### EXECUTIVE SUMMARY

1. **Council Priorities** ................................................................. ES-2
2. **Community Advice and Comment** ...................................... ES-3
3. **Transportation Master Plan Priorities** ................................. ES-3
4. **Long Range Needs and 2022 Realities** ............................... ES-4
5. **Concurrency Management System** ..................................... ES-4
6. **Integrated Multimodal Plan** ................................................ ES-5
7. **Regional Transportation** .................................................... ES-5
8. **Action Orientation** ............................................................ ES-5
9. **Performance Monitoring and Accountability** ..................... ES-6

### CHAPTER 1. INTRODUCTION

- **Introduction** ............................................................................. 1-1

### CHAPTER 2. VISION, FRAMEWORK AND POLICIES

- **Vision** ...................................................................................... 2-1
- **Introduction** ............................................................................. 2-2
- **A. The Transportation System** .................................................. 2-2
  - **Concurrency and Level-of-Service** ........................................ 2-3
  - **Plan-Based Approach and the Level-of-Service Standard** ........ 2-3
  - **Concurrency Management - Expanding Travel Choices** ......... 2-3
  - **Maintaining Community Character** ........................................ 2-3
  - **Ensuring Accountability** ....................................................... 2-3
  - **Interim Transportation Level-of-Service Standards** ............... 2-4
- **B. Transportation Master Plan** .................................................. 2-4
  - **The Transportation Master Plan** ............................................ 2-4
  - **Transportation Programs and Facilities** ............................... 2-4
  - **Financial Program** .............................................................. 2-5
  - **Streets** ................................................................................... 2-5
  - **Public Transportation** ......................................................... 2-6
  - **The Transit Plan** ................................................................. 2-6
  - **Local Redmond, Eastside and Regional Transit Service** ......... 2-6
  - **High Capacity Transit** ........................................................... 2-7
- **C. Pedestrian and Bicycle Transportation** ............................. 2-7
  - **The Pedestrian Plan** ............................................................ 2-7
  - **The Bicycle Plan** ............................................................... 2-8
  - **A System of Bicycle and Pedestrian Facilities** .................... 2-8
  - **Neighborhood Traffic Calming** ............................................ 2-8
- **D. Transportation Demand Management** .............................. 2-9
- **E. Parking Management** ........................................................ 2-9
- **F. The Eastside and Regional Transportation** ........................ 2-10
  - **Transportation and Interlocal Agreements with Other Jurisdictions** 2-10
  - **Eastside Transportation Partnership** .................................... 2-10
  - **State Highways** ................................................................. 2-10
  - **Air Quality** .......................................................................... 2-10

### CHAPTER 3. TRENDS & CONDITIONS

- **Understanding Mobility** ....................................................... 3-1
- **Recent Community Travel Trends** ........................................ 3-3
- **Community Travel Forecasts** .............................................. 3-10

### CHAPTER 4. TRANSPORTATION OBJECTIVES AND CONCURRENCY MANAGEMENT

- **The Washington Growth Management Act (GMA)**.................. 4-1
- **Washington State Regulations Related to Transportation Concurrency** 4-1
Chapter 5. Transportation Mode Plans

5A. Pedestrian Program Plan

Classifying Walking Environments ................................................................. 5A-1
  o Pedestrian Places ..................................................................................... 5A-1
  o Pedestrian Supportive environments and pedestrian promenades .............. 5A-1
  o Pedestrian Tolerant environments ........................................................ 5A-2
  o Pedestrian Intolerant environments ....................................................... 5A-2
Components of the Pedestrian Environment .................................................. 5A-2
  o Roadway Corridor ................................................................................... 5A-2
  o Pedestrian Realm .................................................................................... 5A-2
  o Adjacent Land Use .................................................................................. 5A-3
Details that Influence Pedestrian Friendliness ............................................. 5A-3
Implementation ......................................................................................... 5A-7
Sidewalk Guidelines ..................................................................................... 5A-10
Crossing Guidelines ..................................................................................... 5A-13

5B. Bicycle System Plan

Types of Bicyclists ......................................................................................... 5B-1
Bicycle Facility Planning in Redmond ............................................................. 5B-2
Implementation ............................................................................................. 5B-4
Prioritizing Needs ......................................................................................... 5B-5
  o Missing Links .......................................................................................... 5B-6
  o Making Seamless Transitions .............................................................. 5B-7
Education, Encouragement, Enforcement .................................................... 5B-9
Secure Bicycle Parking ................................................................................ 5B-10
Map Summary ............................................................................................... 5B-11

5C. Transit System Plan

Importance of Public Transportation ............................................................ 5C-1
Existing Transit Services ................................................................................. 5C-1
  o Local ......................................................................................................... 5C-2
  o Regional .................................................................................................. 5C-2
  o Express Regional .................................................................................... 5C-2
Connecting Redmond Locally ....................................................................... 5C-7
  o The Need for Local Connections .......................................................... 5C-7
  o Identifying Local Connections .............................................................. 5C-7
  o Strategy for Local Connections ............................................................ 5C-7

City of Redmond Transportation Objectives ............................................... 4-2
King County Countywide Planning Policies ............................................... 4-2
PSRC Standards - State Highways of Regional Significance ....................... 4-2
Plan-Based System of Concurrency Management ......................................... 4-3
Concurrency Management Plan .................................................................... 4-2
Travel Safety Objectives .............................................................................. 4-12
Mode Share Objectives ................................................................................. 4-11
  o CTR Commute Mode Share ................................................................. 4-11
  o All Day Redmond Resident Mode Share ............................................. 4-11
Multimodal Level of Service Standards ....................................................... 4-3
  o Traffic Volume and Roadway Capacity .................................................. 4-3
  o Regional Transit Travel Time ............................................................... 4-6
  o Local Transit Connectivity ................................................................. 4-7
  o Bicycle System Implementation .......................................................... 4-8
  o Pedestrian Environment Adequacy ....................................................... 4-10
Level of Service ............................................................................................ 4-1
Mode Share Objectives ................................................................................. 4-11
Travel Safety Objectives .............................................................................. 4-12
## Table of Contents

### Connecting Redmond Regionally
- The Need for Regional Connections.................................................................................. 5C-11
- HCT in Redmond .................................................................................................................. 5C-13
- Interim Strategy for Regional Connections.......................................................................... 5C-14
Implementation ....................................................................................................................... 5C-16

### 5D. Thoroughfare Plan
- Motor Vehicle Traffic Trends............................................................................................... 5D-2
- Traffic Volume and Growth .................................................................................................. 5D-2
- Pass-through Traffic .......................................................................................................... 5D-4
- Build Out Thoroughfare Plan .............................................................................................. 5D-5
- Functional Classification System ......................................................................................... 5D-5
  - Freeway ............................................................................................................................. 5D-6
  - Principal Arterial .............................................................................................................. 5D-6
  - Minor Arterial .................................................................................................................. 5D-6
  - Collector Arterial .............................................................................................................. 5D-7
  - Connector ......................................................................................................................... 5D-7
  - Local Street ....................................................................................................................... 5D-8
  - Street Design Standards ................................................................................................. 5D-8
- New Connections and Corridors ............................................................................................ 5D-12
Implementation ....................................................................................................................... 5D-13

### 5E. Modal Integration: Access and Circulation
- What are Multimodal Corridors? ........................................................................................... 5E-1
- Criteria defining Multimodal Corridors ............................................................................... 5E-2
  - Bicycle ................................................................................................................................ 5E-2
  - Pedestrian .......................................................................................................................... 5E-2
  - Transit .................................................................................................................................. 5E-3
  - Motor Vehicle .................................................................................................................... 5E-3
Implementation........................................................................................................................ 5E-4
- How do we Create Multimodal Corridors? ........................................................................... 5E-4
- Corridor Details .................................................................................................................... 5E-4
  - Integrated vs. Separated..................................................................................................... 5E-5
  - Bicycle Alternatives ......................................................................................................... 5E-5
  - Multimodal Intersection Design ...................................................................................... 5E-5
- Recommendations for Redmond’s Multimodal Corridors ..................................................... 5E-6

### 5F. Demand Management
- Understanding Demand Management .................................................................................. 5F-1
- Transportation Demand Management in Redmond ............................................................. 5F-1
- Transportation Management Programs ................................................................................ 5F-2
- Existing TDM Infrastructure, Services and Programs ......................................................... 5F-2
- Programs and Supporting Services ...................................................................................... 5F-3
- Merging Directions .............................................................................................................. 5F-4
Implementation ....................................................................................................................... 5F-5

### Chapter 6. Transportation Facilities Plan
- Forecasts of Revenue ........................................................................................................... 6-2
- Revenue Sources .................................................................................................................. 6-2
- Project Cost Estimates .......................................................................................................... 6-4
- Project and Program Prioritization ....................................................................................... 6-4
- 2005 - 2022 TFP Project List ............................................................................................... 6-6
## Table of Contents

### Chapter 7. Performance Monitoring System

Annual Mobility Report Card ................................................................. 7-1  
  - Tracking Measures ........................................................................ 7-3  
  - Level of Service Objectives ......................................................... 7-9  
  - Other Objectives ........................................................................ 7-17  
  - Concurrency Determination ....................................................... 7-19  
Five Year Transportation Status Report ............................................... 7-21  
  - Tracking Measures ...................................................................... 7-21  
  - Level of Service Objectives ......................................................... 7-21  
  - Other Objectives ........................................................................ 7-22  
  - Concurrency Determination ....................................................... 7-22

### Chapter 8. Regional Transportation

Redmond Streets in the Regional Transportation Network ...................... 8-2  
Redmond and Regional Transportation Policymaking ............................ 8-3  
  - I-405 ...................................................................................... 8-3  
  - SR520 .................................................................................... 8-3  
  - Growth in Eastern King County .................................................. 8-3  
  - High Capacity Transit Network .................................................. 8-4  
  - Metro Transit Services ............................................................... 8-5  
  - Bicycle System .......................................................................... 8-5  
  - Other Topics ............................................................................. 8-5

### Chapter 9. Three-Year Priority Action Plan

Ordinances and Council Actions ............................................................. 9-1  
Studies and Plans .................................................................................. 9-2  
Project Development ........................................................................... 9-3  
Major Construction Projects ................................................................. 9-3  
Projects by Others ............................................................................... 9-3  
Action Plan Schedule ........................................................................... 9-4  
Action Items for 2010 TMP Update ....................................................... 9-4

### Appendices

Buildout Transportation Facilities Plan .................................................. A1-1  
Glossary .............................................................................................. A2-1  
List of Acronyms ................................................................................ A3-1
Executive Summary

Figure ES.1 Transportation Master Plan Priorities ................................................................. 4

1. Introduction

Figure 1.1 RCTV coverage of the April 2004 “getting to there” public workshop ..................... 1

2. Vision, Framework, Goals and Policies

None

3. Trends and Conditions

Figure 3.1 SR 520 during the evening traffic ........................................................................... 1
Figure 3.2 Facilities for travel ..................................................................................................... 2
Figure 3.3 Facilities for circulation ............................................................................................. 2
Figure 3.4 Facilities for access .................................................................................................... 2
Figure 3.5 Demographic trends .................................................................................................. 3
Figure 3.6 Demographic percent change .................................................................................... 3
Figure 3.7 Average Annual Traffic Growth on Redmond roads (1993 to 2003) chart ................ 3
Figure 3.8 Average Annual Traffic Growth on Regional Roads (1998 to 2003) table ................ 3
Figure 3.9 1993-2003 motor vehicle collisions ......................................................................... 4
Figure 3.10 1993 to 2003 motor vehicle accidents with injury .................................................. 4
Figure 3.11 1993 to 2003 motor vehicle accidents with fatalities ............................................. 4
Figure 3.12 1990-2003 Annual (average daily) Redmond Boardings
(Weekday Metro & Sound Transit) ......................................................................................... 5
Figure 3.13 1990-2003 Annual (average daily) Redmond Transit Revenue Hours
(Metro & Sound Transit) ........................................................................................................... 5
Figure 3.14 1990-2003 Boardings per Revenue Hour (Metro & Sound Transit) ....................... 5
Figure 3.15 148th Ave NE Transit trends ................................................................................. 6
Figure 3.16 156th Ave NE Transit trends ................................................................................. 6
Figure 3.17 Redmond Way Transit trends ............................................................................... 6
Figure 3.18 Redmond work commute mode split ..................................................................... 7
Figure 3.19 Population represented in each survey ................................................................... 7
Figure 3.20 The LUTAQH research model ................................................................................. 8
Figure 3.21 Mode share comparison of LUTAQH and NTPS .................................................... 8
Figure 3.22 Distance category by mode share .......................................................................... 9
Figure 3.23 Mode share by distance category ......................................................................... 9
Figure 3.24 Average trip length by mode ................................................................................. 9
Figure 3.25 Demographic forecasts table ................................................................................ 10
Figure 3.26 Demographic forecasts chart ................................................................................ 10
Figure 3.27 Average annual growth in traffic on Redmond roads (1998-2022) ....................... 10

4. Transportation Objectives and Concurrency Management

Figure 4.1 Roadway LOS Criteria (Peak Hour, Bi-directional) ................................................ 4
Figure 4.2 LOS Screenlines Map ............................................................................................... 5
Figure 4.3 Regional Transit LOS Standards ............................................................................. 6
Figure 4.4 Local Transit Connectivity Measures ......................................................................... 7
Figure 4.5 2022 Local Transit LOS Standards ......................................................................... 7
Figure 4.6 Bicycle System LOS Standards ............................................................................... 8
Figure 4.7 Bicycle Corridor LOS Map ..................................................................................... 9
Figure 4.8 Pedestrian LOS Standards .................................................................................... 10
### 5. Modal Elements

#### 5A. Pedestrian Program Plan

Figure 5A.1 Everyone in Redmond is a pedestrian for a portion of all trips ........................................ 1
Figure 5A.2 Components Influencing the Pedestrian Environment ......................................................... 3
Figure 5A.3 Levels of Pedestrian Friendliness .......................................................................................... 4-6
Figure 5A.4a Criteria for sidewalk width and placement .......................................................................... 11
Figure 5A.4b Criteria for sidewalk width and placement in Mixed-Use Activity Centers ....................... 12
Figure 5A.5 Preferred curb ramp treatments for enhanced pedestrian safety ........................................ 14
Figure 5A.6 Criteria for pedestrian crossing treatments ........................................................................ 15
Figure 5A.7 Map of Hierarchy of Pedestrian Environments .................................................................. 17

#### 5B. Bicycle System Plan

Figure 5B.1 Redmond has various types of bicyclists who desire various levels of bicycle accommodation ................................................................................................................. 1
Figure 5B.2 Summary of Redmond’s definitions for trails and bikeways ............................................. 2
Figure 5B.3 Role of trails and bikeways in establishing Primary and Secondary Bicycling Corridors .... 3
Figure 5B.4 Selection and Planning Criteria for Primary and Secondary Bicycling Corridors ............... 5
Figure 5B.5 Missing Links as depicted in Figure 5B.10 ......................................................................... 6
Figure 5B.6 Needed connections as identified by the Bicycle and Pedestrian Advisory Committee ...... 7
Figure 5B.7 Traffic calming technique of narrowing vehicular lanes and coloring pavement for bicycling and/or parking along pedestrian-oriented streets ........................................ 8
Figure 5B.8 Secure bicycle parking that is protected from weather is necessary where parking occurs all day or overnight ........................................................................................................ 10
Figure 5B.9 Bulbouts at intersections in downtown are secure and visible locations for bicycle parking .... 10
Figure 5B.10 Bicycle parking that secures the frame, not just the wheels, will be installed in all locations ................................................................................................................................. 10
Figure 5B.11 Guide for bicycle maps in TMP .................................................................................... 11
Figure 5B.12 Map of Existing and Planned Bicycle Facilities ............................................................... 13
Figure 5B.13 Map of Primary and Secondary Bicycle Corridors ............................................................ 15

#### 5C. Transit System Plan

Figure 5C.1 Sound Transit 545 provides an important regional connection from Redmond to downtown Seattle ........................................................................................................................................ 1
Figure 5C.2 Local transit routed detail .................................................................................................... 2
Figure 5C.3 Metro provides local service in Redmond and connects to regional destinations while Sound Transit provides express connection to regional destinations ......................................................................................... 2
Figure 5C.4 Regional transit route detail ................................................................................................ 3
Figure 5C.5 Regional express transit routes detail .................................................................................. 3
Figure 5C.6 Redmond transit routes ..................................................................................................... 5
Figure 5C.7 Local Transit Destinations by TMD .................................................................................... 8
Figure 5C.8 Transit travel times between Transportation Management Districts (Summer 2004) ........ 9
Figure 5C.9 Regional transit plans in the Puget Sound Region ................................................................ 11
Figure 5C.10 Redmond’s regional connections ..................................................................................... 14
Figure 5C.11 Travel times between Urban Centers and regional destinations (all day routes & peak only) ........................................................................................................................................ 15
Figure 5C.12 Map of Proposed Improvements to Regional Connections ................................................ 17
5D. Thoroughfare Plan

Figure 5D.1 Redmond roads serve all modes of travel ........................................................... 1
Figure 5D.2 Redmond Traffic Growth 2003 - 2022 ............................................................... 2
Figure 5D.3 Traffic Growth 2003 - 2022 by Transportation Management District ............... 2
Figure 5D.4 Annual Screenline Growth 2003 - 2022 ............................................................ 3
Figure 5D.5 Pass-Through Traffic in Downtown Redmond: 2004 ........................................ 4
Figure 5D.6 Pass-Through Traffic in Downtown Redmond: 2022 ....................................... 4
Figure 5D.7 Build Out Maximum Right of Way ................................................................ 8
Figure 5D.8 Principal Arterial Streets .............................................................................. 9
Figure 5D.9 Minor Arterial Streets .................................................................................. 10
Figure 5D.10 Collector Arterial Streets ........................................................................... 11
Figure 5D.11 Connector Streets .................................................................................... 11
Figure 5D.12 Functional Classification Map ..................................................................... 15
Figure 5D.13 Roadway Connections Project .................................................................... 17

5E. Model Integration: Access and Circulation

Figure 5E.1 The success of a multimodal transportation system relies on safe and convenient travel environments for all modes ................................................................. 1
Figure 5E.2 On-street bike lanes, sidewalks and transit stops along Old Redmond Road provide multimodal travel options ............................................................... 2
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 ...... 2
Figure 5E.4 The intersections of two multimodal corridors at 156th Ave NE and NE 40th St. ............................................................... 3
Figure 5E.5 NE 24th St. ............................................................................................... 3
Figure 5E.6 Land use and transportation recommendations for multimodal corridors .......... 6-12
Figure 5E.7 Multimodal Map ..................................................................................... 13

5F. Demand Management

Figure 5F.1 TDM improves mobility ................................................................................. 1
Figure 5F.2 TDM public infrastructure ............................................................................ 2
Figure 5F.3 TDM private infrastructure .......................................................................... 3

6. Transportation Facilities Plan

Figure 6.1 2005-2022 Transportation Revenue Forecasts .................................................... 3
Figure 6.2 TMP Priorities ................................................................................................. 5
Figure 6.3 2022 TFP Project List .................................................................................... 6-14
Figure 6.4 2022 TFP Project Map .................................................................................. 15
# LIST OF FIGURES

## 7. Performance Monitoring System

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Example</td>
<td>2</td>
</tr>
<tr>
<td>7.2</td>
<td>Sound Transit Route Ridership</td>
<td>3</td>
</tr>
<tr>
<td>7.3</td>
<td>Metro Route Ridership</td>
<td>3</td>
</tr>
<tr>
<td>7.4</td>
<td>Boardings/Revenue Hour</td>
<td>4</td>
</tr>
<tr>
<td>7.5</td>
<td>Park and Ride Utilization</td>
<td>4</td>
</tr>
<tr>
<td>7.6</td>
<td>Average Daily VMT</td>
<td>5</td>
</tr>
<tr>
<td>7.7</td>
<td>Average Daily Traffic</td>
<td>5</td>
</tr>
<tr>
<td>7.8</td>
<td>Annual Traffic Growth</td>
<td>6</td>
</tr>
<tr>
<td>7.9</td>
<td>Annual Screenline Growth 2003-2022</td>
<td>7</td>
</tr>
<tr>
<td>7.10</td>
<td>Traffic Accidents</td>
<td>8</td>
</tr>
<tr>
<td>7.11</td>
<td>Bike &amp; Pedestrian Accidents</td>
<td>8</td>
</tr>
<tr>
<td>7.12</td>
<td>Travel Time from Downtown</td>
<td>9</td>
</tr>
<tr>
<td>7.13</td>
<td>Travel Time from Overlake</td>
<td>9</td>
</tr>
<tr>
<td>7.14</td>
<td>Service Frequency: Downtown</td>
<td>10</td>
</tr>
<tr>
<td>7.15</td>
<td>Service Frequency: Overlake</td>
<td>10</td>
</tr>
<tr>
<td>7.16</td>
<td>Hours of Weekday Service - Local Routes</td>
<td>11</td>
</tr>
<tr>
<td>7.17</td>
<td>Directness of Weekday Service Connections - Local Routes</td>
<td>12</td>
</tr>
<tr>
<td>7.18</td>
<td>Connection Service Frequency</td>
<td>13</td>
</tr>
<tr>
<td>7.19</td>
<td>Screenlines</td>
<td>14</td>
</tr>
<tr>
<td>7.20</td>
<td>Roadway Level of Service</td>
<td>15</td>
</tr>
<tr>
<td>7.21</td>
<td>Bicycle System Priorities</td>
<td>16</td>
</tr>
<tr>
<td>7.22</td>
<td>Pedestrian Adequacy</td>
<td>17</td>
</tr>
<tr>
<td>7.23</td>
<td>CTR Commute Mode Share</td>
<td>17</td>
</tr>
<tr>
<td>7.24</td>
<td>Status of Actions Scheduled for 2005</td>
<td>18</td>
</tr>
<tr>
<td>7.25</td>
<td>Redmond Population</td>
<td>19</td>
</tr>
<tr>
<td>7.26</td>
<td>Redmond Employment</td>
<td>19</td>
</tr>
<tr>
<td>7.27</td>
<td>Redmond Dwelling Units</td>
<td>20</td>
</tr>
<tr>
<td>7.28</td>
<td>Report Year Pass-Through Traffic</td>
<td>21</td>
</tr>
<tr>
<td>7.29</td>
<td>2022 Forecast Pass-Through Traffic</td>
<td>21</td>
</tr>
<tr>
<td>7.30</td>
<td>Pedestrian Adequacy by TMD</td>
<td>22</td>
</tr>
<tr>
<td>7.31</td>
<td>All Day Resident Mode Share</td>
<td>22</td>
</tr>
</tbody>
</table>

## 8. Regional Transportation

None

## 9. Three-Year Priority Action Plan

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Priority Action Plan Schedules</td>
<td>5-7</td>
</tr>
</tbody>
</table>

## Appendices

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1.1</td>
<td>Buildout Transportation Facilities Plan</td>
<td>1</td>
</tr>
<tr>
<td>A1.2</td>
<td>Buildout TFP Project Map</td>
<td>5</td>
</tr>
<tr>
<td>A3.1</td>
<td>List of Acronyms</td>
<td>1</td>
</tr>
</tbody>
</table>
Executive Summary
This transportation master plan (TMP) will guide the City of Redmond’s transportation programs and projects over the next five years. The TMP derives its policy direction from the City’s comprehensive plan and is designed to support achievement of community goals and objectives. The document provides program guidance, policies, level of service objectives, project lists, a financial plan and a system for performance monitoring and reporting.

Redmond’s multimodal transportation system - including its pedestrian facilities, streets and highways, transit routes and services, and bicycle facilities - provides a structural network that is essential to the community’s daily life and commerce. However, while good mobility and freight movement are important outcomes, the City needs to balance the deeper goals for health, safety, quality of life, economic vitality, land use and community character when making transportation decisions.

This TMP applies the concept of balance to work out the many tradeoffs inherent in urban transportation planning. Balance is applied to the three elements of mobility - travel, circulation and access. Balance is applied to tradeoffs between modes (pedestrian, motor vehicle, transit, bicycle) with an emphasis over the next five years on key pedestrian and transit objectives. The special requirements of freight, delivery vehicles and emergency service vehicles need to be considered in the balance as well. Balance is applied in resolving conflicts between the need for traffic capacity and the need for safe, pleasant neighborhoods and commercial areas that reflect Redmond’s green, small-town community character.

The primary infrastructure for travel, circulation and access by all modes in Redmond will continue to be the local and state network of highways and streets. The costs of planning, designing, improving and managing this network will represent the largest part of the City’s investment program over the foreseeable future. This investment program will be inherently multimodal, with street improvements planned and designed to benefit all modes.

This TMP places particular emphasis on the development of a core network of multimodal corridors that will carry all modes and allow for seamless interconnections between modes. Another area of emphasis is improving community connectivity. Better connections within the community for all modes is needed to tie neighborhoods and commercial areas together, improving efficiency and economic vitality while promoting continued high quality of life. One of the key findings of this TMP is that
improved connectivity within the local street network represents a better investment in most cases than widening existing streets. Better connectivity benefits not only personal mobility, but also the movement of goods and services that are essential to Redmond’s economic systems. Improved connectivity also represents the best strategy for improving the public emergency service response capability.

Finally, this TMP is designed to ensure accountability in the City’s transportation programs. The plan establishes a system of annual monitoring and performance reporting that will enable the public and the City’s elected officials to gauge how effective the transportation programs have been. By the end of the five year period following adoption of this TMP, the City will be in a position to develop a new transportation master plan based not only on City goals and objectives but also on a realistic assessment of the effectiveness of the various programs and projects that were contained in this first TMP.

Priorities of the Council and Mayor

The TMP implements priorities set by Council action.

Through the adoption of the new Transportation Element of the Comprehensive Plan last fall, Council set formal priorities for the City’s transportation program:

- Address Public Health and Safety.
- Ensure Adequate Maintenance.
- Ensure Plan-Based Concurrency.

The Council and Mayor have also highlighted the following priority concerns and policy directions:

SUPPORT CENTERS. Echoing regional policies, the transportation program should support the intensification of Overlake and Downtown as mixed use centers.

REGIONAL ACTION. Redmond should play a continuing and influential role in shaping regional policy and influencing regional decisions (Sound Transit, King County, Washington DOT, Eastside Transportation Partnership, among others).

MULTIMODAL PLAN. Redmond’s transportation system should be modally balanced, with effective public transit service and a better walking environment.

HIGH CAPACITY TRANSIT. Redmond’s centers should be directly connected to other regional centers by High Capacity Transit (HCT). This TMP should set the stage for the arrival (and success) of HCT within the 18-year period or shortly after 2022 at the latest.

HONORING AGREEMENTS. The City should abide by its agreements with other entities, especially the BROTS (Bellevue-Redmond Overlake Transportation Study) agreement.

Community Advice and Comment

The draft TMP also draws from extensive community advice and comment offered by citizens attending a number of well-attended community workshops, meetings and events held as part of developing the Draft. Highlights from the public involvement include:

Implement Downtown Transportation Plan. People generally approved of the Downtown Transportation Master Plan and want the City to implement it.

Provide Connections Within Redmond. It is too difficult to circulate within town. This diminishes community cohesiveness and has a negative influence on quality of life.

Provide “Real Choices” for Mobility. The public experience has been that transit, walking and bicycling are desirable ways to travel, but do not represent real choices because of the time and convenience disadvantages of those modes in Redmond today.

Protect and Enhance Community Character. People believe Redmond should not lose its inherent community character. When asked to define what is appealing about Redmond’s community character, citizens agreed on two characteristics:

- Small-Town Feel. Residents like the fact that Redmond is part of a great metropolitan region with extensive urban amenities, but at the same time feels like a small town.
- Green City. The public likes the way Redmond has not become a “hardscape” environment like other parts of the region. The local landscape, with its hills and river valleys, is dominated by vistas of trees and sky with occasional glimpses of Rainier and the North Cascades. People would like to see this “green” character protected.

This advice played a major role in shaping the TMP, especially Chapter 5 - Mode Plans.
Transportation Master Plan Priorities

Criteria that reflect the vision of this transportation master plan have been created to prioritize the most important projects and programs. These criteria have been developed in response to the Council and Mayor’s priorities along with advice from the community. The vision of this plan supports centers, builds multimodal corridors, makes new connections, and prepares for high capacity transit. Vehicle capacity projects that support the vision are also part of this plan where needed to accommodate growth.

Projects listed in the thoroughfare plan (the long-range needs list) have been prioritized based on the following criteria to ensure plan-based concurrency: support centers in Downtown and Overlake, build multimodal corridors, make connections within Redmond, and prepare for high capacity transit. The highest ranking projects best meet all of these criteria and are shown in the transportation facilities plan (TFP). They are the additional infrastructure that can be constructed with the revenues anticipated between now and 2022. These prioritized projects and programs combine with other committed transportation improvements to establish a complete TFP. This TFP combined with the projected land use for 2022 helps establish a planned level-of service for all modes of travel.

The basic transportation needs for adequate public health, safety, and maintenance are accommodated programmatically (traffic safety, traffic calming, sidewalks, on-going maintenance, and pavement management programs) with annual allocations of funds to each program. Basic needs for supporting emergency vehicle and freight movement are addressed in the plan and are supported by the improvements proposed and design considerations for specific projects.

Transportation facilities are for the purpose of serving the community needs. Any and all transportation improvements constructed in Redmond need to be consistent and supportive of the foundational value of “community character.” Community character means “maintaining a small town feel” and “preserving a green city” with trees and other natural features.

Although the criteria do not specifically address community character, capacity, freight mobility and emergency vehicle access as a priority for selecting TMP projects, many of the projects in the TFP address these issues. Over 40% of the projects contribute to the “community character” vision for the City and half of the projects add appropriate levels of roadway capacity where necessary. Over 20% of the projects in the TFP also contribute to improving freight mobility and emergency vehicle access.

Long Range Needs and 2022 Realities

The TMP reflects both Redmond’s long range needs and 2022 financial realities.

Because it is a Master Plan, the TMP serves as a plan for the ultimate build out of Redmond’s transportation network, addressing the needs of each modal element. In compliance with state Growth Management Act requirements, the TMP also provides a financially-feasible plan for the year 2022, the horizon year for the Comprehensive Plan Update, that is based on the adopted land use for 2022.

The funded component of the TMP is based on forecasts of transportation revenues and project costs (Chapter 6 - Transportation Facilities Plan) and is also balanced to level of service objectives (Chapter 4 - Transportation Objectives and Concurrency Management).

Concurrency Management System

The draft TMP repairs the transportation concurrency management system.

Concurrency management for transportation is a requirement of the state Growth Management Act. Redmond implemented an initial response to this requirement in its 1995 Comprehensive Plan. Over the years, a number of issues with this initial system have become evident, including:

- Project priorities have been influenced as much by development as by City plans;
- The service standards have been auto-oriented rather than multimodal;
- Street planning has been based entirely on traffic forecasts, ignoring community form; and,
- The district approach to LOS measurement has masked important travel demand trends.
The TMP implements a revised concurrency standard: implementation of the City’s transportation plan concurrent with planned development. In addition the TMP includes LOS measures for all modes (Figure ES.2) to show how the future transportation system will operate. The 2022 Transportation Facilities Plan balances planned land uses with revenues and with transportation service objectives.

**Regional Transportation**

The TMP is designed to strengthen regional partnerships. Redmond plays a two-part transportation role in the Puget Sound Region.

First, Redmond’s transportation system is part of the regional travel network. Redmond’s streets carry some regional pass-through traffic in addition to local circulation and access traffic. The transit routes that serve Redmond also traverse other cities.

The TMP addresses the role the City’s transportation infrastructure will play in serving the regional travel demand markets.

Second, Redmond, as an important city in the region, is involved in policy-making through a variety of settings - standing committees (e.g., Eastside Transportation Partnership) and task forces (e.g., 405 Task Force), as well as representation on major regional bodies (King County Metro, Puget Sound Regional Council, etc.).

The TMP establishes policies and preferences for the City to follow and advocate in these regional settings. These are described in Chapter 8 (Regional Transportation).

**Integrated Multimodal Plan**

The draft TMP is an integrated multimodal plan. It provides detailed build out and 2022 plans for each mode: pedestrian, transit, motor vehicle and bicycle.

Because the primary infrastructure for all of these modes is the Redmond street network, these modal plans come together effectively in the Thoroughfare Plan (Section D of Chapter 5). The overall intent is to make travel by the various modes a practical personal choice - both for local circulation and access and for regional travel.

One of the primary features of Chapter 5 is Section E (Modal Integration), which contains a multimodal corridors map. The Transportation Facilities Plan (in Chapter 6) places significant emphasis on projects in these corridors. Ultimately, Redmond’s investments in streets will benefit all of the modes.

**Action Orientation**

The TMP has an action orientation.

Chapter 9 of this document contains a Three-Year Priority Action Plan with annual checklists in each of the following categories:

- **Ordinances and Council Actions.** These include various ordinances and other formal actions to be considered and adopted by City Council.

- **Studies and Plans.** These include studies and plans needed resolve technical issues, develop area network plans, and put other systems in place as part of TMP Implementation.

- **Project Development.** Project development activities include environmental analysis, preliminary engineering, final design, and right-of-way layout to be undertaken by the City and by others in preparation for construction projects in subsequent years.

- **Major Construction Projects.** This includes major construction projects from the City’s Capital Investment.
Program that are to be initiated by the City during the three-year period.

Projects by Others. These are significant project development projects that will affect the City and its workload but that will be funded and managed by other units of government or by developers.

The idea behind Chapter 9 is that the first three years following TMP adoption will determine how successful the City is in implementing the new direction and priorities contained in the TMP.

Performance Monitoring and Accountability

The TMP provides for performance monitoring and accountability.

Chapter 7 (Performance Monitoring System) describes a Mobility Report Card that the City will produce annually and a Five Year Transportation Status Report that the City will publish in preparation for the next update of the Transportation Master Plan in 2010.

The annual Mobility Report Card will include:

Tracking Measures. These report data on general transportation trends in Redmond. The Mobility Report Card will provide context in which to interpret the results and outcomes on objectives.

Service Objectives. These describe 2022 service objectives for each mode. The Mobility Report Card will report the current condition for each service objective.

Other Objectives. These describe other mobility objectives and the current condition for each.

Concurrency Determination. As required in the Transportation Element the City will make determinations of transportation concurrency at least once a year (but more often than that if development is proceeding at an accelerated rate).

The Five Year Transportation Status Report (published in 2010 for the years 2005 through 2009) will summarize the data from the annual Mobility Report Cards and evaluate Redmond’s progress toward its objectives during the five years leading up to the next TMP Update.
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1. Introduction
This Transportation Master Plan (TMP) sets a course for Redmond to follow in developing and managing its transportation system. It also sets a course for the City’s involvement with other cities and agencies in developing regional networks, including a High Capacity Transit system connecting centers in Redmond with centers throughout the Puget Sound region.

The TMP describes programs, projects and actions to be taken by the City from now to the year 2022. The TMP also describes the ultimate multimodal transportation network that Redmond will achieve as the City approaches “build out” in the years after 2022. Redmond will update this TMP in 2009, reflecting the experience it has had with this Plan and its progress toward implementing these programs and projects.

Redmond’s transportation system is the foundation of its economic vitality and of its sustainability as a well-functioning, full-service community. More importantly, Redmond’s streets, sidewalks, pathways and regional transportation services exert a significant daily influence on the health, well-being, and quality of life of its residents. This Plan is designed to strengthen Redmond economically, but also to preserve its community character and quality of life.

A couple of major influences can be seen throughout the TMP. They are:

- **The citizens of Redmond** shaped this TMP in material ways that are especially evident in the modal (pedestrian, bicycle, transit and thoroughfare) plans. Citizens participated in several workshops and events in 2003, 2004 and early 2005. They described local and regional access, circulation and travel needs from the point of view of those who know the City best. Many of the key structural concepts in this TMP (“real choices” and “internal connectivity”) were established by citizens participating in the various workshops and meetings.

- **The Downtown Transportation Plan**, completed by the City in 2003 provided a starting point for the TMP, identifying many of the themes and ideas that later became leading elements of the city-wide TMP.
The Growth Management Act contains specific planning requirements that apply to all comprehensive plans. The City of Redmond revised the Redmond Comprehensive Plan Transportation Element on October 19, 2004, in order to update the manner in which the City addresses GMA requirements as they apply to transportation policy. Under the GMA, transportation elements are required to address the following elements:

- Land use assumptions to estimate future travel needs;
- Estimated impacts to state facilities;
- Identification of transportation LOS standards and facility needs;
- Transportation financing;
- Intergovernmental Coordination;
- Demand management strategies;
- A Concurrency Management System

The TMP contains policy and regulatory direction that builds upon and directs Redmond’s planning efforts consistent with the 2004 updated Transportation Element. This direction is focused, with the following TMP chapters relating to and addressing specific GMA requirements:

- **Chapter 4 - Transportation Objectives and Concurrency Management**: Describing Redmond’s approach to concurrency and level-of-service (LOS) requirements for streets and transit;
- **Chapter 5 - Transportation Mode Plans**: Describing Redmond’s foundation for the development of transportation projects and programs contained in the Transportation Facility Plan (TFP);
- **Chapter 6 - Transportation Facilities Plan**: Listing the projects and programs necessary to meet Redmond’s transportation needs through 2022, and a plan to finance the TFP, with a focus on transportation impact fees.

The chapters of the TMP are summarized below:

- **Chapter 2 - Transportation Vision and Policies**: contains the entire Transportation Element of Redmond’s Comprehensive Plan, adopted in late 2004. The Transportation Element provides the vision for the TMP, as well as the major goals and policies to be followed. The TMP and the Transportation Element were developed in parallel; the main ideas in the Transportation Element are the main ideas in the TMP.

- **Chapter 3 - Trends and Conditions**: helps frame the rest of the document with context on the underlying “trends and conditions” affecting transportation and mobility in Redmond. Data is provided for growth trends and for related traffic trends. The results of a recent “travel diary” survey as well as data on traffic safety are also provided.

- **Chapter 4 - Transportation Objectives and Concurrency Management**: describes Redmond’s transportation objectives, including transportation service objectives for each mode. A transportation model developed as part of TMP development was used to provide forecasts of travel demand and mobility by 2022 and beyond. These forecasts provide data for estimates of conditions in 2022. This chapter also describes Redmond’s “plan-based” approach to meeting the transportation concurrency requirements of the Washington State Growth Management Act.

- **Chapter 5 - Modal Elements**: is the heart of the TMP. It is divided into four modal elements and two additional sections. The modal elements are:
  - Pedestrian Program Plan;
  - Bicycle System Plan;
  - Transit System Plan; and,
  - Thoroughfare Plan.

  Two additional sections serve to tie the modes together in a coordinated multimodal plan:
  - Modal Integration: Access and Circulation; and,
  - Demand Management.

  The modal elements describe the ultimate transportation network that Redmond will achieve as it approaches build out in the years following 2022.

- **Chapter 6 - Transportation Facilities Plan (TFP)**: presents the City’s list of funded programs and projects for the years from now to 2022. Chapter 6 describes the revenue and cost forecasts that were utilized in putting together the TFP. The City’s Transportation Master Plan priorities, based on policies set by City Council in the Transportation Element, are described and explained.

- **Chapter 7 - Performance Monitoring System**: describes how Redmond will track and report its progress on implementation of this TMP. The City will publish an annual Mobility Report Card that monitors modal service objectives as well as other objectives, and also describes related trends affecting mobility in Redmond. Once each five years, the City will summarize the five Mobility Report Cards into a Five Year Transportation Status Report that will also contain additional data gathered at
the five year mark. The Five Year Transportation Status Report will then form the basis for the next TMP Update in 2009.

Chapter 8 - Regional Transportation - describes the role of Redmond’s streets in the regional transportation network and summarizes Redmond’s policies and preferences with respect to regional transportation planning and policy issues.

Chapter 9 - Three-Year Priority Action Plan - sets out the highest priority programs, projects and other actions that the City will pursue in the next three years to implement the TMP. Five categories of priority actions are covered in Chapter 9. They include:
1. Ordinances and Council Actions;
2. Studies and Plans;
3. Project Development;
4. Major Construction Projects; and,
5. Projects by Others.

This TMP was developed by a team of City staff and consultants, who worked on the project throughout 2003 and into 2005. Much of the work was done by City staff from the Planning and Public Works Department. The project was managed by the Public Works Department, with guidance and oversight from City Council and the City’s Planning Commission.

The Transportation Master Plan is not just a document. It is a new system of transportation development and management that the City is putting into place. The TMP is designed to help Redmond achieve a truly multimodal transportation system that serves all aspects of mobility, including access, circulation and travel.

Most importantly, this TMP is designed to provide high levels of mobility while at the same time preserving and protecting the essential community character that Redmond’s citizens value so highly - a green community that is an important city within a major metropolitan region but has retained its small-town ambience.
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2. Transportation Vision and Policies
Introduction

This chapter contains the entire Transportation Element of the Redmond Comprehensive Plan, beginning with the Vision section below.

Vision

Redmond has embraced energy-efficient and environmentally sound transportation systems. The City has invested strategically and leveraged regional funds to improve transportation choices and mobility. Every year more people walk, bicycle, carpool, or use transit or alternative fuel vehicles to travel. Transit service links all of Redmond’s neighborhoods to the hubs of Downtown and Overlake, creating an attractive and practical transportation alternative. Overlake and Downtown are extensively served by high-capacity transit that provides easy access to many destinations in the region. Transit stations along the route include shops, restaurants, offices and residences.

People spend less time traveling and more time where they want to be. All Redmond homes, schools and businesses have high-speed access to the Internet. More neighborhoods and workplaces are served by nearby stores and services that are small in scale and well designed. Significant investments in SR 520, I-405, and regional and local transit routes have improved mobility for people and goods. In Redmond, roadway projects have been built where needed to improve safety and operating efficiency, and the City has maintained a good system of access and circulation for delivery and freight. Most streetscapes are attractive and functional for various travel modes, with street trees and landscaped areas that separate pedestrians from traffic.
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Introduction

The intent of the Transportation Element is to guide the development of the City’s transportation system in support of the City’s vision for the future. The transportation policies are designed to guide the actions of both public agencies, such as the City, as well as private decisions related to individual developments. The Transportation Element also provides the foundation for development regulations contained in the Redmond Community Development Guide that implement the City’s vision.

To fulfill the City’s vision, the Transportation Element must:

- Promote a strong multi-modal transportation system that offers travel choices, with improved connections both within and through Redmond, and between Redmond and the region.
- Support the City’s land use and community character objectives, including retaining Redmond’s character as a green city with a small town feel.
- Enable the City to effectively influence regional transportation decisions and investments.

To achieve Redmond’s transportation vision, the policies have been developed with a common understanding of the concepts of mobility, circulation, and access. “Mobility” is the ability to travel over distances; “circulation” is the ability to move about within an area, connecting different localized land uses; and, “access” is the ability to get to individual destinations.

TR-1 Provide for the mobility, circulation, and access needs of those who live, shop, visit, and work in Redmond. Consider pass-through trips when planning and developing the transportation system. Arterial and local streets, sidewalks, trails, bicycle lanes, paths, and public transit are to serve these needs.

TR-2 Ensure that all transportation programs, facility plans, investments, and performance measures, whether funded or built privately or by a public sector agency, serve to achieve the preferred land use pattern contained in the Land Use Element of the Redmond Comprehensive Plan.

A. The Transportation System

The Transportation Element is designed to guide development of the City’s transportation system to serve the “full build out” permitted by the land use plan contained in the Land Use Element and permitted by adopted zoning. The land use plan provides for significant amounts of new residential and commercial development, and associated population and employment in the City. Redmond’s growth targets through 2022 are contained in Table LU-1 in the Land Use Element.

The Transportation Element policies and plans are also based on an assumption that land uses surrounding the City will develop in a pattern consistent with the regional strategies, including VISION 2020 and Destination 2030. Land use and transportation forecasts for these surrounding areas, which were developed by the Puget Sound Regional Council, were integrated into the assumptions underlying the Transportation Element.

For the future, Redmond’s transportation system will have a significant impact on the lives of those who live and work in Redmond, as well as those who visit or shop here. A transportation system that provides alternatives and good travel circulation patterns supports the City’s land uses by enabling people to more easily get from one place to another. The proper mix of motorized and non-motorized facilities in a commercial core leads to a better shopping and business environment. The design and construction of arterial and local streets and associated pedestrian and bicycle facilities provides for a safer, quieter, and more attractive neighborhood. Circulation patterns, both present and future, must reflect, support, and be compatible with the land use patterns that they serve.

Along with promoting desired land uses, a good transportation system will enhance the health, safety, and welfare of people who live or work in the City. From the perspective of the City, an effective transportation system reduces air and noise pollution. Properly designed and classified roads and intersections prevent injuries and accidents. Public transit, pedestrian, and bicycle routes help expand opportunities for mobility and reduce congestion, pollution, and parking space needs.

The Transportation System section of this element contains policies that address the management and supply of transportation resources. System management policies are contained in the Concurrency and Level-of-Service section. The Transportation System Plan section specifies the type of transportation programs, projects, and services that are designed to promote the mobility necessary for implementation of the land use plan.
Concurrence and Level-of-Service

Transportation concurrency and level-of-service standards are key requirements of the Washington State Growth Management Act. By policy and regulation, the City of Redmond is required to ensure that transportation facilities needed to serve growth are in place when development occurs, or within six years of the completion of the development. Regulations implementing concurrency and level-of-service are contained in the Redmond Community Development Guide. The concurrency policies contained in this section will not go into effect until the City adopts new concurrency regulations. Once the regulations are adopted, the following concurrency policies shall become effective and shall:

- Promote desired land uses through a plan-based concurrency approach and level-of-service standard.
- Expand travel choices.
- Maintain community character.
- Ensure accountability.

Plan-Based Approach and the Level-of-Service Standard

TR-3 Utilize a “Plan-Based” approach as the basis for Redmond’s transportation concurrency management system. Ensure through the Plan-Based approach that the funding of programs, construction of facilities, and provision of services occur in proportion to the needs of the City, and the pace of growth. Ensure that the transportation system, under the Plan-Based approach, explicitly supports achievement of the community vision and policies set forth in the Comprehensive Plan, including this Transportation Element.

TR-4 Support land uses envisioned by the Comprehensive Plan through an appropriate transportation level-of-service standard. Redmond’s transportation level-of-service standard is established to mean that so long as the growth of the City and the development of the City’s transportation system are proportionate, work in parallel, and are consistent with the Comprehensive Plan, all concurrency management requirements are considered met.

Concurrence Management - Expanding Travel Choices

TR-5 Ensure that Redmond’s transportation concurrency management responses to growth have the effect of expanding the choices available for travel to, from, through, and within Redmond.

TR-6 Use the concurrency management system to achieve a multimodal travel environment. Projects, programs, and services representing appropriate responses to existing and growth-related travel demands include those that improve motor vehicle operations, public transit service levels, the walking environment, bicycling, and ridesharing, as well as transportation demand management and transportation system management measures.

TR-7 Establish transportation measures and objectives for each of the primary travel modes - personal motor vehicle, public transit, walking, and bicycling - as a way to gather supplemental information to assist in the management of the concurrency management system and evaluate the performance of each of the modes.

Maintaining Community Character

TR-8 Consider community character factors such as land use patterns, the green character of the City, the environment, neighborhood vitality, and quality of life in the determination of whether planned transportation systems support the Land Use Plan. Value community character equally with transportation system capacity in the evaluation of concurrency and ensure that no transportation project conflicts with or detracts from the desired character of the community, as described in the Comprehensive Plan, including Redmond’s vision for the future.

Ensuring Accountability

TR-9 Develop a system of annual monitoring and reporting of transportation level-of-service and concurrency that will become part of the City’s routine monitoring and reporting of transportation system trends and performance. Report on progress made in implementing the transportation system, including the achievement of needed funding. Take action to correct an imbalance if the pace of growth exceeds the pace of implementing and building the transportation plan, or if there is inadequate funding for the plan.

