



Interchange at I-94 and Radio Drive in Woodbury

Chapter 5 - Transportation

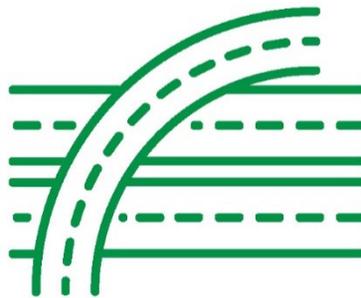


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Executive Summary

Washington County Public Works plans, builds, and maintains a transportation network to move people and goods to their destinations. This network includes highways, public transit facilities, and trails, and contributes to the safety and quality of life of residents and visitors. To highlight some of the county's work in transportation, staff have explored new safe and efficient highway design practices, dedicated more resources to enhancing opportunities for community input, implemented innovative environmental management practices, and completed an assessment to understand the transportation needs for older adults and people with disabilities. The county is committed to optimizing all transportation resources for our community.



Transportation is central to how and where people are able to learn, live, play, work, and worship. We hear from community members, through a number of channels, how transportation helps and hinders. During the 2016 Washington County Resident Survey respondents noted ease of travel by public transit as the most problematic issue in Washington County. Residents also noted a likelihood of needing transportation assistance for older adults. As part of the development of this comprehensive plan, community members indicated public transportation, trails, and improved highways and bridges as top needs for the county. Though these community members stated they travel mostly by car, they indicated a need for additional transit and bicycle resources.

This input from residents and other partners, combined with trends impacting the industry, are guiding changes in how staff work on transportation. Trends affecting transportation are:

- Mobility
- Technology
- Regional Resource
- Limited Funding

Mobility

Mobility is a measure of the ease of travel, and focuses on the efficient movement of people and goods. Historically, Washington County has worked towards a balance of access and mobility in our highway and non-motorized transportation network. Demographic changes of who lives in Washington County and where they live is changing the conversations related to access and mobility and how we invest in our transportation system. Some changes include:

- Employees with limited transportation options seek good paying jobs at businesses located in various locations in the county and region.
- Older adults are living in our communities in greater number.
- People with disabilities are moving to communities throughout the county requiring additional transportation resources to meet their needs.
- Population growth in the region means there are more people to move within the county and throughout the metropolitan area.
- Residents are using modes other than a private automobile to get to their destinations.

Residents, employers, and other stakeholders look to the county as a resource to help connect people to the goods and services they need to thrive. Washington County is committing resources to more modes of travel,

supporting specialized needs for members of our community, and collaborating with more partners (both within and outside the county) to plan, build, and maintain a robust and resilient transportation network.

Technology

Advances in technology are already shaping our transportation system and how travelers move throughout communities. Some technologies may help fix transportation challenges but contribute to others. The introduction of autonomous vehicles, as an example, may provide a flexible transportation option for people without access to a car or transit. However, these vehicles are expected to increase the amount of traffic on our transportation network, which could require dedicating more resources to maintaining roads. Technology innovations will be key to keeping our county moving forward. Also, these innovations will impact how we plan and construct our transportation network. It is difficult to forecast what solutions will be implemented because of the rapid pace of innovation. Washington County will continue to explore and support new technologies to improve transportation and the county as a whole.

Regional Resource



The regional transportation network is increasingly multimodal (i.e., includes many modes of travel) and interconnected. Many parts of Washington County's transportation system are growing in regional significance. One example is the 2017 opening of the St. Croix Crossing Bridge in Stillwater. This bridge is a significant transportation investment for both Minnesota and Wisconsin. Though the project is not owned or operated by Washington County, the investment is changing how people move through the county in a way that hasn't been seen since the introduction of the interstate system. Another example is the METRO Gold Line transitway, which will likely be the first bus project in the region to operate in a dedicated lane. The METRO Gold Line will contribute to a growing regional transit system that connects Washington County with destinations such as the central business districts in Saint Paul and Minneapolis, Minneapolis-St. Paul (MSP) International Airport, and employers as far away as Eden Prairie. For these reasons, the Washington County transportation system is a regional resource.

Limited Funding

Limited funding—namely federal and state—has been dedicated to the expansion and preservation of the transportation network. Limited funding coincides with population growth and the need to invest in our system to compete within the region and as a region with other locations in the United States. The county system is part of a network providing connections for users to complete the first and last portion of their trip. Also, lack of federal and state funding results in a metropolitan highway system and transportation network that is no longer able to carry current, let alone future, demand. As a result, travelers rely on local systems that struggle to keep pace when funding systems have not been structured to accommodate the increasing use of current local resources and the need to invest in other means of travel. Washington County is working to deliver an interconnected, multimodal transportation system under these financial constraints, which requires more collaboration with local and regional partners to leverage available resources.

Addressing these trends will require collaborating with our many partners to deliver the transportation systems our stakeholders want. The commitment to working with partners to deliver community-based designs has not changed since the previous comprehensive plan. Solutions to transportation problems are as varied as the

communities in the county. Washington County has increased the number of staff and resources available to work with residents, businesses, municipalities, and other stakeholders to bring forward projects that meet the diverse needs of our communities.

The following Existing Conditions section addresses many aspects of the transportation system including roads, transit, aviation, freight, non-motorized resources (e.g., walking and bicycling), as well as expected travel patterns throughout the county. The Transportation Plan section provides guidance to county officials and staff to respond to stakeholder needs to plan, build, and maintain our transportation network for the next 20 years and beyond.

Existing Conditions

To accurately identify future transportation needs and prepare a plan to meet those needs, the county studied the existing condition of the transportation resources and the travel behavior of current users. This analysis included examining functional classifications, jurisdiction, traffic volumes and capacity deficiencies, system continuity, safety, river crossings, scenic roads, freight, railroads, airports, transit systems and corridors, and non-motorized facilities.

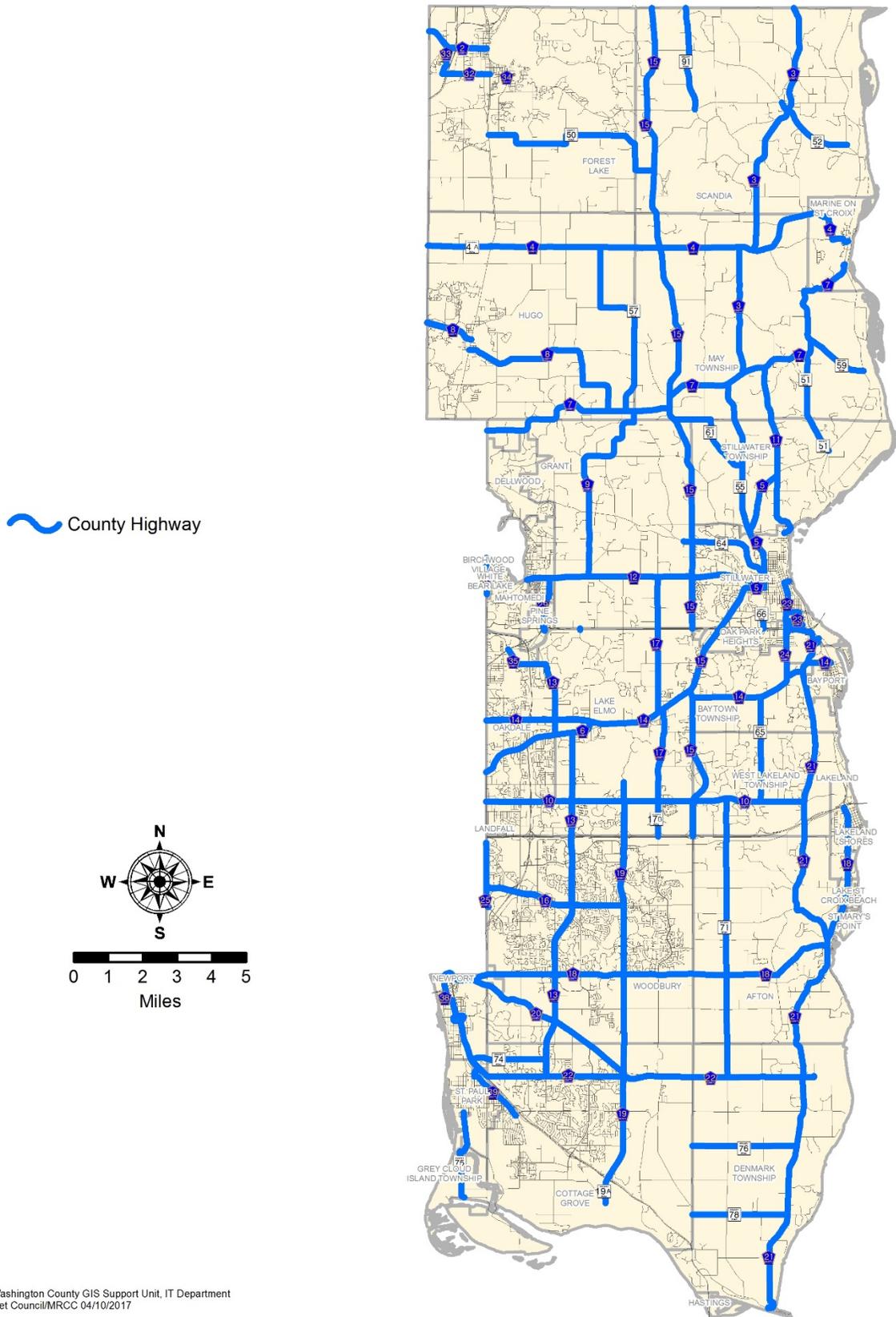
Roadways

Maintaining a safe and reliable highway system is a core responsibility of the county. The county's highway infrastructure, along with state and local roads, forms a seamless and integrated network that supports local and regional travel. The highway system also supports alternative transportation modes, such as buses, bicycles, and pedestrians. Washington County contains approximately 2,195 centerline miles of highways, which includes all state, county, and local roads. Washington County is responsible for 282 centerline miles of highway (see Figure 1). Centerline mileage is the distance measured along the center line of the roadway. It does not include the number of lanes for each roadway.

Functional Classification

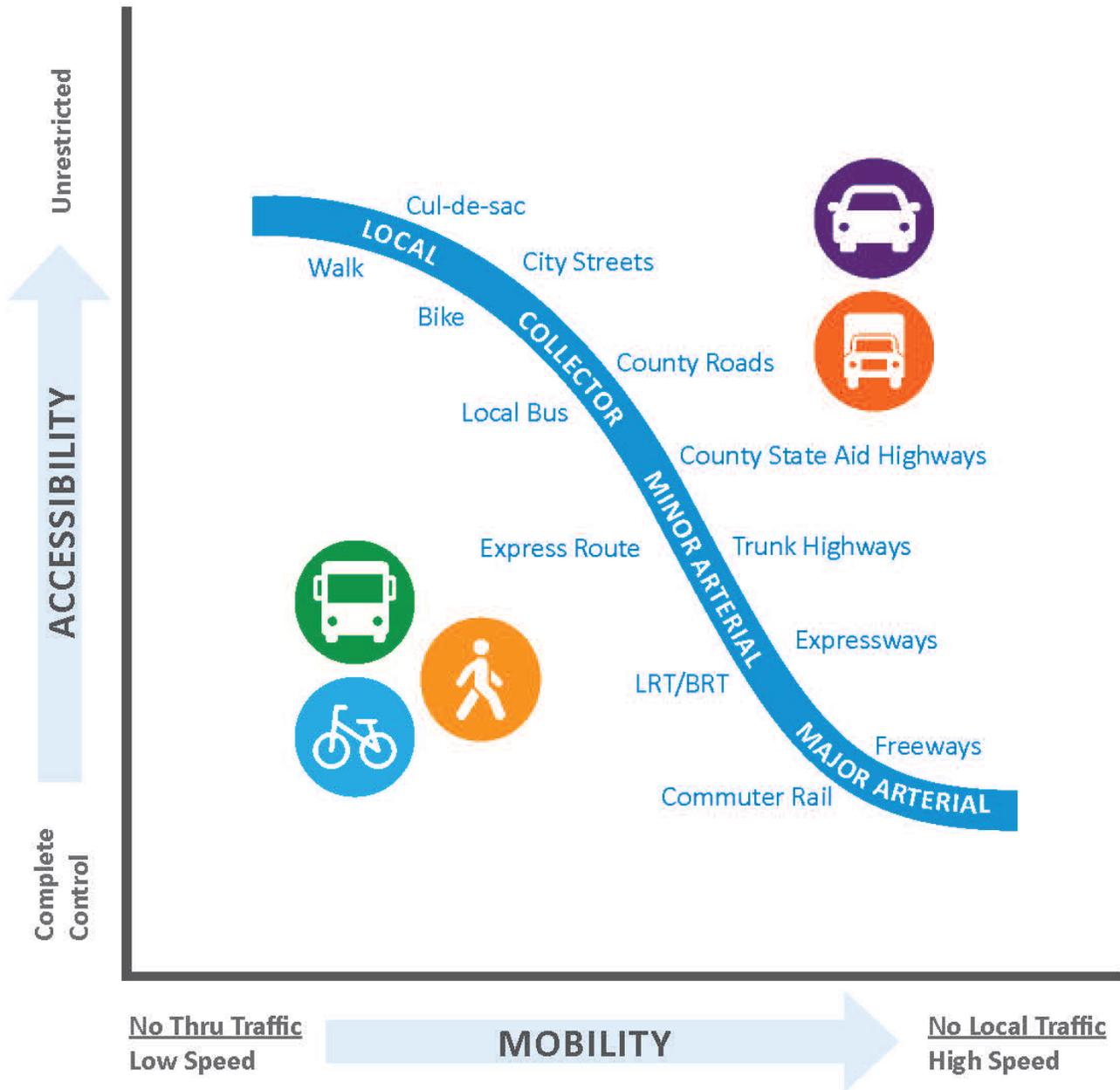
The functional classification defines a roadway's purpose, use, and the attributes necessary for it to provide safe and efficient movement of vehicles. The Metropolitan Council's 2040 Transportation Policy Plan (2040 TPP) establishes a functional classification system for roadways based on the transportation service provided (i.e., degree of mobility) and the relationship to adjacent land uses (i.e., degree of access). This system creates a hierarchy of roadways that provide direct access to local streets, collect traffic from local streets, and distribute traffic to the regional highway system. Each roadway type is critical to providing a roadway network that meets the needs of all users. For example, if an area lacks a robust collector roadway system, then the principal and minor arterial roadway system will not only need to provide mobility for those moving through the area, but also direct access to adjacent land uses. This may result in roadways that serve too many functions and have safety and capacity problems. Figure 2 shows the relationship of mobility to access for each functional classification.

Figure 1: Existing County Highways



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Met Council/MRCC 04/10/2017

Figure 2: Relationship of Mobility to Access



Below is a general description of each of the four classifications in the Functional Classification System. Appendix D of the 2040 TPP provides more information on the functional classification criteria. The functional classification and corresponding mileage of each roadway is shown in Figure 3.

Principal Arterials

Principal arterials typically have the highest traffic volumes and are considered part of the metropolitan highway system. These highways are intended to connect metropolitan centers of regional importance with one another, including major business concentrations, important transportation terminals, and large institutional facilities.

They are typically spaced three to six miles apart in developed and developing areas and six to twelve miles apart in rural areas. The principal arterial highways in Washington County are all owned and operated by the Minnesota Department of Transportation (MnDOT). They include Interstates 94, 494/694, and 35, and Trunk Highways (TH) 8, 36, and 61. Proposed interchanges at TH 36 and Hadley Avenue and TH 36 and CSAH 15 will provide safer and efficient connections to principal arterials.

Minor Arterials

Minor arterials place a priority on mobility and higher average travel speeds, while providing managed access to the local system. These highways connect important locations within the county to the metropolitan highway system. In addition, they connect locations within the metropolitan urban service area to cities and towns outside of the metropolitan region and freestanding cities to each other. Minor arterial highways are typically spaced one-half to one mile apart in developed areas and one to two miles apart in developing areas. Within Washington County, minor arterial highways are mostly owned and operated by MnDOT as Trunk Highways or by the county as County State Aid Highways (CSAH). Examples of these highways in Washington County are TH 96, CSAH 2 (Broadway Avenue), CSAH 15 (Manning Avenue), CSAH 16 (Valley Creek Road), and CSAH 22 (70th Street South). The Metropolitan Council has established subcategories for minor arterials including expander, reliever, connector, and augments.

Collectors

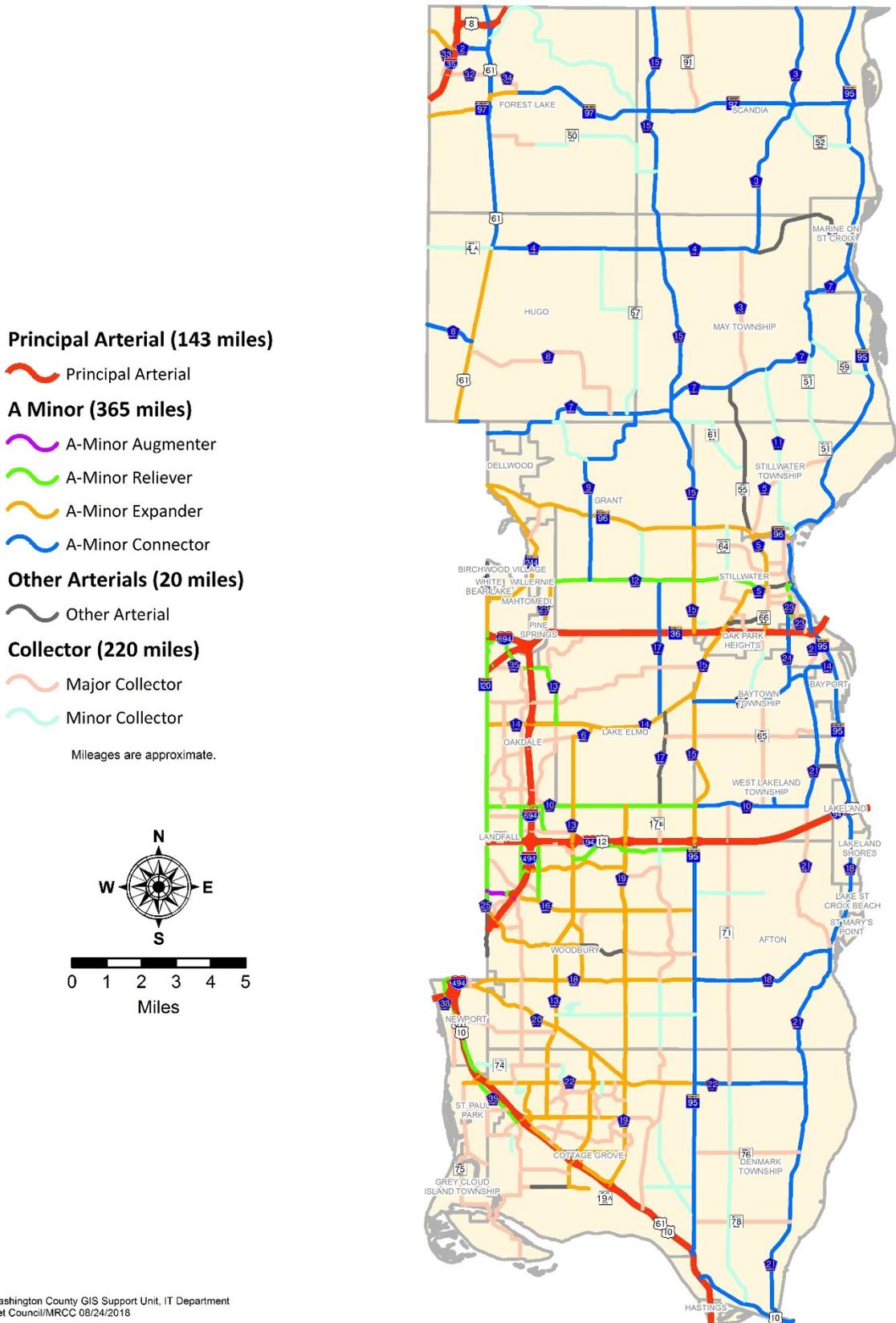
Collectors serve shorter trips and allow more direct access from local streets and driveways. These collect and distribute traffic to the arterial system from neighborhoods as well as commercial and industrial areas. Collectors are typically spaced one-fourth to three-fourths mile apart in developed areas and one-half to one mile apart in rural areas. The collectors in Washington County are owned and operated by the county, cities, and townships. Examples of collectors are North Shore Trail, County Road (CR) 57 (Keystone Ave N), CSAH 35 (Hadley Avenue), and 30th Street North. The Metropolitan Council further defines collectors as either major or minor collectors.

Local Streets

Local streets connect blocks within residential neighborhoods and land parcels within commercial and industrial developments. They serve short trips typically at low speeds favoring land access over mobility. Local streets occur every block in urban areas but may be spaced up to one mile apart in rural areas. Local streets are owned and operated by cities and townships.

See Figure 3 for a map of roads by functional classification.

Figure 3: Existing Roadway Functional Classification



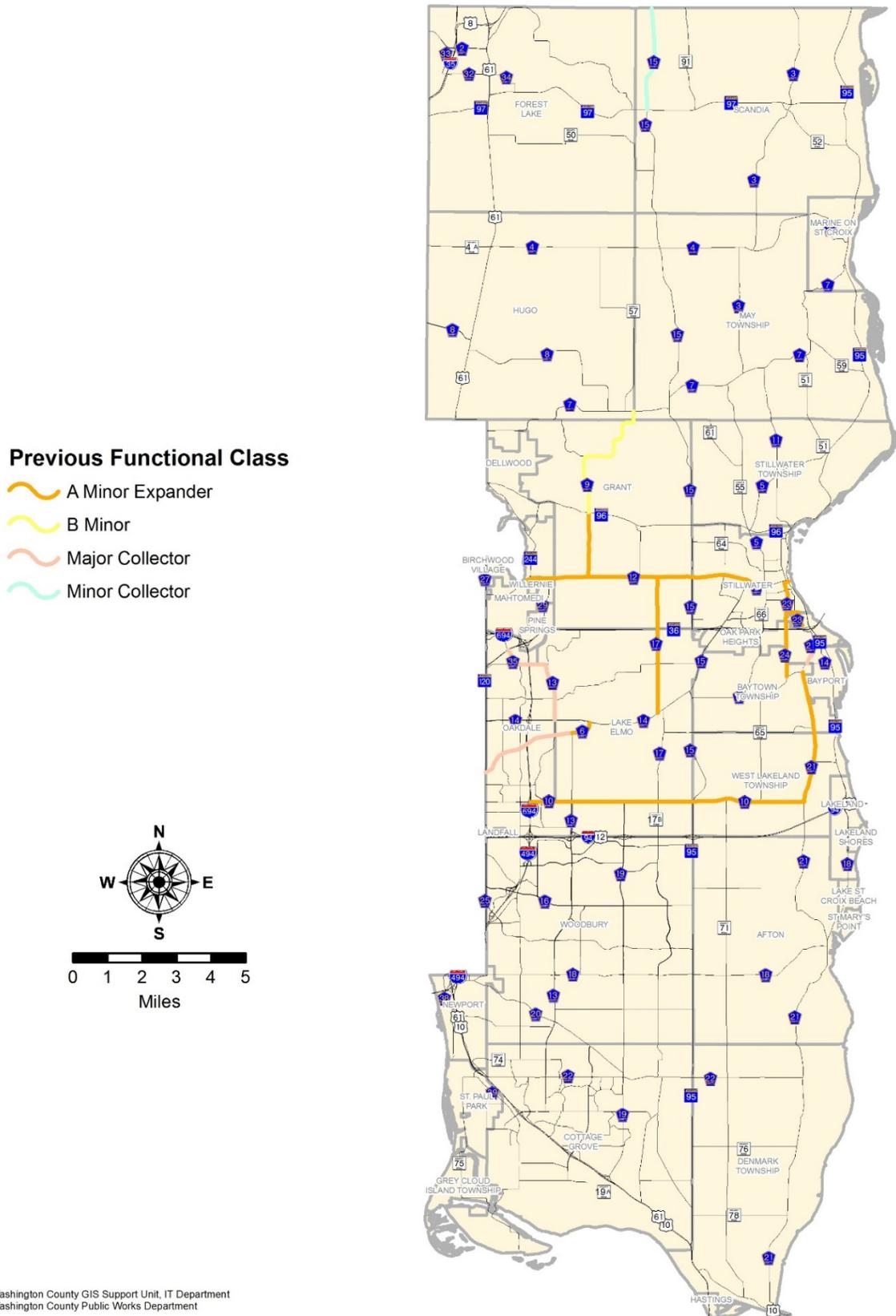
Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council/MRCC 08/24/2018

Functional Classification Changes since 2030 Comprehensive Plan

The following is a list of functional classification changes completed since the 2030 Washington County Comprehensive Plan. (see Figure 4)

- Changed to A Minor Connector
 - CSAH 6 from CSAH 5 and TH 120 (2011)
 - CSAH 9 from CSAH 7 and CSAH 12 (2011)
 - CSAH 10 from CSAH 15 and CSAH 21 (2011)
 - CSAH 12 from TH 244 and CSAH 5 (2011)
 - CSAH 15 from 204th St N and TH 97 (2011)
 - CSAH 17 from CSAH 12 and CSAH 14 (2011)
 - CSAH 21 from CSAH 14 and CSAH 10 (2011)
 - CSAH 21 from TH 95 to CSAH 14 (2014)
 - CSAH 23 from CSAH 24 and TH 36 (2011)
 - CSAH 24 from TH 36 and CSAH 14 (2011)
- Changed to A Minor Reliever
 - CSAH 10 between I-694 and CSAH 15 (2011)
 - CSAH 13 from CSAH 35 to TH 5 (2014)
 - CSAH 23 & 24 between Highway 95 and TH 36 (2011)
 - CSAH 35 from TH 36 to CSAH 13 (2014)
- Changed to Major Collector
 - CSAH 23 from CSAH 24 to CSAH 26 (2014)
 - CSAH 26 from CSAH 24 to CSAH 21 (2014)

Figure 4: Functional Classification Changes since 2030 Comprehensive Plan (2008)



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Public Works Department

Existing Jurisdiction

Highways are also classified by the level of government that is responsible for operating and maintaining the roadway. The jurisdiction is directly related to the functional classification and the design type. The federal government, which has jurisdiction over the interstate highway system, has delegated its authority for operating and maintaining that system to the state with oversight provided by the Federal Highway Administration (FHWA). Highways that serve regional, inter-county, and statewide transportation needs are owned and maintained by the State of Minnesota or the county. Highways that provide connections to major activity locations within the county and to the metropolitan highway system are typically owned and maintained by the county or cities. In general, streets that serve local access needs are owned and maintained by the local government.

