

City of Lakeville  
2040 Transportation Plan Update



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## **Introduction**

The City of Lakeville is located in Dakota County, Minnesota, and is 20 miles south of downtown Minneapolis and 20 miles southwest of downtown Saint Paul. Lakeville is the sixteenth largest City in Minnesota by population, and the City boundary encompasses 38 square miles and is bordered by the Cities of Burnsville and Apple Valley to the north, Farmington and Empire Township to the east, New Market and Eureka Townships to the south, and Credit River Township to the west.

## **Vision for the Transportation System**

The purpose of the Transportation Plan is to provide a means to better connect the community, outline the policy and program guidance needed to make appropriate transportation related decisions when development occurs, state when elements of the transportation system need to be upgraded, and forecast when transportation challenges may occur. The Transportation Plan demonstrates how the City of Lakeville will provide for an integrated transportation system that will serve the future needs of its residents and businesses, support the City's development plans, and complement the portion of the metropolitan transportation system that lies within the City's boundaries.

The City of Lakeville maintains public roadways, public parking lots/facilities, and public trails and sidewalks within the City. The City also maintains all trails and sidewalks as well as snow removal per council request. Maintaining and improving this multimodal transportation system is important to the ongoing economic health and quality of life of the City, and is needed for people to travel easily and safely to work and other destinations, to develop property and to move goods.

## **Report Organization**

The Transportation Plan is organized into the following sections:

- Roadway System Plan
- Transit System Plan
- Bicycle and Trail System Plan
- Freight System Plan
- Aviation System Plan
- Funding Strategies
- Planning for the Future

## Summary of Regional Transportation Goals

Guidance for the development of the Transportation Plan is provided by the Metropolitan Council's 2040 Transportation Policy Plan (TPP). The Metropolitan Council's TPP includes six major themes that address regional transportation:

**Transportation System Stewardship:** Provide sustainable investments in the transportation system which are protected by strategically preserving, maintaining, and operating system assets.

**Safety and Security:** Ensure the regional transportation system is safe and secure for all users.

**Access to Destinations:** Allow people and businesses to prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.

**Competitive Economy:** Ensure the regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and State.

**Healthy Environments:** Confirm the regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments.

**Levering Transportation Investment to Guide Land Use:** Leverage the region's transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

## Lakeville Goals and Policies

The role of the Metropolitan Council is to coordinate large-scale transportation planning efforts to benefit the metropolitan region. As a metropolitan community, Lakeville's role is to respond to Metropolitan Council's initiatives and coordinate with adjacent communities, while addressing its local responsibility to improve the quality of life for its citizens. To respond to the above themes, as well as to serve economic activities and improve the quality of life in Lakeville, the City has adopted the following transportation policies.

**Goal 1.** Provide sustainable investments in the transportation system which are protected by strategically preserving, maintaining, and operating system assets.

Policy 1.1 Treat all modes of transportation and related facilities as one system to be coordinated and related on a comprehensive basis.

Policy 1.2 Protect investments in the transportation system through strategic preservation, maintenance, and operation of system assets.

Policy 1.3 Coordinate transportation planning and implementation with neighboring and affected units of government including State, regional, County, and municipal bodies.

- Policy 1.4 Cooperate with the Minnesota Valley Transit Authority and Metro Transit in providing sufficient and adequate park-and-ride lots in appropriate locations to serve community needs.
- Policy 1.5 Develop a transportation system that serves the mobility and access needs of the City’s residents, businesses, and institutions and supports the City’s growth and development vision.
- Policy 1.6 Utilize performance measures to catalog system deficiencies and identify the level of satisfaction experienced by users of the transportation system. Provide maintenance, improve traffic control, and upgrade roadways as necessary.
- Policy 1.7 Consider opportunities to improve the City’s Intelligent Transportation System infrastructure to be prepared to potentially support autonomous vehicles and connected vehicles in the future; this could be accomplished when significant investments are proposed for construction and reconstruction projects.
- Policy 1.8 Ensure hierarchy of adjacent roadway system is complimentary to land use types as land use redevelops.

**Goal 2.** Ensure the regional transportation system is safe and secure for all users.

- Policy 2.1 Control access to the regional roadway system including the concentration of driveways and side street intersections, with respect to functional classification. Maintain access management standards that are consistent with the Dakota County and Metropolitan Council guidelines.
- Policy 2.2 Develop a multimodal transportation system in which automobiles, trucks, rail, transit, bicycles, and pedestrians are adequately served and can safely co-exist.
- Policy 2.3 Support education and safety for bicyclists and pedestrians to promote safe use of the City’s pedestrian and bicycle trails.
- Policy 2.4 Promote design best practices to provide and improve facilities for pedestrians and bicyclists, who are the most vulnerable users of the transportation system.
- Policy 2.5 Protect and strengthen the role of the regional transportation system to provide secure and effective emergency response to serious incidents and threats through transportation improvements, design, and municipal policy.
- Policy 2.6 Promote safe pathways for pedestrians and bicyclists in parking lots and internal traffic circulation areas.

**Goal 3.** Allow people and businesses to prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.

Policy 3.1 Focus the transportation system on activity centers within the community and in neighboring communities.

Policy 3.2 Plan, design and develop a street system in areas where incomplete street facilities exist that reflects the highest standards and relates land use to transportation needs and policies.

Policy 3.3 Require appropriate dedication of public right-of-way and restricted access along roadways based on the functional classification and access guidelines contained within the Transportation Plan.

Policy 3.4 Support County and State access guidelines that limit access on arterials based on their functional classification and access guidelines contained within the Transportation Plan.

Policy 3.5 Utilize Complete Streets principles to meet the travel needs of pedestrians, bicyclists, and transit users.

Policy 3.6 Facilitate pedestrian and bicycle connections to commercial districts.

Policy 3.7 Connect pedestrian and bicycle trails with major pedestrian generators, integrate with the Regional Bicycle Transportation Network, and build continuity across major barriers and between jurisdictions.

Policy 3.8 Review new developments for adequacy of parking based upon need, the potential for joint use of parking facilities, and through transportation demand management strategies.

Policy 3.9 Prioritize investments in A-Minor arterials that build, manage, or improve the system's ability to supplement the capacity of the principal arterial system.

**Goal 4.** Ensure the regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and State.

Policy 4.1 Develop a process for understanding current and future transportation needs and for helping guide the City's transportation investment policies.

Policy 4.2 Invest in transportation improvements that will attract and retain businesses and workers within Lakeville.

Policy 4.3 Strengthen connections between work and activity centers.

Policy 4.4 Provide and protect efficient connections from major freight facilities to the regional highway system.

Policy 4.5 Coordinate with regional governments, transit agencies, and rideshare programs to capture the environmental and social costs of commuting and incentivize alternatives to single-occupancy vehicle trips.

**Goal 5.** Confirm the regional transportation system advances equity and contributes to the community's livability and sustainability while protecting the natural, cultural, and developed environments.

Policy 5.1 Ensure that the highway system complements and facilitates local movements provided by local streets, bicycle trails, and pedestrian facilities.

Policy 5.2 Provide for multi-purpose trails in conjunction with street and highway improvements. The multi-purpose trails are to provide for a variety of transportation needs, including pedestrians and bicycles.

Policy 5.3 Require adequate transitions and buffers to mitigate the undesirable impact of high volume roadways, including but not limited to earth berms, walls, landscaping and distance.

Policy 5.4 Include appropriate urban design treatments as part of roadway development to enhance the aesthetic amenities provided within the community.

Policy 5.5 Plan a sustainable transportation system, which functions practically for all citizens, particularly for historically underrepresented populations, which promotes community cohesion and active living.

Policy 5.6 Require installation of multi-purpose trails adjacent to all collector and arterial roads and along streets or within private development where necessary to provide connections between residential neighborhoods, community and regional recreation and educational facilities, retail uses, and other destinations.

Policy 5.7 Mitigate impacts to the natural environment and cultural resources when planning, constructions and operating transportation systems.

Policy 5.8 Minimize the effect of air quality impacts on the natural environments with proposed transportation improvements.

Policy 5.9 Identify and improve suitable truck routes while minimizing impacts; such as, noise and traffic to sensitive land uses.

Policy 5.10 Identify interconnectivity improvements between jurisdictions to disperse traffic and alleviate travel time for first responders.



**Goal 6.** Leverage the region’s transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

- Policy 6.1 Plan transportation facilities to function in a manner compatible with adjacent land uses; in those instances, where the function of a transportation facility has changed over time and has become incompatible with adjacent land uses, establish a program to eliminate this incompatibility.
- Policy 6.2 Define transit planning areas and commit to development strategies that support successful transit in these areas.
- Policy 6.3 Create appropriate land use that supports transit-oriented development through station area planning at the five transit stations of the planned METRO Transit Red Line Transitway extension (OLX) to Lakeville.
- Policy 6.4 Plan a mixture of employment and housing uses and densities along existing and future transit corridors.
- Policy 6.5 Encourage interconnection of similar land uses to facilitate local through traffic flow, maximize dispersion opportunities, and minimize congestion and safety conflicts.
- Policy 6.6 Stage improvements to reflect projected growth needs and land use changes.
- Policy 6.7 Develop community partnerships to address the opportunities and challenges related to creating walkable, bikeable, and transit-friendly places.

## Roadway System

The roadway network portion of the transportation system in Lakeville is expanding to accommodate growth and redevelopment. The City of Lakeville has excellent access to the regional transportation roadway system with routes I-35 and Cedar Avenue (CSAH 23) passing through the City. Industrial areas in the City of Lakeville are located with adequate access to the metropolitan highway system. This major highway coverage reduces the impact of truck traffic on local roadways and minimizes the potential for disruption of neighborhoods. This section of the Transportation Plan will address jurisdictional and functional classification, future traffic volumes, congestion, safety, future roadway system improvements and key transportation policies.

### Jurisdictional Classification

As with all municipalities, jurisdiction over the roadway system within the City of Lakeville is shared among the Minnesota Department of Transportation (MnDOT), Dakota County, and the City of Lakeville. MnDOT maintains the interstate and trunk highway system on behalf of the State of Minnesota, Dakota County maintains the County State Aid-Highway (CSAH) and County Road (CR) systems, and the remaining public roadways within the City are owned and maintained by the City of Lakeville. The three jurisdictions coordinate in the planning and improvement efforts of the roadway system in Lakeville. The existing jurisdictional classification map is shown in Figure 1.

The jurisdictional classification system is intended to maintain a balance of responsibility among the three agencies. It is organized around the principle that the highest volume, limited access roadways that carry regional trips are primarily maintained by MnDOT, the intermediate volume roadways that carry medium length trips are maintained by Dakota County and the local street system that provides access to individual properties is maintained by the City. Occasionally, because of development, changes in traffic patterns or the construction of new facilities, the jurisdictional classification needs to be adjusted to reflect changes in the way certain roadways are utilized. The following jurisdictional transfers have been identified:

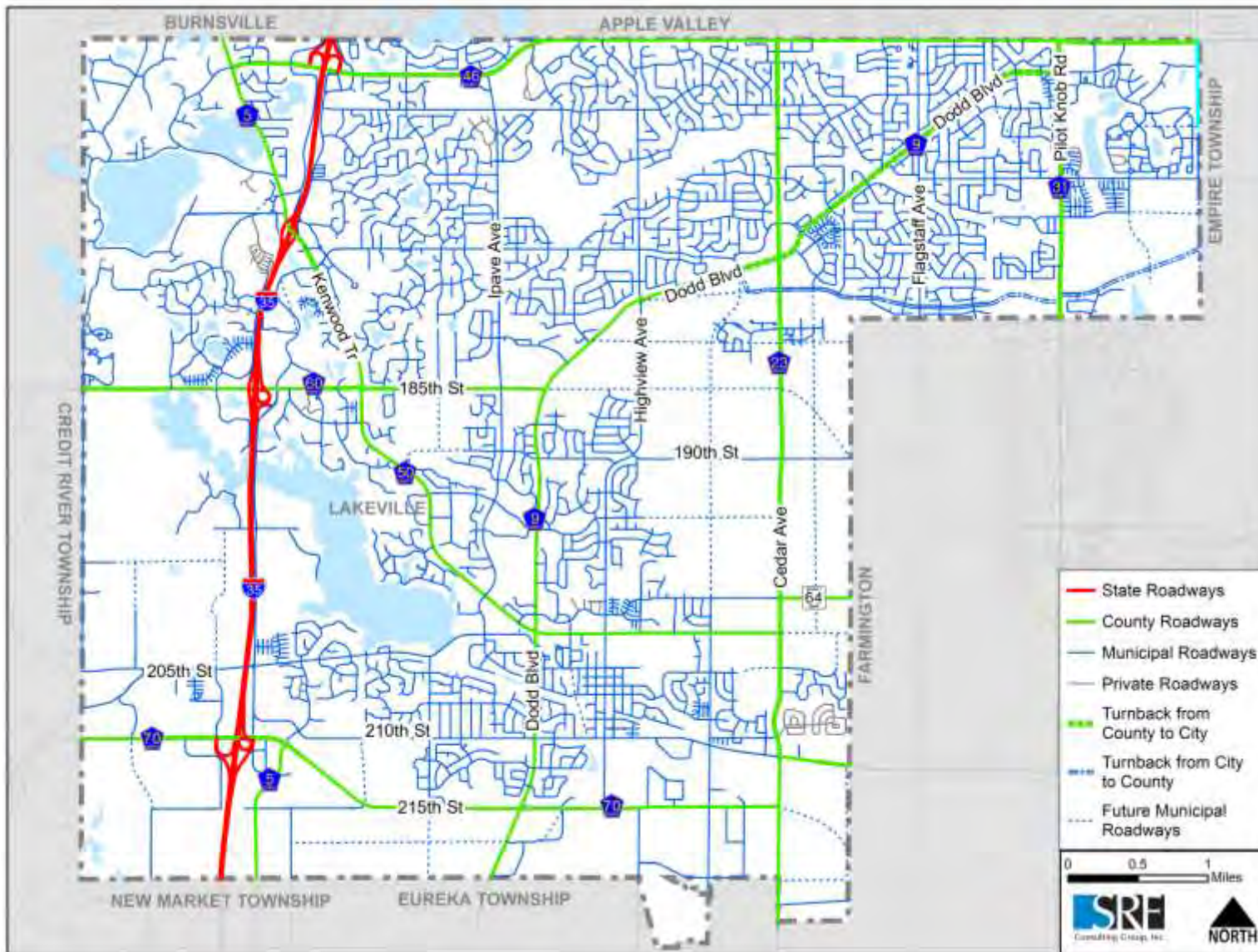
#### Potential Transfers from Lakeville to Dakota County:

- 179th Street from Highview Avenue to the east city limit

#### Potential Transfers from Dakota County to Lakeville:

- CSAH 9 (Dodd Boulevard) from east of Highview Avenue to CSAH 31 (Pilot Knob Road)

Figure 1. Existing Roadway Jurisdictional Classification Map



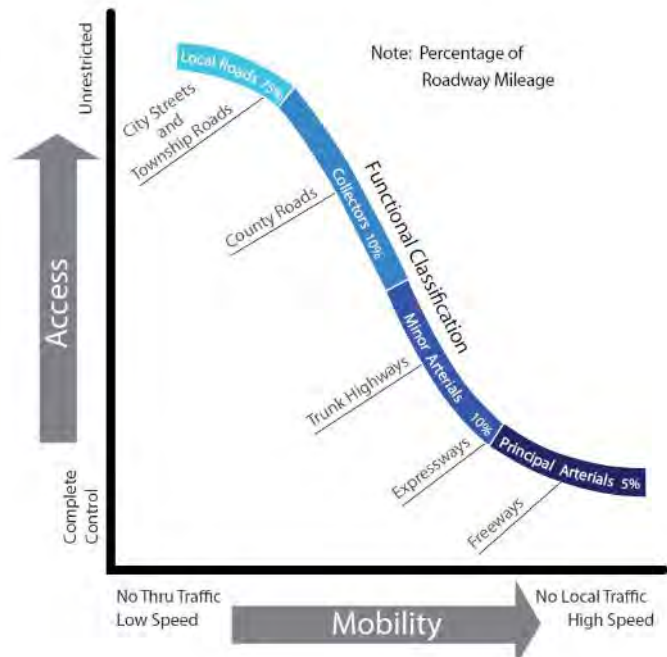
## Functional Classification

Roadway functional classification categories are defined by the way roadways serve the flow of trips through the overall roadway system. Within the Twin Cities metropolitan area, the Metropolitan Council has established detailed criteria for roadway functional classifications, which are presented in Table 1.

The intent of the functional classification system is to create a hierarchy of roads that collect and distribute traffic from neighborhoods to the metropolitan highway system. Roadways with a higher functional classification, such as arterials, generally provide for longer trips, have more mobility, have limited access, and connect to larger economic and industrial centers. Roadways with a lower functional classification, such as collectors and local streets, generally provide for shorter trips, have lower mobility, have more access, and connect to higher functioning roadways. A balance of all functions of roadways is important for effective operation of the City’s transportation network.

The roadway functional classification is based on several factors, including:

- Trip characteristics such as length of route, type and size of activity centers, and route continuity;
- Access to regional population centers, activity centers, and major traffic generators;
- Proportional balance of access, ease of approaching or entering a location;
- Proportional balance of mobility and ability to move without restrictions;
- Continuity between travel destinations;
- Relationship with neighboring land uses;
- Eligibility for State and Federal funding.



The existing roadway functional classification within the City of Lakeville is shown in Figure 2.

