6.1 INTRODUCTION

The City of Champlin is located in Hennepin County, Minnesota, approximately 20 miles northwest of downtown Minneapolis. It encompasses a land area of approximately nine square miles, with its northeast boundary defined by the Mississippi River. Champlin is located entirely within the Metropolitan Urban Services Area (MUSA). The major roadway through Champlin is Trunk Highway (TH) 169, a north-south Principal Arterial roadway which crosses the Mississippi River directly north of Champlin. TH 169 connects Champlin to the rest of the region via major regional roadways TH 610 and I-94/694 to the south and TH 10 to the north.

6.1.1 Summary of Regional Strategies

This plan has been prepared to be consistent with the regional transportation strategies outlined in the Metropolitan Council 2040 Transportation Policy Plan (TPP). The TPP is a regional plan that evaluates the existing transportation system, identifies transportation challenges to the region, and sets regional goals, objectives, and priorities to meet the transportation needs of current residents while accommodating the region's anticipated growth. The TPP also guides local agencies in coordinating land use and transportation and establishes regional performance measures and targets.

The TPP is guided by the following goals:

- **Transportation System Stewardship:** Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.
- **Safety and Security:** The regional transportation system is safe and secure for all users.
- **Access to Destinations:** People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.
- **Competitive Economy:** The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and State.
- **Healthy Environment:** The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments.
- **Leveraging Transportation Investment to Guide Land Use:** The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

Funding is a key constraint that is acknowledged in the TPP. Current transportation revenue will not meet the region's transportation needs through 2040. As a result, the TPP includes two long-term investment scenarios: a fiscally-constrained scenario that identifies projects anticipated to be funded based on current revenue projections, and an increased revenue scenario that identifies project priorities should additional transportation funding become available.

Under the current fiscally constrained revenue scenario, the TPP is focused on operations and maintenance of the existing transportation system. Investments in highway mobility and access are limited to those projects that address multiple TPP goals and objectives.

The increased revenue scenario would allow additional investments in operations and maintenance, as well as regional mobility, access, safety, and bicycle/pedestrian improvements. However, congestion cannot be greatly reduced under even the increased revenue scenario. Under both scenarios, proposed investments are focused on areas of the metro with the greatest existing and future challenges and anticipated growth.

Champlin is classified by the Metropolitan Council under the Suburban community designation. Suburban communities saw their primary era of development during the 1980s and early 1990s as the Baby Boomers formed families and entered their prime earning years. With growing interest and demand for multimodal travel, local governments in Suburban communities will continue to develop a network of streets, sidewalks, trails, and roadways that are more integrated and connected to the regional transportation system.

The TPP's Highway Current Revenue Scenario identifies a pavement preservation project on TH 169 through Champlin and the replacement of the TH 169 bridges over Elm Creek. This work was underway in 2018. There are no other highway projects identified in the Current Revenue Scenario.

The TPP's Transit Investment Plan does not show any transitway investments planned for Champlin in the current revenue scenario, although the existing Northstar Commuter Rail Line and the proposed Blue Line Light Rail Transit (LRT) Extension Transitway are identified in adjacent communities and may attract ridership from Champlin.

6.1.2 Purpose of Plan

For the most part, the transportation system is sufficient to meet existing needs. This Transportation Plan (Plan) evaluates and addresses existing conditions and future roadway improvement needs, as well as non-roadway issues and requirements involving issues such as transit, freight, aviation, and non-motorized transportation. The Plan also provides several strategies to address current and future transportation needs.

There are three primary objectives of this Plan:

- To provide a guidance document for City staff and elected officials regarding the planning and implementation of effective transportation facilities and systems over the planning horizon.
- To give private citizens and businesses background on transportation issues and allow them to be better informed regarding the City's decision-making on these issues.
- To communicate to other government agencies Champlin's perspectives and intentions regarding transportation planning issues.

The preparation of the document also has provided stakeholders with the opportunity to have input into the transportation planning process.

6.2 EXISTING CONDITIONS – MOTORIZED TRANSPORTATION

The sections below provide information of the existing roadway and transit network in Champlin. The roadway network provides an overview of existing roadway jurisdiction, functional classification, and existing traffic and level of service. The transit network provides an overview of current public transit service routes, park-and-ride facilities, and other transit services.

6.2.1 Roadway Network

Roadway Jurisdiction

Roadways are classified on the basis of which level of government owns and has jurisdiction over them. In the case of Champlin, roadways are under the jurisdiction of the Minnesota Department of Transportation (MnDOT), Hennepin County, or the City. **Exhibit 6-1** depicts the existing roadway jurisdiction.

Functional Classification

The functional classification system is a roadway and street network that distributes traffic from neighborhood streets to collector roadways, then to arterials, and ultimately the metropolitan highway system. Roads are placed into categories based on the degree to which they provide **access** to adjacent land versus provide higher-speed **mobility** for "through" traffic. Functional classification is a traditional cornerstone of transportation planning. Within this approach, roads are located and designed to perform their designated function.

The current roadway functional classification map for Champlin as identified by the Metropolitan Council is presented in **Exhibit 6-2.** The roadway system presently consists of six functional roadway classifications:

- Principal Arterial
- "A" Minor Arterial
- "B" Minor Arterial
- Major Collector
- Minor Collector
- Local Street

Within Champlin, there are three sub-categories of "A" Minor Arterials: Reliever, Expander, and Connector. The Metropolitan Council has a fourth sub-category, Augmenter, but there are no Augmenters in Champlin. These sub-categories correspond with the Metropolitan Council's allocation of federal funding roadway improvements, but do not translate into specific design characteristics or requirements. The "A" Minor Arterial sub-category classifications are determined by the Metropolitan Council.

For Arterial roadways, the Metropolitan Council has designation authority. Local agencies may request that their roadways become arterials (or are downgraded from arterial to collector) by coordinating with the Metropolitan Council, but such designations or re-designations must be approved by the Metropolitan Council. The agency that has jurisdiction over a given roadway has the authority to designate collector status.

<u>Principal Arterials</u>
Principal Arterials are the highest roadway classification and are considered part of the metropolitan highway system. The primary function of these roadways is to provide mobility for regional trips, and they do not provide a significant land access function. They are intended to interconnect regional business concentrations in the metropolitan area, including the central

business districts of Minneapolis and St. Paul. These roads also connect the Twin Cities with important locations outside the metropolitan area. Principal arterials are generally constructed as limited access freeways in developed areas, but may also be constructed as multiple-lane divided highways. In Champlin, TH 169 (a four-lane divided expressway) is the only Principal Arterial roadway.

"A" Minor Arterials

These roads connect important locations within the City of Champlin with access points of the metropolitan highway system and with important locations outside the city. These Arterials are also intended to carry short to medium trips that would otherwise use Principal Arterials. While "A" Minor Arterial roadways provide somewhat more access than Principal Arterials, their primary function is still to provide mobility rather than to land-use access. The "A" Minor Arterial roadways in Champlin are identified in **Table 6.1.**

Table 6.1 - "A" Minor Arterial Roadways

Roadway	"A" Minor Type (Existing Number of Lanes)	From	To
Dayton Road (CSAH 12)	Connector (2-4 Lanes)	Western City Limit	TH 169
West River Road (CSAH 12)	Expander (2 Lanes)	Winnetka Avenue (CR 103)	109th Avenue
West River Road (CSAH 12)	Reliever (2 Lanes)	Hayden Lake Road	Winnetka Avenue (CR 103)
Winnetka Avenue (CR 103)	Reliever (2 Lanes)	109th Avenue	West River Road (CSAH 12)
Douglas Drive (CSAH 14)	Expander (2-4 Lanes)	109th Avenue	West River Road (CSAH 12)
East Hayden Lake Road	Reliever (2 Lanes with Continuous Center Turn Lane)	TH 169	West River Road (CSAH 12)

"B" Minor Arterials

Like "A" Minor Arterials, these roadways also serve more of a mobility function than access function. However, they are not eligible for federal roadway improvement funding. There are two "B" Minor Arterial roadways in Champlin; 109th Avenue (2-4 lanes) between Goose Lake Road and West River Road (CSAH 12), and South Diamond Lake Road (2 lanes) from the

western city limits to Dayton Road (CSAH 12). Both roadways will continue become more important due to anticipated population growth in the City of Dayton as they are both part of east-west route connections to TH 169.

Major and Minor Collectors

Collector roadways provide a balance of the mobility and land-use access functions discussed above. They generally serve trips that are entirely within the city and connect neighborhoods and smaller commercial areas to the arterial network. Minor Collectors generally are shorter in length, with lower volumes and lower speeds than Major Collectors. Current Collector roadways are depicted in **Exhibit 6-2**.

Local Streets

Local streets provide extensive access to adjacent land uses, but very limited mobility. They are low-volume and low-speed. Local streets are depicted in **Exhibit 6-2**.

Existing Roadway Volume, Capacity, Safety, and Connectivity

Roadway Segment Volume and Capacity

A roadway's capacity indicates how many vehicles may use a roadway before it experiences congestion. Capacity is largely dependent upon the number of lanes and whether a roadway is divided. **Table 6.2** below lists planning-level thresholds that indicate a roadway's capacity. Additional variation (more or less capacity) on an individual segment is influenced by a number of factors including: amount of access, type of access, peak hour percent of traffic, directional split of traffic, truck percent, opportunities to pass, amount of turning traffic, availability of dedicated turn lanes, parking availability, intersection spacing, signal timing and a variety of other factors.

Table 6.2 - Planning-Level Urban Roadway Capacities

Facility Type		Daily Two-way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-lane Undivided	10,000	12,000
	Two-lane Divided or Three-lane Undivided	15,000	17,000
	Four-lane Undivided	18,000	22,000
	Four-lane Divided or Five-lane Undivided	28,000	32,000
Expressways and Freeways	Four-lane Expressway	42,000	50,000
	Four-lane Freeway	60,000	80,000
	Six-lane Freeway	90,000	120,000

At the planning level, capacity issues are identified by comparing the existing number of lanes with current traffic volumes. **Exhibit 6-3** illustrates the existing number of lanes on arterial roadways within Champlin. **Exhibit 6-4** illustrates existing daily traffic volumes on Principal Arterial, "A" Minor Arterials and other major roadways within Champlin.

Most of the arterials in Champlin currently exhibit traffic volumes below or within the range of the planning level capacity thresholds shown in **Table 6.2**; however, TH 169 does exhibit daily traffic volumes that meet or exceed capacity thresholds, and currently experiences higher levels of congestion during peak travel periods. Dayton Road (CSAH 12) is also approaching capacity thresholds in segments between the west city limits and TH 169.

Safety Conditions

Exhibit 6-5 presents the locations and frequencies of crashes based on MnDOT crash data for the period 2011–2015. Safety and operational issues within Champlin predominantly occur on TH 169, which also handles the highest amount of daily traffic. Signalized intersections with TH 169 (109th Avenue, 114th Avenue, 117th Avenue, 120th Avenue, Hayden Lake Road, and Dayton Road) experience the highest rate of crashes and crash severity. There was one fatal crash reported during this timeframe which involved a rear end collision between a motorcycle and car on TH 169 at the 114th Avenue intersection.

On-going monitoring of crashes and further study is recommended to identify specific safety issues and design, intersection control or other countermeasures that could be effective at reducing the rate and severity of

crashes at these and other locations. The City of Champlin will continue to work with MnDOT and Hennepin County to identify potential safety and operational improvements that may be identified as part of planning studies or implemented as part of programmed improvements.

Roadway Connectivity

In general, the City of Champlin has multiple north-south and east-west routes that provide reasonable access and connectivity within Champlin. However, there are few continuous routes that provide connections beyond Champlin, with the majority of traffic relying on TH 169 to access the rest of the region. In addition, growth in Dayton and the presence of Elm Creek Park Reserve results in more traffic concentrated on Dayton Road and Hayden Lake Road in western Champlin to connect to TH 169.

While TH 169 provides needed access to the region, it can also serve as a barrier to local traffic. Crossing TH 169 is limited to at-grade signalized intersections, which may be congested with traffic entering/exiting TH 169. Traffic signals are also operated to benefit flows on TH 169, so cross traffic is required to wait longer before crossing TH 169. Local connectivity would be enhanced in Champlin with the ability to cross TH 169 via an overpass or underpass.

6.2.2 Transit

Champlin is located within Transit Market Area III as identified in the Metropolitan Council 2040 TPP. Transit service in Market Area III 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.

Existing Bus Service and Park-and-Ride Facilities

Current scheduled transit service and facilities are depicted in **Exhibit 6-6**. Transit service in Champlin is provided by Metro Transit and Maple Grove Transit. The current service is express service to downtown Minneapolis. There are two express routes with stops in Champlin, Route 766, and Route 782.

Route 766

Route 766 is operated by Metro Transit and runs from Anoka or Champlin to downtown Minneapolis. It stops at the two park-and-ride lots in Champlin; one at Richardson Park, and the other at West River Road and 117th Avenue North (both depicted in **Exhibit 6-6**). During

the morning runs, it proceeds from the Champlin stops through Brooklyn Park and Brooklyn Center to downtown Minneapolis via the West River Road and I-94. In the afternoon rush, it operates in the reverse direction. During weekdays, buses run every 10-30 minutes during the commuter rush periods (6-9 a.m. and 3-6:30 p.m.) with four additional mid-day trips and three evening trips.

Route 782
Route 782 is operated by Maple Grove Transit. It has one stop in Champlin at 109th Avenue and Nathan Lane. It proceeds through Maple Grove to downtown Minneapolis via Zachary Lane and I-94. There are five buses into downtown in the morning and five return buses in the afternoon.

There are two park-and-ride facilities in Champlin. The park-and-ride facility at West River Road and 117th Avenue has been in operation since 1984 and currently has capacity for 151 parked vehicles. In 2017, Metro Transit reported that the usage was 44 vehicles.

