

Transportation and Land Use Implementation

Introduction

Transportation and land use are intertwined. Transportation infrastructure gives value to land and influences its use. Land use in turn creates demand for additional transportation investment. Over time, this ongoing cycle has generated the development pattern we have today in the region. The transportation system provides mobility to allow the traveling public and freight to access land and development. Land use and development patterns provide the origins and destinations that directly affect the level of travel demand and influence the attractiveness of certain modes. As the region continues to grow and evolve over the next 30 years, so will the demand for mobility and access. How that mobility and access is provided will strongly influence how land is developed and redeveloped.

Prior to the 1950s, most of the region developed around a street and sidewalk system focused around the streetcar. Beginning in the 1950s, the development of the region's highway system and later the freeway system expanded the geographic access to developable land at a far greater rate than any time before. Once access is afforded to an area, it is developed relative to the availability of land for future development and sewer capacity and relative to consumer demand and preferences. Essentially, the market develops land relative to supply and demand. The post-1950s development patterns lead to large areas of the region being developed at single-family home densities (about 3 to 5 units per acre). Access to these development patterns has primarily been made available through regional and local street networks. As these areas developed, expanding the reach of the urban area, highways and arterial roads were widened to serve the growing demand. With such a high focus being placed on growing roadway capacity, less attention has been paid to serving pedestrians, bikes, and transit users in these areas. Changing the land use pattern in terms of density and intensity is dependent largely upon ability to add connectivity and accommodate alternative modes.

The region is at a nexus of growth where expanding the roadway system is not a sustainable way to address congestion, climate change, equity, and livability. Within the last decade, changing preferences, frustrations with long, congested commutes, and the addition of high-quality transitways have contributed to the development, infill, and redevelopment of already developed parts of the region. This can be seen along the METRO Blue Line light rail, which has been operating since 2004, the Northstar Commuter Rail (2009), the METRO Red Line BRT (mid 2013), and the Green Line LRT (mid 2014). Development interest and higher-intensity land use are also showing up along proposed transit investments. On the local level, higher-intensity development and redevelopment is occurring throughout the already developed area and needs to be supported with a multimodal network of local and collector streets, sidewalks, and bicycle paths. New growth is occurring, and will continue to occur, in the Suburban Edge and Emerging Suburban Edge communities, where sewered land is available and local governments will still need to accommodate densities in line with those established through Thrive MSP 2040. This development will continue to put stress on the regional highway system and will

need to be accommodated with investments in arterial roads. Demand for highway capacity projects to relieve congestion and to serve the Suburban Edge and Emerging Suburban Edge communities are well beyond the available resources to pay for transportation improvements. Thus, the focal point for accommodating growth around transportation investments will be having local governments focus their planned growth in areas that support multimodal travel and support this growth with land use and design that integrates transit, walking, and biking.

Land development can best support multimodal travel when communities plan land use with travel behavior and transportation infrastructure in mind. Consistent with the land use policies identified in Thrive, this includes:

- Supporting growth, particularly job growth, in existing and planned job and activity centers along regional transportation corridors, either highway or transit;
- Improving local street connectivity and using complete street design principles;
- Planning for complementary mixed land uses along corridors and in centers;
- Locating medium-to-high density developments at transit stations and along transit corridors;
- Implementing travel demand management programs and parking policies that support pedestrian and transit-friendly environments in high-activity areas; and
- Increasing overall density in nodes along corridors, in combination with the other strategies.

Another important aspect of transportation and land use integration is the consideration of freight user needs. The freight system has evolved, similarly to other aspects of regional growth, with a significant reliance on highway and arterial road travel. These users will need to be considered along in the implementation of local land use policy. The users of the river and rail freight system are particularly vulnerable to land use changes away from warehousing and industrial uses, especially in the already developed areas of the region. While many of these areas are evolving to serve the growing demand for housing and commercial development in these areas, the river and freight rail systems themselves are relatively static and unable to move to new areas. It will be important for the region's economic competitiveness to consider the needs for this type of accessible land and have local governments plan for an adequate supply in the future.

The detail about specific transportation system investments is included in the modal sections following Transportation and Land Use. The region's airport system also creates unique challenges for land use planning by local governments and these efforts are described in more detail in the Airport Investment Plan.

