

2020
COMPREHENSIVE
PLAN

ADDENDUM

Chapter 1 PREFACE

ACKNOWLEDGMENTS

The Redmond Urban Area Comprehensive Plan is the product of hundreds of citizens from the private and public sector who participated in the Redmond Vision 2020 planning process. An advisory committee, the Vision 2020 Committee, representing a broad cross section of the community, was appointed by the Redmond City Council and the Deschutes County Board of Commissioners to undertake a major update of the 1979 adopted Redmond Urban Area Comprehensive Plan. This was due to several factors, including rapid population growth, an expanding and changing local economy, and changes to state law requirements for housing and transportation planning.

The Vision 2020 Committee met from March, 1996 to February, 1999. During this time it identified the major trends affecting Redmond, crafted a statement of community values, established a vision of Redmond in the year 2020, and drafted goals and policies for the Comprehensive Plan. Over 4,000 person hours were generously contributed by committee members and additional hours were donated by Planning Commissioners, City Councilors, and numerous individuals who provided information and collaborated with the Committee to make this project successful.

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REDMOND CITY COUNCILORS 1996 - 1999

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Chapter 2

PLANNING FOR THE FUTURE

OVERVIEW

On November 9, 1979 the Redmond City Council adopted a Comprehensive Plan for the Redmond Urban Area, including Goals, Policies and a Plan Map, to guide the future development and redevelopment within the Redmond Urban Growth Boundary. The Comprehensive Plan was intended to be dynamic, able to guide growth in the Urban Area while also responding to change through amendment and refinement. Since adoption, the Goals and Policies of the Plan have been amended to respond to new circumstances, special studies, new technology and changes in state land use regulations. This document contains the latest revisions to the Comprehensive Plan to reflect changing conditions brought on by growth within the Redmond Urban Area. It covers a 20+ year planning period that ends in the year 2020. This time frame was used to satisfy state requirements for evaluating a 20 year need for some land uses and because it is the outside limit for reasonable planning forecasts. The Plan contains a Vision of Redmond in the Year 2020. It forecasts population and economic growth to the year 2020, and establishes land use categories and plans for this growth.

The City of Redmond's Comprehensive Plan and land use regulations were adopted as follows:

- | | | |
|----|--|----------------|
| 1. | Comprehensive Plan, Ordinance No. 513 | (11 - 9 - 79) |
| 2. | Zoning Ordinance, Ordinance No. 529 | (9 - 9 - 80) |
| 3. | Historical Ordinance, Ordinance No. 31 | (9 - 9 - 80) |
| 4. | Site and Design, Ordinance No. 555 | (7 - 14 - 81) |
| 5. | Subdivision Ordinance, ordinance No. 563 | (12 - 1 - 81) |
| 6. | Sign Ordinance , Ordinance No. 564 | (12 - 15 - 81) |
| 7. | Canyon Plan, Ordinance No. 564 | (12 - 15 - 81) |
| 8. | Tower Ordinance, Ordinance No. 601 | (12 - 11 - 84) |
| 9. | Transportation Plan, Ordinance No. 607 | (6 - 25 - 85) |

The City's Comprehensive Plan and implementing ordinances were acknowledged to be in compliance with the statewide planning goals on March 20, 1981.

The following amendments have been made to the Redmond Comprehensive Plan and Comprehensive Plan Zoning Map.

- | | | |
|----|-------------------|----------------|
| 1. | Ordinance No. 551 | (5 - 26 - 81) |
| 2. | Ordinance No. 553 | (8 - 11 - 81) |
| 3. | Ordinance No. 562 | (11 - 10 - 81) |

THE PROCESS

The review and updating of the Redmond Urban Area Comprehensive Plan had several phases: surveying community values; identifying key community strengths and weaknesses; reviewing trends; creating probable scenarios for the community if (1) no changes were made; and, (2) changes were made; creating a community vision for Redmond in the year 2020; identifying goals; developing policies; reviewing buildable land within the urban area; and, making changes to the Redmond Urban Area Comprehensive Plan Map.

The following community strengths and weaknesses were identified in a community survey conducted in 1995.

Key Strengths

- Clean fresh air
- Panoramic views
- The Redmond Dry Canyon
- In-town parks
- Small town feeling; friendliness
- Roberts Field - Redmond's Municipal Airport
- Older neighborhoods with diverse landscaping and architecture
- Mature street trees downtown
- A diversifying economy
- Highways which add great access and distribution opportunities
- A large reserve of industrial lands
- The canal, which could provide a cross-town corridor for pedestrian and bike use

Key Weaknesses

- Bicycle and pedestrian unfriendly town
- Miles of one block wide strip commercial development
- Monotonous looking residential development which looks like "suburbia"
- Lack of landscaping in new neighborhoods which makes for "sterile" looking neighborhoods
- Overhead power lines, especially downtown
- Lack of alternate route/bypass creates congestion downtown
- Lack of parking downtown
- Existing trees are not protected from removal
- Current zoning creates a need to drive to services
- No public transportation
- Increase in crime

TRENDS

National, state, regional and local trends that will likely have a major impact on the Redmond area over the next 20+ years were examined³. These in turn provided a base of information for the community to make informed choices about the future.

National Trends

- Growing and aging population
- Increasing social and cultural diversity
- Advances in science, technology and telecommunications
- Shifting from a manufacturing to a service economy
- Shifting from a domestic to a global economy
- Growing political and institutional “decentralization”
- Shifting of financial burden to local governments

Regional Trends: Western United States

- Fastest growing region of the country
- Highest level of population in-migration (people moving in)
- Fastest growing youngest (1-5 years) and oldest (65+ years) groups
- Highest rate of “metropolitanization” (migration to urban centers)
- Strongest links to Pacific Rim trade economy
- Most dramatic changes in workforce (more women and minorities)
- Increased environmental threats (air quality, water quality/supplies, natural habitats)

State of Oregon Trends

- Growing, aging, diversifying population
- Increasing school age population (through 2010)
- Economic restructuring (relative decline of resource industries)
- Job displacement and retraining needs
- Growing demand for skilled workers
- Increasing societal disintegration and crime rates
- Increasing need for social services and intervention
- Increased land-use conflicts

Local Trends within the Redmond area

- Continued rapid population growth for the foreseeable future
- Older population will grow relatively larger
- Population expected to triple by the year 2020.
- Net migration into the area will continue to be from urban areas in California, Oregon and Washington.

³ Sources: Steven Ames Planning, World Watch Institute, WestTrends (Western Region, Council of State Governments), Oregon Commission on Futures Research, Oregon Economic Development Department, David Pearce Snyder, Snyder Family Enterprises, Trends Research Institute

CREATE A COMMUNITY VISION

In the process of “visioning” Redmond in the year 2020 a list of 94 vision statements were developed. These ideas originated in a community-wide vision workshop in 1996 and were then reviewed and refined by the Redmond City Council, the Redmond Urban Area Planning Commission and the Vision 2020 Committee.

Urban Form and Community Design

1. The Urban Growth Boundary has been expanded only to satisfy growth and transportation within state mandates.
2. Minimum densities are established to require development at greater densities. Maximum densities are established to maintain livability in neighborhoods.
3. Small pedestrian-friendly commercial services are located within residential neighborhoods.
4. Design and uses in neighborhood commercial districts assure compatibility with surrounding neighborhoods.
5. Sidewalks with landscape strips next to the curb exist along Highway 97.
6. The downtown business area and all residential areas are connected with pedestrian and bicycle paths to the Redmond Canyon.
7. Distinctive gateway features are developed at the four highway entrances.
8. Permanent public art is displayed throughout the City.
9. An ordinance regulates sign size and design.
10. The historic design of downtown is maintained.
11. Billboards are eliminated.
12. The canal system is used as open space with public access for bicyclists and pedestrians.
13. Landscaping for all new development is required: residential, commercial and industrial.
14. The Urban Renewal District has been used in developing a downtown plan.
15. Utilities are retrofitted to be underground throughout the city, but particularly in the downtown neighborhood.
16. Shielded decorative street lighting is installed in both commercial and residential neighborhoods.

17. Alleys are an option in some new residential areas, creating better streetscapes by providing rear access and backyard parking.
18. Community gardens have been developed throughout the city.
19. Design standards have been strengthened for all commercial and industrial buildings, improving their appearance and their neighborhoods.

Transportation

20. The Highway 97 alternate route is built.
21. “Old” stretch of Highway 97 has landscaping and turn lane strips for local traffic.
22. There are vehicle access points to the canyon, including the Maple Avenue street crossing. There is parking at some of the access points.
23. Off street parking is provided near downtown.
24. Downtown is pedestrian and shopper friendly due to improved parking and multi-transport type facilities.
25. Some local service streets which move only local traffic are built to narrower street widths with consideration given for adequate parking.
26. Landscape strips and street trees are planted next to curbs in public right-of-ways throughout the city.
27. Road right-of-ways for future roadway expansions and new road construction have been protected through setbacks and advance right-of-way acquisitions by the City.
28. The Bikeway Master Plan has been fully implemented.
29. Public transit in Redmond and other Central Oregon cities is available.
30. A park and ride program exists in Redmond.
31. Passenger rail service exists in Redmond.
32. A continuous road network is built near the edge of Redmond’s Urban Growth Boundary with adequate linkages to city arterials and collectors.
33. A parallel runway has been built at the airport.
34. The street grid system is implemented.

35. Frontage roads are used for access to strip development when needed for safety reasons.
36. Good access exists from the alternate Highway 97 route to downtown.
37. Through truck traffic is routed out of downtown.

Public Facilities and Infrastructure

38. A second swim center has been built (in a neighborhood or in a larger recreational area).
39. A park with a youth recreation area has been built as part of an expansion of an existing facility or as a new center of activities such as tennis, swimming, rollerblading, biking.
40. A museum (e.g. a High Desert Museum satellite) is in the Canyon.
41. New development is served only with underground utilities.
42. Converting overhead utilities to underground is a priority in the downtown area.
43. The North County COCC campus has been built near the Airport. It has grown in line with community and industry training and education needs.
44. A City/County/State government services facility provides a unified one-stop shop in a campus-like setting.
45. Advanced telecommunications infrastructure is in place in most community facilities and available to homes.
46. A comprehensive waste reduction/recycling center is located in Redmond.
47. The Fairground has multiple activities and facilities as well as a conference center for meetings and conventions.
48. Treated effluent is used in water features throughout the City.
49. Adequate medical emergency and fire facilities have been strategically located in relation to urban growth.
50. The City and the Redmond School District have identified future school sites prior to urban development.
51. Public schools are development within neighborhoods.
52. Public schools serve as multi-use community centers for families, adults and kids.

Commercial and Industrial Lands, Development & Jobs Commercial

53. A variety of parking options exist, including small parking lots and bicycle/motorcycle parking.
54. Residential units are permitted above commercial and industrial uses in certain areas.
55. The downtown core is lively, has outdoor café seating and pedestrian walking is the norm
56. The historic character of the downtown core has been maintained and enhanced through historic renovation and restoration.
57. Some areas between the downtown core and the Canyon have mixed uses.
58. “Big box” commercial developments comply with presentation guidelines.
59. Convention center and hotel development has occurred near the airport.

Industrial

60. An industrial park campus zone is established and serviced.
61. There is a 10-year supply of affordable industrial land.

Jobs

62. A full range of industrial districts has been created.
63. The development process is streamlined.

Housing and Neighborhoods

64. Mixed housing types, including single family, multi-family and secondary dwelling units (“granny flats”) are built within neighborhoods.
65. Some garages are now accessed from alleys and some garages are set back further than the house on the lot, creating a streetscape not dominated by garages.
66. Incentives are in place to promote infill residential development which increases density.
67. Affordable housing that retains its value over time is developed.
68. Affordable housing, including mobile home parks and subsidized housing, is within the Urban Growth Boundary.
69. The County and the City have flexible standards, permitting smaller lot sizes and smaller houses within the Urban Growth Boundary.
70. Recycling centers have been decentralized with satellite stations within neighborhoods.

71. Older neighborhoods have been preserved and revitalized.
72. Transit stops are built in neighborhoods.

Parks, Recreation and Open Space

73. Parks are located throughout the greater Redmond area providing a variety of park activities.
74. Juniper Golf Course is operating somewhere.
75. Redmond is designated an “arbor city”. A tree planting, education program and protection of mature trees is in effect.
76. A joint City/Bureau of Land Management interpretative center at the Redmond Caves is open to the public.
77. Trails in the Redmond Canyon and along the canal are used.
78. Redmond parks and Central Oregon Parks and Recreation District are responsive to the needs of the community and are cost effective.
79. Development of the “ old ” fairgrounds includes a city park and public facilities.
80. A centrally located downtown park plaza, including public restrooms, has been developed.
81. The Redmond Canyon has been developed in accordance with the Canyon Master Plan, which has a Maple Street crossing touching the grade of the canyon.
82. Ray Johnson Park has been relocated from its former site on Highway 97.
83. Appropriate public lands are preserved for recreation.
84. The Bureau of Land Management’s available lands are integrated into greater Redmond’s park and recreation planning.
85. There is a neighborhood park within walking distance of every home.
86. The park system includes: mini-parks, neighborhood parks, community parks, regional parks, and special use parks.
87. Redmond has a significant park water feature.
88. The City identifies and acquires sites for parks through the subdivision process.
89. Parks throughout Redmond have structures for public gatherings.

90. Parks and schools are linked to neighborhoods with trails.

The “Old Fairgrounds” Site on Highland Avenue⁴

91. The “old” Fairgrounds has a transition “mixed use” zone between the C-2 and R-5 zoning.

92. The canal within the “old” fairgrounds site has been diverted, creating a water feature within the site.

93. Critical street connections (re 9th Street) to the “old” fairgrounds have been maintained, providing through traffic circulation and access.

94. Open green space exists on the “old” fairgrounds site.

IDENTIFY GOALS AND DEVELOP POLICIES

- Goals and policies were developed for the City in these areas:
- Urban Form and Community Design
- Housing and Neighborhoods
- Commercial/Industrial Land Development and Jobs
- Parks, Recreation and Open Space
- Historic and Cultural Resources
- Transportation
- Public Facilities and Infrastructure

REVIEW BUILDABLE LANDS

All lands within the Redmond Urban Growth Boundary were studied to determine if there are adequate supplies of residential, commercial, industrial, public facilities, and open space lands to support the 35,845 persons projected to be living here by the year 2020. Chapter 3, Housing and Neighborhoods, and 4, Commercial and Industrial Lands, Development and Jobs provide a detailed analysis of land needed within the UGB during the planning period, 1999 to 2020.

MAKE CHANGES TO THE REDMOND URBAN AREA COMPREHENSIVE PLAN MAP

To insure that the inventory of residential, commercial, industrial, public facilities and open space lands are available for development during the next 20+ years changes were made to the Redmond Urban Area Comprehensive Plan Map.

IMPLEMENTATION

The Redmond Urban Area Planning Commission and the Redmond City Council will be working over the next few years to set the action steps necessary to implement the Goals and Policies in motion.

⁴This category was considered an area of concern at the time of the visioning process.

Chapter 3

URBANIZATION ELEMENT

REDMOND URBAN GROWTH BOUNDARY

The Redmond Urban Growth Boundary (UGB) includes land within the city, and selected land surrounding the city that is committed to and/or planned for future city growth, the development of which is likely to require the extension of city services.

Establishment and amendment of UGB's are based upon the following Goal 14 factors:

1. A demonstrated need to accommodate long-range urban population growth requirements consistent with Land Conservation and Development Commission (LCDC) goals;
2. A need for housing, employment opportunities and livability;
3. The orderly and economic provision of public facilities and services;
4. The maximum efficiency of land uses within, and on the fringe of the existing urban area;
5. The environmental, energy, economic, and social consequences;
6. The retention of agricultural land as defined, with "Class I" having the highest priority for retention, and "Class VI" having the lowest priority; and,
7. The compatibility of proposed urban uses with nearby agricultural activities.

DEVELOPMENT WITHIN THE UGB

The planning and development in Redmond, to date, has created a development pattern that provides rather clear divisions between different land uses. The Burlington Northern railroad track runs through Redmond in a north-south direction. Industrial and airport related uses have developed almost solely on the east side of the tracks. Retail and service commercial uses have developed primarily west of the railroad tracks and along the two major highways (U.S. 97 and 126) which intersect west of the tracks. Some small areas of residential housing have also been developed east of the railroad tracks but the majority of residential development has occurred west of Highway 97 and north and south of Highway 126. Therefore, schools and public facilities serving residential areas have been developed and committed on the west side of the community.

A major objective of this Plan is to establish residential areas that are safe, convenient, and attractive places to live which provide a maximum range of residential choices.

Public uses such as schools, parks, and semi-public uses such as churches, golf courses, or tennis clubs can add variety to the residential development pattern. However, these kinds of uses should be carefully sited both in terms of traffic circulation and their relationship to their immediate neighbors.

Public facilities such as fire stations or community buildings also can and should be functional parts of residential neighborhoods. Through careful siting and design they can be blended into the residential pattern and, at the same time, provide their essential services to the community.

Street trees can add beauty, character, charm, and shade to any section of the area, and are particularly valuable in residential areas. Many of the existing sections of the City have mature street trees, and these trees contribute to the value and long-range stability of these areas. A tree planting program is encouraged in established parts of the community which are without trees, and provisions should be made to insure the planting of trees in all new developments. In addition, insofar as possible, existing mature trees on undeveloped properties should be preserved as development occurs. The preservation of the area's native vegetation in new subdivisions can greatly enhance the livability of these areas and retain some of the natural charm of the area.

FINDINGS

1. The data and inventory developed provide the basis for UGB and urban development.
2. An annual growth rate of at least 5 percent should be used for planning purposes; and thereof, the projected population for the UGB area is 23,093 for the year 2000. (Amended by Ordinance 528, 9-9-80)
3. Deschutes County is the fastest growing county in Oregon. The Redmond growth rate has exceeded the county rate for the past seven years.
4. This growth phenomena is not clearly understood, but many people are attracted to this area by the pleasant environment and opportunities for outdoor recreation.
5. The Portland State University forecast is much too conservative. This forecast shows a city population of 8,858 and an urban area population of 11,540 by 2000. The forecasted growth rate was less than 3 percent per year.
6. On the other hand, a continuation of the present growth rate, in excess of 6 percent, shows a city population slightly in excess of 21,370 and a planning area population of 28,635 by the year 2000 A.D.
7. Absolute population projections are not attainable; close monitoring and continual analysis of growth and potential, therefore, are deemed necessary.
8. The current and previously adopted comprehensive plans for the Redmond Urban Area have maintained that the location of already established airport, railroad, industrial, commercial service and residential areas are unique in comparison with many communities in that industry and major air and rail facilities are located in the eastern portion of the planning areas and are somewhat separated from commercial service and residential areas to the west. It is held that this unique land use pattern, in the Redmond Urban Area, has a distinct planning advantage from the standpoint of traffic safety, convenience, public services, land use relationships, economics and various environmental characteristics. Opening up areas to the east for new residential development, however, should be considered.

