5E. Modal Integration: Access and Circulation

connecting REDMOND

Transportation Master Plan

Figure 5E.1 The success of a multimodal transportation system relies on safe and convenient travel environments for all modes.

Contents of this Chapter

This chapter merges elements of the bicycle, pedestrian, transit and thoroughfare plans into an integrated transportation system that addresses multimodal access and circulation needs. Topics discussed include:

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Introduction

This chapter explains how various forms of personal travel – walk, bike, bus and motor vehicle can be integrated into multimodal transportation corridors.

What are Multimodal Corridors?

During public meetings the community stressed the need to create a balanced transportation system in Redmond. Their emphasis was on a system that provides mobility for bicycling, walking, transit and motor vehicles. As the individual mode plans were mapped, see Chapters 5A –5D, certain corridors showed the need for multimodal improvements. These corridors were designated multimodal corridors and mapped in *Figure 5E.7*.

The multimodal corridors are major transportation facilities that provide a variety of travel alternatives. The corridors provide direct connection to important activity and commercial centers in Redmond. As such, most currently serve as both transit and auto routes.

With designation as a multimodal overlay (a planning tool used to define how and where the City can be smarter about making capital investments), the transit component of these corridors will be strengthened and supplemented with pedestrian and bicycle improvements that allow for enhanced modal integration. Automobile needs will continue to be met, but will be balanced with the needs of the other transportation modes.

Strategies for investments in the multimodal corridors will improve various aspects of the transportation infrastructure, as well as the relationship with land uses along the corridors.

Multimodal Overlay: A planning tool used to define corridors where the City will prioritize capital investments.

Criteria defining Multimodal Corridors

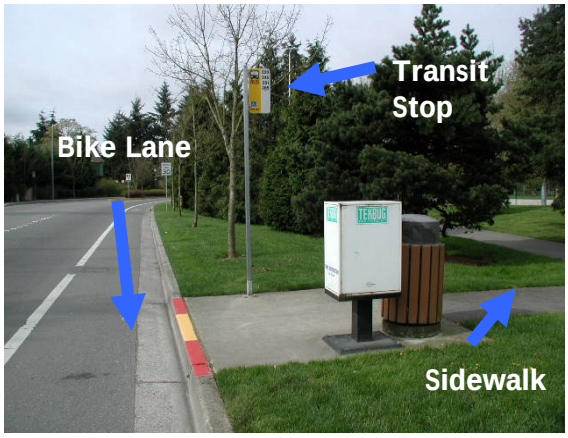


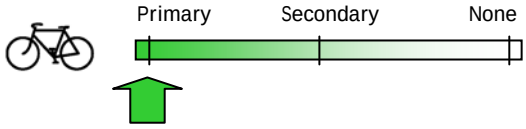
Figure 5E.2 On-street bike lanes, sidewalks and transit stops along Old Redmond Road provide multimodal travel options.

Bicycle Criteria

Today.....The corridor has existing or planned primary bicycling facilities (backbone trail and/or bicycle lanes) with occasional use of secondary facilities to complete the network.

In the future.....

- ✓ Highly identifiable primary facilities will be provided for travel through the corridor – either a paved bicycle path or designated on-street bicycle lanes.
- ✓ All barriers to bicycle travel will be removed. Roadways will be easy to cross. Narrow sections of facilities will be improved to meet transportation standards.
- ✓ Secure bicycle parking will be provided at transit stops, businesses, and other destinations.
- ✓ Wayfinding signage identifying bicycling connections will be provided at gateways to various parts of the community.



Goal for bicycle facilities in multimodal corridors

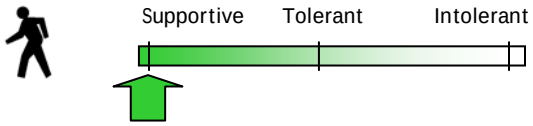
Figure 5E.3 On-street parking, slow speed streets and continuous pedestrian facilities provide multimodal travel options along 166th Ave NE in Redmond Town Center.

Pedestrian Criteria

Today.....Most multimodal corridors have Pedestrian Tolerant facilities located throughout.

In the future.....

- ✓ Corridors will be Pedestrian Supportive.
- ✓ Pedestrians can walk across the roadway corridor.
- ✓ The pedestrian realm includes sidewalks separated from the roadway, transit stops, and pedestrian amenities. In locations where it is not feasible to include a planting strip to separate pedestrians from traffic, other buffering techniques will be used.
- ✓ Adjacent land uses support short, walkable trip distances.



Goal for pedestrian facilities in multimodal corridors

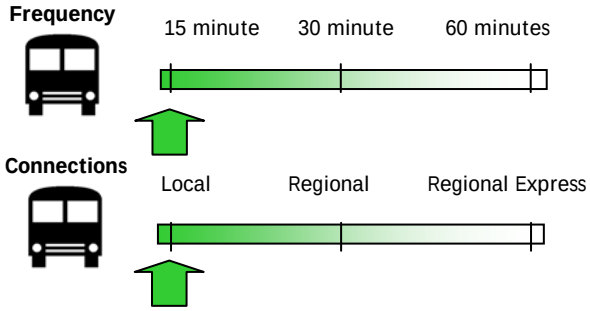
Figure 5E.4 The intersections of two multimodal corridors at 156th Ave NE and NE 40th St. The intersection provides connection to local and regional transit service. The stops at this intersection also offer pedestrian tolerant connections to land uses.

