Introduction

Throughout the ROCOG planning area, land use and transportation systems are inextricably linked. Land use and development intensity impact transportation factors such as trip generation, accessibility, and need for different modal facilities. The design and function of the transportation system, in turn, affects the character of the areas where we live and work, impacting quality of life factors such as safety, security and mobility. Ultimately, this land use/transportation relationship influences private and public economic value as well as personal decisions regarding dwelling choice, travel choice, and property investment.

Every city in Olmsted County, some of the townships, and the County itself prepare and adopt land use plans that serve as frameworks for public policy, growth strategies, and capital improvement programming. These plans also inform the expected intensity and character of travel demand, transportation design, and program features to be considered in different areas of the community, as well as the timing of future infrastructure improvements. The Transportation/Land Use Cycle (Figure 4-1) provides a visual representation of the integration of land use changes and transportation improvements in an auto-dominated built environment. The project development process should evaluate how





bicycle, pedestrian, and transit facilities fit into this structure by considering principles such as "Complete Streets" and Context Sensitive Design to examine and account for the need for all modes of transportation, not just automobiles.

To provide the type of housing, business, and travel options desired by our community, actions and decisions should foster land use patterns that can be efficiently served by well-planned transportation networks, thereby improving economic opportunity and quality of life for all residents and visitors. As part of the work leading up to adoption of the City of Rochester's 2018 comprehensive plan (P2S 2040), surveys indicated a majority of residents would like to have more diverse housing choice and walkable neighborhoods available.

Figure 4-2 provides one indication of this from a survey by the Rochester Association of Realtors. Results from the same survey (Figure 4-3), show this interest is particularly strong among growing segments of the local population, including renters, singles, and lower income households. Figure 4-4 reports survey results on the importance people attached to having alternative travel choices available near where individuals choose to live.

Translating these interests into outcomes relies on both transportation and land use investments to create the necessary infrastructure and area environment where people will be comfortable using all modes. Roadways

Figure 4-2: Mixed-Use Housing Preference

Mixed Use Development Neighborhoods are Preferred by a Small Majority of Residents



Figure 4-3: Younger Housing Preference

Younger, Single Residents are More Likely to Prefer Mixed Use Communities



Housing Preferences in Rochester by Demographic Groups

Community B: The neighborhood has houses only and you have to drive to stores and other businesses

Community A: The neighborhood has a mix of houses and stores and other businesses that are easy to walk to.



Figure 4-4: Desire for Travel Options

Importance of Transportation Choices when Deciding Where to Live



Very/Somewhat important

must be safe and reliably connect places where we live, work, and play. There is a need for major roads to facilitate convenient employee and customer travel as well as materials procurement and the shipping of goods. The mix and design of land use helps to create the conditions that will support the ridership levels needed to sustain frequent, high-quality transit service. Street design and streetscape amenities play a role as well in the attractiveness of alternatives to private vehicle travel and the economic success of residential and business districts in the community.

Of particular importance to the future success of the Rochester urban area is the role transportation can play

in addressing three significant issues facing the community from a growth and development standpoint:

- **Downtown Growth:** Approximately one-third of all jobs in the Rochester urban area are located in downtown Rochester, anchored by over 30,000 employees who work for the Mayo Medical Center. An economic development initiative the community is implementing, the Destination Medical Center, is expected to expand the downtown workforce by over 20,000 in the next 20 years. Of particular concern is how to move a total workforce of over 60,000 in and out of downtown each workday in the future. Land use and transit alternatives will be a key piece of the solution.
- Workforce Housing: Single-family detached structures compose two-thirds of all housing in Rochester. Given concerns about the affordability of workforce housing in the community, many are exploring how to reduce the combined impact of housing and transportation costs on households.
 While not necessarily immediately impactful, updating land use guidelines to allow more diversity in housing styles and directing that growth to areas where transit, walking, and biking provide convenient access to daily destinations can help towards solving the workforce housing problem.



 Aging Population: As with most areas in the United States, the ROCOG area expects to see a significant increase in the number of individuals over the age of 65 in the next two decades. This growth is expected to drive demand for more attached and congregate housing choices, such as townhouses and condos. The ability to use transit and walking to access daily needs in these areas will be important for seniors seeking to maintain independent lifestyles.

Context for Land Use and Transportation Integration

It is often said that the best transportation plan is a good land use plan. Within the Urban Study Area of ROCOG's planning area, as was illustrated in Figure 1-6, the City of Rochester's P2S 2040 adopted a policy of integrating land use and transportation strategies to create a more balanced approach to meeting travel needs by emphasizing the following principles:

• **Compact, mixed, diverse land uses:** Provide a diverse mix of land uses that give people the choice to live near jobs and services, making it easier to live, work, shop and play without having to travel far.