**Table 1. Metropolitan Council Roadway Functional Classifications**

Criteria	Principal Arterial	Minor Arterial and Other Arterial	Collector	Local Street
<b>Place Connections</b>	Connect regional job concentrations and freight terminals within the urban service area.	Provide supplementary connections between regional job concentrations, local centers, and freight terminals within the urban service area.	Connect neighborhoods and centers within the urban service area.	Connect blocks and land parcels within neighborhoods and within commercial or industrial developments.
<b>Spacing</b>	Urban communities: 2 to 3 miles. Suburban communities: Spacing should vary in relation to development density of land uses served, 2 to 6 miles.	Regional job concentrations: 1/4 to 3/4 mile. Urban communities: 1/2 to 1 mile. Suburban communities: 1 to 2 miles.	Job concentrations: 1/8 to 1/2 mile. Urban Communities: 1/4 to 3/4 mile. Suburban Communities: 1/2 to 1 mile.	As needed to access land uses.
<b>System Connections</b>	To interstate freeways, other principal arterials, and select A-Minor arterials. Connections between principal arterials should be of a design type that does not require vehicles to stop. Intersections should be limited to 1 to 2 miles.	To most interstates, principal arterials, other minor arterials, collectors and some local streets.	To minor arterials, other collectors, and local streets.	To a few minor arterials. To collectors and other local streets.
<b>Trip-Making Service</b>	Trips greater than 8 miles with at least 5 continuous miles on principal arterials. Express and highway bus rapid transit trips.	Medium-to-short trips (2 to 6 miles depending on development density) at moderate speeds. Longer trips accessing the principal arterial network. Local, limited-stop, and arterial bus rapid transit trips.	Short trips (1 to 4 miles depending on development density) at low-to-moderate speeds.	Short trips (under 2 miles) at low speeds, including bicycle and pedestrian trips. Longer trips accessing the collector and arterial network.
<b>Mobility versus Land Access</b>	Emphasis is on mobility for longer trips rather than direct land access. Little or no direct land access within the urbanized area.	Emphasis on mobility for longer trips rather than on direct land access. Direct land access limited to concentrations of activity including regional job concentrations, local centers, freight terminals, and neighborhoods.	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations.	Emphasis on land access, not on mobility. Direct land access predominantly to residential land uses.
<b>System Mileage</b>	5-10%	10-15%	5-15%	60-75%

**Table 1. Metropolitan Council Roadway Functional Classifications (continued)**

Criteria	Principal Arterial	Minor Arterial and Other Arterial	Collector	Local Street
<b>Percent of Vehicle Miles Traveled</b>	15-35%	15-25%	10-25%	10-25%
<b>Intersections</b>	Grade separated desirable where appropriate. At a minimum, high-capacity controlled at-grade intersections.	Traffic signals, roundabouts, and cross-street stops.	Four-way stops and some traffic signals.	As required.
<b>Parking</b>	None	Restricted as necessary.	Restricted as necessary.	Permitted as necessary.
<b>Large Trucks</b>	No restrictions.	Candidates for local truck network, large trucks restricted as necessary.	May be candidates for local truck network, large trucks restricted as necessary.	Permitted as necessary.
<b>Management Tools</b>	Ramp metering, preferential treatment for transit, access control, median barriers, traffic signal progression, staging of reconstruction, and intersection spacing.	Traffic signal progression and spacing, land access management and control, preferential treatment for transit.	Number of lanes, traffic signal timing, land access management.	Intersection control, cul-de-sacs, and diverters.
<b>Typical Average Daily Traffic Volumes</b>	15,000 to 100,000+	5,000 to 30,000+	1,000 to 15,000+	Less than 1,000
<b>Posted Speed Limit</b>	40 to 65 mph	30 to 45 mph	30 to 40 mph	Max. 30 mph
<b>Right-of-Way</b>	100 to 300 feet	60 to 150 feet	60 to 100 feet	50 to 80 feet
<b>Transit Accommodations</b>	Transit advantages that provide priority access and reliable movement for transit in peak periods where possible and needed.	Transit advantages for reliable movement where needed.	Regular-route buses, transit advantages for reliable movement, where needed.	Normally used as bus routes only in nonresidential areas.
<b>Bicycle and Pedestrian Accommodations</b>	On facilities that cross or are parallel to the principal arterial with greater emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On facilities that cross or are parallel to the minor arterial with greater emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On, along, or crossing the collector with higher emphasis along transit routes and in activity centers. Crossings should be spaced for adequate crossing opportunities.	On, along, or crossing the local road.

Source: Metropolitan Council, 2040 Transportation Policy Plan, 2015. This table summarizes characteristics for existing roadways to be used in evaluating functional classification and should not be used as design guidelines.

## Principal Arterials

Principal arterials are part of the metropolitan highway system and provide high-speed mobility between the Twin Cities and important locations outside the metropolitan area. They are also intended to connect the central business districts of the Twin Cities along with other regional business concentrations in the metropolitan area. Principal arterials are generally constructed as limited access freeways in urban areas and may also be constructed as multiple-lane divided highways. The City of Lakeville is served by one principal arterial which is I-35. Lakeville also has two non-freeway principal arterials which are CSAH 23 and CSAH 70.

## Minor Arterials and Other Arterials

Minor arterials also emphasize mobility over land access, serving to connect large cities with adjacent communities and the metropolitan highway system. Major business concentrations and other important traffic generators are usually located on minor arterial roadways. In urban areas, one- to two-mile spacing of minor arterials is considered appropriate, and most locations within the City of Lakeville are within one mile of a minor arterial.

A-Minor arterials are defined by the Metropolitan Council as roadways of regional importance as they serve to relieve, expand or complement the principal arterial system. Consistent with Metropolitan Council guidelines, A-Minor arterials are categorized into four types and are described in further detail below:

- Relievers – Roadways that provide direct relief for metropolitan highway traffic;
- Expanders – Roadways that provide a way to make connections between urban areas outside the I-494/I-694 beltway.
- Connectors – Roadways that provide safe connections to communities at the edge of the urbanized area and in rural areas.
- Augmenters – Roadways that enhance principal arterials within the I-494/I-694 beltway.

“Other arterials” provide a citywide function, serving medium to long distance trips. The City of Lakeville is also served by “Other Arterials.”

A well-planned and adequately designed system of principal and minor arterials will allow the City of Lakeville’s overall roadway network to function properly and discourage through traffic from travelling on residential streets. Volumes on principal and minor arterial roadways are expected to be greater than volumes on collector or local roadways. Minor arterials in Lakeville are presented in Figure 2.

## Collectors

Collectors are designed to serve shorter trips that occur within the City and to provide access from neighborhoods to other collector roadways and the arterial system. They are expected to carry less traffic than arterial roads and to provide access to some properties. Roadway segments designated as major collectors in the City of Lakeville are included in Figure 2. Characteristics between Minor and Major Collectors can be found in Table 2.

**Table 2. Characteristics of Minor and Major Collectors**

Criteria	Minor Collector	Major Collector
Length	Short, less than 1.5 miles.	Longer, 1.5 miles to three miles.
Travel Shed	Limited to immediate neighborhood.	Larger area links more than one neighborhood.
Speeds	Low speed (30-35 MPH)	Medium speed (35-45 MPH)
Access	Private access permissible	Private access discouraged. Generally, access is provided to higher trip generators
Parking	(e.g., shopping centers, office buildings.)	Some restrictions depending on traffic volumes.
Land Use	Usually allowed	Some restrictions depending on traffic volumes.
Mobility	Typically serves residential areas.	Residential, commercial or high employment concentrations.
Transit	Less emphasis on mobility and greater value on access.	More balance between mobility and access.
Spacing	May accommodate fixed route transit but less likely to be used as a route.	Should be designed to accommodate fixed route transit.

**Local Streets**

Local streets provide access to adjacent properties and neighborhoods. Local streets are generally low speed and designed to discourage through traffic. All the remaining roadways in the City that were not listed under the previous functional classifications fall under the local street designation.

**Functional Classification Changes**

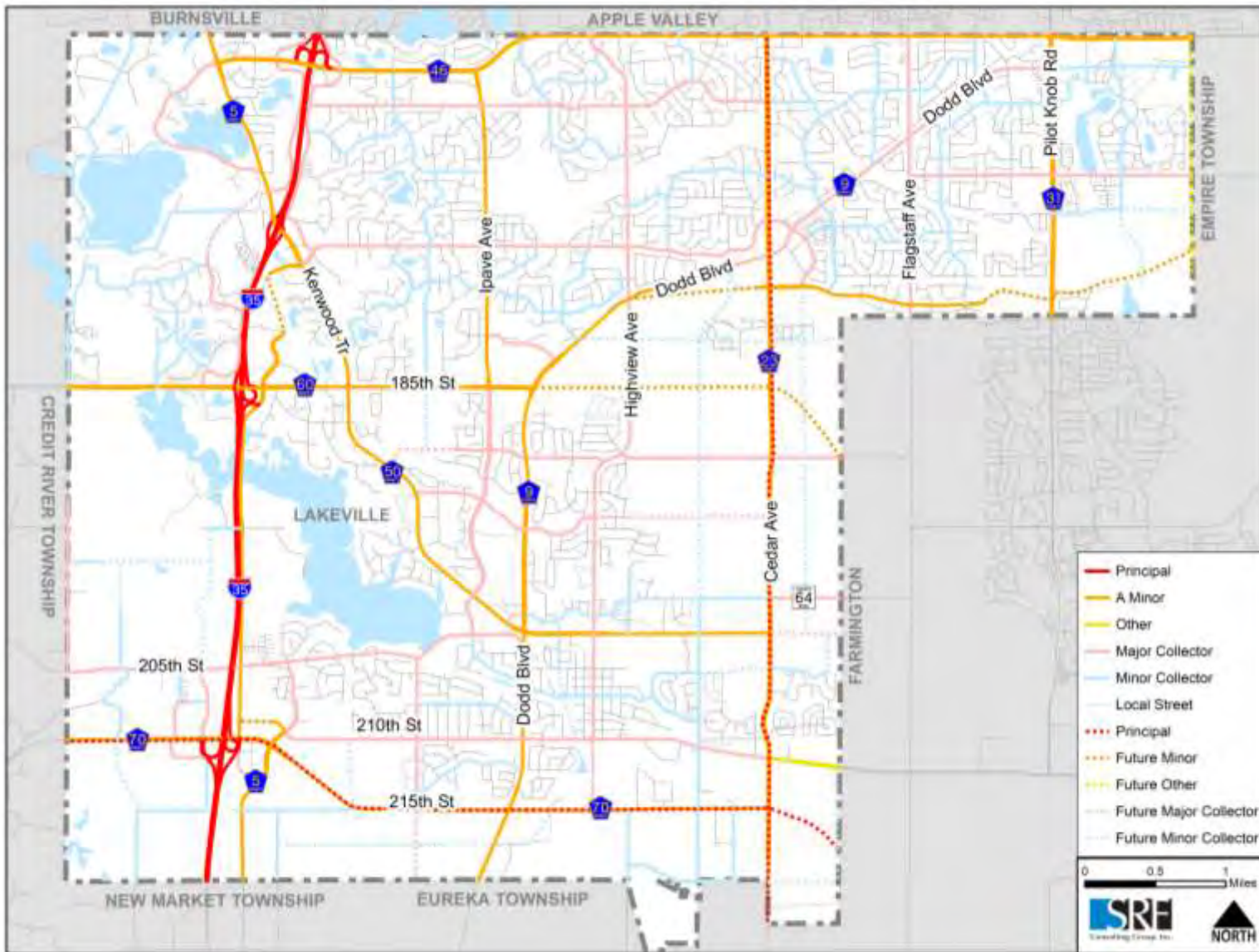
The future functional classification within the roadway system is important for determining access and long-term land use. Occasionally, due to growth and development, changes in travel patterns or construction of new facilities, the functional classification needs to be adjusted to reflect changes in the way certain roadways are utilized. Future functional classification transfers as indicated in the Dakota County 2040 Transportation Plan within the City of Lakeville are listed below:

- Cedar Avenue (CSAH 23) – Northern city limit to southern city limit; change to a Principal Arterial; result of the Dakota County Principal Arterial Study
- CSAH 70 – Western city limit to eastern city limit; change to a Principal Arterial; result of the Dakota County Principal Arterial Study

Any changes to functional class must be approved by the Transportation Advisory Board prior to construction.



Figure 2. Existing and Future Roadway Functional Classification Map



## Planned and Programmed Improvements

There are various roadway projects within the City of Lakeville that are currently under construction, programmed for completion within the next few years, or proceeding through the planning process. Table 3 and Figure 3 identify the programmed roadway improvements within Lakeville as identified in the MnDOT Metro District 10-Year Capital Highway Investment Plan (2018-2027), Metropolitan Council’s 2040 Transportation Policy Plan (TPP), 2018-2022 Dakota County Capital Improvement Program, and 2018 City of Lakeville Capital Improvement Program. These planned or programmed roadway improvements are considered part of the future roadway system as they will likely be implemented within the 2040 planning horizon.

**Table 3. List of Planned and Programmed Improvements**

Roadway	Extents	Project Type	Jurisdiction
<b>210<sup>th</sup> and 215<sup>th</sup> St (CSAH 70)</b>	East of Kensington Blvd to Cedar Ave (CSAH 23)	2-lane undivided to 4-lane divided	Dakota County <sup>2</sup>
<b>202<sup>nd</sup> St (CSAH 50)</b>	Holyoke Ave to Cedar Ave (CSAH 23)	2-lane undivided to 2-lane divided	Dakota County <sup>2</sup>
<b>179<sup>th</sup> St</b>	0.5 mi west of Pilot Knob Rd (CSAH 31) to Pilot Knob Rd (CSAH 31)	Non-existing to 2-lane divided	Lakeville <sup>1</sup> (Future Turnback)
<b>Hamburg Ave</b>	Lakeville Blvd to 202nd St (CSAH 50)	2-lane undivided rural to 2-lane undivided urban	Lakeville <sup>1</sup>
<b>Kenrick Ave (CSAH 5)</b>	0.13 mi west of Kensington Blvd to Kenrick Ave (CSAH 5)	Non-existing to 2-lane undivided urban	Lakeville <sup>1</sup>
<b>Kenyon Ave</b>	0.25 mi south of 162nd St to 162nd St	2-lane undivided rural to 2-lane undivided urban	Lakeville <sup>1</sup>
<b>Diamond Path (CR 33)</b>	160 <sup>th</sup> St (CSAH 46) to 179 <sup>th</sup> St – (Future Alignment)	Future Extension	Dakota County <sup>2</sup>
<b>179<sup>th</sup> St</b>	Dodd Blvd (CSAH 9) to Diamond Path (CR 33) – (Future Alignment)	Future Extension/Realignment	Lakeville <sup>1</sup> (Future Turnback)
<b>185<sup>th</sup> St (CSAH 60)</b>	Dodd Blvd (CSAH 9) to 200 <sup>th</sup> St (CR 64) in Farmington	Extension	Dakota County <sup>2</sup>
<b>215<sup>th</sup> St (CSAH 70)</b>	Cedar Ave (CSAH 23) to TH 3 in Farmington	Extension	Dakota County <sup>2</sup>
<b>Dodd Blvd (CSAH 9)</b>	Dodd Lane to Franchise Way	Reconstruction	Dakota County
<b>210<sup>th</sup> St</b>	Kensington Blvd to Holyoke Ave	Widening/Reconstruction	Dakota County <sup>2</sup>

Sources: <sup>1</sup> 2018 City of Lakeville Capital Improvement Program.

<sup>2</sup> 2018-2022 Dakota County Capital Improvement Program, Dakota County Sale and Use Tax CIP and 2018 Dakota County Transportation Plan

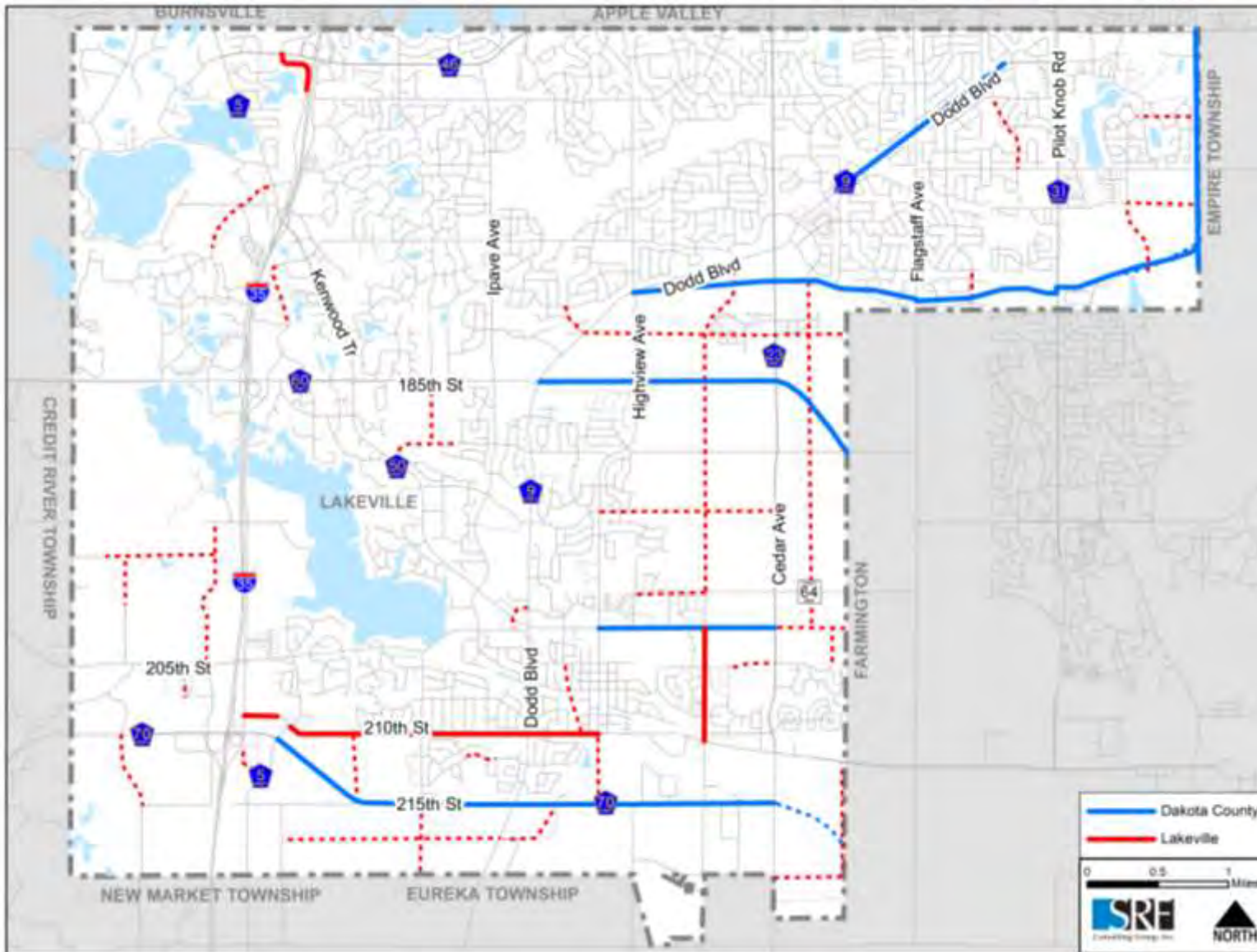
**Table 3. List of Planned and Programmed Improvements (continued)**

Intersection	Project Type	Jurisdiction
<b>202<sup>nd</sup> Street/CSAH 50 (Holyoke Avenue to Cedar Avenue/CSAH 23)</b>	Roundabout at Holyoke Avenue and Signal at Cedar Avenue	Lakeville and Dakota County
<b>162<sup>nd</sup> Street and Kenyon Avenue/Buck Hill Road</b>	Traffic Signal	Lakeville and Dakota County
<b>160<sup>th</sup> Street and Pilot Knob Road</b>	Advanced Traffic Management System	Lakeville and Dakota County
<b>Dodd Boulevard and Heritage Drive/Icenic Trail</b>	¾ Intersection	Lakeville and Dakota County
<b>Dodd Boulevard/CSAH 9 and Flagstaff Avenue</b>	Roundabout	Lakeville and Dakota County
<b>Dodd Boulevard/CSAH 9 and Glacier Way</b>	Traffic Signal	Lakeville and Dakota County
<b>Ipava Avenue and 165<sup>th</sup> Street</b>	Traffic Signal	Lakeville

### **Coordination with Other Jurisdictions**

The City of Lakeville will continue to coordinate with adjacent jurisdictions, such as the communities of Apple Valley, Burnsville, Credit River Township, Eureka Township, Farmington, Empire Township, New Market, and Rosemount, as well as Dakota County and MnDOT when planning future transportation improvements. Coordination among jurisdictions provides opportunities for collaboration that benefit all agencies, City residents, and the general public. Additionally, effective coordination may result in financial and time savings through economies of scale, and potentially reducing construction impacts to residents. The City already partakes in the I-35W Solutions Alliance, established in 1989, which includes communities along I-35W as well as Dakota County, Hennepin County and Scott County and the regional transportation agencies. These agencies work together to set priorities and be involved in planning and implementation of transportation projects.