TR-10 Include transportation concurrency monitoring data in the annual and the five-year transportation performance reports.
2. TRANSPORTATION VISION AND POLICIES

TR-11 Conduct the measurement and evaluation of concurrency, including levels of transportation service, at a city-wide level.

Interim Transportation Level-of-Service Standards

TR-12 Maintain level-of-service standards using the Transportation Management Districts contained in Map TR-1, level-of-service descriptions contained in Table TR-1, and arterial intersection level-of-service standards contained in Table TR-2, until a Plan-Based concurrency approach is adopted.

B. Transportation Master Plan

The primary purpose of the transportation system is to support development of the land uses envisioned by the Comprehensive Plan, and to shape the form of urban development within Redmond’s mixed-use, commercial, industrial, and residential neighborhoods. To further that purpose, a Transportation Master Plan (TMP) will be adopted as a document that contains the specific features comprising Redmond’s transportation system, including the programs, projects, and services that are necessary to support planned land uses. Until completion of the TMP, the Transportation Facilities Plan (TFP) will be used to identify long-term transportation needs.

The Transportation Master Plan

TR-13 Develop and maintain a Transportation Master Plan (TMP), including a section on financing, that achieves a multimodal travel environment. Include in the TMP projects, programs, and services that improve: motor vehicle operations; the movement of people, goods, and services; public transit service; the walking and bicycling environment; a program for transportation demand management; and other necessary transportation measures.

Transportation Programs and Facilities

TR-14 Identify and implement the long-range Transportation Facilities Plan, contained in Map TR-2 and Table TR-3, to assure compliance with the City’s adopted transportation level-of-service standards while supporting the City’s land use and community character objectives.

TR-15 Use the Six-Year Transportation Improvement Program (TIP) as a guide for short-term transportation investment decisions, consistent with the Transportation Master Plan.

TR-16 Allocate resources in the City’s transportation Capital Investment Program (CIP) according to the following in order of priority:

- Address public health and safety concerns, including neighborhood traffic protection;
- Ensure adequate maintenance of existing facilities throughout the City;
- Ensure that as development occurs, the City’s transportation concurrency and level-of-service (LOS) standard are met by completing planned facilities, including capacity projects; providing travel choices; supporting funding partnerships; and efficiently operating the transportation system.
Financial Program

The Transportation Facility Plan’s Financial Program contains details of transportation revenue sources that the City can reasonably expect to receive during the life of the Transportation Facility Plan. Revenue sources contained in the Financial Program vary widely in terms of the amounts available and the types of projects for which they may be used. In most cases, individual transportation projects are funded by a combination of funding sources, reflecting the fact that transportation projects have multiple purposes and serve multiple beneficiaries.

TR-17 Develop a financial strategy to assure that on an average cost basis, new development contributes its fair share of the cost of transportation programs, facilities, and services needed to mitigate growth related transportation impacts. Credit only those projects, programs, and measures contained in, or consistent with the Transportation Facilities Plan, or the Transportation Master Plan when adopted, as meeting needs resulting from growth. Impact fees, local improvement districts, transportation benefit districts, grants, contributions, business taxes, bonds, and debt financing are some of the funding mechanisms to be considered by the City.

TR-18 Take the following actions in the event that the City is unable to fund the growth related transportation programs, facilities, and services identified in the Transportation Facilities Plan (not in priority order):

- Delay development until such time that programs, facilities, or services can be funded;
- Amend the City’s Comprehensive Plan to reduce the travel demand placed on the transportation system;
- Obtain needed revenue or revise the Transportation Facilities Plan to reflect known financial resources; or
- Change the transportation level-of-service standard.

TR-19 Establish an ongoing allocation of funds for the construction and maintenance of non-motorized improvements in the transportation Capital Investment Program in order to assure adequate, predictable, and dedicated funding of the Bicycle and Pedestrian Plans.

Streets

To serve Redmond, local and arterial streets will require maintenance, safety, and efficiency improvements. The quality of life for many people is significantly affected by how well streets function — this is true for pedestrians, bicyclists, and transit riders in addition to motorists. Streets do more than move people. They also represent major public facilities whose quality of design, sensitivity to human needs, and integration with their surroundings can complement land use policies and enhance an urban environment or erode it.

To implement the land use policies of the Comprehensive Plan, local and arterial streets need to do more than just move people and goods. They must also be compatible with and support the land use goals of Redmond’s residential, commercial, and mixed-use areas.

TR-20 Establish a street classification system that is designed to balance street capacity needs and compatibility with adjacent land uses, the Land Use Element, and compliance with the other elements in the Comprehensive Plan. Use the street classification system contained in Table TR-5 that classifies streets according to function so that needed traffic capacity may be preserved and planned street improvements will be consistent with those functions. For street classifications and locations, see Maps TR-3 and TR-4, and Tables TR-5 and TR-6.

TR-21 Establish standards for the design and construction of arterial and local streets in Redmond. Achieve the following as part of the development process:

- Require that all arterial and local streets be built to comply with the City’s design standards and plans for streets, bicycles, and pedestrian facilities;
- Require that all property be conveniently accessible from streets, walkways, and trails, subject to environmental limitations;
- Maintain continuity of the street pattern by avoiding dead-end and half-streets not having turnaround provisions;
- Avoid the creation of excessively large blocks and long local access residential streets;
- Complete missing links and improve street connections;
2. TRANSPORTATION VISION AND POLICIES

- Wherever possible, separate pedestrians from traffic lanes by the use of street trees and landscaped strips, and avoid the construction of sidewalks next to street curbs;
- Manage access to arterials; and
- Identify specific street improvements that benefit transit operations, and work with transit providers to prioritize street improvements.

TR-22 Establish a “multi-modal corridor” designation for arterials and local streets of critical significance to transit operations, bicycle circulation, and pedestrian circulation.

TR-23 Maintain the Redmond Intelligent Transportation System Plan to guide the implementation of transportation system management (TSM) for all modes, using techniques such as traffic signal coordination, transit signal priority, and the provision of real time transit arrival data, in order to maximize the efficiency of the City’s transportation system.

Public Transportation

The VISION 2020 growth management plan and the Destination 2030 transportation plan contain the regional growth and transportation strategies for the Puget Sound region. These plans call for the channeling of future growth into Centers and the linking of these Centers with high capacity transit. The Countywide Planning Policies for King County expand on this strategy by outlining guidelines for the designation and development of Centers and measures to be taken by local jurisdictions in support of a high capacity transit system.

In Redmond’s Comprehensive Plan, Downtown Redmond and part of Redmond Overlake are designated as Centers that warrant high capacity transit service between these neighborhoods and the region. SE Redmond may be another destination for high capacity transit service and an appropriate location for a high capacity transit maintenance facility.

The Transit Plan

TR-24 Identify Redmond’s transit needs through a transit planning process that considers transit routes, passenger amenities such as shelters, service levels, and capital projects needed to provide local Redmond, Eastside and regional transit service.

TR-25 Use transit as a way to provide for access, circulation, and mobility needs in areas planned for higher density mixed-use development and for favorable pedestrian environments.

Local Redmond, Eastside and Regional Transit Service

TR-26 Support and improve transit service and amenities in neighborhoods, especially when and where appropriately-sized vehicles in the transit fleet are used as a way to:

- Increase ridership;
- Improve access, circulation, and mobility, with connections to local Redmond destinations, the Eastside, and to the regional transit system; and,
- Balance protection of neighborhoods with transit access and service goals.

TR-27 Work to redevelop the Downtown Redmond Park and Ride facility as a multi-story, mixed-use transit-oriented development (TOD) that is complementary to the Downtown neighborhood. Maintain the park and ride function of this site with the current vehicle parking capacity.
2. TRANSPORTATION VISION AND POLICIES

C. Pedestrian and Bicycle Transportation

The Pedestrian Plan

An attractive pedestrian environment is a key element in developing a physically and socially healthy community. Most intense retail uses are heavily dependent on foot traffic to generate sales. Once individuals get in their cars, it is very difficult to get them out. Encouraging non-motorized pedestrian access to transit is a preferred strategy in supporting the use of public transit as an alternative to the automobile.

Many of the City’s transportation related facilities are located within corridors that are shared or intersect with other pedestrian sidewalks, trails and pathways. In these cases, construction of sidewalks, trails and pathways should be coordinated to ensure safe and efficient use of all types of trails and other non-motorized facilities.

TR-31 Prepare and implement a Pedestrian Plan that will:

- Provide for a safe, convenient and coordinated system of sidewalks, trails, and pathways, including through routes, to meet needs for pedestrian transportation;
- Interconnect neighborhoods and be coordinated with the surrounding jurisdictions to allow people to conveniently travel between and within neighborhoods and local activity centers by using non-motorized means;
- Include a typology of pedestrian environments, using the following designations: “Pedestrian Places, Pedestrian Supportive Environments, Pedestrian Tolerant Environments and Pedestrian Intolerant Environments”;
- Set a pedestrian plan objective such that all areas of Redmond provide no less than a pedestrian tolerant environment;
- Identify areas to be designated as pedestrian promenades, with pedestrian friendly environments;
- Prepare a planned pedestrian program at a citywide and neighborhood level, with a detailed description of the pedestrian facilities and environments to be achieved. Identify a list of priority pedestrian projects to be included in the Transportation Master Plan;

High Capacity Transit

TR-29 Participate actively and continuously in the planning and development of an efficient, timely, and effective regional high capacity transit system that is competitive with the single-occupant vehicle. Plan for the extension of high capacity transit to the Eastside and to Overlake, Downtown Redmond, and SE Redmond as part of Sound Transit Phase 2, or any successor plan.

TR-30 Support high capacity transit service and support facilities for Redmond that:

- Provide service to Overlake, Downtown Redmond, and SE Redmond that is located to ensure efficient, timely, and effective service, within a high capacity transit alignment located mainly in the SR 520 freeway corridor;
- Locate high capacity transit stations in Overlake, Downtown Redmond, and SE Redmond;
- Locate the Downtown Redmond station site near the intersection of SR 202 and SR 520; and
- Achieve higher bus transit service levels to and within Redmond’s two Centers, providing connections to the high capacity transit stations.

TR-28 Develop the Redmond Downtown Transit Center with full transit center components, including timed transfers between most routes, passenger waiting areas and other amenities, and on-site route information.
2. Transportation Vision and Policies

- Be implemented as part of the City’s review of private and public development projects; and
- Comprise an element of the Plan-Based approach to concurrency.

The Bicycle Plan

Bicycle travel in Redmond is an important mode of travel both for recreational and non-recreational purposes, and forms a critical element of many individuals’ daily travel plans. While the majority of people in Redmond rely on the auto on a daily basis, the quality of the bicycle system directly affects the perceived quality of life for Redmond residents.

TR-32 Prepare and implement an updated Bicycle Plan that will:

- Ensure that bicycle pathways, lanes, and routes are established, constructed, and maintained to specifications that encourage safe and convenient circulation and connectivity;
- Consider the need for bicycle facilities that are integrated into the street and pedestrian system;
- Interconnect neighborhoods and be coordinated with the surrounding jurisdictions to allow people to conveniently travel between and within neighborhoods and local activity centers by using bicycle paths, lanes and routes;
- Maintain a typology of bicycle environments, designating bicycle paths, lanes, and routes;
- Set bicycle plan objectives;
- Update the planned bicycle program at a citywide and neighborhood level, with a detailed description of the bicycle facilities and environments to be achieved. Identify a list of priority bicycle projects to be included in the Transportation Master Plan;
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A System of Bicycle and Pedestrian Facilities

TR-33 Use the Bicycle and Pedestrian Plans to guide the design, construction, and maintenance of bicycle and pedestrian facilities by both public and private parties, including the preparation of design standards and elements that promote a pleasant and safe traveling environment.

TR-34 Require that during the review process for new development or redevelopment that:

- Projects are consistent with the Pedestrian and Bicycle Plans;
- Planned facilities are secured with required frontage and crossing improvements consistent with the Bicycle and Pedestrian Plans;
- On-site bicycle and pedestrian facilities are provided which provide safe connections to the general circulation system;
- New subdivisions and short plats include, consistent with RCW 58.17.060, the required pedestrian facilities (frontage and off-site improvements) that assure safe walking conditions for students who walk to and from school;
- Construction and implementation of other off-road and multi-use trails and trail crossings as described in the Parks, Recreation and Open Space Plan, or which are located within a development area or within a shared corridor, are coordinated with project review; and,
- Safety and security considerations for pedestrians and bicyclists are factored into the review of development proposals.

Neighborhood Traffic Calming

The environmental quality of a residential neighborhood is directly and significantly affected by conditions present on area streets. Factors such as excessive speed or traffic volume, safety, air and noise pollution, and conflicts with driveway access greatly influence people’s perceptions of the quality of their neighborhood. There are increasing pressures on residential neighborhood streets from speeding drivers and “cut-through” traffic (individuals using local streets as alternatives to the arterial street system). It is difficult to forecast with precision the location and amount of overflow traffic that should be expected as a result of growth. Therefore, it is necessary to have in place mitigation programs that can provide a proportional response to local residential traffic control problems as they arise.
TR-35 Minimize the environmental impacts on residential neighborhoods by discouraging the use of existing and new local streets by non-local cut-through traffic. Place a high priority on prevention and alleviation of traffic impacts on residential neighborhoods as part of the City’s transportation system management program.

TR-36 Maintain an ongoing allocation of funds necessary to maintain a traffic control program based on the fundamentals of education, enforcement, and engineering for evaluating and responding to residential neighborhood traffic control concerns. Maintain standards for maximum desirable traffic speeds and volumes of non-local traffic. Apply a hierarchy of traffic control responses based on the severity of the local traffic problem.

D. Transportation Demand Management

Transportation Demand Management (TDM) refers to the range of actions and strategies that offer alternatives to single occupant vehicle (SOV) travel. TDM is a highly valuable tool because it focuses on more effectively managing the use of existing and planned transportation capacity, rather than increasing roadway capacity, to better meet mobility needs.

TR-37 Use TDM techniques as effective and efficient mechanisms to address transportation problems.

- Use TDM techniques to help increase the person-carrying capacity of the transportation system.
- Require large employers to implement a commute trip reduction program for employees, as mandated by the State Commute Trip Reduction Act.
- Require new commercial development to provide for implementation of a transportation management program to mitigate commute trips consistent with the City’s mode split goals.
- Implement TDM strategies that emphasize incentives rather than disincentives. Avoid imposing disincentives to single-occupant vehicle travel when the City determines that there is an absence of reasonable transportation alternatives. Provide physical features supportive of the use of alternative modes of travel and maintain a list of acceptable TDM techniques and physical features.

TR-38 Develop and implement comprehensive parking management programs that address shared parking, transit access parking, and localized parking imbalances. Evaluate parking pricing strategies as a mechanism to support transportation demand management objectives when there are viable transportation alternatives available.

TR-39 Establish minimum and maximum parking ratio requirements consistent with the transportation and land use objectives of the Comprehensive Plan, considering constraints imposed by financial institutions. Consider reducing the minimum and maximum parking ratio requirements further as transportation options increase with development of enhanced transit service or as demand drops with achievement of mode split goals. Create for inclusion in the Redmond Community Development Guide a process and decision criteria to allow under special circumstances the granting of parking ratios above or below the established ratios.

TR-40 Encourage reduction in required parking ratios less than the required minimum for office, industrial, institutional and mixed land uses by:

- Streamlining the process for new development to provide less than the minimum parking where demand for employee parking is below normal. Allowing and encouraging property owners of major work sites to reduce their parking supply, especially where an excess exists, to support City mode split goals.

E. Parking Management

Research has demonstrated that strategies involving parking supply and price are among the most effective tools in influencing travel behavior and enhancing the market for transit and other transportation options.

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2. TRANSPORTATION VISION AND POLICIES

- Allowing reductions in minimum parking ratios in exchange for contributions to improved transit services or facilities; and
- Allowing parking to be provided below the minimum ratio where there are incentives to redevelop existing sites in employment centers supported by transit and where such actions are not likely to cause “spill over” parking impacts on adjacent land uses.

F. The Eastside and Regional Transportation

Transportation and Interlocal Agreements with Other Jurisdictions

A significant amount of travel that occurs in Redmond is regional in nature. In other words, trips that are made through Redmond have their origin or destination, or both, outside of the City limits. Nevertheless, the City of Redmond has the ability to significantly control regional travel as well as the impacts of local travel within Redmond, and from Redmond to other neighboring jurisdictions. Effectively managing and maintaining service standards through concurrency controls requires coordination with neighboring jurisdictions. To do this the City shall:

TR-41 Develop and maintain interlocal agreements with neighboring jurisdictions that require development within Redmond and within the neighboring jurisdictions to anticipate and mitigate significant cross-jurisdiction transportation impacts, including pass-through traffic, impacts to concurrency, and the level-of-service standard.

TR-42 Address pressure to move traffic from residential developments in eastern King County through SE Redmond in a manner that maintains Redmond’s land use and community character objectives.

Eastside Transportation Partnership

Transportation problems and their solutions generally transcend individual city boundaries. Therefore the Eastside Transportation Partnership (ETP) was created to develop a policy and facility plan for the Eastside to assure mobility, and to provide an ongoing forum for the discussion of transportation policy. ETP membership includes Eastside cities as well as key transportation agencies, such as Washington State Department of Transportation, Metropolitan King County and the Puget Sound Regional Council. ETP has evolved into the primary body for the development of transportation policy and strategy for the Eastside, with its positions carrying significant weight in county, regional and state decision-making forums.

TR-43 Participate in the Eastside Transportation Partnership on an ongoing and cooperative basis to implement transportation plans and policies that affect the City, the Eastside, and the region.

State Highways

TR-44 Maintain an inventory of state-owned highways, and monitor the state-established level-of-service on these highways. Examine the impact of development generating traffic on these highways. Table TR-7 contains this inventory and level-of-service information.

Air Quality

TR-45 Observe federal and state clean air acts by maintaining conformity with the Metropolitan Transportation Plan of the Puget Sound Regional Council, and by following the requirements of the Washington Administrative Code Section 173-420.
Introduction

The intent of the Transportation Element is to guide the development of the City’s transportation system in support of the City’s vision for the future. The transportation policies are designed to guide the actions of both public agencies, such as the City, as well as private decisions related to individual developments. The Transportation Element also provides the foundation for development regulations contained in the Redmond Community Development Guide that implement the City’s vision.

To fulfill the City’s vision, the Transportation Element must:

- Promote a strong multi-modal transportation system that offers travel choices, with improved connections both within and through Redmond, and between Redmond and the region.
- Support the City’s land use and community character objectives, including retaining Redmond’s character as a green city with a small town feel.
- Enable the City to effectively influence regional transportation decisions and investments.

To achieve Redmond’s transportation vision, the policies have been developed with a common understanding of the concepts of mobility, circulation, and access. “Mobility” is the ability to travel over distances; “circulation” is the ability to move about within an area, connecting different localized land uses; and, “access” is the ability to get to individual destinations.

TR-1 Provide for the mobility, circulation, and access needs of those who live, shop, visit, and work in Redmond. Consider pass-through trips when planning and developing the transportation system. Arterial and local streets, sidewalks, trails, bicycle lanes, paths, and public transit are to serve these needs.

TR-2 Ensure that all transportation programs, facility plans, investments, and performance measures, whether funded or built privately or by a public sector agency, serve to achieve the preferred land use pattern contained in the Land Use Element of the Redmond Comprehensive Plan.

A. The Transportation System

The Transportation Element is designed to guide development of the City’s transportation system to serve the “full build out” permitted by the land use plan contained in the Land Use Element and permitted by adopted zoning. The land use plan provides for significant amounts of new residential and commercial development, and associated population and employment in the City. Redmond’s growth targets through 2022 are contained in Table LU-1 in the Land Use Element.

The Transportation Element policies and plans are also based on an assumption that land uses surrounding the City will develop in a pattern consistent with the regional strategies, including VISION 2020 and Destination 2030. Land use and transportation forecasts for these surrounding areas, which were developed by the Puget Sound Regional Council, were integrated into the assumptions underlying the Transportation Element.

For the future, Redmond’s transportation system will have a significant impact on the lives of those who live and work in Redmond, as well as those who visit or shop here. A transportation system that provides alternatives and good travel circulation patterns supports the City’s land uses by enabling people to more easily get from one place to another. The proper mix of motorized and non-motorized facilities in a commercial core leads to a better shopping and business environment. The design and construction of arterial and local streets and associated pedestrian and bicycle facilities provides for a safer, quieter, and more attractive neighborhood. Circulation patterns, both present and future, must reflect, support, and be compatible with the land use patterns that they serve.

Along with promoting desired land uses, a good transportation system will enhance the health, safety, and welfare of people who live or work in the City. From the perspective of the City, an effective transportation system reduces air and noise pollution. Properly designed and classified roads and intersections prevent injuries and accidents. Public transit, pedestrian, and bicycle routes help expand opportunities for mobility and reduce congestion, pollution, and parking space needs.

The Transportation System section of this element contains policies that address the management and supply of transportation resources. System management policies are contained in the Concurrency and Level-of-Service section. The Transportation System Plan section specifies the type of transportation programs, projects, and services that are designed to promote the mobility necessary for implementation of the land use plan.
Concurrenty and Level-of-Service

Transportation concurrency and level-of-service standards are key requirements of the Washington State Growth Management Act. By policy and regulation, the City of Redmond is required to ensure that transportation facilities needed to serve growth are in place when development occurs, or within six years of the completion of the development. Regulations implementing concurrency and level-of-service are contained in the Redmond Community Development Guide. The concurrency policies contained in this section will not go into effect until the City adopts new concurrency regulations. Once the regulations are adopted, the following concurrency policies shall become effective and shall:

- Promote desired land uses through a plan-based concurrency approach and level-of-service standard.
- Expand travel choices.
- Maintain community character.
- Ensure accountability.

Plan-Based Approach and the Level-of-Service Standard

TR-3 Utilize a “Plan-Based” approach as the basis for Redmond’s transportation concurrency management system. Ensure through the Plan-Based approach that the funding of programs, construction of facilities, and provision of services occur in proportion to the needs of the City, and the pace of growth. Ensure that the transportation system, under the Plan-Based approach, explicitly supports achievement of the community vision and policies set forth in the Comprehensive Plan, including this Transportation Element.

TR-4 Support land uses envisioned by the Comprehensive Plan through an appropriate transportation level-of-service standard. Redmond’s transportation level-of-service standard is established to mean that so long as the growth of the City and the development of the City’s transportation system are proportionate, work in parallel, and are consistent with the Comprehensive Plan, all concurrency management requirements are considered met.

Concurrenty Management - Expanding Travel Choices

TR-5 Ensure that Redmond’s transportation concurrency management responses to growth have the effect of expanding the choices available for travel to, from, through, and within Redmond.

TR-6 Use the concurrency management system to achieve a multimodal travel environment. Projects, programs, and services representing appropriate responses to existing and growth-related travel demands include those that improve motor vehicle operations, public transit service levels, the walking environment, bicycling, and ridesharing, as well as transportation demand management and transportation system management measures.

TR-7 Establish transportation measures and objectives for each of the primary travel modes - personal motor vehicle, public transit, walking, and bicycling - as a way to gather supplemental information to assist in the management of the concurrency management system and evaluate the performance of each of the modes.

Maintaining Community Character

TR-8 Consider community character factors such as land use patterns, the green character of the City, the environment, neighborhood vitality, and quality of life in the determination of whether planned transportation systems support the Land Use Plan. Value community character equally with transportation system capacity in the evaluation of concurrency and ensure that no transportation project conflicts with or detracts from the desired character of the community, as described in the Comprehensive Plan, including Redmond’s vision for the future.

Ensuring Accountability

TR-9 Develop a system of annual monitoring and reporting of transportation level-of-service and concurrency that will become part of the City’s routine monitoring and reporting of transportation system trends and performance. Report on progress made in implementing the transportation system, including the achievement of needed funding. Take action to correct an imbalance if the pace of growth exceeds the pace of implementing and building the transportation plan, or if there is inadequate funding for the plan.

TR-10 Include transportation concurrency monitoring data in the annual and the five-year transportation performance reports.
2. TRANSPORTATION VISION AND POLICIES

TR-11 Conduct the measurement and evaluation of concurrency, including levels of transportation service, at a city-wide level.

Interim Transportation Level-of-Service Standards

TR-12 Maintain level-of-service standards using the Transportation Management Districts contained in Map TR-1, level-of-service descriptions contained in Table TR-1, and arterial intersection level-of-service standards contained in Table TR-2, until a Plan-Based concurrency approach is adopted.

B. Transportation Master Plan

The primary purpose of the transportation system is to support development of the land uses envisioned by the Comprehensive Plan, and to shape the form of urban development within Redmond’s mixed-use, commercial, industrial, and residential neighborhoods. To further that purpose, a Transportation Master Plan (TMP) will be adopted as a document that contains the specific features comprising Redmond’s transportation system, including the programs, projects, and services that are necessary to support planned land uses. Until completion of the TMP, the Transportation Facilities Plan (TFP) will be used to identify long-term transportation needs.

The Transportation Master Plan

TR-13 Develop and maintain a Transportation Master Plan (TMP), including a section on financing, that achieves a multimodal travel environment. Include in the TMP projects, programs, and services that improve: motor vehicle operations; the movement of people, goods, and services; public transit service; the walking and bicycling environment; a program for transportation demand management; and other necessary transportation measures.

Transportation Programs and Facilities

TR-14 Identify and implement the long-range Transportation Facilities Plan, contained in Map TR-2 and Table TR-3, to assure compliance with the City’s adopted transportation level-of-service standards while supporting the City’s land use and community character objectives.

TR-15 Use the Six-Year Transportation Improvement Program (TIP) as a guide for short-term transportation investment decisions, consistent with the Transportation Master Plan.

TR-16 Allocate resources in the City’s transportation Capital Investment Program (CIP) according to the following in order of priority:

- Address public health and safety concerns, including neighborhood traffic protection;
- Ensure adequate maintenance of existing facilities throughout the City;
- Ensure that as development occurs, the City’s transportation concurrency and level-of-service (LOS) standard are met by completing planned facilities, including capacity projects; providing travel choices; supporting funding partnerships; and efficiently operating the transportation system.
Financial Program

The Transportation Facility Plan’s Financial Program contains details of transportation revenue sources that the City can reasonably expect to receive during the life of the Transportation Facility Plan. Revenue sources contained in the Financial Program vary widely in terms of the amounts available and the types of projects for which they may be used. In most cases, individual transportation projects are funded by a combination of funding sources, reflecting the fact that transportation projects have multiple purposes and serve multiple beneficiaries.

TR-17 Develop a financial strategy to assure that on an average cost basis, new development contributes its fair share of the cost of transportation programs, facilities, and services needed to mitigate growth related transportation impacts. Credit only those projects, programs, and measures contained in, or consistent with the Transportation Facilities Plan, or the Transportation Master Plan when adopted, as meeting needs resulting from growth. Impact fees, local improvement districts, transportation benefit districts, grants, contributions, business taxes, bonds, and debt financing are some of the funding mechanisms to be considered by the City.

TR-18 Take the following actions in the event that the City is unable to fund the growth related transportation programs, facilities, and services identified in the Transportation Facilities Plan (not in priority order):

- Delay development until such time that programs, facilities, or services can be funded;
- Amend the City’s Comprehensive Plan to reduce the travel demand placed on the transportation system;
- Obtain needed revenue or revise the Transportation Facilities Plan to reflect known financial resources; or
- Change the transportation level-of-service standard.

TR-19 Establish an ongoing allocation of funds for the construction and maintenance of non-motorized improvements in the transportation Capital Investment Program in order to assure adequate, predictable, and dedicated funding of the Bicycle and Pedestrian Plans.

Streets

To serve Redmond, local and arterial streets will require maintenance, safety, and efficiency improvements. The quality of life for many people is significantly affected by how well streets function — this is true for pedestrians, bicyclists, and transit riders in addition to motorists. Streets do more than move people. They also represent major public facilities whose quality of design, sensitivity to human needs, and integration with their surroundings can complement land use policies and enhance an urban environment or erode it.

To implement the land use policies of the Comprehensive Plan, local and arterial streets need to do more than just move people and goods. They must also be compatible with and support the land use goals of Redmond’s residential, commercial, and mixed-use areas.

TR-20 Establish a street classification system that is designed to balance street capacity needs and compatibility with adjacent land uses, the Land Use Element, and compliance with the other elements in the Comprehensive Plan. Use the street classification system contained in Table TR-5 that classifies streets according to function so that needed traffic capacity may be preserved and planned street improvements will be consistent with those functions. For street classifications and locations, see Maps TR-3 and TR-4, and Tables TR-5 and TR-6.

TR-21 Establish standards for the design and construction of arterial and local streets in Redmond. Achieve the following as part of the development process:

- Require that all arterial and local streets be built to comply with the City’s design standards and plans for streets, bicycles, and pedestrian facilities;
- Require that all property be conveniently accessible from streets, walkways, and trails, subject to environmental limitations;
- Maintain continuity of the street pattern by avoiding dead-end and half-streets not having turnaround provisions;
- Avoid the creation of excessively large blocks and long local access residential streets;
- Complete missing links and improve street connections;
2. Transportation Vision and Policies

- Wherever possible, separate pedestrians from traffic lanes by the use of street trees and landscaped strips, and avoid the construction of sidewalks next to street curbs;
- Manage access to arterials; and
- Identify specific street improvements that benefit transit operations, and work with transit providers to prioritize street improvements.

TR-22 Establish a “multi-modal corridor” designation for arterials and local streets of critical significance to transit operations, bicycle circulation, and pedestrian circulation.

TR-23 Maintain the Redmond Intelligent Transportation System Plan to guide the implementation of transportation system management (TSM) for all modes, using techniques such as traffic signal coordination, transit signal priority, and the provision of real time transit arrival data, in order to maximize the efficiency of the City’s transportation system.

Public Transportation
The VISION 2020 growth management plan and the Destination 2030 transportation plan contain the regional growth and transportation strategies for the Puget Sound region. These plans call for the channeling of future growth into Centers and the linking of these Centers with high capacity transit. The Countywide Planning Policies for King County expand on this strategy by outlining guidelines for the designation and development of Centers and measures to be taken by local jurisdictions in support of a high capacity transit system.

In Redmond’s Comprehensive Plan, Downtown Redmond and part of Redmond Overlake are designated as Centers that warrant high capacity transit service between these neighborhoods and the region. SE Redmond may be another destination for high capacity transit service and an appropriate location for a high capacity transit maintenance facility.

The Transit Plan

TR-24 Identify Redmond’s transit needs through a transit planning process that considers transit routes, passenger amenities such as shelters, service levels, and capital projects needed to provide local Redmond, Eastside and regional transit service.

TR-25 Use transit as a way to provide for access, circulation, and mobility needs in areas planned for higher density mixed-use development and for favorable pedestrian environments.

Local Redmond, Eastside and Regional Transit Service

TR-26 Support and improve transit service and amenities in neighborhoods, especially when and where appropriately-sized vehicles in the transit fleet are used as a way to:

- Increase ridership;
- Improve access, circulation, and mobility, with connections to local Redmond destinations, the Eastside, and to the regional transit system; and,
- Balance protection of neighborhoods with transit access and service goals.

TR-27 Work to redevelop the Downtown Redmond Park and Ride facility as a multi-story, mixed-use transit-oriented development (TOD) that is complementary to the Downtown neighborhood. Maintain the park and ride function of this site with the current vehicle parking capacity.
2. TRANSPORTATION VISION AND POLICIES

C. Pedestrian and Bicycle Transportation

The Pedestrian Plan

An attractive pedestrian environment is a key element in developing a physically and socially healthy community. Most intense retail uses are heavily dependent on foot traffic to generate sales. Once individuals get in their cars, it is very difficult to get them out. Encouraging non-motorized pedestrian access to transit is a preferred strategy in supporting the use of public transit as an alternative to the automobile.

Many of the City’s transportation related facilities are located within corridors that are shared or intersect with other pedestrian sidewalks, trails and pathways. In these cases, construction of sidewalks, trails and pathways should be coordinated to ensure safe and efficient use of all types of trails and other non-motorized facilities.

TR-31 Prepare and implement a Pedestrian Plan that will:

- Provide for a safe, convenient and coordinated system of sidewalks, trails, and pathways, including through routes, to meet needs for pedestrian transportation;
- Interconnect neighborhoods and be coordinated with the surrounding jurisdictions to allow people to conveniently travel between and within neighborhoods and local activity centers by using non-motorized means;
- Include a typology of pedestrian environments, using the following designations: “Pedestrian Places, Pedestrian Supportive Environments, Pedestrian Tolerant Environments and Pedestrian Intolerant Environments”;
- Set a pedestrian plan objective such that all areas of Redmond provide no less than a pedestrian tolerant environment;
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2. TRANSPORTATION VISION AND POLICIES

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- Projects are consistent with the Pedestrian and Bicycle Plans;
- Planned facilities are secured with required frontage and crossing improvements consistent with the Bicycle and Pedestrian Plans;
- On-site bicycle and pedestrian facilities are provided which provide safe connections to the general circulation system;
- New subdivisions and short plats include, consistent with RCW 58.17.060, the required pedestrian facilities (frontage and off-site improvements) that assure safe walking conditions for students who walk to and from school;
- Construction and implementation of other off-road and multi-use trails and trail crossings as described in the Parks, Recreation and Open Space Plan, or which are located within a development area or within a shared corridor, are coordinated with project review; and,
- Safety and security considerations for pedestrians and bicyclists are factored into the review of development proposals.

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2. TRANSPORTATION VISION AND POLICIES

• Encourage participation in Transportation Management Associations (TMAs) to support trip reduction activities.

• Establish and implement a mitigation funding system that applies to all new development that warrants TDM conditioning for development approval. Use the funds generated by this system to specifically support the administration of the TDM element of development review.

• Encourage the development and support of TDM programs for non-commute/non-employer based sites.

E. Parking Management

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TR-38 Develop and implement comprehensive parking management programs that address shared parking, transit access parking, and localized parking imbalances. Evaluate parking pricing strategies as a mechanism to support transportation demand management objectives when there are viable transportation alternatives available.

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TR-35 Minimize the environmental impacts on residential neighborhoods by discouraging the use of existing and new local streets by non-local cut-through traffic. Place a high priority on prevention and alleviation of traffic impacts on residential neighborhoods as part of the City’s transportation system management program.

TR-36 Maintain an ongoing allocation of funds necessary to maintain a traffic control program based on the fundamentals of education, enforcement, and engineering for evaluating and responding to residential neighborhood traffic control concerns. Maintain standards for maximum desirable traffic speeds and volumes of non-local traffic. Apply a hierarchy of traffic control responses based on the severity of the local traffic problem.

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TR-37 Use TDM techniques as effective and efficient mechanisms to address transportation problems.

• Use TDM techniques to help increase the person-carrying capacity of the transportation system.

• Require large employers to implement a commute trip reduction program for employees, as mandated by the State Commute Trip Reduction Act.

• Require new commercial development to provide for implementation of a transportation management program to mitigate commute trips consistent with the City’s mode split goals.

• Implement TDM strategies that emphasize incentives rather than disincentives. Avoid imposing disincentives to single-occupant vehicle travel when the City determines that there is an absence of reasonable transportation alternatives. Provide physical features supportive of the use of alternative modes of travel and maintain a list of acceptable TDM techniques and physical features.

TR-38 Develop and implement comprehensive parking management programs that address shared parking, transit access parking, and localized parking imbalances. Evaluate parking pricing strategies as a mechanism to support transportation demand management objectives when there are viable transportation alternatives available.

TR-39 Establish minimum and maximum parking ratio requirements consistent with the transportation and land use objectives of the Comprehensive Plan, considering constraints imposed by financial institutions. Consider reducing the minimum and maximum parking ratio requirements further as transportation options increase with development of enhanced transit service or as demand drops with achievement of mode split goals. Create for inclusion in the Redmond Community Development Guide a process and decision criteria to allow under special circumstances the granting of parking ratios above or below the established ratios.

TR-40 Encourage reduction in required parking ratios less than the required minimum for office, industrial, institutional and mixed land uses by:

• Streamlining the process for new development to provide less than the minimum parking where demand for employee parking is below normal. Allowing and encouraging property owners of major work sites to reduce their parking supply, especially where an excess exists, to support City mode split goals.
2. TRANSPORTATION VISION AND POLICIES

- Allowing reductions in minimum parking ratios in exchange for contributions to improved transit services or facilities; and
- Allowing parking to be provided below the minimum ratio where there are incentives to redevelop existing sites in employment centers supported by transit and where such actions are not likely to cause “spill over” parking impacts on adjacent land uses.

F. The Eastside and Regional Transportation

Transportation and Interlocal Agreements with Other Jurisdictions

A significant amount of travel that occurs in Redmond is regional in nature. In other words, trips that are made through Redmond have their origin or destination, or both, outside of the City limits. Nevertheless, the City of Redmond has the ability to significantly control regional travel as well as the impacts of local travel within Redmond, and from Redmond to other neighboring jurisdictions. Effectively managing and maintaining service standards through concurrency controls requires coordination with neighboring jurisdictions. To do this the City shall:

TR-41 Develop and maintain interlocal agreements with neighboring jurisdictions that require development within Redmond and within the neighboring jurisdictions to anticipate and mitigate significant cross-jurisdiction transportation impacts, including pass-through traffic, impacts to concurrency, and the level-of-service standard.

TR-42 Address pressure to move traffic from residential developments in eastern King County through SE Redmond in a manner that maintains Redmond’s land use and community character objectives.

Eastside Transportation Partnership

Transportation problems and their solutions generally transcend individual city boundaries. Therefore the Eastside Transportation Partnership (ETP) was created to develop a policy and facility plan for the Eastside to assure mobility, and to provide an ongoing forum for the discussion of transportation policy. ETP membership includes Eastside cities as well as key transportation agencies, such as Washington State Department of Transportation, Metropolitan King County and the Puget Sound Regional Council. ETP has evolved into the primary body for the development of transportation policy and strategy for the Eastside, with its positions carrying significant weight in county, regional and state decision-making forums.

TR-43 Participate in the Eastside Transportation Partnership on an ongoing and cooperative basis to implement transportation plans and policies that affect the City, the Eastside, and the region.

State Highways

TR-44 Maintain an inventory of state-owned highways, and monitor the state-established level-of-service on these highways. Examine the impact of development generating traffic on these highways. Table TR-7 contains this inventory and level-of-service information.

Air Quality

TR-45 Observe federal and state clean air acts by maintaining conformity with the Metropolitan Transportation Plan of the Puget Sound Regional Council, and by following the requirements of the Washington Administrative Code Section 173-420.
3. Trends and Conditions
Introduction

Understanding Mobility

We value transportation. Our residents and our workers spend almost a quarter of their household incomes buying transportation for their families. They spend several hours per week in automobiles traveling an average of 23.8 miles per capita per day.

However, while it is clear that we do like to drive, we also like to be able to travel by other means - transit, carpool, walking and bicycling. Given good levels of service in other modes, we will shift some of our trip making out of single occupant vehicles. Improvements in service levels will also induce (increase the amount of) travel by these other modes.

It is important to separate “transportation” into its components: travel, circulation and access. Of course, we tend to use the word “travel” as a broad catchall phrase for “transportation.” The fact that we have widely varying colloquial uses and meanings for these and other transportation terms and words is unfortunate, but unavoidable.

In any event, for transportation planning purposes these words do have specific and important meanings:

- **Travel** is the ability to move over distances. Mobility has to do with the interaction between people and regional geography.

- **Circulation** is the ability to move about within an area, connecting different localized land uses. Density and efficiency of local transportation networks affect circulation.

- **Access** is the ability to get “in the door.” Access is about physically reaching — gaining access to — destinations.
Redmond’s residents and community leaders understand this challenge intuitively. They speak of the lack of connections between neighborhoods and commercial areas. They express concern that the Downtown serves more as a conduit for pass-through traffic than as a destination. At the same time, they desire good travel time — by auto and by transit — to other parts of the region.

Achieving the community vision articulated in Redmond’s Comprehensive Plan will require emphasizing those aspects of transportation required to support the desired land use or land development pattern. Major employment areas require high levels of mobility for commuting and good circulation for distribution of trip ends. Downtowns and other destination commercial areas require high levels of circulation and good access. Higher density, mixed-use areas require pedestrian environments tied to good, multimodal circulation systems.

**Facilities designed primarily for travel** offer high travel speeds and high levels of capacity. They are not connected to adjacent lands and develop no symbiosis with nearby land uses. Directional flows are segregated to reduce friction and increase travel speed. Connections to land uses and the community are made only at specific points (interchanges, transit stations). Examples include freeways, rail transit and some express bus routes.

**Facilities designed primarily for circulation** offer a fine-grained, highly-connected network of parallel and intersecting routes. Within a specific area (say, a downtown or an activity center) several potential alternatives exist for travel between two points. Turning movements are convenient. Travel flows are two-way and travel speeds are low (less than 35 mph). While the capacity of any one facility is limited, the capacity of the system is high because of the density and interconnectedness of facilities.

**Facilities designed for access** offer frequent, direct connections to abutting land uses (driveways, bus stops). Access facilities are necessarily multimodal, with the pedestrian mode becoming essential to completing the trip. Another way to think of access is as “producing pedestrians.” Parking (especially curb parking) and transit centers are two examples of important intermodal facilities needed for good access. Access is the most important element of overall mobility for business because good access is essential to the delivery of both customers and freight.
Recent Community Travel Trends

1. DEMOGRAPHICS

The city of Redmond has experienced a significant amount of population, job, and dwelling unit growth since 1980. The trends highlight the relationship in the amount of growth in jobs compared to population during the past 20 years.

What are the demographic trends?

- The City of Redmond has become a “job rich” community in the last two decades; more jobs than residents.
- From 1980 to 2000 employment growth exceeded resident population growth.

2. MOTOR VEHICLE TRAVEL

Traffic data for freeways and all other roads were analyzed for trends from 1993 - 2003. The classifications provide a simple way to present traffic trends over a long period of time. For a more detailed traffic analysis consult the Thoroughfare Plan in Chapter 5D. The “all other roads” classification includes roadways in the City of Redmond that are publicly owned and maintained. Traffic data for freeways was provided by Washington Department of Transportation and data for all other roads was assembled from the City of Redmond traffic count program. All data is presented as Average Annual Daily Traffic (ADT). Traffic volumes on state highways in the vicinity of Redmond were studied to determine the annual growth rate of regional traffic between 1998 and 2003. While some highways have similar traffic growth to that seen on Redmond roadways, other highways, specifically SH 520 and I-405, have seen slower growth in the past 5 years. This is mainly due to the same phenomena discussed in the previous section: much of the growth in traffic volumes on these highways occurred prior to 2000.

What are the motor vehicle travel trends?

- Traffic is growing in Redmond on every type of roadway.
- Since 1993 traffic has grown at a much higher rate along SR 520 compared to all other roads in Redmond.
- Over 97 percent of the growth on SR 520 occurred prior to 2000 (between 1993 and 1999).

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Jobs</th>
<th>Dwellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>23,318</td>
<td>12,035</td>
<td>8,721</td>
</tr>
<tr>
<td>1990</td>
<td>35,800</td>
<td>30,101</td>
<td>14,972</td>
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<tr>
<td>2000</td>
<td>45,256</td>
<td>67,707</td>
<td>20,296</td>
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</table>

Figure 3.5 Demographic trends

<table>
<thead>
<tr>
<th>Period</th>
<th>Population</th>
<th>Jobs</th>
<th>Dwellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-1990</td>
<td>54%</td>
<td>150%</td>
<td>72%</td>
</tr>
<tr>
<td>1990-2000</td>
<td>26%</td>
<td>125%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Figure 3.6 Demographic percent change

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway (SR520)</td>
<td>4.8%</td>
<td>2.5%</td>
</tr>
<tr>
<td>All Other Roads</td>
<td>2.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Overall Average</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Figure 3.7 Average annual traffic growth on Redmond roads (1993 to 2003)

<table>
<thead>
<tr>
<th>Highway</th>
<th>Annual Growth 1998 - 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 9</td>
<td>2.6%</td>
</tr>
<tr>
<td>I-90</td>
<td>2.3%</td>
</tr>
<tr>
<td>SR 202</td>
<td>2.1%</td>
</tr>
<tr>
<td>SR 203</td>
<td>2.6%</td>
</tr>
<tr>
<td>I-405</td>
<td>1.2%</td>
</tr>
<tr>
<td>SR 520</td>
<td>1.8%</td>
</tr>
<tr>
<td>SR 522</td>
<td>2.9%</td>
</tr>
<tr>
<td>Average Regional Growth</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Figure 3.8 Average annual traffic growth on regional roads (1998 to 2003)
Collision Analysis

Collision (or accident) data collected from Police reported collisions for motor vehicles, pedestrians and vehicles is maintained by the city of Redmond. Using historic data from 1993 to present collisions were analyzed for the entire city. The total number of collisions was then compared to annual traffic volumes to determine the trends in collision rates.

What are the motor vehicle travel trends?

- Over the past decade, the number of collisions occurring on Redmond roads each year has fluctuated from over 699 to nearly 1000. The average is just over 800.
- The number of annual collisions involving injuries also fluctuated over the years from about 32% to 19% of total collisions with an average of about 27%.
- There have been no fatalities from traffic collisions in the past few years. Since 1994, all fatalities in traffic collisions occurred in collisions involving a bicyclist or pedestrian.
- The number of traffic collisions involving bicyclists or pedestrians has also fluctuated in the past six years between 2 and 3.6% of all traffic collisions. This is about 17 - 34 collisions each year.
- Total collisions for each of the last three years have remained relatively stable compared to the average over the ten year period. The percentage of injury collisions during the last three years has shown a slight annual decline compared to the average.
- With a traffic increase of over 25% in Redmond over the last 10 years (about 2.5% per year), the recent three years of collision data reveal a downward trend in the number of collisions relative to traffic volumes.
- This downward trend in vehicle collision rates is attributable to the City efforts in enforcement, education, and engineering solutions. The commitment to funding improvements such as access management (restricting or restructuring left turns), intersection improvements (new traffic signals, signal modifications, and turn lanes), and other improvements (flashing devices, higher visibility signs and markings, and traffic calming features) have made significant contributions to the reducing the number of potential collisions.
3. TRANSIT

King County Metro and Sound Transit keep historical ridership data for fixed routes with a scheduled stop in Redmond. Each of the agencies provided historical ridership datasets. Metro ridership covers 1990-2003 and Sound Transit covers 2000-2003. Specific highlights of Redmond’s transit service include:

- Metro currently operates 26 fixed routes in the city of Redmond and Sound Transit operates two;
- METRO has discontinued or merged segments of service on twenty-three routes since 1990.

Annual (average daily) revenue hour data was compared to annual (average daily) boarding data to provide a general assessment of recent trends. Data is not available to provide insight on the effectiveness of spot improvements in a particular area or along a specific route. The following figures show details for Metro and Sound Transit routes with scheduled stops in Redmond from 1990 to 2003:

- The level of transit service in Redmond increased by 307 hours.
- The number of passengers boarding per revenue hour decreased by 6.7 persons.

What are the transit trends?

- Ridership has grown at a modest pace since 1990, but the level of service available to the community has experienced significant growth since 1990.
- As a result, the number of boardings per revenue hour has decreased since 1990.
Corridor Analysis

Stop level data, including transit ridership and revenue hours during peak and off-peak periods, along three corridors in Redmond from 1995 to 2003 was analyzed in detail to gain a better understanding of transit trends in unique areas of the city. The analysis looked at two north-south corridors, 148th Avenue NE and 156th Avenue NE between NE 31st Street and NE 51st Street, which serve different land uses. The downtown section of Redmond Way, between 148th Avenue NE and SR 520, was also studied.

148th Avenue NE (NE 31st St. to NE 51st St.):
- The corridor has a mix of moderate density residential and campus-style office parks.
- This corridor historically was served by an average of 8 stops and 7 routes.
- Ridership and revenue hours follow a similar pattern over the time period.
- Ridership fluctuated during the eight-year period, however, the level returned to where it started in 1995 (about 300 riders).
- The corridor currently is pedestrian tolerant and has no separate bicycle facilities.