Transit Criteria

Today.....The corridor has at least one all-day transit route that provides a connection to one activity center in Redmond.

In the future.....

- ✓ Local service along the corridor will be frequent during most of the day – at least one route with 15 minutes service to major activity centers.
- ✓ Transit stops will be identifiable, well designed and properly sited. Amenities should include benches, shelters, route information, bike racks, and be well illuminated.
- ✓ Route design allows connections between activity centers (within Redmond, to Kirkland and Bellevue, and regionally into Seattle) and offers time competitive connections.



Goals for transit service in multimodal corridors

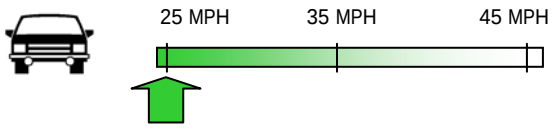
Figure 5E.5 NE 24th St. is posted at 35 MPH and carries close to 30,000 vehicles on the average weekday. The corridor is an important motor vehicle thoroughfare but needs a safer balance with the other modes of transportation.

Motor Vehicle Criteria

Today.....The corridor has a posted speed less than 45 MPH and provides a direct connection across Redmond.

In the future.....

- ✓ Roadway and intersection designs will balance the need to accommodate vehicles with the needs of other modes of transportation.
- ✓ This balance will be reflected in funded project elements on the Transportation Facilities Program (TFP).
- ✓ Corridors will be planted with street trees and landscaping to promote character as a green city with a small town feel.



Goal for roadways in multimodal corridors

Implementation

The vision for Redmond's future includes a more balanced transportation system with a variety of convenient and competitive travel options in strategic corridors. These multimodal corridors and the activity nodes that they connect will become the vibrant high-quality places in Redmond. The following strategies and action items can make this happen:

1. The City will create multimodal corridors that accommodate auto/truck, bus, bicycle and pedestrian travel.

- **a.** Establish a system of multimodal corridors.
- **b.** Link different modes of transportation together to give people choices of travel.
- **c.** Prioritize infrastructure investment into corridors and projects that benefit multiple modes of transportation.
- **d.** Update design standards for intersections to accommodate bicyclist and pedestrian mobility as well as motor vehicle capacity.

2. The City will promote land use and development patterns that support multimodal travel.

- **a.** Mix uses to create shorter trip distances.
- **b.** Balance off-street parking supply with enhanced access to front doors of buildings.
- **c.** Increase densities in select areas of the City along designated multimodal corridors.
- **d.** Create walkable activity nodes (pedestrian places) that are served by all other modes.

How do we create Multimodal Corridors?

Two considerations must be fully integrated to successfully develop multimodal corridors in Redmond. Transportation infrastructure and land use must be developed to accommodate all modes.

Transportation Infrastructure
The carrying capacity of streets and roadways for increased automobile traffic is finite. Corridors are most successful in carrying the highest number of trips when they are designed to support multiple modes of transportation – cars, buses, bikes and pedestrians.

The success of transit, bicycling and walking as transportation modes is determined by the quality of the facilities and proximity to the places where people travel. Short trip distances (dependent on land use densities and site layouts with good pedestrian facilities) combined with the presence of bicycling and walking facilities (linked to reliable transit routes) encourage mode shift away from motor vehicles. When all modes work in concert, people have true transportation choices.

Land Use
Redmond's existing neighborhood zoning (R1 to R6) is suburban in character. The lower densities and a desire to be separated from urban area discourage modes of transportation other than driving. Yet, neighborhood visions and policies contained within the Redmond Comprehensive Plan consistently call for improved bicycle, pedestrian and transit connections to such areas.

Areas of the community with moderate to high densities (R8 to R30) are more likely to support transit ridership if designed with appropriate pedestrian connections. Likewise, commercial areas, business parks and multi-use activity centers can support and should be served by all modes of transportation. The ability for such areas to support non-motor vehicle trips depends on providing realistic quantities of free automobile parking and designing buildings with a better orientation to multimodal corridors.

Corridor Details

To accomplish the vision for a more balanced transportation system, fourteen multimodal corridors will be implemented in Redmond as mapped in *Figure 5E.7*.

For each corridor, *Figure 5E.6* summarizes the transportation infrastructure improvements desired for each mode, and the land use patterns and Comprehensive Plan recommendations needed to support multimodal travel.

Why Integrated vs. Separated Modes?

- Travel Efficiencies
  Providing for all modes in one corridor extends range of travel. Transit can be thought of as an extension of the walking trip; walking as an extension of the transit trip. Bicycling options are enhanced when bicycle parking facilities are provided at transit stops and Metro buses are installed with bike racks.

- Land Use Efficiencies
  Land uses that provide access to multimodal corridors facilitate trips from a wider range of users and begin to address "placemaking" strategies. Neo-traditional and new urbanism development patterns near multimodal corridors have shown high rates of walking, bicycling, transit ridership, and social interaction compared to corridors with limited transportation options.

- Public Infrastructure Cost Efficiencies
  Development of multimodal corridors maximizes capital expenditures vs. spreading infrastructure costs over many corridors. The multimodal corridor system recognizes strategic places where capital improvements will occur and capital dollars will be spent.

