



Chapter 6

Transportation & Accessibility

This chapter of the Comprehensive Plan focuses on the existing and future circulation needs of the residents of Eden Prairie. It is intended to fulfill the City of Eden Prairie’s statutory requirement to prepare a transportation component to its Comprehensive Plan. Thus, this is a summary of the 2040 Eden Prairie Transportation Plan Update, which is drafted in conjunction with *Aspire Eden Prairie 2040*. All modes of transportation are included: highways and roads, transit, trails and side-walks, aviation, and freight. This plan provides guidance in developing a transportation system that supports land use and provides safe and efficient movement of people and resources.

Using the Land Use Guide Plan and development objectives as guidance, and with the assistance of the Metropolitan Council, the City has estimated existing and future population, households, and employment for sub-areas of the City called Traffic Analysis Zones (TAZs). This information was required to complete the traffic forecasting procedures used to estimate future traffic volumes.

Table 1. Socioeconomic Data

Year	Population	Households	Employment
2010	60,797	23,930	48,775
2020	67,900	27,400	64,000
2030	75,200	30,400	68,000
2040	82,400	33,300	72,500

Source: Metropolitan Council, 2015

Be sure to look for the following callouts boxes to see how Eden Prairie is addressing sustainability and resiliency throughout the 2040 Transportation Plan update!

Goals & Strategies

To serve economic activities and improve the quality of life within Eden Prairie, the City has adopted transportation goals and policies relative to transportation. These were developed in concert with the overall Comprehensive Plan goals and policies.

Goal 1: *Provide and maintain a safe, convenient, effective, and efficient multimodal transportation system for the movement of people, goods, and services.*

Strategies:

1. Prioritize investments in A-minor arterials that build, manage, or improve the system's ability to supplement the capacity of the principal arterial system.
2. Maintain a Travel Demand Management (TDM) policy that encourages Eden Prairie businesses to implement effective TDM plans.
3. 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 2: *Provide a safe and efficient roadway system that balances mobility, access, and the diverse needs of transportation system users.*

Strategies:

1. Reduce peak demand on the transportation system by providing a variety of valid transportation alternatives.
2. Control access to the regional and local roadway systems, including the concentration of driveways and side-street intersections, with respect to functional classification.
3. Consider traffic control improvements where appropriate to accommodate roadway capacity and reduce delay.

Goal 3: *Protect investments in the transportation system through strategic preservation, maintenance, and operation of system assets.*

Strategies:

1. Utilize performance measures to catalog system deficiencies and identify the level of satisfaction experienced by users of the transportation system.
2. Ensure that trails will be maintained to result in safe conditions and minimal high maintenance costs.

Goal 4: *Promote public transit in Eden Prairie that serves all residents and provides special transit services for commuters and diverse populations.*

Strategies:

1. Promote and support the efforts of SouthWest Transit to provide quality, efficient and low-cost transit services.
2. Strengthen connections, specifically “first-mile last-mile” trips, between work and activity centers.
3. Support regional transit initiatives such as Bus Rapid Transit (BRT), Light Rail Transit (LRT), and Commuter Rail through consultation with appropriate agencies and partners.
4. Utilize sound land use planning to promote multimodal travel alternatives to single-occupant vehicles, with a focus on strategic job, activity and industrial and manufacturing concentration locations on congested highway corridors served by the regional transit service.

Goal 5: *Provide and maintain an interconnected system of pedestrian and bicycle facilities that provide safe transportation and recreational opportunities.*

Strategies:

1. Promote design best practices, especially in providing and improving facilities for bicyclists and pedestrians who are the most vulnerable users of the transportation system.
2. Promote safe pathways for pedestrians and bicyclists in parking lots and internal traffic circulation areas.
3. Utilize Complete Streets principles to plan for and promote the travel needs of pedestrians, bicyclists, and transit users.

Goal 6: *Provide a transportation system that supports the economic vitality and prosperity of the City and the region.*

Strategies:

1. Provide and protect efficient connections from major freight facilities to the regional highway system.
2. Identify and improve suitable truck routes while minimizing impacts such as noise and traffic to sensitive land uses.
3. Invest in transportation improvements that will attract and retain businesses, employees, and residents.

Goal 7: *Ensure the City’s transportation system is resilient, sustainable, and able to evolve with technology advancements and changes, safeguarding investments for many years to come.*

Strategies:

1. Consider opportunities to improve the City’s intelligent transportation system (ITS) infrastructure to be prepared to potentially support autonomous vehicles (AVs) and connected vehicles (CVs) in the future.
2. Mitigate impacts to the natural environment and cultural resources when planning, constructing, and operating transportation systems.
3. Minimize the effect of air quality impacts on the natural environments with proposed transportation improvements.

All aviation goals are included in the Aviation section of this chapter.



Roadway System

Functional Classification

The functional classification system defines both the function and role of a roadway within the hierarchy of an overall roadway system. This system is used to create a roadway network that collects and distributes traffic from neighborhoods to the State or Interstate highway system. Functional classification planning works to manage mobility, access, and alignment of routes (Figure 1), and seeks to align designations that match current and future land uses with the roadway's purpose.

A roadway's functional classification is based on several factors, including:

- Trip characteristics: 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 and 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.

Within the Twin Cities Metropolitan Area, the Metropolitan Council has established detailed criteria for roadway functional classifications, which are summarized in Table 2.

The current functional classification system of Eden Prairie (Figure 2) represents the system that has been approved by the Metropolitan Council and is in place at the writing of this document. Further information on the Metropolitan Council functional classification criteria can be found in Appendix D of the Council's 2040 Transportation Policy Plan.

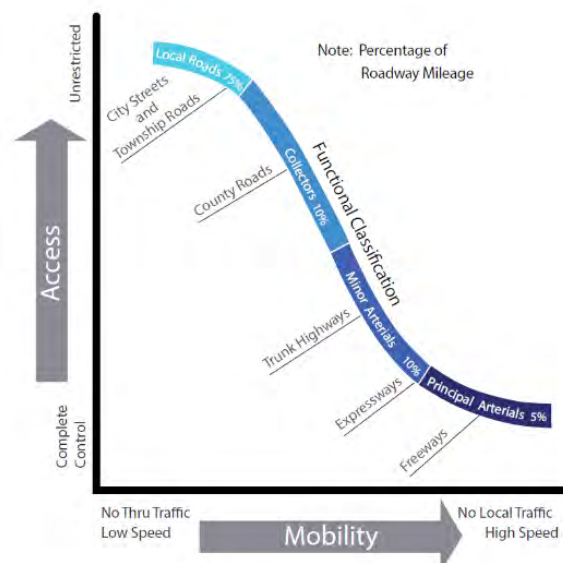


Figure 1



Table 2. Roadway Functional Classifications

Criteria	Principal Arterial	Minor Arterial	Collector	Local Street
Place Connections	Interconnects metro centers and regional business concentrations	Interconnects major trip generators	Interconnects neighborhoods and minor business concentrations	Interconnects blocks within neighborhoods and land parcels within commercial areas
Spacing	Developed areas: 2-3 miles Developing areas: 3-6 miles	Developed areas: ½-1 mile Developing areas: 1-2 miles	Developed areas: ¼-¾ mile Developing areas: ½-1 mile	As needed to access land uses
Roadway Connections	To interstates, principal arterials, and selected minor arterials	To interstates, principal arterials, other minor arterials, collectors, and some local streets	To minor arterials, other collectors, and local streets	To collectors, other local streets, and a few minor arterials
Mobility	Highest	High	Moderate	Low
Access	No direct property access	Limited property access	Property access is common	Unrestricted property access
Percent of Mileage	5-10%	15-25%	5-10%	65-80%
Percent of Vehicle Miles Traveled	40-65%	15-40%	5-10%	10-30%
Intersections	Grade-separated or high-capacity intersection controls	Traffic signals and cross street stops	All-way stops and some traffic signals	As required for safe operation
Parking	None	Restricted as necessary	Restricted as necessary	Permitted as necessary
Large Trucks	No restrictions	No restrictions	Restricted as necessary	Permitted as necessary
Typical Average Daily Traffic	15,000-200,000	5,000-30,000	3,000-15,000	Less than 3,000
Posted Speed Limits	45-65 mph	40-50 mph	30-45 mph	Maximum 30 mph
Right-of-way Width	100-300 feet	60-150 feet	60-100 feet	50-80 feet
Transit Accommodations	Priority access for transit in peak periods	Preferential treatment where needed	Designed for use by regular route buses	Normally used as bus routes only in non-residential areas

Source: Metropolitan Council, *Transportation Policy Plan*, adopted January 14, 2015

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 two central cities with each other as well as with other regional business concentrations in the metropolitan area. These roadways, which are typically spaced from three to six miles apart, are generally constructed as limited access freeways in the urban area but may also be constructed as multiple-lane divided highways.

In Eden Prairie, there are five principal arterials: I-494, US 169, US 212, TH 62, and TH 5 between I-494 and US 212 as a shared designation with these two roads. These facilities are envisioned to continue functioning as principal arterials for the planned future of Eden Prairie.

Minor Arterials

Minor arterials also emphasize mobility over land access, serving to connect 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 urbanized areas, one-half to two-mile spacing of minor arterials is considered appropriate, depending upon development density.

A well-planned and adequately designed system of principal and A-minor arterials will allow the City's overall street system to function the way it is intended and will discourage through traffic from using residential streets. Volumes on principal and minor arterial roadways are expected to be higher than on collector or local roadways. Providing the capacity for these higher volumes will keep volumes on other City streets lower.

Collectors

Collectors, as the term implies, collect and distribute traffic from neighborhoods and commercial areas. These roadways provide a critical link between local streets, which are designed for property access, and minor arterials, which are designed for mobility. Collector streets have an equal emphasis on land access and mobility. It is this category of roadways that the City of Eden Prairie has the greatest responsibility for since principal and minor arterials tend to be under the jurisdiction of either MnDOT or Hennepin County.

Local Streets

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

Proposed Functional Classification System

The functional classification system for roadways in the City of Eden Prairie was reviewed to ensure appropriate network connectivity is maintained and for consistency with the functional classification criteria established by the Metropolitan Council. Based on this review, there are no recommended functional classification changes to the principal or minor arterial systems. Therefore, the functional classification system illustrated in Figure 2 is representative of future conditions for principal and minor arterial classifications in the City of Eden Prairie.

Although there are no changes to the principal or minor arterial classifications, there are changes proposed or planned for the collector and local functional classifications. The changes are based on the Federal Highway Administration's Functional Classification Manual criteria, Metropolitan Council guidance, estimated trip length, trip type, connections to activity centers, spacing, continuity, mobility, accessibility, and speed.

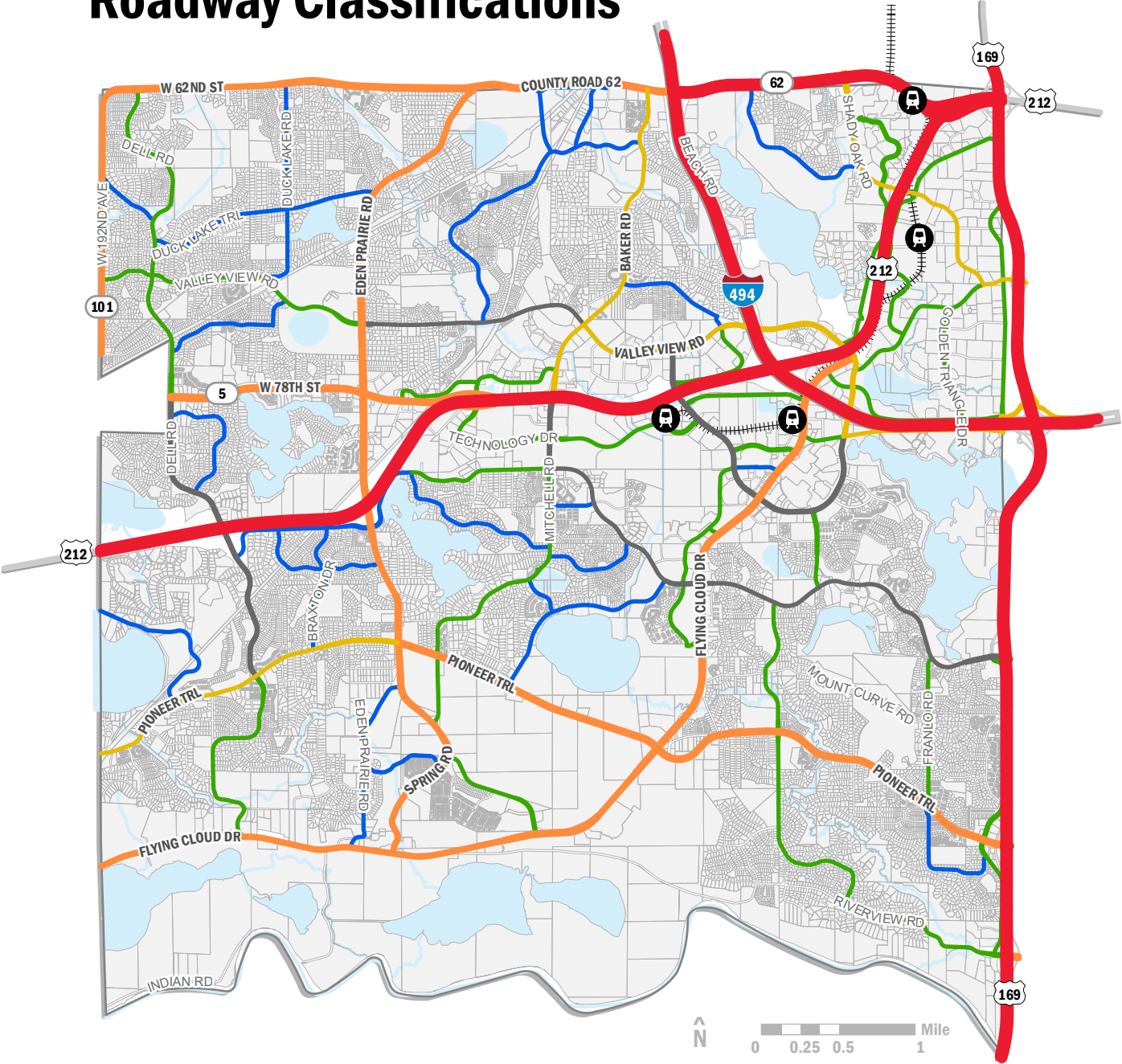
Given these criteria, the following roadways are recommended to be reclassified from local streets per the Metropolitan Council's Functional Classification system to minor collectors:

- Eden Prairie Road from Prospect Road to CSAH 61 (Flying Cloud Drive)
- Future North-South Main Street within Town Center from Regional Center Road to Technology Drive

In addition, Bryant Lake Drive shall be reclassified from a minor collector to a major collector.

Figure 2

Roadway Classifications



Existing Classifications

- Principal Arterial
- A-Minor Expander
- A-Minor Reliever
- Other Arterial
- Major Collector
- Minor Collector
- Local Roads

Planned Classifications

- Major Collector
- Minor Collector

Social Equity & Diversity

Accessible Design

Design features are critical throughout the transportation network, making it possible for any user to comfortably and conveniently reach each transit stop. ADA-focused design facilitates access to stations, system equity, and ease of movement for all users, especially people using wheelchairs or mobility devices, the elderly, people with children and strollers, and people carrying groceries or packages.