156th Avenue NE (NE 31st St. to NE 51st St.):
- The corridor is mostly campus-style office parks with some low and moderate density residential.
- This corridor historically was served by an average of 18 stops and 10 routes.
- Ridership increased at a faster pace than revenue hours until 2001. Thereafter ridership decreased and revenue continued to slowly increase.
- The corridor currently is pedestrian tolerant and has off-street bicycle facilities.

Redmond Way (148th Avenue NE to SR 520):
- The west side of Redmond Way has high density residential and the east side of the corridor has a variety of commercial uses.
- This corridor historically was served by an average of 17 stops and 8 routes.
- Ridership levels increased slightly in 1999 as revenue hours were decreasing. Both ridership and revenue hour levels are lower in 2003 than they were in 1995.
- The majority of the corridor is pedestrian tolerant with some supportive nodes. There are no separate bicycle facilities.

What are the ridership and revenue hour trends in the major transit corridors?
- Revenue hour increases have not resulted in noticeable ridership increases.
- The presence of transit facilities, such as high quality stops, support higher levels of ridership in corridors (i.e., 156th Avenue NE corridor).
- Redmond Way and 156th Avenue NE have a similar number of stops, routes and revenue hours, but the ridership numbers are much lower in the Redmond Way corridor.
TRAVEL MODE SHARE

Travel mode share defines how people travel in Redmond by different types of transportation modes. The most common modes of travel in Redmond are automobile, transit, bicycle and walking. Mode share in Redmond is collected for the work commute and other daily personal trips. The data sources below report the mode share split for the Redmond work commute:

- **Commute Trip Reduction (CTR)** data is collected as required by the 1991 Washington State Clean Air Act, enacted to reduce traffic congestion, air pollution and fuel consumption by reducing vehicle trips. The law requires that local jurisdictions and employers work together to define programs at individual worksites encouraging employees to travel to work using alternatives to driving alone, including car/vanpool, bicycle, walk, public transit, compressed work weeks and flexible work schedules. Eighty-one Redmond employers currently participate in the CTR program, employing a total of almost 43,000 workers. It is important to note employers with less than 100 employees are not required to participate in the program.

- **Journey To Work (JTW)** tables report limited data about commuting collected in the decennial census. Data about personal travel is not collected. This dataset provides information solely about Redmond residents and their commute to work.

- **The Land Use Transportation Air Quality Health Study (LUTAQH)** was commissioned by King County in 1999 to “establish and implement community design principles and transportation investment policies that improve accessibility, air quality and public health within King County and the central region.” As one of three communities surveyed as part of the study (Figure 3.20), just over 180 Redmond residents completed travel diaries documenting every trip taken during a 24-hour period in the fall of 2003 as part of the research. While the sample size is small, these diaries include data on personal travel and provide the most complete look at overall mode choices of Redmond residents.

What are the work commute mode share trends?

- All three surveys report that about three-quarters of workers commuted by single occupant vehicle, much like the trend seen nationally, illustrating that there is still mode share management necessary for the City of Redmond to meet the 30% alternative (non-SOV) modes commute goal found in the Redmond Comprehensive Plan Transportation Element.

- The CTR results show almost six percent more car/vanpools than JTW or LUTAQH. The increased car/vanpool results are likely explained by the CTR program emphasis on employer-subsidized vanpools.

- The CTR survey returned significantly lower walk rates than the other two surveys. The low rates of walking in the CTR survey may be a reflection of the large size of the businesses participating in the program and the likelihood that many employees travel from outside of Redmond.

### Table: Redmond work commute mode split

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Drove alone</td>
<td>76.2%</td>
<td>75.2%</td>
<td>73.2%</td>
<td>75.8%</td>
</tr>
<tr>
<td>Car/vanpooled</td>
<td>11.3%</td>
<td>17.1%</td>
<td>11.0%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Public transit</td>
<td>4.2%</td>
<td>3.1%</td>
<td>4.7%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>0.8%</td>
<td>0.7%</td>
<td>1.9%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Walked</td>
<td>2.8%</td>
<td>0.9%</td>
<td>7.5%*</td>
<td>2.9%</td>
</tr>
<tr>
<td>Other means</td>
<td>0.4%</td>
<td>0.0%</td>
<td>1.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Worked at home</td>
<td>4.3%</td>
<td>3.0%</td>
<td>N/A</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

*The high number of walkers recorded by the LUTAQH study result of coding differences.
** 2003 CTR data= 13% carpool and 4.0% vanpool

Figure 3.18 Redmond work commute mode split

Figure 3.19 Population represented in each survey
Because the Census and CTR surveys do not collect data on personal trips they cannot be used to determine travel mode share for other times of day. In order to understand how people in the Redmond area travel for non-work related trips the LUTAQH travel diary data was analyzed. Because this data is a relatively small sample size, the National Household Travel Survey (NHTS) was used as a comparison. The NHTS data is a national study and not the most accurate profile of local travel behavior, but offers an interesting comparison to the LUTAQH data.

The results of the Redmond portion of the LUTAQH study are details on the following pages. The trends in the adjacent the column were calculated using the results.

### What are the mode share trends for all trips?

- When all daily trips are included, the number of single occupant vehicle trips (SOV) reduces dramatically that seen in the work commute.
- The overall share of trips made in a vehicle remains about the same, but many more are made in cars with more than one person (HOV).
- When compared to national trends, the LUTAQH study reports that Redmond residents travel less often by personal vehicle, and more often by public transportation, bicycle and foot.
- More than one half of daily trips are less than 5 miles in length (see Figure 3.22).
- In fact, 30 percent of the trips are less than one mile in length. As the trip length increases, so does the SOV share of the number of trips (see Figures 3.22 and 3.23).
- Figure 3.24 shows that the average SOV trip length is longer than the average HOV trip length. The average length of transit trips is about 3 to 4 miles longer than average trip length for personal vehicles.

### Mode Share Comparison of LUTAQH and NHTS

<table>
<thead>
<tr>
<th>Mode</th>
<th>2004 LUTAQH Work Commute</th>
<th>2004 LUTAQH Total Daily Trips</th>
<th>2001 NHTS Total Daily Trips**</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOV</td>
<td>73.2%</td>
<td>44.2%</td>
<td>83.8%</td>
</tr>
<tr>
<td>HOV</td>
<td>11.0%</td>
<td>39.6%</td>
<td></td>
</tr>
<tr>
<td>Public Transit</td>
<td>4.8%</td>
<td>4.4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>1.9%</td>
<td>1.2%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Walk</td>
<td>7.7%</td>
<td>10.0%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Other</td>
<td>1.3%</td>
<td>0.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**National Household Travel Survey (NHTS) provides national estimates of the daily travel patterns of U.S. households. It is sponsored by the U.S. Department of Transportation and now integrates the Nationwide Personal Transportation Survey and the American Travel Survey.
### 3. Trends & Conditions

#### Figure 3.22 Distance category by mode share

<table>
<thead>
<tr>
<th>Mode</th>
<th>&lt;1 mile</th>
<th>1 to 2.5 miles</th>
<th>2.5 to 5 miles</th>
<th>&gt; 5 miles</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Modes</td>
<td>30.5%</td>
<td>21.7%</td>
<td>14.3%</td>
<td>33.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>SOV</td>
<td>20.9%</td>
<td>23.9%</td>
<td>16.2%</td>
<td>39.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>HOV</td>
<td>27.2%</td>
<td>24.0%</td>
<td>15.2%</td>
<td>33.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Transit</td>
<td>25.5%</td>
<td>8.8%</td>
<td>7.8%</td>
<td>57.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Bike</td>
<td>7.4%</td>
<td>44.4%</td>
<td>29.6%</td>
<td>18.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Walk</td>
<td>92.6%</td>
<td>7.0%</td>
<td>0.4%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.0%</td>
<td>75.0%</td>
<td>25.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>30.5%</td>
<td>21.7%</td>
<td>14.3%</td>
<td>33.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

#### Figure 3.23 Mode share by distance category

<table>
<thead>
<tr>
<th>Mode</th>
<th>&lt;1 mile</th>
<th>1 to 2.5 miles</th>
<th>2.5 to 5 miles</th>
<th>&gt; 5 miles</th>
<th>Total Share of All Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOV</td>
<td>30.3%</td>
<td>48.7%</td>
<td>50.0%</td>
<td>51.6%</td>
<td>44.2%</td>
</tr>
<tr>
<td>HOV</td>
<td>35.3%</td>
<td>43.9%</td>
<td>42.1%</td>
<td>39.7%</td>
<td>39.6%</td>
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<tr>
<td>Transit</td>
<td>3.7%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>7.7%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Bike</td>
<td>0.3%</td>
<td>2.4%</td>
<td>2.4%</td>
<td>0.6%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Walk</td>
<td>30.3%</td>
<td>3.2%</td>
<td>0.3%</td>
<td>0.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

#### Figure 3.24 Average trip length by mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>Avg. Trip Length (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOV</td>
<td>6.3</td>
</tr>
<tr>
<td>HOV</td>
<td>4.9</td>
</tr>
<tr>
<td>Transit</td>
<td>9.0</td>
</tr>
<tr>
<td>Bike</td>
<td>5.5</td>
</tr>
<tr>
<td>Walk</td>
<td>0.5</td>
</tr>
<tr>
<td>Other</td>
<td>5.12</td>
</tr>
</tbody>
</table>
Community Travel Forecasts

1 DEMOGRAPHICS

Demographic projections for Redmond have been assembled from a variety of sources to arrive at build-out forecasts. The city of Redmond Planning Department, based on the preferred growth strategy in the Comprehensive Plan and other regional data sources, provided the following information. As shown, Redmond will begin to improve the job-population balance by adding new dwelling units and attracting new residents to existing housing. In the future Redmond will continue to be a major destination for employment.

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2022*</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>46,040</td>
<td>65,820</td>
<td>43%</td>
</tr>
<tr>
<td>Jobs</td>
<td>76,830</td>
<td>94,794</td>
<td>23%</td>
</tr>
<tr>
<td>Dwellings</td>
<td>20,892</td>
<td>30,387</td>
<td>45%</td>
</tr>
</tbody>
</table>

Figure 3.25 Demographic forecasts table

Notes
* Preferred Growth Strategy
Source
Jobs 2000: Puget Sound Regional Council tally of jobs covered by state unemployment insurance and from WA state data.

2 MOTOR VEHICLE TRAVEL

Traffic volumes on Redmond roads were forecast through 2022. Figure 3.27 represents average annual growth in traffic volumes over the past decade and the average growth rate expected over the next twenty years. A more detailed analysis on the future growth expected in specific Redmond locations is available in the Thoroughfare Plan in Chapter 5D.

- Traffic volumes are expected to continue to grow on Redmond roads over the next two decades.
- The traffic growth is forecast to continue at the same pace as seen on Redmond roads in the past decade.
- Note that the growth rates in Figure 3.27 were calculated using slightly different methodologies. The forecast model incorporates many low volume roadways that were not previously used in calculating growth rates. In the past, growth rates were determined using available traffic counts, which are focused on critical, and usually higher growth, roadways.

Figure 3.27 Average annual traffic growth on Redmond roads 1998 - 2022
4. Transportation Objectives and Concurrency Management
Introduction

Washington State Growth Management Act

The Washington State Legislature enacted the Growth Management Act (GMA) in 1991 in response to growth and development pressures in the state. The GMA requires local governments in fast growing and densely populated areas (including King County and Redmond) to develop and adopt comprehensive plans. Counties are given authority to adopt county-wide growth management policies that are binding on their cities. The GMA requires Redmond to develop a Comprehensive Plan that includes a transportation element. The transportation element must address level of service for arterial roadways and transit routes.

Washington State Regulations Related to Transportation Concurrency

The State (through its Department of Community, Trade and Economic Development and State Department of Transportation) has adopted rules spelling out some of the GMA requirements in more detail.

- Redmond must prepare a Transportation Element of its Comprehensive Plan that provides “a definition of the level of service (LOS) to be adopted for the transportation system that includes at least arterials and transit routes. The definition of level of service is not restricted to the traditional Highway Capacity Manual approach, but could include district, area-wide, corridor, or other nontraditional level of service standards.” The rules state “level of service standards should reflect access, mobility, mode-split, or capacity goals for the transportation facility depending upon the surrounding development density and community goals, and should be developed in consultation with transit agencies serving the planning area.”
Redmond must adopt a concurrency management system ensuring that if concurrency for transportation facilities is not achieved, development will not be approved. The rules state: “In the case of transportation, an ordinance must prohibit development approval if the development causes the level of service of a transportation facility to decline below the standards adopted in the transportation element of the comprehensive plan unless improvements or strategies to accommodate the impacts of development are made concurrent with development, or within six years of occupancy of the development.”

These regulations provide Redmond with clear guidance but also considerable flexibility in designing a transportation concurrency management system based on the City’s land use plan and community objectives.

Puget Sound Standards for Highways of Regional Significance

On October 30, 2003, Puget Sound Regional Council adopted guidelines for State Highways of Regional Significance. The affected highways in Redmond include State Routes 520, 908 and 202 within the City. These are designated as Tier 1 facilities with an LOS standard of “LOS E/Mitigated,” which means: “... congestion should be mitigated (such as transit) when p.m. peak hour LOS falls below LOS E.”

The standards further state: “Cities and counties are required to include the LOS standards for all state routes in the transportation element of their local comprehensive plan. The Regional Council certifies the transportation elements, and staff will review the plans to ensure that the regionally adopted LOS standards are included. Local jurisdictions can address the regionally established LOS standards during their next regularly scheduled plan update or amendment.”

With respect to “mitigation” the standards state: “The LOS standard for the central urban Tier 1 routes introduces mitigation when the LOS along a roadway falls below E. While PSRC may plan for potential mitigation strategies as part of long-term regional planning, decisions on what strategies are appropriate for any particular situation will be made by WSDOT or the local jurisdiction on a case-by-case basis.”

This creates a requirement that Redmond include in its transportation plan a list of State Highways of Regional Significance and an accounting of their current and forecast operating condition. If one or more of these routes is expected to fall below LOS E as defined in the Standards, Redmond should identify what mitigation measures are appropriate and what entity will implement them. However, the Standards do not create an obligation on the part of Redmond to achieve LOS E or mitigate congestion on regional highways.

King County County-Wide Policies

Finally, as required by the GMA, King County and the cities have adopted “County-Wide Planning Policies” that provide growth management framework to municipalities within the County. One key provision requires “mode-split” objectives as follows: “… mode-split goals for non-single-occupancy vehicle travel to all significant employment centers to reflect that center’s contribution to the solution of the region’s transportation problem.”

Other provisions discuss LOS standards as a “tool” but do not create additional requirements for Redmond to address in the update of its transportation element. Again, the City has considerable flexibility in how it designs its concurrency and LOS provisions.

City of Redmond Transportation Objectives

This Transportation Master Plan includes and is based on a Transportation Element adopted by Redmond City Council in 2004. Redmond’s intent for a concurrency management system is to:

- Comply with provisions of state law as well as regional and local policies.
- Base transportation investments on support of local and regional land use plans.
- Deploy concurrency in support of the City’s vision and goals.
- Simplify the concurrency management system.
- Frame concurrency management within a broader set of transportation objectives.
Plan-Based System of Concurrency Management

Redmond’s transportation concurrency management system will implement a “plan-based approach” that evaluates and reports completion of the transportation plan as measured against the pace and extent of development.

Transportation Element policies (Chapter 2) state that the City will utilize a “Plan-Based” approach as the basis for Redmond’s transportation concurrency management system. This is intended to ensure that the funding of programs, construction of facilities, and provision of services occur in proportion to the needs of the City, and to the pace of growth. The intent is that the transportation system should explicitly support achievement of the community vision and policies in the Comprehensive Plan. (TR-3)

Further, the City’s objective is to support land uses envisioned by the Comprehensive Plan through an appropriate transportation level-of-service standard. For Redmond, this means that so long as the growth of the City and the development of the City’s transportation system are proportionate, work in parallel, and are consistent with the Comprehensive Plan, the transportation concurrency management requirement will have been met. (TR-4)

Specific “level of service” (LOS) measures for each mode have been developed and included in a transportation system performance measurement and reporting system (Chapter 7). While modal LOS measures provide the technical foundation for the concurrency management system, they will not directly be the subject of concurrency testing. Rather, concurrency testing will at least annually compare the status of the implementation of the transportation plan with the status of the implementation of the land use plan. This approach is based on the determination that the transportation system planned for 2022 (described in this Transportation Master Plan) will support the planned 2022 land use at acceptable levels of service (set forth in this chapter).

A Concurrency Management Ordinance implementing the transportation concurrency management system will be drafted and adopted in late 2005, following City Council adoption of this Transportation Master Plan.

Transportation Objectives

Redmond’s transportation objectives for this Comprehensive Plan period (now through 2022) are organized in three categories: Multimodal level of service measures, Mode share measures, and Travel safety measures.

1. Multimodal Level of Service Measures

Level of service measures are designed to show how the City’s transportation system will operate given future land uses in Redmond and the region, and given the transportation program funding and priorities. In each category, the City’s transportation programs and projects (see Chapter 6) will achieve these measures on or before the year 2022. Thus, the actual concurrency management requirement is achievement of the City’s transportation plan.

Redmond’s multimodal LOS measures include:

A. Traffic volume and roadway capacity;
B. Regional transit travel time;
C. Local transit connectivity;
D. Bicycle system implementation;
E. Pedestrian environment adequacy.

A. Traffic Volume and Roadway Capacity

Roadway level of service (LOS) for traffic movement has been set at 11 screenlines selected to represent distinct traffic flows into, through and within the community. LOS is measured using pm peak hour counts based on annual traffic counts at specific locations along the screenlines. The City has estimated current and future LOS at each count location.

This methodology uses pm peak hour volume-to-capacity ratios. The 2022 forecasts were developed using a refined version of the BKR (Bellevue-Kirkland-Redmond) traffic model, which in turn utilized land use forecasts from regional plans and Redmond’s Comprehensive Plan. These forecasts also reflect the implementation of the Transportation Facilities Plan in Chapter 6.

The screenlines and LOS measures are shown in figure 4.1 with comparisons to actual 2000 levels.
Figure 4.2 on next page shows the locations of these screenlines. Each screenline is made up of one or more specific locations along arterial roadways. More detail on these locations and on current LOS conditions is provided in Chapter 5, Section D - Thoroughfare Plan. The Transportation Facilities Plan (Chapter 6) is sufficient to achieve these measures by 2022. Thus, the actual concurrency management condition to be met is achievement of the Plan. Figure 4.2 also shows the current and 2020 number of general purpose lanes crossing each of the screenlines.

Redmond’s system for annual reporting of roadway level of service is described in Chapter 7.

<table>
<thead>
<tr>
<th>Screenline</th>
<th>Count Locations</th>
<th>Actual 2000 LOS</th>
<th>2022 Forecast LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>East City Edge</td>
<td>0.94</td>
<td>0.96</td>
</tr>
<tr>
<td>2</td>
<td>West City Edge</td>
<td>0.87</td>
<td>1.10</td>
</tr>
<tr>
<td>3</td>
<td>Southwest City Edge</td>
<td>0.64</td>
<td>0.63</td>
</tr>
<tr>
<td>4</td>
<td>Northwest City Edge - Sammamish Valley</td>
<td>0.68</td>
<td>0.93</td>
</tr>
<tr>
<td>5</td>
<td>North Central Internal - Education Hill</td>
<td>0.60</td>
<td>0.86</td>
</tr>
<tr>
<td>6</td>
<td>Grasslawn North-South Internal</td>
<td>0.62</td>
<td>0.75</td>
</tr>
<tr>
<td>7</td>
<td>Downtown - West Edge</td>
<td>1.14</td>
<td>1.25</td>
</tr>
<tr>
<td>8</td>
<td>Downtown - Northeast Edge</td>
<td>0.88</td>
<td>1.01</td>
</tr>
<tr>
<td>9</td>
<td>Downtown - Southeast Edge</td>
<td>0.72</td>
<td>0.89</td>
</tr>
<tr>
<td>10</td>
<td>Internal Downtown North - South</td>
<td>0.44</td>
<td>0.51</td>
</tr>
<tr>
<td>11</td>
<td>Internal Downtown East - West</td>
<td>0.78</td>
<td>0.89</td>
</tr>
</tbody>
</table>

*Figure 4.1 Roadway LOS Criteria (PM Peak Hour, Bi-directional)*
4. TRANSPORTATION OBJECTIVES AND CONCURRENCE MANAGEMENT

Figure 4.2 LOS Screenlines Map

*Reflects conversion of 166th from 4 to 3 thru lanes.

** Reflects conversion of NE 85th from 4 to 3 thru lanes.

***Reflects conversion of Redmond-Cleveland from one way couplet to 2 lane streets.

<table>
<thead>
<tr>
<th>Screenline</th>
<th>2003 GP Lanes</th>
<th>2022 GP Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>#2</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>#3</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>#4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>#5</td>
<td>8</td>
<td>7*</td>
</tr>
<tr>
<td>#6</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>#7</td>
<td>15</td>
<td>14**</td>
</tr>
<tr>
<td>#8</td>
<td>8</td>
<td>7***</td>
</tr>
<tr>
<td>#9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>#10</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>#11</td>
<td>12</td>
<td>12**</td>
</tr>
</tbody>
</table>
6. Regional Transit Travel Time

Redmond residents have identified improved regional transit travel time as a priority need for personal mobility. “Regional transit travel time” means the time required to travel by transit between Redmond and other parts of the region. This measure uses travel time between the two centers in Redmond (Downtown Redmond and Overlake) and other centers in the region (for this purpose, Downtown Seattle, Downtown Bellevue, Totem Lake and the University District/UW) to determine the effectiveness of public transit.

Citizens expressed a desire for transit travel between these centers to be a “real choice.” In other words regional travel by transit should be a practical alternative that is not overly time-consuming relative to auto travel times. Today, transit service from Redmond to these centers is by bus, principally on regional routes provided by Sound Transit. In the future, some of these connections could be via some sort of high capacity transit - Bus Rapid Transit, Light Rail, etc.

However, the objectives below address only the service levels, not the details of the means of achieving them. More detailed information about future transit service and current levels of service is provided in Chapter 5, Section C. Both Sound Transit and King County Metro (which operates regional bus routes for Sound Transit) would be involved in implementing the improved transit services described below, and in helping Redmond achieve its objectives for regional transit travel time.

The regional transit travel time LOS measures apply only to those land uses located within the two centers (the Downtown and Overlake). Regional transit service improvements anticipated by 2022 will achieve these measures.

The system for annual measurement of regional transit travel time is described in Chapter 7.

<table>
<thead>
<tr>
<th>- BETWEEN -</th>
<th>Appalachian Station</th>
<th>Overlake</th>
<th>Overlake</th>
<th>Overlake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Redmond (Downtown Transit Center)</td>
<td>Peak frequency: 5 minutes Travel time: 30 minutes</td>
<td>Peak frequency: 5 minutes Travel time: 25 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bellevue Transit Center</td>
<td>Peak frequency: 10 minutes Travel time: 15 minutes</td>
<td>Peak frequency: 15 minutes Travel time: 15 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University District-Seattle</td>
<td>Peak frequency: 5 minutes Travel time: 30 minutes</td>
<td>Peak frequency: 15 minutes Travel time: 25 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downtown Kirkland</td>
<td>Peak frequency: 30 minutes Travel time: 15 minutes</td>
<td>Peak frequency: 30 minutes Travel time: 20 minutes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 4.3 Regional Transit LOS Measures*
C. Local Transit Connectivity

Redmond residents have identified better local connectivity as a priority need for personal mobility. “Local connectivity” means the level of service for transit connections directly between points within Redmond. Because local transit services are provided by King County Metro, most of the bus routes in Redmond are segments of longer routes that traverse other cities. Some of these routes are circuitous (not direct) and as a result are not time-competitive with auto travel for connections between points within Redmond.

Redmond’s local transit LOS measures emphasize connections between Redmond neighborhoods and three service destinations within Redmond: Downtown, Redmond Town Center and Overlake. Direct connections between neighborhoods are facilitated by frequent priority connections to the three service destinations, which enable convenient transfers to other Redmond neighborhoods.

While Redmond can work with Metro to plan service improvements, such improvements are not directly within Redmond’s control or authority and the City does not have authority to conduct route planning. These measures for local transit connectivity have been developed in cooperation with Metro. They represent reasonable expectations for future service levels, given King County fiscal constraints.

The system for annual measurement of local transit connectivity is described in Chapter 7.

<table>
<thead>
<tr>
<th>Level</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC - Priority Connection</td>
<td>Peak hour frequency of service (≤ 15 min). Direct connection (&lt; 1.5 x most direct route). All day service (≥ 18 hours).</td>
</tr>
<tr>
<td>MS - Maintain Service Level</td>
<td>Maintain at least today’s level of service.</td>
</tr>
<tr>
<td>N - No Direct Connection</td>
<td>No direct local route connection yet.</td>
</tr>
</tbody>
</table>

**Figure 4.4 Local Transit Connectivity Measures**

<table>
<thead>
<tr>
<th></th>
<th>Downtown</th>
<th>Redmond Town Center</th>
<th>NE Redmond</th>
<th>Overlake Transit Center</th>
<th>Overlake Mixed Use Core</th>
<th>Grass Lawn</th>
<th>SE Redmond</th>
<th>Willows</th>
<th>Viewpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown</td>
<td></td>
<td>PC</td>
<td>PC</td>
<td>PC</td>
<td>PC</td>
<td>MS</td>
<td>PC</td>
<td>MS</td>
<td>MS</td>
</tr>
<tr>
<td>Redmond Town Center</td>
<td>PC</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>NE Redmond</td>
<td></td>
<td></td>
<td>N</td>
<td>N</td>
<td>MS</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Overlake TC</td>
<td></td>
<td></td>
<td></td>
<td>PC</td>
<td></td>
<td>MS</td>
<td>MS</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Overlake Mixed Use Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MS</td>
<td>MS</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Grass Lawn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MS</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>SE Redmond</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Willows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Viewpoint</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4.5 2022 Local Transit LOS Standards**
D. Bicycle System Implementation

Bicycling is an important travel mode in Redmond and will become more prominent in the future as people respond to improvements in facilities for bicycling. Chapter 5, Section B shows a network of primary and secondary corridors that will eventually be completed. The LOS measures for the bicycle mode reflect the most critical need in the city: long, continuous cross-town corridors.

While it will not be possible to complete all of the primary and secondary corridors by 2022, several of the most important corridors will be finished under this Plan.

These will create feasible access to the Redmond's primary employment zones from most residential areas, and will provide safe, convenient and direct bicycle circulation between the primary commercial areas.

The concurrency management condition to be met by 2022 is full completion of these corridors consistent with City design standards. Figure 4.7 provides a map of these corridors.

The system for annual measurement of bicycle system completion is described in Chapter 7.

---

<table>
<thead>
<tr>
<th>Corridor Description</th>
<th>Missing Links*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Woodinville - Sammamish Crosstown</strong></td>
<td>From NE 124th Ave to the East Lake Sammamish Trail</td>
</tr>
<tr>
<td>Willows Road</td>
<td></td>
</tr>
<tr>
<td>BNSF corridor, south of NE 90th Street through downtown</td>
<td></td>
</tr>
<tr>
<td>East Lake Sammamish Trail</td>
<td></td>
</tr>
<tr>
<td><strong>Woodinville - Overlake Mixed-Use Core Crosstown</strong></td>
<td>From NE 124th Street to NE 24th Street</td>
</tr>
<tr>
<td>Redmond-Woodinville Road</td>
<td></td>
</tr>
<tr>
<td>new 160th Ave NE connector street</td>
<td></td>
</tr>
<tr>
<td>NE 90th Ave</td>
<td></td>
</tr>
<tr>
<td>161st Ave NE</td>
<td></td>
</tr>
<tr>
<td>Leary Way</td>
<td></td>
</tr>
<tr>
<td>West Lake Sammamish Parkway NE</td>
<td></td>
</tr>
<tr>
<td>Bel-Red Rd</td>
<td></td>
</tr>
<tr>
<td>NE 24th St</td>
<td></td>
</tr>
<tr>
<td><strong>North Redmond Downtown Loop</strong></td>
<td>From Willows Road at NE 116th Street to BNSF at Bear Creek Parkway</td>
</tr>
<tr>
<td>NE 116th Ave</td>
<td></td>
</tr>
<tr>
<td>Avondale Road</td>
<td></td>
</tr>
<tr>
<td>Avondale Way</td>
<td></td>
</tr>
<tr>
<td>170th Pl NE</td>
<td></td>
</tr>
<tr>
<td><strong>Southeast Redmond Downtown Loop</strong></td>
<td>From East Lake Sammamish Parkway at 187th Ave NE to NE Union Hill Road at Avondale Way</td>
</tr>
<tr>
<td>187th Ave NE</td>
<td></td>
</tr>
<tr>
<td>188th Ave NE</td>
<td></td>
</tr>
<tr>
<td>NE Union Hill Road</td>
<td></td>
</tr>
<tr>
<td><strong>Overlake Downtown Loop</strong></td>
<td>From NE 24th Street at 152nd Ave NE to NE 90th Street at 161st Ave NE</td>
</tr>
<tr>
<td>152nd Ave NE</td>
<td></td>
</tr>
<tr>
<td>520 overpass</td>
<td></td>
</tr>
<tr>
<td>NE 36th St</td>
<td></td>
</tr>
<tr>
<td>150th Ave NE</td>
<td></td>
</tr>
<tr>
<td>NE 51st St</td>
<td></td>
</tr>
<tr>
<td>SR 520 Trail</td>
<td></td>
</tr>
<tr>
<td>154th Ave NE</td>
<td></td>
</tr>
<tr>
<td>Old Redmond Rd</td>
<td></td>
</tr>
<tr>
<td>West Lake Sammamish Way</td>
<td></td>
</tr>
<tr>
<td>BNSF corridor</td>
<td></td>
</tr>
<tr>
<td>NE 90th St</td>
<td></td>
</tr>
</tbody>
</table>

* Missing links are described in Section B of Chapter 5.

Figure 4.6 Bicycle System LOS Standards
4. TRANSPORTATION OBJECTIVES AND CONCURRENCE MANAGEMENT

Figure 4.7 Bicycle Corridor LOS Map
E. Pedestrian Environment Adequacy

Redmond has worked to make the city more “pedestrian friendly” for its residents, workers and visitors. With this Transportation Master Plan, the City’s efforts will become more focused and intensive. Adequacy of pedestrian environment is one of the five categories of LOS measures.

Pedestrian environment adequacy is a measure of the “pedestrian friendliness” of the urban environment measured within specific corridors and districts. Section A of Chapter 5 provides details about measurement and evaluation of pedestrian environments. For purposes of concurrency testing, pedestrian adequacy will be held to different measures within four settings as shown in Figure 4.8 below.

Taken together, these measures represent a city-wide expectation for 2022. However, the specific design standards that must be met by each project and site as it develops or redevelops may be higher than this, as determined by the City’s street design standards and development review requirements. There may also be instances with particular areas and projects where it may not be reasonable to meet the established LOS measure.

LOS measures presented in Figure 4.8 are for concurrency management purposes only. Design standards and development review requirements for specific projects will generally be higher than the LOS requirement, as identified. Within the two centers and within all Multimodal Corridors, development approval may be withheld if a substantial area around the specific project or site will not meet the standard within six years of the anticipated completion and occupancy of the project.

Chapter 5, Section A describes guidelines and minimum conditions for three components of the affected landscape: the roadway corridor, the pedestrian realm and the abutting land use. The minimum LOS measure applies to all three. In deciding whether the LOS measure has been met, the City will evaluate adjacent and nearby street corridors, the sidewalks and other walkways (existing and proposed as part of the development) and the nature of the proposed land use and urban design.

Within the Downtown and Overlake districts, the City will pursue development of environments that meet the “Pedestrian Place” criteria set forth in Chapter 5, Section A. This may call for additional public and private investment beyond the minimum LOS measure (Pedestrian Supportive) in Figure 4.8.

The system for annual measurement of pedestrian environment adequacy is described in Chapter 7.

<table>
<thead>
<tr>
<th>Area</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places: North Downtown, Old Town, Redmond Town Center, Redmond Crossing, Overlake Mixed-Use Core</td>
<td>Pedestrian Supportive</td>
</tr>
<tr>
<td>Districts: Greater Downtown &amp; Overlake Mixed-Use Core areas</td>
<td>Pedestrian Supportive</td>
</tr>
<tr>
<td>Multimodal Corridors: Mixed Use and Commercial Areas</td>
<td>Pedestrian Supportive</td>
</tr>
<tr>
<td>Multimodal Corridors: Other Areas</td>
<td>Pedestrian Tolerant</td>
</tr>
<tr>
<td>All Other Areas</td>
<td>Pedestrian Tolerant</td>
</tr>
</tbody>
</table>

Figure 4.8 Pedestrian LOS Measures
2. Mode Share Objectives

Mode share is the measurement of person trips by mode of travel. The travel modes, as defined in this Plan, are:

- **SOV - Single-Occupyant Vehicle.** Automobiles, trucks, motorcycles and so forth, with one occupant - the driver.
- **Carpool/Vanpool.** Shared ride vehicles including any motor vehicle other than a public transit vehicle with more than one occupant.
- **Public Transit.** Public bus and rail transit.
- **Bicycle.** Non-motorized bicycles only.
- **Pedestrian.** Includes wheelchairs.
- **Other Travel Means.** Skates, Segways, etc.
- **Work at Home.** Applicable only to commute trips.

Expressed as percentages of total travel, mode share describes the proportion of trips made by a specific mode (e.g., “transit mode share”), or by a group of modes (e.g., “non-SOV travel”).

Mode share objectives have been set for two categories of trips: CTR program commute mode share, and all day Redmond resident mode share.

A. CTR Commute Mode Share

The Commute Trip Reduction program is required by the 1991 Washington State Clean Air Act. It applies to employers of 100 workers or more, which represents about 81 companies in Redmond, employing about 43,000 employees. The objective applies to commute trips for people at CTR companies in Redmond.

The key number in Figure 4.9 is the Non-SOV total of 30% by 2022. The City’s transportation demand management program will seek to achieve this objective for commute trips to large employers.

<table>
<thead>
<tr>
<th>Mode</th>
<th>2003 Actual</th>
<th>2022 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Occupant Vehicle (SOV)</td>
<td>75%</td>
<td>70%</td>
</tr>
<tr>
<td>All Other (Non-SOV)</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Carpool/Vanpool</td>
<td>17%</td>
<td>20%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Other Travel Means</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Work at Home</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td><strong>TOTAL ALL COMMUTE TRIPS</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Figure 4.9 CTR Mode Share Objectives

B. All Day Redmond Resident Mode Share

In 1999, King County commissioned a “Land Use Transportation Air Quality Health Study” based on a survey of residents of portions of King County, including Redmond. This study provided local data on all day travel (more than just commute trips) by Redmond residents (as opposed to people working in Redmond). Chapter 7 of this Plan describes how this survey will be replicated at five-year intervals.

Redmond has established mode share objectives for all travel by Redmond residents as shown in Figure 4.10 below. Again, the key number in Figure 4.10 is the Non-SOV total of 35% by 2022. The City’s transportation demand management program will seek to achieve this objective for all trips by Redmond residents.

<table>
<thead>
<tr>
<th>Mode</th>
<th>2003 Actual</th>
<th>2022 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Occupant Vehicle (SOV)</td>
<td>44%</td>
<td>35%</td>
</tr>
<tr>
<td>All Other (Non-SOV)</td>
<td>56%</td>
<td>65%</td>
</tr>
<tr>
<td>Carpool/Vanpool</td>
<td>40%</td>
<td>42%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>Other Travel Means</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>TOTAL ALL RESIDENT TRIPS</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Figure 4.10 All Day Redmond Resident Mode Share Objectives
3. Travel Safety Objectives

Chapter 3 provides data on accident and safety trends in Redmond. Chapter 7 describes how Redmond will monitor and report on traffic accidents annually. The City has set ambitious objectives for travel safety as shown in Figure 4.11.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Vehicle Accidents</td>
<td>≤ 900</td>
</tr>
<tr>
<td>Motor Vehicle Accidents Involving a Bicyclist or Pedestrian</td>
<td>≤ 20</td>
</tr>
</tbody>
</table>

*Figure 4.11 Traffic Safety Objectives*
5A. Pedestrian Program Plan
Introduction

Classifying Walking Environments

There are different types of pedestrian environments and different reasons why people walk. Therefore, walking environments should be thought of as arrayed along a continuum of pedestrian friendliness with four classifications:

- **Pedestrian Place destinations**
  These are districts of limited extent, with mixed-use land development, moderate to high densities, good transit service, great streets, and extensive pedestrian accommodation in the form of sidewalks, crosswalks, and other facilities. Here people will stroll and linger past store fronts and urban landscape features, walking for both utilitarian and recreational purposes.

- **Pedestrian Supportive environments**
  These include well-designed residential and commercial neighborhoods, employment centers, parks, schools and recreational areas. These are safe environments for walking, where sidewalks are continuous and buffered from streets, wide enough for passing and walking side by side, and where good street crossings have been provided. Buildings, not parking lots, face streets.

- **Pedestrian Tolerant environments**

- **Pedestrian Intolerant environments**

Contents of this Chapter

This modal chapter of the Transportation Master Plan addresses ways to improve the pedestrian environment to encourage walking in Redmond. Topics discussed include:

- Classifying Walking Environments:
  - Pedestrian Places
  - Pedestrian Supportive environments and pedestrian promenades
  - Pedestrian Tolerant environments
  - Pedestrian Intolerant environments

- Components of the Pedestrian Environment:
  - Roadway Corridor
  - Pedestrian Realm
  - Adjacent Land Use

- Details that Influence Pedestrian Friendliness

- Implementation

- Sidewalk Guidelines

- Crossing Guidelines

- Pedestrian Plan Map
Pedestrian Tolerant environments

These are areas and corridors where walking is technically safe (there are continuous sidewalks and some kind of reasonably safe street crossings), but the land use patterns are such that little walking activity is likely to be generated. These include arterial street corridors, remote or rural streets and certain light industrial or warehousing areas. Such places will only attract limited amounts of utilitarian walking, and will not appeal to recreational walkers or strollers.

Pedestrian Tolerant environments provide pedestrian facilities, but include a very minimal level of accommodation.

Pedestrian Intolerant environments

This is a polite term for pedestrian hostile areas where walking is unsafe and unattractive. Examples include freeway corridors, certain industrial or extraction land uses, landfills, and so forth.

In general, Intolerant environments lack pedestrians, either due to a lack of pedestrian accommodations and/or dominance by automobile traffic and auto-oriented land uses.

Creating Pedestrian Places requires a complete reorientation of urban design characteristics in favor of pedestrians. This is feasible in only a limited number of special places that become local icons that give identity to the community and its neighborhoods.

Components of the Pedestrian Environment

Most pedestrian environments are largely comprised of street right-of-ways. Certainly, there will be pathways through parks and open space and short mid-block connections in downtown neighborhoods, but the principal infrastructure for walking in Redmond will always be the street system.

Three distinct components of the street system, as depicted in Figure 5A.2 and summarized following, are crucial design elements in the classification of pedestrian environments:

1. THE ROADWAY CORRIDOR

Creating Pedestrian Supportive environments requires careful attention to the design of streets, to the allocation of space within street right-of-way, to opportunities for street crossings, and to the allocation of time at signalized intersections. Most walking will occur on sidewalks adjacent to streets, but people can walk on very low volume local streets.

In general, corridors that are Pedestrian Supportive have adjacent traffic volumes that are less than 20,000 vehicles per day with speeds of 30 mph or less. Above this, a corridor will likely remain a Pedestrian Tolerant environment. However, Pedestrian Supportive nodes shall be developed along these corridors to enable people to more safely and conveniently walk across roadways. This shall be accomplished by modifying intersection design criteria to protect the access and safety needs of pedestrians while still meeting the needs of motor vehicles. (See Figure 5A.6)

2. THE PEDESTRIAN REALM

This area includes sidewalks, as well as the buffer zones on either side that separate the walkway from motor vehicle traffic and link the walkway to destinations on adjacent properties. In Redmond, most of the focus on pedestrian travel shall be to redesign selected Pedestrian Tolerant environments to make them Pedestrian Supportive.
Within the pedestrian realm, the City shall modify sidewalk guidelines to provide additional separation from the roadway where higher vehicular travel speeds are present, and provide additional walkway width where more pedestrians will be using the system. (See Figure 5A.4)

3 ADJACENT LAND USE
Sidewalks alone do not make a place into a pedestrian destination. To generate a significant pedestrian presence, land uses must be highly mixed and reasonably dense. Some combination of residential, lodging, retail, restaurant, civic and employment uses must be present within a contiguous area. Street walls (building fronts) shall be coherent but porous (numerous doorways and windows) with varied building setbacks. Buildings shall frame the street, and the street grid shall be fine-grained.

Another important element shaping the pedestrian environment is the availability of other modes of transportation. Occasionally, pedestrian districts can exist without good transit, but that is rare. For Redmond, creating Pedestrian Places at specific locations will require high levels of transit service to and within those areas. Transit produces pedestrians at higher concentrations than is possible with parked cars as the sole source of people. Transit also encourages walking by extending pedestrians’ mobility and feasible range of travel. (See Transit System Plan, Chapter 5C and Modal Integration, Chapter 5E.)

Details that Influence Pedestrian Friendliness

These multiple factors combine in various ways to create various levels of pedestrian friendliness. The table presented on the following pages (Figure 5A.3) further defines how various parts of roadway corridors, the pedestrian realm, and adjacent land use impact of the overall pedestrian-friendliness of a place. This figure is provided as guidelines for planning purposes. Regulatory requirements for pedestrian facilities can be found in the Redmond Community Development Guide.

It is recognized that the numerous attributes of any given corridor within Redmond will not likely fall exclusively within one level of pedestrian friendliness. Instead, this table is being provided as a planning tool for use in reviewing projects to help ensure that impacts to pedestrians are considered and addressed in as many individual components as possible within a given project or corridor.

In addition, more definitive guidance is being provided to further define Pedestrian Tolerant vs. Pedestrian Supportive sidewalk design (Figure 5A.4) and street crossing treatments (Figure 5A.6).
### Roadway Corridor

<table>
<thead>
<tr>
<th>Vehicular Traffic</th>
<th>Pedestrian Intolerant</th>
<th>Pedestrian Tolerant</th>
<th>Pedestrian Supportive</th>
<th>Pedestrian Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various combinations of the following characteristics create roadway corridors that discourage pedestrian use:</td>
<td>• high traffic volumes (&gt; 25,000 ADT)</td>
<td>• moderate traffic volumes (15,000 - 25,000 ADT)</td>
<td>• low traffic volumes (&lt; 5,000 ADT)</td>
<td>The following combination is required to create public spaces that function as pedestrian destination areas:</td>
</tr>
<tr>
<td>Roadway corridors become more tolerant when traffic characteristics are:</td>
<td>• high travel speeds (posted &gt; 35 mph)</td>
<td>• moderate travel speeds (30-35 mph)</td>
<td>• slow travel speeds (&lt; 25 mph)</td>
<td></td>
</tr>
<tr>
<td>The following roadway characteristics combine to support pedestrian activity:</td>
<td>• moderate volumes (typically 5,000-15,000 ADT)</td>
<td>• Pedestrian signal indications for walk phases.</td>
<td>Pedestrian activated signals are oriented to give priority to pedestrian movements.</td>
<td></td>
</tr>
<tr>
<td>The following combination is required to create public spaces that function as pedestrian destination areas:</td>
<td>• slower travel speeds (25-30 mph)</td>
<td>• Timing allows clearance intervals for a pedestrian to cross street at average walking speeds of 3.5 - 4 ft/sec.</td>
<td>Use of LPI signals, countdown signals, or exclusive pedestrian intervals.</td>
<td></td>
</tr>
<tr>
<td>If a street goes through a destination area, parking may be provided on both sides of street.</td>
<td>If a street goes through a destination area, parking may be provided on both sides of street.</td>
<td>Pedestrian activated signals with short cycle lengths and longer walk intervals.</td>
<td>Alternatively, signals may not be necessary due to slow traffic speeds.</td>
<td>Slow vehicular traffic speeds mean bicycle lanes are usually not required.</td>
</tr>
</tbody>
</table>
| Other roadway lanes | Typically no on-street parking. | Typically no on-street parking. | Pedestrian activated signals with short cycle lengths and longer walk intervals. | |}

<table>
<thead>
<tr>
<th>Physical Characteristics</th>
<th>Curb Type</th>
<th>Delineated Street Crossings</th>
<th>Traffic Signals</th>
<th>Grid/Block Length and/or Mid-Block Crossings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical curb (Type A-1)</td>
<td>No curb, or rolled or extruded curb.</td>
<td>• No marked crosswalks provided.</td>
<td>No signals.</td>
<td>Crossing frequency is 528' - 1320'</td>
</tr>
<tr>
<td>Vertical curb (Type A-1)</td>
<td>Vertical curb (Type A-1).</td>
<td>• Marked, signed crossings with high-visibility ladder style crosswalks.</td>
<td>Or no walk phases within signalized intersections.</td>
<td>No mid-block crossings provided, despite distances between intersections &gt;1320'.</td>
</tr>
<tr>
<td>Vertical curb (Type A-1)</td>
<td>Vertical curb (Type A-1).</td>
<td>• Number of lanes to cross at once is limited to 5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical curb (Type A-1)</td>
<td>Vertical curb (Type A-1).</td>
<td>• Right-turn slip lanes with porkchop islands shorten crossing distances.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curb Type</td>
<td>Curb radii are &gt;30'</td>
<td>• 30' max. curb radii</td>
<td></td>
<td>Crossing frequency is 330' - 528'</td>
</tr>
<tr>
<td>Delineated Street Crossings</td>
<td></td>
<td></td>
<td></td>
<td>Mid-block crossings marked and signed.</td>
</tr>
<tr>
<td>Traffic Signals</td>
<td></td>
<td></td>
<td></td>
<td>Crossing frequency is 250' - 330'</td>
</tr>
<tr>
<td>Pedestrian Crossings</td>
<td></td>
<td></td>
<td></td>
<td>Hot response pedestrian signals.</td>
</tr>
<tr>
<td>Grid/Block Length and/or Mid-Block Crossings</td>
<td></td>
<td></td>
<td></td>
<td>Curb extensions or neckdowns where on-street parking is present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Median refuge islands if &gt;4 lanes or where center turn lanes present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Crossing frequency is &lt; 250'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mid-block street crossings are an integral part of pedestrian destination zones, with priority given to pedestrian movements through urban design.</td>
</tr>
<tr>
<td>Physical Characteristics</td>
<td>Pedestrian Intolerant</td>
<td>Pedestrian Tolerant</td>
<td>Pedestrian Supportive</td>
<td>Pedestrian Place</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>Sidewalk Presence</strong></td>
<td>Local streets have no sidewalks or sidewalks on only one side of street.</td>
<td>All streets have continuous sidewalks provided on both sides of street.</td>
<td>All streets have continuous sidewalks provided on both sides of street.</td>
<td>All streets have sidewalks provided on both sides with supplemental traffic-calming measures</td>
</tr>
<tr>
<td><strong>Sidewalk Location and Width</strong></td>
<td>Sidewalks lacking, or provided immediately back of curb.</td>
<td>Sidewalks provided immediately back of curb.</td>
<td>Walkway separated from vehicular traffic by a 5' sidewalk planting strip or pedestrian furnishings zone.</td>
<td>The pedestrian realm includes a sidewalk planting strip/pedestrian furnishings zone next to street, a walk/talk zone, and a shy zone next to buildings.</td>
</tr>
<tr>
<td></td>
<td>Walkway width &lt; 5'</td>
<td>Walkway width 5' min.</td>
<td>Sidewalk 6'-8' wide to accommodate passing and pairs of pedestrians walking side by side; 8'-12' along pedestrian promenades.</td>
<td>Through walkway space 8'-12' wide; overall sidewalk width 10-30' to provide space for pedestrian amenities.</td>
</tr>
<tr>
<td><strong>Sidewalk Planting Strip</strong></td>
<td>None.</td>
<td>None.</td>
<td>5' minimum, ideally with overstory street trees 20'-30' on center, with clear sight distance triangles at intersections and crossings.</td>
<td>5'-10' with overstory street trees in parkway planting strips, or none if tree wells and supplemental planters are provided within wide sidewalks, with clear sight distance triangles.</td>
</tr>
<tr>
<td><strong>Transit Stops</strong></td>
<td>No furniture groupings provided.</td>
<td>Benches provided at transit stops.</td>
<td>Shelters, benches and trash receptacles provided at transit stops.</td>
<td>Transit stops and amenities are integral in the design of pedestrian places.</td>
</tr>
<tr>
<td><strong>Pedestrian Furnishings</strong></td>
<td>None.</td>
<td>No furnishings along streets not on transit routes.</td>
<td>Pedestrian furniture groupings located along pedestrian promenades and intermittently along other streets.</td>
<td>Pedestrian furniture groupings, sculpture, drinking fountains, decorative fountains, wayfinding, etc. are located throughout.</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>None.</td>
<td>High angle highway lamps, such as cobra heads.</td>
<td>Commercial districts have both: High angle lamps. Additional low angle street lamps for improved lighting at ground level.</td>
<td>Pedestrian places have: Overall street lighting. Low placement of tungsten lamps. Additional light emitted from stores that line the street.</td>
</tr>
<tr>
<td>Pedestrian Place</td>
<td>Mix of Uses</td>
<td>Density</td>
<td>Building Setbacks, Height, and Porosity</td>
<td>Off-Street Parking Requirements</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------</td>
<td>---------</td>
<td>---------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Pedestrian Supportive</td>
<td>Limited mixed-use</td>
<td>Moderate density urban development with 8-18 d.u./ acre</td>
<td>Buildings placed at maximum setback, typically one-story, &lt; 35' ht.</td>
<td>Parking provided within parking structures</td>
</tr>
<tr>
<td>Pedestrian Tolerant</td>
<td>Often single-use</td>
<td>Low and low-moderate density residential with 2-18 d.u./ acre</td>
<td>Buildings typically one-story, &lt; 35' ht.</td>
<td>Surface parking required to be located in front of building, or provided above, below, or centrally contained within parking structures</td>
</tr>
<tr>
<td>Pedestrian Intolerant</td>
<td>Large surface lots &gt;50,000 sq. ft. located in front of buildings.</td>
<td>Semi-rural and large lot, public space height to width ratio of 1:4 to 1:1 max.</td>
<td>Buildings placed at build-to lines or build-to lines &lt; 20'.</td>
<td>Parking provided within parking structures</td>
</tr>
</tbody>
</table>

**Figure 5A.3**

Levels of Pedestrian Friendliness Guidelines (continued)

- **Adjacent Land Use**
  - **Mix of uses:** Limited mixed-use, single-use, low and low-moderate density residential, semi-rural and large lot.
  - **Density:** Moderate density urban development with 8-18 d.u./ acre, low and low-moderate density residential with 2-18 d.u./ acre.
  - **Building Setbacks, Height, and Porosity:** Buildings placement, height, and setbacks.
  - **Off-Street Parking Requirements:** Parking requirements.
  - **Pedestrian Access to Front Door of Buildings:** Access to buildings.