Bicycle Alternatives

Primary bicycle facilities should be integrated into the multimodal corridors. However, in certain circumstances, the bicycle mode may be accommodated in a parallel alternative corridor if seamless transitions and connections can be made. The goal of facilitating a long, continuous bicycle trip must be met.

Two examples are Multimodal Corridors #7: Redmond Way, and #10: 148th Avenue. (See *Figure 5E.7*)

Redmond Way shall be converted into a two-lane, two-way street with curb bulbouts and parallel parking. A preferred alternative bicycle route may be the parallel BNSF right-of-way, which shall be developed as an urban bicycle path parallel to transit accommodation. (See additional discussion on page 5B.8)

Due to cost constraints of a major roadway retrofit project to add bicycle lanes onto 148th Ave NE, bicycle routing on streets through the Overlake Technology Center is a preferred alternative. This alternate bike route must include a trail connection at the northern end, and construction of the new SR 520 overpass on the southern end. (See page 5B.8 and Figure 5B.10)

These alternate routes and all other multimodal corridors shall include facilities that meet primary bicycle corridor criteria and are designed to AASHTO and MUTCD standards.

Multimodal Intersection Design

Integrated public infrastructure design includes considering and accommodating all modes in every project.

Intersection design along the designated multimodal corridors, therefore, will differ from conventional roadway intersection design in that:

- ✓ Crosswalks will be marked
- ✓ Crossing areas will be highly visible
- ✓ Single diagonal curb ramps will be replaced with a pair of perpendicular curb ramps
- ✓ Signal timing will consider a slower walking speed of 3 ft./sec.
- ✓ Smaller curb radii will be used
- ✓ Pedestrian crossing distances will not exceed 48 feet (4 lanes of travel) without a pedestrian median refuge island provided
- ✓ Right-turn lanes should be carried through intersections as transit queue jumpers
- ✓ Bicycle lanes will not be dropped or built to substandard specifications whenever space becomes limited
- ✓ Bicycle lanes will be carried through intersections, with dashed striping to indicate merge areas for right turning vehicles and transit queue jumping