9. The northeast corner of the urban growth boundary includes 212 acres of land east of the railroad tracks planned for residential use. The land was included as urbanizable land because it is contained within the EPA sewer service boundary. The area is already divided into six parcels, five of which are forty acres or less in size and only a small percentage of the land is agriculturally utilized for pasture. The land is necessary for estimated residential land needs and the area is in close proximity to commercial services, the hospital and job locations. Further, water pressure in that area is better than most other areas in Redmond. The cost of providing public utilities to the area will initially be expensive due to the railroad that must be crossed. (Amended by Ordinance 528, 9-9-80)
10. Some of the agricultural lands in the western portion of the planning area have already been developed or are committed to urbanization in compliance with current comprehensive plan goals and objectives.
11. Land use plans and the development of certain agricultural and nonagricultural lands in the western portion of the planning area have resulted in traffic patterns which need to be extended and improved in a logical manner for proper circulation.
12. The Redmond High School was located in the western portion of the planning area to implement the previous comprehensive plan and to better serve the existing and anticipated urban residential areas located in said area.
13. Sewer and water services have previously been planned for and are being provided to much of the area on the west side of the planning area. Except, for the committed airport and related industrial area thereof, most of the eastern portion of the planning area is not within the current EPA approved sewer boundary, however, extension of such is feasible even though expected to be more costly.
14. Land values, public and private commitments and transportation systems that have been based on the previous comprehensive plan, must be considered.
15. Development of the east side would result in some increase of congested east-west and north-south traffic conditions due to railroad crossings, but would result in shorter travel distances to commercial service areas and areas of employment.
16. In terms of geographical location, safety of traffic movement functions, distance to service areas and schools, the continued implementation of the major land use separations in the previous comprehensive plan will result in better compliance with energy efficiency and economic goals and policies.
17. Major shopping areas in the Central Business District (CBD) and along Highway 97 are conveniently located for east-west accessibility. There are adequate transportation facilities from the eastern portion to accommodate expanded residential traffic to and from the CBD.
18. Air quality, noise and mixed traffic conditions resulting from industrial areas in the southeastern portion of the planning area, would not be compatible with residential development in that area.

19. Future industrial development potential could be restricted by additional residential development in the southeastern portion of the planning area.
20. The previous comprehensive plan for the area has maintained and implemented one major residential area on the west side of the planning area. Promotion of urban residential development in the eastern portion would create another major planning area in which to provide services, although, such would also be required for non-residential development.
21. Sufficient land is provided within the UGB to accommodate projected growth and at the time allow some flexibility in the market place.
22. Existing separation of differing land uses is desirable and should be maintained.
23. Past development decisions and commitment must be accommodated where consistent with objectives and LCDC Goals & Guidelines.
24. Some degree of stability and predictability must be provided by fixing UGB, which should not be changed without careful consideration of direct and indirect effects thereof.
25. Urban sprawl is undesirable.
26. Orderly, phased growth from the center of the community without leap frog type growth is to be encouraged.
27. Lands outside the UGB are not available for urban development.
28. Cooperation between the City of Redmond and Deschutes County is essential, if the Plan is to be effectively implemented.
29. The final decision on development requests must rest on the City or County as follows:
 1. Within the City limits - the City of Redmond.
 2. Outside the City limits, but within UGB - the County after consultation with the City, and jointly where feasible.
 3. Outside UGB, but within Area of Influence - the County after consultation with the City.
30. Urban development priority factors are necessary.

Chapter 4

HOUSING ELEMENT

BUILDABLE RESIDENTIAL LAND INVENTORY REQUIREMENTS

To insure that there is sufficient land within the urban area for housing an additional 20,646 persons by the year 2020 an analysis of the City's residential lands and housing needs was conducted. This analysis addresses the state residential lands and housing requirements of *Oregon Revised Statute 197.296* that the City provide:

1. Enough buildable land to accommodate the 20-year housing need inside the urban growth boundary (UGB).
2. For the variety of housing types that match up with the expected needs of the future Redmond residents.

In order to determine if the City has adequate land available for the future housing needs of the 20,646 new residents who will be living within the Redmond UGB by the year 2020 an inventory of buildable land was compiled.

METHODOLOGY

The methodology is one suggested by *Planning for Residential Growth: A Workbook for Oregon's Urban Areas* produced by the Transportation and Growth Management Program (TGM) of the Oregon Department of Transportation (ODOT) and the Oregon Department of Land Conservation and Development (DLCD).

The most current demographic information available for the City, and where this was not available, for Deschutes County, was used. The rapid population increases and shifts which are happening in Redmond are occurring throughout Deschutes County.

Information on all residentially zoned land⁵ within the Redmond UGB was collected from the Deschutes County GIS, the City of Redmond CADD program, the Deschutes County Assessor's Records, tax maps, City and County building permit logs, Site & Design permits, and field verifications. Redmond has numerous lots which have multiple zoning, i.e. part of the lot may be residential and part may be Open Space Park Reserve. When this occurs it is referred to as "split zoning". Through the City's Public Works Department's CADD program all lots with "split zoning" were identified and acreages were calculated for the respective zones. (This information does not exist in either the Deschutes County Assessor's records or the Deschutes County GIS program).

All residential lands were then categorized as either gross fully vacant land, partially vacant land or redevelopable land. Gross fully vacant parcels are parcels without buildings, whereas partially vacant parcels have improvements on part of the property, but the remainder of the property, exceeding at least one-half (½) acre, has none.

The following steps were then completed to develop an inventory of buildable land.

⁵ Residential uses are allowed in the commercial and industrial zones. This has not been calculated as residential land for the purposes of this analysis because the primary uses in these zones are commercial or industrial.

1. Unbuildable residential acres were subtracted from total vacant acres to determine gross buildable vacant residential acreage. According to the State's definition, unbuildable acres include vacant acres:
 - A. In the 100-year flood plain in communities where development is not permitted in this area.
 - B. In other hazard areas (e.g. severe landslide potential);
 - C. With slopes over 25 percent;
 - D. In the flood way;
 - E. In Goal 5 resource protection if these areas are prohibited from development by the comprehensive plan.

Based on this definition Redmond has no unbuildable acres within the Redmond UGB. Land with slopes over 25% have been either built or filled; no flood plain or hazard areas exist within the UGB; and there are no areas where Goal 5 protection prohibits development.

2. Acres needed for public facilities were identified and then subtracted from the total of gross vacant lands.
 - A. Thirty-one percent (31% or 611 acres) of the gross buildable vacant acreage was subtracted for future roads, parks, well sites and sewer treatment facilities. The City of Redmond adopted its Public Works Standards and Specifications requirements in 1995, as part of these standards and specifications, certain right-of-way widths were required in order to achieve the goals and objectives of the City's Transportation Element of its Comprehensive Plan. In general, these right-of-way widths are 60 feet for minor arterials and collectors as well as for local grid streets. These Standards and Specifications do allow a 28 foot reduced local grid street within Planned Unit Developments.
 - B. Five percent (5% or 98 acres) of the gross buildable vacant acreage was subtracted for Central Oregon Irrigation District canal right-of-way. This is a unique feature to the City of Redmond because of its location within the boundaries of the Central Oregon Irrigation District.
 - C. Thirteen percent (12% or 246 acres) of the gross buildable vacant acreage was subtracted for future school sites.
3. Redevelopable acres were added to net buildable vacant acres.

Redevelopable acres are developed parcels that are likely to redevelop within the planning period. All properties with building values thirty percent (30%) or less of the total property value (building + land) were identified. Site visits were then made to each of these properties to consider surrounding land uses and the physical property.

The following are the land use zones designated by the Redmond Urban Area Comprehensive Plan Map:

- R-1 Limited Residential Zone
- R-2 Limited Residential Zone
- R-3 Limited Residential Zone
- R-4 General Residential Zone
- R-5 High Density Residential Zone

As of December 31, 1999, 1,426 acres of residentially zoned land were available for development within the UGB.

Table 1

BUILDABLE RESIDENTIAL LAND INVENTORY - REDMOND UGB DECEMBER 31, 1999							
Zone & Plan Designation	Fully Vacant Acres	<i>plus</i> Partially Vacant Parcels	<i>equals</i> Gross Buildable Vacant Acres	<i>minus</i> 48% of the Gross Buildable Acres	<i>equals</i> Net Buildable Vacant Acres	<i>plus</i> Redevelopable Acres	<i>equals</i> Net Buildable Acres
R-1	52	76	128	62	66	64	130
R-2	380	130	510	249	261	110	371
R-3	232	64	296	145	151	4	155
R-4	583	272	855	418	437	194	631
R-5	92	90	182	89	93	46	139
TOTALS	1,339	632	1,971	963	1,008	418	1,426

ACTUAL DENSITY AND MIX OF HOUSING 1989 THROUGH 1998

Oregon law requires that the City provide for a variety of housing types that match up with the expected needs of future residents. The planning requirement for needed housing is made of two parts: the mix or types of housing that best matches the forecast population needs; and the cost or affordability of housing that matches the income levels of residents.

In order to project future density and housing mix patterns, the density and mix that was

created during the ten year period, 1989 through 1998, was reviewed.

The City does not have building permit information available before 1989. Therefore, for purposes of this analysis, housing development data was obtained from City and County issued building permits and Site & Design Review approvals for the ten year period, 1989 to 1999, for the following types of housing within the Redmond UGB:

1. Single-family and manufactured housing detached;
2. Manufactured housing units in parks;
3. Multiple or single-family units attached; and
4. Government assisted housing (below market-rate housing).

Information was categorized by tax lot, the Comprehensive Plan and zoning designation, the number of housing units of each housing types(s), and the density of each housing type. The densities are net of any public dedications. Private dedications (e.g. common area in a PUD) were included as part of the development site for calculation of density.

Table 2 provides density information on residential land development from 1989 through 1998 within the Redmond UGB. Net densities are significantly different for development within the City limits as compared to that on lands outside of the City limits, between the City limits and the UGB. The net density for all residential development, 1989 - 1998, is 6.27 units per acre within the City limits. It is only 1.34 outside the City limits, between the limits and the UGB.

Table 2

DENSITY OF EACH HOUSING TYPE WITHIN UGB 1989 THROUGH 1998						
Housing Type	Housing Units		Net Acres		Net Density (Units Per Acre)	
	City Limits	Between City Limits & UGB	City Limits	Between City Limits & UGB	City Limits	Between City Limits & UGB
Single family detached & Manufactured Homes on Lots	1,649	89	310.648	66.441	5.31	1.34
Manufactured housing units in parks	168	0	7.682	NA	21.86	NA
Attached units Single-family & Multi-family	618	0	70.632	NA	8.75	NA
TOTALS	2,435	89	388.962	66.41	6.27	1.34

ACTUAL MIX OF HOUSING TYPES 1989 THROUGH 1998

The single family detached stick-built home was the main housing type built during this ten year period. Attached single family and multifamily dwellings comprised almost of 25% of the new dwellings constructed. The mix of these housing types is represented in Table 3.

Table 3

HOUSING MIX 1989 THROUGH 1998	
Housing Type	Percent of Total
Single family detached & Manufactured homes on lots	68.9%
Manufactured housing units in parks	6.5%
Attached units single-family & multi-family	24.6%

HOUSING UNITS NEEDED 1999 - 2020

DWELLINGS NEEDED

The number of new housing units needed within the Redmond UGB during the planning period 1999 - 2020 is tied to the future population growth and other factors. The City of Redmond and Deschutes County have agreed upon a forecasted population for the urban area of 35,845 persons by the year 2020. Based on the forecast population, a proposed household size of 2.5 persons per household, and a vacancy rate of 3% (which is the 1990 Census rate as well as the current vacancy rate) the total number of new dwelling units needed for the planning period is 8,463.

Table 4

DWELLING UNITS NEEDED 1999 - 2020	
2020 UGB Forecast Population	35,845
Minus Estimated July 1998 UGB Population (Based on Deschutes County Forecast - 1998)	15,200
Equals New Residents July 1998 - 2020	20,646
Divided by Average of 2.5 Persons Per Household Equals Dwelling Units Needed	8,258
Plus Vacant Units on the Market @ 3% Vacancy Rate	205
Total Dwelling Units Needed	8,463

NATIONAL, STATE AND LOCAL DEMOGRAPHIC AND ECONOMIC TRENDS AND FACTORS THAT MAY AFFECT THE YEAR 2020 PROJECTION OF STRUCTURE TYPE AND MIX

To determine how the projected number of new households will be distributed among different housing structure types during the planning period, 1999 to 2020, it is necessary to analyze factors that will likely influence housing choice in the future (e.g., the decision to buy a single family home as opposed to renting an apartment).

Major national and state housing and demographic trends that may affect the 20+ year projection of housing types and mix are summarized below. Sources for this information include Planning for Residential Growth: A Workbook for Oregon's Urban Area; 1998 Regional Economic Profile: Region 10; and a community visioning workshop held in 1996.

In conclusion, smaller households, older households and higher housing costs are expanding markets for alternative housing and reducing the demand for traditional large-lot single-family development. Housing types which will see greater demand include smaller-lot single-family housing, duplexes, condominiums and zero-lot line houses.

There are additional local demographic and economic factors which will influence the demand for housing types. The rapidly expanding economic base in Central Oregon will lead to an increase in younger families and single professionals relocating to the area. This will also lead to a greater need for smaller, more affordable housing types.

Local Demographic Characteristics of the Population

Some of the best indicators of housing needs are household size and age of head of household.

Household Size

The average number of persons living in a dwelling is a useful measurement in forecasting how many dwelling units will be needed from 1999 to 2020. In 1990, the average household size in Redmond was 2.46 persons.⁶ It is forecast to increase slightly to 2.5 persons by the year 2020.

Since 1990 Redmond's population characteristics have shifted to include more families and younger people. This assumption is supported by the increase in student enrollment, K-12, in the Redmond School District. Between September, 1989 and September 1998, there was an enrollment increase of 1,351 students. To accommodate these students rooms were added to several existing schools, and a 600 student elementary school and a 600 student middle school were built. The middle school enrollment already exceeds the capacity of this new school. The Redmond School District encompasses 334 square miles. Much of the district is outside the Redmond UGB. This corresponds to the County's forecast population in which non-urban population decreases while population within the urban centers in the County continue to increase.

Even through the baby boomer generation will move into retirement toward the end of the planning period and create more one or two persons households, Portland State University forecast, July 1993, predicts that an even larger number of baby boomers' children and grandchildren will move into Central Oregon. This surge of younger families will cause the household size in Redmond to increase slightly.

⁶ 1990 US Census

Age of Householder

According to the 1990 Census approximately 48% of the households in Redmond were headed by persons 25 - 44 years old. Since 1990 it appears that the age of the head of household is increasing. The aging of the baby boomers in the next two decades is the primary cause of this factor. Demographic factors suggest that the largest future increases will be in the 55 - 64 and the over 65 age groups⁷

Table 5

AGE OF HOUSEHOLDER	
Age	Persons
Under 25	176
25 - 34	592
35 - 44	592
45 - 54	413
55 - 64	305
65 - 74	387
75+	377
TOTAL	2,842

Source: 1990 US Census - Redmond City

Occupancy

Historically, Redmond has had a high percentage of homeowners. Table 6 shows the percentage of owners as compared to renters in Redmond 1990. At that time there were 2,932 housing units in the City of Redmond. Of these, 97% were occupied and 3% were vacant. Of the occupied units, 1,149 (39%) were renter occupied and 1,693 (58%) were owner occupied.

Table 6

OCCUPIED HOUSING UNITS	
Owner Occupied	1,693
Renter Occupied	1,149
Vacancy	90
<i>Total</i>	2,932

Source: 1990 US Census - Redmond City

⁷ 1998 Regional Economic Profile: Region 10

Although updated data on these percentages will not be available until after the 2000 Census, the number of families moving into Redmond, the increase of attached housing units built, a relatively large percentage of young persons living in the area, and the livability of the Central Oregon and its attractiveness for continued real estate investment will affect these percentages.

A more detailed analysis of housing ownership and rentership is provided in Table 9 which shows the percentage of owners and renters by age groups. Not surprisingly, the majority of younger households are renters. There is a strong ownership pattern for households 35 years and older. As shown in Table 7 home ownership in Redmond was the least among younger households and increases with age until the head of the household reaches retirement age, when home ownership rates decrease until age 75 years.

Table 7

AGE OF HEAD OF HOUSEHOLD BY TENURE		
Age of Householder	Percent Owners	Percent Renters
15 - 24	42 (20%)	172 (80%)
25 - 34	268 (43%)	359 (57%)
35 - 44	371 (64%)	206 (36%)
45 - 54	241 (69%)	107 (31%)
55 - 64	222 (74%)	79 (26%)
65 - 74	277 (69%)	127 (31%)
75+	272 (73%)	99 (27%)

Source: 1990 US Census - Redmond City

Among the youngest householder age group (15-24 years), over 80% of households were renters in 1990. Household ages 25 - 34 years also had large rental rates, with 57% of such households renting their housing. Household ages 35-44 and 45-54 had approximately 64-69% home ownership. For older householders aged 55-64, 74% owned their own home. This rate declined to about 69% for households at retirement age and then increased again to 73% for household heads over 75 years of age.

Income

The rising per-capita and household income levels in the 1990's helped keep housing costs at reasonable levels. In 1997, the Department of Housing and Urban Development estimated the median family income in Deschutes County was \$38,900. The Deschutes County 1995 per-capita income was \$21,212. This was the 5th highest ranked county in the state for per capita personal income and is above that of three of the state's four metropolitan areas: Medford (\$19,746), Salem (\$19,154), and Eugene (\$19,917). This tends to debunk the popular notion that Deschutes County's rapid job formation has been

dominated by low-wage, part-time jobs created by tourism/recreation development.⁸

A key factor in providing incomes to match the ever increasing cost of housing is a strong local economy with a mix of jobs. The Comprehensive Plan seeks to continue Redmond's economic growth and job base for future residents by providing sufficient industrial land for manufacturing, professional services, technology and other primary jobs that provide the backbone of family-wage jobs.

Table 8 shows the correlation of income with the age of householder. Younger households (15-34) had 28.5% of the population in the Very Low, Low and Mid income groups while householders age 35 to 54 had slightly lower percentage, 24.3%, of the Very Low and Low income groups. Householders in the 35-54 age range had 55.4% of households in the High and Very High income groups. Households in the 55-64 age group had 26.3% of the highest incomes, and only 0.1% percent of household in the Low income group; 19.8% percent of these households were in the Very High income group. Households with the householder beyond retirement age, 65+ years, had the lowest income levels, with 42.5% of these households in the Very Low and Low income categories. It should be noted that these households tend to be "cash poor and equity rich" meaning they have high home ownership rates, and have frequently paid off their mortgages. Thus, the reduced income these post-retirement households have does not necessarily translate into housing affordability problems.

Table 8

AGE OF HEAD OF HOUSEHOLD BY INCOME 1990							
Age	Very Low <\$10,000	Low \$10,000 - \$14,999	Mid \$15,000 - \$24,999	High - Mid \$25,000 - \$34,999	High \$35,000 - \$49,000	Very High + \$50,000	Total
15 - 24	58	63	30	29	24	7	211
25 - 34	74	54	164	148	85	39	564
35 - 44	55	50	119	158	187	102	671
45 - 54	55	30	68	51	96	88	388
55 - 64	49	40	64	39	45	68	305
65+	228	160	191	98	73	39	789
TOTAL	519	397	636	523	510	343	2,928

Source: 1990 US Census - Redmond City

⁸ 1998 Regional Economic Profile: Region 10

AFFORDABILITY OF HOUSING

The ability of future residents to afford housing must be considered in planning for the amount and type of residential land from 1999 - 2020. The dramatic growth in population and the subsequent demand for housing plus the financial resources of new residents to the area and increasing income levels has increased housing costs quickly. The State defines “affordable housing” as housing for which persons or families pay 30 percent or less of their gross income for housing, including necessary and essential utilities. (*Oregon Revised Statute 456.055*) Although housing costs in Redmond have increased dramatically since 1990 neither the absolute costs, nor the housing costs relative to income was significantly different from other parts of Deschutes County.

HOUSING AFFORDABILITY AMONG INCOME GROUPS

Table 9 illustrates the income groups in the City of Redmond in 1990, the percentage of total households that each income group represents, and the type of housing which is financially attainable by each group.

