Appendix D: Streets and Highways

1. Methodology: Inflation Factors

The majority of projects in the 2005-2035 Long Range Transportation Plan were not updated beyond inflating cost estimates from 2005 to 2011. In order to remain consistent methodologically, the MPO used Robert Sahr's inflation factors, *Conversion Factors 1774 to Estimated 2020*, available through Oregon State University. The tool is available at: http://oregonstate.edu/cla/polisci/download-conversion-factors

2. Methodology: Forecasting

HNTB submitted to the MPO the following text describing forecasting analysis methodology.

Primary and Secondary Deficiency Analysis – Wisconsin MPO Models

The WisDOT TP+ travel demand models conduct deficiency analysis using a two-tiered approach. The primary analysis utilizes a numeric Level of Service (LOS) value and a Level of Service threshold as described in the Facilities Development Manual (FDM) Procedure 11-5-3 to determine roadway deficiency. This method incorporates an adjusted traffic forecast value, an operationally sensitive roadway capacity and a sliding deficiency determination based on the importance of the roadway within the overall transportation system. The secondary approach uses the raw model assignment and the operational capacity on a link by link basis to determine the relative deficiency. The secondary approach is intended as a supplement to the primary approach and should only be used at locations where a primary deficiency is not available.

Primary Deficiency Analysis - LOS Deficiency

The LOS value is a measure of the amount of the link's available capacity used by the volume of traffic on the link segment and is calculated on a link-by-link basis within the TP+ model script. Table 1 correlates LOS with a numeric value and an approximate volume to capacity ratio.

Table 1, LOS Alpha/Numeric

Level of Service (Alpha Value)	Level of Service (Numeric Value)
A-(Not congested)	1.01 to 2.00
B-(Not congested)	2.01 to 3.00
C-(Minimal congestion)	3.01 to 4.00
D-(Moderate congestion)	4.01 to 5.00
E-(Severe congestion)	5.01 to 6.00
F-(Extreme congestion)	6.01 to ~

Source: Wisconsin Department of Transportation Facilities Development Manual 11-5-3, Page 2, December 30, 2002 and HNTB Corporation

The capacity used in for traffic assignment in long-range planning models represents generalized values. Operationally, the amount of available capacity on a model link is influenced by many factors; therefore each link is assigned a 'LOS Lookup' value which is determined by the following factors:

- Facility Type
- Area Type
- Number of Lanes
- Posted Speed
- Signal Density
- Cross-Section Type

The TP+ script contains 48 different LOS Lookup values. The LOS Lookup value provides the TP+ script with a text file containing a link's lower and upper bounds of directional traffic within each LOS bin. The LOS value is then interpolated from these LOS bin values using the directional base year count or the directional future year traffic estimate using the following equation:

LOS Value = LOS Bin + [(Count-Lower Bound)/(Upper Bound – Lower Bound)]

For example, a four-lane undivided urban principal arterial designated as a Corridors 2020 Connector with a posted speed limit of 40 miles per hour and a signal density less than 1.5 signals per mile is given a LOS Lookup value of 17. The lower and upper bounds of LOS Bins for LOS Lookup 17 are shown in Table 2.

Table 2, Lower and Upper Bounds of LOS Bins for LOS Lookup 17

LOS Bin	Allowable Directional Volume	
	Lower Bound	Upper Bound
4.0 (or D)	15,800	17,700
5.0 (or E)	17,700	21,000
6.0 (or F)	21,000	

Source: HNTB Corporation

In this example, if the link's base year count was 17,250 in each direction (34,500 ADT), then the LOS value would be calculated as: 4.0 + [(17,250-15,800) / (17,700-15,800)] = 4.76

A level of service value by itself does not indicate definitively whether a link is deficient. A given level of congestion and corresponding LOS value may be acceptable on an urban corridor, while the same level of congestion may not be acceptable on a rural freeway segment. Therefore, an acceptable LOS threshold has been established for various roadway classes. The LOS threshold is determined by the link's overall importance to the transportation system as a whole and is based on the state truck highway sub-system attribute entered into the model network. These sub-system attributes reflect the Wisconsin TransLinks 21, Corridors 2020 Review and Update, June 1994. Table 3 defines the attributes entered into the TP+ model networks to indicate the STH sub-system.

Table 3, Link Attributes in TP+ network depicting STH Sub-Systems

STH Sub-System	Rural & Small Urban Areas (Population <50,000)	Urbanized Areas (Population >50,000)
C2020 Backbone Routes	BACKBONE	
C2020 Connector Routes	R_C2020	U_C2020
Other Principal Arterials	R_OPA	U_OPA
Minor Arterials	R_MA	U_MA
Collectors & Local Function Roads	R_OTHER	U_OTHER

Source: HNTB Corporation

The Facilities Development Manual provides the LOS threshold for each sub-system component as shown in Table 4. LOS values that exceed the LOS threshold trigger the need to consider improvements.

Table 4, Level of Service Thresholds

STH Sub-System	Rural & Small Urban Areas (Population <50,000)	Urbanized Areas (Population >50,000)
C2020 Backbone Routes	4.0	4.0
C2020 Connector Routes	4.0	4.5
Other Principal Arterials	5.0	5.5
Minor Arterials	5.0	5.5
Collectors & Local Function Roads	5.0	5.5

Source: Wisconsin Department of Transportation Facilities Development Manual 11-5-3, Page 2, December 30, 2002

Finally the TP+ script compares the LOS value to the LOS threshold to determine the deficiency status of the link. The TP+ output reports one of five possible values depending on the ratio between the LOS value and the LOS threshold. Table 5 shows the five levels of deficiency status reported by the TP+ script.

Table 5, Reporting of Primary Deficiency Status

Volume to Threshold Capacity Ratio	Reported Status
<0.75	Sufficient
0.75 to 0.89	Approaching
0.90 to 0.99	Potential
1.00 to 1.09	Deficient
>1.10	Severely Deficient

Source: HNTB Corporation

The primary deficiency value for the example link would be calculated as follows:

LOS Threshold for Urban C2020 Connector Route = 4.5 LOS Value = 4.76

4.76/4.5 = 1.06 , therefore the link would be assigned a deficiency value of 'Deficient'.

The following exhibit shows the results of the MPO model deficiency analysis as calculated using the Primary Analysis for the existing Fox Valley area transportation system.

Secondary Analysis – Raw Assignment

Similar to the Primary Analysis, the secondary analysis is a measure of the amount of the link's available capacity used by the volume of traffic on the link segment and is calculated on a link-by-link basis within the TP+ model script. Unlike the Primary Analysis, the Secondary Analysis utilizes only the raw model assignment and with the operational roadway capacity. Table 1 is repeated below to correlate LOS with a numeric value.

Table 1(repeated), LOS Alpha/Numeric

Level of Service (Alpha Value)	Level of Service (Numeric Value)
A-(Not congested)	1.01 to 2.00
B-(Not congested)	2.01 to 3.00
C-(Minimal congestion)	3.01 to 4.00
D-(Moderate congestion)	4.01 to 5.00
E-(Severe congestion)	5.01 to 6.00
F-(Extreme congestion)	6.01 to ~

Source: Wisconsin Department of Transportation Facilities Development Manual 11-5-3, Page 2, December 30, 2002 and HNTB Corporation

The Facilities Development Manual provides the LOS threshold for each sub-system component as shown above in Table 4. Finally the secondary deficiency level of service is compared to the deficiency threshold of the link. The Secondary Analysis then outputs one of five possible values depending on the ratio between the level of service and the threshold capacity. Table 7 shows the five levels of deficiency status reported by the TP+ script.

Table 7, Reporting of Secondary Deficiency Status

Volume to Threshold V/C Ratio	Reported Status
<0.75	Sufficient
0.75 to 0.89	Approaching
0.90 to 0.99	Potential
1.00 to 1.09	Deficient
>1.10	Severely Deficient