Figure 3. Planned and Programmed Improvements Map



## 2040 Travel Demand Forecasts

The pattern and intensity of travel within any City is directly related to the distribution and magnitude of households, population and employment within that community, in neighboring communities and in the region.

Land use, travel patterns, population and employment change over time and affect the efficiency and adequacy of the transportation network. Expected changes in the City's land use pattern, households, population and employment will be the basis for estimating future travel demand within the City of Lakeville.

### Land Use

The City of Lakeville has a community designation of suburban edge located within the Metropolitan Council's urban service area. Existing land use within the City of Lakeville is shown in Community Background Chapter of the City's Comprehensive Plan.

As the metropolitan area moves forward with a greater focus on multimodal transportation, new development and redevelopment in Lakeville will be constrained by the existing and future transportation system. The Transportation Plan is designed to assist the City in developing a transportation system that supports land use and provides safe and efficient movement of people and goods throughout the City.

### Socioeconomic Data

The Metropolitan Council prepared estimates for the overall regional growth in terms of population, households, and employment for the years 2020, 2030, and 2040, allocating an appropriate portion to each municipality. Historic and estimated future population, households, and employment levels for the City of Lakeville are shown in Table 4.

**Table 4. Summary of Socioeconomic Data for Lakeville**

Year	Population	Households	Employment
2010	55,954	18,683	13,862
2020	64,300	22,300	18,200
2030	74,600	26,300	20,300
2040	83,500	30,000	22,500

Source: Metropolitan Council, 2017.

The City of Lakeville, with the assistance of the Metropolitan Council, has estimated existing and future population, households, and employment levels for sub-areas within the City known as Traffic Analysis Zones (TAZs). This information is shown on Page 19 and was required to complete the traffic forecasting procedures used to estimate future roadway traffic volumes.



## Forecast 2040 Traffic Volumes

Estimated 2040 traffic forecasts for the City of Lakeville were prepared using the future population, households, and employment data outlined above. These forecasts are an essential analytical tool to determine the adequacy of the roadway system to handle future development, as anticipated by the City of Lakeville and the Metropolitan Council. In addition to the planned and programmed roadway projects identified in Figure 3, the traffic forecast model accounts for future planned improvements that are in the Metropolitan Council's 2040 TPP for regional highways outside Lakeville. The existing traffic volumes are shown in Figure 4 and results of the 2040 traffic forecasts are shown in Figure 5.

## Existing and Anticipated Capacity Deficiencies

Congestion on the roadway system is judged to exist when the ratio of traffic volume to roadway capacity, or v/c ratio, approaches or exceeds 1.00. The v/c ratio provides a measurement of congestion along a particular stretch of roadway and can help determine where roadway improvements, access management, transit services, or travel demand management strategies could be implemented. It does not, however, provide a basis for determining specific intersection improvements.

## Level of Service

Level of Service (LOS), as related to highways and local roadways, categorizes the different operating conditions that occur on a lane or roadway when accommodating various traffic volumes. It is a qualitative measure of the effect of traffic flow factors such as speed and travel time, interruption, ability to maneuver, driver comfort and convenience, and is an indirect measure of safety and operating costs. LOS is expressed as levels "A" through "F," with level "A" being a condition of free traffic flow with little or no restriction in speed or maneuverability caused by the presence of other vehicles, and level "F" being a forced-flow condition at low speed with many stoppages resulting in the roadway acting as a storage area. Further definition of LOS is described in Table 5.

The following section further describes LOS and the correlation between LOS and planning-level roadway capacities, which provides a better understanding of the operations and capacity levels on existing roadways within the City of Lakeville. A method to evaluate roadway capacity for non-freeway and non-regional highways is described in Table 6.

For each facility type, the planning-level annual average daily traffic (AADT) capacity ranges and maximum AADT volume ranges are indicated. These volume ranges are based on guidance from the Transportation Research Board's Highway Capacity Manual, direction from the Metropolitan Council, and professional engineering judgment. Capacity ranges are used since the maximum capacity of any roadway design is a theoretical measure that can be affected by its functional classification, traffic peaking characteristics, access spacing, design speed, and other roadway characteristics.

Figure 4. Existing (2018) Traffic Volumes

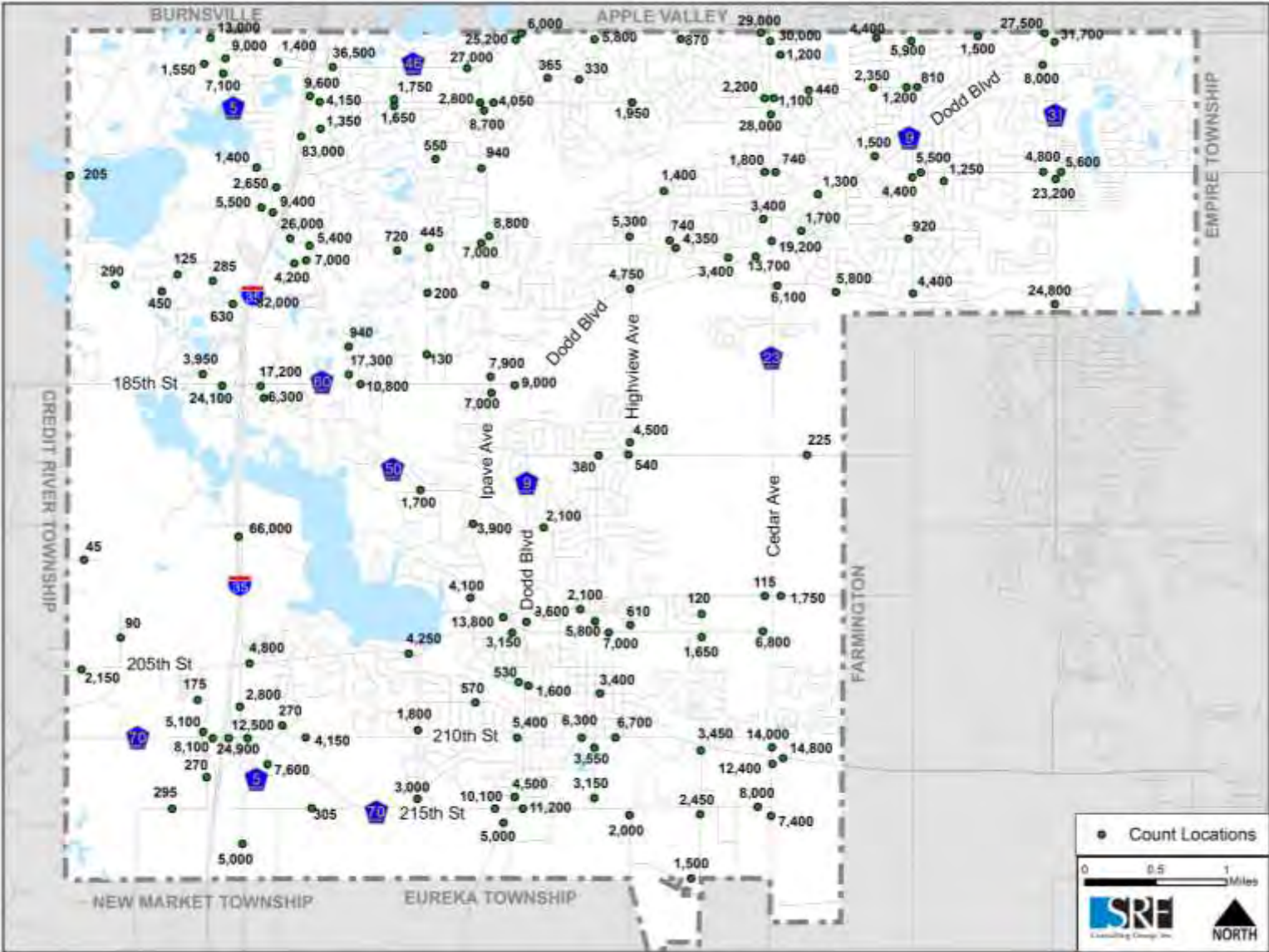
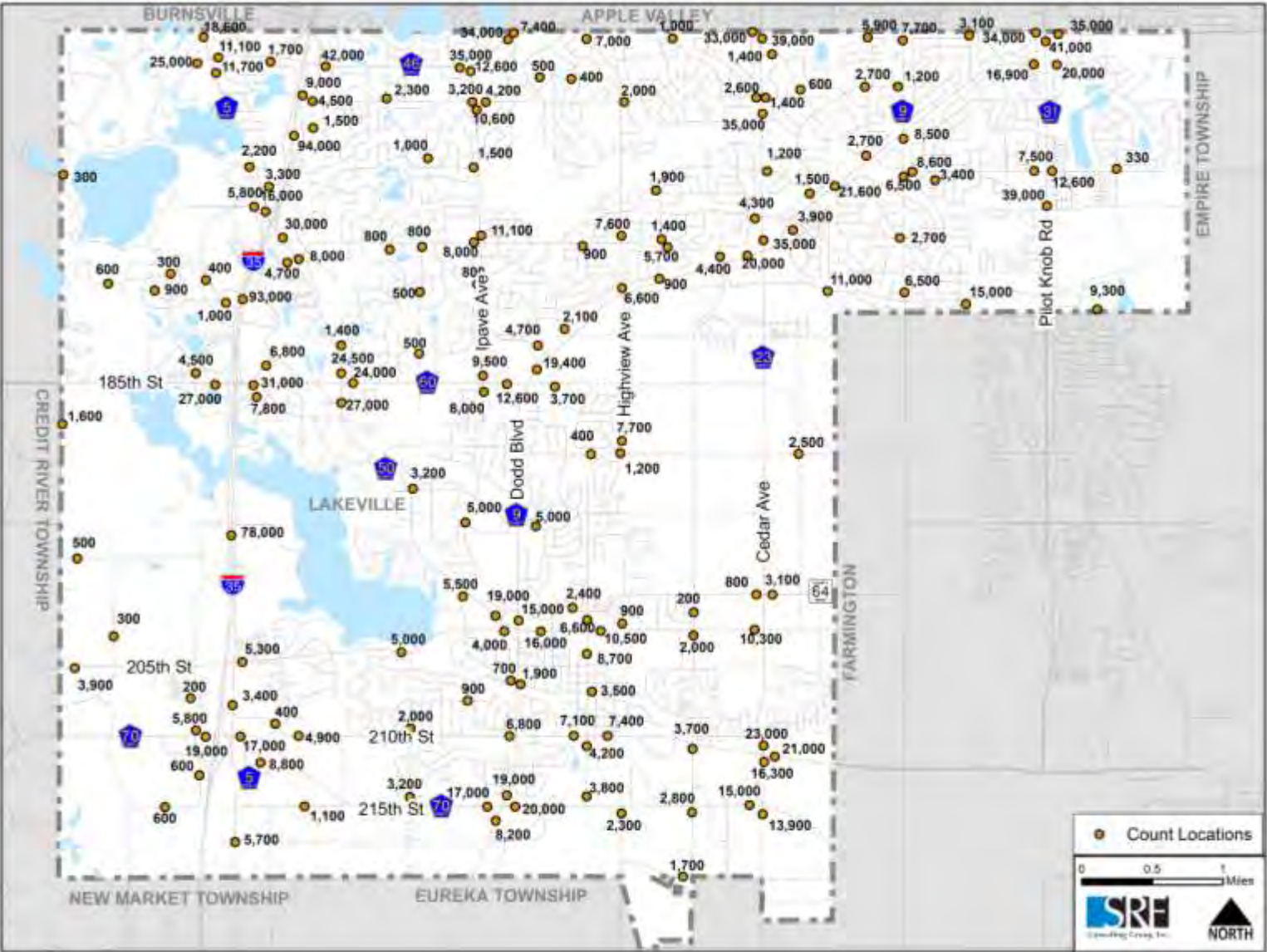




Figure 5. Future (2040) Forecast Traffic Volumes



**Table 5. Level of Service Definitions**

<b>Level of Service (LOS)</b>	<b>Traffic Flow</b>	<b>Vehicle/Capacity Ratio</b>	<b>Description</b>
<b>A</b>	Free Flow Below Capacity	0.20	Low volumes and no delays.
<b>B</b>	Stable Flow Below Capacity	0.40	Low volumes and speed dictated by travel conditions.
<b>C</b>	Stable Flow Below Capacity	0.60	Speeds and maneuverability closely controlled due to higher volumes.
<b>D</b>	Restricted Flow Near Capacity	0.85	Higher density traffic restricts maneuverability and volumes approaching capacity.
<b>E</b>	Unstable Flow Approaching Capacity	1.00	Low speeds, considerable delays, and volumes at or slightly over capacity.
<b>F</b>	Forced Flow Over Capacity	>1.00	Very low speeds, volumes exceed capacity, and long delays with stop-and-go traffic.

Source: Highway Capacity Manual; SRF Consulting Group, Inc.

**Table 6. Planning-Level Roadway Capacities by Facility Type**

Facility Type	Planning-Level Daily Capacity Ranges (AADT)	Under Capacity				Approaching Capacity		Over Capacity
		LOS	A	B	C	D	E	F
		0.2	0.4	0.6	0.85	1.0	>1.0	
<b>Two-lane undivided urban</b>	8,000 – 10,000	2,000	4,000	6,000	8,500	10,000	> 10,000	
<b>Two-lane undivided rural</b>	14,000 – 15,000	3,000	6,000	9,000	12,750	15,000	> 15,000	
<b>Two-lane divided urban (Turn-Lane)</b>	14,000 – 17,000	3,400	6,800	10,200	14,450	17,000	> 17,000	
<b>Four-lane undivided urban</b>	18,000 – 22,000	4,400	8,800	13,200	18,700	22,000	> 22,000	
<b>Four-lane undivided rural</b>	24,000 – 28,000	5,600	11,200	16,800	23,800	28,000	> 28,000	
<b>Four-lane divided urban (Five-lane)</b>	28,000 – 32,000	6,400	12,800	19,200	27,200	32,000	> 32,000	
<b>Four-lane divided rural</b>	35,000 – 38,000	7,600	15,200	22,800	32,300	38,000	> 38,000	
<b>Four-lane expressway rural</b>	45,000	9,000	18,000	27,000	38,250	45,000	> 45,000	
<b>Four-lane freeway</b>	60,000 – 80,000	16,000	32,000	48,000	68,000	80,000	> 80,000	
<b>Six-lane freeway</b>	90,000 – 120,000	24,000	48,000	72,000	102,000	120,000	> 120,000	

## Existing Capacity Deficiencies

By utilizing the methodology described above, existing capacity deficiencies were identified by comparing existing AADT volumes to the thresholds in Table 6 to identify and illustrate roadways that currently exhibit capacity deficiencies. The existing traffic volumes shown in Figure 4 and number of lanes shown in Figure 6 were used to develop the existing capacity deficiencies shown in Figure 7. As noted in Figure 7, the congested roadway segments are defined as those with a v/c ratio at or above 1.00, which signifies that a segment of roadway has observed volumes which exceed its design capacity, as identified in Table 7. In addition, Figure 7 and Table 8 also identify those segments of roadways that are approaching capacity with v/c ratio between 0.85 and 1.00.