**Physical Characteristics**

- **Adjacent Land Use**
  - **Mix of uses:** Limited mixed-use, single-use, low and low-moderate density residential, semi-rural and large lot.
  - **Density:** Moderate density urban development with 8-18 d.u./ acre, low and low-moderate density residential with 2-18 d.u./ acre.
  - **Building Setbacks, Height, and Porosity:** Buildings placement, height, and setbacks.
  - **Off-Street Parking Requirements:** Parking requirements.
  - **Pedestrian Access to Front Door of Buildings:** Access to buildings.

**Redmond Transportation Master Plan**

**Nov 2005**
Implementation

The intent of the pedestrian chapter of the Transportation Master Plan (TMP) is to define where certain design guidelines shall be put into place to realize increased levels of pedestrian friendliness, and increased levels of walking by Redmond residents.

The following strategies and action items shall be implemented:

1. The City of Redmond will systematically work to eliminate all Pedestrian Intolerant environments within public street rights-of-way.
   a. Develop an action plan to target specific areas of the City that are Pedestrian Intolerant, as defined in Figure 5A.3.
   b. Develop policies and strategies to close gaps in sidewalk continuity caused by incremental development and redevelopment over time along Redmond streets.
   c. Review current City policy resulting in incremental sidewalk construction as part of private development.

2. The City of Redmond will adopt Pedestrian Tolerant design as the minimum LOS measure citywide, while striving to create Pedestrian Supportive infrastructure wherever practical and feasible.
   a. Require all new developments and public right-of-way projects to be Pedestrian Supportive, per a combination of criteria presented in Figure 5A.3.
   b. Allow people to walk along streets by requiring sidewalks to be constructed per guidelines presented in Figure 5A.4.
   c. Allow people to walk across streets by requiring intersections to be designed per Figure 5A.6.
   d. The City will revise its street design standards to implement the minimum design characteristics shown in Figure 5A.3.

3. The City will make special effort to construct infrastructure and guide private development initiatives to create Pedestrian Supportive environments near major destinations and in identified mixed-use neighborhoods.
   a. Make pedestrian improvements to areas mapped in Figure 5A.7, including:
      - The Downtown Center, as defined by the Redmond Comprehensive Plan
      - The Overlake Mixed-Use Core, as defined by the Redmond Comprehensive Plan
      - Along all routes designated as multimodal corridors by the TMP transit plan
      - Within arterial street corridors near destinations such as schools, major parks, trail crossings/access points, and commercial activity centers.
      - Within other future mixed-use developments proposed within the City of Redmond.
   b. Encourage people to walk by requiring Pedestrian Supportive sidewalks per guidelines presented in Figure 5A.4.
   c. Encourage people to walk by designing Pedestrian Supportive intersections per Figure 5A.6.
   d. Adopt new roadway design policies and standards to slow vehicular traffic and better accommodate multiple modes in select corridors.
   e. Encourage private development to mix uses, reduce building setbacks, minimize parking areas, and improve pedestrian access to create Pedestrian Supportive environments.
   f. Ensure safety of children by requiring Pedestrian Supportive design characteristics in facilities accessing schools.
4. The City of Redmond will construct infrastructure and guide private development patterns to create five distinct Pedestrian Places within the community:

- Old Town
- Redmond Town Center
- Overlake Mixed-Use Core in the vicinity of 152nd Avenue NE and 24th Street
- North Downtown
- Redmond Crossing

a. Provide incentives to develop Pedestrian Places that attract significant numbers of people and provide opportunities for socialization, strolling, and lingering.
b. Balance right-of-way allocations and roadway design to give priority to pedestrians.
c. Use the neighborhood planning process to identify and develop highly supportive pedestrian promenades to lead into Redmond’s Pedestrian Places.

5. The City of Redmond will ensure, design and construct accessible facilities in accordance with the Americans with Disabilities Act of 1990 (ADA).

b. Establish City code to construct two perpendicular curb ramps at intersections (instead of a single diagonal curb ramp) to enhance pedestrian safety, per Figure 5A.5.
c. Develop an ADA Transition Plan to identify and correct deficiencies, particularly with regard to single diagonal curb ramps.

6. The City of Redmond will ensure seamless access for pedestrians to and from transit.

a. Provide sidewalks and benches at all Metro and Sound Transit bus stops.
b. Create Pedestrian Supportive environments with enhanced bus stop amenities along multimodal corridors designated on Map 5E.7.

7. The City of Redmond will supplement engineering improvements by implementing pedestrian education, encouragement, and enforcement programs.

a. Work with the Greater Redmond Transportation Management Authority (TMA), major employers, the Lake Washington School District, and others to promote increased and safer walking in Redmond.
b. Work to reinforce public understanding of the law concerning pedestrian right-of-way.
c. Resolve conflicts with existing State laws and local ordinances regarding sidewalk use.
8. The City will apply minimum Pedestrian Supportive design standards in lateral access corridors that provide connections to multimodal corridors. Pedestrian Supportive standards will be applied for distances of three to five blocks along these access corridors.

a. Revise street design standards to reflect the Pedestrian Supportive design requirement in these lateral access corridors.

b. Apply minimum Pedestrian Supportive design requirements in the development review process for new development and redevelopment in these lateral access corridors.

9. The City will identify and map Safe Routes to School. The City will apply minimum Pedestrian Supportive design standards along identified school routes, and systematically work to make needed safety improvements.

The City should also recognize that all environments around schools should facilitate and encourage the movement of school children to various activities and destinations that may be located off of a designated Safe Route to School. Pedestrian Supportive standards should be applied for distances of at least one quarter mile in all directions from schools to provide overall safe environments for children, and enhanced pedestrian facilities for the community at large.

a. Systematically work to make spot improvements along Safe Routes to School to bring them to Pedestrian Supportive standards.

b. Apply minimum Pedestrian Supportive design requirements in the development review process for new development and redevelopment near school sites and along identified Safe Routes to School.
Sidewalk Guidelines

It is recognized that much of Redmond currently falls into the Pedestrian Tolerant realm, due to a combination of various factors found within different corridors. Sidewalk placement criteria and design guidelines shall be modified so that more Pedestrian Supportive environments will be created. However, limited resources necessitate a systematic approach be developed to do so. The City of Redmond shall therefore first focus efforts on targeted areas of the community as mapped in Figure 5A.7.

Two underlying philosophies shall guide this approach:

1. Different pedestrian facilities shall be provided in different environments.
   i.e. - the perceived level of safety and friendliness of a pedestrian facility varies greatly depending on if one is walking along an arterial corridor or a local residential street.

2. The City will focus on how it can modify design elements within the pedestrian realm (the area of public right-of-way between the curb and adjacent properties) by examining criteria determining the location and width of sidewalks and buffer planting strips.

The following considerations were used in developing the Sidewalk Guidelines presented in Figure 5A.4. The components being discussed are graphically depicted in Figure 5A.2.

A SIDEWALK PLANTING STRIP

The speed of vehicles can be detrimental to pedestrians. Research shows that 5% of pedestrians die when struck by a vehicle traveling 20 mph, about 40% for vehicles traveling 30 mph, 80% for 40 mph, and nearly 100% are killed at speeds over 50 mph. Children and the elderly are at even greater risk. For this reason, physical separation of the sidewalk from the roadway should increase with increased vehicular speeds. Likewise, increased separation will create more Pedestrian Supportive design.

FHWA guidance recommends a preferred minimum width of 5 to 7 feet for a sidewalk planting strip to provide for:

- an essential buffer between an out-of-control motorist and a pedestrian
- improved sight distances at driveways
- adequate width for landscaping and street trees
- ample storage room for utilities.

When this preferred minimum cannot be achieved, any width, down to 3 or 4 feet, is still beneficial. However, a minimum of 48 inches is needed to accommodate curb ramps built to ADA standards, and plant materials typically need at least 3 feet of space to survive, with 4 feet min. recommended.

A FURNISHINGS ZONE

In retail areas with on-street parking, the sidewalk planting strip shall be replaced with a sidewalk furnishings zone. A hard surface shall be provided for people to step onto when exiting parked cars. Tree wells 4’x6’ shall be spaced along the sidewalk as noted on the City Street Tree Plan. In between, benches, trash receptacles, and other street furniture shall be provided to serve pedestrian needs.

B SIDEWALKS

Technically, sidewalks 4 feet wide are permitted as an AASHTO minimum. However, FHWA recommends larger minimum widths of 5 feet for detached sidewalks, or 6 feet if located at the back-of-curb. (Note measurements do not include curb.) Any width less than this fails to meet the minimum ADA requirements for people with disabilities. It is also important to recognize that walking is a social activity. For any two people to walk together, 5 feet of space is a bare minimum. Thus, in areas with increased levels of pedestrian activity, the FHWA recommended width for a sidewalk is 8 feet min.

In Redmond, sidewalks shall be 6 feet wide along arterial streets. Along neighborhood collector and local streets, a 5-foot min. width is acceptable for detached sidewalks; 6-foot min. is required when located back-of-curb. In mixed-use areas, sidewalk widths shall be a least 8 feet, with widths as great as 12 to 16 feet in retail areas to accommodate various “people activities.”

C SETBACK ZONE

On the back side of sidewalks, a minimum width buffer of 1 to 3 feet is essential. Without such a setback, vegetation, walls, buildings, and other objects encroach on the useable sidewalk space. The setback zone adds to the walking comfort of a pedestrian, and is needed to ensure that sight lines at each residential and commercial driveway are maintained. It shall be the responsibility of the adjacent property owner to ensure adequate zones are maintained free from encroaching vegetation. Allowing setbacks to vary slightly from building to building adds to the pedestrian character of the street block, and provides space for activities such as dining alfresco in commercial areas.
<table>
<thead>
<tr>
<th>Arterial Street (outside of multimodal corridors and pedestrian places)</th>
<th>Pedestrian Tolerant Design</th>
<th>Pedestrian Supportive Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>posted speed</strong></td>
<td><strong>5A. PEDESTRIAN PROGRAM PLAN</strong></td>
<td><strong>5A. PEDESTRIAN PROGRAM PLAN</strong></td>
</tr>
<tr>
<td><strong>&gt; 45 mph</strong></td>
<td>Pedestrian Tolerant Design</td>
<td>Pedestrian Supportive Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-45 mph</td>
<td>Pedestrian Tolerant Design</td>
<td>Pedestrian Supportive Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collector Streets (25-35 mph)</td>
<td>Pedestrian Tolerant Design</td>
<td>Pedestrian Supportive Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector and Local Streets (&lt; 25 mph)</td>
<td>Pedestrian Tolerant Design</td>
<td>Pedestrian Supportive Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 5A.4a Criteria for sidewalk width and placement*
**MIN. THROUGH WALKWAY**

The through walkway may meander slightly to accommodate fixed objects such as benches, walls, fences, planters, and buildings. However, in all cases, a 5-foot minimum through walkway shall be maintained. This through zone also requires a vertical clearance free from obstructions to a height of 8 feet minimum.

Pedestrians require a shy distance of 2 feet from fixed objects, parked cars, and from other pedestrians, including window shoppers in commercial districts. While these features are desirable to create great pedestrian spaces, they narrow the functional through walkway space if not accommodated within design. Therefore, the through zone in mixed-use and retail areas shall be 8 feet minimum.

Newspaper racks, mailboxes, benches, trash receptacles, outdoor dining, and other street furniture shall not encroach into minimum through zone. Such items shall be placed either within the sidewalk furnishing zone or an expanded setback zone. Corner or mid-block curb extensions are also acceptable locations for street furniture as long as sight distance triangles are preserved so that pedestrians and drivers can see each other at street crossing locations.

### Multimodal Corridor and Pedestrian Place Sidewalk Guidelines

<table>
<thead>
<tr>
<th>posted speed</th>
<th>Tolerant Design</th>
<th>Pedestrian Supportive Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Streets in multimodal corridors and pedestrian places (see figure 5a.7)</td>
<td>&lt; 25 mph</td>
<td></td>
</tr>
<tr>
<td>non-retail without on-street parking</td>
<td>not applicable</td>
<td>![Diagram A]</td>
</tr>
<tr>
<td>non-retail with on-street parking</td>
<td>not applicable</td>
<td>![Diagram B]</td>
</tr>
<tr>
<td>retail land use with on-street parking</td>
<td>not applicable</td>
<td>![Diagram C]</td>
</tr>
</tbody>
</table>

*For City Center Pedestrian System see Section 20C.40.105-020 and 105-030 of Redmond Community Development Guide

![Figure 5A.4b Criteria for sidewalk width and placement in Mixed-Use Activity Centers]
Crossing Guidelines

Crossing a street can be the most challenging part of negotiating a pedestrian circulation network. While most people can find a way to safely travel along a street, most crashes involving pedestrians take place when they travel across a street.

Basic pedestrian needs include being able to cross streets and roadways in safe and convenient locations. This includes crossing at both signalized and unsignalized intersections, as well as midblock.

The crossing guidelines presented in Figure 5A.6 establish placement criteria and begin to define how the design of Redmond’s roadway intersections shall be modified to better accommodate pedestrians. The overall goal is to protect the access and safety of pedestrians while still meeting the needs of motor vehicles. Considerations used in developing the guidelines include:

**MARKED CROSSINGS**

Per Washington law, legal pedestrian crossings exist at every intersection, whether or not a crosswalk is marked. The City of Redmond has developed the following crossing treatment hierarchy to be applied based upon pedestrian usage in conjunction with additional engineering standards set forth in the City of Redmond Crosswalk Marking Practice:

- **Unmarked Crossing**  
  <20 pedestrians per hour
- **Marked Crosswalk**  
  20/hour (or 15/hour elderly or children)
- **In-Pavement Lighted Crosswalk**  
  40/hour for 2 hours in 24-hour period
- **Pedestrian Traffic Signal**  
  80 for each of 4 hours, or 152 for any 1-hour period

Such usage warrants should continue to be applied to Pedestrian Tolerant areas, where land uses will likely result in less frequent pedestrian activity. However, in activity centers desired to be Pedestrian Supportive, Redmond shall take a more proactive approach to encourage greater levels of walking. A higher standard of pedestrian facilities shall be provided to encourage increased pedestrian usage in these select areas. This includes the routine installation of marked crosswalks at all signalized intersections within areas where Pedestrian Supportive design standards are to be applied (Downtown, Overlake Mixed Use Core, and mixed use and commercial areas along Multimodal Corridors). Marked Crosswalks will also be installed at arterial (principal, minor and collector) and connector intersections within 528 feet of a K-12 school.

**DISTANCE BETWEEN CROSSINGS**

The City of Redmond defines that the maximum block length between legal crossings shall be no more than 1320 feet (1/4 of a mile). However, to create Pedestrian Supportive environments, the maximum distance between crossing opportunities shall be 528 feet (1/10 of a mile).

**CURB RADIUS**

Historically, curb radius design has been set by the need to accommodate turning truck and bus traffic, and a desire to permit higher speeds of automobile traffic. Selection of a curb radius shall balance all factors, including pedestrian needs. The chosen radius shall be the smallest possible for the circumstances.

In general, a smaller curb radius is better for pedestrians, as it offers the following benefits:
- Allows for shorter street crossings.
- Provides more pedestrian area at the corner.
- Allows more flexibility in the placement of curb ramps.
- Requires vehicles to slow more as they turn the corner.

**CURB RAMPS**

The curb ramp is the slope that allows pedestrians to make the transition in grade from a raised sidewalk to a street or driveway. Federal regulations require that public entities give priority to providing ADA accessible curb ramps serving state and local government offices, transportation facilities, public places, and employment, followed by walkways in other areas.

Curb ramps may be perpendicular, parallel, or a combination, as long as they provide adequate level landing areas at both the top and bottom of the ramp.

Good intersection design practice suggests that all pedestrians enter a crosswalk at the same point. A single diagonal curb ramp at a street corner (current City standard) often requires those using a wheelchair or pushing a stroller to follow a different crossing route than other pedestrians. This creates a problem with turning vehicles since a driver may not check for pedestrians entering a crosswalk from unexpected locations.

Therefore, the City of Redmond shall modify existing code to enhance pedestrian safety by requiring paired, perpendicular curb ramps that lead directly into crosswalks. (See Figure 5A.5) In addition, two perpendicular curb ramps built on a curb extension should be installed whenever possible. The curb extension provides additional room for a level landing, increases pedestrian visibility, and reduces motorist turning speeds. Curb extensions also prevent parked cars from blocking the curb ramp.
In certain locations where diagonal ramps are used, crosswalks must be positioned so that the landing at the bottom of the curb ramp is within the crosswalk area to allow a change of direction toward either crossing.

Design of all landings, running slopes, ramp cross-slopes, transitions, side flares, and ramp surfaces shall be per the Federal guidance contained within FHWA-EP-01-027 Designing Sidewalks and Trails for Access, Part II.

MEDIANs AND REFUGE ISLANDS

Medians and/or center refuge islands at intersections and/or midblock locations provide a waiting area for pedestrians, and eliminate the need for pedestrians to cross both directions of traffic at once, thus turning a two-way street into two one-way streets for pedestrians. They help define the pedestrian walking space, and if large enough, provide protection and refuge from motor vehicles.

Criteria to consider in the design of median refuges include:

- Refuge islands should be of adequate width to hold wheelchairs, bicyclists and people with strollers outside the travel lanes.
- Consider planting trees in medians to narrow the long-range field of vision for motorists, but do not block sight lines of pedestrians or motorists.
- Install curb ramps or cut-throughs across islands per ADA guidelines.
- Do not illuminate medians and refuge islands.
- Add a pedestrian signal push button in the median where the crossing distance exceeds 60 feet or where high numbers of elderly or people with disabilities are expected.

SLIP LANES

Slip lanes, or right-turn channelization lanes, allow right-turning motor vehicles to proceed without stopping and, generally, at a higher speed than if they had to make a 90-degree right turn. While slip lanes are generally not helpful to pedestrians, their design can be improved by:

- Using a compound curve to discourage high-speed turns.
- Locating the crosswalk across the slip lane in an area where the driver is still looking ahead.
- Timing traffic signals based upon multiple, shorter pedestrian crossings.
- Raising “pork chop” refuge islands to provide a vertical barrier between vehicles and pedestrians.
- Installing curb ramps or cut-throughs across islands per ADA guidelines.

CURB EXTENSIONS

Curb Extensions - also known as bulbouts, neckdowns, flares, or chokers - reduce pedestrian crossing distance and improve the visibility of pedestrians to motorists and vice versa. Curb extensions may be located at intersections or mid-block. At intersections, extensions typically have the effect of reducing the curb radius, and can aid in the installation of perpendicular curb ramps. (See Figure 5A.5)

Key design considerations for curb extensions include:

- On designated arterial and collector streets, as mapped in Figures 5B.9 and 5B.10, curb extensions should not extend so far as to block existing or planned bicycle lanes.
- Reducing the pedestrian crossing distance will improve signal timing if the pedestrian phase controls the signal.
- Extensions should be designed to provide space for street furniture, utility infrastructure, bicycle parking, and/or additional street trees.

Figure 5A.5
Preferred curb ramp treatments for enhanced pedestrian safety

MID-BLOCK CROSSINGS

Mid-block crossings are most appropriate in urban areas where distances between intersections are long. Proposed mid-block crossings need to be carefully studied, and generally should be avoided under the following circumstances, unless they are stop controlled:

- Immediately downstream (< 300 feet) from a traffic signal or bus stop.
- Within 600 feet of another crossing point, except in central business district or other locations with a well-defined need. The recommended minimum separation distance is 300 feet.
- On high-speed streets with speed limits above 45 mph.
# Pedestrian Tolerant Design

Crossings may be either marked or unmarked. (Note: While marked crossings increase the visibility of the crossing area, define the space for crossing, and draw pedestrians to an appropriate crossing location, there is no legal difference between a marked or unmarked intersection crossing.)

- Marked crosswalks should be required, particularly in the following locations:
  - at all open legs of signalized intersections with adjoining sidewalks
  - at all arterial intersections in Downtown and mixed-use centers, or when connecting to significant retail activity
  - at multi-use trail crossings
  - along school walking routes
  - at or near important transit connections
  - near housing for the elderly

## Spacing

Crossings shall be spaced a max. of 1320’ apart. (1/4 mile)

## Crosswalk Pattern

- Standard crosswalks (two parallel, horizontal lines)
- Highly-visible Ladder Bar or Piano Bar crosswalks (with perpendicular bars spaced so that wheels of motor vehicles pass on either side of the markings to minimize maintenance). Or use colored and textured surfaces to improve aesthetics in mixed-use areas, potentially in conjunction with raised speed table crossing treatments.

## Signalization Timing

- Use average walking speed of 3.5 - 4.0 feet/second
- Use a slower walking speed of 2.5 - 3.0 feet/second to accommodate older pedestrians and people with disabilities

## Curb Radius

- 25’ curb radius standard
- 30’ curb radius on major streets with truck/bus traffic
- 5’-15’ max. curb radius

- Smaller curb radii (up to 5’ min.) may be used if on-street parking or bike lanes
- Paired curb ramps recommended
- Diagonal ramps to be avoided whenever curb radii are <20’ since moving traffic can encroach upon the landing area

## Medians and Refuge Islands

- Recommended for use:
  - In intersections when the length of the pedestrian crossing exceeds 60 feet
  - At intersections with complex vehicle movements or long signal phases
  - In conjunction with uncontrolled midblock crossings
- Provide a median island when the length of the pedestrian crossing exceeds 48 feet
- Consider narrowing traffic lanes (potentially down to 10 feet) to have the added effect of slowing motor vehicle speeds at the crossing location, and shortening pedestrian crossing distances

## Slip Lanes

- Provide a triangular “pork chop” refuge island within the intersection when:
  - Curb radii >30’ are unavoidable
  - Slip lanes can be designed based upon a compound curve design to discourage high-speed turns, while accommodating large trucks and buses
- No slip lanes allowed or needed

## Curb Extensions

- Typically not provided
- Consider installing on streets with:
  - On-street parking, especially diagonal parking
  - Limited left-turning traffic by buses and large vehicles
  - One-way traffic
  - On minor streets in residential areas

## Mid-Block Crossings

- Use in high-activity areas only
- Locations being considered need to be studied carefully
- Consider installing unless crossing is:
  - < 300 feet from another crossing point
  - On streets with speeds > 45 mph

---

*Figure 5A.6 Criteria for pedestrian crossing treatments*
Figure: 5A.7

This map depicts the vision for establishing various levels of pedestrian friendliness throughout the City of Redmond. As shown here, we currently have pedestrian facilities in multiple areas, including streets, sidewalks, parks, and other public spaces. This map shows the current planning level of pedestrian friendliness and identifies potential areas for improvement. The map highlights areas where pedestrian facilities are currently inadequate and where additional investments are needed to enhance pedestrian safety and accessibility. The map also shows the current level of pedestrian facilities in the city and identifies areas where pedestrian facilities are currently inadequate and where additional investments are needed to enhance pedestrian safety and accessibility. The map highlights areas where pedestrian facilities are currently inadequate and where additional investments are needed to enhance pedestrian safety and accessibility.
5B. Bicycle System Plan
Introduction

Types of Bicyclists

It is generally recognized that there are two types of cyclists: Group A - Advanced Bicyclists, and Group B - Basic Bicyclists. There is also a Group C - children, whose needs are similar to the basic bicyclists and thus the two are often classified together as Group B and C.

➢ **Group A: Advanced**
Composed of experienced riders who can operate a bicycle under most traffic conditions. This includes bicycle commuters, bike club riders and other cyclists currently following the rules of the road and riding on area streets and roadways.

➢ **Group B: Basic**
Casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Some will develop greater skills and progress to the advanced level, but nationally there will always be millions of basic bicyclists who prefer comfortable access to destinations and well-defined separation of bicycles and motor vehicles.

➢ **Group C: Children**
Pre-teen cyclists who typically ride close to home under close parental supervision.

Bicycle planning generally promotes a “design cyclist” concept that recognizes and accommodates the needs of both Group A and Group B and C bicyclists.

Group A cyclists will be best served by making every street bicycle-friendly by removing hazards and maintaining smooth pavement surfaces. Group B and C riders will be best served in key travel corridors where designated bicycle facilities are provided in the form of signed and striped bicycle lanes on selected roadways, and off-road trails following waterways and other linear open space corridors. Sidewalks make integrating with vehicle traffic problematic, increasing the risk of an accident significantly more than when a bicyclist uses the roadway as a vehicle, thus they are not included in bicycle planning as bicycle facilities. Also, it is important to recognize that sidewalks are pedestrian spaces, and their presence is not meant to substitute or preclude bicyclist use of local streets and roadways.

Figure 5B.1 Redmond has various types of bicyclists who desire various levels of bicycle accommodation.

Contents of this Chapter

This modal chapter of the Transportation Master Plan addresses ways to improve bicycling conditions in Redmond. Topics discussed include:

- Types of Bicyclists
- Bicycle Facility Planning in Redmond
- Implementation
- Prioritizing Needs
- Missing Links
- Making Seamless Transitions
- Education, Encouragement, Enforcement
- Secure Bicycle Parking
- Bike Plan Maps
  - Existing and Proposed Facilities
  - Primary and Secondary Corridors
Bicycle Facility Planning in Redmond

The City of Redmond has historically undertaken two separate but coordinated planning efforts for facilities that are used by bicycling Groups A, B, and C. One is the trails function of the Parks and Recreation Department, overseen by the Trails Commission and Parks Board. The other is the bikeway plan being implemented by the Public Works Department, with direction from the Pedestrian and Bicycle Advisory Committee.

Facilities existing and/or planned by these groups are summarized in Figure 5B.2 and mapped in Figure 5B.12.

The Parks, Recreation and Open Space (PRO) Plan focuses on a variety off-road trail types, which are classified by a combination of function and surface type/intended user.

Non-motorized transportation planning uses a bikeway classification system that overlaps with the Parks

### Trail Network Components

<table>
<thead>
<tr>
<th>Function</th>
<th>Trail Surfacing/Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backbone Trails</td>
<td>Large-scale regional facilities that link Redmond with surrounding jurisdictions</td>
</tr>
<tr>
<td>Collector Trails</td>
<td>Medium-scale facilities, typically within City street rights-of-way, that provide connections to the backbone trails</td>
</tr>
<tr>
<td>Multi-Use/Hiking and/or Neighborhood Linkages</td>
<td>Small-scale pedestrian connections that link neighborhoods with each other and with longer collector and backbone trails</td>
</tr>
</tbody>
</table>

### Non-Motorized Transportation Network Components

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Facility Design/Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I: Bicycle Paths</td>
<td>Bicycle facilities that are physically separated from motorized traffic.</td>
</tr>
<tr>
<td>Class II: Bicycle Lanes</td>
<td>Portions of a roadway identified by striping, signing and pavement marking for preferential use by bicyclists.</td>
</tr>
</tbody>
</table>
| Class III: Shared Roadways | Streets shared by bicycles and motor vehicles that have either:  
  - Wide curb lanes  
  - Paved shoulders  
  - Low traffic volumes and speeds (May or may not have Bike Route signs) | Arterial streets with undesignated wide curb lanes or paved shoulders typically have traffic speeds and volumes that are too high for all but the most experienced bicyclists. Local streets and areas with effective traffic calming are suitable for cyclists to share the road with motorists because both will be traveling at similar speeds. |

*Figure 5B.2 Summary of Redmond’s definitions for trails and bikeways*
Department classifications in the Class I/bicycle path category. It differs from the PRO Plan in that it does not recognize various types of trails intended for users other than cyclists; and it includes, and focuses on, the suitability of streets and roadways for bicycling.

Additionally, Transportation Choices for Downtown Redmond (aka the Downtown TMP), developed in 2002, proposes a bicycle network concept for Downtown to provide bicycle accessibility throughout the city center, as well as direct connectivity between key bicycle facilities. Regional planning efforts, being led by the Cascade Bicycle Club, are underway to integrate connections with King County and surrounding communities.

The TMP Bicycle System Plan
Research has shown that the principal impediments to non-recreational bicycling are discontinuities in routes (missing links) and barriers to travel (unsafe street crossings, etc.). The average length of a future utilitarian bicycle trip in Redmond will be at least 2.5 miles (the national average). That means continuous routes at least that long connecting Redmond’s principal origins and destinations must be created.

The Transportation Master Plan therefore distills Redmond’s various planned facilities into a functional system that allows bicycling to become a viable transportation option. As outlined in Figure 5B.3 and mapped in Figure 5B.13, a system of Primary and Secondary Bicycling Corridors, based primarily upon facility length, shall be implemented. Primary corridors are at least 2.5 miles long and secondary corridors at least 1 mile in length.

Facilities within the primary corridors shall consist of two types: backbone trails within open space corridors, and bicycle lanes on Redmond streets. The secondary corridors may be shorter in length, feed into the primary network, contain a wider range of facility types, and/or contain trails developed to slightly lower standards.

The type of bikeway may vary throughout the length of a given bicycle corridor, but transitions shall be seamless and barriers removed in an effort to provide bicyclists with viable alternatives for cross-town travel. Completing strategic pieces of the primary system shall be the highest priority for the City of Redmond to ensure barrier-free travel options from various parts of town into and through the city center. (See Chapter 4.)

### The TMP Bicycle System Plan

<table>
<thead>
<tr>
<th>Function</th>
<th>Trails Components</th>
<th>Bikeway Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Bicycling Corridors</strong></td>
<td>Allows bicyclists barrier-free travel for distances of 2.5 miles or more</td>
<td>Backbone Trails: Multi-use facilities with paved trail surfaces</td>
</tr>
<tr>
<td><strong>Secondary Bicycling Corridors</strong></td>
<td>Connects into the primary system to provide greater access into all parts of the community; typically for distances at least 1 mile in length</td>
<td>Backbone Trails: Multi-use facilities with soft surfaces</td>
</tr>
<tr>
<td><strong>Local Connections</strong></td>
<td>Connects residential neighborhoods and individual destinations into the citywide system with special emphasis to schools</td>
<td>Collector Trails: Wide sidewalk trails (may be used by some bicyclists depending on skill level)</td>
</tr>
<tr>
<td></td>
<td>Neighborhood Linkages: Short trail segments linking with collector and backbone trails Should be paved to if desired to support bicycling</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 5B.3 Role of trails and bikeways in establishing Primary and Secondary Bicycling Corridors*
Implementation

In 2003, Redmond was named a Bicycle-Friendly Community by the League of American Bicyclists and presented a Bronze level award. In 2004, Redmond was one of five communities selected nationally to participate in the Bike Town USA program. As a municipality that actively supports bicycling through its infrastructure and programs, the following strategies and action items will continue Redmond’s successes and move the community into higher levels of bicycle-friendliness:

1. The City will continue to provide enhanced riding environments so that bicycling is an integral part of life in Redmond.
   a. Continue to routinely accommodate bicyclists as part of roadway improvement projects.
   b. Develop Parks and Recreation facilities that include hard-surface multi-use trails that meet standards for safe and attractive bicycle transportation.

2. The City of Redmond will develop a continuous, interconnected bicycling system that accommodates longer distance trips and provides access to major destination areas including schools.
   a. Identify a system of primary and secondary bicycling corridors based upon function.
   b. Implement missing links in the primary system as highest priority projects.
   c. Strive to strike a balance between developing off-road trails and making on-street enhancements to provide riding opportunities for all types of bicyclists.
   d. Ensure schools are safely connected into the bicycle system.

3. The City of Redmond will prioritize the spending of transportation funds into identified areas of greatest need.
   a. Balance funding allocations between major projects designed to enhance automobile capacity and projects that accommodate multiple modes.
   b. Complete identified missing links in primary bicycling corridors.
   c. Make connections and transitions between on- and off-road bicycle facilities.
   d. Regularly assess street and trail maintenance needs and make spot improvements.

4. The City of Redmond will work with adjacent jurisdictions and transit agencies to accomplish multimodal and regional connections.
   a. Explore increased capacity to better accommodate bikes on buses.
   b. Utilize the new transit centers in Overlake and Downtown as hubs of bicycling activity in Redmond.
   c. Make necessary improvements to corridors identified as regionally significant bicycle routes and coordinate planning and implementation with surrounding jurisdictions.
   d. Work to improve multimodal connectivity between bicycling and transit by providing safe bicycle storage at transit centers and at key bus stops in multimodal corridors.

5. The City of Redmond will supplement these engineering improvements by implementing bicycle education, encouragement and enforcement programs.
   a. Work with and expand existing TDM programs to promote increased and safer bicycling in Redmond.
   b. Work to reinforce public understanding of laws concerning cyclists.
   c. Keep Redmond Bicycling Guide up to date.
Prioritizing Needs

The City of Redmond needs a systematic way to identify areas of highest need so that funding will be spent on projects that will make a difference to area cyclists. Many of the proposals depicted in Figure 5B.12 represent unfunded projects not currently contained within the Transportation Facilities Program (TFP).

For off-road bike paths, the current PRO Plan outlines projects funded through the Park Improvement Plan through the year 2013. The highest priority trail projects of the Parks and Recreation Department include acquisition and construction of the Bear/Evans Creek Trail, and planning/acquisition for a potential Burlington Northern rails-to-trails project. For on-road facilities, the Public Works Department works to make bicycling enhancements to street segments as part of larger roadway improvement projects.

These processes, while making progress to make Redmond more bicycle-friendly, result in pieces of facilities rather than an interconnected bicycle system.

To begin to assign priority to potential projects, Figure 5B.13 identifies a system of primary and secondary bicycling corridors, selected per the criteria presented in Figure 5B.4 below. This recommended system was developed in conjunction with City staff, the Trails Commission, and the Pedestrian and Bicycle Advisory Committee, and was reviewed by the bicycling public at a TMP open house held June 10, 2004, in conjunction with Redmond’s first Bicycle Rally. (Portions of this system that are to be completed by 2022 are presented in Chapter 4.)

In the future, two types of facilities will make connections in the primary corridors -- signed and striped on-street bicycle lanes, and hard-surfaced multi-use trails. For each, the facilities shall be designed to standards set forth by the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, and the Manual on Uniform Traffic Control Devices (MUTCD).

Criteria for Selecting Bicycling Corridors

<table>
<thead>
<tr>
<th>PRIMARY CORRIDORS</th>
<th>SECONDARY CORRIDORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Allow bicyclists barrier-free travel for distances of 2.5 miles or more.</td>
<td>✓ Connect into the primary bicycle system to provide greater access to and from all neighborhoods.</td>
</tr>
<tr>
<td>✓ Distance typically at least 1 mile in length.</td>
<td></td>
</tr>
</tbody>
</table>

Future Enhancements Recommended for Bicycling Corridors

<table>
<thead>
<tr>
<th>PRIMARY CORRIDORS</th>
<th>SECONDARY CORRIDORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Corridor will provide a combination of Class I: Bike Paths/Backbone Trails and/or Class II: Bicycle Lanes for the entire length.</td>
<td>✓ Corridor may provide a combination of Class I, Class II, and Class III facilities.</td>
</tr>
<tr>
<td>✓ Seamless transitions between Class I and Class II facilities within the corridor.</td>
<td>✓ Seamless transitions between facility types within the corridor.</td>
</tr>
<tr>
<td>✓ Seamless transitions with all intersecting bicycle corridors.</td>
<td>✓ Seamless transitions with intersecting bicycle corridors.</td>
</tr>
<tr>
<td>✓ Highest priority for funding missing links in system.</td>
<td>✓ High priority for implementation in conjunction with roadway retrofit and adjacent land development; Moderate priority for independent project funding.</td>
</tr>
</tbody>
</table>
Missing Links in Primary Bicycle System

<table>
<thead>
<tr>
<th>Map Key</th>
<th>Corridor</th>
<th>Segment</th>
<th>Facility Need</th>
<th>Jurisdictional Coordination</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>NE 124th Street</td>
<td>SR 202 to Avondale Rd</td>
<td>on-street bike lanes or paved shoulders</td>
<td>Slater Avenue to 132nd Ave. NE is in the City of Kirkland</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>NE 116th Street</td>
<td>Willows Rd to Avondale Rd</td>
<td>missing pieces of on-street bicycle lane</td>
<td>piecemeal construction through land development</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>Redmond Puget Power Trail</td>
<td>Existing trail west to 132nd Ave NE</td>
<td>paved bike path to AASHTO standards</td>
<td>Redmond City limits 132nd Ave. NE</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Redmond Puget Power Trail</td>
<td>Willows Rd to Farrell-McWhirter Park</td>
<td>paved bike path to AASHTO standards parallel to soft-surface facility</td>
<td>State Route will need WSDOT approval (see alternate page 5B.8)</td>
<td>1, 2</td>
</tr>
<tr>
<td>E</td>
<td>Redmond Way (SR 202)</td>
<td>161st Ave NE to Bear Creek Parkway</td>
<td>on-street bicycle lanes or traffic calming as part of conversion project to two-way street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>BNSF Corridor (Downtown segment)</td>
<td>NE 90th St. to Bear Creek Trail</td>
<td>urban bicycle path parallel to transit accommodation</td>
<td>BNSF Corridor not owned by the City of Redmond</td>
<td>1, 2</td>
</tr>
<tr>
<td>G</td>
<td>Bear and Evans Creek Trail</td>
<td>Bear Creek Parkway to Evans Creek Trail</td>
<td>paved bike path to AASHTO standards</td>
<td>programmed in Park Improvement Program</td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>Union Hill Road</td>
<td>Avondale Rd to Evans Creek Trail and into adjacent jurisdictions</td>
<td>on-street bicycle lanes or paved shoulders</td>
<td>bike lanes to be constructed from 178th Pl. NE to 188th Ave. NE in 2004</td>
<td>2</td>
</tr>
<tr>
<td>I</td>
<td>Redmond Fall City Road</td>
<td>Bear Creek Parkway to Evans Creek Trail and into adj. jurisdictions</td>
<td>on-street bicycle lanes or paved shoulders</td>
<td>WSDOT project to include bike lanes in 2004</td>
<td>1</td>
</tr>
<tr>
<td>J</td>
<td>NE 24th Street</td>
<td>148th Ave NE to 172nd Ave NE</td>
<td>on-street bicycle lanes</td>
<td>City of Bellevue street</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Willows Road</td>
<td>95th St. NE to NE 90th St.</td>
<td>Complete missing segment of on-street bicycle lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>BNSF Corridor</td>
<td>NE 124th St. to Sammamish River Trail</td>
<td>paved bike path to AASHTO standards in rail corridor</td>
<td>BNSF Corridor not owned by the City of Redmond</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Red-Wood Road</td>
<td>NE 124th St. to NE 109th St.</td>
<td>on-street bicycle lanes or paved shoulders</td>
<td>SR 202/Red-Wood Road will need WSDOT approval</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>160th Ave NE</td>
<td>Red-Wood Road to NE 90th St.</td>
<td>on-street bicycle lanes</td>
<td>proposed new roadway connection</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Bear Creek Parkway Extension (west)</td>
<td>Leary Way to Redmond Way</td>
<td>on-street bicycle lanes</td>
<td>proposed new roadway connection</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>172nd Ave NE/166th Ave NE</td>
<td>NE 104th St. to NE 87th St.</td>
<td>on-street bicycle lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>166th Ave NE/trail extension</td>
<td>Redmond Way to Marymoor Park Way</td>
<td>on-street bicycle lanes or traffic calming; construct paved path extension across Bear Creek and 520</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Avondale Way</td>
<td>Redmond Way to NE 85th Pl</td>
<td>on-street bicycle lanes or parallel bike path</td>
<td></td>
<td>1, 2</td>
</tr>
<tr>
<td>9</td>
<td>Evans Creek Trail</td>
<td>Puget Power Trail to ext. Evans Creek Trail</td>
<td>paved bike path to AASHTO standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>148th Ave NE</td>
<td>Willows Rd. to NE 24th St.</td>
<td>on-street bicycle lanes or parallel primary north/south alternative</td>
<td>148th not feasible route (see alternate page 5B.8)</td>
<td>1, 2</td>
</tr>
<tr>
<td>11</td>
<td>156th Ave NE/152nd Ave NE</td>
<td>NE 51st St. to NE 20th St.</td>
<td>on-street bicycle lanes or parallel bike path</td>
<td></td>
<td>1, 2</td>
</tr>
<tr>
<td>12</td>
<td>Bellevue-Redmond Road</td>
<td>W. Lake Sammamish Pkwy to NE 24th St.</td>
<td>on-street bicycle lanes</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>BNSF/East Lake Sammamish Trail</td>
<td>Bear Creek Trail into adjacent jurisdictions</td>
<td>paved bike path to AASHTO standards</td>
<td>King County project</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 5B.5 Missing Links as depicted in Figure 5B.13
Making Seamless Transitions

In addition to the identified longer segments of missing links, the City shall work to make transitions and connections between on-street bike lanes and the off-road trail system.

The implementation list presented in Figure 5B.6 was developed with Public Works Staff and the Pedestrian and Bicycle Advisory Committee. Notes:

1) Grade-separated trail crossings as proposed in the 2001 Redmond Trail Crossings Study. These need to include appropriate ramps, curb cuts and wayfinding signage to allow bicycle users to transition from street grade to the trail system.

2) Located at the junction of one or more multimodal corridors. (See Chapter 5E)

In general, Backbone Trail facilities shall have grade-separated crossings of major streets and roadways. This is, of course, dependent on having grade differential to work with. Backbone Trails may cross at-grade when arterial streets have traffic speeds less than 30 mph, where trails can safely route through signalized roadway intersections, and at crossings of local streets with appropriate MUTCD signing and/or midblock enhancements.

At-grade street crossings are also most appropriate for Collector Trails and Neighborhood Linkages, at least as interim facilities until the entire Primary Bicycling System is funded and completed.

### Needed Transitions between Trails and Roadways

<table>
<thead>
<tr>
<th>Trail Corridor</th>
<th>Roadway Connection</th>
<th>Facility Need</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sammamish River Trail</td>
<td>Linking to NE 124th Street</td>
<td>Grade separation exists. Tunnel shall be widened and shall include a connection to 124th Street as part of the 124th construction project.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linking to the BNSF rail corridor</td>
<td>Access needed between.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linking to Willows Road</td>
<td>Connection to Downtown rail-trail segment most likely to occur at NE 90th Street. Planning and preliminary design shall jointly address any Willows Road improvements and the BNSF trail conversion project.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Linking to Old Redmond Road/</td>
<td>Pursue new trail connection on the north side of Redmond Way at West Lake Sammamish Way to connect to Old Redmond Rd.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>West Lake Sammamish Way</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linking to Leary Way</td>
<td>At-grade crossing acceptable for interim solution if traffic signal is added. Long-term should be grade-separated.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Linking to East Lake Sammamish</td>
<td>At-grade crossing of Bear Creek Parkway will need improvements for interim solution. Long-term design should be grade-separated.</td>
<td>1, 2</td>
</tr>
<tr>
<td></td>
<td>Trail and East Lake Sammamish</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parkway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SR 520</td>
<td>At-grade crossing for interim solution. Long term solution grade separation</td>
<td></td>
</tr>
<tr>
<td>E. Lake Sammamish Trail</td>
<td>Linking to 187th Ave NE/Redmond</td>
<td>Existing tunnel needs access improvements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall City Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bear and Evans Creek Trail</td>
<td>Linking to 187th Ave NE/Redmond</td>
<td>Signal is being added for short-term solution as part of SR 202. Long-term should be grade-separated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall City Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linking to Union Hill Rd</td>
<td>At-grade crossing at signal acceptable for interim solution. Long-term should be grade-separated.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Crossing Avondale Rd at Avondale</td>
<td>At-grade intersection improvements</td>
<td>1, 2</td>
</tr>
<tr>
<td></td>
<td>Way</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linking to Novelty Hill Rd</td>
<td>Grade separation desired.</td>
<td>1</td>
</tr>
<tr>
<td>Redmond Puget Power Trail</td>
<td>Linking to Willows Road</td>
<td>At-grade signalized crossing</td>
<td>1</td>
</tr>
</tbody>
</table>

*Figure 5B.6 Needed connections as identified by the Bicycle and Pedestrian Advisory Committee*
Alternate Bicycling Corridors
Two desired primary bicycling corridors present significant obstacles for bicycle facility implementation. Both were ranked as critical missing links by the cycling community (Map 5B.13) and were identified as part of the priority multimodal corridors system (Map 5E.7).

The following alternate bike routes are thus recommended to provide cyclists with continuous, barrier-free travel going east/west through downtown and north/south through west Redmond:

- **Corridor E/F - Redmond Way/BNSF**
  Redevelopment of the Burlington Northern Santa Fe railroad corridor as an urban bicycle path could be the preferred way for cyclists to move across downtown Redmond. Traffic calming on Redmond Way with the conversion to two-way traffic flow will additionally improve bicycling conditions on the parallel on-street route, but striping bike lanes is not likely feasible.

- **Corridor #10 - 148th Avenue NE**
  Neither on-street bicycle lanes or a parallel sidepath trail can be cost-effectively constructed on 148th Avenue NE from NE 24th to NE 90th. Thus a parallel north/south route will be developed as a primary bicycling corridor through the expanding Overlake Technology Center.

