Section 2

Land Use and Transportation Framework

Part 1 | Introduction

Section 2 defines the framework that will guide the future pattern of development throughout the city and, in addressing both future land use and transportation, serve as a blueprint for the community's physical growth. The pattern of land use and the network of transportation facilities and services are key foundational elements of how a city will grow. Achieving the vision for growth set forth in this plan will rely on policies, appropriate implementation mechanisms, and investment of public resources to guide public and private sector actions consistent with the Plan's vision and growth principles.

Changes in demographics and the economy are leading an increasing number of people to look for vibrant, diverse places to live and work. They are interested in having more housing and transportation options, valuing housing that's closer to work and other desired destinations, as well as easy accessibility that allows for a variety of travel options. Businesses want to locate in areas where they can attract customers and the best employees. Local governments, in turn, are eager to improve their communities to attract and retain residents and businesses while maximizing the use of the limited resources available for infrastructure needs and service delivery.

Focus of the Land Use Framework

P2S 2040 seeks to create a more sustainable and resilient community by balancing existing conventional development patterns with more compact growth styles. Consistent with the Key Growth Principles identified in Section 1, the Plan encourages growth in and along transit oriented centers and corridors as well as in areas with available utility capacity, thereby supporting continued urban growth while reducing the pace at which the city's footprint expands. By promoting an adequate supply and variety of housing options, the Plan responds to the desires and affordability needs of our changing population. Mixed use development styles will accommodate

LAND USE FOCUS

- Create vibrant, walkable neighborhoods
- Accommodate infill and redevelopment that respects neighborhood character
- Protect sensitive environmental resources
- Accommodate added density and mixed use development in corridors that can best connect major centers and nodes with frequent, high quality transit
- Efficiently use existing capacity in municipal utility systems and facilitate financially responsible expansion of these systems
- Ensure compatible and sustainable land uses while accommodating the range of uses that will make Rochester a vibrant and thriving place to live, work, and play

greater flexibility in the business and housing markets while providing adequate land area for commercial and industrial needs.

Options will still be available for choosing housing or business sites in areas representative of the development patterns of recent decades. Opportunities for development on the edge of the city will exist where service capacity is available. Preservation of well-established neighborhoods and business districts is a Plan priority. The Plan, however, emphasizes that greater attention be paid to reinvestment and revitalization in areas where convenient transit connections to major destinations are available. Thus, infill and redevelopment of underutilized sites will be encouraged to meet the demand for new housing or business options in walkable, transit supportive locations. By expanding the range of housing and business options, the Plan seeks to support Rochester's continued evolution as a great place to live and do business.

Focus of the Transportation Framework

The Plan's Transportation Framework recognizes the evolving nature of travel choices and the community's request for convenient, affordable, and feasible alternatives. Walkable neighborhoods, convenient transit options, and safe bike routes to destinations are among the features the community said are important and in need of improvement as the City moves into the future.

The Plan looks to enhance access to transit by expanding the concept of transit from just a service to an important element of the city's infrastructure. Integrated with a supportive land use vision, the Plan provides the framework for an interconnected system of primary transit corridors linking downtown to other major activity centers that, as development intensifies along these corridors, can support permanent investment in high quality, high frequency services such as bus rapid transit. As future housing and business development responds to the potential of permanent transit infrastructure, this Primary Transit Network (PTN) will make it possible for more people to consider a lifestyle less dependent on or independent of the private automobile. A foundational

TRANSPORTATION FOCUS

- Reduce auto-dependency by providing viable travel choices shaped in concert
- Increase the viability of transit, walking, and biking through design and management of land uses
- Approach transit not as just a service but as infrastructure that can shape and support a more efficient and cost effective land use pattern
- Balance future growth and development community wide in a way that supports equal access to alternative mobility options (transit, bike, walk) and community amenities (parks, cultural resources)

transit network such as the PTN has proven to be an important piece of many communities' economic development strategy, particularly in cities, like Rochester, where land is at a premium in the central development core. Limiting the footprint of vehicular travel in the downtown can make land available for more productive, higher value uses.

The integration of land use and transportation, on which the Plan is built, relies on a land use vision that provides critical support for a more diverse set of transportation choices where walking, bicycling, transit, or evolving transportation services are feasible to meet more of a person's daily transportation needs. This concept supports a pattern of growth that is more fiscally sustainable over time as targeted densification allows for more efficiency in the provision of services at a lower per capita cost.

The Plan supports this enhanced emphasis on the role of transit by encouraging pedestrian-oriented development in the nodes and corridors along the PTN network, at infill and redevelopment densities that will support expanded transit service. Continued integration of complete streets enhancements as part of all major street improvement projects will further enhance mobility choice and improve access between housing and employment, shopping, and social/recreation destinations.

Consistent with the vision and principles laid out in Section 1, the Future Land Use and Transportation Framework include goals, policies, and strategies which will lead to a future where more housing choice and a wider variety of active development districts evolve, with more emphasis on providing mixed use development districts and revitalization of downtown neighborhoods, giving people a greater choice of residential and business environments that suit their needs.

Tying it All Together

The projections in this plan for more compact and transit oriented growth may prove to be conservative if appropriate supports are set in place and successful models are demonstrated early in the planning period. Targeted transit enhancements can both lead and follow redevelopment, forming a virtual circle that can accelerate both private and public investment in transit supportive elements.

The economic rationale for pursuing policies that support these principles is compelling. Successful execution of the Destination Medical Center Development Plan and vision of the downtown as a primary focus for medical services and commercial and cultural intensification will depend on getting more

people in and out of Rochester's central core with less dependence on private vehicle travel. To achieve this, downtown housing and transit will need to become more convenient and attractive. A vision that offers more diverse land use, transportation, and housing choices can anchor a development strategy attractive to private-sector interests because of the growing market for more urban, mixed use development that supports the City's economic development goals and creates high-quality, economically sustainable neighborhoods and districts.

Part 2 | How Will P2S 2040 Shape Future Growth?

Over the past 50 years, development patterns have largely been driven by models and regulations that encourage a suburban form. This includes separation of land uses, lower residential densities, and an overwhelming reliance on the automobile to get from place to place. Rochester has generally followed this practice outside the city's center, with residential neighborhoods built at 3 to 5 units per acre and most business developments having relatively large parking footprints. Rochester has experienced challenges with this type of low density development not in its initial construction (when costs are picked up by buyers, renters, owners, or tenants), but in the high cost of ongoing maintenance and municipal operations. For example, it is difficult to provide broad areas of low density development with transit service in a cost-effective manner, further reinforcing an auto-dependent growth pattern. In turn, the compact, walkable, urban development character of the city's core area is challenging to recreate when development regulations support a suburban form.

We are seeing an interest in reversing these trends, with the hope of returning to a community that is more economically and environmentally sustainable, less dependent on the automobile, closer in scale to human form, and ultimately, more livable. The key to success lies in reinvigorating our urban places and re-urbanizing those places that have become more auto-oriented.

P2S 2040 seeks to achieve this community goal by expanding the land use and travel options available to the city's residents, employers, and visitors. While single-family neighborhoods will remain the predominant land use and cars the transportation preference, the Plan will encourage a wider range of housing, business location, and transportation options to meet the diverse needs expressed by residents and business interests. This will be accomplished, in part, through closer integration of land use and transportation strategies.

What Outcomes Will P2S Strive to Achieve?

P2S 2040 will create a balanced approach to development that includes more infill and strategic redevelopment of underutilized properties, especially in areas where enhanced transit service is most promising, thus permitting the community to direct a greater share of resources to priorities such as maintenance and improvement of existing areas. This growth strategy is specifically designed to complement the expansion of high-quality transit service between neighborhoods, key commercial areas, and major employment sites such as downtown and the Mayo Clinic/Saint Marys campus. The location of future population and employment growth will influence transit demand and the efficiency

of providing high quality, frequent transit service will increase as mixed use and residential developments are concentrated along designated corridors.

Through the policies and strategies recommended in the Plan, the anticipated long term outcomes for the City include aligning decisions with the eight Core Principles identified in Section 1, as well as:

- Provide sufficient land through infill and redevelopment opportunities in as yet undeveloped areas to accommodate population and economic growth over the next 20-25 years for the types of land uses projected to be of most importance
- Ensure that infill and redevelopment respects its immediate environs while providing more choice in the types and locations of development that people and businesses are seeking, including new housing styles, rehabilitation of older housing, and alternative types and locations for businesses and industries—such as multitenant buildings for technology companies
- Expand transportation choices and convenience for all modes and travellers to influence where people want to live and businesses want to locate; offering more transportation choice and strategically locating it will be a key element in shaping Rochester's future development
- Enhance the sustainability of infrastructure investment by reducing the pace at which systems need to expand as a result of more efficient use of existing and new infrastructure

The P2S 2040 Comprehensive Plan takes a coordinated approach to land use and transportation investments that will allow Rochester to emerge as a city with a system of balanced and sustainable options vital to achieving a vision of a thriving downtown, vibrant neighborhoods, robust economy, and affordable living for people of all income brackets.

Why is This Important?

Updating the City's land use and transportation strategies will be important to fully take advantage of future opportunities and the forces of change that will affect municipal responsibilities. Section 1 of the Plan described the key forces that are driving the need to rethink how land use is managed and transportation access delivered. These forces include demographic shifts, economic change and initiatives, technological change, fiscal challenges, and more. Among the most important forces are:

Destination Medical Center / Center City Economic Development | Driven by the Destination Medical Center initiative, Rochester expects to see 25,000 to 30,000 new workers downtown by 2040, bringing the number of total workers downtown to 60,000 or more. While more residential opportunities are expected to be developed in and around the downtown area, allowing more persons to walk to work, the great majority of the workforce will still be commuting to downtown. Given the capacity constraints of the road network serving downtown, the ability to handle a projected growth of

nearly 1,000 new workers per year will require more reliance on various forms of transit to carry an increasingly larger share of commuters. To achieve this, transit service will need to become more expansive in Rochester. This can only happen if a larger share of the community's growth occurs at transit supportive densities in areas that will complement a network of top-class, high quality transit routes providing customers frequent, easy to use, and comfortable service to downtown. To facilitate this strategy, the Plan envisions a connected network of transit oriented development nodes and corridors on major gateways to downtown such as Broadway Avenue.

Rochester's Downtown Master Plan established, and the DMC Plan reinforced, the need to reduce the share of single occupant work trips to downtown by a minimum of 30% over the next 20 years. This would maintain peak hour travel at levels that could be supported by the capacity of the street system.

Revitalization and Redevelopment of Commercial Corridors & Centers | The natural turnover of commercial businesses and their locations, combined with forces of technological change affecting retail and business practices, is creating threats to the vitality of historic business areas within the city. These areas have the benefit of infrastructure and transportation that are not being fully utilized, and given their location, are in many cases well situated to take advantage of services such as transit. These underperforming or vacant retail areas present a concern but also a great opportunity for Rochester. Over the lifetime of this plan, many of these sites will redevelop as a result of changing business practices and demographics; it is in the interest of the City to facilitate that rejuvenation in a more sustainable, livable development pattern. The Plan will provide more flexibility for the reuse of these properties and will promote enhanced transportation service to take advantage of what in many cases are prime locations.

More Housing and Transportation Choice | Throughout the course of the public input phase of this planning process, participants voiced an interest in having access to a greater variety of housing options and transportation choices. Driven particularly by the younger and older ends of these markets, the desires expressed echo those seen in many other cities and surveys done throughout the country. Often the interest is in having more affordable choices; the combined impact of housing and transportation expenditures for households in many cases take up an unsustainable portion of household incomes, and this is no different in Rochester. By encouraging alternative styles of housing and business activity (such as live-work spaces) integrated with improved transportation options that can reduce the dependency on auto ownership, households may be able to reduce their housing/transportation cost burden.

A corollary to this was identified by the Community Networking Group, noting that the structure and frequency of the current transit system creates significant limitations in meeting the needs of transit-

dependent residents, such as the low income or disabled. One of the biggest problems was inconvenience; the current system, with its single downtown hub, is designed to bring workers to the downtown area, but does not readily connect residents to other work sites, community agencies, schools, or other services with a system that is affordable, understandable, or accessible at the times of the day it is needed. The Plan recommends concepts that should help address (while acknowledging it will not fully solve) some of the issues the City's transit-dependent population faces.

What the Plan Proposes

The Land Use and Transportation Framework sets forth policies for the physical development of the city, providing a guide for decision makers in directing the pattern, distribution, and intensity of land uses. This guide supports economic development and, over time, will help the City achieve such goals as creating a vibrant downtown, revitalizing core city neighborhoods, redeveloping and reinvigorating primary downtown gateway corridors, providing travel alternatives to the car, and creating a robust network of greenways and green spaces. A system of well-organized land uses creates the possibility of more choice in transportation, supports businesses, provides neighborhoods attractive to the work force, and mitigates adverse impacts, thereby improving the compatibility of diverse land uses.

The well-known real estate mantra, "location, location, location," is as important for the overall pattern of land use and development within a community as it is for the individual property owner; it results from the intersection of interrelated conditions that include nearby existing and future land uses, transportation investments, infrastructure availability, and the likelihood for these conditions to persist or change. This susceptibility of uses to change or persist typically plays out in the following ways.

What kinds of land uses are likely to stay the same? | The foundation for any future land use map is based on existing land uses. Some land uses are less susceptible to change once they have been established. For example, single-family and lower-density residential neighborhoods tend to stay in place over long periods, with limited change or encroachment from other uses. Similarly, functioning heavy industry and utility facilities do not tend to move because it is difficult to find new locations. In contrast, retail, commercial, and light industrial land uses are more likely to change and do so in more rapid cycles.

What kinds of land uses are likely to change? | Underutilized commercial and industrial properties as well as public properties that are no longer needed are the prime candidates for transition to new uses. Vacant agricultural or industrial land, dead or dying shopping centers, decommissioned schools and churches, empty office buildings, downtown parking lots, and so on, are the types of uses that are most likely to be subject to change and to be ready for new land use designations. A critical dimension to successful new development, particularly in the redevelopment of existing uses or infill on vacant sites in developed areas, is making sure that there are development and design standards in place that

create attractive environments within the new development, connect it with the surrounding area so that it becomes part of the existing urban fabric, and ensure that the edges of the new development provide appropriate transitions to adjacent neighborhoods.

Key Development Principles

Primarily in areas of change, the plan will encourage the creation of walkable, mixed use neighborhoods and districts with safe, convenient access to multiple modes of travel that connect to major destinations in the city. Key design considerations are highlighted in the box to the right. These concepts will be most readily applied in areas most likely to change, such as new neighborhoods, along major transportation corridors in transition, in redevelopment districts, and in the downtown area.

Primary Transit Corridors

These design measures will be particularly important in primary transit corridors, where transit oriented development can help reduce the impact of new development on traffic and ensure transit investments are productive. Site design standards combined with transit enhancements can reinforce the image that certain bus service corridors are as permanent an infrastructure as roads and can serve as the foundation of compact, walkable, transit-supportive business districts and neighborhoods.

The importance of integrating land use and transportation investment, a key cornerstone of the Plan, manifests itself particularly when thinking about the downtown and the network of primary corridors, such as Broadway Avenue and 2nd St SW, that provide access to downtown. Given the importance of maximizing the access capacity of these corridors to support future downtown economic development,

KEY DESIGN CONSIDERATIONS

- Provide a mix of uses at compatible densities, scale, and bulk to provide the opportunity for meeting more of a person's daily needs within a neighborhood or district area by a variety of travel modes
- Create street connectivity that enhances access through provision of short block lengths, safe crossings, multiple routes to destinations, and pedestrian amenities such as pedestrian scale lighting, curb ramps, and appropriate buffers from vehicular traffic for bicyclists and pedestrians
- Arrange site density so that higher density uses are located close to likely transit streets (such as residential collector in neighborhoods or collector or arterials street in business districts)
- Guide urban form, particularly in mixed use or downtown districts, with buildings designed to promote active frontages and setbacks, entrances, parking, and building articulation helping to support a pedestrian orientation

the Plan emphasizes the need for land use and transit to be considered together, with land use being key to the efficient and effective provision of transit, and transit service having the ability to positively influence land use development. The Plan seeks to accomplish this by establishing policies that ensure land use and street design take place using transit oriented forms and that quality transit service will be available as transit supportive levels of development emerge. P2S 2040 defines a policy framework to encourage this integration of land use and transit through identification of a ***Primary Transit Network (PTN) strategy.*** The PTN corridors are not bus routes or a service plan, but a policy tool to help the City of Rochester, ROCOG, and Rochester Public Transit manage and coordinate land use, development policies, public infrastructure, and transit service provision moving forward into the future.

KEY TERMINOLOGY

Primary Transit Network (PTN) is a policy tool that identifies key corridors in Rochester where coordination of land use and transit infrastructure have the greatest opportunity to result in higher frequency and more sustainable transit service. The PTN is a policy statement about where the city makes the highest level of service and capital investment in transit. In general, the PTN requires a minimum concentration of jobs and housing to support the high level of service, and acts as a guide for siting land uses and incentivizing developments that create high levels of transit demand.

The PTN places a focus on medium to higher density residential development along with a mix of retail, service, institutional, and possible artisanal small industry along a backbone of key transit corridors. Early implementation is identified where economic development and revitalization of gateway corridors to the downtown are priorities. On Broadway Avenue (as described in call-out box) and other corridors proposed for inclusion in the PTN network, transformation will occur as the following conditions materialize:

Broadway Avenue is a former State Trunk Highway that was turned back to the City in 2012, and is identified as a priority for early PTN implementation efforts. North Broadway, in particular, has considerable opportunity for redevelopment; transit investments in the corridor along with redevelopment in the form of transit oriented and transit supported land uses will be mutually supportive. Land uses along segments of the corridor are reminiscent of historic strip development and are underdeveloped. Its proximity to downtown and access to community assets (parks, schools, services, etc.), in combination with the community's growing interest in urban living with diverse housing and lifestyle choices that offer more opportunities to walk, bike, and use transit, make the corridor a prime area for redevelopment.

- Development policies and programs are established which enable and help catalyze reinvestment that is transit oriented and transit supportive;
- Small area plans engage stakeholders and inspire transformation; and
- Property assembly of smaller parcels enables larger scale developments.

Other Key Elements

Along with the concept of a Primary Transit Network, other key elements of the growth strategy include:

Urban Growth Boundaries | The plan identifies both Urban Expansion and Urban Reserve areas that describe the geographical area expected to meet the City's development needs to the year 2040 and beyond. Establishing these urban growth boundaries helps to provide some certainty of how long existing land uses on the urban fringe can remain in their current use while providing some level of protection against inappropriate development that would impact efficient conversion of these lands to urban use in the future. The boundary also reflects careful consideration of fiscal and environmental factors as well as a growth strategy that supports the community's needs and desired future.

Centers and Anchors | A variety of Mixed Use Centers and Community Anchors were identified in the Development Vision described in Section 1 and serve as the focus for office, retail, community, cultural and institutional uses and medium to higher density housing. The pattern of job concentration and distribution represented by these nodes of development are essential to achieving a transit oriented future for the region as well as efficient planning of infrastructure systems and public services.

Business and Employment Areas | Business and Employment Areas are identified to provide lands maintained and protected from incompatible uses for a variety of more intense mixed commercial/industrial economic activities that support of the economic goals of the region. These areas are intended for activities including traditional manufacturing and processing facilities, repair and construction services, warehousing and distribution services, transportation, utilities, scientific research and emerging technology facilities along with ancillary office and retail uses. Residential uses should not be considered in these areas because of the potential incompatible features of businesses, and high intensity commercial uses are discouraged because they create pressure on industrial land prices, create potential incompatible conditions for freight and commuter access, and can undermine the prosperity and development of identified centers where customer focused commercial development should desirably be focused.

Established Neighborhoods | The Plan recognizes established neighborhoods and provides a heightened level of attention to standards in these areas for infill and redevelopment activity. The Plan encourages public reinvestment in neighborhood features, such as streets and parks, to help preserve the viability of the existing housing supply in neighborhoods throughout the city and encourage

complementary private maintenance investments. In certain neighborhoods in the immediate vicinity of downtown, alternative policies are set forth to facilitate revitalization and reinvestment in what are the city's oldest housing areas.

Land Use and Transportation in Relation to Expected Growth

The P2S 2040 growth strategy is designed to serve an expected 50% growth in population, employment, and housing over the next 20 to 25 years and complement the expansion of high-quality transit service between neighborhoods, key commercial areas, and major employment centers. In turn the policy framework will enhance Rochester's walkability and design character. The location of future population and employment growth will influence transit demand and the efficiency of providing public services.

The Level of Growth Expected in the City

Table 2-1 lays out current conditions and assumptions related to population and employment growth and how this growth will translate into physical development. An assessment of the expansion of the city's footprint also indicates that, based on past history of land annexation patterns, the city could expect to grow from 55 square miles to 74 square miles, an increase of about 1/3, over the next 20 to 25 years. Noted at the bottom of the table is the growth in non-resident commuting, an important economic factor supporting the city's workforce needs.

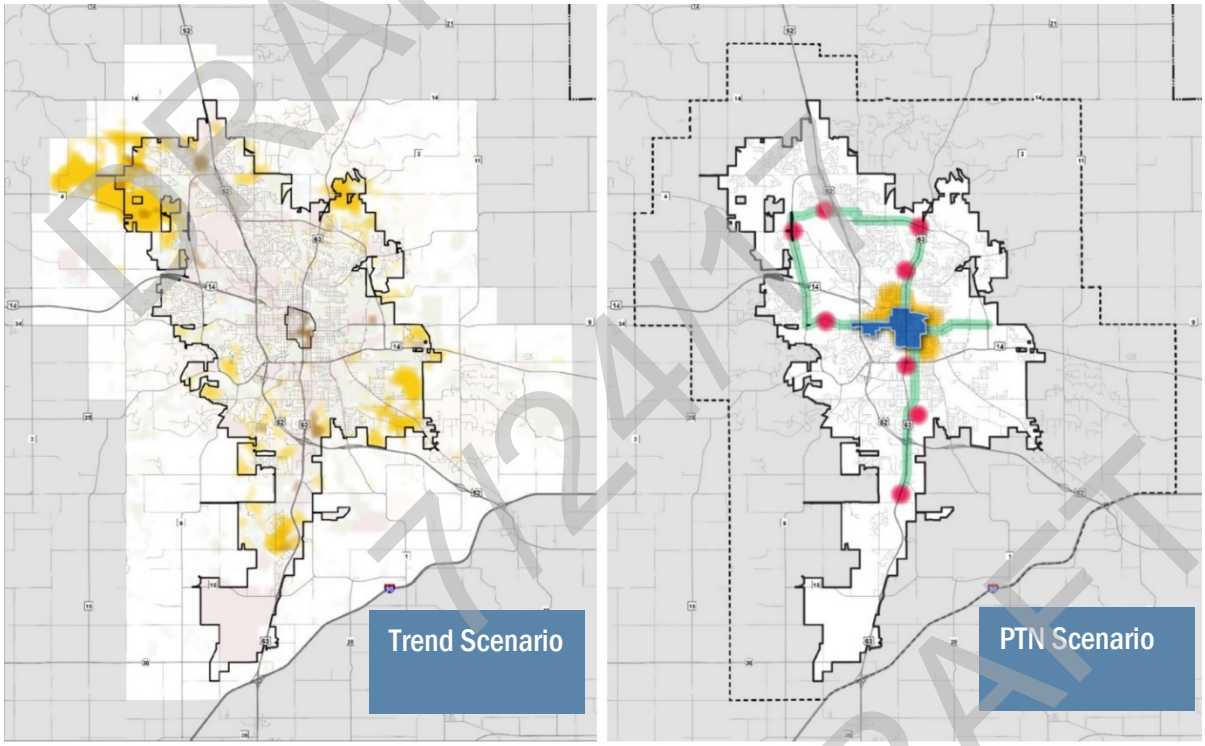
TABLE 2-1: BASELINE GROWTH ASSUMPTIONS

MEASURE	CURRENT CONDITIONS	FUTURE CONDITIONS	GROWTH 2015-2040	
Population	110,000	165,000	55,000	+50%
Housing Units	48,800	74,800	26,000	+53%
Single Family	32,800	41,600	8,800	+27%
Multi Family	16,000	33,300	17,300	+108%
Senior Housing	4,670	6,650	1,980	+42%
Jobs	106,900	153,300	47,300	+44%
Retail/Office Space	15.3 million sq. ft.	19.8 million sq. ft.	4.5 million sq. ft.	+29%
Medical Services / Medical Sciences Space	10.4 million sq. ft.	18.5 million sq. ft.	8.1 million sq. ft.	+77%
Industrial/Business Space	10.8 million sq. ft.	17.5 million sq. ft.	6.7 million sq. ft.	+62%
Commuters	Estimated 32,500 (2012)	Estimated 52,000	19,500	+60%

Scenario Planning Findings

Section 1 provided an overview of the scenario planning process that was completed to help understand the implications of different long term city growth patterns. In this process, a "Trend Scenario" assumed continuation of trends of the last 30 to 50 years, featuring relatively low density development built in a suburban pattern. The Trend Scenario was compared to an alternative scenario that assumed more compact patterns where more growth would be accommodated through infill and redevelopment, primarily in a transit supportive pattern. While better accommodating the challenges associated with

FIGURE 2-1: TREND SCENARIO VS. TRANSIT SUPPORTIVE "PTN" SCENARIO



managing downtown access, the alternative scenario still provides a reasonable amount of conventional development opportunity. Figure 2-1 provides a high level visual overview of where the major growth in these two types of scenarios would be expected to occur.

The results of this analysis indicated some of the positive community benefits of encouraging a more compact future growth pattern. Table 2-2 summarizes the highlights of this comparison, which indicate that land consumption could be reduced by approximately 20-25% and vehicle travel by 5-10%; more importantly, miles of congested roads would be reduced by about 25%, with more than twice as many people within reasonable walking distance of high frequency transit service. Some capacity

improvements on the roadway network can be avoided with a higher frequency transit infrastructure and supportive land use patterns, setting the city on a path to a more fiscally sustainable pattern of development in the future.

Though the annual capital costs associated with creating a network of premium transit infrastructure would be higher than that associated with expansion of the current bus system, the difference in annual operating costs associated with a more compact pattern of housing and business activity served by the Primary Transit Network would offset the capital cost difference. This would allow the City to achieve the target of a 30% reduction in central city workforce commuting by private vehicle more efficiently than could be achieved under the Trend Scenario with traditional bus service.

TABLE 2-2: SCENARIO COMPARISONS

MEASURE	TREND SCENARIO	COMPACT SCENARIO
Land Consumption (Development only)	5,900 acres	4,600 acres
Vehicle Miles of Travel	4.4 million	4.1 million
Lane Miles of Congested Roads	100	75
Residents within walking distance of high frequency transit	27%	53%
Annual transit Operating costs to meet mode shift goals for Downtown ($2013)	$28m	$17m
Average Annual Transit Capital cost to meet mode shift goals ($2013)	$6m	$9.5m

NOTE: The full summary of comparable outcomes of the Scenario Planning Process may be found in Appendix "TBD".

The results of the Scenario Planning Process indicate that the goal of creating a development vision that provides a more balanced approach to the distribution of growth between edge areas and infill/redevelopment opportunity sites would provide positive benefits in being able to meet downtown access goals in a cost-effective fashion. Reflecting a greater share of mixed use moderate to medium density growth settings along a set of major transit corridors provides more people with access to alternative travel options and supports the revitalization of major streets that serve as gateways to downtown and connect other major destination areas in the city. This pattern of growth responds to public input and would set the city on a path to a more fiscally sustainable pattern of future development.

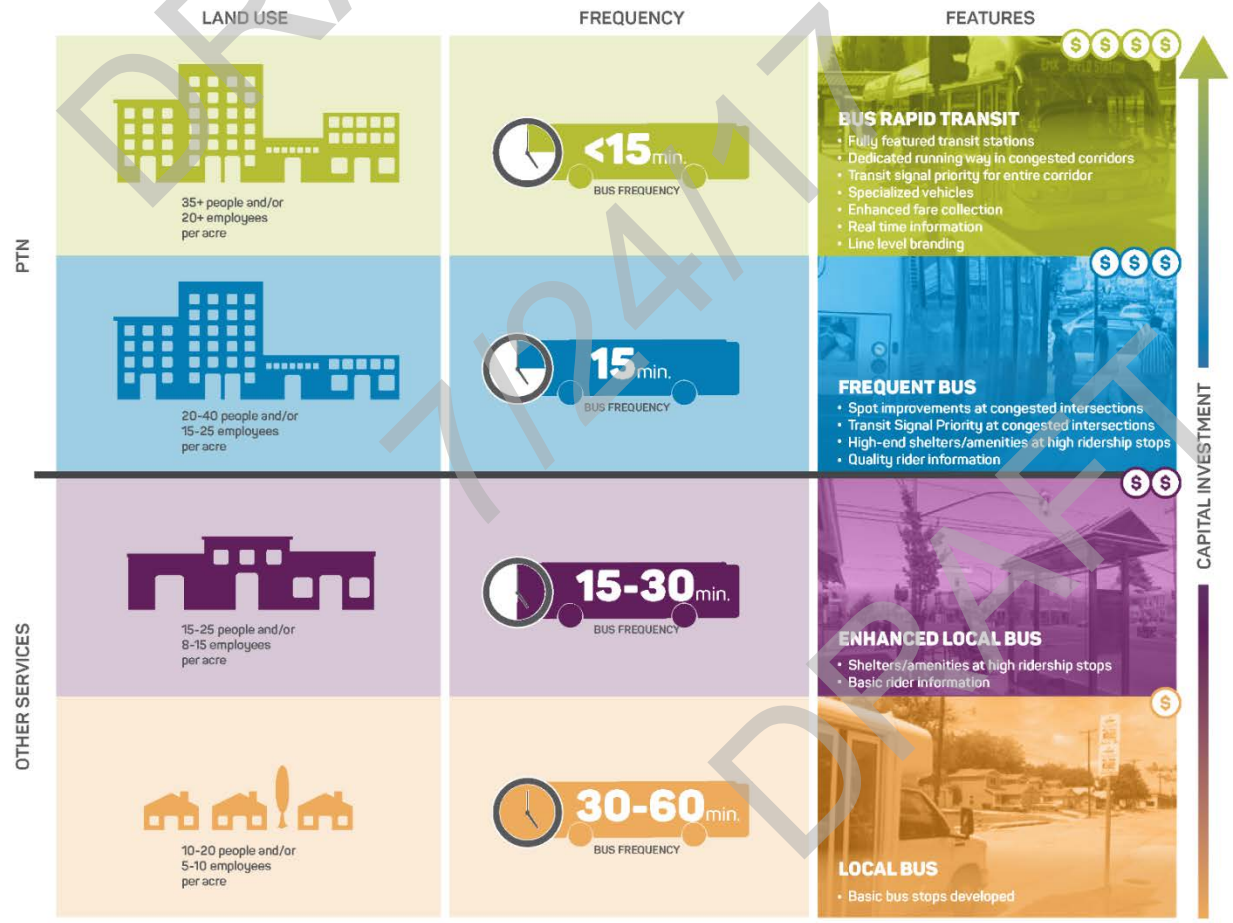
Using this analysis to guide development of plan policies, a growth concept was developed that combines elements of the Trend Scenario with the Alternative Scenario. This hybrid provides continued opportunity for edge growth but does so at a level representing a smaller share of overall growth than has historically occurred. It balances this edge growth with greater emphasis on infill and

redevelopment, particularly in transit oriented nodes and corridors, and captures a higher than historic share of growth going forward. This hybrid became the foundation for creating the Plan's land use and transportation concepts.

Implication for the Distribution of Future Growth

One of the critical factors in understanding the differences between these approaches to growth is the important influence of land use on the success of transit. Figure 2-2 highlights how the intensity of land use can affect the type of transit service that is likely to be fiscally feasible in an area. Starting at the bottom of the chart, standard local bus service running at a frequency of 30 to 60 minutes (which is representative of the Rochester system) generally can be provided at a density of 10 to 20 residents per

FIGURE 2-2: DEVELOPMENT PATTERNS CAN INFLUENCE THE LEVEL OF TRANSIT SERVICE THAT CAN BE SUPPORTED



acre or 5 to 10 employees per acre. This type of service will primarily serve peak hour demand, with minimal one hour service the rest of the day. As land use density increases, service frequency and

quality can be enhanced as increased ridership is generated and captured as a result of the higher development intensity. The type of service envisioned along the proposed Primary Transit Network (PTN) is described in the upper half of Table 2-3 along with the level of development intensity needed to support the service. An intensity approaching 35 residents per acre or over 20 employees per acre provides a target for the level of development needed to achieve the highest quality of PTN service thought to be feasible in Rochester—service built around Bus Rapid Transit with 15-minute frequency.

An analysis of candidate corridors was completed to identify a logical connected network with the best potential to meet the following criteria:

- A minimum average density of 25 persons per acre (combination of residents and jobs)
- The corridor is part of a logical route network that links major activity centers and destinations
- Each corridor has anchors –start point and end points – that would either be downtown Rochester or a major transit generator (e.g., park-and-ride, university, major employer)

Table 2-3 lists the seven corridors that were identified as having the best potential for creating a Primary Transit Network in Rochester. Of these corridors, only 2nd St SW and 4th St SE satisfy all the criteria under current conditions that support consideration of deploying enhanced levels of bus service. 4th St SE benefits from major generators at each end (downtown on the west end; the combined area of the Olmsted County Human Services and the University Center campuses on the east end) and its potential to serve future commuters through development of park and ride facilities.

TABLE 2-3: DEVELOPMENT INTENSITY

CORRIDOR	EXISTING CONDITIONS	TREND SCENARIO	ADDITIONAL GROWTH NEEDED TO SUPPORT PTN	MAXIMUM FEASIBLE PPA* INTENSITY	COMMUTER PARK & RIDE POTENTIAL
	Existing PPA* Intensity	Projected PPA* Intensity	Growth needed to reach 25 PPA*		
2nd St SW	31.0 PPA	39.9 PPA	0	44-45 PPA	Medium
North Broadway	16.8	20.9	2,500	26-27	Medium
South Broadway	17.8	22.0	2,200	21-22	High
4th St SE	19.5	24.9	0	24-25	Medium
OTHER CORRIDORS STUDIED					
37th St NW	15.1	19.5	5,700	21-22	Low
Valleyhigh Drive	16.9	18.6	6,700	21-22	Med-High
West Circle Drive	10.4	15.5	9,700	16-17	Low

**PPA: Persons Per Acre; combining estimated number of residents and workers living or working within approximately ¼ mile of the identified corridor.*

Broadway Avenue North and South are the next set of corridors identified as having the best potential to support enhanced transit. Both corridors will need to attract additional growth, but the presence of land in need of revitalization combined with the potential of these major downtown gateways to service major park and ride demand and connect with other activity centers outside of downtown Rochester support their identification as part of the future PTN.

The final set of corridors identified as part of the PTN, which would provide for a fully connected network, include Valleyhigh Drive NW, 37th St North, and West Circle Drive. These corridors would take longer to reach targeted development intensities, but they provide the best opportunity to connect the system while serving major centers in the growing Northwest area of the city, such as potential transit oriented development nodes at IBM and other key locations, and connect Mayo Medical Center's Northwest Campus with their downtown campus.

Figure 2-3 illustrates the proposed PTN, the major nodes of development identified as future Transit Oriented Growth Centers, and areas targeted for development of future Park and Ride facilities to serve commuters working downtown or along the PTN. The PTN corridors are color-coded to distinguish the high priority corridors anticipated for early deployment of higher frequency services and enhanced infrastructure from the corridors where transit supportive development is expected to take longer to emerge. Further discussion of the PTN and its features is included in Part 5 of Section 2.

FIGURE 2-3: PROPOSED PRIMARY TRANSIT NETWORK

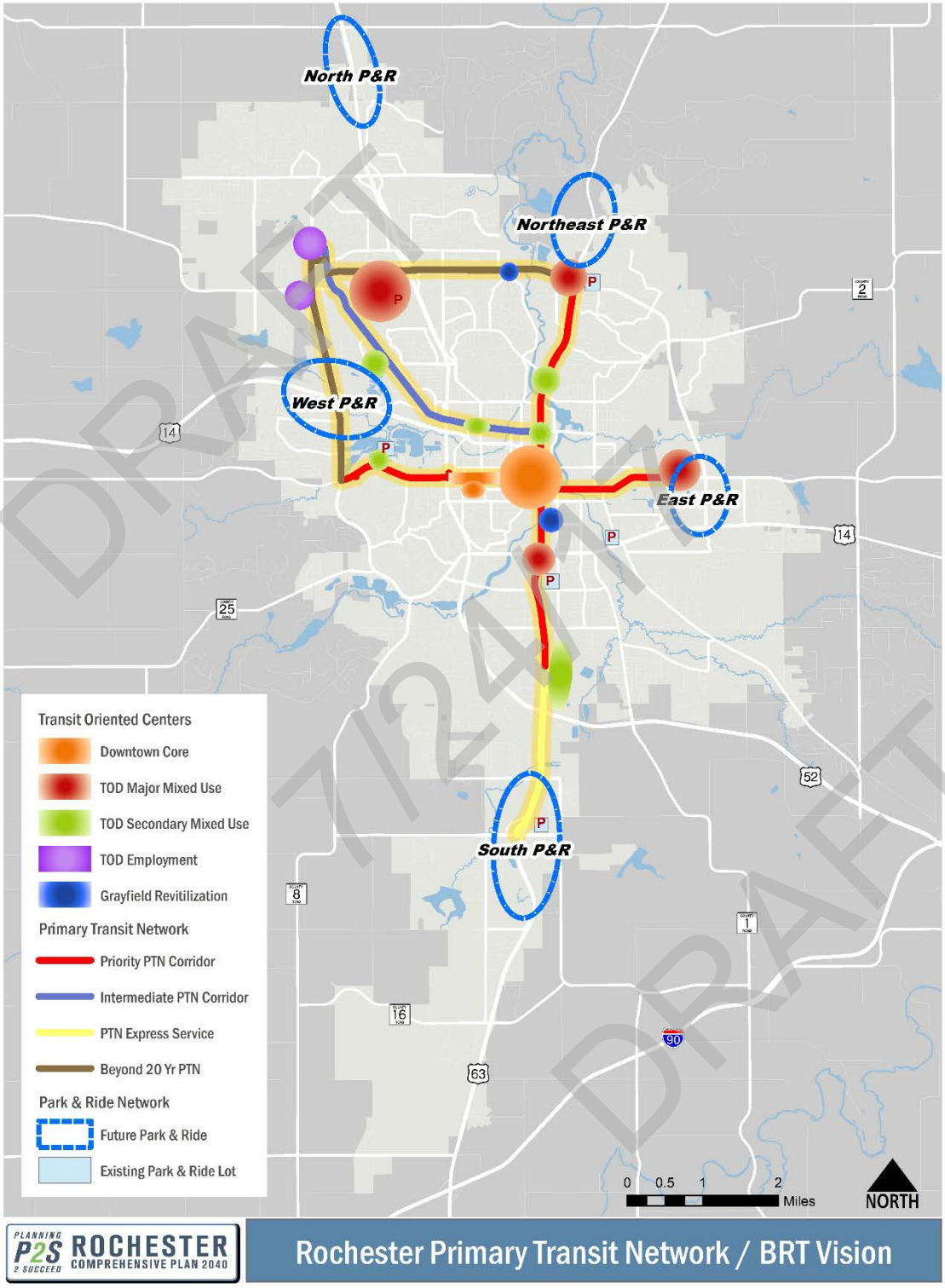


Table 2-4 illustrates a pattern of future growth that understands the level of residential and commercial growth needed to support successful high frequency, high quality transit service on the Primary Transit Network while creating a community Development Vision that provides a range of housing and commercial business opportunities both in greenfield locations at the edge of the urban area as well as in emerging mixed use, transit oriented development corridors. This distribution reflects the concept for downtown Rochester developed in the Downtown Master Plan and Destination Medical Center vision and reflects the minimum growth needed along the Primary Transit Network to support the desired level of enhanced transit service.

TABLE 2-4: EXISTING AND FUTURE GROWTH DISTRIBUTION

GEOGRAPHIC SUBAREAS/EXISTING CITY AND URBAN EXPANSION AREA	2015	2040 TREND	2040 HYBRID		2015	2040 TREND	2040 HYBRID
	Estimated Housing Units				Distribution of Housing		
DMC District	2,935	5,180	5,770		6%	7%	8%
Downtown Neighborhoods	4,751	4,860	5,720		10%	7%	8%
PTN Corridors	10,536	14,890	17,850		21%	21%	25%
Existing Urban Areas / Future Infill Area	20,912	27,230	26,140		42%	38%	37%
Urban Expansion Areas	8,332	18,965	15,660		17%	27%	22%
	Est. Commercial / Office/ Industrial Square Footage (millions of sq. ft.)				Distribution of Commercial / Office /Industrial Sq. Ft.		
DMC District	2,559	3,273	3,310		9%	9%	9%
Downtown Neighborhoods	1,959	2,090	2,350		7%	6%	6%
PTN Corridors	13,901	19,931	21,830		50%	54%	59%
Existing Urban Areas / Future Infill Area	5,181	6,020	6,040		19%	16%	16%
Urban Expansion Areas	1,981	5,854	3,750		7%	16%	10%

As noted in the upper section of the table, the distribution of housing by location would change with a more compact growth approach, shifting approximately 15% of expected growth away from traditional low-density single use areas on the edge of the city towards higher-density mixed use areas with good access to transit and more walkable distances to services. The DMC District, downtown neighborhoods, and PTN Corridors all see higher growth under a more compact growth vision, but significant housing growth is still projected in edge expansion areas (7,300 units versus 10,600 under the Trend Scenario) and in already developing areas or infill areas (5,200 units versus 6,300 under the Trend Scenario).

A critical finding in this analysis is that the level of activity—as measured by persons per acre—is achievable in a targeted set of travel corridors that would provide a logical and easy to understand backbone for the public transit system. Achieving the level of development intensity needed to support

more frequent and high quality transit service will require deliberate construction of a set of land use policies and implementation measures that encourage and foster the type of development that support the needed level of activity. P2S 2040 introduces a Primary Transit Network with a promising opportunity to develop Bus Rapid Transit service along major gateways to downtown. More detail about the PTN is found on pages 161-174.

Transit supportive policies and incentives that encourage infill and redevelopment will need to be put in place to reach the long-term development intensity levels that support higher frequency transit use along the core PTN network of corridors. Policies and strategies that must be considered include:

- Specific Small Area plans for proposed Transit Centers and corridors,
- A Transit Oriented Development program establishing appropriate land development guidelines along the PTN corridors, and
- An Infill and Redevelopment program to encourage and incentivize development along the PTN.

Summary

The "Hybrid Growth" scenario is the basis of P2S 2040. It assumes that a greater share of growth will happen on infill and redevelopment sites, particularly in transit oriented centers and corridors focused on the major gateways to downtown of North Broadway, South Broadway, 2nd Street SW, and 4th Street SE. One of the critical implications of this scenario is the level of land use intensification needed to support the goal of higher frequency, higher quality transit service. For higher frequency transit service to succeed, a minimum level of housing or employment intensity in and along a corridor is critical to create the types of origins and destinations that generate increased transit ridership. Given the capital and operating costs associated with different types of transit service types, the level of development intensity typically associated with successfully operating a service varies. New development policies will be needed to encourage and support this level of reinvestment and increased intensity of activity along the most promising corridors.

Part 3 | Integrating Land Use and Transportation Elements of the Plan

To achieve the Vision and support the Key Growth Principles described in Section 1, it is important for the Land Use and Transportation Frameworks to work together in a complementary and coordinated fashion. An integrated land use and transportation framework provides the foundation for establishing policies that can respond to the following community development priorities:

- Reduce the share of growth that occurs in a very low density pattern in greenfield areas on the edge of the city; this type of growth typically consists of single use developments that require extension of new infrastructure and are almost exclusively dependent on private vehicle travel since density is too low to generate sufficient levels of transit ridership
- Encourage land use patterns that can support more transportation options. Efficient and connected development patterns can concentrate the intensity of land use needed to support more frequent, dependable, and high quality transit service
- Reduce the ongoing need for investment in road system expansion
- Enable the City to more effectively grow its property tax base and increase tax revenues by fostering infill, reinvestment, and redevelopment in areas served with existing infrastructure and minimizing infrastructure expansion on the edge of the community
- Guide development towards a pattern, consistent with the City's Energy Action Plan, that will create a more energy efficient community with reduced climate impact

To achieve these outcomes, the Land Use and Transportation Frameworks will place greater emphasis on creating conditions where the following integrated elements of community development can succeed.

Transit Oriented Growth Centers | Nodes of development that benefit from proximity to and connectivity with frequent, reliable transit services connecting people to the city's major job centers, education opportunities, institutions, and cultural amenities. These centers support moderate increases in development intensity without comparable increases in vehicular traffic, offering housing choices within a walkable distance to business and services.

High Frequency Transit Corridors | Corridors that are served by a core transit service featuring higher frequency, longer service hours, and enhanced amenities for riders. These corridors facilitate highly pedestrian friendly, transit supportive levels of growth, resulting in synergies that can make a lifestyle more active and less dependent on private vehicle travel viable.

Revitalized Downtown Neighborhoods | Given their walkable access to jobs and services in the center city, the Plan encourages revitalization of downtown neighborhoods with improved pedestrian infrastructure and, where appropriate, selected reinvestment and redevelopment that will expand the opportunity for more people who choose to live in traditional or near downtown neighborhood areas.

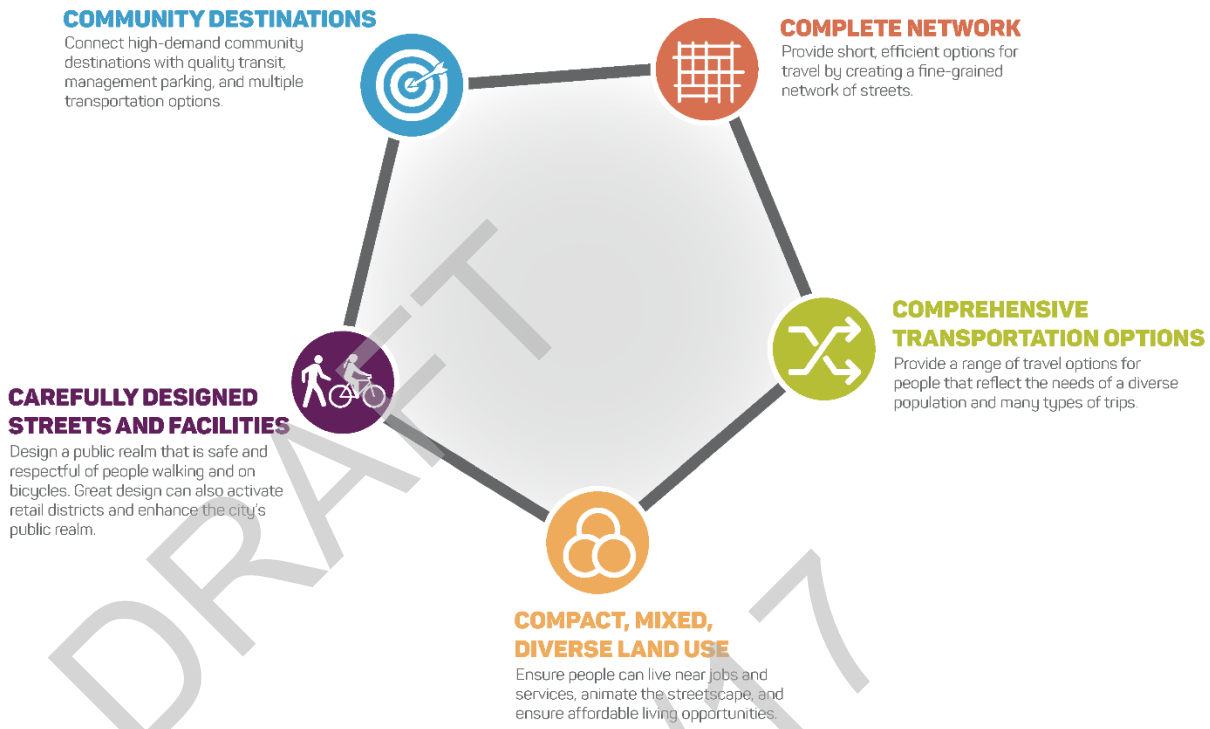
Other Centers, Corridors, Neighborhoods and Districts | To continue to meet demand for housing or business development in settings more typical of the late 20th Century, opportunity for conventional developments will still be made available. These areas will need to rely more on private vehicle travel and have a lower level of transit accessibility. These areas, however, should still be developed in a manner that fosters walkability and reflects complete street principles.

For all development, land use and transportation are linked in multiple other ways that impact decisions in both realms as growth and development proceeds, including:

- The need for street capacity is impacted by the level of development intensity and trip generating characteristics of corridor land use. The design and function of transportation in turn affects the character and identity of a neighborhood, corridor, or district.
- The feasibility of transit is impacted by the intensity of development and mix of land uses in an area. To enable transit to serve a greater role in meeting the travel needs of people, the type and design of land use must create the conditions that will support transit service.
- The pattern and form of development within an area along with the types of land uses affects the ability to serve any of the local travel demand by walking or biking. Urban design and the distance between uses impacts the attractiveness of walking or bicycling as a travel option.
- Business and industry depend on access to major roads, rail, and air for access to materials and transporting products and to provide convenient workforce and customer access.
- Municipal infrastructure (sewer, water, gas, electric, telecommunication infrastructure) is needed to serve future growth, and those systems often depend on transportation corridors to provide a place to locate.

Key Tenets of Community Design that Support an Integrated Land Use and Transportation Framework

For the land use and transportation frameworks to shape and direct growth and development in a manner consistent with the vision of this plan, the City's policies, regulations, and programs need to reflect five tenets of community design:



Compact, Mixed, Diverse Land Uses | Rochester will develop areas of compact and diverse land uses to support greater use of alternatives to the private automobile, create attractive and active street corridors, and expand affordable living opportunities by ensuring people can live near jobs and services, or near frequent transit services, and reduce their transportation costs. A diversity of land uses (including residential, commercial, institutional, and recreational) within proximity of each other promotes walking, bicycling, and transit and can reduce driving, particularly when sufficient intensity of development is present to support higher frequency transit service. A mix of land uses allows more daily needs to be met within shorter distances and creates a more interesting and active urban environment that makes traveling on foot, bicycle, or transit feel safer and more attractive at all times of day and night.

Community Destinations | An integrated approach to land use and transportation relies on connecting

MIXED USE DEVELOPMENT

Mixed use development is introduced as a major type of land use in the framework for Rochester. While mixed use development has been accommodated on a site specific basic within zoning districts, this plan recommends it becoming the fundamental concept underpinning for a set of new districts.

high-demand centers of development with high quality transportation options supported by appropriate parking management and urban design policies. To provide a range of viable transportation options that suit the needs of residents and visitors, major destinations should be in locations served efficiently with frequent and reliable transit service that is competitive with private vehicle travel times. Transit will become more effective and efficient when it is linked to multiple destinations located along direct routes connecting major activity centers at end points to provide a steady flow of passengers. The proposed Primary Transit Network concept envisioned to support these outcomes is based on connecting existing or new activity centers along key transit corridors.

Complete Transportation Network | A well-connected street network shortens travel distances, opening up more options for people to travel quickly and conveniently by different modes to where they want to go. The Rochester transportation network will be enhanced to provide a balanced transportation system that provides for efficient and reliable options for travel by creating a well-connected network of transportation corridors.

Urban Form | With an emphasis on a more compact development pattern combined with a greater mix of uses and levels of intensity, urban form and design becomes a critical consideration in both private and public realm development. Streets and other facilities should create a public realm that is safe and respectful of people walking, on bicycles, or accessing transit. Great street design can also activate retail districts and enhance the city's public realm.

With mixed use and mixed intensity development envisioned in a greater variety of infill and redevelopment settings, it is also important that the plan provide policy guidance as to the type of design considerations that need attention in critical transition areas between existing land use and new development. These steps are needed to ensure the new development being introduced is compatible with the area and of an appropriate scale.

Comprehensive Transportation Options | Rochester's transportation system serves a diverse range of persons. People of all ages and abilities should be able to travel in a safe and comfortable manner, whether walking, pushing a stroller, using a mobility device, accessing transit, driving, or riding a bicycle. The transportation system will provide comprehensive transportation options that reflect the needs of a diverse population and many types of trips.

Translating Growth Concepts and Principles into Land Use Guidance

The land use and transportation elements of the Plan are built on the Vision and Growth Principles set out in Section 1 and the tenets of an integrated land use and transportation framework described in the

previous section. These elements guide the development of land use and transportation policies and support:

- A land use pattern that encourages development in key nodes and corridors at a level of intensity that will support more frequent, dependable, and high quality transit service; reduce the rate of growth in vehicle miles of travel; and offer more travel choices;
- A land use approach that supports the growing interest in mixed use development, with greater attention to creating conditions that insure an appropriate level of compatibility and transition between uses while ensuring walkable pedestrian environments and complete streets; and
- Directing growth to areas already proximate to existing services with underutilized infrastructure capacity, to encourage the more efficient use of existing infrastructure such as water and sanitary sewer, other public utilities, and fire stations.