**Table 7. Existing Roadways Over Capacity (V/C ≥ 1.00)**

Roadway	V/C	Extents		Jurisdiction
162 <sup>nd</sup> Street	1.14	I-35 Ramp	Kenrick Avenue	Dakota County
185 <sup>th</sup> Street	1.08	Kenwood Trail	Jasper Path	Lakeville
I-35	1.04	162 <sup>nd</sup> Street	Kenwood Trail	MnDOT
I-35	1.03	Kenwood Trail	185 <sup>th</sup> Street	MnDOT
215 <sup>th</sup> Street	1.01	Juniper Way	Dodd Blvd	Lakeville

**Table 8. Existing Roadways Approaching Capacity (0.85 ≤ V/C < 1.00)**

Roadway	V/C	Extents		Jurisdiction
Dodd Boulevard	1.00	202 <sup>nd</sup> Street	Kenwood Trail	Dakota County
Pilot Knob Road	0.99	160 <sup>th</sup> Street	162 <sup>nd</sup> Street	Dakota County
160 <sup>th</sup> Street	0.91	Glacier Avenue	Granada Avenue	Lakeville
160 <sup>th</sup> Street	0.88	Glacier Avenue	Cedar Avenue	Lakeville
Cedar Avenue	0.88	164 <sup>th</sup> Street	167 <sup>th</sup> Street	Dakota County
Lakeville Boulevard	0.87	Cedar Avenue	Gateway Drive	Dakota County
160 <sup>th</sup> Street	0.86	Excel Way	Pilot Knob Road	Lakeville

The methodology described above is a planning-level analysis that uses average daily traffic volumes and is not appropriate for all traffic conditions. For example, traffic conditions that do not fit the average daily traffic criteria such as weekend travel, holiday travel, and special events, are likely to produce different levels of congestion. Additionally, factors such as the amount of access and roadway geometrics may influence capacity. Figure 6 shows existing roadway characteristics for roadways within Lakeville. These roadways are classified based on their number of lanes, whether or not they are divided by a median, and if they are urban or rural in character. For example, a three-lane divided urban roadway would be urban in nature and have one through lane in each direction with a turning lane separated from oncoming traffic by a median.

Figure 6. Existing Roadway Characteristics

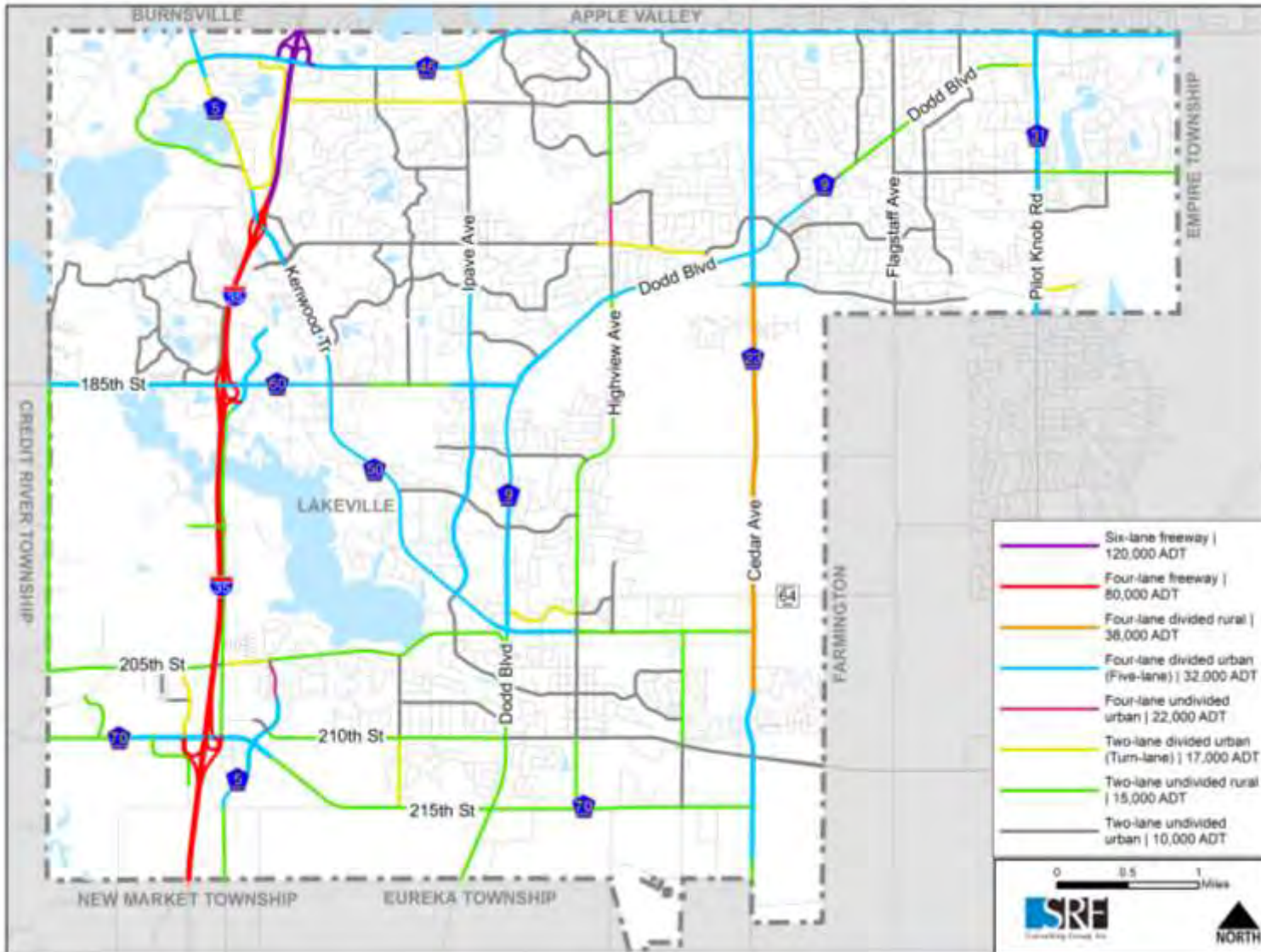


Figure 7. Future Roadway Characteristics

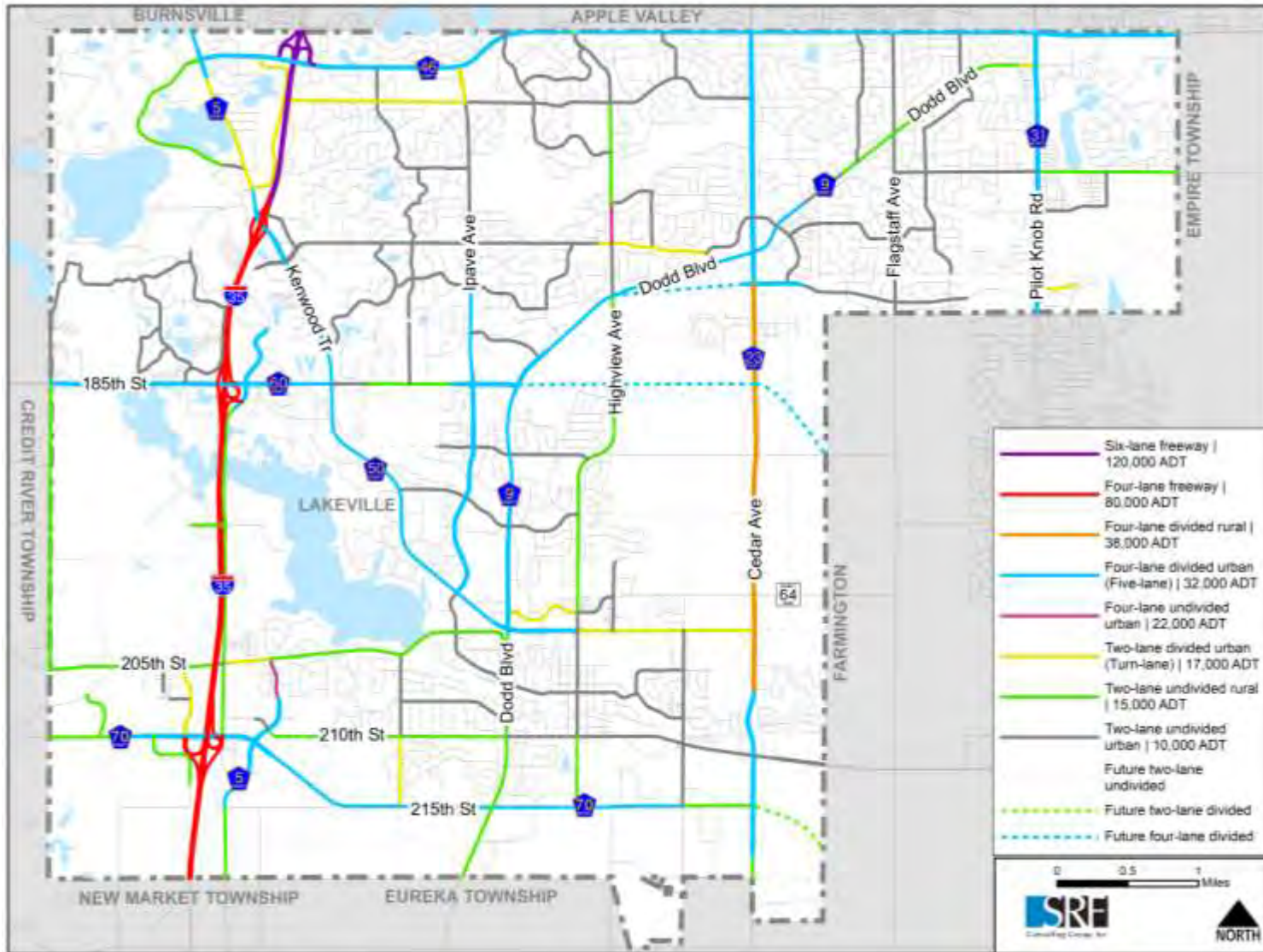
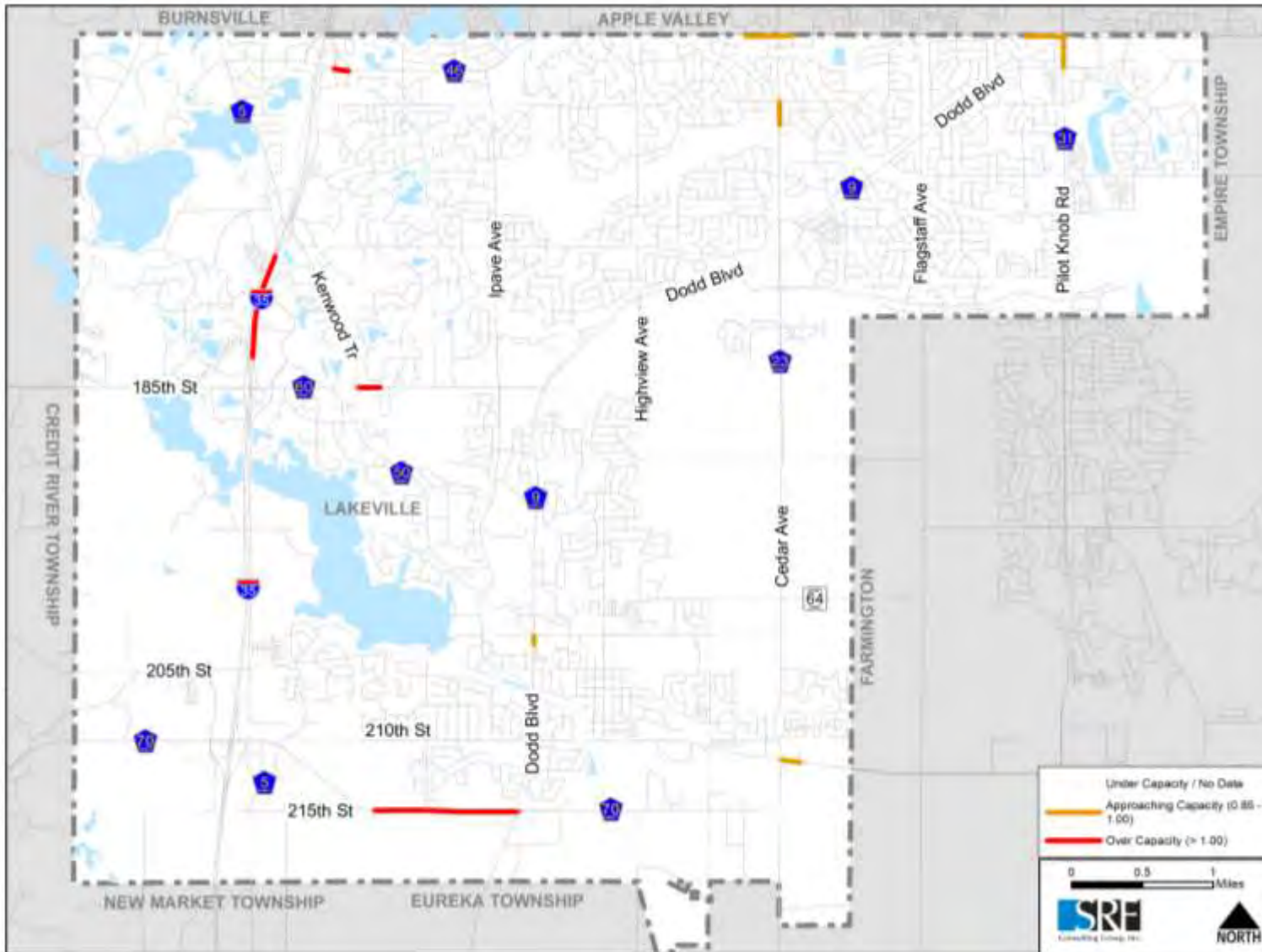


Figure 8. Existing (2018) Capacity Deficiencies



## **Congestion on the Regional Highway System**

MnDOT defines congestion on freeway or highway facilities as traffic travelling at speeds less than or equal to 45 miles per hour (mph). Segments along northbound I-35 have been reported to be congested during the morning peak periods, with the highest levels of morning peak hour congestion occur along I-35 near its intersection with 185<sup>th</sup> Street (CSAH 60). MnDOT has reported no current or recurring congestion during the afternoon peak period on freeway or highway segments in the City of Lakeville.<sup>1</sup>

## **Future Capacity Deficiencies**

A planning-level analysis was performed on the existing roadway system to identify locations where capacity problems are expected to occur by the planning horizon year. Demand was estimated using the 2040 traffic forecasts shown in Figure 5. Capacity was based upon the existing and proposed roadway geometrics and included the programmed roadway system improvements shown in Figure 3. Figure 6 identifies the number of lanes that were assumed for the 2040 roadway system. A similar volume to capacity analysis was conducted for the forecast 2040 conditions. Using this methodology, Table 9, Table 10, and Figure 9 illustrate the City of Lakeville's anticipated future capacity problem areas.

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<sup>1</sup> MnDOT Metropolitan Freeway System Congestion Report, 2016.



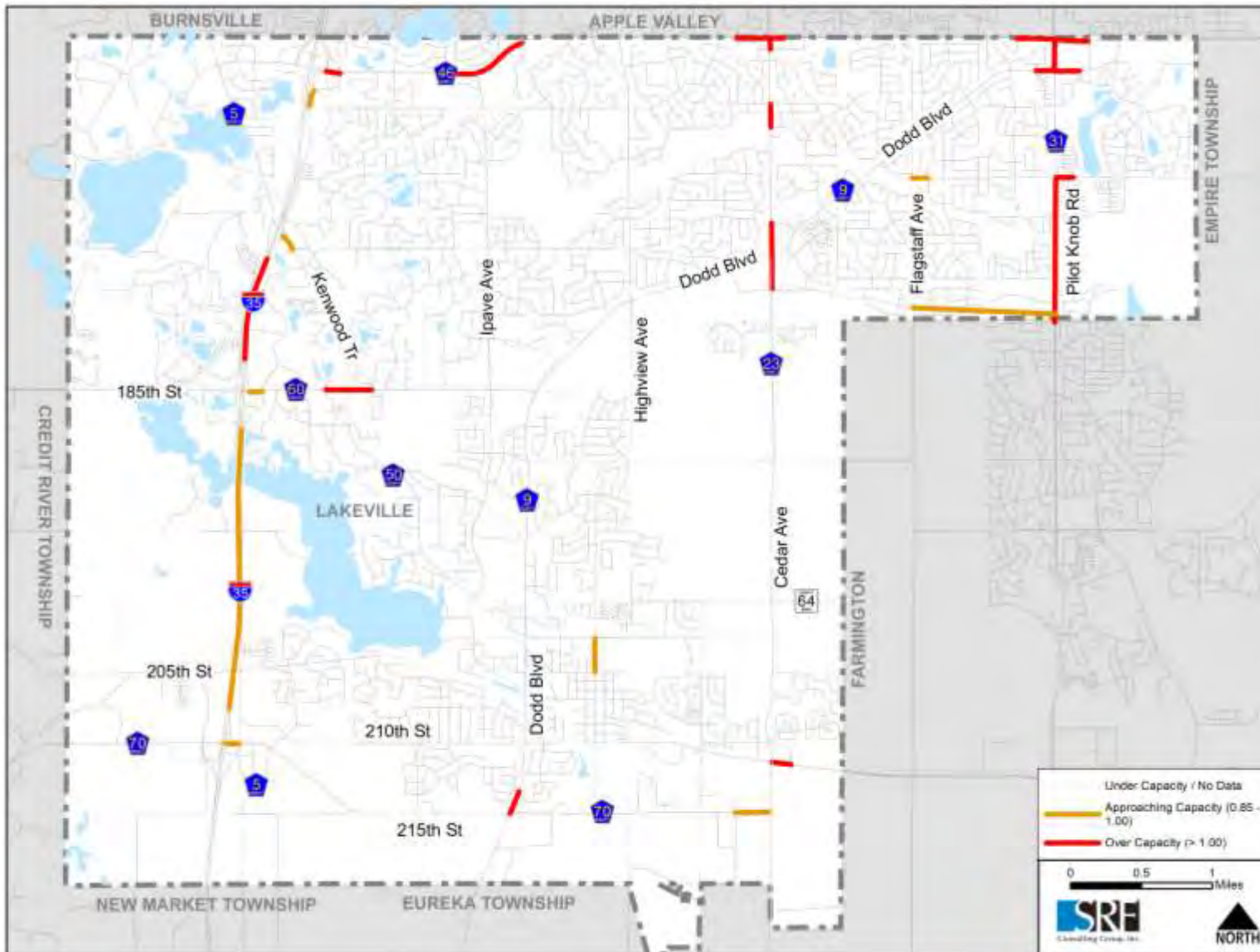
**Table 9. Future Roadways Over Capacity (V/C ≥ 1.00)**