Source: HNTB Corporation

Usage of Primary and Secondary Analyses

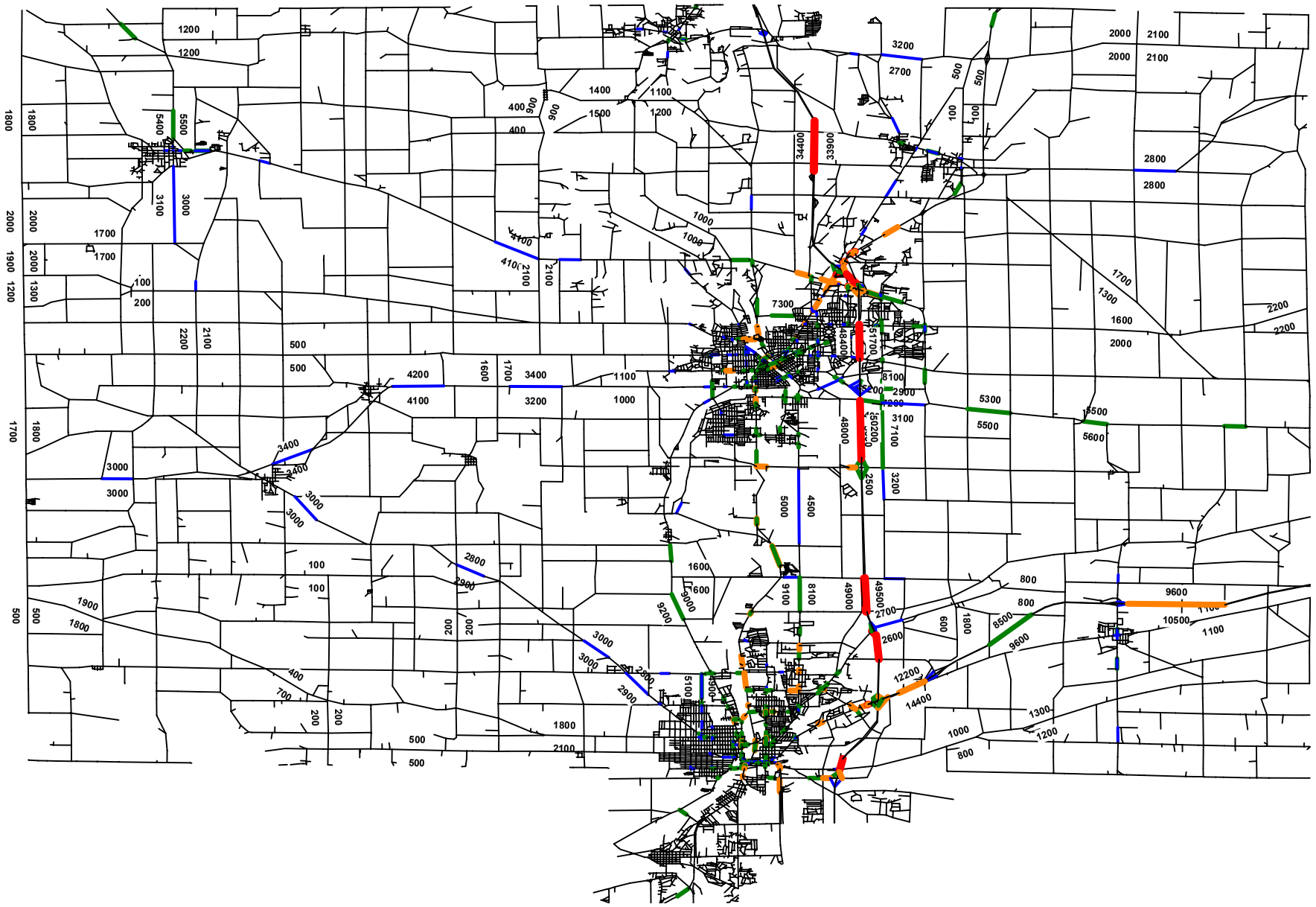
The Primary Analysis is a more complex deficiency calculation incorporating adjusted traffic forecasts, operationally sensitive roadway capacity and a sliding deficiency determination based on the importance of the roadway within the overall transportation system. This approach is the preferred method of deficiency analysis and should be used whenever available. However, due to the need for an existing traffic count to calculate an adjusted traffic forecast, the Primary Analysis is conducted at limited locations. Professional judgment must be used to determine the appropriateness of applying a deficiency value to links in close proximity and of similar operating characteristics to links with a Primary Analysis rating.

The Secondary Analysis is a less complex deficiency calculation which utilizes only the raw model assignment with the operational capacity and sliding deficiency determination. This approach provides a deficiency estimate for every link in the model network. However, due to the less exact data used to determine the Secondary Analysis, it should only be used in locations where the Primary Analysis could not generate an actual or inferred deficiency calculation.

Example One: A series of four links bounded on either side by two links with a Primary Analysis rating of 'Deficient'. If the six links would be expected to all operate in a similar manner, the entire six link series should be considered 'Deficient'. In this case, the Secondary Analysis would not be utilized to supplement the Primary Analysis.

Example Two: A series of four links bounded on either side by two links with a Primary Analysis of ‘Approaching’ and ‘Potential’, east to west respectively. Two minor north-south corridors intersect the four link series between the two Primary Analysis links. The Secondary Analysis confirms the values at the Primary Analysis locations and also shows higher volume to capacity ratios between the two minor north-south corridors. The Secondary Analysis is indicating that the four links between the two Primary Analysis locations are at least as deficient as the two Primary Analysis locations, and depending on the severity of the volume to capacity ratio, could be considered to be ‘Deficient’.

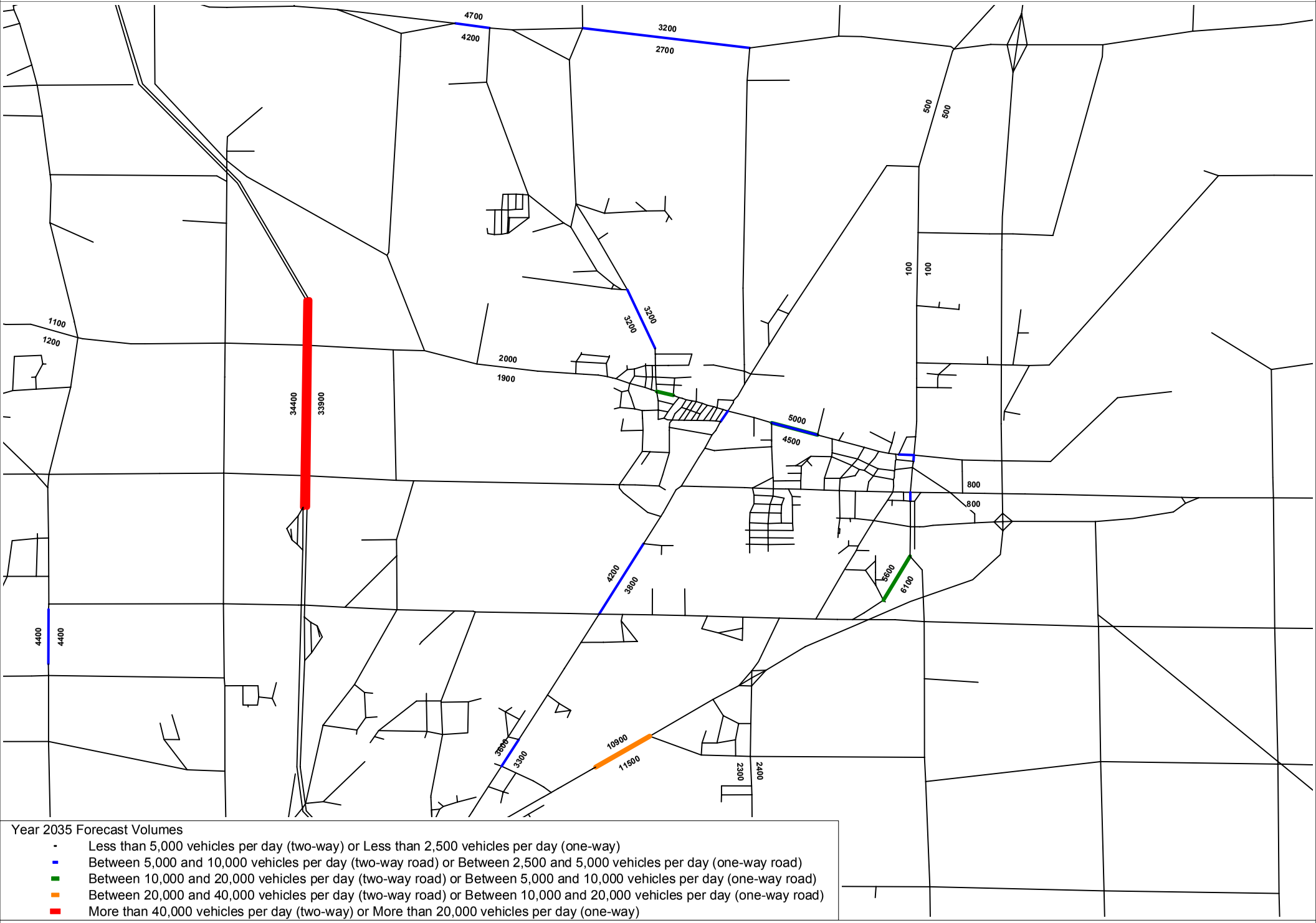
Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



Year 2035 Forecast Volumes

- Less than 5,000 vehicles per day (two-way) or Less than 2,500 vehicles per day (one-way)
- Between 5,000 and 10,000 vehicles per day (two-way road) or Between 2,500 and 5,000 vehicles per day (one-way road)
- Between 10,000 and 20,000 vehicles per day (two-way road) or Between 5,000 and 10,000 vehicles per day (one-way road)
- Between 20,000 and 40,000 vehicles per day (two-way road) or Between 10,000 and 20,000 vehicles per day (one-way road)
- More than 40,000 vehicles per day (two-way) or More than 20,000 vehicles per day (one-way)