The key elements of the integrated land use and transportation framework are described in the following paragraphs which will, along with the policies described in Section 3, serve to guide future growth in the community.

Urban Area Growth Map

The Urban Area Growth Map presents guidance on how the physical footprint of Rochester and its environs is expected to change over the 25-year horizon of the plan and where urban expansion can be anticipated. Designation of growth areas considers future demand for developable land, the ability to service lands with infrastructure and public services, and constraints on urban growth within Rochester's urban fringe.

The goal of providing this guidance is to ensure there is sufficient land to sustain future economic opportunities, achieve a balance between urban needs and desires for preserving suburban and rural land use in proximity to the city, and to prevent the premature fragmentation of open space and agricultural lands that may provide the best location for future urban growth. Establishing guidance on the expected footprint of regional growth provides landowners a level of predictability and certainty that can protect current land uses while anticipating the potential future transition to urban use. While it is the City's goal to promote responsible growth by encouraging a more compact pattern of development, the Plan recognizes that growth on the edge of the city will continue to meet a portion of future development demand and that growth of the city will continue to occur beyond the 25-year scope of this plan. Land use, therefore, needs to be strategically planned over a longer time horizon to provide some additional context to near-term decisions.

Stability and Change Map

The Stability and Change Map is included as part of the Land Use Framework to identify areas where the majority of future growth and investment is anticipated to occur and which neighborhoods or business districts are anticipated to remain substantially as they are over the horizon of the plan. Policies are included to enhance those qualities in Areas of Stability that attracted people in the first place to a neighborhood or business location by encouraging the preservation of valued community characteristics while accommodating rehabilitation, improvement, or redevelopment that is in character and scale with existing development.

It is anticipated that most new development will occur in Areas of Change, where the intent is to establish policies that provide greater flexibility to respond to varied and changing market demands. Policies to guide both growth on the edge of the city as well as infill and redevelopment in developed areas designated for growth are provided in Section 3.

The designation of Areas of Stability and Change reflects the reality that as a city evolves, areas can pass through different phases of a life cycle that may include periods of significant change resulting from new development, to periods of relative stability where land use changes little, to potential periods of decline resulting from disinvestment in maintenance or upkeep, leading eventually to periods of reinvestment that will revitalize an area. With purposeful and thoughtful attention to these cycles, the goal is to minimize the period of disinvestment and need for reinvestment while maintaining stability to the greatest extent possible in areas that are vital to the community.

Areas of Stability and Change have been identified based on consideration of property investment patterns, capacity of systems to accommodate additional development, and identification of areas best suited to respond to the future vision of providing greater housing choice and transportation options through development of walkable, transit oriented mixed use districts. The degree of change – the amount of new development or redevelopment likely to occur in different areas of the community - will vary, with some areas, such as the downtown, seeing substantial infill and redevelopment over the coming years while other areas, such as transit oriented development corridors, see a more modest level of development or redevelopment. Where change occurs, it will predominantly be the result of one of the following types of development:

- Greenfield Development | Development occurring on agricultural lands or other previously undeveloped land;
- Infill Development | Development on a vacant or substantially vacant tract of land surrounded by existing urban development; or
- Redevelopment | Development on a tract of land with existing structures where all or most of the existing structures would be razed and a new structure or structures built.

Areas are also identified where temporary or permanent constraints on the use of land for development exist. Temporary constraints can take such forms as temporary infrastructure capacity limitations, which may be modified over time as public investment in system upgrading occurs. Permanent constraints include such factors as Airport Safety Zones or floodplain restriction areas.

Future Land Use Map

The Future Land Use Map is the centerpiece of the Land Use Framework and one of the primary tools shaping the City's future growth. The Future Land Use Map serves as a policy tool to guide decision making related to questions of appropriate zoning and development intensity throughout the city, providing a geographic framework for the City's land use and zoning policies. The Future Land Use Map, along with the policies and strategies found in Section 3, is used to determine consistency of zoning requests with the vision and principles of the Plan, as well as inform planning around matters such as infrastructure capacity needs.

KEY TERMINOLOGY

Transit Oriented Development (TOD) refers to the integration of land use and transit via the creation of compact, walkable, mixed use districts within walking distance of a transit stop or station. **TOD** brings together a sufficient mix of people, jobs, and services along connected corridors with sufficient overall intensity to generate sufficient ridership to support higher frequency, high quality transit services. **TOD** is typically associated development concentrated at a node or center, but can also serve as the basis for corridor level transit supportive planning and policies.

Typical characteristics that transit-supportive land use include:

- A mix of residential and non-residential land uses
- A highly interconnected street and block network
- A high level of pedestrian amenity to support walkability of the area
- Minimum density requirements to support transit ridership
- Reduced Parking requirements
- Active street frontage

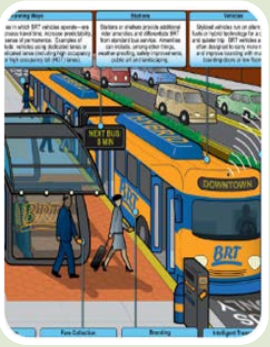
Transit "Infrastructure"

This plan introduces Rochester to the concept of a Primary Transit Network (PTN), a set of corridors envisioned to provide high frequency, high quality transit service that is more than a set of conventional bus routes and represents a departure from the traditional conception of transit as a service. Integrating land use with specific transit investment strategies will advance the PTN. This will create certainty among those investing in the community (developers, residents, employers) that transit is in fact a transportation option with

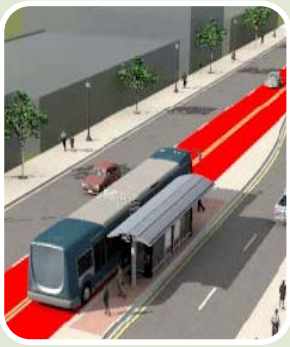
permanence around which people can plan and grow. With the PTN, several key features are proposed that will distinguish it from other local and regional transit services.

Standard Bus

Enhanced Bus



Partial Bus Rapid Transit



Full Bus Rapid Transit

- 10 to 20-minute service is ultimately envisioned on PTN corridors. This represents the point at which a person no longer needs to consult a schedule, and transfers can be easily made without considering the timing of connections. This enhanced transit service will provide better service to commuters and has the potential to capture more non-work discretionary ridership while improving access to destinations for transit dependent populations.
- PTN corridors will see greater investments in transit stations, transit operations, and customer amenities that can magnify the attractiveness of transit as a travel option and attract reinvestment and new investment to a PTN corridor.

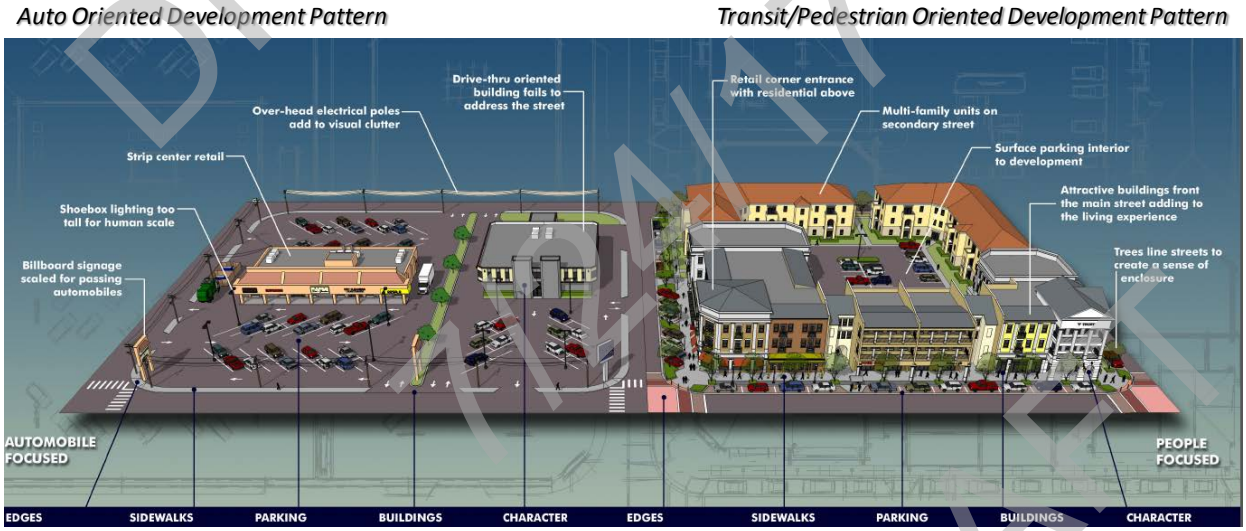
Most importantly to the future of the city, as development intensifies in the downtown area as a result of the Destination Medical Center initiative, the PTN will be a key element among the strategies to support that growth by minimizing potential increase in vehicular traffic and improving the quality of gateways into downtown.

- As the PTN matures into an integrated element of the community fabric with quality design, amenities, and visible permanence, it emerges as a strong and valued asset the community can build around with confidence. Investment is attracted to this level of permanence and commitment that the transit corridor will not be moved elsewhere.

- As the PTN matures, it will provide a service that makes it possible to live without a car (by choice or by need), to have fewer cars than adults in a household, and for businesses to have fewer parking spaces.

For the PTN to be successful, transit supportive land use measures will be needed to support the ability to create a mix and intensity of development along the PTN that will generate the ridership needed for PTN investment to be justified and successful. These policy measures will need to be supported with other public actions that may include transit oriented development (TOD) planning, catalytic public projects, and incentives to encourage development. Without the implementation of supportive land use policies—and the concentrations of housing, services, and jobs that will ultimately result from them—the ability to create a viable transit infrastructure will remain a question. Adoption of zoning that supports implementation of Transit Oriented Development and quality urban development will be critical as the City advances the concept of the Primary Transit Network.

FIGURE 2-4: COMPARISON OF TOD-STYLE DEVELOPMENT PATTERN WITH CONVENTIONAL AUTO-ORIENTED PATTERN

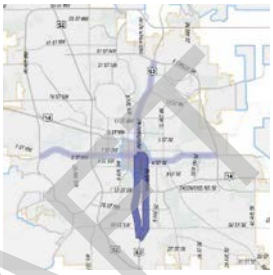


What is "Transit Supportive" Land Use?

Discussion about "transportation-efficient land uses" or "increasing density to support transit" often creates the impression of the need for dense apartment or commercial development, but this is not necessarily the case. Moderate infill programs that focus on smaller multi-family and mixed use developments in transit oriented centers or corridors can often be enough to change an area from an auto-centric district to a more self-supporting place that offers some walkable local services and amenities with enough density to support quality transit service. Incorporating quality urban design, including creation of inviting pedestrian places, locating parking behind or integrated within structures, and lining streets with small shops, restaurants, and services, can attract additional investment to an

area that support a wider range of transportation choices. Part of the goal of the effort to develop transit oriented development nodes and corridors should be not only to make it more convenient for people to use transit, but to create attractive nodes or districts that themselves are attractive destinations. As a result, it is not just downtown that is generating trips on a transit corridor, but other activity along the corridor attracts transit trips as well. Through an analysis of potential corridors that would potentially support the high level of transit service envisioned as part of the Primary Transit Network, a set of corridors and nodes were identified as having the best potential to support the type of development activity that would support the Primary Transit Network. Table 2-5 summarizes the highest priority transit oriented corridors identified as prime candidates to serve as part of the initial PTN.

TABLE 2-5: DESCRIPTIONS OF HIGHEST PRIORITY CORRIDORS TARGETED FOR PTN DEVELOPMENT

PTN CORRIDOR	DESCRIPTION	LOCATION
North Broadway	North Broadway has an urban / suburban character with the southern section of the corridor generally having buildings on smaller lot set close to the street and parking to the rear or sides, while the northern portion of the corridor has a more suburban feel with buildings set back and parking in front. The corridor exhibits a mix of uses. North Broadway presents many opportunities for near term and mid-term mixed use redevelopment. Desirable locations for transit oriented development nodes are at 7th St North, the Elton Hills Drive / 14th St area and the 37th St area.	
South Broadway	South Broadway presents a potentially strong transit corridors. A variety of land uses and urban design character exists currently. There is opportunity for land use change along Broadway where the dominant land use pattern consists of commercial uses with large surface parking areas. The likely near term anchor point for this corridor would be a node stretching from 12th St South to 14th St, with potential secondary nodes at 16th St, 3rd Ave SE or 25th St.	
2nd St SW	2nd Street West currently represents a strong urban corridor with a mix of residential, institutional, and commercial uses at a higher density of development. Expectations for redevelopment and expansion as part of the DMC development vision will further intensify the corridor and strengthen its function as part of the PTN network. Opportunity for major Transit oriented nodes include the envisioned St Mary's Place concept at 11th Ave identified in the DMC Vision, and redevelopment of the Mayo West Shuttle to take advantage of valuable lakefront frontage and good access to downtown.	

4th St SE	4th Street East connects downtown Rochester to the current campuses housing Olmsted County offices, Olmsted Community Hospital, Rochester Community & Technical College and the Greater University Center of Rochester. Between the two nodes, the corridor traverses a largely mixed single family residential area with scattered low density commercial development. Olmsted County Energy Park development provides opportunity for new mixed use greenfield development on the east end of the corridor. While limited prospects for intensifying development along the central portion of the corridor exist currently, future redevelopment could be facilitated through a small area or corridor planning process, as it does hold potential and is a desirable location for more intensive use within walking distance of downtown.	

To successfully transform these corridors into prime development locations that support high quality transit service, the City will need to development implementation strategies that address urban form and design, travel management, parking supply and management, and investment in public spaces including the right-of-way to attract higher quality development. Consideration will also need to be given to providing incentives to attract transit supportive mixed use residential development and to ensure a minimum level of development intensity wherever new infill or redevelopment occurs. The following sidebar describes some of the common attributes of transit oriented development regulations gleaned from cities across the United States.

Guiding Transportation to Achieve the Community Vision

A transportation system that provides accessibility to destinations throughout the urban area should include a variety of safe and convenient facilities, travel options, and management strategies. To provide for the mobility needs of all Rochester residents and visitors, and not just those who can rely on access to a private automobile, the Transportation Framework includes policies regarding a range of physical networks and service strategies that will expand and enhance travel choices, including:

- Pedestrian Systems | the network that provide opportunities for people walking or using mobility aids for physical activity, for connections from a travel vehicle to a destination, along with the enhancements that create an attractive environment and add value to private investment
- Bicycle Networks | the network of on- and off-road facilities to accommodate bicycle travel for recreational and utilitarian purposes, along with complementary facilities and strategies to improve opportunities to utilize bicycle travel

TRANSIT ORIENTED DEVELOPMENT (TOD) AND TRANSIT SUPPORTIVE DEVELOPMENT (TSD)

The identification of Transit Oriented Centers and Transit Supportive Corridors shine a light on the question of what is transit oriented development. TOD refers to the integration of land use and transit via the creation of compact, walkable, mixed use neighborhoods within walking distance of a transit stop or station. TOD brings together people, jobs, and services and is designed in a way that makes it efficient, safe, and convenient to travel by walking, bicycling, or riding transit. These same elements also apply to transit supportive development, which typically is less intensive than TOD development but still occurs at a level of density that can support higher frequency transit service. While TOD typically occurs at a scale associated with nodes or "centers", TSD can be applied in corridors, districts, or even to a complete neighborhood. Typical characteristics include:

Suggested Land Uses

- Mixed used development, live-work units
- Medium to High Residential Density
- Mixed Employment
- Professional Office
- Job intensive light Industrial/research and design/lab

Suggested Prohibited Land Uses

- Drive-thru restaurants/establishments (or at very least limited components)
- Car dealerships and storage
- Industrial (manufacturing, processing, warehousing)
- Single family residential

Street Connectivity and Access

- ¼ to ½ mile walking distance to transit station
- Pedestrians and bicyclists access transit safely and efficiently
- The number of local routes and intersections can provide for more direct trips, and shorter distances between uses
- Minimum unobstructed sidewalk width requirements
- Pedestrian amenities, such as well-lit facilities, landscaping, public art, and clear pedestrian markings (crosswalks, curb-ramps, etc.)

Appropriate Density

- Density (combined persons and jobs per acre) typically within ¼ to ½ mile of transit is a key predictor of mode share
- Density should be paired with urban form principles (i.e., short block length)
- Minimum floor area ratio requirements (e.g., Nonresidential: 0.5 to 2.0 depending on the use or location; Residential: average density of up to 15- 25 dwelling units per acre)

- Density (combined persons and jobs per acre) typically within ¼ to ½ mile of transit is a key predictor of mode share
- Density should be paired with urban form principles (i.e., short block length)
- Minimum floor area ratio requirements (e.g., Nonresidential: 0.5 to 2.0 depending on the use or location; Residential: average density of up to 15- 25 dwelling units per acre)

Parking Requirements

- Reduced off-street parking minimums (e.g., reduce requirements by up to 40% for development in a Transit Overlay Zone) and/or maximums (e.g., parking shall not exceed 125% of minimum City requirement)
- Prohibit parking between buildings and street
- Encourage shared parking
- Design requirements for ingress/egress and landscaping of surface parking
- Minimum bicycle parking requirements (i.e., 1 bicycle parking space per 2,000 – 3,000 square feet of leasable space and/or 1 bicycle parking space for every 10 employees)

Urban Form

- Maximum building set-backs to encourage "active" frontages (i.e., 0-10 feet)
- Outdoor seating for restaurants and street buffers (i.e. on-street parking)
- Active frontage buildings with at least one main entrance on the street located closest to the transit station
- Minimum lot coverage (i.e., 65%) and higher allowable building heights
- Prohibit surface parking abutting the roadway and minimize driveways

- Shared Mobility | services that reduce the reliance on personal vehicle travel through shared ride arrangements, such as carpooling, and the emerging integration of information and mobility technologies through services such as car sharing, taxis or ride hailing services such as Uber or Lyft
- Travel Options and Parking Management | strategies to incentivize the use of options other than single occupant vehicles during peak travel periods
- Complete Streets Policy | guidelines regarding the use of design, operation, and maintenance of streets that will facilitate the safe and convenient use of streets by people of all ages and abilities
- Motorized Transportation | the network of facilities that serves motorized travel
- Commercial Freight and Passenger Services | networks and associated strategies to ensure adequate freight access and the availability of commercial freight and passenger transport services
- Transit | various types of service strategies involving a mix of bus routes, shuttles, circulators, or future modes such as trams or autonomous transit to serve high demand travel routes or provide lifeline services to those who may not have access to other vehicular travel alternatives
- Local Street and Collector Design Guidelines | the network of local streets that provide access for local users to land uses within designated neighborhoods or districts

Expected Outcomes

P2S 2040 seeks to achieve a balance between meeting the market for conventional development while providing the opportunity for the market to respond to a growing interest for more housing and business location choices available in mixed use, more compact urban environments.

The benefit of capturing a greater share of future growth in more urban settings is that buildings, streets, and public spaces are developed where it is more cost efficient to install, operate, and maintain infrastructure and provide certain services by taking greater advantage of existing unused infrastructure capacity. Development patterns favoring compact growth over conventional suburban or exurban growth patterns can also contribute to lessening the dependence on the automobile by reducing distances between daily origins and destinations, making other modes such as transit or walking more feasible for travel and reducing the overall amount of vehicular travel needed during the day. By taking a balanced approach to development that encourages infill and redevelopment of underutilized properties, the community at large should be able to avoid expansion costs and direct more dollars to financing maintenance and improvements in existing areas.

Greater Housing Choice | The Plan will facilitate the delivery of a greater diversity of housing choice in a variety of environments. Having housing styles at various price points; both in rental and ownership markets, with options close to transit in safe, healthy neighborhoods are all elements the community

said would enhance livability and enhance Rochester's ability to compete in the current economy for the workforce of the future.

Support for Economic Development | The community continues to invest in nurturing a strong economic foundation built around the medical services/sciences sector anchored by the Mayo Medical Center. By accommodating a dense, mixed use environment supported by a robust and resilient transportation system, the Land Use and Transportation Frameworks look to complement and strengthen the economic vision set out in the Destination Medical Center Plan and the vibrant city center envisioned in the Downtown Master Plan. The plan will enhance gateway corridors and the multi-modal transportation system by expanding travel choices and appropriately balancing the impact of different transportation choices with the economic and livability vision and goals set out in this plan.

Urban Design in Urban Places | The Plan will emphasize development that is appropriately scaled to its surroundings, aesthetically appealing, and functionally understandable by paying attention to urban form and design. The Plan provides a vision of neighborhoods, centers, corridors, and districts that will build on and leverage existing assets and integrate desirable land use, open space, and transportation features.

Part 4 | The Land Use Framework

The Land Use Framework will guide changes in Rochester's physical form and function, providing guidance on where new growth will occur, where infill and redevelopment can be anticipated, and what uses may be expected in different areas. This Framework provides direction on how urban form, growth, and development will evolve in the future. It provides a basis for making decisions about future investments in infrastructure, transportation, parks, housing, and community facilities and services. The Framework defines a series of geographies that are based on consideration of factors which distinguish areas that warrant different land use policy and development considerations. Among the factors considered are:

- The land area needed to support projected growth in the community, including residential, commercial, employment, industry, and other non-residential uses;
- The land area needed to reasonably supply a land market to meet the demand for greenfield or edge growth over a 25-year horizon;
- The lands most suitable to meet needs 30 to 50 years into the future, recognizing that the city will continue to evolve beyond the 20-25 year horizon of this plan;
- How to establish a pattern of transit supportive nodes and corridors that will support development of a transit network with the needed capacity to serve the economic development vision developed for Rochester's downtown;
- Existing property investment and whether the value of that investment is being maintained or may be reaching the point where revitalization needs are emerging;
- The adequacy of public facilities including sanitary sewer, potable water, utilities, roads, and transit to service additional growth or development;

The important principles of growth that will guide future development in the city are:

- Downtown will be a prime focus of future Rochester growth;
- Medium and higher density growth and development will be aligned along key transit oriented nodes and corridors;
- Maintenance and, where needed, revitalization of mature neighborhoods through appropriate infill and redevelopment will be encouraged; and
- Growth on the edge of the city will be more fiscally sustainable with an emphasis on directing growth to areas where adequate infrastructure capacity exists to support the needs of future residents or business.

- Future development potential based on consideration of existing land use and site constraints; and
- Consistency with the overall plan vision and supporting key growth principles.

The Land Use Framework reflects a layered structure, with 1) an **URBAN AREA GROWTH MAP** that identifies the expected geographic footprint of future city growth over a 30 to 50 year timeframe along with potential infrastructure constraints affecting the footprint; 2) a **STABILITY AND CHANGE MAP** that provides a strategic overview of where the most significant development activity is expected to occur in the city over the next 20-25 years, and 3) a detailed layer of development guidance provided by a **FUTURE LAND USE MAP,** which guides future land use on every parcel within the Rochester Urban Service Area (RUSA) and serves as a foundation for future zoning and development decisions.

Urban Area Growth Map

The Urban Area Growth Map establishes the area that will potentially be affected by future growth of the City of Rochester. The Growth Map identifies both developed as well as fringe suburban and agricultural areas that could accommodate urban development over the next 30 to 50 years, predicated on the provision of services such as sanitary sewer and water systems, storm sewer systems, upgraded transportation systems, parks, and other utilities in these areas.

KEY TERMINOLOGY

The **Rochester Urban Service Area (RUSA)** includes developed and undeveloped areas identified to accommodate future development through the planning horizon year of 2040. Centralized sanitary sewer and water systems, storm sewer systems, transportation systems, public parks, utilities, and school sites should ultimately be provided in these areas.

***Note**: The scenario planning process determined that Rochester could accommodate all projected future growth within the current RUSA boundary.*

The Growth Map will provide guidance and direction on where urban growth should occur, identify sufficient land to meet future development demands, facilitate the efficient use of land, and not compromise the ongoing use of suburban or rural land for its current purpose or interim/temporary uses that are compatible with long term urbanization. A primary goal of joint efforts to define the future urban footprint has been and should continue to be the minimization of intergovernmental conflict and provision of greater predictability for property owners.

Identification of designated growth areas is based on an approach that recognizes the value of using the provision of future public facilities to steer urban development in desired directions, taking into consideration which future uses are best suited in certain areas and whether existing development patterns make future urban development less feasible. Urban Area growth should facilitate cooperation

between the City and neighboring jurisdictions on issues that will benefit the larger urbanized area, such as regional stormwater management, district sanitary sewer agreements, and regional trails and open space.

Figure 2-5 illustrates the Urban Area Growth Map, highlighting "tiers" of existing and potential future urbanization encompassing the city and its surrounding environs. The Growth Map refines the urban service area boundaries identified in the Olmsted County General Land Use Plan (2014) by providing additional clarification on when urbanization may be expected to occur in different areas. The following tiers are highlighted on the Growth Map.

Current Municipal Service Area | The Current Municipal Service Area consists of lands within Rochester's existing city limits designated on the Future Land Use Plan for residential, mixed use, or non-residential development; these include areas where municipal water and sanitary sewer infrastructure is in place or easily extended to provide future service. Within the Current Municipal Service Area, staging of development in certain areas will be required due to sanitary sewer capacity constraints discussed in the Stability and Change section of the Land Use Framework.

Urban Expansion Area | The Urban Expansion Area identifies where infrastructure can most efficiently be provided by the extension of current municipal sanitary sewer and water facilities to accommodate Rochester's expected demand for edge growth through 2040 and beyond. In the near term, the current use of these lands would desirably remain in place, with allowances for changes in use on an interim basis that do not interfere with future urbanization of the area.

Urban Reserve Area | The Urban Reserve Area defines those areas most suitable for urbanization beyond the Urban Expansion area. The Urban Reserve Area acts as a secondary reserve for growth should the City develop faster than anticipated while identifying reserve areas for longer term growth needs. The ability to extend urban services into this area would be expected to materialize under normal conditions in a 20 to 30-year time frame. The Urban Reserve Area should be accounted for in future infrastructure planning, with long term needs for water, sanitary sewer, and transportation facilities considered when planning for projects in the Current Municipal Service or Urban Expansion areas. Fragmented, leapfrog, or inefficient development that could compromise future urban development, as envisioned in this Plan, should be avoided in this area.

Urban Influence Area | The Urban Influence Area identifies potential lands that lie within sanitary sewer service sheds where the City has the ability in the long term to extend sanitary sewer service once facilities are built out in the Urban Reserve Area. These areas have generally been identified in either the General Land Use Plan of Olmsted County or through Orderly Annexation agreements between the City and individual townships. It is expected that the urbanization of these areas may be in a 40 to 60-year time horizon or beyond. Little in the way of strategic planning for services is likely to occur in the near

term in these areas; however, the potential for future development should be recognized. The City, working with Olmsted County and the townships surrounding Rochester, should consider enacting measures to discourage inefficient development patterns that would hinder possible future urbanization of such areas.

Development in the Urban Expansion Area

Lands outside of the current municipal limits located within the Urban Expansion Area are considered prime areas for future greenfield urban development, subject to annexation, completion of feasibility studies regarding the availability of sanitary sewer and water service, and agreement on how electric service will be supplied to the area.

Prior to annexation and/or development in the Urban Expansion Area, the following criteria should be considered:

- Contiguity with the existing urban development pattern and present City limits
- Timing, phasing, and feasibility of providing sanitary sewer, water, and electric power to support orderly growth consistent with the Plan
- A fiscal impact assessment addressing the short and long-term allocation of public facility costs
- Whether the timing of development could compromise efforts to develop the Primary Transit Network (PTN) by affecting the viability of growth along those PTN Corridors identified as priorities areas for redevelopment during the time horizon of the Plan

Development in the Urban Reserve

In the Urban Reserve Area, the goal of the City is to work with Olmsted County and the townships bordering the city to promote orderly growth. Factors to consider when identifying areas for future urban expansion include the cost effectiveness of urban infrastructure extension, the location of critical environmental resources, the protection of prime agricultural land from premature fragmentation, and the ability for existing land uses to retain economic viability prior to any urbanization activity. The intent is to preserve these areas at very low development densities that may be compatibly integrated with future urban development, minimizing scattered large lot development that pose future obstacles to efficient, cost-effective service extension. At the same time, the Urban Reserve Area is intended to prevent premature expansion of urban services by ensuring orderly and efficient expansion of future infrastructure.

Successful application of Urban Reserve Area policies should result in the following outcomes:

- Land conservation in a viable economic status until such time as public utilities may be extended and urban development densities may be supported
- Reduction of potential urban/rural land use conflicts in both the use of the land and future extension of public utilities and other infrastructure items

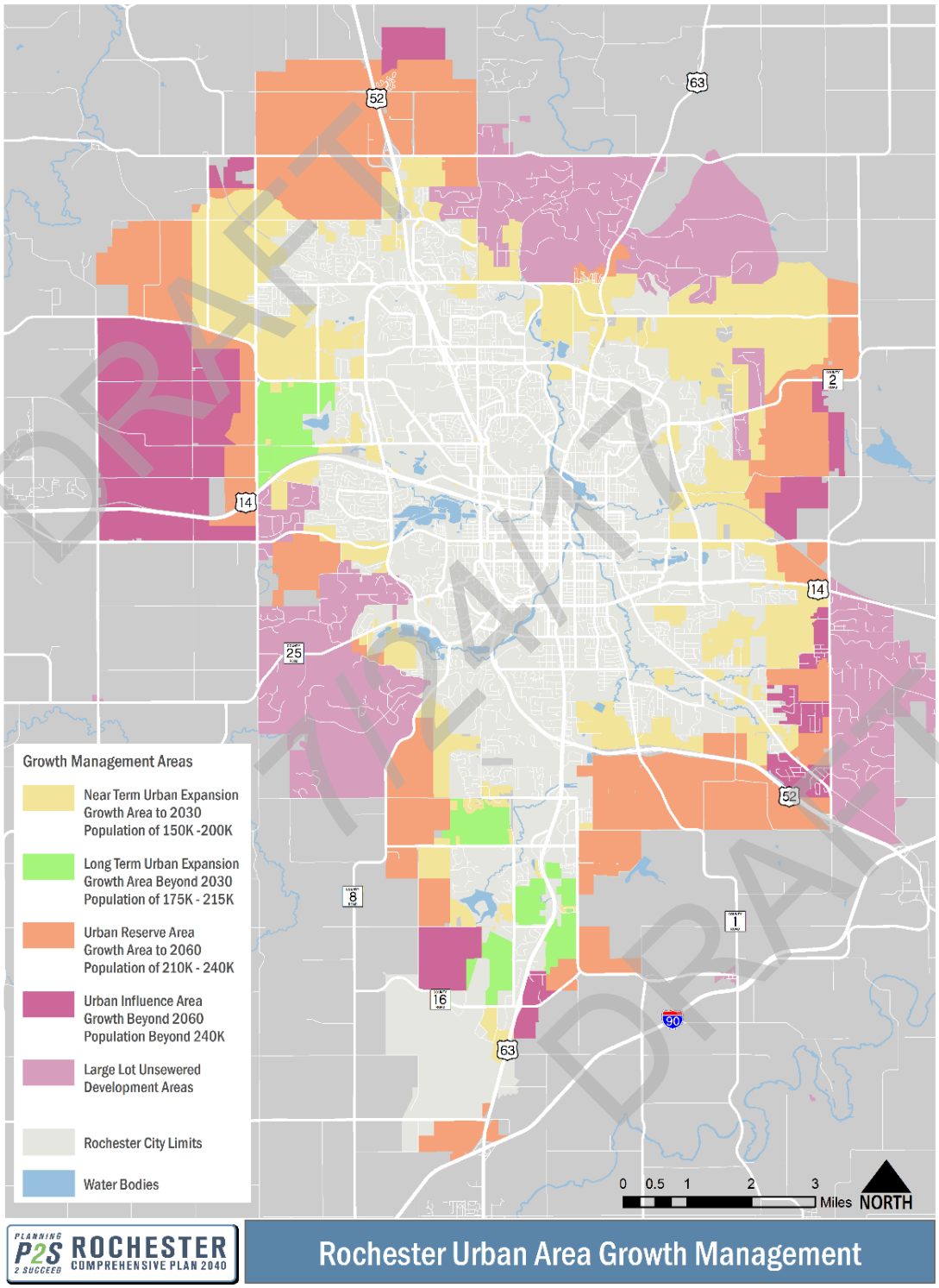
Development in the Urban Influence Area

Should annexation or a proposal to move land in the Urban Reserve Area to the Urban Expansion or Current Municipal Service areas be entertained, the same criteria for annexation in the Urban Expansion Area (listed above) should be considered along with the following criteria:

- **Whether, based on careful analysis of available land and growth demands, there is a shortage of land in the Urban Expansion Area to meet market needs that warrants the need for conversion of additional land for urban development within the next 1 to 5 years**
- **Whether areas currently identified for Urban Expansion Area are determined to be unfeasible to serve with municipal services, warranting the addition of a comparable amount of land in lieu**
- **Whether unique fiscal or economic benefits to the City and County are anticipated as a results of the request that do not compromise achieving development of the Primary Transit Network and supportive land use patterns envisioned in this Plan**

The goal of the Urban Influence Area is to identify areas where urban development is not expected to occur in any near-term time horizon but where municipal utilities could be expected in a 30 to 50-year time frame should city growth needs require it. The boundaries of the Urban Influence Area are based on a high-level planning assessment of where the City may be able to extend sanitary sewer and water service in the future. Designation of the Urban Influence Area coordinates public preferences for maintaining an appropriate level of suburban or rural development choices within reasonable proximity to the urban center while protecting agricultural and other resource protection uses from premature fragmentation, facilitating the orderly and efficient transition from rural to urban development far in the future.

FIGURE 2-5: ROCHESTER URBAN AREA GROWTH MAP



Sanitary Sewer Capacity Constraints

While developing the Comprehensive Plan, the assessment of infrastructure capacity identified potentially significant limitations related to sanitary sewer capacity. The sanitary sewer system, particularly the existing trunkline sewer network, was found to be a potentially limiting factor affecting the ability to develop lands in certain sewer districts throughout the southern 2/3rds of the city. This analysis considered not only the City's growth needs extending into future Urban Expansion Area over the horizon of the plan, but also growth in Urban Reserve Areas which may not be realized for 40-80 years. These capacity constraint findings inform priorities for the direction of growth through 2040 and key strategies for supporting the P2S Plan objectives. They will inform capital improvement programming related to funding of needed improvements.

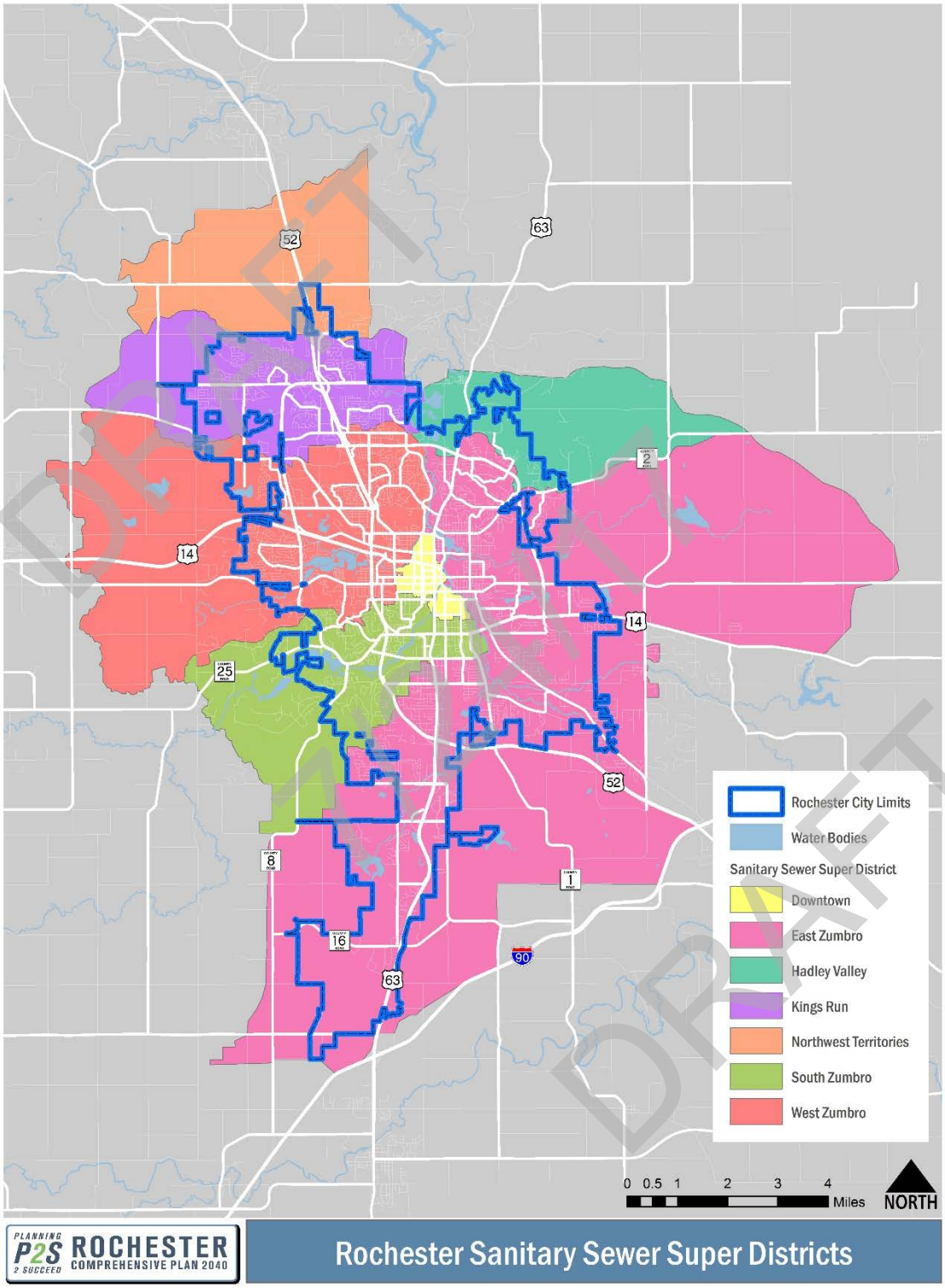
The City of Rochester continues to study the issue of sanitary sewer capacity in different sectors of the city. A 2016 study, *A Comprehensive Plan for Sanitary Sewer Capacity,* identified potential infrastructure conditions that could limit the ability to provide sanitary sewer capacity for new development in the southern 2/3rds of the city. A planning level cost estimate of $150 to $160 million dollars was identified to correct existing and future deficiencies. Much of this investment may not be needed for 40-80 years as it relates to longer term growth needs of the city. Prior to developing a capital investment strategy for sewer investment, further study is planned to assess the extent to which infiltration of stormwater may be impacting the capacity of the system before detailing potential solutions.

Among the findings of the sanitary sewer assessment were that in the large sewer districts serving southeast and southwest Rochester—known as the East Zumbro and West Zumbro Districts—existing capacity limitations can be expected to restrict the ability to the accept additional sewage flows from new development until certain capacity improvement projects are constructed.

In support of the P2S 2040 Plan, the City completed a strategic assessment of sanitary sewer capacity throughout the urban service area. This high-level evaluation focused on providing information to assist in decision-making about future investments in the trunk sanitary sewer system to support growth. This work suggested the following conclusions related to the Sanitary Sewer Districts shown in Figure 2-6:

- It would be most cost effective to promote growth in the Kings Run and Hadley Valley sewershed districts in the near term. These districts have the largest amount of available sewer capacity.

FIGURE 2-6: ROCHESTER SANITARY SEWER DISTRICTS



- The East Zumbro District covers a large geographic area composed of a number of subdistricts. The cost to rectify sanitary sewer capacity problems varies among the subdistricts and is affected by their distance from the Wastewater Treatment Plant and the location of constrictions along the East Zumbro trunkline sewer. Findings of note include:
  - The Willow Creek and Cub Foods subdistricts within the East Zumbro area have the least amount of sewer capacity for new growth. Substantial sections of the trunk line within these areas is near or at capacity under existing conditions, with the cost to rectify the constraints in these areas the highest within the East Zumbro District.
  - The remainder of the East Zumbro area north of TH 14 has limited available sewer capacity to serve future growth. Of the subdistricts within this area, additional capacity could most affordably be provided to the Silver Creek subdistrict at a relatively lower cost than improving service to the Willow Creek and Bear Creek subdistricts.
- The West Zumbro District also has substantial sections of trunk line sewer at capacity under existing conditions. The ability to accommodate new growth without major trunk sewer investment is limited, and the cost to provide added sanitary sewer capacity in this district is relatively high compared to other areas.
- Previous study has found that a very small portion of the southeast area of the Northwest Territory District could be served with improvements to existing pipes and lift stations. The cost to upgrade the existing pipes and lift stations for this small sub-basin area is comparatively small, while the cost to service the remainder of the Northwest Territory district is high.

Given the existing sanitary sewer constraints that exist, it is recommended that a process be established to consider the following sanitary sewer capacity policy when new development is brought forward:

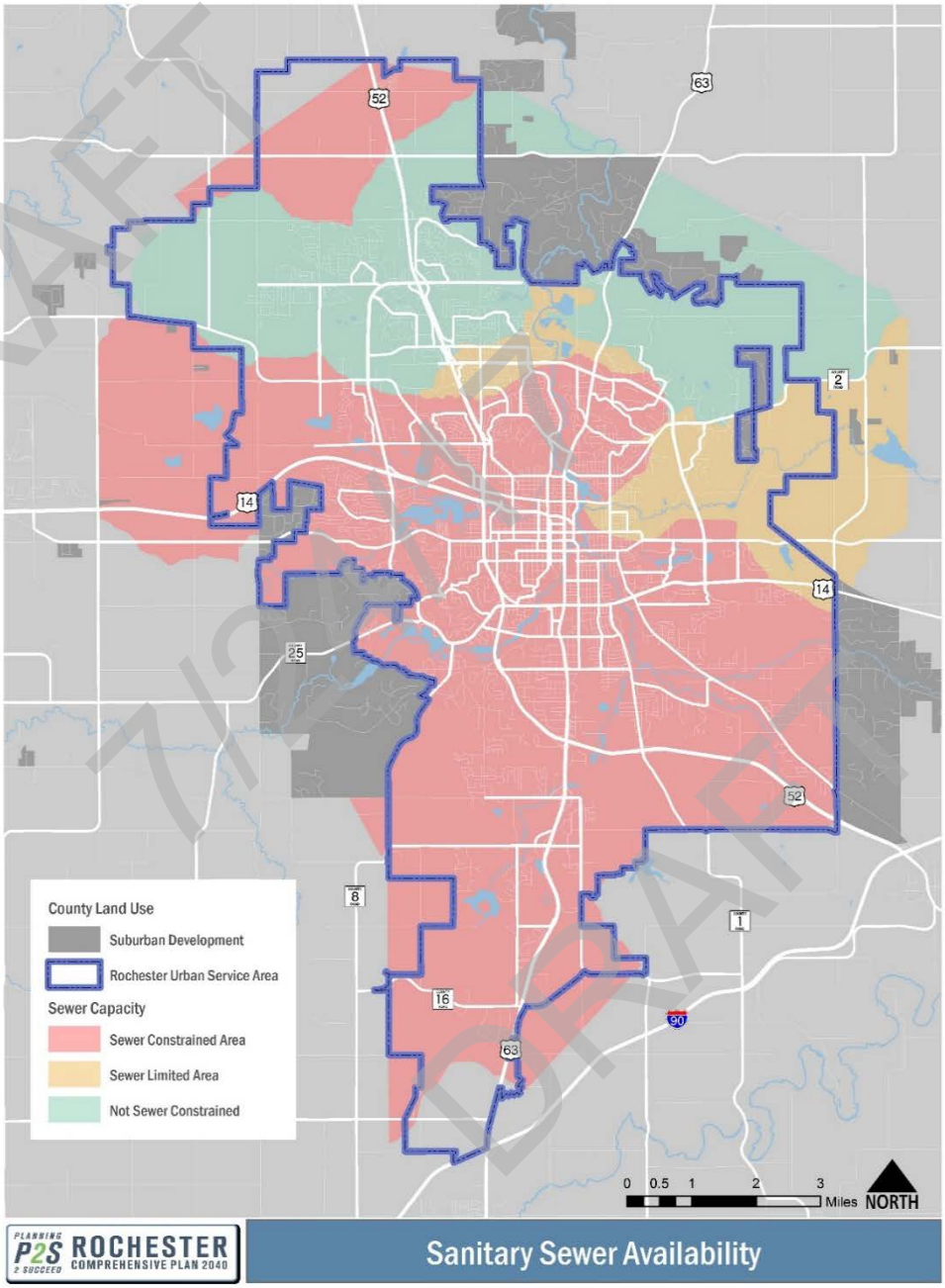
In areas where sewer capacity is not constrained, development can proceed under the standard development review process that has been in place prior to adoption of this plan.

In areas where sewer capacity is limited or constrained, a technical assessment of the sewage generation characteristics of proposed development in combination with assessment of remaining trunkline sewer capacity in the sanitary sewer subdistrict where the development is proposed should be completed to determine the availability of capacity and/or the potential scheduling of improvements to address this potential Adequate Public Facility deficiency.

Figure 2-7 highlights those areas where remaining sanitary sewer capacity is currently judged to be limited or constrained. These areas will be subject to a more stringent evaluation/assessment of the

adequacy of municipal sewer facilities until such time as capital investments to remove identified capacity bottlenecks are made; in some cases, this may be beyond the horizon of this plan. The City should complete additional work to develop a capital improvement plan to maintain existing assets and address longer term limitations to city growth beyond the horizon of this plan. As this work is completed, amendments to this Comprehensive Plan should be completed to reflect updated strategies and the actual work completed that removes existing constraints on sanitary sewer capacity.

FIGURE 2-7: SANITARY SEWER CAPACITY LEVEL OF CONSTRAINT



Stability and Change Map

The second layer of the Land Use Framework further refines what is specifically anticipated to happen within the Current Municipal Service Area and the Urban Expansion Area identified on the Urban Area Growth Map. This second layer is built upon the idea that the degree of change—the amount of new development or redevelopment likely to occur in different areas of the community—varies dramatically. Some areas, such as the downtown, may see substantial infill and redevelopment over the coming years, while many existing single-family neighborhoods are very stable and unlikely to see much development activity at all. The **Stability and Change Map** presents an assessment of the level of urban change to be anticipated or encouraged. It serves as a guide to expectations about the level of future private investment and complementary public investment actions throughout the urban service area during the Plan's time horizon.

This assessment recognizes that as a city evolves, different geographic areas can pass through different phases—including investment in new development, periods of relative stability, possible disinvestment, and finally revitalization. The **Stability and Change Map** highlights critical infrastructure or natural features that will limit future growth and development permanently. Policies are established in Section 3 of the Plan that will influence growth and development activity under the different classes of Stability and Change mapped in this section.

Stability and Change Area Classifications

The Change and Stability Map classifies lands within the urban service area into four basic types of areas: Growth, Stability, Change, and Growth-Constrained Areas. Subsets of each of these areas are defined in Table 2-6.

TABLE 2-6: STABILITY AND CHANGE MAP CLASSIFICATIONS

AREAS OF GROWTH	
Edge Growth	Edge Growth indicates areas of anticipated future development at the edge of the city, on lands currently not utilized for urban intensity development, where new neighborhoods or development areas will emerge and be served with future municipal infrastructure systems (sewer, water, other utilities).
Core Growth	Core Growth reflects the area typically associated with the central development core of Rochester, where the most intense level of future development is anticipated, with the highest levels of transit and pedestrian access contemplated to support the economic and cultural hub of the city. Under the vision of the Plan, downtown Rochester will continue to serve as the hub for a growing region.
AREAS OF STABILITY	
Established Residential	Established Residential Areas are intended to reflect predominantly residential land use that are least likely to see any change from their current land use or from the immediate development

Area	pattern/character of a neighborhood. These neighborhoods are anticipated to see a sufficient level of investment in existing properties such that they would be harmed by any significant level of incompatible infill redevelopment.
Established Business Area	Established Business Areas are intended to reflect those non-residential land uses least likely to see a change in the predominant existing development pattern/character, where reliance on auto-oriented access predominates and there appears to be a sufficient level of property investment to anchor property valuations and the viability of these areas for ongoing business activity.
Urban Reserve Area	Urban Reserve Areas are currently characterized by agriculture use, private open space, or large acreage exurban-style development beyond the current city limits where urban development beyond the 20 to 25-year horizon of the Plan could most feasibly be accommodated.
AREAS OF CHANGE	
Transit Oriented Growth Areas	Transit Oriented Growth Areas reflect the major urban transport corridors extending outward from the Downtown Core Growth area, where significant opportunities for new mixed use residential and business development are envisioned, supported by development of major transit infrastructure. These corridors and nodes will expand opportunities to reduce reliance of private vehicle travel by connecting significant concentrations of jobs, shopping, and entertainment downtown with denser walkable, mixed use development that will support frequent, higher quality transit service, by providing a greater diversity of housing and non-residential development that growing numbers of persons find attractive and desirable.
Residential Reinvestment Areas	Residential Reinvestment Areas are generally adjacent to the Downtown Core Growth area, where much of Rochester's original or older housing stock is found. These areas generally follow a traditional grid street and block pattern, with buildings originally constructed for single family housing. As downtown continues to grow and evolve, these neighborhoods will experience redevelopment pressures as growth in land value outstrips the value of older structures in the area and the high level of accessibility to downtown makes this area prime for reinvestment. The challenge in these areas will be to strike a balance between a desire for neighborhood preservation and the economic logic of intensifying the land use as transition occurs. Developing and ensuring the continuity of neighborhood identity and character will be important as reinvestment and infill development occurs. New and old will exist side by side on many neighborhood streets; accommodating and encouraging the new while preserving and appreciating the old will be the goal. Challenges will include addressing infrastructure, inappropriate land uses, lack of open space, parking needs, and buffering between uses, as well as the availability of certain services such as neighborhood food outlets.
AREAS OF DEVELOPMENT CONSTRAINT	
Airport Protection Area	The Airport Protection Area is the area and environs around the Rochester International Airport airfield where development is constrained by local, state, or national regulations to limit safety or security hazards associated with operations of the Airport facility.
Critical Natural Areas	Critical Natural Areas are characterized by concerns with the impact of natural processes such as flooding, the Decorah Edge, and highly unstable soils that necessitate development limitations in perpetuity due to public safety issues.

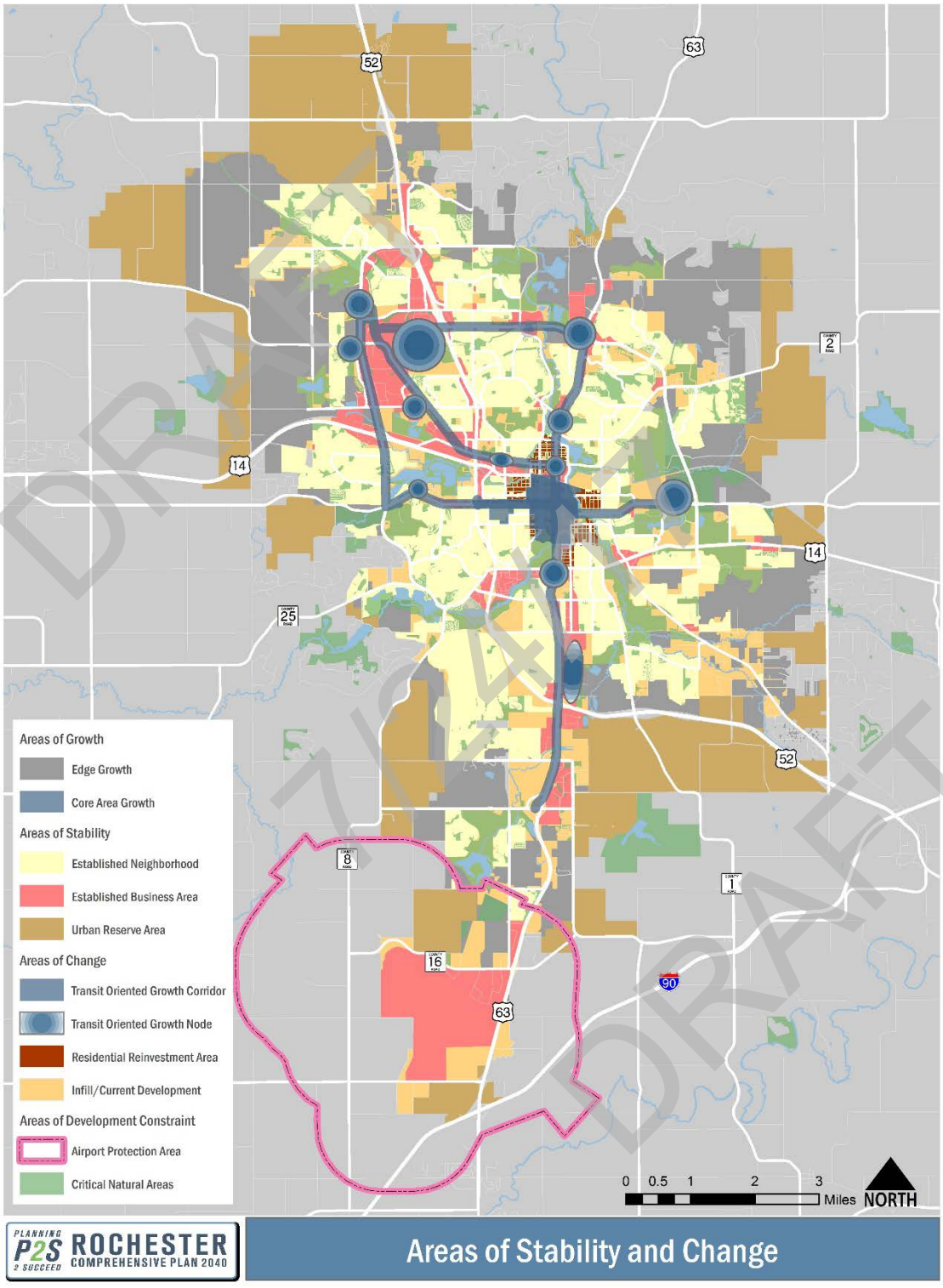
Key Concepts of the Stability and Change Map

The designation of areas shown on the Stability and Change Map, along with associated and related policies and actions described in Section 3, will provide guidance on the following issues:

- Identification of areas where most of the new development is expected to occur based on the adequacy of public facilities and services to accommodate an infusion of new population, activity, and investment (Areas of Growth)
- Identification of areas where preservation of existing investment, accompanied by minor reinvestment and limited growth, are expected with the primary goal of maintaining the stability of the existing development pattern in these areas over time. This can include both residential as well as non-residential areas, although non-residential areas are expected to see a higher level of infill, redevelopment, or revitalization due to the greater compatibility of new development with the basic mixed use nature of these areas. Additional considerations in Areas of Stability include:
  - When growth occurs in stable residential areas, it should be focused in neighborhood centers or other existing activity nodes and near transit routes
  - When infill occurs in stable residential areas, consideration of urban form and design will be important to protect the existing investment in the neighborhood
- Policies should facilitate economic development while maintaining standards for appropriately located density and compatible urban design
- Public infrastructure investments are important not only to expand the physical development capacity of areas in the community in support of future private investment, but also as a means to preserve the value of existing investment throughout existing developed areas in the city.