Roadway	V/C	Extents		Jurisdiction
185 <sup>th</sup> Street	2.40	Kenwood Trail	Jasper Way	Dakota County
Dodd Boulevard	1.90	213 <sup>th</sup> Street	215 <sup>th</sup> Street	Dakota County
185 <sup>th</sup> Street	1.71	Joplin Avenue	Kenwood Trail	Dakota County
Dodd Boulevard	1.69	Elm Creek Lane	Pilot Knob Road	Dakota County
Kenwood Trail	1.59	185 <sup>th</sup> Street	188 <sup>th</sup> Street	Dakota County
Kenwood Trail	1.44	Jaguar Path	185 <sup>th</sup> Street	Dakota County
162 <sup>nd</sup> Street	1.31	I-35 Ramp	Kenrick Avenue	Dakota County
Pilot Knob Road	1.28	160 <sup>th</sup> Street	162 <sup>nd</sup> Street	Dakota County
170 <sup>th</sup> Street	1.26	Pilot Knob Road	Embers Avenue	Lakeville
Lakeville Boulevard	1.24	Cedar Avenue	Gateway Drive	Dakota County
Cedar Avenue	1.22	160 <sup>th</sup> Street	161 <sup>st</sup> Street	Dakota County
Pilot Knob Road	1.22	170 <sup>th</sup> Street	South City Boundary	Dakota County
I-35	1.18	162 <sup>nd</sup> Street	Kenwood Trail	MnDOT
I-35	1.16	Kenwood Trail	185 <sup>th</sup> Street	MnDOT
160 <sup>th</sup> Street	1.09	Pilot Knob Road	Elmhurst Lane	Dakota County
Cedar Avenue	1.09	164 <sup>th</sup> Street	167 <sup>th</sup> Street	Dakota County
162 <sup>nd</sup> Street	1.09	Itasca Trail	Ipava Avenue	Dakota County
Cedar Avenue	1.09	Glacier Way	Dodd Boulevard	Dakota County
160 <sup>th</sup> Street	1.06	Cedar Avenue	Glacier Avenue	Dakota County
160 <sup>th</sup> Street	1.06	Excel Way	Pilot Knob Road	Dakota County
162 <sup>nd</sup> Street	1.06	Ipava Avenue	Interlachen Boulevard	Dakota County
Cedar Avenue	1.03	Dodd Boulevard	179 <sup>th</sup> Street	Dakota County
160 <sup>th</sup> Street	1.03	Granada Avenue	Cedar Avenue	Dakota County

**Table 10. Future Roadways Approaching Capacity ( $0.85 \leq V/C < 1.00$ )**

Roadway	V/C	Extents		Jurisdiction
Kenrick Avenue	0.99	Kenrick Loop	165 <sup>th</sup> Street	Lakeville
I-35	0.98	185 <sup>th</sup> Street	210 <sup>th</sup> Street	MnDOT
185 <sup>th</sup> Street	0.97	Kenrick Avenue	I-35	Dakota County
Kenwood Trail	0.94	Kenwood Trail Ramp	175 <sup>th</sup> Street	Dakota County
210 <sup>th</sup> Street	0.91	I-35	Kenrick Avenue	Lakeville
179 <sup>th</sup> Street	0.88	Flagstaff Avenue	Pilot Knob Road	Lakeville
215 <sup>th</sup> Street	0.88	Grenada Avenue	Cedar Avenue	Dakota County
Holyoke Avenue	0.87	202 <sup>nd</sup> Street	205 <sup>th</sup> Street	Lakeville
170 <sup>th</sup> Street	0.86	Flagstaff Avenue	Firestone Path	Lakeville

Figure 9. Future Forecasted (2040) Capacity Deficiencies



## Roadway Safety

A central concern of transportation professionals is roadway safety. To assist in the evaluation of crashes, MnDOT maintains a database of reported crash records from around the State of Minnesota. These records identify the location, severity and circumstances associated with each crash. As shown in Table 11, this dataset was reviewed to identify the number, location and severity of crashes in the City of Lakeville for the years 2011- 2015. Overall, there were 2,349 crashes, of which 6 involved fatalities, 718 involved personal injury and 1,625 involved property damage.

**Table 11. Motor Vehicle Crashes in Lakeville 2011 to 2015**

Year	Number of Crashes					
	Fatal	Personal Injury Crashes			Property Damage	Total Crashes
		Type A Incapacitating Injury	Type B Non-Incapacitating Injury	Type C Possible Injury		
2011	1	9	38	59	110	217
2012	1	4	39	53	121	218
2013	3	8	47	113	420	591
2014	0	10	50	110	465	635
2015	1	9	36	133	509	688
<b>Totals</b>	<b>6</b>	<b>40</b>	<b>210</b>	<b>468</b>	<b>1,625</b>	<b>2,349</b>

These crashes were generally distributed throughout the City with most locations accounting for only one or two incidents, suggesting that a crash at that location was a random event. However, some of these crashes were concentrated at a limited number of locations. The 10 intersection locations with the highest frequency of crashes between 2011 and 2015 are listed in Table 12 and illustrated in Figure 10. These intersections were also evaluated for the critical index using MnDOT’s crash rate methodology, also indicated in Table 12. Following MnDOT guidelines, a critical index of 1.00 or less indicates performance within statewide trends, and a critical index above 1.00 indicates that the intersection operates outside the normally expected range.

### Critical Index

The critical index is the ratio of the observed crash rate to the critical crash rate. Critical indexes above 1.00 indicate there is likely an existing safety concern at the intersection. Additional analysis and observation of the intersection should be completed to determine the cause of the high critical index. Based on this conclusion, further investigation is recommended at the crash locations with a critical index above 1.00 as identified in Table 12 to determine the types of crashes occurring and identify mitigation approaches to increase safety. A severity index is equal to the total equivalent property damage divided by the number of crashes. The total equivalent property damage is measurement that accounts for both property damage and personal injury.

**Table 12. Top 10 Intersection Crash Locations in Lakeville (2011-2015)**

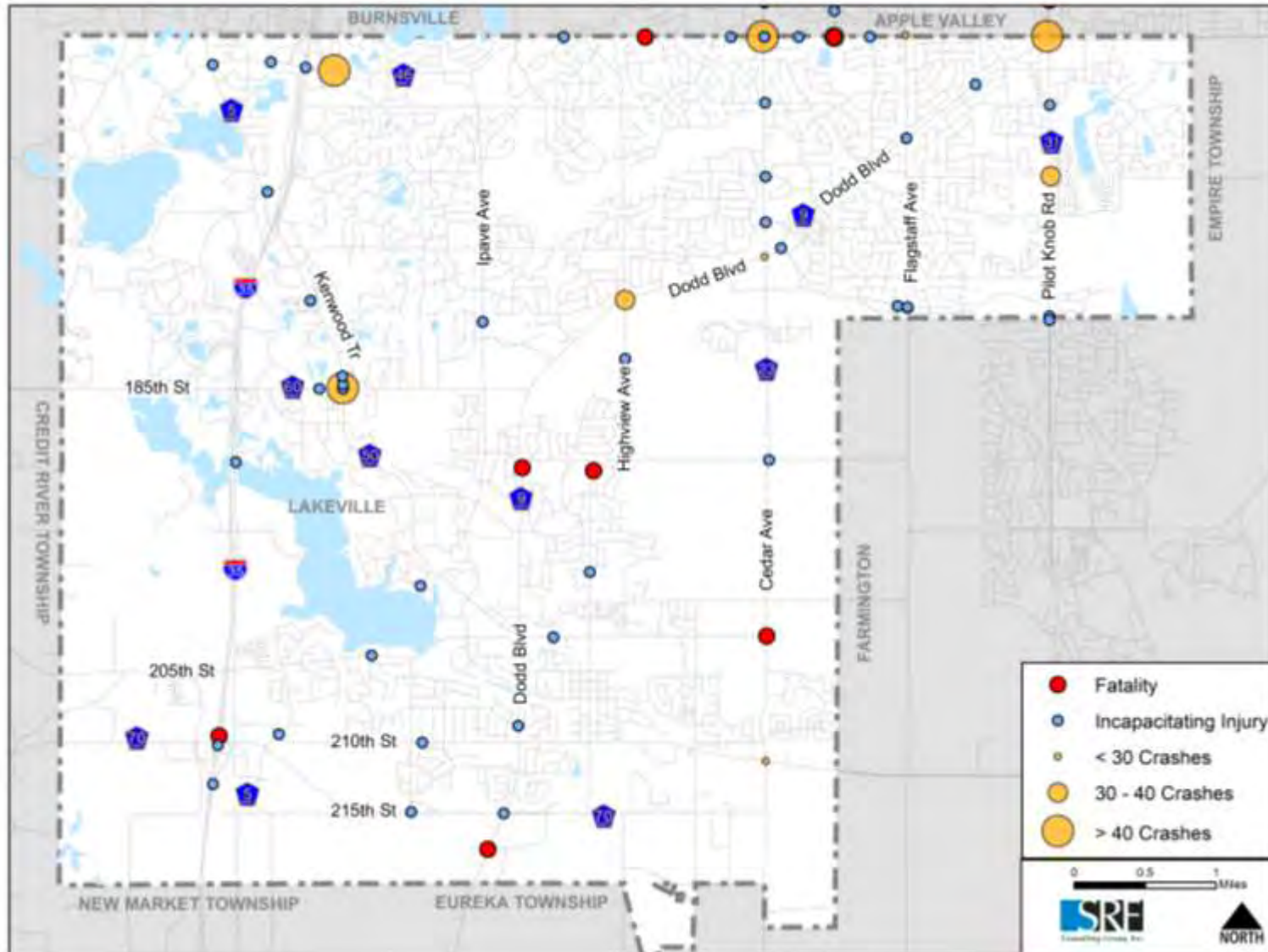
Intersection		Severity					Traffic Control	Critical Index	Severity Index
		Fatal	Type A	Type B	Type C	Property Damage			
1.	<b>185<sup>th</sup> St (CSAH 60) at Kenwood Tr (CSAH 50)</b>	0	2	1	19	74	Signal <sup>1</sup>	2.71	1.62
2.	<b>Cedar Ave (CSAH 23) at 160<sup>th</sup> St (CSAH 46)</b>	0	1	2	26	57	Signal	0.87	0.40
3.	<b>Pilot Knob Rd (CSAH 31) at 160<sup>th</sup> St (CSAH 46)</b>	0	0	3	9	64	Signal	1.25	0.00
4.	<b>162<sup>nd</sup> St (CSAH 46) at Kenrick Ave</b>	0	0	5	4	32	Signal	0.58	0.00
5.	<b>160<sup>th</sup> St (CSAH 46) at Galaxie Ave</b>	1	1	2	8	23	Signal	0.97	1.61
6.	<b>Pilot Knob Rd (CSAH 31) at 170<sup>th</sup> St</b>	0	0	5	10	19	Signal	1.05	0.00
7.	<b>Dodd Blvd (CSAH 9) at Highview Ave</b>	0	0	3	3	28	Roundabout <sup>2</sup>	1.62	0.00
8.	<b>160<sup>th</sup> St (CSAH 46) at Flagstaff Ave</b>	0	0	3	9	16	Signal	0.79	0.00
9.	<b>Dodd Blvd (CSAH 9) at Cedar Ave (CSAH 23)</b>	0	0	0	9	17	Signal <sup>3</sup>	0.71	0.00
10.	<b>Cedar Ave (CSAH 23) at Lakeville Blvd (CSAH 50)</b>	0	0	2	2	21	Signal	0.88	0.00

<sup>1</sup>A roundabout has been constructed at this intersection after the data collection period.

<sup>2</sup>A roundabout was constructed in 2013 which his during the study period.

<sup>3</sup>Future ¾ Intersection

Figure 10. Recent Crash Data in Lakeville (2011 to 2015)



## Recommended Roadway System Improvements

Future roadway improvements designed to address system connectivity, continuity, congestion and safety issues are planned and recommended for the roadway system in Lakeville. Recommended roadway improvements are shown in Figure 11 and are derived from the combination of system needs and the intended function of each roadway as it relates to the adjacent supporting land use. It should be noted that improvements discussed in this section do not include spot intersection improvements or trails.

The determination of which projects will be built, and their proper sequencing, will be determined through each jurisdiction's programming process that considers the estimated cost of each project, available financing and coordination with other projects.

**Table 13. Recommended Improvements**

Roadway	Extents	Project Type	Jurisdiction
170 <sup>th</sup> St	<u>Pilot Knob Rd (CSAH 31) to Embers Ave</u>	Improve to 2-Lane Divided Roadway with left-turn lane	City
162 <sup>nd</sup> St/Isleton St/160 <sup>th</sup> St (CSAH 46)	<u>Kendale Dr to east City limits</u>	Improve to 6-Lane Divided Roadway	County
Cedar Ave (CSAH 23)	160 <sup>th</sup> St (CSAH 46) to 179 <sup>th</sup> St	Improve to 6-Lane Divided Roadway	County
Pilot Knob Rd (CSAH 31)	160 <sup>th</sup> St (CSAH 46) to south City limits	Improve to 6-Lane Divided Roadway	County
Dodd Blvd (CSAH 9)	Elm Creek Ln to Eagleview Dr	Improve to 4-Lane Divided Roadway	County
Kenwood Tr (CSAH 50)	Jaguar Path to 188 <sup>th</sup> St	Improve to 4-Lane Divided Roadway	County
185 <sup>th</sup> St (CSAH 60)	Orchard Tr to Jasper Path	Improve to 4-Lane Divided Roadway	County
Dodd Blvd (CSAH 9)	Kenwood Tr (CSAH 50) to 202 <sup>nd</sup> St	Improve to 4-Lane Divided Roadway	County
Juniper Wy/215 <sup>th</sup> St (CSAH 70)	East of Kensington Blvd to Holyoke Ave	Improve to 4-Lane Divided Roadway	County
Lakeville Blvd (CSAH 50)	Cedar Ave (CSAH 23) to east City limits	Improve to 4-Lane Divided Roadway	County
Dodd Blvd (CSAH 9)	210 <sup>th</sup> St to 215 <sup>th</sup> St (CSAH 70)	Improve to 2-Lane Divided Roadway with left-turn lane	County

215 <sup>th</sup> St (CSAH 70)	Holyoke Ave to Cedar Ave (CSAH 23)	Improve to 2-Lane Divided Roadway with left-turn lane	County
215 <sup>th</sup> St (CSAH 70)	Cedar Ave (CSAH 23) to east city limits	Extension	County
I-35	170 <sup>th</sup> St to Kerrville Tr	Improve to 6-Lane Divided Roadway	MnDOT

**Right-of-Way Preservation**

Right-of-way (ROW) is a valuable public asset that needs to be protected and managed in a way that respects the intended function of the adjacent roadway, while serving the best interest of the public. The City of Lakeville will need to reconstruct, widen, and construct new roadway segments to meet future capacity and connectivity demands due to the City’s current and planned growth. Such improvements will require adequate ROW be maintained or secured. The City will coordinate with MnDOT and Dakota County for ROW acquisition along County or State routes.

All planned and programmed improvements (Table 3) and recommended roadway improvements (Table 14) will follow the minimum right-of-way requirements outlined below in Table 14.

**Table 14. Minimum Right-of-way Requirements for City Roadways**

Functional Classification	Right-of-way Without Sidewalks	Right-of-way With Sidewalks
High Density Minor Arterial	120 feet	150 feet
Low Density Minor Arterial	100 feet	120 feet
Major Collector	100 feet	120 feet
Minor Collector	66 feet	80 feet
Local Residential	60 feet	66 feet
Local Commercial / Industrial	80 feet	80 feet <sup>1</sup>

<sup>1</sup>Increase to 100 feet at intersections with multiple turn lanes.

**Access Management**

Access management is an important aspect of providing a safe and efficient roadway network. Control of access to roadways, both in terms of cross-street spacing and driveway placement, is a critical means of preserving or enhancing the efficient operation of the roadway system and improving safety by reducing crash exposure. Access control guidelines are used to preserve the public investment in the roadway system and to give direction to developers for plan preparation.



The guidelines are intended to balance the public interest in mobility with the property owners interest in access. Access refers to providing roadway access to properties and is needed at both ends of a trip. Mobility is the ability to get from one place to another freely or easily. Most roadways serve both functions to some degree based on their functional classification. Effective control of driveway access on the entire roadway system requires the cooperation of City, County, and State officials.