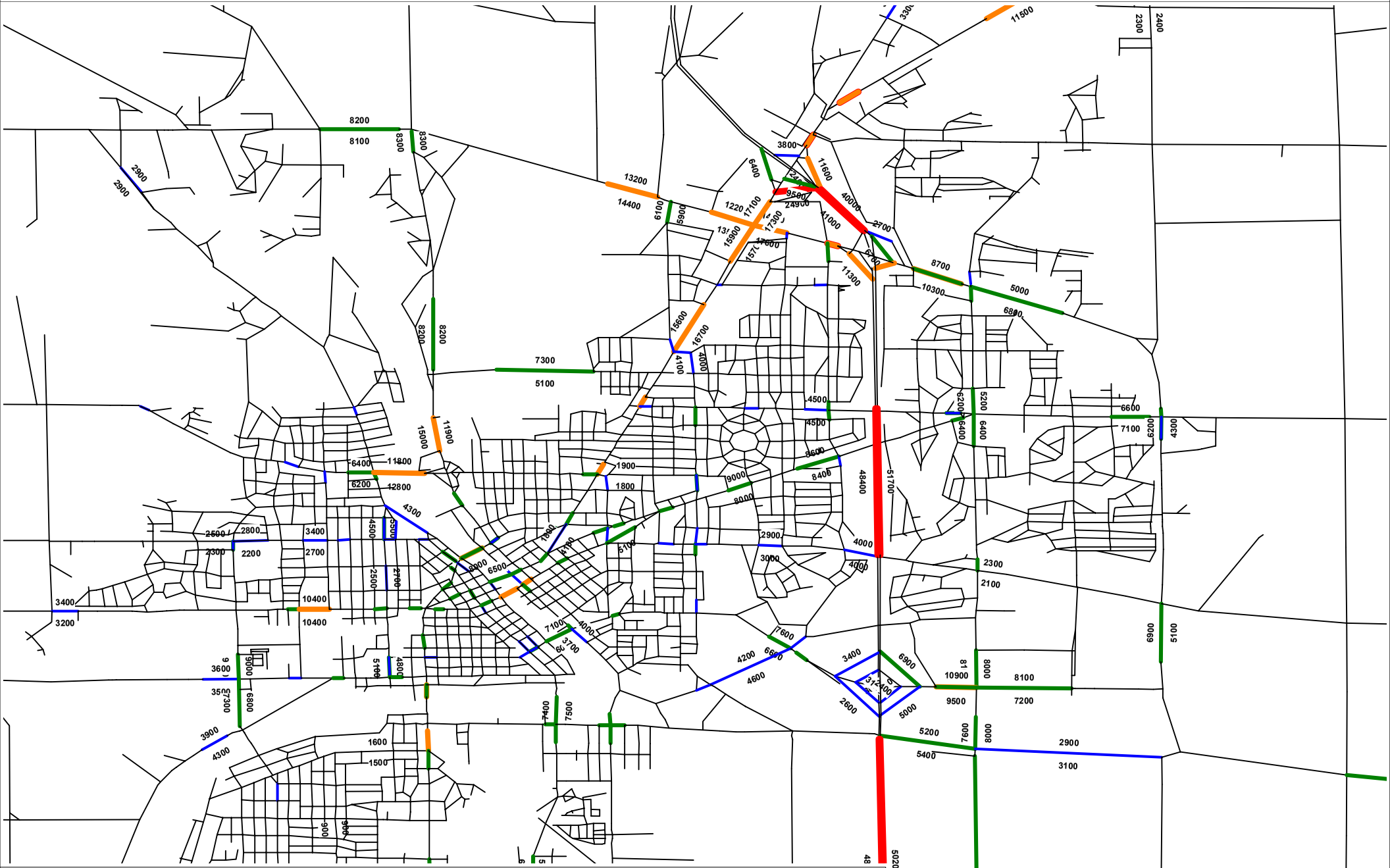
Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



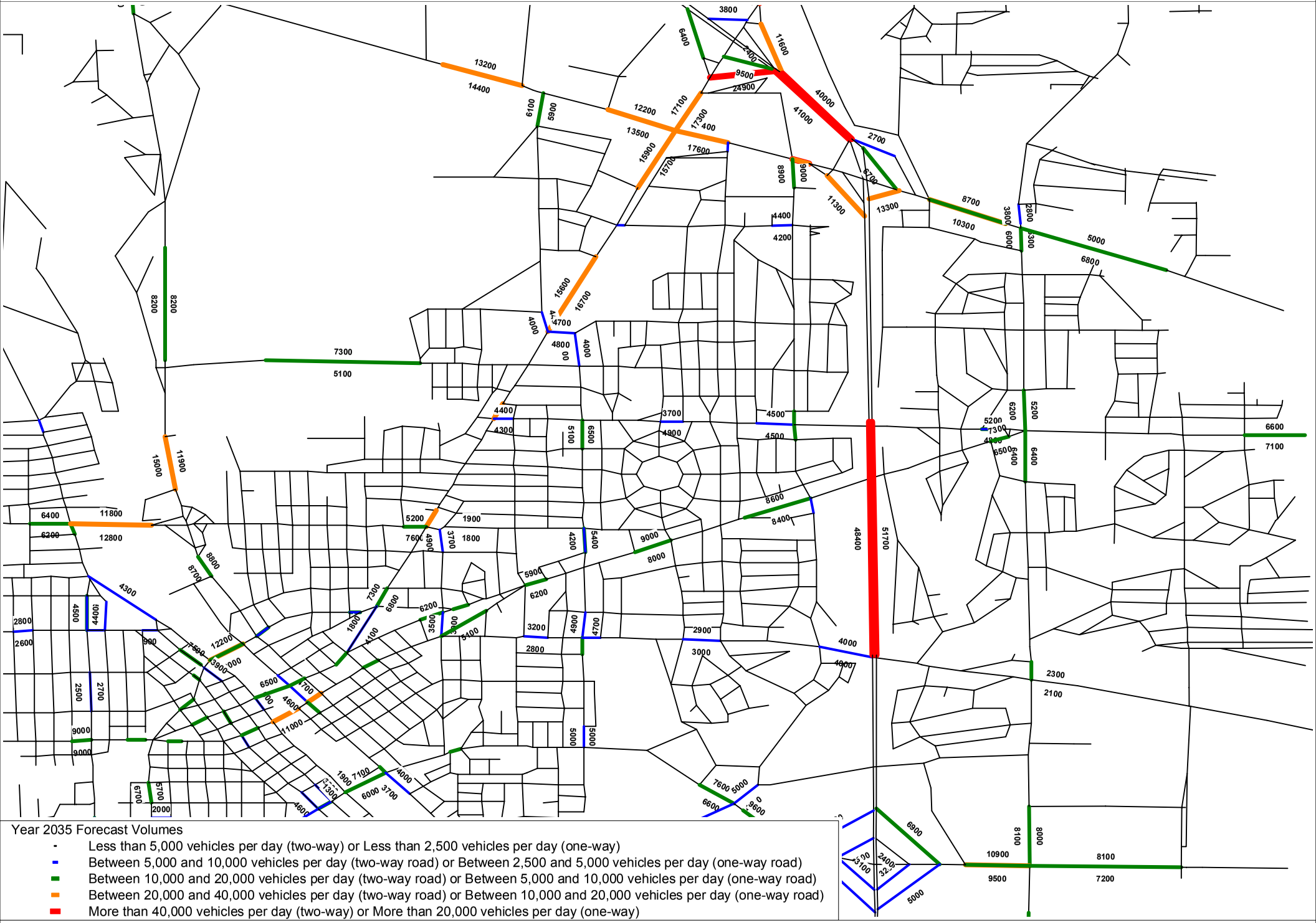
Year 2035 Forecast Volumes

- Less than 5,000 vehicles per day (two-way) or Less than 2,500 vehicles per day (one-way)
- Between 5,000 and 10,000 vehicles per day (two-way road) or Between 2,500 and 5,000 vehicles per day (one-way road)
- Between 10,000 and 20,000 vehicles per day (two-way road) or Between 5,000 and 10,000 vehicles per day (one-way road)
- Between 20,000 and 40,000 vehicles per day (two-way road) or Between 10,000 and 20,000 vehicles per day (one-way road)
- More than 40,000 vehicles per day (two-way) or More than 20,000 vehicles per day (one-way)

