>
10	1039	Helena Twp.	29	9	0	0	29	9	0	0
11	1039	Helena Twp.	32	10	0	0	32	10	0	0
12	1039	Helena Twp.	71	22	0	0	71	22	0	0
14	1039	Helena Twp.	17	5	0	0	208	81	8	76
15	1039	Helena Twp.	74	23	0	0	74	23	0	0
16	1039	Helena Twp.	350	107	0	0	350	107	0	0
17	1039	Helena Twp.	51	15	0	23	51	15	2	23
18	1039	Helena Twp.	174	53	0	154	1,167	552	0	154
20	1039	Helena Twp.	13	4	0	0	1,252	492	0	0
108	1039	Helena Twp.	133	41	0	1	133	41	0	1
<b>TAZ Total</b>	<b>1039</b>		<b>944</b>	<b>289</b>	<b>0</b>	<b>178</b>	<b>3,367</b>	<b>1,352</b>	<b>10</b>	<b>254</b>
107	1040	Belle Plaine Twp.	37	12	0	0	37	12	0	0
127	1040	Belle Plaine Twp.	4	1	0	11	74	31	74	22
128	1040	Belle Plaine Twp.	6	2	0	11	826	350	148	49
129	1040	Belle Plaine Twp.	0	0	0	11	0	0	0	137
130	1040	Belle Plaine Twp.	2	0	0	0	363	147	0	0
131	1040	Belle Plaine Twp.	89	30	0	0	89	30	0	0
132	1040	Belle Plaine Twp.	8	3	0	0	9	3	0	0
133	1040	Belle Plaine Twp.	95	32	0	0	95	32	0	0
134	1040	Belle Plaine Twp.	13	4	0	0	190	76	10	80
135	1040	Belle Plaine Twp.	12	4	0	0	12	4	0	0
136	1040	Belle Plaine Twp.	6	2	0	0	42	17	0	0
137	1040	Belle Plaine Twp.	26	9	0	0	26	9	0	0
138	1040	Belle Plaine Twp.	31	11	0	0	31	11	0	0
139	1040	Belle Plaine Twp.	0	0	0	11	623	264	0	11
140	1040	Belle Plaine Twp.	75	25	0	11	1,658	699	154	34

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
141	1040	Belle Plaine Twp.	10	3	0	0	10	3	0	0
142	1040	Belle Plaine Twp.	4	1	0	0	24	9	0	0
143	1040	Belle Plaine Twp.	8	3	8	11	728	308	8	11
144	1040	Belle Plaine Twp.	22	7	0	0	295	118	0	0
145	1040	Belle Plaine Twp.	4	1	0	0	4	1	0	0
146	1040	Belle Plaine Twp.	251	85	0	11	973	397	0	11
147	1040	Belle Plaine Twp.	188	64	0	11	1,442	600	0	11
148	1040	Belle Plaine Twp.	22	7	0	0	72	27	0	0
<b>TAZ Total</b>	<b>1040</b>		<b>913</b>	<b>306</b>	<b>8</b>	<b>88</b>	<b>7,623</b>	<b>3,148</b>	<b>394</b>	<b>366</b>
106	1041	Blakeley Twp.	157	57	0	0	157	57	0	0
110	1041	Blakeley Twp.	51	19	0	0	51	19	0	0
111	1041	Blakeley Twp.	11	4	0	0	11	4	0	0
112	1041	Blakeley Twp.	0	0	0	0	12	5	0	0
113	1041	Blakeley Twp.	54	20	0	47	54	20	0	80
114	1041	Blakeley Twp.	3	1	0	0	6	2	11	1
115	1041	Blakeley Twp.	8	3	0	0	1,186	503	0	0
116	1041	Blakeley Twp.	19	7	0	0	350	144	0	0
117	1041	Blakeley Twp.	43	16	0	0	43	16	0	0
118	1041	Blakeley Twp.	30	11	0	0	30	11	0	0
119	1041	Blakeley Twp.	62	23	0	0	62	23	0	0
153	1041	Blakeley Twp.	30	11	0	0	30	11	0	0
<b>TAZ Total</b>	<b>1041</b>		<b>468</b>	<b>172</b>	<b>0</b>	<b>47</b>	<b>1,992</b>	<b>815</b>	<b>11</b>	<b>81</b>
120	1042	Belle Plaine	591	223	0	106	644	248	15	108
121	1042	Belle Plaine	69	24	0	0	366	151	0	0
122	1042	Belle Plaine	1,032	361	0	0	1,032	361	0	0
123	1042	Belle Plaine	1,826	649	198	295	3,315	1,312	198	322
124	1042	Belle Plaine	907	319	61	97	1,259	486	61	111
125	1042	Belle Plaine	4	1	45	370	4	1	45	422
126	1042	Belle Plaine	1,159	413	44	1	1,159	413	140	27
154	1042	Belle Plaine	1,006	373	147	413	1,006	373	147	423
<b>TAZ Total</b>	<b>1042</b>		<b>6,594</b>	<b>2,363</b>	<b>495</b>	<b>1,282</b>	<b>8,785</b>	<b>3,345</b>	<b>606</b>	<b>1,413</b>
7	1043	St. Lawrence Twp.	12	4	0	0	12	4	0	0
8	1043	St. Lawrence Twp.	3	1	7	47	3	1	8	47
9	1043	St. Lawrence Twp.	5	2	0	0	552	206	3	0
101	1043	St. Lawrence Twp.	310	101	0	65	370	124	5	153
149	1043	St. Lawrence Twp.	5	2	0	0	85	32	1	0
150	1043	St. Lawrence Twp.	9	3	3	0	9	3	3	0
151	1043	St. Lawrence Twp.	148	48	0	0	284	99	0	0
152	1043	St. Lawrence Twp.	13	4	0	0	85	31	0	0
<b>TAZ Total</b>	<b>1043</b>		<b>505</b>	<b>165</b>	<b>10</b>	<b>112</b>	<b>1,400</b>	<b>500</b>	<b>20</b>	<b>200</b>