The park-and-ride facility at Richardson Park has been in operation since 1993 and currently has capacity for 66 vehicles. According to Metro Transit's 2017 Annual Regional Park-and-Ride System Report, the usage was 19 vehicles in 2017.

Park-and-ride facilities in Brooklyn Park and Maple Grove also attract Champlin residents as they may provide more frequent service, have ample parking, offer additional rider amenities, and provide shorter times on the bus. For example, the Highway 610 and Noble Parkway park-and-ride opened in 2014 with 1,000 parking spaces and its express route (768) only has one stop prior to downtown Minneapolis.

Northstar Commuter Rail

Northstar Commuter Rail provides passenger service between Big Lake and downtown Minneapolis. Currently, it has five trains into Minneapolis in the morning, and five trains out in the afternoon, with average headways (time between trains) of approximately 30 minutes during the morning and afternoon peak-travel times. Due to the dedicated right of way and limited stops, this service makes commute to and from downtown Minneapolis much more convenient, shorter, and reliable.

Two Northstar Commuter Rail stations are in close proximity to Champlin. The Anoka Station is located at Johnson Street and 4th Avenue. This station

is a one-and-a-half-mile drive from the TH 169 Bridge across the Mississippi River and has a parking capacity of 525 vehicles. The Coon Rapids – Riverdale Station is located at Northdale Boulevard south of Main Street (CSAH 14), approximately a three-mile drive from the TH 169 Bridge over the River. It has a parking capacity of 455 vehicles. Both locations are easily accessible to Champlin residents and are going against the primary traffic flow across the TH 169 Bridge during the a.m. and p.m. peak-travel times.

Other Transit Services

Dial-a-ride service is provided by Transit Link. Transit Link provides curb-to-curb service to the public where regular transit service is not available. Dial-a-ride services can be combined with fixed route services. Transit Link serves the seven-county metro region.

ADA service is provided by Metro Mobility, operated by the Metropolitan Council, for those who have difficulty driving. Rides are provided with ADA-equipped vans and need to be scheduled ahead of time. They can be used for medical visits, shopping, or other needs.

Transit Advantages

There is one small segment of bus-only shoulder identified in the 2040 TPP within Champlin. The segment is identified along the northbound side of West River Road between Hayden Lake Road and TH 169. There are currently no bus routes that utilize this roadway segment. Beyond Champlin, bus-only shoulders existing along TH 10 and TH 169 south of I-94/694. Bus-only shoulders are planned along TH 169 between I-94/694 and TH 610. These shoulders improve mobility and reliability for express bus routes.

6.3 FUTURE ROADWAY IMPROVEMENTS AND NETWORK PLANNING

6.3.1 Programmed Roadway Improvements

The following improvements are currently programmed in City of Champlin Capital Improvement Plan with anticipated construction years:

- Highway 169 Elm Creek Bridges replacement project from East Hayden Lake Road to the Mississippi River (2017-2018)
- Highway 169 pavement rehabilitation project from Highway 610 to East Hayden Lake Road (2018)
- 109th Avenue reconstruction from Jefferson Highway to Winnetka Avenue (2023)
- East Hayden Lake Road reconstruction from Highway 169 to West River Road (2025)
- French Lake Road reconstruction from West Hayden Lake Road to Dayton Road (2035)

6.3.2 Roadway Studies and Plans

The following previous and recent studies have been completed that discuss long-term transportation needs:

Principal Arterial Intersection Conversion Study

In February 2017, MnDOT and the Metropolitan Council completed the *Principal Arterial Intersection Conversion Study*. The study focused on intersections along non-freeway principal arterial roadways that are priorities for grade separations, and categorized specific locations into low, medium, or high investment priorities for conversion to grade separation. The purpose of the study was to assist in prioritizing investments for these types of projects in the future.

Two intersections along TH 169 between 109th Avenue and the Mississippi River bridge in Champlin were evaluated in the study. The 109th Avenue intersection was rated as a medium priority for grade separation and the Hayden Lake Road intersection was rated as a low priority for grade separation. With several closely-spaced at-grade intersections within Champlin, grade separation north of 109th Avenue is unlikely. Additional dialogue is needed with the City, MnDOT, Metropolitan Council, and Hennepin County on how to proceed with future improvements along the TH 169 corridor.

Northwest Metro Corridor and River Crossing Study

A new river crossing between TH 169 and TH 101 has been discussed and studied for many years. Most recently, it was addressed in the *Northwest Metro Corridor and River Crossing Study* (2004). This document identified three build alternatives to be carried further in the Environmental Impact Statement (EIS) process. All three connect I-94 south of the River with TH 10/TH 169 north of the River. They have a River crossing in the vicinity of Vicksburg Lane in Dayton, roughly equidistant between the TH 101 and TH 169 river crossings.

The City of Champlin strongly supports this process to identify and develop a new Mississippi River crossing. The analysis performed in the *Northwest Metro Corridor and River Crossing Study* suggests that it would reduce travel demand at the current TH 169 crossing. However, it appears that this crossing will not be constructed prior to 2040 and is not assumed in the analysis for this chapter.

6.3.3 2040 Traffic Forecasting

To determine future roadway capacity needs, year 2040 traffic forecasts were prepared using the Metropolitan Council travel demand model. The 2040 projections were compared to the expected 2040 roadway capacity for various roadway links to identity where capacity deficiencies may result. The 2040 roadway network assumed for this analysis is the same as the current roadway network, as the City and County Capital Improvement Plans (CIPs) do not include any projects that add significant capacity to the roadway network.

Traffic forecasts are based on the use of Transportation Analysis Zones (TAZs). The TAZs for Champlin, as defined by the Metropolitan Council, are presented on **Exhibit 6-7**. The anticipated land-use patterns discussed in the land use chapter were assumed for the 2040 transportation projections. The Transportation Analysis Zone (TAZ) socioeconomic data projected for 2040 conditions are presented in **Table 6.3**. The results of the Metropolitan Council travel demand model process are summarized in **Exhibit 6-8**, which displays Metropolitan Council 2040 projected average daily traffic volumes compared to the existing daily traffic volumes obtained by MnDOT.

While the travel demand model is a valuable tool for identifying future traffic based on the proposed land use impacts, it is not meant for use in detailed traffic operations studies. For a more accurate representation of the transportation impacts from specific developments, detailed traffic studies

should be conducted to determine the operational impacts on adjacent roadways and intersections.

Table 6.3 - 2040 Champlin TAZ Socioeconomic Data

	2010 Census			2020 Forecast			2030 Forecast			2040 Forecast		
TAZ	Pop.	HH	Emp.	Pop.	HH	Emp.	Pop.	HH	Emp.	Pop.	HH	Emp.
814	602	257	27	748	290	33	845	342	40	886	342	45
815	1577	556	5	1597	627	52	2088	735	58	2288	735	62
816	1061	401	114	1265	484	136	1429	542	174	1483	542	210
817	2991	1214	1427	3679	1243	1456	3385	1283	1423	3385	1283	1400
818	3139	1046	531	2684	1070	629	2658	1103	614	2653	1103	605
819	999	358	298	1035	366	445	1050	382	475	1018	382	507
820	619	211	478	602	216	387	605	224	407	581	224	424
821	1894	757	429	2411	787	517	2121	815	571	2133	815	624
822	1287	503	64	1378	589	125	2355	784	171	2384	784	211
823	2050	674	114	1873	696	64	1866	713	78	1804	713	91
824	1564	516	53	1485	528	60	1500	548	64	1450	548	67
825	3110	1040	77	3120	954	64	3208	1007	67	2956	1007	70
826	1679	603	349	1730	624	384	1702	650	402	1626	650	422
827	517	192	46	793	226	48	788	272	56	753	272	62
2040 Land Use Totals	**23,089**	**8,328**	**4,012**	**24,400**	**8,700**	**4,400**	**25,600**	**9,400**	**4600**	**25,400**	**9,400**	**4800**
Metropolitan Council Forecasts	**23,089**	**8,328**	**4,012**	**24,400**	**8,700**	**4,400**	**25,600**	**9,400**	**4,600**	**25,400**	**9,400**	**4,800**

Source: Metropolitan Council

2040 Congestion Conditions

Based on the projected 2040 traffic volumes and the assumed 2040 roadway network, an analysis of anticipated future congestion conditions was performed. The projected congestion conditions are depicted on **Exhibit 6-9** which shows that the anticipated areas of unacceptable congestion, defined as Level of Service (LOS) E or F, are as follows:

- West River Road (CSAH 12) from West Hayden Lake Road to Douglas Drive (CSAH 14) – LOS E
- TH 169 from the southern city limits to Mississippi River crossing – LOS F
- Winnetka Avenue from 109th Avenue to 117th Avenue – LOS E
- Dayton Road (CSAH 12) from the western city limits to French Lake Road – LOS F

At this time, there are no programmed roadway expansions for any of these roadways that would address the future capacity issues.

6.3.4 Future Roadway Improvements

Recommended Roadway Capacity Improvements

Based on the 2040 congestion (LOS) analysis summarized above, recommended roadway improvements, over and above the programmed and planned improvements identified previously, are presented on the Future Number of Roadway Lanes (**Exhibit 6-10**) and summarized in **Table 6.4**.

Discussions with Hennepin County staff have indicated that current 2-lane county roadways that have existing or future capacity issues may be candidates for future 3-lane road conversions (one lane in each direction with a continuous center turn lane) or 2-lane roads with additional turn lanes at key intersections. Further analysis and coordination will be needed with the County to evaluate these roadways.

Table 6.4 - Recommended Roadway Capacity Improvements - 2040

Roadway	Segment	Improvement	Lead Agency
West River Road (CSAH 12)	Hayden Lake Road to Douglas Drive (CSAH 14)	Conversion to 3-lane	Hennepin County
Dayton Road (CSAH 12)	West City Limits to TH 169	Conversion to 3-lane	Hennepin County
Winnetka Avenue (CR 103)	109th Avenue to 117th Avenue	Conversion to 3-lane	Hennepin County/City of Champlin

Traffic Signals/Roundabouts

Background on Roundabouts

Roundabouts are an alternative to traffic signals as a form of traffic control at intersections. The City has recently constructed roundabouts at several locations. Roundabouts are being increasingly used both nationally and throughout the metro area. In many circumstances, roundabouts can handle more vehicles per hour than traffic signals, and with greater safety levels. Roundabouts promote a continuous flow of traffic, because motorists only yield before entering the roundabout, rather than having to stop at a traffic signal through the full red phase. A study by the Insurance Institute for Highway Safety indicates that roundabouts reduce crashes by 75 percent at intersections where stop signs or signals were previously used for traffic

control. The crashes that do take place are significantly less severe because they typically happen at lower speeds than is the case with signalized intersections. As more roundabouts are built throughout the metropolitan area, drivers will become increasingly familiar and comfortable with their operations.

Future Traffic Signals/Roundabouts

New traffic signals will be installed at the West River Road/Winnetka Avenue and Winnetka Avenue/109th Avenue as noted in the City's 2018-2027 Capital Improvement Plan (CIP) and as traffic volumes warrant.

Other locations where intersection traffic control may be needed in the form of a traffic signal or roundabout are:

- West River Road and 109th Avenue
- West River Road and Winnetka Avenue
- 109th Avenue and Winnetka Avenue
- 109th Avenue and Jefferson Highway
- Champlin Drive and Hayden Lake Road
- 114th Avenue and Winnetka Avenue
- Elm Creek Crossing and French Lake Road
- Dean Avenue and Cartway Road
- 120th Avenue and Champlin Drive
- South Diamond Lake Road and Dayton Road

Decisions on these locations will need to be based on traffic engineering analysis and coordination with other government agencies. Prior to the installation of a signal system or roundabout at any of these locations, an Intersection Control Evaluation (ICE) would have to be prepared evaluating the degree to which warrants prescribed in the *Minnesota Manual on Uniform Traffic Control Devices* are met.

TH 169 Support Projects

As discussed previously, TH 169 is projected to become increasingly congested in the future, and MnDOT does not plan to expand it due to funding constraints. MnDOT intends TH 169 ultimately to be a freeway design all the way north to 109th Avenue, which will bring high traffic volumes into Champlin, where TH 169 will have a non-freeway design.

In light of these factors, the City will continue to review roadway improvement approaches and projects involving TH 169. These are briefly summarized below:

- New River crossing – A new crossing of the Mississippi River between TH 101 and TH 169 has been in the planning stages for many years. *Analysis in the Northwest Metro Corridor and River Crossing Study* indicates that this crossing would significantly reduce travel demand on TH 169. The City strongly supports the process to plan and ultimately construct a new river crossing within the earliest feasible timeframe.
- Adjacent Collector improvement projects – The local Collector roadways on either side of TH 169 (Champlin Drive to the west and Business Park Boulevard to the east) will increasingly act as relievers to TH 169 as congestion conditions on that roadway worsen. It is recommended that the City review, on an on-going basis, potential improvements to these adjacent Collectors to improve their capacity, operating, and safety characteristics.
- TH 169 intersection operations and improvements – As traffic levels increase on TH 169, the operation of its intersections with City streets will need to be monitored. The City will work with MnDOT to ensure that signal phasing provides efficient and equitable operations between the highway and the Collector cross streets that are very important to the City's roadway network. The City will also coordinate with MnDOT to evaluate geometric improvements such as added turn lanes.

6.3.5 Future Functional Classification Network

The Metropolitan Council works with cities and public agencies to change the functional classification of roadways. Any changes in the roadway functional classification is documented in the Metropolitan Council's 2040 Transportation Policy Plan. The 2040 Transportation Policy Plan does not propose any changes to Champlin's existing roadway functional classification system.

The City finds that the functional classification of a couple of roadways should be evaluated for reclassification on the Metropolitan Council's regional map. These are summarized in **Table 6.5**. The City understands that any changes to the "A" Minor Arterial system initiated by the City require approval from the Transportation Advisory Board and support from impacted agencies.