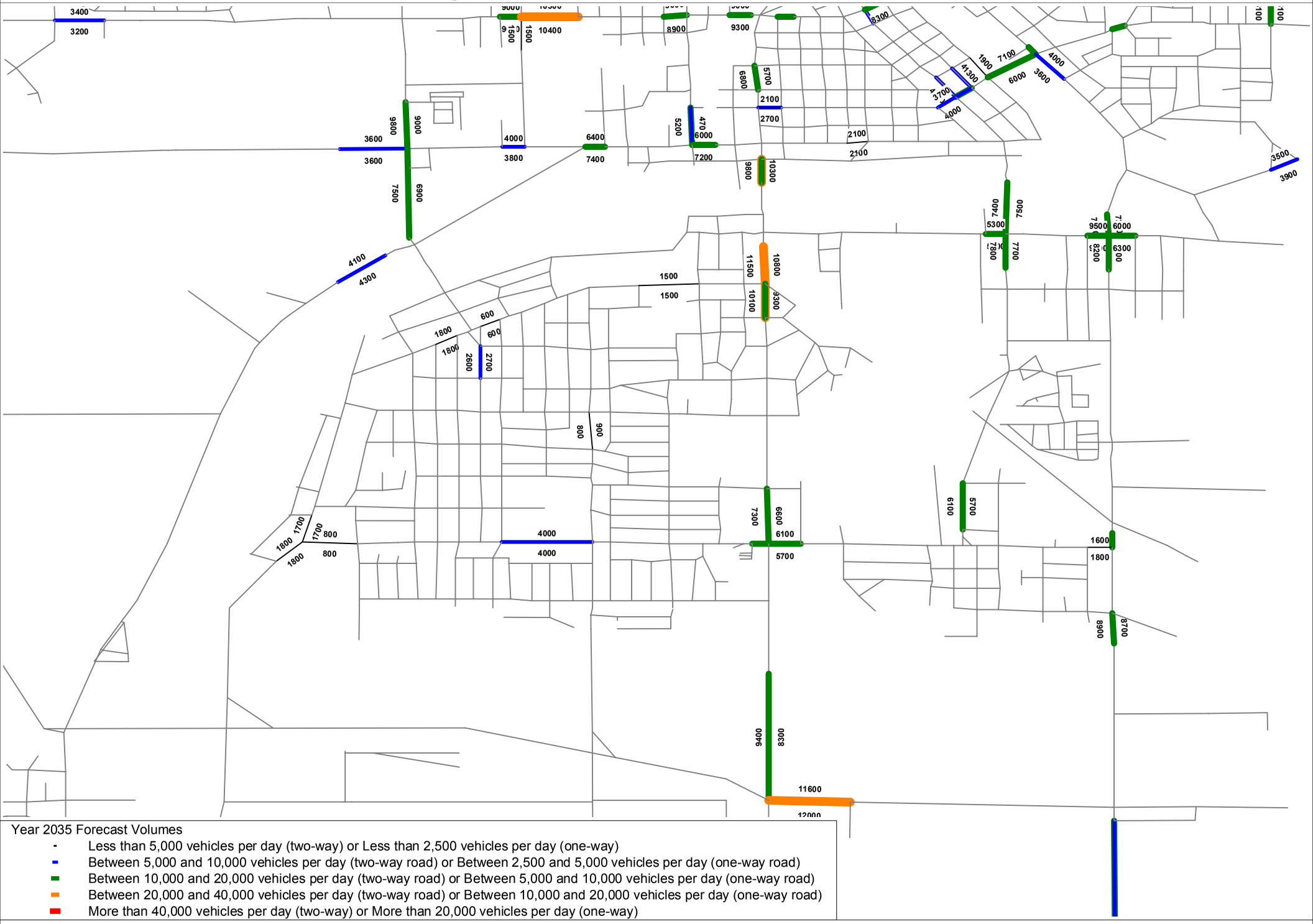
Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



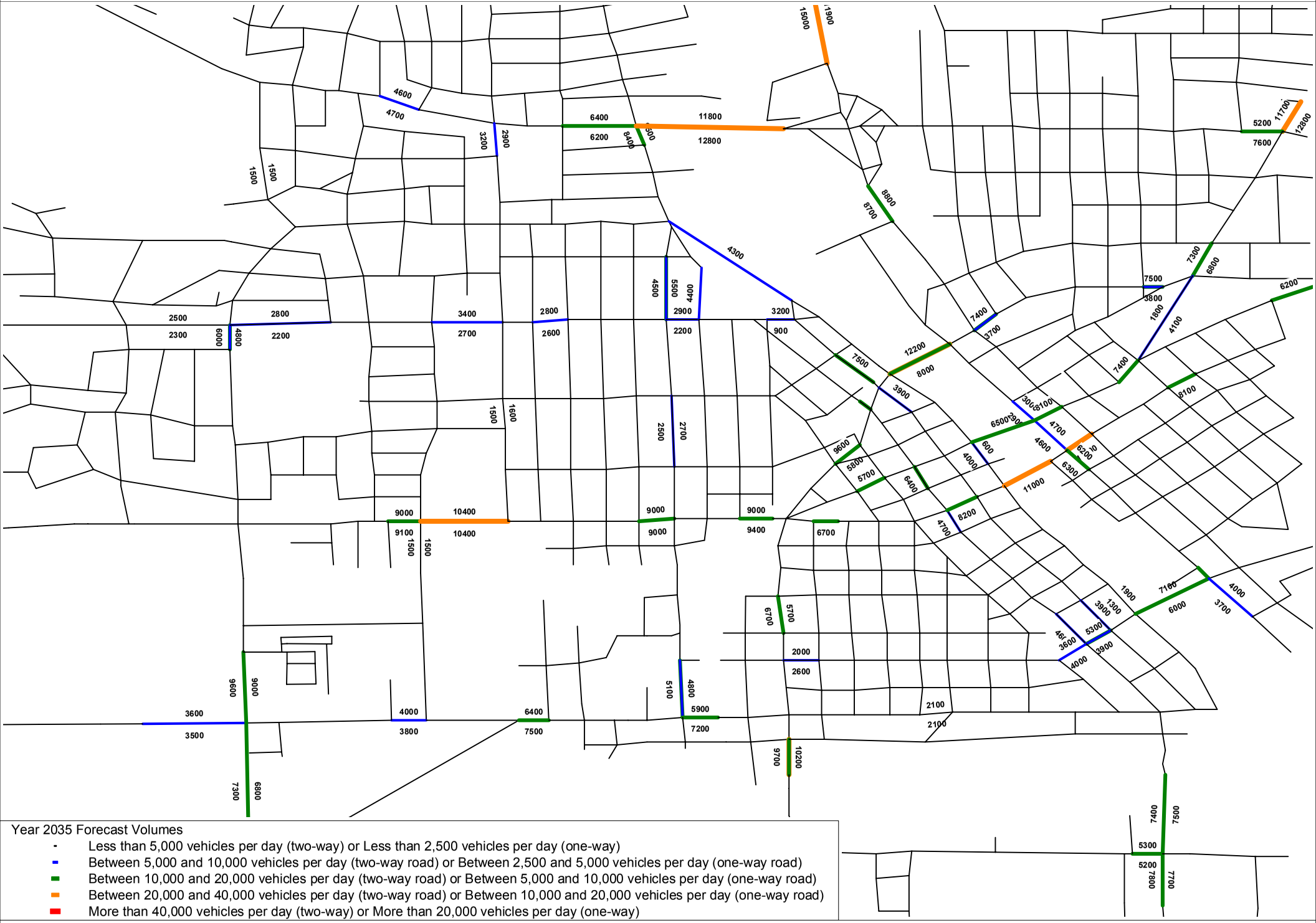
Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



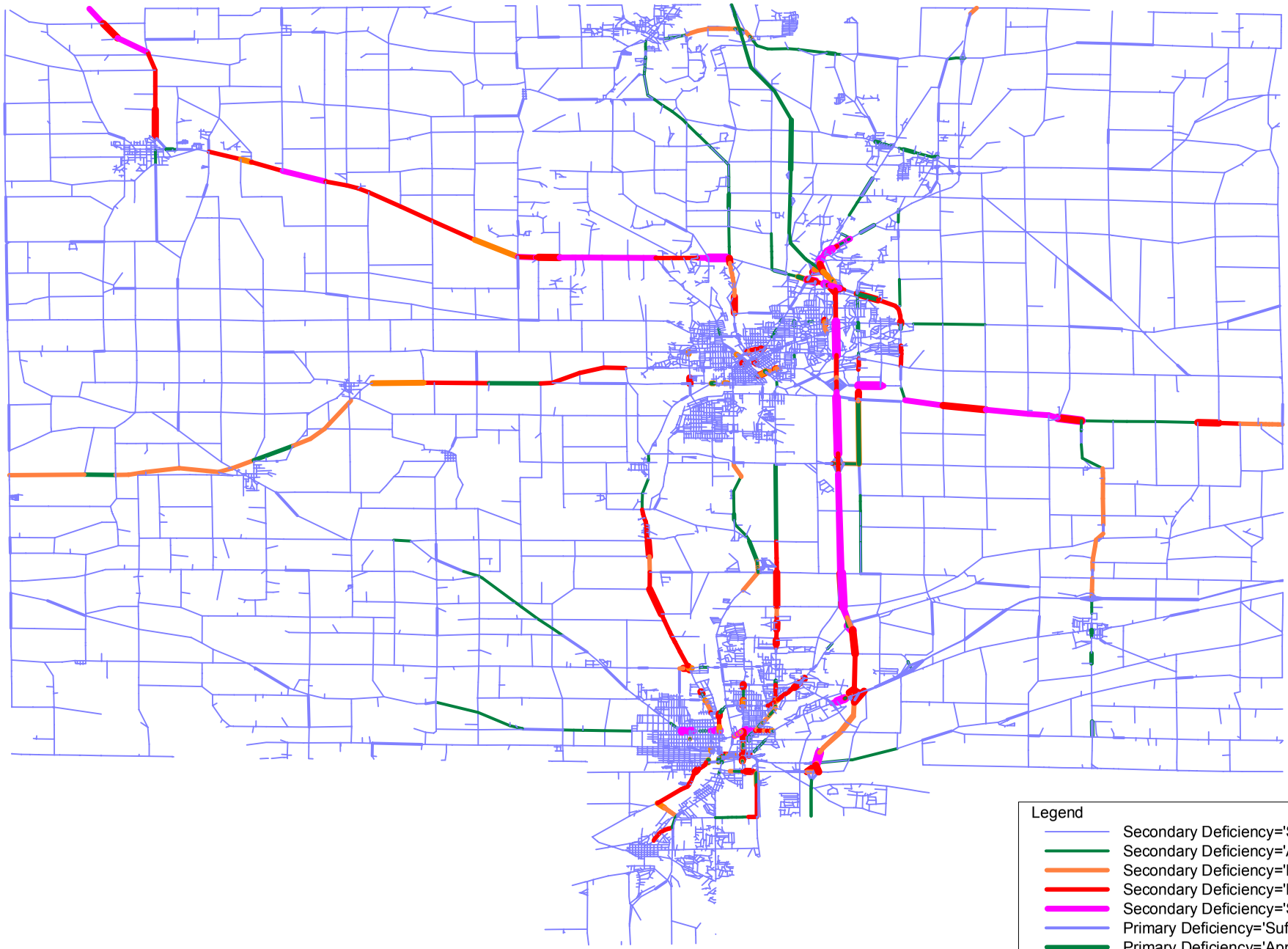
Year 2035 Forecast Volumes

- Less than 5,000 vehicles per day (two-way) or Less than 2,500 vehicles per day (one-way)
- Between 5,000 and 10,000 vehicles per day (two-way road) or Between 2,500 and 5,000 vehicles per day (one-way road)
- Between 10,000 and 20,000 vehicles per day (two-way road) or Between 5,000 and 10,000 vehicles per day (one-way road)
- Between 20,000 and 40,000 vehicles per day (two-way road) or Between 10,000 and 20,000 vehicles per day (one-way road)
- More than 40,000 vehicles per day (two-way) or More than 20,000 vehicles per day (one-way)