Employing tactile, visual, and audible design elements together can aid people of all abilities through the street environment. Consistently using detectable surfaces, color contrast, and audible warnings assists all users, enhancing safety and accessibility.

Programmed Improvements

Programmed improvements have advanced through the project funding programming process and have funds committed to the improvement for a specific year. On the other hand, planned improvements have been formally studied and/or included in a transportation plan; however, financial commitments to fund the improvement have not been made. Table 6 and Figure 3 presents the existing and programmed roadway geometry throughout Eden Prairie with number of lanes. Table 3 through 5 and the sections below describe the programmed roadway improvements in more detail.

Regional System

The Regional roadway system improvements identified in Table 3 are consistent with the adopted MnDOT Metro District 10-Year Capital Highway Investment Plan (CHIP) 2018-2027 and the 2040 Metropolitan Council Transportation Policy Plan (TPP).

Table 3. Regional Roadway System Improvements

Roadway	Project	Extents		Time
I-494	Rehab bridge	Bridge 27762 over I-494, CSAH 61 (Flying Cloud Drive)		2018
US 212	Minor concrete pavement repair, medium bituminous mill and overlay	CSAH 4	TH 62	2026
TH 62	Mill and overlay, fence repair, curb and gutter, and ADA improvements	Beach Road	Tracy Avenue	2019
TH 5	Medium concrete pavement repair and diamond grind	TH 41	CSAH 4	2024

Social Equity & Diversity

Reducing Emissions

Addressing state and regional goals for reducing greenhouse gas and air pollutant emissions requires collaboration, partnership and information sharing. The City should continue to work with partners at the state and regional levels that can provide technical information and assistance in measuring and reducing transportation-related emissions.

Hennepin County

The following roadway capacity and safety improvements, as shown in Table 4, are identified in the Hennepin County 2017-2021 Transportation CIP. In addition, the City has allocated CIP funds as matching funds for the Hennepin County projects.

Eden Prairie

The following roadway capacity and safety improvements, as shown in Table 5, are identified as the City of Eden Prairie's near-term projects.

Table 4. Hennepin County Roadway System Improvements

Roadway	Project	Extents		Time
CSAH 61	Reconstruct roadway as a three-lane section *	CSAH 4	Charlson Road	2017 -2019
CSAH 61	Reconstruct roadway as a three-lane section *	CSAH 4	CSAH 101	2017 - 2019

*Roadway will be raised above the 100-year flood plain and a multi-use trail will be added to its north side

Table 5. City of Eden Prairie's Roadway System Improvements

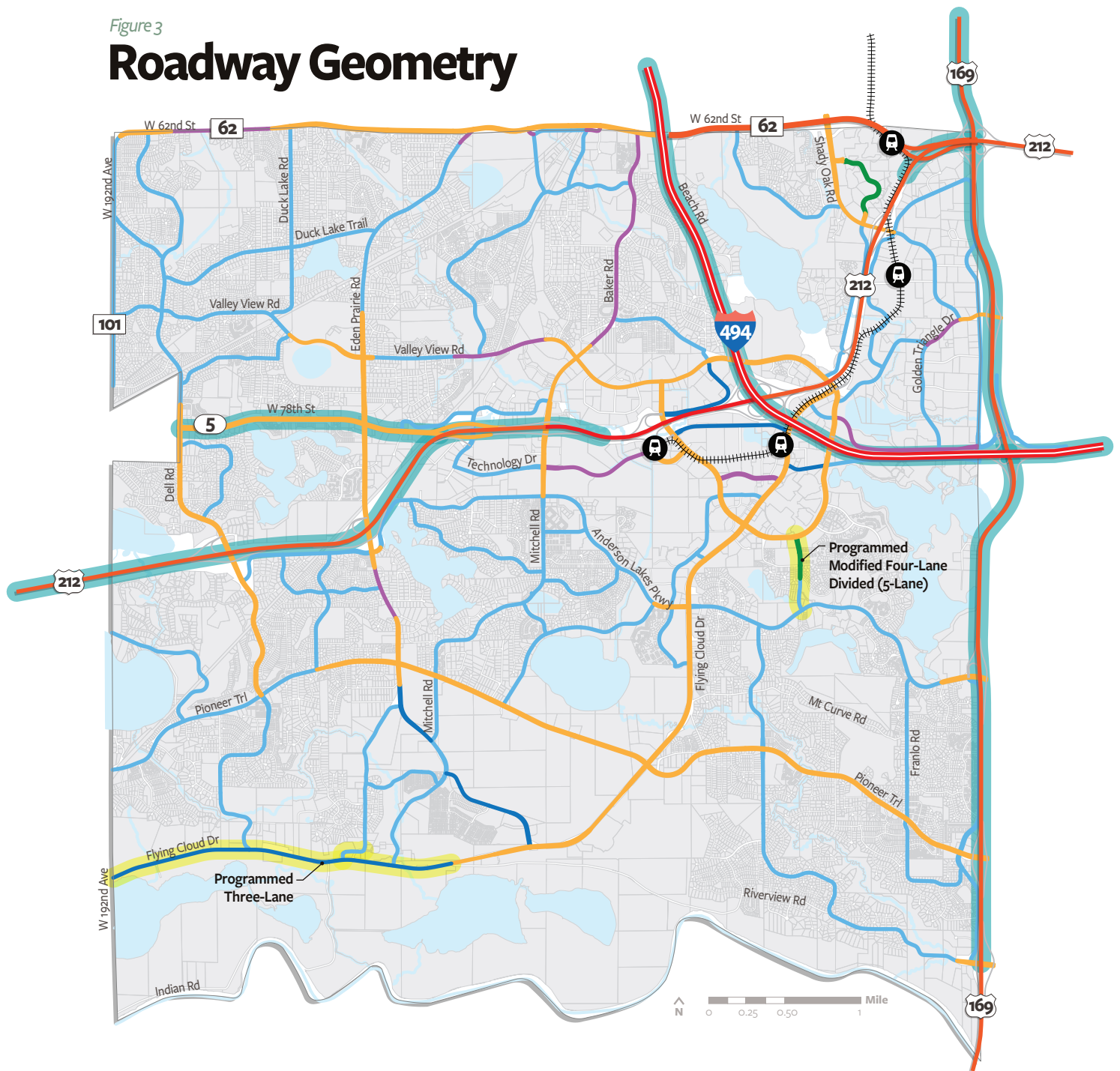
Roadway	Project	Extents		Time
Preserve Boulevard	Reconstruct Preserve Blvd, adding second southbound through lane, adding left turn lanes throughout the corridor, and providing improved pedestrian and bike accommodations. Includes improvements to the intersections with Prairie Center Drive and Anderson Lakes Parkway.	Prairie Center Drive	Anderson Lakes Parkway	2019
Eden Prairie Road	Upgrade roadway from a rural section with poor horizontal and vertical alignments to a new two-lane urban section at intersection	Frederick Place to CSAH 61 (Flying Cloud Drive)		2019
Duck Lake Road	Reconstruct roadway as a two-lane section with sidewalk and trail improvements	Duck Lake Trail	Mallard Court	2019

Table 6. Number of Lanes on Major Roadways

Roadway	Classification	Extents	Existing Lanes	Future Lanes
TH 212	Principal Arterial	West City limits to Mitchell Road	Four-lanes Freeway	Four-lanes Freeway
		I-494 to East City limits		
		Mitchell Road to I-494	Six-lanes Freeway	Six-lanes Freeway
TH 169	Principal Arterial	North City limits to south City limits	Four-lanes Freeway	Four-lanes Freeway
I-494	Principal Arterial	North City limits to east City limits	Six-lanes Freeway	Six-lanes Freeway
CSAH 61	A-Minor Expander	West City limits to Riverview Road	Two-lane undivided	Two-lane divided urban (3-lane)
		Riverview Road to Valley View Road	Four-lane divided (5-lane)	Four-lane divided (5-lane)
	A-Minor Reliever	North City limits to Flying Cloud Drive	Four-lane divided (5-lane)	Four-lane divided (5-lane)
CSAH 1 / Pioneer Trail	A-Minor Expander	CSAH 4/Eden Prairie Road to TH 169	Four-lane divided (5-lane)	Four-lane divided (5-lane)
	A-Minor Reliever	West City limits to Braxton Drive	Two-lane undivided	Two-lane undivided
		Braxton Drive to CSAH 4/Eden Prairie Road	Four-lane divided (5-lane)	Four-lane divided (5-lane)
CSAH 4 / Eden Prairie Road	A-Minor Expander	Cottonwood Lane to Hilltop Road	Four-lane divided (5-lane)	Four-lane divided (5-lane)
		Berger Drive to S Hillcrest Court		
		Berger Drive to Cottonwood Lane	Four-lane undivided	Four-lane undivided
		E CR 62 Ramp to CR 62		
		Hilltop Road to Mitchell Road	Two-lane divided urban (3-lane)	Two-lane divided urban (3-lane)
		E CR 62 to S Hillcrest Court	Two-lane undivided	Two-lane undivided
		Mitchell Road to Flying Cloud Drive		
TH 5	A-Minor Expander	TH 212 to west City limits	Four-lane divided (5-lane)	Four-lane divided (5-lane)
CR 62	A-Minor Expander	I-494 to Duck Lake Road	Four-lane divided (5-lane)	Four-lane divided (5-lane)
		Creek View Trail to TH 101		
		Duck Lake Road to Creek View Trail	Four-lane undivided	Four-lane undivided
		I-494 to East City limits	Four-lane Freeway	Four-lane Freeway
TH 101	A-Minor Expander	CR 62 to Chanhassen Road	Two-lane undivided	Two-lane undivided
Shady Oak Road	A-Minor Reliever	Flying Cloud Drive to Valley View Road	Two-lane undivided	Two-lane undivided
CSAH 39 / Valley View Road	A-Minor Reliever	Penny Hill Road Prairie Center Drive	Four-lane divided (5-lane)	Four-lane divided (5-lane)
		Constitution Avenue to Franklin Circle		
		TH 101 to Constitution Avenue	Two-lane undivided	Two-lane undivided
		Franklin Circle to Bittersweet Drive		
		Bittersweet Drive to Penny Hill Road	Four-lane undivided	Four-lane undivided
CSAH 60 / Baker Road	A-Minor Reliever	TH 212 to St. Andrew Drive	Four-lane divided (5-lane)	Four-lane divided (5-lane)
		St. Andrew Drive to CR 62	Four-lane undivided	Four-lane undivided

Figure 3

Roadway Geometry



Existing and Programmed Roadway Geometry

- | | |
|------------------------------------|----------------------------|
| Six-Lane Freeway | Three-Lane Roadway |
| Four-Lane Freeway | Two-Lane Undivided Roadway |
| Four-Lane Divided (5-Lane) Roadway | Programmed Geometry |
| Four-Lane Divided Roadway | Dedicated Bus Shoulder |
| Four-Lane Undivided Roadway | |

2040 Travel Demand Forecasts & Transportation Analysis Zones

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. Though Eden Prairie is largely developed, change and growth will continue to occur within the community, primarily in the form of redevelopment. Much of this redevelopment is projected to occur in the Major Center Area and the Golden Triangle Area. Development in the Major Center Area is anticipated to include Commercial, Office, High Density Residential, and Mixed Use land uses. The development in the northeast quadrant, which contains the Golden Triangle Area, is expected to include Office, Industrial, and High Density Residential uses.

Land use, travel patterns, population, and employment change over time affect the efficiency and adequacy of the transportation network. Past, existing, and estimated future population, households, and employment levels are shown in Tables 7 and 8.

Table 7. City of Eden Prairie Demographic Estimates (2017-2040)

Characteristics	2017	2040	Change
Population	63,640	82,400	(+) 18,760
Single-Family Housing Units	12,845	13,259	(+) 414
Multifamily Housing Units	12,877	20,041	(+) 7,164
Office, Commercial, Industrial, Public	29,515,846 sq. ft.	34,004,307 sq. ft.	(+) 4,488,461 sq. ft.

Source: City of Eden Prairie, 2017

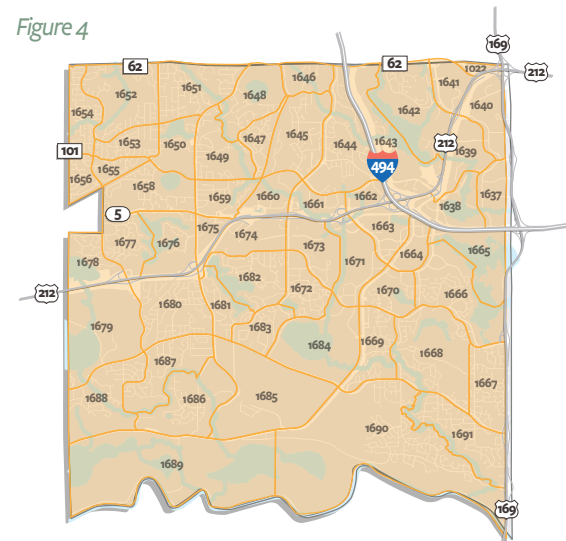
Table 8. Socio-Economic Data

Year	Population	Households	Employment
2010	60,797	23,930	48,775
2020	67,900	27,400	64,000
2030	75,200	30,400	68,000
2040	82,400	33,300	72,500

Source: Metropolitan Council, 2015

Using the Land Use Guide Plan and development objectives as guidance, and with the assistance of the Metropolitan Council, the City has also estimated existing and future population, employment and households for sub-areas of the City called Transportation Analysis Zones (TAZs). This information was required to complete the traffic forecasting procedures used to estimate future traffic volumes. These forecasts are an essential analytical tool for determining the adequacy of the road system in handling future development. In addition to the programmed roadway projects identified earlier, the traffic forecast model considers future planned improvements that are in the Metropolitan Council's TPP for regional highways outside the City. Figures 5 present the current and year 2040 traffic volumes.