Table 6.5 - Future Roadway Functional Classification

Roadway	Segment	Evaluation
French Lake Road/Hayden Lake Road (CSAH 121)	From West City Limit to TH 169	Evaluate "B" Minor Arterial classification due to its extension into Dayton as an east-west connection to TH 169. This reclassification would require coordination with Hennepin County and the City of Dayton.
Jefferson Highway	From 109th Avenue to Elm Creek Parkway	Evaluate "B" Minor Arterial classification. This reclassification would require coordination with the City of Brooklyn Park.
South Diamond Lake Road	From West City Limits to Dayton Road	Evaluate "A" Minor Arterial classification due to its extension into Dayton as an east-west connection to TH 169. This reclassification would require coordination with Hennepin County and the City of Dayton.
109th Avenue	From West River Road to Zachary Lane	Evaluate "A" Minor Arterial classification as a key east-west connection to TH 169. This reclassification would require coordination with the City of Brooklyn Park and the City of Maple Grove.

6.3.6 Future Jurisdictional Classification Issues

Hennepin County has identified a potential turnback of Winnetka Avenue (CR 103) from the County to the City of Champlin. If this turnback does take place pending discussions between the City and the County, the City would expect that appropriate improvements be made prior to the jurisdictional transfer to ensure compliance with City and State Aid standards. This includes ensuring that the entire length of the roadway has an urban section design with curb and gutter.

6.3.7 Access Management

Access management refers to balancing the need for access to local land uses with the need for mobility and safety on the roadway network. Arterials generally have limited access; collectors allow a greater degree of access given their combined mobility/access function, and local streets allow the

most access of the roadway functional categories. Appropriate access control preserves the capacity on arterial streets and improves safety by reducing the need for traffic to divert to local streets. It separates local turning movements from higher-speed "through" traffic, concentrating traffic linkages at intersections controlled with traffic signals, roundabouts, or other measures.

MnDOT and Hennepin County managed roadways in Champlin are identified in **Exhibit 6-1**. For MnDOT roadways (i.e., TH 169), MnDOT access management guidelines apply. Similarly, for County roadways, Hennepin County's access management guidelines apply. MnDOT and Hennepin County guidelines are included in **Appendix T-1**. The City of Champlin, through its ordinances, enforces appropriate access to local roadways.

6.3.8 Right of Way Needs

It is very important to preserve adequate right of way for roadways in developing or redeveloping areas. This minimizes the potential for developed properties having to be acquired or otherwise impacted in the future to allow needed transportation projects.

The roadway jurisdictional map for Champlin is provided in **Exhibit 6-1**. MnDOT has right of way guidelines for its roadways, as does Hennepin County for County roadways. The City's minimum right of way requirements for roadways under its jurisdiction are as follows:

- "B" Minor and Collector roadways – 80 feet
- Local roadways – 60 feet

Additional right of way may be required at intersections with added turn lanes or to address factors such as sight lines or drainage.

6.4 TRANSIT PLAN

6.4.1 Background

The Metropolitan Council has established a series of Transit Market Areas throughout the metropolitan area as a guide for the provision of appropriate transit service. There are five market areas, I through V, based on the propensity to use transit or the likelihood of high transit ridership. The ranking is based primarily on four factors:

- Population density
- Employment concentration and job density
- Trip volumes and patterns
- Transit dependent segments of the population

With high population and job density, high-trip volumes, and relatively high percentages of transit-dependent individuals, more ridership is anticipated, and higher levels of transit service are thus justified. Market Area I has the highest transit potential for transit ridership and associated justification for extensive service, and Market Area V has the lowest potential for transit ridership.

Champlin is within Market Area III. The Metropolitan Council has identified that service options for Market Area III include commuter express bus service with some fixed-route local service providing basic coverage, special needs paratransit (ADA, seniors), and ridesharing. Public dial-a-ride services are available where fixed-route service is not viable.

6.4.2 Bus Service and Park-and-Ride Facilities

As discussed in **Section 6.2.2** of this Transportation Plan, scheduled transit service that is available to Champlin residents is provided by Metro Transit (Route 766), and Maple Grove Transit (782). These routes provide express service to downtown Minneapolis during the morning and afternoon peak travel times (6-10 a.m., 3-6:30 p.m.). Additional and more frequent service in Champlin would benefit residents and could increase ridership. Further study and coordination with Metro Transit is needed to evaluate possible route expansions or additional service.

Based on Metro Transit's 2017 Annual Regional Park-and-Ride System Report, the two park-and-ride facilities in Champlin are operating at approximately 30 percent capacity. Usage of the two facilities has dropped

significantly in recent years due to more attractive service from the expanded Highway 610 and Noble Parkway park-and-ride in Brooklyn Park and other nearby service in Maple Grove, potential use of the Northstar Commuter Rail, as well as a general decrease in transit use. As the use of these facilities decreases, continued use or possible repurposing of the park-and-ride properties should be explored. Discussions with Metro Transit regarding the future of these park-and-ride facilities should be pursued.

6.4.3 Regional Transitway Service

The TPP's Transit Investment Plan does not show any transitway investments planned for Champlin. However, the existing Northstar Commuter Rail Line and the proposed Blue Line LRT Extension Transitway are identified in adjacent communities and may attract ridership from Champlin.

Northstar Commuter Rail provides passenger service between Big Lake and downtown Minneapolis. Currently, it has five trains into Minneapolis in the morning, and five trains out in the afternoon, with average headways (time between trains) of approximately 30 minutes during the morning and afternoon peak-travel times. Due to the dedicated right of way and limited stops, this service makes commute to and from downtown Minneapolis much more convenient, shorter, and reliable.

The METRO Blue Line Extension LRT project, previously known as the Bottineau Line, is proposed to operate from downtown Minneapolis through north Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park. The proposed alignment will have 11 new stations in addition to Target Field Station where it will continue as the METRO Blue Line, providing one-seat rides to Minneapolis-St. Paul International Airport and the Mall of America. It will connect Minneapolis and the region's northwest communities with existing LRT on the METRO Green Line, future LRT on the METRO Green Line Extension (Southwest LRT), bus rapid transit on the METRO Orange Line and METRO Red Line, the Northstar commuter rail line and local and express bus routes. The project will end approximately one mile south of Champlin and is expected to attract some Champlin residents via the park-and-ride stations in Brooklyn Park.

6.4.4 Future Service Demands

The region's changing population may require expanded transportation choices in the future. As people age, they become less mobile and more reliant on public transportation, family, and friends to get around. Younger generations are also looking for more transportation options. Local fixed routes may provide an opportunity to enhance transit service within the city and improve connectivity to the regional network. Certain parts of the city, including the Mississippi Crossings area, may be more appropriate for enhanced transit service due to its higher densities and mix of land uses. Adding infrastructure such as benches and shelters to a transit service can enhance ridership and increase awareness of routes. It is recommended that the City of Champlin discuss future transit needs with Metro Transit to align future service with local demand and a changing population.

6.5 NON-MOTORIZED TRANSPORTATION

This section addresses network needs for walking and bicycling within Champlin. This section also addresses the needs of people using wheelchairs and assistive mobility devices such as mobility scooters, as they are considered pedestrians. Enhancing the non-motorized elements of the Champlin transportation system is a key goal in terms of improving transportation sustainability in the city and region. This approach gives residents an alternative to driving, supports transportation options for people who do not have consistent access to a personal vehicle, and encourages healthy activities and lifestyles.

This section includes information on the existing non-motorized transportation network within Champlin, connections to land use planning, the planned local non-motorized transportation network, the regional transportation bikeway network, and design best practices.

6.5.1 Existing Non-Motorized Transportation Network

The non-motorized transportation network in Champlin is comprised of sidewalks, multi-use paved trails, and on-street bikeways as shown in **Exhibit 6-11**. Providing attractive networks for residents to use for recreational biking and walking is a very important goal for the City. More and more, residents are expecting neighborhoods and commercial centers to be connected via sidewalks and trails. Overall, Champlin has a well-developed network of walking and bicycle facilities. Through a combination of sidewalks, off-road trails, and on-street bikeways, non-motorized users

can get to most local key destinations such as schools, parks, local businesses, grocery stores, etc.

There are several nodes that support connections through sidewalks and trails. However, major highway and county roads such as TH 169, West River Road (CSAH 12), Hayden Lake Road (CSAH 121), and Winnetka Avenue (CR 103) can create barriers for pedestrians and bicyclists. These crossing barriers affect non-motorizes users because pedestrians and bicyclists are either required to take longer routes to reach key destinations or they are discouraged from walking and bicycling. To improve access across TH 169, a pedestrian bridge was constructed in 2007 north of Elm Creek Parkway/114th Avenue, and a pedestrian underpass was constructed in 2018 as part of the TH 169 Elm Creek bridges construction project.

Sidewalks are typically five feet wide and intended to accommodate walking. An on-street bikeway can consist of a variety of treatments (bike lane, paved shoulder, etc.) with a width of five feet or greater. An off-street bikeway is typically considered to be a multi-use trail with a width of 8 feet or greater. The 2040 Hennepin County Bicycle Transportation Plan identifies the following roadways as part of the "Planned Bikeway System":

- West River Road and Dayton Road (CSAH 12) - mix of primarily existing on-street and off-street bikeways
- Douglas Drive (CSAH 14) - existing off-street bikeway
- Winnetka Avenue (CR 103) - existing on-street bikeway
- Hayden Lake Road (CR 121) - mix of existing and planned on-street and off-street bikeways
- 109th Avenue - mix of existing and planned on-street and off-street bikeways

A portion of the Mississippi River Trail U.S. Bicycle Route 45 (MRT) passes through Champlin. The MRT is a bicycle route that is extends approximately 620 miles from Mississippi Headwaters to the Minnesota-Iowa border. Outside of Minnesota, a route will eventually follow the entire Mississippi River. Within the Twin Cities metropolitan area, there are signed routes along both sides of the river. In Champlin, the route generally follows Dayton Road and West River Road (see **Exhibit 6-12**).

Major highway and county road crossings are barriers that can discourage walking and bicycling in Champlin. While there are some intersection control improvements planned in the future, the City will continue to evaluate major roadway intersections to determine how it can improve safety and encourage walking and bicycling.

6.5.2 Connections to Land Use Planning

Champlin has development patterns consistent with its designation as a Suburban community. In many areas of the city, existing residential development is lower in density compared with many suburban areas, reflecting a community that has developed relatively recently. Most commercial land uses are separated from largely single-family residential land uses. This means that people walking and bicycling must cover greater distances to reach commercial areas from their homes. In these areas of the city, development patterns are likely better suited to bicycling than walking for transportation trips.

As Champlin continues to develop or redevelop, the inclusion of sidewalks and trails is an important consideration to accommodate pedestrian and other non-motorized movement in a safe manner, separate from vehicular traffic. The City supports completing gaps in the system network when opportunities arise, such as through development and roadway reconstruction projects. The City's land use planning and coordination with developers can help improve opportunities for walking and bicycling for transportation. The City can encourage mixed-use development that situates residents within a short walk of commercial destinations. The City can also work with developers to construct sidewalks and trails within developments. Additionally, the City can require pedestrian and bicycle connections in areas where the roadway network does not connect, such as cul-de-sac connector trails that provide shortcuts for people walking and bicycling.

6.5.3 Regional Bicycle Transportation Network

The Metropolitan Council 2040 TPP encourages the use of bicycles as a transportation mode and established the Regional Bicycle Transportation Network (RBTN). The RBTN provides connections across the region as an integrated network of on-street and off-road trails that complement each other. The RBTN identifies existing alignments and corridors into either Tier 1 or Tier 2.

Currently, RBTN Tier 2 alignments are identified along West River Road (CSAH 12) and Winnetka Avenue. A RBTN Tier 2 Corridor is shown generally along the TH 169 River Crossing. North of the river, there is a RBTN Tier 1 Corridor that follows the Mississippi River. The RBTN is important because it provides better access to regional key destinations. With points of access between RBTN Tier 1 and 2 corridors in Champlin, it will be beneficial to continue to incorporate the RBTN when developing future local pedestrian

and bicycle plans. **Exhibit 6-12** shows the existing RBTN corridors and alignments in Champlin.

6.5.4 Planned Local Non-Motorized Transportation Network

Champlin's planned non-motorized transportation network of sidewalks, trails, and bikeways is shown in **Exhibit 6-11**. When the network is complete, it will improve connectivity between residential areas and commercial, institutional, and recreational areas. This includes filling existing network gaps and adding new facilities in developing areas. The network will improve options for people to walk and bicycle for transportation within the city and facilitate regional connections.

6.5.5 Non-Motorized Transportation Design Considerations

At locations deemed appropriate, the City's standard practice is to provide five-foot sidewalks in residential areas and six-foot sidewalks in commercial areas.

Design considerations for bicycle facilities are somewhat more complicated due to the hierarchy of facility types. In order of their ability to provide a comfortable and safe bicycling environment from largest improvement to smallest, facilities include: off-street facilities, protected bikeways, buffered bicycle lanes, conventional bicycle lanes, bicycle boulevards, and wide paved shoulders.

Multi-use trails are recommended to be a minimum of eight-feet wide. Regional trails are recommended to be a minimum of ten-feet wide due to higher use and the design requirements to comply with federal funding. Trails must have a two-foot wide clear zone on either side to reduce hazards for bicyclists and provide a recovery zone if a bicyclist leaves the edge of the trail. The clear zone can be paved or turf surface. No signs, furnishings, trees, or other obstructions can be in the clear zone.

Paved shoulders should be a minimum of four-feet wide if intended for bicycle and pedestrian use. Four-foot wide shoulders are adequate on streets with traffic volumes below 1,000 vehicles per day. Six- to eight-foot shoulders are recommended when traffic volumes exceed 1,000 vehicles per day. A wider shoulder improves pedestrian and bicyclist safety and comfort when vehicle traffic speeds and volumes are higher.