Thrive MSP 2040 and TPP Coordination

The coordination of planning for regional growth and planning for the region's transportation systems is accomplished through the Council's Thrive MSP 2040 and this Transportation Policy Plan. The forecasts developed by the Council as part of the Thrive MSP 2040 provide the basis for forecasting regional infrastructure needs for roads and highways, transit service, and wastewater infrastructure, and also inform planning for the regional parks system. The forecasts and Thrive MSP 2040 policies and land use strategies also serve as the springboard for planning by each community for its local infrastructure and land use needs. The local comprehensive plans must coordinate among key elements: forecasted growth, planned land use, residential and employment densities and infrastructure plans.

Thrive MSP 2040 sets out seven overarching land use policies:

- 1. Orderly and efficient land use**
- 2. Natural resources protection**
- 3. Water sustainability**
- 4. Housing affordability and choice**
- 5. Access, mobility, and transportation choice**
- 6. Economic competitiveness**
- 7. Building in resilience**

More details on these policies can be found in Thrive MSP 2040 Land Use Policy. Decisions about how communities grow and the facilities to support them affect one another. Regional transportation and sewer investments help shape growth patterns. The types and locations of housing influence mobility options and travel patterns. Transportation investments, particularly transit, need to be integrated with land use and development patterns so the region's residents and businesses have a high level of accessibility.

Coordination of Local Comprehensive Planning

Local units of governments are on-the-ground partners in realizing the Thrive MSP 2040 vision for growth and change, the Thrive Land Use Policy, and the Transportation Policy Plan vision. Under the Metropolitan Land Planning Act (MLPA), local communities are required to adopt comprehensive plans that conform to and are consistent with the Council's Thrive MSP 2040 and its three metropolitan system plans – for transportation (including aviation), wastewater treatment, and regional parks and open space (Minn. Stat. 473.858-.859; 473.864).

The local comprehensive plan is used by the region as a key element in local and regional partnerships to accommodate growth across the seven-county region. Local plans ensure that adequate regional systems are planned and developed to serve growth in an orderly and efficient manner.

Local comprehensive plans are reviewed by the Council for conformance with metropolitan system plans, consistency with Council policies, and compatibility with adjacent and affected governmental units (see statutory provisions below). Forecasts play an important role in the local and regional partnerships to accommodate growth and to see that adequate infrastructure is planned and provided.

Comprehensive Plan Review

Minn. Stat. sections 473.851 to 473.871

Conformance: A local comprehensive plan will conform with the metropolitan system plans if the local plan does not have a substantial impact on or contain a substantial departure from a system plan:

- Accurately incorporates and integrates the components of the metropolitan system plans required by Minn. Stat. sections 473.851 to 473.871:
 1. Local plan recognizes the land use and transportation opportunities and challenges related to the community's designation in Thrive MSP 2040 Geographic Planning Areas. Local plan accommodates growth forecasts at appropriate densities and numbers as articulate in adopted Thrive MSP 2040 Geographic Planning Areas, and wastewater and transportation system policy plans.
 2. Local plan identifies transportation components and characteristics of the regional existing and planned multimodal system including road functional classification, transitways and transit facilities and corridors, park-and-ride facilities, regional trails and bikeways, and right-of-way preservation needs.
 3. Identification of existing and forecasted traffic volumes (current Average Daily Traffic), number of lanes on roadways (principal and minor arterials), allocation of Thrive MSP 2040 forecasts to transportation analysis zones (TAZs) and 2040 traffic forecasts for principal and minor arterials.
 4. Adopted station-area planning for transitways and high-frequency transit corridors in service or in advanced planning stages including density minimums, targets and land use mix.
 5. Local plans includes airports, aviation facilities, noise and safety zones, and compatible land uses surrounding these features.
 6. Local plans adopt access management guidelines for principal and "A" minor arterials.
- Integrates public facilities plan components described in Minn. Stat. section 473.859, subd. 3.
 1. Integrates development policies, compatible land uses, forecasted growth allocated to TAZs at appropriate densities specified in Thrive MSP 2040 for community designations and allocation of 2040 forecasts to TAZs for transit system development and operation to maximize the efficiency and effectiveness of the regional system.