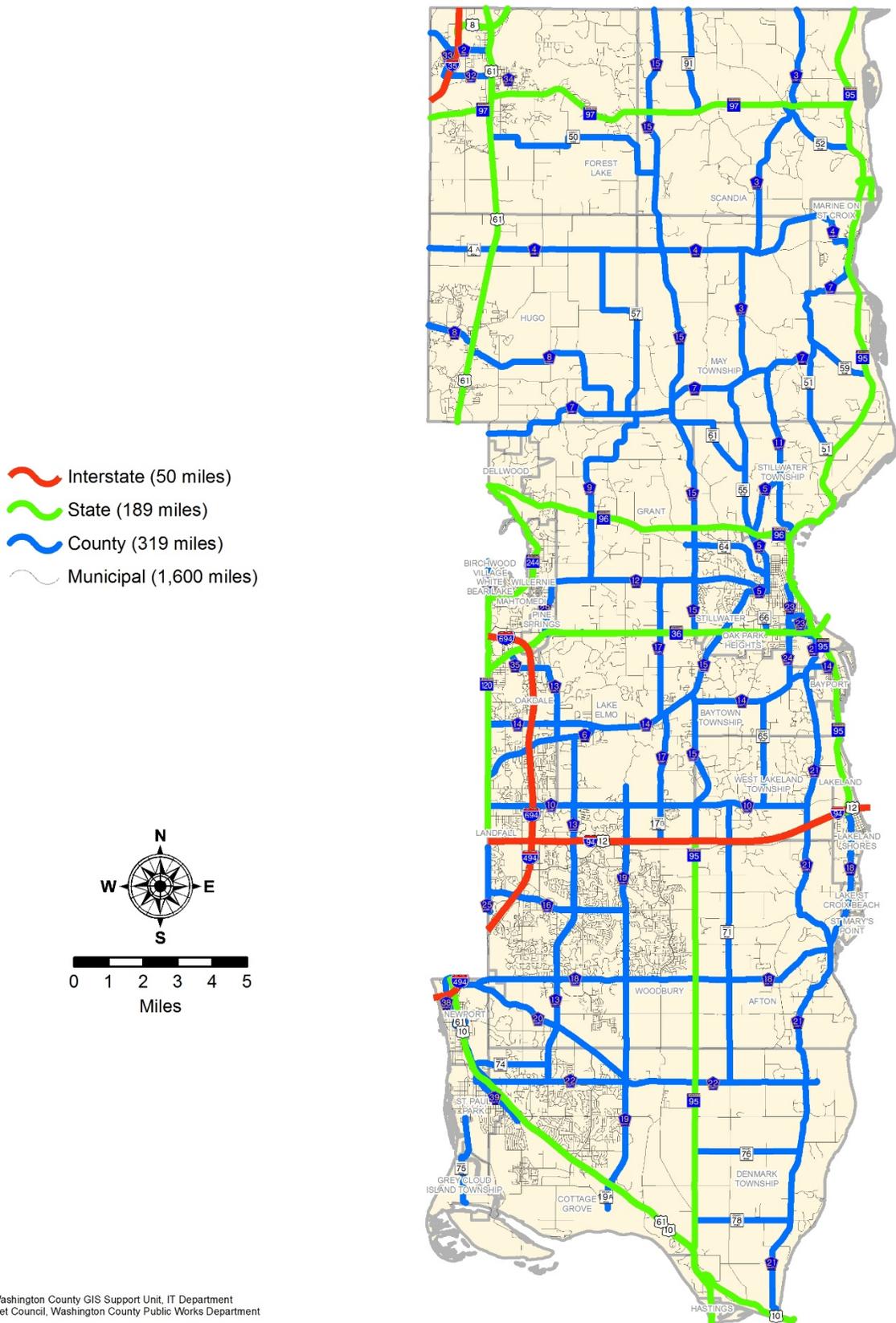
Jurisdictional changes are prompted by factors such as new land development and redevelopment or significant changes in the roadway system. Figure 5 shows the existing jurisdiction and current mileages. Over the past 10 years, 10 jurisdictional changes have occurred to better align the responsible level of government with the functional classification of the roadway (see Figure 6).

Jurisdictional Changes since 2030 Comprehensive Plan (2008)

The following is a list of jurisdictional changes completed since the 2030 Washington County Comprehensive Plan.

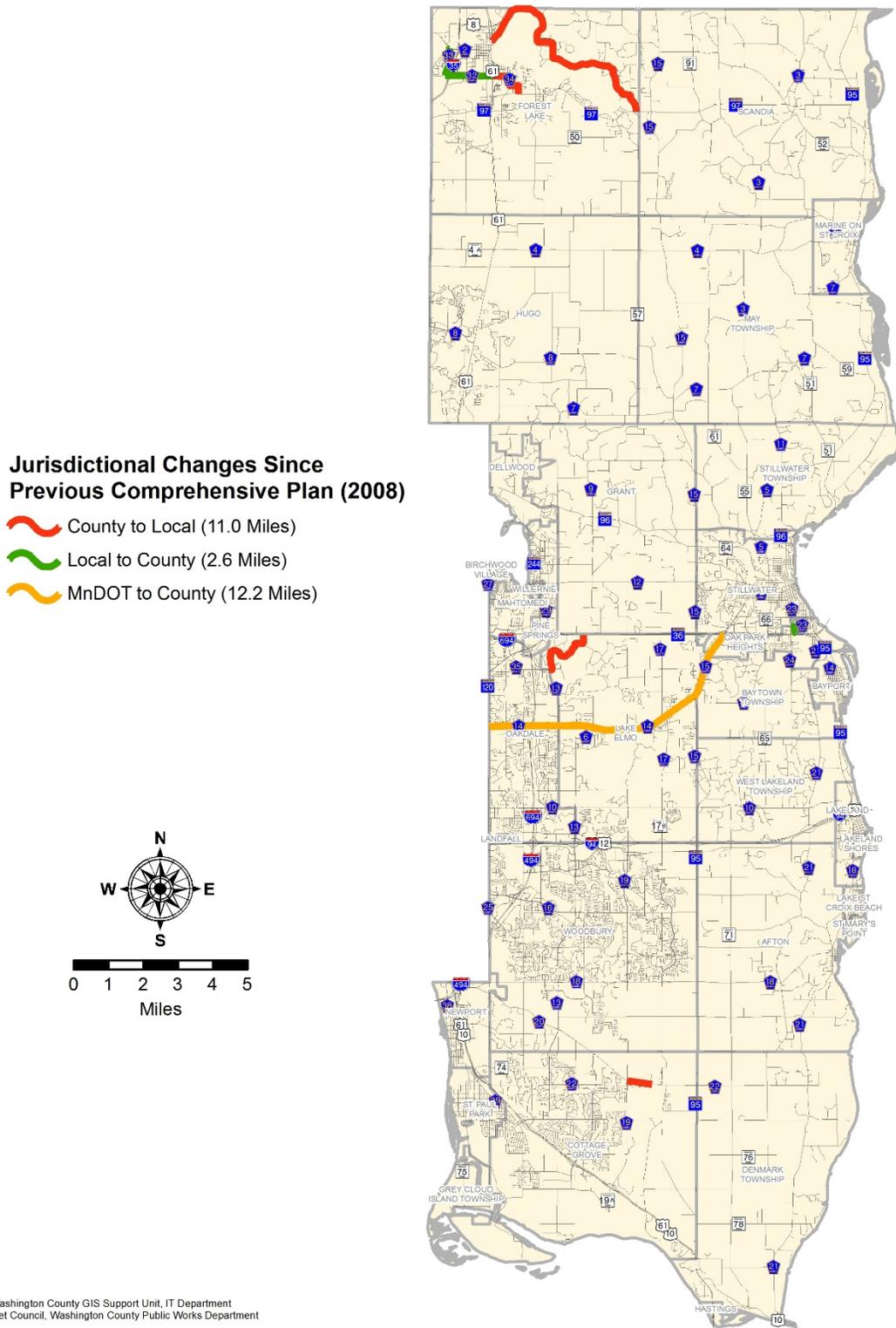
- Jurisdiction Changes from Local to County
 - CR 62 (62nd St N) between CSAH 24 (N Osgood Ave) and Panama Ave
 - CR 63 (Oxboro Ave N) between CR 62 (62nd St N) and 60th St N
 - CSAH 32 (220th St N, 11th Ave SW) between CSAH 33 (Everton Ave N) and TH 61
 - CSAH 33 (Everton Ave N) between CSAH 2 (W Broadway Ave) and CSAH 32 (220th St N, 11th Ave SW)
- Jurisdiction Changes from County to Local
 - Old 70th St S between CSAH 19 (Innovation Road) and CSAH 22 (70th St S)
 - CSAH 2 (North Shore Trail) between TH 61 and TH 97
 - CSAH 34 (11th Ave SE, South Shore Drive, SE 15th Ave, SE 11th St) between TH 61 and TH 97
 - CR 13B (DeMontreville Trail)
- Jurisdiction Changes from State to County
 - CSAH 14 (formerly TH 5) between TH 120 and CSAH 15 (Manning Ave)
 - CSAH 15 (formerly TH 5) between CSAH 15 (Manning Ave) and TH 36

Figure 5: Existing Jurisdiction



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works Department

Figure 6: Jurisdiction Changes Since Previous Comprehensive Plan (2008)



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works Department

Traffic Volumes and Capacity Deficiencies

Volume to Capacity Ratio

The ratio of traffic volume to roadway capacity (v/c ratio) provides a measure of congestion along a roadway segment. It can help determine where roadway improvements, access management, transit services, or demand management strategies could be implemented. It does not, however, provide a basis for determining the need for specific intersection improvements. Congestion on the roadway system is determined to exist when the v/c ratio approaches or exceeds 1.0.

Table 1 shows the typical planning-level average daily traffic (ADT) capacity volume thresholds for each facility type. These volume thresholds are based on guidelines from the Highway Capacity Manual, discussions with the Metropolitan Council, and professional engineering judgment. The maximum capacity of any roadway design (v/c = 1) is a theoretical measure that can be affected by its functional classification, traffic peaking characteristics, access spacing, speed, intersection node geometry, and other roadway characteristics. A segment of roadway is said to be “approaching capacity” when the observed average daily traffic (ADT) equals or exceeds 85 percent of ADT (v/c > 0.85).

Table 1: Planning Level Roadway Capacities by Facility Type

Roadway Type ¹	Planning Level Daily Capacity ² (ADT)	Approaching Capacity (85% ADT)
Two-lane undivided urban	10,000	8,500
Two-lane undivided rural	12,000	10,200
Three-lane (two-lane with turn lanes)	22,500	19,125
Four-lane undivided urban	20,000	17,000
Five-lane urban (four-lane with turn lanes)	32,000	27,200
Four-lane divided rural	38,000	32,300
Four-lane expressway (no signals)	60,000	51,000
Four-lane freeway	80,000	68,000
Six-lane freeway	120,000	102,000

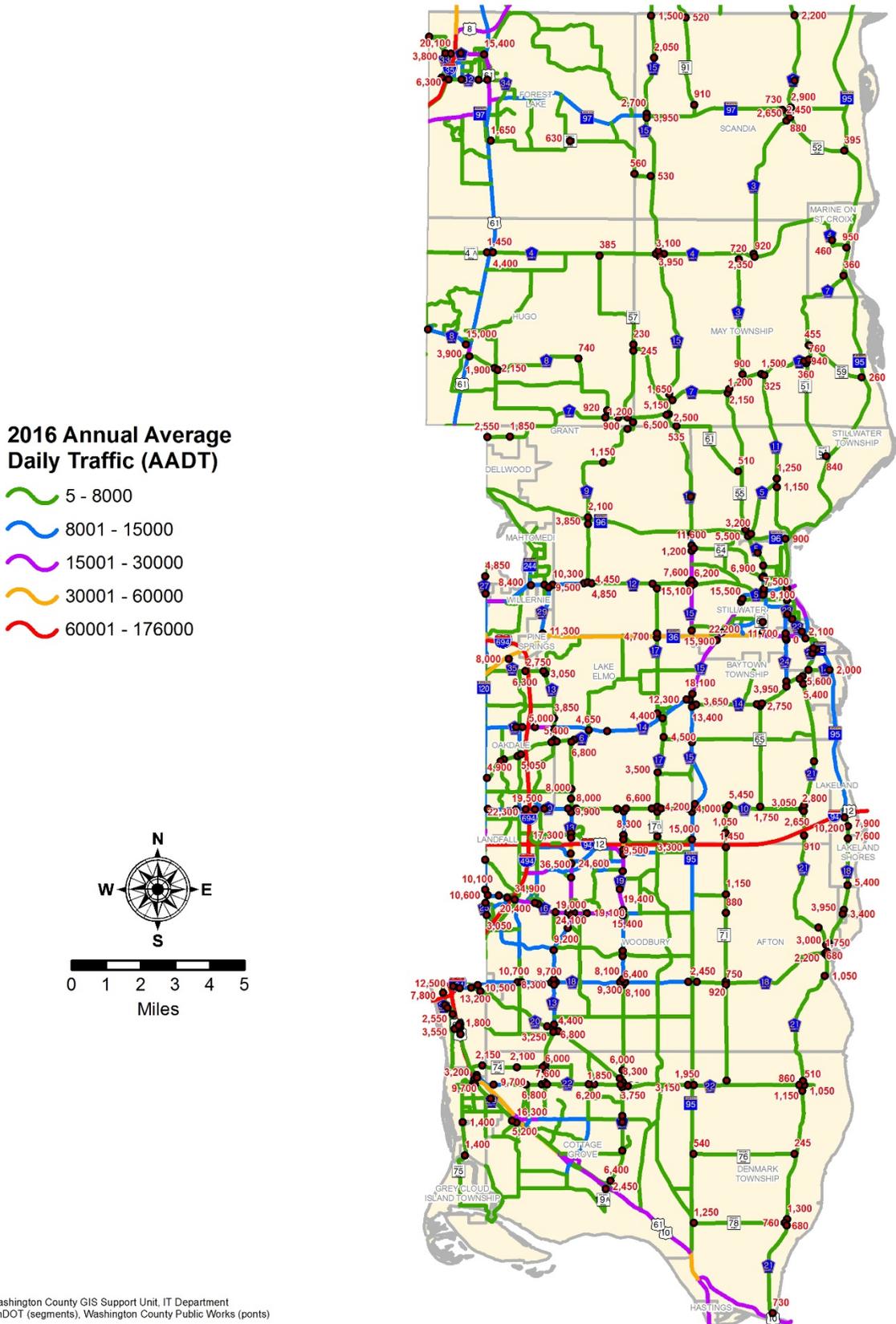
This chart is intended for use as an approximation for planning purposes.

¹The terms urban and rural describe typical section design (e.g., curb and gutter for urban and ditch drainage for rural), not geographical areas.

²Turn lanes may be needed for high speeds at 7,000 ADT.

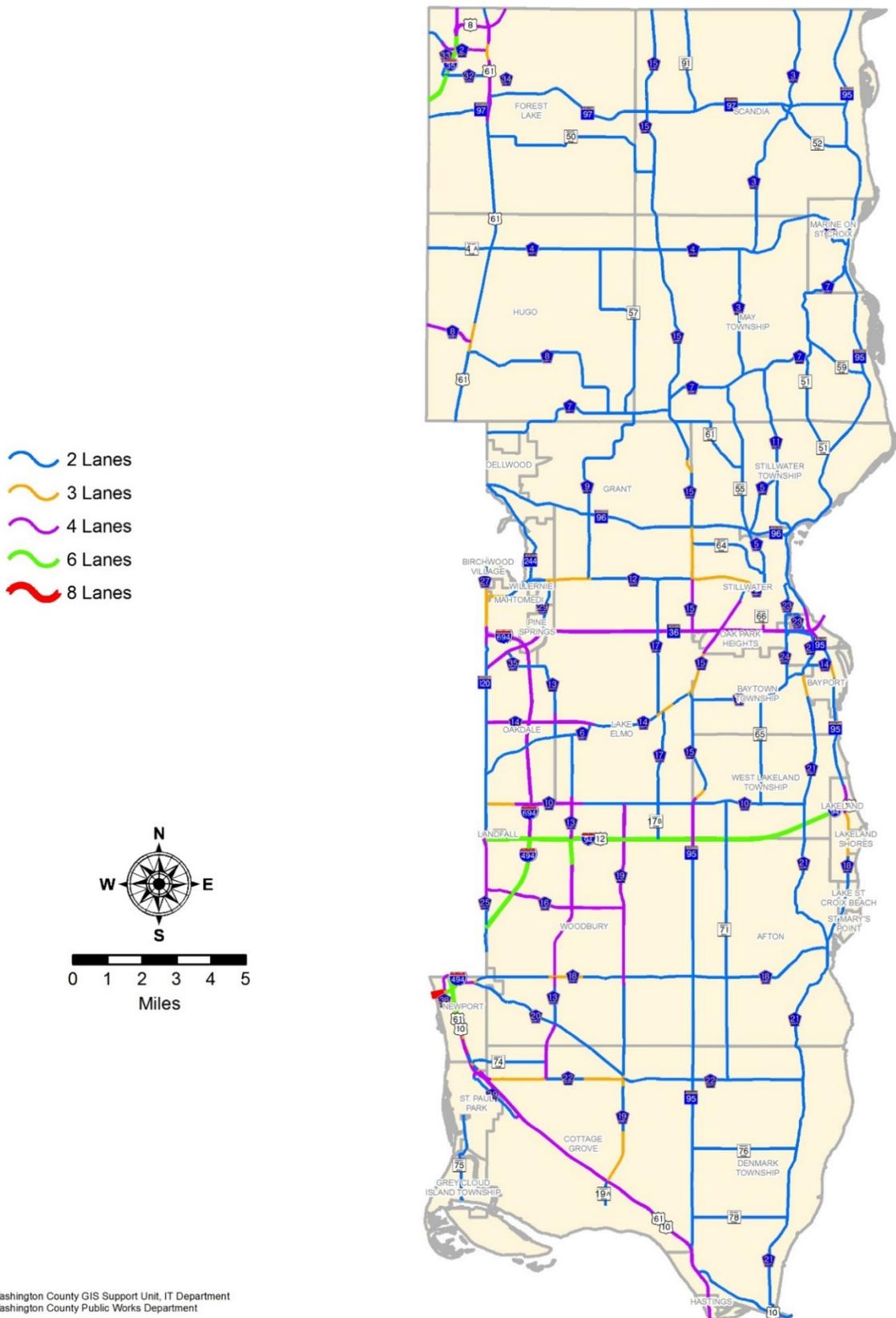
The 2017 traffic volumes and existing number of lanes are presented in Figures 7 and 8 respectively.

Figure 7: 2017 Traffic Volumes



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: MnDOT (segments), Washington County Public Works (points)

Figure 8: 2017 Roadway Lanes



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department

Roadway Congestion

Existing capacity deficiencies were identified by comparing existing ADT volumes to the thresholds in Table 1. This methodology does not account for traffic conditions that do not fit the average daily traffic criteria (e.g., weekend travel, holiday travel, special events) because they tend to produce atypical congestion and different congestion levels. Also, the methodology does not take into account factors such as geometric conditions at the intersection nodes, potential peaking characteristics, or directional flow disparities. These features can greatly impact the order of magnitude of the deficiency (i.e., there is no deficiency or the deficiency is greater than what the ADT indicates). Despite its limitations, this methodology is widely accepted and applicable for transportation planning purposes.

Figure 9 presents the current capacity issues on highways in Washington County. Highway segments, having observed volumes exceeding their design capacity, are shown as red lines. Roadway segments “approaching capacity” (v/c ratio between 0.85 and 1.0) are shown as yellow lines.

State System Mobility Improvements

The most recent 20-Year Minnesota State Highway Investment Plan (MnSHIP), adopted in 2017, guided the development of the Metro District 10-year Capital Highway Investment Plan (CHIP) (2018-2027). Major investments listed in the 10-Year CHIP that impact Washington County are the I-35/I-35E/I-35W Pavement and Bridges and I-94/I-494/I-694 System Interchange Improvements projects.

Funding for Twin Cities’ mobility investments ends in 2023. However, the National Highway System (NHS) and non-NHS system received additional funding for pavement projects, including TH 36 from I-35W to Stillwater, and I-94 from Woodbury to Minnesota-Wisconsin border. Interchange projects at TH 36 and Hadley and TH 36 and Manning Avenue have been funded and approved. However, the available funding is not sufficient to meet regional mobility investment needs. For example, an interchange project at TH 36 and TH 120 has been approved but not funded. The proposed interchanges at I-35E and CR 4 and TH 36 and CSAH 17 have not yet received approval or funding. If new revenues become available, MnDOT will continue to invest in operations and maintenance in the metropolitan area to address the backlog of priority projects.

System Continuity

Some highways have discontinuous alignments with opportunities for more logical connections. The following is a list of opportunities for improving travel continuity in Washington County through realignment or connection of roads. See Highway System Summary map (see Figure 30).

- East-west corridor between I-494 and TH 95 (Manning Ave), south of I-94 and north of CSAH 18 (Bailey Road) in Woodbury and Afton.
- Access to I-35 from Washington County Road 4A and Anoka County Road 140 in Hugo and Lino Lakes.
- North-south connection between the south end of CSAH 25 (Century Avenue) and CSAH 18 (Bailey Road) in Woodbury.
- North-south Manning Ave N connection between CSAH 15 (Manning Ave N) and TH 36.
- East-west connection between CSAH 19 and the lower Grey Cloud Island.

Safety

A comprehensive, system wide and data-driven analysis was conducted for crashes occurring from 2013 to 2015 within Washington County. It followed the guidance in the Minnesota Strategic Highway Safety Plan and the Toward Zero Deaths program to reduce fatal and life-changing (also considered incapacitating) injury crashes. This analysis acknowledged that, while the total number of severe crashes may be significant, the actual number of severe crashes occurring at any given location is very low.

The findings and conclusions of the crash analysis are summarized below.

- A total of 107 fatal and incapacitating injury crashes occurred on all roadways within the county (31 fatal and 76 incapacitating injury crashes).
- A total of 28 fatal and incapacitating injury crashes occurred on the Washington County roadway system (6 fatal and 22 incapacitating injury crashes).
- The following types of fatal and incapacitating injury crashes occurred most frequently on the county roadway system:
 - lane departure crashes including head-on crashes and run off road crashes (particularly on the right side of the roadway)
 - intersection-related crashes including right angle crashes
 - motorcycle crashes
 - crashes involving pedestrians and bicyclists.