As non-motorized facilities are planned and designed, the City will consult additional planning and design resources, including:

- Minnesota's Best Practices for Pedestrian/Bicycle Safety, MnDOT
- Bikeway Facility Design Manual, MnDOT
- Minnesota Manual on Uniform Traffic Control Devices, MnDOT
- NACTO Urban Bikeway Design Guide, Second Edition, National Association of City Transportation Officials
- Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials
- Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials
- Complete Streets Implementation Resource Guide for Minnesota Local Agencies, MnDOT
- Public Rights of Way Accessibility Guidelines (PROWAG), US Access Board

A Complete Streets approach to planning and implementing non-motorized facilities, as described in the MnDOT Complete Streets Implementation Resource Guide, can provide a helpful framework for creating a community-supported, safe, comfortable, and convenient transportation network that serves all modes. A Complete Streets policy or process is intended to provide design guidance and implementation clarity, allowing the community and project designers to advance individual projects in a collaborative and cost-efficient manner.

Accessibility is a very important consideration for non-motorized design. All new pedestrian and bicycle facilities must meet the ADA accessibility guidelines established in PROWAG. The guidelines in PROWAG address the design needs of people with physical and/or visual impairments. Accessibility will become increasingly important over the next 20 years due to demographic changes. Baby boomers are aging and the population over age 65 is increasing. People over 65 are more likely to have physical and/or visual impairments that affect their ability to get around.

6.6 AVIATION AND FREIGHT MOVEMENT

6.6.1 Aviation

Champlin is located approximately 25-miles northwest of the Minneapolis-St. Paul International Airport (MSP). It is also located approximately 13-miles west of Anoka County Airport in Blaine, and approximately eight-miles north of Crystal Airport in Crystal/Brooklyn Center. These are two reliever airports in the Metropolitan Airports Commission's regional airport system.

Champlin is located outside of the defined airport influence area for each of these airports. There are no structures within Champlin that exceed 500 feet in height. Any applicant who proposes to construct structure over 200 feet above the ground shall require notification to the Federal Aviation Administration (FAA) at least 30 days prior to construction, using FAA Form 7460-1 "Notice of Proposed Construction or Alteration," as defined under code of federal regulations CFR - Part 77. The City's zoning code limits structure height; therefore, it is unlikely that any structures in the city will require FAA notification. The City will support, as necessary, compliance with FAA and Metropolitan Council requirements concerning visual and/or electronic interference with airport communications, air traffic operations, and other aviation land-use capability guidelines.

MnDOT has designated no lakes in Champlin for seaplane use under aeronautics rules and regulations. There are currently no heliports in Champlin nor any known plans to construct one.

6.6.2 Freight Movement

Freight transportation in Champlin is primarily served by heavy commercial truck traffic along TH 169. There are no railroad or waterway operations that occur within Champlin. **Exhibit 6-13** shows the city's freight system network.

There are no large freight traffic generators within the city as identified by the Metropolitan Council. Most truck traffic serves local land uses or passes through Champlin on trips to, from, and through the rest of the Twin Cities. The major commercial and industrial development in Champlin lies adjacent to TH 169 with access through the collector roadway system. Locating industrial and commercial-lane uses with good access to the principal arterial network reduces the potential for truck traffic to impact residential areas.

The Metropolitan Council's Regional Truck Highway Corridor Study (completed in 2017) identified TH 169 as Tier 2 regional key truck corridor. TH 169 connects to major regional truck corridors I-94/694 and TH 10. As defined in the Regional Truck Highway Corridor Study, the interstate system serves as the freight backbone, and other tiered roadways provide redundancy to the interstate system, as well as provide door-to-door access to manufacturing facilities, distribution centers, intermodal freight hubs, and ultimately, retailers and customers.

Exhibit 6-13 shows the Heavy Commercial Average Daily Traffic (HCADT) on arterial roadways within Champlin. TH 169 carries 1350-1550 heavy commercial vehicles per day based on MnDOT traffic volume data.

The Metropolitan Council 2040 TPP acknowledges several freight challenges that impact the city and the region. Freight traffic and congestion are expected to increase and place pressure on the region's highway and rail systems. Additionally, there are concerns about compatibility between freight traffic and adjacent land use. While land uses adjacent to the city's primary freight routes are generally compatible, it will be important to ensure that future development is also compatible with freight operations.

6.7 IMPLEMENTATION

Previous sections of this Plan have examined existing conditions, as well as future issues and needs. This section summarizes implementation actions and recommendations to meet 2040 transportation goals.

By adopting the overall Comprehensive Plan Update including the Transportation Chapter, the City Council will establish the guidelines by which decisions regarding transportation facilities and programs will be made in Champlin. The City will periodically review the conditions and assumptions under which the Transportation Chapter has been developed and updated in the Plan as needed.

The following issues and recommended strategies have been identified by the Champlin City Council. Several of these strategies are also shown graphically in **Exhibit 6-14**.

6.7.1 Transit

A. Two (2) Metro Transit park-and-ride facilities in Champlin operate at half capacity - Dayton Road and West River Road.

It is recommended that the City work with Metro Transit to consider the merits of repurposing these parking areas.

B. The City of Champlin is nearby the Northstar Commuter Rail stations and the planned Bottineau Light Rail Line.

It is recommended that the City promote the use of these rail services.

C. The City of Champlin has limited mass transit services.

It is recommended that the City continue to request improved mass transit services.

6.7.2 Congestion

A. Limited river crossings and new growth are expected to increase traffic congestion along the Trunk Highway 169 corridor.

It is recommended that the City work with MnDOT, Hennepin County and neighboring cities to study the need and costs of another river crossing.

B. Several roadways will approach road capacity by 2040 including:

1. **Dayton Road east of French Lake Road;**
2. **West River Road from Hayden Lake Road to Douglas Drive; and**
3. **Winnetka Avenue from 109th Avenue to 117th Avenue.**

It is recommended that the City study and adopt strategies to address congestion on these roadways.

C. Conditions at several intersections are expected to warrant traffic control improvements including:

1. **West River Road and 109th Avenue;**
2. **West River Road and Winnetka Avenue;**
3. **109th Avenue and Winnetka Avenue;**
4. **109th Avenue and Jefferson Highway;**
5. **Champlin Drive and Hayden Lake Road;**
6. **114th Avenue and Winnetka Avenue;**
7. **Elm Creek Crossing and French Lake Road;**
8. **Dean Avenue and Cartway Road;**
9. **120th Avenue and Champlin Drive; and**
10. **South Diamond Lake Road and Dayton Road.**

It is recommended that the City monitor these intersections and work with partnering agencies to make improvements as conditions warrant.

6.7.3 Roadway Jurisdictional Changes

A. Hennepin County has expressed a desire to transfer Winnetka Avenue (CR 103) to the City.

It is recommended that the City research and consider the merits of such a transfer.

6.7.4 Programmed Projects – Collectors and Arterials

A. 109th Avenue Reconstruction – Jefferson Highway to Winnetka Avenue (2023)

B. East Hayden Lake Road Reconstruction – Trunk Highway 169 to West River Road (2025)

C. French Lake Road Reconstruction from West Hayden Lake Road to Dayton Road (2035)

It is recommended that the City prepare for and set aside resources for these projects.

6.7.5 Non-Programmed Projects

A. Winnetka Avenue from 101st Avenue to 109th Avenue (City of Brooklyn Park)

B. Winnetka Avenue from 109th Avenue to West River Road (Hennepin County)

C. Trunk Highway 169 maintenance/rehabilitation (2040) (MnDOT)

D. Dayton Road from west city limits to Trunk Highway 169 (Hennepin County)

E. West River Road from 109th Avenue to Douglas Drive (Hennepin County)

F. Elm Creek Parkway Reconstruction – Jefferson Highway to Goose Lake Parkway

It is recommended that the City work with Hennepin County and other jurisdictions on these non-programmed projects.

6.7.6 Road Classification

A. Several roadways merit an elevation in their functional classification including:

1. **French Lake Road/Hayden Lake Road – western city limits to Trunk Highway 169;**
2. **Jefferson Highway – Elm Creek Parkway to 109th Avenue;**
3. **South Diamond Lake Road – Dayton Road to western city limits; and**
4. **109th Avenue – West River Road – Zachary Lane.**

It is recommended that the City work with Hennepin County, neighboring cities, and/or the Metropolitan Council regarding these road classification reviews.

6.7.7 Studies and Research

A. The national and regional trend is to build and reconstruct streetscapes that reflect a unified, complete design that balances among a wide variety of functions, including storm water management, safe pedestrian travel, use as public space, bicycle, transit, and vehicle movement, parking and loading requirements, ease of maintenance, and emergency access. This trend is known as "complete streets."

It is recommended that the City consider adopting "complete streets" design guidelines.

B. Consider strategies to improve pedestrian and bicycle safety in roundabout intersections.

It is recommended that the City research and employ strategies to address roundabout public safety.

EXHIBITS

TRANSPORTATION APPENDIX

MnDOT and Hennepin County Access Management Guidelines

MnDOT Access Management Manual

Table 1: Summary of Recommended Street Spacing for IRCs

Category	Area or Facility Type	Typical Functional Class	Public Street Spacing		Signal Spacing
			Primary Full-Movement Intersection	Secondary Intersection	
1	**High Priority Interregional Corridors & Interstate System (IRCs)**				
1F	Interstate Freeway	Principal Arterials	Interchange Access Only		⊘
1AF	Non-Interstate Freeway		Interchange Access Only (see Section 3.2.7 for interim spacing)		See Section 3.2.5 for Signalization on Interregional Corridors
1A	Rural		1 mile	1/2 mile	
1B	Urban/Urbanizing		1/2 mile	1/4 mile	
1C	Urban Core		300-660 feet dependent upon block length		
2	**Medium Priority Interregional Corridors**				
2AF	Non-Interstate Freeway	Principal Arterials	Interchange Access Only (See Section 3.2.7 for interim spacing)		See Section 3.2.5 for Signalization on Interregional Corridors
2A	Rural		1 mile	1/2 mile	
2B	Urban/Urbanizing		1/2 mile	1/4 mile	
2C	Urban Core		300-660 feet, dependent upon block length		¼ mile
3	**Regional Corridors**				
3AF	Non-Interstate Freeway	Principal and Minor Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
3A	Rural		1 mile	1/2 mile	See Section 3.2.5
3B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
3C	Urban Core		300-660 feet, dependent upon block length		1/4 mile

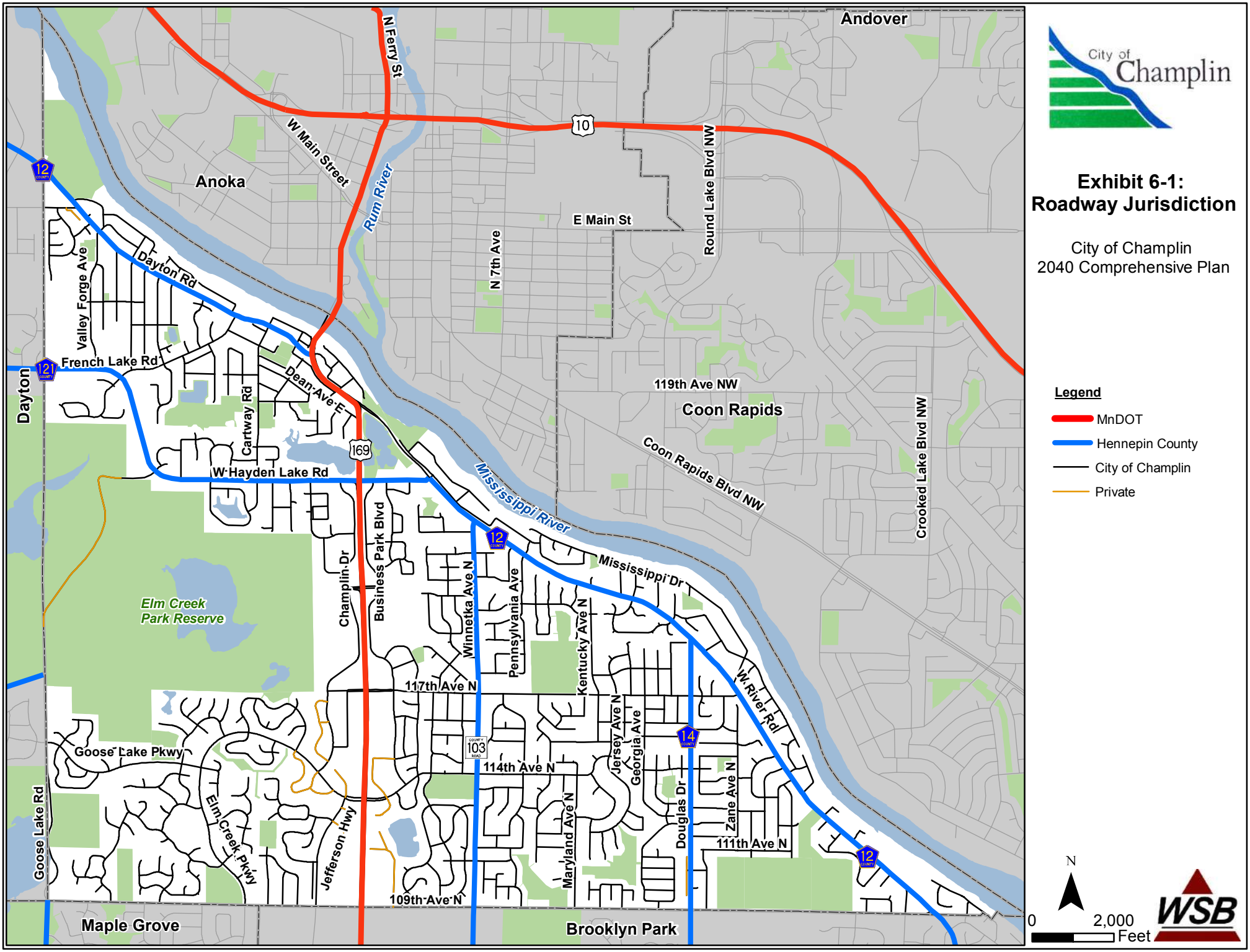
MnDOT Access Management Manual

Table 2: Summary of Recommended Street Spacing for Non-IRCs

Category	Area or Facility Type	Typical Functional Class	Public Street Spacing		Signal Spacing
			Primary Full-Movement Intersection	Secondary Intersection	
4	**Principal Arterials in the Twin Cities Metropolitan Area and Primary Regional Trade Centers (Non-IRCs)**				
4AF	Non-Interstate Freeway	Principal Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
4A	Rural		1 mile	1/2 mile	See Section 3.2.5
4B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
4C	Urban Core		300-660 feet dependent upon block length		1/4 mile
5	**Minor Arterials**				
5A	Rural	Minor Arterials	1/2 mile	1/4 mile	See Section 3.2.5
5B	Urban/Urbanizing		1/4 mile	1/8 mile	1/4 mile
5C	Urban Core		300-660 feet, dependent upon block length		1/4 mile
6	**Collectors**				
6A	Rural	Collectors	1/2 mile	1/4 mile	See Section 3.2.5
6B	Urban/Urbanizing		1/8 mile	Not Applicable	1/4 mile
6C	Urban Core		300-660 feet, dependent upon block length		1/8 mile
7	**Specific Area Access Management Plans**				
7	All	All	By adopted plan		