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
102	1044	Jordan	1,608	568	249	351	1,608	568	249	351
286	1044	Jordan	718	249	0	653	718	249	0	660
287	1044	Jordan	0	0	1	30	1,079	486	1	110
288	1044	Jordan	1,399	511	28	174	1,399	511	28	184
289	1044	Jordan	580	201	0	4	1,368	590	0	4
290	1044	Jordan	328	114	86	120	328	114	86	125
291	1044	Jordan	513	190	0	0	513	190	0	62
<b>TAZ Total</b>	<b>1044</b>		<b>5,146</b>	<b>1,833</b>	<b>364</b>	<b>1,332</b>	<b>7,013</b>	<b>2,708</b>	<b>364</b>	<b>1,496</b>
1	1045	Sand Creek Twp.	15	5	0	0	224	88	0	0
2	1045	Sand Creek Twp.	594	185	0	0	1,569	710	0	1
3	1045	Sand Creek Twp.	122	38	34	0	405	151	34	0
4	1045	Sand Creek Twp.	58	18	0	0	58	18	0	0
5	1045	Sand Creek Twp.	133	42	0	3	133	42	0	3
6	1045	Sand Creek Twp.	43	13	0	51	121	44	3	51
103	1045	Sand Creek Twp.	56	18	0	0	56	18	0	0
300	1045	Sand Creek Twp.	116	36	0	0	116	36	0	0
<b>TAZ Total</b>	<b>1045</b>		<b>1,137</b>	<b>355</b>	<b>34</b>	<b>54</b>	<b>2,682</b>	<b>1,107</b>	<b>37</b>	<b>55</b>
96	1046	Sand Creek Twp.	58	18	25	0	58	18	25	0
294	1046	Sand Creek Twp.	19	6	0	0	19	6	0	0
295	1046	Sand Creek Twp.	40	12	0	0	40	12	0	0
296	1046	Sand Creek Twp.	45	14	0	0	45	14	0	0
297	1046	Sand Creek Twp.	62	19	0	0	2,919	1,182	0	23
298	1046	Sand Creek Twp.	110	35	0	0	110	35	0	0
299	1046	Sand Creek Twp.	22	7	0	0	22	7	0	0
<b>TAZ Total</b>	<b>1046</b>		<b>356</b>	<b>111</b>	<b>25</b>	<b>0</b>	<b>3,213</b>	<b>1,274</b>	<b>25</b>	<b>23</b>
98	1047	Spring Lake Twp.	791	266	57	4	1,831	663	57	83
166	1047	Spring Lake Twp.	62	21	0	0	2,305	1,114	6	13
167	1047	Spring Lake Twp.	134	45	0	0	958	453	6	13
168	1047	Spring Lake Twp.	38	13	0	260	1,501	726	127	260
169	1047	Spring Lake Twp.	592	199	0	0	1,613	729	9	19
170	1047	Spring Lake Twp.	32	11	0	8	1,160	561	3	8
272	1047	Spring Lake Twp.	180	61	0	0	745	345	3	6
285	1047	Spring Lake Twp.	976	328	19	0	2,016	725	19	79
<b>TAZ Total</b>	<b>1047</b>		<b>2,805</b>	<b>944</b>	<b>76</b>	<b>272</b>	<b>12,129</b>	<b>5,316</b>	<b>230</b>	<b>481</b>
105	1048	Spring Lake Twp.	613	206	0	0	1,653	603	0	79
<b>TAZ Total</b>	<b>1048</b>		<b>613</b>	<b>206</b>	<b>0</b>	<b>0</b>	<b>1,653</b>	<b>603</b>	<b>0</b>	<b>79</b>
33	1049	Credit River Twp.	529	172	0	0	564	207	0	0
34	1049	Credit River Twp.	600	194	6	3	635	229	10	3
35	1049	Credit River Twp.	248	80	0	0	283	115	0	0
36	1049	Credit River Twp.	469	152	3	170	504	187	3	170