Table 9

HOUSEHOLDS BY INCOME GROUP AND TYPE OF FINANCIALLY ATTAINABLE HOUSING			
Income Group	Household Income Range	% of Total Households	Financially Attainable Housing
Very Low	<\$10,000	17.73%	Multifamily, Manufactured Homes in parks, subsidized Housing
Low	\$10,000 - \$14,999	13.56%	Attached Single & Multifamily, Manufactured Homes in parks
Mid	\$15,000 - \$24,999	21.72%	Single Family, Manufactured Homes on lots, Attached Single & Multifamily, Manufactured Homes in parks
High Mid	\$25,000 - \$34,999	17.86%	Single Detached on Smaller Lots, Attached Single & Multifamily, Manufactured Homes in parks
High	\$35,000 - \$49,999	17.42%	All housing types
Very High	+ \$50,000	11.71%	All housing types

Source: Planning for Residential Growth: A Workbook for Oregon’s Urban Areas, Appendix C.

COST OF HOUSING

Owner Occupied

By 1999 the median sales price of a single family home in Redmond was \$105,725.00, whereas the average selling price for a single family home was \$113,837.00.

Table 10

MEDIAN SALES PRICE OF A SINGLE FAMILY HOME - JUNE 1, 1999			
	Redmond	Bend	Sisters
6/1/99	\$105,725	\$134,000	\$243,000 ⁹

Source: Central Oregon Regional Housing Authority, June 1999 publication and Central Oregon Multiple Listing Service

Table 11

AVERAGE SALES PRICE OF A SINGLE FAMILY HOME - JUNE 1, 1999			
	Redmond	Bend	Sisters
6/1/99	\$113,837	\$162,163	\$271,023 ¹⁰

Source: Central Oregon Regional Housing Authority, June 1999 publication and Central Oregon Multiple Listing Service

The most recent published information regarding median mortgage cost is contained in the 1990 census. To update this information approximate mortgage costs for a \$105,725 home (the median sales price of a home in Redmond in 1999) were calculated to be \$741.40 per month based upon the following assumptions:

- \$105,725 purchase price
- 30 Year Conventional Loan
- 7.5% Interest
- 20% Down Payment
- \$150 per month cost for taxes and insurance

Based on the Deschutes County 1997 median family income of \$38,900, monthly house payments of \$741.40 represent 23% of the gross income, excluding utilities. Thus, the median income for Deschutes County seems to be more than adequate to purchase the median single family home in Redmond within the 30% "affordability" definition set out in *Oregon Revised Statute 456.055*.

⁹ Includes Black Butte Ranch and surrounding area.

¹⁰ Includes Black Butte Ranch and surrounding area.

Renter Occupied

The rental market includes all types of dwellings: single family homes, duplexes, triplexes, fourplexes, apartments, and manufactured homes in manufactured home parks. The 1990 median monthly gross rent in the City was \$380.00. No updated figures for median monthly gross rents are available.

Although median and average rents are not the same, figures for average monthly rental costs are illustrated in Table 12.

Table 12

AVERAGE MONTHLY RENTS		
	Redmond	Bend
2 bedroom apt	\$461	\$511
Home	\$558 - \$705	\$564 - \$793

Source: Central Oregon Regional Housing Authority, June 1999 publication and Central Oregon Multiple Listing Service

Rental figures for Sisters are not included because the response from rental managers or owners was too small to be representative.

Low and Moderate Housing

Since 1990 both the public and private sectors sought to make sure housing for low and moderate income families and individuals was available within the Redmond urban area. A variety of public and private partnerships, private investments, and public housing developments led to the creation of eighty-eight housing units for low and moderate income individuals and families.¹¹ Apartment units built to provide housing to low and moderate income families and individuals since 1990 are shown in Table 13.

In addition to these apartment units two HUD Programs are available in 1998 to 192 households in the Redmond community, as follows:

Section 8 Program

- 173 Very Low Income Households

Public Housing

- 19 Very Low Income Households
- 16 Elderly/Disabled Households
- 3 Family Households

¹¹ "Person of lower income" and "family of lower income" means a person or family who cannot obtain in the open market, decent, safe and sanitary housing, including the costs of utilities and taxes, for 25% of the gross income of such person or family. *Oregon Revised Statute 456.055.*

Table 13

APARTMENT UNITS BUILT SINCE 1990		
Apartment	Type	Units
Wintergreen Apartments	Subsidized	24 family units
Stoneybrook Apartments	Section 42: Tax Credit	40 low and moderate income rents
Reindeer Meadows Apartments	Tax Credit project	24 elderly units
TOTAL UNITS		88

THE CHANGING MIX OF HOUSING 1999-2020

Housing needs in the future will not be the same as those needed prior to 1999. The changing demographics within the community will lead to a variety of housing choices such as smaller single family homes, less yard area, more manufactured homes in parks, an increase in single family attached dwellings, and a greater demand for rental housing.

Detached single family homes will always be in strong demand. As the baby boomers reach retirement age a greater desire for smaller homes and lots will be created and there will be more interest in manufactured homes and attached dwellings.

Manufactured housing will become an option for the younger as well as the older householder. The percentage of manufactured homes will increase in the community.

Multifamily and attached single family housing is expected to provide a greater percentage of the future housing market. Younger workers and families will be attracted to attached single family homes - duplexes, triplexes, fourplexes - as well as to apartments.

Table 14 illustrates the future mix of housing that will be needed during the planning period. The number of dwellings that will be needed is 8,463.

Table 14

MIX OF HOUSING TYPES NEEDED 1998 - 2020 (8,463 Needed Dwelling)						
	Percent of Total		Total Homes	Homes per Acre		Net Acres Needed
	1989 - 1999	1999 - 2020		1989 - 1999	1999 - 2020	
Stick Built & Manufactured Homes on lots	68.9%	60% 5%	5,078 423	5.31 (for the combined housing types)	5.6 6.3	906 67
Manufactured in park	6.5%	5%	423	21.86	10	42
Multifamily and Attached Dwellings of All Types	24.6%	30%	2,539	8.75	10	254
TOTAL	100%	100%	8,463	NA	NA	1,269

There are 157 acres more than are required to accommodate the future 8,463 dwelling units needed for an urban area population of 35,845 persons if the housing mix is built as proposed in Table 15.

Table 15

NEEDED & BUILDABLE RESIDENTIAL ACRES IN THE UGB				
Acres	Single Family Detached & Manufactured Homes on lots	Manufactured Homes in parks	Multifamily Dwelling Units	TOTAL ACRES
Acres needed to 2020	973	42	254	1,269
Net Buildable acres as of 12/31/99				1,426

RESIDENTIAL ZONES

The Comprehensive Plan has five residential land use categories that are described in Table 16 and are shown on the Comprehensive Plan Map. These categories provide for the variety and choice in housing types, lot sizes, and locations to meet the existing and future housing markets.

Table 16

HOUSING TYPES AND DENSITIES ALLOWED				
Land Use Category	Zone	Minimum Lot Requirements	Gross Minimum Density	Uses Allowed Outright (O) Conditionally (C)
Limited Residential Zone	R-1	No changes	1.1 to 2.2 units per gross acre	To be completed
Limited Residential Zone	R-2	SF 8,000 sf Duplex 9,000 sf MF 4,000 sf	3.5 to 10 units per gross acre	To be completed
Limited Residential Zone	R-3	SF 6,500 sf Duplex 7,500 sf MF 3,500 sf	4 to 12 units per gross acre	To be completed
General Residential Zone	R-4	SF 5,000 sf Duplex 6,000 sf MF 2,500 sf	6.5 to 15 units per gross acre	To be completed
High Density Residential Zone	R-5	SF Not Permitted Duplex 5,000 sf MF 2,000 sf	10 to 40 units per gross acre	To be completed

FINDINGS

1. The following are the land use zones designated by the Redmond Urban Area Comprehensive Plan Map:
 - R-1 Limited Residential Zone
 - R-2 Limited Residential Zone
 - R-3 Limited Residential Zone
 - R-4 General Residential Zone
 - R-5 High Density Residential Zone
2. As of December 31, 1999, 1,426 acres of residentially zoned land were available for development within the UGB.
3. Oregon law requires that the City provide for a variety of housing types that match up with the expected needs of future residents. The planning requirement for needed housing is made of two parts: the mix or types of housing that best matches the forecast population needs; and the cost or affordability of housing that matches the income levels of residents.
4. Net densities are significantly different for development within the City limits as compared to that on lands outside of the City limits, between the City limits and the UGB. The net density for all residential development, 1989 - 1998, is 6.27 units per acre within the City limits. It is only 1.34 outside the City limits, between the limits and the UGB.

5. The single family detached stick-built home was the main housing type built during this ten year period. Attached single family and multifamily dwellings comprised almost of 25% of the new dwellings constructed.
6. The City of Redmond and Deschutes County have agreed upon a forecasted population for the urban area of 35,845 persons by the year 2020. Based on the forecast population, a proposed household size of 2.5 persons per household, and a vacancy rate of 3% (which is the 1990 Census rate as well as the current vacancy rate) the total number of new dwelling units needed for the planning period is 8,463.
7. The cost of developing land will continue to rise, but at more moderate rates than in the 1990's.
8. Attached housing of all types, for both owners and renters, will make up a higher percentage of the housing supply;
9. Traditional detached single family housing will continue to be the main housing type;
10. Manufactured homes, on lots and in parks, will make up a higher percentage of the housing;
11. There will be more demand for smaller homes and more maintenance free yards as the baby boomers move toward retirement;
12. Housing densities will increase.
13. Age of the head of the household is increasing. Aging of the baby boomers is the primary cause of this factor.
14. Greater household age generally indicates a greater propensity toward home ownership. However, home ownership rates decline in the 65 and older age group. Older households also have a tendency to "trade down" to smaller housing types as their children leave the household.
15. Household incomes are generally increasing though they have not kept pace with housing prices or rents. Demand for more affordable housing types will increase as housing costs continue to outstrip income growth.
16. The average number of persons living in a dwelling is a useful measurement in forecasting how many dwelling units will be needed from 1999 to 2020. In 1990, the average household size in Redmond was 2.46 persons. It is forecast to increase slightly to 2.5 persons by the year 2020.
17. According to the 1990 Census approximately 48% of the households in Redmond were headed by persons 25 - 44 years old. Since 1990 it appears that the age of the head of household is increasing. The aging of the baby boomers in the next two decades is the primary cause of this factor. Demographic factors suggest that the largest future increases will be in the 55 - 64 and the over 65 age groups.

18. Historically, Redmond has had a high percentage of homeowners. In 1990, there were 2,932 housing units in the City of Redmond. Of these, 97% were occupied and 3% were vacant. Of the occupied units, 1,149 (39%) were renter occupied and 1,693 (58%) were owner occupied.
19. Among the youngest householder age group (15-24 years), over 80% of households were renters in 1990. Householders ages 25 - 34 years also had large rental rates, with 57% of such households renting their housing. Householders aged 35-44 and 45-54 had approximately 64-69% home ownership. For older householders aged 55-64, 74% owned their own home. This rate declined to about 69% for households at retirement age and then increased again to 73% for household heads over 75 years of age.
20. The rising per-capita and household income levels in the 1990's helped keep housing costs at reasonable levels. In 1997, the Department of Housing and Urban Development estimated the median family income in Deschutes County was \$38,900. The Deschutes County 1995 per-capita income was \$21,212. This was the 5th highest ranked county in the state for per capita personal income and is above that of three of the state's four metropolitan areas: Medford (\$19,746), Salem (\$19,154), and Eugene (\$19,917). This tends to debunk the popular notion that Deschutes County's rapid job formation has been dominated by low-wage, part-time jobs created by tourism/recreation development.¹
21. Younger households (15-34) had 28.5% of the population in the Very Low, Low and Mid income groups while householders age 35 to 54 had slightly lower percentage, 24.3%, of the Very Low and Low income groups. Householders in the 35-54 age range had 55.4% of households in the High and Very High income groups. Households in the 55-64 age group had 26.3% of the highest incomes, and only 0.1% percent of household in the Low income group; 19.8% percent of these households were in the Very High income group. Households with the householder beyond retirement age, 65+ years, had the lowest income levels, with 42.5% of these households in the Very Low and Low income categories. It should be noted that these households tend to be "cash poor and equity rich" meaning they have high home ownership rates, and have frequently paid off their mortgages. Thus, the reduced income these post-retirement households have does not necessarily translate into housing affordability problems.
22. By 1999 the median sales price of a single family home in Redmond was \$105,725.00, whereas the average selling price for a single family home was \$113,837.00.
23. The most recent published information regarding median mortgage cost is contained in the 1990 census. To update this information approximate mortgage costs for a \$105,725 home (the median sales price of a home in Redmond in 1999) were calculated to be \$741.40 per month based upon the following assumptions:
 - a. \$105,725 purchase price
 - b. 30 Year Conventional Loan
 - c. 7.5% Interest
 - d. 20% Down Payment
 - e. \$150 per month cost for taxes and insurance

24. Based on the Deschutes County 1997 median family income of \$38,900, monthly house payments of \$741.40 represent 23% of the gross income, excluding utilities. Thus, the median income for Deschutes County seems to be more than adequate to purchase the median single family home in Redmond within the 30% "affordability" definition set out in Oregon Revised Statute 456.055.
25. The rental market includes all types of dwellings: single family homes, duplexes, triplexes, fourplexes, apartments, and manufactured homes in manufactured home parks. The 1990 median monthly gross rent in the City was \$380.00. No updated figures for median monthly gross rents are available.
26. Housing needs in the future will not be the same as those needed prior to 1999. The changing demographics within the community will lead to a variety of housing choices such as smaller single family homes, less yard area, more manufactured homes in parks, an increase in single family attached dwellings, and a greater demand for rental housing.
27. Detached single family homes will always be in strong demand. As the baby boomers reach retirement age a greater desire for smaller homes and lots will be created and there will be more interest in manufactured homes and attached dwellings.
28. Manufactured housing will become an option for the younger as well as the older householder. The percentage of manufactured homes will increase in the community.
29. Multifamily and attached single family housing is expected to provide a greater percentage of the future housing market. Younger workers and families will be attracted to attached single family homes - duplexes, triplexes, fourplexes - as well as to apartments.
30. To meet the housing demand, the number of dwellings that will be needed is 8,463.
31. There are 157 acres more than are required to accommodate the future 8,463 dwelling units needed for an urban area population of 35,845 persons if the housing mix is built as proposed in Table 15.

Chapter 5 ECONOMIC ELEMENT

ECONOMIC DEVELOPMENT IN REDMOND

Historically, Redmond's settlement, development and economy are all deeply rooted in land reclamation through irrigation, which established agriculture as the initial significant economic activity. Transportation, primarily highway and railroad, manufacturing and the forest products industry broadened this initial base. During the 1990s the number of new businesses and industries expanding or locating within Redmond exploded. Circumstances which helped create this economic growth include:

- A growing and stable workforce.
- A central location both geographically and from a labor force standpoint.
- The City's designation as a State Enterprise Zone which provides a number of financial incentives for new and existing businesses that locate in the zone.
- Over 1,100 acres of industrial lands.
- Roberts Field, Redmond's Municipal Airport, and Central Oregon's only commercial airport. It is also a general aviation airport which attracted numerous aviation-related businesses to re-locate to the community.
- A great quality of life.

POPULATION

Central Oregon¹² has been the fastest-growing region in Oregon for the last five years. Redmond is the geographic center of Central Oregon. Twelve communities are located within commuting distance of one another. Because it is common for people to live in one town and work in another, Redmond draws its labor pool from a regional community of 138,950.

Table 1

CENTRAL OREGON POPULATION 1998	
Crook County	16,650
Jefferson County	17,400
Deschutes County	104,900
TOTAL CENTRAL OREGON POPULATION	138,950

Source: 1998 population, Center for Population Research and Census, Portland State University

¹² Crook County, Deschutes County, and Jefferson County comprise the area known as Central Oregon

Seventy-five percent of the region's people reside in Deschutes County. The population of Deschutes County continues to rapidly expand. Deschutes County's overall population growth during the 1990s is the highest in the state in percentage terms; 39.9% growth between 1990 and 1998, or an addition of 29,942 residents. During these same years, Redmond added 5,270 additional residents within the City limits, a 73.6 % growth rate. The economy of the Redmond area is generally reflective of Deschutes County's economy and trends.

DESCHUTES COUNTY ECONOMY 1986 - 1996

QUALITY OF LIFE AND POPULATION GROWTH

Two factors are consistently cited for Deschutes County's economic success the past decade - quality of life and population growth. Quality of life plays a major role both in attracting new business to the area and in keeping existing businesses here as they grow and expand. Population growth, in turn, provides a larger labor force, one which has a wide variety of skills, education and expertise.

LABOR FORCE

The magnitude of the county's economic growth over the 1986 - 1996 decade is illustrated in Tables 2 and 3, which compare labor force data for 1986 and 1996. While population in Deschutes County rose by 48.1% the labor force grew by 52.7 percent.

The labor force has grown in part because more women and young people are participating in the labor market. The diversifying and rapidly expanding Deschutes County economy has provided a wide range of job opportunities, including large numbers of entry-level jobs for nearly anyone seeking employment. At the same time there are increased job opportunities requiring individuals with advanced and technical expertise.

The large number of seasonal and part-time jobs in the trade and service industries created by the rapidly expanding tourism/recreation industry has offered opportunities for additional family members to enter the labor force. See Table 4 - 2.

Table 2

LABOR FORCE CHANGES DESCHUTES COUNTY 1986 - 1996				
Employment	Annual Average Persons Employed		Change	
			Persons	Percent
	1986	1996		
Civilian Persons in the Labor Force	35,060	53,540	18,480	52.7%
Total Persons Unemployed	3,610	4,560	950	26.3%
Total Persons Employed	31,450	48,980	31,450	48,980

(NOTE: Workers involved in labor disputes are included among the employed. Total employment also includes agricultural workers and nonagricultural self-employed, unpaid family and domestic workers and nonfarm wage and salary employment adjusted for duplicate job holding and commuting. Source: Oregon Employment Department)

UNEMPLOYMENT

In spite of rapid population and employment growth, Deschutes County continues to experience fairly high unemployment rates. This problem results from the large number of seasonal jobs in logging, government, and tourism/recreation and the influx of new job seekers, many of whom experience a period of unemployment prior to finding a job.

INCOME AND WAGES

In 1997, median family income in Deschutes County was estimated by the Department of Housing and Urban Development at \$38,900. The median for the state is \$40,700. The relatively high median family income in Deschutes County comes partly from the large number of service and trade jobs created by the tourism/recreation industry, affording abundant second income job opportunities for household members. Another factor may well be the growing influx of relatively well-to-do persons who have moved into the area with incomes boosted by Social Security and investments. In 1995, per capita personal income was \$21,212 in Deschutes County, 5th highest in the state.

Table 3

PER CAPITA INCOME		
	1990	1996
Deschutes County	\$18,175	\$21,212
State	\$17,424	\$21,530
U.S.	\$19,142	\$23,196
Difference County - U.S.	\$967	\$1,984

Source: Oregon Employment Department

THE CHANGING COMPOSITION OF INDUSTRIAL EMPLOYMENT

Deschutes County has shown employment strength in a diversity of areas. The following is a summary from the Oregon Employment Department of industry sector changes which occurred in Deschutes County from 1986 to 1996.

Manufacturing

While manufacturing nationally leveled off from 1986 - 1996, this sector grew by 12.1% in Deschutes County, in spite of the loss of 940 lumber and wood products jobs. Manufacturing outside of the lumber and wood products industry actually grew by 96.2 percent!

Lumber and Wood Products

Lumber and wood products has long been Deschutes County's principal manufacturing enterprise contributing high paying jobs to the local economy, in spite of cyclical downturns in 1974-75 and 1980-82. Only since 1990 has the industry entered a period of steady decline, as is evident in Table 4, which compares average employment levels in construction and lumber and wood products in Deschutes County over the 1979-1996 period.

Table 4

AVERAGE EMPLOYMENT DESCHUTES COUNTY 1979-1996				
	1986	1990	1994	1996
Construction	1,210	2,210	2,960	3,240
Lumber & Wood Products	3,150	3,410	2,760	2,210

Source: Oregon Employment Department

In spite of automation of many mill processes and constraints on raw materials sources, expansion in remanufacturing, particularly millwork, peaked in 1990. Employment has subsequently declined in the face of timber harvest reductions.