The Stability and Change Map is illustrated in Figure 2-8.

FIGURE 2-8: STABILITY AND CHANGE MAP



IMPORTANCE OF MANAGING INFILL AND REDEVELOPMENT IN CHANGE AREAS

Historically, Rochester has experienced the majority of new growth on the edges of our community. While edge growth will continue to occur, the P2S 2040 Plan anticipates that an increasing amount of the City's future growth will occur through Infill and Redevelopment activity. Areas designated on the Stability and Change Map likely to see the greatest amount of this type of development include the Core Growth area of downtown Rochester, Residential Reinvestment areas abutting the central development core, and Transit Oriented Growth Areas along the high priority spines of the Primary Transit Network connecting to the central development core. Infill and redevelopment interest in more diverse and intense development in these areas is anticipated to grow in response to increasing demand for pedestrian oriented, walkable districts and more intense mixed use development supported by the planned Primary Transit Network infrastructure.

In considering the policy implications of infill, redevelopment, and revitalization it is best to start with defining what the terms mean:

- Infill is the reuse, redevelopment, or building on vacant land in an area surrounded by existing development. Infill can range from a single dwelling unit on a residential lot to a more intensive single use or mixed used multi-family residential or business development.
- Redevelopment is reuse, renovation, or demolition of an existing building and new construction on the same site. Redevelopment can range from a single building to a more comprehensive development spanning an existing multi-structure site. Some redevelopment may require consolidating multiple parcels to maximize opportunities or make projects feasible.
- Revitalization is a broader but somewhat less expensive means of instilling new life and vitality into a place where new infill and redevelopment may not be viable but actions such as building reuse and renovation, façade improvements, beautification efforts, small business loans, and special events may help spark the comeback and stabilization of areas in decline.

Having more of the new growth occurring on Infill and Redevelopment sites will contribute to some of the key goals of the plan, including

- Removal of blighted areas/structures while providing reinvestment in existing districts or neighborhoods that will increase the taxable value of land while using existing infrastructure more efficiently
- Reduction in the consumption of greenfield resources, preserving that resource for future needs and reducing the need to extend new infrastructure to previously undeveloped land areas
- Intensification of activity levels that help make transit options more viable as a means of access to daily destinations by supporting targeted growth in already built areas
- Reduction in the growth of Vehicle Miles of Travel, the number of private vehicular trips, and the need for costly capacity improvements by concentrating growth in more compact patterns

Reinvestment in a community's older development centers and neighborhoods can bring significant benefits to the community.

Expand housing choice | As part of a strategy to address the region's growing and changing housing needs, residential or mixed use infill that creates additional housing near jobs and amenities can prove very beneficial to all households, more critically low and moderate income households, by improving access to jobs and services and reducing transportation related household costs.

Retain a sense of place and historic identity | Core districts and neighborhoods hold much of their original historic character and identity. Reinvestment keeps these areas vibrant and ensures that they will continue to serve a vital role in the community.

Maximize public facility and infrastructure investments | Since investments have already occurred for streets, utilities, parks, and public services, use of these existing public investments is more efficient than financing new infrastructure in outlying areas.

Support the value of private investment | In addition to public investment, private property owners and businesses make significant investments in redeveloped districts. Reinvestment in and reuse of existing improvements supports these private investments and creates stable or higher property values along with more business opportunities.

Contribute to the local economy | Traditional city, town, neighborhood, and community centers are ideal locations for integrating small scale business into the community fabric. These businesses provide employment opportunities, represent a significant segment of the local economy, ensure money will be spent locally, and account for an important share of the community's tax base. These locations also reflect positively on the community's image, prosperity, and investment—critical factors for recruiting and retaining new businesses and industries.

Reduce growth pressure on outlying areas | Making productive use of existing improvements and accommodating new uses in existing developed areas reduces development pressure in outlying areas. Although developers provide most of the water, sewer, and street infrastructure for development in outlying locations, local governments bear the responsibility for the long-term maintenance of these extended systems.

Convenience | Small business districts, main street areas, and downtown commercial centers are easily accessible from surrounding residential neighborhoods. This proximity of different land uses encourages walking and less reliance on automobiles for transportation.

Infill and Redevelopment in Rochester

In recent years, infill and redevelopment in Rochester has become more common. Most of this activity has focused in the neighborhoods surrounding downtown, where the majority of these projects have

involved the demolition of existing single and multi-family homes and development of new apartment or condo housing options. The city has also begun to see some commercial redevelopment start to occur.

It is clear our community recognizes that more development must occur in these strategic locations. The expectation should be that any infill or redevelopment project will set an enhanced standard for quality while addressing the issue of character and compatibility. Urban design policies should be considered in the City's zoning and development policies. Below is a brief look at four types of redevelopment the plan encourages: neighborhoods near the downtown core, node and corridors, large footprint commercial sites, and adaptive reuse.

The P2S 2040 Plan encourages infill and redevelopment, prioritizing development in areas with existing infrastructure capacity. In addition, creating the nodes and corridors necessary to ensure long term viability of the Primary Transit Network will necessitate additional density along and near these corridors. Fostering redevelopment was identified as a community priority throughout P2S community outreach efforts, with 82% of participants supporting a more compact development pattern that maximizes use of existing infrastructure, 91% of respondents supporting enhanced transit services, and 53% preferring mixed use development neighborhoods in the city.

Core Neighborhood Infill/Redevelopment

Recent residential redevelopment projects have been located in the neighborhoods surrounding downtown. In many of these cases, the feasibility of the projects depended on the ability to realize some increase in residential density. The addition of residents, jobs, and businesses to a community can provide advantages in terms of improving safety by creating more "eyes on the street" in the area, increasing the viability of local shops and businesses, or increasing the utilization of underused services such as transit. Residential infill, however, can mean different styles of housing, and potentially different demands on public services and facilities need to be considered.

Redevelopment within established residential areas should be compatible with existing community character. While it is one of the most frequently recurring terms associated with community objectives for infill development, the vagueness of "compatibility" is also the source of contention, especially as it relates to new, higher-density infill development that is typically larger in scale than existing housing. Achieving some measure of compatibility should be a primary focus of any redevelopment effort and will need to be addressed in zoning and development policies. Compatibility does not mean replicating existing scale or reproducing the architectural styles of nearby buildings. Rather, the focus should be on

how higher-density infill development can be designed to respond to basic neighborhood patterns, allowing change to be accommodated while preserving cherished aspects of neighborhood character.

Housing in most neighborhoods reflect a variety of architectural styles. The architectural styles and details of new buildings change over the years, but basic patterns are more lasting. By identifying the desirable patterns defined by recurring characteristics—such as proportions, shapes, relationship of structures to the street, and patterns created by architectural features—new infill and redevelopment can incorporate these patterns while still accommodating a diversity of architectural styles. This practice provides an underlying sense of cohesion and "place", reinforcing the character of an existing neighborhood.

Redevelopment within existing Core Neighborhoods should be focused on residential uses on sites near key intersections and transit routes. Redevelopment in these areas should be scaled to take advantage of existing services and transportation systems. In these areas, some non-residential redevelopment would be allowed along key corridors and intersections.

Node and Corridor Infill/Redevelopment

P2S 2040 includes a Development Vision and Future Land Use Plan that encourages the diversification of land use and intensification of development in targeted growth corridors as a means to foster a transit oriented development pattern supportive of greater diversity in residential and business location choice. To achieve this transition outside of the central development core, enabling the redevelopment and reuse of sites and buildings in strip commercial areas will be key to create the new mixed use corridors and centers envisioned in this plan.

The Mixed Use Transit Oriented Centers and Corridors designation on the Future Land Use Plan supplants what has historically been a ½ or one-block depth of commercially designated land use along corridors such as North and South Broadway Avenues. This is intended to permit a broader range of land use types including multi-family residential, special needs housing, retail, office, service, and civic uses. Residential mixed use redevelopment should be encouraged in these areas, with transit enhancements targeted to support such redevelopment.

At key intersections along these corridors where the interconnection of the transit routes occur, opportunities for larger scale, more intense reuse or redevelopment may exist given the larger footprint of existing non-residential use typically found at these locations. In all cases, these areas should be supported by a pedestrian-oriented character creating a strong linkage between residential and non-residential uses along and adjacent to these centers and corridors.

In most cases, these corridors abut adjacent residential areas either across an alley or directly alongside property lines. This close relationship makes the development of urban and transit oriented design

guidelines an important consideration in proceeding with an infill and redevelopment strategy. Establishing some level of guidance will be important to ensure a higher quality of design on these important entryways to the central development core, make them attractive places people want to be, and soften the transition to surrounding neighborhoods. The City may also consider offering incentives for redevelopment or assistance, such as grants for façade improvements that make corridor redevelopment more attractive.

To foster redevelopment along growth oriented nodes and corridors, strategies and actions may be needed to allow for the restructuring of land use patterns and redesign of adjacent streets. To create a more attractive, pedestrian-friendly land use pattern, this can include

- Use of zoning tools such as mixed use ordinances that put homes, shops, and workplaces close together and reduced setback requirements that bring buildings closer to the street.
- Public investment that prioritizes sidewalk improvements, lighting, trees and greenery, and other basic amenities that can set the stage for additional public, private, and nonprofit investment.
- Street design changes to make the street more welcoming and safer for pedestrians and bicyclists, such as narrower traffic lanes that slow traffic, space for bike lanes and on-street parking, and improved street crossings.

Greyfield Redevelopment

Vacant and underused retail centers present both a concern and an opportunity for Rochester. Greyfield redevelopment refers to giving new life to declining, underperforming, or vacant shopping centers, strip malls, big box stores, and other properties having large unused building and parking footprints. Over the next 25 years, some of these sites will redevelop as a result of changing retail practices and demographics.

These sites offer significant opportunities for our community. First, increasing tax revenues by returning non-productive locations to higher density, higher-value mixed use development is important to the city's financial health. These sites also provide an opportunity to reintroduce an urban street pattern, particularly on sites proximate to downtown, by dividing large sites into city blocks that can be developed with a mixture of housing, retail, civic uses, and parks while reestablishing connections with and to the surrounding area. Greyfield redevelopment also provides an opportunity to create new well-planned and well-designed development filled with destinations and the kinds of places people like to visit. To achieve these benefits, the City should:

- Use small area plans and master site plans to ensure coherent, well planned redevelopment.
- Employ planning tools such as mixed use zoning ordinances to foster the development of both activity-generating uses and a local customer base for such uses.
- Encourage building and space design organized to entice people out into the public realm, with buildings that define and open onto public streets designed to make walking, sitting, socializing, and meeting a pleasure. Measures such as incorporation of a town square or plaza, smaller blocks with street connections to surrounding neighborhoods, and structuring parking in a manner to support a "park once and walk" experience should be emphasized.
- Foster higher concentrations of land use intensity at greyfield sites that makes it easy to distinguish them from other parts of the city. They can be visibly taller, denser, and busier than other places if appropriately designed to take advantage of the large footprint of such sites. Development should address transitions to adjacent lower intensity development, appropriate open space provisions, and connections to higher capacity transportation services.
- Prioritize locations in proximity to the PTN consistent with anticipated phasing for PTN implementation.

Adaptive Reuse

Adaptive reuse can serve as an effective historic preservation tool. Preserving historical, architectural, and cultural heritage can benefit the City in different ways. Historic preservation offers communities a physical reference to the people, places, and events of the past. Preserving this heritage for the enjoyment of future generations can provide social and economic benefits.

KEY TERMINOLOGY

Adaptive Reuse refers to the process of repurposing an older building or site for a purpose other than which it was built or designed for that may have been built under a different zoning framework. The adaptive reuse of historic or other existing structures is encouraged. To facilitate adaptive reuse, attention needs to be given to issues such as parking, density, setback or other typical zoning requirements as well as building code requirements and procedural steps that a project is subject to.

Future Land Use Map

The **Future Land Use Map** provides the most detailed level of guidance for future land use on every parcel of land within the Rochester Urban Service Area. The policies and assumptions contained in the Plan and land needs reflecting the forecasted growth for the City provide the foundation for this map. The Future Land Use Map is a policy tool designed to guide future decision-making; it provides the geographic framework for the City's land use and zoning policies. Detailed categories describe the types, characteristics, and intensity of land uses that may occur in different sectors of the urban area. This map

is used along with the Plan's written policies to determine whether specific development proposals are consistent with the Plan. It is also used to inform the geographically-detailed urban growth projections used to plan for roads, transit, parks, utilities, and community facilities such as fire stations.

This map may evolve with future updates to the Comprehensive Plan, keeping true to the overall vision while adjusting to new neighborhood plans, unforeseen opportunities, and minor adjustments that will arise. The Future Land Use Map is the centerpiece of the Land Use Framework and a primary means to shape the City's future growth and key elements of the Transportation Framework, such as the PTN.

A total of 20 land use categories are designated on the Future Land Use Map, as listed in Table 2-7. These categories are described in detail in Tables 2-8 through 2-12. The geographic mapping of lands in the city to these categories, the Future Land Use Map, is illustrated in Figure 2-11 on page 154.

TABLE 2-7: FUTURE LAND USE MAP CATEGORIES

RESIDENTIAL Table 2-8	MIXED USE Table 2-9	NON-RESIDENTIAL Table 2-10	COMMUNITY ANCHORS Table 2-11	PRESERVATION AREAS Table 2-12
Low Density Residential	Downtown Development Core	Commercial & Business Development	Medical Campus	Parks & Open Space
Traditional Downtown Neighborhood	Downtown Development Fringe	Industrial Development	Educational Campus	Urban Reserve
Medium Density Residential	Mixed Use Transit Oriented Centers	Small Employment Development	Civic Facilities	Urban Influence Area
High Density Residential	Mixed Use Transit Supportive Corridors		Airport Facilities	
Neighborhood Destinations	Transit Supportive Neighborhood Corridors			

The key characteristics of each Future Land Use Map category are discussed in Tables 2-8 through 2-12, focusing on the following five elements:

- Use Characteristics: discussion of typical site and building characteristics of uses within the land use category
- Range of Density/Intensity: an indication of the development intensity typically associated with uses in the land use Category
- Mix of Uses: discussion of the typical uses associated with the land use category
- Locational Characteristics: Considerations that are important to the siting or development of uses in the land use category
- Transportation Requirements: discussion of the access or locational needs of typical uses relative to the transportation infrastructure of the community

KEY TERMINOLOGY

Floor Area Ratio (FAR) and Dwelling Units per Acre

The Future Land Use category descriptions include a discussion of the range of building intensity compatible with each category. Reference to building intensity for non-residential uses includes the concept of floor area ratio (FAR), which is the ratio of a building or project's floor area to its land area. For example, a 45,000-square foot building on a 60,000-square foot parcel has an FAR of 0.75, regardless of the number of stories. FAR is also the development standard used to measure density and intensity in mixed use areas; dwelling units per acre is provided to help estimate the expected population. Density in residential neighborhoods is measured by the number of dwelling units per acre (DU/acre). For example, 12 units on a half-acre project results in a density of 24 DU/acre.

While FAR and DU/acre are standard ways to measure building intensity or residential density, form and character statements are also included in the within the descriptions of node, corridor, and other broad land use geographies to guide how buildings are best integrated into their surroundings. Form and character guidance is further translated into the specific land use policies found in Section 3 of the Plan.

Illustration of Floor Area Ratio (left) and Dwelling Units per Acre (right)

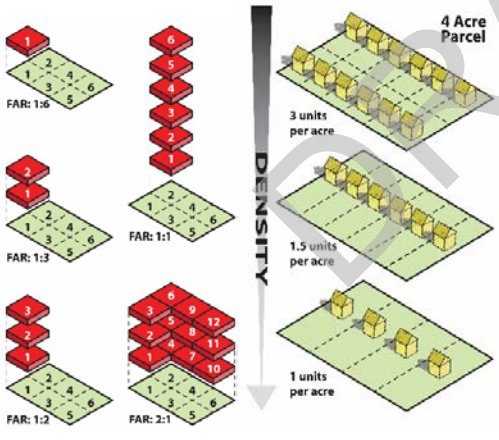


Table 2-8 | Residential Categories

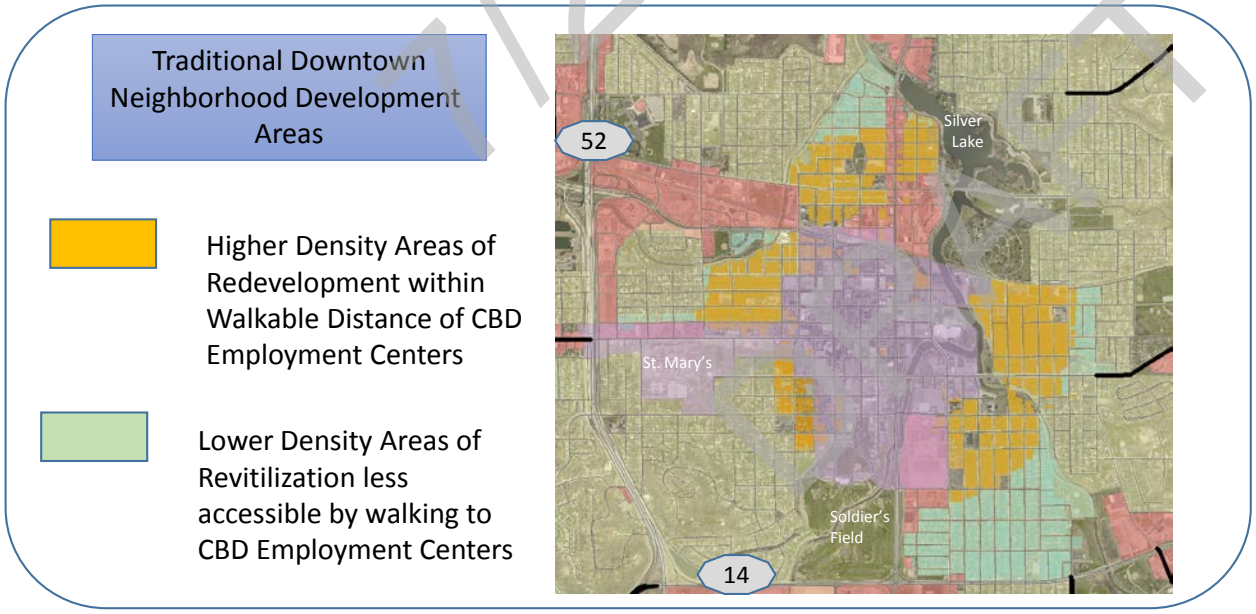
Of all the land use categories, residential land uses occupy the majority of the land area in the city. The Future Land Use Map reflects the wide variety of housing opportunities that currently exists in Rochester. While some residential land uses may occur in mixed use areas, the four categories below describe the areas that are predominantly residential. Five categories of residential development are identified in the plan, including 1) Low Density Residential Development Areas, 2) Traditional Downtown Neighborhood Areas, 3) Medium Density Residential Development Areas, 4) High Density Residential Development Areas, and 5) Neighborhood Destination Development Areas

LOW DENSITY RESIDENTIAL DEVELOPMENT AREAS	
Characteristics	Neighborhoods intended primarily for single-family housing in a detached or attached home configuration. Where appropriate, low density residential areas may include other single, isolated uses that are of similar character, form, and scale and supportive of neighborhood living (such as small scale neighborhood groceries, convenience retail, or small offices). While the low density range allows a diversity of styles, the predominant use will be owner-occupied housing. It also allows for neighborhood public and institutional uses such as churches, neighborhood schools, and parks. The City recognizes the need to protect and maintain areas of low density housing to meet the market demand for stable residential neighborhoods.
Desired Pattern	Many of the low density neighborhoods developed in the last half century tend to be exclusively residential and isolated from supportive neighborhood uses, requiring residents to rely more on driving to access shopping and employment destinations. In new neighborhoods, a more integrated pattern is encouraged to provide for small areas of neighborhood supportive service and retail uses on sites that may be less desirable for housing use due to impacts of major streets or nearby higher intensity use.
Range of Density	Density will vary, but generally will be in the range of 4-7 units per acre. Secondary neighborhood supportive uses such as office or small convenience retail shall be sensitive to the neighborhood context, with development at a compatible scale and design to the surrounding neighborhood homes and lot sizes.
Mix of Uses	Principal uses include single family detached and attached housing and may include duplexes, townhomes, and small scale multi-family up to six units per building. Small scale secondary uses including small professional offices, live-work units, or small neighborhood oriented markets and shops may be accommodated. Complementary public and institutional uses such as churches, schools, neighborhood parks, and recreation facilities are appropriate in low density areas.
Location	Low density residential uses are most suitable in areas with the following characteristics: • Having varied terrain, but outside areas that are flood prone, poorly drained, or with slopes over fifteen percent • Buffered from the incompatible aspects (traffic/light/air/noise pollution) of industrial, commercial, and high activity institutional uses

	• Served by neighborhood park, school, and other public facilities within ½ mile walking distance or less • Near neighborhood or community shopping services Secondary uses should be located along the major street system or at the intersection of residential collector streets serving the area.
Transportation Considerations	• Local residential street designs are suitable to serve dwellings, which should have access onto local residential streets • Residential areas shall also be designed to provide for an interconnected network of streets and pedestrian walks with inter-connectivity to adjacent developments—providing multiple ways in and out of the neighborhood, except where such connectivity is precluded by constraints resulting from physical layout of existing development or environmental features. • Low Density residential development may be bounded by, but should not be penetrated by, major collector or any arterial streets. • New neighborhoods should be served by connections to or have plans identified as to how the development will connect to the city-wide network of off-road trails and paths.
Design Considerations	All housing styles in a low density area should have individual outdoor entrances. Efforts should be taken to avoid creating islands of attached or multifamily in the middle of a block of single family detached homes. Multi-unit structures, along with small office and retail/service, should be located on block corners or along the edges of multi-block neighborhoods of single family dwellings.
TRADITIONAL DOWNTOWN NEIGHBORHOOD DEVELOPMENT AREAS	
Characteristics	Established residential neighborhoods that incorporate a variety of moderate density housing located near the central development core or major institutions, with small scale retail and service businesses at locations along non-residential collector or arterial streets. This classification is intended to provide flexibility to allow for a range of housing styles that provides housing opportunities for households at various stages of their life cycle. Some buildings may have both housing units and business included.
Desired Pattern	The Traditional Downtown Neighborhood is typically more compact with small lots (typically between 4,500-7,000 square feet), an interconnected network of sidewalks and streets, and in some cases, alley-loaded garages or parking. This designation encompasses many of the city's original neighborhood settlements. The incorporation of a variety of housing types and price ranges is encouraged to provide a choice of housing for residents in areas with convenient walking proximity to downtown.
Range of Density/ Intensity	Density varies, generally in a range of 8 to 20 units per acre. Higher density may be accommodated on multi-lot sites in the blocks along the edge of these neighborhoods where abutting the downtown development core or along major travel gateways into downtown. Development at the higher end of the density range should be located primarily in areas whose access or proximity to downtown provides for a 15 to 20-minute walk time to the center of downtown or where access to public transit is available providing a comparable travel time to the downtown transit center. Areas located further away from the downtown core should be developed at the lower end of the density range to accommodate the

	likelihood that households may be more auto-dependent given longer travel times to downtown or major institutional destinations.
Mix of Uses	Principal uses include a variety of housing styles including single family and multi-family detached, attached, or apartment/condominium styles. Secondary uses include small professional offices, live-work units, and small neighborhood oriented markets and shops. Complementary public and institutional uses such as churches, schools, parks, and recreation facilities are also found in these neighborhoods.
Location	Traditional Downtown Neighborhoods are located in areas proximate to the Downtown Development Core and Fringe as shown in Figure 2-9, where access to destinations in the urban core are walkable and a strong pedestrian orientation exists at a neighborhood scale. New development and/or redevelopment should be targeted towards areas along the periphery of the Downtown Development Core or Fringe or along the major streets in the area.
Transportation Considerations	Areas will typically have a traditional street grid with a fully connected sidewalk system and accessible transit, pedestrian, and bicycle connections to the downtown core. Streets should have a high level of pedestrian amenities and streetscaping.
Design Considerations	Buildings are often on smaller lots and set closer to the street to form a street edge with residential appearance. Primary building entrances should face the street front, with buildings oriented to the street. Off-street parking should be behind or to the side of the buildings. Policies for new non-single family development should address architectural and site design to ensure projects compliment or enhance neighborhood character and compatibility issues.

FIGURE 2-9: TRADITIONAL DOWNTOWN NEIGHBORHOOD DEVELOPMENT AREAS



MEDIUM DENSITY RESIDENTIAL DEVELOPMENT AREAS	
Characteristics	Areas intended primarily for all forms of townhome development and apartment buildings and, where appropriate, other uses of similar character and intensity that are supportive of medium density neighborhoods. In some cases, portions of older single-family neighborhoods have been included in the medium density designation where locational characteristics indicate a potential need to encourage redevelopment of the area, and where a significant number of apartment buildings or conversions of single-family units to multi-family use have already occurred.
Desired Pattern	Medium density residential is generally suitable in areas where land is appropriate for residential use but a gradual transition from low density residential use to other higher intensity use is desired or appropriate, or where other site characteristics such as proximity to higher volume roadways make use of the site for lower density residential use undesirable. What will distinguish sites for medium density residential use from sites for non-residential use will be convenient access to public transit, reasonable accessibility to open space areas, the ability to buffer a site from undesirable impacts of non-residential use such as noise, exterior lighting and/or parking, and whether safe and secure multi-modal connectivity for not just cars, but also pedestrians and bicyclists, can be provided to the larger city network of sidewalks, trails, and paths.
Range of Density/ Intensity	Density will vary, but generally will be in the range of 20 to 40 units per acre, with densities at the lower end of the range appropriate for sites abutting low density residential areas. Office and other Service/Retail uses should be scaled so as to provide for comparable per acre vehicular traffic generation and building scale as the primary multi-family residential use.
Mix of Uses	Primary uses include residential multi-family including townhomes, garden apartments, condominiums, zero-lot line dwellings, or suburban style apartment complexes. Student housing and manufactured home parks also fit in this category. Supporting uses include neighborhood-oriented retail and services along major arterial and collector streets abutting the development area. Complementary public and institutional uses such as churches, schools, parks and recreation facilities are also appropriate.
Location	Medium-density residential uses are generally most suitable in areas: • Having level to fairly rolling terrain, outside areas that are flood prone, poorly drained, or have steep slopes • In close proximity (½ to 1 mile) to employment centers or high activity/amenity locations such as near parks, recreation areas, and major institutions • Buffered from the incompatible aspects (traffic/light/air/noise pollution) of industrial, commercial, and high activity institutional uses • With neighborhood parks, school parks, or mini parks within ½ mile walking distance • Near neighborhood or community shopping facilities and services
Transportation Considerations	This land use should have reasonably direct access to the major collector or arterial street system; the primary access should not be a local residential street that serves primarily single family dwellings. The primary access street should generally meet the design criteria for a residential collector or non-residential collector street or a lower volume arterial street as classified in the Long Range Transportation Plan. Site locations should be easily accessible to and have access within ¼ mile of the

	public transit network. The development site should have connectivity to the existing or planned city wide network of trails and paths.
HIGH DENSITY RESIDENTIAL DEVELOPMENT AREAS	
Characteristics	Areas typically located near the fringe of the Downtown Development Core or major Campus Institutions, with multi-family residential designed with a strong vertical orientation (multi-story). Uses of similar character and intensity, not in conflict with long-term high-density multi-family residences, such as smaller format business and service uses are also considered suitable for this designation. Areas adjacent to transit oriented centers, or sites adjacent to other regional or community centers intended for markets such as senior housing that generate low levels of vehicular traffic are appropriate if planned at the low end of the recommended density range.
Desired Pattern	High Density residential development will generally be found in areas adjacent to the Downtown Central Development Core or Fringe of the city in a traditional urban setting with relatively small blocks and a grid street system that contributes to a walkable urban environment. In such settings, it is important for buildings to make a positive contribution to the public realm, by minimizing the shadowing of sidewalks as well as public and private spaces, while protecting the quality of life by providing access to natural light, views to the sky and privacy, and fitting harmoniously within the context of surrounding buildings.
Range of Density/ Intensity	Density will vary, but will generally be in the range of 40 to 120 units per acre, with higher densities permitted on sites located within a one or two block distance of the downtown development core or downtown medical and educational campus areas. Ground floor commercial street frontage integrated into a residential building is encouraged.
Mix of Uses	Primary uses include high rise apartment buildings and condominiums, hotels, senior housing, or life care facilities providing housing within walkable proximity of downtown employment and services or which support community anchors such as major medical or educational institutions. Supporting uses include ground floor retail and service uses and above ground office uses as part of a vertical mixed used development with no more than a minor portion of the floor area devoted to non-residential uses. Free standing office and service use of a lower intensity nature may be considered, but are not encouraged.
Location	High density uses are most suitable in areas with the following characteristics: • Areas where there is demand from households desiring walkable proximity to a diverse urban environment, such as adjacent to major employment centers, the Downtown Urban Core, or major institutional anchors in the community • Not adversely affecting adjoining low-density or traditional downtown neighborhood residential areas • Having convenient access to transit service, open space, and other urban public spaces within ¼ mile walking distance
Transportation Considerations	• Having convenient pedestrian access to major employment centers, civic facilities, and high activity commercial and service areas

	• Having strong connectivity to existing or planned pedestrian and bike infrastructure • Having access to frequent bus service either through proximity to multiple bus routes or location along a Primary Transit Network corridor
Design Considerations	Development should be compatible with the principles of walkable urban development, with architectural elements that add interest at street level, sidewalk widths consistent with adjacent high intensity development areas, appropriate lighting, and streetscaping provided. Building design principles and materials should promote a sense of quality and permanence, with design that contributes to a sense of enclosure and setbacks above a certain height (generally two to four stories) to allow daylight into streets and open spaces.
NEIGHBORHOOD DESTINATION DEVELOPMENT AREAS	
Characteristics	Neighborhood destinations contain the most intensive activity area in a neighborhood, typically drawing persons from the neighborhood as well as from outside the neighborhood on a regular schedule. Uses characteristic of a neighborhood destination include institutions such as larger elementary schools or community churches, non-residential uses that exceed the small footprint of businesses permitted with the residential land use categories, and recreation facilities. By providing a focal point for activity, a Neighborhood Destination helps define the neighborhood as a specific place. Because these uses are smaller in scale than community anchors such as middle schools or specialized sports facilities, and are typically integrated in residential neighborhoods, they are particularly suited to a pedestrian friendly design and character.
Desired Pattern	Neighborhood Destinations are not mapped in advance of development but are intended to recognize existing uses as well as potential future uses that should be approved only after consideration of site and locational characteristics.
Range of Density/ Intensity	The size and composition of a neighborhood destination use may vary depending on the location, access, surrounding neighborhood character, local desires, and market considerations. The size will be controlled by meeting performance expectations relative to lot coverage, open space, and ability of the transportation system to accommodate access demand.
Mix of Uses	Neighborhood Destinations can include public or semi-public activities such as community parks; general recreation facilities;, government buildings or schools; higher density special purpose housing such as assisted care facilities, commercial day care and pre-school facilities; and small commercial or office centers.
Location	Neighborhood destination uses should generally be located along major collector or urban arterial streets or, where anticipated traffic generation is similar to that generated by single family dwellings on a per acre basis, along residential collector streets. Sites should be generally located at the intersection of such streets so as to provide more street frontage with less abutting private property frontage.
Transportation Considerations	The site should be served by transit and should be served by a connected network of non-motorized facilities (sidewalks, trails, paths) that serves all residences within a ½ mile walking distance of the

	site. Traffic calming features may be needed to ensure that vehicular traffic operates in a manner consistent with the character of the neighborhood.
Design Considerations	The site should be laid out with generous green or open spaces, with buildings and structures set towards the center of the site and stepped down, transitioned, and buffered towards abutting residential uses.

Table 2-9 | Mixed Use Categories

Mixed use development, ranging from vibrant downtown environments to active urban villages, will include a range of housing, office, service, and commercial land uses. As illustrated in Figure 2-10, the mixture can be vertical—with different uses on different floors of a building— or horizontal, with different uses adjacent to one another in a pedestrian friendly environment. One of the main benefits of creating mixed use districts is the potential for creating a concentration of population and daytime activity that can support enhanced transit service while also providing the opportunity to satisfy more daytime trips by pedestrian means, given the proximity of varied uses. When developed in existing built-up areas as part of an infill or redevelopment effort, mixed use development works best when it respects the desirable aspects of historical development patterns, such as having buildings oriented to the street with active ground floor uses and easy pedestrian access. The best examples of mixed use currently found in Rochester are in the Downtown Development Fringe area, which has seen an expansion of mixed residential use in recent years to complement employment and commercial uses.

This plan sets out to encourage broader use of mixed use development principles in targeted areas to support the Plan's key growth principles and achieve the goal of creating a land use pattern that can support greater use of transit and pedestrian modes of travel—particularly in relation to travel associated with downtown. Policies are intended to create more vibrant and diverse areas where different housing and transportation options are available and services can be provided more efficiently.

The Plan will seek to encourage various styles of mixed use development, primarily in the downtown area and along transit oriented growth corridors, that will connect downtown to other major activity centers throughout the city. This development may take the form of a multi-block area or street facing building development and may include:

- Single buildings, or clusters of connected buildings, which incorporate two or more complementary uses, as in the placement of offices or apartments above ground-floor active uses such as dining or retail businesses.
- Development center campuses with a mix of uses and activities that act as multipurpose "destinations." These areas are characterized by shared parking and strong pedestrian linkages, where a variety of activities such as shopping, dining, entertainment or employment are

accommodated. These types of development are particularly useful in promoting use of public transportation. The introduction of higher density housing into such mixed use areas adds additional benefits in that it can better meet the housing needs of those who choose not to or are unable to rely on the automobile.

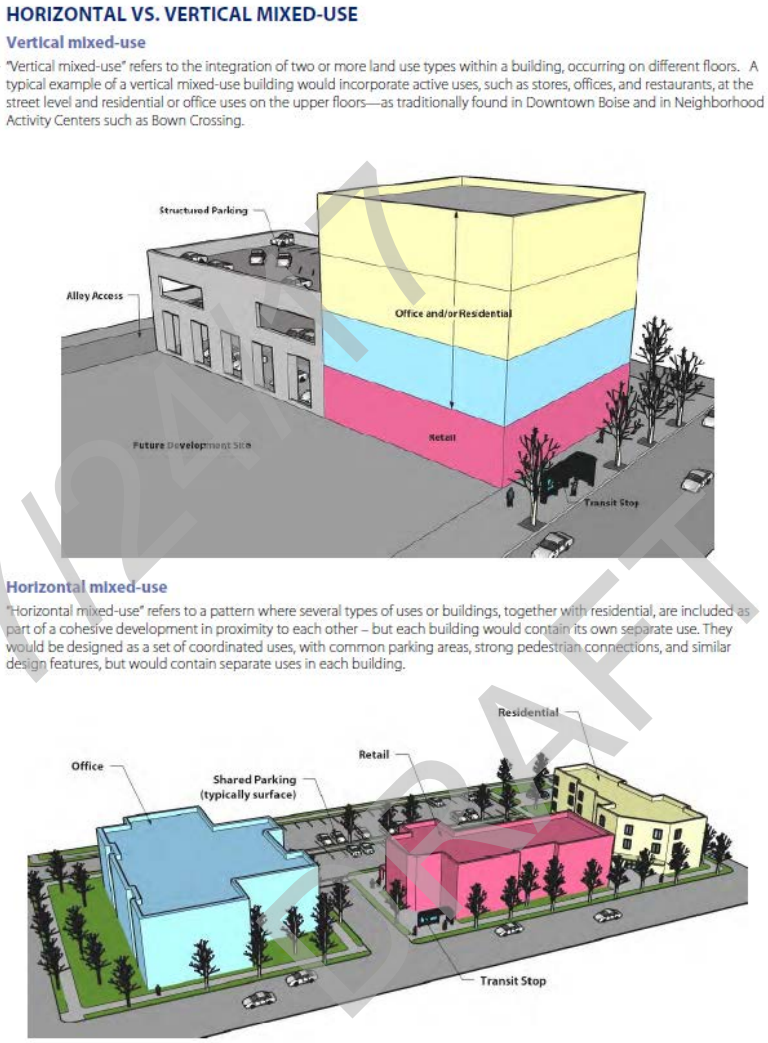
- Transit oriented corridors incorporating transit supportive land use design as well as enhanced transit infrastructure, focused particularly on the corridors of the Primary Transit Network.

These forms of development represent substantial opportunities to promote a more diversified, sustainable pattern of land uses and activities that support numerous Comprehensive Plan policies. These include reducing auto trips, promoting a more walkable environment, making more efficient use of existing infrastructure, and giving people a greater choice of affordable housing near employment and activity centers helping them reduce their total household housing and transportation costs.

There is a total of five Mixed Use Development Area types identified in the plan, including 1) Downtown Development Core Area, 2) Downtown Development Fringe Area, 3) Mixed Use Transit Oriented Centers, 4) Mixed Use Transit Supportive Corridors and 5) Transit Supportive Neighborhood Corridor Areas.

FIGURE 2-10: HORIZONTAL VS VERTICAL MIXED USE

Illustration courtesy of the City of Boise



DOWNTOWN CENTRAL DEVELOPMENT CORE AREA	
Characteristics	As the physical and economic center of the city, the Central Development Core provides for the highest concentration of employment, activities that attract a high volume of visitors, and a wide mixture of uses in an active, highly walkable environment. This area is intended to provide a range of work, social, and recreational choices that draw people throughout the day and into the evening. The Central Development Core is home to the tallest and most intense building development in the city, with a variety of building types and heights ranging to 20+ stories. Building fronts are located at or close to public sidewalks and incorporate active street frontage designs. The area reflects the goals and objectives of the Downtown Master Plan and Destination Medical Center Vision. It includes creative open spaces that support community gathering and celebratory functions. The highest density of development (jobs and population) is provided in this area; it is the central hub of the city.
Desired Pattern	Mixed use development projects primarily providing for uses mixed on a vertical scale. Development should follow traditional urban forms regarding building siting and massing to produce a pattern of development that provides a significant pedestrian and transit orientation and development integrated with its surroundings. Architectural and site design techniques should be used to define desirable pedestrian and public spaces; building fronts should include ground floor uses along with design features that will provide for active street frontages.
Range of Density/ Intensity	Typical FARs will generally be between 4.0 and 12.0, although higher intensities can be supported with appropriate strategies to manage transportation and site design issues. High residential densities of 50-200 units per acre are appropriate depending upon context and very high densities over 200 units per acre may be considered.
Mix of Uses	The mix of uses includes a broad range of commercial and business services, office, high density residential, lodging, food and beverage, entertainment, institutional uses, as well as clean research and development activities. Uses that diminish transit and pedestrian character such as automobile services or drive thru uses should be discouraged. Further guidance for specific subareas in the Central Development Core is provided by the Downtown Master Plan and Destination Medical Center Vision.
Location	Encompasses those areas typically identified as part of the Central Business District and adjacent areas south of the Canadian Pacific Railroad corridor, west of the Zumbro River and generally north of Soldier's Field Golf Course and east of the Mayo Medical Center Central Subdistrict Campus area.
Transportation Considerations	Transportation needs in the Central Development Core is uniquely supported by the convergence of a network of major streets that bring traffic into downtown; however, the capacity of these streets is unlikely to fully handle travel demand from the intensity of development anticipated in the Downtown Master Plan and DMC Plan. Strategies to move more people more efficiently within existing transportation corridors will be necessary. As a result, alternative mode enhancements and stricter management of parking will be considered as development proceeds in the area. Reducing vehicle travel demand into and within the downtown will rely on: • Expansion of the multiple public and private transit systems that serve the area, supported by development of a downtown circulator system; this expansion will require added transit infrastructure that will need to be considered during review of development

	• Expanded use of parking strategies such as shared parking, execution of travel demand management measures to reduce vehicular traffic, improved pedestrian and bicycle networks to enhance non-motorized accessibility, and advanced wayfinding systems • Direct or indirect connections to the downtown skyway and subway system
Design Considerations	In the Central Development Core, vertical mixed use buildings are encouraged and preferred over single use buildings. Active street front uses with attractive pedestrian frontages and design that opens up the building wall to allow visual interaction between sidewalk traffic and activities within the street level building frontages is encouraged. Structures should maintain and reinforce the visual distinctiveness of downtown and its subdistricts. New buildings and public spaces should respect and be sensitive to design integrity by enhancing visual continuity and sense of place, using building materials and design features sensitive to the character of downtown and reflecting excellence and high quality in their design. Development should incorporate climate sensitive site and building design practices. Development should incorporate the Destination Medical Center District Design Guidelines.
DOWNTOWN DEVELOPMENT FRINGE AREA	
Characteristics	The Downtown Development Fringe area provides a mix of uses similar to but more limited in scale than seen in the Downtown Development Core. The Downtown Development Fringe should provide a gradual transition between the more intensive business-oriented Downtown Development Core and adjacent lower intensity, traditional residential neighborhoods. Land use intensity, both in terms of height and bulk, should decrease as distance from the central development core increases, further defining the transition between the urban core uses and adjacent neighborhoods.
Desired Pattern	Vertical mixed use development is encouraged, although single use residential buildings are appropriate as transitions to the lower intensity of abutting Downtown Traditional Neighborhoods. Development should be designed to produce compact, pedestrian-oriented development. Human-scale design and architectural elements are encouraged, including elements such as awnings, small storefronts, distinctive streetscapes, and other human-scale building details.
Range of Density/ Intensity	Intensity will vary, but will typically reflect FAR ratios 2.0 to 6.0, with residential densities in the range of 40 to 80 units per acre. Higher intensity development will be located on blocks nearer to the central development core and lower intensity on blocks nearer adjacent downtown neighborhoods. Design factors such as transitional height limitations and setbacks will influence intensity levels.
Mix of Uses	In the Downtown Development Fringe area, the principal uses include medium to high density residential, lodging, professional offices, small shops and restaurants, neighborhood services, institutional uses, and small scale artisanal industries including live-work units.
Location	The Downtown Fringe is intended to apply in those areas of the larger Downtown Development area that provide for a transition between the intense central core area and traditional downtown neighborhoods, as well as along the 2nd St SW corridor between the Mayo Medical Center Downtown campus and the Mayo-St Marys Hospital campus.

Transportation Considerations	The Downtown Development Fringe Area will benefit from the downtown transportation system being developed to support the intensification of the central development core. The same network of major streets supporting the Central Development Core also serve the Downtown Fringe; anticipated capacity limitations will impact the Fringe as well. As a result, enhancing alternative modes and better management of parking demand will need to be considered in the Downtown Fringe to reduce vehicle travel demand. Developments will be expected to accommodate improvements to the downtown transit infrastructure, minimize the need for on-site parking, and consider the role that travel demand management measures can play in reducing vehicular traffic generation associated with a development. Pedestrian and bicycle amenities will also be important, as the Downtown Development Fringe is well situated to facilitate higher use of walking trips and benefit from the eventual development of the City Loop—a high quality urban trail proposed as part of the Destination Medical Center Vision that will interconnect all the various subdistrict areas with the downtown.
Design Considerations	Given the less intensive non-residential nature of the Downtown Development Fringe and higher proportion of residential housing anticipated in this area, there should be an emphasis on creating pedestrian oriented streetscapes that provide for a safe and comfortable environment for travel within the area as well as from adjacent neighborhoods to the downtown development core. While not all buildings will have active street front uses, those that do should provide features that foster a sense of permeability. Non-active frontages should include details that will add interest to the pedestrian environment, supported further by attractive streetscapes and site landscaping. On-site parking should generally be provided within the building or, if provided outside, should be screened and landscaped to reduce its visual impact.
MIXED USE TRANSIT ORIENTED CENTERS	
Characteristics	Mixed Use Transit Oriented Centers are intended to create places that are unique in scale, development intensity, and mix of uses. These include a range of medium to high density housing along with a broad mix of employment, shopping, and civic uses in distinctive “Urban Village” or “Urban Center” settings, within an easy walk of a transit stop or hub. Located at nodes along the Primary Transit Network (PTN), these locations benefit from a combination of good accessibility, access to open space or public amenities, and capacity for increased development. The PTN Network will enhance access to these sites over time by providing increasing transit frequency and improved transit quality. Development in these centers will be pedestrian-oriented with a strong emphasis on design and street level activity, and range in scale from low- to mid-rise. It is important to highlight that transit oriented development (TOD) is an approach rather than a pre-determined program of development, the object of which is to create pedestrian friendly activity zones near major transit hubs along the PTN. TOD emphasizes land use densities that are sufficient to support transit, maximizing the number of residents and employees within a convenient walk of transit facilities. See the sidebar on page 105 for further discussion of TOD.
Desired Pattern	Development within a Transit Oriented Center or Village should accommodate both appropriately scaled vertical and horizontal mixed use and be organized along a density and intensity gradient that considers the pattern of surrounding land use areas and planned multimodal PTN transportation corridors. The highest density and intensity of development shall be located within walking distance of public civic spaces and existing or planned transit facilities. Given the anticipated density of development, parking solutions including reduced parking requirements, shared parking, additional on-street parking, structured parking, and the provision of district parking facilities serving multiple

	uses should be explored to minimize proliferation of parking serving single sites. Development of these centers should transition away from the most intense area near the core of the center by utilizing designs that "step down" towards existing adjacent neighborhoods and ensure that adjacent low density residential uses are properly screened or buffered.
Range of Density/ Intensity	The range of intensity and density will generally vary; FARs will typically fall into the range from 1.0 to 3.0, with more intense FAR levels near the nodal center. Residential densities will typically range from 20 to 60 units per acre. The combined level of population and employment density in the center should exceed 25 persons per acre.
Mix of Uses	This land use is intended to accommodate a mix of uses: commercial (office/service/retail/ entertainment), civic-institutional, clean artisanal industries (without noise, odor, illumination or trucking impacts), and a range of multi-family residential styles and live/work structures. Uses should be discouraged that diminish the transit and pedestrian character of the center or village.
Location	Land uses will generally be concentrated within a ¼ to ½ mile radius of the center of the TOD node which would typically be centered on the PTN corridor and its intersection with a major cross street or major access street to the area. The Mixed Use Center will typically include an area of approximately 40-160 acres of developed land area once fully realized. The size of center or village will generally enable a 10 minute or less walk to the centrally located transit hub from anywhere within the center and a 15 to 20-minute walk across the entire district.
Transportation Considerations	While the PTN corridor serving the Mixed Use Center will provide primary access, these centers should be located where two or more transit service corridors or major collector/arterial streets provide good access from multiple directions. Mixed Use Transit Centers should have a high level of pedestrian connectivity to surrounding residential areas, with a high-quality pedestrian environment featuring street-oriented buildings and attractive streetscaping within the center or village, while improving the ability to accommodate vehicular traffic through access management and street operations improvements.
Design Considerations	The development scale associated with this designation is intended to allow for more intense development in core areas of centers and along the PTN corridor near transit stations, while providing transitions to adjacent residential areas. New development should be subject to architectural and site design guidelines to ensure compatibility with adjacent neighborhood character.
MIXED USE TRANSIT SUPPORTIVE CORRIDORS	
Characteristics	This designation is intended to encourage development of transit-supportive densities of commercial, residential, and employment uses in both vertical and horizontal mixed use configurations along the Primary Transit Network (PTN) corridors where public services are planned to include development of high-quality, high frequency transit service. The designation is applied along some of the city's busiest, widest, and most prominent streets that serve as gateways to the Central Development Core and other major urban development destinations. The intent is to transform these corridors over time into places that can succeed as attractive locations for lower intensity, mixed-use development, developed in a manner that are attractive and safe for pedestrians while continuing to play an important role in the City's vehicular transportation system. This category is similar to the Mixed Use Transit Supportive Centers category except that the density and intensity of land

	development is expected to be less than in the Mixed Use Centers, with proper transition provided to adjacent low density residential development. Where applied to roadway corridors characterized by "strip" commercial uses, the intent is to encourage infill and redevelopment to create a more diverse and attractive mix of uses over time. Examples include residential units over commercial uses, a wider array of economically viable uses to replace uses experiencing declining customer traffic, and sites exhibiting physical decline. Such areas may also represent opportunities for the introduction of higher density and/or mixed-income housing, with negligible impacts on nearby single-family neighborhoods. The historic auto orientation of these corridors should be transformed over time to provide a more balanced, multi modal environment that is more accommodating to transit and non-motorized users.
Desired Pattern	In Mixed Use Transit Supportive Corridors, building fronts will be oriented towards the primary transit corridor. Corridor designations will generally extend no more than one block in depth along either side of the corridor. Safe, attractive transit stops and pedestrian and bicycle ways are provided. A variety of housing styles—apartments, condominiums, row-houses, and houses on smaller lots—are located along or in close proximity to the corridor. Buildings shall be oriented to define the street edge, fronting on widened sidewalks with street trees, attractive landscaping, benches, and easily accessed transit stops. Parking should be located to the rear of the building or the side where lots are shallow with appropriate screening.
Range of Density/ Intensity	The range of intensity and density will generally vary, with FARs that generally fall into the range from 1.0 to 2.0 and residential densities that will typically range from 15 to 30 units per acre. FARs and building heights should be great enough to generate a combined population and employment density of 25 persons per acre in order to support planned high quality transit service.
Mix of Uses	This land use is intended to accommodate a wide range of mixed use development, including neighborhood and community oriented retail and service uses, clean low impact artisanal industrial uses, and all types of low and mid-rise multiple family dwellings such as senior housing, apartments, townhomes, and similar attached housing.
Location	Areas of Mixed Use Transit Supportive Development will be located along block faces facing a PTN corridor in areas located between Mixed Use Transit Oriented Centers.
Transportation Considerations	Mixed Use Transit Supportive Corridors should have a walkable pedestrian environment to provide strong pedestrian connectivity to transit stops and between uses. Street design should be typical of urban business or transit service districts, including wider sidewalks, attractive streetscaping, pedestrian scale lighting, and smaller scale business signage. The ability to accommodate vehicular traffic should be enhanced through access management and street operations improvements.
Design Considerations	New development should be subject to architectural and site design guidelines to ensure compatibility with neighborhood character, with buildings that are of appropriate scale and intensity and developed in broadly consistent manner. Building design should include architectural elements that add interest at the pedestrian level.