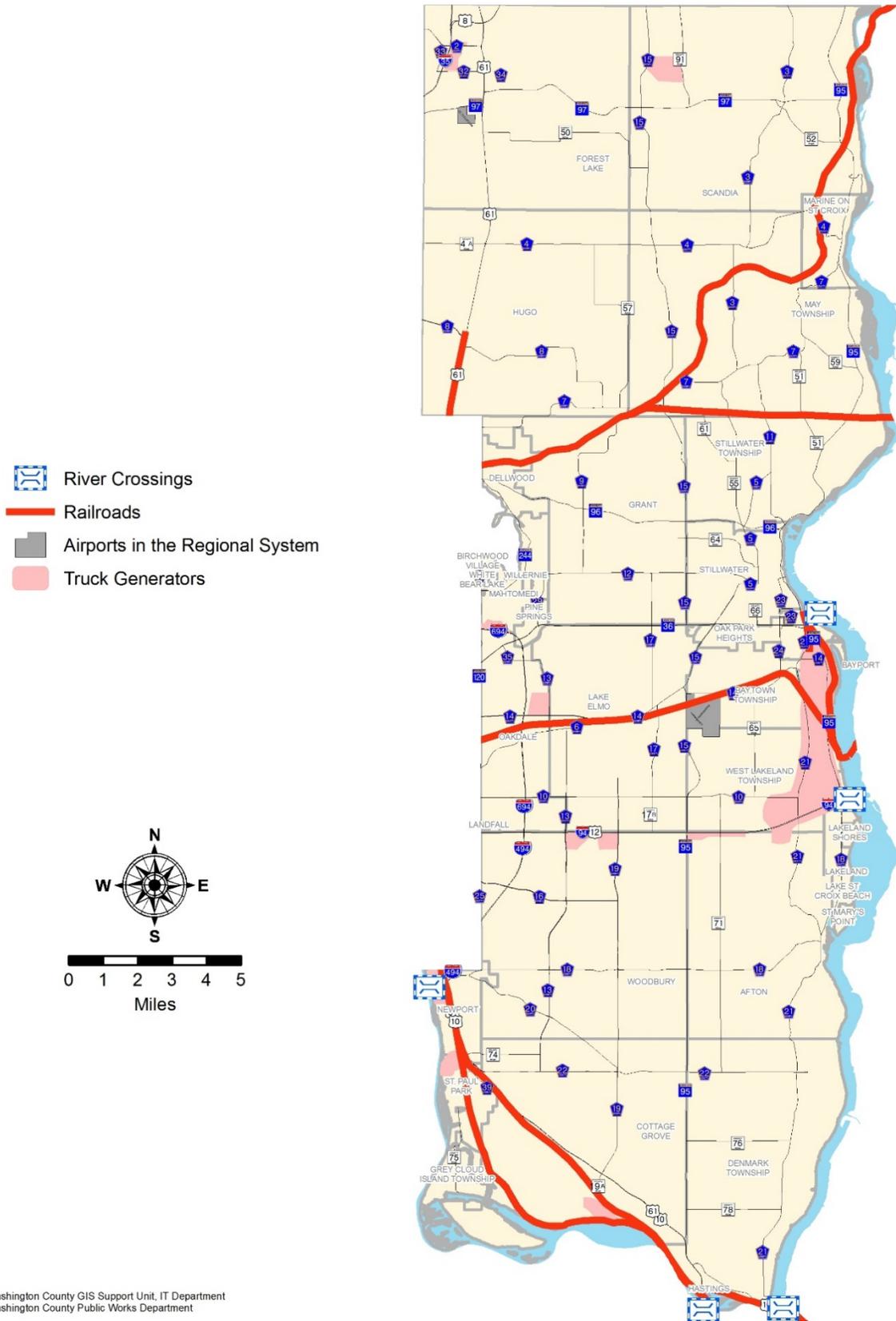
More information about highway safety can be found in Washington County's *County Highway Safety Plan* (2013).

River Crossings



Because Washington County is bounded on the east by the St. Croix River and on the southwest by the Mississippi River, river bridge crossings are critical components of the transportation system. The ability to adequately serve the needs of the transportation system is crucial. All active river bridge crossings are on the state highway system and not directly under county control. The TH 36 St. Croix Crossing Bridge at Stillwater, the I-94 bridge at Lakeland, and the TH 10 bridge at Point Douglas in Denmark Township all cross the St. Croix River. The I-494 Wakota Bridge at Newport and the TH 61 bridge at Hastings cross the Mississippi River. Figure 10 shows the river bridge crossing locations in the county.

Figure 10: Airports, Railroads, Truck Generators, and River Crossings



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department

Scenic Byways and Natural Preservation Routes

The Scenic Byways and Natural Preservation Route designations could be regarded as overlay designations that distinguish roads that have special scenic, historic, cultural, or natural characteristics.

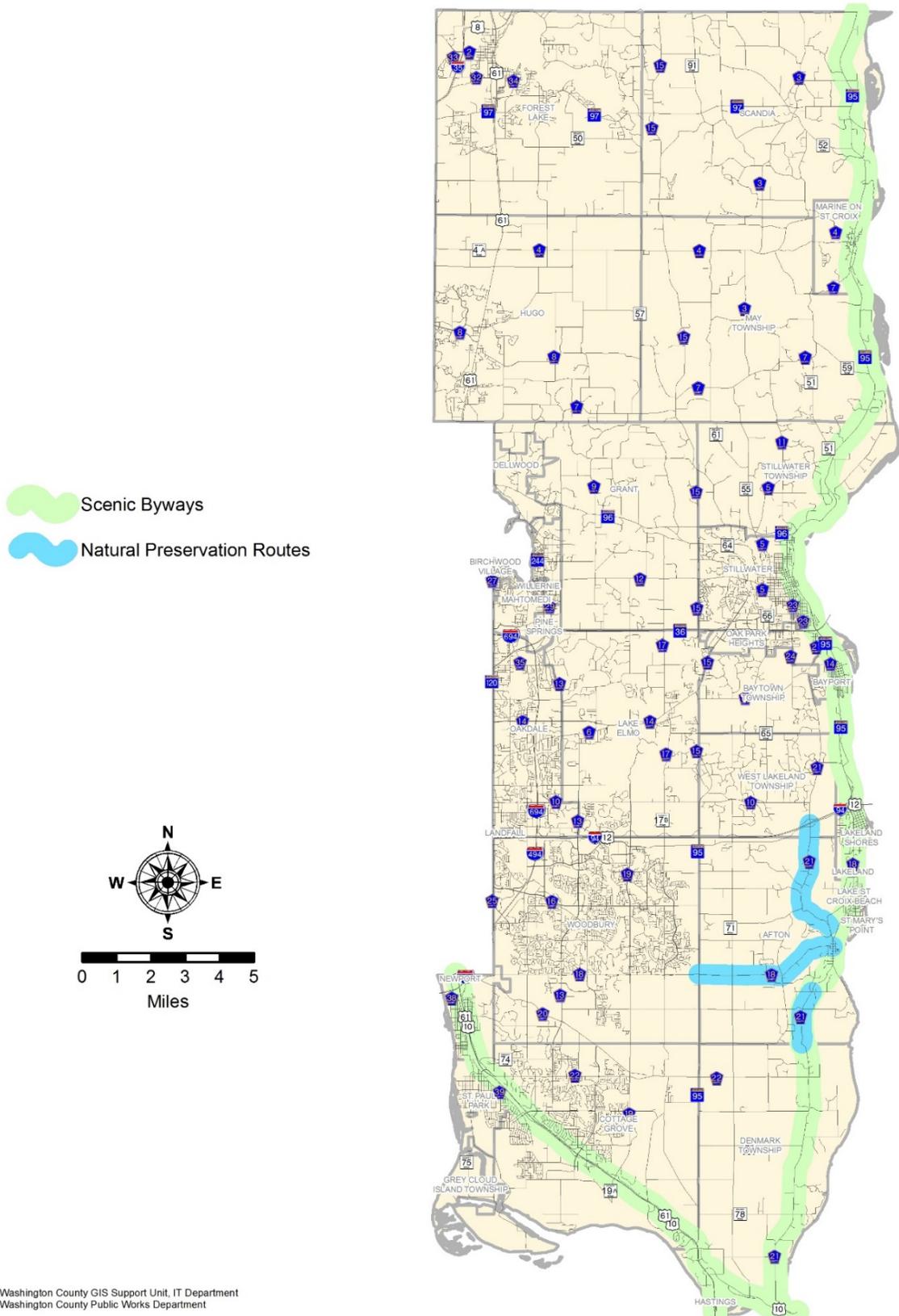
Scenic Byways

The Federal Intermodal Surface Transportation Equity Act of 1991 (ISTEA) created a National Scenic Byways Program to designate and protect roads that provide an enjoyable travel experience. The St. Croix Scenic Byway parallels the St. Croix River along CSAH 18 and 21 south of I-94, along TH 95 north of I-94 in Washington County, and then continues north through Chisago and Pine Counties north to Pine City. The Great River Road runs along TH 61 and TH 10 in the southwestern portion of the county (see Figure 11).

Natural Preservation Routes

CSAH 21 and the east-west section of CSAH 18 within the City of Afton are designated as Natural Preservation Routes. This designation within Minnesota's County State Aid Highway system allows roadway designs to be more compatible with their natural surroundings than would typically be allowed under state-aid standards. The purpose of this alternative design is to protect the unique scenic or environmental characteristics along CSAH roads, while still allowing necessary improvements (see Figure 11).

Figure 11: Scenic Byways and Natural Preservation Routes



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department

Freight

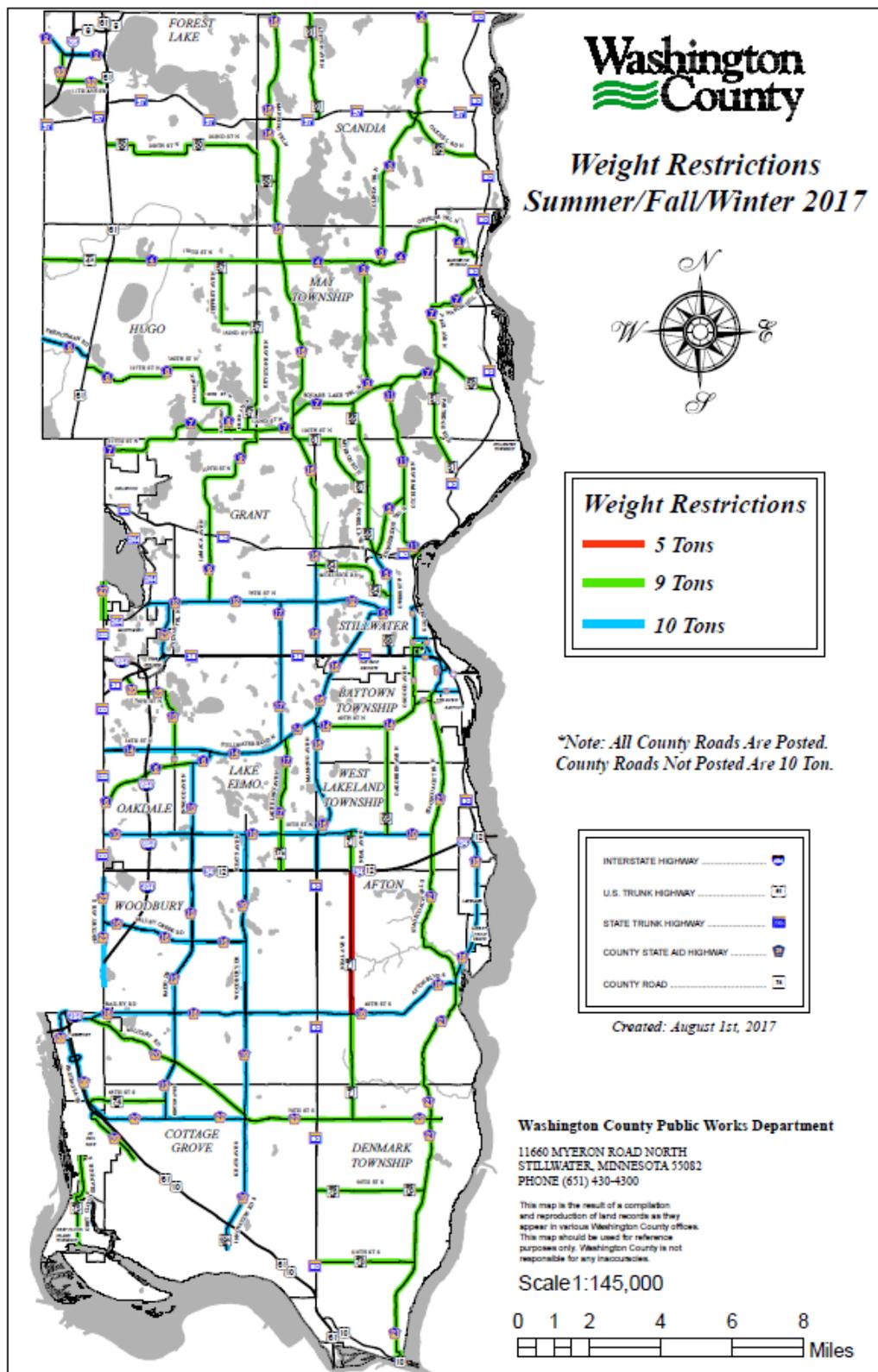
Trucking

Commercial trucking is a primary mode of transportation for the movement of goods within and through the county. Washington County highways are designated trucking routes, designed, and constructed to accommodate and support the transport of freight by truck. The sites that generate significant truck volumes are listed below and are shown on Figure 10.

- 4Front Technology + Office Campus near CSAH 13 (Ideal Ave N).
- Aggregate Industries in Grey Cloud Island Township.
- Andersen Windows in Bayport.
- Federal Express truck terminal in Mahtomedi near I-694 and TH 120 (Century Avenue).
- Gravel quarries along CSAH 21 (Stagecoach Trail) from 30th Street North to Division Street.
- Industrial Park in Cottage Grove.
- Jamaica Avenue truck terminal in Cottage Grove.
- Refinery in Newport near TH 61 and CSAH 22 (70th Street South).
- Truck terminal in Afton near I-94 and CR 71 (Neal Avenue).

With the exception of the gravel quarries and aggregate industries, these major truck generators have close proximity and access to the state trunk highway system, thereby reducing their impact on county and local roads. See Figure 13 for heavy commercial average annual daily traffic (HCAADT) volumes. See Figure 12 for weight restrictions for freight traffic on Washington County roadways.

Figure 12: Washington County Weight Restrictions



Weight Restrictions

The majority of county roadways have weight restrictions of either 9 or 10 tons. The one exception is MN 95 in Afton between I-94 and CSAH 18 with a restriction of 5 tons. Roadways without restrictions serve as primary thoroughfares through the county. Examples are I-94, I-494, I-694, TH 36, and MN 96.

Railroads

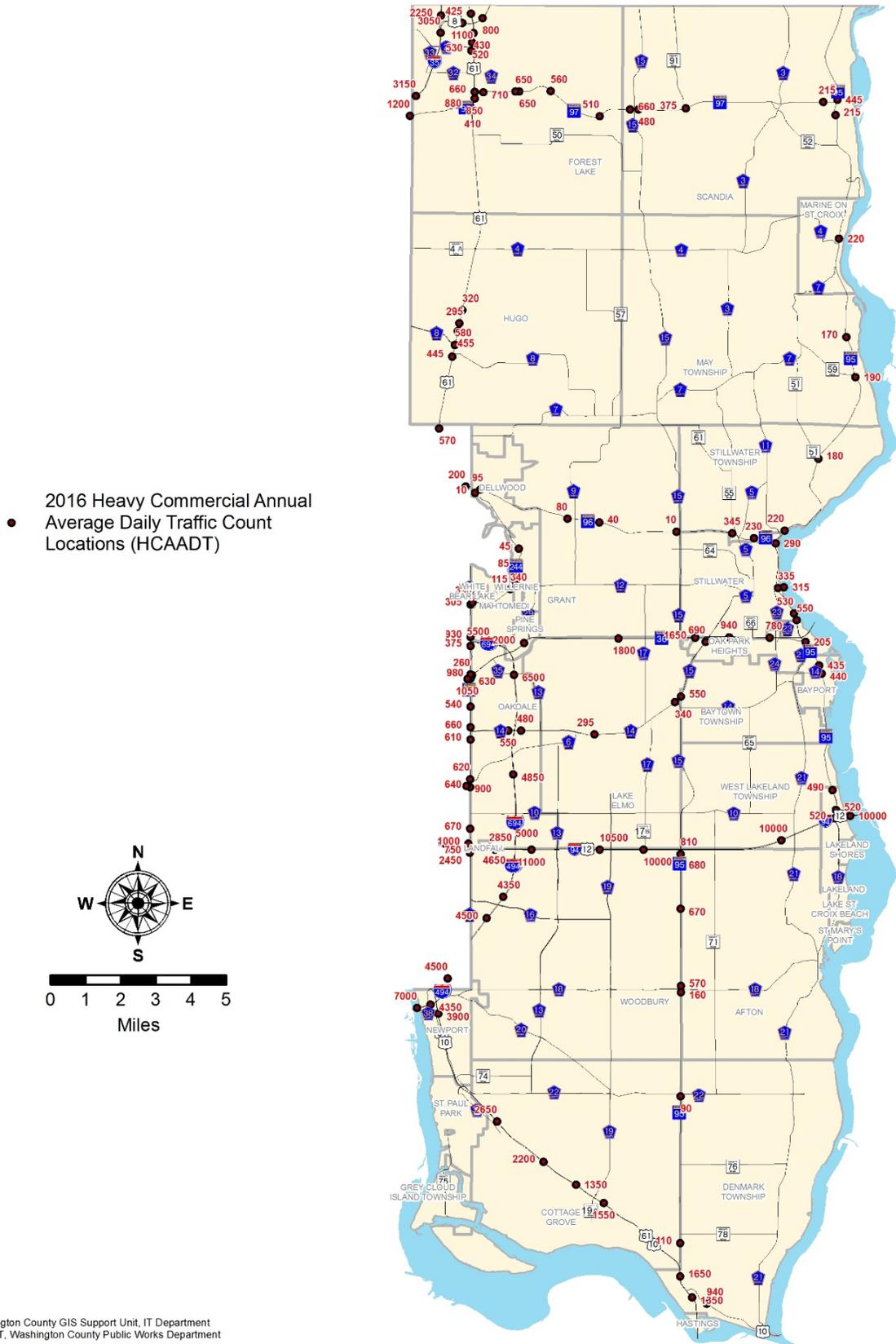


Railroads are a significant element in the country's transportation system, moving freight to and between ports and major urban areas. The East Metro Area accommodates 5 percent of the total national freight rail volume every day, and much of this freight passes through Washington County. Railroads impact land use, the physical and social environment, and other components of the transportation system. Figure 10 shows the location of the five railroads that operate in Washington County, which are Burlington Northern Santa Fe (BNSF), Canadian National (CN, former Wisconsin Central), Canadian Pacific (CP, former Soo Line), Minnesota Commercial (MNNR), and Union Pacific (UP).

Freight Facilities

Intermodal facilities are locations where bulk commodities are transferred from rail to other modes of transportation. MnDOT's intermodal facilities database lists one major freight rail transloading terminal in Washington County. This facility is an auto reloading terminal in Cottage Grove where automobiles are transferred from rail cars and onto trucks for regional distribution. Washington County is in close proximity to major intermodal facilities in Saint Paul and Minneapolis on the BNSF, CP, and UP railroad systems. These facilities connect the greater Twin Cities region with national and international markets.

Figure 13: 2016 Heavy Commercial Average Annual Daily Traffic (HCAADT)



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: MNDOT, Washington County Public Works Department

Aviation

Commercial aviation service to national and international destinations is available through the Minneapolis-St. Paul (MSP) International Airport. Business and private aviation service is available at the St. Paul Downtown Airport, which is also known as Holman Field. Washington County also is served by two publicly-owned airports located within the county, Lake Elmo and Daniel DePonti Airports. Figure 10 shows the location of the airports within the county. There are no radio beacons and other air navigation aids within Washington County. In 2016, Washington County amended its 2030 Comprehensive Plan, removing land use authority for aviation in West Lakeland Township and Baytown Township. Both communities have adopted Washington County Development Code or a version similar to the document. Future responsibility falls to the local communities in collaboration with the Metropolitan Airports Commission (MAC) to evaluate, address and establish policies and land use regulations (Zoning) related to land use compatibility issues, preventative land use measures and corrective land use measures.

Lake Elmo Airport

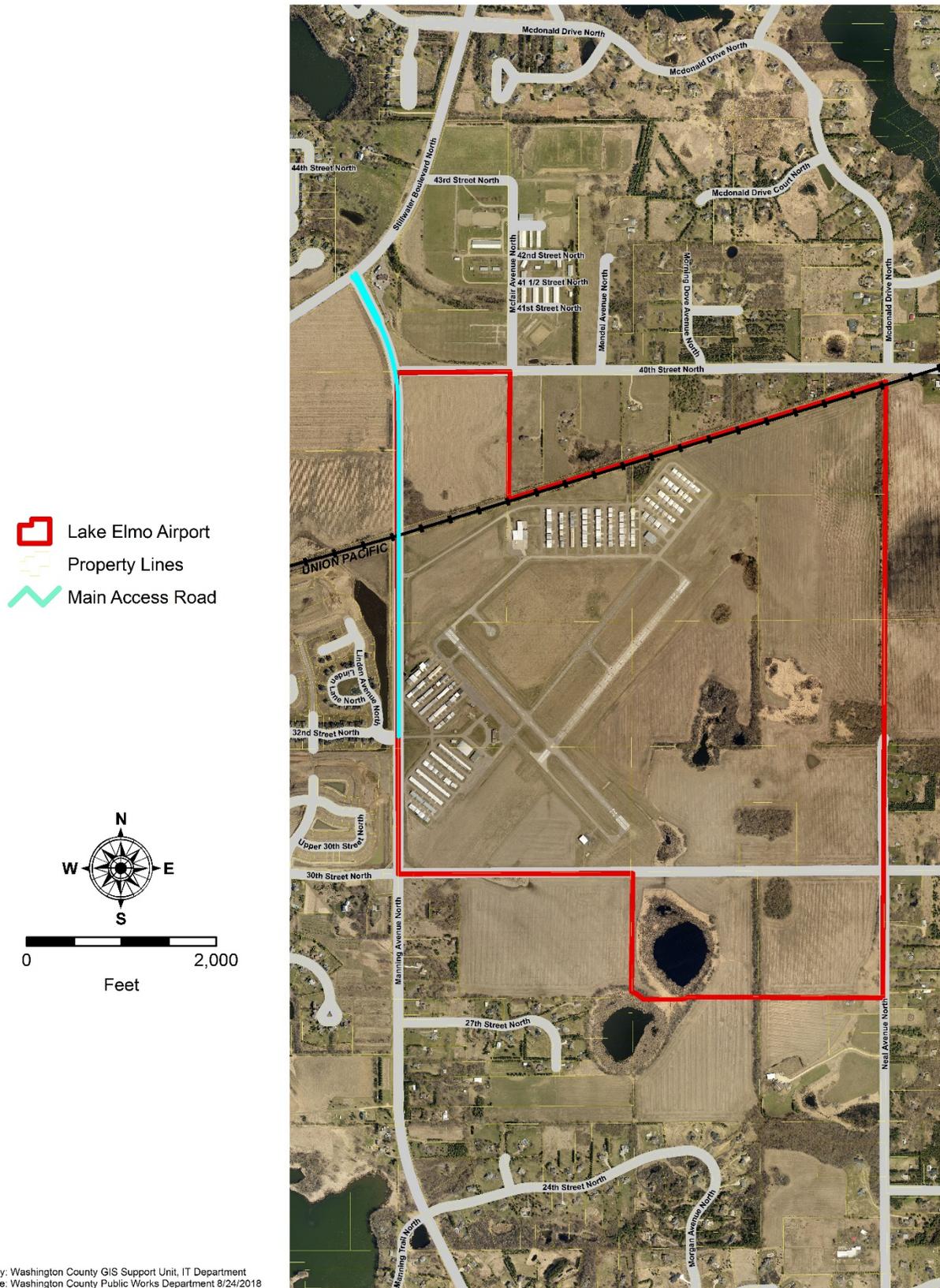
Lake Elmo Airport is a general aviation airport owned and operated by the Metropolitan Airports Commission (MAC). The airport is located on 640 acres in Baytown and West Lakeland Townships and bordered by the City of Lake Elmo. The Metropolitan Council classifies it as a Minor Airport and serves as a Complimentary Reliever to the MSP International Airport. Its uses are for air taxi, business aviation, flight training, personal use, recreation, and military purposes. The airport facility consists of two main building areas and operational and maintenance buildings, and two paved runways, one of which is equipped with medium intensity runway lights. Lake Elmo Airport has two non-precision instrument approaches that can be used during inclement weather conditions. The first is a Non-Directional Beacon (NDB) approach to Runway 04 (crosswind runway) and the second is a GPS approach to Runway 32 (primary runway). The airport has more than 100 hangar structures. Figure 14 identifies the property lines and access roads for Lake Elmo Airport.

The Metropolitan Airports Commission (MAC) completed a 2035 Lake Elmo Airport Long Term Comprehensive Plan in September 2016. Major elements of the plan include realignment of 30th Street North and relocation and extension of the primary runway and an extension to the crosswind runway. The MAC has collaborated closely with Washington County on the plan to relocate 30th Street North and to connect it with Neal Avenue, which is reflected in the plan alternatives. The plan recommends identifying steps for installation of sanitary sewer and water services at the airport and conducting a cost-benefit analysis for provision of those services.