MnDOT has developed a policy on access management and guidelines for access spacing. MnDOT's Highway Access Category System and Spacing Guidelines can be found at: <https://www.dot.state.mn.us/accessmanagement/resources.html>

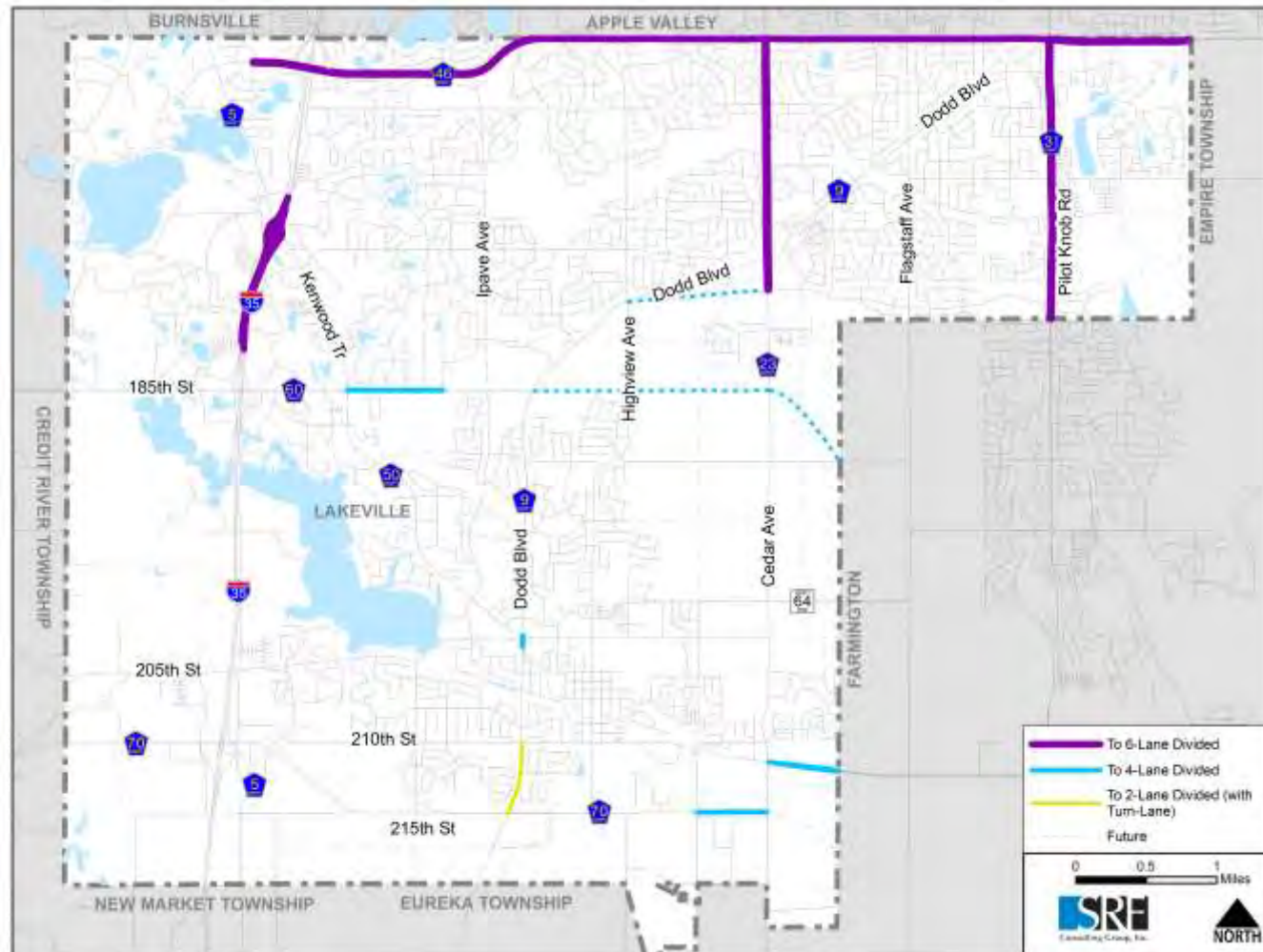
### **Access to Principal Arterials**

The City of Lakeville should follow MnDOT guidelines for access to principal arterials. These guidelines recommend limiting cross-street access to one-half mile spacing within urbanized areas, with one- to two-mile spacing being optimal. No new driveway access is permitted to principal arterials.

### **Access to Minor Arterials**

The City of Lakeville strives to meet Dakota County guidelines for access to the minor arterial system. These guidelines generally call for one-quarter mile spacing of all access points such as cross streets and driveways, however, the City of Lakeville prefers a one-half mile spacing for access points.

Figure 11. Recommended Roadway System Improvements



### **Driveway Access on City Streets (Collectors and Local Roads)**

Driveways contribute to crashes and reduced traffic flow on major streets in local communities as they add to the number of locations where vehicle conflicts can occur. Therefore, it is desirable to have guidelines in place that:

- Limit the number of driveways to those that are needed to safely accommodate the traffic generated by each development;
- Provide adequate spacing between driveways so conflicts and resulting crashes between vehicles maneuvering at adjacent driveways are avoided;
- Ensure proper design to accommodate driveway traffic and minimize vehicle conflicts without significantly reducing roadway capacity.

Occasionally topographic features of an individual site or the needs of a unique land use may require special access features in a proposed development. The City of Lakeville may wish to withhold approval of such developments or site changes until a study has been made of the potential impacts on the affected roadways and the adequacy of the proposed access design determined. The City may require that the following steps be included in the traffic study for the site:

- Estimate site traffic generation and future non-site traffic;
- Determine directional distribution of trips;
- Estimate turning movements at driveway and the resulting level of service;
- Analyze current and future access requirements;
- Provide necessary geometric and operational improvements to safely accommodate access requirements without negative impacts to traffic operation on the adjoining roadways.

The City of Lakeville will continue to support MnDOT and Dakota County's access management guidelines on the principal and minor arterial roadway network in the City through the measures listed above.

## **Traffic Management Strategies**

### **Traffic Signals**

A well-coordinated traffic signal system will promote the efficient flow of traffic along roadways in the City of Lakeville, as this type of system reduces the likelihood of through traffic diverting to local streets. The City will work with Dakota County to periodically monitor the progression of traffic signals on key County roadways to ensure efficient system operation.

Operational refinement of the signal system will take place on an ongoing basis. New traffic signals will be built at intersections where specific signal warrants are achieved, and funding is available. Intersection improvements will be considered on a site-by-site basis and will be constructed consistently with the warrants identified in the Minnesota Manual on Uniform Traffic Control Devices (MUTCD) when funding is available. Warrants include specific thresholds relating to traffic volumes and considerations of safety and pedestrian activity.

### **Stop Signs**

The City of Lakeville receives numerous requests for the installation of stop signs to manage speed and other perceived traffic safety problems in residential neighborhoods. City Engineers will evaluate each stop sign request by either applying the City's best management practices for local or minor streets in residential areas or by utilizing MnDOT's uniform traffic warrant criteria for all other stop sign requests.

### **Traffic Calming**

The primary function of minor collector and local streets is to provide access to residences and other uses along the roadway. However, these streets may also provide routes for traveling to and from or passing through a neighborhood. Conflicts arise between these latter functions when residents become concerned about traffic volumes, speeds and pedestrian safety.

Traffic calming generally refers to strategic physical changes made to streets to reduce vehicle speeds increase driver awareness, discourage through traffic on residential streets, and decrease the automobile's visual dominance in a neighborhood setting. There are several activities that may be referred to as traffic calming, examples of which include raised intersections and crosswalks, roundabouts, curvilinear streets, street narrowing, bumpouts, pavement markings and signage, pedestrian crossing islands, pedestrian treatments, and streetscaping. These traffic calming treatments are considered for low volume local and minor collector streets where excessive speeds pose a safety problem. The City of Lakeville will consider requests for traffic calming devices on a case-by-case basis consistent with the City's adopted neighborhood traffic calming program.

## Transit System Plan

Roadways alone cannot address the transportation needs within Lakeville. Other transportation systems, such as transit and trails, are required to serve the varied needs of a metro community. Transit is an essential element in the overall transportation network as it:

- Provides vulnerable populations access to services in the area, including senior citizens, those who cannot afford a personal vehicle, and people who cannot drive;
- Provides opportunities for people who prefer an alternative to automobile travel;
- Removes a portion of existing and future automobile traffic from the roadway, reducing travel time and congestion for everyone on the roadway and reduces environmental impacts;
- Builds resilience and strengthens economic competitiveness should reliance on private vehicles prove difficult for residents and employees in Lakeville.

This section identifies the existing services, facilities, and programs within the City of Lakeville, suggests improvements, and discusses the City's role in supporting the transit system.

### Transit Market Areas

The City of Lakeville has experienced rapid growth in the past few decades. In the Metropolitan Council's Transportation Policy Plan (2015), transit market areas indicate levels of transit service expected and appropriate based on factors like population density, automobile availability, employment density, and intersection density.

There are two primary transit market areas in Lakeville: III and IV. Service included in Transit Market Area III includes peak-only express, small vehicle circulators, special needs paratransit (ADA, seniors), and ridesharing. Service options for Transit Market Area IV include peak period express service and public dial-a-ride services. Transit Market Area V serves a small portion of Lakeville's southwest corner but does not serve major residential or commercial areas.

**Table 15. Transit Market Service Areas**

Market Area	Propensity to Use Transit	Service Characteristics	Typical Transit Service	Presence in Lakeville
I	Highest potential for transit ridership.	Frequency: 15-30 min. most modes.	Dense network of local routes with highest levels of service accommodating a wide variety of trip purposes. Limited stop service supplements local routes where appropriate.	None
		Span: Early to late, seven days a week.		
		Access: Half mile between routes.		
II	Approximately half ridership potential of Market Area I.	Frequency: 15-60 min. most modes.	Similar network structure to Market Area I with reduced level of service as demand warrants. Limited stop services are appropriate to connect major destinations.	None. Just north of Lakeville, Apple Valley transit station shown as Emerging Market II.
		Span: Morning to night, seven days a week.		
		Access: One mile between routes.		
III	Approximately half ridership potential of Market Area II.	Frequency: 15-60 min. most modes.	Primary emphasis is on commuter express bus service. Suburban local routes providing basic coverage. General public dial-a-ride complements fixed route in some cases.	A large swath of the City including the NE, most of Cedar Ave, and stretching to Kenrick Park and Ride along 175 <sup>th</sup> St.
		Span: Peak times, occasional weekends.		
		Access: Varies on development patterns.		
IV	Approximately half ridership potential of Market Area III.	Frequency: Three trips per peak express bus.	Peak period express service is appropriate as local demand warrants. General public dial-a-ride services are appropriate.	The undeveloped area near Lakeville Cedar Park and Ride, the SW section of the City, and all areas west of I-35.
		Span: Peak times		
		Access: Usually at large nodes.		
V	Lowest potential for transit ridership.	Frequency: 30 minutes, Commuter Rail.	Not well-suited for fixed-route service. Primary emphasis is on general public dial-a-ride services.	None
		Span: N/A		
		Access: N/A		
Emerging Market Overlay	Varies, typically matches surrounding Market Area.	Varies	Varies. Typically matches surrounding Market Area.	None

Source: Metropolitan Council, 2040 Transportation Policy Plan, 2015.

## **Existing System Inventory**

In the Twin Cities metropolitan area regional transit services and facilities are provided primarily within an area called the regional transit taxing district. A regional transit tax is assessed to properties within this district that is then used for capital improvements to the regional system. In May 2008, the City of Lakeville agreed to inclusion in the taxing district with the understanding that the Metropolitan Council would support the expansion of transit service and construction of transit facilities that would benefit the City's residents.

Lakeville is currently served by Minnesota Valley Transit Authority (MVTA) and Metro Transit with express bus service, and one demand-response service provider. There are three express bus routes that serve Lakeville. Express Route 467, operated by Metro Transit, serves Kenrick Park and Ride on I-35 and connects to downtown Minneapolis. Express Route 477, operated by MVTA, connects Lakeville Cedar Park and Ride to downtown Minneapolis. There are four trips heading north in the morning and south in the evening that start and end at Lakeville Cedar, and more trips that start and end at other locations further north. Express Route 479, operated by MVTA does not enter Lakeville but runs along 160th and serves a park and ride on Pilot Knob Road just north of Lakeville in Apple Valley. Route 479 also offers express service to downtown Minneapolis. Although these routes stop in some suburban communities north on the way to Minneapolis, there is no local transit connection to neighboring suburban communities.

## **Existing Transit Facilities**

The City of Lakeville is home to two Park and Rides, and two Park and Pool locations. The Park and Rides are planned to become stations along transitways.

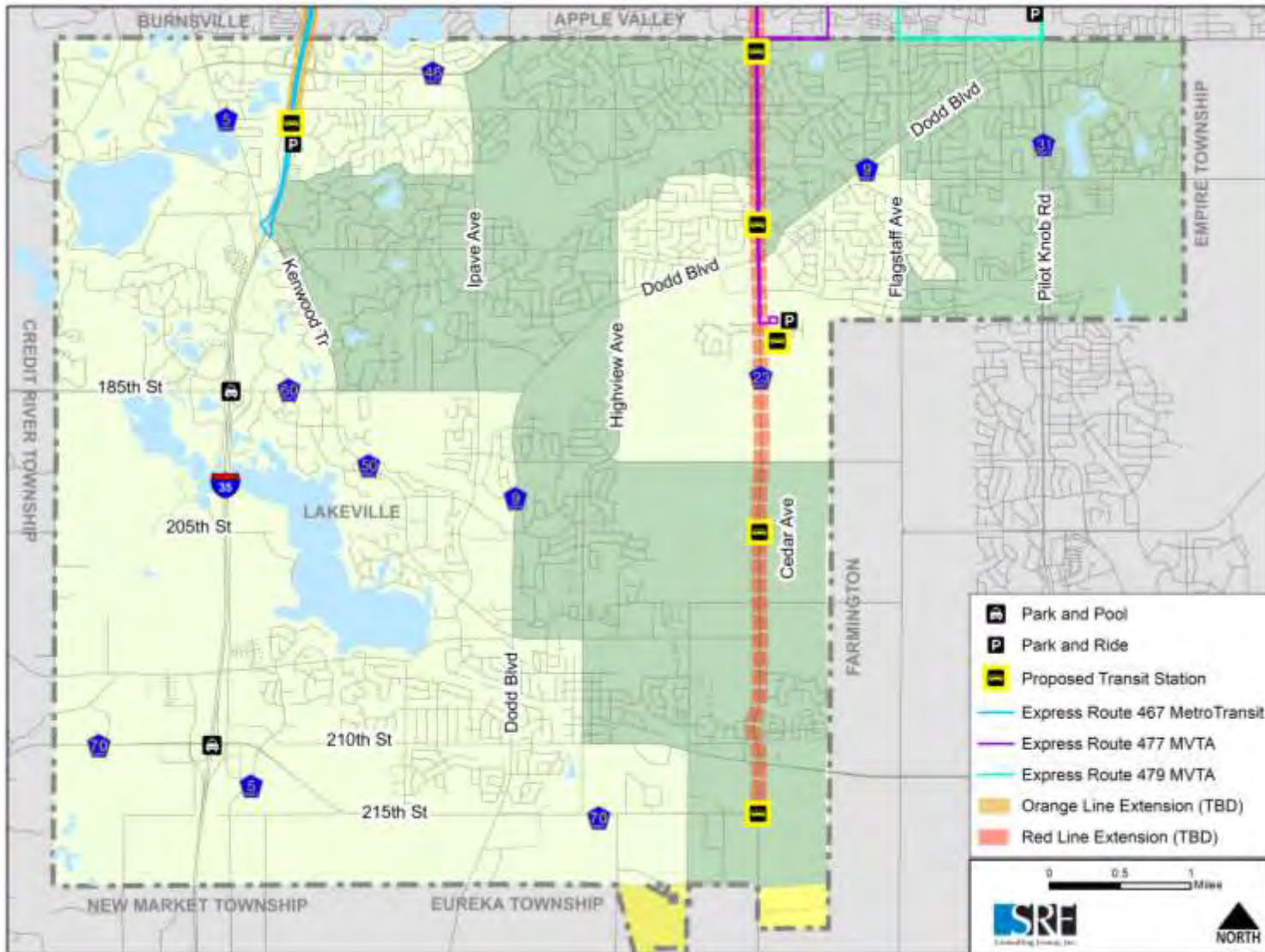
Kenrick Park and Ride opened in September 2009 and offers free parking for up to 750 vehicles in a three-level ramp. The facility offers transit advantages that allow the express route buses to get directly on I-35. Use of the park and ride has risen since opening, last reported in 2016 to be above 80% utilized. Route 467 is currently the only route that serves Kenrick Park and Ride.

Lakeville Cedar Park and Ride was built in anticipation of the METRO Red Line, and currently is served by route 477. The park and ride has 190 stalls, though utilization has consistently been below 10% for the past four years (2012-16.)

Two Park and Pool locations are along I-35 at 185th Street and 210th Street. Commuters can meet and park at these locations and join in one car for the commute into job centers.

There is a transit support facility, Schmitt and Sons bus garage, located at 22750 Pillsbury Ave, Lakeville, MN 55044. Schmitt and Sons operates and maintains MVTA's fleet. The overall transit system in Eureka Township is shown in Figure 12.

Figure 12. Existing Transit System in Lakeville







## **Transit Advantages**

There are several transit advantages available to commuters traveling to and from the City of Lakeville, particularly those using express buses in Lakeville and in adjacent Cities. Transit advantages are facilities such as bus-only shoulders, high occupancy vehicle (HOV) lanes, and ramp-meter bypasses that give buses and commuters an advantage over a single-occupant vehicle.

Bus-only use of freeway shoulders when the roadway is congested is available along portions of Trunk Highway (TH) 77 and I-35. Dedicated lanes for HOV exist along I-35W between TH 13 and I-494. These lanes can only be used by buses and vehicles carrying two or more people during peak congestion hours. Bypass lanes allow buses and cars with two or more people to bypass congested on-ramps during peak travel times. There are meter bypass lanes accessible to commuters traveling from Lakeville to other parts of the region, but not located within the City of Lakeville itself.

There are two transit advantages currently within Lakeville, there is one dedicated bus exit to Lakeville Kenrick, and there are shoulders large enough for buses along Cedar Avenue north of Lakeville Cedar into Apple Valley.

## **Travel Demand Management**

Travel Demand Management (TDM) includes strategies and actions for reducing single-occupant vehicle travel, increasing vehicle-occupancy rates, and reducing vehicle miles traveled. Changes in travel behavior for the metropolitan area are constantly being sought to more effectively manage existing transportation facilities. By modifying demand for travel, congestion and the need for facility expansion can be lessened.

Travel demand management may include both incentives and disincentives to reduce trip-making activity, decrease single-occupant vehicle travel, shift travel away from congested locations, increase high occupancy vehicle travel and decrease peak hour travel. Most TDM actions are targeted toward the peak hour work trip in highly congested areas. TDM programs are more effective where there are multiple strategies for changing behavior. The actions selected depend upon the stated objectives and priorities of the TDM sponsor, funding availability, administrative resources, and participant support. Additional TDM strategies are discussed in the following:

### **Ridesharing**

Metropolitan Council and Metro Transit provide carpool and vanpool matching services, promotes ridesharing, and sponsors demonstration projects in the Twin Cities area. Ridesharing can be especially attractive for longer trips on congested corridors such as work trips from Lakeville to metropolitan centers.

### **Transit and Ridesharing Incentives**

Employers can encourage employees to rideshare or use public transit if available. The benefits to the employer may include a reduction in the need for parking facilities and less traffic congestion around the employment site. Incentives for employees can include, subsidy of vanpools, preferential

parking for those ridesharing, and subsidized bus passes, on-site sale of bus passes, distribution of transit schedules and ridesharing information.

### **Alternative Work Schedules**

Variable work hours, flex time and other alternative work schedules can shift from the peak hour or period. However, changes in start-time tend to dilute the ability to share rides. Encouraging employers in suitable industries to allow employees to work from home will also lessen congestion and can be a particularly useful tool during reconstruction of roads or times of increased congestion.