TRANSIT SUPPORTIVE NEIGHBORHOOD CORRIDORS	
Characteristics	Transit Supportive Neighborhood Corridors are primarily residential in character with intermittent commercial uses clustered at intersections of collector and arterial streets or where the corridor area is transitioning into more intense development centers or non-residential use areas. Scattered small, neighborhood scale office or neighborhood service uses may be found in the more central parts of these corridors as a result of historical neighborhood development. Housing in these corridors typically will reflect of mixture of housing of various styles, sizes, and densities, generally located within a five to ten-minute walk of neighborhood serving commercial uses, civic or open space uses. New development can include low to medium density residential along with small scale commercial or office use. Small vertical mixed use, generally two stories in height, with pedestrian oriented retail, office or service uses at street level and upper story housing is appropriate. Parking lots should not dominate the frontage and should be located behind or on the side of buildings and screened from abutting single family residential use. Conversion of residential uses in the middle of predominantly residential block areas to commercial use should be discouraged. Transit Supportive Neighborhood Corridors may support development of "Mini-centers" at selective intersection locations which are intended to be small, mixed use centers with residential use as a component. The emphasis on residential is intended to add market demand for neighborhood business and to provide density to support enhanced transit service. Drive-through facilities, including gas stations and similar auto-oriented uses, should not be allowed
Desired Pattern	Transit Supportive Neighborhood Corridors feature highly-connected street systems and sidewalks networks with development on smaller lots and street-facing buildings.
Range of Density/ Intensity	Typically, non-residential building sites will be developed with a FAR of less than 0.25, with residential densities in line with moderate or medium density residential land uses (an average of 10 to 25 units per acre).
Mix of Uses	Uses may include corner stores, restaurants, bakeries, hair salons, dry cleaners, video stores, small professional offices, retail banking, or similar uses that fit the size, scale, and intensity of the neighborhood setting. Live-work units should be accommodated, with integrated residential use highly encouraged. Moderate or medium density residential use is permitted, with more intensive residential development directed to areas near commercial nodes or where the corridor is transitioning to other predominant uses. New uses that diminish the transit and pedestrian oriented character of the corridor should be discouraged, such as automobile service and drive-through uses.
Location	Transit Supportive Neighborhood Corridors are located along non-residential collector and arterial street corridors where public transit service is available throughout the workday at one hour headways or better—providing interconnection to the Primary Transit Network—or along parts of the Primary Transit Network that abut established low density neighborhood areas.
Transportation Considerations	Transit Supportive Neighborhood corridors will feature highly-connected street and pedestrian systems as well as safe access to the bikeway network, providing accessibility to employment areas as well as open space and recreation areas. The corridor will be served by transit facilities and services. The designated corridor may be a principal travel route for part of the city.

Design Considerations	Buildings at an appropriate scale and intensity compatible with nearby residential development is critical. Site design should maintain a largely residential building character. Buildings should be oriented to the street and provide convenient and easily identifiable sidewalk entries to encourage pedestrian access. Parking lots should not dominate the frontage and be located behind or on the side of buildings. Street design may take on elements of the "Main Street" design concept discussed in Part 5 of this section to provide more of a village feel to the corridor.

Table 2-10 | Non-Residential Categories

Retail, service, and employment areas provide desirable locations to capture future employment growth and support for a strong and diversified economy. These designations are intended to apply to larger concentrations of commercial and industrial uses. Such properties may not be expected to undergo redevelopment or a change in use over the plan horizon, and the immediate areas in which they are located may not be suitable for the introduction of mixed uses. Three non-residential categories are identified in the plan, including 1) Commercial and Business Development Areas, 2) Small Employment Development Areas, and 3) Industrial Development Areas.

COMMERCIAL AND BUSINESS DEVELOPMENT AREAS	
Characteristics	This category provides for a wide variety of retail, office, and employment uses. It encompasses areas dominated by existing commercial uses and areas of proposed development where the predominant use is intended to be retail, office, or employment. These areas typically exhibit a style of development referred to as suburban, with customers and employees primarily arriving by automobile, and typically located in areas with convenient access to major roadways featuring large setbacks from the street. Parking is provided by surface lots, often oriented to the street frontage of the development. Building heights generally range from one to two stories, consistent with historic commercial development patterns.
Desired Pattern	Sites are often developed in a conventional subdivision style, with individual uses on individual lots and parking and other site amenities constructed separately for each use. Business centers in the style of a shopping center with common parking and coordinated overall site design may be used and are encouraged. Business development may also occur in the style of a Business or Office Park, where buildings are constructed in a "campus" like setting with coordinated access, parking, landscaping, and stormwater management. Another predominant style of commercial and business development is the commercial corridor, a linear, auto-oriented pattern that stretches along the frontage along major roadways. New strip commercial areas should be discouraged, with existing development constrained to existing corridor areas, and the revitalization of established commercial corridors is encouraged over time to promote the transformation of these areas into locations that are more walkable with a broader variety of uses. Constraints and challenges for commercial corridors to remain viable exist, as they typically will feature dated site design, with multiple mid-block driveway accesses, inadequate landscaping, and limited pedestrian access and circulation. Most of these areas were developed in an ad-hoc manner,

	creating a number of parcels that have become functionally obsolete and more difficult to assemble than under a unified development scheme. Efforts should be made to enhance the economic vitality of commercial corridors through the introduction of a more pedestrian and transit-friendly pattern of development over time by infill and redevelopment. Those legacy commercial corridors located along future transit oriented growth corridors are generally categorized into one of the transit supportive mixed use corridor categories to accommodate a broader mix of uses and promote a change in design character over a shorter period of time. Redevelopment of shopping centers, big box retail, or other large footprint commercial use with large surface parking areas into a more traditional community design—with the introduction of a street and block grid comparable to the historic city grid—is encouraged to revitalize underused or abandoned large footprint commercial areas.
Range of Density/ Intensity	Intensity may vary, with typical development intensity in the range of 0.3 to 1.2 FAR.
Mix of Uses	Mixture of retail, service, office, research and development, lodging, entertainment, food and beverage, and other customer oriented businesses, including community and regional centers. Large footprint retail such as auto dealers, printers, home improvement stores, and garden centers are also found in this category. Housing is not considered an appropriate use due to the lack of residential amenities and deleterious effect of commercial development such as noise, lighting, and traffic. The introduction of residential into predominant business areas also has the potential to restrict the range of uses that can occur in areas intended for this broadest range of non-residential use.
Location	Commercial and business areas typically abut or are located on sites with convenient automobile access to freeways, arterials, or major collectors. They may border medium to high density housing areas. Preferable site characteristics include areas with good visibility from passing major roadways.
Transportation Considerations	Lands in this category should be located in areas where convenient access to regional or urban highways is available. Transit service should be available to improve employee accessibility and improve access for customers who do not have personal vehicles available to them.
Design Considerations	Sites should provide some type of physical buffer when abutting lower density residential uses to reduce impact of site lighting, traffic demand, and truck noise. Office uses may be used to provide a transition between more intense retail uses and surrounding neighborhoods. Signage and other advertising should be attractive and in character with the building.
SMALL EMPLOYMENT DEVELOPMENT AREAS	
Characteristics	The Small Employment Development category is intended for areas that will be developed primarily with business and service uses of a non-retail nature, typically in a low-rise or flex space development pattern on smaller lots in areas of lower land value (in terms of value for non-residential use) that do not have prime access locations along higher volume major streets. These areas are typically found at the edges around more intense commercial or industrial areas, in small isolated pockets of land leftover from earlier development eras, and abutting residential uses in areas deemed as transitional zones.

Typical Pattern	Developments will predominantly feature a conventional subdivision pattern —uses developed on individual lots, with surface parking and minimal landscaping.
Range of Density/ Intensity	The range of intensity for uses is generally up to a FAR of 0.50 on contiguous sites that generally will be less than 10-15 acres in size.
Mix of Uses	Uses found in Small Employment Development areas typically include the headquarters of construction tradesmen, small specialty wholesalers, business services, repair services, equipment rental, creative services, and small artisanal industrial users involving light assembly.
Location	Typically found adjacent to or abutting retail or industrial areas on sites that are relatively flat without major impediments to development. May also be located adjacent to mixed use areas in older parts of the city where legacy non-residential development exists. Sites will generally be located near, but not directly front, major roadways.
Transportation Considerations	Local industrial or commercial streets will provide direct access to individual uses. These streets should connect directly to major collectors or arterials and not result in additional traffic on any residential streets.
Design Considerations	When abutting low, medium, or traditional downtown residential use, suitable buffering or screening should be provided in order to lessen impacts of lighting, noise, and outdoor storage of trucks and materials.
INDUSTRIAL DEVELOPMENT AREAS	
Characteristics	Industrial Development consists primarily of areas providing for economic activity in the realm of manufacturing, fabrication, assembly, storage, and distribution of products and goods in a manner and character that may generate some external impacts due to the presence of heavy truck traffic on a regular basis or from noise or lighting. Office and/or research and development activities related to primary industrial activity are allowed, and complementary retail and service uses should be limited in scale and carefully integrated with surrounding industrial uses. In addition to industrial activity, this category is intended to include public infrastructure sites such as the wastewater treatment plant, transit vehicles maintenance facilities, and public works maintenance and storage yards that involve combinations of significant truck traffic and/or large areas of outdoor storage of materials or vehicles. Levels of intensity in industrial areas will vary significantly depending on the use; however, a greater intensity of employment and building square foot is encouraged through creative design approaches. Since these uses tend to have greater external impacts than other commercial or business uses, they may require additional buffering or separation from nearby uses.
Desired Pattern	Industrial uses with greater environmental impact in terms of noise, odor, spillover lighting, or large outdoor storage areas should not be located adjacent to residential areas. All industrial uses adjacent to lower density residential use should provide buffering either through landscaping, large setbacks, and introduction of such transitional uses as office or open space.

Level of Intensity	FAR typically will be in the range of 0.5 to 1.0. New Industrial areas should be a minimum of 50 acres in size, with larger planned centers preferred to provide adequate space for buffering of adjacent uses.
Mix of Uses	Typical uses would be all manner of manufacturing, assembly and fabrication, maintenance and repair activities, research and development, small offices or office/showrooms, and clean trade shops. Large footprint uses such as warehousing, distribution centers, and other uses that are quasi-industrial and highway-oriented in character are also found in industrial areas. Uses with the potential for significant off-site impact such as concrete plants, other extractive industries, junkyards /scrap yards, and warehousing with outside storage of materials or equipment are also appropriate for industrial areas with appropriate screening or buffering.
Location	Areas of industrial development should be fairly flat or level, with enough land area available to provide buffers and landscaping to protect adjacent or nearby residential use or open space designations. Industrial areas may be located adjacent to higher-intensity commercial or mixed use areas. Proposed industrial areas should have access to adequate sewer, water, and power infrastructure to meet the needs of businesses in these areas.
Transportation Considerations	Reasonably direct access to arterial roadways should be available. While actual building sites do not need to abut a designated truck route, any proposed industrial development complex when viewed as an entity will have direct access to a 9 or 10 ton truck route. Access to either rail or air transportation is also desirable. Although it is anticipated that industrial areas will be provided transit service, not all sites within an area may be easily accessible by transit.
Design Considerations	Requires effective buffering and careful attention to site and building design if adjacent to less intense land uses. More intense industrial, in terms of externalities, will be subject to performance standards for environmental effects and nuisance mitigation.

Table 2-11 | Community Anchor Categories

Community Anchors include medical, education, and small and large-scale civic facilities that significantly contribute to the economic and cultural life of the community. They are generally designed through a master plan process, due to the highly integrated nature of infrastructure, transportation, parking, and public service needs as well as the more efficient approach master planning provides to address potential impacts to the community. Community Anchors defined in the plan include 1) Medical Campus Area, 2) Educational Campus Areas, 3) Civic Facilities and 4) Airport Facilities.

MEDICAL CAMPUS AREAS	
Characteristics	Areas include major hospitals, medical clinics, and medical research along with auxiliary and supportive uses, with campus-level infrastructure systems such as integrated on-site parking, utilities, and open space guided by an overall institutional Master Plan.

Desired Pattern	Guided by development of a Campus Master Plan
Density/Intensity	Varying densities; will be established by the campus master planning process.
Mix of Uses	Primary uses include hospitals, medical clinics, and medical research, with auxiliary uses such as outpatient or transitional housing for clients, lodging, and related commercial, office, and residential uses in the fringe areas of the district.
Location	Medical Campuses should be located on transit routes in areas with well-developed pedestrian facilities providing interconnection to nearby residential areas and enhancing workforce access.
Transportation Considerations	Pedestrian oriented design features should be incorporated with attention to streetscape, building frontage design, and wayfinding. Management of parking to reduce impact on street systems and nearby residential neighborhoods is important. The campus should be served by transit routes.
Design Considerations	Protect the livability of surrounding neighborhoods through adequate infrastructure and campus design. Minimize off-site impacts in collaboration with neighbors, especially to reduce automobile traffic and parking impacts. When appropriate, consider use of parking structures to reduce the areas covered by parking lots, thereby making space available for infill and redevelopment opportunities. Campuses abutting lower density residential areas should consider locating higher buildings towards the center of the campus facility and transitioning to lower buildings with generous open space in areas closer to the residential area to provide a buffer.
EDUCATIONAL CAMPUS AREAS	
Characteristics	This category applies to educational facilities for secondary and post-secondary education with sizable student populations planned as integrated campuses with educational, recreational, parking and open space components which generate major peak period vehicular travel demand needs. Supportive retail may be integrated into the campus. Encourage post-secondary campus development that provides amenities and services not only for students but surrounding residents, emphasizing the role of campuses as centers of community activity.
Desired Pattern	Sites are typically developed under the guidance of an institutional master planning process.
Density/Intensity	Varying densities that will be guided by a master planning process.
Mix of Uses	This designation includes all education and support services and facilities that serve the mission of the campus, such as associated sport venues, any residential student housing integrated into the campus, and supportive retail or other uses targeted to campus customers.
Location	Location will vary to some degree based on facility type and size. Larger community and regional facilities should be located along major collectors and arterial streets to provide access from other

	areas of the community. Private facilities with smaller student populations may be able to adequately serve on secondary collectors as well as higher order streets.
Transportation Considerations	Facilities should be located on and served by public transit routes with developed transit stops as part of the campus facility. All facilities should be located in areas with a well-developed network of pedestrian and bicycle facilities. The management of parking to avoid spillover effects in adjacent residential areas is important as is minimizing the impact on any nearby residential streets.
Design Considerations	Minimize off-site impacts in collaboration with neighbors, especially to reduce automobile traffic and parking impacts. When appropriate, consider use of parking structures to reduce the areas covered by parking lots, thereby making space available for infill and redevelopment opportunities. Campuses abutting lower density residential areas should consider locating taller buildings towards the center of the campus facility and transitioning to shorter buildings with generous open space in areas closer to the residential area to provide a buffer. Uses such as parking lots or sports venues should be setback an appropriate distance from lower density residential uses.
CIVIC FACILITIES	
Characteristics	Identifies facilities generally, though not exclusively, managed by public or non-profit entities that serve as gathering places for communal business, social, spiritual, sporting, or entertainment purposes. Examples include Mayo Civic Center, Rochester Recreation Center, Olmsted County Fairgrounds, etc. Smaller institutional uses such as churches are generally not mapped unless they are sites that are more than five acres in size. Institutional properties may be public or private.
Desired Pattern	Large site development will be guided by a master planning process while smaller sites will be guided by general zoning district rules.
Density/Intensity	N/A
Mix of Uses	This category includes uses such as libraries, fire stations, police stations, government office buildings, arenas or stadiums, but not civic uses that are more industrial in nature with maintenance yards or buildings, storage of materials, and daily truck traffic associated with maintenance or service operations.
Location	Civic Facilities that generate a lot of traffic or noise may be most appropriate near major roads or near high activity centers such as the Downtown Development Core or Fringe, or jointly located with other community anchors such as Educational Campuses. Generally, smaller facilities that serve neighborhood residents are best located and most appropriate in the heart of the neighborhood(s) area(s) that it serves with primary access to a collector or minor arterial roadway.
Transportation Considerations	Public facilities that are open for frequent public visitation should be located on transit routes and in areas with well-developed pedestrian facilities. Safe pedestrian access is a priority. Access requirements will generally relate to the size of the facility and the population they serve.

Design Considerations	Large facilities that generate significant traffic or include large buildings may require careful design and buffering when adjacent to less intense residential land uses.
AIRPORT FACILITIES	
Characteristics	The Airport Facilities property shown on the future land use map represents land utilized for the operations of the Rochester International Airport and associated commercial and industrial uses on lands managed by the Airport Authority.
Desired Pattern	An Airport Master Plan and Airport Layout Plan identify the existing and proposed utilization of the airport property.
Density/Intensity	N/A
Mix of Uses	The predominant uses are aviation related activities along with a variety of complementary and other non-residential purposes located on airport property. Uses of abutting property are also managed through an airport zoning ordinance to discourage the siting of incompatible uses that may be impacted by effects such as noise or lighting or the risk of concentrations of persons being impact by hazards such as an airplane crash. Airfield Influence areas are identified as part of the Master Planning process to reduce the potential for impact.
Location	Applies to the Rochester International Airport environs and additional areas covered by the Airport Master Plan.
Transportation Considerations	Access to local airport facilities should be provided from arterial highways.
Design Considerations	The primary consideration for the Airport facility is restrictions established in Federal Aviation Administration (FAA) regulations that limit the height of structures in protected airspace in order to ensure the safety of airplane operations in the airport environs.

Table 2-12 | Preservation Categories

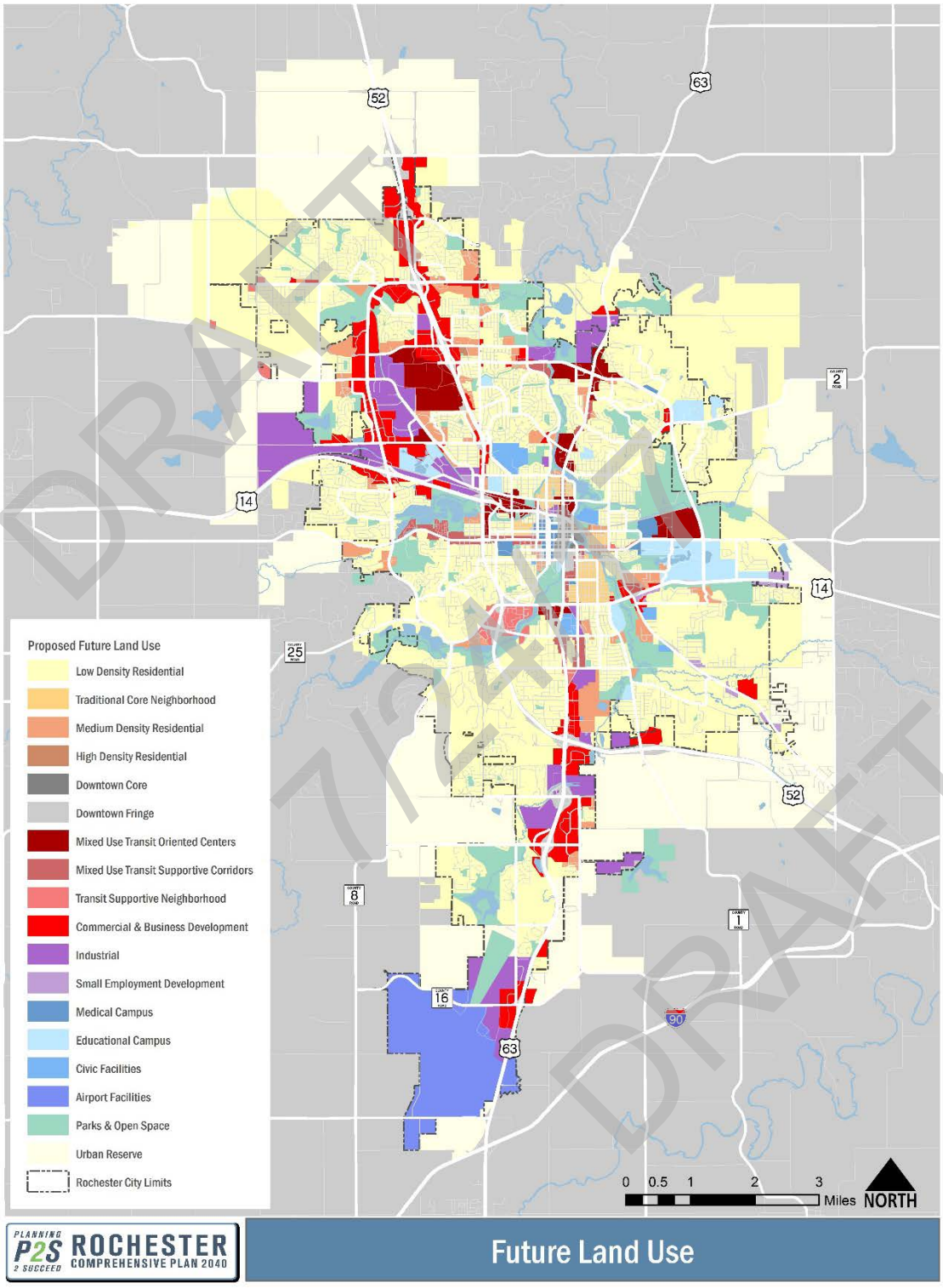
This designation applies to existing large scale parks and protected open spaces of citywide significance which are expected to remain as open space in perpetuity. It also includes areas outside the city limits which are anticipated at some time in the future to provide needed expansion areas for city growth.

PARKS AND OPEN SPACE AREAS	
Characteristics	Parks and Open Space areas are designated on the Plan to identify existing and future uses of a public recreational nature intended for community wide or regional use as well as areas that contain sensitive natural resources or land features. These areas include parcels of land owned by government or non-profit entities for the purpose of preserving sensitive open space or natural

	features, as parks and recreational facilities, and environmental corridors that link key destinations. This category includes public and private golf courses. Land with this designation is anticipated to remain in open space in perpetuity. Neighborhood park facilities are generally considered as accessory to neighborhood development and not mapped on the future land use plan.
Desired Pattern	Park development involving some level of active use will usually be guided by development of a park master plan. Passive use areas will generally retain their natural character with limited development of facilities expected.
Range of Density/ Intensity	Varies, ranging from as small as 1-3 acres to 100+ acres for regional facilities. Pocket parks or similar facilities may be smaller than one acre where necessary to provide open space in urban development core area where increased land values and development densities render establishment of large public open spaces unfeasible.
Mix of Uses	Park uses will include a wide range of community and regional parks, trails, community gardens, and recreational facilities including playgrounds. Passive open space will include uses such as nature preserves, wildlife areas, and urban hardscape parks.
Location	Varies based on facility type and size. Larger community and regional park facilities should have access available to arterials or major collectors to provide suitable access from other areas of the community.
Transportation Considerations	Parks and open space areas should be served by well-developed pedestrian facilities as well as have direct connections to the urban area trail and path network. Larger city or regional parks should be served by public transit services, particularly where the location includes venues to host larger events such as concerts, tournament sports, etc. For facilities with the ability to host events attended by large numbers of people, adequate parking should be provided or planned accommodations for off-site parking with shuttle service addressed during the site approval process.
Design Considerations	Where facilities abut residential land uses, the ability to buffer adjacent residents from noise, lights, and other elements needs to be considered.
URBAN RESERVE AREA	
Land Use Objectives	This area should be protected from development that would constrain the efficient expansion of urban growth. Inappropriate development would include low density residential subdivisions on lot sizes ranging from 2 to 10 acres per housing unit, along with other forms of rural development that would create lot sizes below 15-20 acres in size. Limit development in areas that would create a need for the upgrading of roads before they are scheduled in the jurisdiction's capital improvements program. Where proposed development will potentially increase the traffic volumes exceeding the current road capacity, provide for the cost of road improvements at the time of development.

Preferred Development Style	Rural-type services and development standards are often acceptable in the Urban Reserve Area, but certain minimum or maximum standards may be required in certain critical locations or in response to certain intensities of development. Uses in the Urban Reserve should be limited to agricultural related uses and single family residential at a density no greater than one unit per 10 acres. This limit will allow for more efficient infrastructure provision once the market is ready and the City has determined that more intense development can be provided urban services. Permit interim development consistent with the requirements of the Olmsted County General Land Use Plan and in a manner that will support long-term urbanization of the Urban Reserve. This can include *standard subdivisions* at a density of 1 unit per 10 acres of non-wetland area, or *clustered subdivisions* reserving at least 50% of the total buildable land as open space for future development with a street pattern that is compatible with the city's local street design standards and space identified for future neighborhood park facilities
Sewer and Water Services	Areas within Urban Reserve may rely on individual or community sewage treatment systems as an interim measure, provided the ability to serve the subwatershed of the affected area with municipal services is not compromised and the city and affected township reach agreement on multi-parcel service area orderly annexation agreements. Individual on-site wastewater treatment systems are not ideal for suburban intensity development and are very costly when they fail.
URBAN INFLUENCE AREA	
Land Use Objectives	The City shall encourage the County and surrounding Townships to retain large lot sizes and an overall gross density of no more than one house per 35 acres in areas without sewer that are intended to remain predominantly agricultural or rural. Permit agricultural/farmstead and strategically located rural non-residential with low requirements for water use and sewage treatment development in areas where municipal services are not expected over the next 30 to 40 years. Limit development in areas that would create a need for the upgrade of roads before they are scheduled in the appropriate jurisdiction's capital improvements program. Where proposed development will potentially increase traffic volumes exceeding the current road capacity, provide for the cost of road improvements at the time of development.
Preferred Development Style	In general, the existing density/intensity of land use is anticipated to remain in place over the planning horizon. Consistent with Agricultural Preservation designations in the County or Township Plans and ordinances, typical uses anticipated in the Urban Influence Area would include farms and related agricultural uses; small-parcel farms for local food production; single-family detached dwellings at a minimum density of 1 per 20 acres; and limited recreational open space uses (golf courses, public parks, conservation areas, natural preserves, stables and riding academies) Provide for "conservation/open space subdivisions" that cluster housing with remaining buildable land area preserved for future sewered development.
Sewer and Water Services	Developments that are built using some type of community sewage disposal system should be structured such that connections could be made in the future to municipal sewer systems.

FIGURE 2-11: FUTURE LAND USE



DRAFT
7/24/17

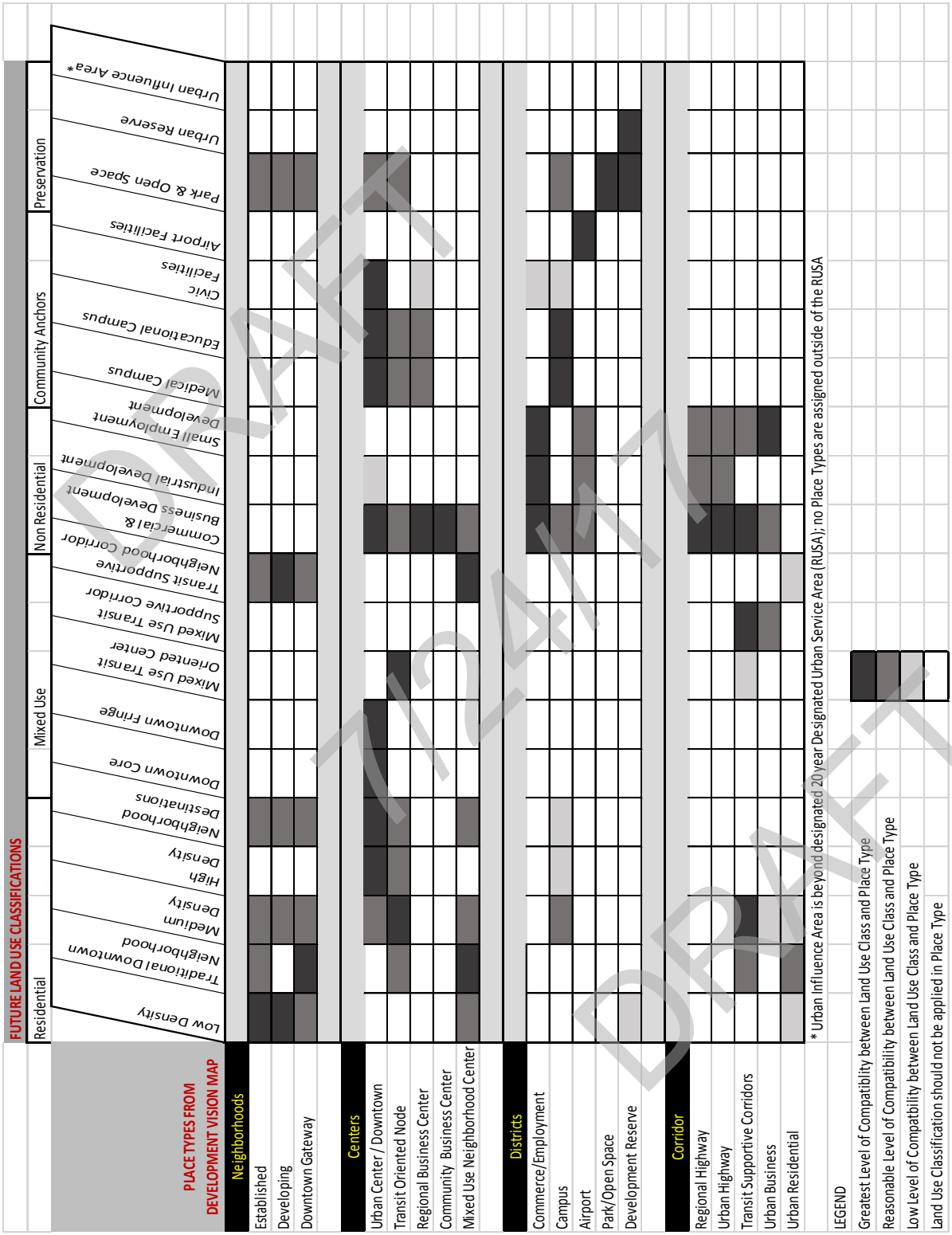
Using the Development Vision to Guide Future Land Use

The Future Land Use Map provides a 20-30-year snapshot of the community's preferred future physical development, focusing on the mix and intensity of land uses, and planned to work in concert with transportation systems. The Future Land Use Map is not a zoning map, but is used in conjunction with governing principles, policies, and strategies to provide direction to land owners, government staff, and elected officials as they make specific land use decisions applicable to specific properties.

The Future Land Use Map builds off the Development Vision Map which identifies the more strategic qualities of the existing and planned land use environment in the urban area, reflecting natural functions and constraints of the urban area landscape, neighborhood character, and policies relating to the relationship between land use and transportation system and service planning that may not be clearly portrayed by the Future Land Use Map.

There is a relationship between the Development Vision Map and the Future Land Use Map, however, that should be recognized and considered when assigning or considering amendments to the assigned Future Land Use map classifications. The relationship is not a one to one relationship; there are typically multiple Future Land Use Map classifications that can be appropriate with a given Development Vision designation, and the classification applied should be considered in terms of factors such as accessibility, abutting area land uses and building forms, buffering or transitional development needs, and the adequacy of gray and green infrastructure. Not every land use classification is appropriate for every place type identified on the Development Vision map; a balance needs to be struck between accommodating choice and diversity while protecting existing investment. Table 2-13 identifies those Future Land Use classifications that are considered compatible with various Development Vision place types and should be used as a guide to identify the potential range of land use categories that could be considered for a particular development area or site within the Urban Area.

TABLE 2-13: THE FUTURE LAND USE - PLACE TYPE MATRIX



Part 5 | The Transportation Framework

A foundational element of any great city is the network of travel corridors that provide for the movement of people and goods about the city, provide space for people to meet and share ideas, and act as conduits for economic opportunity and exchange. Comprised primarily of streets but also including trails, rail lines, alleys, subways, and skyways, these corridors serve many purposes:

- They move people, provide access to business and homes, and serve as public spaces;
- They vary with the surrounding context and should support the adjacent land use context;
- They provide safe, attractive corridors and encourage human and economic activity by creating gathering places, attracting investment and encouraging opportunities for 'staying'; and
- They promote human and environmental health by making it easier and safer to travel as a pedestrian or by riding a bicycle.

Public rights-of-way make up approximately 40 percent of publicly owned space in a city. The planning, design, and use of this valuable space influences many aspects of city life and affects the safety of residents, including the most vulnerable populations—children and elderly citizens.

The Comprehensive Plan Transportation Framework guides how the City will invest in infrastructure, projects, and programs to keep people moving and ensure Rochester is among the safest, healthiest, and most economically vibrant cities in the nation.

Changing Expectations for Transportation

The Rochester Comprehensive Plan recognizes that transportation is not an end in itself. Rather, it is a means to realize the city's goals in areas as diverse as health, economic growth, livability, affordable living, and fiscal sustainability. Transportation can affect these goals in the following ways.

Economic Growth | Local and regional transportation is essential to Rochester's past, current, and future economic success. As a destination medical community that draws visitors from around the region and the world, access to the Mayo Clinic and the City's many other businesses and cultural activities is essential to economic success. Since employee decisions about where to live and how to travel are influenced by the reliability of the transportation system, Rochester's economic success will continue to rely on quality transportation.

Livability | Transportation preferences appear to be changing among different demographic groups, particularly post-millennials, younger millennials, and seniors. By coordinating land use decisions with transportation investments, the City can increase the number of convenient and affordable transportation options available. Building communities with convenient pedestrian and transit access to destinations close to home will ensure Rochester continues to offer a high quality of life to its residents.

Placemaking | Transportation corridors play an important role in creating great public spaces in the community. All unique places have a story, which is manifested in their physical design. Corridor design can be used to create areas that attract people by including features such as shaded sidewalks, plazas, and other public spaces that encourage people to stroll, stop, sit, or gather, while adding value to adjacent properties and maximizing public benefit. Improving multi-modal access to such spaces helps to contribute to the vitality of these locations.

Health | Transportation systems impact community health in many ways. Transportation networks can provide opportunities for daily physical activity and improve safety by minimizing the risk of being injured in a collision. Transportation projects also contribute to improvements in environmental quality by improving air quality, reducing stormwater runoff, and limiting the unwanted impacts of traffic noise.

Affordability of Transportation and Housing Options | Nationwide, transportation costs are the second highest household expense and can be the highest expense for low income households. These residents and others—like the elderly or disabled—can enjoy an improved quality of life if opportunities to live nearer jobs, education, and other daily activities are provided, or the ability to access them through options such as convenient and frequent transit service are available.

Fiscal Sustainability | Federal, state, and local transportation funding levels are declining when viewed in inflation-adjusted terms, yet the demands placed on urban transportation systems are increasing. Strategic investments in a balanced transportation system can minimize pressure on existing roadways during peak travel periods, reducing the need for costly roadway capacity projects. Furthermore, by aligning land use with transportation to increase the number of residents who live within walking proximity to jobs and services or along key transit corridors, more efficient travel is possible.

Key Objectives

Projections indicate that growth in local and regional travel to employment and services in the Central Business District of Rochester will exceed the capacity of the downtown street network, unless viable travel options are in place to reduce the demand for travel in personal vehicles into the heart of downtown. Attracting people to fill the significant employment growth projected will require effective and appealing alternatives to driving into downtown from both local and regional locations. The cost and space that would be needed to meet parking demands assuming no change in travel behavior will

impede the ability to achieve the goals of the Downtown Master Plan and Destination Medical Center Vision, resulting in the spillover of employee and other long term parking into retail reserves or adjacent neighborhoods if other options are not provided.

Importance of Changing the Downtown Access Mix

The ability of vehicular gateways into downtown to accommodate additional peak period traffic growth and expand the capacity of the roadway network is limited. It is estimated that without a change in the current mode choice being made by people coming into downtown, the capacity of gateway portals into downtown could be exceeded by 40% to 50%.

FIGURE 2-12: MODE SHARE

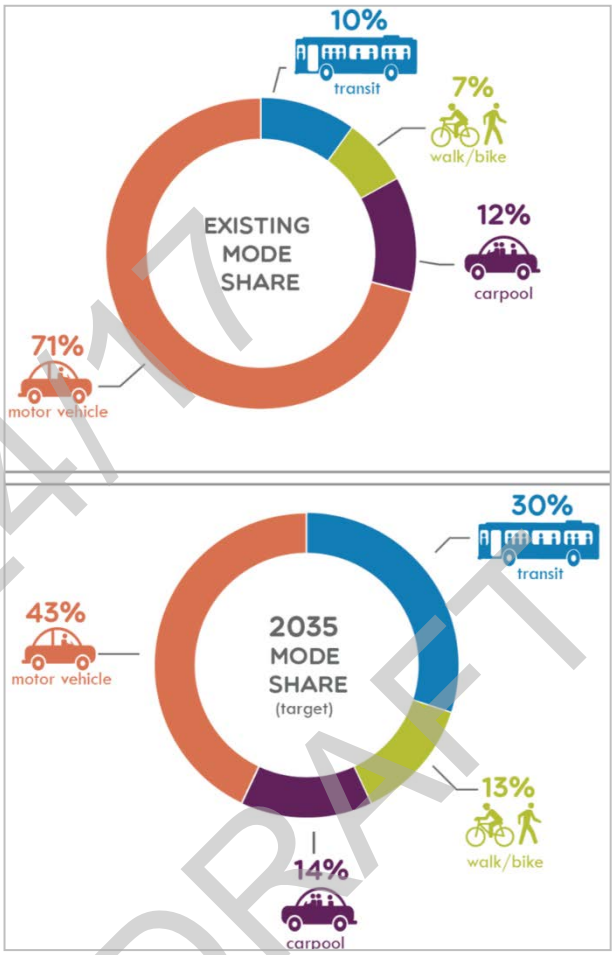


Figure 2-12 illustrates the existing mode choice breakdown among employees working downtown and the estimated change in mode share needed to maintain a reasonably functioning central area street network in the future. It has been estimated that the share of private vehicle travel will need to drop desirably by 25 to 30 %, with a shift to alternative options such as transit, park and ride, carpooling, and walking/biking.

The significance of this is that it affects areas beyond downtown, since trips ending downtown typically begin elsewhere. Facilities and services outside of the downtown core will need to evolve as well in order to support alternative choices among downtown workers and visitors. Added investment in local and regional transit and other support services will be fundamental to sustain quality access to downtown Rochester for workers, visitors, students, customers, clients, residents, and others. Achieving the broad transportation goals set out in the Downtown Master Plan and DMC Development Plan will be critical to making Downtown Rochester a world class destination city with the world's best medical center at its core.

The Destination Medical Center Plan

The Destination Medical Center (DMC) is a public-private partnership designed to leverage the growth of Mayo Clinic and other related health science and service businesses and institutions within Rochester to create economic opportunity for the local community, region, and State as a whole. The DMC Vision provides a framework to transform Rochester into a dynamic urban center that integrates Mayo Clinic's medical campus with commercial, biomedical-research-technology, residential, retail-entertainment, hotel-hospitality, educational, recreational, and cultural uses supported by a strategic network of streetscape, transportation, greenway, and public space amenities.

The transportation element of the DMC Plan outlines investment concepts to improve access to downtown and improve circulation within downtown for residents, workers, and visitors on transit, foot, and by bicycle. The plan includes six investment concepts built on strategies related to the following components: 1) access and parking, 2) transit, 3) streets, 4) active transportation, 5) wayfinding, and 6) regional commuter service. These strategies are built upon a foundation of transportation principles that were first identified in the Downtown Master Plan and reinforced by the DMC Plan:

- Bring 30% of the workforce to downtown Rochester by transit by 2035
- Create a "park-once" downtown environment connected by a frequent downtown circulator
- Build shared-parking prioritized for economic development
- Create world-class streetsthat are designed for people
- Create an exceptional place for healthy, human-powered transportation
- Form a downtown Rochester Access Authority
- Invest in sustainable transportation infrastructure and programs that reduce the city's ecological footprint
- Use DMC funding to leverage public and private transportation infrastructure funding
- Establish and maintain a transportation network that is accessible and inclusive to people of all ages, abilities, and states of wellness

There is a strong economic case for implementing improvements consistent with these principles. Cities around the North America and worldwide have recognized that a strong economy attracting a young, diverse, and well-educated workforce requires walkable urban neighborhoods, comfortable streets that accommodate non-motorized transportation, and excellent urban recreation options. At the same time, the transportation network needs to provide residents and businesses with safe, convenient access to various destinations in the city through a balanced system of pedestrian, bicycle, vehicular, and transit facilities and services.

To support reaching the goals set out in the DMC Plan, the P2S 2040 Plan identifies policies and strategies that complement and support the DMC Transportation Vision while meeting the transportation expectations for mobility and access throughout the urban area.

Transportation Infrastructure

Transportation infrastructure is one of the two legs on which meeting the mobility and accessibility needs of residents, businesses, workers, and visitors rest; transportation services such as local transit service and shared ride services, are the second leg. The fundamental building blocks of the transportation infrastructure addressed in P2S 2040 include the development of a Primary Transit Network (PTN) and continued development of a robust multi-modal street network that serves all modes of travel safely and effectively. Rochester is well positioned to advance this vision, with the city's street grid and highways providing an excellent base on which to build a future with more options for getting around town. Designing updated transportation infrastructure in concert with thoughtful land-use decisions will create a sustainable transportation system for future generations. Underlying the process is acknowledgement that transportation is one of the key elements that define communities. In the same way that roadways spur development today, transit options and 'living' streets designed for all users can help create an urban experience that attracts new businesses and young people in the 21st century economy.

To achieve the goal of enhancing our transportation systems to meet the needs of the 21st Century, the vision for the future of transportation infrastructure in Rochester includes:

Public transportation as a cornerstone | Investment in a Primary Transit Network (PTN) connecting major destinations and park & ride reservoirs throughout the city with downtown while providing a transportation infrastructure that can support private investment in vibrant, mixed use development

Roadway improvements focus on efficient movement | Roadway and intersection improvement projects undertaken to address safety concerns, transit priority, and optimize the operation of roadways

Manage the transportation system more effectively | Provide Transportation Demand Management (TDM) programs and services to promote alternative, non-driving modes of transportation

Encouragement of active transportation | Increase opportunities for active transportation to provide an improved range of attractive travel options to residents and visitors in the community

Well-maintained and managed infrastructure | The transportation system is planned, developed, and built so that the City is able to keep it in a good state of repair with robust maintenance that facilitates year-round use of all transportation modes

The following pages discuss the various transportation infrastructure elements that will contribute to achieving the future land use and transportation vision of the community.

Transit Infrastructure: Primary Transit Network (PTN)

Rochester already benefits from a successful transit system that carries a high level of daily passengers for a community of its size. This is due in large part to the number of peak period local commuters traveling to downtown by bus each day. Employer policies and programs providing subsidized transit passes along with constrained parking supply support the use of transit by commuters.

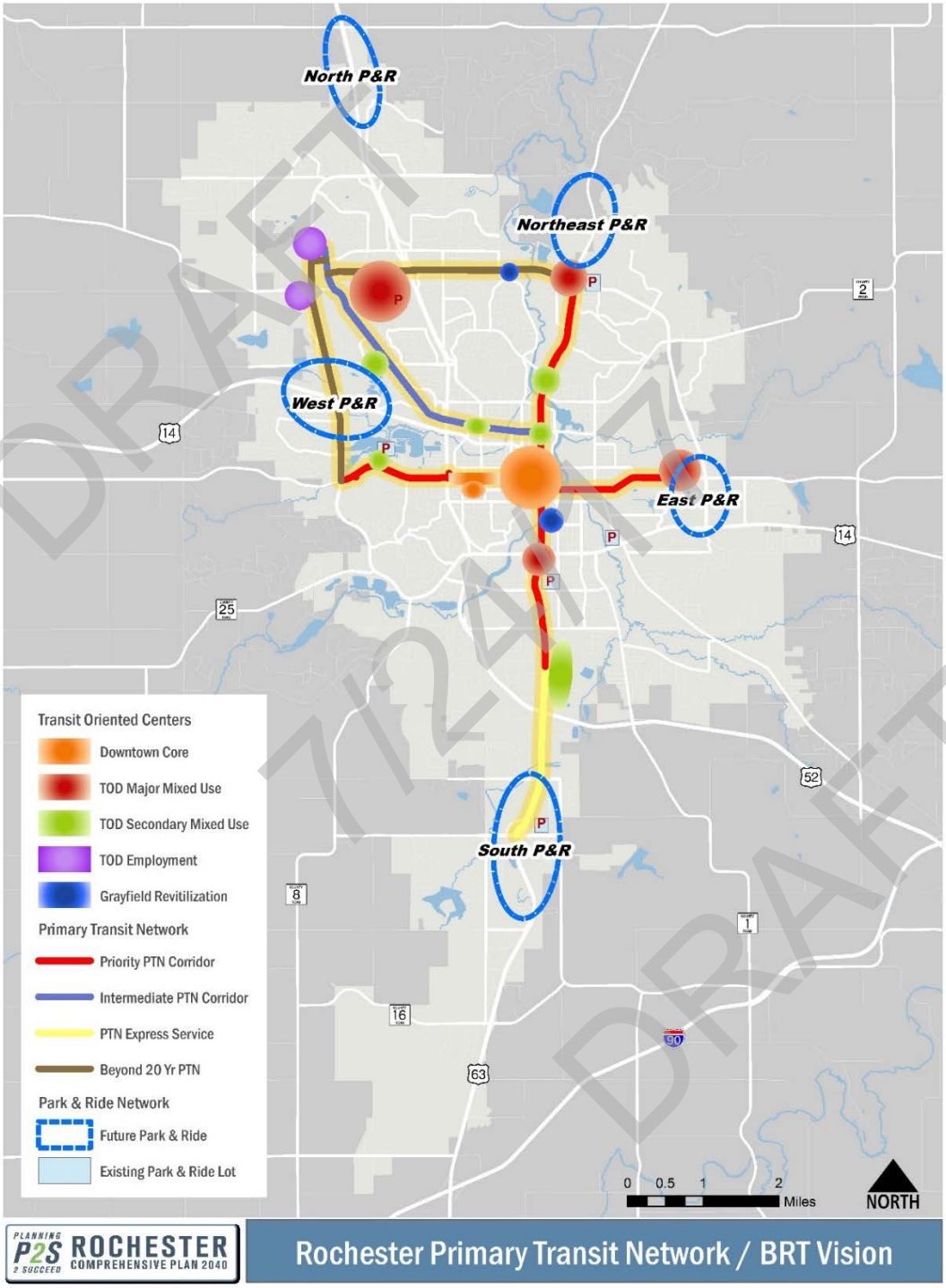
Not all Rochester residents and visitors, however, have viable transit options for the trips they want to make in Rochester. Rochester Public Transit (RPT) service is oriented towards the rider traveling to downtown, which is reachable from most neighborhoods within 15 minutes. However, the radial nature of the system, with most routes starting and ending at the Downtown Transit Center, force most riders, even those whose trips are not starting or ending downtown, to transfer through the downtown Transit Center. Recommendations included in the Downtown Master Plan and Transit Development Plan have recommended a rethinking of the city-wide transit system in order to meet downtown mobility goals and improve service for non-downtown trips. An element of these recommendations has been to develop a city-wide network of Transit Priority Corridors which would facilitate the future transition of the overall bus system into a "grid" system typical of larger cities. Evolution to a system anchored by priority corridors and a route network with more of a grid structure can support improved downtown access while offering improved access and mobility for trips not related to downtown destinations. In the P2S 2040 Plan, a fundamental element of this transition, the establishment of a network of transit priority corridors, is recommended in the form of a Primary Transit Network (PTN).

What is the Vision for the PTN

The Primary Transit Network (PTN) is envisioned as set of key transit corridors where top-quality, high-amenity transit services will connect downtown Rochester with major destinations and future transit oriented development nodes along the PTN. The PTN provides a framework to guide policy and investment by identifying where the City intends provide the highest level of service and capital investment in transit outside of the downtown, to better align these investments strategically with redevelopment and reinvestment priorities. Segments of Broadway Avenue, 2nd Street SW, and 4th Street SE are priorities for early implementation given their alignment with economic development opportunities, service to existing neighborhoods, and ability to serve major remote parking reservoirs to be developed that serve downtown needs. Additional corridors, including Valleyhigh Drive NW, 37th Street North, and a segment of West Circle Drive are identified as potential long term additions to create a fully connected PTN network, emphasizing service to the major northwest growth area of the city

while also providing connections to all other quadrants of the city. Figure 2-13 highlights the locations of these corridors.

FIGURE 2-13: PRIMARY TRANSIT NETWORK CONCEPT



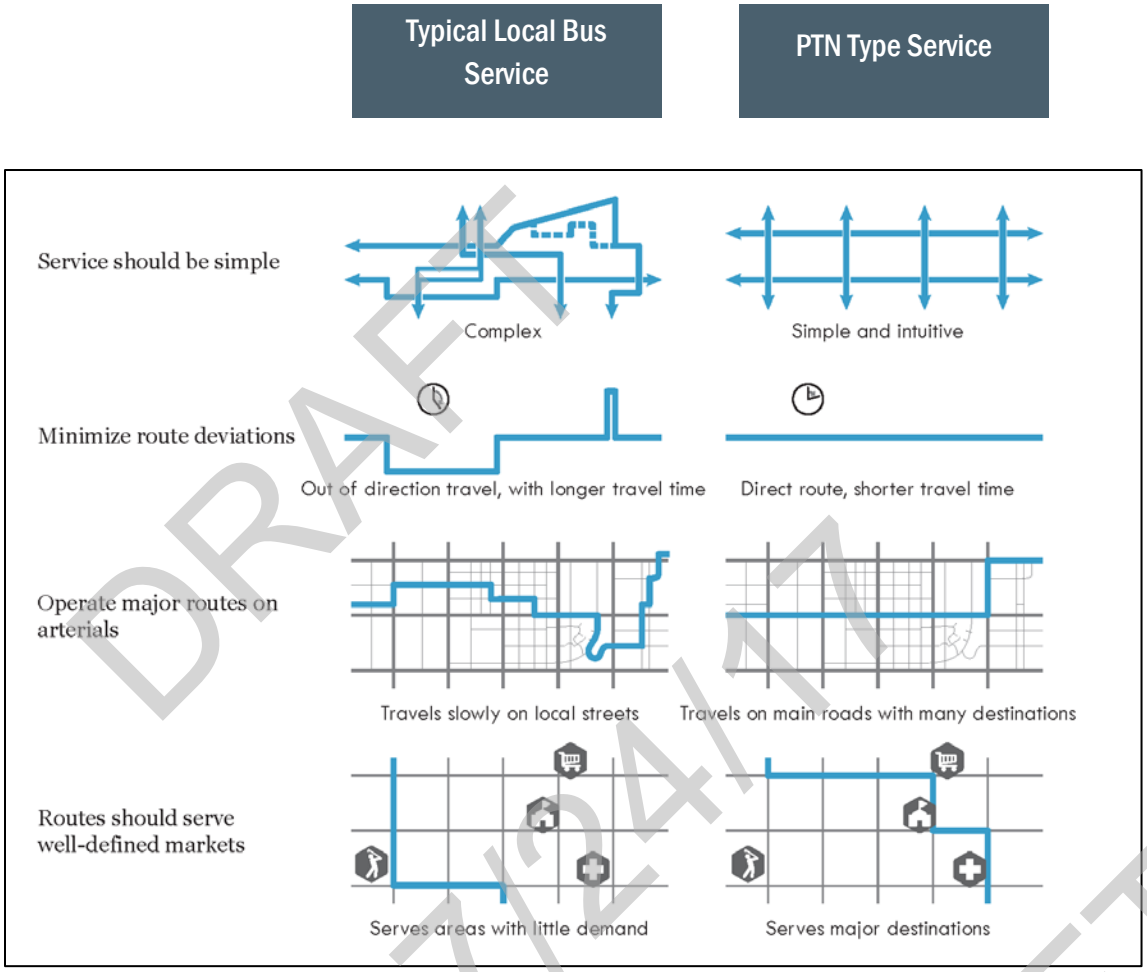
The PTN aligns identified areas of housing, services, and job growth with transit infrastructure that will allow people to move around the city in a reliable, convenient, and dignified manner. When fully realized, development of the PTN will make it viable to live, work, and play in Rochester with reduced dependence on the need for a personal vehicle. The PTN is an "infrastructure plan" for transit and includes priority areas for development and revitalization with transit oriented and transit supportive land uses.

The elements of transit service that will be enhanced by development of the PTN corridor network include:

- Route structure: frequent and direct service connecting major trip generators that create demand for service throughout the day
- Hours of service: at least 16 hours of service on weekdays and 14 hours on weekends may be realized
- Frequency: convenient 15 to 20 minutes service to minimize waits and reduce the need to refer to the schedule of service
- Speed and Reliability: service is on-time and competitive with the private automobile in connecting key destinations, with an average operating speed no less than 30% of the speed limit
- Marketing: service is identifiable, legible, and easy to understand for new riders
- Park-and-ride facilities: service connects with high demand park-and-ride facilities
- Fares and pass programs: a fare system, with pre-boarding purchase or payment, that encourages quick station boarding

Figure 2-14 highlights some of the main differences between PTN and local bus route service.

FIGURE 2-14: TYPICAL SERVICE DESIGN CHARACTERISTICS - PTN VS LOCAL BUS



Why is the PTN Important?

Increased investment in transit infrastructure and amenities will support transit oriented development along PTN corridors, helping to reduce the impacts of new development on traffic and ensure transit investments are productive. The PTN reinforces that certain bus service corridors are as permanent as any rail corridor, and can therefore become the foundations of compact, walkable, transit-supportive neighborhoods. The PTN framework aligns with and will guide:

- Transit service and capital investment priorities
- Arterial street design and signalization
- Transit passenger facilities investments
- Land use planning and development

- Siting of future transit oriented land uses
- Economic development, reinvestment and revitalization priorities
- Downtown Gateway Corridor revitalization and redevelopment enhancements

The PTN is envisioned to become a foundational element of Rochester's development strategy over the next 20+ years. Service and supporting infrastructure on the PTN will have several key features which distinguish it from other local and regional services and help establish its role as a long-term foundation for the transit system and an anchor for emerging mixed use, mixed intensity land use corridors and nodes that provide new options in housing and business location:

Convenience | The 15-minute all day frequency goal of the PTN represents the point at which travelers no longer need to consult a schedule to use transit. It also permits transfers to be made rapidly even without timing connections, increasing the ease of using transit.

Permanence | The PTN is dependent on both service improvements and infrastructure investments. Integrated into the fabric of the community through transit-supportive design and amenities, the PTN will be visibly permanent and something around which the City and the development community can build with confidence.