The plan notes that once the Lake Elmo Airport's future development plan is finalized, MAC, in accordance with Minnesota Statutes Chapter 360, will convene a Joint Airport Zoning Board (JAZB) that will include Washington County, the City of Lake Elmo, Baytown Township, and West Lakeland Township, in order to develop an airport zoning ordinance that provides a reasonable level of public safety while also facilitating compatible off-airport development. This process may result in a zoning ordinance recommendation to the MnDOT Office of Aeronautics that deviates from the state's Model Zoning Ordinance. It is envisioned that the airport zoning ordinance developed by the JAZB will replace the existing Airport Overlay District currently in place per the Washington County Development Code and incorporated into township zoning ordinances.

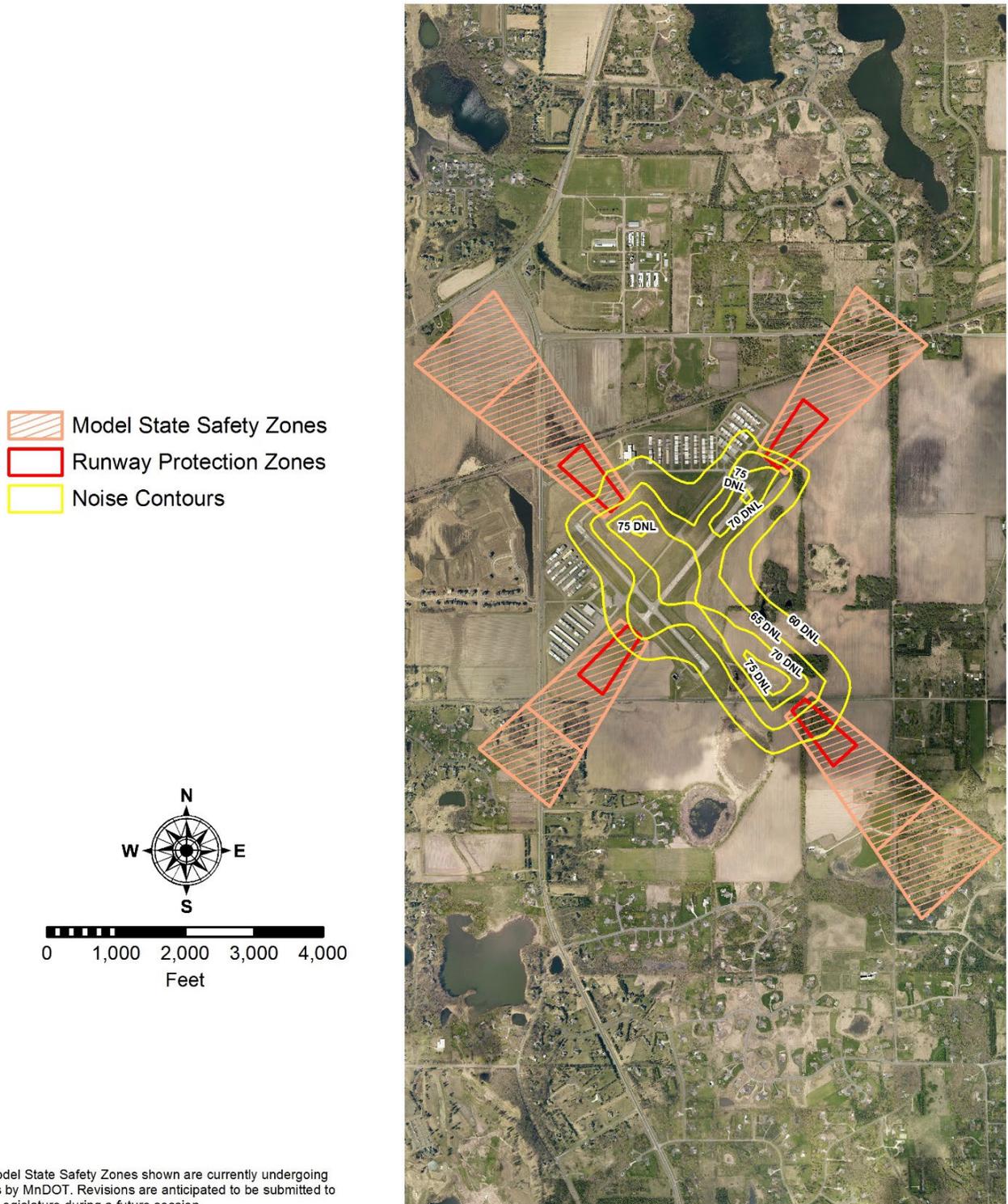
The MAC has adopted the 2035 Preferred Alternative Contours for noise, shown in Figure 15. The figure shows the 70, 65, and 60 decibel noise level (DNL) contours required by the FAA. It also shows the 55 DNL contour required by the Metropolitan Council for airports lying outside of the Metropolitan Urban Services Area. Figure 14 also shows model state safety and runway protection zones in addition to the noise contours for the development proposed in MAC's 2035 Long-Term Comprehensive Plan. The model state safety zones are shown for reference purposes only and are not currently in effect at Lake Elmo Airport.

Figure 14: Lake Elmo Airport Property Lines and Airspace Zones



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department 8/24/2018

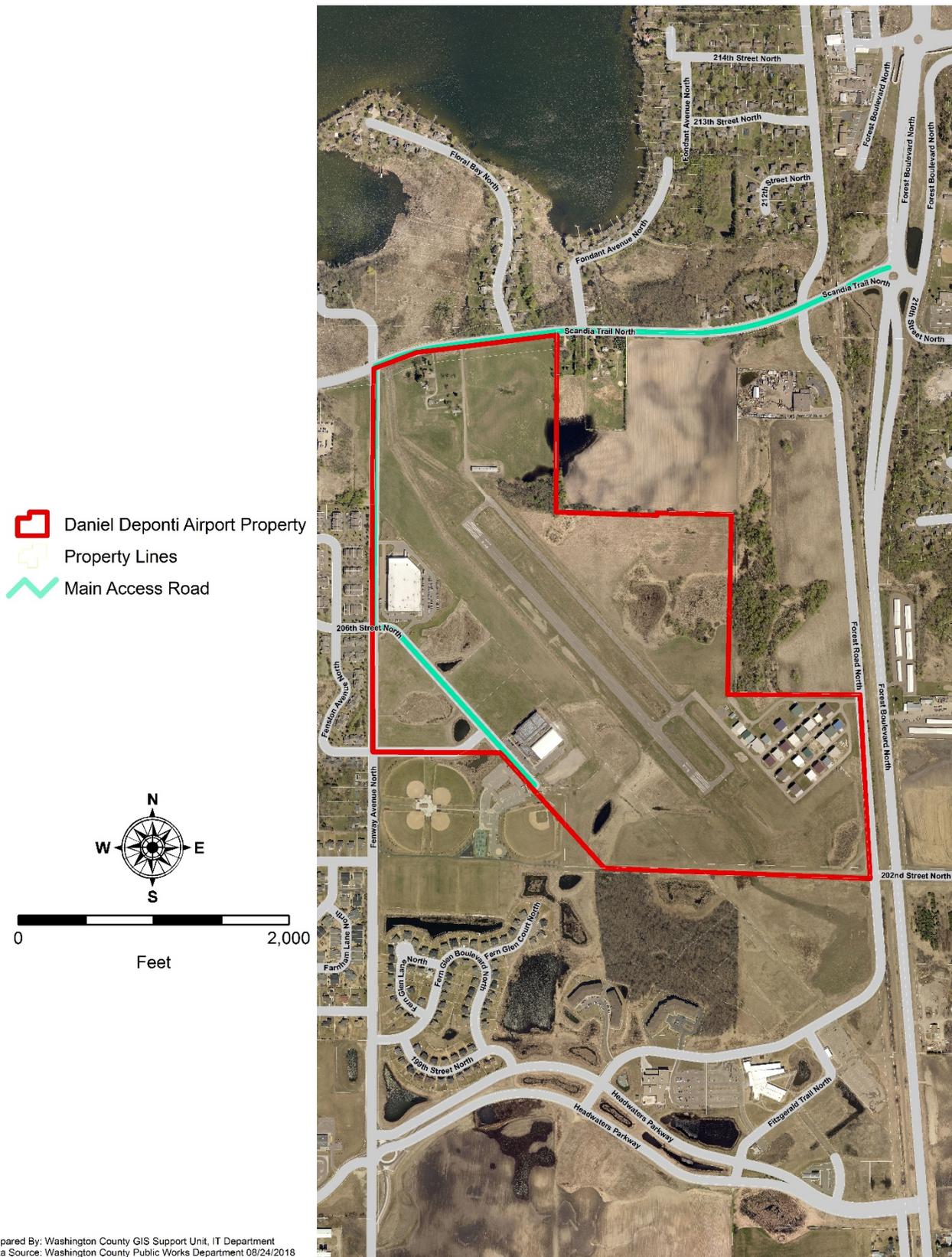
Figure 15: Lake Elmo Airport Airspace Zones, RPZs, and Noise Contours



Note: Model State Safety Zones shown are currently undergoing revisions by MnDOT. Revisions are anticipated to be submitted to the MN Legislature during a future session.

Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Metropolitan Airports Commission, 2017 Aerial

Figure 16: Daniel Deponti Airport Property Lines and Airspace Zones



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department 08/24/2018

Daniel Deponti Airport, Forest Lake

The Daniel Deponti Airport is owned and operated by the City of Forest Lake, and is also a general aviation airport. The airport consists of a single 2,725-foot paved runway on approximately 180 acres. Take-offs and landings at the airport are accomplished by visual approach; no instrument approach procedures are currently available. The Daniel Deponti Airport will play an expanding role in the regional aviation system by providing both local and non-local general aviation facilities and services. The FAA has identified this airport as a potential reliever airport in the future. Figure 16 identifies the property lines and access roads for Daniel Deponti Airport.

Seaplane Operations

Special state rules regulate seaplane operations on all public waters in the Twin Cities Metropolitan Area. In Washington County, seaplane operations are permitted on Big Carnelian Lake, Big Marine Lake, Clear Lake, Forest Lake, Lake Elmo, Oneka Lake, the Mississippi River, and the St. Croix River. On White Bear Lake, seaplane operations are permitted, but with additional restrictions on weekend and holiday operations.

Transit

Meeting the transportation needs of Washington County residents requires a complete transportation system incorporating a variety of transportation modes. Affordable and convenient transit is an essential characteristic of urban and suburban communities. The growing demand and opportunity for convenient and reliable transit service is fueled not only by the aging of the county's population but also by its increasing diversity, growth, and densification. Providing convenient, reliable, and robust transit service can play a vital role in supporting mobility, access, and economic development.

Transit Market Areas

The 2040 TPP identifies five transit market service areas within the Twin Cities Metropolitan Area. Market areas represent expected demand for transit and are determined by population, employment, vehicle availability, and land uses. Table 2 shows the Metropolitan Council's recommended service options for each market area. Existing Washington County transit service delivery is generally consistent with these guidelines. Highly developed areas of Washington County, including portions of Woodbury and Oakdale, are primarily in Market Area III. Cottage Grove is in Emerging Market Area III. Developing areas are primarily in Market Area IV, including parts of the TH 61 Corridor between White Bear Lake and Forest Lake, Lake Elmo, Woodbury, and Cottage Grove. Rural areas are primarily in Market Area V. Freestanding Town Centers in or near Washington County are Forest Lake, Hastings, and Stillwater. See Figure 17 for a map with Transit Market Areas for Washington County.

Table 2: Transit Market Area Service Options

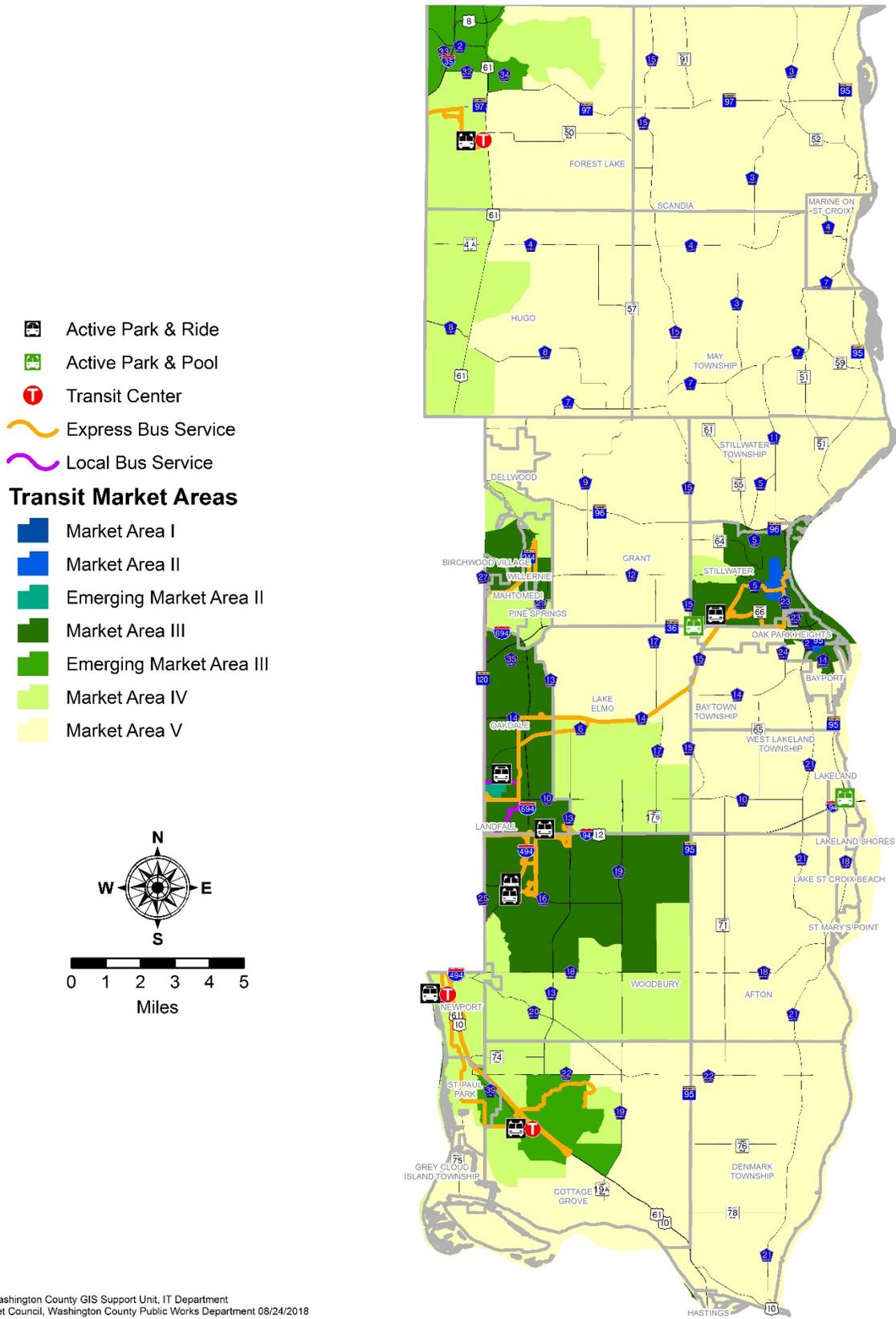
Transit Market Area	Suggested Service Type
Area I	Market Area I has the potential transit ridership necessary to support the most intensive fixed-route transit service, typically providing higher frequencies, longer hours, and more options available outside of peak periods.
Area II	Market Area II can support many of the same types of fixed-route transit as Market Area I, although usually at lower frequencies or shorter service spans.
Area III	Transit service in this area is primarily commuter express bus service with some fixed-route local service providing basic coverage. General public dial-a-ride services are available where fixed-route service is not viable.
Area IV	General public dial-a-ride services are appropriate in Market Area IV. The low density development and suburban form of development presents challenges to fixed-route transit.
Area V	General public dial-a-ride service may be appropriate here, but due to the very low-intensity land uses these areas are not well-suited for fixed-route transit service.
Freestanding Town Center	<p>Freestanding Town Centers are areas that historically grew independently of Minneapolis and Saint Paul and are still separated from the urban and suburban areas of the metro by rural land.</p> <p>Because of their concentrated downtowns laid out in a traditional urban form, these areas have a Transit Market Index value that would indicate Market Area III or higher. However, their relatively small population and land area, as well as their distance from other transit-supportive land uses, limits the potential for local fixed-route transit.</p>

Source: Metropolitan Council 2040 Transportation Policy Plan, Appendix G

Fixed-Route Transit

The Metropolitan Council’s Metro Transit and Metropolitan Transportation Services (MTS) provide the fixed-route transit service in Washington County, including express, local, and reverse commute. Existing fixed-route service transit service is shown in Figure 17.

Figure 17: Transit Market Areas and Existing Fixed Route Transit Service



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works Department 08/24/2018

Express Service

Express service operates during peak periods and serves commuters living in the suburbs and working in the downtowns of Minneapolis and Saint Paul. Table 3 lists Metro Transit’s express routes operating in Washington County. Each of the commuter corridors is a candidate for fixed-guideway transit, discussed later in this chapter.

Local Service

Local service provides trips within a community or to adjacent communities throughout the day. Metro Transit Routes 70 and 74 terminate at the county border. Metro Transit Route 219 connecting Maplewood Mall to the Sun Ray Transit Center via Century Avenue serves the City of Landfall. The remainder of the county is not served by local bus service. See Table 3.

Reverse Commute Service

Reverse commute service serves residents of the central cities who use transit to travel to suburban employment centers. These routes typically operate during peak hours and travel in the opposite direction of the peak hour express routes. Metro Transit provides reverse commute service to Washington County communities on Routes 294, 351, and 361. See Table 3.

Table 3: Washington County Fixed Route Service

Corridor/Communities	Route	Description
Express Service		
Interstate 35W	275	Forest Lake—Running Aces—St. Paul
	288	Forest Lake—Minneapolis
TH 36	270	Mahtomedi—Maplewood—Minneapolis
	294*	Stillwater—Oakdale—St. Paul
Interstate 94	350	Maplewood (Century Ave)—St. Paul
	351*	Woodbury—St. Paul
	353	Woodbury—St. Paul—Minneapolis
	355	Woodbury—Minneapolis
	375	Oakdale—Minneapolis
Highway 61/Red Rock	361*	Cottage Grove—St. Paul
	364	St. Paul Park—Newport—St. Paul
	365	Cottage Grove—Minneapolis
Local Service		
St. Paul—Maplewood	70	Sunray—Burns Ave—W 7 St—St. Clair Ave
Minneapolis—St. Paul—Maplewood	74	Sunray—E 7 St—W 7 St—Randolph—46 St
Maplewood—White Bear Lake—N St. Paul—Oakdale—Landfall—St. Paul	219	Sunray—Hadley Ave—Century Ave—Maplewood

*Routes providing limited reverse commute service.
Source: Metropolitan Council

Demand Responsive Transit

Demand responsive transit service in Washington County is provided by the Metropolitan Council’s Metropolitan Transportation Services (MTS) and consists of complementary services that are compliant with the Americans with Disabilities Act (ADA) and general public dial-a-ride services.

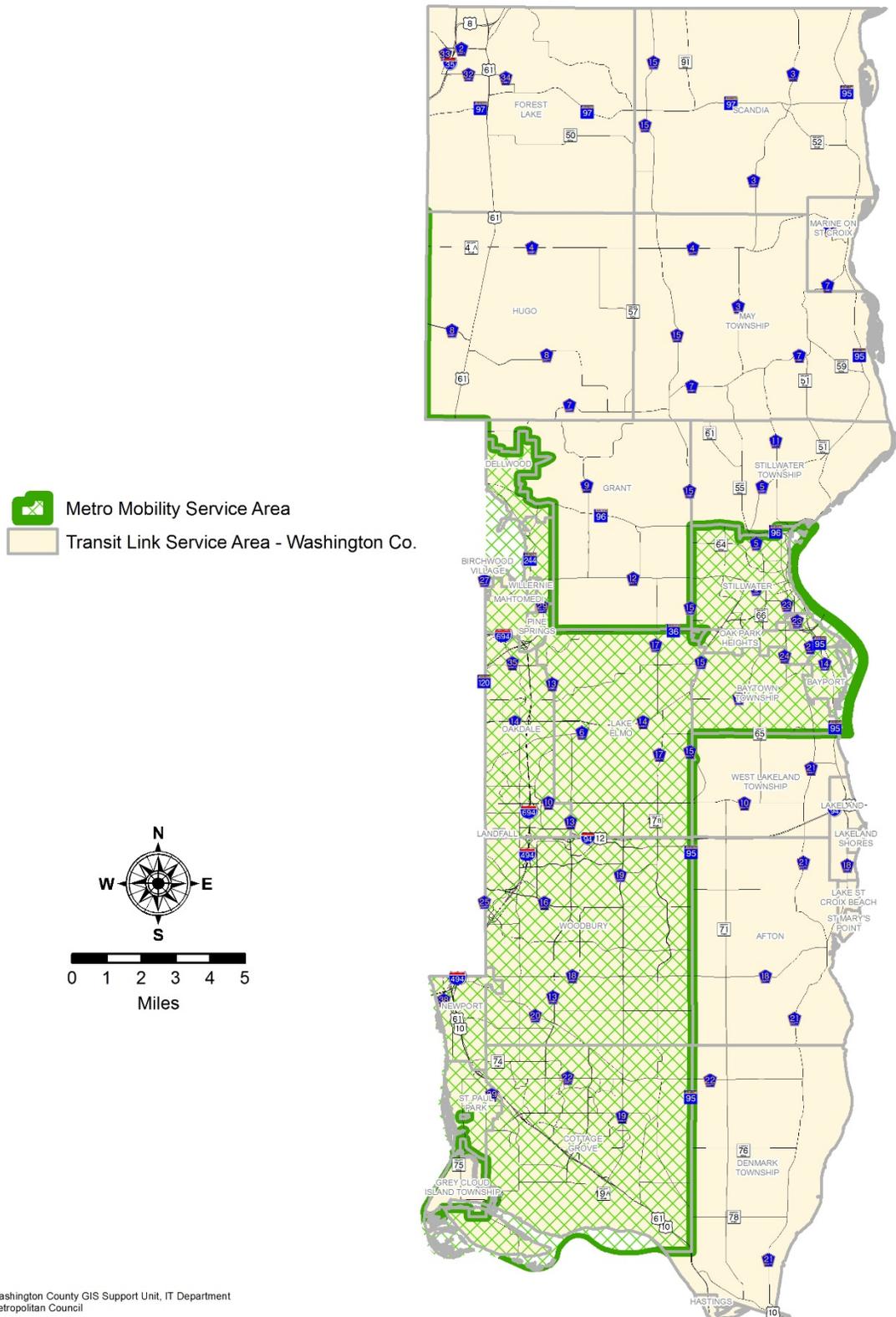
Metro Mobility

Metro Mobility provides demand responsive service for certified riders with disabilities that prevent them from using the regular route system. ADA-compliant Metro Mobility service operates within $\frac{3}{4}$ mile of local fixed routes (excluding peak hour express service). This service area varies due to changes in fixed routes between weekday and weekend service. Service, while not ADA-compliant, is also provided for riders with disabilities in communities apart of the metro area Transit Capital Levy District. See Figure 18 for the Metro Mobility service area.

Transit Link

Transit Link is the Twin Cities' dial-a-ride minibus or van service for the general public, where regular route transit service is not available. Transit Link serves all communities and is available to all residents within Washington County (see Figure 17).

Figure 18: Metro Mobility Service Area



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Metropolitan Council

Transit Facilities

Transit facilities are mapped on Figure 17.

Park-and-Ride Facilities

Nine park-and-ride facilities anchor Metro Transit’s express bus service in Washington County. The majority of these facilities are joint-use lots. Forest Lake Transit Center, Newport Transit Station, and the Cottage Grove Park-and-Ride serve only transit purposes. Table 4 shows the capacity and usage at each facility in 2016.

Table 4: 2017 Washington County Park and Ride Capacity and Usage, January 2018

Facility	City	Capacity	Usage	Utilization
Christ Episcopal Church	Woodbury	100	59	59%
Cottage Grove Park-and-Ride	Cottage Grove	525	278	53%
Forest Lake Transit Center	Forest Lake	308	114	37%
Guardian Angels Catholic Church	Oakdale	415	336	81%
Newport Transit Station	Newport	150	29	19%
St. Croix Valley Recreation Center	Stillwater	100	40	40%
Walton Park	Oakdale	58	29	50%
Woodbury Theatre	Woodbury	550	433	79%
Woodbury Lutheran Church	Woodbury	90	87	97%
Total		2,296	1405	65%

Source: 2017 Annual Regional Park-And-Ride System Report

Forest Lake Transit Center

The Forest Lake Transit Center is located near Washington County’s Headwaters Service Center off TH 61 south of Forest Lake. The transit center is served by Metro Transit Routes 275 and 288 (express bus service to downtown Saint Paul and Minneapolis respectively). Forest Lake Transit Center could be a stop for Rush Line Corridor connector bus service between Forest Lake and White Bear Lake.