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
104	1049	Credit River Twp.	527	171	0	0	562	206	0	0
<b>TAZ Total</b>	<b>1049</b>		<b>2,373</b>	<b>769</b>	<b>9</b>	<b>173</b>	<b>2,548</b>	<b>944</b>	<b>13</b>	<b>173</b>
100	1050	Spring Lake Twp.	368	124	0	0	2,170	1,025	0	24
273	1050	Prior Lake	1,547	580	0	403	1,547	580	76	798
284	1050	Prior Lake	491	180	0	0	491	180	4	33
<b>TAZ Total</b>	<b>1050</b>		<b>2,406</b>	<b>884</b>	<b>0</b>	<b>403</b>	<b>4,208</b>	<b>1,785</b>	<b>80</b>	<b>855</b>
30	1051	Credit River Twp.	79	25	0	0	114	60	15	44
31	1051	Credit River Twp.	1,730	561	0	0	1,835	665	1	0
32	1051	Credit River Twp.	277	90	8	83	312	125	12	83
99	1051	Credit River Twp.	355	115	0	0	390	150	0	0
<b>TAZ Total</b>	<b>1051</b>		<b>2,441</b>	<b>791</b>	<b>8</b>	<b>83</b>	<b>2,651</b>	<b>1,000</b>	<b>28</b>	<b>127</b>
94	1052	Prior Lake	2,242	902	324	2,759	2,242	902	324	2,759
274	1052	Prior Lake	473	182	98	598	906	399	98	598
275	1052	Prior Lake	690	254	21	30	768	311	21	134
276	1052	Prior Lake	637	233	0	563	943	401	67	787
<b>TAZ Total</b>	<b>1052</b>		<b>4,042</b>	<b>1,571</b>	<b>443</b>	<b>3,950</b>	<b>4,859</b>	<b>2,013</b>	<b>510</b>	<b>4,278</b>
93	1053	Prior Lake	2,007	736	51	941	2,007	736	51	941
282	1053	Prior Lake	562	206	0	0	834	355	24	159
<b>TAZ Total</b>	<b>1053</b>		<b>2,569</b>	<b>942</b>	<b>51</b>	<b>941</b>	<b>2,841</b>	<b>1,091</b>	<b>75</b>	<b>1,100</b>
278	1054	Prior Lake	121	44	0	0	1,434	686	66	120
283	1054	Prior Lake	64	23	0	0	1,582	763	49	90
<b>TAZ Total</b>	<b>1054</b>		<b>185</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>3,016</b>	<b>1,449</b>	<b>115</b>	<b>210</b>
159	1055	Prior Lake	14	5	0	0	107	51	8	27
160	1055	Prior Lake	304	150	0	334	493	216	7	334
161	1055	Prior Lake	11	4	0	0	520	261	0	0
<b>TAZ Total</b>	<b>1055</b>		<b>329</b>	<b>159</b>	<b>0</b>	<b>334</b>	<b>1,120</b>	<b>528</b>	<b>15</b>	<b>361</b>
97	1056	Prior Lake	2,759	1,033	190	468	3,011	1,219	190	2,719
277	1056	Prior Lake	708	259	3	15	776	314	47	774
<b>TAZ Total</b>	<b>1056</b>		<b>3,467</b>	<b>1,292</b>	<b>193</b>	<b>483</b>	<b>3,787</b>	<b>1,533</b>	<b>237</b>	<b>3,493</b>
95	1057	Sand Creek Twp.	153	48	0	0	650	246	0	0
292	1057	Sand Creek Twp.	19	6	8	109	19	6	8	109
293	1057	Sand Creek Twp.	24	8	0	67	24	8	0	67
<b>TAZ Total</b>	<b>1057</b>		<b>196</b>	<b>62</b>	<b>8</b>	<b>176</b>	<b>693</b>	<b>260</b>	<b>8</b>	<b>176</b>
88	1058	Louisville Twp.	0	0	0	0	0	0	0	0
268	1058	Louisville Twp.	6	2	0	0	10	3	0	0
269	1058	Louisville Twp.	6	2	26	181	10	3	35	243
270	1058	Louisville Twp.	13	4	0	18	22	6	0	24
<b>TAZ Total</b>	<b>1058</b>		<b>25</b>	<b>8</b>	<b>26</b>	<b>199</b>	<b>42</b>	<b>12</b>	<b>35</b>	<b>267</b>
85	1059	Louisville Twp.	76	24	6	9	279	100	8	9
214	1059	Jackson Twp.	85	28	1	14	199	70	157	357

