
Chapter 3: Transportation

Introduction

The transportation system in Circle Pines operates well today. The city's multimodal transportation system includes facilities for vehicles, freight, walking, bicycling and transit. Facilities are operated by a number of agencies, including the City of Circle Pines, Anoka County, the Minnesota Department of Transportation (MnDOT), and Metro Transit.

This transportation chapter has been prepared in compliance with State of Minnesota Statutes and applicable Metropolitan Council guidelines. As part of this Plan, the city has reviewed existing and future conditions for each mode and identified safety, operational, and network improvements that will be important to address over the 2040 planning horizon. The city has also developed goals and strategies that match MnDOT and the Metropolitan Council's goals and strategies to preserve and improve the transportation system.

This transportation plan includes the following information:

1. Summary of Regional Strategies
2. Existing Roadway System
3. 2040 Traffic Forecasts and Roadway Network Planning
4. Existing and Planned Non-Motorized Transportation Network
5. Freight Network
6. Transit
7. Aviation
8. Goals and Multimodal Strategies
9. Proposed Short and Long Range Roadway Projects
10. Conclusion and Next Steps

Transportation Glossary

CIP: Capital Improvement Plan – five year plan for capital investments in the transportation system and in other capital assets owned by the city (equipment, buildings, etc.).

CR: County Road – county-owned roadway that does not receive State funding.

Critical Crash Rate: Statistical indicator of a safety problem at a location. If crash rates at a location are above the critical crash rate, it indicates that the location has a crash rate that is statistically significant compared to similar roadways.

CSAH: County State Aid Highway – county-owned roadway that receives State Aid funding.

MnDOT: Minnesota Department of Transportation.

RBTN: Regional Bicycle Transportation Network – existing and planned regional bicycle network established by the Metropolitan Council.

TH: Trunk Highway – State highway owned and operated by MnDOT.

TPP: Transportation Policy Plan – Regional transportation plan for the Twin Cities metropolitan region, developed by the Metropolitan Council.

1. Summary of Regional Strategies

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

The TPP is guided by the following goals:

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

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

Under the current revenue scenario, the TPP is focused on operations and maintenance of the existing transportation system. Investments in highway mobility and access are limited to those projects that address multiple TPP goals and objectives. The increased revenue scenario would allow additional investments in operations and maintenance, as well as regional mobility, access, safety, and bicycle/pedestrian improvements. However, congestion cannot be greatly reduced even under the increased revenue scenario. Under both scenarios, proposed investments are focused on areas of the metro with the greatest existing and future challenges and anticipated growth.

The Metropolitan Council classifies Circle Pines under the Suburban Community Designation. Based on *Thrive MSP 2040*, Suburban areas are expected to plan for forecasted population and household growth at average densities of at least five units per acre for new development and redevelopment. These communities are also expected to target opportunities for more intensive development near regional transit investments.

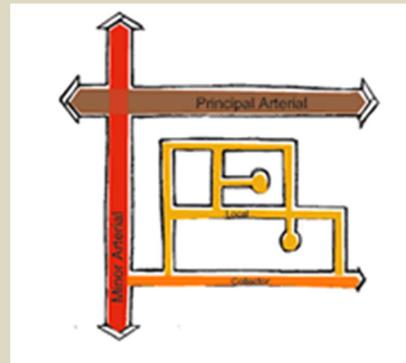
2. Existing Roadway System

The sections below provide information about the existing roadway system in Circle Pines, including existing number of lanes, existing roadway jurisdiction, existing functional classification, existing traffic, existing safety, and access management. This chapter also includes summary recommendations from recent plans and corridor studies.

2.1. Functional Classification

The functional classification system groups roadways into classes based on roadway function and purpose. Functional classification is based on both transportation and land use characteristics, including roadway speeds, access to adjacent land, connection to important land uses, and the length of trips taken on the roadway.

The **functional classification system** organizes a roadway and street network that distributes traffic from local neighborhood streets to collector roadways, then to minor arterials and ultimately the principal arterial system. Roads are placed into categories based on the degree to which they provide access to adjacent land and mobility for through traffic. Functional classification gives an indication of the relative hierarchy of roadways in the transportation network.



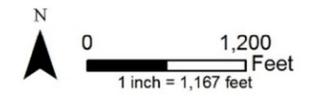
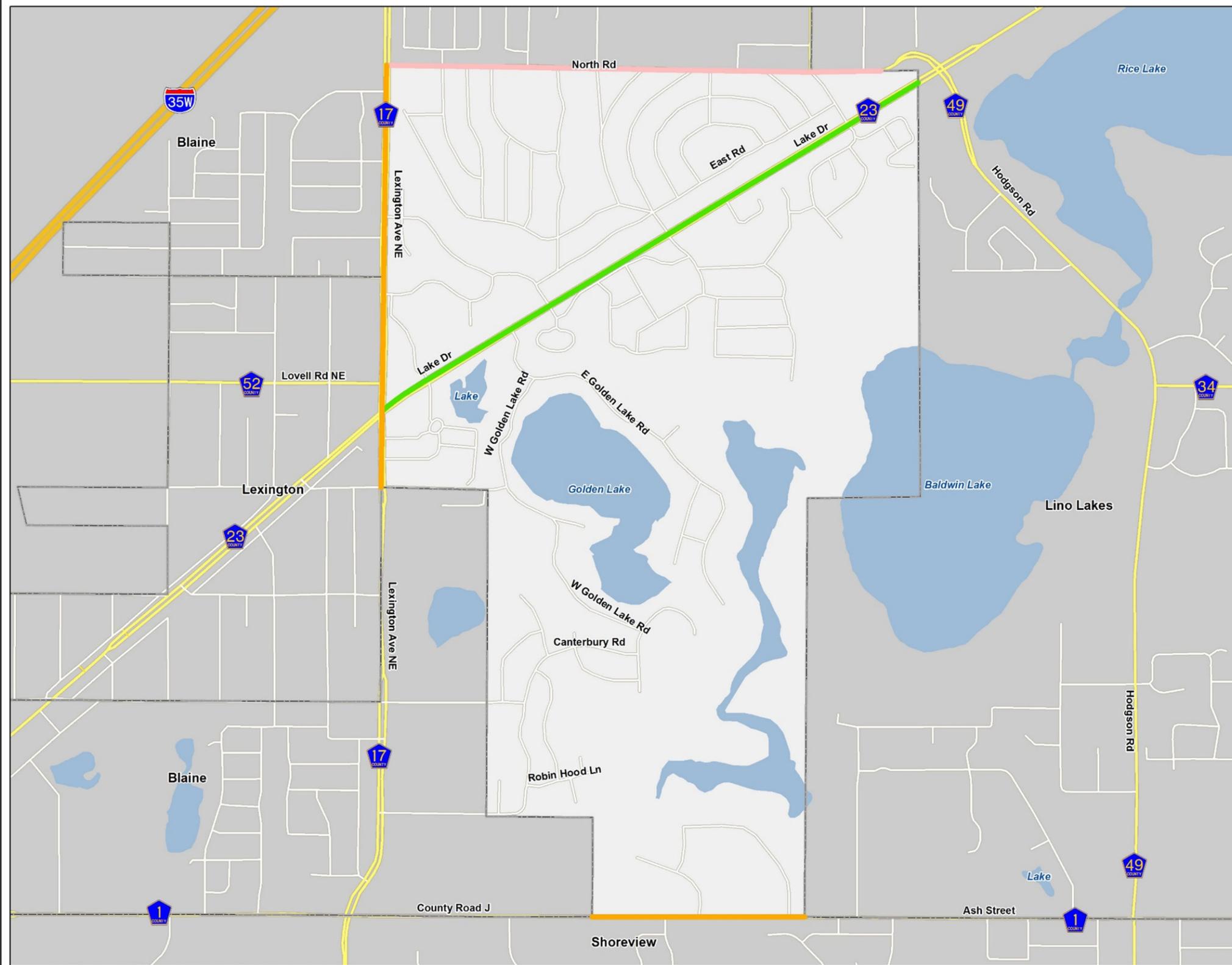
Four classes of roadways are included in the seven-county metropolitan area functional classification system: principal arterials, minor arterials, collector streets, and local streets.

Figure 1 shows the existing functional classification of each road in the City of Circle Pines and **Figure 2** shows the existing roadway jurisdiction. The following sections describe each functional class in greater detail and indicate which roadways fall into each classification.