Figure 4



Transportation Analysis Zones

Table 9. Transportation Analysis Zones

Metropolitan Council TAZ	Existing (Year 2017)			Year 2020			Year 2030			Year 2040		
	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment	Population	Households	Employment
1022	0	0	756	0	0	751	0	0	734	0	0	715
1637	0	0	5,821	359	240	5,924	987	528	6,281	1,606	806	6,683
1638	256	137	5,232	423	246	5,329	715	377	5,666	1,003	503	6,045
1639	337	181	5,851	764	463	6,055	1,512	801	6,763	2,248	1,127	7,559
1640	6	2	7,231	5	1	7,398	2	1	7,974	0	0	8,622
1641	671	361	5,297	808	446	5,428	1,049	547	5,880	1,286	645	6,389
1642	921	305	1,351	926	308	1,342	935	312	1,312	944	315	1,278
1643	97	30	1,583	98	30	1,703	98	31	2,119	99	31	2,587
1644	2,348	939	726	2,384	953	752	2,447	968	841	2,510	983	940
1645	1,901	793	284	1,927	801	282	1,971	811	276	2,015	820	268
1646	402	216	1,767	412	218	1,762	429	221	1,745	445	223	1,726
1647	1,158	452	0	1,170	457	0	1,193	462	0	1,215	468	0
1648	919	364	25	929	367	25	947	372	24	966	376	23
1649	1,011	317	0	1,016	321	0	1,023	324	0	1,030	328	0
1650	411	126	1,000	413	128	993	415	129	971	418	131	945
1651	2,201	704	0	2,214	712	0	2,236	722	0	2,259	732	0
1652	1,859	571	38	1,865	577	38	1,877	584	37	1,888	590	36
1653	1,177	362	106	1,182	365	106	1,189	370	103	1,196	374	100
1654	1,624	506	0	1,631	511	0	1,642	518	0	1,653	524	0
1655	634	234	0	640	237	0	650	240	0	660	242	0
1656	820	258	0	823	261	0	829	264	0	835	267	0
1658	1,899	733	226	1,937	748	225	2,003	766	220	2,068	783	214
1659	957	382	218	974	388	216	1,003	396	212	1,032	403	206
1660	640	338	1,738	883	494	1,710	1,309	681	1,613	1,728	862	1,504
1661	483	259	2,122	494	262	2,115	515	265	2,089	535	268	2,060
1662	0	0	1,285	0	0	1,366	0	0	1,647	0	0	1,963
1663	743	399	3,284	1,846	1,130	3,241	3,774	2,004	3,094	5,677	2,848	2,928
1664	0	0	3,215	0	0	3,236	0	0	3,306	0	0	3,385
1665	0	0	1,635	0	0	1,735	0	0	2,080	0	0	2,468
1666	2,974	1,470	894	3,034	1,485	888	3,139	1,503	868	3,243	1,520	845
1667	2,304	903	251	2,329	912	265	2,374	923	314	2,418	934	369
1668	2,799	1,144	77	2,835	1,155	76	2,896	1,169	75	2,957	1,183	73
1669	1,232	421	551	1,413	538	533	1,728	678	470	2,039	813	399
1670	1,835	823	427	1,864	831	440	1,916	841	485	1,967	851	535
1671	2,790	1,500	1,283	3,246	1,776	1,283	4,045	2,106	1,284	4,832	2,425	1,284
1672	2,982	1,273	13	3,024	1,286	13	3,098	1,302	13	3,171	1,317	13
1673	551	296	3,182	564	299	3,371	587	303	4,024	610	306	4,759
1674	25	8	0	25	8	0	25	8	0	26	8	0
1675	19	6	1,030	171	108	1,004	437	229	912	699	347	809
1676	991	426	154	1,009	432	153	1,040	439	149	1,071	446	146
1677	1,682	659	134	1,705	668	133	1,746	678	130	1,787	688	127
1678	675	207	0	675	209	0	675	212	0	676	214	0
1679	1,045	340	89	1,056	347	89	1,074	355	87	1,092	363	84
1680	2,739	861	137	2,758	875	136	2,790	891	133	2,822	907	130
1681	728	224	47	731	226	46	735	229	45	740	231	44
1682	1,650	567	0	1,677	579	0	1,724	594	0	1,770	608	0
1683	863	298	0	869	301	0	879	305	0	889	308	0
1684	803	431	1,941	823	436	1,928	856	441	1,884	890	446	1,835
1685	1,088	473	1,774	1,139	501	1,834	1,229	535	2,041	1,318	568	2,274
1686	828	303	7	944	351	7	1,146	409	7	1,346	465	7
1687	1,577	537	0	1,658	572	0	1,801	615	0	1,941	655	0
1688	1,848	666	0	1,876	679	0	1,925	693	0	1,974	707	0
1689	0	0	0	0	0	0	0	0	0	0	0	0
1690	3,877	1,271	35	3,907	1,288	43	3,960	1,308	67	4,011	1,327	95
1691	2,346	815	27	2,447	874	27	2,623	944	26	2,797	1,012	25
Total	63,726	24,893	62,844	67,900	27,400	64,000	75,200	30,400	68,000	82,400	33,300	72,500

Average Annual Daily Traffic Volumes

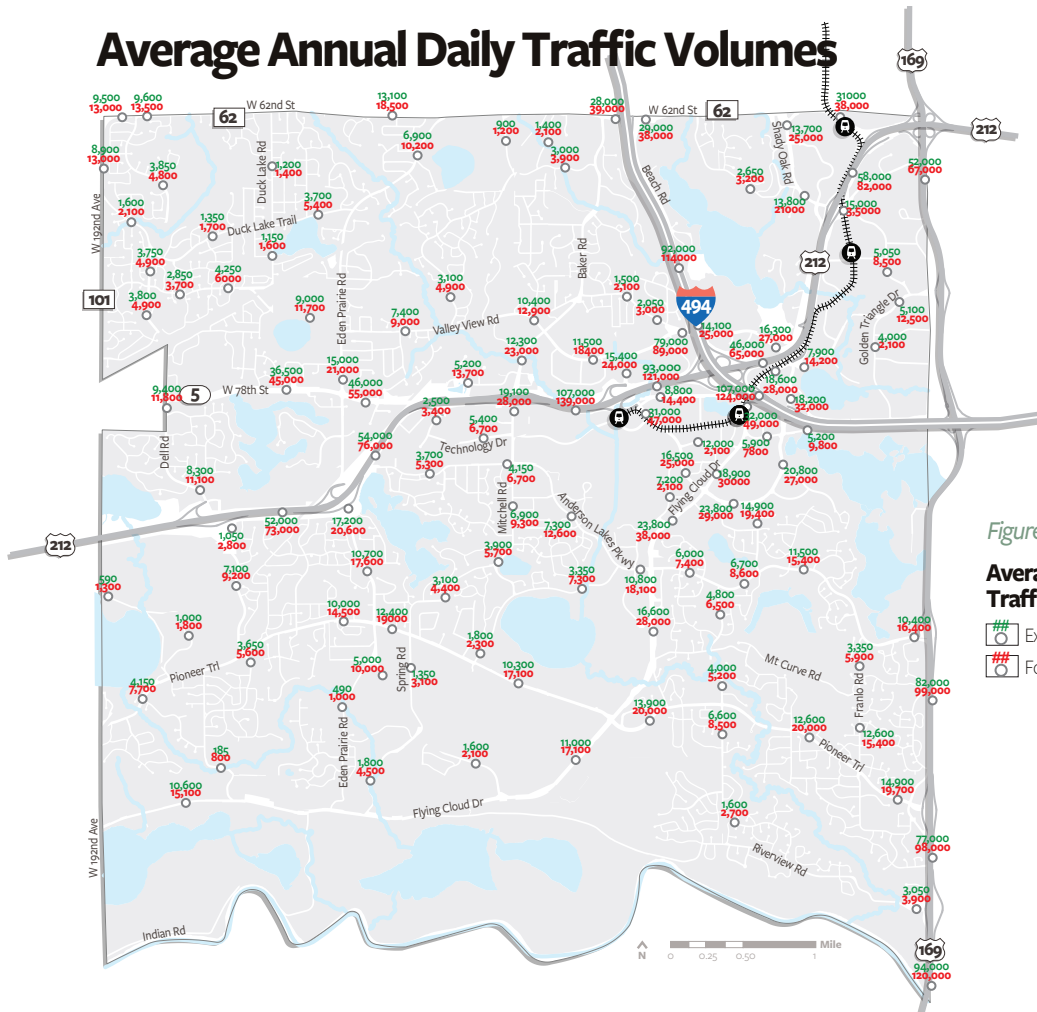


Figure 5

Average Annual Daily Traffic (AADT) Volumes

- Existing Traffic Volumes
- Forecasted 2040 Traffic Volumes

Existing & Anticipated Roadway Capacity

Planning-Level Capacity Thresholds

A method to evaluate Eden Prairie's roadway capacity is displayed in Table 9. For each facility type, the typical planning-level annual average daily traffic (AADT) capacity ranges and maximum AADT volume ranges are listed. These volume ranges are based on guidance from the Highway Capacity Manual, discussions with the Metropolitan Council, and professional engineering judgment. They are formatted as ranges since the maximum capacity of a roadway design is a theoretical measure that can fluctuate based on its functional classification, traffic peaking characteristics, access spacing, speed, and other roadway characteristics.

Further, to define a facility's "daily capacity," it is recommended that the highest value of each facility type's volume range be used. This allows for future capacity improvements to be achieved more easily through roadway performance enhancements. This

planning-level assessment does not supersede the potential need for detailed operational analysis, nor does it preclude the City from making more context-based decisions regarding its transportation system.

Level of Service Thresholds

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 (see Table 9). It is a qualitative measure of the effect of traffic flow factors, such as speed and travel time, interruption, freedom to maneuver, driver comfort and convenience, and indirectly, safety and operating costs. It is expressed as levels of service "A" through "F." It must be noted that this planning-level capacity and LOS review does not account for intersection operations and the effect intersections can have on corridor LOS. Even though roadway capacity may appear sufficient, spot intersection issues may be uncovered upon further, more detailed review.

Existing & Year 2040 Capacity Deficiencies

The existing and year 2040 traffic volumes were analyzed comparatively to the existing and programmed roadway geometry. The results of this analysis are displayed in Figures 6 and 7, which identify the roadways that exhibit capacity deficiencies under each condition.

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 (e.g. weekend travel, holiday travel, special events, etc.) are likely to produce different levels of congestion. Additionally, factors such as the amount of access and roadway geometrics may influence capacity.

Figure 6

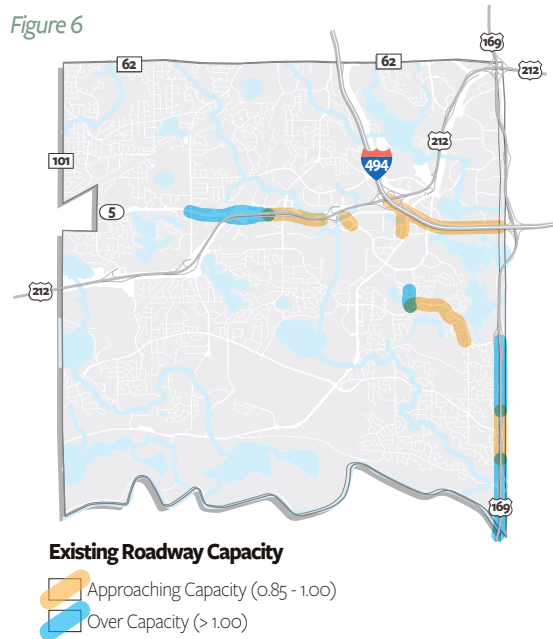


Table 10. Planning-Level Roadway Capacities by Facility Type

Facility Type	Planning-Level Daily Capacity Ranges (AADT)	Level of Service (LOS)					
		Under Capacity			Approaching Capacity		Over Capacity
		A 0.2	B 0.4	C 0.6	D 0.85	E 1.0	F >1.0
Two-lane undivided	8,000 – 13,000	2,600	5,200	7,800	11,050	13,000	> 13,000
Three-lane	14,000 – 17,000	3,400	6,800	10,200	14,450	17,000	> 17,000
Four-lane undivided	18,000 – 22,000	4,400	8,800	13,200	18,700	22,000	> 22,000
Four-lane divided (Five-lane)	28,000 – 32,000	6,400	12,800	19,200	27,200	32,000	> 32,000
Four-lane expressway	45,000	9,000	18,000	27,000	38,250	45,000	> 45,000
Four-lane freeway	60,000 – 80,000	16,000	32,000	48,000	68,000	80,000	> 80,000
Six-lane freeway	90,000 – 120,000	24,000	48,000	72,000	102,000	120,000	>120,000

Sustainable Resilience

Walk Friendly Community

The Walk Friendly Community organization designates municipalities based on their prioritization of pedestrians by creating safe, comfortable, and inviting places to walk. By applying to be designated as a walk friendly community, a municipality can receive detailed feedback on what they are doing well and what can be improved upon. Additionally, a designation as a walk-friendly community raises local awareness of the value of supporting a walkable environment.



Anticipated Future Roadway Infrastructure Improvements

The City of Eden Prairie understands that over time traffic volumes will fluctuate as travel patterns, development patterns, and vehicular technology change. To be responsive to anticipated future congestion issues and to manage the transportation system into the future, a set of anticipated improvements was created with respect to necessary roadway capacity, intersection or interchange improvements, and roadway connections (Figures 7-10). This set of improvements is what is anticipated at this point in 2018, but is subject to change in the coming years. Further, it is anticipated that all projects will go through a full design and public involvement process prior to implementation. Currently, there are no funding sources identified for these projects. Any interchange improvements would be required to follow the region's highway interchange request and review procedure outlined in Appendix F of the 2040 Transportation Policy Plan. None of the interchange improvements identified herein are currently funded.

Table 11. Level of service definitions

Level of Service (LOS)	Traffic Flow	Vehicle/Capacity Ratio	Description
A	Free Flow Below Capacity	0.20	Low volumes and no delays
B	Stable Flow Below Capacity	0.40	Low volumes and speed dictated by travel conditions
C	Stable Flow Below Capacity	0.60	Speeds and maneuverability closely controlled due to higher volumes
D	Restricted Flow Near Capacity	0.85	Higher density traffic restricts maneuverability and volumes approaching capacity
E	Unstable Flow Approaching Capacity	1.0	Low speeds, considerable delays, and volumes at or slightly over capacity
F	Forced Flow Over Capacity	>1.0	Very low speeds, volumes exceed capacity, and long delays with stop-and-go traffic