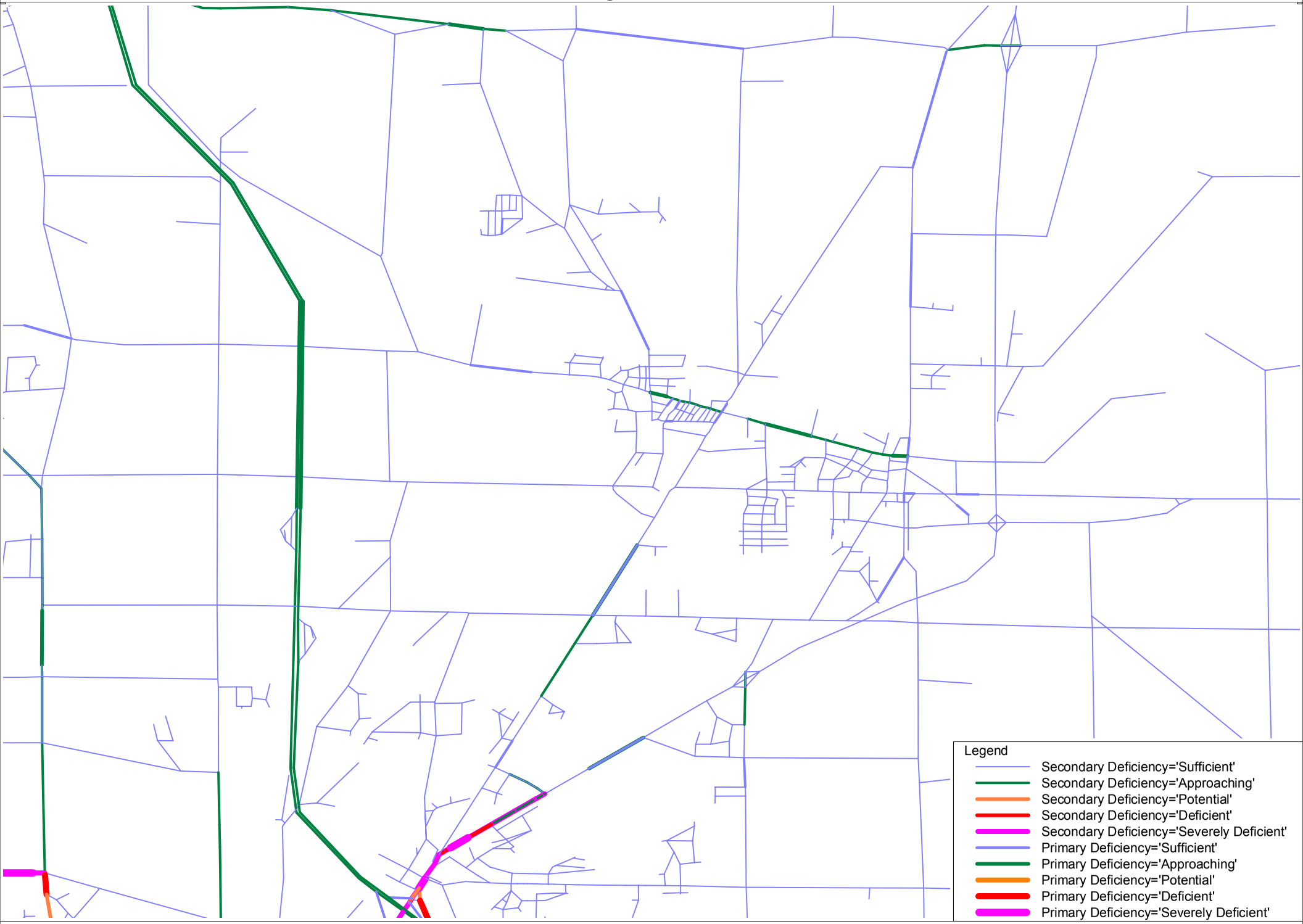
Rock County MPO Travel Demand Model
Future Existing plus Committed Network - 2035 Forecast Volumes



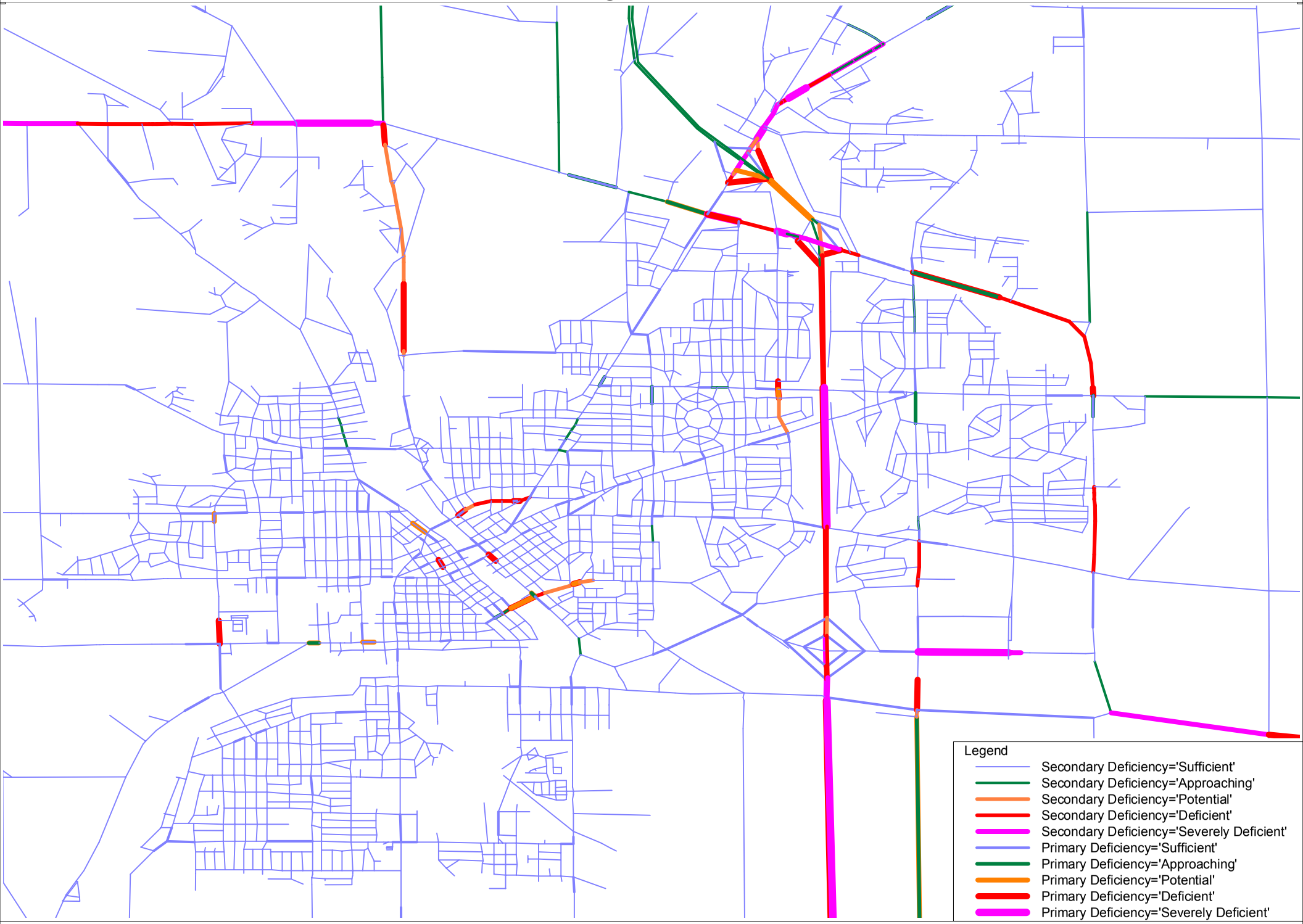
Rock County Travel Demand Model
Year 2035 Existing + Committed Deficiencies