Consistency: A local comprehensive plan will be consistent with Council policies and statutory requirements if the local plan:

- Addresses community role strategies for community designations contained in Thrive MSP 2040.
- Includes a plan for the implementation of an interconnected system of local streets, pedestrian, and bicycle facilities that is integrated with the regional system.
 1. Includes a plan for local roadway systems to minimize short trips on the regional highway system.
 2. Identifies needed local infrastructure (streets, pedestrian and bicycle facilities) to support connections to existing transitways and high-frequency bus corridors and those under project development.
 3. Identifies bicycle and pedestrian system needs and policies.
- Considers travel modes other than the car at all levels of development (site plan, subdivision, comprehensive planning) to better connect and integrate choices throughout all stages of planning.
- Addresses regional job and activity centers and locally important centers and their connection to the regional transportation system, including use of travel demand management initiatives.
- Addresses the linkage of local land uses to local and regional transportation systems including a mix of uses and increasing housing unit and employment intensity and densities in regional job and activity centers, in transitway station areas , and along high-frequency bus corridors.
- Addresses the needs of freight movement in and through the community (roadway, rail and waterway). Addresses accessibility to freight terminals and facilities, especially “last mile” connections which are often local streets connecting freight facilities to principal arterials.
- Includes an implementation plan that describes public programs, fiscal devices and other specific actions for sequencing and staging to implement the comprehensive plan, to accommodate growth and change consistent with TAZ forecast allocations, and to ensure conformance with regional system plans, described in Minn. Stat. section 473.859, subd. 4.
- Addresses official controls: Includes a Capital Improvements Program (sewers, parks, transportation, water supply and open space) that accommodates planned growth and change consistent with TAZ forecast allocations.
- Addresses state and regional goals for reduction in greenhouse gas and air pollutant emissions.

Compatibility: A local comprehensive plan is compatible with adjacent and affected governmental units, including appropriate interconnection of county and local transportation networks of streets, bicycle pathways and pedestrian facilities, based on comments or concerns, or lack thereof, form

these entities. A community should adequately document that it has acknowledged the concern(s) of all adjacent and affected governmental units.

- Addresses coordination of transitway station-area and high-frequency bus corridor planning with other communities along identified corridors.
- Addresses partners in communities, counties, and the region at large to coordinate transportation, pedestrian, bicycle, and trail connections within and between jurisdictional boundaries.

Density and Diversification of Regional Job and Activity Centers and Local Centers

The Council completed the Land Use and Planning Resources Report in 2011 and one of the main messages in the study was that local land use decisions can have a significant impact over time on travel behavior, congestion, air quality, and livability. An important part of the report's message is the acknowledgement that activity centers and their characteristics play an important role in this relationship. This Transportation Policy Plan has placed an increased emphasis on linking regional transportation investments to providing or improving access to regional job and activity centers and the details of this can be found in the investment plans that follow this section. Local land use decisions related to regional and local job and activity centers can further support the Thrive MSP 2040's outcomes of stewardship, equity, prosperity, livability, and sustainability.

Intensify and diversify land uses in regional and local centers.

Increasing densities in centers alone can have benefits for transit, but intensifying centers while diversifying the mix of land uses can lead to broader changes in travel behavior. Regional job and activity centers should be target areas for greater housing densities to balance the mix of job, housing, service, and retail activity in centers. An increased mix of land uses in centers has been shown to decrease auto trips per capita relative to single use districts, where auto travel is often the only option for people. It will be challenging for the region to create free-standing centers that can support a level of intensity comparable to diversifying existing centers where jobs and activity are already concentrated. These areas have commercial or industrial uses that may be prone to redevelopment and are often targets for planned mixed-use land uses. But the overall mix of uses in these centers is more important than specifically supporting mixed-use developments.

Support the intensity and mix of uses in centers with transportation and urban design strategies.

Research has shown that without additional strategies that address the travel experience to and from and within centers density and a mix of land uses will not translate to positive

benefits in travel behavior, congestion, and air quality. There are a number of key implementation considerations for local governments:

- Provide for a dense network of local streets and paths that distribute traffic more broadly, support narrower streets, and create more opportunities to walk and bike. This approach will discourage the development of “super blocks” that impede community cohesion and connectivity. Complete streets policies are an important component of this strategy. Freight access will also need to be considered in the design of the street network.
- Manage the demand for driving by exploring parking policies such as parking pricing, on-street parking management, shared parking facilities, and parking maximums in zoning codes.
- Foster and implement good urban design through code regulations and design standards. Good urban design includes public infrastructure, such as the streetscape and public spaces, and private development including building form, mass and scale, building materials, and parking design and location.