Figure 7

Future Roadway Capacity

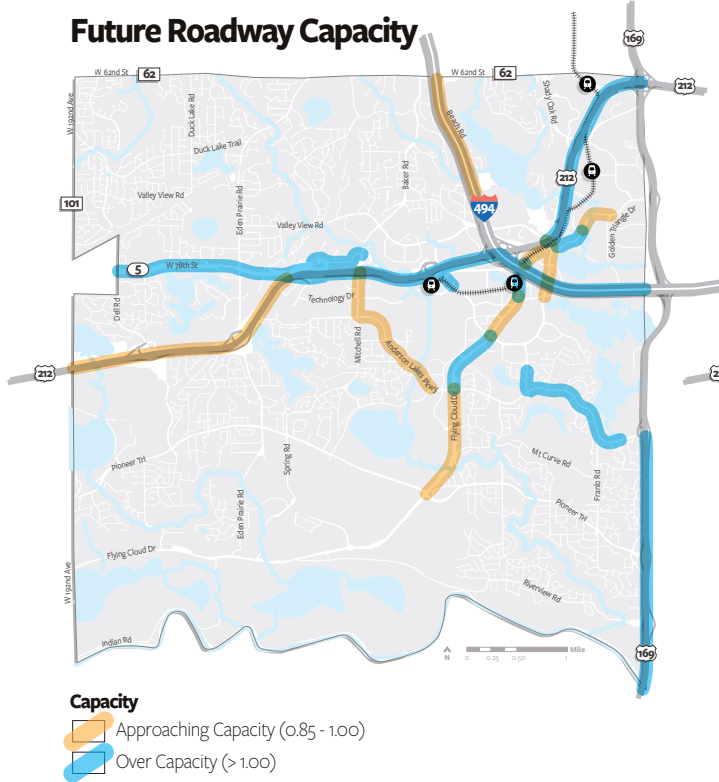


Figure 8

Anticipated Roadway Improvements

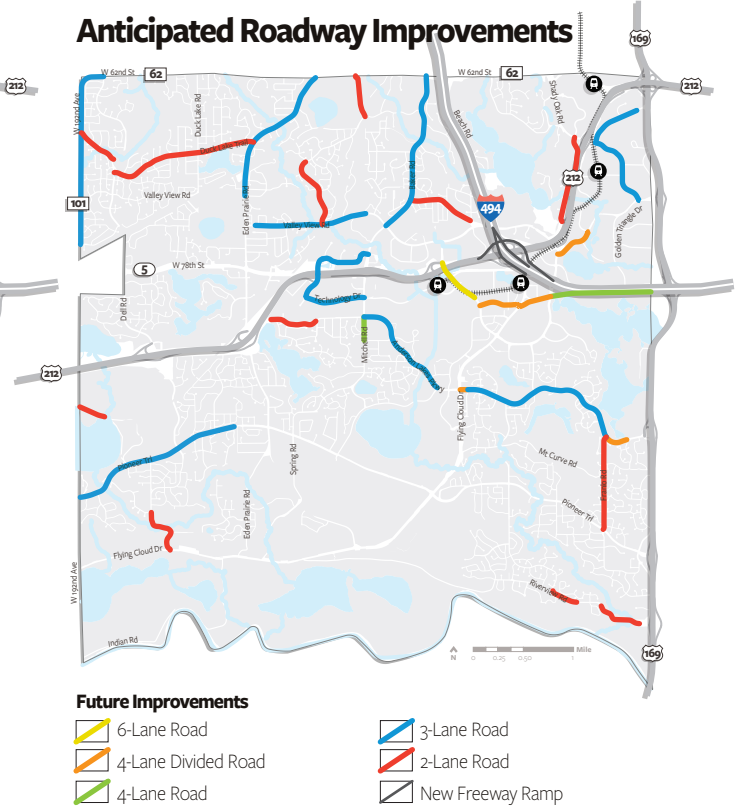


Figure 9

Anticipated Intersection Improvements

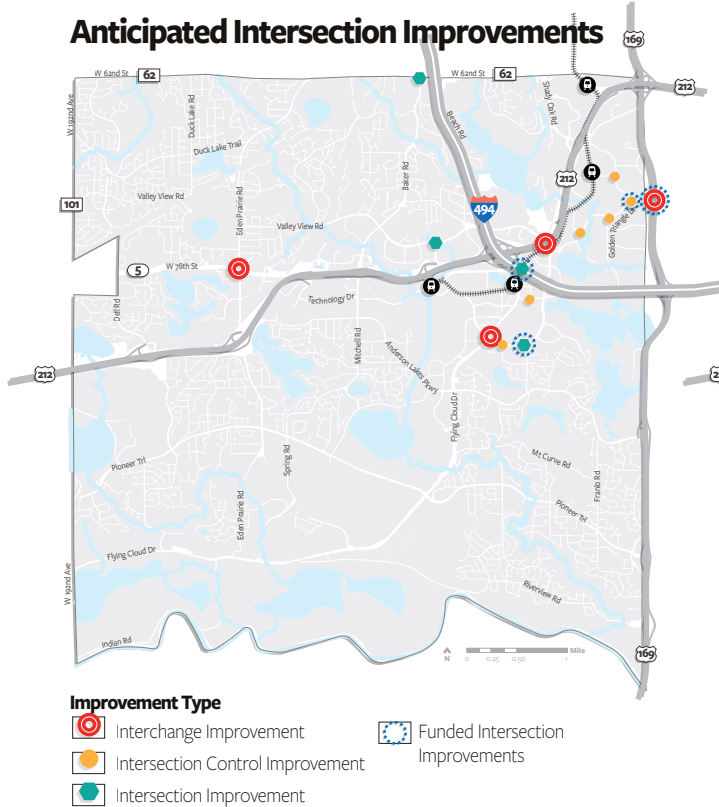
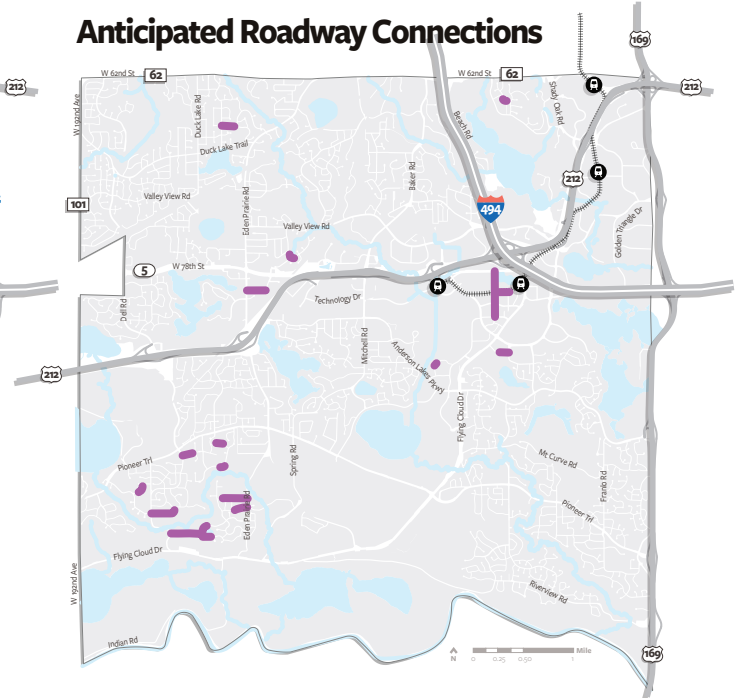


Figure 10

Anticipated Roadway Connections



Future State Projects

The following projects were selected as part of MnDOT's 2018 Corridors of Commerce awarding:

I-494 – Bush Lake Road to I-35W (Interchange Improvement)

This project will construct a directional ramp for northbound I-35W to westbound I-494 traffic. The proposed project is envisioned to improve the capacity of the interstates and lessen the incidents of crashes. The project will reduce travel delay by over 1,600 hours per day, eliminate approximately \$1.8 million in crash costs annually, and drastically increase reliability of trips on the corridor.

I-494 – France Avenue to TH 77

This project will construct a E-ZPass express lane on I-494 from France Avenue to TH 77 in the eastbound direction and a E-ZPass express lane from TH 77 to I-35W in the westbound direction. E-ZPass lanes are dedicated to vehicles containing two or more people, including infants, at no cost during peak travel times. The lanes are also open to single motorists with a E-ZPass, who are required to pay a fee. During non-peak travel times, an overhead E-ZPass sign will display that the lane is open to all motorists, at no charge. The proposed project is envisioned to not only improve the capacity of the interstate but dramatically improve the reliability of the average rush hour trip. The project will reduce travel delay by almost 2,900 hours per day, eliminate slightly less than \$2.0 million in crash costs annually, and drastically increase reliability of trips on the corridor.



Reducing congestion on the regional highway system will help to create cleaner air quality and reduce pollution. Furthermore, these toxins will be reduced through the mainstreaming of electric vehicles, moving towards a zero-emission culture.

Recent Study Recommendations

I-494/TH 62 Congestion Relief Study

The study conducted by MnDOT analyzed I-494 and TH 62 between the Minneapolis-Saint Paul (MSP) International Airport on the east and the I-494/TH 62 interchange on the west. The analysis included adding E-ZPass express lanes, auxiliary lanes, turn lanes, dynamic shoulders that allow vehicles to use road shoulders as lanes during peak drive times, modifying interchanges, and improving accessibility and travel options for transit. Both highways were studied as improvements to one road is likely to impact the other.

The results of the study recommend constructing a E-ZPass lane in each direction on I-494 between West Bush Lake Road and TH 5. The recommendation is based on directly comparing E-ZPass lanes on I-494 to E-ZPass lanes on TH 62 and how the scenario fits into the overall Twin Cities metro area E-ZPass system. The results of the evaluation do not preclude the possibility of E-ZPass being considered on TH-62 in the future. Additionally, the following was determined to be carried forward for a future study vision:

- EB I-494 auxiliary lane between East Bush Lake Rd and SB TH 100
- TH 62 lane extensions in both directions between I-35W and TH 77
- EB TH 62 lane extension between Gleason Lake Rd and TH 100
- WB TH 62 lane extension between TH 100 and Gleason Lake Rd
- WB TH 62 auxiliary lane from Valley View Rd to TH 100
- EB I-494 lane extension between France Ave. and I-35W
- Restriping of weave segment of SB TH 169 to WB TH 62/TH 212
- Restriping of EB I-494 ramp to SB TH 77

Social Equity & Diversity

TH 169 Mobility Study

MnDOT recently completed a study along TH-169 between TH 55 in Golden Valley and TH 41 in Shakopee, and between Mankato and the Twin Cities metro area. The study was undertaken to better understand travel and transit needs on the highway, and determine best options for reducing congestion, providing reliable trip times, and improving travel times for buses. Regional transportation plans identified TH 169 between TH 55 and TH 41 as an ideal corridor for transit and mobility improvements. Moreover, statewide plans and community leaders noted the importance of the TH 169 Corridor between Mankato and the Twin Cities as a critical link for educational institutions, businesses, and interregional freight and passenger transportation.

The study first task found that adding Highway Bus Rapid Transit (BRT), E-ZPass Express Lanes, and other smaller improvements to TH 169 are viable and would provide significant mobility benefits to the corridor. Specifically, BRT between Marschall Road in Shakopee and Downtown Minneapolis via TH 169 and TH 55 would have strong ridership and better connect people to jobs and other destinations. Adding a E-ZPass lane in each direction on TH 169 between Marschall Road in Shakopee and I-94 would reduce congestion and provide long term mobility benefits for transit and motorists in the corridor. The study developed conceptual designs and a recommended plan for implementing BRT, E-ZPass lanes, and other lower cost/high benefit improvements to the corridor.

The study's second task found strong potential for expanded Intercity Bus Service along TH 169 between Mankato and the Twin Cities. It conducted extensive outreach along the corridor and developed a variety of intercity bus service options with short- and long-term recommendations.

Equity in Transportation Planning

Persons with disabilities, communities of color, and low-income communities are especially important to include in conversations of transportation equity to ensure their concerns and issues are thoroughly considered in the decision making process. There are a variety of communication methods planners can use to eliminate barriers to quality public engagement in transportation planning, making sure historically and underrepresented communities are given adequate voice in the process.

Right-of-Way Preservation

Right-of-way (ROW) is a valuable public asset that includes land dedicated to roadway use for vehicles, pedestrians, and bicyclists. ROW must be protected and managed to respect the roadway's intended function, while serving the greatest public good. Eden Prairie will need to reconstruct, widen, and construct new roadway segments to meet future capacity, connectivity, and multimodal demands due to its current and anticipated growth. Such improvements will require adequate ROW be maintained or newly secured. The City will coordinate with MnDOT and Hennepin County for ROW acquisition along county or state routes.

System Preservation

The City of Eden Prairie has an efficient and well-maintained transportation system that serves a diverse set of users. Maintaining these roadways involves difficult decisions about how and when to conduct maintenance or apply other treatments to keep the City's roadways in a state of good repair at the lowest cost possible.

Today, transportation systems have become very expensive to maintain due to aging roadways, rising costs of materials and labor while funding has remained stagnant or declined. Consequently, many local agencies are being forced to reconsider the costs and benefits of continuing to maintain all surfaces at a high standard and identify cost-reduction strategies to optimize their available funding.

The City has started the process of gathering additional revenue by way of a franchise user fee. This has allowed the City to take an important first step to put a mechanism in place to address the issue of system preservation funding. Moving forward, the City needs to continue to evaluate potential increases in revenue to keep pace with degrading pavement conditions and continual pavement age, to keep the system in a consistent state of good repair.

Access Management

Access management is an important aspect of providing a safe and efficient roadway network. Access management measures include:

- Providing adequate spacing between access points and intersecting streets to separate and reduce conflicts.
- Limiting the number of driveway access points to reduce conflicts.
- Aligning access with other existing access points.
- Sharing access points, through internal connectivity between property owners.
- Encouraging indirect access rather than direct access to high volume arterial roads.
- Constructing parallel roads and backage or frontage roads.
- Implementing sight distance guidelines to improve safety.
- Using channelization to manage and control turning movements.



By providing alternative funding sources for roadway projects, the City of Eden Prairie is ensuring a steady revenue stream dedicated specifically to transportation infrastructure. Safeguarding the resiliency of the system.

Access review is a major aspect of the City's project review process. The goal is to maintain the safety and capacity of the City's roadways while providing adequate land access. Access management also involves balancing the access and mobility functions of roadways (Figure 2). 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. Most roadways serve both functions to some degree based on their functional classification. The four levels of functional classification and their corresponding mobility and access traits are as follows:

- Principal arterials have the highest mobility with no direct land access.
- Minor arterials have a high mobility with limited land access.
- Collector streets have moderate mobility with some land access.
- Local streets have low mobility with highest level of access.

The City will continue to support MnDOT's and Hennepin County's Access Management guidelines on the principal and minor arterial roadway network in the City through the measures list above. In addition, the City will use Hennepin County access spacing guidelines to steer access decisions on the City's arterial and collector roadway network.

Community Health

Maximize Connectivity

Eden Prairie boasts an impressive network of sidewalks, off road paths, and trails. The City's Pedestrian and Bike Plan lays out goals and objectives to bridge gaps and eliminate barriers. By continuing to implement the plan, Eden Prairie will realize the goal of developing a complete network of sidewalks, off road paths, and trails that maximize connectivity and access for all residents. This connected network can help residents reach needed community resources and provide opportunities for physical activity.



Social Equity & Diversity

Creating Walkable, Bikeable, Transit-Friendly Places

Local governments should look to adopt policies, identify resources, develop unique partnerships and examine regulatory tools that support and address the opportunities and challenges related to creating walkable, bikeable, and welcoming transit-friendly places.