Synergy with land use | The PTN will provide a level of service that makes it possible to live without a car (by choice or by need), have fewer cars than adults in a household, and for businesses to require fewer parking spaces. The PTN also establishes a land-use transportation nexus—identifying corridors where it is most cost-effective to site new transit-dependent development—because a high level of service is available. To be successful, the PTN requires a concentration of jobs and housing to support the high level of service; it also acts as a guide for siting land uses that create needed levels of transit demand.

How is the PTN Implemented?

Implementation of the PTN will require new strategies not previously employed in the community. Land use and development policies will need to incorporate transit oriented and transit supportive provisions and address urban design features needed to reach its full potential. As land uses along the PTN corridors begin to evolve into a transit supportive form, capital resources, infrastructure improvements, transit operations, and connectivity of non-motorized systems will need to follow to achieve the vision of the PTN. Strategies and actions will be focused on those segments (Broadway Avenue, 2nd Street SW, 4th Street SW) where the vision of Bus Rapid Transit service within the horizon of this plan is most feasible, with policies, programs, and investments aligned to support implementation.

On these high priority corridors, changes in land use and development intensity will lead growth in a manner that is integrated and synergistic with transit improvements. With relatively close proximity to downtown, access to community assets (parks, schools, services), and growing interest in urban living, more diverse housing and lifestyle choices that offer more opportunities to walk, bike, and use transit make these corridors prime areas for redevelopment. Land uses and development will transform as the following conditions materialize:

- Development policy and programs are established which enable and help catalyze reinvestment that is transit oriented and transit supportive;
- Small area plans engage stakeholders and inspire transformation;
- Property assembly of smaller parcels enables larger scale developments; and
- Investors realize the opportunities for mixed use commercial and residential adjacent to well established neighborhoods with great access to community assets and relative close proximity to downtown, where walking, biking, and transit are viable.

Transit elements of the PTN will develop with incremental investments in quality transit as land use and street design begin to take on more transit oriented forms. Local regular route bus service can evolve to a Bus Rapid Transit (BRT) service over time by employing a variety of strategies that will improve transit

SMALL AREA PLANS

The success of the PTN will depend on creating destinations and housing of sufficient density along the network to generate ridership levels that can sustain higher frequency service. This may mean mixing uses, such as commercial uses, next to or within residential development or developing housing at higher densities. This can be difficult when concerns about traffic, parking, noise, building design, and other compatibility issues are perceived to outweigh the merits of the proposal. A small area plan can help in addressing neighborhood issues, particularly those related to redevelopment or increased development densities.

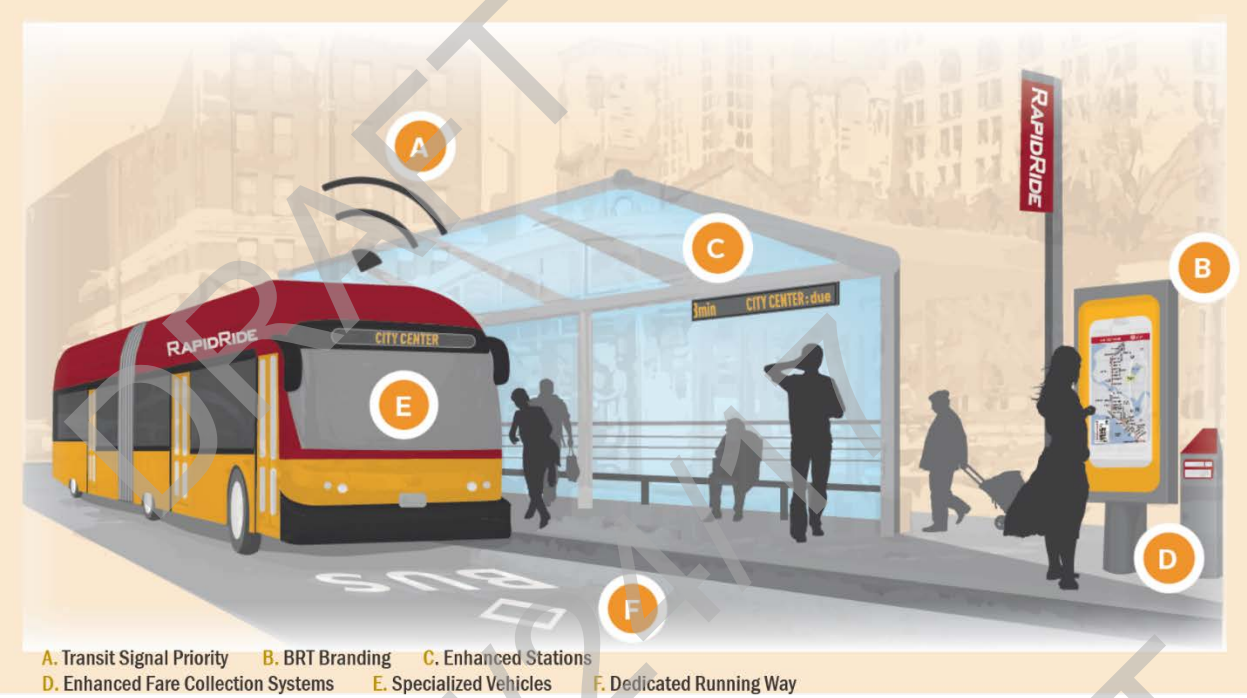
Small area plans provide more specific guidance for land use, transportation, and public improvements, and may include design guidelines, overlay zones, and public amenity requirements. They are developed through a public planning process that involves property owners, neighbors, and local government.

Benefits of small area planning may include:

- Opportunity to explore alternatives that can result in higher and better use of the area
- Reducing neighborhood opposition by engaging people in design conversations early on
- Defining expectations relative to the varying roles and partners
- Increasing the opportunity to achieve community wide goals while leveraging and adding value to private investment

travel speed, reliability, passenger comfort, and transit identity over time. The ultimate package of improvements for the PTN would include a BRT system that may include dedicated running-ways, intersection priority features, enhanced stations, specialized vehicles, frequent transit service, off-board fare collection systems, and distinctly stylized branding, as illustrated in Figure 2-15.

FIGURE 2-15: TRANSIT FEATURES OF PRIMARY TRANSIT NETWORK



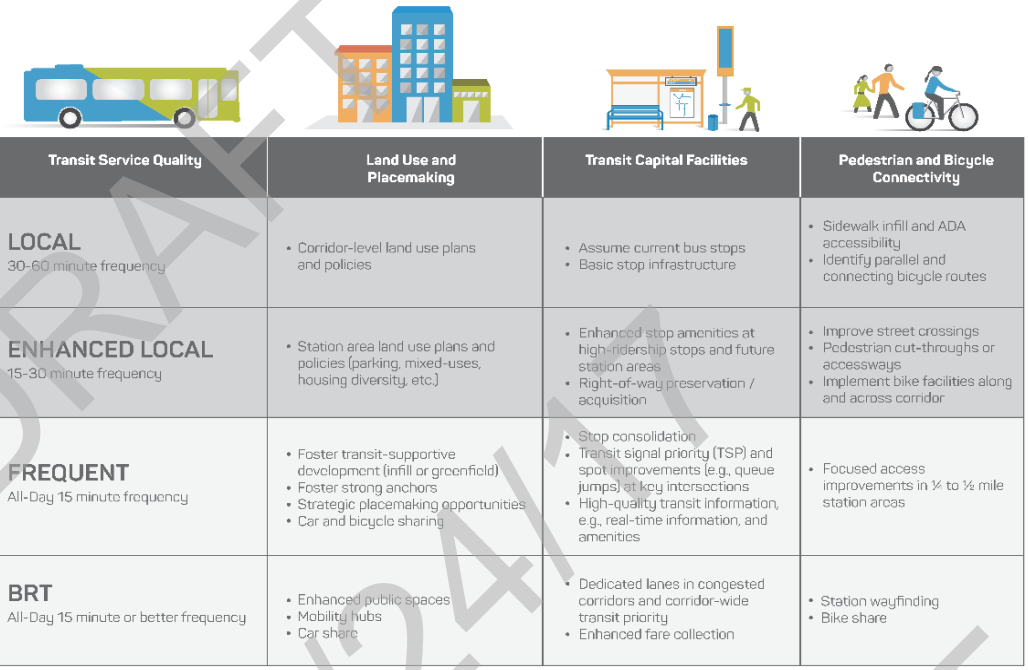
These permanent improvements will upgrade the quality of service levels, and will be deployed as the following conditions materialize:

- Development along a corridor achieves the minimum density required to support "high-quality network" service
- Street design permits the operation of service at a minimum speed and reliability, maximizing the pedestrian access to each transit stop on the corridor
- Funding sources for high-ridership transit grow at an adequate rate to permit transit service increases

It is anticipated that the ultimate service in all PTN corridors will be Bus Rapid Transit (BRT). Rochester does not have the operating and capital resources to fully implement this level of improvement on the PTN in the early years of the planning horizon. However, with a system design based on ultimately transitioning to Bus Rapid Transit service, the features can be implemented incrementally and the PTN framework can be used to guide investment as land use and street design begin to take on good transit

oriented forms. A phased-in approach could follow the steps illustrated in Figure 2-16 to upgrade service over time to BRT. One of the benefits for the City with this incremental approach is that an investment plan can be structured so that early investments will have the dual benefit of improving current service

FIGURE 2-16: ELEMENTS OF PHASING PLAN LEADING TO ULTIMATE BUS RAPID TRANSIT SERVICE



Cumulative Investment Over Time

	Transit Service Quality	Land Use and Placemaking	Transit Capital Facilities	Pedestrian and Bicycle Connectivity
Other Services	**LOCAL** 30-60 minute frequency	• Corridor-level land use plans and policies	• Assume current bus stops • Basic stop infrastructure	• Sidewalk infill and ADA accessibility • Identify parallel and connecting bicycle routes
Other Services	**ENHANCED LOCAL** 15-30 minute frequency	• Station area land use plans and policies (parking, mixed-uses, housing diversity, etc.)	• Enhanced stop amenities at high-ridership stops and future station areas • Right-of-way preservation / acquisition	• Improve street crossings • Pedestrian cut-throughs or accessways • Implement bike facilities along and across corridor
PTN	**FREQUENT** All-Day 15 minute frequency	• Foster transit-supportive development (infill or greenfield) • Foster strong anchors • Strategic placemaking opportunities • Car and bicycle sharing	• Stop consolidation • Transit signal priority (TSP) and spot improvements (e.g., queue jumps) at key intersections • High-quality transit information, e.g., real-time information, and amenities	• Focused access improvements in ¼ to ½ mile station areas
PTN	**BRT** All-Day 15 minute or better frequency	• Enhanced public spaces • Mobility hubs • Car share	• Dedicated lanes in congested corridors and corridor-wide transit priority • Enhanced fare collection	• Station wayfinding • Bike share

Each service category assumes all investments and infrastructure from previous categories are established.

while also building towards the ultimate goal of BRT service with minimal loss of value in the features deployed early in the process.

BRT systems throughout North America employ a broad spectrum of strategies based on available resources, corridor constraints, and desired benefits. Full BRT employs many enhanced characteristics—most notably an exclusive runningway—while a "BRT Light" approach is typically less capital intensive, applying only targeted strategies like branding, vehicle and station upgrades, and some intersection treatments. BRT implementation in Rochester will depend on local conditions, including where transit priority is needed to ensure competitive travel times and if there is space to accommodate it.

Figure 2-17 illustrates the anticipated phase-in of different levels of enhanced transit service and priorities among the PTN network corridors over the 25-year horizon of the Comprehensive Plan. As noted, the 2nd Street SW, North Broadway, and 4th Street SE corridors are envisioned as the first set of facilities to emerge as PTN enhanced corridors. Further on in the horizon would be a first segment of

South Broadway extending south from downtown, and the Valleyhigh Drive corridor extending into northwest Rochester. Other segments, including the southern extension of South Broadway, 37th Street NW and West Circle Drive would likely not achieve full PTN status with BRT service until beyond the 25 planning horizon.

FIGURE 2-17: POTENTIAL PHASE-IN OF BUS RAPID TRANSIT SERVICE

Rochester will need to leverage outside resources to the greatest extent possible to supplement operating and capital resources in order to implement the PTN in full. The aim of the PTN is to provide an integrated network of transit corridors providing high frequency, reliable transit service connecting people to downtown, other major destinations in the city, and downtown supportive remote parking. Since the operating and capital resources do not exist to implement the PTN in full today, the purpose of including it in the P2S 2040 Plan is to create a policy framework that ensures quality transit will be available as land use and street design take on transit oriented forms. The elements of this policy identify the conditions needed for enhanced transit to succeed, and can be best thought of in an IF-THEN framework as follows:

- IF development along a corridor achieves the minimum density required to support "high quality network" service, AND
- IF street design permits the operation of service at a given minimum speed and reliability, and maximizes the pedestrian access to each transit stop on the corridor, AND

- IF funding sources for high-ridership transit grow at an adequate rate to permit transit growth;
- THEN, the corridor will be permanently upgraded to high-quality network service levels, along with a corresponding higher priority for passenger amenities, fleet improvements, and other elements of transit quality.

Developing a series of policy actions will ensure that the PTN will be properly implemented. These actions are intended to prioritize PTN corridors for future development and coordinate ongoing efforts by the City and others. The following policy steps are necessary for effective PTN implementation:

- Use the City's zoning and development policies to encourage intensification of land use around Primary Transit Network corridors
- Use small area plans to create a coherent and coordinated transit oriented development strategy for specific geographic areas along the PTN network
- Catalyze transit-supportive development by creating incentive programs to ensure that it is economically feasible for developers to build mixed use projects within proximity of PTN corridors
- Plan utility infrastructure to support higher-intensity development along PTN corridors and establish direction regarding the design and traffic management of PTN street corridors to help maintain transit operation speed and reliability
- Ensure pedestrian and bicycle policies and strategies align with PTN transit investments
- Review City codes to ensure policies promote, require, and/or create incentives to provide transit stop and pedestrian oriented amenities that enhance accessibility to PTN service
- Work with businesses to evaluate the feasibility of district funding mechanisms, such as a Business Improvement District, that can help to fund transit information and marketing programs and make streetscape and transit stop improvements

Developing the PTN in Priority Corridors

The following figures provide a preliminary vision of the changes that would be needed for North Broadway, South Broadway, and 2nd Street SW to emerge as strong foundational elements of the PTN System. The graphics highlight features that would support the transition to PTN service.

FIGURE 2-18: NORTH BROADWAY PTN FEATURES

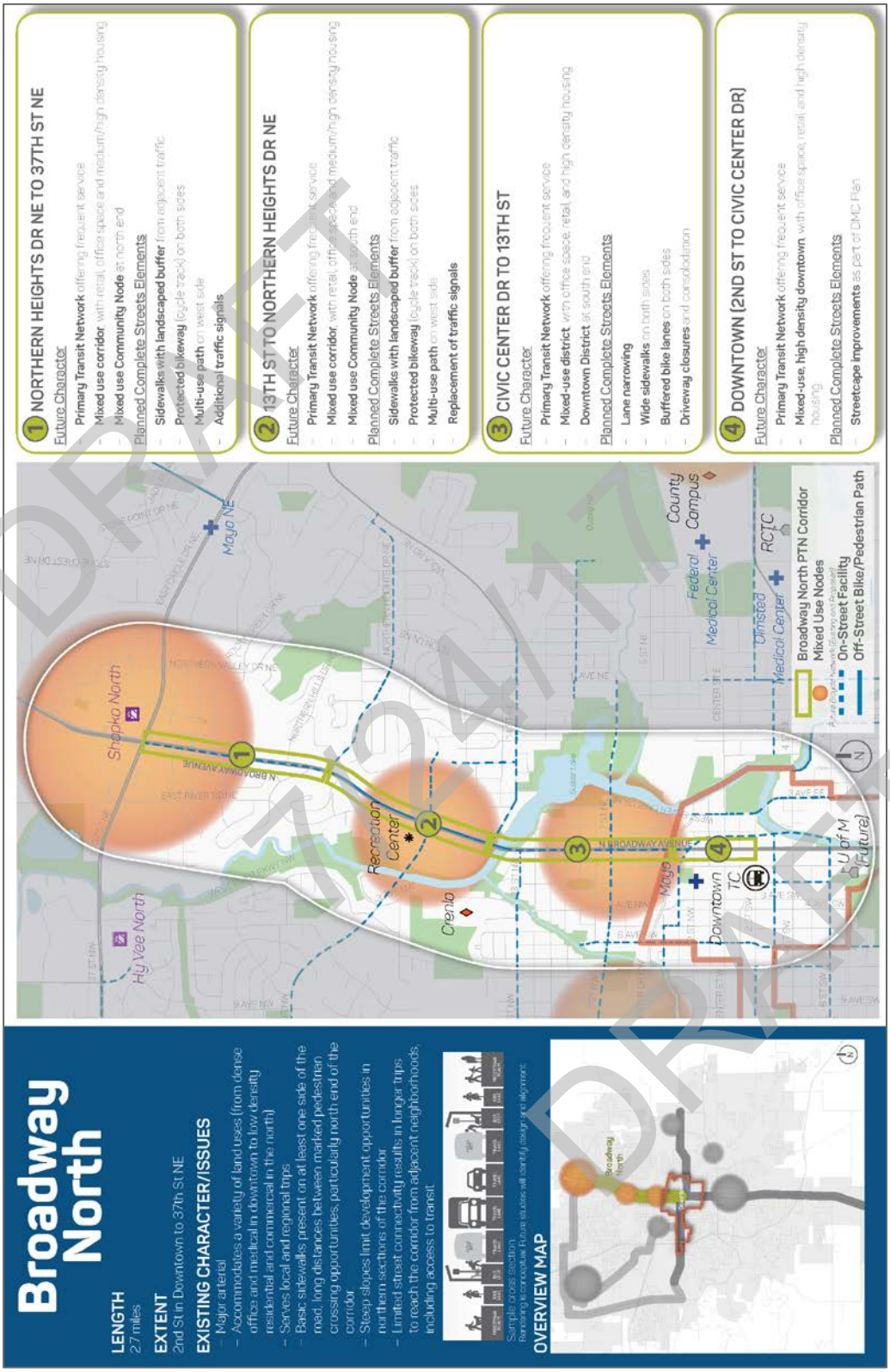


FIGURE 2-19: 2ND STREET SW PTN FEATURES

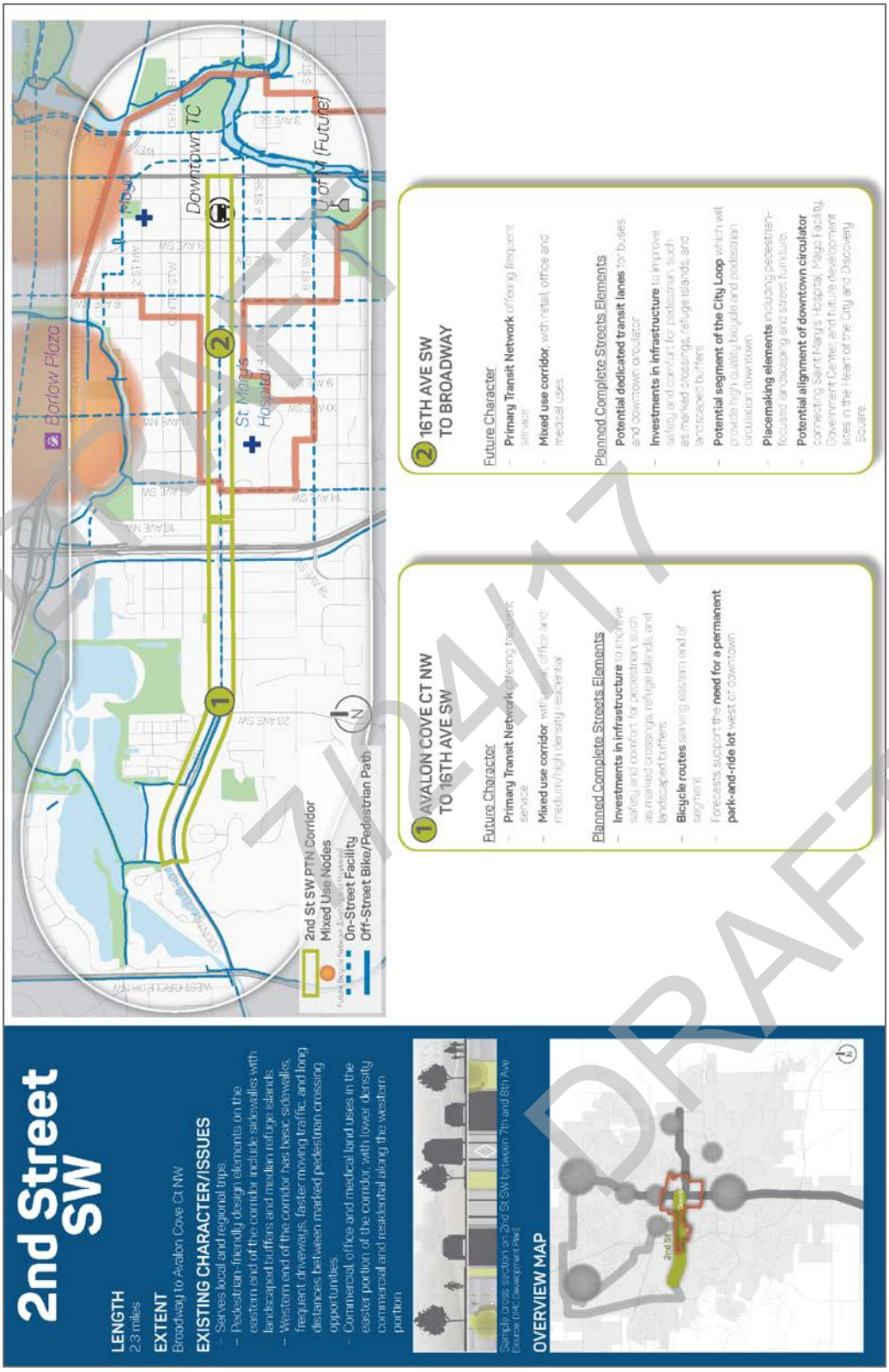
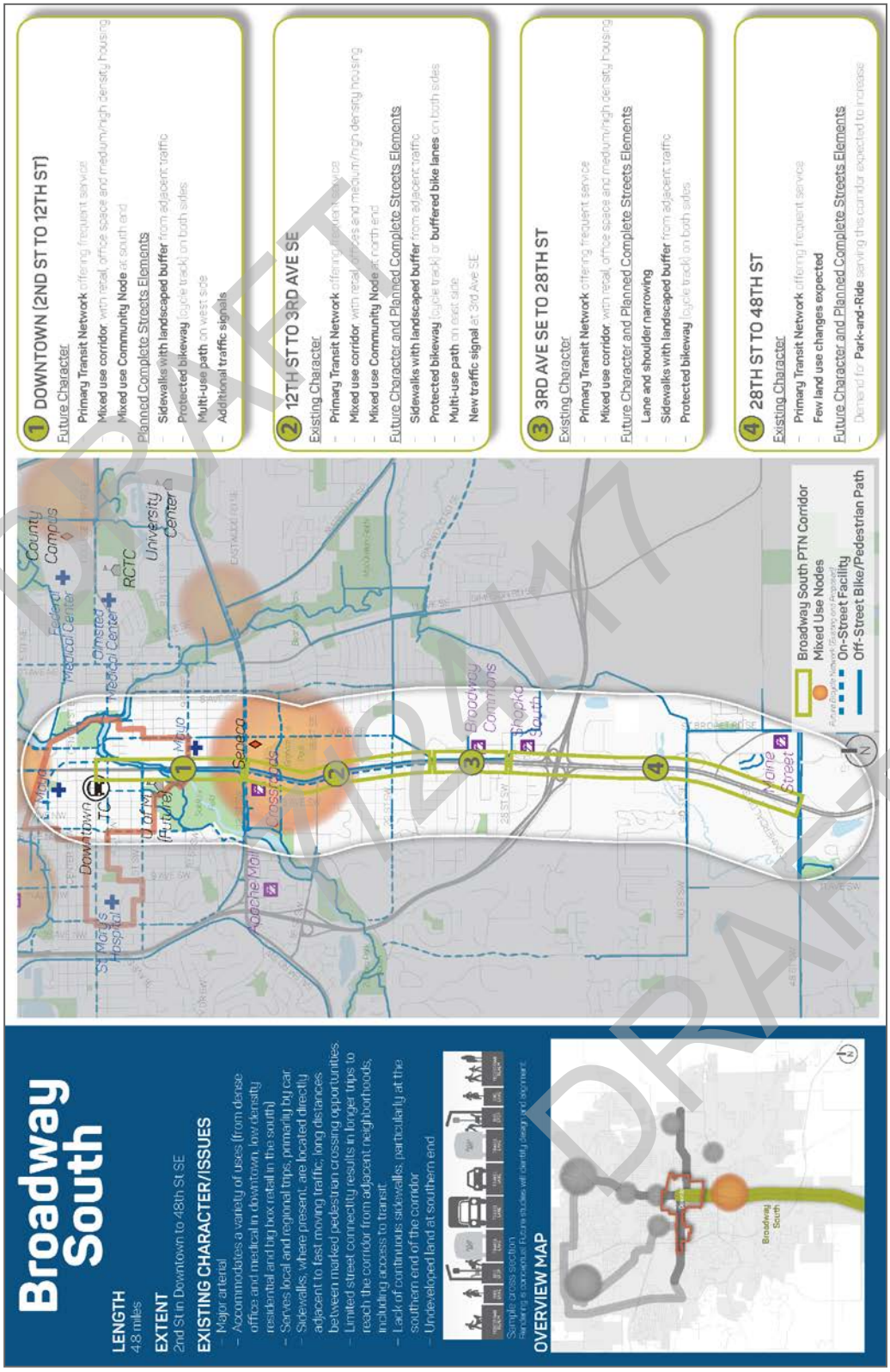


FIGURE 2-20: SOUTH BROADWAY PTN FEATURES



Downtown Transit Systems

The need for improved mobility within downtown Rochester will increase as the level of employment, commercial activity, and residential housing expands as a result of the Destination Medical Center vision. To support the anticipated level of future development, Rochester seeks to develop a "park-once" environment for downtown commuters and visitors. To do so, people need convenient, reliable options to circulate within downtown between various subdistrict areas as well as to and from future reservoir parking sites that will be developed. Achieving the adopted mode split goals for downtown access during peak travel periods will require that people who come into downtown by means other than a private vehicle can move around downtown quickly and reliably without a vehicle.

Trips within downtown will include travel for many purposes. Transit circulation within downtown will need to serve the following markets:

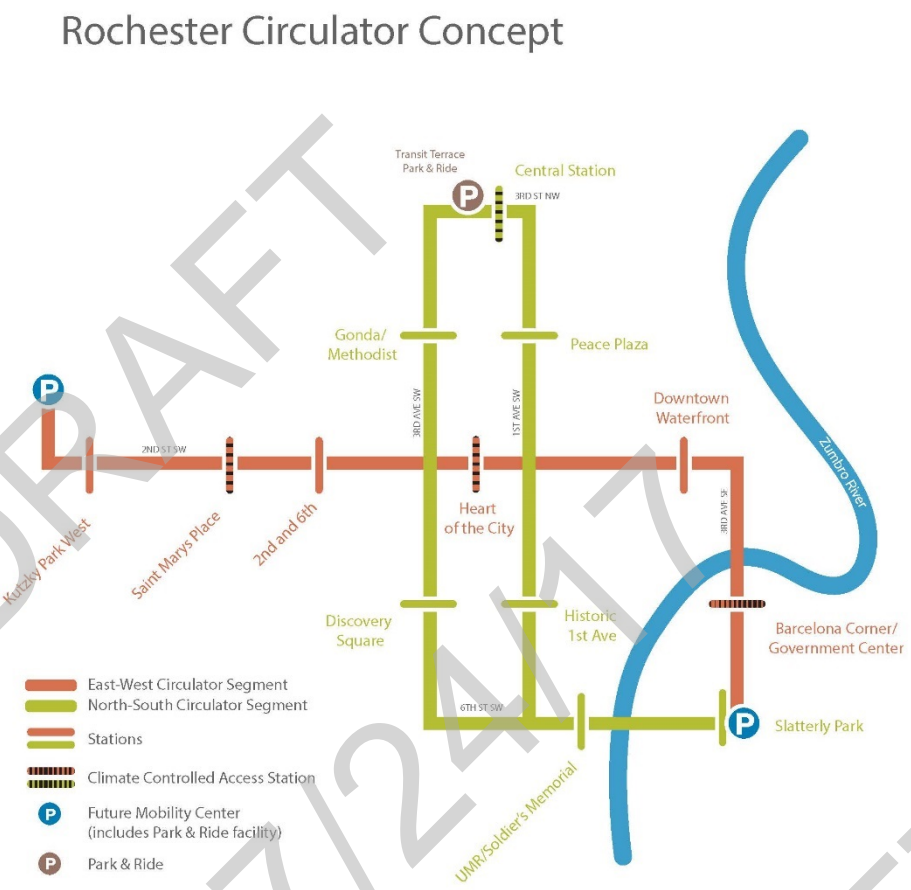
- Patient, staff, and visitors moving within and between Mayo Clinic downtown and Mayo-Saint Marys campuses
- An increasing number of downtown residents as well as residents of group-oriented housing such facilities oriented to student of the University of Minnesota-Rochester, who work, attend school, or have other daily travel needs within downtown
- People with mobility challenges –including elderly or those in wheelchairs or using mobility devices
- Trips during the day by people working, shopping, visiting, or attending events at civic facilities who may arrive downtown without a car or do not want the inconvenience of having to use a vehicle as they move between destinations within downtown, resulting in a demand for trips between 0.5 and 1.5 miles in length—which are slightly longer than a comfortable walk.

Downtown Circulator

The Destination Medical Center (DMC) Development Plan proposes a downtown circulator system to provide high quality, frequent, reliable, and transparent all-day service with safe and convenient pedestrian access to satisfy the increasing need for travel within downtown. Work outside the scope of P2S 2040 is underway to study implementation details of the vision put forth in the DMC plan, such as the mode, alignment, and a strategy for supportive facilities, funding, and management of operations.

The DMC Development Plan identifies the need for an east-west and north-south downtown circulator alignment as identified in Figure 2-21. The east-west connection along 2nd Street is identified as a more immediate priority given the high level of transit and shuttle demand that exists in this corridor and significant projected growth.

FIGURE 2-21: ROCHESTER CIRCULATOR CONCEPT, SOURCE: DMC DEVELOPMENT PLAN



Transit Priority Streets

The DMC Development Plan also identifies a number of street enhancements to make transit faster, more reliable, comfortable, and easy to understand in the downtown area. These strategies include:

- Dedicated lanes | a low cost way to improve transit travel time and reliability as well as capacity by allowing vehicles to operate quickly along designated streets
- Transit signal priority | reduces delay by providing longer green signal phases or shorter red signal phases for approaching transit vehicles; queue jumps can allow transit vehicles to travel through the intersection before waiting automobiles
- "Bulb Out" stops | allow transit vehicles to board passengers from the travel lane, minimizing delay associated with navigating in and out of traffic

- Off-board fare payment | allows passengers to pay fares prior to boarding, minimizing delay associated with passengers purchasing tickets as they board
- Level boarding | at stops and stations reduces time for passengers using wheelchairs or other mobility devices to board
- Stop consolidation | provides for faster service by removing underutilized stops along transit corridors
- Real-time information | displays providing riders with arrival and departure information
- Climate controlled "smart" passenger shelters | provides passengers a comfortable place to wait, including heat, seating, signage, wayfinding lighting, real-time information, and security call boxes

Several key priority transit network corridors will run through downtown which should be prioritized for these types of transit improvements. Final improvements should be identified as part of a series of integrated transportation studies that will be completed for the DMC District during the first five years of the DMC initiative.

Pedestrian Systems: Improving Future Conditions

Pedestrian travel is the most fundamental form of transportation. Sidewalks, off-street trails and paths, and street crossings along with specialized facilities such as skyways and subways provide opportunities to reach everyday destinations, as well as support health and recreation needs.

As Rochester grows, the vision of transit oriented corridor development and infill/redevelopment in traditional downtown neighborhoods supporting new housing and mixed use development will create choices for people of all ages and abilities to walk more for daily trip purposes. Creating pedestrian focused areas throughout the city will provide new opportunities for existing residents to access amenities and will attract new residents to meet Rochester's growing workforce needs.

Investments in the pedestrian network are essential to meeting the broader goals of this comprehensive plan, including improved connectivity, providing more affordable housing, and creating compact and transit supportive neighborhoods. The ability to safely and comfortably walk to everyday destinations is a key element to providing a high quality of life for Rochester residents.

Elements of the Walking Network

Rochester is in some ways a very walkable city, with extensive networks of sidewalks and multi-use trails. Marked pedestrian crossings, curb ramps, and amenities at signalized intersections serve existing pedestrians in many areas. Subways and skyways provide winter protection for people walking

downtown. Key opportunities for improvement include upgrading pedestrian accommodations along and across many busier streets and creating pedestrian oriented districts in new centers along the PTN network and districts within and abutting the Rochester's central development area.

As a Bronze-level Walk Friendly Community, Rochester is committed to supporting safe and convenient pedestrian travel. The city has been deploying state-of-the-practice pedestrian infrastructure, including countdown timers and audible signals at intersections, mid-block crossings, flashing beacons, and high-visibility 'zebra' style crosswalks at selected locations. In addition, Safe Routes to School efforts have been undertaken at various school sites to improve safety on primary walking routes to school. Key elements of the walking network include:

FACILITIES	DISCUSSION OF FACILITY TYPE
Sidewalks	While Rochester has had a long standing policy regarding installation of sidewalks in residential areas, and in 1990 adopted a policy that required all new development to install sidewalks, notable gaps exist in the sidewalk network. These gaps are largely the result of annexation in areas that developed originally outside the city, including significant portions of neighborhoods in SW and SE Rochester, gaps along some major corridors such as Broadway Avenue last reconstructed decades ago, and gaps along some local collector roads originally constructed outside the city when areas were still rural in character. Going forward, filling gaps near schools and along the PTN transit corridors should be a priority. Potential mechanisms to bridge these gaps include property redevelopment, roadway maintenance and reconstruction projects, or stand-alone city funded or shared-cost sidewalk infill projects.
Multi-Use Trails	An extensive network of paved and unpaved multi-use trails is a tremendous community asset that supports pedestrian, bike, in-line skate, wheelchair, and stroller use. Key trails in the downtown area and selected trails outside of downtown are maintained with year-round snow removal. Future investments should be made to fill in gaps in the network and expand its reach to ensure safe connections to residential neighborhoods.
Curb Ramps	Curb ramps are present at most intersections to help people with physical disabilities and people pushing strollers. New ramp construction increases accessibility for people with vision impairments by including detectable warning strips.
Intersections	Intersections are points where pedestrians enter the space shared with motor vehicles to cross the street, with most pedestrian collisions occurring at signalized intersections. Efforts should continue to expand the number of intersections that increase pedestrian visibility and separation to reduce the potential for conflicts. These include high-visibility crosswalks, curb extensions or median refuge islands, road diets that reduce the number of lanes to cross, and adjusting the phasing of traffic signals to separate conflicting pedestrian and vehicle movements.
Subways and Skyways	Downtown Rochester features a well-connected subway and skyway pedestrian network that shields people from inclement weather. These facilities are well utilized due to the concentration of medical, retail, office, and entertainment uses in downtown. This system allows residents and visitors, particularly medical patients, to navigate our community in a climate controlled setting.

CREATING WALKABLE CENTERS AND CORRIDORS

As demographic trends, quality of life considerations, and personal preferences shift, more residents of Rochester are looking to live in walkable neighborhoods with access to nearby shops that can be reached without the need to drive. These demands—also seen in national trends—are expected to form a growing segment of the real estate market in the coming decades. Responding to these trends will be important to preserve the attractiveness of Rochester as a place to live and the economic competitiveness of the region.

Walkable districts represent a basic building block for a city that is more sustainable – socially, environmentally, and economically. Walkable districts mix complementary uses, maintain reasonable walking distances, and orient building entrances and façades to the street. Benefits that may be expected to accrue from successful policy and investment in walkable urban districts include:

- Safer communities with fewer pedestrian injuries and deaths from vehicle collisions
- Improved public health because of more opportunities to walk or bike and the ability to take short trips by walking rather than driving
- More economically viable places, stabilized property values, and reduced retail leakage (where potential customers consider alternatives due to a lack of safe walking conditions)
- Increased transit ridership because of better pedestrian access to transit
- Reduced need for parking capacity due to feasibility of a "park once" strategy

To create the conditions necessary for a range of walkable centers to emerge, a comprehensive strategy to support such centers through public policy and both public and private investment is needed. The most effective method to create pedestrian-friendly districts is to use a three-pronged approach to implementation: guidelines, public infrastructure, and partnerships between private organizations and public agencies.

- Guidelines are tools that shape the form of private investment, such as the location of buildings and parking, the form and size of buildings, and basic pedestrian design features such as sidewalk widths and street tree requirements.
- Public investments are direct expenditures that change the form of the built or natural environment, such as changes to the street right-of-way to reduce pedestrian crossing distances and raising awareness through special paving materials or raised crosswalks. Public investments can improve an area single-handedly and can change the climate in which private decisions are made.

- Partnerships involve a sharing of efforts, money, or expertise between a local government and either another governmental agency, a business entity or private person, or a nonprofit organization. Partnerships can accomplish a wide array of goals, such as developing the land, providing pedestrian amenities and street improvements, and ensuring adequate diversity of uses including housing near a business district.

Another important set of strategies that will help create walkable districts involve land use and zoning. Walkable commercial districts are created not just through the design and land-uses of the immediate district, but they also must have a market of potential pedestrians within walking distance. Zoning in potential walkable districts, such as the proposed transit oriented centers in the Plan, should always allow residential development and require connectivity be provided to surrounding residential areas.

The private sector almost always is the primary engine behind creating a walkable business district. Therefore, it is important to allow enough development intensity to make new development in these areas financially viable. This is especially important in built-up areas where more expensive redevelopment will be the primary method through which change will occur. In developing areas where new walkable commercial development is feasible given nearby residential density and a sufficient base of employment, zoning standards could be considered that specify a minimum FAR (preferred) or maximum parking standards to ensure new development is compact enough and transit supportive.

A purposeful approach to creating walkable urban districts will be needed to overcome existing conditions in proposed transit growth corridors, but the benefits of such as strategy will create a more livable and attractive community.

Opportunities to Enhance Walking Infrastructure

Given the limitations on resources that the city has available to enhance walking infrastructure, certain areas or locations should be prioritized for improvement. Among key locations to consider are:

Walkable Nodes and Neighborhood Centers | The walkability of the community is more than just the presence of sidewalks, but also includes land use, street design, and urban form considerations. Developments that mix residents and jobs with coffee shops, grocery stores, and small-scale retail create interest and open up the pedestrian realm, while streetscapes that activate the environment, such as sidewalk cafes and parks build community and stimulate the desire to walk to destinations. The density of the street network, shorter block lengths, and reduced vehicle speeds also help create a quality pedestrian environment.

The Plan establishes a framework for a series of pedestrian oriented nodes and neighborhood centers outside of the downtown core aligned with the Primary Transit Network. Pedestrian elements are important to the success of such centers and include features such continuous sidewalks, active and interesting streetscapes and storefronts, improved safety at street crossings, buffering from adjacent vehicular traffic, limiting the number of driveways, inclusion of attractive landscaping, and human scaled

lighting. New development or redevelopment will offer the opportunity to incorporate many of these elements in targeted development areas.

Transit Access Points | The quality of the pedestrian environment around transit stops is a critical element of the transit network. Walking provides an easy and affordable means to access transit stations and stops. Ensuring pedestrian access to transit can be achieved through:

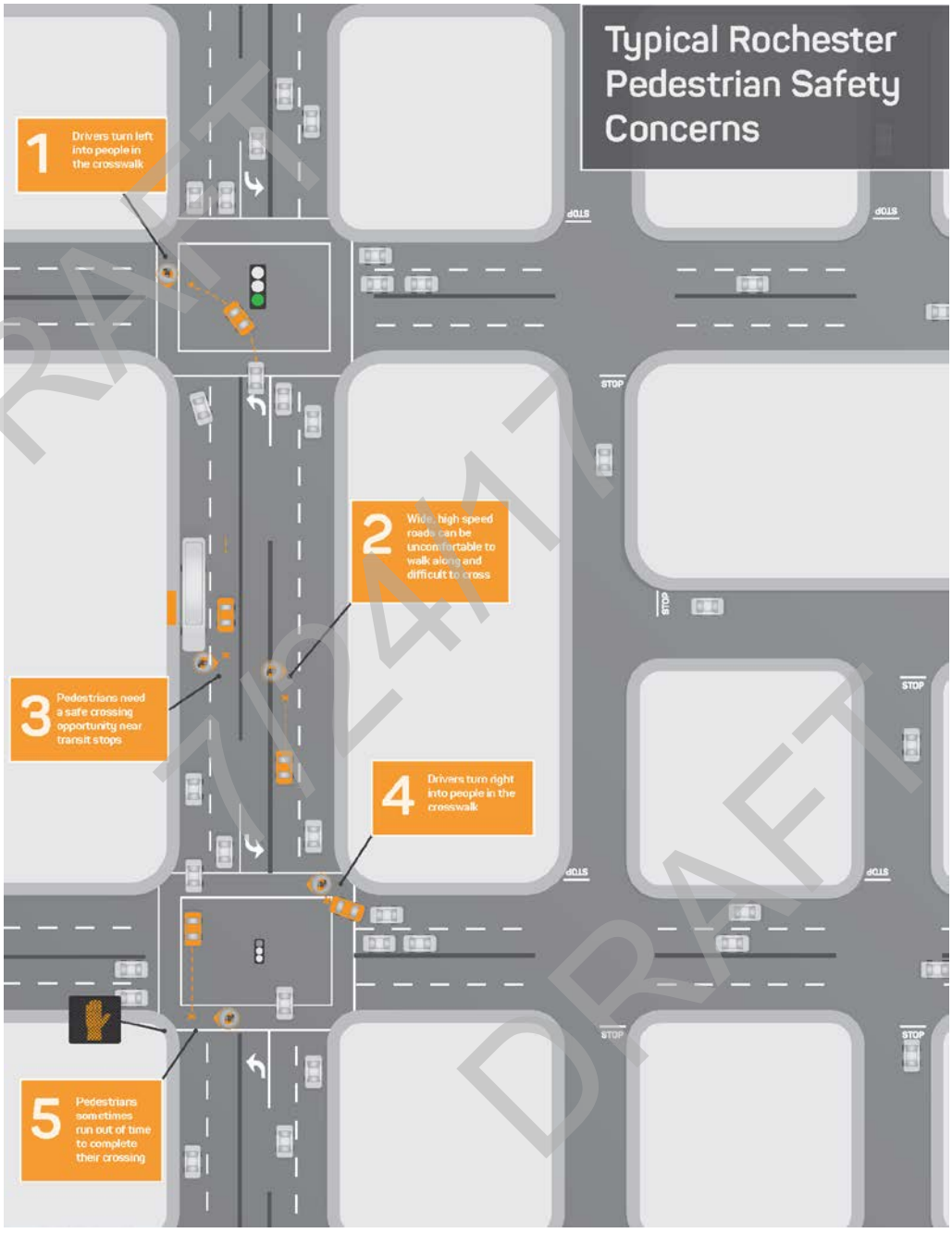
- Connected, well maintained sidewalks to access bus stops. Short blocks lengths also facilitate more direct routes to transit.
- User safety and comfort through the provision of lighting and buffers from adjacent traffic.
- Well-marked, safe crossing opportunities close to and connecting inbound and outbound stop locations on opposite sides of roadway corridors.
- Accessibility for all users at stops and crossings.
- Aesthetics including landscaping and amenities such as benches or shelters.
- Prioritizing mid-block crossings, lighting, traffic calming, and wayfinding along the frequent transit network to improve access to transit.

Arterial Street Crossings | For many people in Rochester, conditions exist that limit walking as an option to routine destinations. As in many cities, for many years the transportation focus was on giving priority to and improving motor vehicle mobility. As a result, many major arterial streets lack safe pedestrian facilities. While efforts have been ongoing to install trails and paths along many of these corridors, there are still a number of primary streets that do not accomodate walking and create barriers for pedestrians. Analysis of the pedestrian environment identified potential opportunities to enhance conditions with focused investments as identified in the Pedestrian Priority Maps (Figs 2-24 & 2-25).

Sidewalk Network Connections | As mentioned previously, sidewalk gaps are primarily a legacy of commercial, industrial, and residential area development that originally occurred outside the city or at a time when development regulations did not require sidewalk installation as part of the basic package of site improvements. Similarly, major roadway corridors were developed without pedestrian facilities because properties did not directly front them and vehicle movement was the priority. Sidewalks are an extremely effective safety measure, as well as a basic component of a walkable city. The City of Rochester should continue to work toward installation of sidewalks where it is not appropriate for pedestrians and cars to share the street or where shoulder use is unsafe for pedestrians. Potential mechanisms to bridge these gaps include incorporating pedestrian facilities into property redevelopment, roadway maintenance and reconstruction, or as part of a stand-alone city funded or shared cost sidewalk infill program. Figure 2-22 illustrates some of the typical pedestrian safety concerns observed at these locations.

Accessibility for People with Disabilities | Streets that are designed for safe use by children, the elderly, and people with mobility impairments serve everyone better. The City's pedestrian planning efforts are influenced by the Federal Americans with Disabilities Act (ADA). The ADA's implementing regulations require that all new and altered facilities—including sidewalks, street crossings, and related pedestrian facilities in the public right-of-way—be accessible to and usable by people with disabilities. The Americans with Disabilities Act Accessibility Guidelines (ADAAG) provide guidance for the design and construction of accessible pedestrian facilities. The United States Access Board anticipates issuing Public Rights-of-Way Access

FIGURE 2-22: TYPICAL PEDESTRIAN SAFETY CONCERNS ON MAJOR STREETS



Guidelines (PROWAG) that will provide greater guidance on how issues of accessibility should be addressed along existing streets and highways.

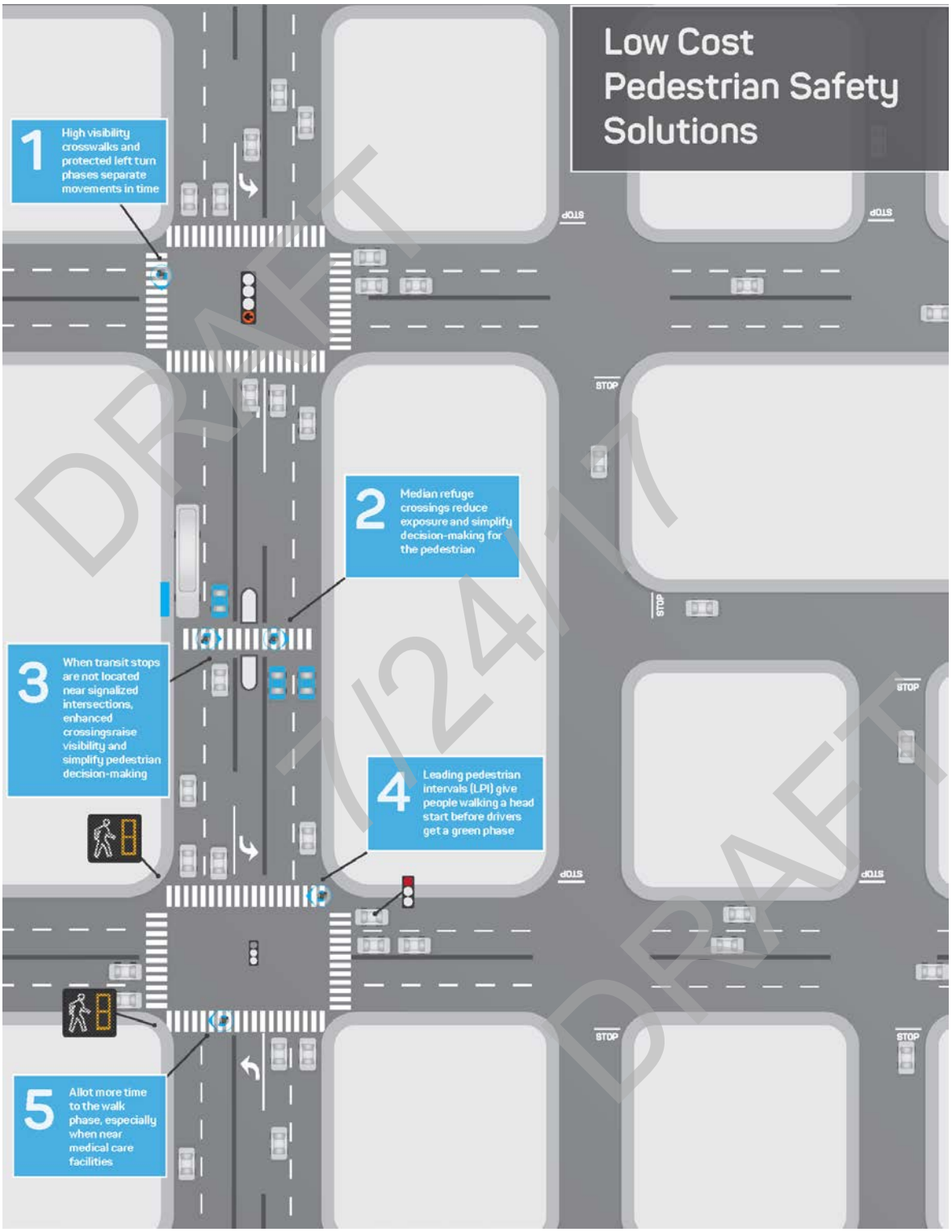
Priorities for Improving Walking Conditions

In response to the needs and issues described in the previous section, the following opportunities to provide a quality walking experience that support greater transportation options for people, increased levels of physical activity, and enhanced connections to transit, should be prioritized:

- Encouraging mixed use and transit oriented developments that provide opportunities for residents, visitors, and employees to walk to everyday destinations and transit service
- Increasing the density of comfortable, safe, and convenient pedestrian crossing opportunities, especially along wide, high-speed roads
- Incorporating in the development of intersection or street projects improvements that do not negatively impact pedestrian mobility
- Improving pedestrian accommodation for the increasing number of older residents and visitors with enhancements such as longer crossing times, wider sidewalks, and audible signals at intersections
- Reducing sidewalk conflicts by providing dedicated bicycle infrastructure in downtown and other pedestrian-friendly areas where high numbers of people walk

Figure 2-23 highlights some of the low-cost safety measures that can be used to improve safety at intersections and mid-block locations where pedestrian safety problems exist. Following this graphic, the Pedestrian Priority Areas Map (Figure 2-24) and the Arterial and Collector Pedestrian Street Needs Map (Figure 2-25) highlight priority improvement areas that should be considered for investment to improve conditions for pedestrian across the Rochester area.

FIGURE 2-23: POTENTIAL LOW-COST PEDESTRIAN SAFETY SOLUTIONS



The Pedestrian Priority Areas Map (Figure 2-24) identifies the following types of improvement areas:

Pedestrian Districts | areas which are priorities for pedestrian and transit oriented development that would benefit from the elements described in the sidebar on creating Walkable Centers

Pedestrian Priority Streets | key streets for pedestrian mobility downtown; more is included in the Complete Streets section relative to "Commercial Streets"

Transit Connectivity Areas | areas where sidewalks gaps exist within ½ mile of the PTN or high-ridership transit routes; filling in such gaps will enhance access to transit

Primary Transit Network | pedestrian investments are essential to provide access for pedestrians to, along, and across streets on the Primary Transit Network

Figure 2-25, the Arterial and Collector Street Needs Map, identifies auto-oriented travel corridors where non-motorized improvements in the form of trails, paths, and sidewalks are identified to improve mobility for both pedestrian and bicycle users. These corridors primarily provide connectivity to residential neighborhoods which do not have uninterrupted connectivity to the off-road network of trails and paths in the city.