Three missing links to complete this route are:
  - **#10a** - Construct a trail link from the BNSF corridor up to the T-intersection of Old Redmond Road at Redmond Way. Reconfigure intersection design and signalization to accommodate through bicycle travel. Add bike lanes to connect to Old Redmond Road.
  - **#10b** - Beginning at the access point of the SR 520 Trail, stripe bicycle lanes on the following streets through the Overlake Technology Center: NE 51st St, 150th Ave NE, 152nd AVE NE, and NE 36th St.
  - **#10c** - Construct a new two-lane roadway with bicycle lanes across the proposed SR 520 overpass to connect to the Overlake Mixed-Use Core.

In addition, the existing SR 520 Trail provides another primary north/south bicycling route for through travel through the Overlake Technology Center.

Addressing Bicycling in Pedestrian Places
The key to creating places in Redmond where pedestrians feel comfortable is slowing motor vehicles to speeds more compatible with non-motorized modes. Narrowing travel lane widths, providing on-street parking, and “greening” street corridors are viewed as necessary to achieve this. So where do bicycles fit in?

A final bicycle facility issue to address is how to accommodate bicycles in Downtown Redmond and other places designed to give priority to the pedestrian. Additional operating space for bicycles (i.e. bike lanes or a parallel trail) is most needed on roadways with high travel speeds. A general rule of thumb is the greater the speed differential between cars and bikes, the greater the separation desired. When bicycles and motor vehicles are traveling at or near the same speeds, Class II on-street bike lanes are no longer a necessity.

However, the key to ensuring that bikes and cars can share the road is to slow traffic speeds. Doing nothing is not a solution. If bike lanes are not going to be provided within the City Center and Overlake to make key connections for Primary Bicycling Corridors, some level of traffic calming needs to be implemented. If not, many cyclists will likely end up riding on sidewalks, which should be reserved for pedestrian use and can be a safety issue.

One traffic calming option that shall be explored for implementation within pedestrian destination areas is narrowing travel lanes (potentially down to 10’ widths) and using colored pavement to delineate space for bicycling and/or parking (which may also be narrower than typical AASHTO standards). An example of such treatment is depicted in Figure 5B.7 and may be combined with other traffic calming treatments as appropriate.

![Figure 5B.7 Traffic calming technique of narrowing vehicular lanes and coloring pavement for bicycling and/or parking along pedestrian-oriented streets](image-url)
Education, Encouragement, Enforcement

It is widely recognized that engineering solutions alone won’t make a community bicycle-friendly. Instead, the City of Redmond shall undertake a “4-E Approach” to bicycle planning that includes TDM measures to address education, encouragement and enforcement needs. The strategies for physical facility improvements shall be accompanied by the following programs:

✓ Increased Law Enforcement for Motorists
  Speeding, using shoulders and bike lanes as right-turn lanes, and failing to yield when making a right turn on red are frequently cited motorist infractions.

✓ Bike-Friendly Businesses and Transit Centers
  Public and private sectors of the community shall provide secure and convenient bicycle parking facilities (racks and lockers), showers, changing areas, and other incentives to bike that balance provisions for free auto parking.

✓ Bikes on Buses
  Redmond cyclists desire increased capacity for bicycles on buses. Metro and Sound Transit buses currently have a front rack that accommodates two bicycles. When the racks are full, cyclists must wait for the next bus, which may not come for another half hour or hour, and may already be full as well. Racks with increased capacity and/or modification to policy restricting bringing bikes into buses should be explored.

✓ Share the Road Signing
  Motorist awareness may be enhanced through implementation of a Share the Road signing program. Such signs shall be used to warn bicyclists and motorists that less than ideal conditions may exist along a route that is being used by both users.

✓ Enhanced Wayfinding for Cyclists
  Consider a bike route naming program with signage for cyclists to know how to reach major destinations. Place kiosks with wayfinding at gateways to various parts of the community.

✓ Properly Equipped Nighttime Bicyclists
  Adult cyclists need to be outfitted with proper lighting equipment and educated on safely riding at night.

✓ Education for Child Bicyclists
  Children need to be taught how to ride on streets and behave like operators of vehicles. Bicycle rodeos and other programs shall be introduced.

✓ Safe Routes to Schools
  The Lake Washington School District shall participate in the WSDOT program to provide safe routes to school.
Secure Bicycle Parking

Locations
Bicyclists need convenient and protected places to secure their bicycles while at destinations. The following policies will be adopted for secure bicycle parking.

- Downtown Redmond will have secure bicycle parking at intersections and along street corridors where there are primary and secondary bicycle facilities.
- Overlake Commercial Core will have secure bicycle parking at intersections and along street corridors where there are primary and secondary bicycle facilities.
- Primary and secondary bicycle facilities will have secure bicycle parking at major retail and commercial locations, public buildings, parks, and K-12 schools; in no case will bicycle parking be spaced at distances greater than ½ mile.
- Transit stops along multimodal corridors and along all primary bicycle routes will have secure bicycle parking. Elsewhere, transit stops will have secure bicycle parking if more than one route services the stop.

Elements of secure bicycle parking
Safe and convenient bicycle parking should be provided to support bicycling trips. The following policies will be adopted for secure bicycle parking.

- racks will support the bicycle upright by its frame in two locations, and allow both the frame and one wheel to be secured using a standard U-shape lock.
- Racks will be located in areas that do not impede pedestrian traffic.
- Racks will be located in highly visible areas to promote usage and enhance security.
- At locations where bikes will be parked most of the day or overnight shelter should be provided to protect bicycles from elements.
- Racks will be accessible from primary and secondary bicycle facilities.
As previously described, the following TMP maps depict elements of bicycle facility planning in Redmond. These maps represent the process of project prioritization from the community’s long-range vision to the concurrency management condition to be met and implemented by the build-out plan.

### Bicycle Maps

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Figure 5B.12</em></td>
<td>Previous Bicycle Facility Planning</td>
<td>Combined map of all on- and off-road bicycle facilities of both the Redmond Public Works Department and Redmond Parks and Redmond Recreation Department, prior to development of this TMP. (Same map as maps CC-3 and CC-4 contained within the Redmond Comprehensive Plan.) Identifies specific types of facilities and the current status of each (i.e. - existing vs. planned). No priorities or levels of funding commitment assigned.</td>
<td>5B.13</td>
</tr>
<tr>
<td><em>Figure 5B.13</em></td>
<td>Primary and Secondary Bicycle Corridors</td>
<td>Recommended TMP system of long (2.5-mile) primary corridors and shorter (1.0-mile) secondary corridors to serve a variety of origins and destinations. This represents the ideal bicycle system at build-out. Does not depict recommended types of bicycle facilities within each corridor, but identifies 22 missing links (unbuilt projects) in the primary bicycle system.</td>
<td>5B.15</td>
</tr>
<tr>
<td><em>Figure 5E.7</em></td>
<td>Proposed Multimodal Overlay</td>
<td>Identifies 14 multimodal corridors that shall have Class II bicycle lanes or Class I bicycle paths along with enhancements for pedestrians, transit service and automobile mobility.</td>
<td>5E.13</td>
</tr>
<tr>
<td><em>Figure 4.7</em></td>
<td>2022 Bicycle System Priorities</td>
<td>Identifies 5 major crosstown bicycle routes that will be completed by 2022 as part of the TMP. Represents several of the most important corridors that will create feasible access to Redmond’s primary employment zones from most residential areas, and will provide safe, convenient and direct bicycle circulation between the primary commercial areas.</td>
<td>4.9</td>
</tr>
</tbody>
</table>

*Figure 5B.11 Guide for bicycle maps contained in the TMP*
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5C. Transit System Plan
Introduction

Importance of Public Transportation

Public transportation plays an important economic and social role in the city of Redmond. Everyday employees, students, seniors, and teens rely on public transportation for daily trips. A common misconception is that transit riders do not have access to an automobile or have a revoked license. Although this is true of some riders, most riders use transit for convenience, environmental concerns, or cost savings.

Public transportation is an economic engine. The American Public Transit Association has shown that every $1 invested in public transit projects returns $6 in local economic activity. Likewise, drivers, route supervisors, mechanics, maintenance crews, and local commerce rely on the “business” of public transportation as a source of income.

Public transportation mitigates traffic. Transportation Demand Management efforts on the state, county and local level are effectively using transit to mitigate single occupancy vehicle (SOV) trips in Redmond and the Puget Sound Region. Buses, ferries, and rail services remove personal vehicles from congested roadways. Redmond citizens have indicated transit as a high priority in future transportation solutions.

Existing Transit Services

King County Metro and Sound Transit are the public transit providers in the City of Redmond. Metro offers fixed route and demand responsive bus services to local and regional destinations in King County. Sound Transit offers express regional bus service to urban centers in the Puget Sound region.

Figure 5C.1 Sound Transit 545 provides an important regional connection from Redmond to downtown Seattle.
5C. Transit System Plan

1. Local

Metro operates seven routes that qualify as local service. They are considered local service because they offer connection to major destinations in Redmond and only stop in one adjacent municipality. Metro’s route structure on the eastside of Seattle has very few “true” local routes. A “true” local route would only have stops in Redmond and offer connections every few blocks. Metro currently has very few routes that meet this criterion because they operate in a large service area with few local stops. Sound Transit has two regional routes that serve as local routes between downtown activity centers and the Southeast and Overlake Transit Center activity centers.

2. Regional

Metro also operates twelve routes that provide service to regional destinations in the Puget Sound Region. The majority of service Metro operates on the eastside of Seattle serves this purpose. The routes that fall into this category connect Redmond to at least two other municipalities, while offering local service to popular destinations in Redmond.

3. Express Regional

Metro and Sound Transit provide express regional transit service. This service offers direct connection to urban centers, town centers, and other destinations in the Puget Sound Region. Urban Centers and Town Centers are defined by the Puget Sound Regional Council and have policy implications in the Regional Transit Plan (Sound Move). The centers have specific land use policies that support transit use and implement regional growth strategies. Routes in the express category connect Redmond with at least one other urban/town center before connecting with Seattle.

Urban center connections
- Totem Lake
- Downtown Bellevue
- Downtown Seattle
- Seattle University Community

Town center connections
- Downtown Kirkland

Local Routes
(Route has multiple stops in Redmond and connects to 1 nearby city)

<table>
<thead>
<tr>
<th>2004 Routes</th>
<th>Origin</th>
<th>Destination</th>
<th>Redmond Park and Ride*</th>
<th>Peak Frequency (minutes)</th>
<th>Weekend Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>Redmond</td>
<td>Bellevue</td>
<td>1</td>
<td>30</td>
<td>Y</td>
</tr>
<tr>
<td>233</td>
<td>Redmond</td>
<td>Bellevue</td>
<td>3 and 4</td>
<td>30</td>
<td>Y</td>
</tr>
<tr>
<td>249</td>
<td>Redmond</td>
<td>Bellevue</td>
<td>2</td>
<td>30</td>
<td>Y</td>
</tr>
<tr>
<td>253</td>
<td>Redmond</td>
<td>Bellevue</td>
<td>1 and 4</td>
<td>30</td>
<td>Y</td>
</tr>
<tr>
<td>254</td>
<td>Redmond</td>
<td>Kirkland</td>
<td>1</td>
<td>40</td>
<td>Y</td>
</tr>
<tr>
<td>269</td>
<td>Redmond</td>
<td>Issaquah</td>
<td>3 and 4</td>
<td>60</td>
<td>N</td>
</tr>
<tr>
<td>291</td>
<td>Redmond</td>
<td>Kirkland</td>
<td>1</td>
<td>30</td>
<td>N</td>
</tr>
</tbody>
</table>

Shaded rows indicate routes that operate during the am and pm peak hour only.
*1=Downtown Redmond  2= Overlake Park and Ride  3= Overlake Transit Center  4= Bear Creek

Figure 5C.2 Local transit routed detail

Figure 5C.3 Metro provides local service in Redmond and connects to regional destinations while Sound Transit provides express connection to regional destinations.
### Regional Routes
(Route has multiple stops in Redmond and connects 2 or more nearby cities)

<table>
<thead>
<tr>
<th>2004 Routes</th>
<th>Origin</th>
<th>Destinations</th>
<th>Redmond Park and Ride*</th>
<th>Peak Frequency (minutes)</th>
<th>Weekend Service</th>
<th>One Way Service</th>
<th>Two Way Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>216</td>
<td>Redmond</td>
<td>Sammamish</td>
<td>4</td>
<td>30</td>
<td>N</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Issaquah</td>
<td></td>
<td></td>
<td></td>
<td></td>
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*1=Downtown Redmond  2= Overlake Park and Ride  3= Overlake Transit Center  4= Bear Creek

**Figure 5C.4 Regional transit route detail**

### Regional Express Routes
(Route has limited stops in Redmond and serves Seattle)

<table>
<thead>
<tr>
<th>2004 Routes</th>
<th>Origin</th>
<th>Destination</th>
<th>Redmond Park and Ride*</th>
<th>Peak Frequency (minutes)</th>
<th>Weekend Service</th>
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Shaded rows indicate routes that operate during the am and pm peak hour only.

*1=Downtown Redmond  2= Overlake Park and Ride  3= Overlake Transit Center  4= Bear Creek

**Figure 5C.5 Regional express transit routes detail**
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Connecting Redmond Locally

1 THE NEED FOR LOCAL CONNECTIONS

Meetings conducted with the public as part of this plan and previous projects highlight the importance of time competitive transit connections within Redmond. The term “time competitive” is used because some trips are possible today, but they require multiple uncoordinated time transfers. Because the existing structure of local routes does not provide a direct connection to popular destinations in Redmond, some people are not choosing to use transit (although lack of a direct connection is not the only factor people use to ride transit). Others who do use transit are riding circuitous routes.

Redmond residents, who use transit to connect popular destinations, are well versed in the time it takes to complete cross-town trips. In discussions with those who use the local system on a regular basis, most choose to ride because the local route schedules fit their travel needs. They choose to ride current routes, even with the time penalty, for a variety of financial, social and environmental reasons.

The City of Redmond Comprehensive Plan identifies the need for better internal transit service. Since the adoption of the plan, Metro has increased service levels on Redmond routes. However, a strategic approach to new service hours or service hour reallocation has not been developed.

A strategic approach to service levels is an emerging need that will be paramount in the next 20 years. The demand for better connections will continue to grow as the aging Redmond population becomes more dependent on transit and development patterns produce more transit-friendly land use.

2 IDENTIFYING LOCAL CONNECTIONS

The major activity centers in Redmond were identified by the public and mapped in relationship to Redmond’s Transportation Management Districts (TMD). A corresponding matrix (Figure 5C.8) shows the actual travel time on a bus (from stop to stop) between the activity centers as of 2004. The activity centers are organized in order of importance to show where critical connections are missing. The matrix will provide a blueprint to make judgments on service reallocation.

The transit objectives for local connections are listed in Chapter 4.

3 STRATEGY FOR LOCAL CONNECTIONS

Redmond will continue to build a relationship with Metro to plan local transit service. The relationship between Redmond and Metro’s operations staff is becoming stronger. Both are committed to meeting local ridership goals. The partnership has been successful in allocating new service hours and adjusting existing service to meet the needs of riders. Using the context of this plan the two groups will continue to work together and build ridership in Redmond. Meetings with Metro service planners on local route details will continue.

As requested by the public, the partnership will focus on travel between activity centers in Redmond. The major hurdle to creating “true” local connections is the interconnected route structure on the eastside of Seattle. Because most of the local routes connect to other communities, the partnership will need to identify opportunities to create “true” local routes and redirect existing local service. The partnership will identify opportunities to restructure local routes to increase frequency to key activity centers. Opportunities for timed transfers (less than 3 minutes) between routes will be explored, and a marketing plan and image for Redmond routes will be developed.

When possible, route restructuring and service additions will focus service in multimodal corridors. As part of this plan Redmond will implement a multimodal approach to roadway planning. The approach will offer flexibility in specific travel corridors for transit, bikes and pedestrians. When possible, routes that connect activity centers should use the multimodal corridors. In some cases transit routing may not be limited to multimodal corridors.

- Redeploy local service between activity centers to multimodal corridors.
- After moving routes to multimodal corridors, provide for bus shelters, bicycle parking and other appropriate supportive infrastructure and use TDM techniques to build ridership from neighborhoods along the multimodal corridors.

As additional funding for new transit service becomes available, Redmond will work with its transit partners to ensure that a fair share of these new transit hours are allocated to ensure connections between multimodal corridors and residences/employment sites. This will enable residents and employees commuting into Redmond to more effectively access transit services provided along multimodal corridors.
Figure 5C.7: Local transit destination by TMD
### Local Transit LOS Standards

**PC – Priority Corridor**
- Peak Hour frequency of service: 15 min
- Direct route, expedited travel time
- All day service

**MS – Maintain Service Level**
- Maintain at least today’s level of service.

**N – No Direct Connection**
- No direct local route connection

### Existing Conditions

**ST= Sound Transit Route**
- * = No service offered

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<th>1. Downtown (Town Square)</th>
<th>2. Downtown (Redmond Town Center)</th>
<th>3. NE Redmond (NE 110th ST. &amp; 166th Ave NE)</th>
<th>4. Overlake (Transit Center)</th>
<th>5. Overlake (Commercial Core)</th>
<th>6. Grass Lawn (Grass Lawn Park &amp; 148th AVE NE)</th>
<th>7. SE Redmond (Bear Creek Park and Ride)</th>
<th>8. Willows (Willows Rd NE &amp; NE 90th AVE)</th>
<th>9. Viewpoint (Idylwood Park &amp; West Lake Sammamish Pkwy NE)</th>
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*Figure 5C.8 Peak and non-peak travel times and service frequency between Local Transit Destinations*
Connecting Redmond Regionally

1. THE NEED FOR REGIONAL CONNECTIONS

Regional transit connections between activity centers in the Puget Sound Region and Redmond will meet a variety of transportation objectives. In the last decade, Redmond became a center for employment without a counter balancing increase in housing. The imbalance has resulted in substantial traffic growth on regional and local roadways in and around Redmond. Redmond residents also travel more often and also contribute to the growth in roadway traffic. Similar trends have played out in neighboring communities and show that connecting regional activity centers with transit would also address a myriad of local planning objectives.

Activity centers throughout the Puget Sound Region are a major draw for Redmond residents. When working with the public to determine regional destinations, many identified the cultural, entertainment, and sporting events in Bellevue, Kirkland, and Seattle. Likewise, Redmond attracts non-residents to destinations such as Marymoor Park, Redmond Town Center, and the Sammamish River Trail. Redmond also is a major employment center in the region and draws many workers from surrounding communities.

Each of the activity centers would benefit from a reliable, high-quality and frequent regional transit connection. Such a connection would benefit a wide range of users traveling between regional centers for a wide range of purposes. Enhanced transit service between the destinations will also make it feasible to better serve existing riders while encouraging new riders to use the system. New connections will not eliminate automobile access, but allow transit to become a more competitive means of regional travel.

2. CURRENT PLANNING EFFORTS

Metro and Sound Transit have developed plans to provide regional transit service in the Puget Sound Region. Their plans follow the goals and objectives established in the Puget Sound Regional Council’s regional transportation plan. The regional transportation plan is working under the statewide Growth Management Act and federal transportation policies established in TEA-21, the Transportation Equity Act for the 21st century. The charts to the right illustrate the hierarchy of the plans.

---

**Puget Sound Regional Council**

**Plan:** Destination 2030

**Purpose:** Metropolitan transportation plan for the central Puget Sound Region. This plan falls under the state mandated regional growth management policy plan, VISION 2020, adopted in 1995.

**Date:** 2001

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**Sound Transit**

**Plan:** Sound Move

**Purpose:** Implementation plan for high capacity transit

**Date:**

1996 (Currently updating)

---

**Metro**

**Plan:** 6 year TDP

**Purpose:** Operation & capital plan for service in King County

**Dates Valid:**

2002 - 2007

---

*Figure 5C.9 Regional transit plans in the Puget Sound Region*
Plan Goals:
“Destination 2030 is a transportation action plan for the next 30 years of growth in King, Pierce, Snohomish and Kitsap counties, the central Puget Sound region of Washington state. The plan addresses traffic congestion and making it easier to move between home and work, school, shopping, and recreation.”

Action Items:
- Invest in roads, transit service, traffic management and improved linkages between land use and transportation.
- 2,200 specific projects to improve roads, transit, and ferry service.
- Improved public transit.
- Incentives for carpools and vanpools.
- 2,000 miles of new walkways and bikeways to connect communities with transit, shopping, and services.

How the plan affects Redmond:
High Capacity Transit connections between Downtown Seattle and Downtown Redmond. These connections are over I-90 to Downtown Bellevue, Overlake and Downtown Redmond; and on or near SR 520 to South Kirkland, Overlake and Downtown Redmond.

What is High-capacity transit (HCT)?
High-capacity transit simply refers to a transit system that carries large numbers of people faster and more frequently than a basic, conventional local transit system. To do this, the type of transit used in the system (express buses, rail or both) usually need to run in their own rights-of-way, separated from general traffic (and general traffic jams).”

As defined in Sound Move

Sound Move

Plan Goals:
“The regional transit system will be the tie that binds the region together, connecting the communities of the Central Puget Sound region in a way that supports local land-use plans, joins economic centers and expands local transit services.”

Action Items:
- Create a comprehensive, regional high-capacity travel network.
- Create a network of frequent, convenient and dependable services that can be used with a single ticket.

How the plan affects Redmond:
High Capacity Transit connection from Downtown Seattle to Downtown Bellevue, Overlake, and Downtown Redmond via I-90.

METRO 6-year TDP (2002-2007)

Plan Goals:
“The Six-Year Plan for Public Transportation 2002-2007 will continue the successful efforts of the 1996 - 2001 plan to move people throughout urban King County with a network of restructured services, and supporting passenger facilities.”

Action Items:
- More convenient and frequent services, particularly to and between activity centers outside of downtown Seattle.
- Strengthened linkage between service and facility investments and the actions of others.
- Increased parking capacity and service at a number of park-and-ride locations.
- Improved coordination with regional transit services.
- Continued emphasis on private and public partnerships.
- Ongoing evaluation of services and plan progress.

How the plan affects Redmond:
Service improvements along key freeway and Regional Arterial Network (RAN) corridors. Re-investment and restructuring of services to integrate with Sound Transit Regional Express.
HIGH CAPACITY TRANSIT IN REDMOND

Destination 2030 and Sound Move identify downtown Redmond as an urban center that will receive high capacity transit (HCT) service. The proposed HCT routing and technologies have not been established. An update to Sound Move is currently underway to determine the most feasible alternatives.

The HCT connection between downtown Redmond and downtown Seattle was a major topic of discussion at the TMP public workshops. The public stressed the importance of making HCT travel time competitive. They also felt that service would have to be frequent to be useful. Sound Move also recognizes these needs and for that reason suggests a system with dedicated rights of way to ensure efficient operations.

Redmond advocates early development of a High Capacity Network (HCT) linking the Eastside centers and activity areas and connecting them with regional centers throughout the Puget Sound Region. Redmond also believes that there should be an immediate and ongoing improvement in Eastside regional bus transit services provided through Sound Transit, both to meet current travel demand and also to build transit patronage in preparation for HCT.

This Transportation Master Plan anticipates that a direct HCT connection into Redmond will be under construction within the 2022 horizon of this Plan and will be in service by the end of that period. The City does not believe that continued regional growth can be accommodated on the Eastside beyond levels anticipated by 2022 without at least the key spine corridors of HCT being in place.

Redmond believes that the long-term development of HCT in the Region will require crossings of Lake Washington in both the SR 520 and I-90 corridors. It is imperative that any major changes or improvements to bridge crossings in either corridor must fully anticipate and provide for HCT development. Redmond will work to support HCT development in both corridors.

Recognizing that HCT may initially connect the Eastside with Seattle through the I-90 corridor, Redmond has anticipated how that spine corridor will have to be located to adequately serve Bellevue and Redmond, as well as other Eastside needs.

The first HCT spine on the Eastside may come across Lake Washington in the I-90 corridor and connect into Downtown Bellevue. However, the extension of that corridor into Downtown Redmond with Overlake will be as important for regional travel as the connection across the lake into Seattle.

One potential corridor for HCT connecting Downtown Bellevue and Downtown Redmond is Bel-Red Road. However, HCT must connect directly into Overlake, including stations in the vicinity of 152nd Avenue NE and at the existing NE 40th Street transit center. From that point on, HCT should use the SR 520 corridor to Downtown Redmond. Further, if the development of HCT is located in part through the Bel-Red Road corridor, this must not detract from the regional functionality of this route. The number of local stops must be limited and travel times must be kept short if HCT is to compete effectively with auto travel.

Destination 2030 identifies the Overlake Technology Center (OTC) as a regional manufacturing center that will be served by HCT in the future. Overlake is a major employment and manufacturing center and is a critical employment and activity center for the City of Redmond. Currently the area has regional express bus service to Downtown Seattle. A new transit center was constructed in the heart of Overlake at NE 40th Street in February 2002 to serve Sound Transit, Metro and Microsoft shuttles.

HCT in Overlake is critical to the long-term vitality of the area. Today the land uses in the area are not adequately served by regional transit service. Local transit connections to regional transit centers are also limited today. As a result Microsoft, the major employer in Overlake, is running a system of shuttles to link regional transit to the front doors of Microsoft campus buildings. HCT is also critical for future development. The Overlake Center is designated as one of Redmond’s two top locations for residential growth, and is also a very significant location for continued employment growth.

Employees in the area are using the Sound Transit regional express buses (545) and other regional Metro routes for their commute. Ridership continues to grow during peak hours but midday travel has steadied. The current location of the Overlake Transit Center was identified in Sound Move and represents a feasible station location for HCT. The current location, near the SR 520 corridor, would support a variety of alternative HCT technologies. Redmond will continue to develop safer bicycle and pedestrian connection in the area while also planning for land uses that will support HCT.

A direct HCT connection to Overlake would serve a wide range of users. Peak hour commuters, late night employees, internship candidates from UW, nearby residents traveling to sporting events, visitors traveling from Sea-Tac, and Overlake residents are just a small portion of riders who would use a HCT connection to OTC. Employers in the area see a significant need for a direct connection to the University of Washington.

The City is planning for four primary HCT stations in Redmond: one in the vicinity of 152nd Avenue NE to serve...
the Overlake Mixed Use Core; one at NE 40th Street, serving Microsoft and other portions of Overlake; one in the Downtown serving its employees, residents, and destinations; and one farther east in SE Redmond to intercept commuters with a major park and ride and multimodal facility. Redmond also anticipates that the most easterly of these stations may also be associated with a nearby maintenance facility.

With these concepts and principles as a guide, Redmond will work with its neighboring cities and other regional partners to advance the development of the Sound Move Long-Range Plan and Sound Transit Phase II and other similar initiatives.

Redmond recognizes its responsibility to take the lead in planning the transportation facilities and associated land development patterns required for all the HCT stations in Redmond. This may include identifying and protecting rights of way for an HCT corridor and space for station locations.

The City has initiated a planning effort for an HCT station and associated transit-oriented development in Downtown Redmond and an intercept station east of Downtown Redmond. This study, to be completed in 2005, will assess the best corridor for HCT in this area and the resulting best location for the HCT stations.

Redmond is also committed to working closely with Sound Transit as it continues to develop its plans for near-term and long-range HCT improvements.

4 INTERIM STRATEGY FOR REGIONAL CONNECTIONS

The ultimate success of HCT on the Eastside will depend in part on how effectively the transit patronage market has grown in the years between now and 2022. Redmond will continue to work with Metro and Sound Transit to develop interim “time competitive” bus connections between centers. This includes improving bus transit travel times and service frequency at its centers. Transit connections must provide a time competitive alternative to driving during peak travel hours. In corridors where existing services are provided, routing alternatives should be explored to maximize efficiency between centers.

A direct, frequent transit connection between Overlake at NE 40th Street and the University of Washington represents an important near-term and long-term need. Such a connection between the Region’s primary institution of higher learning and the Region’s principal high tech employment area will provide benefits to the transit agencies, to the City of Redmond and to the people who provide the intellectual capital that has given this area its national stature.

The Overlake Center needs regional express bus service to other urban centers. As regional highways continue to reach capacity during peak hours, time competitive alternatives between Overlake and other urban centers should be provided.

Redmond’s transportation system is also affected by continued growth in East King County. Redmond should continue to work with its neighboring jurisdictions to provide transit access into Redmond, with particular emphasis on connections to employment areas. These partnerships will become increasingly important in determining an appropriate eastern terminus for high capacity transit.
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<th>Destination</th>
<th>Downtown Redmond</th>
<th>Overlake Technology Center (Overlake Transit Center)</th>
<th>Regional Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Immediate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downtown Seattle (5th &amp; Jackson)</td>
<td>55min Route 265 (1½ hour)</td>
<td>45min Route 225 (1 hour)</td>
<td>Urban Center</td>
</tr>
<tr>
<td></td>
<td>40min Route 266 (½ hour)</td>
<td>45min Route 229 (1 hour)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40min Route 545 (15 minute &amp; ½ hour)</td>
<td>50min Route 256 (½ hour)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30min Route 545 (15 minute &amp; ½ hour)</td>
<td></td>
</tr>
<tr>
<td>Bellevue Transit Center</td>
<td>35min Route 220 (½ hour)</td>
<td>55min Route 222 (½ hour)</td>
<td>Urban Center</td>
</tr>
<tr>
<td></td>
<td>45min Route 230 (½ hour and 1 hour)</td>
<td>35min Route 230 (½ hour and 1 hour)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40min Route 249 (1 hour)</td>
<td>25min Route 233 (½ hour)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42min Route 253 (½ hour)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seattle University Community</td>
<td>40min Route 540 (½ hour)</td>
<td></td>
<td>Urban Center</td>
</tr>
<tr>
<td>(UW Campus Parkway &amp; University)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downtown Kirkland (Kirkland Transit Center)</td>
<td>1 hour &amp; 15min Route 230 (½ hour and 1 hour)</td>
<td>1 hour &amp; 5min Route 230 (½ hour and 1 hour)</td>
<td>Town Center</td>
</tr>
<tr>
<td></td>
<td>18 min Route 251 (1 hour)</td>
<td>20 min Route 245 (½ hour)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 min Route 254 (40 min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15min Route 540 (½ hour)</td>
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<td></td>
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<tr>
<td>Totem Lake</td>
<td>1hr &amp; 15min Route 230 (½ hour and 1 hour)</td>
<td>1hr &amp; 5min Route 230 (½ hour and 1 hour)</td>
<td>Urban Center</td>
</tr>
</tbody>
</table>

**Legend**
- Travel Time between destinations - no wait time
- Metro or ST Route Number (all day one way & two way routes)
- (Service Frequency) if two times are listed they distinguish frequency during peak and off peak hours
- * = not currently a route

**Figure 5C.11** Travel times between Urban Centers and regional destinations (all day routes & peak only)
Implementation

The intent of the Transit System Plan is to present current conditions and develop a list of future needs. Redmond will need to plan for a more robust network of local connections that provide seamless transfer to regional routes to urban centers. The local and regional systems will need to provide a time competitive means of travel and offer enhanced bicycle and pedestrian connections. The following strategies and action items shall be implemented.

1. The City of Redmond will work with Metro to develop an action plan for transit service in Redmond.
   a. Implement high-frequency transit service that connects important activity centers and neighborhoods.
   b. Develop criteria and prioritize the transit corridors, with the aid of the public, that connect Redmond’s activity centers.
   c. Maximize existing service hours to multimodal corridors.
   d. Continue to implement the Transportation Demand Management program to employers and seek additional support from neighborhoods as higher frequency services are implemented.
   e. Work with Metro and other partners to identify and support increased funding for additional service hours.
   f. Work with Metro and other partners to identify new and innovative ways to get Redmond residents and commuters to Redmond worksites and to and from transit located along multimodal corridors.

2. The City of Redmond will continue to work with Metro and Sound Transit to improve access for all modes of transportation.
   a. Use the policies in the bicycle and pedestrian chapters (5A & 5B) to address connections and amenities that complement land uses.
   b. Encourage additional transit-oriented development in downtown Redmond and Overlake.

3. The City of Redmond will take a more proactive role planning their urban centers and build ridership to support HCT.
   a. Continue to build partnerships with Sound Transit and Metro as they develop the next phases of their HCT implementation plans.
   b. Work with Sound Transit to improve the connection between Redmond and University of Washington (ST 540).
   c. Develop an action plan with Washington Department of Transportation, Metro, and Sound Transit to relocate the Bear Creek Park and Ride to a location that better serves the end of SR520.
   d. Fund capital projects that decrease travel times of regional bus routes entering and departing Redmond.
Introduction

This Thoroughfare Plan is Redmond’s long-term system plan for its street network. The Build-Out Thoroughfare Plan represents the eventual, permanent street network, including maximum lanes and rights of way.

The Functional Classification standards and lists included in this Thoroughfare Plan provide a guide to the ultimate cross section (lanes) and right-of-way widths for all of Redmond’s streets.

Not all of the projects required to complete the Thoroughfare Plan can be funded by 2022 with financial resources expected to be available to the City. Chapter 6, Transportation Facilities Plan (TFP), describes funding forecasts and lists the projects that will be completed by 2022. The TFP will enable the City to meet the service objectives set in Chapter 4, but only through 2022.

This Thoroughfare Plan has been designed to address a number of opportunities, including:

- The Redmond street network could function better for internal access and circulation within the City if there were better connectivity. Because the network is missing key connections, too much reliance is placed on major streets for local circulation and access. This is especially important in Downtown, Overlake and Southeast Redmond.
- Redmond could achieve a multimodal transportation system if its streets were consciously designed for multimodal use. Because the existing street system is so extensive, that task could be overwhelming. However, Redmond can make steady progress on this within this plan period by focusing on a smaller number of key “Multimodal Corridors.”
- The Thoroughfare Plan will enable Redmond to simplify its approach to development review as new projects and redevelopments are proposed. Because the City has made this Build-Out Thoroughfare Plan available, planners, landowners, developers and other citizens will have access to unambiguous information about the future street network, including ultimate right of way requirements and future street cross section.
- The City will need to ensure that its street network functions not only for personal mobility, but also for freight and delivery service circulation and access and for emergency service vehicles. Generally, the most important improvements the City can make for each of these other important roadway user categories will be to improve connectivity in the street network, especially in and around commercial areas.

Contents of this Chapter

This chapter describes Redmond’s long-term plan for its street network. Topics discussed include:

- Motor Vehicle Traffic Trends
- Pass-through traffic
- Functional classification system
- Principal Arterials
- Minor Arterials
- Collector Arterials
- Connectors
- New connections
- Implementation
Motor Vehicle Traffic Trends

Redmond’s location at the eastern edge of a large, rapidly growing metropolitan region creates two sources of traffic growth: increasing size and density of the City itself, and ongoing regional growth and development. This Thoroughfare Plan reflects analysis of past and future traffic growth trends, which are summarized in the paragraphs below.

However, good street networks are not developed solely in response to traffic demand. Streets represent the most visible and influential infrastructure in the City; their size, appearance and operational characteristics shape everything around them. In addition to traffic demand, this Thoroughfare Plan reflects careful consideration of community character, urban design and quality of life.

Finally, Redmond’s streets serve more than automobiles and trucks. The City’s street network represents the principal infrastructure for all modes of travel: motor vehicle, public transit, pedestrian and bicycle. Redmond’s community vision (see Chapter 2) calls for improving transportation (mode) choices and personal mobility. This will require that the streets function as well for public transit, pedestrians and bicycles as they do for personal motor vehicles and commercial trucks.

This will also require that all three elements of personal mobility - travel, circulation and access - are equally well served by the 2022 and build out street networks.

Traffic Volume and Growth

Traffic in Redmond will continue to grow over the next couple of decades. Figure 5D.2 is based on traffic modeling completed as part of preparing this Thoroughfare Plan. Total daily traffic on Redmond’s streets (including the state highway system) will grow by 24% over the next 18 years. Daily vehicle miles of travel will grow by 26%, reflecting an 8% increase in average trip length.

While significant, the annual growth rate of 1.2% represents a slowing in traffic growth which has ranged from 2% to 3% annually over the past couple of decades.

Redmond’s traffic growth has mirrored regional rates of traffic growth in the past. The forecasts in this TMP indicate this will continue to be the case as Redmond traffic trends will be similar to overall regional trends.

This TMP is designed to respond not only to traffic growth but to the other forces of change in Redmond as well. There is time to address mobility needs in a comprehensive, integrated, multimodal manner, without having to embark on an aggressive street widening program.

During the years covered in this TMP, Redmond will emphasize projects designed to improve internal connectivity and multimodal functionality. The City will also continue implementation of the Redmond Intelligent Transportation System (RITS) to ensure that motorists are able to make the best use of available infrastructure.

Growing traffic will affect different parts of the roadway network to varying extent, as shown in Figure 5D.3 above and in Figure 5D.4 on the next page. While growth will occur throughout the City, it will be most pronounced in Southeast Redmond. The screenlines used in the map in Figure 5D.4 are the same as those used in Chapter 4 as concurrency management screenlines.
Figure 5D.4 Annual Screenline Growth 2003-2022
Pass-Through Traffic

A study of peak hour traffic in Downtown Redmond was conducted by the City in March 2004. The study tracked and matched license plates at points on the perimeter of Downtown. The study established that 36% to 37% of the traffic observed in the peak hour is “pass-through traffic,” meaning it does not stop within the Downtown.

More significantly, almost three-fourths of the pass-through traffic makes no stops within Redmond. This traffic is passing through Downtown from somewhere outside Redmond to somewhere outside Redmond without stopping anywhere in Downtown or in the City.

Pass-through traffic rises in Downtown in the afternoon commute period in part because of eastbound congestion on SR 520 at that time of day. However, pass-through traffic occurs also in part because of Redmond’s legacy of radial routes into the surrounding neighborhoods and countryside (Avondale Road, SR 202, etc.). These radial routes converge and bring traffic through the Downtown.

Equally significant, given the radial configuration of the street network, is the fact that nearly two-thirds of peak hour traffic observed in Downtown today either originates or stops in Downtown. These vehicles are carrying downtown employees, customers and residents. By 2020 this will represent most (73%) of the peak hour traffic in Downtown.

Redmond is adopting a balanced approach to addressing the Downtown street network, an approach that involves two parallel strategies. First, the City will work to provide routes for pass-through traffic that is impacting but not benefiting the Downtown. This includes working with WsDOT to increase capacity of SR 520 so that pass-through traffic does not divert onto local streets unnecessarily. This also includes extending Bear Creek Parkway to handle non-freeway traffic that shows up in Downtown because of the radial the street network.

Second, Redmond will work to improve the functionality of the Downtown street network for internal circulation and access. This does not require increasing the capacity of downtown street corridors. Rather it includes improving the connectivity of the downtown network by extending 164th Ave NE and 161st Ave NE across the railroad corridor, building the Bear Creek Parkway extension (including the 161st connection) to improve connectivity between Downtown and Town Center, and converting the one-way pair (Redmond Way and Cleveland Avenue) to two-way operation. Other improvements to circulation and access in Downtown include 4-lane to 3-lane conversions to improve multimodal functionality.
Build Out Thoroughfare Plan

This Thoroughfare Plan represents a map for the ultimate development of Redmond’s street network. Redmond will continue to grow “up” over the coming decades, but will not grow “out” much if at all. Further infill development and continuing redevelopment will occur, especially in Downtown and Overlake. Some residential areas (primarily in north and southeast Redmond) will build out and fill in during the next two decades.

For these reasons, Redmond’s street network will not grow much beyond what it is now. Some missing connections in the network will be made and some limited widening will occur. Intersections will be signalized and in some locations turn lanes will be added. However, the street system will not grow inexorably. Rather, as commercial areas become more dense and the remaining residential units are built, the resulting additional travel demand will be met by providing a multimodal transportation system.

Increasingly, the ongoing investment in Redmond’s streets will be intended more to provide for multimodal circulation and access, and less for long distance vehicular regional travel.

The Build Out Thoroughfare Plan is organized in part around a Functional Classification system that identifies the ultimate function of each street in the network.

Functional Classification System

Each street in Redmond is one element in the network. This network operates as a system, with traffic flows distributed throughout the various corridors according to a complex interaction of variables, including distance, travel time, time of day, direction, vehicle mix, and so forth. To manage this system effectively, Redmond must consider each street and intersection in terms of its role in the network. The Functional Classification system helps by clarifying the role of each street and by revealing the future size of each segment.

The “function” of a street takes into account the purpose of that corridor in the regional roads and streets grid. Streets may:

- Connect Redmond to other parts of the Puget Sound region;
- Connect local districts and neighborhoods within Redmond; or,
- Provide internal circulation within local districts and neighborhoods.

Functional classification also takes into account the character of each roadway based on abutting land uses, and the role of each roadway corridor in supporting a multimodal system of regional mobility. Finally the functional classification of each roadway determines roadway design and ultimate cross section.

In addition to functional classification, certain roadways occupy corridors that are designated as Multimodal Corridors. These are transportation corridors where:

- Public space within the right of way is allocated to allow safe circulation by all modes (personal motor vehicle, public transit, bicycle, pedestrian);
- The design of facilities within the corridor reflects a balancing of the operating requirements of all modes;
- Conflicts between modes are reduced through design and management practices; and,
- The volume of person trips through the corridor is balanced across the modes.

Designation as a Multimodal Corridor thus activates a special set of design standards intended to facilitate efficient and safe bus, pedestrian and bicycle circulation throughout a regionally-connected, intermodal infrastructure system. Each Multimodal Corridor represents a key element in a grid of facilities that connect major educational, recreational, commercial and employment destinations.

This does not mean that other streets and roadways should not also have provision for public transit, for bicycling or for walking. In fact, the intent of this Transportation Plan is that bicycling and walking will be accommodated throughout the road and street system, and that public transit circulation will be supported on most classifications of roadways.

However, Multimodal Corridors will be subject to a focused, higher-priority investment strategy designed to ensure that a complete grid of multimodal facilities is developed connecting all of the districts in the region. (Multimodal Corridors are mapped in Section 5F.)

Redmond’s roadway functional classifications include:

- Freeway
- Principal Arterial
- Minor Arterial
- Collector Arterial
- Connector
- Local Access
Freeway

Freeways serve as high-capacity, high-speed facilities for long trips across and through the Puget Sound region. They also connect the region to the state and the nation. Freeways require massive infrastructure and wide rights of way (up to 300 ft. or more) and are intended to carry heavy volumes of traffic at high speeds with a relatively large percentage of trucks in the traffic stream. They are designed with full control of access. Adjacent land uses may include commercial areas, open space, public lands, industrial sites and certain institutional sites. Residential property will generally not abut Freeways unless separated from the freeway corridor by adequate buffering.

Freeways terminate only at other Freeways or at Principal Arterials. All interconnections with other roadway classifications will be accomplished through grade-separated interchanges. Interchanges will be provided only for other Freeways and for Principal Arterials. There will be no direct access to abutting property.

Freeways will be divided highways with at least two lanes in each direction. Ramps will be provided upstream and downstream of interchanges. Lane width will be at least 12 feet. Inside and outside paved shoulders will be provided. Design geometry will be based on relatively high travel speeds. No at-grade pedestrian crossings will be allowed on Freeways and no bike lanes will be provided adjacent to vehicular travel lanes. In certain instances bicycles may be allowed to utilize paved shoulders or may be accommodated in separate trail facilities within the right of way.

Traffic calming and speed reduction measures are generally not applicable to Freeways. Noise and visual mitigation measures may be appropriate in specific settings. Freeways will be designed with full control of access. No direct at-grade connections will be allowed. Interchanges will be located far enough apart to safely accommodate merging and weaving maneuvers.

Freeways may be designated as Multimodal Corridors for purposes of regional and interregional transit circulation.

Principal Arterial

Principal Arterials provide capacity and continuity for travel between different areas of the region. Adjacent land uses may include residential and commercial areas, open space, public lands, industrial sites and institutional sites. The activity center for a district will often be located along a Principal Arterial or at the intersection of a Principal Arterial with another Principal Arterial or a Collector Arterial.

Principal Arterials terminate only at Freeways or other Principal Arterials. Direct connections with other roadways will be provided via at-grade interchanges. Principal Arterials may have as many as four through lanes but will generally be designed as divided facilities with a center median. Turn lanes will be provided as turning movements warrant and may include left turn lanes and right turn lanes, or in five-lane or three-lane configurations may include a two-way continuous left turn lane.

Clearly-marked crosswalks will be provided at all legs of every signalized intersection where warranted. On-street bicycle lanes may be provided even if alternative, close-by, parallel facilities are available. Sidewalks will be included on both sides of the street and will be separated from vehicle lanes by a buffer strip.

Traffic calming and speed reduction measures are generally applicable to Principal Arterials only in areas where sensitive land uses (residential property, schools, public parks and certain other public institutions) directly abut the roadway or are nearby. Principal Arterials will be designed with partial control of access through the City’s access management system. On-street parking will be allowed only in commercial areas.

Principal Arterials in Multimodal Corridors shall include provision for transit circulation and access, including bus stops and pull-out bays. Bicycle circulation may be provided via on-street lanes even if there are parallel multi-use paths. Pedestrian facilities in the corridor will be designed to Multimodal Corridor standards.

Minor Arterial

Minor Arterials provide capacity and continuity for travel between different areas of the region, but will not have the regional length and significance of Principal Arterials. Adjacent land uses may include residential and commercial areas, open space, public lands, industrial sites and institutional sites. The activity center for a district will often be served by Minor Arterials and may include the intersections of Minor Arterials with Principal Arterials and Collector Arterials.

Minor Arterials terminate only at Freeways, Principal Arterials or other Minor Arterials. Direct connections with other roadways will be provided via at-grade intersections. Minor Arterials may have as many as four through lanes and may be undivided facilities. Turn lanes will be provided as turning movements warrant and may include left turn lanes and right turn lanes, or in a
three-lane configuration may include a two-way continuous left turn lane.

Clearly-marked crosswalks will be provided at all legs of every signalized intersection where warranted. On-street bicycle lanes may be provided even if alternative, close-by, parallel facilities are available. Sidewalks will be included on both sides of the street and will be separated from vehicle lanes by a buffer strip.

Traffic calming and speed reduction measures are generally applicable to Collector Arterials only in areas where sensitive land uses (residential property, schools, public parks and certain other public institutions) directly abut the roadway or are nearby. Collector Arterials will be designed with partial control of access through the City’s access management system. On-street parking will be allowed only in commercial areas.

Minor Arterials in Multimodal Corridors shall include provision for transit circulation and access, including bus stops and pull-out bays. Bicycle circulation may be provided via on-street lanes even if there are parallel multi-use paths. Pedestrian facilities in the corridor will be designed to Multimodal Corridor standards.

**Collector Arterial**

Collector Arterials collect traffic from Connectors and Local streets within a district and deliver that traffic to Principal Arterials. Collectors are generally not intended to serve trans-regional trips and generally will not provide route continuity for more than a mile or two.

These roadways are generally contained entirely within the City and connect the neighborhoods of the City with each other. Adjacent land uses may include residential areas, commercial areas, open space, public lands, industrial sites and institutional sites.

Collectors terminate at Principal Arterials, Minor Arterials or other Collector Arterials. Direct connections with other roadways will be provided via at-grade intersections. Collector Arterials will have only two through/general purpose lanes and will be undivided facilities. Turn lanes will be provided as turning movements warrant and may include left turn lanes and right turn lanes, or in a three-lane configuration may include a two-way continuous left turn lane.

Clearly-marked crosswalks will be provided at all legs of signalized intersections where warranted and in the vicinity of schools. On-street bicycle lanes may be provided even if alternative, close-by, parallel facilities are available. Sidewalks will be included on both sides of the street and will be separated from vehicle lanes by a buffer strip.

Traffic calming and speed reduction measures are applicable to Collector Arterials, primarily in areas where sensitive land uses (residential property, schools, public parks and certain other public institutions) directly abut the roadway or are nearby. Collector Arterials will be designed with partial control of access through the access management system. On-street parking will be allowed only in commercial areas.