Rock County Travel Demand Model
Year 2035 Existing + Committed Deficiencies



Rock County Travel Demand Model
Year 2035 Existing + Committed Deficiencies

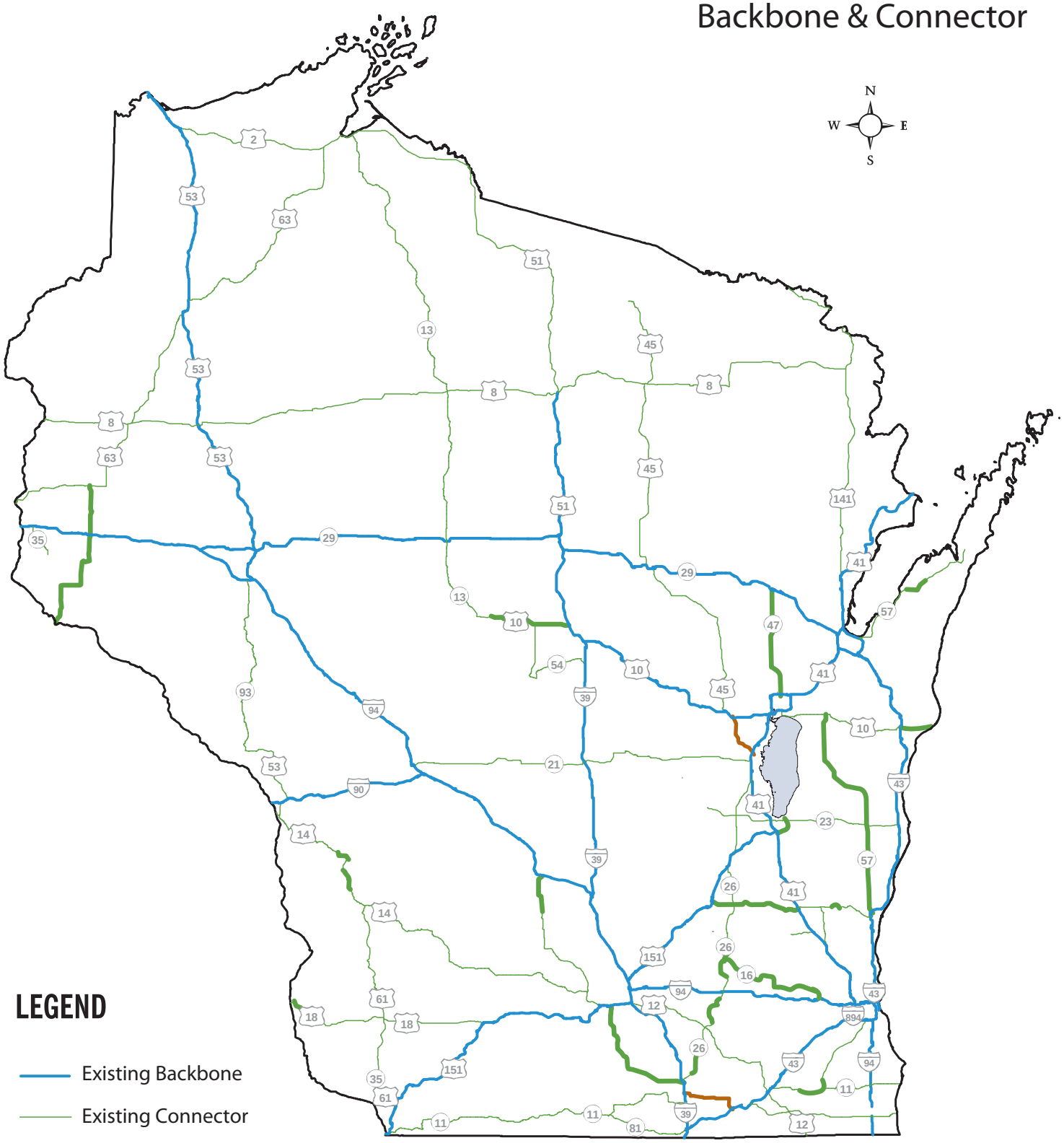


3. State Priority Corridors

Connections 2030 is the long-range transportation plan for the state of Wisconsin. This plan addresses all forms of transportation over a 20-year planning horizon: highways, local roads, air, water, rail, bicycle, pedestrian and transit. WisDOT officially adopted *Connections 2030* in October 2009.

Part of WisDOT's long-range transportation plan, *Connections 2030*, is the identification of a series of system-level priority corridors. These corridors are critical to Wisconsin's travel patterns and support the state's economy.

Corridors 2030 routes: Backbone & Connector



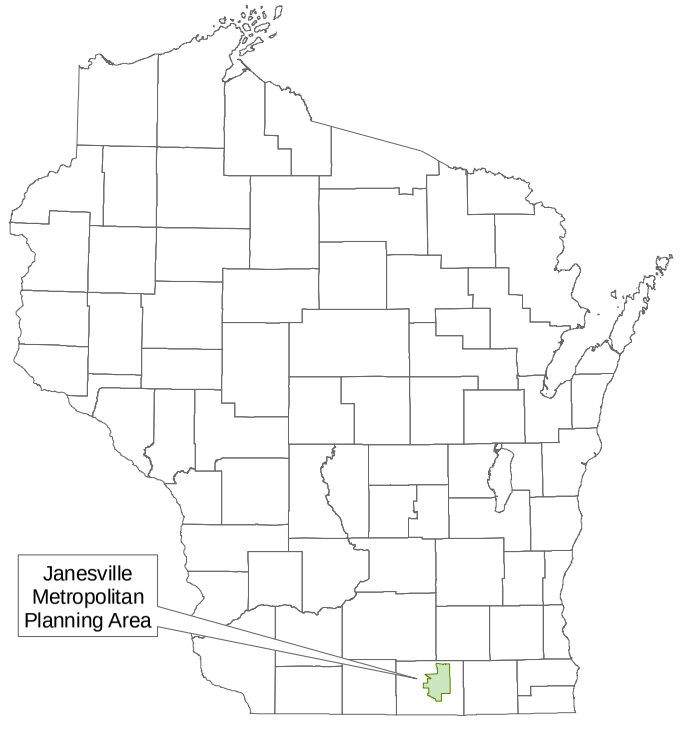
Source: Connections 2030 Long-Range Multimodal Transportation Plan adopted October 2009

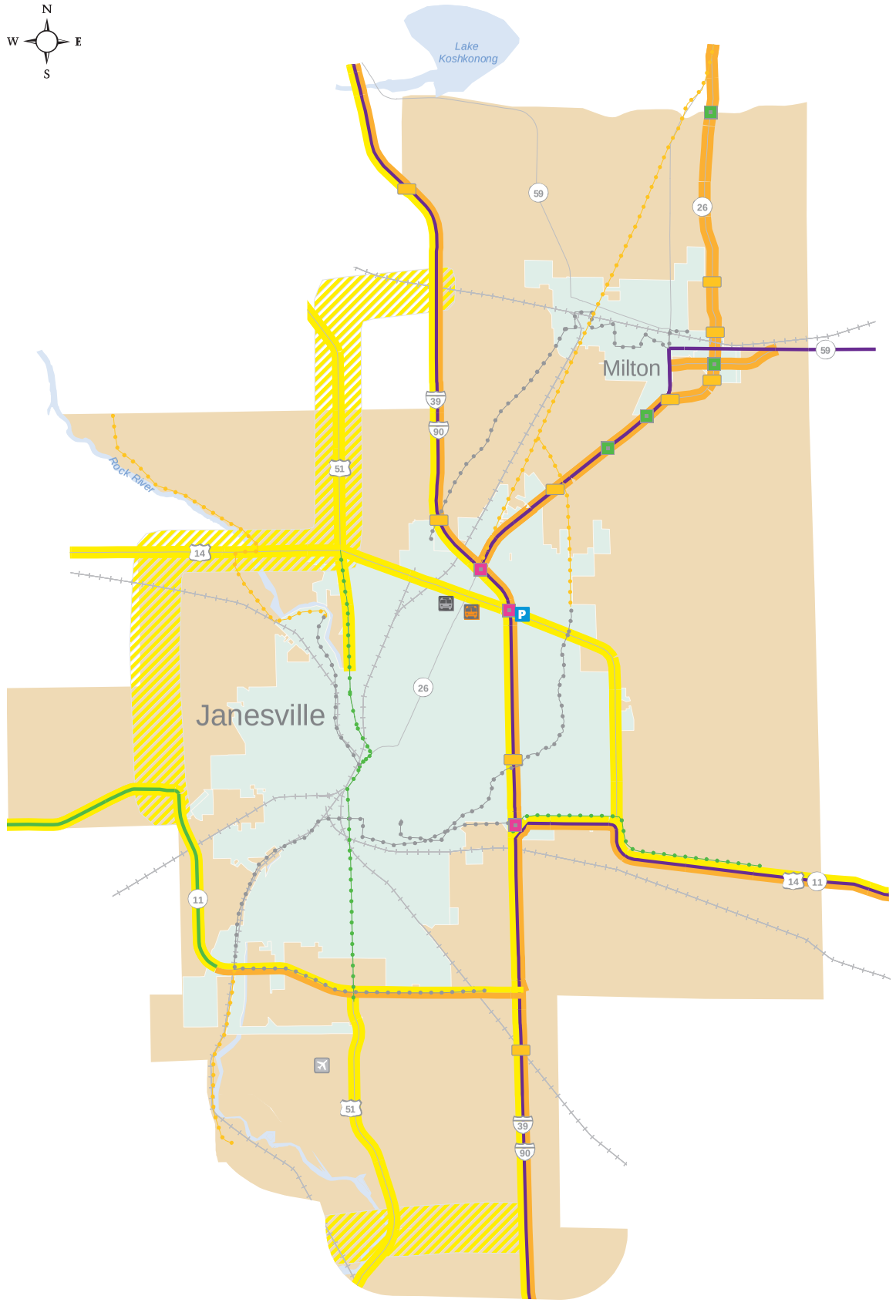
Janesville Metropolitan Planning Area

The State Line Area Transportation Study (SLATS) is the Janesvillle Area Metropolitan Planning Organization (MPO) which is the designated policy body responsible for continuing, cooperative and comprehensive urban transportation planning and decision making for the Janesville Metropolitan Planning Area.