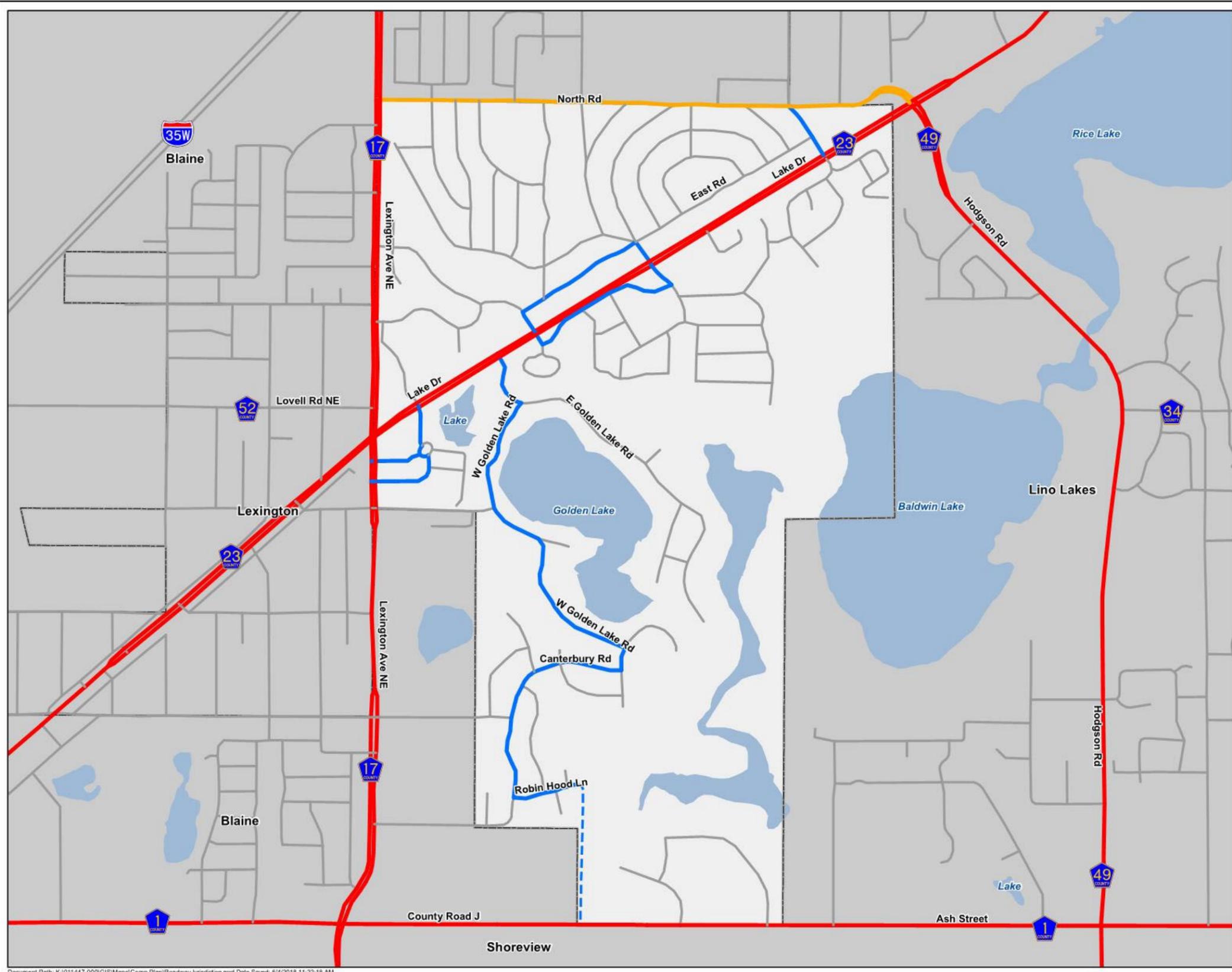
Circle Pines Comprehensive Plan
Figure 1: Existing
Functional Classification
Circle Pines, MN

Functional Classification	
	A-Minor Reliever
	A-Minor Expander
	Major Collector
	City Boundary



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Circle Pines Comprehensive Plan
Figure 2 - Roadway Jurisdiction
Circle Pines, MN



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Roadway Jurisdiction

- County State Aid Highway (CSAH)
- Municipal State Aid Street
- County Road
- Local Street
- Proposed Municipal State Aid Street
- City Boundary

N
0 1,200 Feet
1 inch = 1,200 feet



2.1.1. Principal Arterials

Principal arterials are roadways that provide the greatest level of mobility and access control. Within the metropolitan area, the great majority of principal arterials are under MnDOT jurisdiction. Principal arterials are typically Interstate highways or other state or US freeways or expressways. These facilities are intended to serve trips greater than eight miles and express transit trips. Spacing of principal arterials varies within developing areas of the metropolitan area. Typically these facilities are spaced between two and six miles apart. These facilities connect regional business and commercial concentrations, transportation terminals, and large institutions within the metropolitan area. Principal arterials also connect to other cities, regions, and states outside of the metropolitan area.

Principal arterials are intended to maintain average speeds of 40 mph during peak traffic periods. To maintain mobility and speeds on principal arterials, land access and transportation system connections are limited. There is little to no direct land access from principal arterials. Intersections are limited to interstate freeways, other principal arterials, and “A” Minor arterials. Access points are typically grade-separated or controlled with a signal and are spaced one to two miles apart.

There are no existing principal arterials located within Circle Pines. Interstate 35W (I-35W) is the closest principal arterial, located northwest of Circle Pines in the City of Blaine. Access to I-35W, both northbound and southbound, is less than half a mile north of Circle Pines. The 2040 Transportation Policy Plan does not propose any additional principal arterials within the City.

2.1.2. Minor Arterials

Minor arterials maintain a focus on mobility, but provide more land access than principal arterials. Within Circle Pines, all minor arterials are under the jurisdiction of Anoka County. Minor arterials are intended to serve trips of four to eight miles in length. Within developing areas of the metro, these facilities are spaced between one and two miles apart. Minor arterials connect cities and towns within the region and link to regional business and commercial concentrations. Access points along minor arterials are generally at-grade and typically controlled with signals or stop signs.

During peak traffic, minor arterials in developing areas are intended to maintain 30 mph average speeds. As a result, transportation system connections are limited to interstate freeways, other principal arterials, other minor arterials, collectors, and some local streets. Land access is limited to concentrations of commercial and industrial land uses. The Metropolitan Council has established a system of “A” Minor and “B” Minor arterials. “A” Minor arterials are eligible for federal funding administered by the Metropolitan Council.

The Metropolitan Council has further split “A” Minor arterials into four types, described below:

- Relievers: Arterials located parallel to congested principal arterials. The purpose of “A” Minor Relievers is to provide additional capacity in congested corridors.

- Augmenters: Arterials that supplement the principal arterials system within urban centers and urban communities.
- Expanders: Arterials that supplement principal arterials in less-densely developed areas of the metro area.
- Connectors: Arterials that provide connections between rural towns and connect rural areas with the principal arterial system.

There are two “A” Minor Expanders and one “A” Minor Reliever within the city:

“A” Minor Expanders:

- County State Aid Highway (CSAH) 17 (Lexington Avenue)
- CSAH 1 (Ash Street West)

“A” Minor Reliever:

- CSAH 23 (Lake Drive)

“B” Minor arterials have a similar focus on mobility above land access. These roadways connect major traffic generators in the region. “B” Minor arterials are not eligible for federal funding. There are no “B” Minor arterials within the City and the 2040 TPP does not propose any additional minor arterials within the City.

2.1.3. Major and Minor Collectors

Major and minor collector roadways provide linkages to larger developments and community amenities. They generally do not link communities to one another. Collector roadways generally favor access to the system over mobility, but try to balance the two competing needs. Collector roadways are generally lower speed than the principal or minor arterial routes. Collector roadways are often owned and operated by cities, although counties operate some of these facilities. Within Circle Pines, there is one collector roadway; it is operated by Anoka County. Collectors are intended to serve trips of one to four miles in length. Collectors link minor arterials, other collectors, and local streets.

Major collectors typically serve higher density residential areas and concentrations of commercial and industrial land uses. These facilities tend to serve longer trips than minor collectors. Major collectors within the City include:

- County Road (CR) 10 (North Road)

There are no minor collectors within the city, and the 2040 Transportation Policy Plan does not propose any additional collector roadways within the city.

2.1.4. Local Roadways

The primary function of local roadways is land access. Local roadways connect individual land parcels with other local roadways and collectors. Trips on local roadways are typically under two miles. Speeds on local roadways are typically low. Longer trips are facilitated by local roadway connections to the collector and arterial systems. Local roadways are under the jurisdiction of the City of Circle Pines. Local roadways are all roadways that are not arterials or collectors.

2.1.5. Planned Functional Classification

No functional classification changes are recommended within the City.

A note on transportation plan strategies:

Throughout this Plan, locations associated with numbered mode-specific strategies are identified on corresponding maps. These strategies are listed and described in further detail in **Table 8**.

2.2. Existing Roadway Capacity and Safety

Roadway capacity and roadway safety are two key indicators of how well the roadway system is meeting the city’s transportation needs. The sections below provide information to better understand capacity and safety issues within Circle Pines.

2.2.1. Existing Roadway Capacity

A roadway’s capacity indicates how many vehicles may use a roadway before it experiences congestion. Capacity is largely dependent upon the number of lanes. **Table 1** below lists planning-level thresholds that indicate a roadway’s capacity (measured in annual average daily traffic, AADT). Additional variation (more or less capacity) on an individual segment is influenced by a number of factors including: amount of access, type of access, peak hour percent of traffic, directional split of traffic, truck percent, opportunities to pass, and amount of turning traffic, the availability of dedicated turn lanes, parking availability, intersection spacing, signal timing and a variety of other factors.