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
215	1059	Jackson Twp.	33	11	0	8	588	232	156	122
216	1059	Louisville Twp.	402	129	5	131	576	196	7	131
217	1059	Jackson Twp.	89	29	0	2	379	135	0	2
265	1059	Louisville Twp.	93	29	0	0	294	105	0	0
266	1059	Louisville Twp.	43	14	0	0	249	91	0	0
267	1059	Louisville Twp.	56	18	0	3	260	95	0	3
<b>TAZ Total</b>	<b>1059</b>		<b>877</b>	<b>282</b>	<b>12</b>	<b>167</b>	<b>2,824</b>	<b>1,024</b>	<b>328</b>	<b>624</b>
87	1060	Shakopee	2,711	983	10	153	2,711	1,047	909	153
257	1060	Jackson Twp.	180	59	0	1	1,675	835	603	1
258	1060	Louisville Twp.	112	36	1	0	574	240	1	0
259	1060	Shakopee	146	53	0	0	1,664	710	0	0
260	1060	Louisville Twp.	532	169	0	0	700	264	0	0
261	1060	Shakopee	227	83	0	0	1,149	483	0	0
262	1060	Shakopee	286	104	5	1	1,707	720	5	1
263	1060	Jackson Twp.	195	64	0	0	1,248	526	0	0
264	1060	Jackson Twp.	306	99	0	14	1,280	667	0	14
<b>TAZ Total</b>	<b>1060</b>		<b>4,695</b>	<b>1,650</b>	<b>16</b>	<b>169</b>	<b>12,708</b>	<b>5,492</b>	<b>1,518</b>	<b>169</b>
155	1061	Shakopee	1,816	659	0	98	1,816	659	0	98
255	1061	Shakopee	1,653	604	105	14	1,653	708	876	352
256	1061	Shakopee	1,693	614	0	704	2,212	849	0	704
<b>TAZ Total</b>	<b>1061</b>		<b>5,162</b>	<b>1,877</b>	<b>105</b>	<b>816</b>	<b>5,681</b>	<b>2,216</b>	<b>876</b>	<b>1,154</b>
73	1062	Jackson Twp.	419	175	25	2	460	199	29	3
271	1062	Jackson Twp.	41	13	6	20	45	15	7	36
<b>TAZ Total</b>	<b>1062</b>		<b>460</b>	<b>188</b>	<b>31</b>	<b>22</b>	<b>505</b>	<b>214</b>	<b>36</b>	<b>39</b>
80	1063	Shakopee	619	224	0	0	619	224	0	0
218	1063	Shakopee	758	291	376	28	781	322	376	28
219	1063	Shakopee	939	340	0	0	939	340	0	0
<b>TAZ Total</b>	<b>1063</b>		<b>2,316</b>	<b>855</b>	<b>376</b>	<b>28</b>	<b>2,339</b>	<b>886</b>	<b>376</b>	<b>28</b>
81	1064	Shakopee	1,102	410	63	19	1,102	410	104	22
229	1064	Shakopee	384	139	0	0	384	139	78	0
230	1064	Shakopee	516	187	1	0	516	187	1	0
231	1064	Shakopee	197	71	0	0	197	71	0	0
235	1064	Shakopee	793	288	0	0	875	352	0	0
236	1064	Shakopee	749	272	287	61	749	272	287	61
237	1064	Shakopee	80	29	116	0	151	60	116	0
<b>TAZ Total</b>	<b>1064</b>		<b>3,821</b>	<b>1,396</b>	<b>467</b>	<b>80</b>	<b>3,974</b>	<b>1,491</b>	<b>586</b>	<b>83</b>
77	1065	Shakopee	332	122	0	115	372	140	14	187
220	1065	Shakopee	202	73	0	0	265	102	0	0
221	1065	Shakopee	235	85	0	0	275	104	0	0
222	1065	Shakopee	69	25	0	0	125	51	0	0

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
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223	1065	Shakopee	62	22	34	65	62	22	42	83
224	1065	Shakopee	51	19	0	0	121	52	0	0
225	1065	Shakopee	33	12	130	450	44	17	130	450
226	1065	Shakopee	343	125	0	0	375	140	0	0
227	1065	Shakopee	251	91	0	0	251	91	0	0
228	1065	Shakopee	387	150	3	136	387	150	71	136
<b>TAZ Total</b>	<b>1065</b>		<b>1,965</b>	<b>724</b>	<b>167</b>	<b>766</b>	<b>2,277</b>	<b>869</b>	<b>257</b>	<b>856</b>
75	1066	Shakopee	1,905	836	63	369	1,905	836	70	400
232	1066	Shakopee	939	341	0	0	1,091	443	0	0
233	1066	Shakopee	363	140	233	169	455	175	233	232
234	1066	Shakopee	334	127	99	121	446	173	99	189
<b>TAZ Total</b>	<b>1066</b>		<b>3,541</b>	<b>1,444</b>	<b>395</b>	<b>659</b>	<b>3,897</b>	<b>1,627</b>	<b>402</b>	<b>821</b>
72	1067	Shakopee	207	88	216	57	207	111	216	123
<b>TAZ Total</b>	<b>1067</b>		<b>207</b>	<b>88</b>	<b>216</b>	<b>57</b>	<b>207</b>	<b>111</b>	<b>216</b>	<b>123</b>
79	1068	Shakopee	1,600	608	14	73	1,600	608	27	73
253	1068	Shakopee	243	99	231	11	291	145	231	17
254	1068	Shakopee	681	282	11	0	681	282	88	19
<b>TAZ Total</b>	<b>1068</b>		<b>2,524</b>	<b>989</b>	<b>256</b>	<b>84</b>	<b>2,572</b>	<b>1,035</b>	<b>346</b>	<b>109</b>
74	1069	Shakopee	3	1	35	787	3	1	43	794
238	1069	Shakopee	202	73	57	150	202	73	57	189
239	1069	Shakopee	2,517	1,004	99	133	2,549	1,122	307	133
240	1069	Shakopee	0	0	28	641	0	0	28	669
<b>TAZ Total</b>	<b>1069</b>		<b>2,722</b>	<b>1,078</b>	<b>219</b>	<b>1,711</b>	<b>2,754</b>	<b>1,196</b>	<b>435</b>	<b>1,785</b>
82	1070	Shakopee	954	346	0	0	1,859	743	0	0
244	1070	Shakopee	573	208	429	225	697	344	792	681
245	1070	Shakopee	5	2	0	0	1,835	793	0	0
246	1070	Shakopee	230	83	0	0	1,903	808	0	0
247	1070	Shakopee	209	76	7	228	587	241	7	648
248	1070	Shakopee	292	106	0	0	612	246	0	0
249	1070	Shakopee	2,448	888	2,015	146	2,832	1,165	2,636	146
250	1070	Shakopee	256	93	0	25	1,648	697	0	25
<b>TAZ Total</b>	<b>1070</b>		<b>4,967</b>	<b>1,802</b>	<b>2,451</b>	<b>624</b>	<b>11,973</b>	<b>5,037</b>	<b>3,435</b>	<b>1,500</b>
76	1071	Shakopee	0	0	27	2,975	0	0	27	2,975
241	1071	Shakopee	0	0	337	76	0	0	337	261
242	1071	Shakopee	3	1	68	1,570	3	1	144	1,570
243	1071	Shakopee	0	0	0	1,600	0	0	77	1,600
251	1071	Shakopee	0	0	4	343	0	0	117	489
252	1071	Shakopee	0	0	0	40	0	0	0	83
<b>TAZ Total</b>	<b>1071</b>		<b>3</b>	<b>1</b>	<b>436</b>	<b>6,604</b>	<b>3</b>	<b>1</b>	<b>702</b>	<b>6,978</b>
71	1072	Shakopee	0	0	5	1	0	0	13	14

