Transportation Master Plan

City of Redmond

August 2013

City of Redmond
WASHINGTON

Creating Choice. Connecting Community.

This page left
intentionally blank.

Table of Contents

Chapter 1: Introduction 1

Chapter 2: Trends and Conditions 13

Chapter 3: Performance Measurement 33

Chapter 4: The Multimodal Transportation System Plans 47

- **Chapter 4.1:** Street System Plan 57
- **Chapter 4.2:** Transit System Plan 65
- **Chapter 4.3:** Pedestrian System Plan 79
- **Chapter 4.4:** Bicycle System Plan 87
- **Chapter 4.5:** Freight Access and Distribution 95
- **Chapter 4.6:** Parking Plan 99
- **Chapter 4.7:** Transportation Demand Management 107

Chapter 5: Regional Transportation 113

Chapter 6: Maintenance and Operations 127

Chapter 7: 2013 to 2030 Transportation Facilities Plan 133

Chapter 8: Three–Year Action Plan 153

Appendix A: Public Engagement 161

Appendix B: Supplementary Performance Measures 163

Appendix C: Concurrency Management and Level of Service 167

Appendix D: Street Classification System 173

Appendis E: The Unfunded Buildout Plan 183

Appendix F: Design Guidance 215

Appendix G: Transportation Facilities Plan Programs 229

Appendix H: Extended TFP Project Descriptions 257

Appendix I: Glossary and Acronyms 263

List of Tables

Table 1. Mode share for Redmond and the Puget Sound region 23

Table 2. Multimodal network completion in the 2005-2018 Transportation Facilities Plan 32

Table 3. Connectivity categories 35

Table 4. Guidance for developing modal corridors with multiple modal priorities 53

Table 5. Bicycling is one of the least costly forms of transportation 88

Table 6. Support for TMP strategies 114

Table 7. King County Metro Transit reports and plan updates, 2012-2015 121

Table 8. TFP revenue forecast 2013-2030 134

Table 9. Downtown TFP projects 138

Table 10. Overlake TFP projects 140

Table 11. Neighborhood TFP projects 145

Table 12. Citywide TFP programs 148

Table 13. V/C Ratios for highways of state significance in Redmond 171

Table 14. Principal arterial streets 178

Table 15. Minor arterial streets 179

Table 16. Collector arterial streets 180

Table 17. Connector streets 182

Table 18. Downtown projects 183

Table 19. Overlake projects 192

Table 20. Neighborhood projects 201

Table 21. Street design guidance 215

Table 22. Design guidance for high demand corridors 219

Table 23. Design guidance for both high and medium demand corridors 219

Table 24. Tier 1 High comfort bicycle facilities 221

Table 25. Tier 2 standard bicycle facilities 222

Table 26. Tier 3 bicycle facilities 223

Table 27. Intersection bicycle facilities 223

Table 28. Network connectivity 225

Table 29. Sidewalk design guidance 226

Table 30. Pedestrian crossing design guidance 228

List of Figures

Figure 1: Strategic framework 2
Figure 2. Population, employment, and dwellings in Redmond, 1980–2030 17
Figure 3. Population by age group in Redmond, King County, and Washington State 19
Figure 4. Average annual PM 2.5 at Bellevue NE 4th Street monitoring station 2010-2030 22
Figure 5. Projected trends for major automobile pollutants: 2010-2030 22
Figure 6. Mode split for daily household trips under one mile in Redmond. Forty percent are made on foot. 25
Figure 7. Redmond employee place of residence 25
Figure 8. Redmond vehicular volumes, employment, and population (actual) 26
Figure 9. Estimated PM peak vehicle miles traveled in Redmond 27
Figure 10. Public transit ridership in Redmond, 2003-2012 27
Figure 11. Per capita traffic injury rates in Redmond, King County, and surrounding Eastside communities 28
Figure 12. Collisions in Redmond: 2001–2010 28
Figure 13. Pedestrian- and bicycle-involved collisions in Redmond: 2001-2010 28
Figure 14. Preventative pavement maintenance results in substantial savings 29
Figure 15. Pavement management funding scenarios 30
Figure 16. The Bear Creek Parkway extension created an important new connection in Downtown 31
Figure 17. Connectivity levels in Downtown 36
Figure 18. Connectivity levels in Overlake Village 37
Figure 19. Transit ridership, 2005–2030 42
Figure 20. Ratio of mobility units of supply to mobility units of demand, 2009-2030 43
Figure 21. Available mobility units of supply as of January 1, 2013 43
Figure 22. Traffic-related injuries per 1,000 daytime population 45
Figure 23. PM 2.5 concentrations, 2005-2012 45
Figure 24. Road area without runoff treatment facilities, 2013 46
Figure 25. Average arterial pavement condition, 2003-2030 under current TFP funding proposal 48
Figure 26. Key connections between major destinations 49
Figure 27. Modal corridors 51
Figure 28. Modal corridors with multiple modal priorities 52
Figure 29. Southeast Redmond new street and trail connections 58
Figure 30. Automobile modal corridors 59
Figure 31. Functional classification for streets 61
Figure 32. Employment growth 65
Figure 33. Transit level of service standards 69
Figure 34. Designated transit corridors 71
Figure 35. Transit service coverage and frequency, 2012 75
Figure 36. Metro and Sound Transit routes, 2012 service levels 77
Figure 37. Transit destinations and connections, current service (spring 2012) 78
Figure 38. Connections help shorten travel distances 80
Figure 39. Pedestrian priority zones 81
Figure 40. Pedestrian-friendly crossings in Downtown Redmond 83
Figure 41. Cross section of the pedestrian realm 83
Figure 42. Walkability benefits of the NE 31st Court Trail 84
Figure 43. Spatial efficiency 88
Figure 44. Collision rates have decreased by 71 percent in New York City as commuter bicycling rates tripled. 89
Figure 45. A cycle track 89
Figure 46. Bicycle modal corridors 90
Figure 47. Bicycle system plan 94
Figure 48. Freight system plan 97
Figure 49. Redmond bridges 129
Figure 50. Relationship among the Buildout Plan, TFP, and Three-Year Action Plan 133
Figure 51. TFP revenue forecast, 2013-2030 135
Figure 52. TFP Investment by category 137
Figure 53. TFP project distribution by area 137
Figure 54. Downtown Transportation Facilities Plan projects 138
Figure 55. Overlake Transportation Facilities Plan projects 143
Figure 56. Neighborhood Transportation Facilities Plan projects 144
Figure 57. Funded portion of Buildout Plan 151
Figure 58. Major community events and outcome 161
Figure 59. Traffic count screenlines 163
Figure 60. Functional classifications for streets 177
Figure 61. Unfunded Buildout Plan – Downtown 184
Figure 62. Unfunded Buildout Plan – Overlake 191
Figure 63. Unfunded Buildout Plan – Neighborhoods 200
Figure 64. Roadway functional classification system 216
Figure 65. Transit system plan 218
Figure 66. Bicycle system map 220
Figure 67. Pedestrian priority zones 224