The transit center also serves at a trailhead for the Hardwood Creek Regional Trail. Restrooms and a water fountain are available for trail users.

Newport Transit Station

The Newport Transit Station is located in the southwest corner of I-494 and TH 61. It features a climate-controlled waiting area and 150 free parking spaces. The station opened in December 2014 and was designed to accommodate all types of enhanced transit service within the Red Rock Corridor (see page 35), including bus rapid transit. Route 364 and Route 365 (express bus to downtown Saint Paul and Minneapolis respectively) serve Newport Transit Station.

Park-and-Pool Facilities

Park-and-pool facilities (see Figure 17) serve people who participate in an organized carpool activity; they are not served by regular-route transit. Two Metro Transit park-and-pool lots are located within Washington County, both in the northern half of the county. Table 6 shows the capacity and usage for these facilities in 2016.

Table 5: Washington County Park-and Pool Capacity and Usage, January 2018

Facility	City	Capacity	Usage	Utilization
TH 36 & CSAH 15 (Manning Avenue)	Grant/Stillwater	15	1	7%
I-94 & TH 95	Lakeland	79	17	22%
Total		94	18	19%

Source: 2017 Annual Regional Park-And-Ride System Report

Transit Advantages

Transit advantages are physical features that provide a travel time advantage over automobiles using the same facility, thereby increasing the attractiveness of transit. These include bus-only shoulders, high occupancy vehicle lanes, and ramp meter bypasses. Bus-only shoulders are the only form of transit advantage within Washington County. They are located on TH 36 west of I-694. Bus-only shoulders allow buses to use the highway shoulder to bypass automobiles in the general flow of traffic during heavily congested times. Washington County is not included in Tier 3 MnPASS Expansion meaning no high-occupancy vehicle (HOV) lanes are planned for the county.

Transitways

The Washington County Regional Railroad Authority (WCRRA) is the Washington County government entity charged with the preservation and improvement of local rail service for agriculture, industry, and passenger traffic and provides for the preservation of abandoned rail right-of-way for future transportation uses. WCRRA staff have the biggest role in the regional transit network through the development of several proposed transitways. Washington County leads two joint powers boards overseeing the development of the METRO Gold Line (previously known as the Gateway Corridor) and the Red Rock Corridor. Additionally, the county is a member of the Rush Line Corridor Task Force.

Though Washington County does not have land use control near each of the proposed station areas, staff work with local partners to guide for residential and commercial development to meet the activity levels needed to support the level of service expected with each transitway. Using activity level guidelines from the 2040 TPP, county staff will work with cities to complete station area planning activities that include guiding for a higher intensity of development than is typical in these communities and supporting other modes of travel to station area such as access by walking or bicycling. More information about station area planning can be found on the website for the transitways listed below.

Described below and shown on Figure 31 are the four Washington County transitways included in the 2040 TPP.

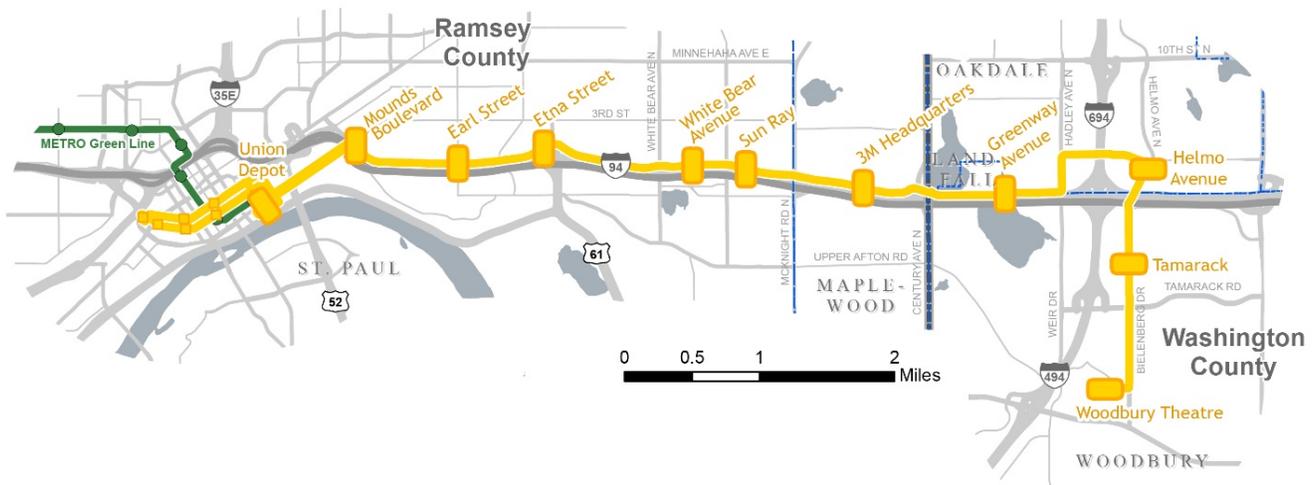
METRO Gold Line

METRO Gold Line (previously known as the Gateway Corridor) is a proposed bus rapid transit line that would run next to I-94 for about nine miles in an exclusive lane on or next to Hudson Road and 4th Street, down Helmo

Avenue in Oakdale to Bielenberg Drive in Woodbury. The service will connect Union Depot in downtown Saint Paul with the Woodbury Theater Park-and-Ride in Washington County. The exclusive bus lanes would not be added to Interstate 94 but will be part of a separate bus-only system. Figure 19 shows the Locally Preferred Alternative (LPA) alignment and station locations.

Washington County has jointly led the development of the METRO Gold Line through the work of the Gateway Corridor Commission. The five cities along the corridor will complete advanced station area planning in 2018. The project officially entered the Federal Transit Administration’s Capital Investment Grant program in January 2018 and is included in the 2040 TPP Current Revenue Scenarios. The county, along with many other project partners, will collaborate with Metropolitan Council on project development, engineering, and construction, which is expected to be operational in 2024. See <https://www.metrotransit.org/gold-line-project> for more information.

Figure 19: METRO Gold Line Locally Preferred Alternative

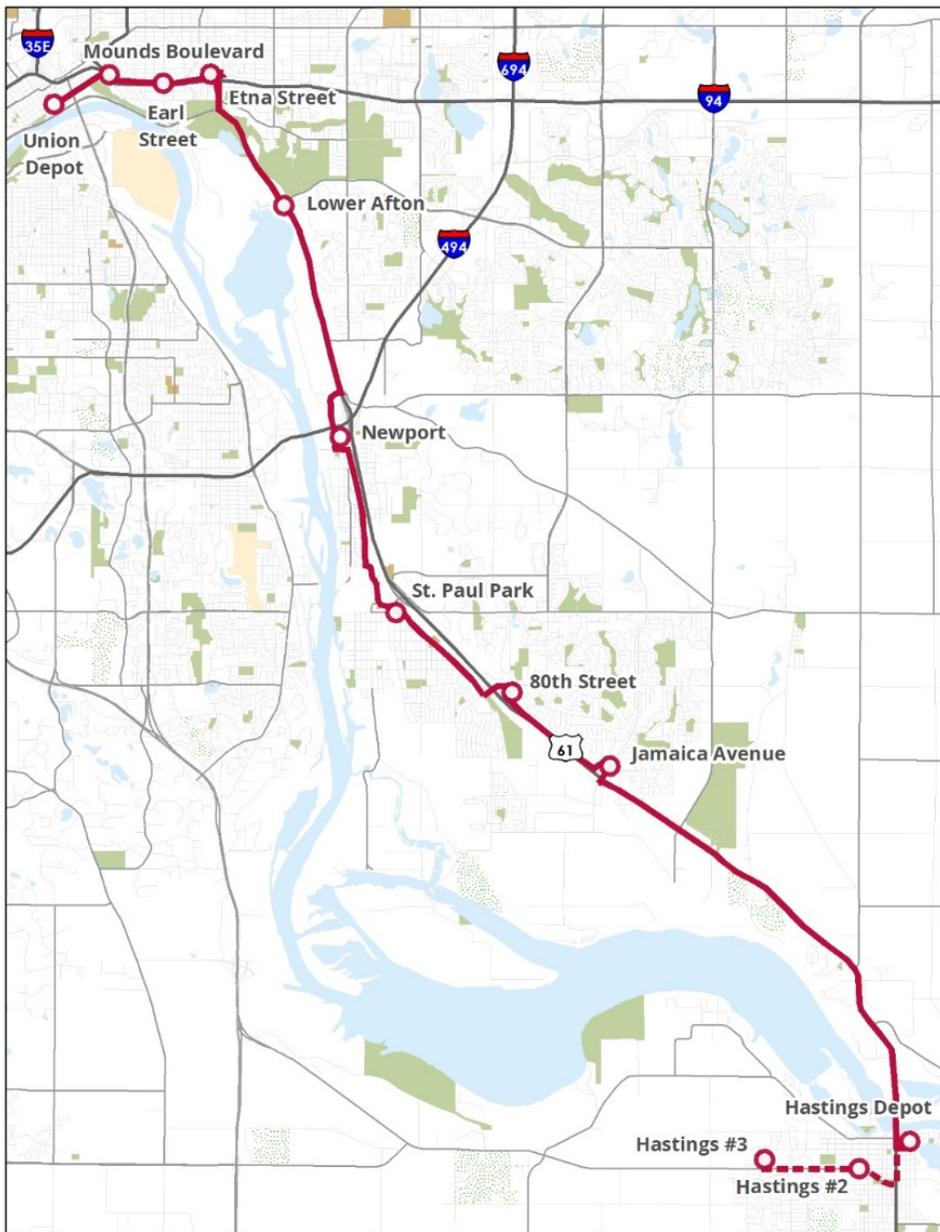


Red Rock Corridor

The Red Rock Corridor is a proposed 20-mile transitway connecting the Twin Cities’ southeastern suburbs to Saint Paul and Minneapolis. The transitway will originate in Hastings and stop in Cottage Grove, Newport and Saint Paul’s Battle Creek neighborhood before connecting to the Saint Paul Union Depot. Riders can access many destinations from Union Depot using other transit service like express buses, local buses, and METRO Green Line. Figure 20 shows the proposed alignment and station locations for BRT service.

An Implementation Plan, completed in 2017, outlined a phased approach presenting near-term and long-term recommendations to incrementally build transit service in the southeast metro. Near-term strategies include expanding local and express bus service in the corridor and working with cities on transit-supportive land use plans. Long-term strategies focus on working with cities to implement transit-supportive land use plans and monitoring corridor ridership for potential service improvements including full build out of BRT service. An implementation date for BRT service has not been selected. The Red Rock Corridor is not included in the 2040 TPP Current Revenue Scenario Transitways. However, it is included in the Increased Revenue Scenario. See www.redrockcorridor.com for more information.

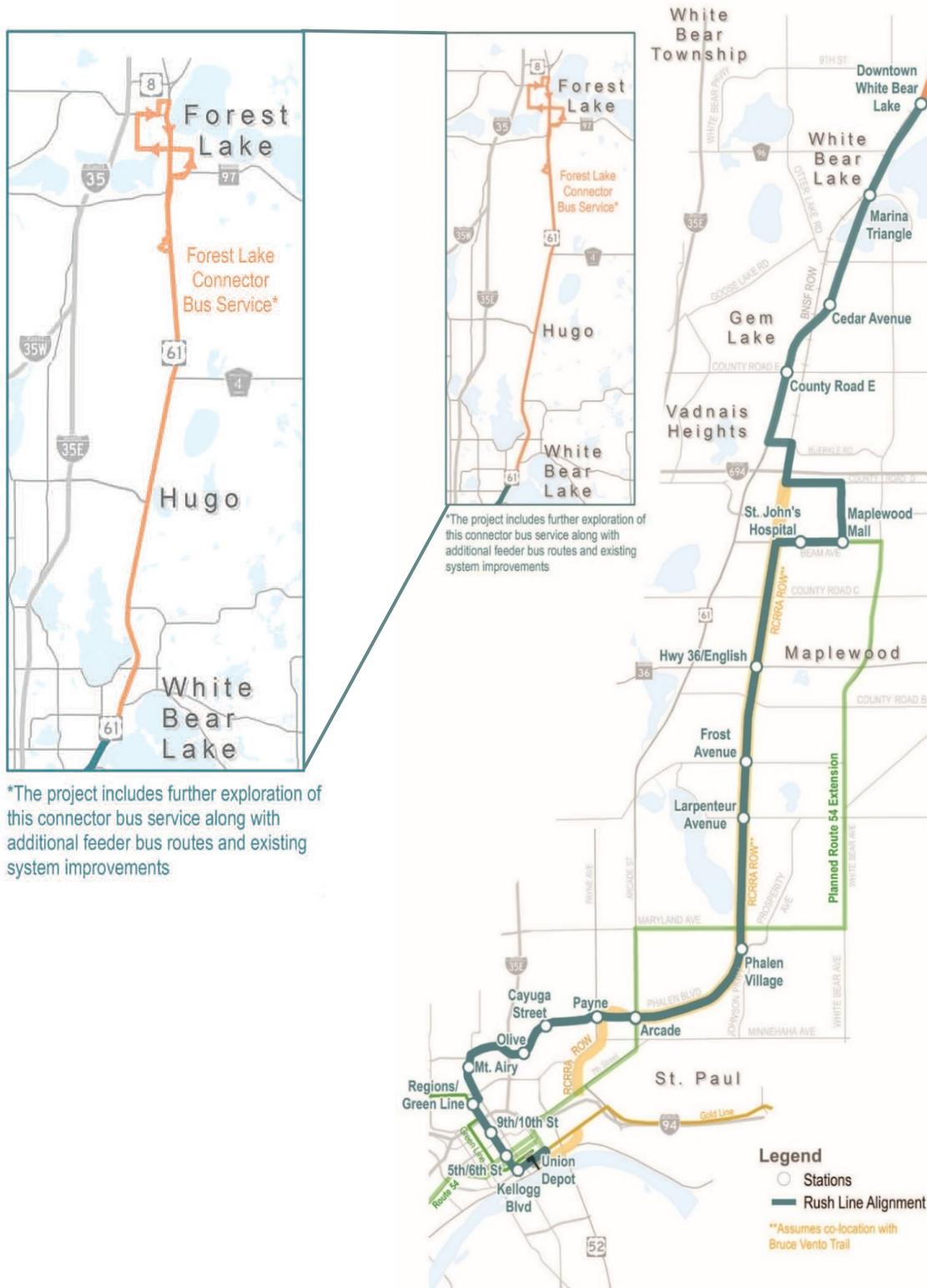
Figure 20: Red Rock Corridor Proposed Bus Rapid Transit Alignment and Station Locations



Rush Line Corridor

The Rush Line Corridor is an 80-mile travel corridor between Saint Paul and Hinckley. A pre-project development study completed in 2017 analyzed bus and rail transit alternatives between Forest Lake and Union Depot in Saint Paul. The Locally Preferred Alternative is dedicated BRT from Union Depot to White Bear Lake (see Figure 21 for a map of the Locally Preferred Alternative). The analysis included a review of potential connecting local bus service to Forest Lake, which will be further explored as planning for the Rush Line Corridor continues. The corridor is included in the current revenue scenario in the TPP and will be approved in the near future. Despite this any extension into Washington County is not included in the current revenue scenario of the TPP. See www.rushline.org for more information.

Figure 21: Rush Line Corridor Locally Preferred Alternative



*The project includes further exploration of this connector bus service along with additional feeder bus routes and existing system improvements

*The project includes further exploration of this connector bus service along with additional feeder bus routes and existing system improvements

Trunk Highway 36 Corridor

The TH 36 transitway runs from Stillwater to Minneapolis along TH 36. Planning for TH 36 has not yet begun and the corridor is not included in the 2040 Current Revenue Scenario Transitways. However, the corridor is included in the Increased Revenue Scenario.

Non-Motorized Facilities

Washington County operates trail corridors that serve both recreational and transportation purposes. In addition to bicycle commuters, these trails are commonly used by walkers, runners, recreational bicyclists, inline skaters, and, on some trails, cross-country skiers and snowmobilers. Where separated trails do not exist, paved shoulders provide an option for non-motorized travel.

According to the Met Council's community designations, Washington County contains urban, suburban, suburban edge, emerging suburban edge, diversified rural and rural residential communities. Each classification brings unique needs for pedestrians. Urban areas are typically well connected via sidewalks and other trails. Safety is critical in the implementation of pedestrian infrastructure. Many suburban areas have access to walking trails and sidewalks. However, despite access, many trails contain gaps and are not efficient modes of transport. Rural areas are mostly absent of trails and largely require vehicle access to travel. Some rural communities have access to trails largely used for recreational purposes.

Regardless of community type there is a need for local bicycle and pedestrian facility improvements. This is especially true over physical barriers such as freeways, railroad corridors, rivers, and streams on both a regional (RBTN) and local scale.

Chapter 7, Parks, Trails, and Open Space, describes existing regional trails, planned regional trails, and search corridors in Washington County. In addition to the regional trails, many county road rights-of-way contain trails that provide mobility within the community, and access to the greater network of local, regional, and state trails. Figure 10 (see page 40) shows the planned and existing trail system for Washington County.

Existing Non-Motorized Transportation System

The existing non-motorized transportation system accommodates pedestrians and bicycles, and the trail network is spread throughout the county and is owned and operated by various agencies, such as Washington County, the Minnesota Department of Natural Resources (MnDNR), and local municipalities. Most of the 505 miles of trails accounted for in a memo documenting Washington County's trail network (see Appendix I) are bituminous (e.g., pavement), concrete, and natural surfaced trails.

The county itself maintains nearly 28 miles of trails located within the boundaries of regional park systems. Based on the available data, nearly 60 percent of trails (459 miles) are located within three communities (i.e., Cottage Grove, Stillwater, and Woodbury) and 4 percent (18 miles) is owned by the MnDNR. This system will continue to expand over time with approximately 180 trails currently being planned within the county (see page 40 of Chapter 7).

Regional Bicycle Transportation Network (RBTN)

The county and local trail network is further supported and enhanced by the Regional Bicycle Transportation Network (RBTN), which is identified as part of the 2040 TPP. The RBTN helps define the region's key bikeways and trail connections, and how they work together to serve regional transportation trips by bicycle. The RBTN is also used to help determine future infrastructure investments. RBTN corridors and alignments are identified within the network. RBTN corridors identify high priority corridors for future trail development. RBTN alignments identify high priority alignments that include existing infrastructure. The RBTN alignment network identified in Washington County provides connections between the cities of White Bear Lake and Forest Lake (via the Hardwood Creek Regional Trail), Pine Springs to the Pine Point Regional Park (via the Gateway State Trail), with a spur connecting to Stillwater (Brown's Creek Trail). This trail, which is owned by the MnDNR, continues further west and connects Washington County with Saint Paul and Minneapolis. Another portion of the RBTN traverses east-to-west along Bailey Road in Woodbury, connecting Washington County with other regional bike routes, such as the Mississippi River Trail Bikeway, as well as Saint Paul and Minneapolis. A total of 10 RBTN corridors are identified within the county. Washington County's RBTN alignments and corridors are shown in Figure 22. The need for local bicycle and pedestrian improvements to provide connections over major barriers such as freeways, railroads, rivers and streams will be analyzed in the Washington County Bicycle and Pedestrian Planning process.

The RBTN network was expanded with the opening of the new St. Croix Crossing Bridge in 2017. This allows cyclists and pedestrians to safely access the St. Croix Crossing Loop trail and bike trails in Wisconsin. Washington County local bicycle network with the RBTN Alignments and Corridors are identified in Figure 23.

Figure 22: Regional Bicycle Transportation Network (RBTN) and Employment and City Centers

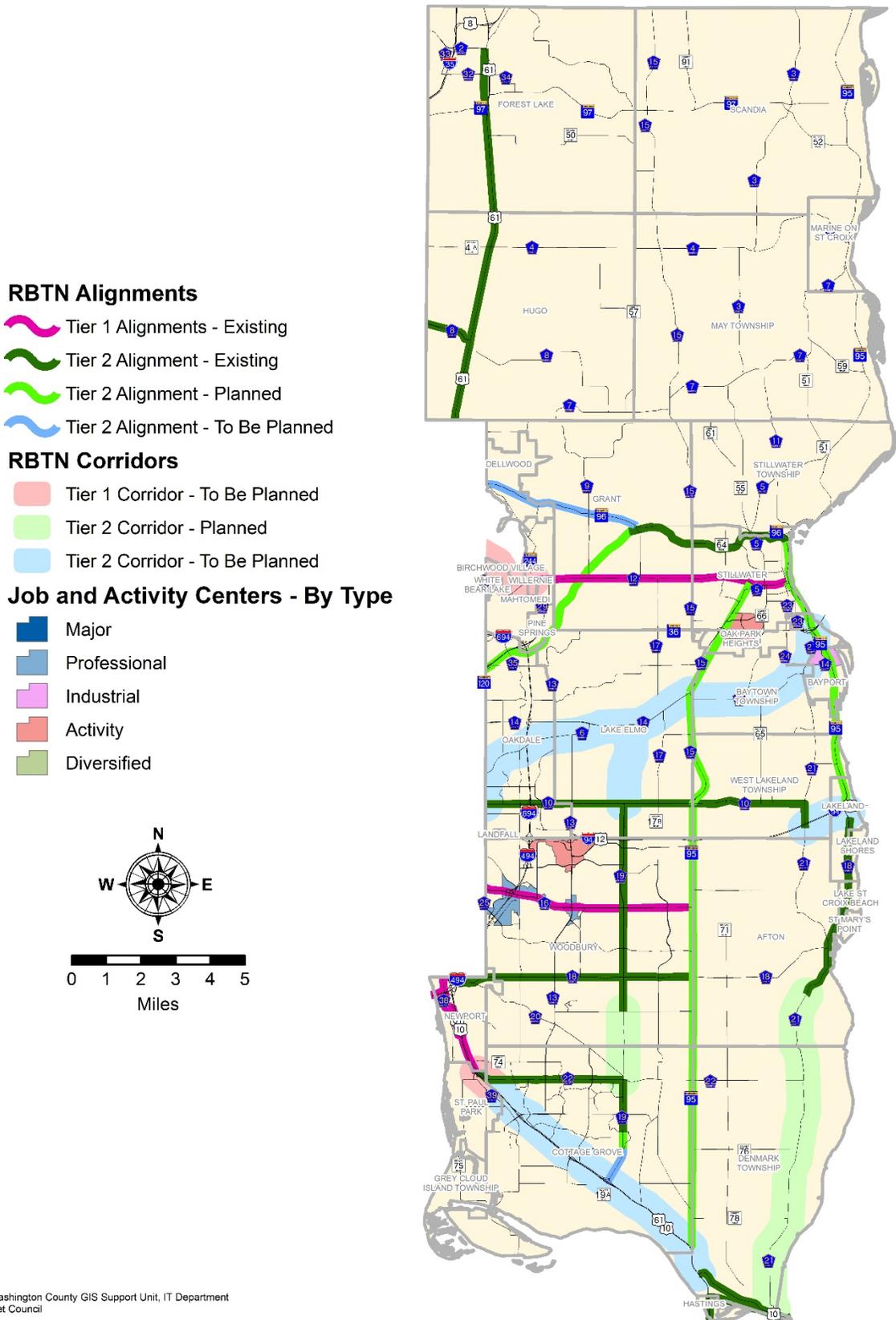
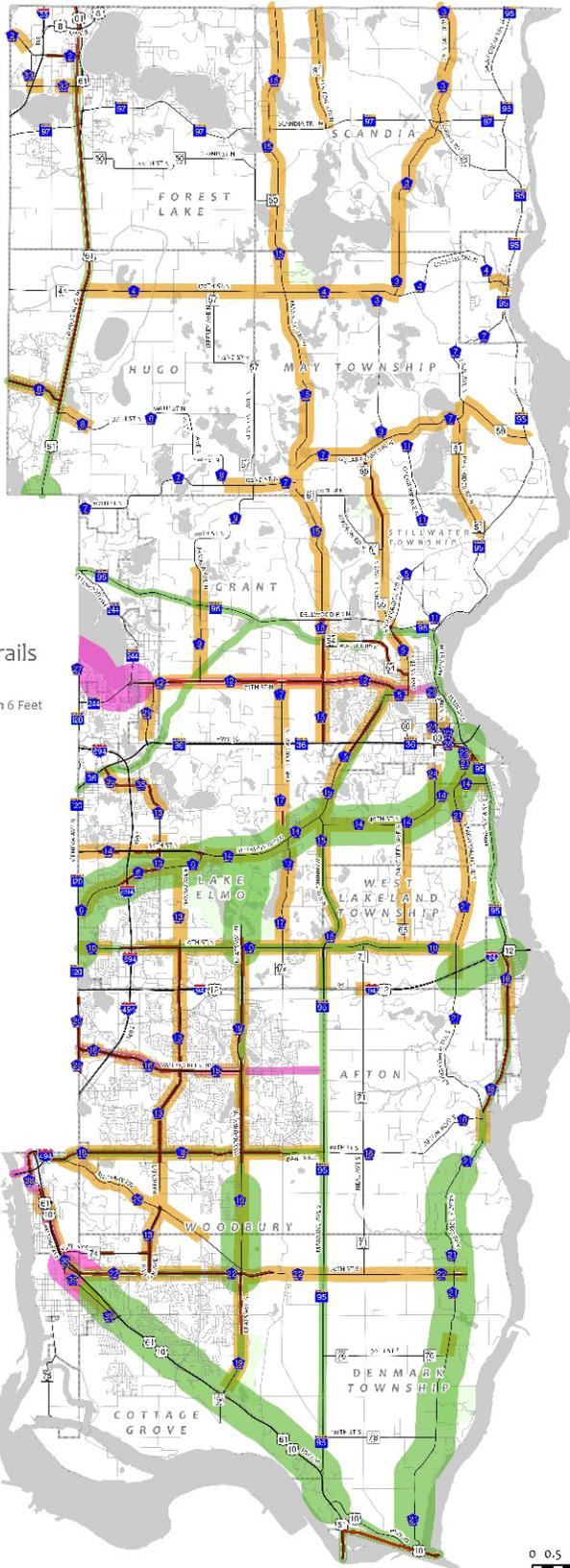


Figure 23: Regional Bicycle Transportation Network (RBTN) and Washington County Shoulder Trails



County Shoulder & Trails

- Road Separated Paved Trail
- Shoulder Widths Greater Than 6 Feet

RBTN

Alignments

- Tier 1 Alignment
- Tier 1 Corridor Center
- Tier 2 Alignment
- Tier 2 Corridor Center

Corridors

- Tier 1 Corridor
- Tier 2 Corridor

MAP DATE: 08/2024
 COUNTY OF WASHINGTON
 TRANSPORTATION DEPARTMENT
 1000 WASHINGTON AVENUE, SUITE 200
 WASHINGTON, MINNESOTA 55391
 TEL: 763.831.1234
 WWW.WASHINGTONCOUNTY.MN.GOV



Management Tools

Access Management

Access management guidelines are used to enhance safety and maintain the capacity and mobility of important transportation corridors. They balance these needs with the ability to access private property. Standardized guidelines communicate the expectations of the permitting agencies to the developer, landowner, or organization that is requesting access to the highway. The guidelines promote responsible access practices such as:

- Using existing access points.
- Providing adequate spacing to separate and reduce conflicts.
- Supporting indirect access rather than direct access on arterial routes.
- Aligning operations with the functional classification.