Table 5-4: Hennepin County Access Spacing Guidelines

Access Type	Movements Allowed	Rural Arterial			Urban and Urbanizing Arterial		
		Greater than 7,500 ADT	Less than 7,500 ADT	Collector	Undivided	Divided	Collector
Single family residential driveway or farm field entrance	Full movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)	Not allowed	Not allowed	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	1/16 mile (330 feet)
Low Volume Driveway (less than or equal to 500 trips per day)	Full movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)	Not allowed	Not allowed	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	1/16 mile (330 feet)
High Volume Driveway (greater than 500 trips per day)	Full movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed
Low Volume Public Street (less than or equal to 2,500 ADT)	Full movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed
High Volume Public Street (greater than 2,500 ADT)	Full movements allowed	1/2 mile (2,640 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)
	Limited access	Not allowed	Not allowed	Not allowed	Not allowed	1/8 mile (660 feet)	Not allowed



City of Champlin

Exhibit 6-1: Roadway Jurisdiction

City of Champlin
2040 Comprehensive Plan

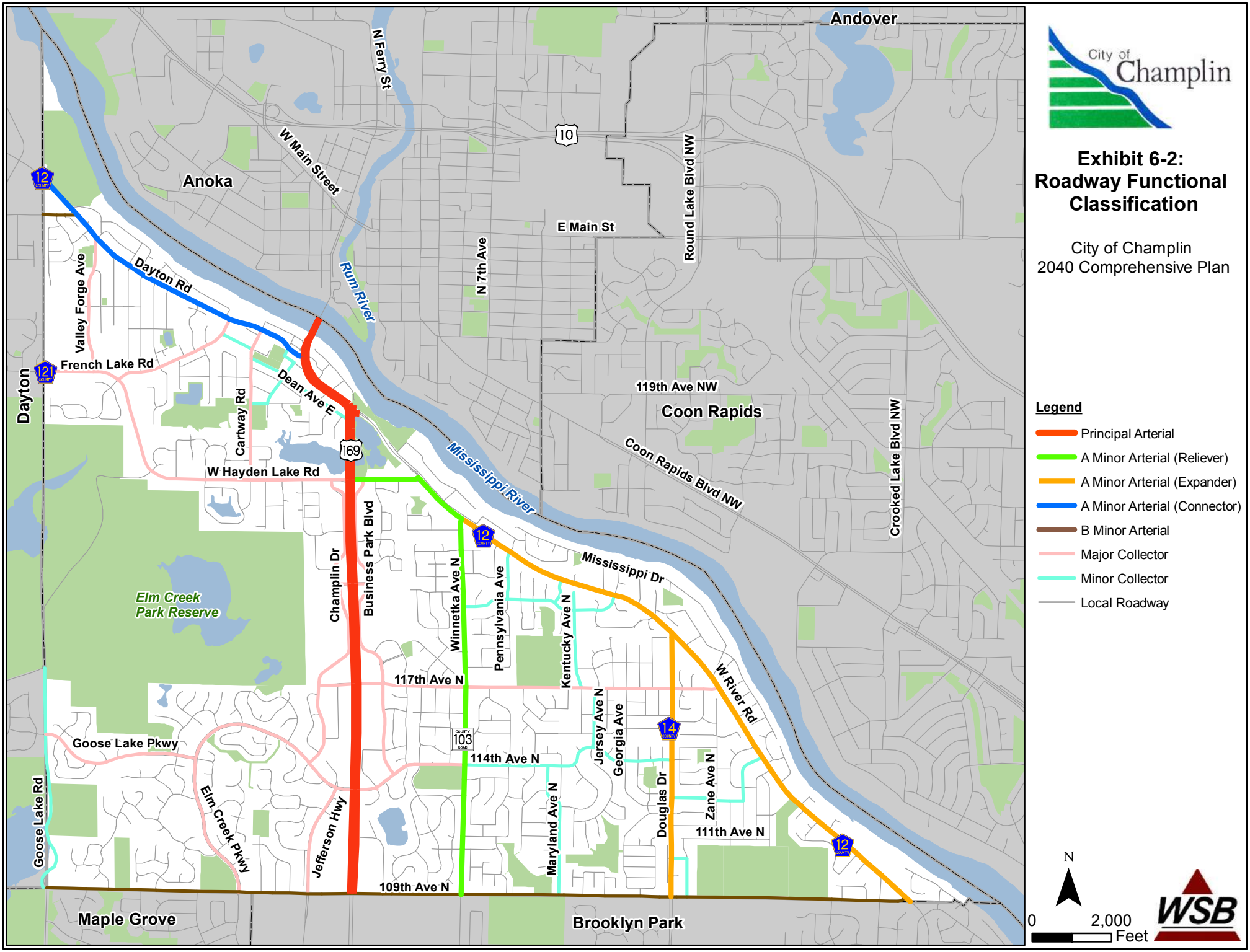
Legend

- MnDOT
- Hennepin County
- City of Champlin
- Private

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-2: Roadway Functional Classification

City of Champlin
2040 Comprehensive Plan

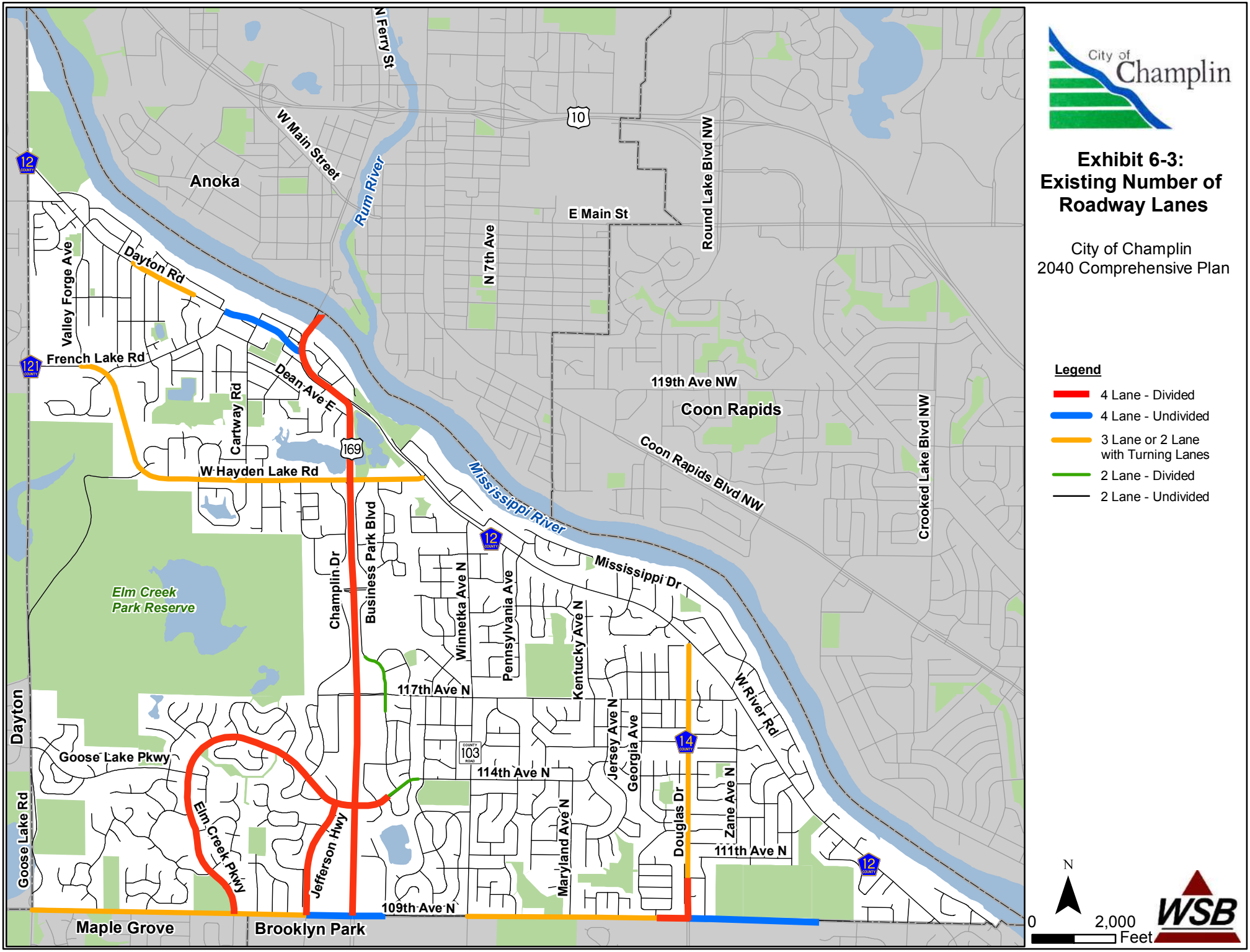
Legend

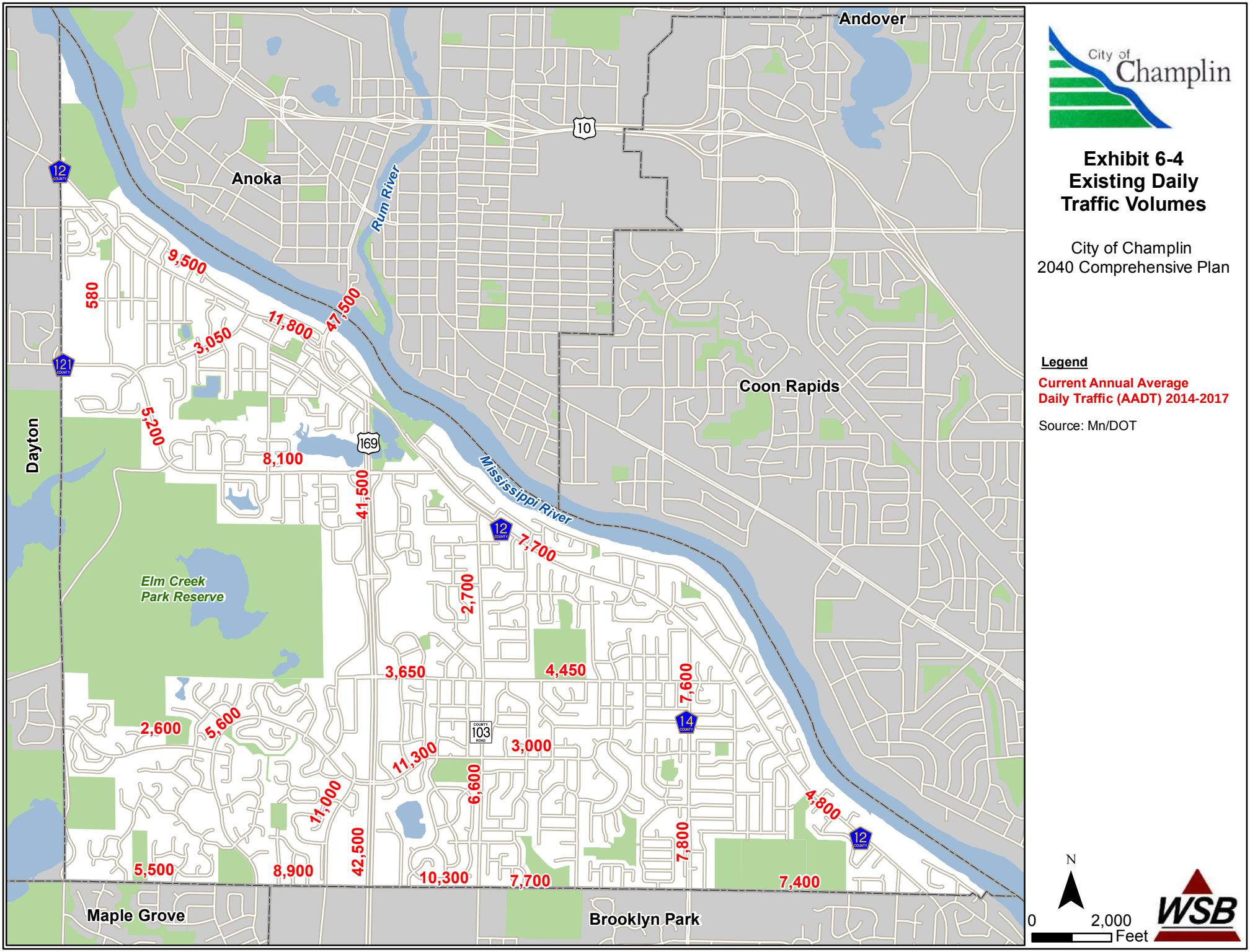
- Principal Arterial
- A Minor Arterial (Reliever)
- A Minor Arterial (Expander)
- A Minor Arterial (Connector)
- B Minor Arterial
- Major Collector
- Minor Collector
- Local Roadway