Transit System

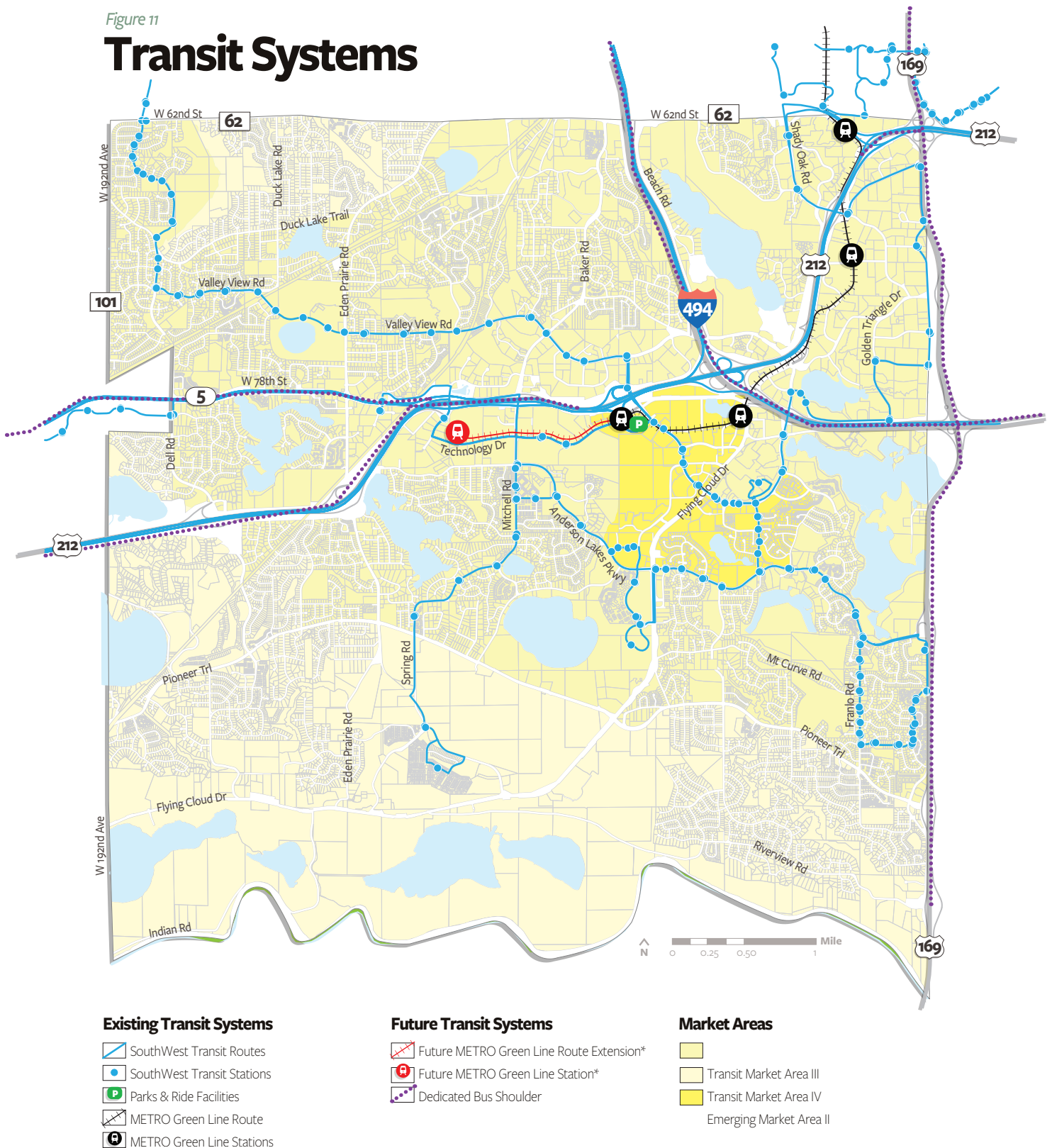
Existing transit service in the City of Eden Prairie is provided by SouthWest Transit (SWT), which operates four fixed bus routes with 12 spurs, and a shared, on-demand public ride service called SW Prime. These services link Eden Prairie with its neighbors of Chaska and Chanhassen, as well as Normandale Community College in Bloomington, Southdale Shopping Center in Edina, Downtown Minneapolis, and the University of Minnesota. Connections at several of these points link riders to the Mall of America, MSP Airport, the METRO Blue and Green Lines, the University of Minnesota Campus Circulator, Downtown St. Paul, and all other parts of the Twin Cities served by regional transit. SWT services include flex service among Eden Prairie, Southdale Transit Center, Normandale Community College, and the Golden Triangle business center development, peak period express services to Downtown Minneapolis and the University of Minnesota, and special services such as State Fair trips. All of SWT's service operates to, from, or through Eden Prairie. See Figure 10 for existing and planned transit service.

Existing Facilities

Eden Prairie is home to SWT's major passenger facility, SouthWest Station, located on 23 acres of land near the convergence of I-494 and Highway 5. The site includes a more than 900-stall structured parking ramp, fully enclosed passenger station and service center, central offices, and slip ramps onto the freeway. All four bus routes that serve Eden Prairie and SW Prime stop at SouthWest Station. At 92 percent in 2016 and 98 percent in 2015, SouthWest Station has one of the highest utilization rates of all park-and-rides in the metro. An 80-stall overflow lot was added in 2013 at St. Andrew's Church next to SouthWest Station. Additionally, future transit facilities may be considered as services expand.

Figure 11

Transit Systems



* No Funding is identified under the current revenue scenario

Existing Fixed Route Service

Fixed route service offered by SWT in Eden Prairie consists of express commuter routes to Downtown Minneapolis, eastbound in the morning and westbound in the afternoon. Some routes have spurs that collect riders from neighborhoods before reaching SouthWest Station and running the express portion to Downtown Minneapolis, as shown in Figure 11. SWT offers limited reverse commute express service (two buses per day). The four fixed routes are summarized below:

- Route 690 has six spurs, two of which connect to nearby cities Chaska and Chanhassen, and four that provide service to most of Eden Prairie.
 - Route 690A starts in northwest Eden Prairie and runs three times in the morning and four times in the evening.
 - Route 690P serves eastern Eden Prairie with two trips in the morning and two in the evening.
 - Route 690E loops through Eden Prairie’s most dense developments, stopping at Eden Prairie Center Mall, Hennepin Technical College, and many multifamily residential buildings along Anderson Lakes Parkway with three trips in the morning and two in the evening.
 - Route 690H connects to the Hennepin Village development and runs once in the morning and three times in the evening.

- Route 691 connects Chaska and Chanhassen to SouthWest Station before operating express service into Downtown Minneapolis with one eastbound trip in the morning.
- Route 695 provides service to Downtown Minneapolis and the University of Minnesota’s East and West Bank Campuses. During the regular school year, service is offered every 15 to 20 minutes at peak, with seven trips eastbound in the morning and six trips westbound in the evening. In the summer, service is offered less frequently.
- Route 698 provides service to Downtown Minneapolis and the University of Minnesota’s East and West Bank Campuses. To cater to the varied schedules of University students and employees, eastbound and westbound service is offered off-peak and at least once an hour. Eastbound service begins before 6 a.m. and continues until 3 p.m., while westbound service begins at 11 a.m. and continues past 9 p.m. In the summer when most classes are out of session, service is offered less frequently..

Existing Demand Response & Flex Transit Service

SWT has begun to offer a shared, on-demand public ride service called SW Prime. SW Prime serves the Cities of Eden Prairie, Chaska, Chanhassen, Carver, and new in 2018, Victoria. All SW Prime vehicles are Americans with Disabilities Act (ADA) compliant and operate between 6:30 a.m. and 6:00 p.m. on weekdays and from 8:00 a.m. to 6:00 p.m. on Saturdays. Riders may request rides by calling SWT, using the SWT Phone App, or using the SWT website. SW Prime is routed differently every day to respond to requests and makes trips that serves riders across the service area. Transfers between the Eden Prairie and Carver County SW Prime buses occur at the SouthWest Village park-and-ride. SW Prime helps connect people to express routes who cannot access park-and-rides on their own. Regular requests for SW Prime service to specific destinations at specific times could help identify future fixed routes.

In addition to SW Prime, SWT has also added SW Flex. SW Flex operates in several zones throughout Eden Prairie, connecting Southdale Transit Center in Edina, Normandale Community College in Bloomington, and Normandale Office Park with employment centers in the Golden Triangle, Eden Prairie Center, and SouthWest Station. This service has a regular schedule and is expected to arrive at time points within a 15-minute window as it allows for deviations within designated areas. To request a service to an area within the flex zones, riders may speak with the driver as they board, call SWT, use the website, or use the SWT Phone App. Requests can only be made on the same day.

Transit Link is another flexible service option in Eden Prairie. It provides curb-to-curb pickup and dropoff for the general public on weekdays from 6 a.m. to 7 p.m. Rides using Transit Link must be scheduled in advance by calling a service line. Rides can be scheduled from one to five days in advance.

Accessible Services

ADA service is provided in Eden Prairie by Metro Mobility, a service of the Metropolitan Council, caring for the needs of seniors, the handicapped, and disabled residents with door-to-door service. Eligibility for Metro Mobility is determined by Federal ADA guidelines. People are generally eligible if they are physically unable to get to the regular fixed-route system, navigate regular fixed-route systems once on board, or board and exit the bus at some locations. Potential users must apply for service. Once approved, users can request a ride online or by phone. Metro Mobility operates in Eden Prairie from 5:15 a.m. to 6:45 p.m. on weekdays and 8 a.m. to 4 p.m. on weekends.

Transit Advantages

Transit advantages are physical features that enable shorter travel times for transit vehicles over private automobiles using the same facility, increasing the attractiveness of bus transit. These include bus-only shoulders, high-occupancy vehicle (HOV) lanes, and ramp-meter bypasses. The City may advocate and apply for funds through the SWT Commission to support new transit advantages, facilitate improvements for existing transit advantages, and study opportunities for transit time savings. The City should also seek input from service providers and drivers regarding pinch points in service during peak periods to find appropriate locations to provide transit advantages.

In Eden Prairie, there are several transit advantages that prioritize transit over private vehicle traffic, including bus-only shoulders at the following locations:

- Eastbound and westbound US 212 from SouthWest Station southwest into Chanhassen
- Eastbound and westbound TH 5 from SouthWest Station west into Chanhassen
- Eastbound and westbound I-494 between East Bush Lake Road and I-394
- Northbound and southbound US 169 from Riverview Road/Old Shakopee Road to north of Anderson Lakes Parkway and between I-494 and I-94

There are also several ramp-meter bypasses that assist SWT buses in the City. On US 212, there are ramp-meter bypasses at entrances from Eden Prairie Road, Mitchell Road, and Valley View Road. The ramp-meter at Valley View Road north to US 212 will be removed with the completion of the METRO Green Line. Additional ramp-meter bypasses are on entrance ramps to I-494 from TH 5. There are also bus-only ramps to and from TH 5 that allow quick access to SouthWest Station and the combined section of TH 212 and TH 5.

Future Light Rail Transit

The METRO Green Line Extension (SouthWest Light Rail Transit (SWLRT)) is in the final stages of applying for federal funding and has begun accepting bids for construction. As shown in Figure 10, a route has been selected that includes four stations in Eden Prairie: City West, Golden Triangle, Eden Prairie Town Center, and the LRT's terminus at SouthWest Station. SWLRT will traverse Minnetonka, Hopkins, and St. Louis Park on its route to Downtown Minneapolis. A station at Mitchell Road was included in the original plans for the SWLRT project but was later eliminated as a cost cutting measure. Although the Mitchell Road station was removed from the project, the City believes there is a long-term need to extend the LRT line to Mitchell Road and supports its future extension.

Attracting development to areas near transit and ensuring that pedestrian access to stations is maintained is essential to ensuring the future success of the station areas. In support of LRT in the transit corridor, the City has planned for transit-supportive uses and densities generally within one-half mile of its LRT stations. Transit-oriented development (TOD) is best achieved through appropriate zoning near the station that allows for high-density uses and safe facilities for pedestrians, which is reflected in the Land Use chapter of the City's Comprehensive Plan and in the City's zoning code, which guides the built form of TOD in Eden Prairie.

Table 12. Transit Market Service Areas Table

Market Area	Propensity to Use Transit	Service Characteristics	Typical Transit Service	Presence in Eden Prairie
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: 1/2 mi between routes		
II	Approximately 1/2 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.	Emerging Market Area 2: South of Highway 212; covers Town Center and SouthWest Stations
		Span: morning to night, seven days a week		
		Access: one mile between routes		
III	Approximately 1/2 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.	Most areas along transit corridors, including Golden Triangle, City West Stations, and Preserve Village Mall
		Span: peak times, weekends		
		Access: varies on development patterns		
IV	Approximately 1/2 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.	South of Pioneer Trail, and north of Duck Lake Trail and Eden Prairie Road by Edenbrook Conservation area
		Span: peak times		
		Access: usually at large nodes, if at all		
V	Lowest potential for transit ridership	Frequency: 30 min, 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.	Prairie Center Drive area is emerging Transit Market II

Source: Metro Transit, SouthWest LRT Bus Transit Operations Plan Technical Memo, July 2015

Sustainable Resilience

Future Bus Service

Transit serves a major purpose in Eden Prairie by offering circulation and mobility, fast, convenient service for express riders to major destinations, and congestion mitigation on the freeways during rush hours. A high level of transit service supports the City's growth, controls traffic, brings in employees for the area's businesses, and provides benefits to seniors, those that cannot drive, and those that cannot afford a personal vehicle. As a party to the joint powers agreement with two seats on the SWT Commission, Eden Prairie has an established forum for advocating for service changes in the future. Additionally, the City will continue to work with transit providers to meet the evolving needs of the community over time, which includes the addition of new facilities.

Planned facilities and expanded service discussions are as follows:

Fixed-Route Service: With the opening of SWLRT, SWT will operate several new circulators and feeder routes, including:

- **Route 630N:** This circulator route will be a Golden Triangle area circulator that operates Monday through Friday between the SWLRT Golden Triangle Station and the northern portion of the Golden Triangle. Service would operate from approximately 6 a.m. to 7 p.m. every 15 minutes during peak periods and every 30 minutes midday.
- **Route 630S:** This circulator route will be a Golden Triangle area circulator that operates Monday through Friday between the SWLRT Golden Triangle Station and the southern portion of the Golden Triangle. Service would operate from approximately 6 a.m. to 7 p.m. every 15 minutes during peak periods and every 30 minutes midday.

Making Connections

A multimodal transportation system provides a variety of transportation options. Public transportation is important for those who do not own a car. Safe connections and adequate public transportation routes ensure transit-dependent populations can reach jobs, education, and services.



- Route 631: This circulator route would operate Monday through Saturday between SouthWest Station, Eden Prairie Town Center Station, and Hennepin Technical College. Service would operate from approximately 6 a.m. to 10 p.m. every 30 minutes during peak periods and every 60 minutes midday on weekdays. On Saturdays, service would run every 60 minutes from 8:30 a.m. to 10 p.m.
- Route 632: Referred to as the Eden Prairie Circulator, this route would operate seven days a week between SouthWest Station and the Eden Prairie Mall. Service would run every 30 minutes from 6 a.m. to 10 p.m. weekdays and 8:30 a.m. to 10 p.m. weekends.
- Route 633: The northeast feeder route would operate peak periods Monday through Friday between the intersection of County Roads 60/62 and SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 634: The northwest feeder route would operate peak periods Monday through Friday between the intersection of Dell Road and County Road 62 and the SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 635A: This southeast feeder route would operate peak periods Monday through Friday between the intersection of Franlo Road/Buckingham Drive and SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 635B: This second southeast Feeder 2 route would operate peak periods Monday through Friday between the Homewards Hills neighborhood of Eden Prairie and SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 636A: This route would operate peak periods Monday through Friday between the intersection of Spring Road/Charlson Road and SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 636B: This route would operate peak periods Monday through Friday between the intersection of Junegrass Lane/Liatris Lane and SouthWest Station. Service would run every 20 minutes with approximately 9 a.m. and 9 p.m. trips.
- Route 637: This north circulator route would operate hourly off-peak (8:30 a.m. to 3:30 p.m. and 7 to 10 p.m.) Monday through Friday serving the area of Eden Prairie north of TH 5 and west of I-49. In addition, it would provide connections to SouthWest Station.
- Route 638: This southwest circulator route would operate hourly off-peak (8:30 a.m. to 3:30 p.m. and 7 to 10 p.m.) Monday through Friday serving the area of Eden Prairie south of TH 5 and west of County Road 61. In addition, it would provide connections to SouthWest Station.
- Route 639: This southeast circulator route would operate hourly off-peak (8:30 a.m. to 3:30 p.m. and 7 to 10 p.m.) Monday through Friday serving the area of Eden Prairie east of County Road 61 and south of Eden Prairie Mall. In addition, it would provide connections to SouthWest Station.