Figure 4-5: Key Principles of Land Use – Transportation Integration



Source: Rochester Planning to Succeed Comprehensive Plan 2040

- Higher levels of residential and employment density support more local amenities within walking and cycling distance and can support higher levels of transit service.
- **Community destinations:** Connect high demand centers and destinations with frequent, high quality transit while managing parking and providing multiple travel options; locate new emerging centers along corridors that can provide these transportation features.



- **Complete transportation network:** Provide for efficient travel, particularly in high demand areas, by developing a fine-grained network for travel. A well-connected, fine-grained pedestrian network enables shorter, more direct walking connections and is easier to serve with transit.
- **Carefully designed streets and facilities:** Design a public realm that is safe and respectful of people walking and riding bicycles. Great street design can activate business districts and enhance private investment, which will accrue benefits to the public as well.
- **Comprehensive transportation options:** Provide a range of transportation options that will provide for the needs of a diverse population and many types of trips.

This approach will enable governmental units to

- Grow their property tax base and increase tax revenues without extending infrastructure by fostering more development in key areas and infill settings, taking advantage of existing infrastructure already in place
- Encourage area-wide development towards a pattern that will result in a more cost-effective and energy efficient community with reduced climate impact

- Reduce the need for high cost investment in road widening or new roads to decrease automobile congestion hot spots by providing more travel choices during peak travel times
- Lessen the pressure for new "greenfield" urban growth featuring the low density and segregated land use patterns that have historically required extension of new infrastructure and led to a high dependency on single-occupancy automobile trips
- Encourage a pattern and style of land use that will support transportation options, enabling a more efficient and connected development patterns that can support cost-effective transit with more frequent, dependable, and quality service that captures more trips

Key Tools for Achieving a Balanced Land Use/Transportation Development Pattern

To achieve a more balanced and sustainable land use/transportation development pattern, the City of Rochester has undertaken a series of steps to establish policies to encourage consideration and implementation of the principles illustrated in the previous section.

Fundamental to the City's approach is understanding the hierarchy of city plans and implementation tools that are available to achieve these outcomes. Figure 4-7



summarizes the breadth of City plans and tools, through which the City can influence development patterns throughout their urban area.

Critical to implementation of this balanced approach was adoption of a Development Vision as part of P2S 2040, sitting at the top of pyramid in Figure 4-7, which defines key elements of a future integrated land use/transportation approach, including

- Land use districts that emphasize mixed use, transit-oriented development in centers and corridors
- A **Primary Transit Network**, envisioned as more than just a service concept but an infrastructure concept that creates a core set of corridors where frequent, high quality service can be provided
- A growth management boundary that will limit the rate of expansion and encourage greater infill and redevelopment





Source: Rochester *Planning to Succeed* Comprehensive Plan 2040



Manual

Rochester

Program

Fees

Financing

Policy

Community Development Block Grants

Implementation **Hierarchy of City Plans Plan Documents** Planning 2 Succeed: Rochester **City Comprehensive Plan** Comprehensive Plan 2040 Land Development ROCOG 2040 Long Range Transportation Plan Rochester Parks and Recreation Master Plan **Citywide Functional Plans** Rochester All-Hazard Mitigation Plan **Building Code** Rochester Infrastructure Master Plan Rochester Stormwater Management Plan **Capital Improvement** Rochester Transit Development Plan **Development** Rochester Downtown Master Plan Sub-Area or District Rochester 2nd St Corridor Framework Plan Agreements Imagine Kutzky Plan (Resolution 263-06) Plans Imagine Slatterly Vision Plan (Resolution 072-13) Development Rochester Airport Master Plan Land Dedication Rochester Area Bicycle Master Plan Requirements Complete Streets Policy System or Facility Rochester Energy Action Plan **Master Plans** Soldier's Memorial Field Master Plan Tax Increment Cascade Lake Park Master Plan Various District Water and Sewer Infrastructure Studies DMC Integrated Transit Studies Final Report Assessment • DMC Development Plan Envision UMR Master Plan Community DMC/Downtown Mayo Clinic Five Year Plan Update Partner Plans Design Guidelines Imagine Kutzky Plan (Elements of plan not adopted)

• Imagine Slatterly Vision Plan (Elements of plan not adopted)

ROCOG Employment and Population Projections: Looking Ahead through 2040

• About You - Rochester Community Asset Inventory Report

Figure 4-7: Rochester's Planning and Development Framework

Technical Reports



The following sections describe key tools that the City has started to put in place as it strives to influence development patterns along a path to greater sustainability while meeting the needs and desires that have been expressed by its residents and businesses. Before reviewing these tools, it is critical to understand the importance of the downtown growth issues identified earlier in the Plan and the fundamental mode shift strategy that has been adopted to maintain the Rochester Central Development Core as the vibrant center of the community and region and home to the major employment base in southeast Minnesota.

Economic Development and Transportation Access

ROCOG has worked with organizations and businesses regarding broader economic development goals and the transportation implications of economic development initiatives. This has included periodic updating of campus master plans for businesses such as the Rochester International Airport, the Mayo Medical Center, IBM, and the Rochester Area University Center in the urban area.