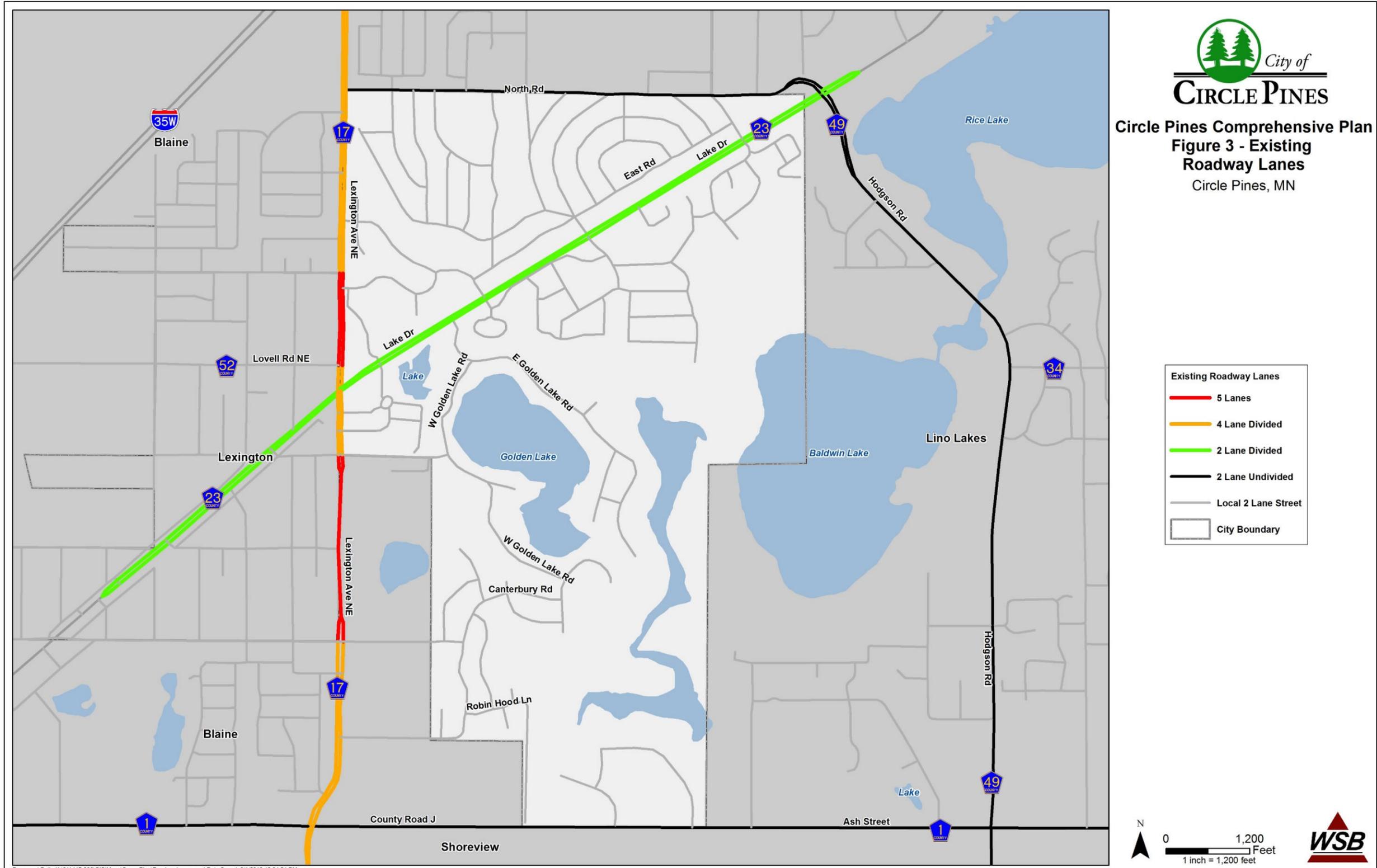
Table 1: Planning-level Urban Roadway Capacities

Facility Type		Daily Two-way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-lane Undivided	10,000	12,000
	Two-lane Divided or Three-lane Undivided	15,000	17,000
	Four-lane Undivided	18,000	22,000
	Four-lane Divided or Five-lane Undivided	28,000	32,000
Freeways	Four-lane Freeway	60,000	80,000
	Six-lane Freeway	90,000	120,000
	Eight-lane Freeway or Higher	Calculated on a segment-by-segment basis	

2.2.2. Existing Capacity Problems on Arterial Roads

At the planning level, capacity problems are identified by comparing the existing number of lanes with current traffic volumes. **Table 2** and **Figure 3** illustrate the existing number of lanes on collector and arterial roadways within the city. **Figure 4** illustrates existing traffic volumes on A-Minor Arterials and other significant roadways within the city.

As shown in the table, CSAH 17 (Lexington Avenue) has either four or five lanes throughout the City. All other arterial roadways have two lanes. The arterials in Circle Pines currently exhibit traffic volumes below or within the range of the planning level capacity thresholds shown in **Table 1**. This indicates that these roadways are typically not experiencing high levels of congestion.

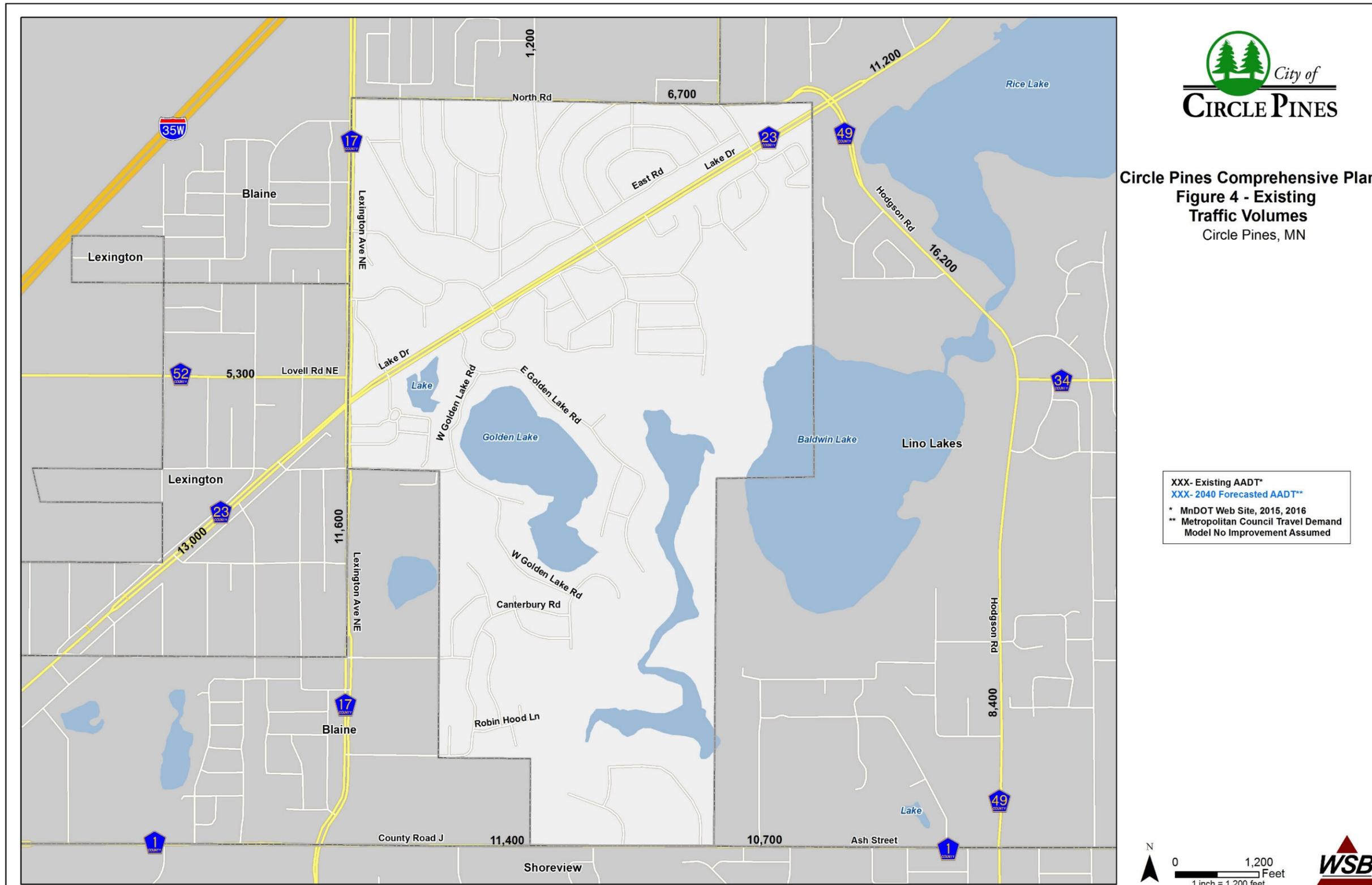


City of
CIRCLE PINES
Circle Pines Comprehensive Plan
Figure 3 - Existing
Roadway Lanes
Circle Pines, MN

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**Circle Pines Comprehensive Plan
Figure 4 - Existing
Traffic Volumes**
Circle Pines, MN



XXX- Existing AADT*
 XXX- 2040 Forecasted AADT**
 * MnDOT Web Site, 2015, 2016
 ** Metropolitan Council Travel Demand Model No Improvement Assumed

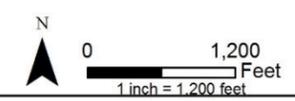


Table 2: Existing number of lanes on arterial roads

Functional Classification	Roadway Name	Location	Number of Lanes
“A” Minor Expander	CSAH 17 (Lexington Avenue)	From southern Circle Pines-Blaine border to northern Circle Pines-Blaine border	4-5
	CSAH 1 (Ash Street W)	From western Circle Pines-Shoreview border to eastern Circle Pines-Shoreview border	2
“A” Minor Reliever	CSAH 23 (Lake Road)	From western Circle Pines-Blaine boarder to eastern Circle Pines-Lino Lakes border	2
Major Collector	CR 10 (North Road)	From western Circle Pines-Blaine boarder to eastern Circle Pines-Lino Lakes border	2

2.3. Access Management

The purpose of access management is to provide adequate access to adjacent land development while maintaining acceptable and safe traffic flow on higher level roadways. Access management consists of carefully controlling the spacing and design of public street intersections and private access points to the public roadway system. Because they are designed for higher speed, longer distance trips, arterials generally have restricted access, while local streets can accommodate much greater access. Collector roadways fall in between arterials and local roadways regarding the amount of access that is permitted.

The agency with jurisdiction over a roadway sets access management guidelines. Access to I-35W must meet MnDOT access management guidelines. See **Tables 3.1** and **3.2** for MnDOT Access Management Guidelines.

Anoka County has established access management guidelines for county roadways, as displayed in **Table 4**. It should be noted that there are existing access points within the City that do not meet Anoka County access spacing guidelines. In many cases these access points were established prior to county access spacing guidelines/policies. In other cases the County has granted an exception to the existing guidelines. As roadways are reconstructed or if

redevelopment occurs, the County will generally work to modify and/or relocate access points that do not meet current access spacing guidelines, recognizing that this may not be feasible in all instances.