Non-Lumber Manufacturing

Employment in non-lumber manufacturing firms jumped from 1,570 in 1986 to 3,080 in 1996. This 96.2% increase over the last decade is a notable achievement in an era of relative stagnation in manufacturing employment nationwide.

High-technology

High-technology is one of the most significant growth areas in manufacturing. The number of high technology-related jobs in the county rose from virtually nil in 1979 to more than 1,000 in 1996.

Nonmanufacturing

The county has experienced rapid growth in retail trade and service employment and in industries relating to tourism/recreation.

Finance, Insurance and Real Estate

These areas have grown strongly since 1990.

Construction, Services, and Trade

Over the 1986 - 1996 period, the largest percentage gains in the nonmanufacturing sector have occurred in construction, services, and trade. These gains were fueled by continuing population growth, the Central Oregon livability factor, attraction of new business enterprise, the rapid expansion of tourism/recreation/retirement activities, and the development of Bend-Redmond as a trade, financial, and service center for the central part of Oregon. The growing importance of tourism and recreation, as well as an influx of retirees is sure to promote a continuing expansion of services and trade.

Transportation, Communication and Utilities

Prior to 1990, employment in transportation, communication, and utilities had been declining over two decades, primarily due to the centralization and automation that has occurred in this industry in recent years, usually to the benefit of larger metropolitan characteristics. Since 1990, this trend has been reversed as the Bend-Redmond area has increasingly assumed metropolitan characteristics.

Government Employment

Although government employment has increased as the population has grown, its relative importance has declined markedly since 1990, a sign of budgetary restrictions and a "smaller government" philosophy.

Tourism

It appears that tourism in Deschutes County is relatively recession-proof and can provide something of a buffer during periods of economic downturn.

Table 5 illustrates the diversity of employment and the large percentage of service related jobs in the county from 1990 to 1996. Note the significant increases in all the nonmanufacturing sectors.

Table 5

CHANGES IN NONFARM EMPLOYMENT IN DESCHUTES COUNTY 1986 - 1996					
Industry Sector	Average Annual Employees			Change 1990 - 1996	
	1986	1990	1996	Persons	Percent
TOTAL NONFARM PAYROLL EMPLOYMENT	24,720	32,620	42,400	17,680	71.5%
Manufacturing, Total	4,720	5,460	5,290	570	12.1%
Lumber & Wood Products	3,150	3,410	2,210	- 940	-29.8%
Other Manufacturing	1,570	1,350	3,080	1,110	96.2%
Nonmanufacturing, Total	20,000	27,160	37,110	17,110	85.6%
Construction & Mining	1,210	2,210	3,240	2,030	67.8%
Transportation, Communication & Utilities	950	1,110	1,490	540	56.8%
Trade	6,060	8,570	11,470	5,410	89.3%
Finance, Insurance & Real Estate	1,790	2,060	3,200	1,410	78.8%
Services & Miscellaneous	5,710	8,260	11,650	5,940	104.0%
Government	4,290	4,970	6,060	1,770	41.3%

Source: Oregon Labor Trends, Oregon Employment Department, 1998

COMMERCIAL AND INDUSTRIAL LAND NEEDED TO THE YEAR 2020

EMPLOYMENT PROJECTIONS

In order to determine the amount of land needed for the future economic growth of Redmond projections of future employment figures within the urban area had to be determined.

Deschutes County Employment Forecast 2000 - 2020

The following long-term employment forecast was prepared by the Oregon Office of Economic Analysis. As shown in Table 6, employment is projected to increase by 17,673 persons (34.59%) over the 10-year period 2000 to 2010, and 10,435 persons (15.17%) over the ten year period 2010 to 2020. As these figures demonstrate, long-term economic forecasts call for a gradual slowing down of economic growth towards the second half of the 20-year time frame. This is consistent with statewide and national forecasts.

Table 6

DESCHUTES COUNTY NONFARM EMPLOYMENT FORECAST 2000 - 2020					
Year	2000	2005	2010	2015	2020
Jobs	51,090	60,659	68,763	74,507	79,198

Source: State of Oregon Office of Economic Analysis

Based on these employment projections the City used two methods to determine the acreage and the size of parcels needed to provide adequate opportunities for commercial and industrial growth. These methods include a ratio of employees per acre and historical land absorption rates.

Methods for Determining Needed Land

Employee Per Acre Method

The Office of Economic Analysis does not prepare employment forecasts for cities. Redmond's forecasted employment for the year 2020 was prepared by the consulting firm of David Evans & Associates (DEA) and is based on the Deschutes County employment projections from the State of Oregon Office of Economic Analysis, the forecast population in the Redmond urban area, a survey of existing employment within the Redmond UGB conducted October, 1998, and continued development of Redmond as a commercial and industrial center. The results of the survey are illustrated in Table 7.

Table 7

EMPLOYMENT SURVEY -REDMOND UGB OCTOBER, 1998								
Type of Employment	IDEM	RTEM	SEM	EDEM	GOVT	MED	OTEM	TOTAL
Number of Employees	1,701	1,998	1,244	449	562	659	63	6,676

Source: Redmond 1998 Employment Survey, David Evans & Associates, Inc.

- IDEM = Industrial Employment
- RTEM = Retail Employment
- SEM = Services Employment
- EDEM = Education Employment
- GOVT = Government Employment
- MED = Medical Employment
- OTEM = Other Employment

To forecast the number of employees working within the Redmond UGB by the year 2020, DEA made the following assumptions.

1. Assumptions for Industrial Employment Forecast

Industrial Density¹³

7 employees per vacant acre

Employees distributed proportional to vacant industrial designated acreage

2. Assumptions for Retail and Services Employment Forecast

Retail Density(C1 - C5)¹⁴

10 employees per vacant acre

Services Density (C1 - C5)⁰

10 employees per vacant acre

New Development: Retail 61.6%

Services 38.4

Employees distributed proportional to vacant acreage in each designated commercial area/zone.

3. Assumptions for Medical Employment Forecast

Future growth will be consistent with an estimated 4.25% average annual population gain. Growth accounts for increased medical demand related to increases in elderly population. New employees will be added to zones already containing existing employment and existing facilities will be expanded.

4. Assumptions for Education, Government, and Other Employment Forecast

Future growth is consistent with a projected 2.95% average annual growth in County employment. The County employment growth projection is based on historical growth over the last nine years. New employees will be added to zones already containing existing employment and existing facilities will be expanded.

Table 8 shows that, based on the Deschutes County labor force projection for 2020, approximately 18% of the county-wide labor market will work within the Redmond UGB. This is a slight increase from the City's approximately 16% of the total county employment in the 1990s.

¹³Based on the 1995 Crook County Highway 126 Transportation Corridor Study

¹⁴Density determined from existing employment and developed acreage information.

¹⁵Proportion of Retail vs Services employment assumed to remain consistent with existing pattern.

Table 8

FORECAST LABOR FORCE - 2020		
	Number of Employed	% of Total
Deschutes County	79,198	100%
Redmond	14,652	18.5%

Sources: State of Oregon Office of Economic Analysis; David Evans & Associates, Inc.

Table 9 illustrates existing numbers of employees by sector in October, 1998 and the 2020 forecast by sector, based on Redmond having approximately 18% of Deschutes County labor market by the year 2020.

Table 9

FORECAST EMPLOYMENT 1998 - 2020			
Type of Employment	1998 No. Of Employed	2020 No. Of Employed	Change 1998 - 2020
IDEM	1,701	4,999	3,298
RTEM	1,998	3,709	1,711
SEM	1,244	2,350	1,106
EDEM	449	852	403
GOVT	562	1,065	503
MED	659	1,557	898
OTEM	63	120	57
TOTAL	6,676	14,652	7,976

Source: Redmond 1998 Employment Survey, David Evans & Associates, Inc.

Table 10 illustrates that 752.74 (934.28) acres of land will be needed for future employment based on the number of employees per acre formula outlined on page 9. This table shows that of the 752.74 (934.28) acres, 471 acres will be needed for industrial jobs, while 281 acres are needed for commercial related jobs. Land for future employment in the medical, education, government and other employment sectors is assumed to be provided by either property which is already developed with these facilities where new employees will be added to existing and/or expanded facilities and/or residential lands where these uses are permitted.

Table 10

ACRES OF LAND NEEDED 1998 - 2020 BASED ON EMPLOYEES PER ACRE			
Type of Employment	Number of Employees	Divided By Employees Per Acre	Equals Total Acres Needed
<i>IDEM</i>	3,298	7	471.14
<i>RTEM</i>	1,711	10	171.10
<i>SEM</i>	1,106	10	110.50
<i>EDEM</i>	403	N.A.	N.A.
<i>GOVT</i>	503	N.A.	N.A.
<i>MED</i>	898	N.A.	N.A.
<i>OTEM</i>	57	N.A.	N.A.
TOTAL	7,976	N.A.	752.74

Historical Land Absorption Rates

The City considers land absorption rates the more accurate method for determining future land needs than the employees per acre method. During the ten year period 1988 - 1998, 120 net acres of commercial land and 150 net acres of industrial land was used, or 12 average acres annually of commercial land and 15 average acres annually of industrial land were used for development. These figures are *net acres* of developed land. Streets have been deducted from these figures.

The demand for commercial and industrial land varies from year to year rather than following a trend of steadily increasing need. Factors such as the development of a super store retailer like Wal-Mart or Fred Meyer, or the expansion or recruitment of a large manufacturing firm can affect the yearly figures.

The long-term historic pattern indicates an increase in demand as the population and economy grow.

The land needed for future economic development, using the absorption rate from 1988 to 1998 of commercial and industrial lands as a guide, is shown in Table 11.

Table 11

LAND NEEDED FOR COMMERCIAL USES	
Average Annual Acreage Used, 1989 - 1998	12 Net Acres
Multiplied by a 22 year planning period, 1998 - 2020	<i>Equals</i> 264 Net Acres
Plus 5% for streets and utilities	<i>Plus</i> 13 Acres
Total Commercial Land Needed 1999 - 2020	<i>Equals</i> 277 Gross Acres
LAND NEEDED FOR INDUSTRIAL USES	
Average Annual Acreage Used, 1989 - 1998	15 Net Acres
Multiplied by a 22 year planning period, 1998 - 2020	<i>Equals</i> 330 Net Acres
Plus 10% for streets and utilities	<i>Plus</i> 33 Acres
Total Industrial Land Needed 1999 - 2020	<i>Equals</i> 363 Gross Acres

Source: City Site & Design Review Permits and building permits issued; Deschutes County Site & Design Review Permits and building permits issued.

INDUSTRIAL AND COMMERCIAL LANDS INVENTORY

Redmond has a wealth of available light and heavy industrial lands in a variety of sizes. These lands are located east of Hwy. 97, and east of the Burlington Northern Railroad tracks. Rail service is provided to a number of these parcels. Vehicular access to these industrial areas is provided from two state highways: Hwy. 126 runs east - west through the center of these lands; and Hwy. 97 runs parallel to the western boundary of the two industrial zones. The Yew Avenue interchange provides a connection between these two highways via Airport Way. An alternate route has been proposed. See the Transportation chapter for details.

Table 13 shows the inventory of buildable commercial lands within the Redmond UGB as of December 31, 1999.

Table 13

BUILDABLE COMMERCIAL LAND INVENTORY - REDMOND UGB DECEMBER 31, 1999							
Zone & Plan Designation	Fully Vacant Acres	plus Partially Vacant Parcels	equals Gross Buildable Vacant Acres	minus 5% of the Gross Buildable Acres	equals Net Buildable Vacant Acres	plus Redevelopable Acres	equals Net Buildable Acres
C-1	168	106	274	14	260	78	338
C-2	38	2	40	2	38	20	58
C-3	26	2	28	1	27	4	31
C-4	14	0	14	1	13	4	17
C-5	85	0	85	4	81	0	81
TOTALS	331	110	441	22	419	418	525

Table 14 shows the inventory of buildable industrial lands within the Redmond UGB as of December 31, 1999.

Table 14

BUILDABLE INDUSTRIAL LAND INVENTORY - REDMOND UGB DECEMBER 31, 1999							
Zone & Plan Designation	Fully Vacant Acres	plus Partially Vacant Parcels	equals Gross Buildable Vacant Acres	minus 10% of the Gross Buildable Acres	equals Net Buildable Vacant Acres	plus Redevelopable Acres	equals Net Buildable Acres
M-1	772	132	904	90	814	43	857
M-2	366	35	401	40	361	110	471
TOTALS	1,138	167	1,305	130	1,175	153	1,328

Table 15 shows the inventory of buildable airport lands within the Redmond UGB as of December 31, 1999.

Table 15

BUILDABLE AIRPORT LAND INVENTORY - REDMOND UGB DECEMBER 31, 1999							
Zone & Plan Designation	Fully Vacant Acres	<i>plus</i> Partially Vacant Parcels	<i>equals</i> Gross Buildable Vacant Acres	<i>minus</i> 10% of the Gross Buildable Acres	<i>equals</i> Net Buildable Vacant Acres	<i>plus</i> Redevelopable Acres	<i>equals</i> Net Buildable Acres
M-1(AC) (Airport)	887	5	892	89	803	0	803
TOTALS	887	5	892	89	803	0	803

Table 16 shows the inventory of buildable industrial lands within the Redmond UGB as of December 31, 1999.

Table 16

BUILDABLE LEASEHOLD LAND INVENTORY - REDMOND UGB DECEMBER 31, 1999							
Zone & Plan Designation	Fully Vacant Acres	<i>plus</i> Partially Vacant Parcels	<i>equals</i> Gross Buildable Vacant Acres	<i>minus</i> 5% or 10% of the Gross Buildable Acres	<i>equals</i> Net Buildable Vacant Acres	<i>plus</i> Redevelopable Acres	<i>equals</i> Net Buildable Acres
C-5	81	0	81	8	73	0	73
M1	380	71	451	22	518	0	518
M2	15	0	15	1	14	1	15
OSPR	110						110

Table 17 shows that, whether the employee per acre (277 acres) or the absorption method (229 acres) is used, there is a surplus of commercially zoned land to meet the forecast needs to the end of the 2020 planning period.

Table 17

COMMERCIAL LANDS ANALYSIS					
Zone and Plan Designation	Net Buildable Lands	Acres Required by Employees Per Acre	Acres Required by Land Absorption	Surplus Acres - Employees Per Acre	Surplus Acres - Land Absorption
C-1	338				
C-2	58				
C-3	31				
C-4	17				
C-5	81				
TOTAL	525	296	277	229	248

Table 18 shows that, whether using the employee per acre model or the land absorption model, there is a surplus of 494 acres and 386 acres respectively of land zoned M-1 Light Industrial. The table also shows that for M-2 Heavy Industrial lands, there is a deficit of lands using the employee per acre model and a surplus of 108 acres if using the land absorption model.

Table 18

INDUSTRIAL LANDS ANALYSIS					
Zone and Plan Designation	Net Buildable Lands	Acres Required by Employees Per Acre	Acres Required by Land Absorption	Surplus Acres - Employees Per Acre	Surplus Acres - Land Absorption
M-1	857	363	471	494	386
M-2	471	471	363	0	108
TOTAL	1,328	834	834	494	494

Sources: Commercial and Industrial Lands Inventory; Forecast Employment Within the Redmond UGB, 1998 - 2020, David Evans & Associates, Inc.

CHANGES TO THE INDUSTRIAL LANDS INVENTORY

Both private and public lands are available for industrial development. The City is the largest land owner of industrial zoned lands. However, some of these public lands have a restrictive clause administered by the Federal Aviation Administration (FAA) which currently allows the City to lease, not sell these lands. To reflect this situation, and to provide an accurate inventory of industrial lands, the following new zoning designations have been created.

Leasehold - “L”

All lands which have a FAA restrictive clause are identified on the Redmond Urban Area Comprehensive Plan and Zoning Map with an “L”, identifying their leasehold status. Some industrial, commercial and fairgrounds lands have this designation.

Airport Zone

An Airport Zone was established for those lands committed to the development of Roberts Field, Redmond’s Municipal Airport, which is owned and operated by the City. These lands are identified on the Redmond Urban Area Comprehensive Plan and Zoning Map as “Airport Zone”. This zone is intended to set aside those lands that are identified in the Airport Master Plan adopted by the Redmond City Council in 1998.

During the past decade lands zoned Light Industrial have been absorbed by development at a rate twice that of Heavy Industrial lands. A comparison of the absorption rate from 1987 to 1998 is shown in Table 12.

Table 12

INDUSTRIAL ACRES USED 1987 - 1998	
Type	Average Used Per Year
Light Industrial M - 1	10
Heavy Industrial M - 2	5

Source: City and County building permits

However, the actual uses developed as light industrial have been at an even greater absorption rate due to the existing zoning which allows light industrial uses to develop on Heavy Industrial M-2 lands. Although it is expected that this development pattern will continue and, in fact, expand during the planning period, the City believes that to be fully competitive in the future it also needs to have a variety of larger industrial parcels available for development. Therefore, in recognition of the changing face of industrial development in the future, the 2020 Committee has recommended the following changes:

Campus Industrial Overlay Zone

The City will create an overlay zone with specific criteria for the development and location of campus industrial areas.

Retention and Expansion of the Casper Acres area as General Residential Zone - R-4

Casper Acres is an area located between Evergreen Avenue and Antler Avenue, east of Jackson Street. The area was designated in the 1979 Comprehensive Plan for conversion to Heavy Industrial M-2 zoning in 1996. However, the area provides needed housing for low and moderate income householders that could not be replaced in the community given current land costs. The City reversed its position and has designated the Casper Acres area General Residential Zone R-4 on the Redmond Urban Area Comprehensive Plan and Zoning Map.

CHANGES TO THE COMMERCIAL LANDS INVENTORY

Conversion of Commercial Business District C-2 lands at the north and south “Y’s”, or entrances from Hwy. 97 to the community, to Strip Service Commercial C-1

Designation/Zone

25 Acres

The existing pattern of development at the north and south “Y’s” reflects that of Strip Commercial, C-1, rather than Commercial Business District C-2.

Conversion of Light Industrial M-1 and Heavy Industrial M-2 lands adjacent to the Deschutes County Fairgrounds to Tourist Commercial C-5 Designation/Zone

103 Acres

There are two reasons the City changed the designation/zoning on the properties formerly zoned Light Industrial M-1 and Heavy Industrial M-2 which are located east of the railroad tracks, adjacent to The Deschutes County Fair and Convention Center. First, development of industrial uses permitted in the M-1 and M-2 zones adjacent to the Deschutes County Fair and Convention Center could create conflicts between the different types of uses and operating characteristics of such uses. Second, the C-5 zone is intended “to provide for commercial and public recreational facilities oriented to tourists as well as residents.”

Change of Light Industrial M-1 to Strip Service Commercial C-1

4.38 Acres

The two properties have access to Hwy. 97 and are improper locations for many of the uses allowed as light industrial development.

Change from Heavy Industrial M-2 to PARK

5.87 Acres

Firemen’s Pond is re-designated/zoned to a new category, PARK

Change from Limited Residential C-3 to Central Business District Commercial C-2

4.87 Acres

This change reflects the pattern of development between 8th and 9th Streets, Antler to Glacier Avenues.

Change from Light Industrial M-1 to PARK

40.56 Acres

The Redmond Caves are designated/zoned PARK.

Designation/zoning of the City’s park lands to PARK

73.79 Acres*

(*Excluding the aforementioned Firemen’s Pond and The Redmond Caves, and The Redmond Dry Canyon which is Open Space Park Reserve)

SUMMARY OF THE COMMERCIAL AND INDUSTRIAL LANDS INVENTORY

Future firms that develop in Redmond will need a variety of parcel sizes and settings in which to locate. Changes that were made in order to provide a mix of parcel sizes, site amenities and locations to serve a variety of new businesses and industries are set out in the next sections.