In 2010, the *Rochester Downtown Master Plan and Mobility Plan* was the first of a series of major planning projects to establish the character of Rochester's major economic activity center for decades to come. This project was the first to identify how critical the potential impact to downtown access would be if development in the central business district (CBD) significantly intensified. To respond to this future access issue, the plan set an aggressive goal for travel demand management, targeting a reduction in single occupant commuter vehicle travel into the CBD by 20% over 20 years (Figure 4-8). Multiple strategies to encourage more transit use including parking changes, more downtown housing, enhancement of alternative modes, and a changing mix of land uses along gateway corridors to the CBD.

In 2014, Destination Medical Center (DMC), a 20-year, \$5.6 billion economic development initiative, was advanced by the Mayo Clinic working with the City of Rochester, Olmsted County, State of Minnesota, and the local business community which envisions creation of a global destination for not only the continued growth in Rochester's health sector industry, but also job growth in supporting sectors such as hospitality and retail. A 50% increase in downtown employment, tripling of downtown residential population, and an estimated annual visitor base of 4 million persons will impact housing, service, and transportation needs, particularly in the CBD.

The DMC Development Plan confirmed that the ability of vehicular gateways into downtown to accommodate additional peak period traffic is limited, and the ability to expand the capacity of the roadway network to accommodate traffic growth is significantly constrained. Attempting to accommodate planned growth under



Figure 4-8: Downtown Rochester Mode Shift Target



current travel patterns will lead to significant congestion and create a demand for upwards of 10,000 additional parking spaces. This would impact the ability to create a pleasant and functional street level pedestrian experience and utilize a significant amount of high value downtown land for non-productive purpose.

The Downtown Master Plan and DMC Development Plan provided the high-level visionary guidance that formed the foundation and impetus for the City to undertake updating its comprehensive plan and a number of supporting plans, policies, and development guidelines.

Planning for Integrated Land Use and Transportation

The Rochester Urban Area

P2S 2040 is the City's first full land use plan update since

the late 1970s. It specifically addresses growth management and transportation policy as part of a coordinated look at how future growth and development should be managed in the Rochester urban area. The plan is built upon on a set of principles, including



integrated land use/transportation planning, fiscal sustainability, expanded housing diversity, and improved community connectivity.

An early step in development of the plan was completion of a scenario planning exercise which contrasted a trendbased scenario with two alternative scenarios based on variations of a centers and corridors strategy. The intent was to compare potential outcomes related to metrics such as VMT growth, share of residential population with good access to transit, the amount of greenfield acres converted to development, and levels of roadway congestion. Based on the outcomes of the scenario planning process and input from the public, a scenario featuring multiple transit-oriented development nodes and mixed use centers, connected by a high quality transit backbone, was selected as the overall growth strategy that would become the focus of the plan.

With this strategy established as the base, the City identified policies and programs that would support its vision. Figures 4-9 through 4-12 highlight the key elements of the strategy that evolved. These include:

• A growth management strategy (Figure 4-9) which limits the outward expansion of the city to areas where existing sewer and water capacity is available, coupled with policies to encourage greater infill and development within the existing urban service area

- A **Future Land Use Plan** (Figure 4-10), featuring new Mixed Use, Transit Oriented and Community Anchor categories, strategically mapped to work in tandem with a proposed Primary Transit Network (Figure 4-11), which represents a set of corridors where investment in transit infrastructure coupled with the land use plan will allow frequent transit service to succeed
- Identification of pedestrian priority areas (Figure 4-12), including mapped Pedestrian Districts and Streets, to encourage pedestrian oriented development

Since the adoption of P2S 2040, the City has continued its policy evolution with various projects it has completed or has underway which will advance the concepts of mixed use, transit-oriented development (TOD) paired with transportation investment in an effort to reduce private vehicle travel into downtown Rochester. Key elements of this additional work are illustrated in Figures 4-13 through 4-16 and include the following:

• The Downtown Mobility and the DMC Development Plan both recommended a high frequency downtown transit circulator, with modes ranging from monorail to streetcar to Bus Rapid Transit among options studied. This project, illustrated in Figure 4-13, which





Figure 4-9: Growth Management Plan

Figure 4-10: Future Urban Area Land Use Plan



Source: Rochester *Planning to Succeed* Comprehensive Plan 2040



2040



Figure 4-11: Primary Transit Network

Source: Rochester *Planning to Succeed* Comprehensive Plan 2040



Figure 4-12: Pedestrian Priority Areas

Source: Rochester *Planning to Succeed* Comprehensive Plan 2040



has come to be called the Downtown Rapid Transit Project, will be a Bus Rapid Transit service running along the 2nd St SW corridor, the main east/west spine in downtown Rochester, and a future extension anticipated south from downtown through an area to be known as the Downtown Waterfront Development area. One key purpose of this project is to facilitate a "Park Once" philosophy for downtown, wherein people are able to park near the periphery of the area and circulate through the core area without need for their automobile. Transit villages featuring mixed use housing, commercial space, and commuter parking with mobilty hub features are planned for the both ends of the Rapid Transit Line. This project is discussed in more detail in Chapters 11 and 15.