The Janesville Metropolitan Planning Area consists of the City of Janesville and the Janesville Urbanized Area, including all or portions of the 7 contiguous villages, cities, and towns that are or are likely to become urbanized within a 20-year planning period. The planning area currently consists of:

- Cities of Janesville and Milton
- Towns of Harmony, Janesville, LaPrairie, Milton and Rock
- Rock County





For more information, refer to the Corridor Map Legend Definitions document at www.wiconnections2030.gov.

Existing Facilities

- Airport
- Park and ride
- Intercity bus stop
- Rail station
- Fixed guideway (commuter rail station)
- Port or harbor
- Mississippi River lock and dam
- Ferry
- Bicycle/pedestrian trail
- Rail-to-trail
- Railroad – private ownership
- Railroad – public ownership
- State trunk network
- State/county boundary
- Waterway
- City/village
- Metropolitan Planning Area
- Native American land

Priority Project Support Areas

Airport
- Airport project

Intercity Bus
- Intercity bus stop
- Priority route

Park and Ride
- Park and ride

Port, Channel or Waterway
- Port, channel or waterway project

Ferry
- Ferry project

Bicycle and Pedestrian
- Trail connection or extension
- Rail-to-trail

Fixed Guideway
- Commuter, rapid or express bus route
- Study future route
- Commuter rail route
- Commuter rail, proposed station

Priority Project Action Areas

Interchange
- Study and/or preserve right of way
- Study and construct new
- Reconstruct existing

Bicycle and Pedestrian
- Provide urban connection
- Provide rural connection

Bridge
- Reconstruct existing or construct new

Intercity Passenger Rail
- Proposed station
- Proposed station with intercity bus stop
- Study future route
- Priority route

Highways
- Construct capacity project
- Prepare corridor plan
- Reconstruct existing
- Construct passing lane
- Convert to Interstate standards
- Study bypass/new arterial

Janesville Metropolitan Planning Area

Current and Proposed Future Activities

These activities may not occur in the time frame identified due to budget constraints, changing conditions or shifting priorities. Refer to the "Important Notes about What is Depicted" for more information or contact the WisDOT Region Office.

Short-Term (2008 – 2013)

Overlapping Corridors						
Cheese	Glacial Plains	Rock River	South Central	Southern Tier		
			•		US 14	Prepare corridor plan from WIS 92 (Dane Co) to I-39/90 (Janesville)
•					WIS 11	Prepare corridor plan from WIS 35/US 151 to I-39/90
			•		WIS 59	Relocate 0.25 miles south of present location between WIS 26 and Vickerman Rd (Milton)
•	•	•	•	•	Commuter Bus/ Fixed Guideway	Support studies of commuter bus or rail service in Dane, Rock and Walworth counties with potential links to Rockford, IL and Chicago, IL
•	•	•	•	•	Public Transit	Support regional service expansion to include Janesville and Beloit in Wisconsin, and Rockton, Roscoe, Rockford and Belvidere in Illinois
•	•	•	•	•	Public Transit/Fixed Guideway Transit	Implement results of the *South Central Wisconsin Commuter Transportation Study*. Transit alternatives include commuter rail service from Janesville and/or Beloit to the Harvard, IL Metra station; commuter rail service from Madison to Rockford, IL via either Milton or Evansville; bus rapid transit between Madison and northwestern Cook County, IL; express bus service from Madison to Rockford, IL; and feeder bus service from Beloit and/or Janesville to the Harvard, IL Metra station

Mid-Term (2014 – 2019)

Overlapping Corridors						
Cheese	Glacial Plains	Rock River	South Central	Southern Tier		
			•		US 51	Prepare corridor plan from US 14 to I-39
		•			WIS 26	Construct enumerated Major project from I-39/90 (Janesville) to WIS 16 (Watertown), which may include bypassing Milton, Jefferson and Watertown, adding lanes and/or capacity, constructing candidate expressway upgrades and/or converting to freeway, constructing new bridges, and constructing new interchanges
•	•				Bicycle/Pedestrian	Provide urban accommodations along US 14/WIS 11 in Janesville from I-39 to S Milton Shopiere Rd
•					Bicycle/Pedestrian	Provide urban accommodations along US 51 from US 14 to WIS 11
		•			Bicycle/Pedestrian	Support trail connection from Janesville north to the existing Highway 26 corridor path
•	•	•	•	•	Intercity Bus	Support new intercity bus service between Janesville and Kenosha with stops in Delavan and Lake Geneva; and between Janesville and Milwaukee with stops in Whitewater and Waukesha
•	•	•	•	•	Intercity/Feeder Bus	Support new intercity bus service between proposed Madison passenger rail station and Chicago, IL passenger rail station with stops in Janesville and Beloit
			•		Park & Ride	Support proposed park and ride construction near the intersection of US 14 and I-39/90

Long-Term (2020 – 2030)

Overlapping Corridors						
Cheese	Glacial Plains	Rock River	South Central	Southern Tier		
			•		I-39/90	Replace railroad bridge south of the I-39/90 and US 14/WIS 11 intersection and bridges over Ruger Ave, Kennedy Rd and Newville Rd if supported by environmental document
			•		US 14	Prepare corridor plan from US 51 to WIS 11/US 14 (southeast Janesville)
•			•		US 14/US 51/ WIS 11	Prepare corridor plan for future North/West Bypass from WIS 11 to US 14 to US 51 to I-39/90 and begin to implement results of the study if supported by environmental document
			•		US 51	Prepare corridor plan from WIS 11 (Janesville) to WIS 81 (Beloit)
			•		US 51	Prepare corridor plan from Black Bridge Rd (Janesville) to US 14

Janesville Metropolitan Planning Area

Current and Proposed Future Activities

These activities may not occur in the time frame identified due to budget constraints, changing conditions or shifting priorities. Refer to the "Important Notes about What is Depicted" for more information or contact the WisDOT Region Office.

Entire Planning Period

Overlapping Corridors: Cheese	Glacial Plains	Rock River	South Central	Southern Tier		
			•		I-39/90	Complete corridor plan from Illinois/Wisconsin state line to US 12/18 and study interchanges at I-39/90 and WIS 26; I-39/90 and US 14 West; and I-39/90 and US 14 East/WIS 11. Implement plan/study results, which may include reconstructing interchanges, adding lanes and/or capacity, if supported by environmental document and process leading to candidate Major project enumeration
•	•			•	US 14/WIS 11	Complete corridor plan from I-39 (Janesville) to I-43 (Walworth Co) and implement results, which may include adding lanes and/or capacity, constructing candidate expressway upgrades and/or converting to freeway if supported by environmental document and process leading to candidate Major project enumeration
•					US 51/WIS 81/ WIS 213	Study bypass alternatives along I-39 to WIS 81 around west side of Beloit to WIS 213 to Town Line Rd
	•	•	•	•	WIS 11	Construct candidate passing lanes from WIS 104 to County Rd D (Rock Co) if supported by environmental document
•	•	•	•	•	Airports	Support continued preservation, maintenance, and infrastructure projects at *State Airport System Plan* airports
•	•	•	•	•	Airports	Support projects that benefit airports with scheduled passenger service
•	•	•	•	•	Bicycle/Pedestrian	Add key linkages into metropolitan areas
•	•	•	•	•	Bicycle/Pedestrian	Support accommodations and linkages to create a connected network that provides accessibility along and across facilities
•	•	•	•	•	Fixed Guideway	Support studies and implementation of potential new commuter rail service from Rock, Walworth, Racine and Kenosha counties to Chicago, IL
•	•	•	•	•	Intercity Bus	Support continued service between Madison and Chicago, IL with stops in Janesville and Beloit; and between Minneapolis/St. Paul, MN and Chicago, IL with stops in Eau Claire, Tomah, Wisconsin Dells, Madison and Beloit
•	•	•	•	•	Local Roads	Support continued preservation, maintenance and infrastructure projects
•	•	•	•	•	Public Transit	Support continued service and vehicle replacement for Janesville
•	•	•	•	•	Public Transit	Support regional service expansion in Janesville
•	•	•	•	•	Public Transit	Work with counties and transit service providers to coordinate and expand rural transit service
•	•	•	•	•	Rail Freight	Preserve existing freight services and corridors
•	•	•	•	•	Specialized Transit	Support continued service and encourage improved service coordination
•	•	•	•	•	State Highways	Preserve and maintain infrastructure
•	•	•	•	•	State Highways	Construct grade separations at rail crossings if supported by environmental document
•	•	•	•	•	State Highways	Improve traffic movement with traffic operations infrastructure strategies
•	•	•	•	•	TDM	Support implementation of TDM in urban areas

About Multimodal Corridors and Planning Areas

The *Connections 2030* planning process identified statewide multimodal, intercity corridors as visual communication tools to view existing conditions, transportation features and future recommendations. In some cases, these corridors have endpoints in or pass through metropolitan planning areas. These corridors collectively represent a starting point toward long-term implementation of *Connections 2030* and the corridor management process.