LAND DESIGNATIONS

There are five commercial land designations and two industrial designations within the urban area as shown in Tables 14 and 15.

Table 14

COMMERCIAL DESIGNATIONS		
Plan Category	Description	Size Requirement
Strip-Service Commercial C-1 Zone	Provides for commercial uses and services primarily oriented to automobile traffic, requiring extensive outdoor display and storage, and support of the central business district or principal downtown shopping area.	None
Central Business District Commercial (CBD) C-2 Zone	Provides an area suitable for commercial uses and services on a broad basis to serve as the central shopping or principal downtown area for the City.	None
Special-Service Commercial C-3 Zone	Provides for emergency services such as medical-health care for the City and location close to these facilities for those persons in most need of such services, such as the elderly.	None
Limited Service Commercial C-4 Zone	Provides for a lower intensity of heavily auto-related business at the west entry to the City.	None
Tourist Commercial C-5 Zone	Provides commercial and public recreational facilities oriented to tourists as well as residents.	None

Table 15

INDUSTRIAL DESIGNATIONS		
Plan Category	Description	Size Requirement
Light Industrial M-1 Zone	<p>Provides for light industrial uses which have a limited impact on surrounding properties and are compatible with clean non-polluting industries.</p> <p>Allows for office space and limited commercial activity which supports light industry and is compatible with those industries.</p>	None
Campus Industrial Park (OVERLAY ZONE)	<p>Provides for high quality research and development and certain “clean” light industrial uses which will benefit from a siting near other uses which are compatible with each other.</p> <p>Provide space for industrial uses that meet high performance standards for control of environmental emissions, and where site activities that detract from the visual or other environmental qualities of the district are strictly regulated.</p>	None
Heavy Industrial M-2 Zone	<p>Provides for industries that have a more pronounced impact on the urban environment than industrial uses allowed in the M-1 Zone because of noise, smoke, air and other emissions or because of traffic and other operating characteristics associated with these industries.</p> <p>Permits heavy commercial uses in areas .</p>	None

FINDINGS

1. Hwy. 97 is a two legged couplet running through the downtown business area. Traffic is very heavy, with substantial truck traffic driving through the downtown.
2. Bend has become a regional shopping center providing many national chains and big box outlets. Redmond's downtown retail stores are suffering from this competition.
3. Downtown remains the central location for government services such as City Hall, the Deschutes County library, the Police Department, Deschutes County Community Development Department, Deschutes County Sheriff's Office, Redmond Chamber of Commerce, REDAP, and the Oregon State Employment Office.
4. Within the Downtown area there is one landscaped public park next to the Chamber of Commerce office building which can be used for small gatherings.
5. Outside of the Central Business District very little pedestrian traffic is evident in commercial or industrial areas.
6. Hazardous ingress and egress situations exist, particularly on properties adjacent to State Hwys. 97 and 126, due to numerous individual uncontrolled access points and higher traffic volumes at higher speeds.
7. The commercial areas have a tremendous impact on the appearance of the community. Since they are located along major traffic routes in and out of the area, they are seen by more people each day than any other parts of the community.
8. Redmond Economic Development Assistance Partnership (REDAP) is a partnership of the City of Redmond and the Redmond Chamber of Commerce. It was formed to coordinate and assist with the economic development activities for the community of Redmond with an emphasis on business retention, expansion opportunities and the promotion of new business development relating to industrial manufacturing.
9. Through marketing Central Oregon Economic Development Council (COEDC) assists Central Oregon communities to attract new businesses for the region.
10. Central Oregon Community College (COCC) has a campus in Redmond. Four year degrees may be achieved through COCC's University Center which is a consortium of 4-year colleges.
11. No lumber mills are operating in the Redmond UGB.
12. The bulk of new jobs in Redmond come from small businesses.
13. "Businesses services" is the fastest economic growth area in Central Oregon.
14. Redmond is a State designated Enterprise Zone.
15. Roberts Field, Redmond's Municipal Airport, is owned and operated by the City. It is the only commercial service airport in Central Oregon.
16. Private and public lands are available for industrial development.
17. The City is the largest land owner of industrial zoned lands. However, some of these public lands have a restrictive clause administered by the Federal Aviation Administration (FAA) which currently allows the City to lease, not sell these lands.
18. Since 1990 only one leased industrial zoned parcel has been developed, compared to over a half a dozen industrially zoned properties which have been developed on land which was sold, not leased.

Chapter 6

PARKS, RECREATION AND OPEN SPACE ELEMENT

BACKGROUND

Parks, natural resource areas, open space, trails and associated recreation facilities are an important component of Redmond's quality of life. The pressure to provide these amenities for the current population, as well as the additional 22,000+ residents who will be living in the Redmond Urban Growth Boundary by 2020, is a difficult task. Vacant land in all parts of the urban area is being rapidly developed and funds necessary to acquire and develop remaining available lands for public uses are limited.

PROVIDERS OF PARK FACILITIES

The City, Central Oregon Parks and Recreation District (COPRD), Redmond School District 2J and Deschutes County have been, and will continue to be, the primary providers of parks, open space, trails, sports fields, recreation centers and recreational programs.

The City of Redmond is the primary provider for park facilities within the City limits. The City acquires, develops and maintains all City parks. There are twelve city park sites in the urban area and more than 317 acres of city park land. The older neighborhoods are generally well represented with parks. The southwestern part of the urban area has experienced rapid residential growth in the 1990's but only one park site, with a total of 3.02 acres, has been developed in this area.

The Central Oregon Parks and Recreation District operates and maintains the Cascade Swim Center and a wide variety of recreation programs.

The School District owns, operates and maintains school ball fields and recreational facilities adjacent to some schools throughout the City. Combining certain park facilities and activities with the School District can reduce public costs.

An interagency (City, COPRD, School district) cooperative agreement has been executed to better coordinate facilities maintenance and funding efforts.

Outside of the City limits, but within the Urban Growth Boundary, the City/County Management Agreement allows the County to acquire parcels for future City park use. The County, however, does no park planning or development, leaving this totally to the State, City, schools and park districts.

PARK DEVELOPMENT AND ACQUISITION

Acquisition and development of parks and recreation facilities has been done slowly and on a case by case basis in the past through dedication, development fees, set-asides, land trades with private individuals and public entities, grant monies matched with municipal funds, and outright purchases. In addition, much of the recent park development and playground equipment has been provided by volunteers.

The City has no formal (Vision 2020 Committee said “an inadequate) system for financing park improvements other than funds budgeted annually to fulfill projects from a list recommended by the City’s Parks commission. In the 1980’s developers of residential lands were required to set aside and dedicate to the public for park and recreation purposes a percent of the gross area of such development, if the land was suitable for parks. In the event there was not a suitable park or recreation area the developer was required to pay into a park acquisition and development fund a sum of money equal to the fair market value of the land that would have been dedicated. This was known as an “in lieu of land fee”. In 1991 a System Development Charge (SDC) for parks was implemented. In 1995 the park SDC was increased to include the in lieu of land fee, which was then eliminated. However, developers may still elect to donate land for park purposes, and, if accepted by the City, be reimbursed through SDC credits. From 1990 -1999 only four residential developers dedicated land to the City for park use rather than pay fees. If this pattern continues, the City will face a challenge in meeting its goal and policy of providing a neighborhood park within one-half mile of every dwelling unless the City is able to purchase park land prior to development. Early acquisition of park land provides a cost benefit to the public and can enhance the proper location of park sites in relation to population distribution, and the location of utilities and transportation. Since 1990 significant park land acquisition and development by the City, with assistance from volunteers, recreation organizations, and private developers has occurred. See Table 1.

Table 1

PARK DEVELOPMENT & ACQUISITION SINCE 1990	
Facility	Acres
Neighborhood Parks	
<input type="checkbox"/> Quince Park	4.10
<input type="checkbox"/> Hayden Park	3.12
Public Recreation Facilities	
<input type="checkbox"/> Umatilla Sports Complex , including purchase of restrooms, concession stands and storage area from The Redmond Little League	10.64
<input type="checkbox"/> Jaqua Sports Complex - Field of Dreams	14.00
Private Recreation Facilities	N.A.
<input type="checkbox"/> The Greens - private 9-hole golf course open to the public	
Public Trails	
<input type="checkbox"/> Canal Trail at The Greens	
<input type="checkbox"/> The North Canyon Nature Trail	
City acquisition of park land	
<input type="checkbox"/> In the Redmond Dry Canyon	57.61
<input type="checkbox"/> The Spudbowl	4.72
<input type="checkbox"/> On top of the Redmond Dry Canyon	1.50
<input type="checkbox"/> Adjacent to Stonehedge South	0.61
<input type="checkbox"/> Kiwanis Field	1.54
<input type="checkbox"/> 19th & Quartz future neighborhood park	10.25
<input type="checkbox"/> 23rd Street N. / N. of Hugh Hartman School	8.03
TOTAL ACRES OF PARK LAND DEVELOPED OR ACQUIRED	116.12 Acres/ 1.9 trail miles

Source: City of Redmond Pubic Works Department and Redmond School District 2J

PARK PLANNING

Planning efforts are needed to assure that an adequate supply of park land is available to meet the future demand for community and neighborhood parks, sports fields, recreation centers, open space and trails. At this time the City does not have an adopted Parks Master Plan. An individual Master Plan was developed for The Central Canyon and the improvements were recently completed. The City has hired the consulting firm of David Evans & Associates to prepare A Redmond Public Facilities Plan - Parks. A list of priorities and an implementation plan for park improvements will be developed. Fifty-eight improvement projects have been identified. Twenty-three of these projects are related to acquisition of property for park preservation or future development. Eighteen of these park projects relate to existing park site improvements (in both the City and COPRD). Five of these park projects relate to development of City-owned property. Eight of the park projects relate to development of identified acquisition parcels, two projects are trail related projects, and two projects are identified as special projects.

PARK LAND NEEDED

A variety of factors are considered when determining whether additional park land is needed to serve the population of 36,000+ persons who will be living in the urban area by the year 2020. Tables 2 and 3 represent The National Recreation Parks Administration recommended standards as guidelines for developing projected park facilities based on population. These standards were reviewed during the development of this chapter as well as during the development of A Redmond Public Facilities Plan - Parks. They were not, however, adopted as standards, but were instead used as guidelines in the development of policies for this chapter.

Table 2

PROJECTED PARK FACILITIES NEEDS BASED ON 36,000+ POPULATION IN 2020						
Type of Facility	Standard		Existing Facilities		2020	
	Service Population	Acres/Siting	Total	Developed Acres	Total Needed	Total Acres Needed
Mini - Parks	Varies ¹⁶	Up to 1.0	3	2.43	0	0
Neighborhood Parks	2,000 - 5,000	5 to 10	7	34.68	7-19	35-95
Community Parks	5,000-20,000	15 - 50	2	43	2-7	30-105
Sports Parks	15,000 - 25,000	30 plus	9	135.53	2	60
Aquatic Center (5 - 7 mile radius)	25,000	5	1	2.0	2	10
Bikeways Pathways Trails (per 1,000 population)	1 to 1.5 miles .5 to .7 miles .3 to .5 miles	Varies Varies Varies	2	5.58 Acres+ 1.9 miles of trails	11-18 miles	N.A.

Source: Draft A Redmond Public Facilities Plan - Parks, David Evans & Associates, Inc.

¹⁶Development and need is not standardized for mini-parks.

Table 3

ACTIVITY FACILITIES - PROJECTED NEEDS							
Facility	Standard		Existing Inventory		Year 2020		
	Per 1000 persons	Acres per facility	Total Facilities	Total Acres	Facilities needed	Acres Needed	
						Low	High
Informal Softball Fields	1/3,000	1 - 2	8	9.3	13	13	26
Regulation Softball Diamonds	1/5,000	4-6	12	16.0	7	28	42
Regulation Baseball Diamonds	1/10,000	8-10	2	3.0	4	32	40
Basketball Courts	1/1,000	1/4	14	3.5	38	95	95
Multi-purpose Courts	1/3,000	1/4 - 1/2	14	3.5	13	4	6.5
Tennis Courts	1/3,000	1/4	8	1.5	13	3.5	3.5
Volleyball Courts (outdoor)	1/5,000	1/4	1	0.25	8	2	2
Football/Soccer Fields	1/3,000	3/4 - 1	10	4.0	13	9.5	13
18-hole Golf Course	1/25,000	175-225	1	125.0	2	350	450
Swim Center	1/25,000	2-3	1	2.0	2	4	6
Skating Rinks/Skate Park	1/25,000	1-2	0	0	2	2	4
Boat Ramps	1/10,000	1/4 - 1/2	0	0	4	1	2
Picnic Areas	1/2,000	1-2	10	15.0	19	19	38
Picnic Tables	5/1,000	Unknown	75	Unknown	185	U.K.	U.K.
Tot Play Area	1/4,000	1/4	6	10	2.5	2.5	2.5
Children's Play Area	1/2,000	1/3-1/2	14	3.5	19	6.5	9.5
Open Lawn Play Areas	1/2,000	2-3	10	20.0	19	38	57
Quiet Passive Areas	1/2,000	2-3	20	20.0	19	38	57
Outdoor Classrooms	Varies	1/2 - 1	0	0			
Off-Street Parking	300-500 sf/space		**	**			
Landscape Buffering/ Screening/Setbacks	15-20% of park		**	**			
Undesignated Space	10% of park		**	**			

Source: Draft: A Redmond Public Facilities Plan, David Evans & Associates, Inc.

** No quantity information

TYPES OF PARKS

Parks within the Redmond Urban Growth Boundary are classified as mini-parks, neighborhood parks, community parks, natural resource areas and special use parks.

MINI PARKS

2,500 square feet to 2.5 acres

Mini-parks supply a minimum of park lands in high density developed areas. The size and location of mini-parks are determined mostly by the availability of vacant land.

NEIGHBORHOOD PARKS

Three to five acres

Ideally, neighborhood parks should be located within a one-half mile radius of the residents served. Neighborhood parks are primarily pedestrian parks. Neighborhood parks generally attract a large number of organized groups. Typical facilities in a neighborhood park include: play fields; picnic areas; playground equipment; multi-purpose courts; restrooms; paths; and small shelters.

COMMUNITY PARKS

5 Acres+

Community parks should be centrally located for citizens of the community and outlying areas. Community parks have the potential for providing a greater diversity of activities such as sports complexes, stages, community centers, swimming pools, sheltered picnic areas, museums, band stands, bike and running trails, etc. Community parks should be located within one to three miles of each home and within a fifteen-minute walk or bike ride. They are ideally located adjacent to junior high or high schools.

NATURAL RESOURCE AREAS

Include lands set aside for preservation of significant natural resources.

SPECIAL USE PARKS

A special-use park is any park that does not fall into any of the definitions of the other types of parks. Examples of special use parks may include small "tot-lots", parks developed specifically for nature studies, small parks along a trail system, or overlook parks on the canyon.

Table 4 is an inventory of existing and proposed parks, natural resource areas, trails and recreation facilities located within the Redmond Urban Growth Boundary.

Table 4

INVENTORY OF EXISTING AND PROPOSED PARKS, NATURAL RESOURCE AREAS, TRAILS AND RECREATION FACILITIES WITHIN THE REDMOND UGB		
I. Parks		
A. Mini Parks - 2,500 square feet to 2.5 acres		Acres
Chamber Park	Benches, picnic tables, picnic shelters, on-street parking	.20
Library Park	Benches, parking	1.73
Stack's Park (privately owned)	Open space	1.39
North & South Islands/Entrance to City	Open space	.60
Total Acreage - Mini Parks		3.92
B. Neighborhood Parks - 3 to 5 acres		Acres
Baker Park	Play equipment, pavilion, benches, picnic tables, BBQ, parking	1.77
Kalama Park	Play equipment, Little League baseball field, small soccer field, benches, picnic tables and a basketball court	2.63
Hayden Park	Play equipment, benches, BBQ, parking	3.02
Quince Park	Play equipment, benches, picnic tables, BBQ, 2,200 feet of a paved path, parking	4.10
Total Acreage - Neighborhood Parks		11.52
C. Community Parks - 5+ acres		Acres
Sam Johnson Park (Central Canyon)	Play equipment, benches, picnic tables, pavilion, parking	6.88
Bowlby Field (Central Canyon)	Two baseball fields, four tennis courts, concession stand, picnic areas, parking	6.75
Ray Johnson Park	Play equipment, benches, four horseshoe pits, parking	8.24
Spudbowl (Central Canyon)	Cinder track, soccer field, parking	4.72
Total Acreage - Community Parks		26.59

D. Natural Resource Areas		Acres
The Redmond Dry Canyon(excluding designated park areas within the Canyon)	Open space and The North Canyon Nature Trail	183.71
The Redmond Caves	Undeveloped	40.54
Total Acreage - Natural Resource Areas		224.25
E. Special Use Parks		
Firemen's Pond	Fishing pond for children under 14 years of age, picnic areas, parking	5.77
Total Acreage - Special Use Parks		5.77
II. Bikeways, Pathways & Trails		
The North Canyon Nature Trail ¹⁷	Paved trail for pedestrians and bicyclists, parking area	1.90 Miles
Canal Trail at The Greens	Pedestrian trail	5.58
Total Acreage - Bikeways, Pathways & Trails		5.58
III. Recreation Facilities		
Cascade Swim Center - Rimrock	Indoor swim pool, play equipment, basketball court, benches, bleachers, picnic tables, BBQ, parking	4.40
Juniper Golf Course ¹⁸	18 hole public golf course, clubhouse, benches, picnic tables, parking	125.00
The Greens at Redmond (private)	9 hole private golf course open to the public	N.A.
Bowling lanes (private)	Lanes, parking	N. A.
Total Acreage - Recreation Facilities		129.40

¹⁷ Acreage is already accounted for in the Redmond Dry Canyon acreage

¹⁸ Juniper Golf Course will move from its existing site, which is on City leasehold land, before the year 2020. It is anticipated that a course will be developed immediately south of the Deschutes County Fairgrounds.

IV. Athletic Fields		
Kiwanis Field	Combination baseball and soccer field	1.54
Umatilla Sports Complex	Three Little League baseball fields, one soccer field, three dugout buildings, play equipment, benches, bleachers, parking	10.64
Jaqua Sports Complex Field of Dreams	Three soccer fields/baseball diamond, benches, bleachers, picnic tables	14.00
Total Acreage - Athletic Fields		26.18
V. School District Fields		
Edwin Brown - 9th & Antler	Playground area, parking	1.00
M.A. Lynch Elementary School - 14th & Kalama	Play equipment, three baseball diamonds, parking	7.87
John Tuck Elementary School - 210 N. 10th	Two baseball diamonds, one soccer field, play equipment, basketball hoops, gymnasium, playground, benches, bleachers, picnic tables, parking	5.60
Vern Patrick Elementary School - Obsidian Ave.	Play equipment, basketball hoops, two baseball diamonds, one soccer field, gymnasium, parking	12.35
Hugh Hartman Middle School - Antler & 19th	Football and soccer field, track facilities, basketball hoops, gymnasium, parking	17.54
Obsidian Middle School - 11th & Lava	Basketball hoops, play area, soccer fields, gymnasium, track, parking	20.45
High School Fields - 675 S.W. Rimrock	Three baseball diamonds, football field, soccer field, basketball hoops, track, gymnasium, field lights, benches, bleachers, picnic tables, parking	38.31
Total Acreage - School District Fields		103.12

VI. Undeveloped City Land Proposed for Future Park Development		
Valleyview Park	Undeveloped	10.31
Central Canyon	Undeveloped	11.07
Hartman Park	Undeveloped	8.03
20th & Quartz	Undeveloped	10.25
Total Acreage- Undeveloped City Land Proposed for Future Park Development		39.66

Sources: Redmond Public Works Department, Redmond School District 2J

THE REDMOND DRY CANYON

The Redmond Dry Canyon area from Quartz Avenue north to Pershall Avenue stands alone as a well-defined, scenic geographic feature within the community of Redmond. Historically it has been viewed as a unique natural treasure by the citizens of Redmond, who in 1978 voted in favor of an Open Space, Park Reserve land use designation for those canyon lands within the Redmond Urban Growth Boundary. This designation was subsequently incorporated into the Redmond Urban Area Comprehensive Plan and implementing ordinances in 1979. This plan and the implementing ordinances were acknowledged by the State Land Conservation and Development Commission on March 20, 1981.