Recommendations for Redmond's Multimodal Corridors

Corridor	Transportation Issues	Land Use	Community Character
1. NE 116th Street	✓ **Bike/Ped** – Primary Bicycle Corridor. Bike lanes and sidewalks currently being completed in piecemeal fashion as private development moves forward. City needs to complete improvements as a higher priority. ✓ **Bus** –This will be an important corridor to connect service from Education Hill to Avondale Rd. The existing service is infrequent and is not time competitive. This corridor could benefit from a bi-directional circulator that also uses the 166th Ave NE and Avondale Rd corridors. ✓ **Auto/Truck/Emergency Vehicles (EV)** – Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Avondale Corner is zoned for neighborhood commercial and residential densities of 6 to 12 dwellings per acre. ✓ The rest of the corridor is zoned for densities of 4 dwellings per acre, with some areas of 1 dwelling per acre, neither of which support transit ridership very well. ✓ Encourage frequent bike/ped access points along NE 116th Street as part of development of properties along this corridor. ✓ Residents have also expressed strong interest in improved pedestrian connections throughout the neighborhood. ✓ Consider allowing increased residential densities in appropriate locations to enable more people to use multimodal travel choices. ✓ Consider creating a small, walkable, neighborhood-scale mixed use activity center near the center of the corridor.	✓ Much of the corridor's character is derived from its open spaces and natural assets, such as large trees, forested ravines and wetlands. The use of clustering and setbacks, together with street design that fits the character of this neighborhood, will help retain the area's valued natural qualities. ✓ A priority for residents is creating public places as part of the streetscape and in other locations that provide places for people to sit and pause.
2a. Red-Wood Road	**Bike** – Primary Bicycle Corridor. Bicycle lanes needed on the northern portion of Red-Wood Road **Bus** – This will be an important corridor to connect service from Education Hill to Downtown Redmond, as well as cross-town service to the Overlake area. Transit service should be bi-directional. **Ped** – New roadway corridor should be built to pedestrian supportive standards. **Auto/Truck/EV** – Principal arterials. Red-Wood Rd should be built to multimodal standards contained in Chapter 5D.	✓ Rivertrail neighborhood is developed at 12 dwellings per acres and provides convenient pedestrian access to stores, services, recreation, and other attractions. ✓ Along Red-Wood Rd., the existing densities are 4 to 6 dwellings per acre, with some areas of 1 dwelling per acre, on the steep slopes west of the roadway. ✓ Corridor provides connections to the Puget Power and Sammamish River Trails. A priority for residents is enhanced safety measures at these crossings.	✓ Design improvements to support and enhance the character of this corridor as a residential neighborhood with mature trees and green spaces that borders the Sammamish Valley, and forested slopes and sensitive environmental areas of the Valley.
2b. 160th Avenue NE Extension	* Includes a new connection from Red-Wood Road to 160th Ave NE. **Bike** – Primary Bicycle Corridor to include on-street bike lanes as part of new roadway. **Ped** – New roadway corridor should be built to pedestrian supportive standards. **Bus/Auto/Truck/EV** – New roadway proposed as a two-lane collector arterial that accommodates cars, buses and trucks. Connection should be built to multimodal standards contained in Chapter 5D.	✓ This portion of the Sammamish Valley neighborhood includes moderate density residential at 12 dwellings per acre. ✓ North of the Puget Power right-of-way, properties have maximum total densities placed upon them by the Comprehensive Plan, ranging from 2 to 8 units per acre with possible density bonuses in certain areas. ✓ Corridor provides connections to the Puget Power and Sammamish River Trails. A priority for residents is enhanced safety measures at these crossings.	✓ The wooded character of the forested slopes along the Sammamish Valley shall be retained. Development shall be clustered on the relatively flat areas above the slopes. ✓ High quality wetlands and the natural environment along the river shall be protected.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Corridor	Transportation Issues	Land Use	Community Character
3a. **172nd Ave NE & NE 111th Street**	**Bike** – Primary Bicycle Corridor as an extension of 166th Ave NE. 111th segment can use an improved section of the Puget Power Trail; 172nd should have on-street bicycle lanes added. **Bus** – The current route to connect Education Hill with downtown is infrequent and circuitous. This proposed routing change will strengthen ridership market for teenagers and seniors. **Ped** – Corridor is tolerant. **Auto/EV**– Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Most of this corridor is developed at low-moderate densities of 4 dwellings per acre, though some continued infill is anticipated. ✓ Corridor provides connections to the Puget Power Trail. ✓ A priority for the residents is multimodal connections to the Downtown, particularly enhanced transit service.	✓ Design improvements to support and enhance the character of this corridor as a primarily residential area with mature trees and green spaces. ✓ A priority for residents is having gateway structures that identify significant entry points.
3b. **166th Ave NE**	✓ **Bike** – Primary Bicycle Corridor. Recent conversion from 4- to 3-lane cross-section added bike lanes from Redmond Way to NE 87th Street. Continue treatment to the north. ✓ Bike lane extension and a trail connection to the south to access Marymoor Park ranked as a high priority by cyclists. ✓ **Bus** – The current route in the corridor connects Education Hill and downtown. The route is infrequent and circuitous. Ridership market is strong for teenagers and seniors. ✓ **Ped** – The pedestrian environments on the north and south end of the corridor are tolerant. The section from NE 85th St to NE 95th St is intolerant. ✓ **Auto/Truck/EV** – Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ A portion of this corridor serves neighborhoods built at densities of 4 to 6 dwellings per acre. While this area is largely developed, continued infill is anticipated. ✓ The southern portion of the corridor serves residential areas of 20 dwellings per acre and a portion of the Downtown. ✓ Corridor serves Redmond Junior High and is a major access route connecting to other area schools, parks, and other major destinations. ✓ Some pedestrian connections east and west of 166th Ave NE help provide access to destinations in the neighborhood, though improved connectivity is a goal. ✓ A priority for residents is improved multimodal connections to the Downtown, particularly transit.	✓ Design improvements to support and enhance the character of this corridor as a primarily residential area with mature trees and green spaces. ✓ A priority for residents is having gateway structures that identify significant entry points.
3c. **164th Ave NE & Bear Creek Parkway**	* Includes a new connection across the railroad corridor in Downtown. ✓ **Bike** – Primary Bicycle Corridor that connects Redmond Town Center to Downtown. When this corridor is connected, on-street bike lanes should be provided. ✓ **Bus** – Service in this corridor is only in the Bear Creek Parkway section. When this corridor is connected with downtown service frequent should be provided. Possible route for downtown circulator. ✓ **Ped** – Sidewalks and land use are pedestrian supportive. ✓ **Auto/Truck/EV** – Bear Creek Parkway is a principal arterial; 164th is a minor arterial north of 76th. Future improvements should be built to multimodal standards contained in Chapter 5D.	✓ Loops through the mixed-use Redmond Town Center area, a significant portion of the Downtown's retail and comparison shopping core. ✓ Redmond Town Center and adjoining Downtown districts provide significant opportunities for residential and mixed use development. ✓ Continuation of 164th Avenue NE north of the BNSF tracks would help provide access to additional transit-oriented development in the area. ✓ A priority for this area is to improve pedestrian connections with the rest of the Downtown. The area is also envisioned to include a graceful connection across SR 520 to Marymoor Park.	✓ Town Center is one of the City's primary gathering and entertainment places. Design improvements to encourage pedestrian activity, including informal gatherings, through street design and streetscape treatments. ✓ Also, design improvements to integrate with the rest of the Downtown and to retain and enhance traditional building styles, street patterns, and public amenities.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Corridor	Transportation Issues	Land Use	Community Character