The addition of SWLRT brings frequent all day transit service to Eden Prairie. Helping to provide alternative modes of transportation to its residents and ensuring a cost-effective regional mode of transportation for all community members.

SW Prime and SW Flex

SWT has recently restructured service by replacing fixed-route service with demand-response and circulator service in the form of SW Prime and SW Flex, respectively. These routes will expand and become more frequent in response to demand and reservations. SW Prime demand can be used to determine need for fixed or flexible route service in areas both within and surrounding Eden Prairie. The flex route will continue to run from SouthWest Station through employment clusters, housing complexes, and shopping centers. Service to employment centers in Carver County are served by SW Prime Shuttles connecting at park-and-ride facilities.

Reverse Commute

SWT has limited fixed-route reverse commute service to major employers in Eden Prairie with two buses per day. SW Prime connects nearby destinations to major employers, but there are no services that directly connect residents in central cities to jobs in Eden Prairie. Riders may take Metro Transit routes to Southdale Center in Edina to transfer to SW Prime in order to connect to employment centers. Express reverse commute service is not planned to be reinstated.

Bus Rapid Transit

Low bus ridership was identified in the 2011 Arterial Bus Rapid Transit Study for the American Corridor in Eden Prairie. Insufficient BRT connections were also assessed between the I-494 corridor and employment destinations, as well as between the Orange Line BRT in Bloomington and the former Vikings headquarters redevelopment site.

The City has recently conducted a preliminary BRT feasibility study for TH 169, and is currently investigating station locations, cost per station, and boardings and ridership potential. Implementing BRT service along TH 169 would require feeding BRT station locations with feeder transit connections.

Facilities

The parking structure at SouthWest Station is planned to be expanded to accommodate another 400 vehicles and function as a joint LRT and express bus facility. Park-and-ride facilities will also be built near the Golden Triangle and City West LRT Stations. The placement or construction of additional or new facilities are subject to review by the City.



Bicycling & Walking

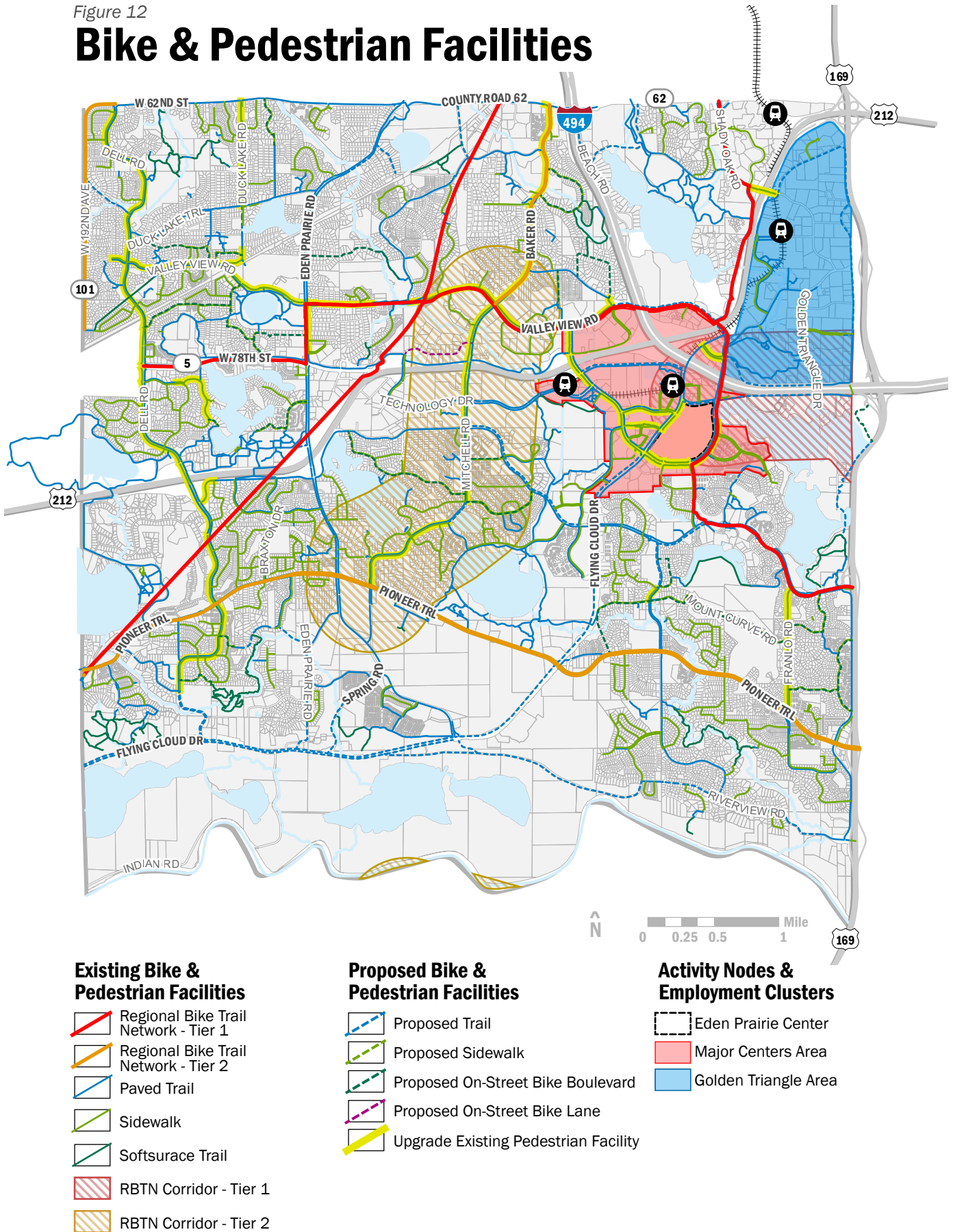
Eden Prairie has developed a robust and extensive system of sidewalks, off-road paths, and trails through thoughtful planning and investment, creating a highly desirable place to live and work. The City's network provides links to neighborhoods, park and recreation areas, commercial areas, schools, and other City amenities.

Although there are several gaps and key barriers that decrease the connectivity of these routes, City staff and leadership recognize the importance of improving conditions for walking and biking as foundational elements for active living and quality of life in the City. Through the 2014 City of Eden Prairie Bicycle and Pedestrian Plan, the City established a set of overarching goals to ensure growth in their network continues, including mitigating barriers to road crossings and network connectivity, including businesses, schools, parks and activity centers; enhancing on-street bike lanes; identifying and removing gaps; and adding sidewalks.

 As of 2017, the City possessed approximately 94 miles of sidewalk, 127 miles of trails, and 13 miles of soft surface trails which encourages alternative modes of transportation.

Figure 12

Bike & Pedestrian Facilities





Bicycle & Pedestrian Plan

Eden Prairie has established guiding principles in the *2014 City of Eden Prairie Bicycle and Pedestrian Plan* to promote and plan for the use of bicycle and pedestrian facilities. By doing so, the City aspires to create a sustainable transportation system that provides safety and security while providing access to destinations throughout the region and beyond. The City prioritizes a pedestrian and bicycle transportation network that responds to users of all ages and abilities, improves community health, and makes it easier for people to choose to walk or bike for their transportation and mobility needs. The City's goals also include providing convenient and comfortable access to SW LRT and other transit assets, such as SW Transit.

The Plan highlights recommendations to improve the City's pedestrian and bicycle transportation infrastructure, reduce hazards, and attract more residents, employees, and visitors to incorporate walking and bicycling into their daily travel habits.

Through the process, planners investigated and measured barriers, high destinations concentrations, and Level of Traffic Stress (LTS) for focus areas in which increased infrastructure that would have the greatest potential impact. LTS indicates the degree of traffic stress imposed on bicyclists at a given road segment or crossing. LTS ranges from 1 to 4 with LTS 1 signifying strong separation from all traffic except that of low speed, low volume to LTS 4 signifying interaction with or proximity to higher speed traffic. Priority route, intersection, and crossing improvements are summarized in the *2014 Pedestrian and Bicycle Plan*.



Bicycle Commuting Plan

Regional and inter-city bicycle trips can be made today on the Minnesota River Bluffs LRT Regional Trail, owned by Hennepin County Regional Railroad Authority and maintained in three seasons by the Three Rivers Park District. This corridor connects riders to Chanhassen, Minnetonka, Hopkins, St. Louis Park, Minneapolis, with a connection to Downtown Minneapolis by the Cedar Lake/Kenilworth trail on the east.

Eden Prairie has also developed a comprehensive network of trails and sidewalks which connect the City's residential, park, commercial, and employment areas, and provides designated facilities for short to moderate distance bicycle trips. A key component in improving Eden Prairie's future mobility, however, is to also incorporate an alternative transportation path system that is supportive of longer bicycle trips in and through the City.

The 2014 *Pedestrian and Bicycle Plan* laid out recommendations for expanding the bicycle network, which include the following:

- Prioritizing comfortable and convenient routes to destinations.
- Low-stress biking options to connect across local and regional destinations.
- Safe and continuous connections within Eden Prairie and to adjacent communities.
- Infrastructure treatments at priority crossings and intersections to enhance comfort and accessibility.
- Filling network gaps to enhance connectivity.
- Policy and programming to promote greater use of facilities and to integrate biking improvements into the overall culture and policy systems of the City.

Sustainable Resilience

Conquer the Last Mile

Eden Prairie's Bicycle and Pedestrian plan recognizes the connection between future bike lane, sidewalk, and transit development. By continuing to implement the plan, Eden Prairie can become a model city for reducing single-car occupancy travel. Key focus areas include:

- *Consider integrating plans for future sidewalks and bike lanes with transit*
- *Installing bike racks near transit stops*
- *Monitoring speeds along key pedestrian and cyclist corridors*
- *Bus connections to local transit stops*



Regional Network

The Regional Bicycle Transportation Network (RBTN), developed as an outcome to the Regional Bicycle System Study, serves as a framework of designated regional corridors and alignments and defines critical bicycle transportation links. The RBTN helps municipalities guide their bikeway planning and development. The RBTN is subdivided into two tiers for regional planning and investment prioritization.

Tier 1 – Priority Regional Bicycle Transportation Corridors and Alignments. These corridors and alignments have been determined to provide the best transportation connectivity to regional facilities and developed areas. They are given the highest priority for transportation funding.

Tier 2 – Regional Bicycle Transportation Network 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.

Three Tier 1 alignments exist in Eden Prairie. The primary RBTN alignment in Eden Prairie, the Minnesota River Bluffs LRT Regional Trail, extends northeast to Minneapolis. The two remaining RBTN alignments in Eden Prairie are located on Valley View Road and Bryant Lake Drive. The RBTN alignment on Valley View Road extends from Dell Road to Bryant Lake Drive. This alignment provides an east west connection to the Minnesota River Bluffs LRT Regional Trail.

The Valley View Road RBTN corridor currently has a continuous paved shared-use path along the entire length. Plans to upgrade the sidewalk into a shared-use path and adding new shared-use paths along sections that currently have a trail on one side of the road is specified in the *2014 Pedestrian and Bicycle Plan*. With these improvements, the Valley View Road RBTN will have a paved shared-use path on both sides of the road.

The last Tier 1 RBTN corridor in Eden Prairie, “Bryant Lake Drive,” creates a north-south connection. This north-south RBTN alignment extends along parts of Shady Oak Road, Bryant Lake Drive, Prairie Center Drive, Preserve Boulevard, and Anderson Lakes Parkway from TH 62 to Hyland-Bush-Anderson Lakes Park Reserve. Like the Valley View Road RBTN, the north-south RBTN in Eden Prairie has continuous shared-use paths along its entire length. Once the trail improvements specified in the 2014 *Pedestrian and Bicycle Plan* are complete, the entire corridor will have shared-use paths or sidewalks on both sides of the road.

In addition to the three Tier 1 alignments in Eden Prairie, there are two Tier 2 alignments present in Eden Prairie. In the northwest corner of Eden Prairie on 192nd Avenue/TH 101 is a Tier 2 alignment extending north-south from Twilight Trail to Townline Road. Currently, this alignment has a shared use trail on the west side of 192nd Avenue in Chanhassen. Additional Tier 2 alignments include a trail along Pioneer Trail, connecting trail systems in Bloomington and Carver County, and the Minnesota River Bluffs LRT Regional Trail. Also, a trail along Baker Road north of Valley View Road, connection to trail systems.

Linking Local Trails

In addition to eliminating gaps, proposed enhancements to the pedestrian and bicycle network system should seek to improve local connections to business activity centers, transit, and the RBTN network. Local trails should focus on neighborhood connectivity to primary routes that connect to RBTN alignments, which are often connected to regional facilities. Local trails in Eden Prairie provide important connections to the Minnesota River Bluffs LRT Regional Trail, located on an RBTN Alignment. The regional trail connections provide residents and visitors easy off-street access to regional parks and employment clusters.

Despite the strength of Eden Prairie’s bike network, gaps in linking trails to the RBTN exist in three general zones, Viking Drive and W 78th Street east of Prairie Center Drive, Flying Cloud Drive/Riverview Road, and along TH 101. According to the 2014 Plan, eliminating these types of gaps will be a focus for the City as it moves ahead with new facilities.

Social Equity & Diversity

Complete Streets

Streets are a vital part of livable, active, and attractive communities. All citizens, regardless of age, ability, income, race, or ethnicity, deserve to have safe, comfortable, and convenient access to community destinations and public places—whether walking, driving, bicycling, or taking public transportation.

A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balances the needs of different modes on different roads, and supports local land uses and natural environments.

Connections to Destinations & Transit

The City of Eden Prairie has two regional employment clusters that are characterized by significant development with important connections to the community due to their concentrated areas of professional, commercial, retail, and industrial uses. Finding ways to reduce single-occupancy trips is more important than ever, considering the growing population and environmental challenges the City faces. Enhancing connections to these areas is particularly impactful in creating more diverse mode-share opportunities to high-density destinations. The two identified regional employment clusters are the Golden Triangle Area and Eden Prairie Center.

Golden Triangle Area

The Golden Triangle Area is located north of I-494 and east of US 212. With the future construction of the SouthWest Light Rail station of West 70th Street, pedestrian and bicycle densities are projected to increase significantly within the area. Existing facilities marginally serve the south end of the Golden Triangle Area; however, the north end of the Golden Triangle Area is in need of additional trails and sidewalks. According to the *2014 Pedestrian and Bicycle Plan*, improvements will focus on linking paved shared-use trails and sidewalks to the Golden Triangle Area LRT Station.