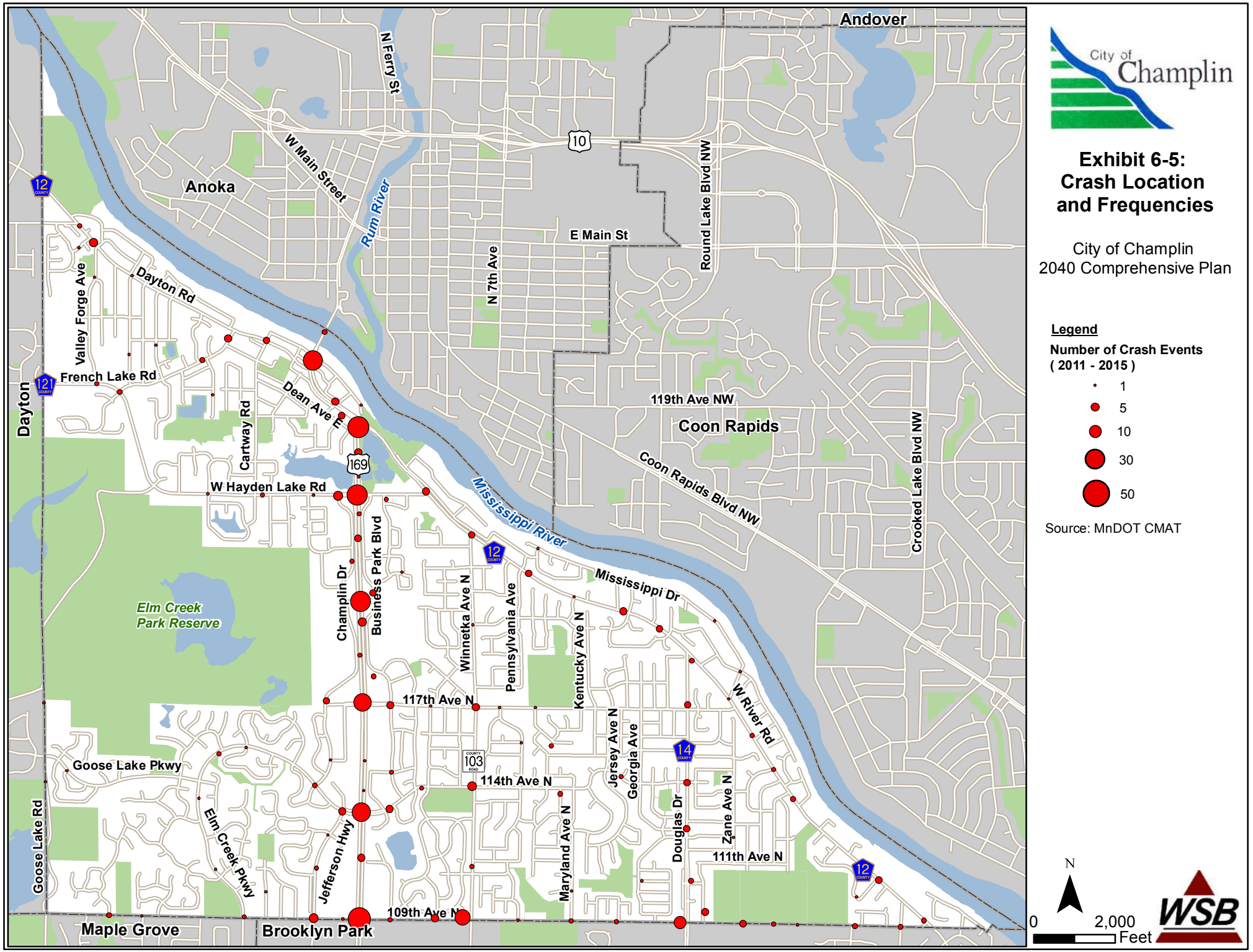
N

0 2,000 Feet

WSB


City of Champlin
Exhibit 6-3:
Existing Number of Roadway Lanes
City of Champlin
2040 Comprehensive Plan
Legend
4 Lane - Divided
4 Lane - Undivided
3 Lane or 2 Lane with Turning Lanes
2 Lane - Divided
2 Lane - Undivided
N
0
2,000
Feet
WSB
Anoka
Coon Rapids
Champlin
Dayton
Maple Grove
Brooklyn Park
Rum River
Mississippi River
N Ferry St
W Main Street
E Main St
N 7th Ave
Round Lake Blvd NW
Crooked Lake Blvd NW
Coon Rapids Blvd NW
119th Ave NW
Valley Forge Ave
Dayton Rd
French Lake Rd
Dean Ave E
Cartway Rd
W Hayden Lake Rd
Elm Creek Park Reserve
Champlin Dr
Business Park Blvd
Winnetka Ave N
Pennsylvania Ave
Kentucky Ave N
Mississippi Dr
W River Rd
117th Ave N
Jersey Ave N
Georgia Ave
Douglas Dr
Zane Ave N
111th Ave N
114th Ave N
Maryland Ave N
Goose Lake Pkwy
Goose Lake Rd
Elm Creek Pkwy
Jefferson Hwy
109th Ave N
10
12
121
169
14
103


Andover
Anoka
Rum River
Coon Rapids
Dayton
Mississippi River
Elm Creek
Park Reserve
Maple Grove
Brooklyn Park
10
12
121
169
14
COUNTY 103 ROAD
9,500
580
11,800
47,500
3,050
5,200
8,100
41,500
7,700
2,700
3,650
4,450
7,600
2,600
5,600
3,000
11,300
6,600
11,000
42,500
4,800
7,800
5,500
8,900
10,300
7,700
7,400
City of Champlin
Exhibit 6-4
Existing Daily
Traffic Volumes
City of Champlin
2040 Comprehensive Plan
Legend
Current Annual Average
Daily Traffic (AADT) 2014-2017
Source: Mn/DOT
N
0
2,000
Feet
WSB



City of Champlin

Exhibit 6-5: Crash Location and Frequencies

City of Champlin
2040 Comprehensive Plan

Legend

Number of Crash Events (2011 - 2015)

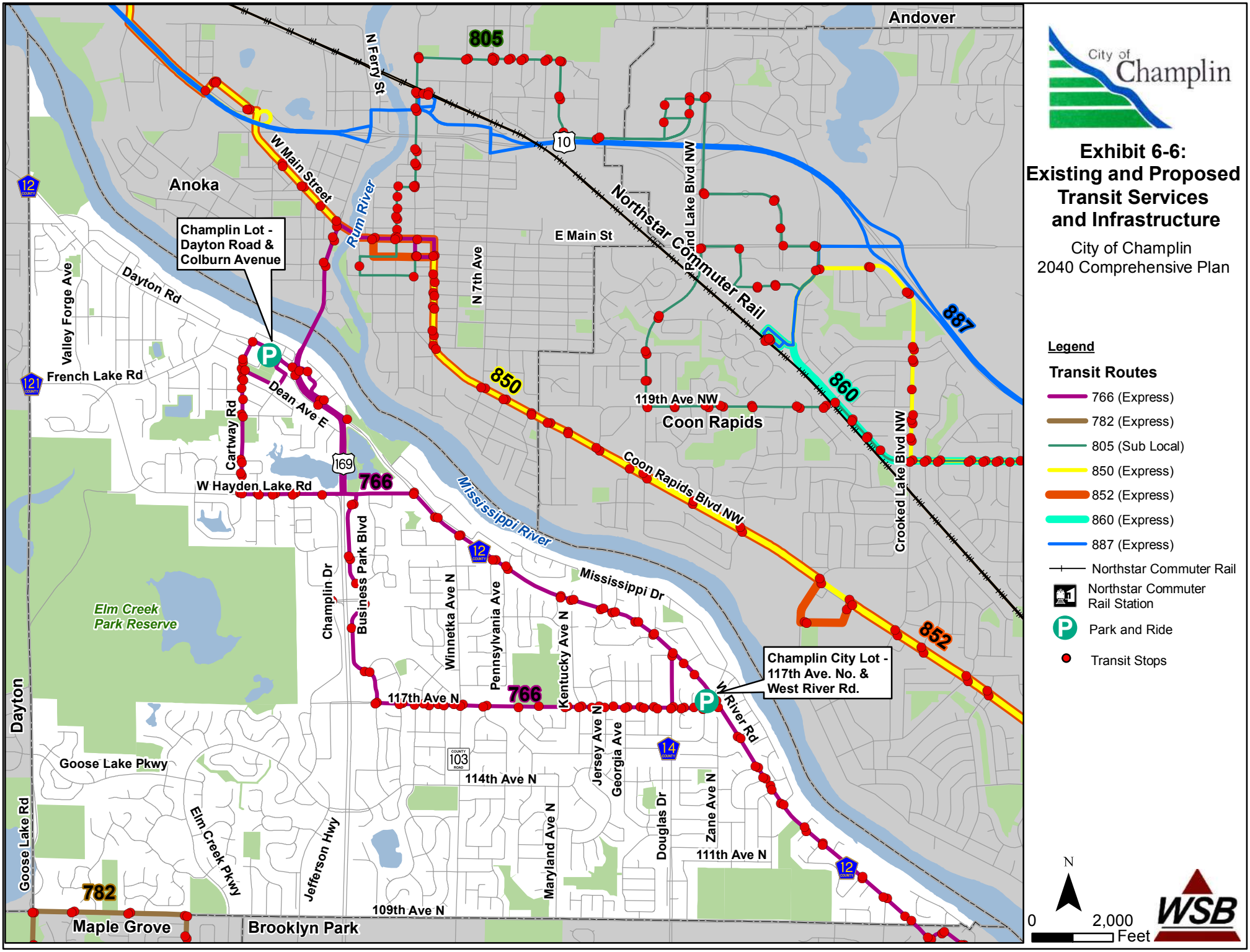
- 1
- 5
- 10
- 30
- 50

Source: MnDOT CMAT

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-6: Existing and Proposed Transit Services and Infrastructure

City of Champlin
2040 Comprehensive Plan

Legend

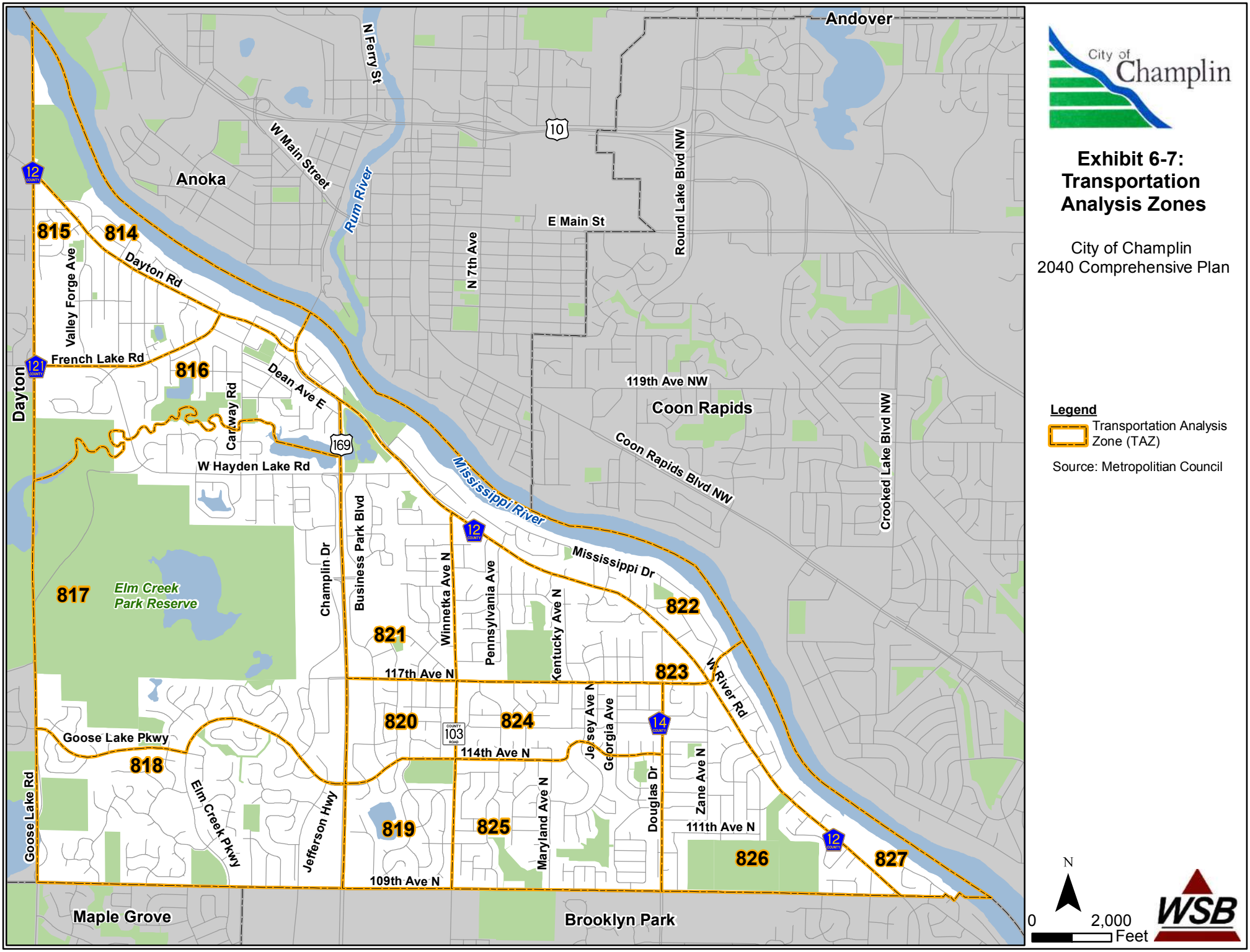
Transit Routes

- 766 (Express)
- 782 (Express)
- 805 (Sub Local)
- 850 (Express)
- 852 (Express)
- 860 (Express)
- 887 (Express)
- Northstar Commuter Rail
- Northstar Commuter Rail Station
- Park and Ride
- Transit Stops