4. **Avondale Road**	✓ **Bike** – Primary Bicycle Corridor. Completion of bike lanes into downtown ranked as a high priority project by bicyclists. ✓ **Ped** – Some areas of the corridor are tolerant, but most are intolerant. Pedestrian Supportive nodes, including safe crossing opportunities, should be developed near transit stops. ✓ **Bus** – The current service in the corridor is infrequent and does not offer many local connections. Could be combined with NE 116th Ave and 166th Ave NE to offer bi-directional circulator service. ✓ **Auto/Truck/EV** – Principal arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Most of this corridor includes residential neighborhoods at densities of 12 to 30 dwellings per acre. ✓ Corridor located in close proximity to Puget Power Trail, and to Juel Community Park and other major parks in the area. Non-motorized connections to these destinations are important.	✓ This high volume corridor serves primarily residential areas outside of the Downtown and provides significant vistas to the Bear Creek Valley and Mount Rainier. ✓ Entrances to the higher density developments offer opportunities to create Pedestrian Supportive crossings and high quality transit stops.
5. **NE 90th Street**	✓ **Bike** - Primary Bicycle Corridor with existing on street lanes. ✓ **Ped** – The corridor is pedestrian supportive. ✓ **Bus** – Service in this corridor provides regional travel today. This corridor in on the fringe of downtown and would best server as part of a bi-directional circulator using the Willows and NE 161st Ave NE corridors. ✓ **Auto/Truck/EV** – Principal arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ East portion of corridor serves the Rivertrail neighborhood, other Downtown residential areas, and the Bella Bottega shopping center. ✓ Corridor provides convenient pedestrian access to stores, services, recreation, and other attractions. ✓ West portion of corridor serves business park and light industrial areas west of the Sammamish River	✓ Design improvements to support and enhance character features along this corridor, including significant vistas to the Sammamish River Valley, gateways, landscaping, facilities that encourage walking and bicycling, and other amenities. ✓ Entrances to major developments along the corridor offer opportunities to create Pedestrian Supportive crossings and high quality transit stops.
6a. **161st Ave NE**	✓ **Bike** – Secondary Bicycle Corridor with existing on-street bicycle lanes. ✓ **Ped** – The corridor is pedestrian supportive. ✓ **Bus** – This corridor has local and regional routes. Most of the routes in this corridor are accessing the downtown park and ride. This corridor is critical to the downtown transit oriented district. This corridor could be extended to Leary Way to offer better connection from regional routes on SR 520 ✓ **Auto/Truck/EV** – Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Corridor serves the Town Square district, proposed Redmond Transit Center, Bella Bottega, and other Downtown destinations, such as the Municipal campus, post office, and Redmond Library. ✓ Town Square is designated as one of two Downtown transit oriented districts, envisioned to include mid-rise urban developments that accommodate housing and employment in high quality environments. ✓ Land use plan provides for Bella Bottega to evolve over time to include a greater mix of uses, building heights of up to 4 stories, and a more pedestrian supportive urban form.	✓ Design improvements along this corridor to contribute to a high quality urban environment that encourages pedestrian activity and informal gatherings, through investments such as street furniture, bike racks, visual features such as sculptures, street trees, landscaping, and markers to assist with way finding.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Corridor	Transportation Issues	Land Use	Community Character
6b. Leary Way/Bear Creek Parkway Extension	* Includes two new connections – east/west from Leary Way to 161st Ave NE, and north across the railroad corridor as part of the Bear Creek Parkway Extension. ✓ **Bike** – Primary Bicycle Corridor. Add bike lanes for north/south Downtown access. Trail connections also important. ✓ **Ped** – Entire corridor should be pedestrian supportive. ✓ **Bus** – Critical to regional routes on SR520. ✓ **Auto/Truck/EV** – Leary Way is a minor arterial; Bear Creek Pkwy is a principal arterial. New corridor (Bear Creek Parkway Extension) connecting Leary Way to 161st Ave NE to be built to multimodal standards contained in Chapter 5D.	✓ Proposed new connections will provide access to future mixed use office, residential and retail in the River Bend District. ✓ Will also serve the western end of the Old Town District, planned for extensive pedestrian-oriented retail activity, comparison shopping, and entertainment., as well as office and residential uses ✓ Priority will be given to pedestrians by managing parking, slowing traffic speeds, and constructing pedestrian-scaled, mixed use buildings.	✓ Design improvements along this corridor to retain its character as the green gateway to the Downtown, and to enhance pedestrian connections to nearby destinations.
7. Redmond Way	✓ **Bike** – Primary Bicycle Corridor. On-street bicycle lanes as part of conversion to two-way street was ranked as a high priority project by cyclists. ✓ **Bike Alternate** – An alternative routing to Redmond Way through Downtown is the parallel BNSF right-of-way. Such Class I bicycle path would need to be continued to at least 90th Street to link in with the primary bicycle system. ✓ **Ped** – The corridor is tolerant today. Additional street crossings with a more supportive designs and pockets of places are desired. ✓ **Bus** – Connection in the corridor have local and regional destinations. Most service in the corridor is bound for the downtown park and ride. Future service should provide connections from activity centers in other areas of Redmond. ✓ **Auto/Truck/EV** – Principal arterial and minor arterial in Downtown. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Traverses several Downtown Districts, including Old Town, Anderson Park, Bear Creek and Trestle. These districts are the location of a variety of employment, shopping, recreation, entertainment, and residential uses. ✓ Land use plan provides for Bear Creek District to evolve over time to include a greater mix of uses, building heights of up to 4 stories, and a more pedestrian supportive urban form. ✓ Future development will enhance pedestrian activity by managing parking, slowing traffic speeds, and constructing pedestrian-scaled, mixed use buildings. ✓ Comprehensive Plan also calls for identifying a second transit oriented development district in the eastern portion of the Downtown, as part of planning for high capacity transit. This corridor could provide key access for this district.	✓ Design improvements along this corridor to contribute to a high quality urban environment and enhance pedestrian activity through investments such as street trees, landscaping, markers to assist with way finding, visual features such as sculptures, and other amenities.