These local government land use implementation elements can be applied to both regional job and activity centers and local centers. More detail on these strategies and additional resources for local governments is available from Council staff and in the Land Use and Planning Resources Report.

Local Government Land Use Policies Supportive of Transit

The Transit Investment Plan includes a discussion of Transit Basics that describes what conditions support an effective transit system. An essential piece of this discussion is development patterns that occur locally and are planned and regulated by local governments. As documented in the introduction to this section, much of the region developed around cars and is not well suited to be served by local bus routes. The Transit Market Areas described in the Transit Investment Plan demonstrate that the urban core is best suited for all-day, frequent bus service, but Transit Market Areas I and II represents only about 6% of the region’s land area. The challenge in serving other regional communities will be aligning land use plans with the potential for future transit service. The purpose of this section is to describe the elements of land use and development patterns that facilitate better transit service and document how local governments should plan for these elements and set the stage for a market response. The factors considered by transit providers when determining transit service are described in the more detail in the Transit Investment Plan.

An efficient land use and development pattern that supports local transit is characterized by the following factors:

- Density and amount of people and activity
- Pedestrian-friendly environment
- Mixed-use land use pattern

- Walkable street network
- Management of parking and travel options
- Linear corridor development

Land use and development patterns that support transit can vary in scale, type and intensity. These variations may change based on the type and character of a community, the type of existing or planned transit service, and the available opportunities for change in land use or development patterns, including local infrastructure.

The region makes significant investments in transitways. These regional investments will require a partnership with local governments to support their success by planning for minimum densities and target densities, when feasible, so that their market potential is not diminished by government regulation. Market demand will be an important factor in how much allowable development is realized and when. While the investment in infrastructure for high-frequency bus service is not as substantial as most transitways, the investment in operating these services is significant. Local governments should plan for target densities that support high-frequency service and should plan in corridors that consider adjacent communities and potential connections to or extensions of existing transit service. Generally, these connections will be most feasible in areas within and adjacent to Transit Market Area II, as described in the Transit Investment Plan, although opportunities for suburb-to-suburb transit service could also be supported with strong local land use planning and implementation.

The following table provides details on density expectations for new development around transit stations and development around high-frequency transit service in the hierarchy of Thrive MSP 2040 community designations. Densities are described in housing units per acre. Additionally, the table provides an overview of other considerations for land use and development planning that is supportive of transit and more detail is provided following the table.

The implementation of this table will occur through a partnership of the Council, regional transit providers, and local governments. Local governments may discover, through local comprehensive planning efforts, issues or concerns that will need to be addressed. The Council is committed to working with local governments to plan for land use that acknowledges the challenges that a local community is experiencing while respecting the need of the region to be good stewards of public investments.

Table 1 – Local Government Land Use Planning Coordinated with Regional Transit Investments

| | Thrive MSP 2040 Geographic Planning Areas | | | |
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| Density for Transit Corridors Relative to Community Designation | Urban Center | Urban | Suburban | Suburban Edge or Emerging Suburban Edge |
| <p>Residential Density Average near Transitway Stations (Light Rail, Commuter Rail, and Highway Bus Rapid Transit) – The region makes significant investments in transitways and local governments are partners in supporting these investments by allowing the market to maximize their potential. The figures below represent average net densities near transit stations for areas that are identified for <u>new development or redevelopment with some form of housing</u> (housing or mixed-use).</p> | | | | |
| Community-wide Density Minimums Established in Thrive MSP 2040 (<i>LINK to Thrive MSP 2040</i>) | 20 units per acre | 10 units per acre | 5 units per acre | 3-5 units per acre |
| Fixed or Dedicated Right-of-Way Transitway Station-Area Density Expectations (within 10-minute walk or ½ mile area) | Minimum: <u>50 units per acre</u> Target: 75-150+ units per acre (LINK to Pics) | Minimum: <u>25 units per acre</u> Target: 50-100+ units per acre (LINK to Pics) | Minimum: <u>20 units per acre</u> Target: 40-75+ units per acre (LINK to Pics) | Minimum: <u>20 units per acre</u> Target: 40-75+ units per acre (LINK to Pics) |
| Other BRT Transitway Station-Area Density Expectations (within 10-minute walk or ½ mile area) | Minimum: <u>25 units per acre</u> Target: 40-75+ units per acre (LINK to Pics) | Minimum: <u>12 units per acre</u> Target: 25-50+ units per acre (LINK to Pics) | Minimum: <u>10 units per acre</u> Target: 20-40+ units per acre (LINK to Pics) | Minimum: <u>10 units per acre</u> Target: 20-40+ units per acre (LINK to Pics) |
| <p>Residential Density Average for All Development near Transit Service (High-Frequency Bus or Arterial BRT corridor) – These corridors will provide the highest levels of bus service on urban and suburban arterials. Their success and ultimate implementation is dependent upon local development patterns that support high transit demand. The figures below represent net average densities on <u>all land identified for some form of housing</u> (housing or mixed-use).</p> | | | | |