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-7: Transportation Analysis Zones

City of Champlin
2040 Comprehensive Plan

Legend

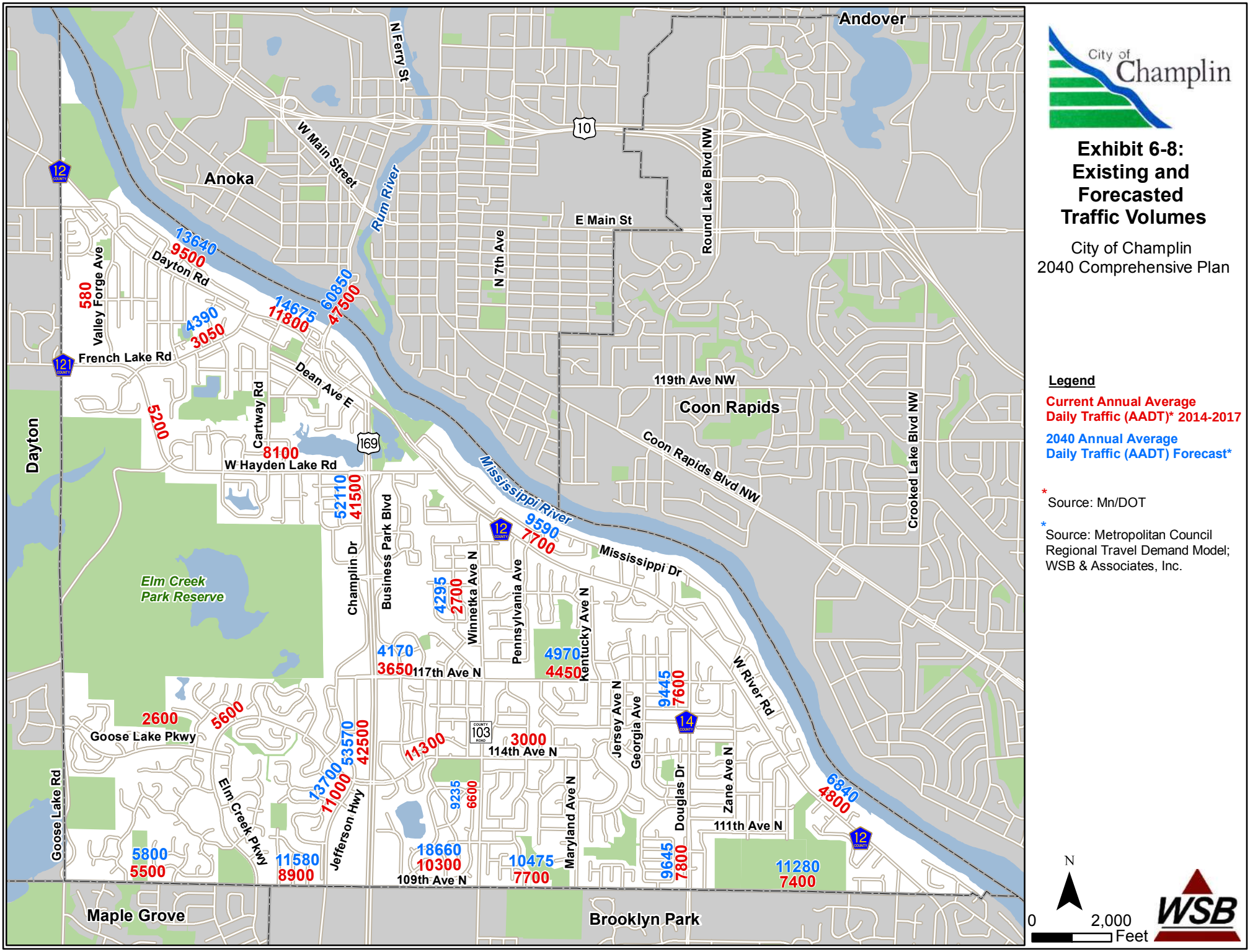
Transportation Analysis Zone (TAZ)

Source: Metropolitian Council

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-8: Existing and Forecasted Traffic Volumes

City of Champlin
2040 Comprehensive Plan

Legend

Current Annual Average Daily Traffic (AADT)* 2014-2017

2040 Annual Average Daily Traffic (AADT) Forecast*

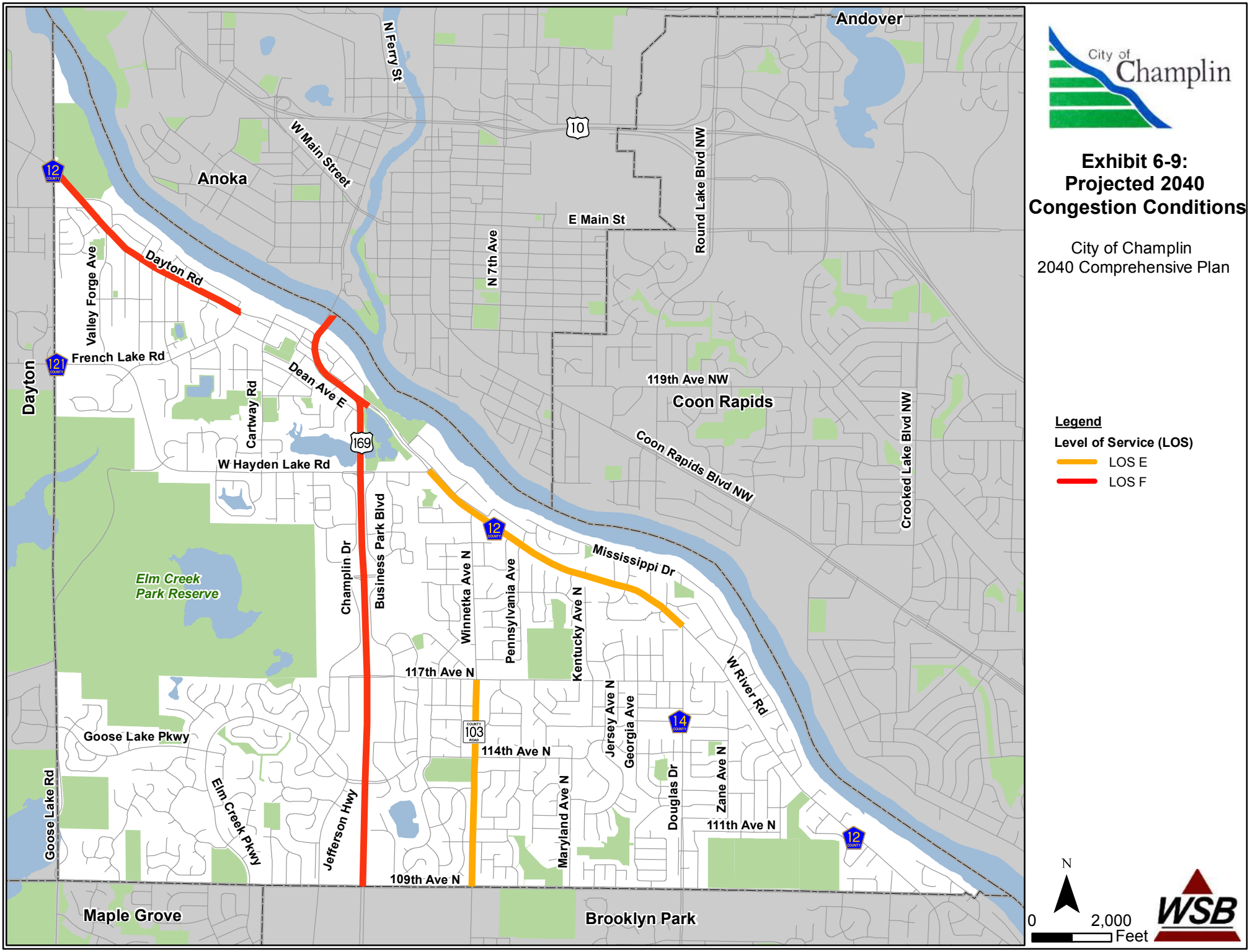
* Source: Mn/DOT

* Source: Metropolitan Council Regional Travel Demand Model; WSB & Associates, Inc.

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-9: Projected 2040 Congestion Conditions

City of Champlin
2040 Comprehensive Plan

Legend

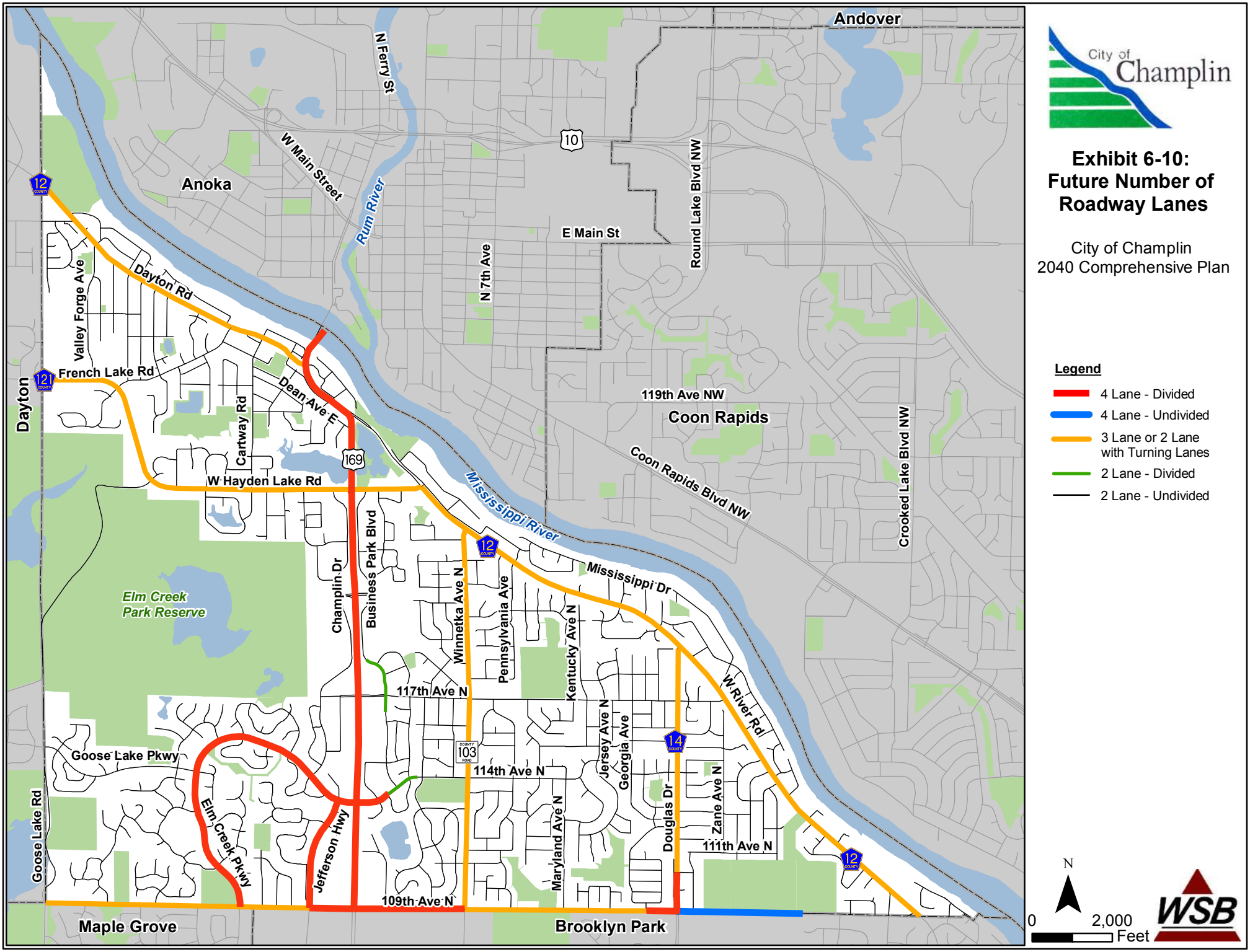
Level of Service (LOS)