Much of the canyon is no longer native environment, as cultural modifications over the last 85 years have introduced surface irrigation, agriculture and residential construction. What remains is a natural area reinforced over time as a cultural landmark.

In 1995 the Redmond City Council set a course to control the canyon through acquisition of private lands within the canyon. Since then approximately 73 acres of canyon land has been acquired by the City. There remains approximately 77 acres of canyon land in private ownership as shown in Table 5. The City hopes to either acquire these lands or obtain an easement from the individual property owners for the extension of the Canyon Trail on the privately held lands.

Table 5

Canyon Area	Privately owned land
North Canyon	54.5 Acres
Central Canyon	12.9 Acres
South Canyon	9.8 Acres
TOTAL ACRES	77.2 Acres

Source: City of Redmond

THE REDMOND CANYON PLAN

In 1984 The Redmond Canyon Plan was adopted by the Redmond City Council. (Ordinance 596, 8-14-84). This document contains revisions to the 1984 Redmond Canyon Plan which were made to reflect the changes in ownership, development and policy that have occurred since 1984.

PURPOSE

The purpose of The Redmond Canyon Plan is to:

- Preserve and provide for open space areas of natural, scenic or geological significance for the citizens of Redmond;
- Provide and allow for recreational opportunities, both passive and active, in appropriate locations in the canyon by the public and private sectors; and,
- Provide a framework for implementation by establishing a policy for public acquisition of lands within the Dry Canyon and by allowing certain transfers of development rights on lands not needed for public use.

CANYON DIMENSIONS

The canyon is approximately 3.6 miles in length with an average width of 633 feet from rim to rim. The average depth of 45 feet, with a maximum depth of 70 feet and a minimum depth of 20 feet. The canyon floor slopes one percent down to the north.

CULTURAL SITE CHARACTERISTICS

The canyon area from Quartz Avenue north to Pershall Avenue is a natural area of significance. Due to the volcanic origin of the Redmond area and the subsequent porous soils, seasonal rainfall and subsoil basalt layers, adequate water access and drainage may pose problems.

Property within the Dry Canyon is owned by both private and public interests with the greater percentage of land in public ownership. Private ownership consists of:

- Lots with residences physically located in the canyon floor.
- Lots on top of the canyon rim with a portion extending into the canyon itself with a residence constructed or capable of being constructed on top of the canyon rim.
- Vacant parcels within the canyon itself or located both above the canyon rim and in the canyon where the predominant part of the parcel is located within the canyon.

Use of the Dry Canyon has varied. To the north the canyon has been used for agricultural grazing. Just north of the Antler/Black Butte Avenue crossing to the northern edge of the UGB the walls of the canyon are very steep and severely restrict development. There is no vehicular public access into this north area. A Maple Avenue crossing is proposed. In the central canyon residential, recreational and agricultural uses have occurred. Most of the residences in the canyon are located between Evergreen and Antler/Black Butte Avenues because there is limited vehicular access to these parcels. Recreational facilities have been developed between Antler/Black Butte and Highland Avenues. This area has a high population density adjacent it. To the south of Highland Avenue, the land has been used predominantly as open space with little or no agricultural or no recreational uses developed.

ACCESS AND PUBLIC SERVICES

There are five (5) designated motorized vehicular access points into the canyon as adopted on the Redmond Urban Area Transportation Plan Map:

- Antler/Black Butte Avenue at grade crossing
- Quartz Avenue
- 19th Street near the wastewater treatment plant
- Maple Avenue
- Raised crossing at Highland Avenue

Utility lines in the canyon include a city sewer main, a water line and natural gas lines. A sewer main line runs the entire length of the canyon floor. The area between Evergreen and Highland and between Obsidian and Quartz has no line on the canyon floor except for a crossing at Pumice Avenue. An 800 foot section of water line runs on the canyon floor at Bowlby Park and a 200 foot section on 15th adjacent to the Spud Bowl. Other than these two 6 inch water lines and the well in the canyon at Maple, no water lines run on the bottom of the canyon. Water lines cross the canyon at Maple, Antler/black Butte, Cascade, Highland and Obsidian. Natural gas lines extend into the canyon at 15th near the Spud Bowl and at Evergreen.

CULTURAL MODIFICATIONS

The predominant built structure pattern in the areas adjacent to the canyon is one of single family residential.

The only areas where the existing built pattern of structures is transposed into the canyon is in those areas where the gentlest grade transition occurs into the canyon, namely the central canyon and the south end.

Accompanying this pattern of built structures is the perceivable pattern of introduced vegetation. As might be expected, in the older residential area adjacent to the canyon mature deciduous street trees dominate; among these are American Elm, Black Walnut and Locust. There exists also a relatively large number of coniferous street trees as well. The major pattern of trees in the canyon itself, overlaid upon and intermixed with the existing Western Juniper native association, is the hedgerow. This consists of Lombardy Poplar, Fir and Black Locust and follows field lines of lots and irrigation canals within the canyon. In some cases, these hedgerows are actual continuations from above the rim of the canyon.

The pattern of earth form modification is represented by surface irrigation canals, either in use or abandoned, and trails from above the rim and the North Canyon Nature Trail.

LAND DESIGNATIONS WITHIN THE DRY CANYON

Land in the Dry Canyon is designated as Preservation Area, an Enhancement Area, a Park Area, or a Public Facilities Zone.

Preservation Areas

Preservation Areas are intended to provide for the preservation or enhancement of natural features, resources and amenities, including views and vistas, canyon walls, native juniper stands, and exposed rock outcroppings. Preservation Areas shall be those lands within the Dry Canyon so identified on the Dry Canyon Master Land Use Plan Map.

Those areas designated Preservation Areas on the Dry Canyon Master Land Use Plan Map were selected because they meet the following criteria:

1. A high incidence of natural vegetation or identification of groupings of mature trees.
2. Natural rock formations or geological features.

Enhancement Areas

Enhancement Areas are private lands characterized by a high degree of land form modification (relative to the rest of the open space). Those areas designated Enhancement Areas on the Dry Canyon Master Land Use Plan Map were selected because they meet the following criteria:

1. The land has been modified due to the relative ease of construction of access points.
3. A low incidence of remaining natural vegetation.
4. Existing recreation and education facilities in or near the area.
5. Absence of exposed rock outcroppings or geological formations.
6. Appropriate existing grades for public access requiring a minimum of site work.

Park Areas

Two additional Neighborhood Park Areas are designated on the Dry Canyon Master Land Use Plan Map. One area is adjacent to Quartz Avenue at the southern end of the canyon and the second area is in the northern end of the canyon, between Jackpine and Maple Avenues.

Public Facilities Zone

The wastewater treatment plant is approximately 16.77 acres and is located at the north end of the Dry Canyon. This area is a designated Public Facilities Zone.

PRIVATE PROPERTY OWNERSHIP WITHIN THE DRY CANYON

Lots totally within the canyon with residences shall become non-conforming uses and shall be allowed to remain in place until acquired by a public agency for park use.

Through the transfer of development rights, the Canyon Plan provides that development prohibited on the canyon floor may be instead applied to other parcels, allowing these parcels to be developed to a greater extent than the zoning normally would allow.

THE REDMOND CAVES

The Redmond Caves are owned by the Bureau of Land Management (B.M.). The City and the B.M. have entered into a joint agreement for the management of the Redmond Caves and funding from the USDA Forest Service for the development of a Caves Master Plan was received.

Chapter 7

HISTORIC AND CULTURAL ELEMENT

BACKGROUND

Oregon Administrative Rules describe how local historic resources are to be evaluated. Standards are established for historic resources of “statewide significance” and property owner notification. Any land use action or building modification to the historic structures on the city’s list of approved historic places must be reviewed and approved by the joint city/county Historical Landmarks Commission, a citizens committee established in 1980. Table 6-1 identifies eleven designated historical landmarks that are protected from exterior alterations by city ordinance. Two of these properties are listed on the National Register of Historic Places in Redmond. They are the Milton Odem House (built in 1937) and the New Redmond Hotel (built in 1928). Within the city are an additional five buildings designated of “historical interest.” These sites have no protection from alterations.

Table 1

INVENTORY OF HISTORIC LANDMARKS IN THE REDMOND UGB		
Historic Site/Name	Address	Tax Map Number
Fred Atkinson Building	535-537 S. 6th St.	15-13-16AC TL 00201
J.D. Butler Building	453 S. 6th St.	15-13-16AB TL 11600
Burdick Building Site	357 W. 6th St.	15-13-16AB TL 07300
Theron Beogher Cottage	422 S.W. 13th St.	15-13-16BA TL 07300
Presbyterian Community Church	641 S.W. Cascade Ave.	15-13-16AB TL 12300
Ehret Brothers Store	251 S. 6th St.	15-13-16AB TL 06000
B.H. & A.T. McMickle House	614 N.W. Cedar Ave.	15-13-09DC TL 05400
Milton Odem House*	623 S.W. 12th St.	15-13-16BD TL 05500
Redmond Union High School	437 S.W. 9th St.	15-13-16AB TL 12700
Lew A. Smith House	1329 S.W. Evergreen	15-13-16BD TL 00700
The New Redmond Hotel*	521 S. 6th St.	15-13-16AC TL 00100
Joseph A. Wilcox House	636 N.W. Cedar Ave.	15-13-09DC TL 05500
WWII Airport Hanger	Sisters Avenue	15-13-22 TL 00100
Francis McCormack Allen House **	655 S.W. 7th St.	15-13-16AC TL 04800
John F. Hosch House**	511 S.W. 12th St.	15-13-16BD TL 02501
Fritz Landaker Building**	457 S. 6th St.	15-13-16AB TL 11700
Alfred Munz House**	404 E. Forest Ave.	15-13-16AD TL 02500
Redmond Schoolhouse **	1429 W. Antler Ave.	15-13-09CD TL 01900

Source: Michael Houser, Deschutes County Historical Planner

* Site on the National Register of Historic Places

** Site designated as of Historical Interest

In 1997, four hundred and sixty-six historic resources were surveyed for inclusion into the Statewide Inventory of Historic Resources. Thirty-two of those resources were identified as having the potential to be individually listed on the national Register of Historic Places. An additional two hundred resources could be listed on the National Register of Historic Places as part of a historic district or multiple property nomination.

Five historical signs are noted under City ordinance. They include the New Redmond Hotel sign, the Stockton's Cafe sign, the Cent-Wise Drug Store sign, the Larro Feeds sign and the Redmond Electric Company sign. City ordinance does not protect these signs from removal or alteration. As a result the Redmond Electric Company sign and the Larro Feeds sign have been removed

In 1997, the Deschutes County Historic & Cultural Resource Program developed a historical walking tour brochure that highlighted twenty-nine historical resources within the downtown core. The State Historic Preservation Office, the Deschutes County Community Development Department and the Redmond Chamber of Commerce funded the project.

ARCHEOLOGICAL RESOURCES

Two areas within the City have been identified as having high archeological site potential, the Redmond Dry Canyon and the Redmond Caves. The Redmond Dry Canyon has been discussed in detail in Chapter 5, Parks, Recreation and Open Space.

The City of Redmond and the Bureau of Land Management in 1997 entered into a joint agreement to manage maintain and interpret the forty-acre parcel containing the Redmond Caves.

THE DESCHUTES COUNTY LANDMARKS COMMISSION AND THE REDMOND HISTORICAL COMMISSION

The Deschutes County Landmarks Commission oversees the protection of historic and cultural resources within the City of Redmond. The U.S. Department of Interior approved the Commission and accompanying historic preservation program as a Certified Local Government in 1986.

A City historical commission has been established to locate, identify and preserve all significant records and artifacts that are important to the history of Redmond.

Chapter 8

PUBLIC FACILITIES AND SERVICES ELEMENT

BACKGROUND

SANITARY SEWER SYSTEMS AND WATER FACILITIES

In 1994 the City adopted the Water and Sewer Master Plan for City of Redmond which updated the City's 1987 Public Facility Plan sections on water and sewer. Because of the recent rapid growth in the Redmond UGB, as well as new environmental regulations, an update of the 1987 Public Facility Plan was budgeted by the City of Redmond Public Works Department for fiscal year 1998-1999 was completed, and the City has begun construction to expand the wastewater treatment plant.

The city has adopted a sewer and water line extension policy to facilitate proper growth densities and line construction.

Sewage Systems

There are three types of sewage systems currently existing within the Redmond UGB - (1) City sewer with subsequent treatment; (2) septic tanks with drainfields; and (3) septic tanks with drill holes. The Master Plan is based on the ultimate elimination of all septic systems and connection to the City collection and treatment system.

City Sanitary Sewer System

Redmond's wastewater treatment plant is located in the Dry Canyon at the northern edge of the UGB. Sewage gets to the wastewater plant through sewer lines located all over town. These smaller sewer lines run into one main line located in the Dry Canyon. After the wastewater is treated, it is piped approximately three miles to a 600 acre effluent disposal site where it is used to irrigate approximately 140 acres of grass or alfalfa used for feed. The solids portion of the effluent is also spread on the fields.

The City of Redmond completed the wastewater treatment plant in 1978, with a capacity of .85 million gallons per day. In 1985, the plant was expanded and today treats 1.3 million gallons of sewage per day. In addition to the treatment plant and approximately 80 miles of sewer lines, Redmond has nine pump stations. The City has begun another expansion of the treatment plant. This expansion will take place in two steps, each designed to last at least 10 years. The first phase will expand the plant to treat 3.29 million gallons of wastewater per day. The second phase of the expansion will increase the plant's capacity to 4.99 million gallons of wastewater per day.

Individual Sanitary Sewer Systems

Individual sewer systems consist of septic tanks with drainfields and septic tanks with drill holes. These are regulated by Deschutes County Environmental Health.

City Water System

The City of Redmond water system is supplied through wells. There are 5 wells operational, which have a combined pumping capacity of 11.3 million gallons per day. The reservoir system consists of 3 reservoirs with a combined storage capacity of 5 million gallons. The water master plan shows a need for both pumping and storage capacities of 21 million gallons. The water distribution system is comprised of 3 pressure planes. There are approximately 74 miles of water main (1997), generally ranging in diameter size from 8 inches to 18 inches. There are smaller diameter mains in the older section of Redmond.

Although the population has increased over the years the overall water production rates have remained fairly stable. In effect, the per capita consumption has decreased substantially since the mid 1980's. Redmond averages more than 300 gallons per person. These figures do include commercial and industrial flows which would inflate the actual per person. Of the approximately 4,600 - 4,700 city water services only 173 are not metered. When ownership changes on any of these 173 properties metering will be required.

STORM DRAINAGE FACILITIES

Dry wells and drill holes are used to dispose of the majority of surface drainage within the Redmond UGB.

SOLID WASTE DISPOSAL

The Negus Landfill and Transfer Station is a solid waste disposal facility that serves the northern portion of the County including the city of Redmond. It is situated on approximately 20 acres outside of the Redmond Urban Growth Boundary on a 2,000+/- acres County property located off Negus Way northeast of Redmond.

The facility is comprised of a municipal solid waste landfill, and a transfer station. These two operations are regulated under two separate permits issued by the Department of Environmental Quality (DEQ). The Landfill operated from sometime in the late 1960's until 1993. DEQ issued the first permit for the Landfill in 1972. The Landfill stopped accepting waste in 1993 and the transfer station was constructed at that time. The Landfill is now regulated as a closed landfill. The County performs post closure care at the facility consisting of landfill cover maintenance and surface water management.

The Transfer Station consists of facilities that allow the disposal of private and commercial trash into large trailers which are then transported to Bend for land filling at Knott Landfill. Facilities for the deposit of source separated recyclables are also present. These consist of 30 cubic yard boxes that are transported to Bend for processing prior to shipment to markets.

The DEQ permit for the Negus Landfill and Transfer Station is valid through the year 2004 at which time an application for renewal must be made. Deschutes County is in the process of updating its Solid Waste Management Plan (SWMP). During the 20 year planning period addressed in the SWMP the current landfill in Bend will reach capacity. The continued operation and/or configuration of the Negus Landfill and Transfer Station could be affected by the decisions regarding future disposal after Knott Landfill closes.

CENTRAL OREGON IRRIGATION DISTRICT

Central Oregon Irrigation District does not supply water for domestic use. It does, however, supply surface water for irrigation and some industrial uses within the UGB.

Central Oregon Irrigation District (COID) is closely associated with the development of the Central Oregon Area through reclamation via irrigation. Beginning around 1900, initial interest, study and development, triggered the reclamation of some 85,000 acres of land under provisions of the Carey Act. Most of this land is presently contained within the District after passing through the administration of previous companies and being organized under the Central Oregon Irrigation District in 1917.

Approximately 8,000 acres within the Redmond Urban Area are served by the District. With a few exceptions, the majority of the land lies west of the Pilot Butte Canal, and the remainder adjoins the canal to the east.

Based on a 1966 District land classification survey, it was determined that approximately 670 acres of the total district segregation was provided water for municipal and industrial purposes. However, the principal function of the district is irrigation for agriculture, with provisions for domestic, municipal and industrial uses. The City of Redmond is presently utilizing only a small amount of this municipal and industrial water.

At the time of land division, or development, COID continues to request that unused water rights be re-distributed to the District.

OTHER URBAN UTILITIES

Utilities such as telephone, cable TV, electric, and natural gas are currently provided by private companies or cooperatives. Historically, the planning and siting of future private utility facilities has not been incorporated into the Redmond Urban Area Comprehensive Plan.

Electric

The Redmond UGB is served by two electric power companies - Pacific Power (PacificCorp) and Central Electric Cooperative (CEC). Pacific Power primarily supplies the incorporated city; CEC serves some of the newly annexed areas and most of a vast rural area of the county outside the UGB.

Statistical data is not specifically developed for the UGB by the utility companies, however, both companies have indicated that they anticipate being able to readily supply the projected growth for the year 2020. They have cited several supporting factors for this conclusion. Primarily, their programs include additional sources of power supply in the northwest, i.e. natural gas fired plants, renewable resources, conservation, and improved efficiencies at existing plants, plus power exchanges with other regions to take advantage of differing times of peak power demands.

These utility companies believe that weatherization and energy conservation programs will continue to help reduce overall increases in power consumption. Both utility companies have supported strong building codes that have resulted in more efficient energy use and have extended the longevity of electrical energy resources.

Pacific Power indicates that it is likely to need a new substation on the south end of Redmond to serve the projected growth within the UGB to 2020. Central Electric Cooperative indicates that it

will not need additional substations to serve the projected growth within the UGB to 2020. Both Pacific Power and CEC's planning policy is to locate their substations as close to the load center as possible, to get a more economical distribution. The utility companies express concern about the unwillingness of citizens and permitting bodies to allow substations and connecting sub-transmission lines to be located in urban areas, and is making efforts to develop aesthetic design standards to help alleviate the problem.

Both utilities have underground installation policies and programs. Although the installation of underground utilities presents unique design, construction, and operating challenges, underground is a generally accepted standard in new developments. Pacific Power's rules and regulations are under the jurisdiction of the Public Utilities Commission. Cost and service reliability considerations most often preclude the underground installation of such main distribution lines and power lines of 69,000 to 115,000 volts classified as sub-transmission lines.

Natural Gas

Gas is supplied by Cascade Natural Gas Corporation, which is expanding facilities to serve a large portion of the Central Oregon area.

The company's main pipeline runs east of the community through mostly publicly owned, undeveloped lands. This is a significant advantage to the gas company, as it eliminates negative impact that would otherwise result from running through higher density residential areas. The company has developed strict policies affecting land use and transportation to protect the utility from liabilities it may encounter from incompatible land uses, road crossings, etc.