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| <p>High-Frequency Bus or Arterial BRT Corridor Density Targets</p> <p>(within 5-minute walk or ¼ mile area)</p> | <p>Minimum: <u>10 units per acre</u></p> <p>Target: 15-60+ units per acre</p> <p>(LINK to Pics)</p> |
| <p>Diversity of Activity at and around Transit Station Areas – Total activity is a vital measure of the potential for trip making and the total number of people and destinations near a transit station.</p> | |
| <p>Transitway Station-Area Activity Consideration</p> <p>(within 10-minute walk or ½ mile area)</p> | <p>In addition to planning for appropriate residential densities, local governments should consider planning for a level of total “activity” near stations that is supportive of transitway investments. Activity can include residential units or people, jobs, students, and retail and entertainment space that contribute to an overall level of activity. A guideline for minimum activity around a station that can be fully developed would be 7,000 total people, jobs, or students.</p> |
| <p>Other Land Use and Development Considerations near Transit and Transitway Stations – Density and activity are important, but there are other considerations in development patterns that are a part of the user experience in attracting transit riders to the system.</p> | |
| <p>Land Use and Development Planning and Implementation Best Practices for Local Governments near Transit and Transitway Stations</p> | <ul style="list-style-type: none"> • Develop a walkable street network that maximizes pedestrian access to transit and within a station-area • Design for a pedestrian-friendly environment where streets foster an inviting experience on the way to transit. • Plan for a mixed-use development pattern at stations and in corridors that complements overall corridor development. • Focus density in corridors that are linear and consider the relationship to adjacent communities and existing transit service • Manage the attractiveness of driving through parking supply and management strategies and provide for other options such as shared cars and bicycle facilities • Maintain and increase affordable housing options. • Incorporate civic and public spaces to reflect community culture and history. • Consider supporting the private market through the use of financing mechanisms for public infrastructure, site preparation, affordable housing, and other areas that require gap funding |

The Council will be a strong partner for local governments planning land use around transit investments. This plan describes some general considerations for local governments doing this type of planning, but the Council will provide more specific guidance through an update of the Guide for Transit-Oriented Development and other local guidance documents. The end of this section also includes some potential resources for planning around transit.

More on Local Government Land Use Planning Coordinated with Regional Transit Investments

The greatest influence on corridor development and readiness for transit service is early community identification of supportive land uses and changes to land use patterns. This will promote land use integration with transit development for existing transit service, new service, and potential transitway station locations. First, communities need to have a supportive overall residential density and levels of activity that will create the travel demand that leads to many people going to many destinations along transit. Second, local governments should look for opportunities to create corridors for increased density and a mix of uses that could connect residential neighborhoods to community and regional job and activity centers. Third, land use changes need to be guided by local governments to support the operational success of transit stations and stops along with supportive local multi-modal transportation access.

Station-area planning assists local governments in preparing for and maximizing the economic development benefits of transit investments. Station-area plans need to take into account community transportation and circulation issues, urban design guidelines, and public infrastructure that will make for a quality transit-oriented development. These plans provide the means to coordinate land use and transportation at the community level and with other communities served by the corridor. Stations development potential is influenced by its location and role it performs in regional economy.