Washington County’s access spacing guidelines are shown in Table 6. These guidelines are similar to the MnDOT standards, but differ in details to address the unique needs of county highways. These guidelines guide decisions about the proper location and type of access to the county highway system as development or redevelopment occurs adjacent to county highways or when county highways are widened or reconstructed.

Minimizing unnecessary access to county highways allows for turning movements to be consolidated to locations where improvements such as turn lanes, traffic signals, and roundabouts can mitigate traffic conflicts. Therefore, in addition to these spacing guidelines, other principles of access management are employed:

- Access to county highways is managed via a permit process, as enabled by the county’s Right-of-Way Ordinance and state statutes.
- The county may require a permit for change in use of an existing access.
- The county may require parcel access occur solely via adjacent streets that are not county highways.
- The county may limit highway access to one access point per property, parcel, or operation.
- The county may require a shared access point with an adjacent parcel.
- The county may stipulate that parcel access must occur at a particular location where sight distance is optimal.
- As a condition of access permit approval, the county may require removal of other pre-existing access points, and may also require the applicant to mitigate the traffic safety and operational impacts of the proposed new access through the installation various highway improvements including turn lanes, traffic signals, or roundabouts.

Table 6: Washington County Access Spacing Guidelines

Functional Classification	Full-Movement Intersection	Partial Movement Intersection	Private Driveways	Signal or Roundabout Spacing
Principal Arterial	½ mile	¼ mile	Variable	½ mile
Minor Arterial	¼ mile	¼ mile	Variable	¼ mile
Collector	1/8 mile	N/A	Variable	1/8 mile

Right-of-Way Acquisition Strategies

When future expansion or realignment of a roadway is proposed, but not immediately programmed, agencies should consider right-of-way acquisition strategies to reduce costs and maintain the feasibility of the proposed improvement. The most common strategies used to preserve right-of-way for future construction include advance purchase, eminent domain, planning and zoning, and official mapping. Before implementing any right-of-way preservation programs, local agencies should weigh the risks of proceeding without environmental documentation prior to purchase. If environmental documentation has not been completed, agencies risk preserving a corridor or parcel that has associated environmental issues.

Advanced Purchase

One of the best ways to preserve right-of-way is to purchase it. Unfortunately, agencies rarely have the necessary funds to purchase right-of-way in advance, and the public benefit of purchasing right-of-way is not realized until a roadway or transportation facility is built. Typically, local jurisdictions use other corridor acquisition methods prior to roadway construction and then purchase the right-of-way at the time of design and construction.

Eminent Domain

Public agencies can acquire lands by eminent domain, including quick-take and condemnation actions, if good faith negotiations are not successful. The use of eminent domain is used only when other negotiations to acquire property have failed, and is guided by Laws of Minnesota, Chapter 214.

Planning and Zoning

Jurisdictions with planning and zoning authority have a number of tools for preserving right-of-way for transportation projects. These tools include:

Zoning: If the property is in a very low-density area (e.g., agricultural district), local agencies should try to maintain the existing zoning classification. A lower zoning classification limits the risk for significant development to occur before funding becomes available for highway construction.

Platting and Subdivision Regulations: Local platting and subdivision regulations give jurisdictions the authority to consider future roadway alignments during the platting process. Communities can regulate land development to influence plat configuration and the location of proposed roadways. In most instances, planning and engineering staff work with developers to develop a plat that accommodates the landowners' and developers' desires and conforms to a long-term community vision and/or plans. Communities can require right-of-way dedication as part of the platting and subdivision process.

Transfer of Development Rights: Some jurisdictions allow increased development densities on portions of the parcel if the developer transfers right-of-way to the jurisdiction for the future roadways needed by the development. This enables the developer to get the same number of lots or units and also enables the jurisdiction to obtain the needed right-of-way.

Official Mapping

A jurisdiction can adopt an official map that identifies the centerline and right-of-way needed for a future roadway. After a public hearing, the jurisdiction can incorporate the official map into its thoroughfare or

community facilities plan. The official mapping process allows agencies to control proposed development within an identified area and to influence development on adjacent parcels. If an affected property owner requests to develop their property, jurisdictions have six months to initiate acquisition of the property to prevent its development. If not purchased, the owner is allowed to develop in conformance with current zoning and subdivision regulations. The official mapping process should only be used for preserving key corridors in areas with significant growth pressures. In some cases, official mapping of key parcels/corridors may increase the agency's ability to find sources of funds to purchase at-risk parcels.

Cost Participation Policy

Washington County's Cost Participation Policy (#8001) determines the appropriate division of cost in funding cooperative highway projects, traffic signals, and bridge construction projects with MnDOT, municipalities, and other agencies. For highway and bridge projects, the cost splits differ for cities with populations greater than 5,000 and for those with populations less than 5,000. The primary purpose for this difference is the absence of direct State Aid funding to municipalities with less than 5,000 residents. The policy also guides the county's cost participation when communities use Tax Increment Financing (TIF) and for jurisdictional changes or turnbacks.

Pavement Condition Index

Through the Pavement Management System, the county monitors the condition of the highway surface of every segment of the county system. The Pavement Condition Index (PCI) is used to determine the surface quality of the pavement; it is a 100-point scale with 100 being the smoothest pavement. Pavement smoothness is widely recognized as important for user satisfaction and long-term performance of the roadway, and can affect road noise. A smoother pavement provides a more comfortable ride for the motorist or bicyclist. A highway free of cracks and potholes requires less maintenance and is expected to have a longer life expectancy. The county has established the minimum PCI threshold to be 40, which is included in county's annual performance measurement review process, with an average PCI of 72 for the overall system. Highway segments that have a PCI below this rating are targeted for pavement rehabilitation in the county's Capital Improvement Program.

Intersection Control Ranking System

The Intersection Control Ranking System (ICRS) guides the prioritization of traffic control changes at intersections on county highways. Increased traffic control typically includes installation of an all-way stop or a traffic signal, construction of a roundabout, or some other intersection geometric improvement. The report provides a clear and documented process for prioritizing and making decisions on intersection improvements based on need. The evaluation criteria include traffic signal warrants contained in the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD) and intersection crash history. Intersections are included in the ICRS by either a recommendation by county staff based on experience or through a request by a local community. The most recent ICRS annual report is available on Washington County's website.

Transportation Plan

A well planned, designed, constructed, and maintained transportation system is one of the factors in making Washington County a great place to live, work, and play today and tomorrow. To accurately forecast transportation needs to 2040, Washington County examined the transportation system, including a review of the functional classification system, jurisdictional changes, current and historic traffic volumes, existing and

projected capacity deficiencies, and programmed roadway improvements. The county also performed a systematic analysis of the transit system, including the various transit providers, their routes and service priorities, and transit centers. Lastly, the county provided a high-level review of non-motorized transportation needs. This section describes the identified needs of the future transportation system and establishes goals and policies to address those needs.

Future Transportation Needs

Roadways

Proposed Functional Classification

The roadway functional classification system provides guidelines for designing a roadway network for safe and efficient movement of people. The functional classification defines a roadway's purpose and use and assists in evaluating operations. It is crucial, when soliciting federal funds, that the roadway is correctly classified so that it competes with roadways having similar characteristics.

No functional classification changes are proposed at this time.

Proposed Jurisdictional Changes

Factors that are considered when determining potential jurisdictional transfers include historical practices, legal requirements, type of trips served (purpose and length), funding, traffic volumes, access controls, maintenance issues, and functional classification. Figure 24 shows the candidate roadways within the county for changes in jurisdiction. The changes represent a closer alignment between the level of government owning and maintaining the roadway and the manner in which the roadway functions to meet local, county, regional, or statewide needs.

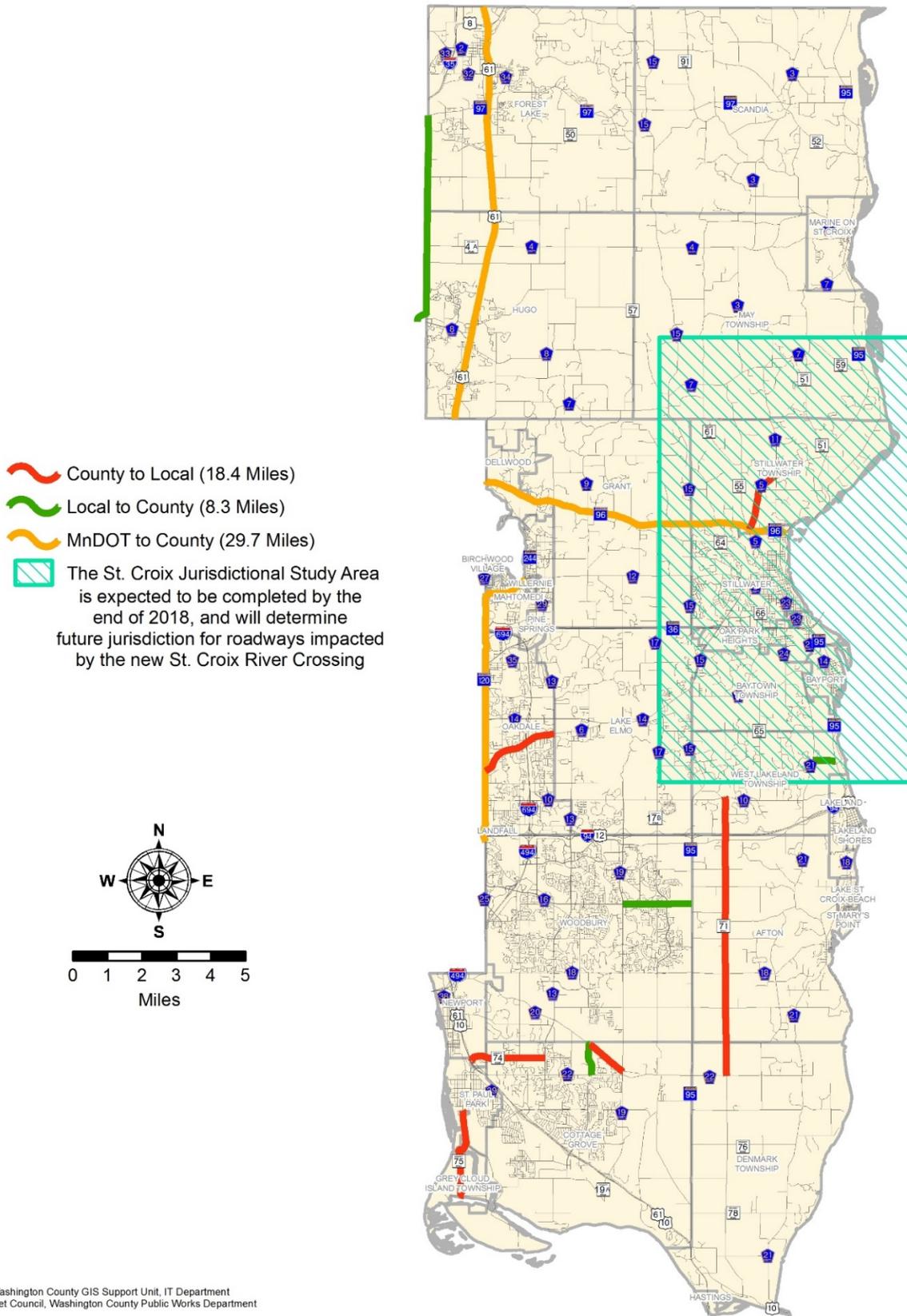
Table 7 lists the recommended changes and shows the approximate roadway mileage for each roadway segment. Washington County is recommending a transfer of 29.7 miles from MnDOT to Washington County, 8.3 miles from local to Washington County, and 18.4 miles from Washington County to local, for a total net gain of 19.6 miles in county jurisdiction.

The St. Croix Valley Jurisdictional Study is underway at the time of the development of this comprehensive plan. The study will determine future roadway jurisdictions for roadways impacted by the new St. Croix River Crossing and its associated regional highway improvements. More jurisdictional changes may be made in the near term in addition to those listed in Table 7. The study is expected to be completed at the end of 2018. Results will be available on the county's website.

Table 7: Candidate Jurisdictional Changes

Roadway	From	To	Local Community	Length (miles)
MnDOT to Washington County				
TH 61	South county line in Hugo	North county line in Forest Lake	Hugo, Forest Lake	12.1
TH 96	West county line	TH 95	Dellwood, Grant, Stillwater Township, Stillwater	9.0
TH 120 (1)	Woodbine Ave	TH 244	Maplewood, Oakdale, North St Paul, Mahtomedi, White Bear Lake	7.2
TH 244	TH 120	CSAH 12	Mahtomedi, White Bear Lake	1.3
Total Miles				29.7
Local to Washington County				
Jamaica Avenue S	CSAH 20	CSAH 22	Cottage Grove	0.9
Valley Creek Rd	CSAH 19	TH 95	Woodbury	2.0
22nd St N	CSAH 21	TH 95	West Lakeland Township	0.7
Elmcrest Ave N	TH 97	CR 8	Forest Lake, Hugo	4.7
Total Miles				8.3
Washington County to Local				
CSAH 20	Jamaica Avenue S	CSAH 19	Cottage Grove	1.2
CR 71	CSAH 22	CSAH 10	Afton, West Lakeland Township, Denmark Township	8.1
CR 74	Hastings Av	CSAH 13	Newport, Cottage Grove	2.2
CR 75	105th Street S	14th Ave	St Paul Park and Grey Cloud Island Township	2.6
CR 6	TH 120	CSAH 13	Oakdale	2.4
CR 5	CSAH 11	TH 96	Stillwater Township	1.8
Total Miles				18.4

Figure 24: Candidate Jurisdictional Changes



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works Department

2040 Forecasts and Capacity

Year 2040 Base Traffic Model

The 2040 traffic model projects the traffic forecasts for the county's roadways. The traffic forecasts are an essential analytical tool to approximate the ability of the road system to handle planned future development. The model uses community land use plans and development objectives to project 2040 population, household, and employment data for sub-areas of the county called Traffic Analysis Zones (TAZs). Appendix L contains a summary of the methodology used to develop the traffic forecasts and Appendix J contains the data, and Appendix K a map, of the TAZs.

The traffic forecast model takes into account future planned and programmed improvements identified in MnDOT's 2018-2040 Transportation System Plan, Washington County's 2018-2022 Capital Improvement Program (CIP) (see Figure 32), and the 2040 TPP. Various roadway projects are currently under construction or programmed for completion in the next few years. These were considered part of the future roadway system because they will likely be in place during the 2040 planning horizon. Other projects in the planning stage have been identified as needed improvements but funding has not yet been allocated. These projects were not included in the future roadway system because the timeline for implementation is uncertain. Appendix M contains a list of roadway improvements that were included in the 2040 base traffic model.

The 2040 base traffic volume forecasts were prepared using the socio-economic data, existing roadway lanes, and programmed roadway improvements. 2040 Forecast Traffic Volumes are shown on Figure 25.

Future (Year 2040) Capacity Deficiencies

A planning-level analysis, performed to identify locations where capacity problems are expected to occur in the planning horizon, identified county roadway segments where 2040 projected traffic volumes are expected to exceed the capacity of the roadway. It identified additional county roadway segments where 2040 project traffic volumes would approach the capacity of the roadway. Figure 26 shows the projected capacity deficiencies.

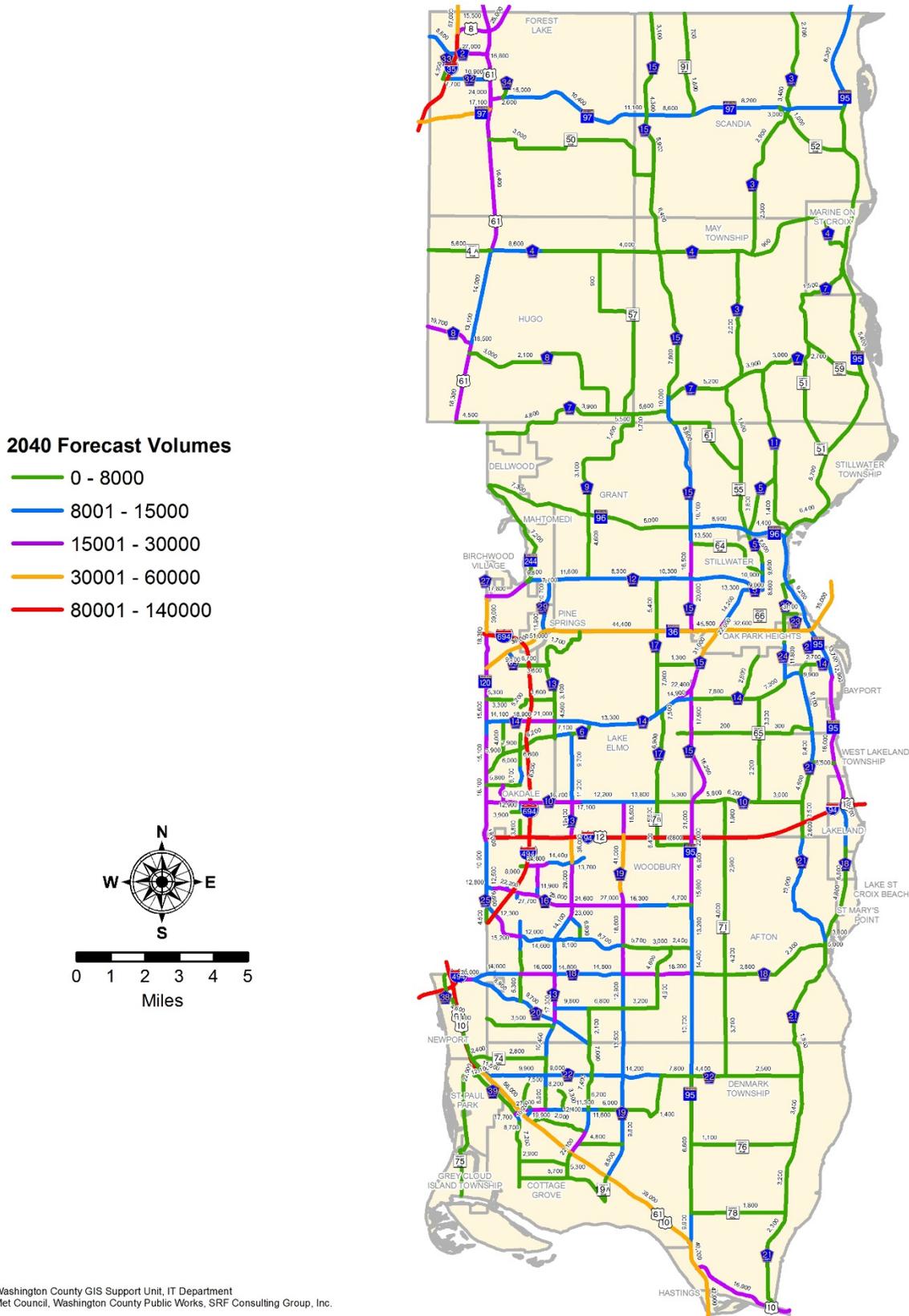
System Continuity

Some highways have discontinuous alignments or are not able to connect to logical destinations because of environmental features, development patterns, and jurisdictional boundaries. The following areas have been identified as opportunities for improving travel continuity through realigning roadways, connecting across county boundaries, or accessing a freeway.

- East-west corridor between I-494 and TH 95 (Manning Ave), south of I-94 and north of CSAH 18 (Bailey Road) in Woodbury and Afton.
- Access to I-35 from Washington County Road 4A and Anoka County Road 140 in Hugo and Lino Lakes.
- North-south connection between the south end of CSAH 25 (Century Avenue) and CSAH 18 (Bailey Road) in Woodbury.
- North-south Manning Ave N connection between CSAH 15 (Manning Ave N) and TH 36.
- East-west connection between CSAH 19 and the lower Grey Cloud Island.

System continuity improvement opportunities are shown in Figure 30.

Figure 25: 2040 Forecast Traffic Volumes

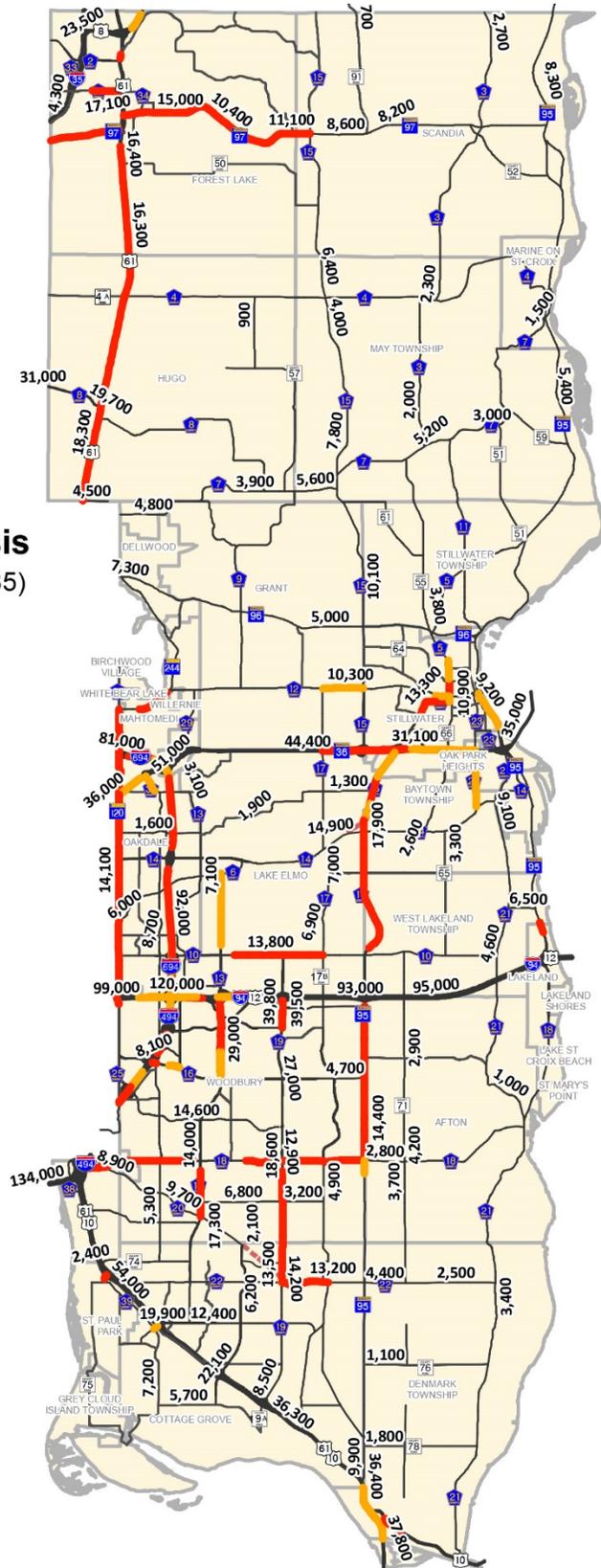
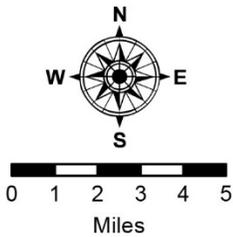


Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works, SRF Consulting Group, Inc.