The gas company indicates that it can adequately serve the existing population and that it has the capability to expand its facilities to include all of the Redmond UGB and the projected growth to the year 2020. It is currently expanding its facilities to new residential areas on the west side of the community, as well as providing for expanded needs of the Redmond Airport area and its future development. The company has expended a great deal of funds on research and expansion studies, which indicates a trend for increased future use of natural gas under more economical conditions than electric power companies can provide. Like the electric power companies, Cascade Natural Gas Corporation supports extensive weatherization programs to help minimize energy consumption and facilitate energy conservation goals.

PUBLIC SERVICES AND FACILITIES

Police Protection

Police services in the Redmond UGB are provided primarily by the City Police Department and the Deschutes County Sheriff's Department. Additional community growth will place increasing demands on these services.

The Redmond Urban Area, as well as the County as a whole, is experiencing an increase in crime. As the population has increased, so has the number of crimes reported to the Redmond Police Department. However, the rate of crime has remained relatively stable. In 1989 the rate of crime per 100 population was 22.04 and in 1996 the rate of crime per 100 population was 22.08. With the population increases projected over the next 20+ years, it is expected that additional personnel to deal with crimes, traffic congestion and accidents associated with increased population will be required.

A police facility constructed in 1998 includes a municipal court room which will serve as the City Council Chambers. This facility will provide housing for the Police Department for the next ten to fifteen years without any additions. The longer range plan is that, when the City constructs a new City Hall, a permanent Municipal Courtroom and Council Chambers will also be included in that facility.

The current Deschutes County jail and new juvenile correctional facility are adequate for the immediate future. These are located at the north end of Bend. If the population in the County population grows as projected, additional facilities will be needed before 2020.

Fire Protection

The Redmond Rural Fire Protection District is the official agency responsible for fire protection within the Redmond UGB.

The City of Redmond currently has one central fire station located at Dogwood Avenue and an Aircraft Rescue Fire Fighting - ARFF station at the airport. In addition, two fire stations, located outside of the UGB, and owned by the Rural Fire District, provide additional response capability to the City. The Urban Growth Boundary is approximately 14 square miles in area. Because of the anticipated growth and the location of Redmond's residential neighborhoods relative to the existing fire stations, Redmond will need at least two new station locations, north and south, plus the relocation of the main central facility out of the downtown core area before the year 2020.

City Hall

City Hall is located at 716 SW Evergreen Avenue. It houses the City's Administrative Offices, Finance, Water, Community Development, Computer Services and Human Resources. Additional municipal offices and/or parking may be required by the year 2020.

Public Works Facilities

The City of Redmond Public Works is located at 875 SE Sisters Avenue north of the airport. Parks, streets, sewer and water maintenance are managed from this office. These facilities will not be adequate for the planning period to 2020.

School District No. 2J

Redmond School District 2J has six elementary schools, two middle schools and one high school serving a student population of 5,135 students grades K-12. Two of the elementary schools, Terrebonne and Tumalo are located outside the Redmond Urban Growth Boundary. School District No. 2J serves a school district population estimated at 27,783 in 1997. The District has experienced an average 3.4% student enrollment increase in the school years 1990 - 1997.

Redmond School District No. 2J no longer has an inventory of undeveloped land to use for new school sites or to use in trade for school sites. The District believes that property acquisition should become a priority given the necessity for having land on which to build near the area as experiencing the largest population growth. Population growth in the southwest and northwest areas of the Redmond community have alerted school officials to begin inventorying available sites. The sites would have to meet certain specifications for size, i.e. 15 acres for an elementary school, 20 - 25 acres for a middle school, and 40+ acres for a high school. The District intends to continue the development of neighborhood schools and explore partnering with other community service agencies, etc. in response to future student enrollment increases.

Deschutes County Convention and Fair Center

The Deschutes County Convention and Fair Center opened in 1998 on 320 acres south of the airport. The site will have convention facilities with a seating capacity of 1,200 persons. In addition, a 120,000 square foot inside arena will seat 4,000 in fixed seats plus additional floor seating for a total seating capacity of 7,500 will be available.

The Fair Board will continue to operate the annual Deschutes County Fair. During the remaining portion of the year the facility will be devoted to other activities. The convention activity, trade shows, etc. will impact not only Redmond but Deschutes County as well. There will be spill over lodging, food, and entertainment activity and demands on public facilities.

Hospitals

There are two hospitals serving the Redmond area: St. Charles Medical Center in Bend (181 beds) and the Central Oregon District Hospital (48 beds) in Redmond. Both hospitals are primarily funded by their own operations. Central Oregon District Hospital receives money from its special district through taxes.

FINDINGS

Sewer and Water

1. The city's sewer and water plans are adequate to accommodate the urban area projected population to 2015.
2. A Public Facility Plan was adopted by the City in 1987. It is a support document to the Redmond Urban Area Comprehensive Plan.
3. The 1987 Public Facility Plan is based on an Urban Growth Boundary population of 24,000 persons. However, this update of the 1987 Periodic Review projects a 37,686 population for the Redmond Urban Growth Boundary by the year 2020. Because of the recent rapid growth in the Redmond UGB as well as a number of associated factors funds for the development of a new public facilities plan has been budgeted by the City

- of Redmond Public Works Department for fiscal year 1998-1999.
4. The Water and Wastewater Master Plan updated those sections of the Public Facility Plan and was adopted by the City in 1995.
 5. The timing and location of expanded sewer and water facilities are factors which direct urban expansion.
 6. The city has adopted a sewer and water line extension policy to facilitate proper growth densities and line construction.
 7. There are areas within the Urban Growth Boundary which are not served by sewer and/or water systems but are included in the plans to accommodate the projected population to the year 2015.
 8. Private independent utility providers can create serious management problems and can impede the logical and economical extension of city sewer and water services.
 9. Of the approximately 4,600 - 4,700 city water services only 173 are not metered. When ownership changes on any of these 173 properties metering will be required.

Solid Waste Disposal

1. Deschutes County is in the process of updating it's Solid Waste Management Plan (SWMP). During the 20 year planning period addressed in the SWMP the current landfill in Bend will reach capacity. The continued operation and/or configuration of the Negus Transfer Station could be affected by the decisions regarding future disposal after Knott Landfill closes.
2. In 1996, 10,700 tons of garbage and about 150 tons of recyclables were transferred from the Negus Transfer Station.
3. The DEQ permit for the Negus Transfer Station is valid through the year 2004 at which time an application for renewal must be made.
4. Inconvenience or unavailability of dumping options may lead to dumping on public land.

Central Oregon Irrigation District

1. The Irrigation District does not supply water for domestic use. It does, however, supply surface water for irrigation and some industrial uses within the UGB.
2. The City has 770 acres of Central Oregon Irrigation District water rights. These are not used by the City at this time.

Other Urban Utilities

Utilities such as telephone, cable TV, electric, and natural gas are currently provided by private companies or cooperatives. Historically, the planning and siting of future private utility facilities has not been incorporated into the Redmond Urban Area Comprehensive Plan.

Electric

1. Additional sources of electrical power are being developed in the northwest.
2. The Redmond area's serving electrical power companies, Pacific Power and Central Electric Cooperative, can adequately serve the projected growth, to the year 2020, for the Redmond Urban Growth Boundary.
3. Additional power substations and associated subtransmission and distribution lines will

- be required to serve the UGB, as growth occurs.
4. Power substations are frequently not well received by nearby property owners. Careful site planning and physical design can reduce adverse effects, but a healthy community cannot be served without the construction of such facilities in reasonable proximity to load centers.
 5. Weatherization programs and other energy saving development codes will assist in facilitating energy conservation goals and extend the availability of electrical energy resources.
 6. Both Pacific Power and CEC have line extension policies that accommodate installation of underground distribution lines which serve development. Although underground electric utilities add to the cost of development they do enhance the aesthetic quality of an area.

Natural Gas

1. Cascade Natural Gas Company can adequately serve the projected growth to the year 2020 for the Redmond Urban Growth Boundary.
2. Natural Gas is underutilized in the community.
Jean Wood and Michael Houser will determine Findings wording.

PUBLIC SERVICES AND BUILDINGS

Police Protection

1. Police services in the Redmond UGB are provided primarily by the City Police Department and the Deschutes County Sheriff's Department. Additional community growth will place increasing demands on these services.
2. Crimes can be reduced by proactive community partnerships which provide diversion, treatment and recreational opportunities.
3. The City of Redmond will construct a new police facility in 1998 which will include a municipal court room that will serve as the temporary City Council Chambers. The facility will provide housing for the Police Department for the next ten to fifteen years without any additions. The longer range plan is that, when and if the City constructs a new City Hall that a permanent Municipal Courtroom and Council Chambers will also be included in that facility.

Staff will confer on the police station plan. Will revisit finding.

4. The current Deschutes County jail and a new juvenile correctional facility are adequate for the immediate future. These are located at the north end of Bend. If county population grows as projected in Deschutes County, population projections, additional facilities will be needed before 2020.

Fire Protection

1. The Redmond Fire Department is the official agency responsible for fire protection within the City of Redmond and Deschutes County Fire District #1.
2. Currently the City provides a high quality of fire protection and ambulance service.

Future growth will bring increased demands on these services. To adequately provide these services, facility expansion will be needed early in the planning period.

3. The City of Redmond currently has one central fire station and one minimum FFA approved facility at the airport. A new airport station (Aircraft Rescue Fire Fighting - ARFF) is scheduled to be constructed in 1998, with the majority of the cost being born by an FAA grant.
4. Presently, there is discussion regarding the possibility of enlarging the ARFF facility to jointly house City fire apparatus and personnel . A master plan for the Redmond Fire Department and the Rural Fire District, scheduled for 1998, will evaluate this option.
5. The City established in the 1996-1997 Goals minimum service levels for fire and ambulance response times.
6. Distance to fire stations and adequate, year round water supplies are major factors in determining insurance ratings for residential and commercial property owners.
7. The Redmond Fire Department is responsible for providing structural, passenger aircraft and wildland fire protection. Additionally, staffing and equipment is also provided for regional hazardous material emergencies.
8. No permanent training facility that provides essential field training is available.
9. The City of Redmond and Deschutes County have adopted, by ordinance, the 1994 Uniform Fire Code. All new buildings, proposed residential subdivisions and large multi-family dwellings receive fire and life safety reviews prior to development. Existing commercial and industrial buildings receive fire and life safety inspections on a complaint basis only.
10. The Redmond Fire Department is responsible for providing public education and fire safety awareness to the general public. Additionally, fire and life safety plan reviews are provided by a full time fire risk manager on all new commercial construction and multi-family dwellings/residential subdivisions.
11. Smaller lot sizes have minimum side setbacks which increase the possibility of fire involving more than one structure.

City Hall

1. City Hall facilities are located at 716 SW Evergreen Avenue. City departments housed here include Administration, Finance, Water, Human Services, Computer Services, and Community Development (which includes the Planning and Building Divisions).
2. Additional municipal offices and/or parking may be required by 2020.
3. Local government offices should be continued to be located near the Central Business District, for the convenience of those dealing with them.

This policy has been tabled, until further committee discussion.

Public Works Facilities

1. The City's Public Works Facilities at 875 SE Sisters Avenue will not be adequate for the planning period to 2020.

School District No. 2J

1. Redmond School District 2J has six elementary schools, two middle schools and one high school serving a student population of 5,135 students grades K-12. Two of the elementary schools, Terrebonne and Tumalo are located outside the Redmond Urban Growth Boundary.
2. Redmond schools currently exceed or are at design capacity.
3. The major contributor to the need and costs for additional schools is additional students.
4. The school district opened two new schools in 1995 - The Vern Patrick Elementary School and the Hugh Hartman Middle School. Both schools are located in newer residential areas.
5. The location and development of school facilities has a significant impact on residential areas, transportation systems and the development and location of public facilities and services.
6. State land use goals and guidelines require cooperation and coordination in land use decisions between the city, county and the school district.
7. Combining schools and parks results in cost benefits to the public as well as combined activities.
8. Schools that are properly located within walking distance of residential areas within the Urban Growth Boundary will minimize bus traffic.
9. Future residential development has major impact on the location of schools.

Deschutes County Library

1. Increased demands resulting from the projected growth rate will require an expansion of library services and facilities.

Deschutes County Fairgrounds

1. The proposed Deschutes County Fair plan includes the following:
 - A. Convention facilities with a seating capacity of 1,200.
 - B. A 120,000 square foot inside arena seating 4,000 in fixed seats plus additional floor seating for a total seating capacity of 7,500.
2. The Fair Board will continue to operate the annual Deschutes County Fair. During the remaining portion of the year the facility will be devoted to other activities.
3. The convention activity, trade shows, etc. will impact not only Redmond but Deschutes County as well. There will be spill over lodging, food, and entertainment activity and demands on public facilities.

Hospitals

1. There are currently two hospitals serving the Redmond UGB, St. Charles Medical Center, Bend, and Central Oregon District Hospital, Redmond. Central Oregon District Hospital will be developing a master plan in 1999 for future facility needs.

Chapter 9

TRANSPORTATION ELEMENT

Transportation system management (TSM) improvements are intended to optimize the carrying capacity of the Redmond Urban Area transportation system. TSM improvements include controlling driveway locations, prohibiting on-street parking, building raised medians, signal construction at intersections, creating turning and merging lanes.

Access Management Techniques

The number of access points to an arterial or a collector can be restricted through the following techniques:

- Restricting spacing between access points (driveways) based on the type of development and the speed along the arterial or collector
- Sharing of access points between adjacent properties
- Providing access via lesser order streets where possible
- Constructing frontage roads along arterial streets to separate local traffic from through traffic
- Providing service drives to prevent spill-over of vehicle queues onto the adjoining roadways
- Providing acceleration, deceleration, and right turn only lanes on arterials
- Offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic
- Installing median barriers to control conflicts associated with left turn movements
- Installing side barriers to the property along the street to restrict access width to a minimum

These access management restrictions are not intended to eliminate existing intersections or driveways. Rather, they shall be applied as new development occurs.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

Through transportation demand management, the peak travel demands could be reduced or spread to more efficiently use the transportation system, rather than building new or wider roadways. Techniques which have been successful and could be initiated to help alleviate some traffic congestion include car pooling and vanpooling, alternative work schedules, bicycle and pedestrian facilities.

LAND USE AND TRANSPORTATION

Redmond has a land use pattern that provides for primarily residential on the west side of the city and primarily industrial on the east side, with a commercial core along Highway 97. This pattern separates residences from industrial development which is appealing to many people; however, it also means that many people traveling to and from work must get on and/or cross Highway 97. Within this general pattern, land use densities are fairly high in Redmond, particularly where new residential development is occurring. The higher densities help keep the city more compact and help to reduce average trip lengths.

PEDESTRIANS AND BICYCLISTS

A Bikeway Master Plan was prepared by David Evans and Associates, Inc. for the City of Redmond in June of 1992. This plan was accepted by the City. The elements of the plan have been incorporated in this Transportation Element and the Transportation Plan Map.

Bikeways

Bike Paths. A bike path is physically separated from motorized traffic by an open space or barrier. Bike paths are entirely separated from the roadway but may be within the roadway right-of-way or within an independent right-of-way.

A cornerstone of the bicycle system is the development of a central bike path along the length of the Dry Canyon and along the irrigation canal system. Approximately, two (2) miles of the path has been completed, with the rest expected to be built north of Highland Avenue in 1998. There are approximately 16+ miles of existing bikeways within the City. However, these are generally fragments of lanes and are not connected to one another.

Bike lanes. Generally bicycles share the roadway with other vehicles. A bike lane is a space on the road shoulder delineated from the adjacent vehicle travel lane by a solid white striped line. Bike lanes are constructed on both sides of the street and promote travel in the same direction as the adjacent traffic. Bike lanes will be required on all new arterials and major collectors.

Most city streets are relatively wide (36 to 40 feet wide curb-to-curb) and are not striped. Some outlying roads are only about 20 feet wide with no shoulders.

Bike Parking Facilities.

Unsheltered racks are provided at the schools by the School District Transportation Department. A few school staff who ride bicycles generally park inside. Public racks are available at the library and at several other public and private locations throughout the city.

Pedestrians

Although sidewalks have been required on all residential streets constructed since 1981, most of Redmond's arterial and collector roadways, with the exception of the downtown core and some new residential areas, do not have any sidewalks for pedestrians. As noted above, Redmond does have fairly wide (36 to 40 feet wide curb-to-curb) streets, which offer some space between pedestrians and motorized vehicles. However, a curb and sidewalk provide a physical and visual barrier that is safer and far more comforting to pedestrians.

Many of the roads which do have sidewalks do not have continuous paved paths on both sides of the road. Some have sidewalks on one side only, while others have pieces of sidewalks along certain parcels but not along others. Often, the paved section switches from one side of the street to the other, forcing the pedestrians to cross back and forth or to walk in the street.

The recommended street standards in the Transportation Systems Plan specify that all streets be provided with 5-foot-wide sidewalks on each side of the street except in commercially zoned areas where the sidewalk would be 8 feet wide.

PUBLIC TRANSPORTATION

Public transportation in Redmond consists of a minibus for local trips for elderly and disabled residents, van shuttle for trips to Redmond and Bend, and bus line service for long distance trips.

No specific expansions of any of these services is currently planned by any of the transit providers; however, increased usage of these services shall be encouraged.

Although the city has no local fixed route transit service at this time, the City of Bend will be considering fixed-route transit service when it reaches the population threshold to support it. Coordination between the two cities may result in regular fixed-route transit service between Bend and Redmond.

AIR AND RAIL

Rail Service

Burlington Northern Santa Fe Railroad provides freight service to Redmond with a railroad line on the east side of town. The rail line serves the industrial area east of Highway 97. It has spurs at several locations including the area south of Sisters Avenue, and the area from Ochoco Highway to Hemlock Avenue.

Air Service

Roberts Field Redmond Municipal Airport is located in the southeast quadrant of the city. The airport entrance is located off of Airport Way, about one half mile south of Sisters Avenue. The airport provides daily commercial passenger service and package service to Portland and Seattle on two carriers, Horizon Air and United Express.

The Redmond Airport Master Plan is currently in the process of being updated. The Airport Master Plan structure is similar to the Transportation System Plan, as it includes an inventory of existing facilities and land use, aviation forecasts, a demand/capacity analysis, airport plans, and a development program.

WATER TRANSPORTATION SERVICE

Redmond has no waterborne transportation service.

PIPELINE SERVICE

Redmond is served by two major natural gas transmission lines operated by Pacific Gas Transmission Company. These lines parallel Highway 97 through the central Oregon corridor from California to Canada. Cascade Natural Gas provides the gas service to Redmond.

THE STREET SYSTEM

The street system is the basis of the Transportation Plan. It is composed of a wide range of arterial, collector and local streets. The arterial and collector street network is illustrated on the Redmond Urban Area Transportation Plan Map.

To ensure that there are alternate routes for local traffic, which in turn creates a more pedestrian and bicyclist friendly community, Redmond has a grid policy for street connectivity. To this end, public through streets should have an average spacing of approximately 660 feet. The only exceptions to this spacing standard should result from natural or man-made barriers such as Dry Canyon, Pilot Butte Canal, Highways 97 and 126, and BNSFRR railroad tracks.

NORTH REDMOND US 97 INTERCHANGE AREA MANAGEMENT PLAN (IAMP)

The Local Street Connectivity Plan (figure 1) for the IAMP area shall guide the access and local street decisions for properties abutting US 97. The Local Street Connectivity Plan shall be an addendum to the Redmond Area Transportation Plan.

The Traffic Signal Plan (figure 2) for the IAMP area shall guide traffic signal planning and installation on US 97 and North Canal Boulevard, subject to traffic analysis and funding in the Transportation Capital Improvement Plan (CIP).