8. Old Redmond Road	✓ **Bike** - Primary Bicycle Corridor with existing on street bicycle lanes. ✓ **Ped** – The corridor is supportive along most of the corridor. The section between 132nd and 140th varies from tolerant to intolerant because of missing sections of sidewalk. ✓ **Bus** – The existing connections provide local and regional travel. The corridor has direct connections to downtown. Connections to other activity centers in Redmond will be a priority in the future. ✓ **Auto/Truck/EV** – Minor arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Serves the Grass Lawn neighborhood, which is developed at 4 to 6 dwellings per acre, with some areas of 12 to 20 dwellings per acre. While this area is largely developed, some continued infill is anticipated. ✓ Also serves the Grass Lawn Community Park, a small neighborhood commercial area, and potentially additional mixed use development in the future. A priority for the neighborhood is further enhancement of the park as a community gathering place. ✓ Residents have expressed strong interest in better and more non-motorized connections to increase opportunities to walk to neighborhood parks, Downtown Redmond, and other nearby locations.	✓ Old Redmond Road meanders through the Grass Lawn neighborhood; the character of the street and surrounding land uses contribute to slower speeds. ✓ Design improvements to support the residential and green character of this corridor, with homes located close to the street and many mature trees.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Corridor	Transportation Issues	Land Use	Community Character
9. Southeast Redmond	✓ **Bike** – Primary Bicycle Corridors on Union Hill Rd. and Redmond-Fall City Rd; Secondary Bicycle Corridor on 188th Ave NE. Improving Redmond-Fall City Road was ranked as a high priority project by cyclists. ✓ **Ped** – Sidewalks, trails, and transit connections are highly desired elements of this developing neighborhood. ✓ **Bus** – High-frequency transit service should be extended along Redmond-Fall City Road and north through the Southeast Redmond neighborhood as more intense land uses are developed. ✓ **Auto/Truck/EV** – Redmond-Fall City Road is a principal arterial; Union Hill Road and 188th are minor arterials. All should be built to multimodal standards.	✓ The land use plan for Southeast Redmond promotes the area's role as an employment center together with family-oriented housing at densities of 12 to 30 dwellings per acre. The area is also envisioned to include a mixed use neighborhood commercial center. ✓ Comprehensive Plan designates the area as the location for a high capacity transit station and potential maintenance facility, together with development of complementary retail and service uses. ✓ Land use policies require design of development sites to support safe and convenient access for bicyclists, pedestrians, and transit riders, as well as design of buildings to encourage pedestrian travel.	✓ Design improvements to contribute to high quality business and residential neighborhoods, through investments such as street trees, landscaping, and facilities that support safe and convenient access for bicyclists, pedestrians, and transit riders.
10. 148th Ave NE	✓ **Bike** – Primary Bicycle Corridor. Adding on-street lanes to this corridor was ranked as a high priority project by cyclists. The corridor has wide sidewalks on the west side that are frequently interrupted by local streets, but are used by novice bicyclists. ✓ **Bike Alternate** – Due to cost and physical constraints of providing bike lanes on 148th, an alternative routing for cyclists is proposed along the secondary bicycle corridor that follows the BNSF right-of-way, a trail connection to West Lake Sammamish Way, Old Redmond Rd, 154th, SR 520 Trail, 150th Ave, a new overpass across SR520, and 152nd through Overlake Mixed-Use Core. On-street bicycle lanes are recommended for this alternative. ✓ **Ped** – The 148th corridor is tolerant with a few pedestrian supportive nodes. The pedestrian environment becomes marginally tolerant in the vicinity of SR520, NE 24th St and the Overlake Commercial Core due to traffic volumes and speeds, street widths and crossing distances. ✓ **Bus** – Service in this corridor is important to Redmond and Bellevue. The corridor has local and regional connections to many destinations. ✓ **Auto/Truck/EV** – Principal arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ 148th Ave NE is the city limits line between Bellevue and Redmond. ✓ In the Redmond portion, land uses in the northern portion of the corridor include residential neighborhoods developed at 5 dwellings per acre. ✓ Uses in the center of the corridor primarily include corporate campuses, other business offices, and major commercial areas. ✓ While a campus-like feel is desired, new sections of corporate parks will be designed to support convenient and frequent transit service, pedestrian walkways, and bikeways in an effort to improve mobility. The land use plan also encourages creation of additional convenience and services uses in certain locations to provide more opportunities for people to walk or bicycle to a nearby destination for lunch or errands. ✓ The shopping area centered on 148th south of SR 520 is currently auto oriented and is envisioned to be redeveloped over time, with retail storefronts closer to the street and improved streetscapes that reflect the green character of Redmond, making the area more hospitable to transit, pedestrians and bicyclists.	✓ Design improvements to support the desired character for this corridor, which includes a more hospitable environment for transit, pedestrians, and bicyclists; retail storefronts in the southern portion of the corridor located closer to the street; and addition of landscaping and street trees to reflect the green character of Redmond.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Corridor	Transportation Issues	Land Use	Community Character
11a. NE 51st Street	✓ **Bike** - Secondary Bicycle Corridor with on-street bike lanes. ✓ **Ped** – The corridor is generally tolerant; but intolerant near the 520 interchange. ✓ **Bus** – The corridor provides local and regional connections. The connections to downtown are frequent. ✓ **Auto/Truck/EV** – Minor arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ This connection across SR 520 provides limited access to Overlake employment areas and to residential neighborhoods (5 dwellings per acre) to the north.	
11b. 156th Ave NE	✓ **Bike** - Primary Bicycle Corridor. Adding on-street bike lanes ranked as a high priority project by cyclists. The corridor has wide sidewalks on the west side (north of NE40th St) that are frequently interrupted by access streets, but uses by novice bicyclists. The corridor also has a multiuse pathway on the east side south of NE40th St to NE 31st St. ✓ **Ped** – Infrastructure is supportive; land use is tolerant. ✓ **Bus** – The corridor has local and regional connections. All of the routes in the corridor stop at the NE 40th St Transit Center. Direct connections to Redmond's activity centers are limited. ✓ **Auto/Truck/EV** – Minor arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ Main route through the Overlake employment area, with access to a regional transit center located at 156th and NE 40th Street. ✓ Also provides access to residential neighborhoods of 12 and 30 dwellings per acre.	✓ Landscaping, street trees and attractive entrances to corporate campuses and residential developments distinguish this corridor.
11c. NE 31st St and 152nd Ave NE	✓ **Bike** - Primary Bicycle Corridor. Adding on-street bike lanes ranked as a high priority project by cyclists. Could become a major new bike route once the proposed SR520 overpass is constructed. ✓ **Ped** – The corridor is currently tolerant to intolerant. Redmond's third pedestrian place is desired to be created along 152nd, so the surrounding Overlake Commercial Core should be made pedestrian supportive. ✓ **Bus** – The corridor has local and regional transit connections. All of the routes stop at the Overlake Park and Ride. Direct connections to Redmond's activity centers are limited. ✓ **Auto/Truck/EV** – Collector arterials to be retrofitted with multimodal improvements.	✓ 152nd Ave is the core of the Overlake Center, which provides for mixed use or residential development in buildings of up to 6 stories in height. ✓ Progressive redevelopment will foster a pedestrian-oriented relationship between places in the neighborhood where people live, work, shop and recreate.	✓ The desired character for this corridor is to bring retail storefronts closer to the street; make the area hospitable for transit, pedestrians, and bicyclists; and improve streetscapes to reflect the green character of Redmond through street trees and landscaping. ✓ Consider opportunities to manage and retrofit 152nd Ave as a "local" street – designed to provide low speed vehicle circulation, parking, and a pedestrian friendly environment.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