- To support the Rapid Transit corridor, the City was awarded a FTA Transit Oriented Development Planning Grant in 2019 to advance station area and corridor planning. This project (Figure 4-14) is actively moving ahead with with selection of station locations paired with future land use concepts and pedestrian/placemaking recommendations. Completion is expected in late 2020.
- As a first step towards advancing the land use vision for Primary Transit Network corridors, the City of Rochester adopted zoning amendments in early 2020 to establish transit-oriented zoning districts along the initial corridors expected to see Bus Rapid Transit

service in the future: Broadway Ave, the main northsouth travel spine through the city, and 2 St SW/4 St SE, the main east-west travel developing. Illustrated in Figure 4-15, the TOD zoning regulations will provide flexibility to develop the style of mixed use, diverse housing along these high profile corridors envisioned in the comprehensive plan.

Another major planning project getting started as this ROCOG Plan moves towards adoption is the Downtown Waterfront Plan (Figure 4-16). This plan will address the future redevelopment of approximately 60 acres of prime real estate immediately southeast of the CBD, adjacent to the Zumbro River and close to the proposed campus of the University of Minnesota-Rochester, a prime location of pedestrian oriented use.



Figure 4-13: Downtown Rapid Transit Corridor/West Transit Village Concept

Source: Downtown Rochester High Amenity Rapid Transit website



Figure 4-14: TOD Station Area Planning for Downtown Rapid Transit Corridor

Addressing Vision and Corridor Role

Advancing Connectivity and Public Realm



Source: New Rapid Transit for a Growing, Equitable Rochester website



Figure 4-15



Source: Item F-14, Rochester City Council Meeting Packet, June 1, 2020

Figure 4-16



Source: Item F-14, Rochester City Council Meeting Packet, June 1, 2020



Small Cities

Table 4-1

In addition to the city of Rochester, there are seven small cities located within the ROCOG Planning Area. These communities range in size from approximately 750 to 6300 persons as shown in Table 4-1. Employment for residents of these communities who are in the workforce relies heavily on commuting to locations outside their place of residence, the primary destination being the city of Rochester. As shown in Table 4-1, local employment of the resident workforce in each community ranges from 7% to 28%, while the share of local workforce commuting to Rochester for work ranges from 46% to 75%.

City	Population	Projected Population 2045	Households	Resident Labor Force	Local W&S	Residents Working in Home City4	Residents Working in Pochester	Residents Working
City	2019	2045	2019	2010	3003	1 Tome City	Tank	Lisewiiere
Byron	5945	8725	2214	2746	650	1/%	/3%	10%
Chatfield	2915	3865	1159	1538	1127	37%	46%	17%
Dover	768	1255	278	431	60	9%	56%	35%
Eyota	1978	2810	783	1039	339	25%	64%	11%
Oronoco	1522	2575	538	841	135	10%	75%	15%
Pine Island	3499	5345	1422	1875	1091	33%	53%	14%
Stewartville	6284	8940	2487	3087	1808	35%	58%	7%

¹ Population and Household Estimate from Minnesota State Demographer Annual Estimates

² Resident Labor Force from 2011-2016 American Community Survey, Commuting Data, Table 4

³ Local Wage & Salary Jobs, 2017, Longitudinal-Employment Household Dynamics, <u>https://lehd.ces.census.gov/</u>

⁴ Resident Place of Work from 2011-2016 American Community Survey, Commuting Data, Table 4

These communities undertake local planning at different levels of detail. Table 4-2 summarizes the status of adopted land use and transportation plans, which for most of the communities are part of an overall comprehensive plan. Current land use plan maps and street and highway system plans are found in Chapter 5.



City	Comprehensive Plan 2019	Land Use Plan	Street & Highway System Plan
Byron	Yes – adopted in 2011	Yes	Yes
Chatfield	Yes – adopted in 2015	Yes	yes
Dover	Yes – updated in 2000	Yes	No – Illustrative ROCOG plan
Eyota	Yes – adopted in 2009	Yes	Yes
Oronoco	No	Future land use map only	No – Illustrative ROCOG plan
Pine Island	Yes – adopted in 2010	Yes	Yes
Stewartville	Yes – adopted in 2009	Yes	Yes

 Table 4-2: Current Status of Small City Land Use/Transportation Plans

The majority of residential land in these communities is built as single-family detached housing, serving households and families generally at a lower price point than in the Rochester housing market. These cities, therefore, provide a more affordable housing option within a short commuting distance to Rochester's job market and retail offerings.

The street and highway network in each city is generally composed of local streets, typically anchored by a limited mileage of state or county highways that primarily serve a regional travel function. Table 4-3 breaks down the system mileage and vehicle miles of travel by system type in each community for which data is reported. In Minnesota, cities over 5000 in population will receive an allotment of State Aid Highway funding that can be targeted for use on a designated Municipal State Aid Street system. Two cities, Byron and Stewartville, meet the threshold to qualify for state funding and thus have a limited amount of street mileage on which State Aid funding can be expended.