Plan for density and activity. Overall community density sets the background pattern for transitway and high-frequency service and potential. The effect of the overall development pattern is the critical factor. Effective density is closely linked to a supportive local network of streets, sidewalks and bicycle pathways and to a mix of compatible uses. (*LINK to Community Designations*) Community-wide density in the region is higher in the Urban Core where the land use pattern was set prior to World War II. Expectations here, aided by market conditions, support infill and redevelopment at least 20 units per acre. As the development pattern moves outward, each geographic planning area has a lower overall density expectation and a corresponding lower level of transit service except where higher density nodes can be linked along contiguous corridors. Corridor densities of 15-60 units per acre in urban center, urban, and suburban development areas provide a base of residential density needed to support transit, with higher densities and an emphasis on mixed-use at community nodes.

Thrive MSP 2030 does not identify a target balance of jobs and residents for each job and activity center, station area, and corridors, but provides growth forecasts for communities to plan for. The broad policy directions describe the need to plan for greater density in transit corridors. Many developments built in the past have not been planned at transit-supportive densities. By establishing a minimum density targets, the guidelines are meant to influence the evolution of the development patterns along transit corridors.

Station area density minimums and targets are also linked to Geographic Planning Area designations and their potential relative to underlying development patterns. Compact, high density development patterns shorten the distance people must travel to reach work, shopping, or other points of interest near a transit station. Compact development allows people to conveniently walk or bike to many destinations within a reasonable time. Higher densities also supply the potential ridership that can support more frequent transit service and a greater variety of routes. The result is more transportation options, less time on the road, and reduced traffic congestion. At the same time, well-designed compact development contributes to vibrant, economically healthy neighborhoods and to centers that offer a variety of goods and services, social gathering places, recreation and entertainment opportunities and attractive character.

Each community along a transit corridor or future transit corridor needs to create its development context for the shared corridor. At stations along transitways or high-frequency bus routes, higher densities are appropriate to increase the overall corridor density and mix of uses that make for a strong transit corridor. In addition to planning for appropriate densities, local governments should consider planning for a level of total “activity” near stations that is supportive of transitway investments. Activity can include residential units, daytime time population, jobs, students, and retail and entertainment space that contribute to an overall level of activity. A guideline for minimal activity would be 7,000 total people, jobs, or students.

Develop a walkable street network. Local connectivity for pedestrians and bicycle access along with streetscape are important factor for determining housing and job densities. A network of ‘complete streets’ that are multi-modal friendly with streetscape and supportive street-level design standards will provide access. Transit riders need safe and convenient routes to get to and from transit. Riders will typically walk one-half mile (about a 10-minute walk for most people) to and from transit. Thus, the riders’ needs extend beyond the bus stop to and from the surrounding neighborhood. They need a continuous network of streets and sidewalks for direct connections and access options. Safe access is supported by short blocks allowing more frequent street crossings, minimizing walking or cycling distances, and offering more route choices.

Design for a pedestrian-friendly environment. Street design guidelines should be adopted that improve the user experience for pedestrians and bicyclists by calming traffic, narrowing crossings, and improving the amenities and design of areas along and abutting the street.

Plan for a mixed-use development pattern. A diversity of uses, scaled to meet community needs and the station’s role in corridor development, are important. Communities along a corridor should coordinate their plans and development expectations (timing and scale) with each other and service providers. Higher development intensity should be nearest the transit station tapering off near the edges of the defined TOD area.

Management of parking and travel options. While including the car, TOD is about combining compact development composed of a variety of uses and access modes. To improve the efficiency of land use, minimum densities should be followed in conjunction with a parking strategy. The strategy should consider reduced parking ratios, shared parking programs, establishing parking maximums, and parking design guidelines.

Maintain and increase affordable housing options. Plans for station areas and stop need to incorporate policies for mix of uses. This includes policies for a variety of housing types and affordability levels. As Station Area and corridor plans evolve from vision and development concepts to formally adopted elements of the local comprehensive plan, each stage needs to consider strategies to preserve existing housing affordability and the inclusion of affordable units in new residential projects. Guidance on how to develop effective affordable housing strategies go to [LINK to Metropolitan Council Housing Policy](#).

Incorporate civic and public spaces. Integrate public art and civic spaces and facilities that reflect community history and culture into station areas and include community gathering spaces use.

Support and leverage the private market investment. Consider the use of financing mechanisms for public infrastructure, site preparation, affordable housing, and other areas that require gap funding to support regional and local goals for station area development.