MnDOT Access Management Manual

Table 3.1 – Summary of Recommended Street Spacing for IRCs

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

3A	Rural		1 mile	1/2 mile	See Section 3.2.5
3B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
3C	Urban Core		300-660 feet, dependent upon block length		1/4 mile

MnDOT Access Management Manual

Table 3.2 – Summary of Recommended Street Spacing for Non-IRCs

Category	Area or Facility Type	Typical Functional Class	Public Street Spacing		Signal Spacing
			Primary Full-Movement Intersection	Secondary Intersection	
4 Principal Arterials in the Twin Cities Metropolitan Area and Primary Regional Trade Centers (Non-IRCs)					
4AF	Non-Interstate Freeway	Principal Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
4A	Rural		1 mile	1/2 mile	See Section 3.2.5
4B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
4C	Urban Core		300-660 feet dependent upon block length		1/4 mile
5 Minor Arterials					
5A	Rural	Minor Arterials	1/2 mile	1/4 mile	See Section 3.2.5
5B	Urban/Urbanizing		1/4 mile	1/8 mile	1/4 mile
5C	Urban Core		300-660 feet, dependent upon block length		1/4 mile

6 Collectors					
6A	Rural	Collectors	1/2 mile	1/4 mile	See Section 3.2.5
6B	Urban/Urbanizing		1/8 mile	Not Applicable	1/4 mile
6C	Urban Core		300-660 feet, dependent upon block length		1/8 mile
7 Specific Area Access Management Plans					
7	All	All	By adopted plan		

Table 4: Anoka County Access Spacing Guidelines

Roadway Type	Route Speed (miles per hour)	Intersection Spacing		Signal Spacing	Private Access
		Full Movement Intersection	Conditional Secondary Intersection		
Principal Arterial	50 – 55	1 mi.	1/2 mi.	1 mi.	Subject to conditions for all roadway types and speeds
	40 – 45	1/2 mi.	1/4 mi.	1/2 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/4 mi.	
Arterial Expressway	50 – 55	1 mi.	1/2 mi.	1 mi.	
Minor Arterial	50 – 55	1/2 mi.	1/4 mi.	1/2 mi.	
	40 – 45	1/4 mi.	1/8 mi.	1/4 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/4 mi.	
Collector and Local	50 – 55	1/2 mi.	1/4 mi.	1/2 mi.	
	40 – 45	1/8 mi.	NA	1/4 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/8 mi.	
Specific Access Plan	By adopted plan/agreement/covenant on land				

2.4. Recommendations from Recent Plans and Studies

2.4.1. 2018 Street and Utility Improvement Project

In 2017, the City of Circle Pines completed the Feasibility Report to identify street and utility priorities for the 2018 Street and Utility Improvement Project. This project is part of the 2007 Long-Term Streets Plan to rehabilitate streets over the next 20 years. The study area focused on the northern portion of the City of Circle Pines. This report recommended that the roadways considered for rehabilitation are feasible based on the needs and anticipated cost. The local streets improved include East Road, Crossway Drive, Pine Drive, and Park Drive. These roadways will be rehabilitated in 2018.

2.4.2. 2011 Pavement Management Program

In 2011, the City of Circle Pines implemented the Pavement Management Program to identify street and utility priorities for the street rehabilitation and reconstruction. In 2018, the Partial Reconstruction Project will be implemented in the southern portion of the City of Circle Pines. This project is also part of the 2007 Long-Term Streets Plan to rehabilitate streets over the next 20 years. The study area focused on local roads in southern portion of the City of Circle Pines. The rehabilitation project will repair approximately one mile of local roads.

2.4.3. I-35W N MnPASS Study

In 2017, MnDOT completed the I-35W N Preliminary Design Study to assess the impacts of adding a MnPASS lane in each direction to relieve congestion. This study included an assessment of the environmental impacts and noise walls of the project. This study recommended that a MnPASS lane on I-35W N between Roseville and Blaine was necessary to relieve congestion. Road construction will begin in spring 2019. This project is not within the city of Circle Pines' city boundary, but because of the city's proximity to the project, there may be traffic benefits to the city.

3. Future Roadway System

This section addresses future roadway improvement needs and roadway design guidelines.

3.1. Roadway Capacity – Traffic Forecasting

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

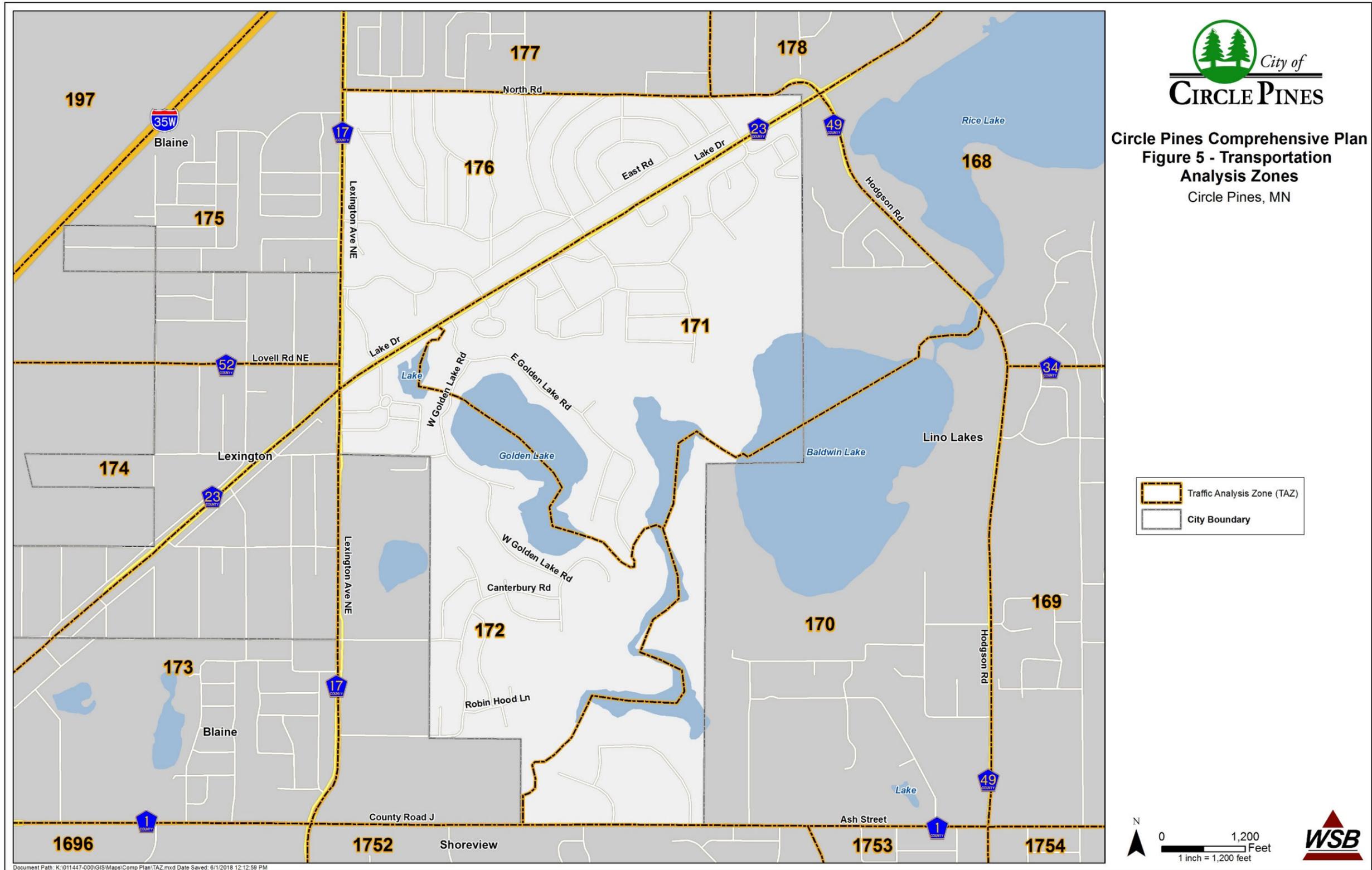
While the travel demand model is a valuable tool for identifying future traffic based on the proposed land use impacts, it is not meant for use in detailed traffic operations studies. For a more accurate representation of the transportation impacts from specific developments, detailed

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

A central concept of travel demand forecasting is the use of Transportation Analysis Zones (TAZs). Each forecast study area, in this case, the City of Circle Pines, is divided into a series of TAZs. Each TAZ has population, employment, and household data that is used by the model to generate trips that are assigned to various links on the roadway network. **Figure 5** displays Metropolitan Council TAZs within Circle Pines.