Almost all travel in these small communities is accommodated by personal vehicles. There are no local transit services found in any small community, and regional transit is limited and consists of two components:

 Advance-reservation door to door service is provided by regional human resource agency providers. Rolling Hills Transit, located in Rushford, MN and operated by



City	Total Miles of Street	Miles of Local Street	Miles of State Aid Street	Miles of State or County Road	Daily VMT Local Streets	Daily VMT State / County Roads
Byron	32	21	8	3	30,250	29,150
Chatfield	24 (9.6 in Olmsted)	18 (7.5 in Olmsted)	0	6 (2.1 in Olmsted)	4,850 (Olmsted only)	6,400 (Olmsted only)
Dover	8	5	0	3	2,000	4,550
Eyota	16.5	12	0	4.5	7,500	12,650
Oronoco	24	22	0	2	18,850	62,430
Pine Island	35 (9.2 in Olmsted)	25.5 (7.1 in Olmsted)	0	9.5 (2 in Olmsted)	4,250 (Olmsted only)	4,600 (Olmsted only)
Stewartville	29	19.5	4.5	5	18,800	41,775

Table 4-3: Street and Highway System Metrics

SEMCAC, serves a five-county area in Southeast Minnesota and provides weekday service to Byron, Eyota, Dover, and Stewartville. Hiawathaland Transit, operated by Three Rivers Community Action, serves a three-county area north of the ROCOG area and provides service to Pine Island on weekdays. These services are not limited in terms of age or mobility and are open to all users.

 Regional commuter bus service is operated by Rochester City Lines (RCL), a private company in Rochester, which provides bus service into Rochester in the AM peak period and out from Rochester in the PM peak period. The service is primarily for commuters but is open to any user. All seven small cities are served by the RCL commuter system. Additional detail regarding RCL is found in Chapter 11, including a network map in Figure 11-17.

To help facilitate use of the RCL system and carpooling, a number of the small cities also have designated park and ride lots. ROCOG has recommended increased capacity in a number of these lots to handle an anticipated increase in carpooling and commuter bus use in future years. More information on the park and ride network is found in Chapter 11 with Figure 11-21 illustrating locations.

Given the small size of the communities outside of Rochester, the likelihood of there being sufficient demand for a viable local transit service is limited. As a result, an assessment of local land use plans suggests that factors such as planning for transit supportive land use is not a consideration in these communities at this time.



Due to the limited need for or viability of transit service, street and highway network planning is the primary concern in the small cities. ROCOG is not involved in the planning and layout of local street systems in the municipalities, including Rochester, except to the extent local streets interface with the county or state highway system, such as on the issue of appropriate access for local streets to the regional highway network. This is coordinated on a project by project basis. ROCOG has completed a projection of future traffic growth in the regional planning area and does not anticipate a need to consider additional capacity being added to the state/county highway network in any small community area.

In most of the small cities, the state highway generally is more of growth-limiting feature in that it skirts the existing development area (as in Pine Island, Oronoco, Eyota, Dover and Byron) with a high-speed, limitedaccess roadway. In cases where development patterns have migrated across the highway or are planned to do so, planning and programming for safe crossings has proceeded as needed, including installation of a roundabout in Eyota on TH 14; grade separations in Pine Island and Oronoco, current planning for interchanges in Byron; and safety enhancement of at-grade intersections in Eyota and Dover.

In Stewartville and Chatfield, the state highway (TH 63 in Stewartville, TH 52 in Chatfield) is essentially the Main

Street of the community. In these communities, efforts have been made in past projects to incorporate features to minimize the impact of the corridors on land use activity the city. In Chatfield and Stewartville, the concern with the state highway corridor is seen more in the transitioning areas on the edge of the community, where a high speed rural highway enters a developing urban area and there can be intersection, access, and travel mobility conflicts present due to variations in vehicular travel speed.

Olmsted County

The Olmsted County General Land Use Plan is used to guide decisions about the general balance between areas of urban growth in the county versus preservation of rural and agricultural lands to support the continued economic viability of rural land uses throughout the county. The plan is primarily a policy plan, which includes a number of goals and objectives that speak to the integration and coordination of land use and transportation in Olmsted County. The plan includes locational criteria that are intended to be used together in a judgmental process reflecting the overall appropriateness of an area for a particular use designation.



Planning Principles

Key community values informed the adoption of planning principles. Those that speak to the land use/transportation connection include:

- **Concentrate urban and suburban development** to create an orderly, efficient, and fiscally responsible development pattern
- Encourage practices and technologies that **maximize** efficiency of resource use and minimize waste, such as converting from energy-intensive development to energy-conserving land uses and modes of transportation
- Respond to land use and resource management issues in a **flexible and proactive** way, dealing with land use related issues before they become expensive problems for the community

Urban Service Area Policies

Urban service areas consist of municipalities and the surrounding area intended to be annexed over the next 25-50 years. Integrated comprehensive transportation systems should ultimately be provided in these areas.