Collector Arterials in Multimodal Corridors shall include provision for transit circulation and access, including bus stops and pull-out bays. Bicycle circulation may not be provided via on-street lanes if there are parallel multi-use paths. Pedestrian facilities in the corridor will be designed to Multimodal Corridor standards.

**Connector**

Connectors provide for direct vehicle, bicycle and pedestrian connections between adjacent neighborhoods, and between neighborhoods and commercial areas. Connectors do not serve trans-regional trips and provide no route continuity beyond the areas they connect. Adjacent land uses may include residential areas, commercial areas, open space, public lands, industrial sites and institutional sites.

Connectors terminate at Collector Arterials, Minor Arterials and/or Local streets. Direct connections with other roadways will be provided via at-grade intersections. Connectors will have only two through/general purpose lanes. Turn lanes will not be provided unless unusual circumstances warrant, in which case they may include left turn lanes only. On-street bicycle lanes will not be provided; rather bicycle circulation will be accommodated in mixed traffic in the vehicle lanes. Sidewalks will be included on both sides of the street and will be separated from vehicle lanes by a buffer strip.

Traffic calming and speed reduction measures are applicable to Connectors as warranted by adjacent land uses and traffic characteristics. Connectors will be designed with partial control of access through the access management system. On-street parking will be allowed where adequate roadway width is available.

The City may map and specify future Connector alignments and may require dedication of rights of way for these facilities.

The Multimodal Corridor designation is not applied to Connector Streets.
Local Street

Local streets provide for direct vehicle, bicycle and pedestrian access to commercial and residential land uses. Local streets do not serve trans-regional trips and provide no route continuity beyond the areas they connect. Adjacent land uses may include residential properties, commercial areas, industrial sites and institutional sites.

Local streets may terminate at Principal Arterials, Minor Arterials, Collectors, Connectors or other Local streets. Direct connections with other roadways will be provided via at-grade intersections.

Local streets will have only two through/general purpose lanes. Left turn lanes may be provided only in unusual circumstances. Clearly-marked crosswalks will be provided at signalized intersections or at other locations where warranted because of the proximity of schools or significant pedestrian activity.

On-street bicycle lanes will not be provided; rather bicycle circulation will be accommodated in mixed traffic in the vehicle lanes. Sidewalks will be included on both sides of the street and will be separated from vehicle lanes by an appropriate buffer strip. Traffic calming and speed reduction measures are applicable to Local streets as warranted by adjacent land uses and traffic characteristics.

Local streets will be designed with partial control of access through the access management system. On-street parking will be allowed where adequate roadway width is available.

Street Design Standards

One of the advantages of a Thoroughfare Plan is the opportunity it provides to specify the maximum number of general-purpose lanes and maximum right of way needed for any street in the network. This will enable the City, through its development review function, to achieve locally-appropriate urban design without the need to require the dedication of unnecessary right of way because of uncertainty about future street widths.

The City seeks to keep streets as narrow as possible, given the intended function of each street. It is also important to avoid the inexorable widening of streets as has occurred in other cities. At the same time Redmond intends to ensure that all modes are adequately accommodated within city street corridors. This includes accommodations for trucks and emergency vehicles.

The widths and cross sections shown in Figure 5D.7 are “maximum” dimensions. In some cases, due to right-of-way constraints or existing abutting land uses, streets may be narrower than other streets in the same functional classification. For this reason, the table provides maximum dimensions for 4-lane facilities and for 2-lane facilities (referred to general purpose lanes). The 4-lane standards are designated with a (4) and the 2-lane standards are designated with a (2), down through Collector Arterial. Below that (Connector and Local), the basic standard calls for a 2-lane maximum (general purpose lanes).

The City will update its street design standards to reflect the Functional Classification provisions of this TMP. This Update is shown in Chapter 9 as a high-priority action item to be initiated within the first three years following TMP adoption.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Maximum General Purpose Lanes</th>
<th>Maximum Mid-block Curb-to-Curb Width</th>
<th>Maximum Mid-block Right of Way</th>
<th>Maximum Intersection Right of Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Arterial (4)</td>
<td>4</td>
<td>71’</td>
<td>97’</td>
<td>133’</td>
</tr>
<tr>
<td>Principal Arterial (2)</td>
<td>2</td>
<td>47’</td>
<td>73’</td>
<td>97’</td>
</tr>
<tr>
<td>Minor Arterial (4)</td>
<td>4</td>
<td>85’</td>
<td>111’</td>
<td>135’</td>
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<td>2</td>
<td>61’</td>
<td>87’</td>
<td>99’</td>
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<tr>
<td>Collector Arterial (4)</td>
<td>4</td>
<td>85’</td>
<td>111’</td>
<td>135’</td>
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<tr>
<td>Collector Arterial (2)</td>
<td>2</td>
<td>61’</td>
<td>87’</td>
<td>99’</td>
</tr>
<tr>
<td>Connector Street</td>
<td>2</td>
<td>41’</td>
<td>67’</td>
<td>79’</td>
</tr>
<tr>
<td>Local Street</td>
<td>2</td>
<td>41’</td>
<td>67’</td>
<td>67’</td>
</tr>
</tbody>
</table>

Figure 5D.7 Build-Out Maximum Right of Way
Functional Classification of Redmond Streets

The functional classification, future lanes and rights of way for all streets in the Thoroughfare Plan are provided in Figures 5D.8 - Figure 5D.10 below and on the next several pages.

The tables are designed so that actual paved lane widths can vary as appropriate within the standards. For example, general purpose lanes could vary from 10’ to 12’ in width, depending on right of way availability and other design considerations.

Principal Arterials

<table>
<thead>
<tr>
<th>Principal Arterial Streets</th>
<th>General Purpose Lanes</th>
<th>Multimodal Corridors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing</td>
<td>Future</td>
</tr>
<tr>
<td>Avondale Rd. NE</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Redmond Way (East City Limits to Bear Creek Parkway, east)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Bear Creek Parkway</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Bear Creek Parkway, west (exten)- Leary Way to Redmond Way</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Redmond Way (148th Ave NE to Bear Creek Parkway, west)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Redmond Way (West City Limits to 148th Ave NE)</td>
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<td>4</td>
</tr>
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<td>Redmond-Woodinville Rd - NE 116th St - NE 124th St</td>
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</tr>
<tr>
<td>Redmond-Woodinville Rd - NE 90th St - NE 116th St</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bel - Red Rd</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>W Lk Sammamish Pkwy NE-Bel-Red Rd to NE 51st St</td>
<td>2</td>
<td>4</td>
</tr>
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<td>W Lk Sammamish Pkwy NE- 51st St to BNSF RR Bridge</td>
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<td>4</td>
</tr>
<tr>
<td>NE 90th St - Willows Rd to 154th Ave NE</td>
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</tr>
<tr>
<td>NE 90th St - 154th Ave NE to 160th Ave NE</td>
<td>4</td>
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</tr>
<tr>
<td>NE 90th St - 160th Ave NE to Red-Wood Rd</td>
<td>2</td>
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</tr>
<tr>
<td>124th Ave NE - Willows Rd to Avondale Rd</td>
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</tr>
<tr>
<td>148th Ave NE - NE 20th St to Willows Rd</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>154th Ave NE - BNSF RR Bridge to NE 85th St</td>
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</tr>
<tr>
<td>154th Ave NE - NE 85th St to NE 90th St</td>
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*Figure 5D.8 Principal Arterial Streets*
# Minor Arterials

<table>
<thead>
<tr>
<th>Minor Arterial Streets</th>
<th>General Purpose Lanes</th>
<th>Multimodal Corridors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Widest Existing</td>
<td>Future</td>
</tr>
<tr>
<td>Redmond-Woodinville Road/164th Ave NE - south of NE 90th S</td>
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</tr>
<tr>
<td>Redmond Way (155th Pl NE to 170th Ave NE)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Avondale Way NE</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>164th Ave NE (76th Ave NE to Cleveland Street)</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>E Lk Sammamish Pkwy NE</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Leary Way NE</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>NE Union Hill Rd (Avondale Way)</td>
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<tr>
<td>NE Union Hill Rd (East City Limits to 188th Ave. NE)</td>
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</tr>
<tr>
<td>Novelty Hill Rd</td>
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<tr>
<td>Old Redmond Rd</td>
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<tr>
<td>W Lk Sammamish Pkwy NE (Bel-Red Rd to South City Limits)</td>
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<tr>
<td>Willows Rd</td>
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<td>NE 24th St - 148th to Bel-Red Road</td>
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<tr>
<td>NE 80th St - Leary Way to 164th Ave NE</td>
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<td>2</td>
</tr>
<tr>
<td>NE 65th St</td>
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<tr>
<td>156th Ave NE (NE 20th to NE 51st St)</td>
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</tr>
<tr>
<td>170th Pl/Ave NE (Redmond Way to Avondale Way)</td>
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</tr>
<tr>
<td>188th Ave NE - between Union Hill Rd &amp; Redmond-Fall City Rd</td>
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Figure 5D.9 Minor Arterial Streets
### Collector Arterials

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<tr>
<th>Collector Arterial Streets</th>
<th>General Purpose Lanes</th>
<th>Widest Existing</th>
<th>Future</th>
<th>Multimodal Corridors</th>
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<td>Cleveland Avenue</td>
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<tr>
<td>NE 20th St</td>
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<td></td>
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<tr>
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<tr>
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</tr>
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</tr>
<tr>
<td>NE 83rd St (158th Ave NE to 166th Ave NE)</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NE 100th St (166th Ave NE to 171st Ave NE)</td>
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<td></td>
</tr>
<tr>
<td>NE 104th St/NE 109th St</td>
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<td>NE 111th St (166th Ave NE to 172nd Ave NE)</td>
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<tr>
<td>154th Pl NE (Red-Wood Rd to NE 116th St)</td>
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<tr>
<td>156th Ave NE - NE 51st St to NE 60th St</td>
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<td>159th Pl NE (Bear Creek Parkway to Leary Way)</td>
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<td>166th Ave NE (NE 76th St to NE 85th St)</td>
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<td>169th Ave NE (NE 79th St to NE 80th St)</td>
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</tr>
<tr>
<td>171st Ave NE (NE 80th St to NE 100th St)</td>
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<td>172nd Ave NE (West Lake Sammamish Pkwy to NE 30th St)</td>
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<tr>
<td>180th Ave NE</td>
<td></td>
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<tr>
<td>185th Ave NE - Union Hill Rd to SR-202 (Redmond-Fall City Rd)</td>
<td></td>
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</table>

*Figure 5D.10 Collector Arterial Streets*

### Connectors

<table>
<thead>
<tr>
<th>Connector Streets</th>
<th>General Purpose Lanes</th>
<th>Widest Existing</th>
<th>Future</th>
<th>Multimodal Corridors</th>
</tr>
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<tbody>
<tr>
<td>NE 65th St (185th Ave NE to 192nd Ave NE)</td>
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<td></td>
</tr>
<tr>
<td>NE 73rd St (185th Ave NE to 192nd Ave NE)</td>
<td></td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NE 76th St (Leary Way to Bear Creek Parkway)</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NE 80th St (185th Ave NE to 188th Ave NE)</td>
<td></td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>158th Ave NE (NE 85th St to NE 83rd St)</td>
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<td>2</td>
<td></td>
</tr>
<tr>
<td>158th Ave NE (NE 83rd St to Redmond Way)</td>
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<td></td>
</tr>
<tr>
<td>168th Ave NE (NE 76th St to NE 79th St)</td>
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<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>172nd Ave NE (NE 116th St to NE 128th St)</td>
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<td>2</td>
<td>2</td>
<td></td>
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<tr>
<td>187th Ave NE (E. Lake Sammamish Pkwy to SR 202)</td>
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<td>2</td>
<td></td>
</tr>
<tr>
<td>192nd Ave NE (Union Hill Rd to NE 65th St)</td>
<td></td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 5.11 Connector Streets*
New Street Connections and Corridors

Improving connectivity represents one of the primary opportunities for enhancing mobility in Redmond. The City’s streets today represent an incomplete grid, with missing links at key points in the network. Making these connections will reduce out-of-distance travel and improve system efficiency. To the extent that connectivity can be improved, circulation and access will be enhanced, with direct benefits to economic viability and neighborhood livability.

For arterial and connector streets, only limited opportunities for improved connectivity remain in Redmond, due to the fact that the City is largely built-out. The key connections in this Plan for these types of streets and the concepts for each of the resulting roadways are as follows:

1. Extension of 164th Ave NE across the railroad corridor in Downtown. This is a Principal Arterial with two through/general purpose lanes and turn lanes as warranted. This will be a Multimodal Corridor. The extension section will feature a design and cross section appropriate to provide continuity with the section of 164th just north of this, which is programmed for a four-lane to three-lane conversion project.

2. Extension of Bear Creek Parkway from Leary Way to Redmond Way. This is a Principal Arterial. Initially it will be built with two through/general purpose lanes and turn lanes as warranted. Right of way will be established for an ultimate five-lane cross section. This is a Multimodal Corridor from Leary Way to the extension of 161st Ave NE.

3. Extension of 161st Ave NE across the railroad corridor in connection with the Bear Creek Parkway Extension. This is a Collector Arterial with two through/general purpose lanes and turn lanes as warranted. This is a Multimodal Corridor.

4. Extension of 172nd Ave NE from NE 122nd St to NE 124th St. This is a Connector street with a cross section limited to two lanes, except at the intersection with 128th and 116th, where turn lanes may be provided. The concept is to provide a Pedestrian Supportive residential street consistent with the Connector designation, while providing a new north-south corridor between 116th and 128th in the North Redmond neighborhood. The City will undertake a corridor study cooperatively with King County for 172nd Ave NE from 111th to 128th in order to develop a preliminary design for the corridor and identify traffic calming improvements that will help maintain the residential speeds and character on the street while also enhancing the attractiveness of the corridor for nonmotorized uses. A plan for traffic calming improvements on the 172nd corridor shall be implemented in conjunction with the extension project.

5. Extension of Willows Road from 124th St to NE 145th St. The Willows corridor will be a Minor Arterial and will travel along the edge of a sensitive rural landscape designated for agricultural use. The concept for this corridor is a two-lane roadway with limited right of way and infrequent property access (Principal Arterial Classification). Horizontal and vertical alignments will be designed to minimize landscape impacts. The purpose of this project is to provide better connections between Redmond and Woodinville, and the two City’s tourist districts. This project is also intended to eliminate the need to widen the Red-Wood Road Corridor between Redmond and Woodinville from a two-lane to a four-lane roadway. This extension lies outside the City of Redmond, and thus represents a regional/intergovernmental project.

6. Extension of 160th Ave NE from current terminus at approximately NE 99th St to intersection with Red-Wood Road. This is a Collector Arterial with one through/general purpose lane in each direction and turn lanes as warranted. This will be a Multimodal Corridor. This street is intended to provide improved connectivity for the residences in the area. The design at each end of the corridor will reflect that this street is as a secondary north/south connection and that the primary connection is the parallel Red-Wood Road. The project will create a corridor that is multimodal in character and designed in such a way to control traffic speeds, including modifying the existing street section from NE 90th Street north to the current terminus to include one through lane in each direction, on-street parking, bike lanes and turn lanes as warranted. The project will include elements to help mitigate the impacts of the increase in traffic on the adjacent residential neighborhoods.

Of the new connections listed, all but the Willows Road extension are included in the funded 2022 Thoroughfare Plan.
In addition to this list, future corridor(s) will be needed in the Union Hill/Novelty Hill area to complete a poorly-connected grid in that developing area. The City will undertake an analysis of overall connection needs between planned growth east of Redmond and the SR 520 Freeway. The analysis will include the area bounded on the north by NE 133rd St., on the south by SR 202, and on the west by Avondale Way. On the east the study will extend as far into rural King County as necessary to provide a thorough evaluation.

Also, additional connections in the Overlake commercial core may be needed to facilitate redevelopment and infill in this mixed use district. The City will address this need as part of the Overlake Plan implementation and refinement.

In each of these cases, future area and neighborhood studies by the City will determine what specific additional connections are to be made to accommodate cars, buses, trucks, and emergency vehicles. A map of the key new connections is provided in Figure 5D.12 below. This Plan does not show new connections that will be needed for local streets, nor does it show all new connections for trails or pedestrian pathways. Connections for local streets, trails and pedestrian pathways will be needed as part of new development to promote convenient access between adjacent properties. Identification of these connections will occur through development review as well as through review of circulation needs as part of neighborhood planning.

Implementation

Achieving the Thoroughfare Plan will require a number of supportive activities by the City. These include:

1. The City will update its street design standards to incorporate the policies and programs contained in this Transportation Master Plan.
   a. The standards will implement the new cross section and maximum right of way provisions of the Thoroughfare Plan.
   b. The standards will implement the intersection design, cross section and multimodal accommodation requirements of Chapter 5(e) for Multimodal Corridors.

2. The City will undertake an evaluation of its maintenance practices and programs to define “adequate maintenance” in measurable terms.
   a. The evaluation will define “adequate maintenance” for each mode in measurable terms.
   b. The evaluation will be based on a “sustainability” approach that minimizes life cycle costs, ensures adequate functionality, and is consistent with public expectations.
   c. The evaluation will estimate program requirements for achieving “adequate maintenance” including annual, recurring costs.

3. The City will require new developments to provide connections for local streets, trails and pedestrian pathways to promote convenient access between adjacent properties.
4. The City will develop a targeted Traffic Safety Program designed to identify and eliminate hazardous intersections and locations.
   
   a. Make pedestrian improvements to areas
      The Traffic Safety Program will utilize data from the ongoing accident data system.
   
   b. An annual prioritization of the highest accident rate locations in the City will be published as part of the Mobility Report Card and evaluated to determine whether modest cost improvements would have the potential to reduce the accident rate at each location.
   
   c. The City will create a “Safety Program” within its Transportation Facilities Plan equal to $500,000 annually to be used to make improvements identified under b above.

5. The City will undertake an analysis of overall connection needs between planned growth east of Redmond and the SR 520 Freeway.
   
   a. The analysis will include the area bounded on the north by NE 133rd St., on the south by SR 202, and on the west by Avondale Way. On the east the study will extend as far into rural King County as necessary to provide a thorough evaluation.
   
   b. The study will consider future growth patterns and will identify future roadway connections or existing roadways to serve this growth, implementing the functional classification provisions of Chapter 5 (including the Connector Street classification), and taking into account access needs associated with future high capacity transit station locations.

6. The city will work to maintain and enhance the circulation efficiency and accessibility of freight and delivery services along arterial corridors and within the commercial areas of Redmond.
   
   a. The city will consider the access and circulation needs of local industrial, service and warehousing companies that rely on motor truck freight services as part of planning and design of local streets.
   
   b. The city will require consideration of alleys and other means of delivery access in the planning and permitting of development and redevelopment projects.
   
   c. The city will work with landowners, neighborhoods and business owners to balance neighborhood safety and community character needs with freight circulation and access needs wherever the two are potentially in conflict.

7. The city will work to improve the effectiveness of emergency vehicle (fire, police, ambulance) circulation and access throughout the local street network.
   
   a. The city will place a high priority on improved connectivity in the local street network in order to establish better redundancy for emergency vehicles.
   
   b. The city will ensure high levels of connectivity in new streets built as part of residential subdivisions and commercial development and redevelopment projects.
   
   c. The city will take emergency service vehicle operating requirements into consideration in the planning and design of street improvements.
Legend
- Red: Roadway connections identified in the TMP
- Key connections: See page 5D-12 for more details.
5E. Modal Integration: Access and Circulation
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

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

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

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.
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.

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.

Route Information

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.

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.
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

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Transportation Issues</th>
<th>Land Use</th>
<th>Community Character</th>
</tr>
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</table>
| **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. |

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Figure 5E.6 Land use and transportation recommendations for Redmond’s 14 multimodal corridors
## 5E. Modal Integration Plan

### Table: Land Use and Transportation Recommendations for Redmond's 14 Multimodal Corridors

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<thead>
<tr>
<th>Corridor</th>
<th>Transportation Issues</th>
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<td><strong>3a.</strong> 172nd Ave NE &amp; NE 111th Street</td>
<td>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. <strong>Bus</strong> - The current route to connect Education Hill with downtown is infrequent and circuituous. This proposed routing change will strengthen ridership market for teenagers and seniors. <strong>Ped</strong> - Corridor is tolerant. <strong>Auto/EV</strong> - Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.</td>
<td>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.</td>
<td>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.</td>
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<td><strong>3b.</strong> 166th Ave NE</td>
<td>✓ 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. ✓ <strong>Bus</strong> - The current route in the corridor connects Education Hill and downtown. The route is infrequent and circuituous. Ridership market is strong for teenagers and seniors. ✓ <strong>Ped</strong> - 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. ✓ <strong>Auto/Truck/EV</strong> - Collector arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.</td>
<td>✓ 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.</td>
<td>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.</td>
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<tr>
<td><strong>3c.</strong> 164th Ave NE &amp; Bear Creek Parkway</td>
<td>* 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. ✓ <strong>Bus</strong> - 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. ✓ <strong>Ped</strong> - Sidewalks and land use are pedestrian supportive. ✓ <strong>Auto/Truck/EV</strong> - 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.</td>
<td>✓ 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.</td>
<td>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.</td>
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*Figure 5E.6 Land use and transportation recommendations for Redmond’s 14 multimodal corridors*
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| 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
### 5E. Modal Integration Plan

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<thead>
<tr>
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| **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*
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<td>9. Southeast</td>
<td>✓ 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.</td>
<td>✓ 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.</td>
<td>✓ 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.</td>
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<td>10. 148th</td>
<td>✓ 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 novices. ✓ 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 residential 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.</td>
<td>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.</td>
<td>✓ 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.</td>
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Figure 5E.6 Land use and transportation recommendations for Redmond’s 14 multimodal corridors
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<td>11a. NE 51st Street</td>
<td>✓ 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.</td>
<td>✓ This connection across SR 520 provides limited access to Overlake employment areas and to residential neighborhoods (5 dwellings per acre) to the north.</td>
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<td>11b. 156th Ave NE</td>
<td>✓ 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.</td>
<td>✓ 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.</td>
<td>✓ Landscaping, street trees and attractive entrances to corporate campuses and residential developments distinguish this corridor.</td>
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<td>11c. NE 31st St and 152nd Ave NE</td>
<td>✓ 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.</td>
<td>✓ 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.</td>
<td>✓ 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.</td>
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<tr>
<td>12. NE 40th Street</td>
<td>✓ Bike - Secondary Bicycle Corridor as a Class III route. &lt;br&gt; ✓ Ped - The corridor is tolerant. The intersection of SR 520 and 156th Ave NE is intolerant. &lt;br&gt; ✓ 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. &lt;br&gt; ✓ Auto/Truck/EV - Minor arterial. Any future facility improvements should be built to multimodal standards contained in Chapter 5D.</td>
<td>✓ The eastern portion of NE 40th Street serves several residential neighborhoods, ranging in density from 4 to 30 dwellings per acre. &lt;br&gt; ✓ The western portion of the corridor serves the corporate campuses of Overlake employment areas.</td>
<td>✓ Landscaping, street trees and attractive entrances to corporate campuses and residential developments distinguish this corridor. &lt;br&gt; ✓ Entrances to higher density or major developments offer opportunities to create Pedestrian Supportive crossings and high quality transit stops.</td>
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<td>13. West Lake Samm. Pkwy</td>
<td>✓ Bike - Primary Bicycle Corridor with existing on street bike lanes. &lt;br&gt; ✓ Ped - The northern portion is tolerant; the southern portion is intolerant. Sidewalks are not provided and connections from adjacent neighborhoods are not direct. &lt;br&gt; ✓ 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. &lt;br&gt; ✓ 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.</td>
<td>✓ 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. &lt;br&gt; ✓ Pockets of existing transit ridership exist. Idylwood Park is a destination.</td>
<td>✓ Design improvements to support and enhance the character of this corridor as a primarily residential neighborhood with mature trees and green spaces.</td>
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<td>14. NE 24th Street</td>
<td>✓ Bike - Primary Bicycle Corridor with existing on street bike lanes (a portion of this corridor is in Bellevue) &lt;br&gt; ✓ Ped - The corridor is tolerant. Most of the intersections west of 156th Ave NE are intolerant. &lt;br&gt; ✓ Bus - The corridor has local and regional service. Direct connections to downtown are provided. &lt;br&gt; ✓ 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.</td>
<td>✓ 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. &lt;br&gt; ✓ 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. &lt;br&gt; ✓ The rest of the corridor is located in the City of Bellevue.</td>
<td>✓ 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. &lt;br&gt; ✓ The eastern portion of the corridor has a primarily residential character with mature trees and green spaces.</td>
</tr>
</tbody>
</table>

*Figure 5E.6 Land use and transportation recommendations for Redmond’s 14 multimodal corridors*
5F. Demand Management
Introduction

Understanding Demand Management

Transportation Demand Management (TDM) is one of the tools Redmond uses to improve mobility and achieve greater efficiency of our arterial system by offering and promoting alternatives to single occupant vehicle (SOV) travel. Redmond's programs and supporting services provide a variety of transportation alternatives for commuters traveling in and out of Redmond. R-TRIP and the alternative commute incentives program are two examples of Redmond's commitment to transportation alternatives for employees. In 2004, the R-TRIP partnership reduced over 2.4 million round trip miles from single occupant vehicles to alternative modes in the greater Redmond area. Likewise, in 2003 the Commute Trip Reduction Program reduced 19,000 vehicles from local and regional roadways during peak travel periods (average weekday).

Transportation Demand Management in Redmond

The City of Redmond has used TDM as a mobility strategy for nearly two decades. Policies, ordinances and programs ensure that TDM helps mitigate transportation and environmental impacts associated with congested roadways, polluted air and fuel consumption. The TDM program is one of the tools Redmond uses to achieve mode split goals established in the Transportation Master Plan. Using survey data and program analysis, the commute mode-split is measured city-wide and at the individual program level. Corresponding policies and programs are then designed to meet goals.

Commute Trip Reduction (CTR): The Washington State Legislature passed the CTR Law in 1991, incorporating it into the Washington Clean Air Act. The goals of the program are to reduce traffic congestion, reduce air pollution, and petroleum consumption through employer-based programs that decrease the number of commute trips made by people driving alone.
Redmond’s TDM program also collaborates with other TDM-oriented organizations for local and regional coordination and to combine efforts to achieve program efficiencies and greater success. In the 1980’s, the City and King County Metro jointly sponsored the start-up of a Transportation Management Association (TMA) to expand partnering efforts among local businesses.

TMAs help bridge public and private transportation programs and resources by offering services and partnership opportunities that support commute trip reduction activities. Maintaining the “public” stake in that partnership requires that there is a continued, on-going commitment to maintain core a core level of partnership and involvement by the City similar to the commitments we require of new commercial development in their involvement and participation in a TMA.

The Greater Redmond Transportation Management Association (GRTMA) was formed in mid-1989 to address employer commute trip reduction and transportation needs through a consortium approach. The GRTMA was previously the Overlake Management Association and the Willows Corridor Transportation Partnership. The GRTMA is a non-profit organization that is funded by membership dues. It offers a variety of commute trip reduction services including marketing, transportation fairs, and assistance in preparing commute trip reduction plans. Over 280 companies within Redmond, including the majority of CTR-affected employers, are members of the GRTMA as of 2005. The organization offers a wide menu of education, advocacy, coordination, and implementation services on behalf of its employer and developer members.

Transportation Management Programs

Since the mid-1980’s, all new major commercial developments have been required as a condition of development to implement transportation management programs that promote commuting by alternative modes of transportation. Large employers (100 or more employees at a worksite between 6 am and 9 am) are also required to implement Washington State’s Commute Trip Reduction (CTR) programs. Both programs provide tools to manage single occupant trips in the city and work toward compliance with Washington’s Environmental Protection and Growth Management Acts.

Since businesses are major stakeholders in both the local and regional transportation system, they have a significant interest in developing, funding and implementing effective TDM actions. Their participation has reduced single occupant commute trips and been an effective strategy to attract and maintain high quality employees. Businesses have emphasized on-going education, outreach, infrastructure, provision of supporting services, and access to financial resources as essential in facilitating their TDM implementation actions. Responding to these needs forms the core of Redmond’s TDM programs to date.

Critical to maximizing the use of our existing and future transportation infrastructure and to address limited duration demand placed on the transportation system due to construction are: (1) on-going identification of demand management needs, (2) developing programs to meet those needs, and (3) monitoring how demand management actions contribute to key mobility goals and indicators. Ensuring adequate staffing and other resources is essential to work with developers and property owners to negotiate TMPs, provide implementation guidance and conduct on-going performance monitoring.

Existing TDM Infrastructure, Services and Programs

Infrastructure

Redmond’s TDM programs promote private and public infrastructure with a range of success. The development code requires developers to provide amenities that support multimodal access as a condition of commercial development. This has been a critical first step in creating TDM incentives in private infrastructure.

- On-site parking
- Carpool parking spaces
- Bicycle lockers and racks
- Showers and locker rooms
- On-site access from transit stops
- Internal sidewalks and trails

Figure 5F.2 TDM Public Infrastructure
Public infrastructure also plays a role in TDM. Redmond has been developing some multimodal infrastructure but facilities are discontinuous. The primary obstacle is coordination. Examples of missed TDM opportunities are the discontinuous bicycle routes, lack of passenger facilities at most transit stops in Redmond, availability of bicycle parking and intolerant pedestrian environments. Redmond has identified seed funding through its Capital Improvement Program to leverage support for capital infrastructure between the City, Metro, PSRC and private companies.

Web-based services are an effective method of getting timely information to travelers. Ridematch services such as RideshareOnline help people to quickly and conveniently find carpooling partners. The Metro Regional Trip Planner provides information on bus routes and schedules between a myriad of origins and destinations. Websites also offer a vast array of valuable information on current rideshare promotions and incentives.

Vanpooling plays an important mobility role in Redmond. Vanpool vehicles are provided by the local transit providers, with the majority of costs paid by commuters or employers. This blend of privately funded and publicly provided vanpools offers connections between other areas of the region to Redmond worksites where regional transit service does not yet exist or is limited. By the end of 2004, Redmond had nearly 200 publicly operated vanpools bring commuters to worksites - the largest number outside of Seattle. Vanpools are also emerging as an important link between transit centers, neighborhoods and transit routes through such programs as Vanshare and demonstration short-distance vanpool programs.

Integrating supportive TDM infrastructure, along with the outreach and marketing programs to increase awareness of the infrastructure, requires enhanced coordination continued support and funding to meet TDM and mode share objectives.

Programs and Supporting Services

Redmond’s TDM program comprises numerous demonstration programs funded by grants and “one-time” funding. Specific elements of these programs have proven highly successful in helping manage mobility needs in Redmond.

Redmond Trip Reduction Incentive Program

The Redmond Trip Reduction Incentive Program (R-TRIP) is a comprehensive package that includes alternate commute products, commute assistance services, and financial incentives. R-TRIP’s modal programs include both short-term offerings to commuters into Redmond and longer-term employer matching grants. Redmond’s Business Transportation Tax is the program’s primary funding source, with additional grants and other funding to enhance or expand program offerings resources brought to the program by leveraging partnerships. R-TRIP’s elements include: RSVP, RPASS, R-Rewards, Employer Grants, and personalized commute assistance.

R-Trip’s mix of “starter” alternative commute mode incentives, employer grants and personalized commute assistance has been highly successful in getting commuters into Redmond to use alternative commute modes. This award winning program has set the standard within the region, the state and the nation for successful integration of TDM into the decision-making of commuters and businesses. Ensuring that employers and commuters have sufficient support and recognition of their efforts is important to maintain the visibility and support for TDM programs.

RSVP targets the vanpool commute market. New vanpool riders are offered an initial limited duration vanpool fare subsidy. RSVP also provides a short-term unoccupied seat subsidy to help new vanpools form and build ridership. R-TRIP staff also provides support services to educate commuters about vanpooling, organize gatherings of people with similar origins and destinations, and assist in vanpool formation. RSVP also provides a one-time incentive to employers who offer a new or enhanced vanpool fare subsidy above a set threshold to their employees.
RPASS offers new transit commuters a choice of either a free month’s transit pass or a book of bus tickets. Employers who begin new or enhanced 100 percent transit subsidy programs are eligible to receive a one-time incentive from the RPASS program.

R-TRIP offers employers within Redmond grant funding to implement new or enhanced commute trip reduction programs. Funding levels are determined by category (e.g., choosing from a menu of established commute products versus implementing an innovative program tailored uniquely to a company) and the number of employees within a company. Employers have used this program to acquire bicycle lockers and racks, develop unique alternative commuter reward programs, create month-long alternative commute challenges and implement non-standard subsidy programs.

Personalized Commute Assistance

Personalized commute assistance is provided both by phone and via R-TRIP’s website at www.GoTrip.com. Individuals who wish to use an alternative commute mode are helped with access (e.g., carpool and vanpool formation) and educated about the R-TRIP incentives available. Employers are offered free transportation fairs and staffing for gatherings for people with similar origins and destinations to learn more about their commute alternatives.

Residential TDM

Alternative mode use among Redmond’s residents is an important element of the City’s Transportation Demand Management strategy. Programs and incentives that encourage Redmond residents to bike, walk, carpool, vanpool or use transit in and around Redmond reinforces and helps maximize the use of the City’s transportation infrastructure.

Parking Management

As the City continues to grow and mature, managing the use of both on-street and off-street parking supply becomes increasingly important to facilitate access to pedestrian oriented areas. The City periodically evaluates the balance between available on-street parking supply and demand. Facilitating property owner and employer efforts to manage their available parking to address competing parking needs (e.g., between employees and customers) is also important. One-time funding has been earmarked to implement parking management demonstration programs in partnership with employers.

Emerging Directions

Over the next three years, several new TDM initiatives will emerge. First is developing ways to close the gap in transit in getting people to and from the multi-modal corridors. In the absence of new, publicly provided transit service, innovative ways of getting people to and from the core transit routes will need to be developed to help maximize the use of the core transit infrastructure.

Second, the City must ensure that TDM is “mainstreamed” as part of its transportation solutions. This will entail closer integration with other parts of transportation infrastructure planning and implementation as well as enhanced education about TDM solutions. When significant transportation construction occurs in the City, road closures occur, or major events are held in the community, information about and incentives for alternatives to single occupant vehicle use should be made available.

Third, the City must take a more strategic look at how it manages on-street parking as one of its key transportation assets. The role, availability and efficient use of on-street parking needs to be examined to ensure consistency with the City’s mobility goals.
Implementation

1. Continue to implement TDM programs as a transportation mobility tool.
   a. Establish a long-term funding commitment to TDM programs that helps sustain current levels and achieve mode split goals
   b. Overlap TDM programs with transportation infrastructure projects
   c. Maintain and continue to build partnerships with the TDM program
   d. Establish a base level of funding to support TMAs to ensure continuity of core services

2. Develop residential TDM programs to achieve mode share goals.
   a. Expand programs to include residential and non-commute trip outreach and incentives.

3. Develop a long-term marketing plan to actively promote alternative modes of transportation. A key target market will be Redmond’s transit service, including use of TDM techniques to build ridership along multimodal corridors.

4. Establish a goal of creating and implementing a new TDM demonstration each biennium.
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Introduction

The Transportation Facilities Plan (TFP) is designed to meet the requirements of the Washington State Growth Management Act. The GMA calls for a Transportation Element within the City’s Comprehensive Plan that includes a “multiyear financing plan based on the needs identified in the comprehensive plan.”

This TFP describes anticipated revenues and planned program and project expenditures for the eighteen year period beginning in 2005 and including 2022. The TFP also describes the transportation investment priorities that were used to develop the 18-year project list included at the end of this chapter.

The TFP represents a high priority list of projects that can be implemented within forecast revenues during this 18-year planning period (2005 through 2022). The performance measures contained in Chapter reflect the interaction of the TFP project list with the forecast land uses, as set forth in the Redmond Comprehensive Plan. For example, a traffic forecast model (the BKR model) was used to estimate future screenline LOS in 2022, based on the TFP project list.

The TFP does not include all of the projects needed to fulfill the build-out modal plans contained in Chapter 5. A full list of projects needed to complete the build-out plans is provided in an appendix.

Because the primary infrastructure for all modes is the Redmond street network, most of the projects listed in the TFP appear to be street improvements. However, in virtually all cases, these projects are multimodal in intent and will be multimodal in design. In many cases, projects are needed and included primarily because of their multimodal benefit.

The TFP is balanced: anticipated revenues are roughly equal to estimated program and project costs over the 18-year year period.
Forecasts

The TFP relies on forecasts of revenues that will be available for the City’s transportation program and on program and project cost estimates.

Both the revenue forecasts and the cost estimates were originally prepared in “nominal 2004 dollars” and were updated in 2007 to 2007 dollars - they include no inflation. This approach was used for several reasons:

- If inflation were to be forecast, the City would have to forecast inflation for both the revenue sources and the project costing system. To a large degree this would be self-canceling.
- Project cost inflation can be estimated only if the City knows exactly what year each project would be initiated. While this is known for the Capital Investment Program (CIP) years, it is not known for all projects for the entire 18-year period.
- Inflation forecasting involves extensive analysis of economic trends, nationally, regionally and locally within Redmond. Needless to say, an 18-year forecast of these would not be an exact science.

Including inflation within the TFP would complicate the data and make it more difficult to see and understand the more important assumptions about project cost elements and revenue sources.

Revenue Sources

The City’s transportation program is supported by a variety of revenue sources. They include:

- City taxes and fees - General funds from property and sales taxes; Business Transportation Tax; transportation impact fees, etc.;
- Funds from other governmental agencies - Grants from state and federal transportation agencies; cost participation by other cities in Redmond projects; and transfers of funds pursuant to agreements (such as the BROTSA agreement with Bellevue);
- Developer payments - Funds provided by developers to ensure access and mitigate site-related transportation impacts; and,
- Miscellaneous - Interest earnings; carry-forward fund balances associated with projects initiated in prior years; intergovernmental transfers; and other funds.

Each of these has been forecast through 2022. The forecasts make assumptions about such basic considerations as whether the City would continue to devote that revenue source to transportation and so forth. Some of the estimates are based on specific project agreements.

No new revenue sources or increases in tax or fee rates were assumed in making these forecasts. However, the Business Transportation Tax was forecast to continue throughout the 18-year period, an assumption that would require continued action by City Council.

Forecasting assumptions include:

- **General Fund Transfer** - assumes continuation of City Council appropriations at average recent levels;
- **Real Estate Excise Tax** - assumes continuation of City Council appropriations at recent average levels;
- **Sales Tax on Construction** - two years only; not available for transportation after 2006;
- **Business Transportation Tax (Business License Surcharge)** - assumes extension by City Council at current rate of $55 per employee earmarked for transportation projects, with employment growth up to 2022 Comprehensive Plan levels;
- **Transfers from Other Jurisdictions** - based on recent historical averages;
- **Developer Contributions** - not project-specific; based on recent historical averages;
- **Impact Fees** - based on current fee schedule and development included in 2022 land use plan;
- **Miscellaneous** - based on recent historical averages;
- **Pavement Management Fund** - $300,000/year;
- **Arterial Street Fund** - $300,000/year;
- **Federal and State Grants** - based on recent historical averages;
- **Miscellaneous Carryovers** - project-specific data;
- **Union Hill Rd. TIB Grant** - project agreement; and,
- **Developer Funding - Specific Projects** - project-specific cost estimates.
### Revenue Source Forecast (Millions)

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>Forecast ($ Millions)</th>
<th>% of Total</th>
<th>Description of Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund Transfer</td>
<td>26.8</td>
<td>6%</td>
<td>Council Appropriation from City General Fund</td>
</tr>
<tr>
<td>Real Estate Excise Tax</td>
<td>43.6</td>
<td>10%</td>
<td>Tax on property sales in Redmond</td>
</tr>
<tr>
<td>Sales Tax on Construction</td>
<td>1.1</td>
<td>0%</td>
<td>Tax on value of construction in Redmond</td>
</tr>
<tr>
<td>Interest Earnings</td>
<td>6.7</td>
<td>1%</td>
<td>Interest earned from fund balance</td>
</tr>
<tr>
<td>Business Tax</td>
<td>35.7</td>
<td>8%</td>
<td>Employment-based tax - Redmond employers</td>
</tr>
<tr>
<td>Business Tax - Bear Creek Parkway</td>
<td>35.1</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Transfers from Other Jurisdictions</td>
<td>17.9</td>
<td>4%</td>
<td>Cost participation by other agencies in Redmond projects</td>
</tr>
<tr>
<td>Developer Contributions</td>
<td>43.4</td>
<td>10%</td>
<td>Value of developer payments or construction for specific projects, not impact fee credited</td>
</tr>
<tr>
<td>Impact Fees</td>
<td>196.8</td>
<td>44%</td>
<td>Transportation Impact Fee payments by developers or construction value by developers</td>
</tr>
<tr>
<td>Miscellaneous Sources</td>
<td>8.4</td>
<td>2%</td>
<td>Includes rent</td>
</tr>
<tr>
<td>Pavement Mgmt</td>
<td>5.4</td>
<td>1%</td>
<td>Council Appropriation from City General Fund</td>
</tr>
<tr>
<td>Arterial Street Fund</td>
<td>8.1</td>
<td>2%</td>
<td>State transportation funds to Redmond</td>
</tr>
<tr>
<td>Federal and State Grants</td>
<td>18.9</td>
<td>4%</td>
<td>Cost participation grants for specific projects</td>
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<tr>
<td>Miscellaneous Carryovers</td>
<td>4.3</td>
<td>1%</td>
<td>Funds brought forward, net of debt payments and other</td>
</tr>
<tr>
<td><strong>Total All Sources</strong></td>
<td><strong>452.2</strong></td>
<td><strong>100%</strong></td>
<td><strong>Figure 6.1 2005-2022 Transportation Revenue Forecasts</strong></td>
</tr>
</tbody>
</table>
Project Cost Estimates

Project costs used in this TFP were originally based on cost estimates prepared for the City in 2004 and were updated in 2007.

Updated cost estimates reflect the most current information about specific projects. In some cases cost updates reflect new information about a given project, either changes in the project concept or new information from engineering studies. In other cases, the project concept remained the same, but costs were updated to reflect current unit costs. Other projects were in active development (preliminary engineering or final design) so that recent estimates were available.

Project cost estimates include the costs of construction and right-of-way acquisition. Related “soft costs” for engineering services and services associated with land buying are not included in these estimates. Soft costs are budgeted as part of the Public Works Department ongoing operations.

Prioritization

Overall priorities for the City’s transportation program have been set by City Council as part of developing the Transportation Element of the Comprehensive Plan (see Chapter 2). The Council’s policy (TR-6) is to:

“Allocate resources in the City’s transportation Capital Investment Program (CIP) according to the following in order of priority:

➢ Address public health and safety concerns, including neighborhood traffic protection;
➢ Ensure adequate maintenance of existing facilities throughout the City;
➢ Ensure that as development occurs, the City’s transportation concurrency and level-of-service (LOS) standard are met by completing planned facilities, including capacity projects; providing travel choices; supporting funding partnerships; and efficiently operating the transportation system.”

Additional guidance was obtained from the public process conducted as part of development of the Transportation Master Plan. Citizens attending these meetings and workshops articulated a coherent set of themes that remained consistent throughout Plan development.

The Redmond public identified the following themes for use in shaping the TMP. These themes were supported and further developed by the City’s Planning Commission during its deliberations on the Transportation Element.

➢ Implement downtown transportation plan. People liked the Downtown Transportation Master Plan that had been prepared prior to initiating development of this city-wide TMP. Specific project elements, such as the 4-lane to 3-lane conversions, the acquisition of the BNSF rail right of way, the extension of Bear Creek Parkway, the Downtown Transit Center and conversion of the one-way pair (Redmond Way and Cleveland Avenue) to two-way operation have received continued support.

➢ Provide connections within Redmond. The public feels that it is too difficult to circulate within town. They note that it is as hard to gain access to Redmond destinations from Redmond origins as it is to travel to places elsewhere in the region. This diminishes community cohesiveness and has a negative influence on quality of life. People feel that, with better connectivity within Redmond, the city would simultaneously become stronger economically and a more desirable place to live.

➢ Provide “real choices” for mobility. The public experience has been that transit, walking and bicycling are desirable ways to travel, but do not represent real choices because of the time and convenience disadvantages of those modes in Redmond today. Especially in the case of transit, people feel that if travel on regional trunk routes (especially the Sound Transit routes) was direct and time-competitive with the car, they would be able to use transit more than they do today.

➢ Protect & enhance community character. There is a consensus among people who live and work in Redmond that it is a “great place.” While it will and should change, they believe it should not lose its unique community character. When asked to describe what is appealing about the City’s character, citizens agreed on two characteristics:
  ○ Small town feel. Residents like the fact that Redmond is part of a great metropolitan region with extensive urban amenities, but at the same time feels like a small town.
  ○ Green city. The public likes the way Redmond has not become a “hardscape” environment like other parts of the region. The landscape, with its hills and river valleys is dominated by vistas of trees and sky with occasional glimpses of Rainier and the North Cascades. People would like to see this “green” character protected.
Further direction was provided by regional policies adopted by the Puget Sound Regional Council. Most importantly, PSRC has adopted a centers-based policy toward transportation system development. This has been reflected in this Plan by designing the TFP to ensure good access to and circulation within Downtown Redmond and Overlake.

Finally, the City’s Planning Commission, City Council and Mayor provided guidance during development of the plan beyond the priorities outlined above. This followed the five themes outlined below:

- **Centers.** Echoing the regional policies, the Council and Planning Commission wish to see the transportation program support the intensification of Overlake and Downtown as mixed use centers.

- **Regional Action.** City Council felt that Redmond should play a continuing, effective role in shaping regional policy and influencing regional decisions (Sound Transit, King County, Washington DOT, etc.).

- **Multimodal Plan.** City Council and Planning Commission both expressed a desire to see Redmond’s transportation system become more modally balanced, with less auto-dependency and more reliance on public transit, in particular.

- **High Capacity Transit.** Both the City Council and the Planning Commission are determined to see the centers in Redmond connected to other regional centers by High Capacity Transit (HCT). They feel this TMP should begin setting the stage for the arrival of (and success of) HCT within this 18-year period or very shortly after 2022 at the latest.

- **Honoring Agreements.** City Council has been particularly concerned that the City should abide by its agreements with other entities. Most important in this context is the BROTS (Bellevue-Redmond Overlake Transportation Study) agreement.

This TMP differs from past documents in that it emphasizes four new concepts within these priorities:

- Support downtown Redmond and Overlake as vibrant mixed-use centers;

- Building multimodal corridors that function equally well for all modes;

- Making key street connections within Redmond where they are missing today

- Ensuring that future High Capacity Transit (HCT) connects directly into Redmond’s centers.