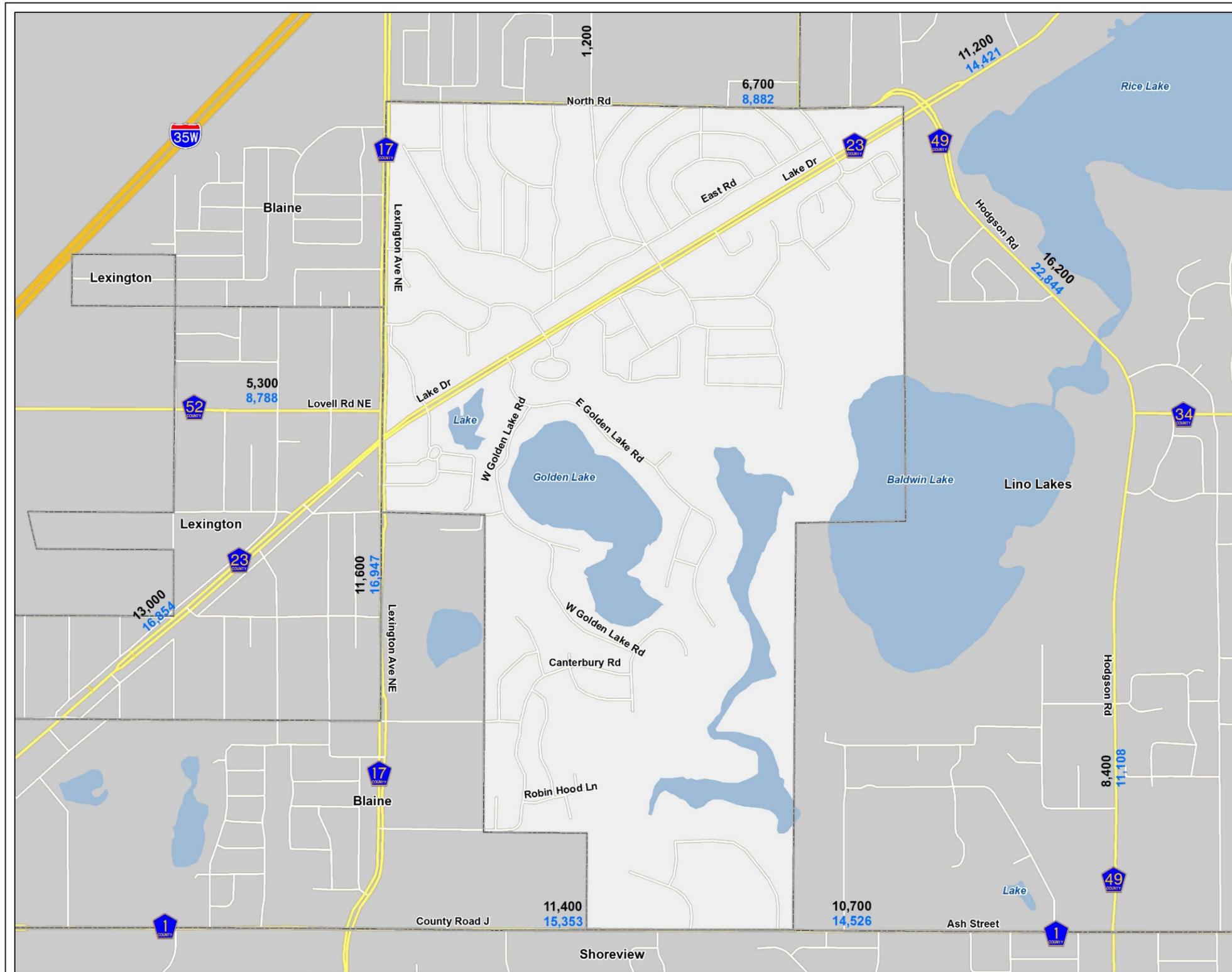
The results of the Circle Pines modeling process are summarized in **Figure 6**, which displays Metropolitan Council 2040 projected Average Daily Traffic (ADT) volumes compared to the existing (2012–2015) traffic volumes.

Table 5 provides a summary of existing and forecasted demographic growth by TAZ for Circle Pines through the year 2040. The Circle Pines population is forecasted to reach 5,300 by the year 2040, with households and employment increasing by approximately 200. Allocated demographic growth and associated land use was located throughout the community. Most of the forecasted growth for high density residential, commercial, and multi-optional development is expected to occur in the central portion of the city. For more information about the demographic allocation and associated land use forecast, please refer to the Circle Pines Land Use Plan in Chapter 2 of the Circle Pines Comprehensive Plan.



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CIRCLE PINES
 Circle Pines Comprehensive Plan
 Figure 6 - Existing & Forecasted Traffic
 Circle Pines, MN

XXX- Existing AADT*
 XXX- 2040 Forecasted AADT**
 * MnDOT Web Site, 2015, 2016
 ** Metropolitan Council Travel Demand Model No Improvement Assumed

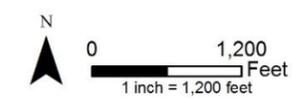


Table 5: Circle Pines 2040 Land Use Plan TAZ Growth Allocation

CURRENT TAZ	POP2010	HH2010	EMP2010	POP2020	HH2020	EMP2020	POP2030	HH2030	EMP2030	POP2040	HH2040	EMP2040
170	80	30	1	75	33	2	83	36	2	91	38	2
171	1995	848	262	2049	894	308	2152	920	329	2194	925	350
172	929	378	405	923	403	470	990	423	507	1031	436	543
176	1914	750	122	1953	771	120	1974	781	112	1985	801	105
Circle Pines 2040 Land Use Plan	4,918	2,006	790	5,000	2,100	900	5,200	2,160	950	5,300	2,200	1,000
Metropolitan Council Growth Allocation	4,918	2,006	790	5,000	2,100	900	5,200	2,160	950	5,300	2,200	1,000

3.2. 2040 Future Roadway Capacity Improvement Needs

To identify the need for potential future capacity improvements, Metropolitan Council 2040 forecasts were compared to planning-level roadway capacities for Principal and A-Minor Arterial Roadways. Planning-level roadway capacities used for this analysis are illustrated in **Table 6** below. Based on this comparison, most roadways in the City have adequate capacity to accommodate forecasted Metropolitan Council 2040 travel volumes with little to minimal congestion. These roadways are expected to function well through the 2040 planning horizon.

Table 6: Planning-Level Roadway Capacity

Facility Type		Daily Two-way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-lane Undivided	10,000	12,000
	Two-lane Divided or Three-lane Undivided	15,000	17,000
	Four-lane Undivided	18,000	22,000
	Four-lane Divided or Five-lane Undivided	28,000	32,000
Freeways	Four-lane Freeway	60,000	80,000
	Six-lane Freeway	90,000	120,000
	Eight-lane Freeway or Higher	Calculated on a segment-by-segment basis	

Based on these planning level roadway capacities, Ash Road (CSAH 1) is expected to exceed capacity in 2040. Ash Road is currently a two-lane undivided roadway with a planning-level capacity of 10,000–12,000 and a forecasted 2040 volume of 14,000-15,000. Accordingly, motorists will likely experience some congestion along this roadway during the 2040 planning horizon.

4. Existing and Planned Non-Motorized Transportation Network

This section addresses network needs for walking and bicycling within Circle Pines. This section also addresses the needs of people using wheelchairs and assistive mobility devices such as mobility scooters, as they are considered pedestrians.

Enhancing the non-motorized elements of the Circle Pines transportation system is a key goal in terms of improving transportation sustainability in the city and in the region. This approach gives residents an alternative to driving, supports transportation options for people who do not have consistent access to a personal vehicle, and encourages healthy activities and lifestyles.

This section includes information on the existing non-motorized transportation network within Circle Pines, connections to land use planning, the planned local non-motorized transportation network, and the planned regional non-motorized transportation network. This section also includes recommendations for intersection improvements and design best practices.

4.1. Existing Non-Motorized Transportation Network

The non-motorized transportation network in Circle Pines is comprised of sidewalks, on-street bicycle lanes/shoulders, local multi-use trail, and regional trail. As shown in **Figure 7**, there are existing sidewalks on a number of the streets, both on the main roadways as well as on many local roads. There are also multiple city trails, which are largely paved with asphalt and primarily adjacent to roadways, connecting parks, schools, lakes, and other destinations within the city.

Additionally, there is one regional multi-use trail located in the City of Circle Pines. The Rice Creek North Regional Trail is an existing Anoka County regional trail that, when complete, will be eight miles long, beginning at the Rice Creek Chain of Lakes Park Reserve in Lino Lakes and ending at the Anoka-Ramsey County border in Blaine. The completed portions of the trail within Circle Pines are located along Rice Creek in the southern portion of Circle Pines and within Baldwin Park in the northern portion of the city.

4.2. Connections to Land Use Planning

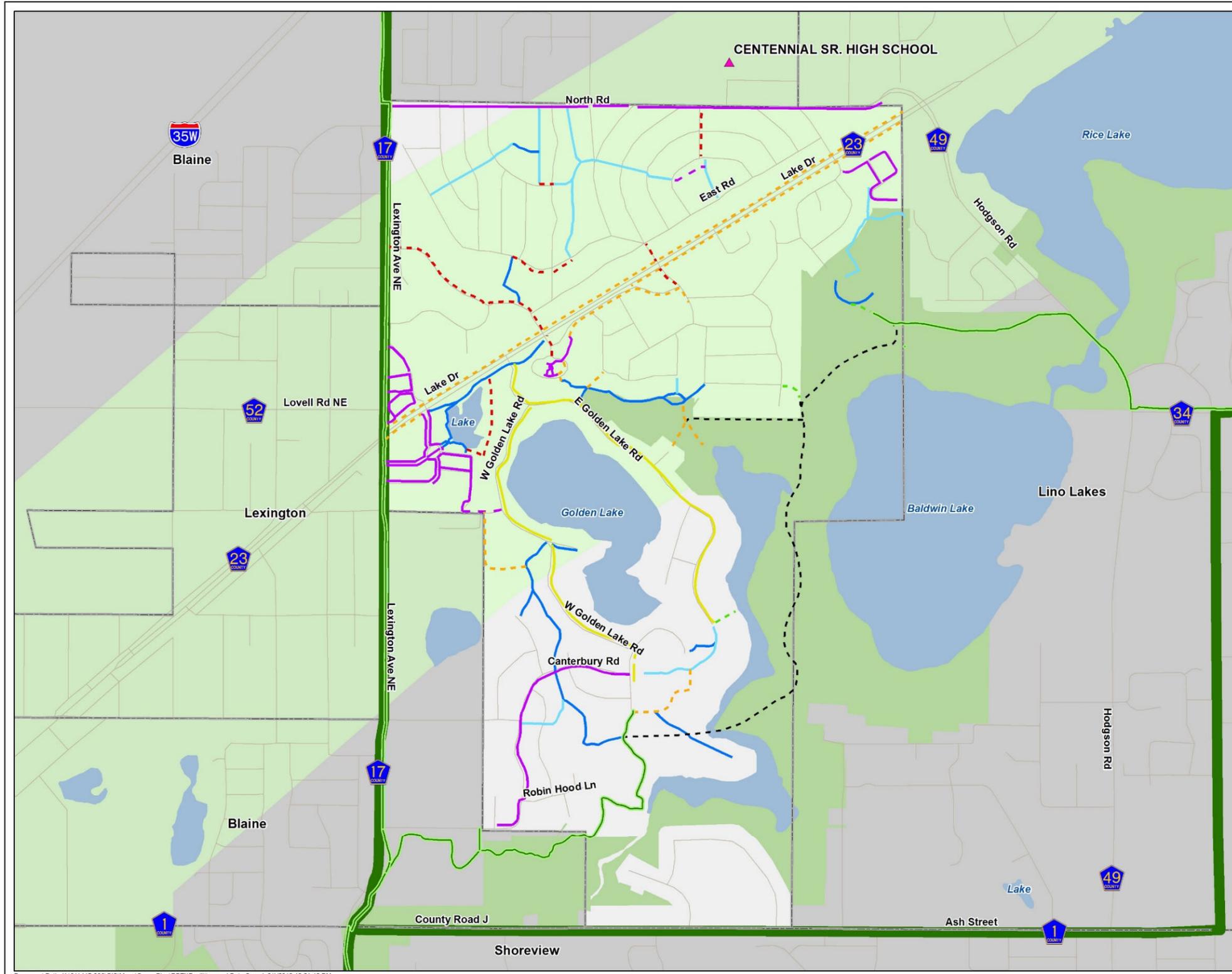
Circle Pines has development patterns largely consistent with its designation as an Suburban community. In many areas of the city, existing residential development is lower in density compared to many urban areas, reflecting a community that has automobile-oriented development patterns. As a result, most commercial land uses are separated from largely single-family residential land uses. This means that people walking and bicycling must cover greater distances to reach commercial areas from their homes. In these areas of the city, development patterns are likely better suited to bicycling than walking for transportation for most trips due to the distance between residential and commercial areas of the city. However, the development patterns in this city are well-suited for bicycling and walking due to the city's access to regional parks and lakes and existing trail and sidewalk network.