• Urban Service Area Identification: The Plan identifies urban service areas based on the following characteristics:

- projected growth in population and employment and the related need for land for development
- location needs of land uses
- compatibility of land uses with surrounding land uses
- availability, capacity, and service territories of planned urban services and infrastructure
- land suitability based on natural features (flood plain, soils, slopes, elevation, and presence of sensitive environmental features)
- suitability for resource uses
- the related community land use and infrastructure policies
- accessibility (quality of connections to regional transportation networks and to other parts of urban service areas)
- proximity to employment centers
- areas of existing development relying on onsite sewage treatment that are in need of urban services
- Orderly Development: Development should result in a compact, contiguous settlement pattern. Adjacent uses should be compatible in terms of intensity of use, traffic generation, hours of activity, noise sensitivity, and open space requirements.



- **Integrated Development:** Regulations should encourage the integration of compatible land uses in neighborhoods within urban service areas, including varied housing styles in different price and unit size ranges but with similar ranges of density. Mixtures of compatible residential and non-residential uses will lead to reduced energy use for transportation purposes by reducing trip lengths, reducing demand for auto travel, and fostering greater opportunities for transit use and non-motorized travel.
- Commercial Development: Commercial land uses that are characterized by high levels of employment, trip generation, customer traffic, and urban service needs should be located within urban service areas. A few rural locations with exceptional attributes, such as access to an interchange along Interstate 90, for example, may also be appropriate for these commercial uses. For commercial growth, transportation facilities must be adequate to provide effective accessibility, capacity, and mobility by multiple modes.
- Efficient Site Design: Land development regulations should encourage residential and nonresidential site design that protects the features and natural functions of the landscape, minimizes the lifecycle costs of future public services and facilities, and encourages the use of alternatives to the private automobile. To minimize the need for travel and

maximize the feasibility of efficient modes of travel such as transit, bicycling, carpooling, and walking, land development regulations should encourage mixed-use development in urban service areas.

- **Infill Development:** Land development regulations should encourage infill development of residential, commercial, and industrial areas located within urban service areas in order to make more efficient use of existing public infrastructure and developable land.
- **Paying for Growth:** New development should provide proportional financial support for community facilities, such as transportation, to the extent that the development increases the need for such facilities.
- Traffic Impact: Proposed land uses involving a significant change in the amount or type of traffic should be carefully reviewed for traffic generation, conflict, and safety. The process for reviewing Land Use Plan changes, zone changes, and general development plans should include a system for detailed review of traffic impacts caused by land use change and for managing access. The review should meet the requirements of City, County and Township ordinances.
- Capital Improvement Planning: The County should integrate land use planning and capital improvements programming decisions. Land use decisions should consider existing and future public



infrastructure impacts and needs, especially impacts on roads.

Suburban Development Area Policies

- Efficient Site Design: Land development regulations should encourage site design that protects the features and natural functions of the landscape, minimizes the life-cycle costs of future public services and facilities, and encourages the use of alternatives to the private automobile.
- **Traffic Impact:** Proposed land uses involving a significant change in the amount or type of traffic should be carefully reviewed for traffic generation, conflict, and safety. The process for reviewing Land Use Plan changes, zone changes, and general development plans should include detailed review of traffic impacts caused by land use change and provide for management of access.
- **Capital Improvement Planning:** Road authorities should integrate land use planning and capital improvements programming decisions. Land use decisions should consider existing and future public infrastructure impacts and needs, especially impacts on roads.
- **Intergovernmental Cooperation:** The County, township, and affected city governments should cooperate in planning for urban, suburban, and interim development areas. General development

plans should be developed that identify drainage, street, and open space systems covering the areas zoned for these development types.

 Proximity and Access: Sites in proximity to major employment centers with adequate and safe accessibility to the existing network of improved highways are more likely to be included in the Suburban Development Area.

Resource Protection Area Policies

- **Commercial Development:** Small commercial uses such as are accommodated in existing mixed-use areas in the County may also be accommodated as infill sites in other areas of the County. Zoning ordinances should accommodate limited larger urbanstyle commercial uses on rural sites with exceptional site characteristics such as:
 - Locations along existing or planned freeways where access will be provided by an interchange and not an at-grade intersection
 - At non-freeway intersection locations where total approach traffic volumes exceed 3,000 vehicles per day with a minimum approach volume on any leg of at least 1,000 ADT, and where it can demonstrated that the traffic generated by the proposed use will not create a high risk access condition, as determined using the methodology



spelled out in the MNDOT Access Management Manual

- Topography and intersection design conducive to safe access, without documented crash risk problems
- **Industrial Development:** Zoning ordinances should accommodate limited larger intensive industrial uses on rural sites with exceptional site characteristics such as at an interchange or rail corridor where it can be demonstrated that the traffic generated by the proposed use will not create a high risk access condition, as determined using the methodology spelled out in the MNDOT Access Management Manual.