Every project listed in the Transportation Facilities Plan (TFP) on the following pages directly contributes to realization of one or more of these priorities.
<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
<th>Estimated Remaining Cost</th>
<th>Estimated Remaining Cost - Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOINT-BROTS-22.3</td>
<td>156th Avenue NE/Bel-Red Road</td>
<td>Add southbound right turn lane on 156th Ave NE.</td>
<td>A</td>
<td>$319,000</td>
<td>n/a</td>
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<tr>
<td>JOINT-BROTS-28</td>
<td>148th Ave NE/NE 29th Place</td>
<td>Add southbound through and second westbound left turn lanes; channelize yield for westbound right turn lane; convert eastbound right turn to shared right turn/left turn lane.</td>
<td>B</td>
<td>$1,604,000</td>
<td>Adjusted for Bellevue BROTS Contribution.</td>
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<tr>
<td>JOINT-BROTS-50.1</td>
<td>148th Ave NE/NE 20th St</td>
<td>Add second westbound left turn and second westbound left turn lanes.</td>
<td>C</td>
<td>$1,264,000</td>
<td>n/a</td>
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<tr>
<td>JOINT-BROTS-53.1</td>
<td>Bel-Red Road/NE 24th Street</td>
<td>Add southbound right turn lane.</td>
<td>E</td>
<td>$1,198,000</td>
<td>n/a</td>
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<tr>
<td>JOINT-BROTS-79</td>
<td>148th Avenue NE/NE 36th Street</td>
<td>Add second southbound left turn lane and second westbound left turn lane.</td>
<td>F</td>
<td>$4,315,000</td>
<td>n/a</td>
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<tr>
<td>RED-BROTS-004.1</td>
<td>159th Ave NE/NE 40th St</td>
<td>Revise lanes to provide northbound left turn and shared northbound left turn/right turn lanes</td>
<td>G</td>
<td>$407,000</td>
<td>Adjusted for Bellevue BROTS Contribution (14.3%).</td>
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<tr>
<td>RED-BROTS-005.4</td>
<td>148th Ave NE/Old Redmond Rd</td>
<td>Extend the northbound left turn lane by increasing length and channelization</td>
<td>H</td>
<td>$386,000</td>
<td>Adjusted for Bellevue BROTS Contribution (27.5%).</td>
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<tr>
<td>RED-BROTS-008.1</td>
<td>150th Ave NE/NE 40th St</td>
<td>Add northbound right turn lane</td>
<td>I</td>
<td>$712,000</td>
<td>Adjusted for Bellevue BROTS Contribution (23.1%).</td>
</tr>
<tr>
<td>RED-BROTS-011.1</td>
<td>W Lk Samm Pkwy NE/NE 51st St</td>
<td>Add southbound lane from NE 51st St to NE 50th St and then taper two southbound through lanes to one. Convert existing southbound right-turn only lane at NE 51st St to right/through lane. Improvements would include bike lanes, curb, gutter, planter strip, sidewalks, retaining walls, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>J</td>
<td>$1,903,000</td>
<td>Adjusted for Bellevue BROTS Contribution (19.3%).</td>
</tr>
<tr>
<td>RED-BROTS-031</td>
<td>W Lk Samm Pkwy NE/Bel-Red Rd</td>
<td>Removing exiting traffic signal at Bel-Red Road and West Lake Sammamish intersection. Install 2-lane roundabout at Bel-Red Road, West Lake Sammamish intersection and improve pedestrian facilities.</td>
<td>K</td>
<td>$4,791,000</td>
<td>Adjusted for Bellevue BROTS Contribution (19.3%).</td>
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<tr>
<td>RED-BROTS-033</td>
<td>140th Ave NE/Redmond Way</td>
<td>Add second northbound left turn lanes</td>
<td>L</td>
<td>$1,120,000</td>
<td>Adjusted for Bellevue BROTS Contribution (7.8%).</td>
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</table>
### 6. Transportation Facilities Plan

#### Figure 6.2 2022 TFP Project List

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
<th>Estimated Remaining Cost</th>
<th>Estimated Remaining Cost - Comment</th>
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<tr>
<td>RED-BROTS-033c</td>
<td>140th Ave NE/Redmond Way</td>
<td>Add eastbound right turn lane</td>
<td>n/a</td>
<td>$0</td>
<td>Constructed and funded by developer.</td>
</tr>
<tr>
<td>RED-BROTS-085</td>
<td>150th Ave NE/NE 51st St</td>
<td>Add north leg to intersection. Provide two southbound left turn lanes</td>
<td>0</td>
<td>$539,000</td>
<td>Adjusted for Bellevue BROTS Contribution (23.1%).</td>
</tr>
<tr>
<td>RED-OV-026</td>
<td>SR 520 Trail at NE 40th Street</td>
<td>Grade separate SR 520 Trail at NE 40th Street.</td>
<td>AF</td>
<td>$5,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-OV-027</td>
<td>SR 520 Trail at NE 51st Street</td>
<td>Grade separate SR 520 Trail at NE 51st Street.</td>
<td>AG</td>
<td>$5,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-OV-032</td>
<td>NE 40th Street Transit Center SR 520 Pedestrian Crossing</td>
<td>Provide a new direct pedestrian connection over SR 520 between the Overlake Transit Center and the Microsoft west campus (in the vicinity of the NE 38th Street alignment).</td>
<td>50</td>
<td>$5,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-OV-065a</td>
<td>152nd Avenue NE, North</td>
<td>Implement a multi-modal pedestrian corridor concept on 152nd Avenue NE from NE 24th Street to NE 31st Street to create a lively and active signature street in the Overlake Village. Pending the results of the 152nd Ave NE Corridor Study, the proposed cross section for the improvements would include 1 through lane in each direction, accommodations for bus-based transit and its connections to light rail transit (LRT), left turn lanes, planted medians, bike lanes, parking, pedestrian supportive sidewalks, street lights, pedestrian amenities, storm drainage, right-of-way and easements. This corridor will also include the LRT line and an LRT station.</td>
<td>57</td>
<td>$29,100,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-OV-096.1</td>
<td>SR 520 Slip-Ramp at 148th Avenue NE Preliminary Design Study</td>
<td>Work with WSDOT and City of Bellevue to prepare a preliminary design for an eastbound slip ramp from SR 520 to 152nd Ave NE at 148th Ave NE. Slip ramp would diverge from eastbound 148th Ave NE off-ramp and intersect 152nd Ave NE at roughly NE 30th St. The ramp would include 1 general purpose lane and HOV/Transit treatments as applicable.</td>
<td>61</td>
<td>$2,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Project ID</td>
<td>Location</td>
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</tr>
<tr>
<td>RED-TFP-049a</td>
<td>Union Hill Road</td>
<td>Widen Union Hill Rd from Avondale Rd to 178th PI NE. Improvements include 2 through lanes and 1 right turn lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power and utility pole relocation.</td>
<td>2</td>
<td>$5,333,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TFP-049b</td>
<td>Union Hill Road</td>
<td>Widen Union Hill Rd from 178th PI NE to 188th Ave NE. Improvements include 2 through lanes in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power and utility pole relocation, right-of-way and easement acquisition. Construct permanent signal at 178th Place NE/Union Hill.</td>
<td>3</td>
<td>$2,300,000</td>
<td>$3,900,000 spent on project in prior years.</td>
</tr>
<tr>
<td>RED-TFP-049c</td>
<td>Union Hill Road</td>
<td>Widen Union Hill Rd from 188th Place NE to east City Limits. Improvements include 2 through lanes in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power and utility pole relocation, right-of-way and easement acquisition.</td>
<td>27</td>
<td>$9,800,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TFP-050a</td>
<td>162nd Avenue NE (Bear Creek Parkway Extension, west)</td>
<td>Construct new arterial from 159th Pl NE to Leary Way. Improvements include 1 through lane in each direction, left turn lanes, curb, gutter, sidewalks, street lights, storm drainage, and right-of-way.</td>
<td>4</td>
<td>$30,418,000</td>
<td>$500,000 spent on project in prior years. Reduced by $4,000,000 to reflect 3-lane section instead of 5-lane section included in cost estimate.</td>
</tr>
<tr>
<td>RED-TFP-065</td>
<td>Redmond Way</td>
<td>Widen Redmond Way from SR 520 to 187th Ave NE. Improvements include 6-7 lanes from SR 520 to East Lake Sammamish Pkwy (ELSP) and 4-5 lanes from ELSP to 187th Ave NE, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power.</td>
<td>5</td>
<td>$2,348,000</td>
<td>Majority of project funded by WSDOT. $2,653,000 spent on project in prior years.</td>
</tr>
<tr>
<td>Project ID</td>
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</tr>
<tr>
<td>RED-TFP-072a</td>
<td>160th Avenue NE</td>
<td>Construct new 160th arterial from current terminus at approximately NE 99th St north to the intersection with Redwood Rd and modify existing 160th arterial from NE 90th St north to current terminus. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, right of way and easement acquisition.</td>
<td>6</td>
<td>$21,796,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TFP-105</td>
<td>NE 116th Street</td>
<td>Widen NE 116th St from 167th Place NE to 179th Place NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, equestrian trail, street lights, storm drainage, underground power, right-of-way and easement acquisition. Project also includes construction of roundabout at 172nd Ave NE.</td>
<td>7</td>
<td>$15,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TFP-117</td>
<td>188th Avenue NE</td>
<td>Construct new 188th Ave NE arterial from Redmond Way to Union Hill Rd. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, right-of-way and easement acquisition.</td>
<td>8</td>
<td>$21,281,000</td>
<td>COR property related cost est. $2,662,008. Developer funded project, noted on revenue spreadsheet.</td>
</tr>
<tr>
<td>RED-TFP-118</td>
<td>185th Ave NE</td>
<td>Construct new 185th Ave NE arterial from NE 80th St to Union Hill Rd. Improvements include 1 through lane in each direction, left turn lanes, sidewalks, street lights, storm drainage, right-of-way, easements and traffic signal at Union Hill Rd.</td>
<td>9</td>
<td>$3,500,000</td>
<td>$950,000 spent on project in prior years. Remainder funded by developer.</td>
</tr>
<tr>
<td>RED-TFP-801-19</td>
<td>NE 83rd Street at 161st Avenue NE</td>
<td>Install new traffic signal and make intersection improvements at NE 83rd St and 161st Ave NE.</td>
<td>P</td>
<td>$0</td>
<td>Project funding included in RED-TMP-061.</td>
</tr>
<tr>
<td>RED-TFP-805-04</td>
<td>NE 51st Street at 150th Ave NE</td>
<td>Install new traffic signal at intersection of NE 51st St and 150th Ave NE</td>
<td>Q</td>
<td>$0</td>
<td>Funding included in BROTS-085</td>
</tr>
<tr>
<td>RED-TFP-807-02</td>
<td>Redmond Way/East Lake Sammamish Parkway at 180th Avenue NE</td>
<td>Reconstruct intersection of Redmond Way at East Lake Sammamish Pkwy and 180th Ave NE</td>
<td>R</td>
<td>$0</td>
<td>Funding included in RED-TFP-065.</td>
</tr>
<tr>
<td>Project ID</td>
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</tr>
<tr>
<td>RED-TFP-807-03</td>
<td>Redmond Way at 187th Avenue NE</td>
<td>Install new traffic signal at intersection of Redmond Way and 187th Ave NE</td>
<td>S</td>
<td>$0</td>
<td>Funding included in RED-TFP-065.</td>
</tr>
<tr>
<td>RED-TFP-807-05</td>
<td>Union Hill Road at 188th Avenue NE</td>
<td>Reconstruct horizontal curve and install new traffic signal at intersection of Union Hill Rd and 188th Ave NE</td>
<td>T</td>
<td>$0</td>
<td>Funding included in RED-TFP-049b.</td>
</tr>
<tr>
<td>RED-TFP-807-06</td>
<td>Union Hill Road at Avondale Road</td>
<td>Intersection modification. Reconstruct intersection pavement and add one northbound free right turn lane, one southbound left turn lane, one southbound right turn lane, one eastbound right turn lane and one westbound left turn lane.</td>
<td>U</td>
<td>$0</td>
<td>Funding included in project TFP-049a.</td>
</tr>
<tr>
<td>RED-TFP-901</td>
<td>Neighborhood Traffic Calming Program</td>
<td>Identify locations within the City, and install physical control devices in neighborhood corridors to slow and control speeding traffic ($150,000 annually).</td>
<td>n/a</td>
<td>$2,700,000</td>
<td></td>
</tr>
<tr>
<td>RED-TFP-905</td>
<td>Downtown Redmond</td>
<td>Design and construct transit center and parking facility at the current Downtown Redmond Park and Ride location. The transit center improvements include expanding the number of transit bays, providing off-street layover for transit vehicles, and improving the safety, efficiency, and pedestrian friendliness of the transit center. A parking structure will be constructed on the existing park and ride site to replace the existing surface lot.</td>
<td>n/a</td>
<td>$0</td>
<td>Project funded by Sound Transit and Metro King County grants.</td>
</tr>
<tr>
<td>RED-TMP-001</td>
<td>161st Ave NE</td>
<td>Construct new 161st Ave NE from Bear Creek Pkwy Extension to Redmond Way. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, parking, sidewalks, street lights, storm drainage, right-of-way, easements and traffic signals at Cleveland St and Bear Creek Pkwy.</td>
<td>10</td>
<td>$12,800,000</td>
<td>15% developer funded project, noted on revenue spreadsheet.</td>
</tr>
<tr>
<td>RED-TMP-002</td>
<td>164th Ave NE</td>
<td>Construct new 164th Ave NE from NE 76th St to Cleveland St. Improvements include 1 through lane in each direction, bike lanes, parking, sidewalks, street lights, storm drainage, right-of-way and easements.</td>
<td>11</td>
<td>$900,000</td>
<td>n/a</td>
</tr>
</tbody>
</table>
### 6. TRANSPORTATION FACILITIES PLAN

#### Figure 6.2 2022 TFP Project List

<table>
<thead>
<tr>
<th>Project ID</th>
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</thead>
<tbody>
<tr>
<td>RED-TMP-004</td>
<td>NE 36th St/NE 31st St</td>
<td>Construct new NE 36th St and bridge over SR 520 in the vicinity of NE 36th St and NE 31st St. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, sidewalks, street lights, storm drainage, right-of-way and easements.</td>
<td>12</td>
<td>$25,000,000</td>
<td>Partially developer funded project, noted on revenue spreadsheet.</td>
</tr>
<tr>
<td>RED-TMP-007</td>
<td>172nd Ave NE</td>
<td>Construct new 172nd Ave NE from NE 122nd St to NE 124th St. Improvements include 1 through lane in each direction, sidewalks, street lights, traffic calming, storm drainage and easements.</td>
<td>13</td>
<td>$2,990,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-009</td>
<td>NE 85th St</td>
<td>Reconfigure NE 85th St from 154th Ave NE to 164th Ave NE to 1 through lane in each direction, center left turn lane, bike lanes, parallel parking and pedestrian amenities.</td>
<td>14</td>
<td>$650,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-010</td>
<td>164th Ave NE</td>
<td>Reconfigure 164th Ave NE from Redmond Way to NE 87th St to 1 through lane in each direction, center left turn lane, bike lanes and pedestrian amenities.</td>
<td>15</td>
<td>$1,659,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-013</td>
<td>Redmond Way</td>
<td>Widen Redmond Way bridge at Bear Creek. Improvements would include 2 through lanes in each direction, 2 eastbound left turn lanes to NE 76th St, 1 eastbound right turn lane to westbound SR 520 on-ramp, sidewalks, Bear Creek and E Lake Sammamish Trail connections, street lights, storm drainage, right-of-way and easements.</td>
<td>AH</td>
<td>$15,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-015</td>
<td>Stage III SR 520 Project</td>
<td>Widen SR 520 from West Lake Sammamish Pkwy to SR 202. Improvements include 2 lane westbound Redmond Way to westbound SR 520 ramp, HOV lanes and grade separated trail crossing of the East Lake Sammamish Trail. The project should not preclude future high capacity transit related facilities.</td>
<td>16</td>
<td>$500,000</td>
<td>Project funded by WSDOT.</td>
</tr>
<tr>
<td>Project ID</td>
<td>Location</td>
<td>Description</td>
<td>TMP Code</td>
<td>Estimated Remaining Cost</td>
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</tr>
<tr>
<td>RED-TMP-016</td>
<td>Old Redmond Rd</td>
<td>Widen Old Redmond Road from 132nd Ave NE to 136th Ave NE and rechannelize from 136th Ave NE to 140th Ave NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>17</td>
<td>$3,200,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-019</td>
<td>166th Ave NE</td>
<td>Reconfigure 166th Ave NE from NE 85th St to NE 104th St to 1 through lane in each direction, center left turn lane and bike lanes.</td>
<td>20</td>
<td>$900,000</td>
<td>Budget Placeholder.</td>
</tr>
<tr>
<td>RED-TMP-020</td>
<td>East Lake Sammamish Pkwy at 187th Ave NE</td>
<td>Install new traffic signal. Improvements include southbound left turn lane and reconstruct grade separated trail crossing.</td>
<td>V</td>
<td>$2,062,000</td>
<td>COR property related cost est. $37,414.</td>
</tr>
<tr>
<td>RED-TMP-029</td>
<td>NE 70th St</td>
<td>Construct new NE 70th St from Redmond Way to 180th Ave NE. Improvements include 1 through lane in each direction, left turn lanes, sidewalks, street lights, storm drainage, right-of-way and easements.</td>
<td>43</td>
<td>$2,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-042</td>
<td>Old Redmond Rd at West Lake Sammamish Way</td>
<td>Install new traffic signal. Improvements include modifications to better accommodate nonmotorized uses.</td>
<td>W</td>
<td>$670,000</td>
<td>Budget placeholder.</td>
</tr>
<tr>
<td>RED-TMP-044</td>
<td>Bicycle Facilities Improvement Program</td>
<td>Improve bicycle facilities throughout the City ($450,000 annually)</td>
<td>n/a</td>
<td>$10,854,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-045</td>
<td>Sidewalk Improvement Program</td>
<td>Improve sidewalk facilities throughout the City ($1,000,000 annually)</td>
<td>n/a</td>
<td>$24,120,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-046</td>
<td>Safety Program</td>
<td>Signalize and modify intersection and corridors to improve safety. Improvement locations would be identified by monitoring accident data to identify high accident locations and high accident corridors ($450,000 annually).</td>
<td>n/a</td>
<td>$10,854,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-047</td>
<td>Bridge Repair Program</td>
<td>Provide repair and maintenance of the roadway bridges in the City ($50,000 annually).</td>
<td>n/a</td>
<td>$1,206,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-048</td>
<td>Channelization Improvement Program</td>
<td>Provide street marking projects throughout the City ($50,000 annually).</td>
<td>n/a</td>
<td>$1,206,000</td>
<td>n/a</td>
</tr>
</tbody>
</table>
### 6. Transportation Facilities Plan

#### Figure 6.2 2022 TFP Project List

<table>
<thead>
<tr>
<th>Project ID</th>
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<tr>
<td>RED-TMP-050</td>
<td>Transportation Demand Management</td>
<td>Implement measures that eliminate trip making or support the movement of more people in fewer vehicles, and help to reduce traffic congestion ($450,000 annually).</td>
<td>n/a</td>
<td>$10,854,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-051</td>
<td>Engineering Contingency Program</td>
<td>Provides for unplanned minor projects, emergency projects or added scope changes in larger transportation projects ($100,000 annually).</td>
<td>n/a</td>
<td>$2,412,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-052</td>
<td>Pavement Management Program</td>
<td>Preserve and maintain the City's pavement infrastructure in a good condition ($1,000,000 annually).</td>
<td>n/a</td>
<td>$24,120,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-053</td>
<td>Street Lighting Program</td>
<td>Identify, inventory, prioritize and schedule street lighting enhancements. Manage the installation of both Puget Sound Energy owned and City of Redmond owned street lighting locations within the City ($50,000 annually).</td>
<td>n/a</td>
<td>$1,206,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-054</td>
<td>Transportation Concurrency Management</td>
<td>Support ongoing efforts to monitor the City's transportation system, identify problem areas, and develop and evaluate potential solutions to ensure concurrency ($100,000 annually).</td>
<td>n/a</td>
<td>$2,412,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-055</td>
<td>Undergrounding Program</td>
<td>Identify, inventory, prioritize and schedule undergrounding of overhead utilities such as power, telephone, and television cable ($50,000 annually)</td>
<td>n/a</td>
<td>$1,206,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-056</td>
<td>Burlington Northern Sante Fe Right of Way</td>
<td>Acquisition of BNSF right of way</td>
<td>21</td>
<td>$3,000,000</td>
<td>Budget placeholder. Amount of offer to BNSF.</td>
</tr>
<tr>
<td>RED-TMP-057</td>
<td>Redmond Intelligent Transportation System</td>
<td>Implementation of Redmond Intelligent Transportation System (RITS) Master Plan Citywide.</td>
<td>n/a</td>
<td>$5,784,000</td>
<td>Budget placeholder.</td>
</tr>
<tr>
<td>RED-TMP-058</td>
<td>East Lake Sammamish Parkway Rehabilitation</td>
<td>Rehabilitate East Lake Sammamish Pkwy from south city limits to NE 65th St. Improvements include installing missing sections of curb, gutter and sidewalk; removing some concrete pavement; and performing crack and seat process on remaining concrete pavement. A new pavement overlay will then be done.</td>
<td>22</td>
<td>$3,800,000</td>
<td>n/a</td>
</tr>
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### Figure 6.2 2022 TFP Project List

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<tr>
<td>RED-TMP-059</td>
<td>SR 520 Bikeway Connection to Sammamish River Regional Trail</td>
<td>Construct new trail along the north side of Leary Way connecting the SR 520 Trail and the Sammamish River Trail. Improvements include a 10' to 12' multiuse hard surface trail</td>
<td>23</td>
<td>$254,400</td>
<td>$100,000 spent in prior years.</td>
</tr>
<tr>
<td>RED-TMP-060</td>
<td>NE 116th Street (York) Bridge Replacement</td>
<td>Replace NE 116th St (York) Bridge over the Sammamish River. Project includes improvements to nonmotorized access and safety, river habitat improvements and outdoor artwork. Project is a cooperative effort with King County to share equally in the cost.</td>
<td>X</td>
<td>$4,200,000</td>
<td>$1,200,000 spent in prior years.</td>
</tr>
<tr>
<td>RED-TMP-061</td>
<td>NE 83rd Street</td>
<td>Widen NE 83rd St from 160th Ave NE to 161st Ave NE. Improvements include widened sidewalks, increased parking, street lights, pedestrian amenities and intersection modifications.</td>
<td>24</td>
<td>$1,150,000</td>
<td>$450,000 spent in prior years.</td>
</tr>
<tr>
<td>RED-TMP-062</td>
<td>Redmond Way at NE 76th Street</td>
<td>Modify intersection. Add a southbound right turn lane on NE 76th St and add dual lefts on eastbound Redmond Way.</td>
<td>Y</td>
<td>$481,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-068</td>
<td>124 Ave NE/Redmond-Woodinville Road Improvements</td>
<td>Widen NE 124th Street adding additional east/west lanes, modify the traffic signal and connect to the city’s traffic management center. In addition, bicycle lanes, sidewalks, and a storm collection and treatment system will be added.</td>
<td>AD</td>
<td>$6,410,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-069</td>
<td>124 Ave NE/162 Pl NE Signal</td>
<td>Construct a new traffic signal at 124th Ave NE and 162nd Pl NE. Includes the addition of turn lanes on NE 124th and modifications on 162nd Pl for sight distance.</td>
<td>AE</td>
<td>$2,300,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-070</td>
<td>NE 73rd St Extension</td>
<td>Construct new NE 73rd St from 185th Ave NE to 192nd Ave NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, sidewalks, street lights, traffic control, storm drainage, right-of-way and easements.</td>
<td>52</td>
<td>$12,250,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-071</td>
<td>NE 76th St Extension</td>
<td>Construct new NE 76th St from 185th Ave NE to 192nd Ave NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, sidewalks, street lights, traffic control, storm drainage, right-of-way and easements.</td>
<td>53</td>
<td>$10,800,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Project ID</td>
<td>Location</td>
<td>Description</td>
<td>TMP Code</td>
<td>Estimated Remaining Cost</td>
<td>Estimated Remaining Cost - Comment</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>RED-TMP-072</td>
<td>192nd Ave NE Extension</td>
<td>Construct new 192nd Ave NE from NE 68th St to Union Hill Rd. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, sidewalks, street lights, traffic control, storm drainage, right-of-way and easements.</td>
<td>54</td>
<td>$16,580,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-073</td>
<td>NE 80th St Trail</td>
<td>Construct new NE 80th St Trail from 185th Ave NE to 188th Ave NE. Improvements include 10’-12’ wide multi-use hard surface trail situated in a 20’ wide easement or right of way.</td>
<td>55</td>
<td>$1,200,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-078</td>
<td>148th Ave NE</td>
<td>Create third northbound through lane on 148th Ave NE from NE 22nd St to SR 520 westbound on-ramp using primarily existing right turn lanes and modify SR 520 westbound on-ramp to allow HOV access. At NE 24th St and 148th Ave NE intersection add second left turn lane on the eastbound and westbound approaches, add right turn lane on northbound approach, and extend right turn lane on westbound approach.</td>
<td>58</td>
<td>$10,000,000</td>
<td>Adjusted for anticipated Bellevue Contribution (50%).</td>
</tr>
<tr>
<td>RED-TMP-079</td>
<td>Redmond Way and Cleveland Street</td>
<td>Convert Redmond Way from 160th Ave NE to Avondale Way to 1 through lane in each direction and center turn lane with west end having two westbound starting at 161st Ave NE and east end having two eastbound lanes starting at 168th Ave NE. Convert Cleveland St to 1 through lane in each direction. Improvements include curb extensions, widened sidewalks, pedestrian amenities, gateway treatments and realignment of street at eastern and western ends to improve traffic flow.</td>
<td>19</td>
<td>$20,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Project ID</td>
<td>Location</td>
<td>Description</td>
<td>TMP Code</td>
<td>Estimated Remaining Cost</td>
<td>Estimated Remaining Cost - Comment</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>RED-TMP-080</td>
<td>NE 40th Street</td>
<td>Provide bicycle lanes/multi-use trail on NE 40th Street from 156th Avenue NE to West Lake Sammamish Pkwy. Work with Microsoft to design NE 40th Street as a gateway with multi-modal design features. This should include bicycle lanes on both sides of the street and/or wide (12-feet) multi-use trail on one side to accommodate both pedestrians and bicyclists. In addition, provide a bicycle connection with the existing bicycle lane on NE 40th Street east of 172nd Avenue NE.</td>
<td>56</td>
<td>$3,650,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-081</td>
<td>148th Avenue NE/SR 520</td>
<td>Modify channelization and signals, and provide wide multi-use trail that is seperated from the roadway on the east side of 148th Ave NE from the westbound SR 520 ramps to the SR 520 Trail at the eastbound SR 520 ramps (148th Ave NE bridge over SR 520).</td>
<td>1</td>
<td>$3,000,000</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-084</td>
<td>NE 51st Street</td>
<td>Complete missing segments of sidewalk on the southside of NE 51st St from 158th Ave NE to West Lake Sammamish Pkwy.</td>
<td>64</td>
<td>$350,000</td>
<td>n/a</td>
</tr>
</tbody>
</table>
City of Redmond 2022 Transportation Facility Plan

Legend
- Intersection Projects
- Roadway Projects

Figure 6.3 2022 TFP Project Map
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7. Performance Monitoring System
7. PERFORMANCE MONITORING SYSTEM

Introduction

This chapter establishes the performance monitoring system that will be used by the City to track implementation of the Transportation Master Plan (TMP). Multimodal objectives and concurrency standards will be tracked through an Annual Mobility Report Card and a Five Year Transportation Status Report.

The City will use these reports to provide accurate information to the public about the City’s progress implementation of the TMP and the current condition of the transportation system. This will also set the stage for future updates of the TMP.

This chapter provides a number of graphics that have been designed as templates for data in future reports.

Annual Mobility Report Card

Five categories reporting and monitoring topics will be included in the annual Mobility Report Card.

Tracking Measures
These report data that describes general transportation trends in Redmond. The data does not represent objectives, but serves to provide context for the outcomes on the objectives.

Level of Service Objectives
These describe levels of service expected by 2022 for each transportation mode.

Other Objectives
These describe other characteristics of travel and transportation in Redmond, but are not descriptions of service levels.

Concurrency Determination
The Mobility Report Card will also provide a routine “concurrency determination.” As provided in the Transportation Element (Chapter 2) the City will make determinations of transportation concurrency at least once a year, but more often than that if development is proceeding at an accelerated rate (as defined in the Concurrency Ordinance).

The first Mobility Report Card will be published in 2006 for the year 2005.
Five Year Transportation Status Report

Once each five years, the City will combine the previous Mobility Report Cards into a summary report. Certain additional data items will be measured only in the Five Year Update. The Status Report will serve as the technical basis for the next update of the Transportation Master Plan.

The first Five Year Transportation Status Report will be published in 2010 for the years through 2009.

Using the Graphs and Charts

The graphs and charts in this section have been designed for use in future reports. These are templates and there are placeholders in most of for data to be added.

The figure at the right is provided as an example of the format used in many of the figures in this chapter.

The middle column will be labeled for the year of the report. For now it is just labeled as “report year.” For example, in the 2007 Mobility Report Card, this column would be labeled 2007.

The data entry above the column is currently shown as “tbd” (to be determined). In future reports the actual data entry would be made and the column would be a solid color. It is shown fading upward now because the amount is not yet known.

In many of the figures, there are blue and yellow horizontal bars. In each case, the yellow bars represent a 2022 forecast or objective with which the item is being compared. The blue bars represent the actual data for the report year. Many of these also are labeled “tbd” in this chapter, but will have actual data in future reports.

Figure 7.1 Example
### Mobility Report Card

#### Tracking Measures

**Average Daily Transit Ridership - Sound Transit Routes** (Figure 7.2)

This data is obtained from Metro, which operates these routes for Sound Transit and reports the data quarterly.

Only two routes are included in the 2003 data - the 540 and 545. However, the data will also include any additional regional ST routes and any High Capacity Transit systems that connect to and serve Redmond in the future.

Transit ridership is a bottom-line measure that indicates whether Redmond is making progress toward its mode share objectives.

**Average Daily Transit Ridership - Metro Routes** (Figure 7.3)

This data is also obtained from Metro, which reports the data quarterly.

Note that it is common for routes to be added, discontinued or changed. The criterion for inclusion in this data set is whether the route has at least one stop or transit station within the Redmond city limits.

Routes included in the 2003 data are:

- 216, 220, 222, 225, 229, 230
- 232, 233, 238, 242, 245, 247
- 249, 250, 251, 253, 254, 256
- 261, 265, 266, 268, 269, 291
- 922, 929, 997, 998
Boardings per Revenue Service Hour - Metro and Sound Transit (Figure 7.4)

This is reported by Metro for each Sound Transit and Metro route. The data is an average for all routes (the same routes as are included in Figures 7.2 and 7.3). Thus, this represents the boardings per hour for all routes combined.

This is a measure of effectiveness and performance that Metro uses to evaluate which routes are productive and which should be discontinued. While Redmond ridership has grown since 1990, it has not grown as fast as service, leading to the decline in average boardings per hour.

The objectives described in Chapter 4 and the strategies included in Chapter 5 are designed to reverse this trend and begin increasing the overall productivity of the routes that serve Redmond. This will be of direct benefit to the regional transit system and will also begin to set the stage for extension of High Capacity Transit to Redmond.

Park and Ride Utilization (Figure 7.5)

This data is also reported quarterly by Metro.

There are a number of conventions that could be used to summarize the data which is collected hourly on survey dates within each quarter. Figure 7.4 reports the data exactly as reported by Metro.

As time goes by, the effect of implementing this TMP should be to increase the utilization of parking at these facilities. Thus, this measure can be interpreted as an indirect indication of the success of the City’s efforts to support King County Metro and Sound Transit in development of regional transit patronage and performance.
Average Daily Vehicle Miles of Travel (Figure 7.6)

One “vehicle mile of travel” (VMT) represents one vehicle traveling one mile within the City on the Redmond arterial street network (including state routes).

This measure cannot be directly observed or counted and thus must be estimated from other data. The estimate is for an average annual 24-hour weekday.

VMT is the best variable for measuring trends in the amount of daily vehicular traffic in Redmond. It is also utilized in estimating air pollution, congestion and other dependent variables.

Total vehicle miles of travel in Redmond can be obtained most readily by running the City’s new traffic model (an updated version of the BKR model) for the report year. If this is not possible or does not occur, the data can be estimated using trends observed in the annual count program data.

This measure does not include travel on local streets. Most such travel shows up on arterials and it is not necessary to count traffic in both places to discern the overall trend. The traffic model that will be used in most instances to produce this data does not model traffic on local streets. Actual total VMT, including travel on local streets, would be slightly higher than this.

Average Daily Traffic (Figure 7.7)

Average daily traffic represents the number of vehicle trips that travel on some portion of the Redmond arterial street network (including state routes) on an annual average 24-hour weekday.

Again, this cannot be directly observed from count data because many vehicles will travel through more than one count station as part of a trip, leading to double counting of trips.

The best source of this data is the City’s new traffic model (an updated version of the BKR model) for the report year. If an annual update of the model does not occur, the data can be estimated using trends observed in the annual count program data.
Annual Traffic Growth by TMD (Figure 7.8)

This data is obtained from the City’s annual traffic count program. Count locations are summed within Transportation Management Districts and compared to the previous year. Data is for the arterials only; local streets are not included in this measure.

Occasionally, specific count locations are unavailable due to construction or for other reasons. Also, from time to time the City will revise count locations. When this occurs, the annual comparison should be made using only data from count stations represented in both data sets.

Annual Traffic Growth at Screenlines (Figure 7.9)

The map on the next page shows the eleven screenlines utilized in the Transportation Master Plan. Annual traffic growth across each of these screenlines is the sum of traffic on selected arterial links that cross the screenline. The same links will be counted each year as part of the City’s annual traffic count program. The growth percentages measure the change from the previous year.

These screenlines are the same as the screenlines used in monitoring the City’s traffic volume-to-capacity ratios in the service objectives. Thus, this data helps provide context for interpreting changes in the screenline service levels (Figure 7.20, page 15).
Figure 7.9 Annual Traffic Growth at Screenlines 2003-2022
7. Performance Monitoring System

Traffic Accidents

Annual Traffic Accidents (Figure 7.10)

This information is provided by software utilized by the Public Works Department. It summarizes data contained in accident reports compiled by the Police Department.

There is considerable year-to-year fluctuation in this data, so care should be taken to view the long-term trends. For that reason, the recommended format would add years by adding columns to the figure.

Redmond has set public health and safety as a primary objective of the Transportation Master Plan. This measure reports whether the City’s efforts are reflected in actual on-the-street safety.

Bike & Pedestrian Accidents

Annual Bicycle and Pedestrian Accidents (Figure 7.11)

This data has the same source as the data in Figure 7.10.

Again, there is fluctuation in the annual data, and a cumulative trend should be shown in the figure in future Mobility Report Card reports. Many bicycle and pedestrian “incidents” (minor accidents and near misses) go unreported. Generally, this measure will provide information only about those accidents where there was personal injury resulting in an accident report being filed by the Police Department.

Improving safety for pedestrians and bicyclists is an important objective. Many of the projects and programs that would improve safety for non-motorized travelers will also encourage travel by these means.
7. PERFORMANCE MONITORING SYSTEM

Mobility Report Card

Level of Service Objectives

The next several figures contain data for transportation objectives established by the City. Additional background on these objectives - what they mean and why they have been established - can be found in Chapter 4.

Regional Transit Travel Time from Downtown (Figure 7.12)

This figure measures the best transit travel time between Downtown Redmond and other centers in the Puget Sound Region. Data is taken from published schedules for Sound Transit routes.

Generally, the schedules are changed only once each year, at the most. Two routes are included in the data - the 540 and 545. However, future data may also reflect any additional regional ST routes and any High Capacity Transit systems that connect to and serve Redmond in the future.

Not all regional centers are represented in this data. Redmond is highlighting those regional transit connections that are most important to the City.

Regional Transit Travel Time from Overlake (Figure 7.13)

This figure measures the best transit travel time between Overlake Transit Center (NE 40th Street) in Redmond and other centers in the Puget Sound Region. Data is taken from published schedules for Sound Transit routes.

As in Figure 7.12, the schedules are normally changed only once each year, at the most. Two routes are included in the data - the 540 and 545. However, future data may also reflect any additional regional ST routes and any High Capacity Transit systems that connect to and serve Redmond in the future.
Regional Transit Service Frequency—Downtown (Figure 7.14)

This figure measures the best regional transit frequency of service between Downtown Redmond and other centers in the Puget Sound Region. Data is taken from published schedules for Sound Transit routes.

Generally, the schedules are changed only once each year, at the most. Two routes are included in the data - the 540 and 545. However, future data may also reflect any additional regional ST routes and any High Capacity Transit systems that connect to and serve Redmond in the future.

Not all regional centers are represented in this data. Redmond is highlighting those regional transit connections that are most important to the City.

Regional Transit Service Frequency—Overlake (Figure 7.15)

This figure measures the best regional transit frequency for service between Overlake Transit Center (NE 40th Street) in Redmond and other centers in the Puget Sound Region. Data is taken from published schedules for Sound Transit routes.

As in previous figures, the schedules are normally changed only once each year, at the most. Two routes are included in the data - the 540 and 545. However, future data may also reflect any additional regional ST routes and any High Capacity Transit systems that connect to and serve Redmond in the future.
### All Day Service - Local Weekday Routes

<table>
<thead>
<tr>
<th>from</th>
<th>to</th>
<th>Redmond Town Center</th>
<th>Northeast Redmond</th>
<th>Overlake Transit Center</th>
<th>Overlake Core</th>
<th>Bear Creek Park &amp; Ride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Transit Center</td>
<td>11 hrs</td>
<td>15 hrs</td>
<td>20 hrs</td>
<td>18 hrs</td>
<td>18 hrs</td>
<td></td>
</tr>
<tr>
<td>Redmond Town Center</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td></td>
</tr>
<tr>
<td>Northeast Redmond</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td>0 hrs</td>
<td></td>
</tr>
<tr>
<td>Overlake Transit Center</td>
<td>20 hrs</td>
<td></td>
<td></td>
<td></td>
<td>13 hrs</td>
<td></td>
</tr>
<tr>
<td>Overlake Core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18 hrs</td>
<td></td>
</tr>
</tbody>
</table>

Note: Red text indicates “does not yet meet standard”

**Figure 7.16 Hours of Weekday Service - Local Routes**

**Hours of Local Weekday Transit Service (Figure 7.16)**

This figure shows the service characteristics for internal connections within Redmond, based on the “priority connections” set in Chapter 4.

Data is obtained from published Metro and Sound Transit schedules.

This table compares actual hours of weekday service with the LOS objective of 18 hours. Where there is no direct connection between the places listed in the matrix, the entry shows a zero. In some cases, no route operates directly between these places today.
### Direct Connections - Local Weekday Routes

<table>
<thead>
<tr>
<th>from</th>
<th>to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redmond Town Center</td>
<td>Yes</td>
</tr>
<tr>
<td>Northeast Redmond</td>
<td>No</td>
</tr>
<tr>
<td>Overlake Transit Center</td>
<td>Yes, *</td>
</tr>
<tr>
<td>Overlake Core</td>
<td>No</td>
</tr>
<tr>
<td>Bear Creek Park &amp; Ride</td>
<td>Yes, *</td>
</tr>
</tbody>
</table>

**Note:** Red text indicates “does not yet meet standard”

**2022 Standard:** Route length < 1.5x most direct route  [* = No connection]*

---

Directness of Local Weekday Transit Connections

(Figure 7.17)

This figure shows the connectivity of internal connections within Redmond, based on the “priority connections” set in Chapter 4.

Data is obtained from published Metro and Sound Transit schedules.

The actual routing of the most direct connecting transit route is compared to the LOS objective that this should be no more than 1.5 times the most direct roadway route. Where there is no direct connection between the places in the matrix, the entry shows an asterisk. In some cases, no route operates directly between these places today.
Transit Service Frequency (Figure 7.18)

This figure shows the frequency of weekday transit service for internal connections within Redmond, based on the “priority connections” set in Chapter 4.

Data represents the most frequent service if more than one route is involved.

Data is obtained from published Metro and Sound Transit schedules.

Screenline Map (Figure 7.19)

This map on the next page shows the screenlines used in Figure 7.20 on page 15.
7. PERFORMANCE MONITORING SYSTEM

City of Redmond
Screenlines

Figure 7.19 Screenlines Map
ROADWAY LEVEL OF SERVICE

Figure 7.20 Roadway Level of Service

Roadway Traffic Level of Service at Screenlines (Figure 7.20)

LOS objectives for Redmond’s arterial streets have been set by the City. These are described in Chapter 4.

This figure will be produced utilizing data from the City’s annual traffic count program. Chapter 4 provides more information about the calculation of the V/C (volume to capacity) ratios.

Bicycle System Priorities and Implementation (Figure 7.21)

The City has set objectives for completion of specific corridors within the ultimate bicycle system plan shown in Chapter 5. These objectives identify priority corridors to be completed by 2022. The map in Figure 7.21 on the next page provides an annual report of cumulative progress toward these objectives. As segments of the bicycling network are completed, the dashed lines in the map will begin to go away.

Note that while the key shows Construction Initiated and Project Development lines, there no such lines shown on this map template yet. However, they will be, beginning with the first Mobility Report Card.
7. PERFORMANCE MONITORING SYSTEM

City of Redmond
2022 Bicycle System Priorities

Figure 7.21 Bicycle System Priorities
Pedestrian Environment Adequacy (Figure 7.22)

The City has set objectives for improvements in its pedestrian environment, described in Chapter 4. The highest priorities are the two centers—Downtown and Overlake—and the multimodal corridors. The City wants the two centers and the mixed use and commercial segments of the multimodal corridors to reach “pedestrian supportive” status by 2022. (Other segments of the multimodal corridors are to reach “pedestrian tolerant” status by 2022.)

The data in this table measures the extent to which the affected areas or corridors have attained “pedestrian supportive” status as a percentage of the centerline miles of streets. Standards used in evaluating pedestrian environment are provided in Chapter 5.

Chapter 4 also sets “pedestrian tolerant” status as the objective to be reached by 2022 throughout the City. However, the cost and effort required to measure progress toward this objective for every street in the City requires that it be included only in the Five Year Transportation Status Report. Thus, only the two centers and the multimodal corridors will be reported in the annual Mobility Report Card.

Mobility Report Card

Other Objectives

The next several figures contain data for transportation objectives established by the City that are not measures of modal level of service. Additional background on these objectives—what they mean and why they have been established—can be found in Chapter 4.

Commute Trip Reduction Program - Commute Mode Share (Figure 7.23)

This data is provided through surveys conducted by the City as part of administration of the Commute Trip Reduction program. It measures morning peak period commute travel only, and includes only the commute trips to program employers (generally those with more than 100 employees).

Status of Actions Scheduled for 2005 (Figure 7.24)

This table on the next page will report the completion status of all priority action items identified in Chapter 8.
### Status of Actions Scheduled for 2005

<table>
<thead>
<tr>
<th>Action</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. ORDINANCE AND COUNCIL ACTIONS</strong></td>
<td></td>
</tr>
<tr>
<td>1.a TMP Adoption/Update Transportation Element</td>
<td></td>
</tr>
<tr>
<td>1.b Concurrency Management</td>
<td></td>
</tr>
<tr>
<td><strong>2. STUDIES AND PLANS</strong></td>
<td></td>
</tr>
<tr>
<td>2.a Downtown HCT Corridor/Station</td>
<td></td>
</tr>
<tr>
<td>2.b Impact Fee Update</td>
<td></td>
</tr>
<tr>
<td>2.c Overlake Plan</td>
<td></td>
</tr>
<tr>
<td><strong>3. PROJECT DEVELOPMENT</strong></td>
<td></td>
</tr>
<tr>
<td>3.a Bear Creek Parkway Extension</td>
<td></td>
</tr>
<tr>
<td>3.d 85th 4-lane to 3-lane Conversion</td>
<td></td>
</tr>
<tr>
<td>3.e 164th 4-lane to 3-lane Conversion</td>
<td></td>
</tr>
<tr>
<td>3.g Union Hill Road</td>
<td></td>
</tr>
<tr>
<td>3.j 172nd Extension</td>
<td></td>
</tr>
<tr>
<td><strong>4. CONSTRUCTION PROJECTS</strong></td>
<td></td>
</tr>
<tr>
<td>4.a SR 520 Bikeway Connection to Sammamish River Regional Trail</td>
<td></td>
</tr>
<tr>
<td>4.b 156th Ave NE Sidewalk Improvements from NE 59th St to NE 61st St</td>
<td></td>
</tr>
<tr>
<td>4.d NE 116th St Phase I</td>
<td></td>
</tr>
<tr>
<td>4.g NE 83rd St Improvements from 160th Ave NE to 161st Ave NE</td>
<td></td>
</tr>
<tr>
<td>4.i Redmond Intelligent Transportation System Phase I (Overlake)</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 7.24 Status of Actions Scheduled for 2005*
The next three figures are designed to provide context for the periodic (at least annual) determination by the City of whether transportation concurrency is being met. Further information on this topic may be found in Chapter 4 and in the City’s Concurrency Ordinance.

Redmond Population (Figure 7.25)

This data is obtained by the Planning Department from Regional and Census sources. The middle column in the figure will be updated annually to provide context for an assessment of whether the City is growing faster or more slowly than anticipated. This information will, in turn, be utilized to assess whether the pace of Transportation Master Plan completion is proportional to the pace of development.

Redmond Employment (Figure 7.26)

This data is obtained by the Planning Department from State of Washington sources. The data represents full-time equivalent jobs.

The middle column in the figure will be updated annually to provide context for an assessment of whether the City is growing faster or more slowly than anticipated. This information will, in turn, be utilized to assess whether the pace of Transportation Master Plan completion is proportional to the pace of development.
Redmond Dwelling Units (Figure 7.27)

This data is maintained by the Planning Department. Dwelling units includes all types of dwellings - single family and multi-family.

The middle column in the figure will be updated annually to provide context for an assessment of whether the City is growing faster or more slowly than anticipated. This information will, in turn, be utilized to assess whether the pace of Transportation Master Plan completion is proportional to the pace of development.
Five Year Transportation Status Report

Tracking Measures

The Tracking Measures contained in the Five Year Report will be the same as those contained in the Annual Mobility Report Card with the addition of the next several figures. Thus the Five Year Report will be similar in appearance to the Annual Mobility Report Card, except that it will contain five years of data (rather than one) and will have the following additional data.

Downtown Pass-Through Traffic
(Figures 7.28 and 7.29)

Background on this subject can be found in the Thoroughfare Plan (Section D of Chapter 5).

It is possible to estimate this data by running Redmond’s traffic model (a version of the BKR model). However, one purpose of this data is to provide “calibration” (a reality check) for the model. For that reason, data will be obtained by replicating the pass-through traffic study completed by the City in March 2004.

The small blue circle in each figure represents Downtown and the larger circle represents the entire city. Because data is obtained from license plate match counts at the periphery of Downtown, the break-down of origins and destinations outside the Downtown cannot be directly observed and must be estimated from other sources.

Because of the cost of replicating the field survey, these figures will not be included in the Annual Mobility Report Card. In any event, the changes in the data from year-to-year will be too small compared to sampling error to make annual production of the data cost-prohibitive.

Five Year Transportation Status Report

Level of Service Objectives

The Level of Service Objectives contained in the Five Year Report will be the same as those contained in the Annual Mobility Report Card with the addition of the next several figures. Thus the Five Year Report will be similar in appearance to the Annual Mobility Report Card, except that it will contain five years of data (rather than one) and will have the following additional data.
Pedestrian Environment Adequacy by TMD (Figure 7.30)

This figure will be coupled with Figure 7.22 to provide a complete picture of the City’s progress toward objectives for the pedestrian environment.

The Downtown TMD is not included in this figure because it is already available in Figure 7.22. However, while Figure 7.22 reports data for the commercial core of Overlake, this figure reports the result for the entire Overlake TMD - a larger area.

Data will be compiled by field surveys in each TMD and (as in Figure 7.22) will be based on a determination of pedestrian adequacy measured by centerline miles of the adjacent streets. The city-wide objective for pedestrian adequacy is “pedestrian tolerant.” Chapter 5 provides the analysis methodology pedestrian adequacy. Because of the cost of conducting a city-wide survey, Figure 7.30 will not be included in the annual Mobility Report Card report, but will be reporting once each five years.

Other Objectives

The Other Objectives contained in the Five Year Report will be the same as those contained in the Annual Mobility Report Card with the addition of Figure 7.30. Thus the Five Year Report will be similar in appearance to the Annual Mobility Report Card, except that it will contain five years of data (rather than one) and will contain the following additional data.

All Day Resident Mode Share (Figure 7.31)

This data will be provided by a resident travel diary study conducted with methodology described in Chapter 3 (the LUTAQH study). The objective for a reduction in single-occupant vehicle mode share is set in Chapter 4.

Concurrency Determination

The Concurrency Determination contained in the Five Year Report will summarize those contained in the annual Mobility Report Cards.