The City's land use planning and coordination with developers can help improve opportunities for walking and bicycling for transportation. The City can continue to encourage mixed-use

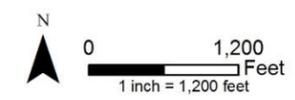
development that situates residents within a short walk of commercial destinations. The City can also work with developers to construct sidewalks and trails within developments. Additionally, the City can require pedestrian and bicycle connections in areas where the roadway network does not connect, such as cul-de-sac connector trails that provide shortcuts for people walking and bicycling.



**Circle Pines Comprehensive Plan
Figure 7 - Bicycle and
Pedestrian Facilities**
Circle Pines, MN



- Existing Regional Trail
 - Existing Trail (Unimproved)
 - Existing Trail (Improved)
 - Existing On-Street Road Connection
 - Existing Sidewalk
 - - - Proposed First Tier Trail
 - - - Proposed Second Tier Trail
 - - - Proposed Primary Pedestrian Facility
 - - - Proposed Secondary Pedestrian Facility
 - - - Regional Trail (Future)
- RBTN Facilities**
- █ Tier 2 Alignment
 - █ Tier 2 Corridor
 - ▲ RBTN Destinations
 - █ Regional Park
 - City Boundary



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4.3. Planned Local Non-Motorized Transportation Network

The City's planned local non-motorized transportation network includes sidewalk, paved multi-use trails, and on-street bicycle lanes or shoulders. The existing and proposed network is shown in **Figure 7**. When the network is complete, it will provide safe, convenient linkages between residential areas and commercial, institutional, and recreational areas within the city. This includes filling existing network gaps and adding facilities adjacent to developing areas. The network will improve options for people to walk and bicycle for transportation within the city, and facilitate regional connections (described in greater detail in the following section).

The planned non-motorized transportation network identifies First Tier and Second Tier planned trails, as well as proposed Primary Pedestrian Facilities and Secondary Pedestrian Facilities. The proposed system will make Circle Pines' non-motorized transportation network more complete. One key planned trail is proposed on both sides of CSAH 23, which will connect the east and west city boundaries. Other planned trails and sidewalks will fill the gaps in between major roadways and the existing bicycle and pedestrian facilities.

4.4. Planned Regional Non-Motorized Transportation Network

The Metropolitan Council 2040 TPP encourages the use of bicycles as a mode of transportation and establishes a Regional Bicycle Transportation Network (RBTN) to establish an integrated network of on-street bikeways and off-road trails that complement each other to improve conditions for bicycle transportation at the regional level. The RBTN identifies Tier 1 and Tier 2 alignments where existing regional or other trails exist or where a specific alignment has been identified. The RBTN also identifies Tier 1 and Tier 2 corridors where specific alignments have not yet been defined.

Within Circle Pines, the RBTN identifies one Tier 2 RBTN corridor. The corridor follows the alignment of CSAH 23 southwest-northeast connecting Circle Pines to the network in Lexington and Lino Lakes. There are two Tier 2 alignments in the city. On CSAH 1, there is Tier 2 alignment that provides a west-east connection. On CSAH 17, there is a Tier 2 alignment that provides a north-south connection. Both provide connections from southern Anoka County and northern Ramsey County.

The planned non-motorized transportation network also includes construction of the planned Rice Creek North Regional Trail, filling the gap to connect the south and north ends of the trail. The Rice Creek North Regional Trail connection is a planned Anoka County trail that, when completed, will connect the disconnected Rice Creek trail in Circle Pines. There are other planned sidewalks and trails throughout the city that connects the main roads to the local roads.

The existing and proposed regional network is shown in **Figure 7**.

4.5. Roadway Crossing Improvements for Bicycling and Walking

A number of intersections and other locations throughout the City have been identified for potential improvements based on safety issues for crossing pedestrians and bicyclists. In these locations, potential improvements could be made by adding or improving pavement markings or signals, constructing traffic calming elements, shortening crossing distances, and/or providing pedestrian refuges. In most cases, addition of these features would be evaluated and conducted as opportunities arise. For example, crossing improvements would be considered in concert with adjacent roadway improvements or if redevelopment occurs in an area.

4.6. Non-Motorized Transportation Design Considerations

Design dimensions for sidewalks are recommended to be five feet or wider, with a minimum of a four-foot-wide boulevard between the sidewalk and the curb. Increased separation improves pedestrian comfort and provides space for street signs and snow storage.

Design considerations for bicycle facilities are somewhat more complicated due to the hierarchy of facility types. In order of their ability to provide a comfortable bicycling environment from largest improvement to smallest, facilities include: off-street facilities, protected bikeways, buffered bicycle lanes, conventional bicycle lanes, bicycle boulevards, and wide paved shoulders. **Figure 8** shows examples of these facility types.

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

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

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

- Minnesota's Best Practices for Pedestrian/Bicycle Safety, MnDOT
- Bikeway Facility Design Manual, MnDOT
- Minnesota Manual on Uniform Traffic Control Devices, MnDOT
- NACTO Urban Bikeway Design Guide, Second Edition, National Association of City Transportation Officials
- Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials

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- Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials
 - Complete Streets Implementation Resource Guide for Minnesota Local Agencies, MnDOT
 - Public Rights of Way Accessibility Guidelines (PROWAG), US Access Board

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

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



Off-street Facility
Source: www.pedbikeimages.org / Laura Sandt



Conventional Bicycle Lane
Source: www.pedbikeimages.org / Jennifer Compos



Protected Bikeway
Source: *NACTO Urban Bikeway Design Guide*



Bicycle Boulevard
Source: *NACTO Urban Bikeway Design Guide*



Buffered Bicycle Lane
Source: www.pedbikeimages.org / Lyubov Zuyeva



Wide Paved Shoulder
Source: www.pedbikeimages.org / Laura Sandt



Figure 8:
Example Bicycle Facilities
Circle Pines Transportation Plan
Circle Pines, MN



5. Freight

Freight transportation in Circle Pines is primarily served by arterial roadways. **Figure 9** shows the City's freight system and potential freight generators.

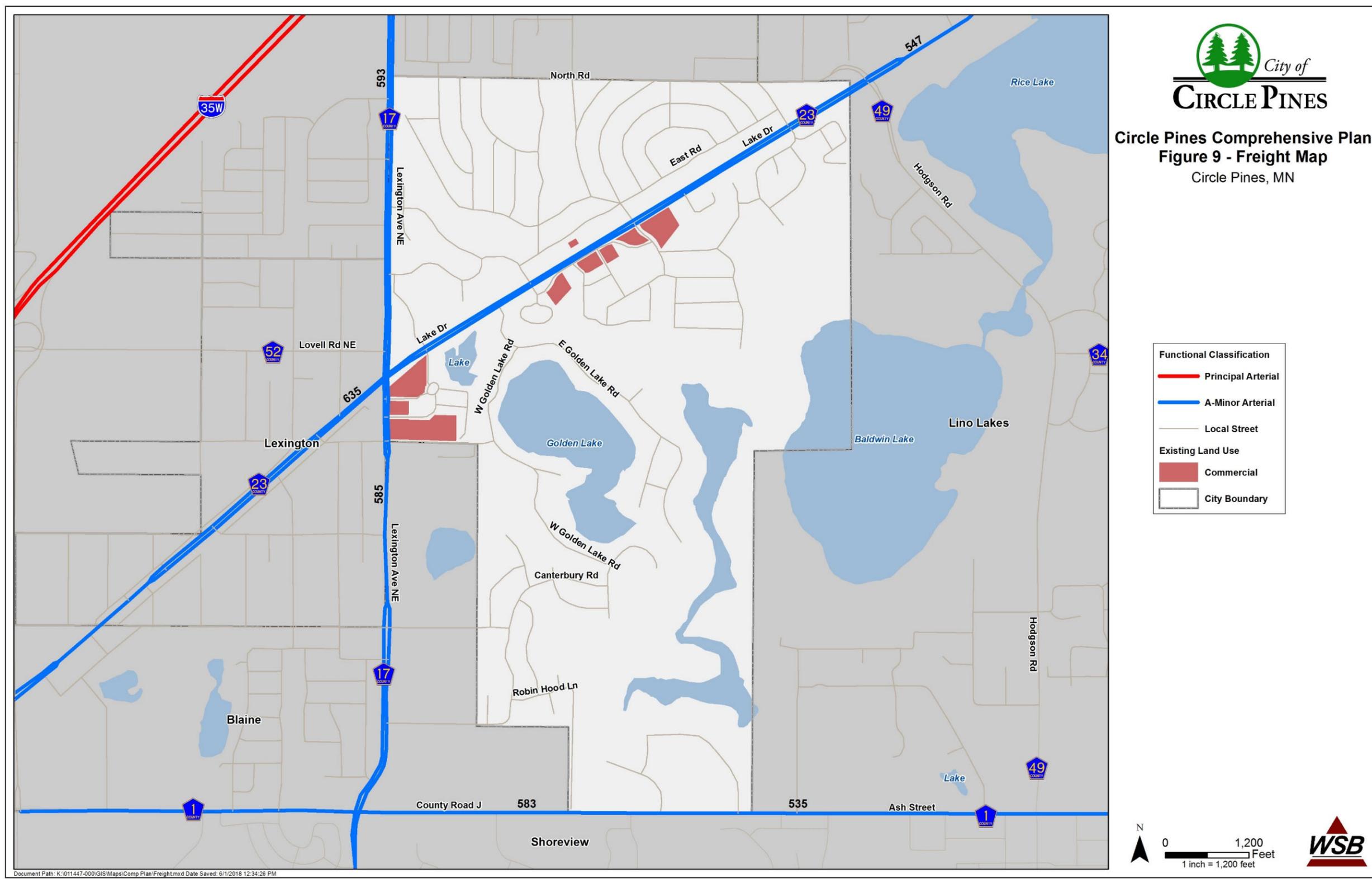
There are no large freight traffic generators or intermodal facilities within the city. Most truck is passing through Circle Pines on trips to, from, and through the Twin Cities. Freight traffic generators within Circle Pines are located along the CSAH 23. Freight generators include concentrations of commercial land uses along the CSAH 23 and CSAH 17.