Eden Prairie Center

The Eden Prairie Center area is located southwest of I-494 and US 212. Future planned shared-use paths and sidewalks will enhance connectivity in this area. Additionally, the City will focus its efforts on meeting with the Mall to develop facilities that increase connectivity within their internal site and traffic circulation areas to improve trail-to-door access. This type of “final mile” planning will provide clear and safe travel options for pedestrians and bicyclists to reach entrances to the Mall and other businesses.

System Gaps

The City of Eden Prairie has planned for and invested heavily in pedestrian and bicycle infrastructure for several years. This has led to a well-developed trail and sidewalk system, but gaps still exist. To guide trail connectivity, the City developed the *2014 Pedestrian and Bicycle Plan* that identified gaps in the network and specified locations for new and upgraded sidewalks, shared-use paths, on-street bicycle lanes, and unpaved nature trails – along with barrier mitigation to overcome obstacles.

Identifying gaps in the local trail system, including connections to City parks, schools, regional employment clusters, regional trails and RBTN alignments, has helped the City identify and prioritize specific locations to improve trail connectivity throughout the City. As the City continues to add new facilities, eliminating these gaps will be the primary focus to bolster their trail and sidewalk network.

Pedestrian & Bicycle System Needs

The City of Eden Prairie's foresight to construct bikeways and sidewalks into developments helped establish a robust system. Continuous development of new pedestrian and bicycle infrastructure, as well as improving existing pedestrian and bicycle facilities, is an important feature of Eden Prairie's public infrastructure that will improve the safety and quality of life for current and future residents.

In order to accomplish growth in their pedestrian and bicycle network, the City can prioritize the following action items:

- Identify and eliminate gaps.
- Mitigate barriers to network connectivity.
- Improve road crossings and driveway interruptions along trails.
- Enhance connections to destinations.
- Develop trail-to-door connections at commercial centers.
- Enhance on-street bicycle lanes.
- Add sidewalks.

Proposed Multimodal System Maintenance Activities

Infrastructure maintenance is an important aspect of a pedestrian and bicycle facility network. Without dedicated funds, the pedestrian and bicycle infrastructure will be difficult to maintain, as well as unreliable accessibility during winter months. The City of Eden Prairie is committed to maintaining their trails and sidewalks to address the safety and accessibility needs of all people.

Sustainable Resilience

Living Streets

Living streets balance the needs of people using all modes of transportation in ways that promote safety, mobility, convenience, enhance community identity, create economic vitality, improve environmental sustainability, and provide opportunities for active and healthy living. The Living Streets Policy defines Eden Prairie's vision for Living Streets and the principles that will guide implementation.

Living Streets Vision

Eden Prairie is a place where...

- *All modes of transportation are safe and accessible for people of all ages and abilities;*
- *Residents and families regularly choose to walk or bike;*
- *Streets enhance neighborhood character and community identity;*
- *Public rights-of-way are inviting places that create opportunities for social interaction and physical activity;*
- *Public policy strives to promote sustainability through balanced infrastructure investments;*
- *Environmental stewardship, sustainability and reduced transportation energy consumption are pursued; and*
- *Streets support vibrant commerce, economic vitality, and quality of life, and add to the value of adjacent properties.*

Aviation

Flying Cloud Airport is one of six metropolitan reliever airports owned and operated by the Metropolitan Airports Commission (MAC). It is in south central Eden Prairie along the Minnesota River bluffs, 14 miles from Downtown Minneapolis. The MAC acquired the airport in 1947 when it consisted of 134 acres. Today, the airport contains 860 acres, representing a small portion of the City's total land area.

The airport is classified as a Reliever Airport (National Category) by the Federal Aviation Administration (FAA), a Minor airport by the Metropolitan Council, and a primary reliever by the Metropolitan Airports Commission (MAC). In 2000, the Minnesota Legislature passed a law prohibiting the MAC from expanding any metropolitan system airport from a Minor to an Intermediate classification without legislative approval. A Minor airport is defined as an airport with primary runway not exceeding 5,000 feet in length.

There are two parallel east/west hard-surfaced runways 3,900 feet and 5,000 feet in length, and one north/south hard-surfaced runway 2,700 feet in length. Runways are lighted for night use, using various approach lighting aids. The airport is tower controlled and uses a full instrument approach landing system. The Flying Cloud tower reported 84,038 aircraft operations at the airport in 2016 during tower operational hours.

Services at the airport consist of aircraft charter, aircraft sales and rental, aviation fuel, aircraft maintenance and refurbishing, storage, and flight training programs. The majority of the Airport is now served with sanitary sewer and water. There are a few localized areas within the airport where only cold storage hangars exist that do not have the ability to connect currently. City utilities are provided for both the north and south hangar areas.

In 1978, the MAC adopted a weight restriction for the airport known as Ordinance 51. It prohibited all turbojet aircraft operations except those with a 20,000-pound or less takeoff weight (MTOW) that met noise emission levels of Federal Aviation Regulation Part 36. In 2001, the Federal Aviation Administration advised MAC that Ordinance 51 violated MAC's contractual obligation to provide public access to the airport on reasonable terms and without unjust discrimination.

MAC and the City of Eden Prairie executed two documents in December 2002. One document was a Memorandum of Understanding which addressed many outstanding concerns and issues between MAC and the City related to roadway and infrastructure improvements for the City, and sanitary sewer and water improvements for the airport. The second was the Final Agreement regarding expansion of the airport and an amendment to Ordinance No. 51.

The City and MAC executed a "Final Agreement Concerning Flying Cloud Airport and MAC Ordinance No. 51" in December of 2002. The City found that the commitments contained in the Final Agreement will help mitigate the potential environmental consequences of the expansion and maintain the character of the airport. On this basis, the City withdrew its opposition to the proposed airport expansion to extend the south parallel runway to a length of 5,000 feet, extend the north parallel runway to a length of 3,900 feet, and develop a new building area on the south side of the airport. An Environmental Impact Statement (EIS) for the proposed expansion was finalized in 2008. Construction of the improvements began in the summer of 2008 and were completed in 2009.

The mandatory and voluntary restrictions and commitments set forth in the Final Agreement include:

1. Mandatory restrictions on nighttime maintenance run-ups and operation by aircraft weighing more than 60,000 pounds certified maximum gross takeoff weight.
2. Commitments by MAC not to increase the runway pavement weight-bearing capacity, increase the runway length, or seek a certificate to accommodate commercial passenger service at the airport.
3. A commitment to conduct noise level reduction testing to determine the sound attenuation of a representative sample of homes in the DNL 60 dBA noise contour and provide insulation for homes that do not provide a certain level of attenuation.
4. Implementation by MAC of a voluntary restraint on nighttime operations program and recommendations for reducing the noise of early morning departures.
5. Implementation by MAC of a voluntary restraint program on operations by Stage 2 aircraft and a commitment to pursue a ban on all Stage 2 aircraft if operations exceed a specific limit.

In 2002, the MAC adopted Ordinance No. 97, which amended Ordinance No. 51 by eliminating the 20,000-pound maximum takeoff weight restriction for the airport. Ordinance No. 97 includes limitation on nighttime maintenance of aircraft and engine run-ups, and increased the aircraft weight restriction at the airport to 60,000 pounds certified maximum gross takeoff weight. These agreements between the City and the MAC are intended to help mitigate potential adverse environmental consequences and promote land use compatibility.

Goals & Policies

In addition to the transportation goals and strategies outlined earlier in this chapter, the City has established the following aviation goals and policies.

Goal 1: *Promote land use compatibility between Flying Cloud Airport and surrounding land uses.*

Policies:

1. Review proposed development on land proximate to the airport and notify the MAC of any proposals to determine consistency between proposed development and the airport with respect to safety and noise.
2. Support and monitor the implementation of the Final Agreement Concerning Flying Cloud Airport and MAC Ordinance No. 51 of December 17, 2002 between the City of Eden Prairie and the MAC.
3. Support maintaining the Flying Cloud Airport as a “minor use” airport not improved beyond the design criteria of this functional classification.

Goal 2: *Minimize the impact of aircraft noise upon noise-sensitive land uses.*

Policies:

1. Support the Metropolitan Council’s Land Use Compatibility Guidelines for Aircraft Noise for new development within the noise exposure zones and one-mile buffer zone around the airport.
2. Support and monitor the implementation of the Final Agreement Concerning Flying Cloud Airport and MAC Ordinance No. 51 of December 17, 2002 between the City of Eden Prairie and the MAC.
3. Through its Flying Cloud Airport Advisory Commission continue to work with the Metropolitan Airports Commission to develop and implement any additional noise abatement programs for the airport to minimize the impact of aircraft noise upon noise-sensitive land uses.

Goal 3: *Support action by the MAC to protect land areas within defined State Safety Zones.*

Policies:

1. Support the MAC in acquiring undeveloped property at fair market value impacted by State Safety Zones A and B if applied to Flying Cloud Airport.
2. Support payments in lieu of taxes to recover lost City revenue that would be realized if land acquired by MAC were developed for private, commercial uses.

Goal 4: *Protect all primary, horizontal, conical approach, transitional and general airspace from vertical intrusions.*

Policies:

1. Review development proposals based on meeting FAA and MnDOT Office of Aeronautics airspace criteria.
2. Notify the FAA, MnDOT Office of Aeronautics, and MAC of any development proposals that may involve review of FAA and MnDOT Office of Aeronautics airspace criteria.

Goal 5: *Establish and implement an airport zoning district for existing and new development at Flying Cloud Airport.*

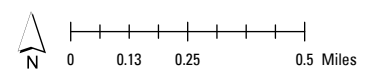
Policies:

1. Support buildings not being served by the extension of municipal water and sewer to utilize these connections.
2. Develop Airport Zoning District standards for all new development and for the expansion or modification of any existing buildings, to include, among other things, permitted uses, parking, architectural standards, signs, lighting, and screening of trash areas.
3. Work to encourage MAC to eliminate or replace deteriorating first generation hangar buildings.
4. Encourage landscaping improvements on airport property to help mitigate noise and visual impacts to neighboring properties.



Figure 13

Flying Cloud Airport



Land Use Compatibility

The City intends that land uses surrounding the airport be compatible with the airport and vice versa. Airport impacts that would affect land use compatibility include noise and safety.

Existing and guided land uses to the north of the airport, along CSAH 1, is mainly Parks & Open Space and Low Density Residential, with some Medium Density Residential and Industrial use. To the south is the Minnesota River Valley, which is largely guided as Parks & Open Space and under public ownership. To the east of the airport, most of the land use and guiding is Low Density Residential, and Parks & Open Space. The landfill adjacent to US 212, is permanently closed and is subject to a Closed Landfill Land Use Plan. Land use to the west is generally Low Density Residential, Church, and Parks & Open Space. To the southwest, land use is Office, Medium Density Residential, Low Density Residential, and Parks & Open Space. The Office use serves as an important land use buffer between the airport and the residential uses. The MAC has acquired land to the east, south, and west of the existing airport to accommodate the runway extension program completed in 2009 and to further land use compatibility.

The Land Use Guide Plan for 2040 guides land use development of the main airport property, including the runways, taxiways, hangars, fixed-base operations, and other ancillary structures, under the Airport section.

In addition to the aviation functions and facilities at Flying Cloud Airport, seaplane activities are occurring on Lake Riley in Carver and Hennepin County and Bryant Lake in Hennepin County. Both lakes are designated in Minnesota State Rules Chapter 8800.2800 as authorized for purposes of safe seaplane use. Lake Riley is approximately 300 acres in size while Lake Bryant is approximately 183 acres. The adjacent land use surrounding both lakes is composed primarily of park and residential land. To the City's knowledge, all seaplane operations are in conformance with the Minnesota Department of Transportation Rules and Regulations.

Pursuant to the "MOU Regarding Certain Development Projects at Flying Cloud Airport" between the City and MAC, several properties owned by MAC have been rezoned to Airport-Commercial and Airport-Office to facilitate mutually beneficial non-aeronautical development. The development of non-aeronautical uses will not only benefit MAC, but it will also generate a tax base for the City.

Aircraft Noise Zones

The Metropolitan Council's Land Use Compatibility Guidelines for Aircraft Noise indicates that a Day-Night Sound Level (DNL) of 65 dBA represents the threshold of significant impact for noise-sensitive land uses. The Metropolitan Council also considers noise-sensitive land uses in the DNL 60-64 dBA contour as potentially incompatible with aircraft noise.

Four aircraft noise exposure zones (NEZ) are defined based on MAC's Long-Term Comprehensive Plan approved by the Metropolitan Council in 2010:

- NEZ 1 contains the land within the DNL 75+ dBA noise contour. This zone is contained within airport property.
- NEZ 2 contains the land within the DNL 70-74 dBA noise contour. This zone is contained within airport property.
- NEZ 3 contains the land within the DNL 65-69 dBA noise contour. The noise in this zone can be categorized as significant.
- NEZ 4 contains the land within the DNL 60-64 dBA noise contour. The City finds that noise in this zone also can be considered significant.

Figure 14 shows projected 2025 noise zones for the Flying Cloud airport and how they overlay land uses.

Eden Prairie has adopted the Metropolitan Council's Land Use Compatibility Guidelines for Aircraft Noise for reference for new development. In addition, the City will notify the MAC of any public hearings at which the City will consider amending the Eden Prairie Comprehensive Plan to permit development of residences on any property that is shown in the Comprehensive Plan as being exposed to airport noise in excess of DNL 60 dBA.

In 2010, a representative sample of homes inside the DNL 60 dBA were tested by the MAC and the City in accordance with the Final Agreement. The purpose of the testing was to determine the existing exterior-to-interior noise level reduction for the respective housing demographic near the airport with a goal to achieve reduction by at least 20 decibels. The Final Agreement committed the MAC to provide sound insulation treatments in the event the noise level reduction was found to be less than 20 decibels. The testing found that all homes tested exceeded the 20 dBA noise level reduction goal.

Airspace & Land Use Safety Zones

Formal safety and land use zoning for the airport can be created only by a joint zoning authority created under Minnesota Statutes 360.063. In 2009, MAC created the Flying Cloud Joint Airport Zoning Board (JAZB) composed of representatives of MAC and the Cities of Eden Prairie, Bloomington, Chanhassen and Shakopee.

On November 16, 2010, the Eden Prairie City Council City consented to forwarding the draft JAZB Ordinance to the Commissioner of Transportation for review. In early 2011, MAC requested, on behalf of the JAZB, that MnDOT temporarily suspend review of the Draft Ordinance due to legal uncertainties surrounding airport zoning related litigation that was pending in the State at the time. The JAZB was reconvened in 2017 to update and resubmit the draft Ordinance to the Commissioner of Transportation for review.

MAC and Eden Prairie nevertheless consider the proposed JAZB safety zones for planning purposes. The safety zones based on the JAZB Ordinance are the following:

- JAZB Safety Zone A is a “no build” zone and is coincident with the Runway Protection Zone (RPZ) prescribed by the FAA.
- JAZB Safety Zone B is a “limited development” zone that prohibits specific land uses and requires contiguous open space areas.
- JAZB Safety Zone C is a “height limitation” zone with some general land use restrictions against interfering with airport operations.