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			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
<b>TAZ Total</b>	<b>1072</b>		<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>14</b>
37	1073	Savage	0	0	0	186	0	0	7	264
78	1073	Savage	0	0	0	19	0	0	0	63
<b>TAZ Total</b>	<b>1073</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>205</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>327</b>
38	1074	Savage	1,200	404	14	21	1,561	573	35	22
52	1074	Savage	0	0	302	0	0	0	304	0
53	1074	Savage	1,327	447	0	70	1,360	491	6	70
83	1074	Savage	1,566	528	77	1,653	1,754	638	434	1,653
<b>TAZ Total</b>	<b>1074</b>		<b>4,093</b>	<b>1,379</b>	<b>393</b>	<b>1,744</b>	<b>4,675</b>	<b>1,702</b>	<b>779</b>	<b>1,745</b>
39	1075	Savage	349	118	0	0	929	350	103	0
40	1075	Savage	90	30	0	0	275	109	0	0
41	1075	Savage	833	322	48	12	1,085	450	57	12
42	1075	Savage	112	38	15	0	179	68	15	0
43	1075	Savage	620	212	343	205	922	347	343	205
45	1075	Savage	309	104	0	0	871	329	7	5
46	1075	Savage	0	0	5	704	362	140	20	707
54	1075	Savage	0	0	0	600	21	8	30	608
55	1075	Savage	0	0	0	132	2	1	0	156
86	1075	Savage	9	3	59	391	60	23	134	412
<b>TAZ Total</b>	<b>1075</b>		<b>2,322</b>	<b>827</b>	<b>470</b>	<b>2,044</b>	<b>4,706</b>	<b>1,825</b>	<b>709</b>	<b>2,105</b>
44	1076	Savage	490	165	0	0	1,183	445	128	0
47	1076	Savage	1,673	564	0	16	1,712	633	24	16
49	1076	Savage	646	218	0	31	917	334	63	31
50	1076	Savage	842	284	66	116	2,142	807	66	121
51	1076	Savage	82	30	204	27	83	31	204	27
<b>TAZ Total</b>	<b>1076</b>		<b>3,733</b>	<b>1,261</b>	<b>270</b>	<b>190</b>	<b>6,037</b>	<b>2,250</b>	<b>485</b>	<b>195</b>
63	1077	Savage	66	23	0	0	2,372	917	0	5
64	1077	Savage	560	188	0	0	831	307	19	4
65	1077	Savage	26	9	0	450	578	223	0	462
66	1077	Savage	727	255	0	130	1,052	391	9	130
67	1077	Savage	0	0	411	86	466	180	411	86
68	1077	Savage	611	206	11	33	611	216	13	33
91	1077	Savage	889	299	14	1	1,444	535	16	1
<b>TAZ Total</b>	<b>1077</b>		<b>2,879</b>	<b>980</b>	<b>436</b>	<b>700</b>	<b>7,354</b>	<b>2,769</b>	<b>468</b>	<b>721</b>
56	1078	Savage	1,803	607	160	5	2,762	1,032	160	9
57	1078	Savage	1,578	531	18	42	1,593	580	24	42
58	1078	Savage	2,143	722	93	332	2,731	993	109	332
59	1078	Savage	1,393	469	0	4	1,865	685	27	4
<b>TAZ Total</b>	<b>1078</b>		<b>6,917</b>	<b>2,329</b>	<b>271</b>	<b>383</b>	<b>8,951</b>	<b>3,290</b>	<b>320</b>	<b>387</b>
13	1178	Helena Twp.	327	105	35	95	942	445	99	95