### **ADA Dial-A-Ride**

ADA Dial-A-Ride is a demand-responsive transit service serving Lakeville and other communities in the Twin Cities metro area. This program provides door-to-door service to all residents of the Twin Cities for trips within Dakota County and outside the County.

### **Lakeville Loop**

The Lakeville Loop is a demand-response circulator service intended for seniors that operates from 9:00 a.m. to 2:00 p.m. on Thursdays except for Thanksgiving. The service connects senior housing developments to shopping areas, the Lakeville Heritage Center, and the library. Riders are helped door-to-door and all buses are accessible. Riders pay \$3.00 to ride all day. In the 28 days of service between February 2017 and May 2018, more than 450 total rides have been provided in Lakeville, averaging nearly 17 riders each day.

### **Dial-a-Ride Services**

TransitLink offers a dial-a-ride service in Lakeville for the public. TransitLink has a base price of \$4.50 during Peak fare windows and \$3.50 during Off-Peak fare windows and holidays. A \$0.75 surcharge will be assessed for trips longer than 15 miles. Users can pay using the Go-To Card which also works with all other Metro Transit services. These services are available Monday through Friday from 6:00 AM to 7:00 PM by reservation only and is based on availability.

### **Transit Service Types**

Three basic types of transit service may be considered for implementation in Lakeville. Based on peer City experience, the largest portion of a future service package will likely consist of regular-route express commuter services, connecting Lakeville to downtown Minneapolis and St. Paul. Reverse commute service from the central urban areas to Lakeville employment sites can also be provided on the return runs. Commuter express service normally operates Monday through Friday from approximately 5:45 a.m. to 9:00 a.m., and 3:45 p.m. to 7:45 p.m. Mid-day trips may also be included to provide better travel options.

The second type of service is regular-route, scheduled local circulator bus service. This could be limited to circulation within Lakeville to facilitate travel to and from express services and transit hubs, and between other local destinations, or reach outside City boundaries to connect with other destinations. Local bus service might operate Monday to Friday from 6:00 a.m. to 6:30 p.m., with service concentrated around the peak periods to collect riders for the express services. Four routes and buses could essentially cover most of the City with acceptable walking distances, if adequate pedestrian amenities, such as sidewalks, stops, and shelters, are provided. If demand develops, circulator services could be expanded to nights and weekends.

A secondary benefit of providing regular route local bus service would be the expansion of ADA services. The Metropolitan Council is required by federal mandate to provide ADA complementary dial-a-ride services in those parts of the metropolitan area that is served by regular route local bus service. For Lakeville, this would likely involve the expansion of the area within which DARTS provides these services under contract to the Council.

The third type of available service is dial-a-ride. This is a curb-to-curb demand-response bus service that generally offers rides on a pre-arranged or reserved basis within the City, or beyond as desired. This service offers the maximum trip flexibility for a transit rider, but less convenience and predictability than scheduled circulators. Dial-a-ride service could operate Monday to Friday from 6:00 a.m. to 7:00 p.m., with expanded service nights and weekends as desired. Two to three small, accessible buses supported by a central reservations/dispatch office would probably provide all service necessary, based on peer system examples. If circulator service would be downplayed as a preference, dial-a-ride service during the peak periods, including standing orders, such as regular daily arranged pick-ups, or a subscription service, could provide local commuter connections at a somewhat lower capacity and flexibility but higher convenience for some riders.

## Future Transit Development

### Transitways and Transit Facility Enhancement

Metro Transit and the Metropolitan Council have planned new transitway projects that will affect Lakeville transportation and access. The current Transportation Policy Plan calls for continued development of two Bus Rapid Transit (BRT) corridors that will connect the City of Lakeville with other transit modes in the region. The METRO Red Line and the Orange Line services will include high frequency bus services. Transit stations at key points on these routes will offer park-and-ride facilities and bus transfers from local routes to expedite travel in the metropolitan area.

Lakeville has the ability directly work with MVTA to influence the decisions of the organizations. The City also has the opportunity to weigh in on the planning and management of the Red Line and Orange Line. The City should continue to be fully engaged in the decision-making processes in these organizations and programs to ensure an effective and high-level of transit service in the City.

There are six transit stations planned along extensions of transitways in Lakeville listed in Table 16, one at the terminus of the Orange Line, and five along the Red Line.

**Table 16. Future Transit Stations**

Station Name	Metro Transitway	Date of Implementation
<b>161st Street</b>	Red Line	TBD
<b>Glacier Way</b>	Red Line	TBD
<b>Lakeville Cedar Park &amp; Ride</b>	Red Line	TBD
<b>195th Street</b>	Red Line	TBD
<b>215<sup>th</sup> Street</b>	Red Line	TBD
<b>Kenrick Avenue</b>	Orange Line	TBD

As Lakeville prepares for the construction of stations for these BRT lines, station area planning can contribute to success of the stations. Station area planning is included as an action item for municipalities in the Cedar Avenue Transitway Red Line Implementation Plan Update.

## **Bicycle and Trail System Plan**

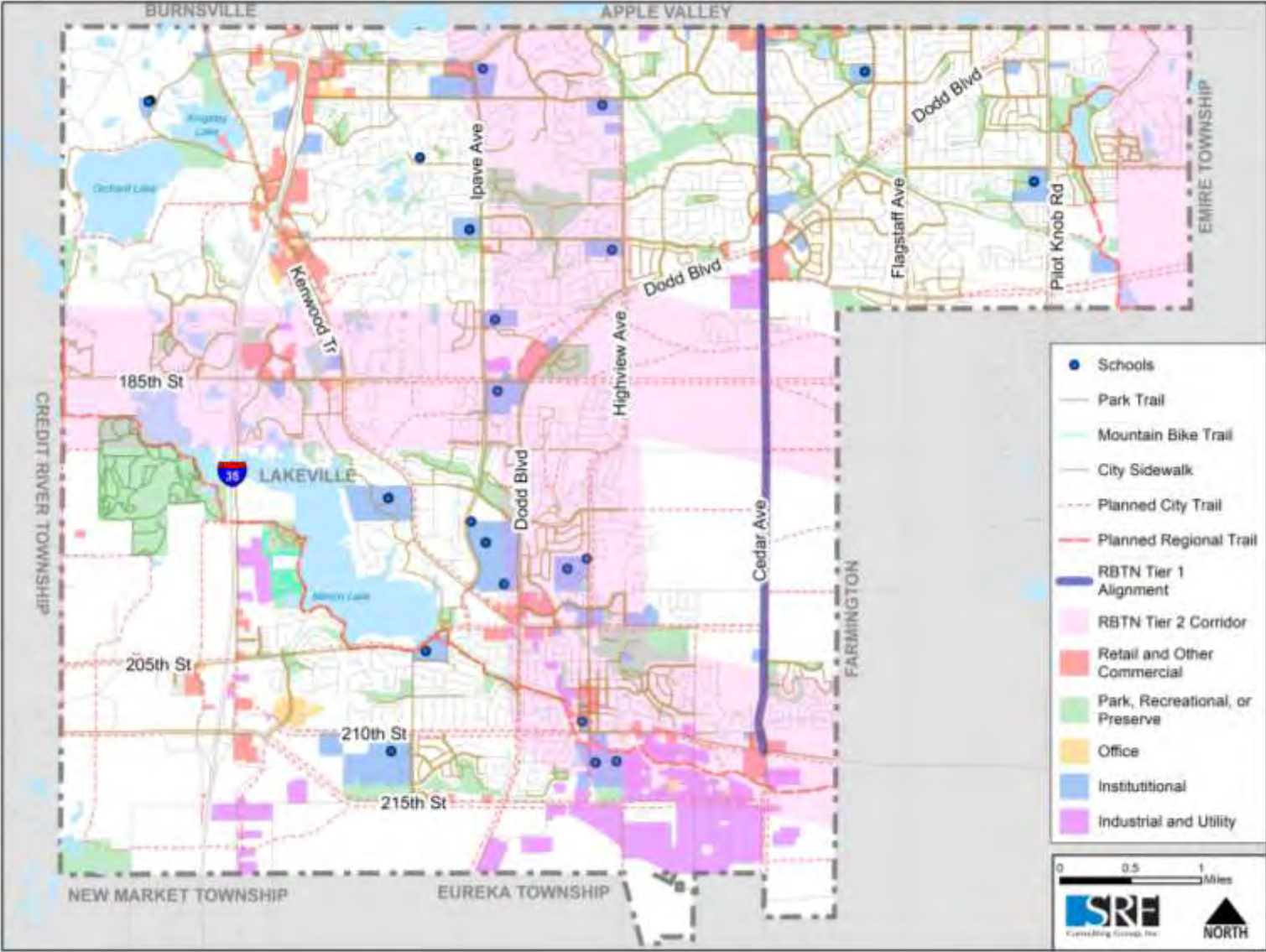
### **Planning for a Connected Pedestrian and Bicycle System**

The City of Lakeville is a suburban edge community that has experienced significant growth over the last several decades. Throughout this expansion, the City has been implementing a plan for park and trail development that provides residents with a well-established system of recreational amenities. These amenities include trails and sidewalks that provide important enhancements to the City's transportation system and allow residents and visitors an alternative approach for travelling to work, school, employment centers and transit centers. The City of Lakeville continues to improve and expand its trail system and future multimodal planning will focus on filling gaps in the existing local trail system and connecting the local system to the regional parks and trail systems, regional employment clusters and regional transit facilities.

### **Existing Trail System**

The City of Lakeville has a well-developed local trail system including connections to City Parks, its historic downtown, Lake Marion, and portions of two planned regional trails that extend through the City. Over the last decade, Lakeville has incorporated off-street trails, sidewalks, and bikeways into major roadway improvements throughout the City, creating key linkages within the bicycle network. Many roadway improvement projects have included trails on both sides of roadways, providing more connections to neighborhoods and local trails and enhancing the local trail system. North-south trails extend along one or both sides of Kenrick Avenue, Kenwood Trail, Ipava Avenue, Dodd Boulevard, Highview Avenue, Cedar Avenue, Flagstaff Avenue, and Pilot Knob Road. East-west trails extend along 160th Street, 162nd Street, 165th Street, 170th Street, 175th Street, and 185th Street. Other prominent existing local trails adjacent to City streets that create connections into neighborhoods and business centers include the Juno Trail. As the City's trail system continues to expand, it will be important to identify gaps in the existing system and implement enhancements to the future system to improve connections and provide additional access to regional parks and trails and connections to regional employment clusters. Figure 13 identifies the existing trail system in Lakeville.

Figure 13. Existing Trail System in Lakeville



## **Gaps in the Existing Trail System**

The local trail system within the City of Lakeville is robust and includes important north-south and east-west trails that serve as the main arteries to a growing network. Improving the local trail system involves identifying existing gaps and planning to fill those gaps to enhance connections to key destinations within and outside City limits. The primary connections for the local trail system include the following:

1. Connections to local parks and schools;
2. Connections to regional parks and trails;
3. Connections to regional employment clusters;
4. Connections to the local transit system;
5. Connections to the Regional Bicycle Transportation Network (RBTN).

With the current bicycle demand in Lakeville, there are a variety of tools and resources that can be utilized on a case by case basis to evaluate locations at an additional level of detail. A summary of two of these tools are offered below:

### **Local Road Research Board (LRRB) – Pedestrian Crossings: Uncontrolled Locations**

The information presented in this guidebook is provided as a resource to assist agencies in their efforts to evaluate uncontrolled pedestrian crossings and determine appropriate treatment options. The City of Lakeville could benefit from using this tool to evaluate crossings with a crash history or that have been identify as high priority uncontrolled pedestrian crossings locations. This evaluation tool is based on research on the safety of pedestrian crossings and the procedure developed in the 2010 Highway Capacity Manual on pedestrian delay. Information such as stopping sight distance, pedestrian sight distance, average daily vehicular traffic volumes, pedestrian/bicyclist counts, roadway speed, gap surveys, and number of travel lanes and median type are all inputs used to evaluate the needs of the crossing.

### **Federal Highway Administration (FHWA)– Shared-Use Path Level of Service Calculator**

This is a tool that can be used to determine if or when a path should separate pedestrians/bicyclists. The calculator inputs one-way pedestrian/bicyclist volumes, mode split (adult bikers, pedestrians, runners, skaters, child bikers), and the trail width and outputs the LOS of the shared use path. Given the existing trail infrastructure Lakeville has built along it's arterial and connector roadways, this tool could be beneficial in determining where pedestrian and bicyclists could be separated based on current or future projected volumes.



In addition to fulfilling the important connections listed above, there are several existing gaps in the local trail network that, when completed, will enhance the overall trail network. Figure 13 identifies the planned sidewalk and trail system within Lakeville. The future sidewalk and trail system completes the existing gaps in the local trail network. Gaps identified in the existing and planned trail system are those which include incomplete segments of trails that extend on sides of key north-south and east-west roadways, and important incomplete connections to parks, schools, regional employment clusters, local transit system, regional trails or other existing local trails. The following existing pedestrian and bicycle system gaps have been identified within the City of Lakeville<sup>2</sup>:

- 215<sup>th</sup> Street (CSAH 70) from Kenrick Avenue to Cedar Avenue (CSAH 23) (off-street bikeway system gap)
- Cedar Avenue (CSAH 23) from South City Limits to 181<sup>st</sup> Street (off-street bikeway system gap on the east side only)
- Dodd Boulevard (CSAH 9) from 183<sup>rd</sup> Street to East City Limits (off-street bikeway system gap)
- 202<sup>nd</sup> Street (CSAH 50) from Holyoke Avenue to Cedar Avenue (CSAH 23) (off-street bikeway system gap)
- 200<sup>th</sup> Street (CR 64) from Cedar Avenue (CSAH 23) to East City Limits (off-street bikeway and pedestrian gap)
- 185<sup>th</sup> Street from County Road 50 to Ipava Avenue (off-street bikeway system gap)

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<sup>2</sup> Dakota County Pedestrian and Bicycle DRAFT Plan, 2018.

## **Connections to Regional Employment Clusters**

The City of Lakeville has identified five regional employment clusters that are characterized by significant retail, professional services, commercial, and industrial development. The five regional employment clusters include:

- I-35 at 210<sup>th</sup> Street (CSAH 70)
- I-35 at Kenwood Trail (CSAH 50)
- 210<sup>th</sup> Street (CSAH 70) from Dodd Boulevard (CSAH 9) to Cedar Avenue (CSAH 23)
- Kenwood Trail (CSAH 50) at Dodd Boulevard (CSAH 9)
- Dodd Boulevard (CSAH 9) at Cedar Avenue (CSAH 23)

Creating strong multimodal connections to regional employment clusters with trails and sidewalks will enhance the trail network within Lakeville by providing residents and visitors alternatives to driving to frequently utilized services. The regional employment clusters are commonly located at the intersection of major highways and can create obstacles for local trails often due to the presence of large bridges and expansive intersections nearby or within the regional employment cluster locations. Planning for trail connections to regional employment cluster locations is an important first step in ensuring that future development includes multimodal facility enhancements, such as off-road trails, independent pedestrian bridges, and ADA compliant roadway crossings.

Another important element of the City's trail system is its relationship to the Lakeville transit system. Better trail connectivity to park and ride facilities as well as commercial areas in the City offer users the opportunity to utilize the existing trail system to travel to and from transit nodes throughout the City. By increasing the number of trail connections to the transit system, including park and ride lots and transit stations, commuters may be encouraged to utilize transit-related transportation.

Currently, there are trail connections to each of the park and ride lots within the City. As additional transit facilities are developed within Lakeville, the City will need to ensure adequate pedestrian and bicycle trail connections are available.

## **Regional Parks System Components**

Regional parks system components such as regional parks, park reserves, special recreation features, and regional trails are identified in the 2040 Metropolitan Council Regional Parks Policy Plan. There are currently no regional parks and park reserves within the City of Lakeville. The Murphy-Hanrehan Regional Park Reserve borders the City to west.

Additionally, there are currently no regional trails within the City of Lakeville. However, the Lake Marion Greenway and North Creek Greenway are planned regional trails identified by the 2040 Metropolitan Council Regional Parks Policy Plan. Further information regarding these planned regional trails is listed below:

- Lake Marion Greenway Regional Trail – Dakota County adopted the Lake Marion Greenway Master Plan in 2013. When completed, the 20-mile trail will travel through the Cities of Burnsville, Savage, Lakeville and Farmington, and Credit River Township. Within the City of Lakeville, downtown will be connected to Lake Marion, Ritter Farm Park, and Murphy-Hanrehan Park Reserve.
- North Creek Greenway Regional Trail – Dakota County adopted the North Creek Greenway Master Plan in 2011. When completed, the 14-mile trail will travel through Eagan, Apple Valley, Lakeville, Farmington and Empire Township. The trail will pass through the Northeast quadrant of Lakeville linking the City to regional destinations including Lebanon Hills Regional Park, the Minnesota Zoo, and the Vermillion River.

### **Regional Bicycle Transportation Network (RBTN)**

The City of Lakeville is a leader in developing bicycle and trail facilities and planning the next phases of the multimodal system within the City should correspond closely to the corridors identified in the Regional Bicycle Transportation Network (RBTN) to provide seamless connections to neighboring communities and the broader regional transportation network.

The RBTN was developed as part of the Metropolitan Council 2014 Regional Bicycle System Study, which highlights important regional transportation connections for cyclists. The RBTN serves as framework for designated regional corridors and alignments and defines critical bicycle transportation links to help municipalities guide their bikeway planning and development. The RBTN is subdivided into two tiers for regional planning and investment prioritization:

#### **RBTN Tier 1**

Priority RBTN corridors and alignments. These corridors and alignments have been determined to provide the best transportation connectivity to regional facilities and developed areas and are given the highest priority for transportation funding. RBTN Tier 1 corridors and alignments within Lakeville include:

- Cedar Avenue (CSAH 23) (Alignment)

#### **RBTN Tier 2**

RBTN corridors and alignments. These corridors and alignments are the second highest priority for funding. They provide connections to regional facilities in neighboring cities and serve to connect priority regional bicycle transportation corridors and alignments. RBTN Tier 2 corridors and alignments within Lakeville include:

- Lakeville Boulevard/Holyoke Avenue/Interlachen Boulevard (Corridor)
- 185<sup>th</sup> Street/Planned 185<sup>th</sup> Street extension (Corridor)
- Diamond Path (Corridor)

## **Linking Local Trails to the RBTN**

The goal of the RBTN is to develop an integrated seamless system of on-street bikeways and off-road trails that complement each other to most effectively improve conditions for bicycle transportation at the regional level. Cities, such as Lakeville, are encouraged to plan for and implement future bikeways within and along these designated corridors and alignments to support the RBTN vision.