TMP Assessment - Overall Status

Finally, in the Five Transportation Status Report, the City will provide an assessment of trends and conditions, and progress toward objectives. This assessment will then be utilized as a starting point for the Update of the Transportation Master Plan (scheduled for 2010).
8. Regional Transportation
Introduction

This Transportation Master Plan addresses transportation facilities and services that are within Redmond and within Redmond’s jurisdiction. However, the TMP is also designed to strengthen regional partnerships.

Redmond plays a two-part transportation role in the Puget Sound Region.

First, Redmond’s transportation facilities are part of the regional travel network. Redmond’s streets carry regional pass-through traffic in addition to local circulation and access traffic. The draft TMP addresses the role the City’s transportation infrastructure will play in serving the regional travel demand markets.

Second, Redmond is involved in transportation policymaking through a variety of settings—standing committees (e.g., Eastside Transportation Partnership), task forces (e.g., 405 Task Force) and representation on major regional bodies (King County Metro, PSRC, etc.). The draft TMP establishes policies and preferences for the City to advocate in these regional settings.

Contents of this Chapter

This chapter of the Transportation Master Plan addresses Redmond’s role in regional infrastructure and regional policymaking.

Topics discussed include:

- ✓ Redmond Streets in the Regional Transportation Network
- ✓ Redmond and Regional Transportation Policymaking
  - I-405
  - SR 520
  - Growth in Eastern King County
  - High Capacity Transit Network
  - Metro Transit Services
  - Bicycle System
  - Other Topics
Redmond Streets in the Regional Transportation Network

Redmond’s transportation facilities are part of a regional network of roads, streets, transit routes and other infrastructure and services. The portion of the regional system that is located within Redmond is important not only to the citizens of Redmond, but also to regional travelers and to neighboring jurisdictions.

The fact that Redmond’s infrastructure has a role to play in meeting the regional mobility challenge has been a major consideration guiding the development of this Transportation Master Plan. This is most apparent in the mode plans of Chapter 5.

This regional role must, however, be balanced with the City’s Comprehensive Plan objectives for community character, quality of life, neighborhood preservation and economic vitality.

Redmond believes that most regional travel should be carried on the regional network of state highways and freeways. To the extent that development in the region, and particularly in eastern King County, exceeds capacity of the regional road network, traffic will be diverted onto local streets. Because Redmond is located along the eastern urban growth boundary, it is especially impacted by this pass-through traffic.

Streets in Redmond that are significantly impacted by regional traffic include Union Hill Road, Avondale Road, Bel-Red Road, West Lake Sammamish Parkway NE, 148th Avenue NE, Willows Road, and many of the downtown streets. Most of these streets have residential neighborhoods along them or nearby, and many of them pass through important local commercial areas.

This Transportation Master Plan includes projects that are intended to carry significant pass-through traffic, including most notably the Bear Creek Parkway Extension. However, the City does not believe it can or should mitigate continued rural and exurban growth by expanding local streets to make up for insufficient capacity in the regional roadways, at the expense of local community character and quality of life.

For this reason, Chapter 5 includes a “build-out” Thoroughfare Plan with maximum lanes for each corridor beyond which the local street system will not be widened.

Two key regional corridor issues affecting Redmond are:

- **Regional Access to Overlake Center.** The primary routes for regional travel to and from the Overlake area should be I-405 and SR 520. While local streets in Redmond and Bellevue always will play an important role in this context, long trips from elsewhere in the region should be accommodated primarily in the state highway corridors. Local streets that are currently heavily impacted by such regional travel will not be widened beyond what is appropriate given their community context. These include 148th Avenue NE, 140th Avenue NE, Bel-Red Road, Old Redmond Road, and West Lake Sammamish Parkway NE.

- **Regional Pass-Through Traffic from Eastern King County.** Redmond cannot avoid the legacy of the radial roadway network it has inherited from earlier decades (nor does it wish to). However, the primary corridors for east-west regional travel in this part of the region should be SR 522, SR 520 and I-90. Again, the local streets that are heavily impacted by such regional traffic will not be widened beyond what is appropriate given their community context. These include NE 124th Street, NE 116th Street, Avondale Road, Union Hill Road, Old Redmond Road, and the downtown street network.

One of the primary themes of this Transportation Master Plan is the need for a more connected roadway network. A number of projects have been included both in the build-out plan in Chapter 5 and in the funded 2022 plan in Chapter 6 to provide needed connections where there are discontinuities today. Some of these could tend to encourage additional pass-through traffic in Redmond.

However, the City recognizes it cannot wall itself off from regional traffic flows, so the idea that better connectivity is of paramount importance has been given precedence over the impacts of regional pass-through traffic. At the same time, the City will continue to advocate for a better balance between the amount of exurban development being allowed and the regional roadway network require to serve the resulting traffic. Consistent with policy direction established in the City’s Comprehensive Plan, the City will not pursue continuous widening of local streets in an attempt to service never-ending growth in regional traffic demand.

Finally, the City believes it is imperative that a high capacity transit network be established to connect Eastside cities with each other and with the rest of the region. It will not be possible to avoid worsening congestion by widening roads and streets - whether regional or local.
8. Regional Transportation

Redmond and Regional Transportation Policymaking

Redmond recognizes a responsibility to contribute to regional transportation policy development and decision-making.

While regional transportation policy issues have been addressed throughout this Transportation Master Plan, and are especially important in Chapter 5, they have been collected and summarized here to provide a convenient reference for representatives of the City and others serving on regional committees and task forces.

I-405

It is Redmond’s policy that I-405 should serve as the principal north-south regional arterial on the Eastside and should be developed as a multimodal corridor.

Redmond is particularly supportive of HOV system development in this corridor. In the future, it will be important to continue improving the functionality of major connecting corridors, including especially the full accommodation of freeway-to-freeway HOV connectivity. As part of this effort, it is important to continue to support the development of a comprehensive, coordinated corridor TDM program that reinforces the multimodal nature of the corridor.

Redmond believes it is essential that additional funding be secured to meet needs in this corridor. Of the $11 billion in needs identified for I-405, only about $500 million is currently funded. State and federal funding to close this gap is a priority for the City.

SR 520 (within Redmond)

The design of improvements in the SR520 corridor must not preclude any reasonably foreseeable High Capacity Transit (HCT) scenario. That portion of SR520 that lies within Redmond is the probable corridor for future HCT to and through Redmond.

In the future, the freeway should also provide for the direct connection of HOV facilities in the corridor to the associated transit park and ride facilities. Providing HOV lanes as part of SR520 mainline improvements between interchanges is a good first step. This improvement needs to be complemented by an emphasis on use of TDM techniques to increase commuter awareness and use of alternative commute modes to enhance corridor efficiency.

The eastern terminus of the east side HCT system will be a multimodal transportation facility of regional significance requiring a large footprint for parking as well as direct connections to the freeway and to nearby arterial and collector roadways. SR 520 planning and design should identify and evaluate the most likely locations for a future HCT terminal station.

It is also Redmond’s position that the existing Bear Creek Park and Ride lot is not adequate to serve as the future terminal facility at the east end of the HCT corridor. The current Metro park and ride facility is at a minimally-functional location that suffers from low visibility and poor access and, as a result, generates limited demand.

Growth in East King County

Redmond’s transportation system is impacted by development in northeastern King County and southeastern Snohomish County. Redmond believes that the travel demand associated with continued residential development east of the City will be difficult to meet and should be addressed concurrent with the permitting of such development.

Future High Capacity Transit network on the Eastside should include a terminal station east of Downtown Redmond for the express purpose of capturing and meeting the needs of travelers before they come onto congested urban roadways. This is addressed in more detail below.

Fully accommodating future east-west traffic flows created by continued residential development in unincorporated King County and Snohomish County requires careful development of multiple east-west regional roadway corridors. SR 520 cannot meet these traffic demands alone.

Once the “nickel project” is completed, SR 520 will essentially be a constrained roadway facility incapable of additional future increases in peak period vehicular capacity. Other parallel state highway corridors must be expanded if additional growth is to be accommodated. This includes both SR 522 and I-90.

Redmond is aware that one of the impacts of rural growth will be increased travel into Redmond that is destined for local shopping, recreation and employment areas. While not all would agree that the City should serve as a shopping destination for rural areas, this is one effect of development in these areas and roadways and other services will be required to respond to the associated travel demand.
8. Regional Transportation

Redmond also has accepted a role as the location for some additional employment growth, which again implies transportation demand from rural residential development. Given these impacts, it is important that Redmond support communities to the east in helping identify new and innovative funding to increase the levels of transit service from these areas into Redmond. These needs have been explicitly addressed in Chapter 5.

High Capacity Transit Network

Redmond advocates early development of a High Capacity Network (HCT) linking the Eastside centers and activity areas and connecting them with regional centers throughout the Puget Sound Region.

Redmond also believes that there should be an immediate and ongoing improvement in Eastside regional bus transit services provided through Sound Transit, both to meet current travel demand and also to build transit patronage in preparation for HCT.

This Transportation Master Plan anticipates that a direct HCT connection into Redmond will be under construction within the 2022 horizon of this Plan and will be in service by the end of that period. The City does not believe that continued regional growth can be accommodated on the Eastside beyond levels anticipated by 2022 without at least the key spine corridors of HCT being in place.

Redmond believes that the long-term development of HCT in the Region will require crossings of Lake Washington in both the SR 520 and I-90 corridors. It is imperative that any major changes or improvements to bridge crossings in either corridor must fully anticipate and provide for HCT development.

Redmond will work to support HCT development in both corridors.

Recognizing that HCT may initially connect the Eastside with Seattle through the I-90 corridor, Redmond has anticipated how that spine corridor will have to be located to adequately serve Bellevue and Redmond, as well as other Eastside needs.

The principal requirements in this respect are:

- The first HCT spine on the Eastside may come across Lake Washington in the I-90 corridor and connect into Downtown Bellevue. However, the extension of that corridor into Downtown Redmond with a station at Overlake will be as important for regional travel as the connection across the lake into Seattle.
- One potential corridor for HCT connecting Downtown Bellevue and Downtown Redmond is Bel-Red Road. However, HCT must connect directly into Overlake, ideally at the existing NE 40th Street transit center. From that point on, HCT should use the SR 520 corridor. Further, if the development of HCT is located in part through the Bel-Red Road corridor, this must not detract from the regional functionality of this route. The number of local stops must be limited and travel times must be kept short if HCT is to compete effectively with auto travel.
- The City is planning for four primary HCT stations in Redmond: one in the vicinity of 152nd Avenue NE to serve the Overlake Mixed Use Core; one at NE 40th Street, serving Microsoft and other portions of Overlake; one in the Downtown serving its employees, residents, and destinations; and one farther east in SE Redmond to intercept commuters with a major park and ride and multimodal facility. Redmond also anticipates that the most easterly of these stations may also be associated with a nearby maintenance facility.
- Ultimately, over the long term, a north-south HCT corridor linking Issaquah, Redmond and Woodinville will also be needed and should be included in Sound Transit plan development.

With these concepts and principles as a guide, Redmond will work with its neighboring cities and other regional partners to advance the development of the Sound Move Long-Range Plan and Sound Transit Phase II and other similar initiatives.

Redmond recognizes its responsibility to take the lead in planning the transportation facilities and associated land development patterns required for all the HCT stations in Redmond. This may include identifying and protecting rights of way for an HCT corridor and space for station locations.

The City has initiated a planning effort for an HCT station and associated transit-oriented development in Downtown Redmond and an intercept station east of Downtown Redmond. This study, to be completed in 2005, will assess the best corridor for HCT in this area and the resulting best location for the HCT stations.

Redmond is also committed to working closely with Sound Transit as it continues to develop its plans for near-term and long-range HCT improvements.
Metro Transit Services

This Transportation Master Plan places significant reliance on continued growth and improvement in King County Metro transit services. This is not directly within Redmond’s ability to control or direct, but will require cooperation and collaboration between Redmond, Metro and other Eastside cities.

Over the life of this Plan (by 2022) transit demand to, from and through Redmond is expected to grow by at least 80% above 2003 levels. Some of the key service improvements needed to respond to this demand are:

- Better frequency of service to Redmond’s centers (Downtown and Overlake);
- More direct, less circuitous routes, especially for those routes connecting Eastside centers;
- More direct and frequent internal service between locations within Redmond; and,
- More efficient service design, with less bus time in non-productive lengthy layovers.

These enhancements are described in more detail in Chapters 4, 5 and 7.

Redmond is committed to helping Metro make these improvements. The City has been active in helping to plan and implement the TOD (transit-oriented development) project at the Downtown Park and Ride. This important project should be completed and placed in service as soon as possible.

Redmond also sees a need for improved transit operations in the Overlake core, especially along NE 24th Street, which is a primary commercial street in that area and is not as well-served by local transit routes today as it should be in the future.

Bicycle System

This Transportation Master Plan includes a complete network of long, continuous bicycle corridors (described in Chapter 5). These are important to internal circulation and access within Redmond.

These corridors also will be important for regional bicycling. Some of the key facilities in this respect are:

- Puget Power Trail;
- East Lake Sammamish Trail;
- 520 Corridor Pathway; and,
- Sammamish River Trail.

The City will work with its sister cities and other regional partners to ensure that the Redmond bicycle network is accessible and well-connected to regional facilities and local facilities in neighboring communities.

Other Topics

Redmond will work with its regional partners on a wide range of issues and opportunities, not all of which are fully described in this chapter. Some other key processes and issues include:

- Continuing coordination and cooperation with the City of Bellevue on issues of mutual interest, including Overlake and continuing elements of the BROTS agreement;
- Continued participation in and support to the Eastside Transportation Partnership;
- Continued collaboration with Bellevue and Kirkland and PSRC on development and maintenance of the BKR traffic forecasting model (which was used extensively in development of this Transportation Master Plan);
- Continued coordination with the Puget Sound Regional Council on MPO (Metropolitan Planning Organization) business and on other initiatives as well (including the Prosperity Partnership);
- Continued coordination and collaboration with other Eastside governments on transportation funding initiatives; and,
- Participation in the PSRC’s ongoing research and development regarding transportation pricing.
- Coordinate with the City of Woodinville and King County on the future Willows Road extension.
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9. Three-Year Priority Action Plan
### Introduction

Implementation of this Transportation Master Plan will require a focused effort by the City’s Public Works and Planning Departments, with implications for City Council and Planning Commission decision-making. The purpose of this chapter is to identify, and set a schedule for, high-priority implementation actions.

The TMP is designed to have a useful life of four to five years (before requiring update). For this timing to succeed, key implementation steps required by the Plan should be initiated within three years of adoption. The list of action items and the schedule provided below will be monitored as part of the Mobility Report Card system described in Chapter 7.

### Action Plan Categories

The Transportation Master Plan provides a systematic work plan and guide for the City’s Public Works and Planning Departments to follow in the years after adoption of the Plan. It will be important that the steps required for implementation be clearly identified so that their implications for staffing, workload and budget can be anticipated.

Five categories of priority actions are covered below. They include:
1. Ordinances and Council Actions
2. Studies and Plans
3. Project Development
4. Major Construction Projects
5. Projects by Others

### Ordinances and Council Actions

A number of updates and revisions to ordinances and other City Council actions will follow from adoption of this TMP. These include:

- **TMP Adoption.** This Transportation Master Plan will be formally adopted by City Council and portions of the Plan.

- **Concurrency Management.** The City’s concurrency management provisions will be updated to implement the plan-based approach to transportation concurrency described in Chapter 4.
9. THREE-YEAR PRIORITY ACTION PLAN

c. Impact Fee Ordinance Update. The City’s funding system for transportation will be updated to reflect this TMP with the included Transportation Facilities Plan (Chapter 6). As part of this, the City’s impact fee schedule for transportation will be revised and updated. This will follow completion of the Impact Fee Update Study listed under “Studies” below.

d. Business Tax Extension. The Transportation Facilities Plan (Chapter 6) of this TMP assumes continuation of the Business Transportation Tax in the revenue forecasts. This will require future extensions of the Tax by City Council.

Studies and Plans

Some of the implementation actions that will follow from this TMP require additional technical work by staff and, in some cases, consultants. These include:

a. Downtown HCT Corridor/Station. The purpose of this planning study is to identify a preferred alignment and station locations for future HCT in the vicinity of Downtown Redmond. The results from this work will enable the City to:
   - Complete other elements called for in the TMP;
   - Coordinate with the Washington State DOT on the Nickel Project to widen SR-520; and,
   - Provide input to the Sound Transit Phase 2.

b. Transportation Funding and Impact Fee Update. The City’s funding system for transportation should be updated to reflect the Transportation Facilities Plan (Chapter 6). It is a finding of this TMP that the City’s impact fee schedule for transportation requires revision and updating to reflect changes to the TFP. In addition, the appropriate level of impact fee contribution for ensuring plan-based concurrency needs to be examined. Impact fees are only one of many funding sources and represent a significant portion of what “growth pays for growth” in regards to mitigation of transportation impacts from development. Any changes to the level of impact fee assessments also need to be studied in the context of updating the overall transportation funding system.

c. Overlake Center Study. As part of an Overlake Center study, the City will evaluate the Overlake transportation network. The Study will assess what transportation facilities will be required to support a mixed use development pattern, including:
   - The street network, including how to provide for internal circulation and access to current and future retail businesses in the Center;
   - The pedestrian environment, including the exact boundaries of the Pedestrian District called for in Chapter 5 and priorities for achieving minimum “pedestrian place” and “pedestrian supportive” characteristics;
   - Future transit service and operation characteristics (in cooperation with Sound Transit and Metro), including a station on the future regional High Capacity Transit network; and,
   - Parking management strategies, including shared parking, transit access parking for a future HCT station, opportunities for on-street parking, the potential for paid public parking, and updated enforcement systems.

d. Adequate Maintenance. One of the outcomes of this TMP is a determination that the City should define “adequate” (minimum) maintenance, repair and rehabilitation levels required to protect the public investment in transportation infrastructure and to ensure acceptable system performance based on public needs and expectations. This study will develop standards and monitoring techniques for:
   - Bridges (structure and deck);
   - Pavement structure;
   - Sidewalks, walkways, trails;
   - Bus stops; and,
   - Routine maintenance (potholes, etc.).

e. Street Design Standards. The City will update its street design standards to conform to Chapter 5. Updated standards will cover:
   - The revised functional classification system including the Connector street classification;
   - Cross section and right of way standards;
   - Separate standards for Multimodal Corridors (arterial and collector streets);
   - A “way-finding” system for those who walk, bicycle, and use public transit;
   - Pedestrian realm and street crossings;
   - Bicycle facilities - all types; and,
   - Transit access facilities (bus stops, etc.).

f. Targeted Safety Program. The City will implement the monitoring and reporting provisions of Chapter 7 for accident data analysis and safety prioritization. This will require analysis of the accident data reporting system; a review of trends and safety issues; and, a prioritization system for the $8.1 million Safety Program included in the Transportation Facilities Plan (Chapter 6).

g. Union Hill/Novelty Hill Roadways. The City will undertake an analysis of overall connection needs between planned growth east of Redmond and the SR 520 Freeway. The analysis will include the area
bounded on the north by NE 133rd St., on the south by SR 202, and on the west by Avondale Way. On the east the study will extend as far into rural King County as necessary to provide a thorough evaluation. The study will consider forecasted future growth patterns and will identify future roadway connections or expansion of existing roadways to serve this growth, implementing the functional classification provisions of Chapter 5 (including the Connector Street classification), and taking into account access needs associated with future high capacity transit station locations. The study will also address how to better facilitate the circulation of and provide priority treatment for non-SOV modes.

h. **Local Transit Service Study.** Perform a detailed examination of the needs, opportunities and feasibility of various local transit options. The study will also examine how best to serve Redmond’s neighborhoods and activity centers, as well as connect local transit into the regional transit system.

i. **TDM Plans.** The City will undertake several initiatives to help mainstream TDM as part of its transportation solutions. These include:
   - Identifying strategies, mechanisms and implementation plans to close the gap in getting people to and from multimodal corridors to help maximize the use of core transit infrastructure;
   - Identifying and implementing ways to coordinate and integrate TDM with transportation infrastructure planning and implementation, including construction.
   - Undertaking an analysis to evaluate the role, availability and efficient use of on-street parking needs to ensure consistency with the City’s mobility goals.

j. **Freight and Goods Activity Study.** Undertake a study that identifies issues, types, and the needs of freight and goods movement in Redmond. This study should address how the current and future transportation facilities are affected.

k. **Assessment of Redmond’s north-south corridors and Willows Rd north.**

### Project Development

Before projects can be built they must be designed. The design process normally involves a preliminary engineering step and a final design step. Right-of-way mapping may be required, and in some instances special environmental studies may be needed. The major projects scheduled in the City’s CIP will have budget and workload implications for the City in the years prior to actual groundbreaking.

The projects for which the City will undertake project development during this three-year period include:

- a. Bear Creek Parkway Extension;
- b. 164th Extension Across RR R/W;
- c. Design conversion of One-Way Couplet to Two-Way operation;
- d. 85th 4-Lane to 3-Lane Conversion;
- e. 164th 4-Lane to 3-Lane Conversion;
- f. West Lake Sammamish Parkway;
- g. Union Hill Rd. (178th to Avondale);
- h. Red-Wood Road (Preliminary Design);
- i. BNSF Corridor; and,
- j. 172nd Extension.

### Major Construction Projects

During the next three years the City will initiate construction activities on the following projects:

- a. SR 520 Bikeway Connection to Sammamish River Regional Trail;
- b. 156th Ave NE Sidewalk Improvements from NE 59th St to NE 61st St;
- c. Union Hill Rd Ph II from Avondale Rd to 178th Pl NE;
- d. NE 116th St Phase I;
- e. Redmond Way/NE 76th St Intersection Modifications;
- f. East Lake Sammamish Pkwy Intersections
- g. NE 83rd St -- 160th Ave NE to 161st Ave NE;
- h. Old Redmond Rd -- 132nd Ave NE to 140th Ave NE;
- i. Redmond Intelligent Transportation System Phase I (Overlake);
- j. Redmond Intelligent Transportation System Phase II (Redmond Way);
Projects by Others

Priority projects which will be developed by others, but which will require significant City involvement during this three-year period will include:

a. 185th Ave NE Extension (Developer);

b. Redmond Way (SR 202) Additional Lanes (WsDOT);

c. SR 520 Widening from West Lake Sammamish Parkway to SR 202 (WsDOT);

d. NE 116th St Bridge Replacement - York Bridge (King County); and,

e. Downtown Redmond Transit Center (King County).

Action Items for 2010 TMP Update

This 2005 Transportation Master Plan is the first TMP developed by the City and will be updated every five years. The next update will be scheduled for approval prior to 2010. This section identifies particular issues that will need to be considered as part of the next TMP update.

a. Evaluation of how the TMP is working.

b. Transportation system management, including priorities and resource needs.

c. Parking management.

d. Develop a bicycle system typology similar to the hierarchy of pedestrian environments.

e. Study the appropriate financial resources by mode for adequacy of meeting the plan requirements.

f. Incorporate results of more detailed local and regional transit planning efforts.

g. Perform additional analysis when developing the financial forecasts.
### 9. THREE-YEAR PRIORITY ACTION PLAN

**Action Plan Schedule Summary and Timetable**

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<tr>
<th>Year of Project Initiation</th>
<th>2005</th>
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<th>2007</th>
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<td>Business Tax Extension</td>
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<td>Impact Fee Ordinance Update</td>
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<td><strong>2. STUDIES AND PLANS</strong></td>
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<td>Downtown HCT Corridor/Station</td>
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<td>Transportation Funding and Impact Fee Update</td>
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<td>2.c</td>
<td>Overlake Plan</td>
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<td>Adequate Maintenance</td>
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<td>Street Design Standards</td>
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<td>North South Study - Willows North</td>
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*Figure 9.1 Action Plan Schedule Summary and Timetable*
9. THREE-YEAR PRIORITY ACTION PLAN

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<td>SR 520 Bikeway Connection to Sammamish River Regional Trail</td>
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<td>Redmond Way/NE 76th St Intersection Modifications</td>
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<tr>
<td>4.f</td>
<td></td>
<td></td>
<td>East Lake Sammamish Pkwy Intersection Improvements</td>
</tr>
<tr>
<td>4.g</td>
<td>NE 83rd St Improvements from 160th Ave NE to 161st Ave NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.h</td>
<td></td>
<td></td>
<td>Old Redmond Rd Improvements from 132nd Ave NE to 140th Ave NE</td>
</tr>
<tr>
<td>4.i</td>
<td>Redmond Intelligent Transportation System Phase I (Overlake)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.j</td>
<td></td>
<td></td>
<td>Redmond Intelligent Transportation System Phase II (Redmond Way)</td>
</tr>
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<td>4.k</td>
<td></td>
<td></td>
<td>NE 85th St Re-channelization from 156th Ave NE to 164th Ave NE</td>
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<tr>
<td>4.l</td>
<td></td>
<td></td>
<td>164th Ave NE Re-channelization from NE 80th St to NE 87th St</td>
</tr>
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</table>

*Figure 9.1 Action Plan Schedule Summary and Timetable, continued*
### 9. THREE-YEAR PRIORITY ACTION PLAN

<table>
<thead>
<tr>
<th>Year of Project Initiation</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
<td>5. PROJECTS BY OTHERS</td>
<td></td>
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</tr>
<tr>
<td>5.a 185th Ave NE Extension*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.b Redmd Wy (SR 202) Add Lanes*</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5.c SR 520 Widening*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.d NE 116th (York) Bridge Replace*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.e Downtown Transit Center*</td>
<td></td>
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</tbody>
</table>

*Figure 9.1 Action Plan Schedule Summary and Timetable, continued*
<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
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</thead>
<tbody>
<tr>
<td>RED-OV-008a</td>
<td>148th Avenue NE and NE 40th Street</td>
<td>Widen intersection to add northbound transit queue bypass lane.</td>
<td>AI</td>
</tr>
<tr>
<td>RED-OV-008c</td>
<td>148th Avenue NE and Old Redmond Road</td>
<td>Widen intersection to add southbound transit queue bypass lane.</td>
<td>AJ</td>
</tr>
<tr>
<td>RED-OV-008g</td>
<td>148th Avenue NE and NE 36th Street</td>
<td>Widen intersection to add northbound transit queue bypass lane.</td>
<td>AK</td>
</tr>
<tr>
<td>RED-OV-008h</td>
<td>148th Avenue NE and NE 31st Street</td>
<td>Widen intersection to add northbound transit queue bypass lane.</td>
<td>AL</td>
</tr>
<tr>
<td>RED-OV-020</td>
<td>NE 31st Street</td>
<td>Provide bicycle lanes along NE 31st Street from the new SR 520 overpass to 156th Avenue NE. Work with Microsoft to provide nonmotorized access and wayfinding from 156th Avenue NE to the NE 30th Street/Bel-Red Road intersection. Access could be provided using an off-street multi-use trail or sidewalks and bicycle lanes.</td>
<td>45</td>
</tr>
<tr>
<td>RED-OV-024</td>
<td>148th Avenue NE Multi-use Trail</td>
<td>Provide a wide (12-feet) multi-use trail on the east side of 148th Avenue NE from NE 36th Street to Bridal Crest Trail (NE 60th St). This trail can expand upon the existing sidewalk to accommodate both pedestrians and bicyclists.</td>
<td>60</td>
</tr>
<tr>
<td>RED-OV-065b</td>
<td>152nd Avenue NE, South</td>
<td>Implement a multi-modal pedestrian corridor concept on 152nd Avenue NE from NE 20th Street to NE 24th Street to create a lively and active signature street in the Overlake Village. Pending the results of the 152nd Ave NE Corridor Study, the proposed cross section for the improvements would include 1 through lane in each direction, left turn lanes, planted medians, bike lanes, parking, pedestrian supportive sidewalks, street lights, pedestrian amenities, storm drainage, right-of-way and easements.</td>
<td>62</td>
</tr>
<tr>
<td>RED-OV-071</td>
<td>NE 40th Street and SR 520 Interchange</td>
<td>With the eventual construction of the replacement SR 520 floating bridge the HOV lanes will be moved to the inside along all of SR 520. In order for transit to take full advantage of the HOV lanes construct HOV direct access ramps from the center HOV lanes to NE 40th St and provide transit stops on the ramps with improved nonmotorized access to the NE 40th St Transit Center.</td>
<td>AM</td>
</tr>
<tr>
<td>RED-OV-086</td>
<td>Redmond Way and 148th Avenue NE</td>
<td>Widen intersection to separate the northbound share through and left turn lane to have dual left turn lanes and two through lanes to improve traffic flow.</td>
<td>AN</td>
</tr>
</tbody>
</table>
### Figure A1.1 Buildout TFP Project List

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED-OV-088</td>
<td>Bel-Red Road and 148th Avenue NE</td>
<td>Work with the City of Bellevue to add additional capacity in the vicinity of this intersection. Dependent on the findings of the 148th Avenue NE Corridor Master Plan this would be accomplished by creating eastbound and westbound dual left turn lanes at Bel-Red Road and 148th Avenue NE, adding a third northbound through lane on 148th Avenue NE starting south of Bel-Red Road and adding a northbound right-turn lane at Bel-Red Road and 148th Avenue NE.</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-OV-096.2</td>
<td>SR 520 Slip-Ramp at 148th Avenue NE</td>
<td>Construct eastbound slip ramp from SR 520 to 152nd Ave NE at 148th Ave NE. Slip ramp would diverge from eastbound 148th Ave NE off-ramp and intersect 152nd Ave NE at roughly NE 30th St. The ramp would include 1 general purpose lane and HOV/Transit treatments as applicable.</td>
<td>61</td>
</tr>
<tr>
<td>RED-OV-097</td>
<td>SR 520 Trail at 148th Avenue NE</td>
<td>Grade separate SR 520 Trail at 148th Avenue NE.</td>
<td>AO</td>
</tr>
<tr>
<td>RED-TFP-037c</td>
<td>Willows Road</td>
<td>Widen Willows Rd from NE 116th St to NE 124th St. Improvements include 2 through lanes in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>25</td>
</tr>
<tr>
<td>RED-TFP-045b</td>
<td>West Lake Sammamish Parkway</td>
<td>Widen West Lake Samm Pkwy from NE 51st St to Bel-Red Rd. Improvements include 2 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power, right-of-way and extending the multi-use path on the east side of West Lake Sammamish Parkway.</td>
<td>26</td>
</tr>
<tr>
<td>RED-TFP-050b</td>
<td>Bear Creek Parkway</td>
<td>Widen Bear Creek Parkway from Leary Way to BNSF railroad tracks. Improvements include 2 through lanes in each direction, left turn lanes, curb, gutter, sidewalks, street lights and storm drainage.</td>
<td>51</td>
</tr>
<tr>
<td>RED-TFP-071</td>
<td>168th Avenue NE</td>
<td>Widen 168th Ave NE from NE 80th St to Redmond Way. Improvements include 1 through lane in each direction, left turn lanes, parking, curb, gutter, sidewalks, street lights, storm drainage and underground power.</td>
<td>28</td>
</tr>
<tr>
<td>RED-TFP-072b</td>
<td>Red-Wood Road</td>
<td>Widen Red-Wood Rd from intersection with new 160th Ave NE Extension near the Puget Power trail north to NE 124th St. Improvements include 1 through lane in each direction, left turn and extended right turn lanes if appropriate, access management, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power and right-of-way acquisition.</td>
<td>29</td>
</tr>
</tbody>
</table>
Table A1.1 Buildout TFP Project List

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED-TFP-073</td>
<td>East Lake Sammamish Parkway</td>
<td>Widen East Lake Sammamish Pkwy from Redmond Way to 187th Ave NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power, and right-of-way.</td>
<td>30</td>
</tr>
<tr>
<td>RED-TFP-077</td>
<td>NE 79th Street</td>
<td>Widen NE 79th St from Redmond Way to Avondale Way. Improvements include 1 through lane in each direction, left turn lanes, parking, curb, gutter, sidewalks, street lights, storm drainage and underground power.</td>
<td>31</td>
</tr>
<tr>
<td>RED-TFP-080</td>
<td>Bel-Red Road</td>
<td>Widen Bel-Red Rd from NE 30th St to NE 40th Street. Improvements include 2 through lanes in each direction, left turn lanes, curb, gutter, bike lanes, sidewalks, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>32</td>
</tr>
<tr>
<td>RED-TFP-807-07</td>
<td>Union Hill Road at 178th Place NE</td>
<td>Intersection modification. Add 2nd NB left turn lane on 178th Place NE.</td>
<td>AA</td>
</tr>
<tr>
<td>RED-TMP-003</td>
<td>168th Ave NE</td>
<td>Construct new 168th Ave NE from NE 76th St to NE 79th St. Improvements include 1 through lane in each direction, parking, sidewalks, street lights, storm drainage, right-of-way and easement acquisition.</td>
<td>34</td>
</tr>
<tr>
<td>RED-TMP-008</td>
<td>Leary Way</td>
<td>Reconfigure Leary Way Sammamish River Bridge and widen street from West Lake Sammamish Pkwy to 159th PI NE. Improvements would include to 2 through lanes in each direction, left turn lanes, lighting, pedestrian bridge on south side and right of way.</td>
<td>35</td>
</tr>
<tr>
<td>RED-TMP-012</td>
<td>170th Pl NE (Bear Creek Parkway Extension, east)</td>
<td>Widen and reroute 170th Pl NE from Redmond Way to Avondale Way. Improvements would include 2 through lanes in each direction, left turn lanes, street lights, storm drainage, right-of-way and easements.</td>
<td>36</td>
</tr>
<tr>
<td>RED-TMP-022</td>
<td>NE 76th St</td>
<td>Widen NE 76th St from Redmond Way to northbound Avondale Rd on-ramp. Improvements include 2 lanes in each direction, bike lanes, curb, gutter, sidewalk, street lights and storm drainage.</td>
<td>37</td>
</tr>
<tr>
<td>RED-TMP-023</td>
<td>SR 520 Bicycle/Pedestrian Bridge, Redmond Town Center to Marymoor Park</td>
<td>Construct nonmotorized bridge from Bear Creek Trail and Redmond Town Center to Marymoor Park.</td>
<td>38</td>
</tr>
<tr>
<td>RED-TMP-024</td>
<td>Avondale Rd</td>
<td>Construct HOV treatments such as queue jumps and signal priority from Union Hill Rd to Novelty Hill Rd.</td>
<td>39</td>
</tr>
<tr>
<td>RED-TMP-025</td>
<td>Union Hill Rd</td>
<td>Construct HOV treatments from SR 520 to 178th Ave NE.</td>
<td>40</td>
</tr>
<tr>
<td>RED-TMP-026</td>
<td>Redmond Way</td>
<td>Construct HOV treatments from SR 520 to East Lake Sammamish Pkwy.</td>
<td>41</td>
</tr>
</tbody>
</table>
## A1. BUILDOUT TRANSPORTATION PLAN

**Figure A1.1 Buildout TFP Project List**

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Location</th>
<th>Description</th>
<th>TMP Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED-TMP-028</td>
<td>158th Ave NE</td>
<td>Construct new 158th Ave NE from Redmond Way to NE 83rd St. Improvements include 1 through lane in each direction, parking, sidewalks, street lights, pedestrian amenities, storm drainage, right-of-way and easements.</td>
<td>42</td>
</tr>
<tr>
<td>RED-TMP-030</td>
<td>150th Ave NE</td>
<td>Construct new 150th Ave NE from NE 51st St to 148th Ave NE. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, sidewalks, street lights, storm drainage, right-of-way and easements.</td>
<td>44</td>
</tr>
<tr>
<td>RED-TMP-032</td>
<td>187th Ave NE</td>
<td>Widen 187th Ave NE from East Lake Sammamish Pkwy to Redmond Way. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, street lights, storm drainage.</td>
<td>46</td>
</tr>
<tr>
<td>RED-TMP-033</td>
<td>Overlake Center</td>
<td>Construct new streets in Overlake Center vicinity. Improvements include 1 through lane in each direction, parking, sidewalks, street lights, pedestrian amenities, storm drainage, right-of-way and easement acquisition.</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-036</td>
<td>West Lake Sammamish Pkwy at Leary Way</td>
<td>Intersection modification. Add southbound double left, medians, and nonmotorized improvements, including grade-separated crossing for SR 520 Trail.</td>
<td>AC</td>
</tr>
<tr>
<td>RED-TMP-037</td>
<td>Southeast Redmond</td>
<td>Construct additional collector streets to serve area traffic and future high capacity transit station.</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-065</td>
<td>Willows Road</td>
<td>Widen Willows Rd from NE 90th St to NE 116th St. Improvements include 2 through lanes in each direction, center left turn lanes/medians, bike lanes, curb, gutter, sidewalks, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>49</td>
</tr>
<tr>
<td>RED-TMP-066</td>
<td>Redmond Way</td>
<td>Construct missing sidewalk segments and improve existing sidewalk along Redmond Way from 132nd Ave NE to West Lake Sammamish Way. Improvements include sidewalks, street lights, pedestrian amenities, right-of-way and easement acquisition.</td>
<td>n/a</td>
</tr>
<tr>
<td>RED-TMP-082</td>
<td>156th Avenue NE Multi-use Trail</td>
<td>Provide a wide (12-feet) multi-use trail on the east side of 156th Avenue NE from Bel-Red Road to NE 51st Street. This trail can expand upon the existing sidewalk to accommodate both pedestrians and bicyclists.</td>
<td>59</td>
</tr>
<tr>
<td>RED-TMP-083</td>
<td>Redmond Way and Cleveland Street</td>
<td>Complete improvements consistent with Downtown East-West Corridor Master Plan. Improvements would include widening Redmond Way to accommodate on-street parking on both sides, completing intersection improvements and sidewalk widening along both corridors, and realigning NE 79th and NE 80th Street connections to Redmond Way.</td>
<td>63</td>
</tr>
<tr>
<td>Project ID</td>
<td>Location</td>
<td>Description</td>
<td>TMP Code</td>
</tr>
<tr>
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<td>------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>RED-TMP-85a</td>
<td>NE 116th Street (West End)</td>
<td>Widen remaining sections of NE 116th St at west end of the corridor. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, equestrian trail, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>64</td>
</tr>
<tr>
<td>RED-TMP-85b</td>
<td>NE 116th Street (East End)</td>
<td>Widen remaining sections of NE 116th St at east end of the corridor. Improvements include 1 through lane in each direction, left turn lanes, bike lanes, curb, gutter, sidewalks, equestrian trail, street lights, storm drainage, underground power, right-of-way and easement acquisition.</td>
<td>65</td>
</tr>
</tbody>
</table>
Figure A1.2 Buildout TFP Project Map
A2. Glossary
Access: is the ability to get “in the door.” Access is about physically reaching — gaining access to — destinations. Access is the most important element of overall mobility for business. Good access is essential to the delivery of both customers and freight.

Arterial Street: a major thoroughfare, used primarily for through traffic rather than for access to abutting land, that is characterized by high vehicular capacity and continuity of movement.

Average Daily Traffic (ADT): The total traffic volume during a given period (from 1 to 364 days) divided by the number of days in that period. Current ADT volumes can be determined by continuous traffic counts or periodic counts. Where only periodic traffic counts are taken, ADT volume can be established by applying correction factors such as for season or day of week. For roadways having traffic in two directions, the ADT includes traffic in both directions unless specified otherwise.

Average Weekday Daily Traffic (AWDT): The total traffic for an average weekday. An average weekday is a representative weekday computed as the mathematical average of several typical weekdays selected at random throughout the year.

Backbone Trails: large-scale regional facilities that link the city with surrounding jurisdictions.

Capacity: the ability of a transportation system to meet a wide range of mobility needs. The Redmond TMP reaches beyond traditional interpretations that only include roadway volumes as a measure of capacity.

Circulation: is the ability to move about within an area, connecting different localized land uses. Density and efficiency of local transportation networks affect circulation.

Collector-distributor street (collector road): a street that gathers and disperses traffic between larger arterial highways and smaller streets. It has intersections at grade and provides access to abutting properties.

Collector Trails: medium-scale facilities, typically within City street rights-of-way, that provide connections to the backbone trails.

Commute Trip Reduction (CTR): State Clean Air Act, enacted to reduce traffic congestion, air pollution and fuel consumption by reducing vehicle trips.

Connectivity: the ability of a public transportation network to provide service to the maximum number of origin-and-destination trip pairs through the optimal integration of routes, schedules, fare structures, information systems, and modal transfer facilities.

Corridor: in planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.

Curb Extensions (bulbouts, neckdowns, flares, or chokers): reduce pedestrian crossing distance and improve the visibility of pedestrians to motorists and vice versa.

Destination 2030: a transportation action plan for the next 30 years of growth in King, Pierce, Snohomish and Kitsap counties, the central Puget Sound region of Washington state. The plan addresses traffic congestion and making it easier to move between home and work, school, shopping, and recreation.
High-Capacity Transit (HCT): refers to a transit system that carries large numbers of people faster and more frequently than a basic, conventional local transit system. To do this, the type of transit used in the system (express buses, rail or both) usually need to run in their own rights-of-way, separated from general traffic (and general traffic jams).

Infrastructure: (1) in transit systems, all the fixed components of the transit system, such as rights-of-way, tracks, signal equipment, stations, park-and-ride lots, bus stops, maintenance facilities. (2) in transportation planning, all the relevant elements of the environment in which transportation system operates.

Local Access Street: a street that provides access for pedestrians and vehicles to properties that front on it but is not intended for though traffic.

Local Connections: connects residential neighborhoods and individual destinations into the citywide system.

Medians (center refuge islands): at intersections and/or midblock locations provide a waiting area for pedestrians, and eliminate the need for pedestrians to cross both directions of traffic at once, thus turning a two-way street into two one-way streets for pedestrians.

Mobility: is the ability to travel over distances. Mobility has to do with the interaction between people and regional geography.

Mode Split: function of relative utility of modes, which depends on travel time (using trip interchange or disaggregate models).

Multimodal: in planning, it reflects consideration of more than one mode to serve transportation needs in a given area. Accommodating various modes of surface transportation including bicycles, pedestrians, transit vehicles, ferries, trains and personal vehicles.

Multimodal Overlay: a planning tool used to define corridors where the City can be smarter about making capital investments.

Multi-Use/ Hiking and/or Neighborhood Linkages: small-scale pedestrian connections that link neighborhoods with each other and with longer collector and backbone trails.

Non-Motorized Transportation Network Components - Class I - Bicycle Paths: bicycle facilities that are physically separated from motorized traffic.

Non-Motorized Transportation Network Components - Class II - Bicycle Lanes: portions of a roadway identified by striping, signing and pavement marking for preferential use by bicyclists.

Non-Motorized Transportation Network Components - Class III - Shared Roadways: streets shared by bicycles and motor vehicles that have either: wide curb lanes, paved shoulders low traffic volumes and speeds. (May or may not have Bike Route signs).

Pedestrian Intolerant environments: lack pedestrians, either due to a lack of pedestrian accommodations and/or dominance by automobile traffic and auto-oriented land uses.
Pedestrian Places: the actual ongoing presence of significant numbers of people. People moving about between multiple activities -- typically at least three highly identifiable areas such as outdoor seating, a water feature, and pedestrian-oriented shopping.

Pedestrian Supportive environments: safe environments for walking, where sidewalks are continuous and buffered from streets, wide enough for passing and walking side by side, and where good street crossings have been provided. Land uses are either dense enough to both generate and attract utilitarian walking trips of reasonably short lengths (half mile or less).

Pedestrian Tolerant environments: areas and corridors where walking is technically safe (there are continuous sidewalks and some kind of reasonably safe street crossings), but the land use patterns are such that little walking activity is likely to be generated. These include arterial street corridors, remote or rural streets and certain light industrial or warehousing areas.

Primary Bicycling Corridors: allows bicyclists barrier-free travel for distances of 2.5 miles or more.

Primary Corridors: allow bicyclists barrier-free travel for distances of 2.5 miles or more.

PSRC (Puget Sound Regional Council): an association of cities, towns, counties, ports and state agencies that serves as a forum for developing policies and making decisions about regional growth management, economic and transportation issues in the four-county central Puget Sound region. The Council provides creative, pragmatic regional planning and research to address current issues, and to explore future needs and options that could benefit the region.

Secondary Bicycling Corridors: connects into the primary system to provide greater access into all parts of the community; typically for distances at least 1 mile in length.

Secondary Corridors: connect into the primary bicycle system to provide greater access to and from all neighborhoods. (Distance typically at least one mile in length.)

Slip lanes (right-turn channelization lanes): allow right-turning motor vehicles to proceed without stopping and, generally, at a higher speed than if they had to make a 90-degree right turn.

Sound Move: the regional transit system will be the tie that binds the region together, connecting the communities of the Central Puget Sound region in a way that supports local land-use plans, joins economic centers and expands local transit services.

Thoroughfare: a public road from one place to another.

Time competitive: trips that are possible today, but require multiple uncoordinated time transfers.

Transportation Demand Management (TDM): improve mobility by offering alternatives to single occupant vehicle (SOV) travel. Tool used to achieve mode split goals established in Comprehensive Plan, build transit ridership, support pedestrian and bicycle systems, and manage parking.
A2. GLOSSARY

Travel Mode Share: how people travel within a city by different types of transportation modes.
A3. List of Acronyms
## List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASHTO</td>
<td>American Association of State Highway and Transportation Officials</td>
</tr>
<tr>
<td>ADT</td>
<td>Average Daily Traffic</td>
</tr>
<tr>
<td>AWDT</td>
<td>Average Weekday Daily Traffic</td>
</tr>
<tr>
<td>BKR</td>
<td>Bellevue Kirkland Redmond Traffic Model</td>
</tr>
<tr>
<td>BNSF</td>
<td>Burlington Northern Santa Fe Railway</td>
</tr>
<tr>
<td>BROTS</td>
<td>Bellevue Redmond Overlake Transportation Study</td>
</tr>
<tr>
<td>CIP</td>
<td>Capital Investment Program</td>
</tr>
<tr>
<td>CTR</td>
<td>Commute Trip Reduction</td>
</tr>
<tr>
<td>ETP</td>
<td>Eastside Transportation Partnership</td>
</tr>
<tr>
<td>FGT</td>
<td>Fixed Guideway Transit</td>
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<tr>
<td>GMA</td>
<td>Growth Management Act</td>
</tr>
<tr>
<td>HCT</td>
<td>High Capacity Transit</td>
</tr>
<tr>
<td>HOV</td>
<td>High Occupancy Vehicle</td>
</tr>
<tr>
<td>JTW</td>
<td>Journey to Work</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of Service</td>
</tr>
<tr>
<td>LUTAQH</td>
<td>Land Use Transportation Air Quality Health Study</td>
</tr>
<tr>
<td>MUTCD</td>
<td>Manual on Uniform Traffic Control Devices</td>
</tr>
<tr>
<td>NHTS</td>
<td>National Household Travel Survey</td>
</tr>
<tr>
<td>PRO</td>
<td>Parks, Recreation and Open Space Plan</td>
</tr>
<tr>
<td>PSRC</td>
<td>Pugit Sound Regional Council</td>
</tr>
<tr>
<td>SOV</td>
<td>Single Occupancy Vehicle</td>
</tr>
<tr>
<td>TDM</td>
<td>Transportation Demand Management</td>
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<tr>
<td>TFP</td>
<td>Transportation Facilities Plan</td>
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<tr>
<td>TIB</td>
<td>Transportation Improvement Bond</td>
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<td>TIP</td>
<td>Transportation Improvement Program</td>
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<td>TMA</td>
<td>Transportation Management Association</td>
</tr>
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<td>Transportation Management Districts</td>
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<td>TMP</td>
<td>Transportation Master Plan</td>
</tr>
<tr>
<td>TOD</td>
<td>Transit Oriented Development</td>
</tr>
<tr>
<td>V/C</td>
<td>Volume to Capacity Ratio</td>
</tr>
<tr>
<td>WsDOT</td>
<td>Washington Department of Transportation</td>
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</tbody>
</table>

*Figure A3.1 List of Acronyms*
A3. LIST OF ACRONYMS

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