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19	1178	New Prague (pt)	1,109	427	246	648	1,109	427	246	648
21	1178	New Prague (pt)	1,078	395	0	187	1,078	395	0	187
22	1178	New Prague (pt)	2,027	750	4	73	2,027	750	4	73
23	1178	New Prague (pt)	34	12	0	867	34	12	0	867
24	1178	Helena Twp.	407	137	13	141	844	419	51	726
<b>TAZ Total</b>	<b>1178</b>		<b>4,982</b>	<b>1,826</b>	<b>298</b>	<b>2,011</b>	<b>6,034</b>	<b>2,448</b>	<b>400</b>	<b>2,596</b>
89	1179	Prior Lake	2,252	824	11	249	2,252	824	11	378
279	1179	Prior Lake	278	101	0	0	538	236	4	34
280	1179	Prior Lake	533	195	30	986	533	195	30	986
281	1179	Prior Lake	1,170	428	0	0	1,207	482	4	34
<b>TAZ Total</b>	<b>1179</b>		<b>4,233</b>	<b>1,548</b>	<b>41</b>	<b>1,235</b>	<b>4,530</b>	<b>1,737</b>	<b>49</b>	<b>1,432</b>
90	1180	Prior Lake	50	18	0	0	655	314	44	456
157	1180	Prior Lake	309	113	0	0	402	168	48	497
158	1180	Prior Lake	22	8	0	0	648	313	76	788
162	1180	Prior Lake	755	276	0	319	1,013	425	40	536
163	1180	Prior Lake	1,413	517	22	0	2,068	878	22	456
164	1180	Prior Lake	708	259	0	0	708	259	36	373
165	1180	Prior Lake	1,423	521	0	0	1,864	778	48	497
<b>TAZ Total</b>	<b>1180</b>		<b>4,680</b>	<b>1,712</b>	<b>22</b>	<b>319</b>	<b>7,358</b>	<b>3,135</b>	<b>314</b>	<b>3,603</b>
84	1181	Shakopee	286	104	10	10	1,838	777	10	10
156	1181	Shakopee	90	32	0	0	1,779	764	0	0
<b>TAZ Total</b>	<b>1181</b>		<b>376</b>	<b>136</b>	<b>10</b>	<b>10</b>	<b>3,617</b>	<b>1,541</b>	<b>10</b>	<b>10</b>
48	1182	Savage	3,026	1,044	148	89	3,763	1,371	148	97
69	1182	Savage	889	299	5	14	1,514	587	13	14
70	1182	Savage	623	210	0	0	1,156	432	0	0
<b>TAZ Total</b>	<b>1182</b>		<b>4,538</b>	<b>1,553</b>	<b>153</b>	<b>103</b>	<b>6,433</b>	<b>2,390</b>	<b>161</b>	<b>111</b>
60	1183	Savage	119	40	0	0	1,188	457	172	0
61	1183	Savage	15	5	0	0	602	232	0	0
62	1183	Savage	34	12	0	0	1,247	506	0	0
92	1183	Savage	419	141	0	4	1,504	578	4	4
<b>TAZ Total</b>	<b>1183</b>		<b>587</b>	<b>198</b>	<b>0</b>	<b>4</b>	<b>4,541</b>	<b>1,773</b>	<b>176</b>	<b>4</b>
<b>Scott County Total</b>			<b>119,650</b>	<b>42,519</b>	<b>9,425</b>	<b>31,736</b>	<b>221,770</b>	<b>88,191</b>	<b>16,493</b>	<b>44,615</b>

Scott County TAZ	Metropolitan Council TAZ	Community	2005				2030			
			Population	Households	Retail Employment	Non-Retail Employment	Population	Households	Retail Employment	Non-Retail Employment
<b>Additional zones in Le Sueur County</b>										
301	1417	New Prague/Lanesburgh	9	4	0	5	1,285	476	314	0
302	1417	New Prague/Lanesburgh	69	26	12	25	1,361	504	69	0
303	1417	New Prague/Lanesburgh	345	129	62	49	227	84	0	192
304	1417	New Prague/Lanesburgh	233	87	24	25	370	137	0	0
305	1417	New Prague/Lanesburgh	553	207	17	25	374	139	0	0
306	1417	New Prague/Lanesburgh	26	10	12	49	2,177	838	755	0
307	1417	New Prague/Lanesburgh	17	6	0	5	0	0	0	0
308	1417	New Prague/Lanesburgh	147	55	0	25	2,994	1,109	0	367
309	1417	New Prague/Lanesburgh	17	6	0	5	845	313	0	0
<b>TAZ Total</b>	<b>1417</b>		<b>1,416</b>	<b>530</b>	<b>127</b>	<b>213</b>	<b>9,633</b>	<b>3,600</b>	<b>1,138</b>	<b>559</b>

**APPENDIX B**  
**DOCUMENTATION OF MODEL STRUCTURE**

**Table B-1: Model Directory Structure**

Directory	Contents
ADJUSTMENT\	Bridge penalty and post-processing files
CTL\	Control Files for Exogenous FORTRAN modules
EXE\	FORTRAN Executables
INPUTS\	Miscellaneous Input files
KFACTORS\	k-Factor matrices
NETS\	Input Networks
REPORTS\	FORTRAN module reports
SCRIPT\	TP+ Scripts
SCRIPTOUTPUT\	.prn and other output files generated by running model scripts
SE\	Socio-Economic Data (incl. special generator, ring county population file)
WORK\	Files generated by running the model

**Table B-2: Socioeconomic Data Field Description**

Field	Columns	Description
ZONE	1-10	Zone Number
COUNTY	11-20	County (1-19)
AT	21-30	Area Type, Ignored on Input
AREA	31-40	Area in Square Miles, Include Decimal Point
INC	41-50	Average Household Income, Thousands of Year 2000 Dollars
POP	51-60	Population
HHLDS	61-70	Households
RET	71-80	Retail Employment
NRTE	81-90	Non-Retail Employment