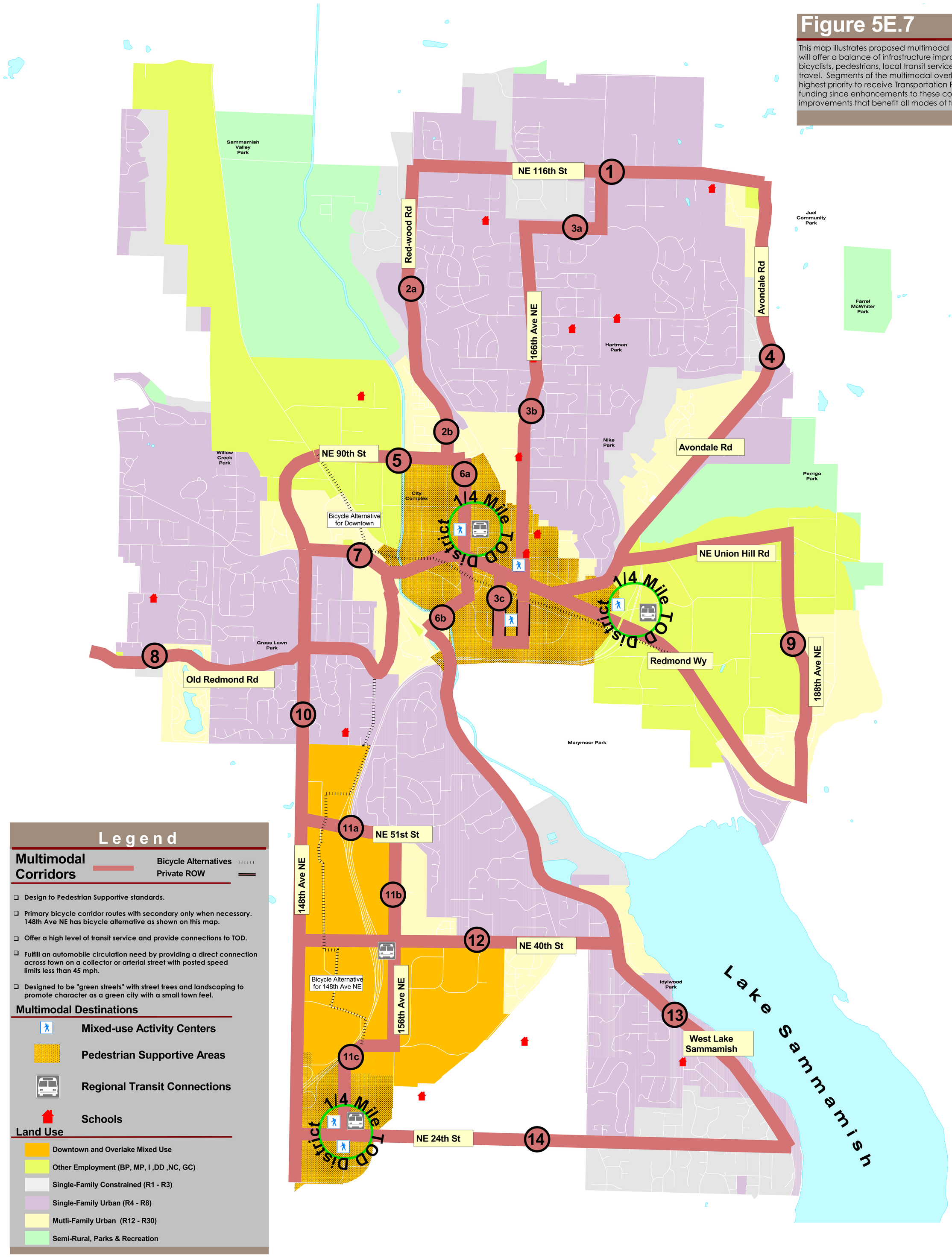
Corridor	Transportation Issues	Land Use	Community Character
12. **NE 40th Street**	✓ **Bike** - Secondary Bicycle Corridor as a Class III route. ✓ **Ped** –The corridor is tolerant. The intersection of SR 520 and 156th Ave NE is intolerant. ✓ **Bus** – The corridor west of 156th Ave NE has local and regional transit connections. Direct connections to Redmond's activity centers are limited. A route east of 156th Ave NE would provide a needed connection to downtown. ✓ **Auto/Truck/EV** – Minor arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.	✓ The eastern portion of NE 40th Street serves several residential neighborhoods, ranging in density from 4 to 30 dwellings per acre. ✓ The western portion of the corridor serves the corporate campuses of Overlake employment areas.	✓ Landscaping, street trees and attractive entrances to corporate campuses and residential developments distinguish this corridor. ✓ Entrances to higher density or major developments offer opportunities to create Pedestrian Supportive crossings and high quality transit stops.
13. **West Lake Samm. Pkwy**	✓ **Bike** - Primary Bicycle Corridor with existing on street bike lanes. ✓ **Ped** – The northern portion is tolerant; the southern portion is intolerant. Sidewalks are not provided and connections from adjacent neighborhoods are not direct. ✓ **Bus** – The existing connections provide direct travel to downtown. The service is infrequent and there is market potential for residents who want to access other activity centers. ✓ **Auto/Truck/EV** – Principal arterial north of Bel-Red Road; minor arterial to the south. Future improvements should be built to multimodal standards contained in Chapter 5D.	✓ The identified section of West Lake Sammamish Parkway is needed to fulfill transit circulation routes, even though it primarily serves a residential area of 3 to 4 dwellings per acre. ✓ Pockets of existing transit ridership exist. Idlylwood Park is a destination.	✓ Design improvements to support and enhance the character of this corridor as a primarily residential neighborhood with mature trees and green spaces.
14. **NE 24th Street**	✓ **Bike** - Primary Bicycle Corridor with existing on street bike lanes (a portion of this corridor is in Bellevue) ✓ **Ped** – The corridor is tolerant. Most of the intersections west of 156th Ave NE are intolerant. ✓ **Bus** – The corridor has local and regional service. Direct connections to downtown are provided. ✓ **Auto/Truck/EV** – Minor arterial; principal arterial within the Overlake Mixed-Use Core. Future improvements should be built to multimodal standards contained in Chapter 5D.	✓ The western portion of this corridor is the east-west route through the core of the Overlake Center. Infill projects will provide a greater mix and density of uses, and will be designed to support multimodal transportation. ✓ The land use along the eastern portion of the corridor is primarily residential neighborhoods of 3 to 6 dwellings per acre, with little transit ridership. ✓ The rest of the corridor is located in the City of Bellevue.	✓ The desired character for the western portion of the corridor is to bring retail storefronts closer to the street and to improve streetscapes to reflect the green character of Redmond, making the area more hospitable to transit, pedestrians and bicyclists. ✓ The eastern portion of the corridor has a primarily residential character with mature trees and green spaces.