FIGURE 2- 24: PEDESTRIAN PRIORITY MAP

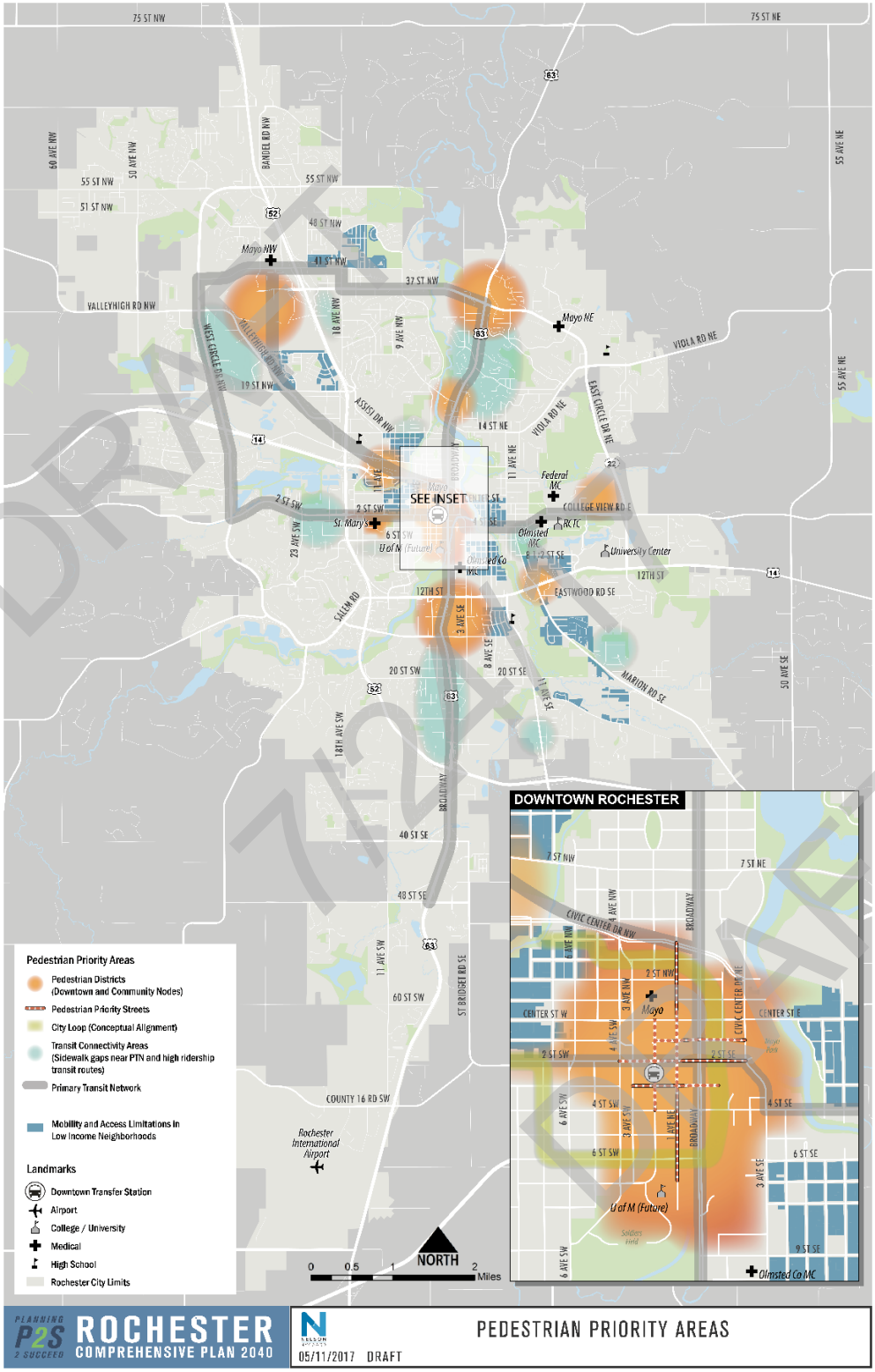


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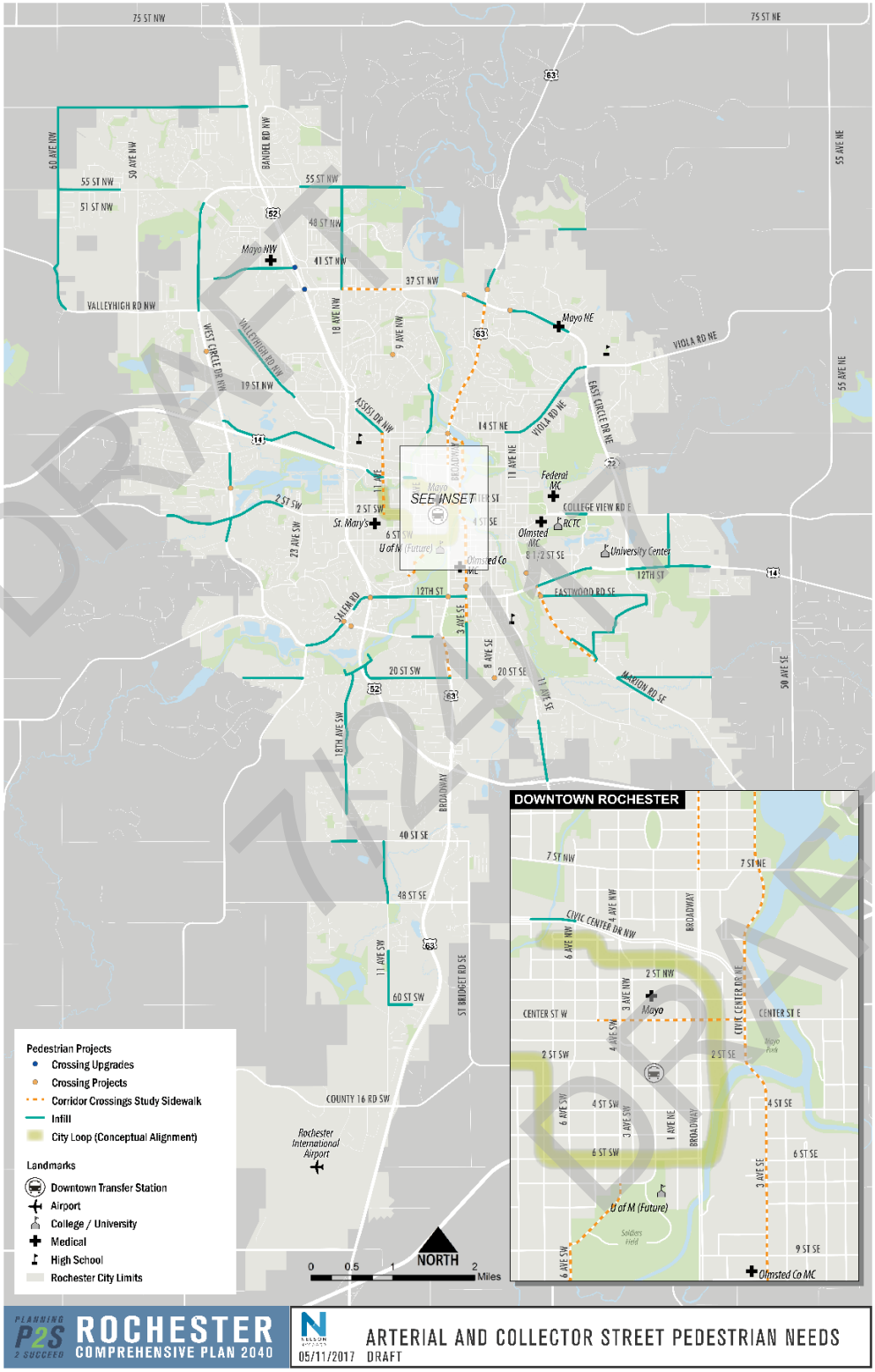
FIGURE 2-25: ARTERIAL AND COLLECTOR STREET PEDESTRIAN NEEDS



Motorized Transportation

Rochester aims to balance the efficient operation of the major street network with the need to provide other safe and affordable transportation options that meet the needs of all existing and future residents and visitors. Rochester benefits from a well-spaced network of major streets that facilitates both local and regional travel. At the same time, streets that may work well for people who drive can present issues for transit riders, pedestrians, bicyclists, and other users of the street. Busy arterial streets can be difficult to cross, uncomfortable to walk or bicycle along, and unpleasant places to wait for transit.

The implementation of this Plan's Land Use vision will result in new mixed use development areas with transit supportive features that will require street designs to balance the movement of automobiles with other modes. Additional multimodal facilities, design cues, and reduced vehicle speeds may be needed to accommodate the increasing number of people walking, bicycling, and taking transit along many corridors that today have few signs of such activity.

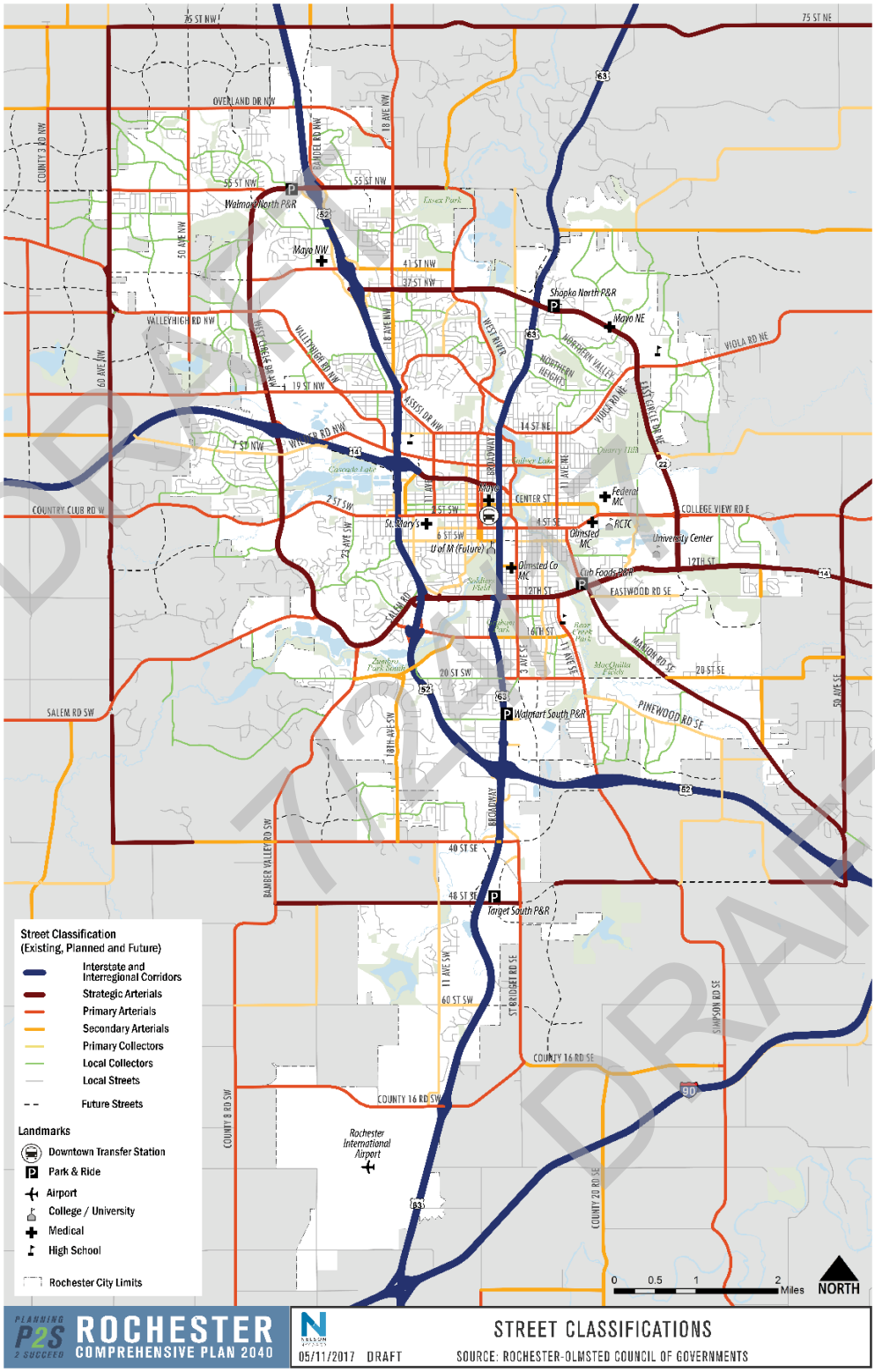
The integrated approach to land use and transportation advanced by this plan requires consideration of a range of factors when considering the appropriate design for major streets in the city. This section of the plan discusses the basic outline of the key factors that inform street design, including street classification, areas to monitor for future congestion, and identification of key multi-modal corridors where balancing the needs of motor vehicles with the needs of other users is particularly important. This discussion concludes with a review of the city's progress in implementing its Complete Streets Policy adopted in 2010, and where priorities and opportunities for further advancing Complete Street improvements should be focused.

Street Classification

The Rochester-Olmsted Council of Governments (ROCOG) has adopted a 2040 Long Range Transportation Plan endorsed by the City of Rochester that classifies major streets based on the function they serve in the overall network of streets. The ROCOG plan identifies the major street network and designates the role of each major road in satisfying the demand for various types of travel. The ROCOG Plan identifies basic design priorities for different classifications of streets, such as expected minimum accommodations for different modes of travel, guidance on factors such as minimum lane widths, and criteria such as driveway spacing and access requirements.

The ROCOG 2040 Long Range Transportation Plan should be referenced for further information regarding the functional and minimum design expectations regarding different classes of major streets and can be found at https://www.co.olmsted.mn.us/planning/rocog/2040lrtp/Pages/default.aspx. Figure 2-26 illustrates the general classification of major streets in the Rochester urban area that are found in the ROCOG Plan.

FIGURE 2-26: STREET CLASSIFICATIONS



Areas to Monitor

Rochester generally experiences favorable automobile travel conditions, with only limited periods of vehicle delays during peak travel periods—primarily along major travel corridors providing access into downtown including Broadway Avenue, Civic Center Drive near the US 52 interchange, US 14 across the south side of the downtown area, and along West Circle Drive, particularly near the US 14 and Hwy 52 interchanges.

Growth projections suggest several corridors where traffic congestion may increase over time. These areas will be monitored by the City and ROCOG, which is responsible for monitoring traffic and addressing issues as part of a federally required metropolitan area long range planning process. ROCOG works cooperatively with the City of Rochester, Olmsted County and the State of Minnesota Department of Transportation on an ongoing basis to address issues on the major transportation networks in the urban area.

Potential Congestion Mitigation Needs and Strategies

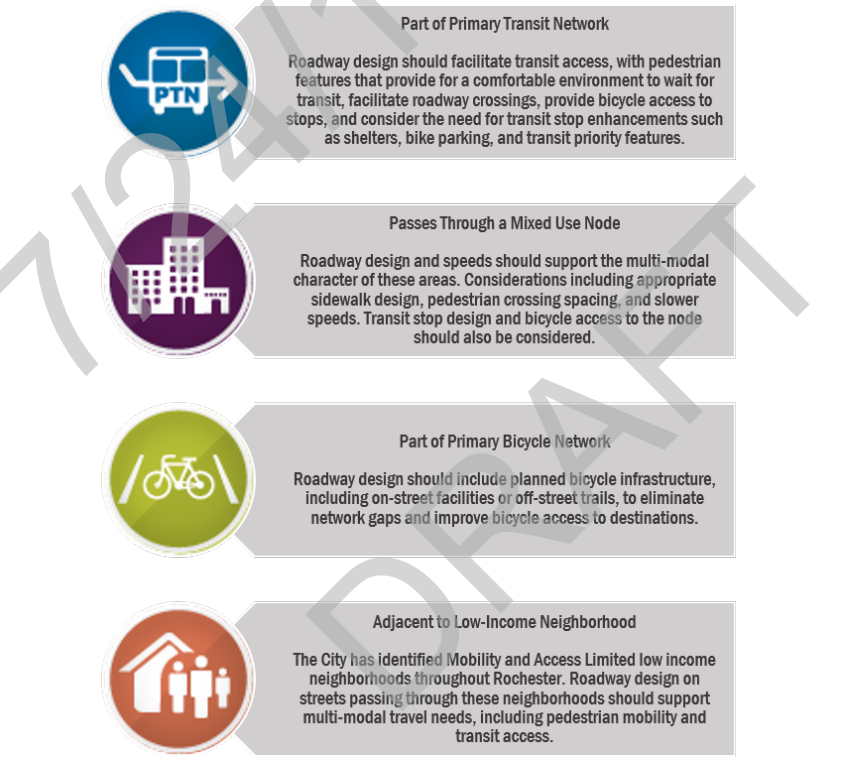
Figure 2-27 highlights corridors where analysis of projected 2040 traffic volumes, reflecting assumptions regarding future growth patterns and expectations regarding future transit use, identifies potential congestion concerns emerging or worsening over time. As stated above, ongoing monitoring and periodic re-assessment of operations should be conducted to identify where conditions suggest mitigation measures may be needed in a 5 to 10-year timeframe based on traffic trends. A 5 to 10-year lead time may be needed to insure sufficient time to identify funding sources for any major improvement projects, particularly those than may involve state or federal funding sources.

Initial congestion mitigation strategies to consider should focus on lower cost traffic system management and operations (TSMO) measures, which could include upgraded traffic signal systems or improvements to existing signal timing, additional turn lanes, access modifications, enhanced efforts to encourage use of travel options, and investments in new or improved transit service, including transit priority features to maintain competitive travel times for transit on congested corridors. It is important to consider TSMO measures initially for reasons of cost and the opportunity they present to improve conditions for other modes including transit, walking, and bicycling. Since many TSMO strategies can improve operations without adding lanes or increasing the size of intersections, the risk of increasing barriers and obstacles for people taking transit, walking, or bicycling can be minimized.

If TSMO measures prove insufficient to address emerging congestion problems, the next step should be to consider strategies to distribute the impact across the network more broadly, including consideration of roads that increase the connectivity of the street network by reducing street spacing and reduce barriers such as lack of appropriately spaced local access.

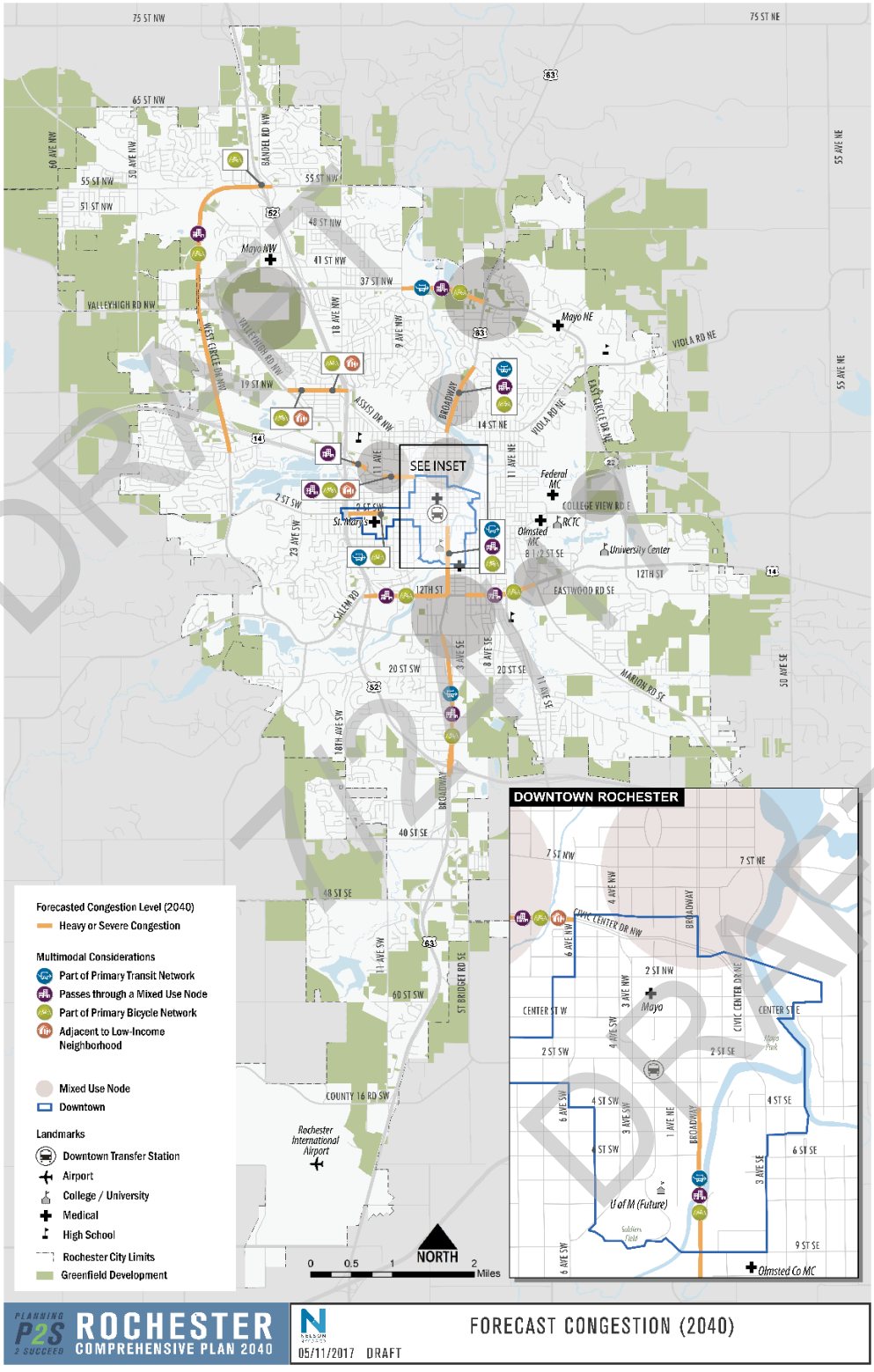
If TSMO combined with network connectivity prove insufficient to address potential congestion issues and evaluation results are still showing or are projected to show unacceptable congestion, the next step typically will include involvement of ROCOG and coordination of study efforts through the ongoing long range transportation planning process. In some cases, long range solutions may be recommended that include new or expanded arterials or minor arterials, as well as new or modified interchanges on the major highway network. These major projects typically need sufficient lead time to identify funding sources and, where state or federal funding is involved, to complete needed state or federal-level project development and environmental review processes. Projects with state or federal funding also require inclusion in the ROCOG Long Range Transportation Plan. The ROCOG Plan is updated every five years, and will be updated to align with the priorities and policies of this plan. The Plans are coordinated, with the ROCOG Plan focusing primarily on major travel networks and regional travel.

For those corridors where forecasts suggest future congestion may develop, Figure 2-27 identifies important user groups beyond motorists that should be considered, based on the location of future mixed use development nodes, recommended Primary Transit Network (PTN) investment, the importance of the corridor as an element of the primary bicycle network, and freight routes. The symbols that identify the multi-modal considerations along these corridors are described to the right. In considering these users, the Complete Streets Policy described in the following section should also be referenced for guidance.



LEGEND FOR SYMBOLS INCLUDED IN FIGURE 2-27, FUTURE CONGESTION MAP

FIGURE 2-27: FUTURE CONGESTION MAP



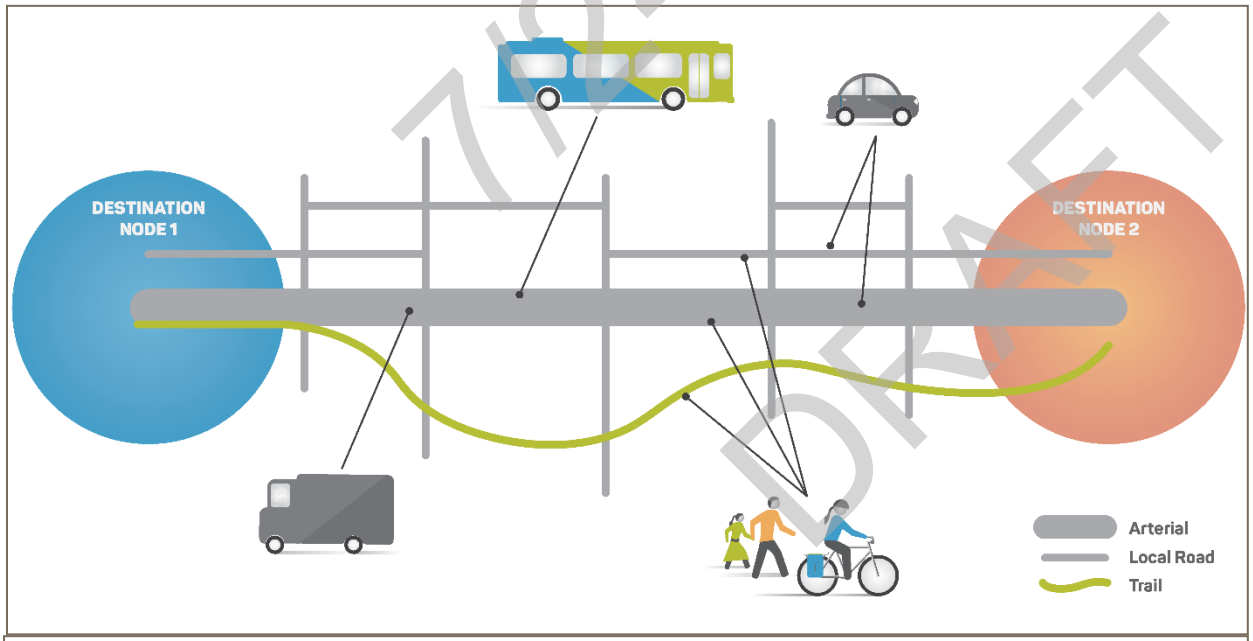
Complete Streets/Complete Corridors

The City of Rochester adopted a Complete Streets Policy in 2009 with the goal of improving access and mobility for all users of streets in the community, including pedestrians, people requiring mobility aids, bicyclists, transit users, motorists, and freight drivers.

The policy sets the framework for a healthier, safer, more livable Rochester. Many of the transportation improvements that contribute to Complete Streets are also facilities and amenities that support active living. Being able to walk and bike for transportation or recreation makes it easy to incorporate physical activity into daily routines.

Rochester is expected to see an increase in older adults, racial and ethnic minorities, and lower-income residents in the next 30 years. Complete Streets approaches will increase the number of affordable transportation options available and accommodate the mobility needs of an aging population as well as the changing travel preferences of younger generations. In combination with transit supportive land use strategies in this plan, the community will offer more choices to in or near active centers where pedestrian movement is generally heavier.

Recognizing that it is not always possible to accommodate all travel options on a major street, nevertheless all modes will be accommodated within broader corridors to ensure the transportation "system" for each mode connects important origins and destinations for users. Developing "Complete Corridors" can provide users with multiple travel options that are safe and reliable.



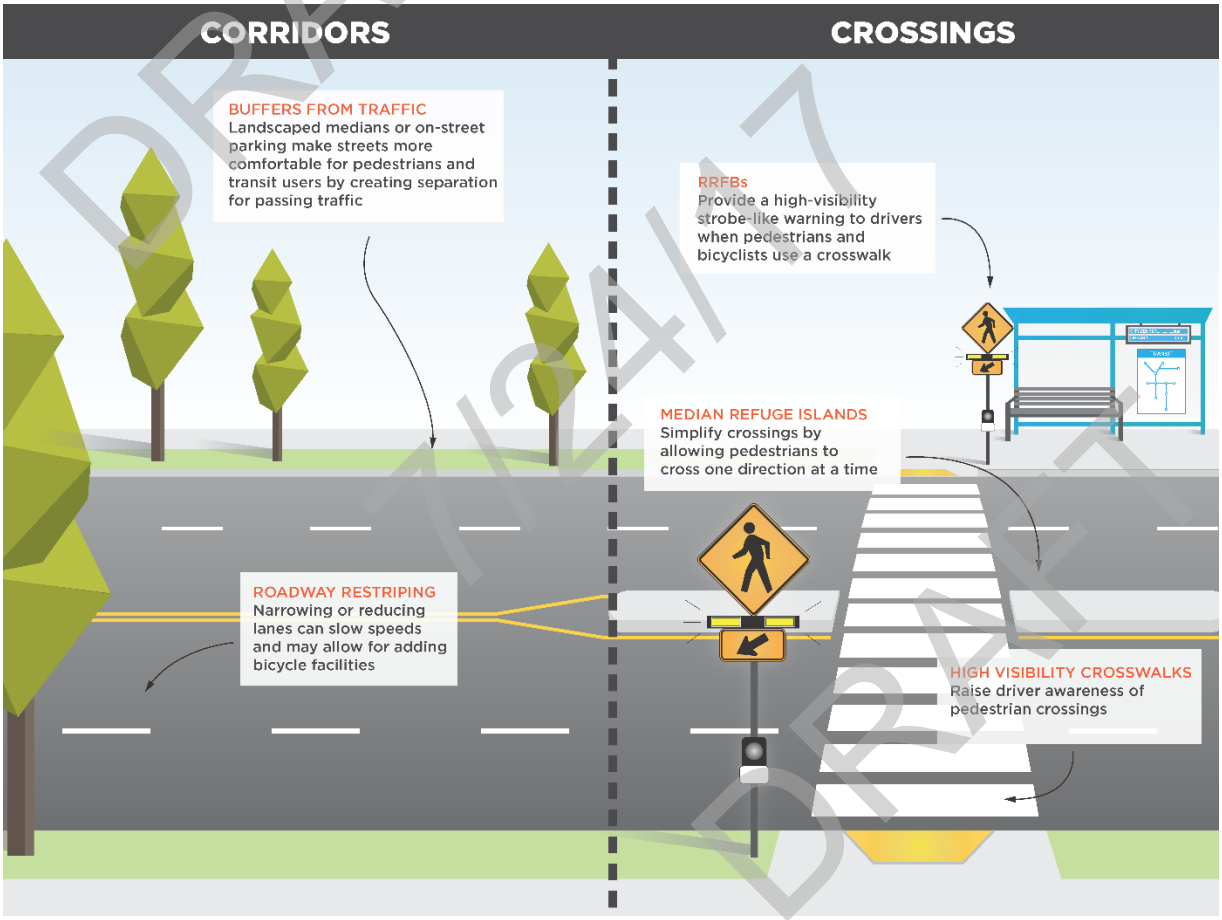
Key destinations, including the land use nodes identified in this plan, will be connected via complete networks for all modes, including walking, transit, bicycling and motor vehicles

Complete Streets and Safety

Rochester residents are increasingly traveling by a variety of modes of transportation, as evidenced by increasing transit ridership, bike commuting, and downtown pedestrian volumes, underscoring the importance of safely accommodating all types of road users. At its core, Rochester's Complete Streets policy emphasizes the need to design streets for safety.

Currently, many arterial roadways in Rochester give priority to vehicle travel with wide, open corridors that emphasize vehicular mobility and make it uncomfortable to walk along and difficult to cross. A variety of design and operational elements can be implemented to improve the safety and comfort of major roadways for all users, some of which are illustrated in Figure 2-28.

FIGURE 2-28: DESIGN STRATEGIES TO IMPROVE PEDESTRIAN COMFORT AND SAFETY ON MAJOR ROADWAYS



Complete Streets Implementation

Successful Complete Streets policies change the way cities prioritize and design roadway projects, as well as day-to-day operations and maintenance decisions. The policy adopted by Rochester calls for accommodation for bicycle, pedestrian, and transit facilities to be considered in all street construction,

reconstruction, repaving, and rehabilitation projects, except under certain conditions such as where the cost of providing accommodation is determined excessive or disproportionate, or where construction is determined to not be practically feasible.

Identifying Complete Street Priorities

Other sections of this plan, along with the ROCOG Long Range Transportation Plan, identify priorities for streets in Rochester from a transportation perspective. Layering land use considerations onto this mobility-centric view and considering key origins and destinations where access for other modes is important, a Complete Streets Priority Map has been developed that identifies streets that have been prioritized for accommodating multiple modes to ensure the Complete Streets vision creates corridors that connect to key destinations across the city.

In framing the identified Complete Street priorities, Table 2-14 defines a set of Complete Street Types that have been identified and applied to the street network as illustrated in Figure 2-29, highlighting where this plan recommends Complete Street considerations be given priority. Table 2-15 following Figure 2-29 describes the transportation purpose, land use context, and typical design features that should inform the design of these priority complete street corridors.

TABLE 2-94: COMPLETE STREET TYPES

STREET TYPE	DESCRIPTION	ROCOG CLASS
Downtown Commercial	Vibrant, pedestrian oriented streets that provide access to retail businesses, employment centers, and some higher density residential areas. These streets typically serve short-term vehicle parking and balance the needs of people whether they are pedestrians, bicyclists, drivers, or transit users. Traffic speeds should generally be kept low with opportunities for streetscaping, street furniture, transit amenities, and wide sidewalks. This makes a more comfortable, inviting street environment and creates a smooth and reliable flow of vehicle traffic.	Multiple street classes apply
Active Downtown	Identified in both the DMC Master Plan and the 2011 Downtown Master Plan, streets where non-motorized accommodations are prioritized over those for private vehicles and transit facilities. This category will include multimodal streets intended to serve as part of the City Loop route as well as other shared streets identified as primary pedestrian or bicycle access travel corridors. The design of these streets may accommodate a greater range of activity and design features "behind the curb line" or may include wide, extensively landscaped median areas with space for activities. Pedestrian and bicycle amenities could include providing mid-block crossings for the City Loop at cross streets, leading pedestrian intervals, pedestrian scale lighting and wayfinding signage, and amenities such as benches and bike repair stands.	Multiple street classes apply
Balanced Mobility	Connect residential areas to the primary roadway network. The balanced mobility streets identified on the Complete Streets map typically have some level of transit service or connect residential streets to transit on a nearby arterial street, but at present lack adequate pedestrian facilities to facilitate transit access. These streets must balance the mobility needs of all transportation users, as they can be key links in the network for all modes of travel including pedestrians, bicyclists, transit, and private vehicles. These streets are a priority to add sidewalks and marked crossings. They can also be key future links in the bicycle network with appropriate facilities to connect neighborhoods to the Priority Bicycle Network.	Collector
Transit Commercial	Corridors where the PTN serves higher density development areas. These corridors currently have transit service and are part of the designated PTN. Land use along the corridor is anticipated to be higher-density commercial and mixed use development that will support high capacity transit service. These streets are designed to serve people of varying ages and incomes that want to live near frequent transit service that provides access to jobs and needed services. Transit commercial streets will prioritize transit amenities including bus shelters, marked and signalized crossings near stops, bus bulbs, and wide sidewalks.	Arterial
Transit Mobility	Streets that may or may not currently have transit service that are part of the longer term PTN. The existing land use context of these corridors, such as West Circle Drive, suggests a longer time frame for infill commercial and mixed use development in the future that will support high quality transit service. Stops will have a high level of amenities, but will likely be spaced further apart than Transit Commercial streets. They may also feature park and ride lots, elements to support bicycle access to transit such as secure bicycle parking, as well as pedestrian lighting and wayfinding signage surrounding the transit stations.	Arterial
Balanced Residential	Residential streets make up the majority of street-miles in Rochester. The quiet nature of these streets invites residents to use them as gathering places, recreational spaces, and for vehicle access. Some streets have limited connectivity to the larger street network, but those that do connect can represent an important link for people walking and bicycling. The balanced residential streets are part of the primary bicycle network and should be designed to maintain low vehicle volumes and speeds and primarily serve local traffic. Traffic calming measures can be used if vehicle speeds or volumes are uncomfortably high.	Local Street

FIGURE 2-29: COMPLETE STREET PRIORITY CORRIDORS

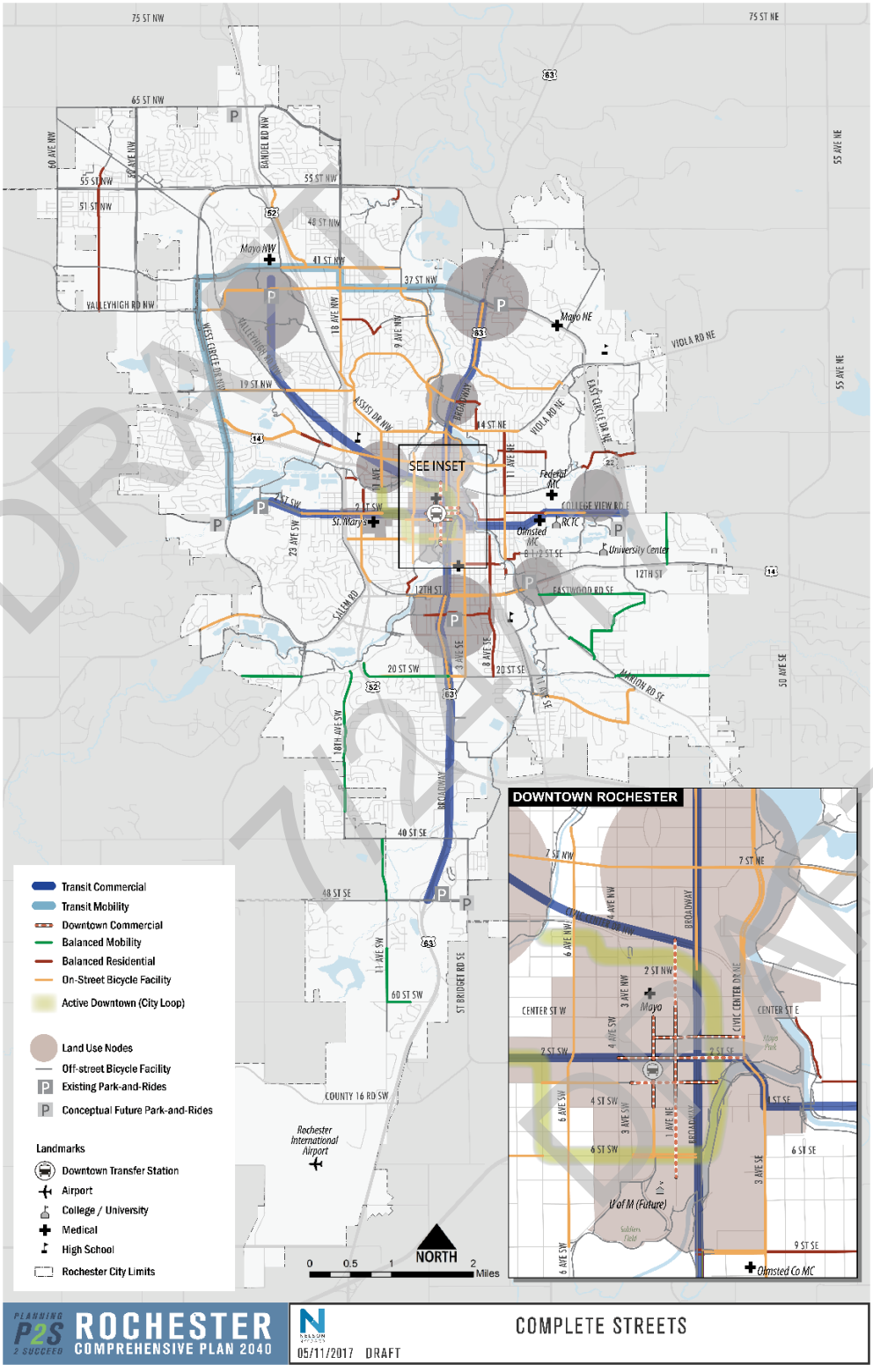


TABLE 2-105: COMPLETE STREET TYPES

STREET TYPE	PRIORITY OF USERS	CRITICAL DESIGN ELEMENTS	EXAMPLE STREETS
Downtown Commercial	Pedestrian > Transit > Bicycle > Automobile	• Pedestrian scaled sense of place with wide sidewalks, streetscaping, street trees, and street furniture; parklets and sidewalk cafes are also desired features • High-visibility crosswalks and curb extensions; pedestrian recall and reduced assumed walking speed at signals to accommodate medical visitors, older adults and the disabled • Bus bulbs and curb extensions, transit shelters at stops and stations, wayfinding signage, and high visibility crosswalks • Bicycle parking and some on-street vehicle parking.	1st Ave SW, 2nd Ave SW, 1st St SW, 3rd St
Active Downtown	Pedestrian > Bicycle	• Off-street trails will have wayfinding signage, pedestrian scale lighting, and landscaping features, such as benches, bike parking and public art. • On-street corridors will have wide sidewalks and bicycle facilities with mid-block crossings where needed.	City Loop alignment not finalized
Balanced Mobility	Pedestrian > Transit > Automobile	• Complete sidewalk networks and marked crossings • Protected or conventional bicycle facilities and transit stop amenities if part of these modal networks • Slower posted speed limits with narrower travel lanes.	Residential Collector streets that serve or access transit such as 20th St SW or 36th Ave SE
Transit Commercial	Transit > Pedestrian	• High frequency transit service, with transit priority lanes, bus bulbs, and transit stop amenities, such as shelters, signage and maps • Marked pedestrian crossings near transit stops and wide sidewalks on connecting streets • Key bicycle facilities to connect between destinations or other major bikeways or transit stops • On-street parking	PTN overlap w mixed use (Mixed Use PTN Corridors)
Transit Mobility	Transit > Pedestrian > Automobile	• Transit stop amenities, such as shelters, signage and maps, as well as bicycle amenities, such as bike boxes at stops/stations • Marked pedestrian crossings near transit stops and wide sidewalks on connecting streets • Signal timing and narrower travel lanes • May have on-street parking	PTN through lower density land uses (Lower Density PTN Corridors)
Balanced Residential	Pedestrian > Bicycle > Automobile	• Traffic calming may be used to ensure low vehicle volumes and speeds so people driving and bicycling can share the road • Complete sidewalks and bicycle connections • Enhanced crossings where routes cross busier streets • Wayfinding signs or pavement markings to identify as part of the bicycle network	Low-stress Roadways on the Bicycle Network Map

Management Strategies: Level of Service Considerations

Level of service (LOS) is a metric commonly used to evaluate land-use development and transportation projects based on how a project will affect congestion on existing or planned roads. LOS itself is rarely a sufficient gauge of how effectively a roadway operates, and tolerating a moderate level of peak hour congestion encourages travelers to consider other travel modes or to shift travel times away from peak times when roadways are most congested.

Reliance on LOS alone to measure the impacts of proposed land development projects can make streets larger and less human scaled. It can also push development activity to the fringes of the city where there is less risk of tripping a LOS threshold and associated mitigation project costs. This can increase overall vehicle miles traveled (VMT) and prevent development in areas where there are a variety of viable transportation options. Many cities with thriving downtowns and commercial corridors consider peak hour congestion levels that do not allow for free-flowing travel not only acceptable, but indicative of a strong local economy. Efforts to minimize congestion in urban areas to reflect typical suburban levels can affect the vitality of local stores and businesses and compromise pedestrian activity.

Travel by modes other than single occupant vehicle can make more effective use of existing infrastructure and can be more cost effective than capacity expansion projects designed to mitigate conditions that only occur during one or two hours of the day. The Comprehensive Plan promotes investments that improve the **person** throughput of existing streets and improve the quality of the walking, bicycling, and transit experience. Given the cost required to continue adding roadway capacity, Rochester should seek to support lower cost mobility and access investments that improve the person throughput of streets and the quality of service for other street users, particularly in the central city and other highly congested areas with significant development intensity.

When considering land development, the use of alternative measures to assess travel service that address the quality of service for all types of travel rather than just vehicular users aligns with broader community goals and can support, rather than deter, desirable developments in areas such as downtown and in mixed use nodes. The Plan aims to support the travel of residents and visitors by a variety of modes while achieving vibrant community places. Reliance only on vehicular LOS to measure impacts of proposed land development projects could result in road improvements that create obstacles to people taking transit, walking, or bicycling in the areas where these users are expected. Addressing quality of service factors such as the transit and pedestrian experience aligns with broader community goals to improve residents' quality of life and leverage transportation investments to support a vibrant and diverse economy. Examples of measures to improve alternative travel modes include impact fees that can be used to improve multi-modal infrastructure, travel demand management (TDM) measures for new developments to reduce new vehicle trips, and LOS exemptions in areas where multi-modal travel are a priority.

Management Strategies: Access Management

Integrating the land use and transportation functions of arterial streets can be a challenge, since the primary transportation function on these streets is to support travel through an area, with property access often a secondary consideration. When designing the supporting local street network for areas adjacent to arterial streets, the following land development practices paired with use of complete streets design elements should be utilized to balance the needs of travelers passing through the corridor with local area access needs for people traveling by car, walking, bicycling, and transit.

Desirable Land Development Best Practices

The best time to consider access management is early, at the time of developing general development plans and small area plans when they can more easily be adjusted to accommodate access and multi-modal considerations. Among the best practices in terms of land development that can appropriately balance access and mobility considerations include:

- Applying context sensitive designs that support implementing the Future Land Use Map
- Develop parallel local street systems to serve the local access function and handle short distance local trips
- Where dictated by parcel sizes and access restrictions, provide or preserve the opportunity for internal site circulation, shared access, and the use of frontage or backage roads
- Develop secondary street spacing that supports traffic management on the major street with primary access provided from lower classification roads; preferred spacing of signalized intersections is ¼ to ½ mile on secondary arterials and collectors and ½ mile or more on major arterials and expressways
- Encourage proper lot layout and orientation to minimize direct access to major streets and promote residential access onto local streets
- Coordinate commercial development in nodes and centers using joint access connections, with a limited number of access points to major streets
- Encourage connectivity on local streets between developments to reduce the need for short trips on the arterial system, promote neighborhood connectivity, and improve efficiency of mail, garbage, and bus services and street maintenance activities
- Restrict turning movements to reduce conflicts; if access points cannot be eliminated, consider turning movement restrictions (e.g., left-in only, or right-in/right-out only) through installation of raised median or other channelization

- Avoid offset or "dogleg" intersections and entrances to minimize driver errors and impacts to mainline flow; in areas where offsetting access points cannot be avoided, adequate spacing is needed to eliminate the conflict created by overlapping turning movement and acceleration and deceleration maneuvers

Retrofitting Access on Major Streets

Access management improves traffic safety and protects the public's investment in the road system by preserving its functional integrity. The City's Land Development Manual and the ROCOG Long Range Transportation Plan provide guidance on desired access spacing and location. The application of these ideal standards is most appropriate in the planning or platting stage of new development in previously undeveloped areas. In situations where existing development make it unfeasible to achieve desired access spacing or design, referred to as "retrofit" situations, the City may need to focus its access management efforts on minimizing potential safety hazards to users of the right of way or disruptions to traffic movement that would reduce the highway's safety and efficiency. For example, there may be many pre-existing driveways and patterns of land ownership that make it difficult to achieve the desired access location criteria. In these cases, retrofit techniques should be used to the maximum extent feasible to accomplish access policy goals.

Situations where the feasibility of bringing nonconforming access into greater compliance in order to address access related safety or operational issues generally fall into one of two types, those being either point improvements or route improvements. More specifically, access should be reviewed whenever:

- Redevelopment is proposed (generally will be a point improvement); or
- A new driveway access permit is requested (a point improvement) ; or
- Proposed increases to the square footage of a building or a change in use will increase peak hour trip generation by 50 or more trips (a point improvement); or
- A roadway improvement project is proposed for a corridor (a route improvement).

The types of safety and operational issues that are of critical importance in considering whether an access retrofit improvement should be considered include:

Safety

- Locations where existing crash experience indicates unsafe conditions that could be mitigated by access improvements
- Locations where roadway design or travel speeds in conjunction with sight distance or reaction time limitations create unsafe conditions for street or side approach traffic

- Locations where anticipated volume of turning movements in combination with existing or projected through traffic will result in high risk conditions
- Whenever a retrofit situation presents itself consideration should be given to coordinating the locations of proposed access with driveways on the other side of the street

Operations

- Situations where location of access results in substandard access spacing that results in high congestion or congested traffic flow along a major street corridor that could be mitigated by access modifications
- For route improvements, the opportunity to improve design consistency through application of consistent access management consistent to enhance driver expectations
- Where it is practical to reorient access to a minor cross street as part of a major roadway improvement

A variety of access techniques that can be used in the retrofit of existing access can be considered depending on whether the proposed project involves a point improvement or a route segment. General retrofit methods by which physical improvements might be implemented are identified in Table 2-16

TABLE 2-11: TECHNIQUES FOR IMPLEMENTING ACCESS POINT OR ROUTE IMPROVEMENTS

PHYSICAL ELEMENTS	POTENTIAL RETROFIT MEASURES
Driveways (Point improvement)	• Relocate to lower class street • Remove • Consolidate on-site or with adjacent sites • Improve throat width/curb return or realign • Increase corner clearance • Align with access across the street
Medians/Point Improvement	• Close median • Redesign to permit only certain movements • Add turn bay / improve turn geometry
Medians/Route Segment	• Add a non-traversible median • Close / Redesign median openings • Add a 2-way continuous left turn lane
Auxiliary Lanes/Point Improvement	• Right turn deceleration lane • Right turn acceleration lane • Left turn bay
Frontage or Backage Roads (generally a route improvement though may have application to large sites)	• Add inter-parcel circulation • Reverse site access to backage road • Increase separation from main roadway • Enhance / add on-site circulation system

Bicycling: Improving Future Conditions

Bicycling is an affordable and increasingly popular transportation choice in Rochester for both recreational and utilitarian trip-making. Rochester has an extensive off-street, multi-use trail and path system that provides a safe and accessible backbone for the citywide bicycle network. Trails connect many activity centers and neighborhoods in the community in an environment that is comfortable for people of all ages and abilities. However, there are few on-street facilities available to allow people to connect from trails to their final destination, including major employment or commercial destinations. Gaps in the bicycle network require people to ride on the road with faster moving vehicular traffic, on the sidewalk where they conflict with pedestrians, or to not ride at all due to safety concerns.

Building on-street facilities to provide first/last mile connections to employment and commercial destinations, transit stops or stations, or to facilitate non-driving options for trips within the downtown area while continuing to expand the trail and path system to more neighborhoods are included as goals of this plan. These goals will support a healthy community, increase affordable travel options, increase the reach of transit, and support downtown access.

Types of Bicyclists

The Rochester bicycle network should accommodate a variety of users with different skills and abilities, such as:

- Recreational users with a wide variety of skills ranging from families with young children to skilled cyclists on training or exercise rides
- Employees who commute by bicycle and may use a bike for midday errands or meetings
- College students bicycling to classes who wish to drive less or save money
- Visitors, including travel companions of medical patients, who would like to ride for recreational or utilitarian purposes
- Transit users who use a bicycle to get to bus stops, to reach final destinations not immediately served by the transit network, or to travel when transit service is not available
- Persons heading to a social gathering such as a restaurant or cultural activity in the downtown

Elements of the Bicycling Network

Rochester was first designated a Bronze Level Bicycle Friendly Community in 2010 by the League of American Bicyclists in recognition of its commitment to increasing opportunities for bicycling through a mix of supportive policies and infrastructure investments.

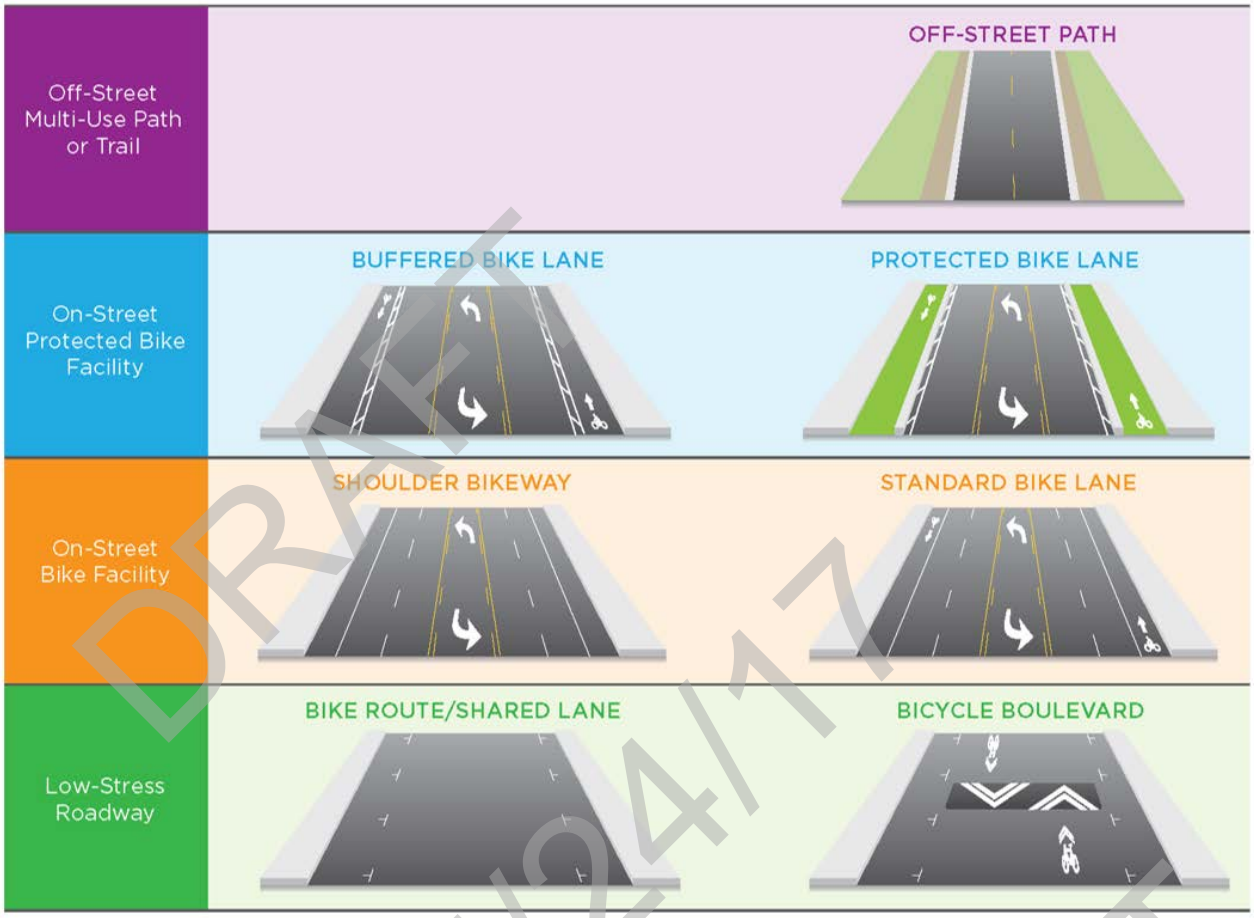
The existing bikeway network includes a variety of facilities to serve people of all ages and abilities. Figure 2-30 highlights the type of facilities best suited for different types of users. The city network, while predominantly composed of off-road facilities, does include some on-road facilities that have been implemented to improve connectivity; and with adoption of a Complete Streets Policy in 2009, the City has been more active in incorporating facilities in new roadway projects.