**Table B-3: Split Zone Socioeconomic Data Field Description**

Field	Columns	Description
Z	1-10	Zone Number
CC_TAZ	11-20	Collar County Parent TAZ Number
POP_05	21-30	Population*
HH_05	31-40	Households*
REMP_05	41-50	Retail Employment*
NREMP_05	51-60	Non-Retail Employment*

\* Fields ending with “\_05” should be replaced with “\_30” or “\_50” for the 2030 and 2050 models, respectively

**Table B-4: Highway Network Field Description**

FIELD	DESCRIPTION
<u>Base Fields</u>	
DISTANCE	Link Distance in Miles
AREATYPE	Area Type
NUMLANES	Number of Lanes (may be non-integer)
ASGNGRP	Assignment Group
HOVFACILITY	Identifies HOV lanes mixed-use lanes which are switched in different time periods
COUNTY	County
MANUALSPEED	Speed that overrides default calculation based on area type, assignment group, mandatory for freeways
BRIDGEFLAG	Identifies as river crossing link (each direction, single link per crossing, all Minnesota River crossings)
<u>Validation Fields</u>	
TRAFFIC	One-Way Count (2005/2006)
LOC	ID to match one way counts together
EXTSTA	Identifies if the link corresponds to a Metropolitan Council model external station
RING	1- Collar, 2- Outer Core, 3- Inner Core
MNDOT	Identifies state roadways
CORDON	Identifies links that are part of a cordon

FIELD	DESCRIPTION
SCREENLINE	Identifies links that are part of a screenline
TAR_AM	Estimated AM peak period volume (for calibration, selected bridge links only)
TAR_MD	Estimated AM peak period volume (for calibration, selected bridge links only)
<u>Calculated Fields</u>	
SPEED	Function of AREATYPE, ASGNGRP (or MANUALSPEED)
TIME	Time in minutes, Function of SPEED, DISTANCE
AMCAP	AM Peak Capacity: Function of AREATYPE, ASGNGRP, NUMLANES
PMCAP	PM Peak Capacity: Function of AREATYPE, ASGNGRP, NUMLANES
OFFCAP	Off-Peak Capacity: Function of AREATYPE, ASGNGRP, NUMLANES

**Table B-5: Loaded Highway Network Field Description**

Field	Description
Vn	Volume for Time Period n (1-AM, 2-MD, 3-PM, 4-EVE)
CTIMEn	Congested Time for Time Period n
CSPDn	Congested Speed for Time Period n
VCn	V/C Ratio for Time Period n
VMT	Daily Vehicle-Miles-Traveled
VHT	Daily Vehicle-Hours-Traveled
VDAILY	Daily Volume
VDAILY2W	Daily Volume 2W (1-way volume on design-coded facilities)

**Table B-6: Database of Final Forecast Volumes**

Field	Description
A	A-Node for Link with Daily Volume
B	B-Node for Link with Daily Volume
FORECAST_30	Official 2030 Scott County Daily Forecast Volume

**Table B-7**  
**GIS Table Structure**

<b>FIELD</b>	<b>DESCRIPTION</b>
FNODE_	A-Node of Corresponding Highway Network Link
TNODE_	B-Node of Corresponding Highway Network Link
LPOLY_	(N/A)
RPOLY_	(N/A)
LENGTH	Length of Segment (ft)
SCT_CLN_	Scott County Link Number
SCT_CLN_ID	Scott County Link Number ID Code
OBJECTID	Object ID Code
STREET	Street Name
FROMLEFT	Street Address Range
TOLEFT	Street Address Range
FROMRIGHT	Street Address Range
TORIGHT	Street Address Range
CHANGED	Date Modified
ADDED	Date Added
ALT_NAM1	Alternate Roadway Name 1
ALT_NAM2	Alternate Roadway Name 2
F_XSTREET	Beginning Cross-Street Name
T_XSTREET	Ending Cross-Street Name
STREETNAME	Street Name
TYPE	Roadway Name Suffix
SUFDIR	Roadway Direction
HIGHWAY_NU	Highway Number (text)
CLASS	Functional Classification Code
OWNER	Jurisdiction of Roadway
RANGE	Location in County (East/West)
SHAPE LENG	Length of Segment (ft)
SRF_ID	Volume Posting Segment ID Code
TRAFFIC	Existing ADT
HWY_NUM	Highway Number (numeric)
SRF_ID_1	Unique Segment ID Code*
MODEL	Indicator for Inclusion in Highway Network*
NUM_LANES	Number of Lanes (each direction)*
CAPACITY	Estimate of Existing Daily Capacity*
CAP_DIFF	Remaining Capacity = CAPACITY – TRAFFIC*
DIFF_RATIO	Ratio of Remaining Capacity = CAP_DIFF / TRAFFIC*

\*attribute field added by SRF for modeling purposes

**APPENDIX C**  
**SUMMARY OF MEETINGS WITH LOCAL COMMUNITIES**

**Table C-1  
Local Meetings**

<b>City</b>	<b>Local Representative</b>	<b>Date</b>
Belle Plaine	Trisha Rosenfeld (Belle Plaine) Al Fahey (Belle Plaine) Gina Mitchell (Bolton & Menk)	June 29, 2007
Elko-New Market	Tom Terry, Elko-New Market Gina Mitchell (Bolton & Menk)	June 29, 2007
Savage	Brian Tucker (Savage)	August 3, 2007
New Prague	Renee Christianson (New Prague)	August 14, 2007
Shakopee	Michael Leek (Shakopee), Bruce Loney (Shakopee)	August 14, 2007
Jordan	Joe Janisch, (Jordan), Carol Caron (Bolton & Menk)	August 16, 2007
Prior Lake	Prior Lake Design Review Committee	August 16, 2007