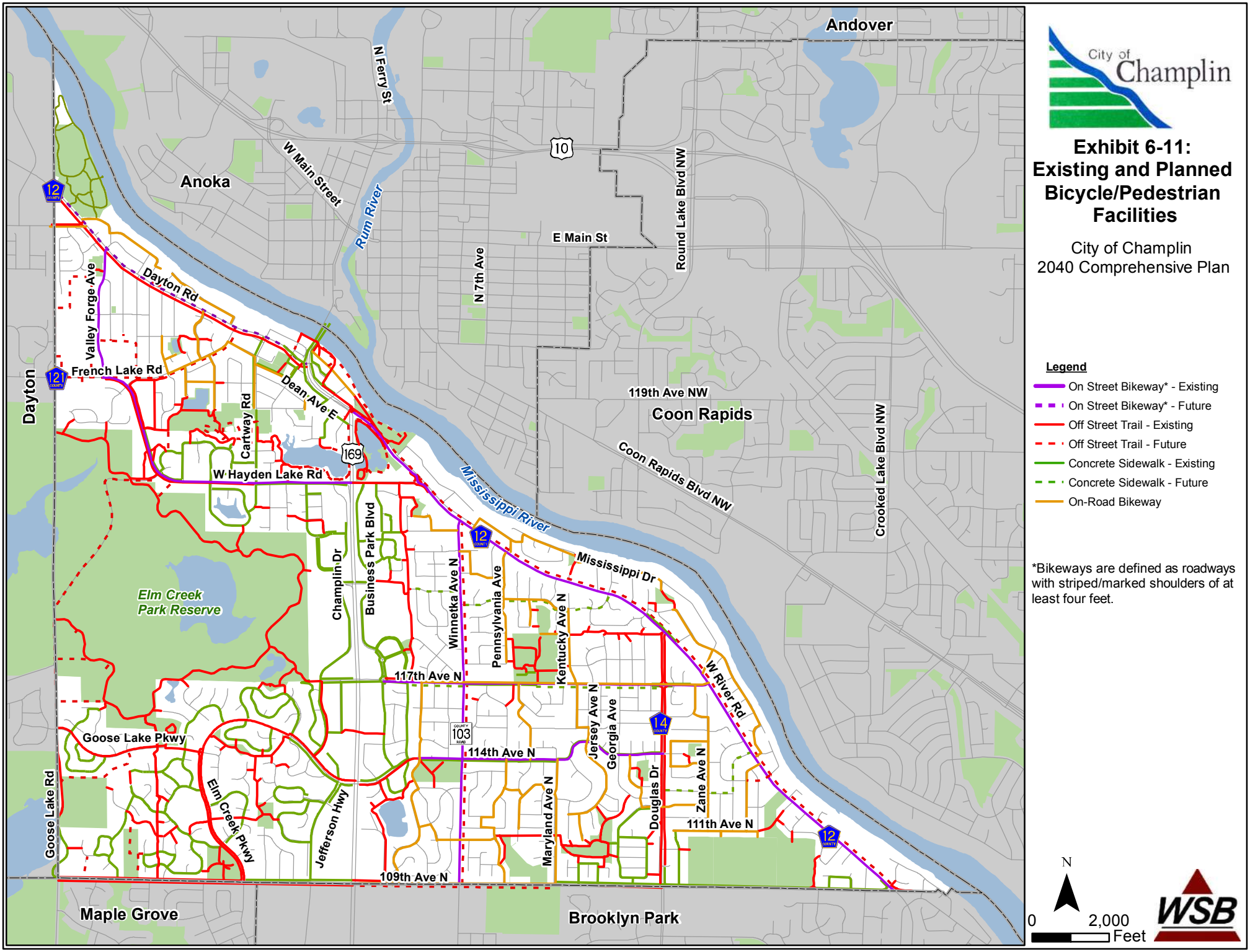
- LOS E
- LOS F

N

0 2,000 Feet

WSB


Andover
N Ferry St
W Main Street
Anoka
Rum River
10
Round Lake Blvd NW
E Main St
N 7th Ave
Dayton Rd
Valley Forge Ave
French Lake Rd
Dayton
121
Dean Ave E
Cartway Rd
169
W Hayden Lake Rd
119th Ave NW
Coon Rapids
Coon Rapids Blvd NW
Crooked Lake Blvd NW
Mississippi River
Elm Creek
Park Reserve
Champlin Dr
Business Park Blvd
Winnetka Ave N
Pennsylvania Ave
Kentucky Ave N
Mississippi Dr
W River Rd
117th Ave N
Goose Lake Pkwy
103
114th Ave N
Jersey Ave N
Georgia Ave
14
Douglas Dr
Zane Ave N
111th Ave N
Goose Lake Rd
Elm Creek Pkwy
Jefferson Hwy
Maryland Ave N
109th Ave N
Maple Grove
Brooklyn Park
City of Champlin
Exhibit 6-10:
Future Number of
Roadway Lanes
City of Champlin
2040 Comprehensive Plan
Legend
4 Lane - Divided
4 Lane - Undivided
3 Lane or 2 Lane
with Turning Lanes
2 Lane - Divided
2 Lane - Undivided
N
0
2,000
Feet
WSB



City of Champlin

Exhibit 6-11: Existing and Planned Bicycle/Pedestrian Facilities

City of Champlin
2040 Comprehensive Plan

Legend

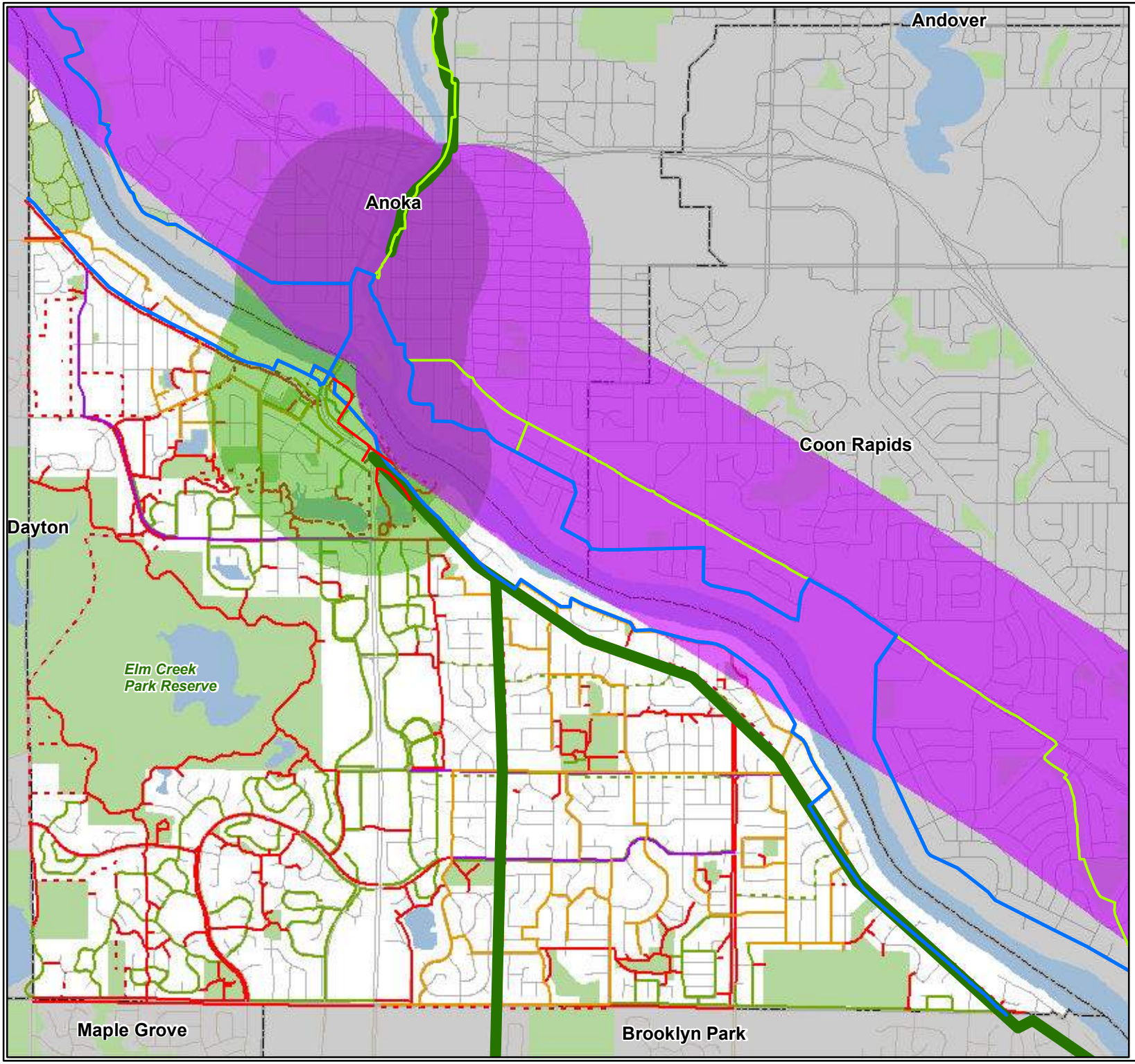
- On Street Bikeway* - Existing
- On Street Bikeway* - Future
- Off Street Trail - Existing
- Off Street Trail - Future
- Concrete Sidewalk - Existing
- Concrete Sidewalk - Future
- On-Road Bikeway

*Bikeways are defined as roadways with striped/marked shoulders of at least four feet.

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-12: Regional Bicycle Transportation Network

City of Champlin
2040 Comprehensive Plan

Legend

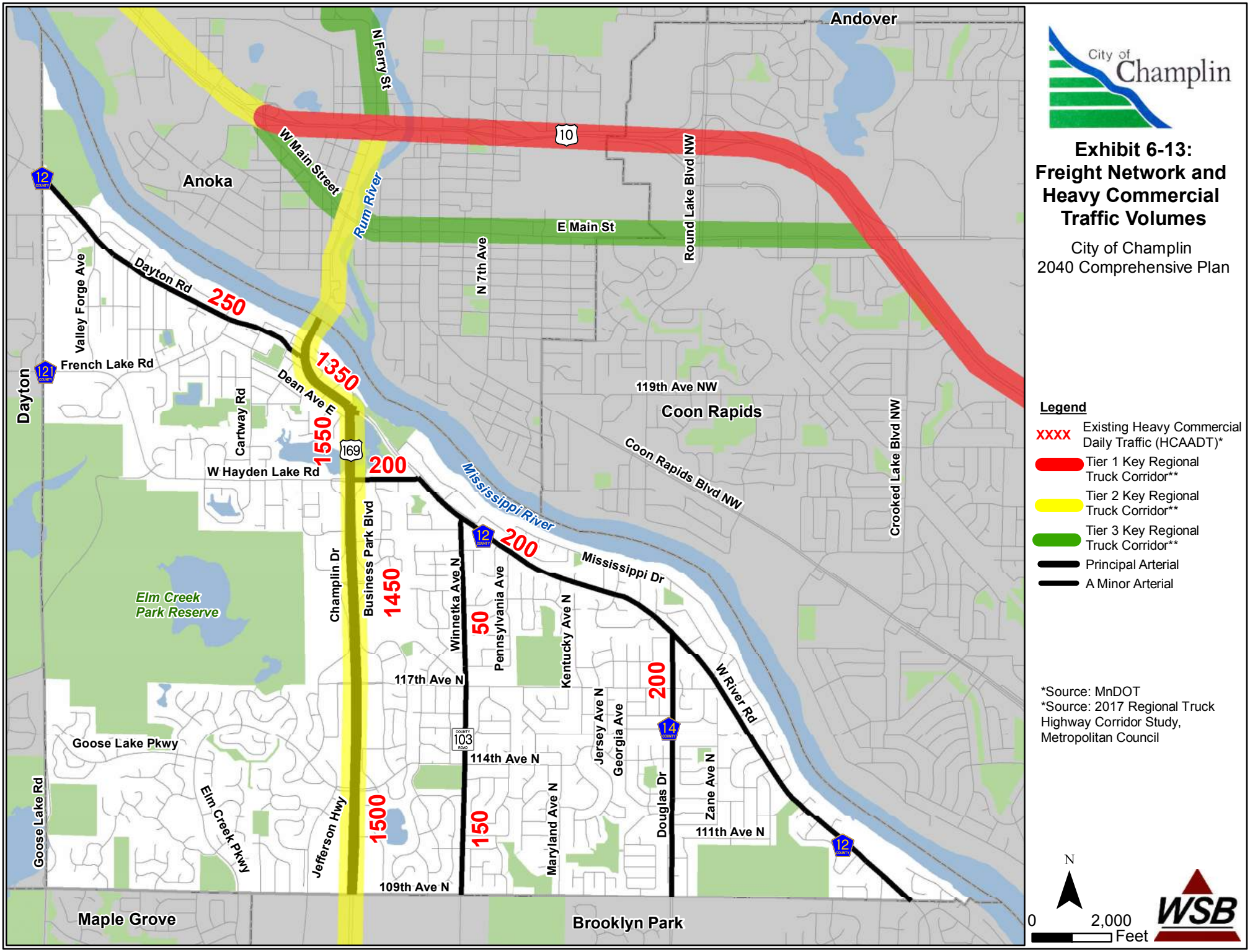
- Tier 2 RBTN Alignment
- Tier 1 RBTN Corridor
- Tier 2 RBTN Corridor
- Mississippi River Regional Trail
- Mississippi River Trail Bikeway Routes
- On Street Bikeway* - Existing
- On Street Bikeway* - Future
- Off Street Trail - Existing
- Off Street Trail - Future
- Concrete Sidewalk - Existing
- Concrete Sidewalk - Future
- On-Road Bikeway

*Bikeways are defined as roadways with striped/marked shoulders of at least four feet.

N

0 2,000 Feet

WSB



City of Champlin

Exhibit 6-13: Freight Network and Heavy Commercial Traffic Volumes

City of Champlin
2040 Comprehensive Plan

Legend

- XXXX Existing Heavy Commercial Daily Traffic (HCAADT)*
- Tier 1 Key Regional Truck Corridor**
- Tier 2 Key Regional Truck Corridor**
- Tier 3 Key Regional Truck Corridor**
- Principal Arterial
- A Minor Arterial

*Source: MnDOT
*Source: 2017 Regional Truck Highway Corridor Study, Metropolitan Council

N

0 2,000 Feet

WSB

City of Champlin

Exhibit 6-14: Transportation Strategies

City of Champlin
2040 Comprehensive Plan

Legend

- Programmed Reconstruction Project
- Recommended Conversion to 3-Lane Roadway (Unprogrammed)
- Potential Future Traffic Signal or Roundabout

Potential Jurisdictional Transfer

- County to City

Future River Crossing Need in Dayton Area (not shown on map)

Note: Programmed reconstruction year per the City of Champlin 2018-2027 Capital Improvement Plan

N

0 2,000 Feet

WSB