FIGURE 2-30: APPROPRIATE FACILITY TYPES FOR VARIOUS TYPES OF CYCLISTS

The City adopted a Bicycle Master Plan in 2012 that identifies infrastructure improvements needed to complete a more robust bicycle network connecting destinations across the city. The Bicycle Master Plan discusses supportive in-trip and end-of-trip infrastructure needs, education and encouragement strategies, and measures to advance implementation of programs and projects. The Master Plan recommends use of a more varied palette of on-street facilities and supportive infrastructure (as illustrated in Figure 2-31) including:

Bicycle Boulevards | Low volume residential streets designated for bicycles provide a comfortable alternative to traveling on busier streets that may be intimidating to some users. Bicycle boulevards can also be used to connect neighborhoods to the rest of the bike network. While signed routes can designate a street as part of the network, bicycle boulevards further improve comfort by including wayfinding signage, pavement markings, or curbing to prioritize bike movements, vehicle volumes and speeds so people driving and bicycling can share the road.

FIGURE 2-31: TYPE OF BICYCLING FACILITIES



Bike Lanes | Bike lanes are used on collector and arterial streets to address gaps in the bicycle network and often represent the most direct routes to destinations. Bike lanes are a low-cost option when adequate right-of-way is available and can be incorporated into roadway repaving or restriping projects.

Buffered or Protected Bike Lanes | Buffered or Protected Bike Lanes are enhanced bike lanes that create a more comfortable experience by creating additional "buffered" space between people biking and motor vehicles. Appropriate on busier streets or where space allows, a buffer can be incorporated to the right of the bike lane (providing protection from the door zone of parked vehicles), to the left (protecting people biking from motor vehicles), or both. Buffer design features vary and may include raised curbing, raised bike lanes, surface paint, bollards, and strategic placement of vehicle parking.

Cycle Tracks | A cycle track is a protected one or two-way bike facility physically separated from adjacent motor vehicle travel lanes by a curb or other vertical barrier. They typically include additional features to address conflicts at intersections, such as exclusive traffic signal phases for people biking.

The separation provided by cycle tracks can provide a comfortable bicycle facility for many users on arterial roadways as well as in downtown conditions.

Multi-Use Trails & Paths| Paved multi-use trails serve as the foundation of Rochester's bicycle network, providing a shared space for bicycling, walking, and other non-motorized uses. Trails are located along many rivers, through parks, and along streets to increase bikeway comfort where traffic speeds or volumes are high.

In addition to these basic facility types, other types of supportive biking infrastructure are important to expanding opportunity or exposure to use of the bicycle network and to provide an enhanced level of comfort when traveling. Two of the most visible types of supportive infrastructure are:

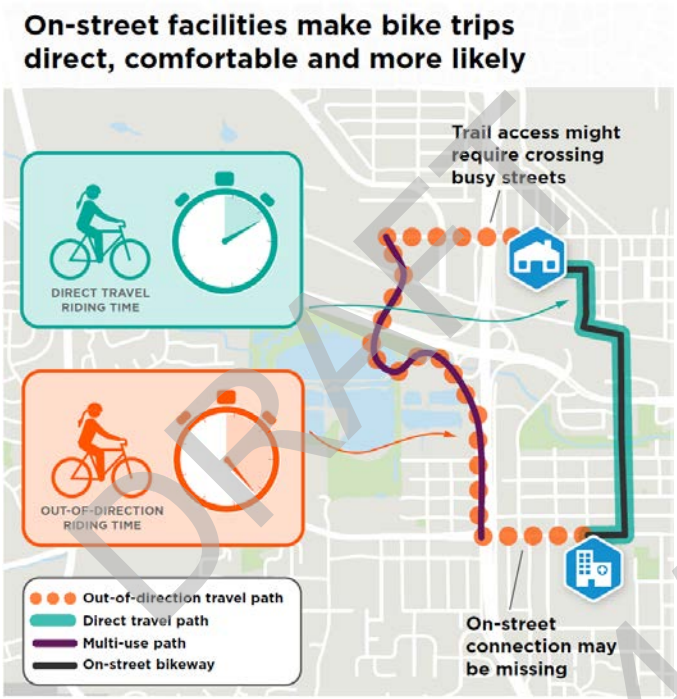
Bike Share | As described in the Shared Mobility section, deployment of a bike share system both downtown and in other key locations has been planned. Bike Share allows persons to rent a bicycle for short trips between destinations as well as leisure time recreational opportunities.

Bicycle Parking | Increased availability of short-term bike parking near commercial destinations and long-term (secure, weather protected) parking at worksites, college campuses, major transit hubs, and apartment buildings/residential complexes is essential to encourage people to make both short term trips to commercial destinations or long term trips to employment or educational centers by bicycle.

Why Improving Biking Opportunities is Important

Bicycle Travel and its Role in Downtown Mobility | Expectations for 2040 are for a significant increase in the population of people downtown, including significant growth in the number of downtown workers, a large increase in the number of downtown residents, and an increasing number of out of town visitors resulting from more Mayo Clinic patients and their travel companions, more events at the expanded Mayo Civic Center, and a continued increase in cultural and social events. Based on trends observed around the country, all these groups will include people with an increased interest in being able to meet some of their travel and social/recreational needs by bicycle. Of particular importance, maintaining reliable peak period travel downtown will require some change in travel behavior among commuters, with the Downtown Master Plan and DMC Vision Plan setting a goal for bicycle and walk trips to capture approximately 13% of all peak period commute trips by 2035, up from a level of about 5% today. With the need to limit growth in vehicular access into the downtown, the bicycle is likely to become one part of the solution, with bicycles being an increasingly attractive commute option for trips up to 3-5 miles. With deployment of a bike share program as an added incentive, this level of trip making is achievable with proper facilities and programmatic support.

The Role of On-Street Bicycle Facilities | A bicycle network comprised solely of off-street trails will result in a discontinuous network and longer trip distances. Implementing on-street facilities can bridge these gaps by increasing the density of the bicycle network, resulting in more direct routes which is a critical consideration when deciding whether to use this 'active' form of transportation.



Relationship to the Bicycle Master Plan | The 2012 Bicycle Master Plan identified increased education and promotion of bicycling as needed elements to increase the confidence of and growth the pool of potential bicyclists as strategies are implemented.

Priority Bicycle Network | While the Bicycle Master Plan identified a Priority Bicycle Network to provide access to key destinations, the P2S 2040 Plan has identified a set of future land use nodes and corridors not considered in the Bicycle Master Plan. Connections will be needed for cyclists to access these new emerging development nodes. The Priority Bicycle Network included herein identifies projects that will be needed to supplement the updated Development Vision.

Neighborhood Network and Connections | Even with the existing trail and path network, there are still neighborhoods without safe, convenient connections to that network. While in some instances neighborhood streets will provide that connectivity, in others additional corridor enhancements will be needed to achieve the goal of having all neighborhoods connected to the trail network.

Downtown Bicycle Connections | Downtown Rochester is the region's major travel destination and could become a top destination for bicycle travel, particularly to reach jobs. While the existing trail network gets people to the edge of downtown, lack of on-street connections within the downtown leaves bicycle users on their own to navigate a route to downtown destinations. Because the majority of city streets downtown do not have bicycle accommodations, many riders end up on the sidewalk, where they come into conflict with pedestrians. Typical safety issues related to a lack of connectivity and designated bicycle facilities are illustrated in Figure 2-32 with potential types of enhancements to address these problems illustrated in Figure 2-33.

FIGURE 2-32: TYPICAL BICYCLE SAFETY CONCERNS

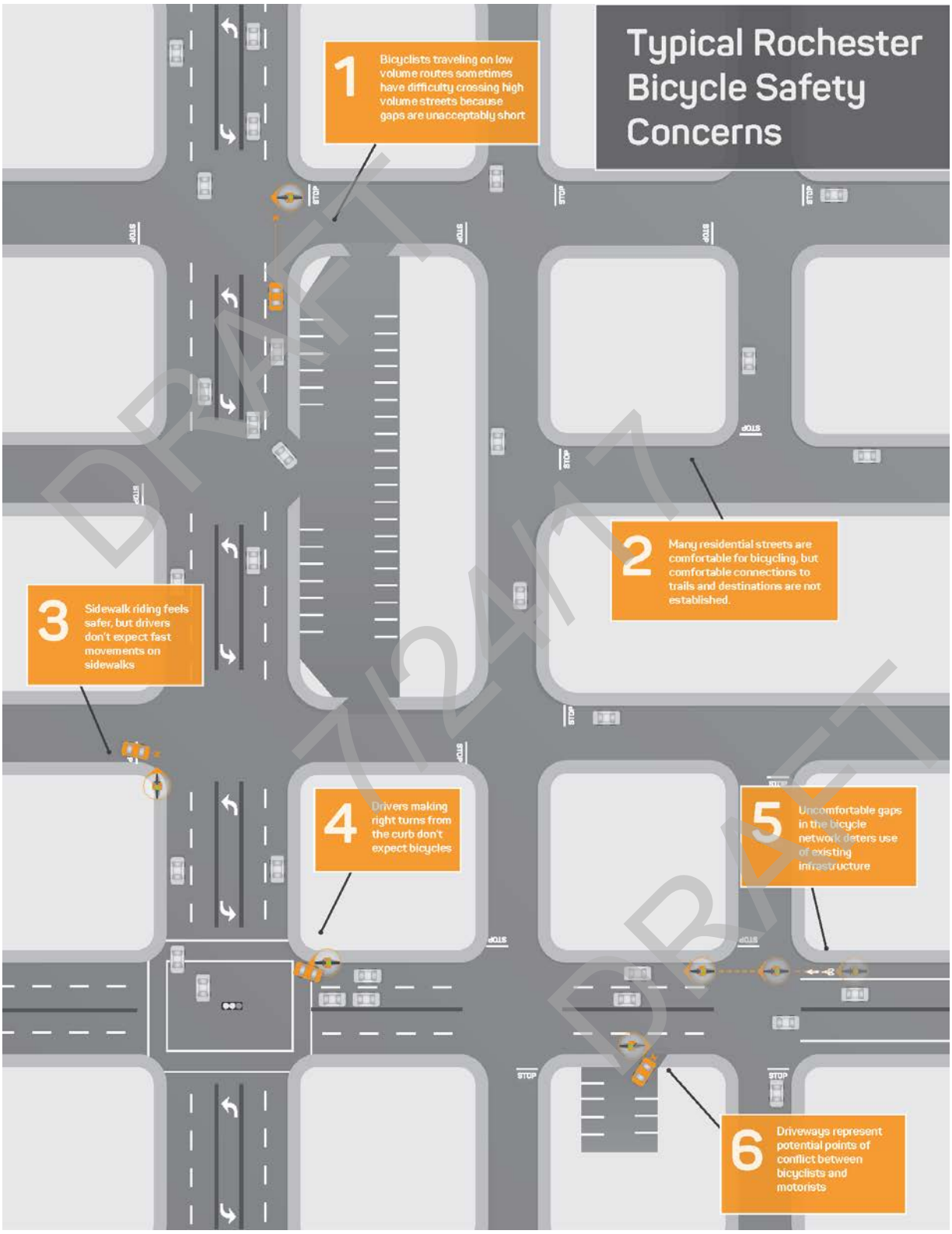
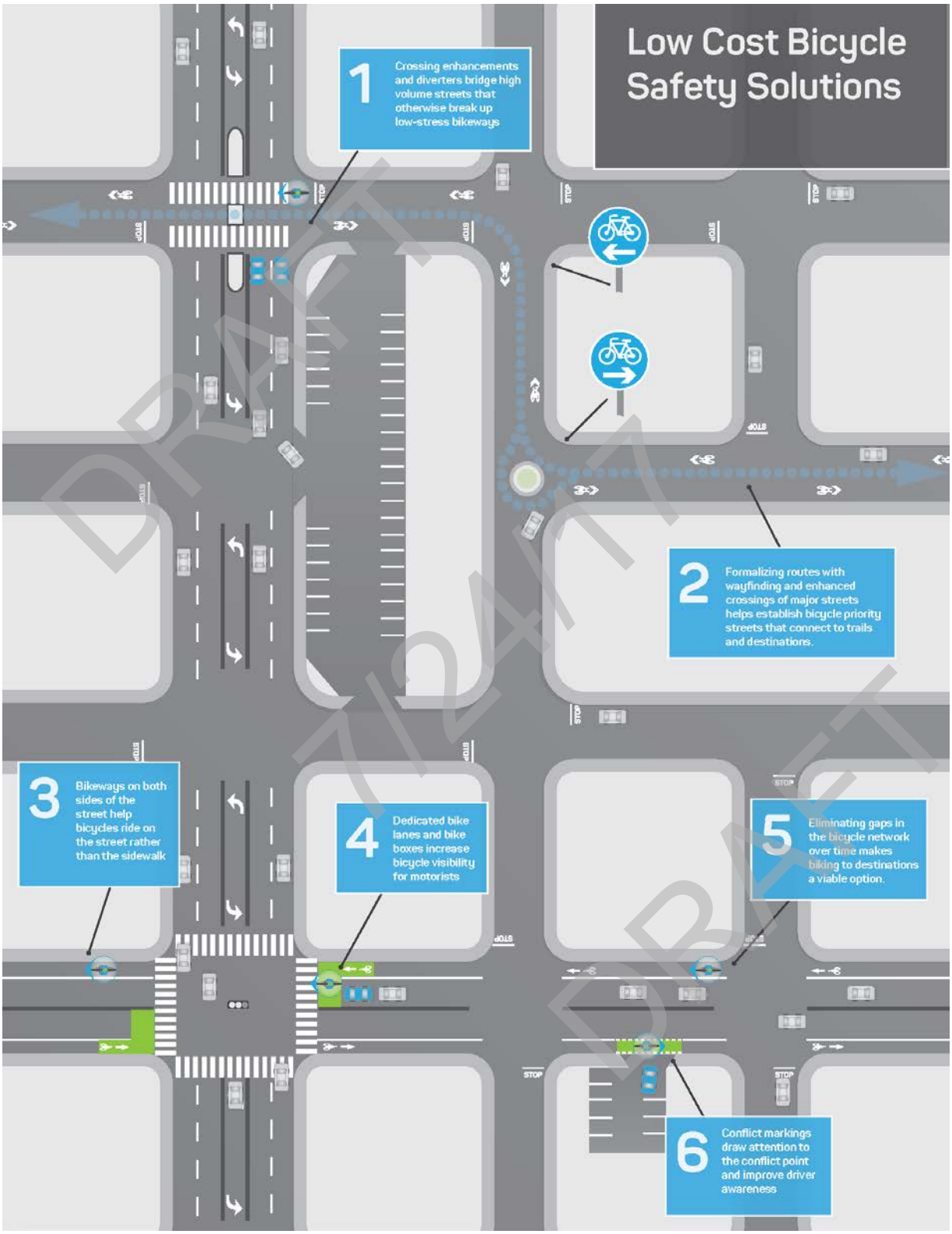


FIGURE 2- 33: TYPICAL BICYCLE SAFETY SOLUTIONS



THE CITY LOOP

A major initiative proposed as part of the Destination Medical Center vision planning was the concept of creating a signature pedestrian and bicycle urban trail downtown, creating an open space and recreational amenity that would link the various downtown development districts with one another and with the City's network of river trails and adjacent neighborhoods. Known as the City Loop, this network would act as a transformative urban amenity that would attract and anchor downtown growth and investment, enhancing the quality of life for downtown residents, workers, and visitors by providing convenient access to open space and active living opportunities. The City Loop will facilitate bicycle access to jobs, shopping and cultural destinations, provide a place for visitors to recreate within steps of their downtown hotel, and link all people downtown to nature, culture, and entertainment.

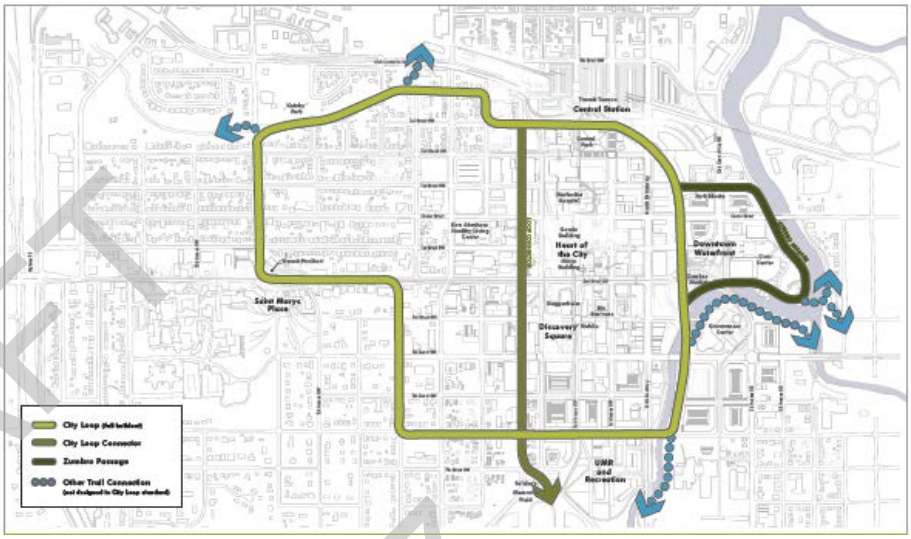


FIGURE 2-34: CITY LOOP PLAN FROM THE DMC MASTER PLAN. THE EXACT ALIGNMENT HAS YET TO BE DETERMINED. SOURCE: DMC DEVELOPMENT PLAN

FIGURE 2-35: THE INDIANAPOLIS CULTURAL TRAIL: A CASE STUDY IN URBAN TRAIL INVESTMENT

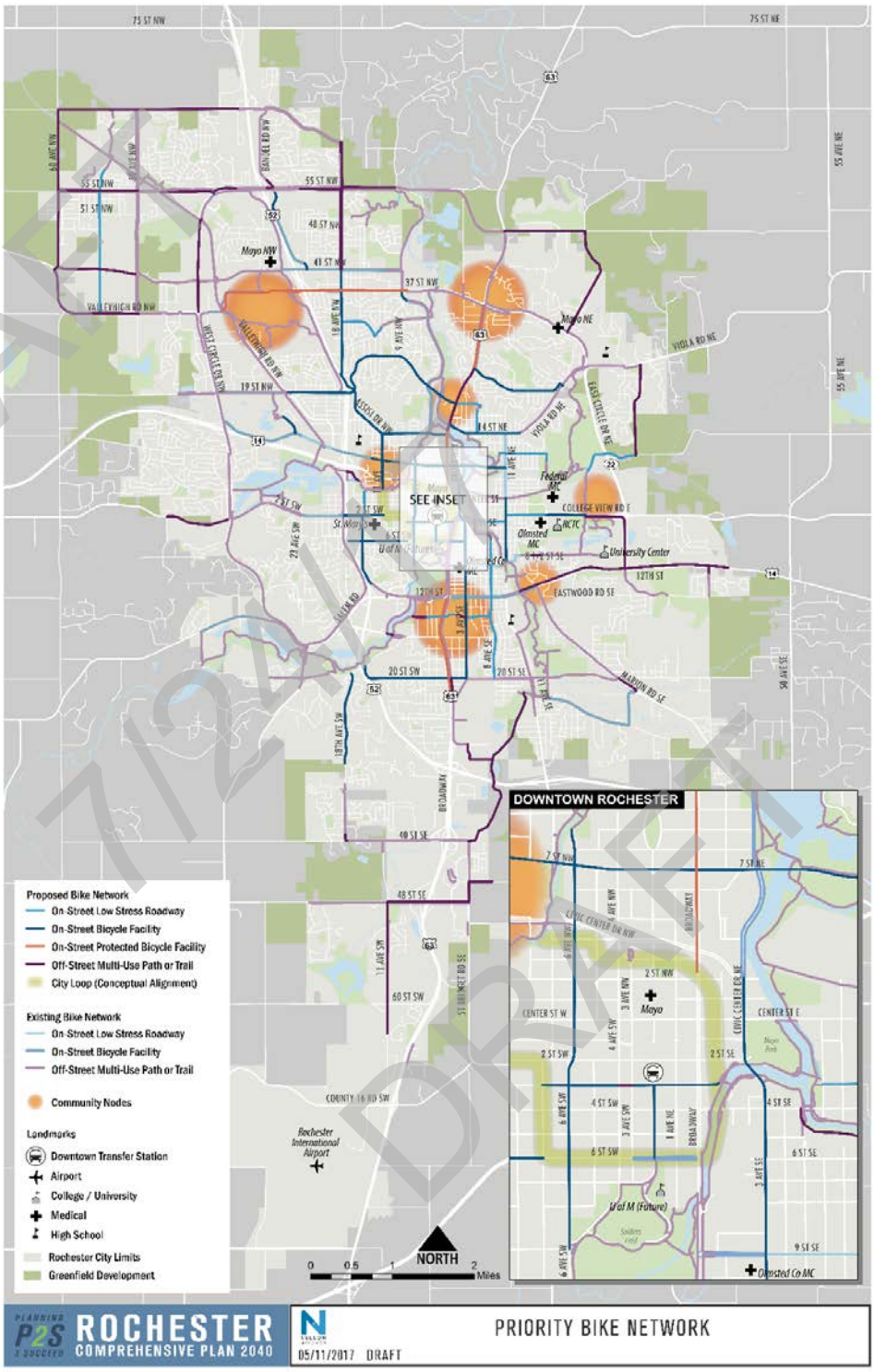
Priority Bike Network

Figure 2-36, the Priority Bike Network Map, identifies key corridors where improved bicycle facilities can provide important connections to envisioned transit oriented centers and nodes of development as well as other key modes of activity or anchor destinations throughout the city.

The map identifies whether corridors will be served by on road or off road facilities given the constraints that exist, and for on-street facilities the level of separation from vehicle traffic that should be aspired to.

While this plan does not specify an actual facility type, the adopted Bicycle Master Plan provides guidance on appropriate design types to consider to achieve the level of separation identified.

FIGURE 2- 36: PRIORITY BIKE NETWORK



Local Streets/Local Collector Streets

Local streets are needed in a variety of land use contexts to provide adequate access to lands in the city. Their most important vehicular travel function is to provide property access to residential or business properties fronting the street. Walking and bicycling is also a priority of equal importance along these streets, and their design should support slower vehicle speeds and lower volumes to foster a safe and pleasant pedestrian and bicycling environment for residents and visitors.

The alignment of local streets and local collector streets is established as part of the General Development Planning process required under the City of Rochester Land Development Manual. The general need for local collector streets in new development areas is identified in the ROCOG Long Range Transportation Plan as part of the major street planning process conducted as part of the ROCOG planning process in order to allow for consideration of access management needs along major collector and arterial streets.

Traffic speed and volume control can be influenced by street design, and a high level of street connectivity will discourage speeding, disperse traffic, and provide more route options for non-motorized travel. Uninterrupted continuity of local street alignments should be discouraged as they can lead to excessive travel speeds and unwanted cut-through traffic.

Principles of Local Street Design

In addition to promoting accessibility through encouraging interconnectivity while limiting continuity, other principles that should be considered in the design of local street networks include:

- Local street systems and land-development patterns should support the efficiency of bordering arterial streets and distribute neighborhood traffic among several streets through creation of an adequate number of neighborhood connections to the major street system. Contiguous residential or business development areas served by a network of local streets and bounded by the major street network, should 1) provide spacing of connections to the major street system consistent with access management principles for the major street system, and 2) insure that any single street within a local development area does not bear a disproportionate volume of traffic exiting or entering the area. Where higher traffic volumes are anticipated, measures such as design of the street as a residential collector, alternative lot patterns to reduce direct access, and the introduction of traffic calming measures should be considered to mitigate impacts.
- Roads within a local street network should be designed to support slow speeds and safe intersections without the extensive use of traffic controls, regulations, and enforcement. Speed management principles in Table 2-17 should be considered in all development planning.
- The amount of land within a development area devoted to motor vehicle use should be minimized.

- The arrangement of local streets should permit economical and practical patterns, shapes, and sizes of development parcels.
- Roadway design should be considerate of and utilize natural topography from the standpoint of both economics and amenity.
- All streets should include sidewalks on both sides.
- Local street and collector networks should be highly connected to allow emergency services quick access to incident sites.
- Development areas should include connections to adjacent developments in order to limit the number of local trips between abutting development areas that are diverted to the major arterial system. All new development plans should provide for future public street connections to adjacent unplanned but developable parcels by providing local street connections spaced at intervals not to exceed 660 feet along each development boundary that abuts such lands.

TABLE 2-127: LOCAL RESIDENTIAL STREET GUIDELINES

Performance Measure	Performance Guideline
Connectivity Index	Connectivity Index for the development must exceed 1.4
Block Length and Block Perimeter	Maximum block length of 600-700 feet or a maximum block perimeter of 1500-1600 feet
Cul-de-Sac Length	Maximum length of cul-de-sacs should not exceed 300 feet and should include dedicated cut-throughs to allow through movements for people walking and bicycling
Pedestrian Connections to Major Streets	Pedestrian connections to facilities along major streets should be provided every 300 to 500 feet
Speed Management	Features intended to moderate travel speeds are incorporated into the initial design on any continuous corridor over 1000 feet in length

- Internal street systems should provide adequate connectivity, creating internal routes to neighborhood destinations such as schools and parks and to major street system connections points, which will provide the added benefit of more route options for walking or biking to such destinations.
- To insure adequate connectivity within low density development for convenient and direct pedestrian and bicycle travel, the principles in Table 2-17 should be used as a guide to lot and block design and connections to non-motorized facilities along major streets.
- Plan for adequate multimodal accommodations in development by providing direct bicycle and pedestrian connections within and between residential areas and supporting community facilities and transit.

Acceptable Traffic Volumes Impact on Residential Streets

Street network or access proposed for new development should be designed to limit the amount of traffic on residential streets. Table 2-18 identifies the acceptable range of volumes on residential streets.

TABLE 2-138: RESIDENTIAL STREET VOLUME GUIDELINES

TRAFFIC FLOW (VEHICLES/DAY)	PEAK HOUR TRAFFIC FLOW (VEHICLES/MINUTE)	ACCEPTABILITY ON LOCAL STREET	ACCEPTABILITY ON COLLECTOR STREET
0 to 600	0 to 1.0	Excellent	*(Reassess Function)*
600 to 1200	1.0 to 2.0	Good	Excellent
1200 to 1800	2.0 to 3.0	Poor	Good
Over 2000	Over 3.0	Avoid	Poor

Right of Way Guidelines for Local Streets

Table 2-19 summarizes recommended guidelines for right-of-way and roadway width on local residential and non-residential streets and local collector streets in the City of Rochester. All streets are to include pedestrian facilities along both sides for all land use types, with little exception.

TABLE 2-19: ROW GUIDELINES FOR LOCAL STREETS

STREET CLASSIFICATION	SUBCLASS	WHEN TO USE	ROADWAY WIDTH (FT.)	RIGHT OF WAY WIDTH (FT.)
Local Collector Streets	Industrial	Industrially zoned area where ADT > 1000 vehicles per day	44	66
	Commercial	Commercially zoned area where ADT > 2500 per day	44	80
	Residential	Streets designated as Residential Collector with parking on both sides	36	62
		Streets designated as Residential Collector with parking on one side	30	60
		Streets designated as Residential Collector with no on-street parking	26	56
Local Street Non-Residential	Industrial	Minor Street in industrially zoned area with C&G drainage	34	60
		Minor Street in industrially zoned area with swale drainage	32	70

	Commercial	Minor Street in commercially zoned area with C&G drainage and parallel parking	38	66
		Minor Street in commercially zoned area with C&G drainage and angle parking	60	85
		Minor Street in commercially zoned area with swale drainage	36	80
Local Street Residential	Urban Conditions	Local Residential 2-way street with swale drainage	28	60
		Local Residential 2-way street with C&G and parking on both sides	32	60
		Local Residential 2-way street with C&G and parking on one sides	28	56
		Local Residential 2-way street with C&G and no on-street parking	24	52
		Local Residential Limited Local:2-way traffic with C&G; no parking and ADT < 300	22	50
		Local Residential 1-way street with C&G and parking on one side	20	44
		Residential 2 lane parkway with landscaped median & parking	20 Each side	64
		Alley with C&G and no parking	20	20
	Rural	Local Residential Street with swale drainage and ADT < 300	20	60
		Local Residential Street with swale drainage and ADT > 300	24	66

Traditional Street Network Standards

The following paragraphs serve as a guide to older, more compact neighborhoods. They also provide strategies for supporting the types of streets Rochester residents want to live on through development of new residential subdivisions in the style of older, or traditional, residential neighborhoods developed in the early years of the city where walkability was a primary consideration and neighborhood lot size and street patterns reflected little need to accommodate vehicular traffic. To

TABLE 2-20: CRITERIA FOR TRADITIONAL STREET NETWORKS

Performance Measure	Performance Guideline
Connectivity Index	Connectivity Index for the development must exceed 1.4
Block Length and Block Perimeter	Maximum block length of 600-700 feet or a maximum block perimeter of 1500-1600 feet
Cul-de-Sac Length	Maximum length of cul-de-sacs should not exceed 300 feet
Pedestrian Connections to Major Streets	Pedestrian connections to facilities along major streets should be provided every 300 to 500 feet
Speed Management	Features intended to moderate travel speeds are incorporated into the initial design on any continuous corridor over 1000 feet in length

facilitate this type of design, a set of alternative "Traditional Street" design standards are established. However, to utilize the alternate standards for "Traditional" residential street networks the street network for a proposed development should meet the performance guidelines established in Table 2-21 and be complimented by the adjacent development style.

Where the performance criteria for establishing a Traditional Street Network are met for a proposed development, the following minimum roadway and right of way width guidelines can be utilized.

TABLE 2-21: TRADITIONAL STREET RIGHT OF WAY GUIDELINES

			TRADITIONAL STANDARDS	
STREET CLASSIFICATION	SUBCLASS	WHEN TO USE	ROADWAY WIDTH (FT.)	RIGHT OF WAY WIDTH (FT.)
Traditional Neighborhood Design	Residential Streets	Streets designated as Residential Collector with parking on both sides	34	62
		Streets designated as Residential Collector with parking on one side	28	60
		Streets designated as Residential Collector with no on-street parking	24	54
		Local Residential 2-way street with C&G and parking on both sides	30	60
		Local Residential 2-way street with C&G and parking on one sides	26	56
		Local Residential 2-way street with C&G and no on-street parking	20	48
		Local Residential Limited Local:2-way traffic with C&G; no parking and ADT < 300	20	46
		Local Residential 1-way street with C&G and parking on one side	20	44
		Residential 2 lane parkway with landscaped median & parking	20 Each side	56
		Alley with C&G and no parking	18	18

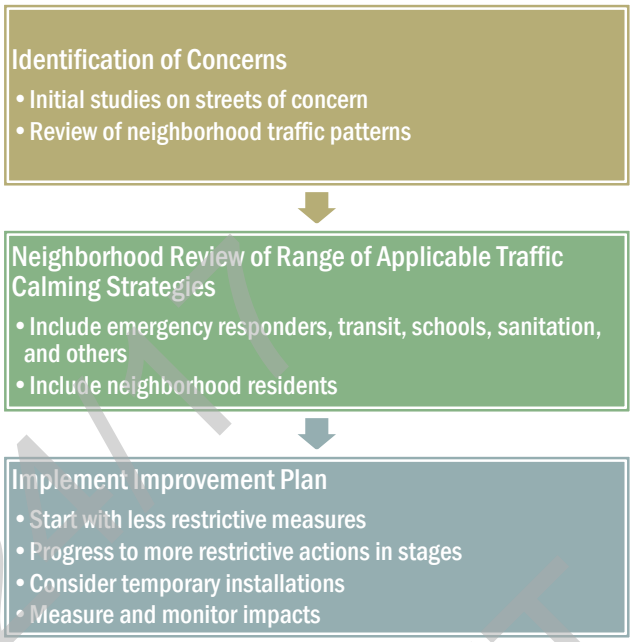
Traffic Calming Guidelines

Issues of excessive speed and volume on conventional residential local streets can impact the public safety and welfare of a neighborhood. Traffic calming refers to the process of incorporating design features to moderate traffic speed or reduce cut-through traffic.

Rochester's Neighborhood Traffic Management Program Handbook provides the framework and guidelines for selecting and prioritizing streets in neighborhood areas for installation of neighborhood traffic management devices. The guidelines ensure the fair, equitable and consistent treatment of community neighborhoods that is essential to address documented traffic concerns and prioritize the implementation of traffic calming measures. Procedural issues to be addressed should include those illustrated in Figure 2-37.

Additional Local Collector Street Considerations

FIGURE 2- 37: TRAFFIC CALMING PROCESS



Local collector streets include neighborhood residential collectors or local collectors within business or industrial districts that provide the primary connection between local land use areas and the major street system and are designed to distribute traffic within a neighborhood, commercial district, or employment area. Multiple objectives must be accommodated in establishing these collectors, including connections with adjacent developments and neighborhood activity centers as well as dispersion of traffic to major streets. While through traffic is discouraged, traffic generated from abutting neighborhoods is appropriate. These streets are different from Primary Collectors, which function more like minor arterials and are considered part of the major street system.

Principles for Local Collector Street Design

The following principles should guide the alignment and design of local collector streets. Performance features including acceptable traffic volumes on local residential collector streets are found in Table 2-18, recommended roadway and right of way width in Table 2-19, and connectivity and continuity of local collectors should be considered in combination with local streets under the principles listed in the initial paragraphs of this section. Additional considerations respective of significant topographic or environmental constraints, include:

- Individual property access is compatible with the function of local collector streets.
- The local street network should provide sufficient connectivity so that trips to destinations within a mile of origin could be made on the local and collector street system. Without this, trips may be

forced onto the arterial street system, reducing capacity from that system for through trips as well as local trips with a start or end outside of the immediate area.

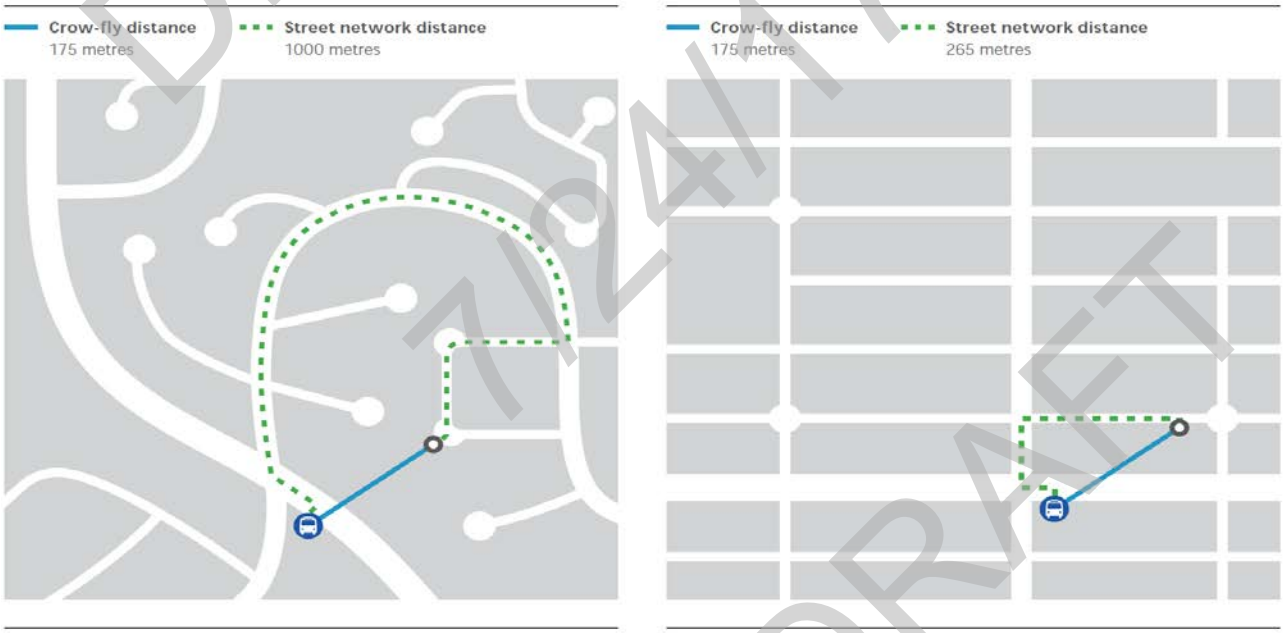
- While local residential collectors are designed to discourage through traffic, traffic generated in adjacent neighborhoods is not considered through traffic where these neighborhoods are not divided by a higher order street.
- Where the arterial street system is generally established on a one mile grid, there should be within the square mile a minimum of one East/West and one North/South collector corridor provided when development is proposed at the lowest residential densities (essentially creating ½ mile spacing). For curvilinear networks, the equivalent network density of 2.0 centerline miles of residential collector streets per square mile should be provided. At higher residential densities or where commercial, office or industrial uses are proposed, 1/3rd mile spacing of collectors or an equivalent network density of 4.0 centerline miles of residential collector street per square mile of land should be provided should be provided.
- Connectivity of collector streets in residential areas to the major street system is important for public transit and the provision of emergency services (police, fire and ambulance). Local collector streets need to balance the downside of relatively uninterrupted route continuity with relatively direct connections to provide efficient routes for bus and emergency vehicle routing that minimizes indirection of travel.
- Long segments of continuous local collector streets are not compatible with functional design of the street network. Long continuous collectors will encourage higher speeds and through traffic, essentially turning them into secondary arterials. Ideally, collectors should be no longer than ½ to ¾ mile without the introduction of discontinuity into the route.
- The Plan assumes that not all collector routes will be pre-defined but will be established when the development patterns in an area are defined through a general development plan or a small area planning process. The ROCOG Long Range Transportation Plan provides additional guidance as to where collector street corridors are needed based on principles of network spacing.
- Residential Collector Streets should be located so as to connect to adequately spaced signalized intersections on major streets or at full median openings of divided roadways at a relatively uniform spacing of one-half to one-quarter mile (depending upon proposed land uses) in order to maintain good progression on the arterial network if future signalization is required. Residential collectors should be used as the development streets that will connect to future signalized intersection locations or full median openings along divided roadways.
- All existing local collectors are two lane facilities and it is anticipated that future local collectors will also be two lane facilities except in limited instances where non-residential land uses served by a local collector may generate high volumes of traffic.

Local Streets in New Growth Areas

The Stability and Change map (Figure 2-8) identifies areas both within and outside of the current city limits where growth is projected to occur. Some of these areas, including greenfield development areas both within and outside of the current city limits, will require new roadway networks which are subject to these Local Street/Local Collector guidelines. These standards guide the development of new roads with guidelines around connectivity (to destinations such as parks and schools as well as to the major streets system), block length, speed management, and other elements of street design.

Connected street design is a critical design element to provide for direct routes that support multiple travel options (see Figure 2-38). New streets should avoid curvilinear and cul-de-sac patterns, provide for direct routes that support travel by multiple modes, and balance access and mobility functions.

FIGURE 2-38: CONNECTED STREET CONCEPTS



A disconnected street network full of cul-de-sacs results in long walking distances, few route options, and less efficient transit operations.

Source: TransLink "Transit oriented Communities Design Guidelines"

A well-connected, fine-grained street network enables shorter and more direct walking connections, provides greater choice of routes, and is easier to serve with cost-effective transit.

Travel Options & Parking

Rochester envisions an enhanced transportation network with a range of transportation and housing options to meet the needs of residents, commuters, and visitors. As Rochester continues to grow, demands on the transportation system and demands for parking will increase. The City has limited ability to invest in significant new roadway capacity due to the high cost of expanding roadways and the reduced buying power of transportation funding.

Developing viable options to single-occupant travel and ensuring people know how and are comfortable using them is critical to achieve the land use and transportation vision described in this plan. Travel options (also known as Transportation Demand Management) can make best use of investments in streets and transit. Moving more people on existing infrastructure and services is the most cost effective mobility strategy available.

Parking management and travel options strategies discourage unnecessary driving and promote walking, cycling, and transit use to meet every day needs. Travel options programs provide incentives for travelers to shift all or part of their automobile trips to other modes. This can be done by increasing the availability of convenient, reliable travel options, setting appropriate prices for parking, providing information and marketing available services, and allocating adequate road space to transit, cycling, and pedestrian uses.

Managing parking and access downtown and in newly planned transit nodes and corridors is a key strategy to ensure that the vision of the Comprehensive Plan can be achieved and that parking facilities do not become a dominant land use in these areas. Managing parking supply plays an important role in determining the quality of a city's built environment. Parking management in Rochester will need to balance expected growth in demand, support adopted mode share and access goals, and support the continued development, vitality, and sense of place of the community.

Carefully managed parking and access must be paired with programs that inform and educate the public about their travel options – also referred to as Transportation Demand Management (TDM) – to ensure travelers understand available alternatives. Building from the strategies outlined in the DMC Development Plan, travel options programs in Rochester will help manage overall downtown access, particularly for employees.

Programs to make people aware of their travel options can be implemented at many scales, including through large employers, in specific neighborhoods, at the city level, or through a dedicated organization - often called a Transportation Management Association or Access Authority. As Rochester grows, these programs can be incorporated at the time of new development by incentivizing or requiring travel options strategies be included as part of the development review process. Employers

and property management companies can provide subsidized transit passes, an on-site transportation coordinator, or supportive infrastructure such as car share spaces throughout the lifetime of a building.

Examples of key strategies for encouraging persons to consider transportation alternatives include:

- Mass marketing education campaigns
- Targeted education and outreach
- Centralized information portal (e.g., a website) with clear, accessible, and real-time information
- Incentive programs to encourage people to try new modes of travel for the first time
- Ride share matching services
- Data tracking and dashboard reporting of participation, benefits—including indicators related to cost savings, health, the environment, personal and community wide cumulative benefit—and progress toward community goals

KEY TERMINOLOGY

What's the difference between Travel Options and Transportation Demand Management?

"Transportation demand management" or "TDM" programs reduce congestion in urban areas during peak times by shifting HOW and WHEN people travel through programs such as carpooling, high-occupancy vehicle lanes, transit passes, flexible work hours, and other strategies. **"Travel options"** programs and investments go beyond focusing just on peak commute travel in cities and recognizes that having transportation choices offered throughout the day and in all communities meets broader goals such as improved health, accessibility, and economy.

Supporting Downtown Access

Planned growth in Rochester will increase demand for all types of trips to and within downtown. How Rochester manages its parking system (both current and future supply) is fundamental to achieving the community vision set forth in this plan, the Rochester Downtown Master Plan, and the Destination Medical Center Plan. To accommodate increased travel demand and support for the adopted mode split goals for downtown access, parking must be managed through strong partnerships between the City, transit providers, downtown economic development partners, and employers. A downtown Transportation Management Association (TMA), Access Authority, or similar organization can bring these partners together to manage parking supply, employee benefits, as well as education and outreach programs. It would provide a centralized decision-making structure with the purview and authority to consider access needs and management tools for the area. Implementing these strategies

early in the timeline of this plan will be important to achieving the economic development vision and to support higher density employment and activity in the City's core.

A centralized commuter access program is an important complementary activity to managed parking, providing information, resources for people to understand their transportation and parking choices, and incentives to try alternative transportation choices. This program could also be implemented by a TMA or Access Authority (or like organization), in partnership with the City of Rochester, the Mayo Clinic, and other employers and stakeholders.

Maximizing the Benefits of Transportation Investments

Travel alternatives programs can be an important complement to capital investment projects, helping to make people aware of new and expanded travel options to maximize their usage and benefit. Travel options can accompany new infrastructure projects (e.g., a new multi-use trail connection) and service investments (e.g., improved transit service on a given corridor) at the time of implementation. These programs are most effective when they are integrated into the planning and project development processes, and funding can be included in the project budget to help promote and educate potential users of the new transportation investment.

Programs that provide education, information, and resources to employees, visitors, and residents about available transportation options are most effective when focused on specific markets. Individualized marketing programs make travel options personal by engaging directly with residents and employees in a targeted area, with information and resources tailored to the needs and options in that area. New programs can be developed to inform the public about and maximize the benefit of new transportation investments, such as transit service enhancements, or as new development occurs.

Teaching children at a young age how to bike and walk safely can also influence a lifetime of travel behavior. The City can play a strong role in expanding its Safe Routes to School program that engages with elementary middle and high school students, providing bicycle and pedestrian education and other resources to support walking and bicycling to school.

Incorporating Travel Options into the New Development Process

Consideration of commuter benefits, travel information, and assistance services should be incorporated into the development review process as means to reduce the impact of new development on the transportation system. Incentivizing or requiring travel options programs as part of the development review process helps to ensure programs and supportive infrastructure are in place throughout the lifetime of a building. Travel options strategies range from developing a complete travel options plan with performance monitoring to a one-time installation of bicycle or pedestrian supportive amenities and infrastructure.

During construction projects, travel options can be a required mitigation effort to reduce traffic congestion and encourage travelers to use other modes. This might include outreach to the affected community about alternative travel options or enhanced transit service. These strategies can be directly funded through the construction project budget.

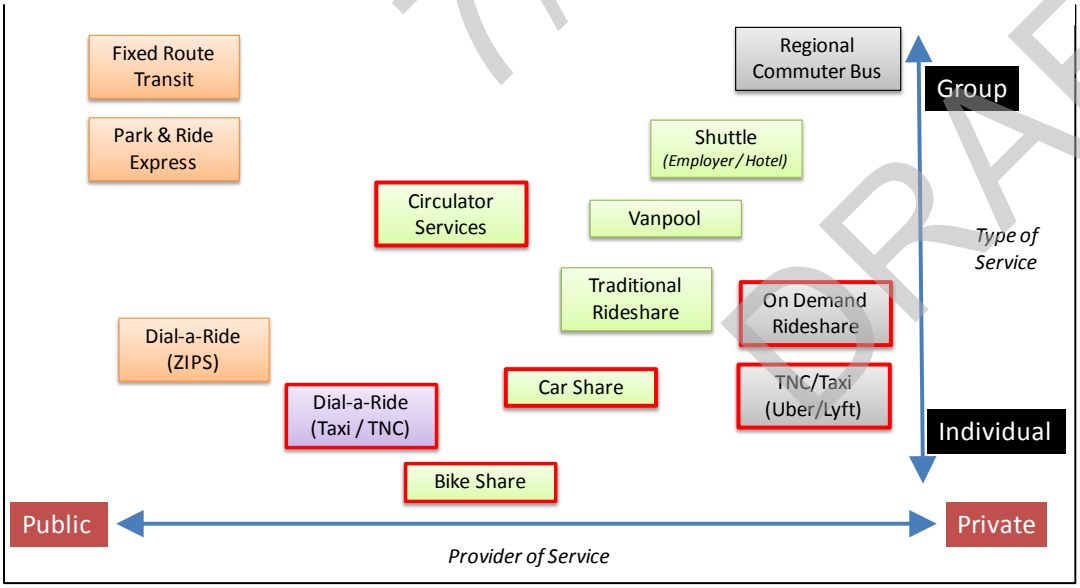
Role of Technology

As mobile phone applications, shared vehicles, and autonomous vehicle options continue to evolve, technology will continue to play an increasingly important role in delivering transportation choices and travel information. New technologies can help people access the things they need and the places they need to go to reliably and conveniently. The City and Rochester Public Transit play key roles in partnering with the private sector to ensure data on transit, walking, bicycling, and driving conditions are available in readily available formats and in real-time.

Transportation Services

Many transportation services involving various modes of travel are available in the city of Rochester. These range from public services such as the local regular route bus service to various type of private services ranging from shuttle and commuter group services to newly emerging point to point services provided by individuals to individuals. Figure 2-39 illustrates the array of travel services that are available or which are beginning to emerge, arrayed along two axes that indicate the provider of service (ranging from fully public to fully private) and the type of service (ranging from individual to group ridership).

FIGURE 2-39: THE CURRENT LANDSCAPE FOR MOBILITY SERVICES



*Boxes highlighted in red outline indicate emerging services; other services are already established

The emergence of a growing array of private services has been enabled by new communications technology, which is influencing travel choice today through the provision of applications that provide information about and access to transportation resources as well as efficiency applications to help people make informed decisions about travel modes.

The various mobility services described in this section suggest an opportunity to rethink how people travel, with services ranging from publicly provided and publicly accessible to those that are privately provided with exclusive access. Services range from fixed routes with schedules to pre-scheduled or on-demand services. It is likely over time that different travel markets will gravitate to certain service models as costs, efficiencies, and benefits of different services become more apparent. There will likely always be a need for a higher capacity transit type service to serve certain travel markets, while other low ridership, low frequency trip making will benefit from demand responsive type of services.

The sharing economy has had a rapid ascent over the last decade as people across the country realize the benefit in distributing the costs of ownership across multiple subscribers. One of the big benefits that shared mobility solutions can provide is a range of transportation choices when and where they are needed, making use of a private vehicle optional.

This evolving market is likely to become increasingly relevant to Rochester, as it offers a variety of options to provide last-mile connections to transit, support resident and visitor mobility to/from mixed use nodal developments, and help Rochester achieve its downtown commuter mode split goals by providing new ways of reaching and travelling within downtown. The following sections provide information about the various transportation services that will service the market for travel in the future.

Traditional Transit Services

Rochester is served by a variety of different transit services, distinguished by an operator (either public or private) who is providing service along a fixed route or point to point using larger capacity vehicles to maximize the cost effectiveness and efficiency of moving people to and from higher demand destination or areas such as downtown. These include distinct services such as local fixed route transit service, dial-a-ride service for the elderly and disabled, park and ride express service, private regional commuter buses, and local shuttle services operated by a variety of private entities such as hotels and the Mayo Medical Center.

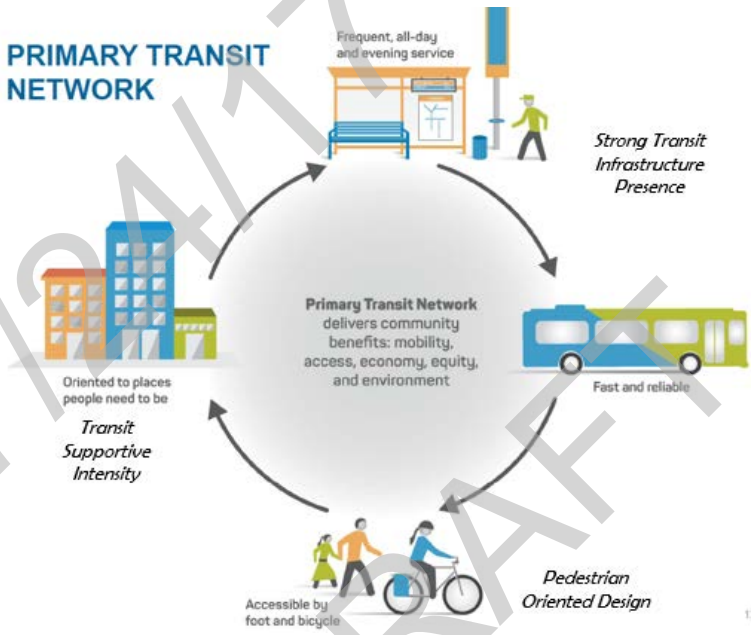
Local Public Transit Service

Local public transit service includes Fixed Route Local Bus Service that serve neighborhoods throughout Rochester, provide express service from park-and-ride lots to downtown, and demand responsive service that provides complementary paratransit service for those who are unable to

navigate the fixed-route system. Transit's current level of utilization in Rochester is due to the alignment of route services with supportive land uses and demand generators, the provision of safe and secure pedestrian access to stops, and service that provides a competitive travel time for commuter trips to downtown Rochester.

As the highest density employment center in the region and the seat of a transit hub-and-spoke system, downtown Rochester generates the majority of passenger destination demand in the Rochester Public Transit (RPT) system, drawing from the significant number of city residents who work in downtown Rochester. Transit generating corridors and activity centers outside downtown are generally much lower in intensity and exhibit a more limited mix of uses, resulting in lower transit trip generation than downtown. Routes serving areas with transit dependent populations, particularly where residents are connected to service sector employment, also draw higher ridership. This transit dependent population typically includes low-income households, seniors aged 65 and over, youth between 10 and 17, and households without access to a private vehicle.

With the introduction of the concept of a Primary Transit Network (*described in detail in the Transportation Infrastructure section on pages 161-174)*, which will create a strong organizing element to fixed route transit service in the city, the role of local Fixed Route Local Bus Service will take on a slightly different role in the future, serving in part as a feeder service that will complement to the PTN and evolving to provide more cross town route connections in combination with the PTN to offer a greater choice of destinations to riders.



The local transit network will continue to provide a basic or 'lifeline' level of service within ½ mile of most Rochester residents, connecting to most employment, commerce, education, health care, and social services not on the Primary Transit Network, but the combined PTN/Local Bus Service will provide higher quality and more frequent service to major travel destinations across the city. In areas not served by the PTN, the level of service provided by the Fixed Route Local Bus Service, given the low development densities common across the city, will likely remain defined by a minimum of 60 minute frequencies during off-peak daytime hours.

Access to local transit stops, particularly by people walking and bicycling, will continue to be critical to maximizing the usefulness of the local transit network. While transit access improvements and station amenities on the fixed route local bus service will be less than those provided on the PTN, making all transit stops comfortable and accessible is a priority to insure good first- and last-mile connections for all transit passengers.