These multimodal corridors:

- Serve critical sectors of the economy or major population centers
- Carry significant travel activity for passenger and/or freight traffic
- Show significant growth in travel or economic development
- Serve an important role for other transportation modes

Corridor selection was also influenced by local land use and development plans. Each corridor is a broad geographical band that follows a general directional flow connecting trips that may include streets, highways, rail, pedestrian, bicycle facilities and routes and transit route alignments. A corridor generally follows the directional flow of a state highway alignment. It includes parallel state and local roads, service roads and facilities for other transportation modes such as rail, pedestrian, transit, etc., which influence the mobility, capacity, safety and other functional elements of the corridor.

Important Notes about What is Depicted

The map shows currently programmed and proposed future activities (as of December 31, 2007) that have significant impacts on the planning area. Not all projects or initiatives are mapped, and additional analyses, including an environmental document, will be conducted before any of the projects or activities are completed. These analyses may include studying alternatives (including a no build/no change alternative) with public involvement opportunities as appropriate. Resources and shifting priorities may impact WisDOT's implementation of any proposed activity within the time frames identified. WisDOT will remain flexible in the implementation of *Connections 2030* recommendations. The map and table activities on the following page reflect actions identified in:

- *Connections 2030* policies
- WisDOT's Six-Year Highway Improvement Program (2008 - 2013)
- Other WisDOT program data
- Other WisDOT plans and studies
- Metropolitan planning organizations' (MPOs), regional planning commissions' (RPCs) and tribal long-range transportation plans

For information on funding and implementation priorities, see those *Connections 2030* chapters. For more information on transportation projects, contact the WisDOT Region Office (see *Connections 2030* or www.dot.wisconsin.gov/projects/ for a map of region offices). MPO, RPC and tribal long-range transportation plans offer recommendations on all transportation modes within their boundaries.

Planning Area Map – Data Definitions and Sources

Data Definitions

Corridors 2030

(See Connections 2030 Chapter 5, Preserve and Maintain Wisconsin's Transportation System, for more information.)

- Backbone system: Multilane, divided highways interconnecting all major population and economic centers of the state and linking them to the national transportation network
- Connector system: Two- and four-lane highways directly linking other significant economic and tourism centers to the Backbone system

State Access Management Plan vision

(See Connections 2030 Chapter 9, Promote Transportation Efficiencies, for more information.)

- Tier 1: By 2030, in rural areas (outside of city and village boundaries), access to the highway will primarily be at interchanges (with some existing safely spaced, locked and gated emergency vehicle driveways and a few isolated field entrances possible at select locations)
- Tier 2A: By 2030, in rural areas (outside of city and village boundaries), access to the highway will primarily be at at-grade public road intersections (with some existing safely spaced, locked and gated emergency vehicle driveways and few isolated field entrances)
- Tier 2B: By 2030, in rural areas (outside of city and village boundaries), access to the highway will primarily be at at-grade public road intersections with some existing safely spaced, lower volume private, residential, field or emergency service driveways
- Tier 3: By 2030, in rural areas (outside of city and village boundaries), access to the highway will primarily be at at-grade public road intersections with some existing safely spaced, higher volume private, residential and field or emergency service driveways
- Tier 4: By 2030, in rural areas (outside of city and village boundaries), access to the highway will be at safely spaced driveways and roads

State Airport System Plan classifications

- Air carrier (passenger)/air cargo: Designed to accommodate virtually all aircraft up to and, in some cases, including wide body jets and large military transports
- Transport/corporate: Intended to serve corporate, small passenger and cargo jet aircraft used in regional service, and small airplanes (piston or turboprop) used in commuter air service
- General utility: Intended to serve virtually all small aviation single and twin-engine aircraft (both piston and turboprop) with a maximum take-off weight of 12,500 pounds or less
- Basic utility: Intended to serve all small-engine piston aircraft and many of the smaller twin-engine piston aircraft with a gross takeoff weight of 12,500 pounds or less

Truck volume descriptions

- Low (0 – 501 trucks per day), Medium (501 – 2,500 trucks per day),
- High (2,501 – 8,000 trucks per day), Very High (more than 8,000 trucks per day)

Urban/urbanized areas

- Urban areas: Areas with populations between 5,000 and 49,999
- Urbanized areas: Areas with populations of 50,000 or more

Data Sources

Annual average daily traffic (AADT)

- Current data: WisDOT, *2005 Wisconsin Highway Traffic Volume Data*, December 2006
- Forecast data: WisDOT, August 2007

Enplanements

- Current data: WisDOT, *2006 Wisconsin Aviation Activity*, April 2007
- Forecast data: Flight Transportation Associates, Inc., *Updated Wisconsin State Airport System Plan Aviation Activity Forecasts*, September 2005; Southeast Wisconsin Regional Planning Commissions, *Review and Update of Regional Airport System Plan Forecasts*, 2005

National Highway System (NHS) intermodal terminals

- Federal Highway Administration, October 2007

Passenger rail ridership

- Current data: WisDOT, 2007
- Forecast data:
  - Transportation Economics & Management Systems, Inc., *Midwest Regional Rail Initiative Project Notebook*, 2004
  - Forecast year 2020
  - Forecast Milwaukee station data includes all Milwaukee area stations (Milwaukee Intermodal Station, General Mitchell International Airport and Granville)

Population

- Current population: Wisconsin Department of Administration, *January 1, 2007 Preliminary Population Estimates for Wisconsin Counties*, August 10, 2007
- 2030 Population: Wisconsin Department of Administration, *Final Population Projections for Wisconsin Counties by Age and Sex: 2000 – 2030*, January 2004
- Current Age 65 and older population: 2000 US Census, Summary File 1, Variable P12: Sex by Age
- 2030 Age 65 and older population: Wisconsin Department of Administration, *Final Population Projections for Wisconsin Counties by Age and Sex: 2000 – 2030*, January 2004

Public and specialized transit

- WisDOT, January 2008

Truck volume

- WisDOT, August 2007

Wisconsin Metropolitan Planning Organizations (MPOs)

- Chippewa – Eau Claire Metropolitan Planning Organization, *Long Range Transportation Plan 2005 – 2030*, October 2005
- Dubuque Metro Area Transportation Study, *2031 Long-Range Transportation Plan*
- Duluth – Superior Metropolitan Interstate Council, *Access and Mobility for People and Freight 2030*, September 2005
- Fond du Lac Metropolitan Planning Organization, *Long Range Transportation/Land Use Plan for the Fond du Lac Urbanized Area*, October 2005
- Fox Cities Metropolitan Planning Organization, *Long Range Transportation/Land Use Plan for the Fox Cities Urbanized Area*, October 2005
- Green Bay Metropolitan Planning Organization, *Long Range Transportation Plan*, November 2005
- Janesville Metropolitan Planning Organization, *2005 – 2035 Long Range Transportation Plan*, December 2005
- La Crosse Area Planning Committee, *2030 La Crosse and La Crescent Metropolitan Area Transportation Plan*, August 2005
- Madison Area Transportation Planning Board, *Regional Transportation Plan 2030*, November 2005
- Oshkosh Metropolitan Planning Organization, *Long Range Transportation/Land Use Plan for the Oshkosh Urbanized Area*, October 2005
- Sheboygan Metropolitan Planning Organization, *Year 2035 Sheboygan Area Transportation Plan*, January 2006
- Southeastern Wisconsin Regional Planning Commission, *Planning Report 49, A Regional Transportation System Plan for Southeastern Wisconsin 2035*, March 2006
- Stateline Area Transportation Study, *2006 – 2035 Long-Range Transportation Plan*, December 2005
- Wausau Metropolitan Planning Commission, *Wausau Area Metropolitan Area Long-Range Transportation Plan – 2035*, December 2005

Wisconsin Tribal Transportation Plans

- Bad River Band of Lake Superior Tribe of Chippewa Indians, *Long Range Tribal Transportation Plan*, July 2006
- Forest County Potawatomi Community, *Long Range Transportation Plan*, March 2008
- Ho-Chunk Nation, *Ho-Chunk Nation Long Range Transportation Plan*, June 2005, amended March 2007
- Lac Courte Oreilles Band of Lake Superior Chippewa Indians, *2006 Transportation Plan*, March 2006
- Lac du Flambeau Band of Lake Superior Chippewa Indians, *Long-Range Transportation Plan*, February 2007
- Menominee Nation, *Menominee Indian Reservation Long-Range Transportation Plan*, May 2007
- Oneida Tribe of Indians of Wisconsin, *Transportation Improvement Plan*, December 2003, amended March 2007
- Red Cliff Band of Lake Superior Tribe of Chippewa Indians, *Long Range Transportation Plan for the Red Cliff Reservation*, February 2006
- St. Croix Chippewa Indians of Wisconsin, *St. Croix Tribal Council 2007 Long Range Transportation Plan*, March 2007
- Sokaogon Chippewa Community, *Long Range Transportation Plan*, March 2007
- Stockbridge-Munsee Community Band of Mohican Indians, *2006 Tribal Long-Range Transportation Plan Update*, May 2007