The MAC and Eden Prairie have taken several steps to ensure the safe and compatible operation of the Airport. The City works with FAA and Minnesota Department of Transportation guidelines to protect Safety Zone C, including all primary, horizontal, conical approach, transitional, and general airspace from vertical intrusions by reviewing development proposals for consistency with FAA and MnDOT Office of Aeronautics airspace criteria. The City’s zoning ordinance contains height limits ranging between 30 and 45 feet, depending on the zoning district, though towers and antennas may be higher. Any height request that may potentially impact the airport height restrictions is submitted to the FAA, MnDOT Office of Aeronautics and MAC for their review.

Security at the Airport

In 2004, the MAC developed and implemented a security guide for the Flying Cloud Airport. The guide provides procedures and gives direction to airport employees, tenants, and users who help share in the responsibility to maintain a safe secure aviation environment. The federal Transportation Security Administration (TSA) has also developed security guidelines for general aviation airports.

The City encourages the MAC to review on a continual basis any additional security measures necessary to maintain a safe and secure airport in coordination with the TSA and MnDOT Office of Aeronautics.

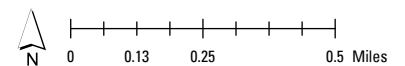
Flying Cloud Airport Advisory Commission

In December 2005, the City Council reestablished the Flying Cloud Advisory Commission to advise the Council and MAC with regard to matters affecting the operation of the Flying Cloud Airport, including its classification under federal and state law, rules and regulations of federal and state agencies governing the operation of the airport, the ongoing monitoring and implementation of the Final Agreement, noise abatement methods to reduce the impact of aircraft noise on the community, and other matters the Council may direct from time to time.

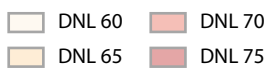
The Flying Cloud Airport Advisory Commission will also cooperate with the MAC staff in reviewing, for the benefit of the Council, matters affecting the use and control of the airport, including the Final Agreement, and will make its recommendations to the Council and MAC upon request with regard to any proposal affecting the use or operation of the airport.



Figure 14



2025 Preferred Alternative (2010 LTCP) Noise Contours



Freight System

Freight transportation and the movement of commercial and industrial goods plays a key role in the economy and transportation system of Eden Prairie. To ensure that businesses can efficiently transport goods into and out of the City, it is crucial that the local transportation network accommodate these needs through proper land use, zoning, and freight-specific network enhancements.

All industrial areas in the City of Eden Prairie are located with adequate access to the metropolitan highway system (Figure 15). The Interstate and Minnesota Trunk Highway systems in Eden Prairie are all built to 10-ton axle loading standards and are part of either the National Truck Network or 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 City of Eden Prairie has developed itself in a manner that efficiently and effectively accommodates for heavy commercial vehicle activity. Existing freight uses are in proximity to and have good access to regional roads. This minimizes the impact to the rest of community. Further, there are no planned land use changes that would significantly impact or require changes to the freight roadway network. To continue to accommodate truck traffic from industrial, warehousing, and commercial land uses, the following measures should be applied:

- Locating truck-intensive land uses with proximity to the metropolitan highway system and with reliable access to the minor arterial system.
- Using acceptable design standard on arterials, which will ensure adequate turning radii and pavement depth for trucks.
- Consideration for signage and markings to minimize truck traffic through neighborhoods.

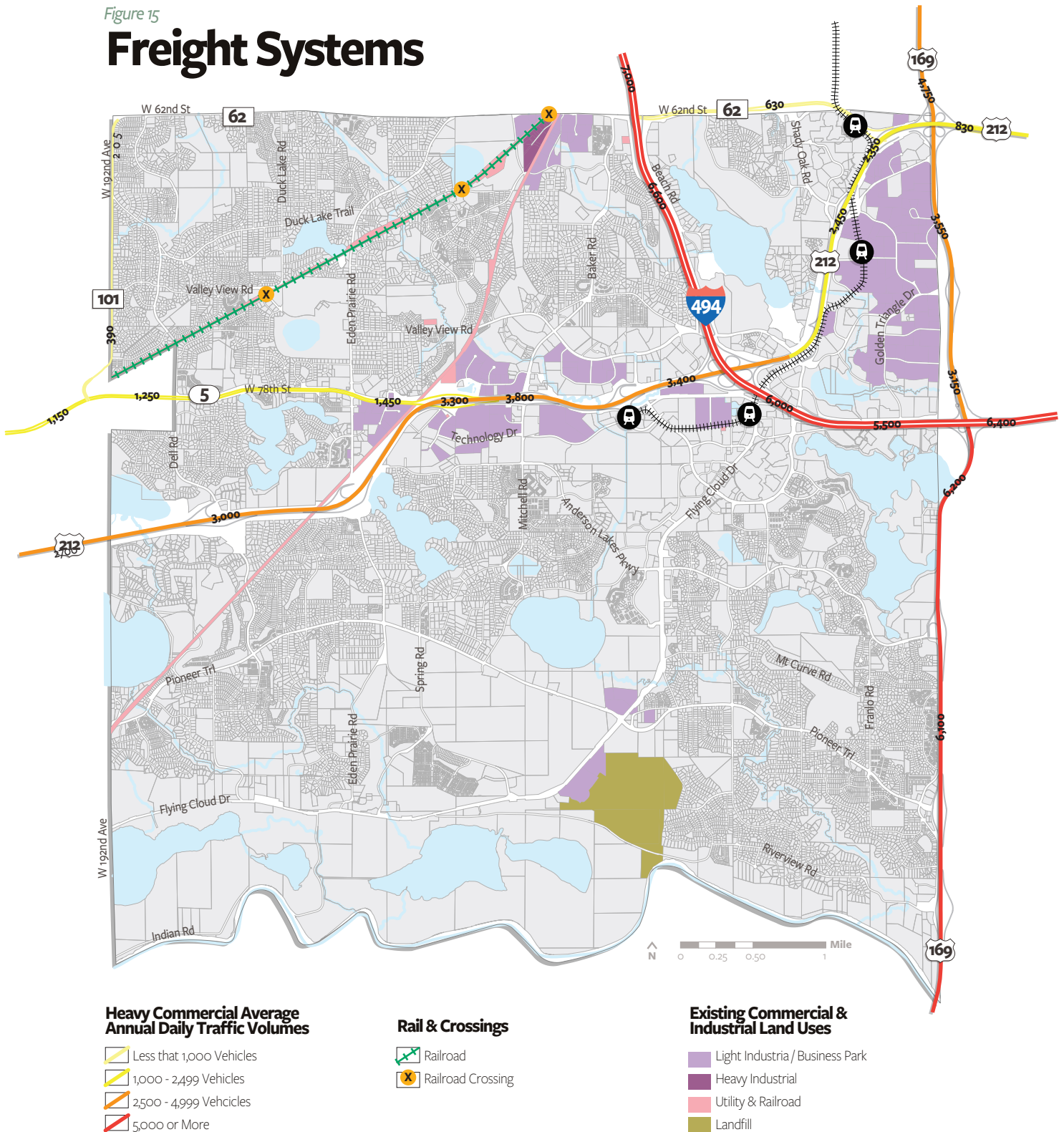
Heavy Commercial & Vehicle Activity

Truck traffic is significantly high on the major highways that pass through Eden Prairie, which include I-494, US 212, and TH 5. Heavy commercial annual average daily traffic (HCAADT) volumes for I-494 are the highest, averaging around 6,000 heavy commercial vehicles that pass through Eden Prairie each day. Compared with I-35 just south of Minneapolis (10,500 HCAADT) or I-94 between Minneapolis and St. Paul (7,700 HCAADT), these values for Eden Prairie indicate high volumes of heavy commercial activity. HCAADT volumes for US 212 are also high, averaging 3,000 heavy commercial vehicles per day west of the intersection with TH 5, and 2,400 east of the intersection with I-494. HCAADT volumes for TH 5 in Eden Prairie average around 1,300 heavy commercial vehicles per day. Additionally, there are currently three trains per day traveling on the Twin Cities & Western Railroad in the City. High traffic volumes root from the City's adjacency to multiple regional freight-intensive areas, including Minneapolis, Bloomington, and the Minneapolis-St. Paul International Airport. Freight-intensive areas within the borders of Eden Prairie that may also be contributing to the high HCAADT numbers include:

- The Golden Triangle Area between I-494, US 212, and US 169.
- Commercial and industrial land adjacent to the I-494 at US 212 interchange within the Valley View Road and Prairie Center Drive loop.
- Eden Prairie Center and land adjacent to Flying Cloud Drive between the Flying Cloud Airport and I-494.
- The land encompassed within the borders of W 62nd Street, Baker Road (CR 60), Edenvale Boulevard, and Indian Chief Road. This land is located adjacent to the Twin Cities and Western (TCWR) freight railroad line.

Figure 15

Freight Systems



Freight Rail Activity

Although railroad traffic in Eden Prairie is minimal, it is important to encourage compatible operation with adjacent land uses. Eden Prairie currently has one railroad corridor that runs within City limits. Twin Cities and Western (TCWR), a Class II railroad, runs along this line through the northwest corner of Eden Prairie. The line operates along both commercial and residential areas and across three at-grade crossings. These crossings are located at Valley View Road, Birch Island Road, and West 62nd Street. As these crossings are located at-grade, vehicles cross the tracks daily, which can potentially lead to accidents. However, the City of Eden Prairie intends to improve these crossings by upgrading safety and warning devices. As part of this upgrade process, the City also intends to implement safety measures, as well as train horn quiet zones, along the TCWR rail line to reduce noise impacts to adjacent residential areas. In addition, in 2018 the City plans to construct a new designated at-grade pedestrian crossing connecting the Eden Prairie High School with Duck Lake Road. This project will improve the safety of what has been a highly used unofficial pedestrian crossing.

Although TCWR is the only railroad that runs through the City, several Class I railroads are in operation in nearby municipalities that impact freight activity in Eden Prairie. Canadian Pacific (CP) is a major freight center that has several lines running through Edina, Bloomington, Minnetonka, and Plymouth. Union Pacific (UP) has a line that runs along the south side of the Minnesota River in Shakopee and through the metro area, providing access to major freight terminals.

Future Considerations

In recent years, e-commerce and day-of deliveries have become increasingly more important to the national economy. This phenomenon is also reflected at a regional level throughout the greater Twin Cities area. The demands of customers to receive seemingly any product of their choosing within a moment's notice has, and will continue to, increase freight traffic on major and local roadways. With such proximity to the Twin Cities, it is imperative that these trends be accounted for and planned for accordingly to maintain traffic flows and avoid congestion along roadways in Eden Prairie.

To plan for these considerations in the future, the City should consider the following:

- Support the use of designated drop-off areas to minimize the impact of large freight vehicles into lower density areas.
- Locate shipping centers at strategic locations to consolidate all delivery trips.



Being prepared for the future of freight activity in and around the community of Eden Prairie will help to reduce the impact of large commercial vehicles on the transportation infrastructure.

Planning for the Future

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

- System Preservation
- Assisted Driving and Autonomous Vehicles
- Travel Demand Management
- Complete Streets and Safe Routes to School
- Performance Based Planning
- Future Projects

System Preservation

Infrastructure systems such as roads, bridges, stormwater, trails, and sidewalks have become very expensive and difficult to maintain in today’s environment with aging infrastructure, rising costs of materials, permitting requirements, 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. The City of Eden Prairie has already taken steps to integrate pavement preservation strategies and practices into its everyday course of business by the use of a Pavement Management software program (ICON) with an emphasis on preservation using methods such as overlays, sealcoating, reclamation, underseals, and fog seals.

Other considerations for system preservation include:

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

Project Prioritization. Project prioritization can help cities 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 “fixes” (reconstruction) 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. 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, which will help establish funding plans and identified future funding gaps or shortfalls.

Assisted Driving & Autonomous Vehicles

Fully autonomous cars are still in the advanced testing stages, but partially automated technology and low-speed cars are beginning to embed themselves into markets across the country. In that respect, understanding autonomous vehicles will play an important role in how agencies manage their transportation assets, while setting the stage for investments. In addition to fully autonomous vehicles there are connected vehicles (CVs) that will interact with the transportation system (vehicles that communicate with the roadside to complete driving functions or provide information to the driver to make informed decisions).

Aside from some of the more obvious predicted impacts such as the continued growth of car-sharing, and on-demand taxi services like Uber and Lyft, autonomous vehicles (AVs) and CVs also stand to disrupt the norms of both transportation and land use planning. Parking minimums, street design, right-of-way needs, development demand, signage and signalization, building siting and design, access management, and their accompanying norms and standards have the potential to change dramatically over the next 40-50 years.

Researchers have concluded that AVs and CVs will reshape future road rights-of-way. AVs are likely to be smaller than existing passenger vehicles, permitting narrower lanes due to wireless communication between vehicles, allowing travel much closer to one another. By accommodating the same or more volume in less space, newly available road capacity can be reapportioned to other road users like pedestrians and bicyclists.

Although newly available road rights-of-way can be configured for additional multimodal use, there are some potential drawbacks for pedestrians, bicyclists, and other road users that the City will need to be conscious of when moving towards a more automated roadway type infrastructure. The reapportioning of rights-of-way may allow for expanded sidewalks and more dedicated bike lanes, however, due to potential signal removal, this may cause longer waits at intersections dominated by free-flowing vehicles. Adding pick-up and drop-off locations could also fragment the streetscape, complicating travel for multimodal users.

The redevelopment of former parking lots has the potential to transform existing urban centers, such as Eden Prairie and surround communities. Future site designs will be impacted by the implementation of autonomous vehicle structure, potentially allowing for buildings to more regularly front streets rather than parking lots. Accommodation for pick-up and drop-off locations within these parking lots will need to be a consideration. However, off-site parking reservoirs are an act to reshape future site designs.

The City of Eden Prairie will need to be mindful of the potential infrastructure impacts caused by adoption of autonomous and connected vehicle culture.



As the City looks to redevelop larger roadways, thoughtful consideration for how roadway infrastructure can be expanded to compliment autonomous vehicles is crucial to keeping Eden Prairie a vital asset within the Twin Cities metropolitan region.

Travel Demand Management

Research has shown that Travel Demand Management (TDM) 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. Examples of TDM strategies from a development review perspective are highlighted throughout this section.

Bicycle Amenities. Actively promoting bicycling as an alternative means of travel to and from a destination can be achieved through information dissemination, the provision of bicycle storage facilities, adding on-street bicycle lanes, and additional connections to trails. In addition, developments providing shower facilities for their patrons and employees can help to encourage use of this alternative mode of transportation. These actions can help decrease the demand for vehicle parking and single-occupancy vehicle use.

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 bike-sharing, car-sharing, and ride-sourcing 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.

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.

Complete Streets

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

The City of Eden Prairie has not established design guidelines related to Complete Streets. However, the Transportation Plan's goals and policies do embrace several elements of Complete Streets, such as safety and accommodations for pedestrians and bicyclists. MnDOT has adopted a Complete Streets Policy (updated May 2016) and has committed to assessing opportunities for incorporating Complete Street design principles in all MnDOT projects. In addition to Complete Streets principles, the City of Eden Prairie embraces a Living Streets mentality that strives to accommodate all users of the mobility system to create a vibrant, active street network.

Safe Routes to School

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 assists in providing infrastructure and non-motorized 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 and bicycle amenities, and wayfinding signage.