Minimizing Costs of Public Facilities

 Concentrated development patterns have a number of public benefits, including reducing the total costs of public capital investment and services in comparison with "sprawl," defined as development characterized by very low-density leapfrog development. These cost reductions can take several forms, including stabilizing or reducing the expected increases in costs for public services and facilities due to the growth of the community, or by increasing the efficiency of the existing public infrastructure.

- The direct costs of sprawl are considerable for local communities and for regions. Communities that develop in an inefficient sprawl pattern may find that the costs of services increase faster than tax receipts or that service levels are reduced. Transportation systems are heavily affected by sprawl because it forces use of the car as the major mode of transportation. This places increased pressure on road systems resulting in higher costs to the public for more roads and increased maintenance.
- The Land Use Plan encourages local government to make sure that new growth pays the full costs of providing public services and infrastructure.

Integrated Solutions to Other Issues

In addition to the extensive work that is being done in terms of transit development and transit-oriented planning and development policy, ROCOG area communities are also engaged in a number of other activities that reflect ways in which the coordination of land use and transportation is occurring. The following sections provide an overview of additional programs or policies that are in place to better align land use considerations with transportation development.

Natural Environment Protection/Mitigation

In 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act."



Section 1317 (Modernization of the Environmental Review Process) of the FAST Act focuses on accelerating project delivery to save time and money while improving environmental outcomes. The report, *Eco-logical: An*

Ecosystem Approach to Developing Infrastructure Projects, reviews the ways environmental review can be modernized, simplified, and improved to achieve better outcomes.

Since 2005, ROCOG has utilized a



Source: FHWA Environmental Review Toolkit

coordinated Resource and Referral Agency Review Process for plans and projects in order to provide the opportunity for review and comment during plan implementation activities, particularly on corridor planning studies. Project workshops are typically conducted early in a project study to provide the opportunity for early input. This initiative reflects an effort to implement the concept of conducting **Early**

Environmental Project Development (EEPD)

reviews, as recommended in the 2005 ROCOG Long Range Transportation Plan.

ROCOG, through funding provided by Olmsted County, has been able to conduct EEPD activities as part of a Corridor Preservation Program that the Olmsted County Board of Commissioners initiated per recommendation in the 2005 Plan. The 2045 Plan will include recommendations for corridors where EEPD efforts should be targeted, which will include completion of Purpose and Need statements, identification and screening of alternatives, screening of environmental impacts, and early identification of possible mitigation needs. This program is consistent with the discussion in the federal planning rules encouraging early consideration of environmental issues on projects identified in the Plan.

ROCOG Environmental Database

Environmental and natural features have shaped historical development patterns in the ROCOG planning area and will continue to influence future transportation and land use growth strategies. Land use and transportation activities can negatively affect environmental resources, with effects ranging from the localized death of individual animals to long-term damage to critical ecosystems. ROCOG has a wealth of local GIS data available regarding environmental and natural



features in the ROCOG area to help professionals and decision makers make calculated decisions when recommending future street and highway infrastructure projects. As part of this plan, a high-level screening of projects identified in Chapter 10 as candidates for federal funding were evaluated using the database, as summarized in Appendix E. The features evaluated include:

- Surface Water Resources
 - Rivers, Streams, Lakes, and Flood Control Reservoirs
 - Floodplains and Flood Prone Areas
 - Shorelands
 - Stormwater Management Systems
- Groundwater Related Resources
 - Wetlands
 - Seeps and Springs
 - Fens
 - Wellhead Protection Areas
 - Decorah Edge



- Biological Resources
 - Endangered, Threatened and Species of Special Concern
 - Rare & Native Plant Communities
- Cultural Resources
 - Parks and Trails
 - Historic Properties
 - Archaeological Resources
 - Contaminated Sites
- Landform Features of Importance
 - Sinkholes
 - Karst
 - Steep Slopes



- Erodible Soils
- Aggregate Resources

Karst Features Data Source: Minnesota Geological Survey



Residential Affordability: The Housing + Transportation Issue

The interest in having more affordable housing choices is driven by a new understanding of the combined impact of housing and transportation costs on household finances. While lenders and housing advocates have traditionally used 30% to 35% of household income spent on housing as the threshold for housing affordability, more recent work has identified transportation costs as an integral part of the affordability discussion.

Tools from the Center for Neighborhood Technology (CNT) and the federal Partnership for Sustainable Communities, led by the U.S. Department of Housing & Urban Development (HUD), provide information at the local level regarding location affordability. Figure 4-17 illustrates the results for the ROCOG area from the CNT tool. Efforts led by the Rochester Area Foundation and the Coalition for Rochester Area Housing (https://rochesterarea.org/initiatives/housingcoalition/) are seeking ways to address this issue in the community.