These meetings yielded data, including recently completed or draft, city comprehensive plans, revised land use maps, most current transportation analysis zone (TAZ) splits, most current population projections and assumptions for future development. This data is being used to segment the county into TAZs as well as to provide assumptions regarding future residential and commercial development. These growth assumptions and their allocation into the respective TAZs include 2030 and 2050 forecast information. Following are summaries of key information that came from the series of meetings with cities within Scott County.

**City of Belle Plaine (June 29, 2007)**

- City has started work on comprehensive plan update
- Traffic model being developed in support of plan update
- Plan and model reflect current annexation boundaries and roadways
- Planned development exceeds Metropolitan Council Development Framework (32,000 vs. 19,000: this provides flexibility for City in providing geographic staging)
- SRF subsequently also received data files corresponding to traffic forecasts and land uses

**City of Elko-New Market (June 29, 2007)**

- Comprehensive plan preparation underway
- City created by merger of Elko, New Market and townships
- Much of background planning work done as part of Southeast Scott County Comprehensive Plan, including Met. Council-provided traffic forecasts

- Traffic model eventually to be developed in support of plan update
- Potential long-term (+2030) interchange at CR 2 and I-35W
- Potential overpass at CR 62 and I-35, plus extension of CR 62
- Decisions yet to be made on a portion of growth staging within larger growth boundary
- Planned development exceeds Metropolitan Council Development Framework; this provides flexibility in geographic staging
- Bolton & Menk provided SRF with maps and text from draft plan

#### **City of Savage (August 3, 2007)**

- City not anticipating major transportation plan forecast update at this time
- Nearly fully developed, with only portion of South Savage to be developed
- Development assumptions should be consistent with South Savage Subarea plan (1999) and Prior Lake Aggregates (2007) AUAR sites
- Roadway issues include not planning to complete So. Park Drive/144th connection to TH 13 as in original plan and not connecting 150th Street through south Savage area to CR 74
- Discussed potential Dakota Avenue/CR 75 connection and issues relating to Murphy-Hanrahan Park

#### **City of New Prague (August 14, 2007)**

- Not included in mandated Metropolitan Council comprehensive planning process, but is choosing to participate in the comprehensive planning process.
- New Prague completed a city comprehensive plan in 2004, which is available on the City's website.
- Plans to upgrade TH 19 from 2-lane rural to 2-lane urban through New Prague.
- Independent commercial center is developing on the west side of the City, which will likely include a Wal-Mart store.
- Recommended to further subdivide TAZ 15 into 2 zoned and TAZ 16 into 2 zones.
- SRF subsequently also received data files corresponding to revised jurisdictional boundaries, traffic forecasts and land uses.

#### **City of Shakopee (August 14, 2007)**

- Draft update of Transportation Plan recently completed
- Includes updating of traffic forecasts and socioeconomic data
- Tribal lands adjacent and within city limits are expanding and need to be appropriately accounted in future development scenarios.
- TAZ structure reflects potential long-term urban development of Louisville Township, though no annexation agreement exists.

- WSB responsible for technical analysis and will complete the city traffic modeling work  
**City of Jordan (August 16, 2007)**

- Jordan is currently in the process of updating its Transportation Plan with Bolton and Menk as the planning consultant.
- The Jordan transportation model will be completed in October 2007.
- TAZ structure reflects potential long-term urban development of St Lawrence Township, though no annexation agreement exists there have been discussions between the township, Jordan, Shakopee and Prior Lake.
- Future growth for Jordan is more aggressive than Metropolitan Council estimates.
- Review line work for local roads in southern portion of Jordan.
- SRF subsequently received shape files for existing and 2030 land uses for the City.

#### **City of Prior Lake (August 16, 2007)**

- Prior Lake completed its 2030 comprehensive plan in 2005.
- SRF has the Prior Lake 2030 forecast assumptions.
- The City has no suggestions for changes to the TAZ allocations.
- Through negotiations with the Metropolitan Council, the 2030 city population was adjusted down to 40,000, which should be reflected in the Scott County forecast model.

#### **Scott County (various)**

- The County provided the 2007-2016 Transportation Improvement Program and parcel-level data from County Assessor's Office. This data is used for purposes of allocating current land development to the forecast model TAZs.
- Roadway GIS linework and databases were also provided to assist network development process
- County staff has had informal communications with Shakopee Mdewakotan Sioux Community (SMSC), which has requested of the Metropolitan Council that it be treated separately from Prior Lake and Shakopee for the purposes of land planning and development. SMSC land, including new trust lands, far exceed SMSC's projected population growth, but new commercial ventures are possible
- Potential 2050 land development assumptions were discussed. The planned Jordan/Belle Plaine area wastewater treatment facility will provide capacity that far exceeds the likely development of the area in the next 50 years, so the "build out analysis will be more of a 2050 scenario. Post-2050 estimates of roadway needs are extremely difficult given potential changes in travel behavior.