Figure 5E.6 Land use and transportation recommendations for Redmond's 14 multimodal corridors

Multimodal Corridor Overlay

Figure 5E.7

This map illustrates proposed multimodal corridors that will offer a balance of infrastructure improvements to benefit bicyclists, pedestrians, local transit service, and automobile travel. Segments of the multimodal overlay will be the highest priority to receive Transportation Facilities Program funding since enhancements to these corridors represent improvements that benefit all modes of travel.



Legend

Multimodal Corridors
- Bicycle Alternatives
- Private ROW

- Design to Pedestrian Supportive standards.
- Primary bicycle corridor routes with secondary only when necessary. 148th Ave NE has bicycle alternative as shown on this map.
- Offer a high level of transit service and provide connections to TOD.
- Fulfill an automobile circulation need by providing a direct connection across town on a collector or arterial street with posted speed limits less than 45 mph.
- Designed to be "green streets" with street trees and landscaping to promote character as a green city with a small town feel.

Multimodal Destinations
- Mixed-use Activity Centers
- Pedestrian Supportive Areas
- Regional Transit Connections
- Schools

Land Use
- Downtown and Overlake Mixed Use
- Other Employment (BP, MP, I ,DD ,NC, GC)
- Single-Family Constrained (R1 - R3)
- Single-Family Urban (R4 - R8)
- Mutli-Family Urban (R12 - R30)
- Semi-Rural, Parks & Recreation

0 0.25 0.5 0.75 1 Mile

Charlier Associates, Inc.