Environmental Justice

According to the US Environmental Protection Agency, "environmental justice" is

the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.



Figure 4-17







Source: Robert Wood Johnson Foundation

ROCOG adopted a Transportation Infrastructure Environmental Justice Protocol in 2016 in accordance with the USDOT rules for environmental justice and Executive Order 12898, promulgated by President Clinton in 1994. Since ROCOG receives federal transportation planning funds and is involved in planning for services and infrastructure projects that rely on federal funding, it is required to develop plans and programs in accordance with USDOT rules for environmental justice. Implementing agencies within the ROCOG area must also follow ROCOG environmental justice procedures for projects and programs relying on federal funding.

ROCOG has completed an extensive geographic analysis to identify neighborhoods with significant environmental justice populations. This data has been used in project development activities for different modes of transportation and transit development planning as well as system level assessments that are described in Chapter 9 of the Plan.

ROCOG updated its Title VI Non-Discrimination and Limited English Proficiency Plan in 2017, which is another aspect of the environmental justice directive to ensure the full and fair participation by all potentially affected segments of population, including people with Limited English Proficiency (LEP). ROCOG's 2019 Public Involvement Policy (PIP) also details these efforts, which include strategies such as public notice requirements, use of social media, and intentional outreach to traditionally underrepresented populations. Chapter 6 of the Plan describes the public participation tools and other mechanisms used to include the Title VI and environmental justice populations in planning projects.

Access Management

Access Management is the proactive coordination of providing vehicular access points to land parcels adjacent to all manner of roadways. Good access management promotes safe and efficient use of the transportation network by controlling access to highways, major arterials, and other roadways. These techniques include

- Access Spacing
- Driveway Spacing
- Safe Turning Lanes



- Median Treatments
- Right-of-Way Management

Access management guidelines are important to ensure that traffic generated by planned land uses can access roadway facilities while maintaining appropriate level of safety for all modal users including pedestrians, cyclists, transit and vehicular traffic.



ROCOG has worked with its partners to develop and administer access management guidelines. In 2006,

ROCOG assisted in the preparation of the Olmsted County Access Management Ordinance, which was later amended in 2013 and 2017 and continues to help the County administer the ordinance. ROCOG aided the City of Rochester in developing access management standards for inclusion in the City's Zoning Ordinance and Land Development Manual and assists the them with the review of major developments required to prepare Traffic Impact Reports and where proposed access issues are evaluated.

Street Typology & Street Design Guidelines

Good street design begins with an understanding of the street context and the land uses surrounding it. Street typology is a concept that attempts to marry consideration of corridor transportation needs with the land use environment found along the corridor, helping to plan appropriately for all modes of traffic and the interface with adjacent development along the frontage of property. Figure 4-18 provides an example of how street typology was applied in transportation studies associated with Destination Medical Center planning efforts. Figure 4-19 illustrates examples taken from the DMC District Design guidelines for street improvements that are consistent with the vision for this pedestrian oriented district.



Figure 4-18: Destination Medical Center District Street Typology

AN IMPROVED STREET NETWORK FOR ALL USERS

Neighborhood Streets: Streets are designed for low volumes of slow moving traffic and are comfortable and inviting for play and leisure uses.



Multimodal Streets: Design features do not prioritize one mode over another, but strive to accommodate a variety of modes.



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Transit Priority Streets: Design elements and modal priorities are 
transit-oriented, while also being pedestrian-friendly.
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Street types set priorities for movement of people, not just vehicles, and ensures that transit, cyclists and pedestrians are all provided safe and convenient access to and circulation through dOWNTOWN. - Downtown Rochester Master Plan, 2010

DMC TRANSPORTATION PRINCIPLES SUPPORTED BY STREET TYPOLOGY

- · Bring 30% of the workforce to downtown Rochester on transit
- · World-class streets, designed for people
- · Healthy, human-powered transportation
- · Transportation network accessible to all people

Mobility Streets: Design features accommodate high volumes of vehicles while still providing facilities for other modes.





Pedestrian-only & Shared Streets: The curbless design and cohesive paving materials allow for flexible usage ultimately catering to pedestrians and bicyclists.



Source: DMC Transportation & Infrastructure Program Integrated Transit Studies, Street Use and Complete Streets Study Report, June 2018





Figure 4-19: Example from Destination Medical Center District Design Guidelines

Source: Rochester Destination Medical Center District Design Guidelines, June 2017



Concluding Thought: Focus on Moving PEOPLE, Not VEHICLES

We must take the opportunity to invest in systems that change the focus from moving vehicles into and through our area to those that focus on moving people. While of particular importance relative to downtown Rochester, a focus on how we move people—and how land development patterns affect this—should inform all transportation and land use planning in the ROCOG planning area.



Amount of space required to transport the same number of passengers by car, bus, or bicycle. Event info at www.facebook.com/Urban.Ambassadors - Photos by www.tobinbennett.com (Des Moines, Iowa - August 2010)