Figure 26: Future 2040 Congestion (V/C Ratio)

2040 Volume/Capacity Analysis

- Approaching Capacity (V/C > 0.85)
- Over Capacity (V/C > 1.0)
- - - Roadway Removed



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works, SRF Consulting Group, Inc.

Right-of-Way Preservation

Right-of-way is a valuable public asset that must be managed in a way that preserves its intended function while serving the greatest public good. Many roadway improvements and other uses (e.g., placement of utilities and trails) require adequate right-of-way be maintained or secured. To ensure the ability to grow and expand our transportation system to meet anticipated growth and community needs, the county has established proposed right-of-way guidelines by functional classification and the future facility type of the roadway (see Table 8). Right-of-way widths may vary based on the community’s desire for trails on both sides of the road, landscaping, and placement and number of private and public utilities.

Figure 27 shows the right-of-way requirements for the county roadway system. Use of these guidelines during the right-of-way acquisition or preservation process will reduce costs and streamline project development.

Table 8: Minimum Right-of-Way Widths for Washington County Roads*

Functional Classification	Right-of-Way Width**	Future Facility Type
Minor Arterial	220 feet	6-lane divided
	180 feet	4-lane divided
	150 feet	3-lane undivided
	120 feet	2-lane urban
Collector	150 feet	3-lane undivided
	120 feet	2-lane undivided
	100 feet	2-lane undivided, urban
<i>* Widths are total width of corridor and assume the road is centered in the corridor. ** Due to particular development conditions, physical features of the site or highway corridor, special traffic control needs, or other conditions, Washington County may require more right-of-way width than shown in these guidelines.</i>		

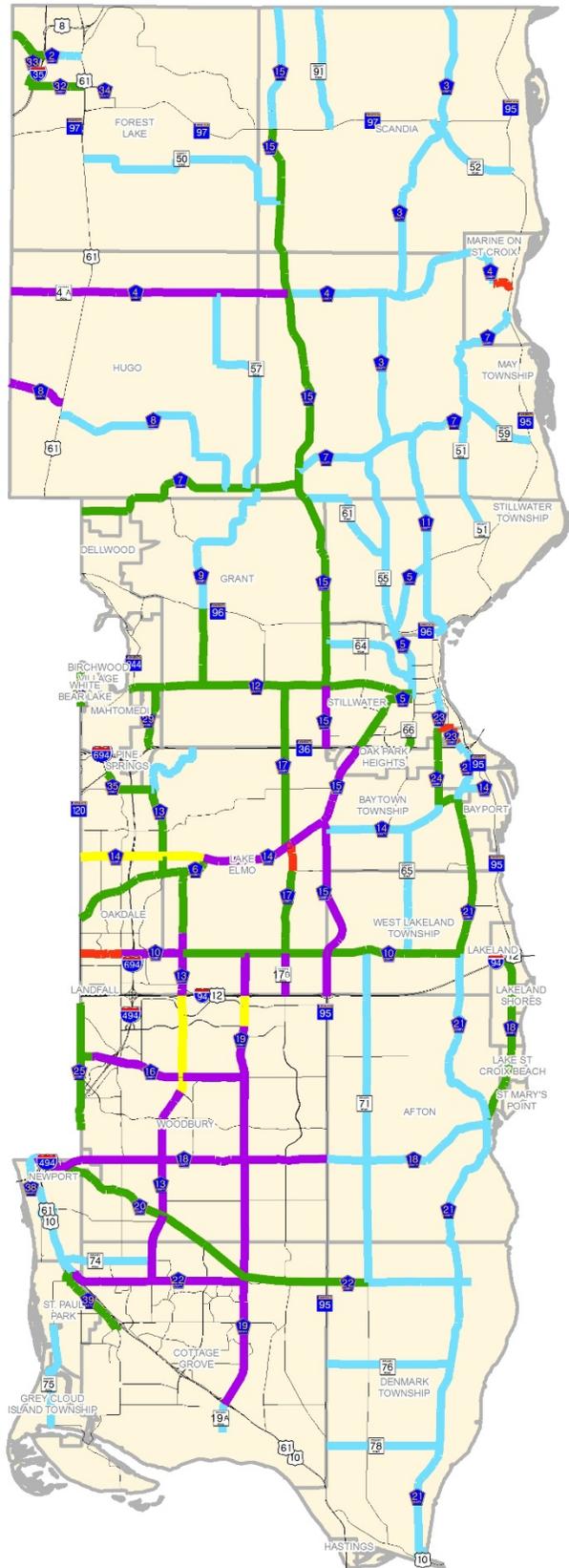
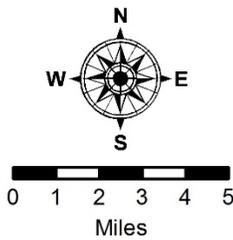
The following cross section (see Figure 28) demonstrates how a roadway width of 180 feet may be used to accommodate multimodal uses. This image is only an example. The design and construction of county roadway will vary from the image below based on localized needs.

The availability of right-of-way will be a criterion for ranking a project’s readiness to be built. Where right-of-way must be acquired, it will be acquired under the provisions of the county’s Cost Participation Policy (#8001). The Management Tools (page 41) section of Existing Conditions contains information regarding right-of-way preservation methods.

Figure 27: Right-of-Way Widths Required

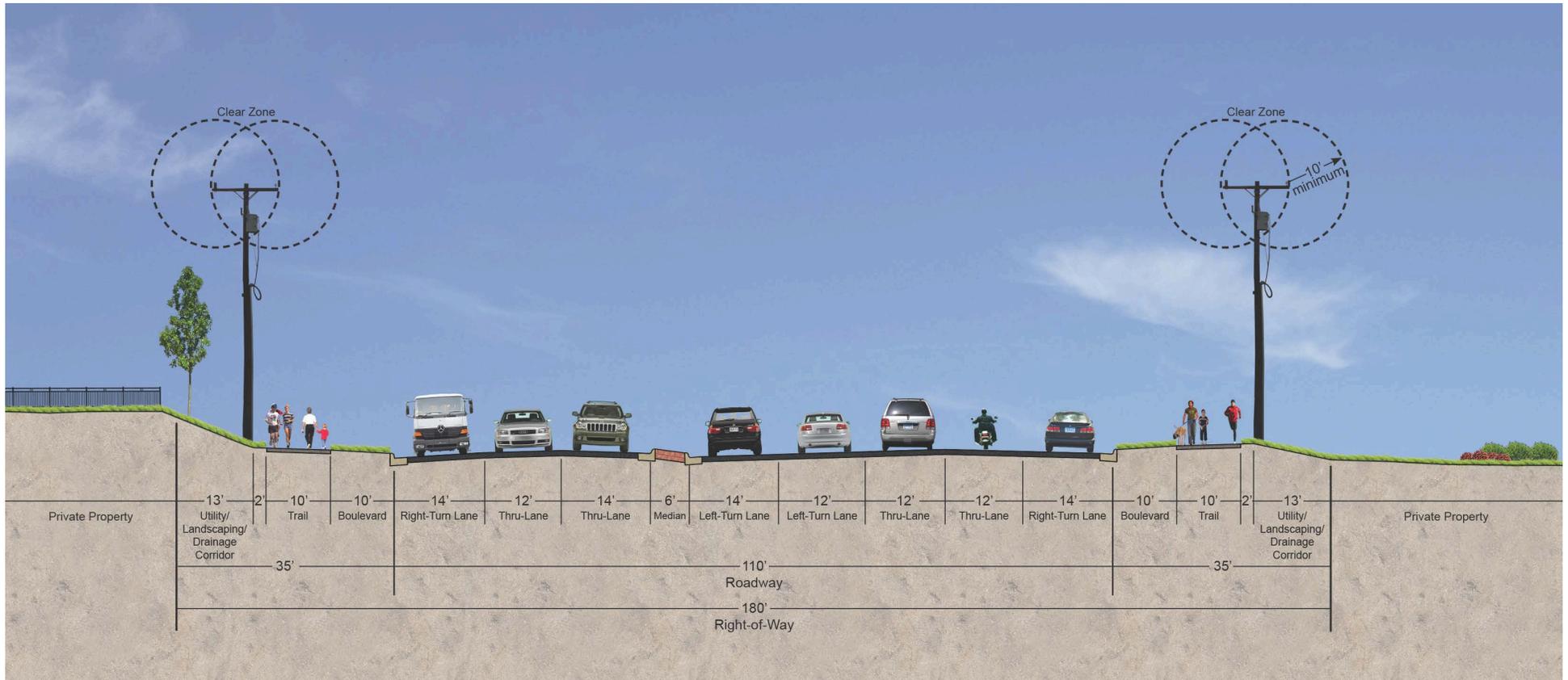
Right-of-Way Required

-  100 feet
-  120 feet
-  150 feet
-  180 feet
-  220 feet



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department

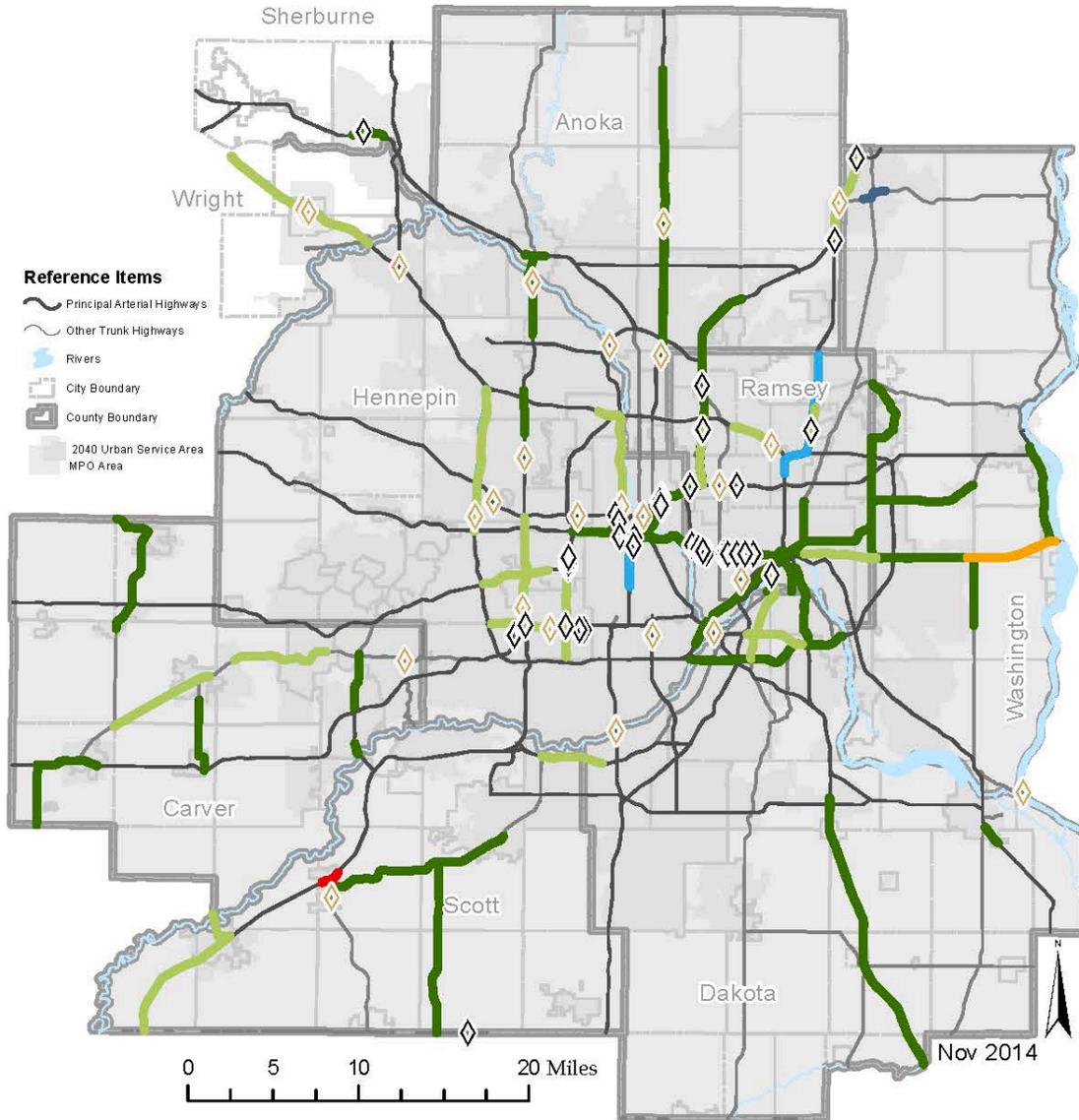
Figure 28: Right-of-Way 180 FT Cross Section



Regional Planned Infrastructure Projects

There are several planned pavement, bridge, and roadside infrastructure projects in Washington County as identified in the 2040 TPP (see Figure 29).

Figure 29: 2040 Planned Pavement, Bridge, and Roadside Infrastructure Projects



**Identified Pavement, Bridge, and Roadside Infrastructure Projects*
2015 - 2024 (Projects 2025 - 2040 TBD)**

- ◇ 2015-2018 TIP Bridges
- ◇ 2019 - 2024 Bridges
- ◇ 2015-2018 TIP Pavement
- ◇ Roadside Infrastructure
- ◇ Roadside Infrastructure / Safety
- ◇ 2019 - 2024 Pavement Projects
- ◇ 2015 - 2018 Pavement / MnPass
- ◇ 2015 - 2018 Pavement / Safety

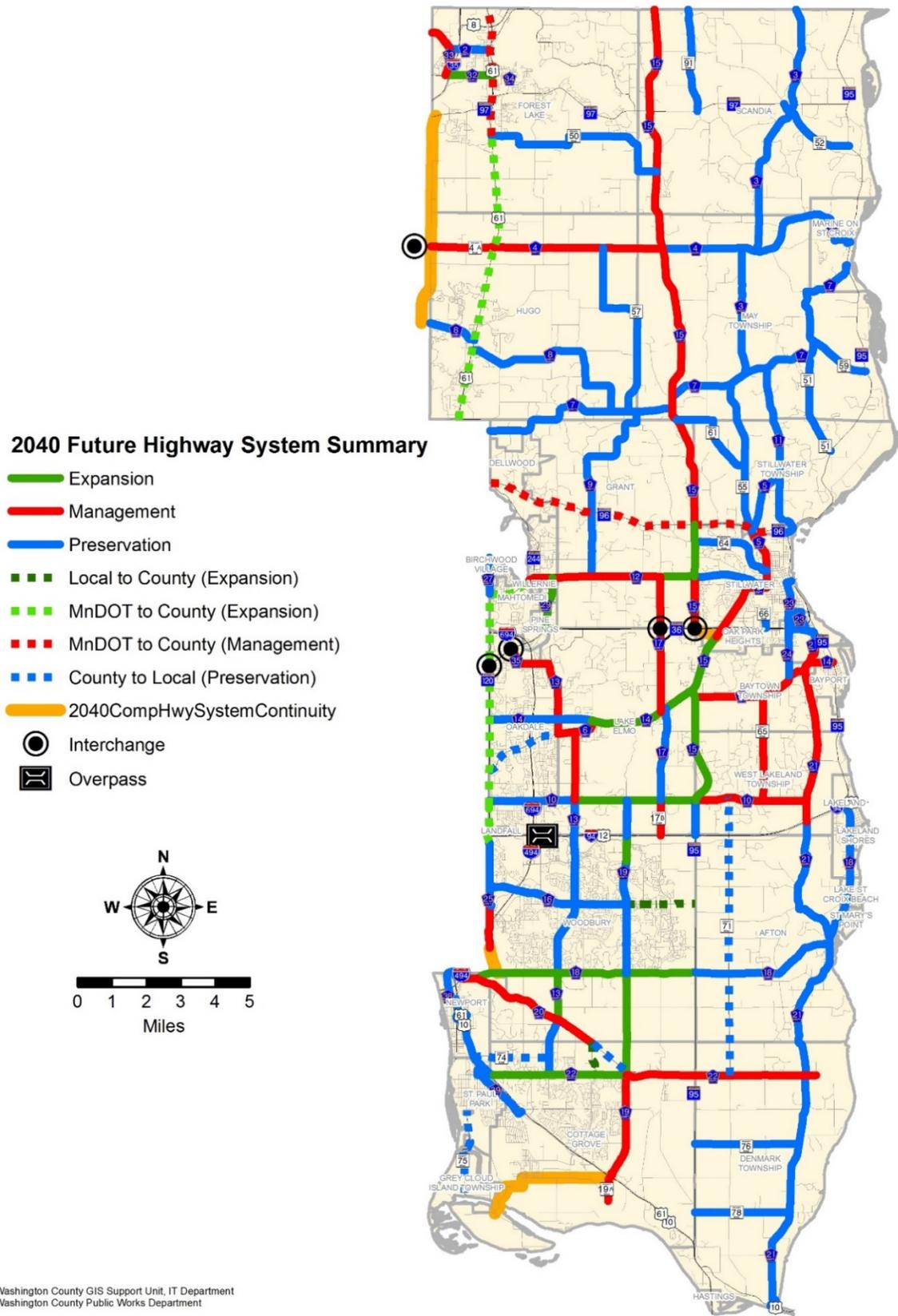
*Not intended to represent all projects until 2040. Includes only those projects identified by May 2014. Subject to change and amendment.

2040 Highway System Needs Summary

The future long-term needs of the county's highway system are shown on Figure 30 and summarized below.

- **Jurisdictional changes:** Includes roadways that are candidates for transfer of ownership, maintenance, and operations. Transfer agreements will be negotiated for each roadway.
- **Preservation:** Includes crackseal, sealcoat, overlay, cold in-place recycling, and minor drainage improvements. These improvements focus mainly on improving the roadway surface and drivability of the roadway
- **Management:** Includes reconstruction of the roadway with no added through lanes. These improvements could include access management improvements, construction of turn lanes, horizontal and vertical curve corrections, and the installation of traffic signals, roundabouts or other intersection treatments.
- **Expansion:** Includes reconstruction with added through lanes, access management, and installation of traffic signals, roundabouts, or other intersection treatments.
- **Interchange:** Includes new or reconstructed interchange or overpass.

Figure 30: 2040 Highway Summary



Prepared By: Washington County GIS Support Unit, IT Department
Data Source: Washington County Public Works Department

Safety

The *County Roadway Safety Plan (CRSP, 2013)* was prepared as part of a statewide highway safety planning process to assist counties to proactively submit low-cost systematic safety projects for MnDOT to consider for Highway Safety Improvement Program funding. The CRSP identified at-risk locations and low-cost safety improvements with the goal to reduce severe crashes in Washington County. A list of potential safety projects was developed after conducting a crash analysis, which covered crashes from 2007-2011. Washington County crash data compared to statewide averages was overrepresented in the following emphasis areas

- Young drivers (under 21)
- Drug and alcohol-related
- Unbelted vehicle occupants
- Lane departure crashes
- Intersection crashes

The most effective method to encourage safe driving behaviors for the first three emphasis areas (young drivers (under 21), drug and alcohol related, and unbelted vehicle occupants) is through enforcement and education. Education combined with enforcement can sustain changes in driver behavior. Washington County collaborates with partners on education and enforcement efforts, and participates in regional road safety coalitions.

For the lane departure and intersection crashes, there were no specific locations where a cluster of severe crashes occurred. Therefore, instead of identifying potentially expensive projects at relatively few locations, the plan identified an estimated \$8 million in proactive, low-cost safety improvements such as 3-lane conversion, curve signing, turn lanes, and access management projects. Table 9 provides a high-level summary of the infrastructure-related safety projects identified in the CRSP. More details on these projects can be found in the CRSP located on the Washington County website. The CRSP will be updated periodically to ensure infrastructure projects reflect roadway safety priorities.

Table 9: County Roadway Safety Plan Infrastructure-Related Safety Projects

	Number of Locations	Estimated Implementation Costs
Urban Locations		
Red Light Confirmation Lights and Access Management	4 corridors	\$982,000
Pedestrian Improvements (Countdown Timers, Advanced Walk, Medians, Curb Extensions and Sidewalks)	1 corridor	\$50,000
Conversion to Two Way Left Turn Lane	5 corridors	\$201,925
Rural Locations		
Rural Segments Projects	28 corridors	\$5,725,089
Rural Curve Projects	143 curves	\$711,965
Rural Intersection Projects	17 intersections	\$266,400
TOTAL PROACTIVE PROJECTS		\$7,937,379

Source: Washington County Roadway Safety Plan, 2013

Transit

Providing convenient, reliable, and robust transit service can play a vital role in supporting mobility, access, and economic development in Washington County. The several types of transit services discussed below include express bus, local bus, demand responsive, mobility management, transitways, and park-and-ride facilities. Transit advantages and station area planning are tools available to encourage transit ridership, and are also discussed in more detail in this section.

Express and Local Bus Services

The Metropolitan Council's Metro Transit and Metropolitan Transportation Services (MTS) provide the fixed-route transit service in Washington County, including express, local, and reverse commute. More information on current transit services can be found in the Existing Conditions section of this chapter (see page 26).

Express Bus Service

Express bus services will continue to be a focus of the transit system in Washington County. County residents who work in either downtown Minneapolis or downtown Saint Paul are the primary market for downtown-oriented express bus services. Current use figures provide a baseline from which future demand can be estimated. Future express bus ridership by county residents is expected to increase due to growth in population, future employment growth in downtown Minneapolis and Saint Paul, and a likely increase in mode split. Future expansion of express bus services will depend on transit ridership and the continued development of transit infrastructure, including park-and-ride facilities and transit advantages.

Local Bus Service

Although local transit service is desirable, the density and land use character in the county makes the delivery of local service economically challenging. The grid-like pattern of local routes that is effective in central cities does not match well with suburban land use and roadway network. The current strategy for meeting local transit service demand in Washington County is through demand responsive service. However, this service is not typically considered an economical way to attract transit riders who have a choice in how they travel because of the high per-ride costs and limited service hours.

A more practical option for providing local service may be through local circulator networks with coverage in the developed areas of the county. A local network could focus on a community transit center, which could serve as the timed transfer point for two to four local circulator routes.

Washington County could also be served by route deviation service, which combines the accessibility features of dial-a-ride service with the scheduled reliability of fixed-route service, and is thus able to attract commuters and other users who would not generally consider dial-a-ride service. A route-deviation service could provide a viable alternative to fixed-route bus service in Stillwater, Woodbury, and other communities that are designated as Transit Market Areas III and IV (see pages 26 for more information on Transit Market Areas).

There are currently no local circulator or route deviation services available and none planned for Washington County.

Demand Responsive Transit Service

Americans with Disabilities Act (ADA) complementary demand responsive (also known as dial-a-ride) services are federally mandated and provided by the Metropolitan Council. Future demand for demand responsive transit service will be tied to the number of residents that are dependent upon transit for their transportation.

Demand response transit can also be considered for other transit-dependent populations. Although hard to predict, the number of transit-dependent residents can be estimated by the number of residents over 65 years of age. Even though people over 65 continue to drive for many years, the need for local and demand responsive transit services rises with age. Older adults (65 years and older) are the fastest growing age group in Washington County. This population is expected to increase 150 percent between 2010 and 2040 (from 24,984 to 62,309). This means that Washington County has a growing need for service and resources—including transportation services—that target older adults. General public dial-a-ride services are usually only provided in areas not served by local bus service.

Mobility Management

Mobility management strategies are designed to maximize resources through collaboration and coordination of transit providers and human service agencies, with a focus on meeting user needs and pooling resources. Mobility management strategies are intended to improve service and reduce operating costs through interagency coordination. For those most dependent on transit—older adults, people with disabilities, youth, people with lower incomes, and some Veterans—the lack of transportation options in Washington County is a significant issue. In 2018, the county completed an assessment of transportation needs for people most dependent on transit. The aim was to describe existing conditions and identify available transportation services. The study prioritized a series of strategies that can be implemented within the short term. The Tier 1 strategies the county could consider to improve transit services are:

- General purpose dial-a-ride: increase use of transit service requiring advanced scheduling.
- Community circulator: local transit for shopping, commuting, and participating in community activities.
- Site-specific shuttle: connections for the beginning and end of an individual trip to get to major employers, institutions, or retail destinations.
- Subsidized taxi or ride-hailing service: implement program for use of vouchers or subsidies for taxis and other transportation services.
- Volunteer driver program: explore opportunities for volunteer reimbursement and driver incentives.
- Travel information and referral services: compile and provide travel information and referral services, conduct countywide educational marketing campaign.
- Trip brokerage: centralizing the scheduling of transportation services to maximize efficient use of resources and provide more choices for consumers.