Figure 9 also shows Heavy Commercial Average Annual Daily Traffic (HCAADT) within the City of Circle Pines. CSAH 23 carries a number of heavy commercial vehicles (630 vehicles per day). CSAH 17 also carries a similar amount of heavy commercial traffic within the city (590). Circle Pines has lower volumes of heavy commercial traffic because there are no freight traffic generators within the city nor does the city have direct access to a principal arterial.

The Metropolitan Council 2040 TPP acknowledges several freight challenges that impact the city and the region. Freight traffic is expected to increase and place pressure on the region's highway and rail systems. While land use adjacent to the city's primary freight routes is generally compatible with these uses (industrial, commercial, etc.), there are several areas of existing and planned single-family residential housing or mixed use that lie adjacent to the arterial roadways.



Circle Pines Comprehensive Plan
Figure 9 - Freight Map
 Circle Pines, MN



6. Transit

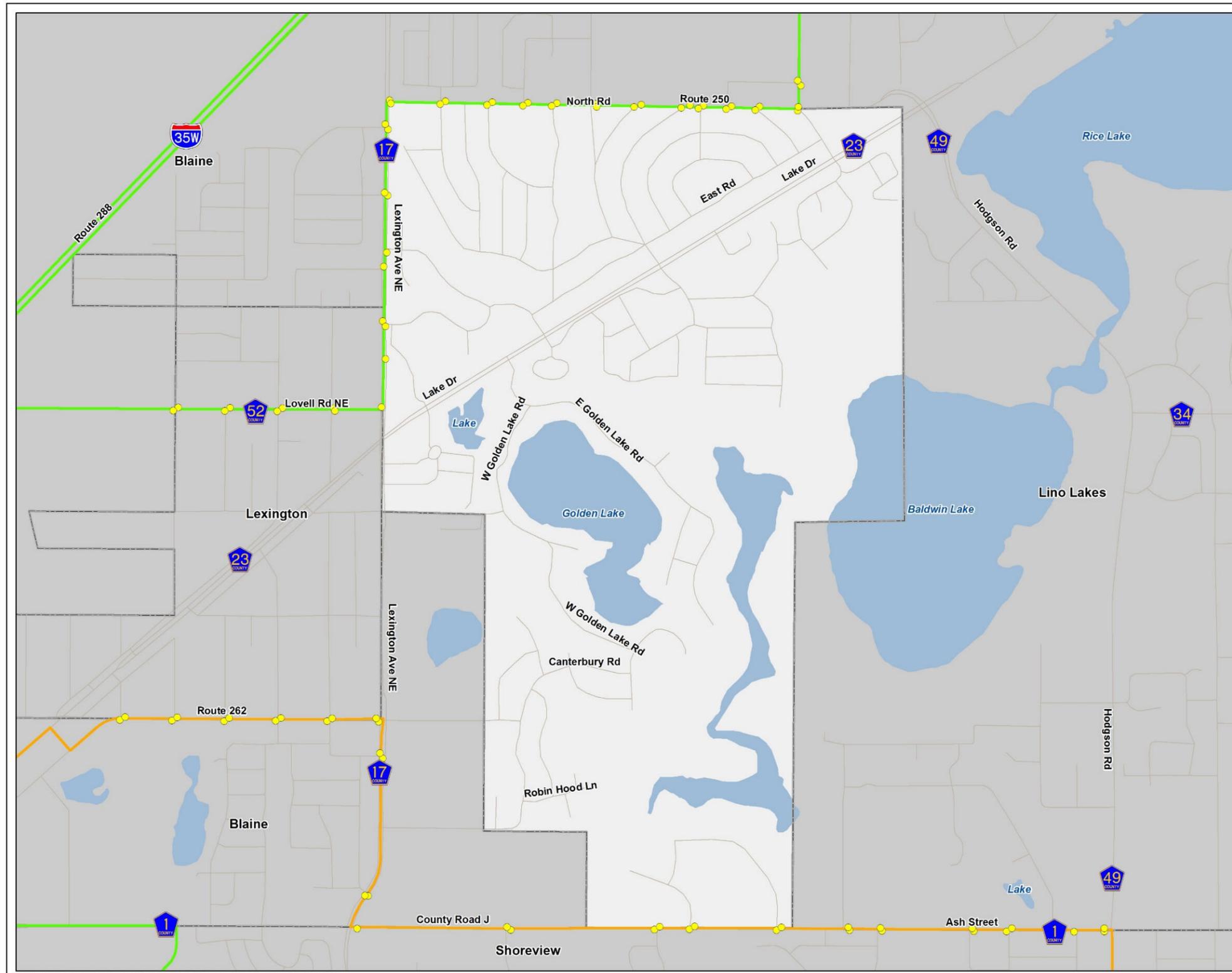
Circle Pines is located within the Transit Capital Levy District as shown in the Metropolitan Council 2040 TPP. The TPP further classifies the metropolitan area into transit markets based on demographic and urban design factors. Circle Pines is located in Market Area III. Market Area III generally supports commuter express bus service with some fixed-route local service providing basic coverage. General public dial-a-ride services are available where fixed-route service is not viable. Fixed route bus service in Circle Pines is currently provided by two routes, which are described below and shown on **Figure 10**.

- Route 250: This express route provides peak travel-time service between Lino Lakes to downtown Minneapolis. In Circle Pines, the service runs on Lexington Ave and North Road.
- Route 262: This suburban local route provides peak travel-time service from Blaine to downtown St. Paul. In Circle Pines, the service runs in southern Circle Pines on Ash Road.
-

The bus route that serve this area have a mixed and types of service that they provide. Both operating during peak commuting times.

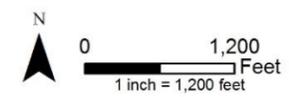
In addition to the fixed-route transit options, the city is also served by Anoka County Transit Link, a dial-a-ride service for the general public. Transit Link provides connections to destinations within Anoka County. Transit Link also connects to regular route transit for trips within the metro area, including outside of Anoka County. Circle Pines residents also have opportunities to participate in the Metro Vanpool program. This program provides financial assistance for vanpools to serve areas with limited regular-route transit service.

The TPP's transit investment plan does not show any additional regional transitway investments planned for Circle Pines in the current revenue scenario.



Circle Pines Comprehensive Plan
Figure 10 - Transit Facilities
 Circle Pines, MN

	Bus Stop
Bus Route Type	
	Urban Local Route
	Suburban Local Route
	Express Route
	City Boundary



7. Aviation

There are currently no existing or planned aviation facilities within Circle Pines. However, the City is responsible for airspace protection in order to reduce hazards to air travel within the region. The closest airport is the Anoka County-Blaine Airport, approximately 3 miles west of Circle Pines.

Due to the distance to the nearest airport, there are no radio beacons or other air navigation aids located in off-airport locations in Circle Pines. The city is not within an area of influence, and is therefore not subject to associated land use restrictions.

Any person or organization who intends to sponsor the construction or alteration of a structure affecting navigable airspace as defined in Federal Regulation Title 14; Part 77 needs to inform the Federal Aviation Agency (FAA) of the project. This notification is accomplished through the completion and submittal to FAA of Form 7460-1, Notice of Proposed Construction or Alteration. In Circle Pines, this requirement applies to any construction or alteration exceeding 200 feet above ground level.

There are currently no heliports in Circle Pines or any known plans to construct one. Additionally, none of the surface waters within the city are identified by MnDOT as an authorized landing site for seaplanes.

8. Goals and Multimodal Strategies

This Plan, and the City’s actions over the next 20 years, will be guided by the following transportation goals, objectives, and strategies.

8.1. Goals and Objectives

Table 7 below displays the goals and of the Circle Pines Transportation Plan. These goals represent the City’s overall vision for transportation over the next 20 years. The strategies listed in the following section provide guidance that the city can use to reach the transportation objectives.

Table 7: Transportation Plan Goals and Objectives

Goals	Objectives
1. Facilitate efficient movement of people within and through the city	1.1. Improve local roadway system connectivity to county roadways and state highways.
	1.2. Provide safe and efficient routes for emergency and public safety vehicles.
	1.3. Provide adequate capacity to relieve congestion.
	1.4. Encourage sound access management.
	1.5. Preserve necessary rights-of-way for the 20-year planning horizon and beyond.
2. Facilitate efficient movements of goods within and through the city	2.1. Maintain a safe and effective network of roadways for freight movement.
	2.2. Coordinate with MnDOT, Anoka County, and Ramsey County to proactively address freight safety.
3. Provide a transportation system that is integrated with land use and development	3.1. Coordinate transportation system investments with the City of Circle Pines Land Use Plan.
	3.2. Connect land use districts and provide safe access to major activity areas.
	3.3. Design, construct, and maintain roadways that fit the character of the adjacent land use.
	3.4. Encourage private residential streets be designed to city standards.