The RBTN corridors and alignments make up the trunk arterials of the overall system of bikeways that connect to regional employment and activity centers. These are not intended to be the only bicycle facilities in the region, and local municipalities, such as Lakeville, are encouraged to consider planning for any additional bike facilities desired by their communities. RBTN corridors are shown where more specific alignments within those corridors have not yet been designated, so the City of Lakeville is encouraged to use their comprehensive planning process to identify suitable alignments within the RBTN corridors.

In addition, Lakeville will consider planning local on- and off-road bikeway networks to connect to the designated Tier 1 and Tier 2 alignments, as well as any new network alignments within RBTN corridors to be proposed in future comprehensive plans. Local trails in Lakeville will be expected to provide important connections to the two planned regional trails in the City as they are completed, including the Lake Marion Greenway Regional Trail and the North Creek Greenway Regional Trail. The regional trail connections will provide residents and visitors easy off-street access to regional parks, employment clusters, and the RBTN.

## Freight System Plan

The major generator of truck traffic in the Lakeville area is the Airlake Industrial Park near Airlake Airport. Airlake Industrial Park is one of the largest industrial parks in the region, as measured by acreage. Several interstate trucking companies are headquartered in Lakeville to provide industrial and commercial transportation. Cedar Avenue (CSAH 23) and 215<sup>th</sup> Street (CSAH 70) are the primary routes for access to Airlake Industrial Park. A second major industrial development exists at the Fairfield Business Campus near the I-35 at 210<sup>th</sup> Street (CSAH 70) interchange. The I-35 corridor in Lakeville is built to 10-ton axle loading standards and is part of both the National Truck Network and the Minnesota Twin Trailer Network, allowing extra capacity and flexibility for commercial trucking. This major highway coverage reduces the impact of truck traffic on local roadways and minimizes the potential for disruption of neighborhoods. The existing freight system in Lakeville is shown in Figure 14.

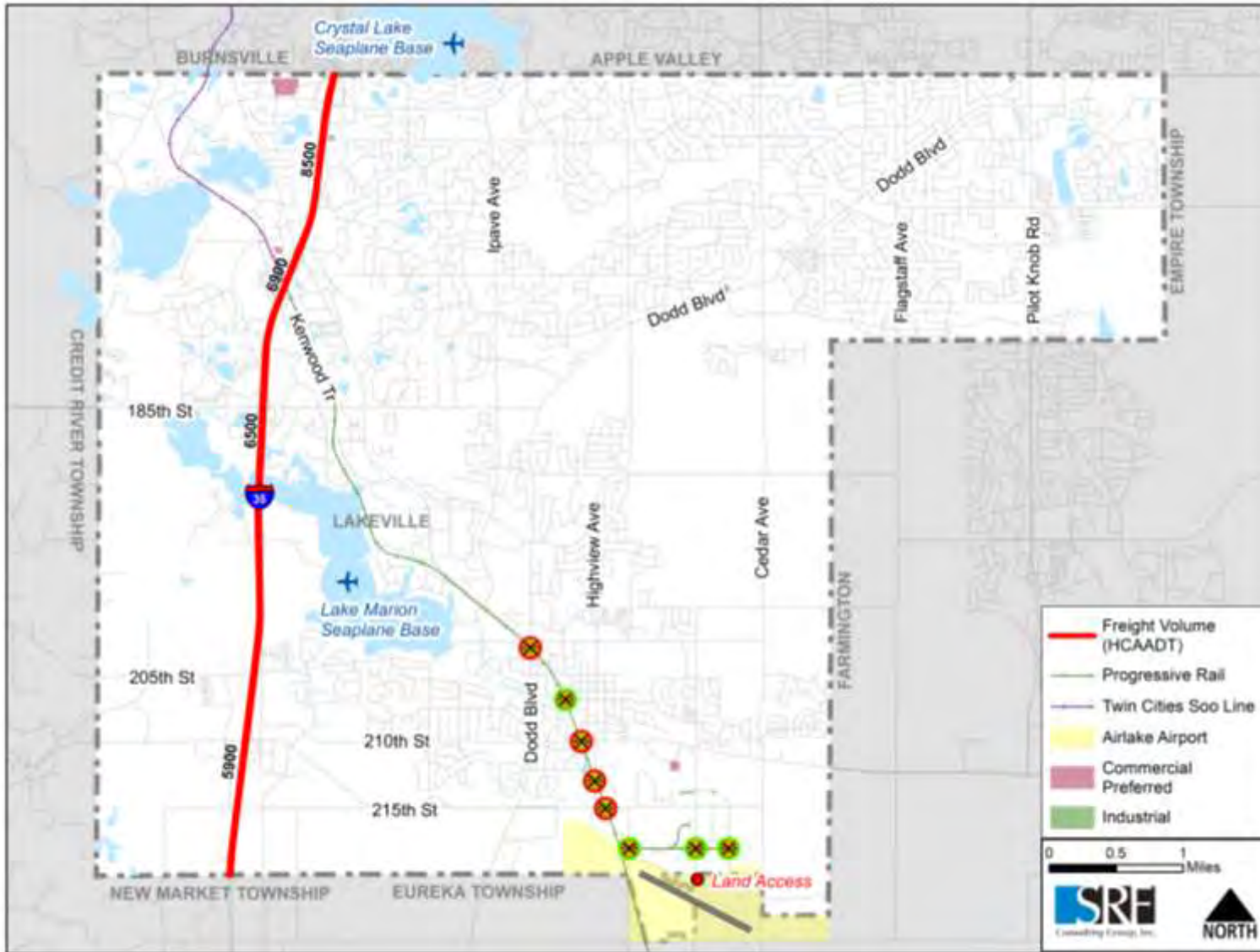
Truck traffic from industrial, warehousing, and commercial land uses can be adequately accommodated through the following measures:

- Locating truck-intensive land uses with good proximity to the metropolitan highway system and with good access to the minor arterial system;
- Using acceptable design standard on arterials, which will ensure adequate turning radius and pavement depth for trucks;
- Signing and marking to minimize truck traffic through neighborhoods.

Freight rail service is available from Canadian Pacific Rail. Local short-line freight service is provided by Progressive Rail. Progressive Rail is based at the Airlake Industrial Park and provides short-haul connections. The City will continue to work to maintain rail service within Airlake Industrial Park.

The City of Lakeville does not have, nor do they anticipate, any roadway issues or problem areas that may negatively impact the efficient movement of goods.

Figure 14. Existing Freight System



## Aviation Plan

A portion of Airlake Airport lies in southern Lakeville as shown in Figure 14. About 50% of the airport is in Eureka Township just south of Lakeville. Airlake Airport is a Metropolitan Airports Commission (MAC) reliever airport serving the community's corporate and private aviation needs. Airlake Airport primarily serves private and recreational pilots and features a single 4,099-foot runway. The airport annually experiences more than 34,000 landings and take-offs.<sup>3</sup> There are 140 aircraft based at the airport, the majority being single engine airplanes.

Small unmanned aircraft systems (sUAS,) commonly called drones under 55 pounds, are not allowed to be operated within 5 miles of active airports.

Structures which are 200 feet or higher above ground level may pose hazards to air navigation. Lakeville has no existing structures of this height, does not permit such structures under its zoning ordinance, and has no plans to permit such structures in the future. The Federal Aviation Administration (FAA) requires the FAA Form 7460-1 “Notice of Proposed Construction or Alteration,” under code of federal regulations CFR-Part 77, be filed for any proposed structure or alteration that exceeds 200 feet. FAA Form 7460-1 can be obtained from FAA headquarters and regional offices. These forms must be submitted 30 days before alteration or construction begins or the construction permit is filed, whichever is earlier. MnDOT must also be notified per MnDOT Rules Chapter 8800. The Minneapolis-St. Paul (MSP) airport community land use safety zoning ordinance should also be considered when reviewing construction in the City that raises potential aviation conflicts.

An airport's airspace must be protected from potential obstructions and electronic interference to aircraft operation. Specific State requirements to protect airspace include forming a joint airport and community zoning board, defining an airport zoning district, and implementing an airport zoning ordinance including land use safety zoning. These activities need to be put in place by Airlake Airport communities. In preparing an ordinance the City should review the recent changes to MnDOT Rules Chapter 8800.

The Airlake Airport 2035 Comprehensive Plan Update was updated in 2018. The plan includes the addition of 79 hangar spaces by 2025, developed on an as-needed basis and an extension of Runway 12-30 to 5,000 feet with Hangar Area Development. The anticipated timeline for these improvements has not yet been established but will be in part based upon the availability of water/sewer services. Forecasts done for the Airlake Airport 2025 Comprehensive Plan indicate that the airport is currently operating at 25 percent capacity. Even under the high scenario, the forecast number of operations in 2025 does not trigger the need for additional runways at Airlake Airport. However, that can change based on demand which is difficult to forecast beyond 10 years. The Airlake Airport was partially annexed by the City of Lakeville in 2018.

It is important to note that FAA safety zone requirements have changed since the original Airlake Airport runway was constructed. The current alignment of Cedar Avenue (CSAH 23) is technically in the safety zone so any changes to the roadway, such widening or adding turn lanes, may trigger

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<sup>3</sup> Source: [www.airnav.com](http://www.airnav.com)

the realignment of the roadway regardless of the need to expand the runway at that time. The Metropolitan Council's 2040 Transportation Policy Plan identifies the region-wide need for additional runway and hangar area improvements for traditional general aviation users, for new light sport aircraft and for very light jets that will soon be joining the fleet. Some of this growth is expected to utilize the Airlake Airport.

### **Heliports**

There is no stand-alone heliport within the City of Lakeville. Helicopter operations, including emergency medical services, take place at Airlake Airport.

### **Floatplanes and Seaplanes**

Two lakes within the City of Lakeville, Lake Marion and Orchard Lake, are designated in Minnesota State Rules Chapter 8800.2800 as authorized for purposes of safe floatplane and seaplane use. The operation of floatplanes and seaplanes on Lake Marion and Orchard Lake must conform to all applicable marine traffic rules and regulations.



## **Funding Strategies**

Roadways under City jurisdiction are maintained, preserved, constructed, and reconstructed by the City's Department of Public Works. Funding for these activities, including the administrative costs of operating the Department, are obtained from a variety of sources, including ad valorem taxes, special assessments, development fees, and tax increment financing. A major concern of the City is the availability of sufficient funds for maintenance and construction activities. If funds are unavailable, needed projects may be delayed or terminated and maintenance of existing facilities may fall short of acceptable standards. The following explains the existing sources of funding and potential new sources of revenue.

### **State Aid**

An important source of revenue to the City is State Aid. A network of City streets called Municipal State-Aid Streets (MSAS) are eligible for funding assistance with revenue from the State Highway User Tax Distribution Fund. This constitutionally-protected funding allocation is comprised of gasoline taxes and vehicle registration fees and is allocated based on a formula that considers the population of a City and the financial construction needs of its MSAS system.

### **Ad Valorem Taxes**

For situations in which 20 percent of the cost of a City project can be assessed to the adjacent property owners, the remaining cost of the project can be added to the ad valorem or property taxes of the remaining property owners in the City. Ad valorem taxes for street improvements are excluded from the State-mandated levy limits.

### **Tax Increment Financing**

Establishing a tax increment financing (TIF) district is a method of funding infrastructure improvements that are needed immediately using the additional tax revenue to be generated in future years by a specific development. Municipal bonds are issued against this future revenue, which is dedicated for a period of years to the repayment of the bonds or to other improvements within the TIF project area. TIF districts can accelerate economic development in an area by ensuring that the needed infrastructure is in place without requiring support from the usual funding.

### **Grant Funding**

There are many opportunities for metropolitan cities to take advantage of various grant funding initiatives. Regional Solicitation and Highway Safety Improvement Program (HSIP) are among grant solicitations for the Twin Cities metropolitan area. The City should monitor the grant funding opportunities available for applicable projects and submit applications when possible.

## Planning for the Future

Throughout the City of Lakeville's comprehensive planning effort, the City will consider how to address existing transportation needs, while setting the stage for future growth. Items for consideration include the following:

- System Preservation
- Connected Vehicles and Autonomous Vehicles
- Performance Standards and Measures
- Project Prioritization
- New Revenue Sources
- New Maintenance Techniques
- Asset Management
- Travel Demand Management
- Bicycle Amenities
- Car Sharing Provisions
- Complete Streets and Safe Routes to School

### System Preservation

Infrastructure systems such as roadways, bridges, culverts, and sidewalks have become expensive and challenging to maintain in today's environment with aging infrastructure, rising costs of materials, and stagnant or declining revenue. In fact, many local agencies are being forced to pause, and ask questions about the costs and benefits of continuing to maintain assets throughout their entire system, or if other approaches should be explored to better balance needs with available resources. Generally, approaches to be considered include:

### Connected Vehicles and Autonomous Vehicles

Connected Vehicles (CVs) refers to vehicles that communicate with one another and with other elements of intelligent transportation infrastructure. Autonomous, automated, or self-driving vehicles (AVs) describes a spectrum of vehicles that require varying degrees of human control. Connected Automated Vehicles (CAVs) to refers to both technologies, which are automated vehicles connected to other vehicles and the transportation system.

There is a wide range of forecasted adoption scenarios for CV and AV technology. Analysts from the automotive industry tend to provide more conservative forecasts, while analysts from the technology world tend to be less conservative, with some forecasting heavy adoption by as early as 2030. Before widespread adoption occurs, there will be an extended period during which the developing CV and AV platform must coexist with human-operated personal vehicles, as well as with public transit, pedestrian users, and other modes. In Metropolitan Council's 2040 TPP, it is noted that the implications of connected and automated vehicles need to be thoroughly examined. As with many new transportation technologies, automated and connected vehicles are likely to

penetrate urban markets prior to expanding to the suburbs, especially if they are initially developed through a ride-hailing platform.

### **Performance Standards and Measures**

A performance-based approach improves the accountability of local infrastructure investments, assesses risks related to different performance levels, and monitors progress and increases transparency.

### **Project Prioritization**

Project prioritization can help the City rank infrastructure needs in a manner that is consistent with preservation goals and objectives. This technique can help avoid the typical “worst first” approach to programming preservation projects that tends to invest limited resources in the most expensive improvements instead of directing maintenance funds to infrastructure that merely need rehabilitation, which will provide more cost-effective solutions in a timely manner.

### **New Revenue Sources**

There are methods to capture new revenue streams to close the financial gap in maintaining assets in a state of good repair. Exploring new revenue sources will allow the City to expand and accelerate preservation initiatives.

### **New Maintenance Techniques**

There are new maintenance techniques that can extend the lifecycle of an asset. For example, new maintenance techniques for roadway surfaces can provide longer service life and higher traffic volume thresholds, resulting in more stable road maintenance costs. Cost reduction of life cycle extension strategies which save money, or extend surface life, can directly benefit preservation needs, and minimize any identified financial gap.

### **Asset Management**

Tracking assets and their condition will provide a stronger outlook on lifecycle costs and replacement schedules. This will help establish funding plans and identified future funding gaps or shortfalls.

### **Travel Demand Management**

Research has shown that Travel Demand Management strategies are a useful technique in helping alleviate parking demands in a geographical area. TDM strategies are applied to help reduce the number of single occupancy vehicles traveling and parking in a certain area. Opportunities to encourage TDM strategies are highlighted throughout this section.

### **Travel Demand Management Plans (TDMP)**

A TDMP outline measures to mitigate parking demand as part of the development permit process, which can result in innovative solutions that are tailored to the specific needs of a neighborhood or district. These types of plans may require specific strategies for reducing single-occupancy vehicle trips and promoting alternative modes of transportation.

## **Bicycle Amenities**

Actively promoting bicycling as an alternative means of travel to and from a destination can be achieved through information dissemination and the provision of bicycle storage facilities and adding on-street bicycle lanes and additional connections to trails. These actions can help decrease the demand for vehicle parking.

## **Car Sharing Provisions**

Car sharing programs provide mobility options to a cross section of residents who would not otherwise have access to a vehicle. These programs encourage the efficient use of a single vehicle among multiple users, while reducing the amount of parking needed to accommodate each resident within a neighborhood. Zoning language can encourage or require new developments of a certain size to include off-street parking provisions for car sharing programs.

## **Shared Mobility**

Shared mobility includes bikesharing, carsharing, and ridesourcing services provided by companies such as Uber and Lyft. Predictions indicate that by creating a robust network of mobility options, these new modes will help reduce car ownership and increase use of public transit, which will continue to function as the backbone of an integrated, multimodal transportation system.

## **Complete Streets and Safe Routes to School**

Complete Streets are commonly defined as roadways that accommodate all users such as pedestrians, bicyclist, vehicles and transit, regardless of age and ability. This is important to consider when recognizing the diversity of people traveling throughout the community.

The Transportation Plan's goals and policies embrace several elements of complete streets, such as safety for pedestrians and bicyclists. MnDOT has adopted a Complete Streets Policy, last updated in May 2016, and has committed to assessing opportunities for incorporating complete street design principles in all MnDOT projects. MnDOT's Complete Streets Policy can serve as a resource to the City for incorporating complete street design standards into City projects.

Safe Routes to School is a national initiative to increase safety and promote walking and bicycling for America's youth. The Safe Routes to school program will assist in providing infrastructure and non-infrastructure grants to build trails, paths, and safe connections to local schools.

Planning for safe routes to schools will require specific attention to certain elements such as bike routes, complete street treatments, sidewalk networks, pedestrian/bicycle amenities and wayfinding signage. Combined, these elements can create Safe Routes to Schools or Complete Streets.