More information on mobility management can be found in the *Washington County Transit Needs Study*, and available on the county's website.

Transitway Development

Washington County has four transitways: METRO Gold Line, Red Rock Corridor, Rush Line Corridor, and the TH 36 Corridor (see Figure 31). More information on each transitway including project website addresses can be found in the Existing Conditions section.

METRO Gold Line

The METRO Gold Line is a planned nine-mile bus rapid transit (BRT) route that will connect Saint Paul, Maplewood, Oakdale, and Woodbury. Buses operating mainly in dedicated lanes will serve 10 new stations offering new opportunities for residents, employees, and businesses. The frequent, all-day service will travel both directions, seven days a week to connect the eastern suburbs with the growing regional transit system via Union Depot in downtown Saint Paul.

METRO Gold Line service is forecasted to carry an estimated 8,000 people daily by year 2040. One-fifth of zero car households in the Twin Cities are located in cities along the route. The service will help provide access to 522,000 people and 301,000 jobs by 2040.

A station area planning process will be completed at the end of 2018. The current geography of the station areas in Washington County is suburban with a mix of light-industrial. The transit-oriented development plans will help improve each community's access to jobs, housing, shopping, and recreation to enhance quality of life for people of all ages, abilities, and incomes. Project Development will take place between 2018 and 2019 followed by Engineering in 2020 and 2021. The METRO Gold is anticipated to be operational in 2024.

Red Rock Corridor

The Red Rock Corridor underwent an Alternatives Analysis Update (AAU) in 2014 that reviewed the findings from the 2007 Alternatives Analysis study. While much of the AAU recommendations were confirmed to still be optimal, the AAU identified BRT as the alternative best able to improve accessibility and connectivity for corridor residents and businesses through all-day, bi-directional service. The Implementation Plan completed in 2017 suggested that expanding bus service in the corridor is one of the first steps towards building a stronger transit base for eventual BRT service in the corridor. Short-term strategies focus on building transit ridership in the corridor through improved local bus service. Long-term strategies concentrate on introducing BRT service to the corridor once transit ridership reaches regional benchmarks.

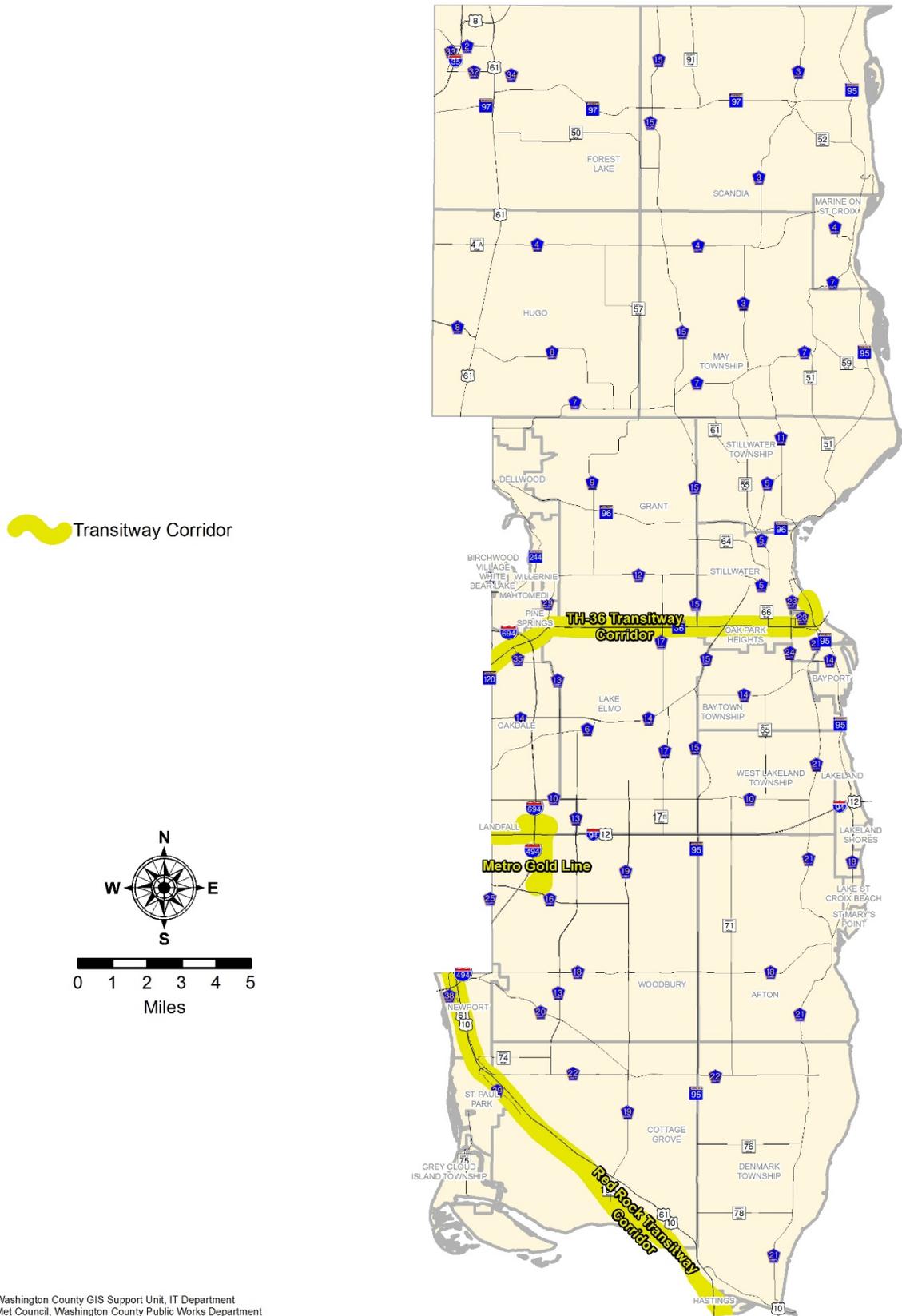
Rush Line Corridor

The Rush Line Corridor is an 80-mile travel corridor between Saint Paul and Hinckley. A pre-project development study completed in 2017 analyzed bus and rail transit alternatives between Forest Lake and Union Depot in Saint Paul. The Locally Preferred Alternative is dedicated BRT from Union Depot to White Bear Lake. The analysis included a review of potential connecting local bus service to Forest Lake, which will be further explored as planning for Rush Line continues. Washington County will participate in planning efforts that focus on extending local bus service along TH 61 to Forest Lake as development for the Rush Line Corridor continues.

TH 36 Corridor

The 2040 TPP includes the TH 36 Corridor as a corridor in need of further analysis for transit improvements. Limited bus service operates in the TH 36 corridor. There are no immediate plans to examine expanded transit service in this corridor.

Figure 31: Future Transitway Corridors



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Met Council, Washington County Public Works Department

Park-and-Ride Facilities

Park-and-ride facilities are an integral part of providing express bus service and are a critical component of fixed guideway transit. Future park-and-ride facilities should be accessible to residents driving to the lots, to major freeways for quick access by bus, and by trails and other non-motorized accommodations. Along identified transitway corridors, park-and-ride lots will be used first to support express bus operations. However, as transitways are developed, these lots will most likely become transit stations supporting fixed guideway transit and an integral part of the land use development surrounding the lot.

Development of METRO Gold Line facilities will add or expand three park-and-ride lots that serve Washington County residents: Sun Ray Station in Saint Paul (new), Helmo Avenue Station in Oakdale (new), and an expanded Woodbury Theatre park-and-ride (existing).

In addition to the facilities planned for METRO Gold Line, Metro Transit is also working with a developer to construct a 550 stall facility in Lake Elmo near the intersection of I-94 and Manning Avenue by the end of 2018. This lot once open is expected to attract users that would otherwise park at Guardian Angels Catholic Church in Oakdale.

Transit Advantages

Planning, development, and implementation of bus-only shoulders, ramp-meter bypasses, and high occupancy vehicle (HOV) lanes are primarily the responsibility of MnDOT and the Metropolitan Council. According to Metro Transit, the region now has 300 miles of bus-only shoulders. The only bus-only shoulders in Washington County are on TH 36 west of Interstate 694 to the county border. No ramp meter bypasses or HOV facilities are planned within Washington County. Possible transit advantages will be explored through the planning and development of additional transit services.

Station Area Planning

One of the key factors in providing for an efficient and robust transit system is to create an environment that brings potential riders, shoppers, and businesses closer to the proposed transitway. Transit-oriented development (TOD) is a term that is used to represent several design principles that emphasize the interrelationship of transit facilities and the surrounding land-use pattern. TOD is characterized by transit service, compact development, mixed use developments, pedestrian-oriented design, and intermodal facilities. Each TOD differs depending on the priority placed on each characteristic.

Planning for TOD is primarily the responsibility of the cities where land use and zoning authority resides. Cities can apply TOD in areas that can support a robust transit service while providing attractive areas for people to live, work, and shop. However, the county can lead or contribute to station area planning processes to support transit ridership along the five transitway corridors in the county.

Examples of TOD in Washington County include Newport Transit Station and the METRO Gold Line Bus Rapid Transit-Oriented Development (BRTOD) study. The Newport Transit Station is a cornerstone of the City of Newport's redevelopment plans as a transit-oriented gateway to the city. Residential use was added to the station area by way of a 42-unit apartment building, which was fully leased by its opening in 2017. Potential future uses of the remaining land surrounding the transit station include residential, office, or commercial

spaces that complement the investment made in this transit station. This development is the result of station area planning completed for the Red Rock Corridor in 2009 and 2016.

The METRO Gold Line Bus Rapid Transit-oriented Development (BRTOD) Study, which is expected to be completed by the end of 2018, focuses development in the ½ mile around stations to include a mix of housing, office, retail, and other amenities within a walkable and bike-friendly neighborhood. BRTOD planning will help improve each community's access to goods and service while also supporting transit ridership. The BRTOD plans will:

- Help communities define their own vision for a vibrant, transit-supportive station area.
- Make it easier for people to walk, bike, or drive to BRT stations.
- Enable communities to maximize economic development around BRT stations.
- Identify infrastructure investments and policy changes to support each city's desired outcomes.

Through its involvement in transitway coalitions, Washington County supports and encourages local communities to plan for TOD along the five planned transitway corridors in the county. Washington County-led projects will consider development plans consistent with transit-supportive densities as outlined in the 2040 TPP.

Stakeholders currently involved in BRTOD are: Washington and Ramsey Counties, St. Paul, Maplewood, Landfall, Oakdale, and Woodbury. The needs and community vision for each station area varies, thus the BRTOD planning activities range from a full scale Planned Unit Development (PUD), to pedestrian and bicycle evaluation plans, and agency coordination with the development community.

Non-Motorized Facilities

Non-motorized facilities consist mainly of off-road trails and paved shoulders along county roads, which provide opportunities for both recreational use and transportation to key destinations. Enhancing these non-motorized facilities, as part of the overall transportation system, is a key element to providing a transportation system that is sustainable, links destinations and attractions, and encourages healthy and active lifestyles. Facilities should include connections within neighborhoods, between neighborhoods, to activity centers, to other regional trail facilities, and to transit facilities. This forms a seamless integration to be able to use this transportation mode to meet travel needs. Much of the neighborhood connectivity occurs at the local level in land use planning of neighborhoods and commercial areas. This planning lays the foundation for how the community provides ease of access to these areas and supports walking and bicycling.

The regional trail system in the metropolitan area is like the road system, with regional and local components. The regional component consists of trails in the regional trail system, run by park implementation agencies such as Washington County, and state administered trails. Washington County, as an implementation agency, is responsible for owning and operating regional trails, which provide recreation and transportation opportunities for all users. Additionally, Washington County works with other agencies to identify opportunities to connect to the local trail and sidewalk networks and to key destinations.

The regional and local trail network is also supported and enhanced by the Regional Bicycle Transportation Network (RBTN), which is identified as part of the 2040 TPP. The RBTN helps to define the region's on-street bikeways and off-street trail connections, and how the system works together to serve regional transportation trips by bicycle.

Many county roads not currently identified as part of the regional trail system have separated trails or wide shoulders for biking. Washington County has plans to expand this network as well. New trails will be considered as part of road projects, where appropriate, and will be guided by our Cost Participation Policy (#8001). Additionally, the county will undertake a bicycle and pedestrian plan to identify gaps and barriers in, and identify opportunities to improve our trail network and provide multimodal connections to transit and key destinations.

More information related to the trail network is provided in the Parks, Trail, and Open Space Chapter (see page 39) including a map of the county's proposed trail system (see Figure 10).

Implementation

Five-Year Capital Improvement Program

The purpose of the county's Capital Improvement Plan (CIP) is to recognize and address county needs through long-term planning and balanced investment in supporting public infrastructure. To ensure that this commitment is viable and achievable, appropriate capital improvement factors will be given significant consideration in developing a CIP that addresses county priorities and serves the needs of the county over the next five years.

The Road & Bridge CIP includes projects such as construction of transportation infrastructure, transit projects, pavement improvement projects, railroad crossing improvements, right-of-way acquisition needed for transportation projects, safety improvements, traffic signals, etc.

The CIP is updated annually, and the latest plan available on Washington County's website.

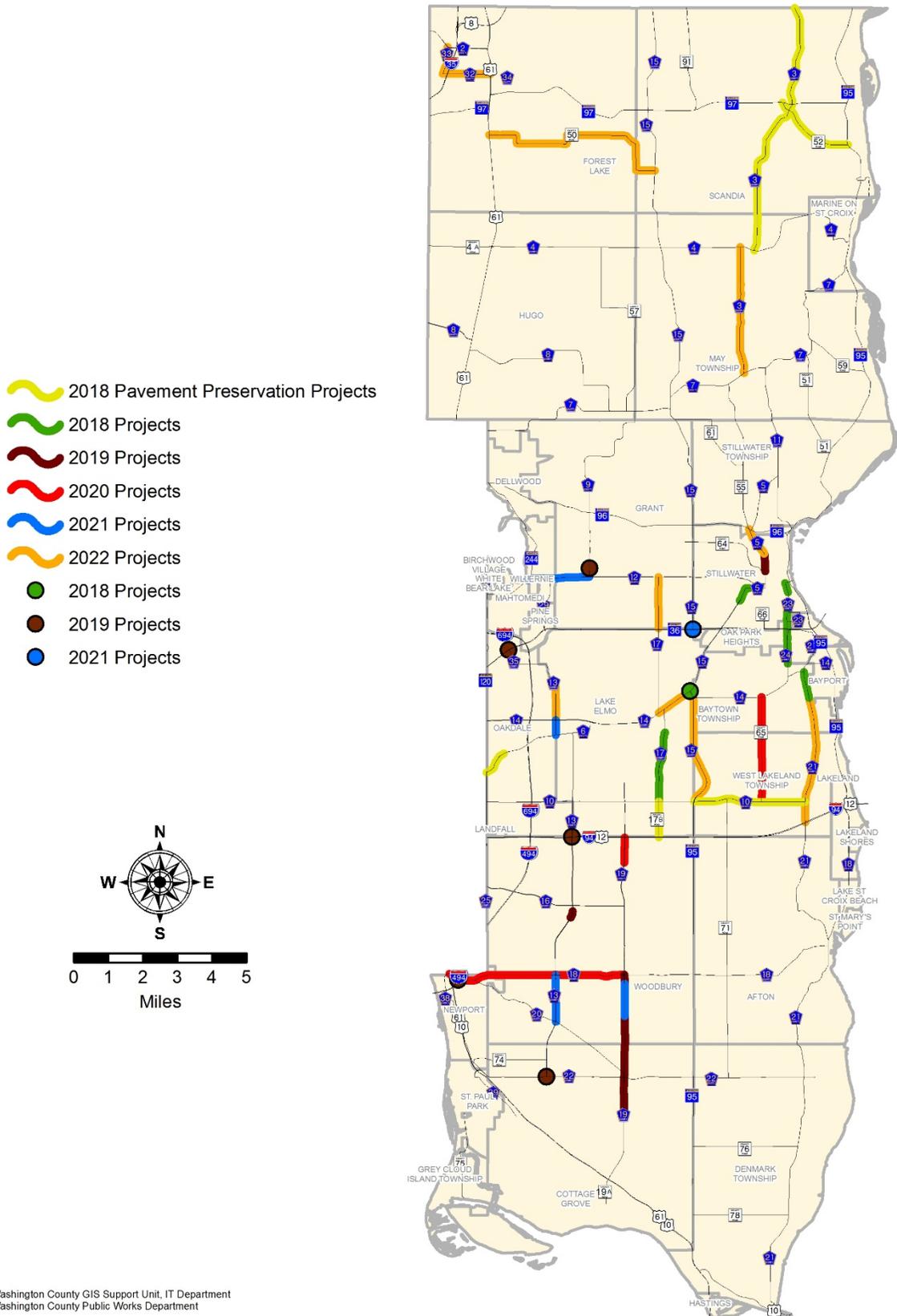
Figure 32 shows the transportation projects contained in the county's 2018-2022 Capital Improvement Program.

Priority Actions

- Design and construct projects included in the capital improvement program (CIP).
- Prioritize intersections with operational or safety issues through the annual Intersection Control Ranking System (ICRS) report.
- Implement projects identified in the County Roadway Safety Plan.
- Work with communities to better align the county highway system with the appropriate level of government through jurisdictional studies such as the Southwest Arterial Study and St. Croix Valley Jurisdictional Study.
- Coordinate with communities on development proposals adjacent to county roadways.
- Collaborate with communities to develop access management plans for specific county roadways.

- Coordinate with the Metropolitan Council, MnDOT, and municipalities through project development, engineering, and construction of METRO Gold Line.
- Participate in the transitway corridor coalitions.
- Adopt a county-wide bicycle and pedestrian plan.
- Update cost participation policy.
- Develop and implement maintenance policy.

Figure 32: 2018-2022 Road and Bridge Capital Improvement Program (CIP)



Prepared By: Washington County GIS Support Unit, IT Department
 Data Source: Washington County Public Works Department

Goals, Policies, and Strategies

To guide future decision making and county actions, goals, policies and strategies have been developed specific to the transportation element. The following pages outline four goals with corresponding policies and strategies that set the course for the county’s future. Chapter 3, Goals, Polices, and Strategies, also provides the information contained within this section, along with the goals for the other plan elements. Chapter 11, Implementation, provides tools that can be utilized while working to achieve these goals.

Transportation Goal 1: Plan, build, and maintain an interconnected and accessible transportation system that considers all users and modes of travel.	
Transportation Policy	Transportation Strategy
Coordinate transportation mobility and choice to meet a diversity of needs while considering appropriate systems levels of service.	Support levels and types of transit service that match specific needs of the community based on ridership forecasts, development patterns, and mobility needs.
	Provide information on availability of transit service to encourage greater use.
	Integrate non-motorized accommodations into the design of roadway and transit facilities to increase access to destinations.
	Adopt a bicycle and pedestrian plan to address county recreation and transportation needs.
Work with partners to identify and coordinate transportation system improvements to accommodate growth and development.	Coordinate with municipalities, the Metropolitan Council, and MnDOT to assign roads to their appropriate functional classification and jurisdiction.
	Balance existing and planned land uses with county goals through transportation planning.
	Identify gaps in trail network and prioritize investments to improve non-motorized access to destinations.
Ensure broad participation in transportation planning and decision making.	Complete annual Capital Improvement Plan (CIP) review process to identify fiscally responsible system improvements that are consistent with county priorities and meet the needs of municipalities.
Support regional planning activities to enhance interagency collaboration and coordination.	Contribute to local, regional, and state transportation coalitions and advisory teams.
	Coordinate with partners, including the Metropolitan Council and Minnesota Department of Natural Resources, to preserve, maintain, and expand the regional and state trail networks.
Pursue federal, state, regional, and local funding opportunities to preserve, maintain, expand, and modernize the transportation network.	Strategically apply for funding to offset county investment needed for the transportation system.

<p>Coordinate with partners to achieve the goals included in the other chapters of the Washington County 2040 Comprehensive Plan.</p>	<p>Identify opportunities to collaborate with intra-county and local partners to achieve Washington County 2040 Comprehensive Plan goals through investments in the transportation system.</p>
<p>Plan, build, and maintain roadways to accommodate existing and future traffic growth.</p>	<p>Design new or reconstructed roads to a 10-ton standard to accommodate truck traffic using the county road system.</p>
	<p>Monitor bridge sufficiency rating to prioritize maintenance, repair, or replacement to address deficiencies.</p>
	<p>Use Cost Participation Policy (#8001) to equitably distribute the costs of transportation projects.</p>
<p>Support land use policies and densities to promote the development of transit-supportive districts to focus transit service and capital investments that align with the county’s transit vision.</p>	<p>Coordinate transit investments with land use and transportation planning.</p>
	<p>Work with local partners to develop land use plans and policies that incorporate transit-oriented development opportunities near identified transit stations and transitway corridors.</p>
<p>Advocate and promote long-term investments in transit including METRO Gold Line, Red Rock Corridor, Rush Line Corridor Extension, and TH 36 Corridor to provide reliable and efficient transit services.</p>	<p>Coordinate with the Metropolitan Council, MnDOT, and municipalities through project development, engineering, and construction of METRO Gold Line to improve transit access and multimodal networks.</p>
	<p>Collaborate with local communities on station planning, park and rides, land use, streetscape, and other transit-related amenities.</p>
	<p>Implement recommendations from county-led transportation and transit studies.</p>
<p>Transportation Goal 2: Preserve and modernize the existing transportation system.</p>	
<p>Transportation Policy</p>	<p>Transportation Strategy</p>
<p>Support pavement preservation program to maintain the structural integrity of and maximize investment in the roadway system.</p>	<p>Use the Pavement Condition Index (PCI) rating to identify system needs.</p>
	<p>Conduct yearly field reviews to visually inspect roadway conditions.</p>
<p>Preserve, protect, and obtain rights of way to accommodate future transportation improvements.</p>	<p>Apply Ordinance for the Management of County Highway Right-of-Way (#188) to keep right-of-way in state of good repair and free from unnecessary encumbrances.</p>
<p>Explore and support emerging technology and information systems to improve planning, building, and maintaining the transportation network.</p>	<p>Consider opportunities to improve infrastructure (e.g., fiber optics and other utilities) in county right-of-way during transportation projects.</p>

Transportation Goal 3: Improve safety and efficient for all users.	
Transportation Policy	Transportation Strategy
Support ongoing safety review process that promotes both proactive and reactive treatments to reduce crashes.	Use Washington County’s Intersection Control Ranking System (ICRS) Annual Report to identify intersections where increased traffic control is justified.
	Coordinate with partners to improve safety and usability of county roadways when developing safe, effective, and implementable strategies in key locations like near schools and at non-motorized crossings.
	Develop roadway crossings and trail facilities within county roadway corridors to promote safety for all users.
	Request engineering and traffic investigations as needed from the Commissioner of Transportation to establish safe and reasonable speed limits upon completion of reconstruction or major alteration of county roadways.
Use traffic management techniques to improve operations, safety, and useful life of the roadways.	Implement Intelligent Transportation Systems to efficiently manage the system, communicate travel information to users, and improve safety.
	Deploy intersection management strategies to prolong operational lifespan of roadways.
Pursue access management practices to maintain the intended balance of access and mobility on county roadways.	Review development proposals and construction plans for consistency with Access Spacing Guidelines (see page 41) to manage the number and location of public roadways, private roadways, driveways, median openings, roundabouts, non-motorized crossings, and traffic signals.
	Require consistency with county right-of-way ordinance Access Spacing Guidelines prior to issuing an access permit.
	Promote access from local roadways to develop and implement corridor-specific access management plans for county roadways to minimize access points on county roadways.
	Develop memoranda of understanding with communities on these corridors to streamline the project development process and help guide future development consistent with the county’s vision.
	Review plats to ensure remnant parcels can obtain future access from local roadways.
Transportation Goal 4: Promote positive environmental and health outcomes.	
Transportation Policy	Transportation Strategy
Explore opportunities to improve the environment and encourage physical activity.	Work with local partners to promote land use patterns that enable alternative modes of travel and reduce reliance on the private automobile.
	Identify trail connections to provide links to key destinations.

<p>Include strategies and best management practices related to the environment when planning, building, and maintaining transportation facilities.</p>	<p>Promote techniques to improve quality of water runoff.</p>
	<p>Develop and implement techniques for county roadway maintenance to minimize chemical and particulate runoff.</p>
<p>Prevent, minimize, or mitigate impacts to natural, cultural, and historic features.</p>	<p>Use community-based design to ensure board participation in transportation planning.</p>