The city's complementary paratransit service, the Zumbro Independent Passenger Service (ZIPS) will continue to operate to serve those unable to use the fixed route system. Due to inevitable demographic changes, the significance of this service will likely only increase over time. The Rochester population is aging, with nearly 1 in 3 Rochester residents forecasted to be over the age of 60 by 2040, as compared with less than 1 in 5 today. ZIPS carried an average of 39,500 passengers per year from 2007-2013. Eligibility to use ZIPS is determined by federal Americans with Disability Act (ADA) guidelines and operations are contracted at a per vehicle hourly rate with a private company that provides drivers, vehicle maintenance and storage, dispatching, and customer service. In addition to aspiring to increase available paratransit funding, the coordinated land use and transportation strategy of the Plan will increase the amount of mixed use housing that should provide disabled and/or elderly residents more choices in the future to live closer to the services they need.

Ongoing service planning is conducted for both the local RPT Service and the ZIPS service. A new updated Transit Development Plan completed in 2017 addressed short term (1-7 year) needs on these local service systems, including the expansion of service hours, addition of weekend and holiday service, and legibility of the system. Continued monitoring and adjustment of routes and service will occur annually as it has in the past. Given the relative ease of adapting these services to new market opportunities or changes in routing to better match demand with service, planning for fixed route local bus service and ZIPS service will continue to be able to respond to more immediate short term needs in the community.

Longer term, planning for transit services will need to continue to address fundamental service questions and needs, to the extent they have been identified, including the following:

Service Delivery

- ☐ Expanding service hours (primarily between 6 AM and 7 PM) to respond to potential transit riders seeking to travel during off-peak times (e.g., Mayo employees with evening work shifts or students taking evening classes).
- ☐ Overcoming longer travel times for trips that do not begin or end downtown resulting from the radial nature of the current route network.
- ☐ Expanding the utility of the system for transit dependent populations currently limited by the service hours and ease of accessing destinations outside of downtown.

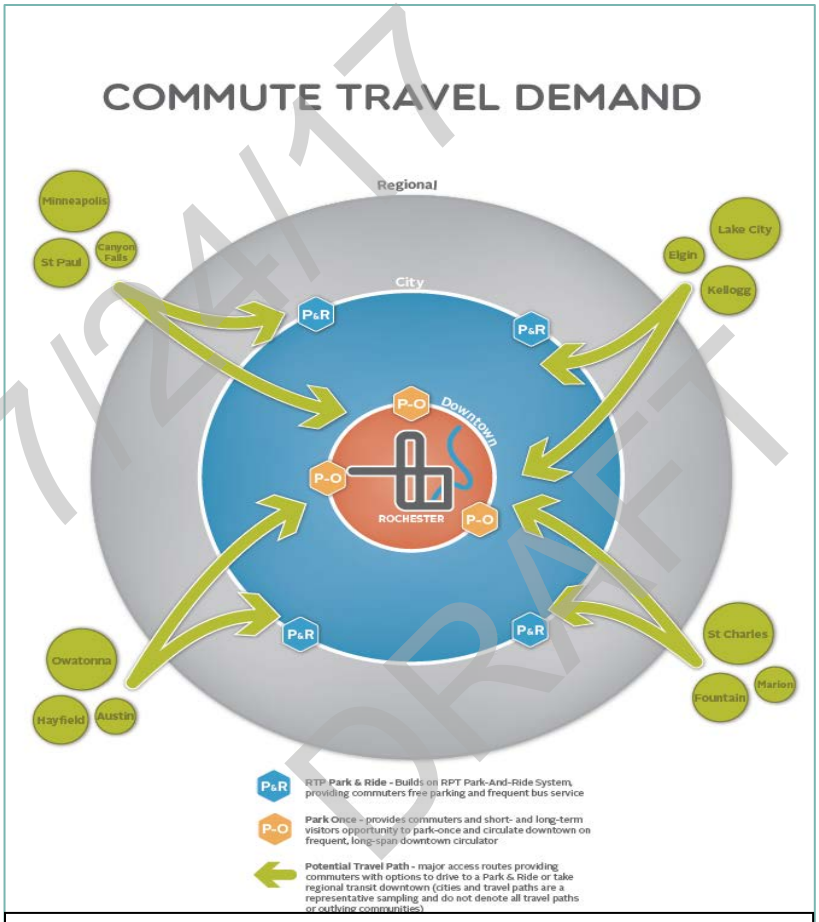
Transit Capital and Access

- ☐ Consistency in passenger amenities across the system such as shelters, seating, lighting, posted time tables, and realtime information.
- ☐ Anticipated capacity challenges at the existing Downtown Transit Center as city growth prompts new routes and the prospect of a proposed downtown circulator needs to be fitted within the 2nd Street SW corridor as well.
- ☐ Establishing more permanent park-and-ride sites at higher demand locations to avoid future disruptions to this critical service for downtown employers.

Park & Ride with Circulator/Shuttle/Express Bus Services

Given the concentration of employment in downtown Rochester and significant regional workforce needed to meet labor market needs in the city, the use of Park-and-Ride services have evolved as an important tool to minimize traffic congestion and parking needs while maintaining reliable peak period accessibility to the downtown job market.

The park and ride system is tightly integrated with the local public transit system, with park and ride sites outside of the Central Business District serving as transfer point to move drive alone commuters onto the transit system to provide more efficient movement of people into the downtown. While several thousand employees already park in designated lots at the edge of the city and travel by bus to downtown, this number is set to increase significantly, with the number of commuters traveling into Rochester each day projected to increase from approximately 30,000 in 2010 to approximately



Transit offerings in Rochester, including Park-and-Ride lots with express service to downtown, serve a commute market from well beyond the city boundaries *Source: DMC Development Plan*

50,000 by 2040 and the number of downtown employees expected to increase from 36-38,000 to over 60,000 by 2040. With limited downtown street and parking capacity, park-and-ride facilities and services will play an increasingly important role in meeting Rochester's workforce travel needs. The following section describes the changes anticipated in the park and ride network

City Ownership and Siting

Historically, Rochester park-and-ride lots have been leased from private entities, including commercial, business, and institutional land users with capacity to absorb additional on-site parking during typical weekday work hours. While studies and retailer experience shows that accommodating park-and-riders in their lots increases retail sales and provides transit access for employees, these leases are not guaranteed and retailers in Rochester have at times chosen not to renew, triggering the need to identify suitable replacement locations on short notice.

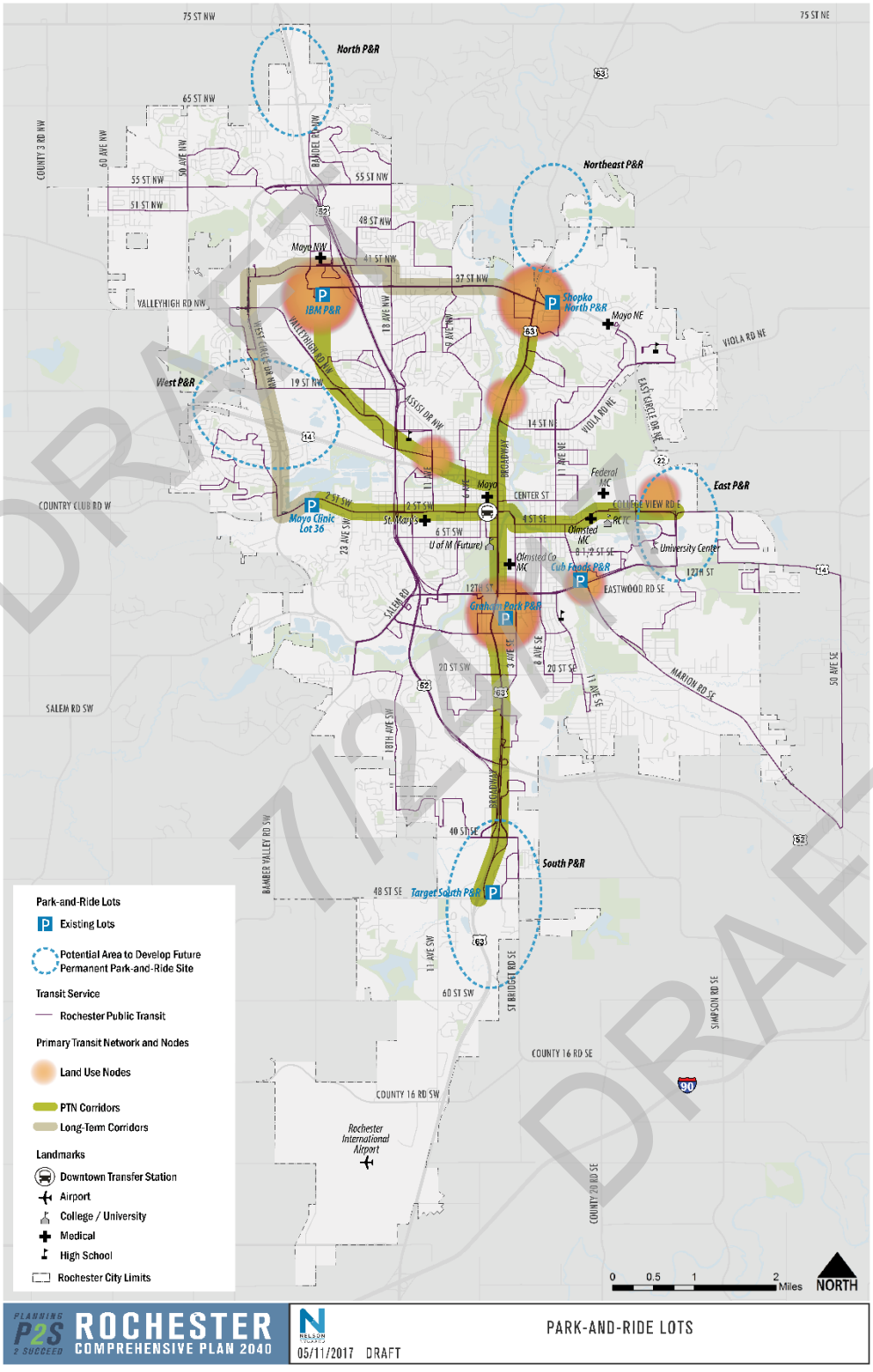
Failure to renew a park-and-ride lease could leave Rochester without viable alternatives to replace parking capacity in a given regional travel corridor, forcing commuters into potentially higher cost or less convenient options. Establishing permanent park-and-ride facilities in high-demand locations would solidify the critical role that these lots play in Rochester's transportation network. Permanent, City owned locations also would allow the City to make investments that enhance the user experience, such as improved passenger waiting facilities, access to multiple travel options, and access to daily services.

Given the importance of maintaining an established park and ride system immune from interruption, the City has begun undertaking planning for future development of municipal park and ride sites to meet expected growth needs for this service. As part of the 2017 Transit Development Plan and the DMC Integrated Transit Studies to be completed in 2017, evaluation of future park and ride demand and the siting of potential locations is underway.

While already well-utilized, with utilization exceeding 10% of current capacity at some locations, total demand for park-and-ride lots is projected to increase by an additional 50% by 2020 and by 100% by 2030. Corridors with the highest projected growth in demand are the highest priority for City ownership. These corridors are generally the major regional highways providing access to Rochester from surrounding areas, including Hwy 14 to the west and east, Hwy 52 to the northwest, I-90 to the southwest and Hwy 63 to the south and northeast.

Based on the expected travel patterns, as well as the existing location and capacity of the City's park-and-ride facilities, Figure 2-40 identifies key targets areas that should be considered as priorities for development of future park and ride facilities.

FIGURE 2-40: TRANSIT SYSTEM INTERFACE WITH PARK & RIDE FACILITIES



Factors that were important in identifying the key target areas identified in Figure 2-40 include:

- North | The northwest will remain a primary access point for regional commuters that enter Rochester via Highway 52 and this area potentially see the largest increase in regional commuter travel. Currently served by a leased site that is the largest park and ride in Rochester, a City owned facility in the 65th Street NW to 75th Street NW area would provide greater certainty for this market area.
- West | A large number of existing commuter trips, along with a significant projected increase in commuters, are expected to come from the west of Rochester, an area currently served by a small public lot in addition to a current Mayo Clinic surface lot. To meet current demand and address a major issue with downtown access capacity off of Highway 52, development of new park-and-ride capacity along Highway 14 is a high priority among areas identified.
- Southeast | The existing Fairgrounds/Graham Park surface facility is located along the proposed PTN network and within an area designated as a future proposed mixed use development node. The ability to utilize the PTN during off peak hours for access to the CBD makes this a desirable site to consider to serve not only peak period commuters but workers whose shifts start at off-peak times, since access to downtown jobs can be provided by established transit service rather than special park and ride service.
- South | Highway 63 South is expected to see continued commuter travel growth as communities such as Stewartville, Spring Valley, and areas west on I-90 such as Austin remain attractive options for those wanting to live in smaller cities. Next to the northwest, this direction is expected to see the second highest amount of commuter growth, suggesting that existing park and ride facilities likely need to grow to accommodate future demand for service from Highway 63 and I-90.
- Northeast | With improved access provided by extension of 55th Street and anticipation that the northeast quadrant of the Rochester area will be a prime future residential growth area, the development of expanded park and ride capacity in this area has the potential benefit of serving not only regional but also local commuters.
- East | The eastern approach to Rochester from areas along Highways 14, 42 and CSAH 9 is currently underserved in terms of park and ride capacity, with only a surface lot reservoir available at the Cub Foods Market Center. Projected demand entering Rochester from the east suggests the need for expanded park-and-ride capacity at a location with improved access to the larger eastern travelshed, potentially near Rochester Community and Technical College.

These park-and-ride locations are general site locations for which more detailed study will be needed to inform final siting decisions.

Regional Commuter Transit

People commute into Rochester each day from throughout Southeast Minnesota and beyond. Approximately 32,000 people were estimated to commute into Rochester on a daily basis from outside the city in 2013, with half coming from seven surrounding counties.

With the significant amount of employment growth forecasted for the city, how commuters choose to travel to work will have a major impact on Rochester's residents, businesses, and quality of life. Daily commuters to Rochester are expected to increase by about 50% by 2040. While many regional commuters choose to drive into Rochester on a daily basis, a network of privately operated commuter buses serving more than 40 regional communities has been established to meet part of the commuter demand. These buses layover in Rochester during the day and leave during the evening peak period.

Ridership on regional commuter buses into Rochester is estimated to grow by more than 150% by 2035, which will more than double the number of vehicles needed. Accommodating the increased demand will require identifying a suitable location for staging vehicles during the midday off-peak periods, when many drivers of privately operated regional buses are at work at various locations in downtown.

TABLE 2-22: TOP ORIGINS FOR TRAVEL INTO ROCHESTER FOR ALL TRIPS AND WORK COMMUTE TRIPS, 2015

Community (County)	Daily Trips	Average Daily Work Trips
Dodge Center/Kasson (Dodge)	10,000	4,600
Eyota (Olmsted)/St. Charles (Winona)	11,200	4,100
Pine Island/Zumbrota (Goodhue)	9,200	3,800
Stewartville (Olmsted) /Brownsdale (Mower)	9,900	3,700
Plainview/Elgin (Wabasha)	5,500	2,400
Chatfield/Preston (Fillmore)	3,900	1,700
Spring Valley (Fillmore)	3,800	1,600

Source: 2015 Household Travel Survey conducted as part of the Southeast Minnesota Travel Study

Regional population growth offers opportunities for buses to operate out of additional communities. A 2015 regional travel survey identified the counties where participants were most likely to use transit to commute to Rochester. These include several with existing regional bus service—Dodge, Fillmore, and Mower—as well as Freeborn and Rice counties which did not have service as of 2015. The study suggests that expanding regional bus service into Albert Lea, Faribault, and Northfield (the largest communities in Freeborn and Rice counties) and increasing trips into the other three counties would likely result in more induced demand than additional services to other counties. Working through partnerships with MNDOT, ROCOG, regional communities and counties, and private partners such as DMC Economic Development Authority, the City should pursue avenues to expand the network of regional commuter bus service to Rochester.

Shared Mobility Services

Bike Share

Bike share is a low-cost, flexible public transportation service that provides on-demand access to a network of public, rentable bicycles. Bicycles are distributed across a defined service area at fixed docking stations, hub locations, or at individual bike racks. Users gain access to the system through a variety of subscription and technology options that unlock specific bicycles for use. Users can track bicycle availability and docking station capacity and utilization, which ensures system reliability and trip planning capabilities. In Rochester, bike share could be utilized by downtown residents and employees for short trips between downtown destinations, by the visitor/tourist market, and the active resident and employee market that may seek weekend, lunchtime, or after work recreational opportunities.

Bike share is transforming urban mobility, while demonstrating the ability to improve local environmental conditions, quality of life, public health, and economic activity. Based on a prior study that indicated Rochester's downtown could support a bike share service, a recreation focused bike share was implemented in 2016. But the bike share industry is quickly evolving and could change how bike share looks in the future. If the concept of attracting more development to future mixed use infill areas is successful in creating a more dense, compact area within the central part of the city, there is the potential for the bike share program to scale up and expand into other areas over time.

Car Share

Car share companies and private individuals provide a variety of vehicle types for people on a short term rental basis for either one-way or two-way trips. Reservations made online or via a smart phone app can reserve vehicles available for minutes, hours, or days. Some business models provide for vehicles to be picked up and dropped off at designated locations, while others offer a point to point "park within the service area" model. These services are attractive to people who need a private vehicle occasionally or who want access to a car on a spur of the moment without the responsibility or cost of owning and maintaining a vehicle, or who may choose to leave their car at home routinely during the work day where car sharing is available for infrequent daytime trips. Both private and peer-to peer car share can allow households to make-do with fewer vehicles and these services can reduce the need for on-site parking. One particular car share opportunity that should be encouraged is the provision of shared

vehicles in larger multi-family residential developments, providing residents the opportunity to potentially eliminate or reduce the need for private vehicle ownership.

On-Demand Rideshare

On-demand ridesharing services provide a casual carpool-like arrangement for people heading the same direction. These services typically utilize the Internet or a smart phone app to connect would be ride-sharers with drivers who have extra space, to share costs, without pre-scheduling.

Publicly Operated On-Demand Shuttle

On-demand shuttles provide a flexible last-mile transit option that, in many suburban settings, is more cost efficient than providing fixed-route service for last-mile trips. Shuttles are typically "anchored" at one or more stops, stations or remote transit hubs and can provide on-demand service to destinations within a designated zone. Destinations can either be other transit stops or destinations determined by the user. Sometimes referred to as general public dial-a-ride services, they are often used to solve first/last-mile gaps between the core transit network and nearby employment, shopping, and institutional destinations.

Privately Operated On-Demand Shuttle

Similar to publicly-operated on-demand shuttles, privately operated on-demand shuttles provide a flexible end-to-end or last-mile transit option that is often more cost efficient than providing fixed-route service with low ridership. However, the traditional shuttle model is changing. Beyond just providing a transportation service between homes and designated destinations, private companies are tapping into people's desires to use on-demand shuttle service that takes them exactly where they want to go. In many instances, these companies are aiming to reinvent the commute and other utilitarian trips by providing a high quality passenger experience with on-time service, competitive commute times to driving, and high amenity passenger vans customized to rider needs.

Ridesourcing/Network Transportation

Ridesourcing companies offer on-demand, point-to-point transportation in the private vehicles of pre-qualified drivers who respond to one or more passenger's requests for a ride through an online-enabled application or platform, such as smart phone apps. Driver and passenger performance are often rated through social media platforms to provide user security regarding personal safety.

Ridesourcing companies tend to serve the typical "taxi market"—people traveling across town, to the airport, etc. However, employers and communities are beginning to identify opportunities to use ridesourcing companies to serve last mile issues and other specific gaps in the transportation system.

Autonomous Vehicles

Autonomous vehicles—and autonomous shared ride vehicles—drive themselves on an open road. Some researchers predict autonomous vehicles will reduce vehicle ownership by upwards of 40%[1]. While there remains uncertainty of their full impact, autonomous vehicles are likely to have a role in the shared ride economy. We are likely to see the introduction and deployment of autonomous vehicles in the coming years. Plan updates will need to be responsive to this quickly evolving technology and reflect changes to community infrastructure that may be needed to support safe operations and to manage potential impacts to the transportation network.

Summary: Shared Mobility Services

The cities that have developed in the second half of the 20th century face a challenging situation. Past decisions have established a status quo that requires individual car ownership to get around, which makes fundamental change difficult. That said, congestion, long commutes, and environmental concerns may be creating the conditions that cause people to think about alternative ways to get around.

A paradigm is emerging that suggests social, economic, and technological trends will converge sometime in the next decade or two to disrupt mobility as we know it and create the potential for change in urban transportation. Whereas cities considered to be the most advanced in terms of transportation sustainability today emphasize public transit, encourage cycling and walking, and integrate land use and transportation in the form of transit oriented development, the addition of shared mobility, vehicle autonomy, and electrification of vehicles in the future will likely change how people move about cities.

In more immediate terms, e-hailing companies are already operating all over the United States, and services such as car sharing and on-demand shuttles, while small today, have found consumer acceptance—which is the key to getting bigger. To reap the full benefits of the new-mobility revolution, city leaders and policy makers will need to embrace and nurture the transition. Leaders need to expand their view of

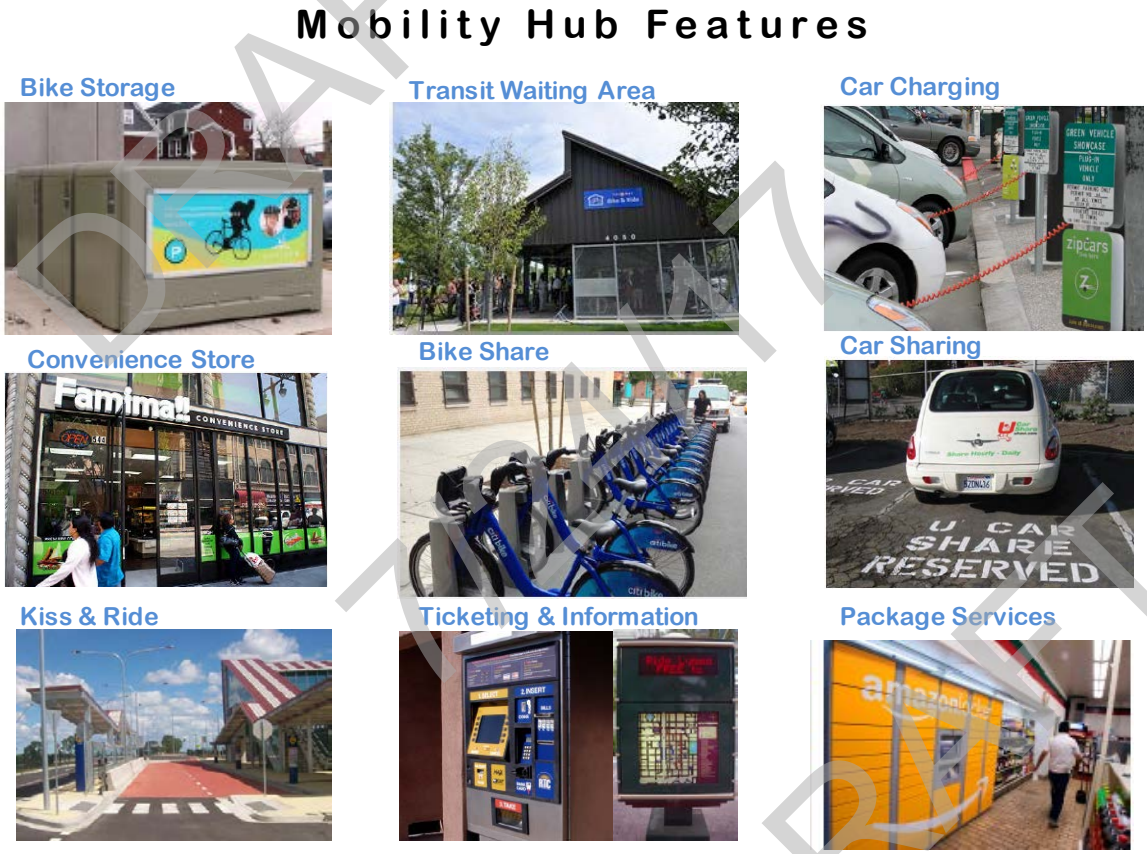
> **Strong partnerships that make it easy to blend public transit and private mobility will likely produce the best solutions. Why does this matter? Because getting mobility right could be a significant competitive advantage for cities. Policy makers also need to rethink how to finance transportation to support a more realistic balance between operations and capital funding, with the current capital emphasis that favors large and expensive infrastructure, even when it may not represent the optimal or most cost-effective solution for users or regional economies.**

[1] *http://www.vtpi.org/avip.pdf*

transportation policy beyond highways to include the whole suite of areas related to the complex future of transportation in an urbanizing world.

Mobility Hubs

Mobility Hubs are designed to provide seamless connections between multiple modes of travel, providing convenient connections that will open up more affordable options for an individual's daily travel. They offer integration of the transit network with pedestrian and bicycle facilities, on-demand transportation, and context-appropriate parking supply; they can be combined with some level of retail



or service uses meeting the daily needs of transportation patrons. To help guide the identification of locations, appropriate services and development of mobility hubs, the City will need to develop plans and policies that need to consider what types of mobility hubs are needed, what are the key characteristics and components of those hubs, and what are the optimal locations to site mobility hubs.

Located at the intersection of frequent transit lines or at locally or regionally significant activity centers with high transit demand, each location requires a unique design. Most mobility hubs include the following features in order to support an outstanding transit transfer experience:

- Accessible, universal design that allows people of all physical abilities easy access to and within the transit stop/station
- Congregation of multiple shared mobility services, including bike share stations, car share vehicles, and loading space for other private or public mobility services
- Integrated technology, including mobility kiosks with real time information, reader boards to assist travelers with planning, shared payment opportunities, and future emerging applications
- Active street environments safe for a variety of users
- Secure, covered bicycle parking and access to the bicycle transportation network
- "Place-making" elements, such as public art and public seating, that invite social interaction and vibrant business opportunity
- Context-appropriate parking

Investments in mobility hubs respond to an opportunity to link transit infrastructure investments with concentrated land uses and significant development potential. Among the locations to consider as possible future hub locations are parking reservoirs that may be located near the edge of downtown, permanent park and ride facilities on major commuter corridors with highest level of daily travelers, and major transit oriented development nodes that serve as multiple transit routes, provide connections to the bike route network, and serve significant areas of higher intensity land use activity.

Land Use & Transportation Project Integration

Context Sensitive Design

At the project level, an organizing framework for integrating land use principles with transportation corridor design is known as Context Sensitive Design (CSD). Context sensitive design reflects a process and a way of thinking about how to balance or prioritize the infrastructure for each mode of travel in the context of adjacent land uses, and how transportation investment can contribute to the economic viability and livability of an area.

CSD encourages an interdisciplinary approach to street design, including the perspectives of traffic engineers, planners, urban designers, architects, emergency responders, and the community when designing new corridors or reconstructing existing ones. The goal is to create not only better facilities, but also better places. Historically, streets have been designed to have a similar layout throughout their length. CSD adapts the lanes, parking, and sidewalks to meet the needs of the surrounding area, while still accommodating vehicular traffic flow.

Land use context and roadway type are the key organizing elements that guide the selection of appropriate roadway design values. Understanding the land use context provides guidance on who will need to use the road and how. This understanding influences the geometric design of the roadway and the types of amenities required in the right-of-way. A context area is a land area comprising a unique combination of different land uses, architectural types, urban form, building density, roadways, and topography and other natural features. The existing and planned land use context should be defined on every project and highlight the need for land use and engineering professionals to work collaboratively. The roadway design should be compatible with the existing land use context, or a planned land use context that reflects the community vision. It is the intent of the City to incorporate these principals into all street projects.

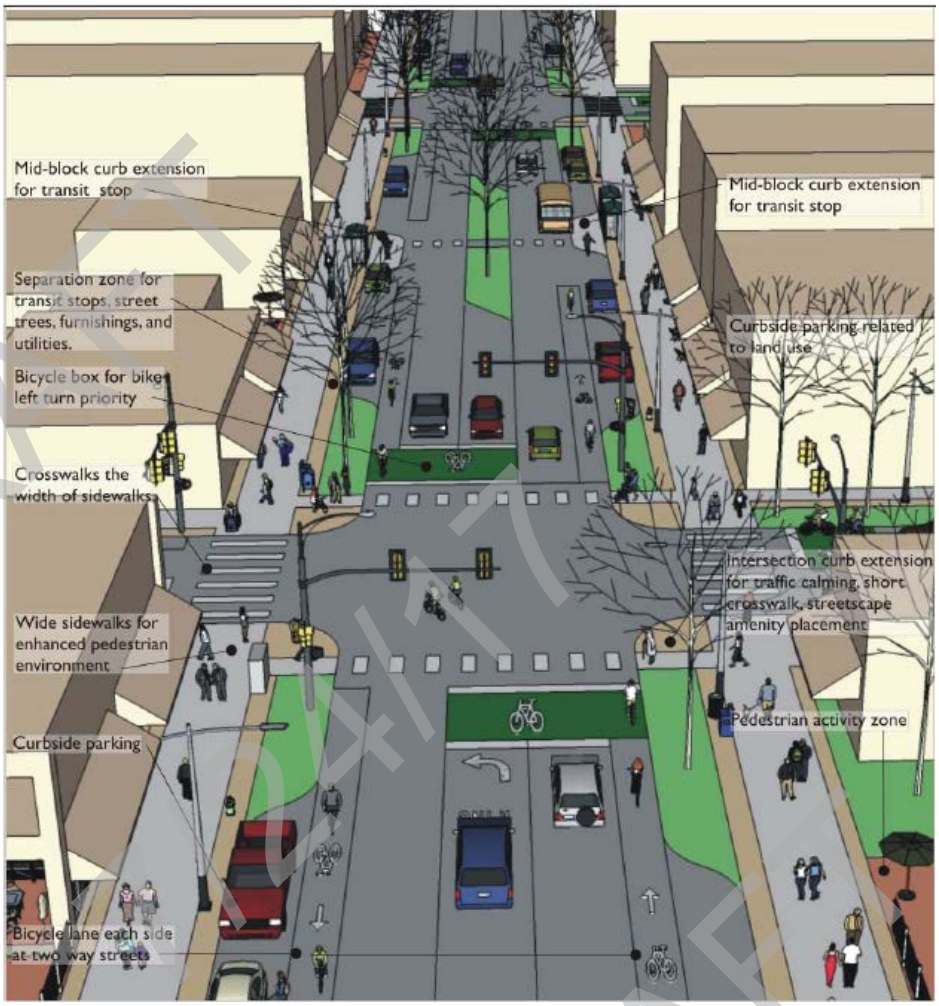
This relationship between land use and street design also affects the character of the street. Character is reflected not only in the travel lanes but also in the overall dimensions and design treatments from building face to building face along the street. Character is also reflected in the space between a building's edge, a street tree, or a parked car. This aspect of character is influenced by the location and quality of street elements. Character can be defined by its surface qualities and landscaping. The manner in which the elements are applied to streets creates its formal character and consists of qualities such as the shape, material, colors, textures, pattern, and compilation of the street elements.

Successful use of CSD principles rests on a vision that identifies Context Sensitive Street Design as a key objective of community development. With a vision in place, the next task is to identify ways and means to accomplish the vision. For the P2S 2040 Plan, one of the key outcomes of the guiding principles and land use vision is to focus efforts on encouraging Transit Oriented Growth Centers and Corridors that will expand the range of choices available in housing and business and serve as an anchor for making a transit oriented lifestyle feasible. To support this outcome, one of the key approaches that builds off the idea of CSD is emphasizing the idea of pedestrian oriented districts with within designated centers and transit corridors that would become the primary focus of capital improvements, supportive public policy, plans, and regulations. Figure 2-41 illustrates how a pedestrian oriented approach could inform the design of streets and the right-of-way both between and behind the curb line in designated district areas.

A connected street network and a well-designed streetscape can result in a positive, greater impact to the economic, environmental, and social vitality of a community. It is the City's goal to provide these amenities and improve mobility, livability, and sustainability through well-designed streetscapes that provide multiple modes of transportation, adequate capacity, and reduced impervious surfaces.

FIGURE 2-41: CONTEXT SENSITIVE DESIGN PRINCIPLES

Illustration courtesy of Indianapolis Metropolitan Planning Commission

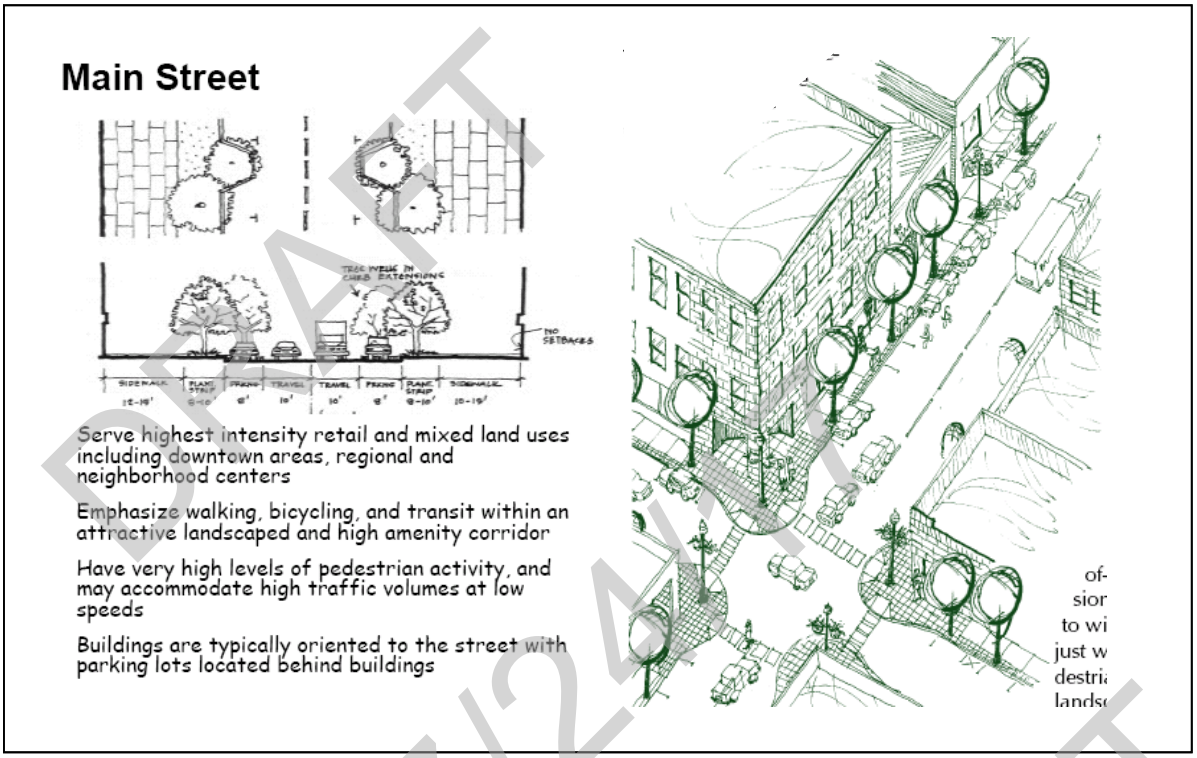


CSD in Practice: Main Street Design Concept

Balancing the needs of pedestrians, bicyclists, shoppers, employees, business owners, residents, and auto and freight traffic on commercial corridors or 'traditional Main Streets' is one of most challenging projects faced by designers. For example, in the Downtown Master Plan, the 1st Avenue SW/NW corridor was identified as a potential "Main Street" corridor where the interface of many different interests are found. Though at a different scale, other emerging areas such as the 6th Avenue NW on the near-northside of downtown illustrates another potential opportunity where a similar range of interests come together.

Figure 2-42 provides a conceptual illustration of the elements of a Main Street Design that can help establish a district identity, promote multi-modal transportation, and support economic growth. Among the elements that would be considered in development of a Main Street design plan include:

FIGURE 2-42: MAIN STREET DESIGN



- Sidewalk improvements to enhance the retail environment
- Intersection improvements that reduce conflicts between people driving and walking
- Streetscape improvements such as ornamental lighting, planters, benches, trash receptacles, light poles and traffic signals, overhead banners, artwork, bus shelters and other street furniture combined with Façade Improvement Programs
- Coordinated parking

The Main Street Design approach should be considered as changes or upgrades to corridors come forward in the future, especially in areas along the PTN, and where the land uses warrant. These concepts also have application in the redevelopment of older shopping centers where redevelopment involving the introduction of a local street grid may occur.

Great Connections to Great Places

Streets in the city should be thought of more than just a means of mobility. Streets themselves are critical public spaces that can serve more than just the function of transporting people and goods; they can lend richness to the social, civic, and economic fabric if designed with a broader purpose beyond moving traffic and considers the surrounding context and larger social and economic goals of the community. Figure 2-43 highlights the contrast between the narrow view of a street as a travel corridor and a street that benefits multiple parties through creation of an attractive, comfortable environment for travelers, property and business owners, customers, visitors, and workers.

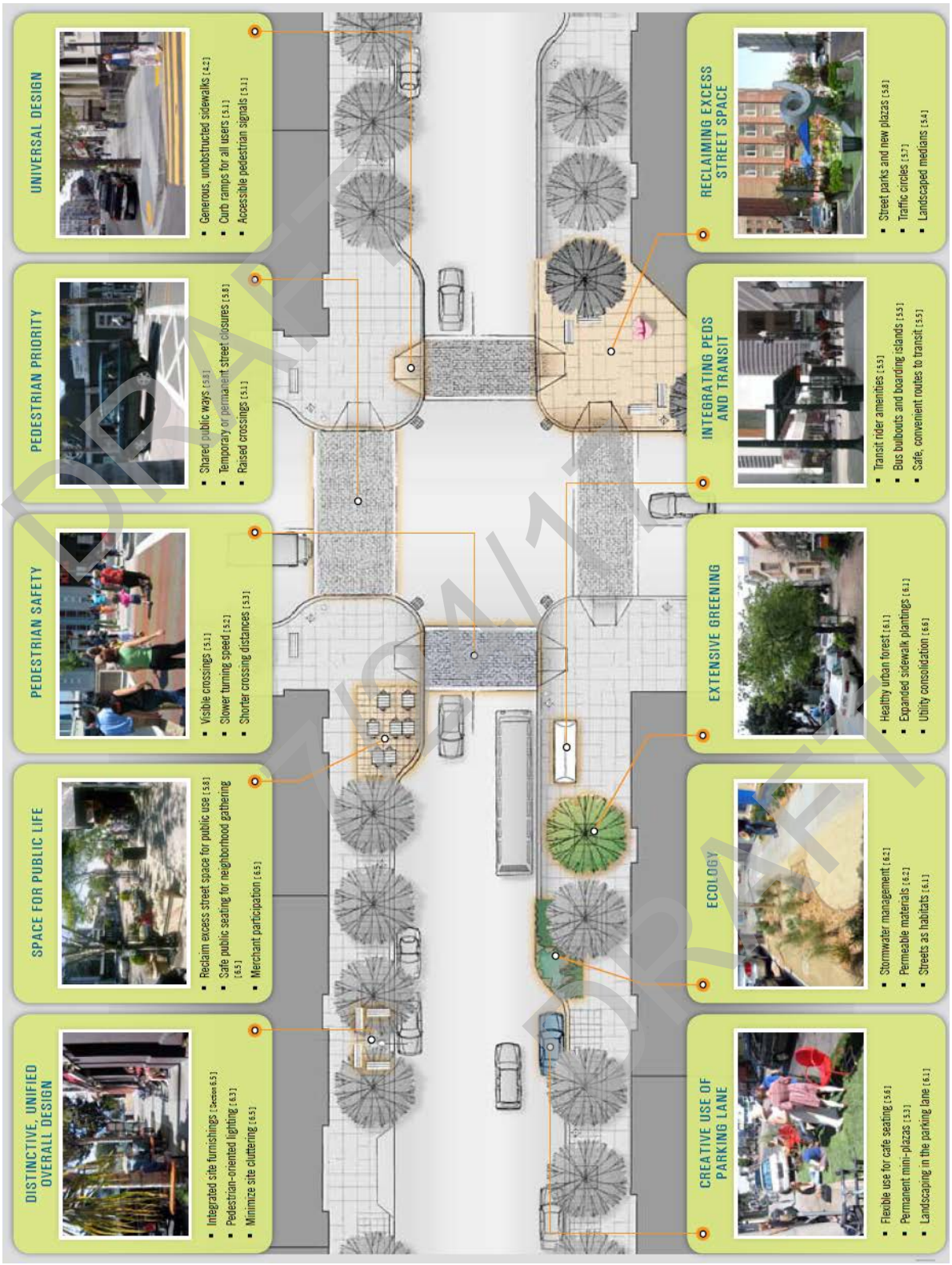
FIGURE 2-43: CONTRASTING A VEHICLE-ORIENTED VS COMMUNITY-ORIENTED STREETSCAPE

Building upon the principles of Context Sensitive Design and Complete Streets, the plan proposes a "Great Connections to Great Places" policy that recognizes the role street design can play in drawing attention to important public places that people visit frequently by creating inviting gateways providing access and entry to these places. The "Great Connections" concept takes inspiration from the concept of great streets and green streets programs across the country, highlighting a variety of design features to consider along the entries to major public places or districts that are integral to the creation of a vibrant public realm.

To enhance the sense of importance and place a "Great Connection" conveys, features such as those illustrated in Figure 2-44 should be considered. Measures may include features such as sidewalk gardens, landscaped medians or intersection islands, widened sidewalks, unique paving treatments, art installations, special signage, or green stormwater features to create streets that appropriately balance the accommodation of movement with a sense of place—more closely integrating the corridor with the destination to encourage people to visit and spend time in these high amenity public spaces.

The intent of the "Great Connections" policy is to create streets with a tangible sense of place that connect major activity areas such as downtown or future transit oriented development nodes with locations such as major community parks or important civic facilities by incorporating features that enhance the experience of moving through the connecting corridor and are as uplifting as the

FIGURE 2-44: DESIGN FEATURES OF GREAT CONNECTION STREETS



destination itself. Examples of corridors that may lend themselves to consideration under the "Great Connections" policy include:

- Center Street from the Heart of the City district to the Zumbro River corridor, providing access to the Zumbro River Trail, Silver Lake Park, and Mayo Memorial Park
- 7th Street NE from the future transit oriented development node centered on the intersection of 7th St and North Broadway to Silver Lake Park
- A north/south corridor extending from the Heart of the City district south to Soldier's Field Memorial Park

To develop truly unique and signature corridors, the planning and design for selected corridors should focus on elements of the street design principles highlighted in Figure 2-45 that can contribute to the creation of unique and distinctive public spaces.

FIGURE 2-45: STREET DESIGN PRINCIPLES

In designing these important public spaces, emphasis should be on balancing the mobility and access function of the street with the following functions or objectives:

- Create a street that has a personality that identifies it as a special place, welcomes people, and provides opportunity for walking, talking, stopping, sitting, and allowing people to go about their business in a setting where they feel they belong whether interacting with others or not

- Create a design that enhances the connection to the natural and built environment by incorporating opportunities for the enjoyment of open spaces, window shopping, or other interactive experiences
- Create a design that is useful and marketable to people with diverse abilities, that can accommodate a range of individual preferences, where the design is easy to understand and communicates necessary information effectively to all users

Process/Policy Approach

As part of the implementation of the Comprehensive Plan, the community should consider a process for identifying "Great Connections" corridors and develop small area or corridor plans to include identified corridors using a community-based planning model that ensures local needs and desires are integrated into the finished designs to the extent possible. A cooperative, community based approach will also build a sense of stewardship to increase the likelihood that stakeholders will stay invested throughout the planning and implementation stages of a Great Connections project.

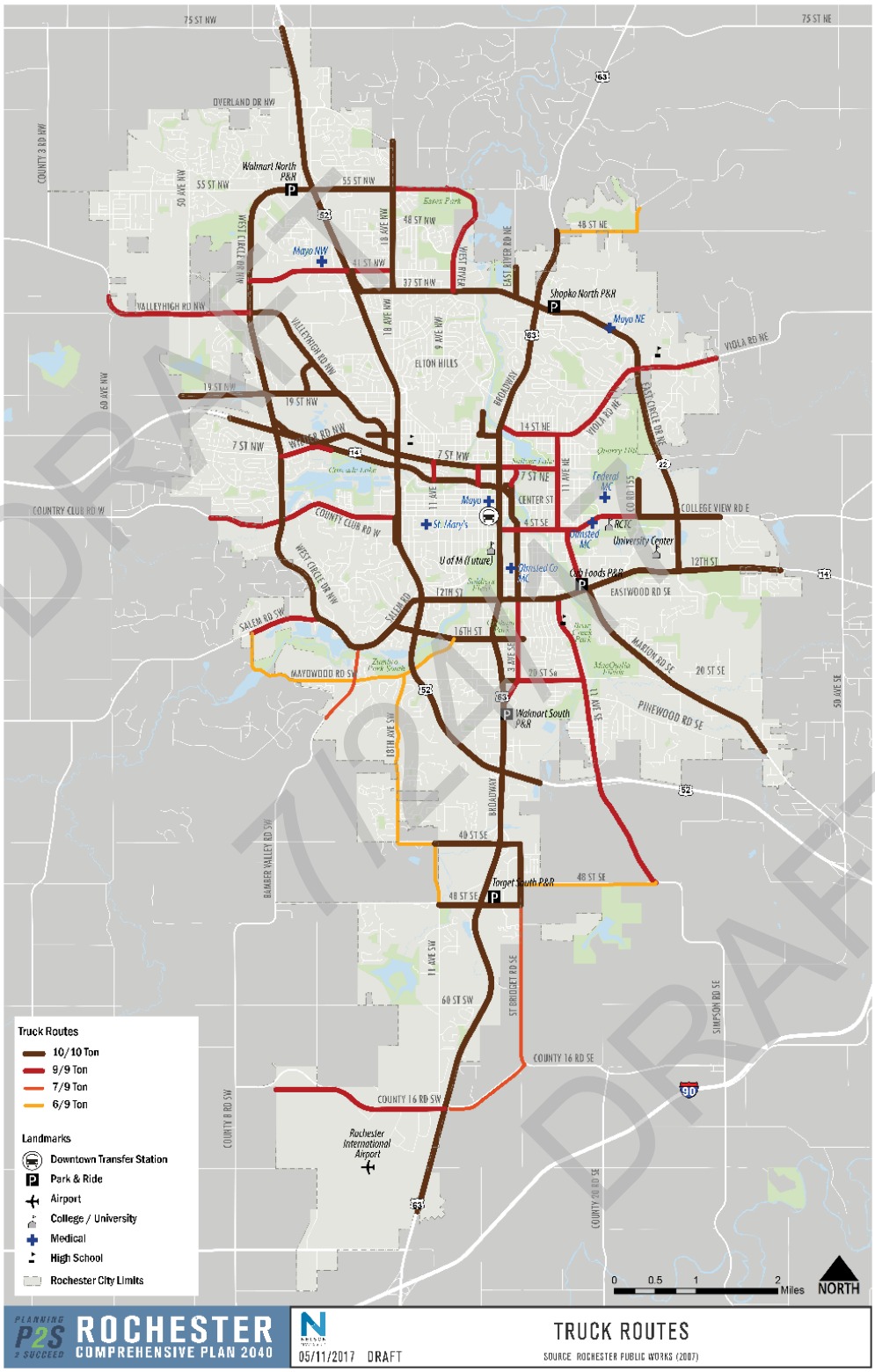
The cooperative efforts of diverse groups and interests in a community are necessary to ensure that varying concerns are addressed, to help smooth out any differences that might arise, and to engage community energy and skills. This will require an openness to new ideas and building mutual trust based on shared responsibility and dedication of all participating community interests. Community participation from the start and involvement in all the steps along the way will assist in developing and implementing the vision of what these "Great Connections" should be and how to get there.

Freight Network / Commercial Transportation

Infrastructure to support commercial development and manufacturing is a key element of the City's economic development vision. Regional truck routes, the Rochester International Airport, and freight rail service represent important transportation connections to the larger regional, national, and international markets served by local businesses.

While the regulation and planning of commercial transportation services are primarily the responsibility of state and federal agencies, the City of Rochester is committed to ensuring an adequate transportation network is available that supports commercial shipping and customer needs. This system would provide, adequate transportation access, limited encroachment by incompatible land uses, and operational safety to minimize conflicts between users of the Rochester transportation network.

FIGURE 2-46: EXISTING TRUCK ROUTE NETWORK/ROCHESTER AREA



Freight Network Service Considerations

Adequate access | Freight service in the Rochester area is anchored by a network of 9 and 10-ton truck routes, primarily on roads owned by the State of Minnesota and Olmsted County, supplemented by privately owned rail lines, and the Rochester International Airport owned by the City but operated by a private management company. The City of Rochester supports these networks by providing 'first and last mile' truck route connections on city streets to provide access suppliers, manufacturers, and other commercial destinations throughout the community. Important considerations include ensuring that freight and passenger connections are safe, reliable, and in a good state of repair. The City is also interested in ensuring reliable travel times and predictability to commercial transportation providers. Working with private partners, manufacturers, and logistics companies, the City can ensure all parties are aware of construction delays, major development projects, and any changes to the transportation system that might impact deliveries. Proactive construction management can reduce truck idling and air quality impacts, and lessen impacts on local businesses. Local policies need to consider adequate and accessible commercial loading zones for local business delivery.

Land use compatibility | The City of Rochester also plays a role in protecting commercial transportation facilities and intermodal transfer sites from incompatible land uses that could compromise freight operations. For example, normal commercial operations generate noise that might result in complaints if residential developments were allowed near existing commercial transportation facilities. The Canadian Pacific Railways east/west freight corridor and the Rochester International Airport are examples of areas within the community where commercial and industrial uses adjacent to these facilities should remain to buffer any nearby residential use.

Ensuring operational safety | Rochester is committed to ensuring that commercial freight movement does not conflict with the safety of other roadway users, including passenger vehicles, buses, bicyclists, and pedestrians. Truck delivery and intermodal transfer activity can create conflicts with other street users. Temporal strategies for deliveries and spatial strategies to create effective, low-conflict pick-up and drop-off zones can mitigate these potential issues. New or redesigned streets with significant truck traffic will need to be designed to move both people and freight safely and reliably.

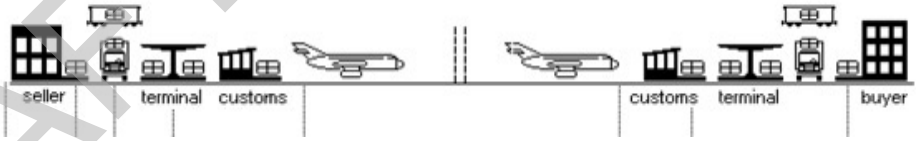
Freight rail service is provided by Canadian Pacific Railways through mainline sidings and a spur-line. While uncertain if train traffic levels will increase in the future, areas where railroads cross local streets at grade will need to be closely monitored.

Intermodal Transport Functions

Intermodal transport functions refer to passenger or freight transportation that involves multiple modes of transportation to complete common trips with a certain travel market segment. In the case of passenger transport, the most common form of intermodal travel is referred to as mixed-mode

commuting, which involves using two or more modes or facility types—such as private vehicles combined with park and ride facilities and some type of shuttle service for the last leg of the trip. Similarly, intermodal freight transport will involve transportation in an intermodal container or vehicle across multiple modes (truck, rail, air, ship) with limited handling of the freight itself. The goal of any type of intermodal transport is to combine the strengths (and offset the weaknesses) of various transportation options.

An Intermodal Shipping Example



Intermodal transport in the context of personal travel occurs in many forms including transit centered trips linked with driving, biking, or walking or vehicle based trips linked with walking (such as from commuter parking locations to workplaces). Throughout the Plan, these issues have been discussed in the context of concepts such as mobility hubs, the need for safe and convenient "last mile" connections to work or schools, and transit accessibility. In terms of intermodal freight movement, truck route interfaces with both the rail system and, more importantly, cargo shipping activities at the Rochester International Airport, are matters needing periodic attention during the course of road system planning or facility planning such as the Airport Master Planning process.

Rochester International Airport (RST)

The Rochester International Airport is the third busiest commercial airport in Minnesota, following the Minneapolis-St. Paul International Airport and Duluth International Airport. RST employs almost 300 people and is a significant contributor to the local economy.

Currently, RST is served by Delta, American, and United Airlines for commercial flights and FedEx for cargo flights. In 2015, RST served about 226,000 commercial flight customers.

In 2007, the last Airport Master Plan for RST was completed to study infrastructure needs and provide guidance for future development. The master planning process revealed that the demand for RST services will continue to increase but at a moderate rate. To meet this demand, the master plan included 60 short-term and long-term improvements for the airport layout. The plan was approved by the Federal Aviation Administration and the Minnesota Department of Transportation's Aviation Division, many of which have been completed in the intervening decade. Work on an updated Airport Master Plan will begin in 2017 to update anticipated service and capital needs for the future. Accommodating and encouraging growth at RST helps to generate more economic activity in Rochester and the surrounding region. A key part of the approach to fiscal sustainability for the airport will involve continued development of the Airport Business Park with an expanding list of tenants.