4. Improve transportation safety for all users and modes of transportation	4.1. Implement safety improvements to address high crash locations.
	4.2. Proactively address bicycle and pedestrian safety concerns along roadways and at crossings.
	4.3. Bring sidewalks, trails, and intersections into compliance with ADA.
	4.4. Support traffic calming and design to minimize speed on minor city collectors and local roadways.
5. Develop a safe and convenient multimodal transportation system	5.1. Invest in multi-modal transportation solutions including bicycle and pedestrian infrastructure.
	5.2 Consider a “complete streets” approach to designing and constructing roadways in high pedestrian and bicycle traffic corridors.
	5.2. Preserve adequate right of way for sidewalk and trail construction.
6. Conserve and enhance environmental resources	6.1. Support investments in bicycle, pedestrian, and transit infrastructure to reduce environmental impacts of transportation.
	6.2. Manage storm water effectively and minimize the construction of new impervious surfaces.
	6.3. Support native plant landscapes along roadways.
	6.4. Design new roadways to preserve natural features.
7. Maintain the Existing Transportation System	7.1. Regularly assess transportation maintenance needs and include roadway, trail pavement, and other transportation infrastructure maintenance in the City of Circle Pines Capital Improvement Program.

8.2. Multimodal Strategies

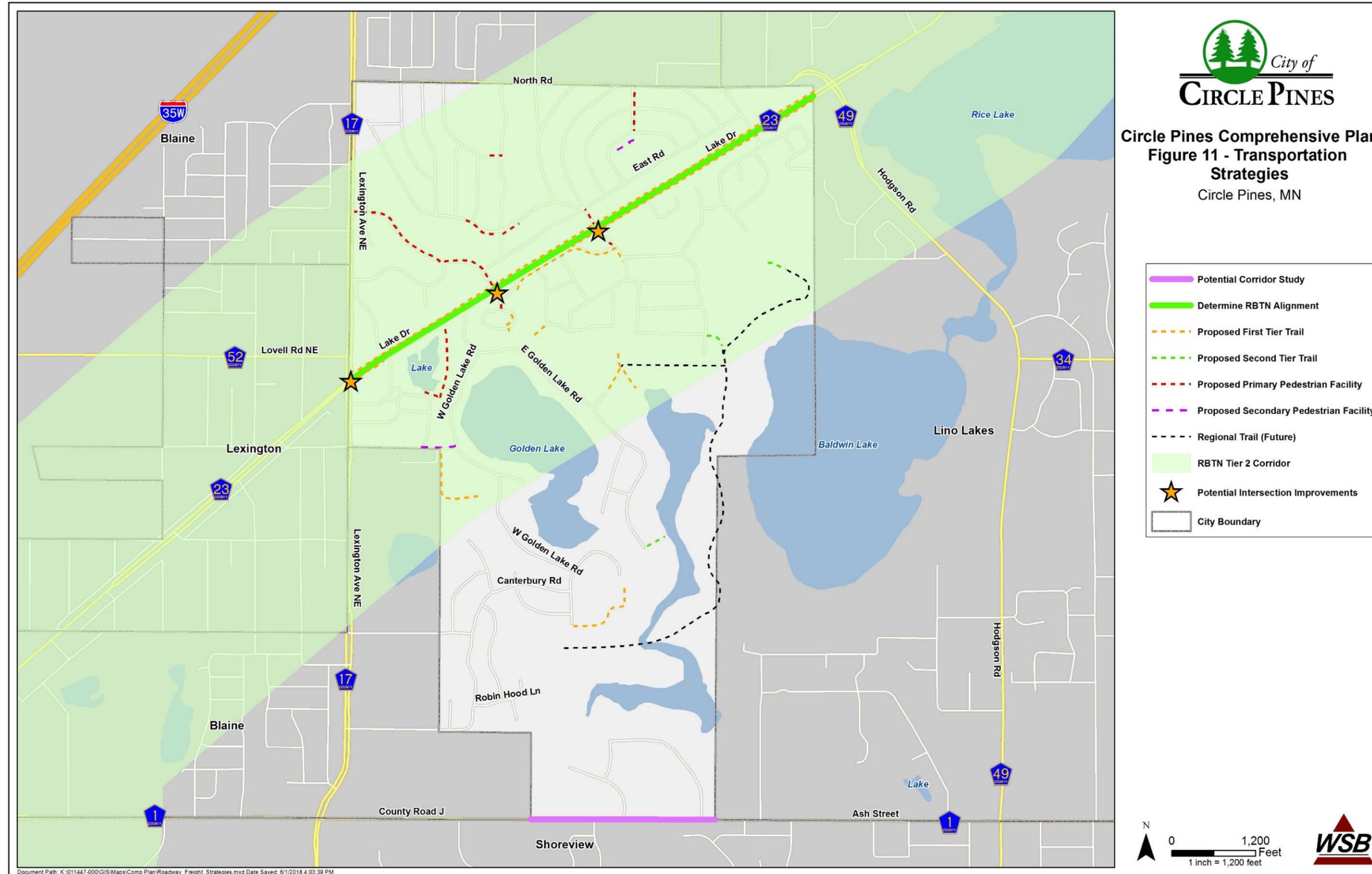
The multimodal strategies listed in this section are specific, actionable steps that the City can take in support of the goals of this Plan. These strategies are based upon existing and future transportation needs as described in detail in the previous sections of this Plan.

Each strategy is tied to one or multiple goals; however, not all goals are associated with a specific strategy. In these cases, the city’s goals apply across individual projects, and the city will identify opportunities to achieve them throughout its existing project and policy development processes. **Table 8** on the following pages describes each strategy, notes which goal(s) is/are related to each strategy, and identifies the lead agency for the strategy. **Figure 11** following the tables illustrate the location-specific strategies geographically.

Table 8: Transportation Implementation Strategies

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
Ash Street (CSAH 1)	Corridor Study	Monitor traffic volumes and, if warranted, conduct a study to analyze future capacity and safety concerns	Figure 11	Anoka County/City of Circle Pines	1
Various Locations	Transit Improvements	Monitor transit ridership trends and demand to determine the need for improvements to bus route frequencies or alignments	Figure 11	City of Circle Pines, Metro Transit	3, 5
Various Locations	Multimodal Maintenance	Continue to implement the Pavement Management Program to ensure quality infrastructure throughout the city	Figure 11	City of Circle Pines	1, 7
Rice Creek North Regional Trail	Bicycle and Pedestrian Improvements	Work with Anoka to master plan for the proposed segment of the Rice Creek North Regional Trail	Figure 11	Anoka County/City of Circle Pines	5
Lake Drive (CSAH 23) Corridor	Bicycle and Pedestrian Improvements	Work with Metropolitan Council and Anoka County to determine the best alignment for RBTN designation	Figure 11	Metropolitan Council, Anoka County, City of Circle Pines	5
Various Locations	Bicycle and Pedestrian Safety	Evaluate intersections for potential safety improvements such as intersection controls, crosswalks, etc.	Figure 11	City of Circle Pines	4, 5
Various locations	Bicycle and Pedestrian Maintenance	Monitor and maintain bicycle and pedestrian planned facilities to provide safe and	Figure 11	City of Circle Pines	5, 6

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
		convenient conditions for users			



9. Proposed Short and Long Range Roadway Projects

The sections below identify proposed short and long range roadway projects identified in the city's CIP and based on the proposed land use and redevelopment activities described in previous sections of this Plan.

9.1.1. Proposed Project from the TPP

The Metropolitan Council 2040 TPP identifies a pavement project along I-35W programmed for the 2019-2024 timeframe. This project is anticipated to repave segments of I-35W, replace and repair bridges throughout the project area, and construct MnPASS Express lanes. The I-35W project is not directly within the city limits, but the project has close access to the City.

9.1.2. Proposed Projects from CIPs

The city's CIP identifies a couple of roadway projects. These projects are local street reconstruction projects intended to improve and maintain the roadway surfaces. These projects are identified in the Pavement Management Program. A number of streets will be improved in the northwest portion of the city, most within the Starlite Vista neighborhood.

9.1.2. Proposed Projects based on Land Use and Redevelopment

While the City does not anticipate major development or redevelopment, transportation needs in the city may shift as a result of land use changes or demographic changes. The expansion of the Anoka County Centennial Library is one example of how a land use change may impact transportation. There may be areas where redevelopment occurs and requires modifications such as intersection traffic controls, turn lanes, or changes in access. Similarly, land use changes may increase demand for non-motorized transportation facilities to provide safe access to the transportation system for pedestrians and bicyclists. Consideration of roadway modifications, intersection traffic control improvements, and non-motorized facilities will continue as individual proposals for redevelopment move forward.

10. Conclusion and Next Steps

The purpose of this Transportation Plan is to set a multimodal transportation vision for the City of Circle Pines through the year 2040. Goals and specific strategies have been identified collaboratively by the city, Anoka County, and members of the public within the framework of Metropolitan Council requirements. The vision and associated strategies outlined in this Plan were established by considering existing and forecasted conditions, City of Circle Pines priorities, regional travel patterns and a variety of other factors.

As the owners of the transportation network in Circle Pines (i.e. City of Circle Pines, Anoka County, MnDOT, and Metro Transit) advance their respective Capital Improvement Programs (CIPs), this Plan is intended to serve as an important resource and reference in establishing priorities and advancing transportation projects for implementation. Advancing these projects from a planning to implementation phase will require collaborative discussions among facility owners, adjacent communities, the Metropolitan Council, residents and others to conduct traffic studies, finalize designs, preserve rights-of-way, obtain environmental clearances and leverage necessary financial resources. **Figure 15** on the following page outlines the entire planning and project development process required for transportation projects from concept plans to construction implementation.

Figure 15
Transportation Planning Process

Transportation Planning Process