Resource List for Land Use Planning Around Transit

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| <p>Transit-Oriented Development Planning Resources Municipal Resource and Service Center of Washington. Transit-Oriented Development: TOD – Guides, Studies, and Articles; TOD and Market Forces; TOD Programs; TOD Plan and Ordinance Examples; Financing TOD http://www.mrsc.org/subjects/transpo/transitdev.aspx</p> <p>Growing Station Areas—The Variety and Potential of Transit Oriented Development in Metro Boston. Metropolitan Planning Council. June 2012. http://www.mapc.org/sites/default/files/MAPC-TOD-Report-FINAL-web-reduced-size.pdf</p> |
| <p>Transit Overlay Zones (including parking requirement bonus reductions) Housing Innovations Program. Featured Tool: Transit Development Overlays http://www.psrc.org/assets/6675/hip_tod_overlay.pdf</p> |
| <p>Affordable Housing Mixed-Income Housing Near Transit—Increasing Affordability With Location Efficiency. Center for Transit-Oriented Development. http://reconnectingamerica.org/assets/Uploads/091030ra201mixedhousefinal.pdf</p> |
| <p>Corridor Planning TOD 203. Transit Corridors and TOD—Connecting the Dots. Center for Transit-Oriented</p> |

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| Development RA_203_corridorsFINAL3.pdf |
| Shared Parking Portland Metro. Shared Parking http://www.mapc.org/sites/default/files/PortlandMetro_sharedparkingreport.pdf |
| Travel Demand Management Denver Regional Council of Governments. DRCOG Regional TDM Short Range Plan (2012-2016) June 2012. https://www.drcog.org/index.cfm?page=TravelDemandManagement(TDM) |
| Complete Streets Sacramento Area Council of Governments. Complete Streets Resource Toolkit http://www.sacog.org/complete-streets/toolkit/START.html |

Bicycle and Pedestrian Planning

Bike and pedestrian infrastructure is most commonly provided by local governments and often integrated with local land use development. Local governments should consider the regional role of these local systems when doing comprehensive planning and implementing plans.

Bicycle Considerations

Bicycle infrastructure is an important consideration for both on-street and off-street options where bicycle travel is encouraged. Local governments should follow Complete Streets policies required by state law for all roads in their jurisdiction. In addition to serving local travel, local bicycle systems should provide important connections to regional systems including:

- Priority Regional Bicycle Transportation Corridors and the Regional Bicycle Transportation Network (link to Bicycle and Pedestrian Investment Philosophy)
- Regional Parks and Trails (link to Regional Parks Policy Plan)
- High-frequency arterial transit corridors, transitway stations, transit centers, bus stops, and park-and-ride facilities (link to Transit Investment Plan)

Local governments should also identify gaps and barriers in the bicycle system through comprehensive planning and have a plan to address them. Bicycle parking and internal circulation may also need to be addressed at high-activity areas such as job and activity centers or local centers. The design, implementation, and maintenance of bicycle facilities should provide for a safe, comfortable, and convenient travel option in communities.

Pedestrian Considerations

Pedestrian connections are one of the most fundamental parts of a multimodal transportation system. Many people start and end their trips as pedestrians. Like bicycles, an important piece

of planning for pedestrians is adopting and putting into practice a Complete Streets policy. Planning for pedestrians is also integrally related to regional system planning. Local governments should provide and maintain pedestrian access to:

- Regional Parks and Trails ([link to Regional Parks Policy Plan](#))
- High-frequency arterial transit corridors, transitway stations, transit centers, bus stops, and park-and-ride facilities ([link to Transit Investment Plan](#))

A pedestrian-friendly environment is also a key strategy for successful Regional Job and Activity Centers and local centers ([link within this chapter](#)).

Planning for a pedestrian friendly environment goes further than just providing access and infrastructure. The pedestrian environment is integrated with design. Good pedestrian facilities incorporate best practices that provide for a safe, comfortable, and convenient space to walk. When people are walking, they experience the streetscape in a different way than faster moving modes such as a car or bus. Local governments should consider the design and form of buildings that are adjacent to the pedestrian system, the need for street greening and shade with trees and planters, lighting and other safety elements, the proximity and speed of adjacent auto traffic, crossing facilities, signage, and other relevant elements identified through local planning.

Freight and Land Use Planning

The details on land use planning with respect to freight movement is provided in the Freight Plan ([link](#)).

Airport and Land Use Compatibility Planning

The details on land use compatibility planning with respect to airports and airspace considerations is provided in the Aviation Plan ([link](#)).