Pershall Way/O'Neil Highway (Hwy 370) at US 97:

- a) At time of development or redevelopment, the City of Redmond, with concurrence from ODOT, shall restrict turning movements to right-in and right-out (RIRO) after local connectivity has been established to provide parallel routes to US 97 for properties adjacent to US 97 north of the US 97 Reroute interchange and south of Pershall Way/O'Neil Highway. This shall be based on a traffic

- b) analysis of the subject property(s).
At the time US 97 at O'Neil Highway intersection is converted to RIRO movements only, ODOT, in conjunction with the City of Redmond shall evaluate rerouting the O'Neil Highway (Hwy 370) south on North Canal Boulevard to the US 97 Reroute interchange.
- c) The City of Redmond commits to participate, subject to funding, with ODOT on a long-term improvement to disconnect Pershall Way/O'Neil intersection from US 97 and construct an overpass.

The City of Redmond shall install a traffic signal (when warranted) with separate left turn lanes on the Kingwood Avenue approaches to US 97 (6th Street). This shall be based on a traffic analysis and funding in the Transportation CIP.

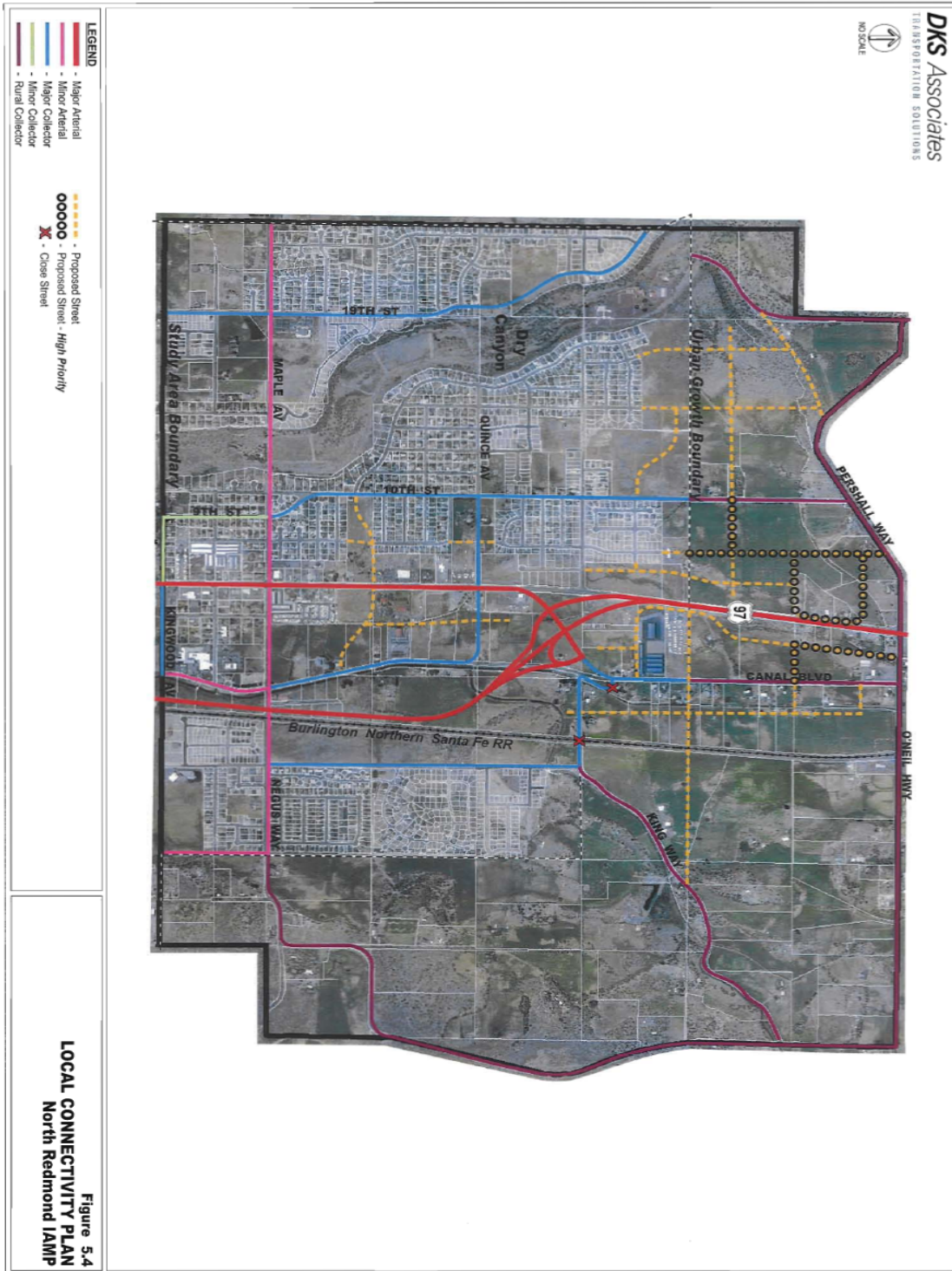
The City of Redmond shall construct a traffic signal (when warranted) at the intersection of Maple Avenue and NW 9th Street. This shall be based on a traffic analysis and funding in the Transportation CIP.

The following Access Management Policies shall apply to street, access, and land development decisions within the IAMP area:

- a) For US 97 (6th Street) from the southbound interchange ramp terminal to a distance of 1,320 feet to the south, the spacing standards from OAR 734-051-0125(2), Table 8 and Figure 4 apply, which would restrict all access for the full distance of 1,320 feet. Proposed deviation from this standard requires approval from ODOT.
- b) For Canal Boulevard from the northbound interchange ramp terminal to a distance of 1,320 feet to the north, the spacing standards from OAR 734-051-0125 (2) Table 7 and Figure 3 apply, which would restrict all access for the full distance of 1,320 feet, with a right-in/right-out access allowed on the southbound side of Canal Boulevard no closer than 990 feet from the interchange ramp terminal.

Urban Area Transportation Plan Addendum – figure 1

North Redmond Interchange Area Management Plan area Local Street Connectivity Plan



Comprehensive Plan Addendum

Adopted by City Council May 22, 2001

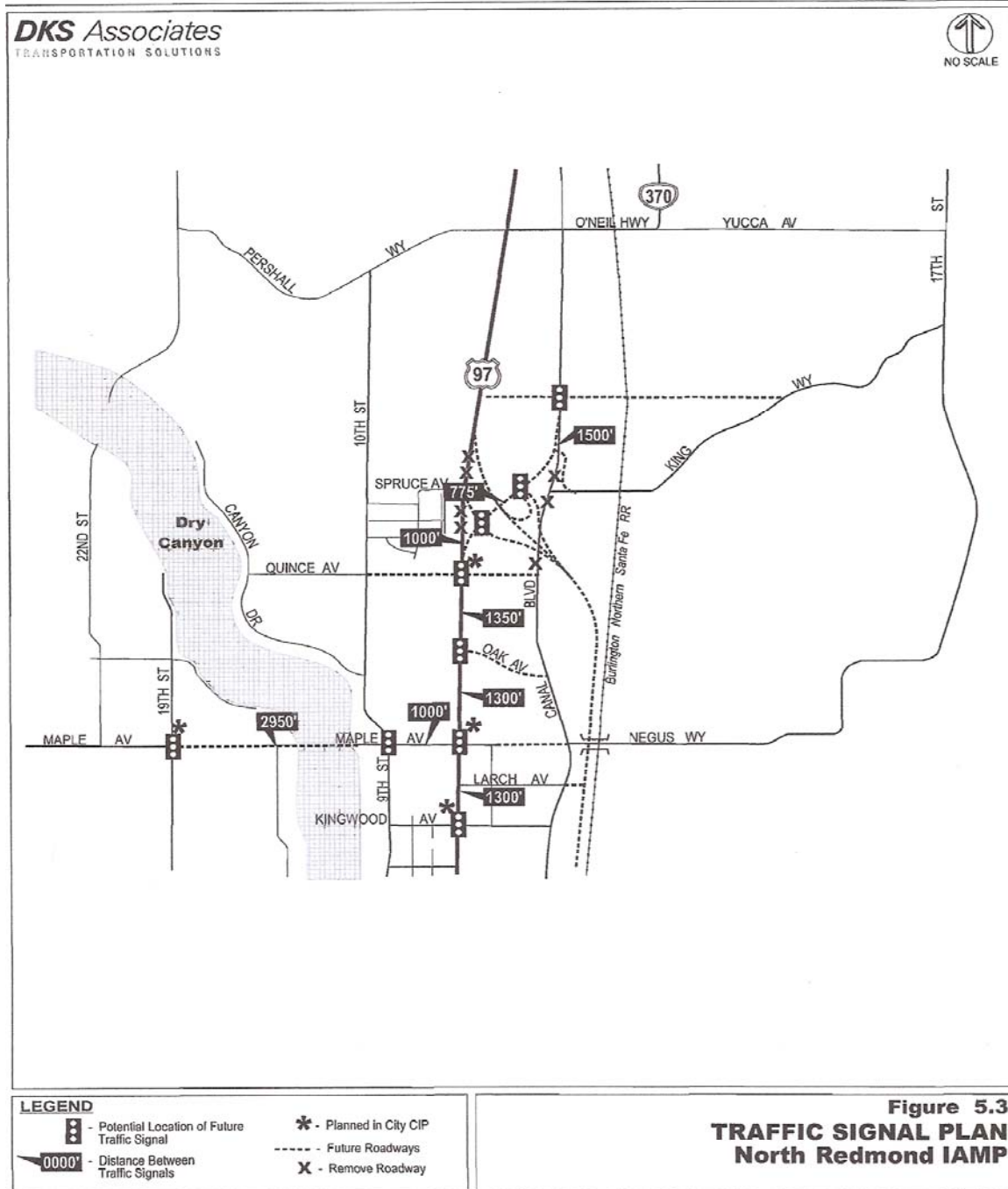
Transportation element amended April 13, 2004 ORD 2004-07

Transportation element amended August 22, 2006 ORD 2006-09

Transportation element amended June 8, 2007 ORD 2007-08

Urban Area Transportation Plan Addendum – figure 2

North Redmond Interchange Management Plan area Traffic Signal Plan



Arterial Streets

Arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system which distributes traffic between neighborhoods and other parts of the community. Generally, arterial streets are high capacity roadways which carry high traffic volumes with minimal localized activity.

Arterial streets are further subdivided into minor and major arterial streets. The designation of minor or major is dependent on the traffic volumes and the size of the region served. Minor arterial streets generally serve a smaller region, thus carrying lower traffic volumes than major arterial streets.

Major Arterial Streets

Major arterial streets are intended to serve as primary routes for travel between major urban activity centers and are equivalent to ODOT's classification of principal arterial. These streets function in a similar manner to minor arterials but generally carry a much higher traffic volume. Major arterial streets have bike lanes.

The following are designated major arterial streets:

- Highway 97 - from the south UGB to the north UGB, including those parts of the downtown couplet on 5th and 6th Street.
- Highway 126 - from the east UGB to the west UGB, including Highland Avenue and the extension of Highland Avenue east to Highway 126.
- SW Glacier Avenue (OR126) between 5th Street and 15th Street.

Minor Arterial Streets

Minor arterial streets are intended to move traffic, loaded from collector streets, between areas and across portions of a city or region. Residential property shall not face or be provided with access onto arterial streets. Minor arterials have bike lanes.

The following are designated minor arterial streets.

- Yew Avenue from the intersection of S. Canal Blvd. east to E 13th Street. E 13th Street to Veteran's Way. Lake Rd. from Veteran's Way to a proposed connection to E. 9th Street across Hwy 126.
- South Canal Boulevard - from the intersection with Highway 97 south to the intersection with Helmholtz Way
- 27th Street (Northwest Way) - from Yew Avenue north to the proposed intersection with Pershall Way.
- Veteran's Way from Highland Avenue (W Hwy 126) to E. Hwy 126.

- Evergreen Avenue - from E 9th Street to 6th Street.
- Maple Avenue (Negus) - from the vicinity of the extension of 1st Street to the intersection with Helmholtz Way.
- Negus (Maple Avenue) - from the vicinity of the extension of 1st Street to the east UGB.
- N. Canal Blvd. - from Maple Avenue to Dogwood. That portion of N. Canal Blvd. between Dogwood and Highland would become a local street.
- E. 9th Street - from Hwy 126 to Negus.
- E. 19th Street - from southern UGB line to Airport Way.
- 9th Street between Highland Avenue and Glacier Avenue.
- 11th Street between Glacier Avenue and Indian Avenue.
- Pershall Way from the intersection with Northwest Way east to the intersection with State Highway 97.
- Helmholtz Way from the intersection with Canal Boulevard north to the intersection with Maple Avenue.

Collector Streets

Collector streets connect local neighborhood streets to the arterial network. Redmond has a fairly extensive collector system. Some of the key collector streets parallel Highway 97 and may serve as alternate routes to the highway as it becomes congested.

A major collector street includes bike lanes with no parking permitted. Designated major collectors include:

- North Canal Boulevard - from Maple Avenue to the extension of Quince Avenue.
- NW 9th Street/Canyon Drive/NW 10th Street - from Maple Avenue to north UGB.
- 23rd Street/Rimrock Way/19th Street - from Salmon Avenue to Spruce Avenue.
- 23rd Street from Highland Avenue to W. Antler.
- 35th Street - from Salmon Avenue north to the intersection of Oak Avenue.
- Wickiup Avenue/Reservoir Drive/Wickiup Avenue - from S. Canal Blvd. to Helmholtz (UGB).
- Odem Medo Road - from Hwy 97 to the intersection of Salmon Avenue.

- Salmon Avenue - from the intersection of Odem Memo to 27th Street.
- Salmon Drive/Quartz Avenue - from S. Canal Blvd. to Airport Way remain a Major Collector.
- Airport Way from E 13th Street to Veteran's Way
- Obsidian Avenue - from S. Canal Blvd. to S. Canyon Drive.
- Obsidian Avenue - from 23rd Street to Helmholtz Way.
- Antler Avenue - from E. 6th Street to the intersection of E 17th Street.
- Black Butte Avenue/Antler Avenue - from 5th Street to the intersection of Helmholtz Way (URA).
- Hemlock Avenue - from N. Canal Blvd to E 17th Street.
- Hemlock Avenue - from 19th Street to Helmholtz Way (URA).
- Kingwood Avenue - from N. Canal Blvd. to the existing Hwy 97.
- King Way west from the extension of 5th Street to N. Canal Blvd.
- Quince Avenue from 10th Street to N. Canal Blvd.
- Re-designate Spruce Avenue from a Major Collector Street to a local street.
- Spruce Avenue from 19th Street west to the UGB.
- Elkhorn Avenue from the intersection of Helmholtz Way east to the intersection with 19th Street.
- 10th Street from existing City limits north to the intersection with Pershall Way.
- Pershall Way from the intersection of NW 19th Street, heading south east along current alignment 0.38 miles to the point at which Pershall Way is designated a minor arterial.

Minor collector streets do not have bike lanes but do have parking. Designated minor collector streets include:

- Re-designate that portion of W. 9th Street between Ivy Avenue and Hemlock Avenue from a Minor Collector Street to a Local Street; and to re-designate that portion of Dogwood between W. 9th Street and N. Canyon Drive from a Local Street to a Minor Collector Street.
- SW 15th Street/Canyon Drive/Dogwood Avenue/ Canyon Drive/9th Street - from Quartz

Avenue to Maple Avenue.

- South Canyon Drive - from Quartz Avenue to Highland Avenue.
- Badger Avenue from S. Canal Blvd. to 43rd Street and from 43rd Street from Badger Avenue to Reservoir Drive.
- Helmholtz Way - from Wickiup Avenue (UGB) to Quartz Avenue (UGB).
- Salmon Avenue - from 27th Street to 35th Street.
- Quartz Avenue from S. Canal Blvd. to Helmholtz Way (UGB).
- Dogwood from N. Canal Blvd. to N. Canyon Dr.
- Kingwood Avenue from Hwy 97 to N. Canyon Dr.

Local Streets

A local street provides direct access to abutting properties. Through traffic movements should be discouraged, although some traffic from other local streets in the same neighborhood may be expected.

Trip lengths on local streets are normally short and traffic volumes are lower. Because of this local streets may be narrower than collector streets to encourage slower travel speeds. The following local streets are designated to be connected to the State Highway system.

- The intersection of Sisters Avenue and Highway 126
- An undesignated local street access between the Sisters Avenue - Hwy. 126 intersection and the eastern UGB
- The intersection of 31st Street and Hwy. 126
- The intersection of Quince Avenue and Hwy. 97
- An undesignated local street access halfway between Quince Avenue and Maple Avenue

Street Layout

Most Redmond roadways are laid out in a grid pattern. Block sizes are typically 300 feet to 330 feet each side (although some are 280 feet). Several natural features disrupt the grid system causing discontinuities and odd-shaped blocks. These features include Dry Canyon and Forked Horn Butte. Manmade features such as Pilot Butte Canal, the railroad, and large school lots also divide up the city.

One of the major circulation barriers is Dry Canyon. The canyon runs north-south through town about one half mile west of Highway 97. It is deepest to the north and shallowest to the south where it ceases to become a barrier. There are currently only two major canyon crossings:

Comprehensive Plan Addendum

Adopted by City Council May 22, 2001

Transportation element amended April 13, 2004 ORD 2004-07

Transportation element amended August 22, 2006 ORD 2006-09

Transportation element amended June 8, 2007 ORD 2007-08

Antler Avenue and Highland Avenue (Highway 126). From the north, all traffic must travel to one of these crossings in order to travel east-west across the city.

Pilot Butte Canal is also a barrier to traffic circulation. It also runs north-south, adjacent to Canal Boulevard for most of its length. The canal crossings are more numerous than the canyon crossings but they still disrupt the grid system. Existing crossings include: King Way, Maple Avenue, Hemlock Avenue, Antler Avenue, Evergreen Avenue, Pumice Avenue, Odem Medo Road, and Yew Avenue.

The Burlington Northern Santa Fe Railroad line runs north-south on the east side of town. North of Highway 126, it is nearly adjacent to Pilot Butte Canal. Crossings are possible at King Way, Maple Avenue, Hemlock Avenue, Antler Avenue, Evergreen Avenue, Sisters Avenue, and Airport Way. Additional at-grade crossings will be difficult to obtain because of safety concerns at rail crossings.

Forked Horn Butte is located in the southwest quadrant of the city. Because of the steep grades on the butte and the relatively sparse development, there is currently only one access route. However, this area has become a major focus of active residential development.

IMPLEMENTATION

Implementation of the Redmond Urban Area Transportation Plan will require changes to the City and County zoning codes and preparation by the City of a 20-year Capital Improvement Program (CIP) to detail what transportation system improvements will be needed as Redmond grows and provides a process to fund and schedule the identified transportation system improvements. Ultimately, the transportation system CIP should be integrated into the existing City CIP, Deschutes County CIP, and the ODOT STIP. This integration is important since the Transportation System Plan proposes that all three governmental agencies will fund some of the transportation improvement projects.

FINDINGS

State Highways

1. Redmond is served by three state highways: Highway 97 (The Dalles-California Highway), and Highway 126, which is divided into the McKenzie Highway west of Redmond and the Ochoco Highway east of Redmond. These roadways are managed and maintained by ODOT.
2. The 1991 Oregon Highway Plan (OHP) classifies the state highway system into four levels of importance (LOI): Interstate, Statewide, Regional, and District. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations for each one. Redmond has no Interstate, Regional, or District Highways. Highway 97 is classified as a highway of statewide significance. It is the focus of the downtown commercial development and carries the greatest amount of traffic in the city. It is a five-lane highway both north and south of the downtown commercial district where it separates into a one-way couplet. From O'Neil Highway to the north end

of the couplet, there are two travel lanes in each direction with a center refuge lane for vehicles turning left. The couplet runs southbound on 6th Street and northbound on 5th Street with two travel lanes in each direction plus parking.

3. Highway 126 is an important east-west route through Oregon. West of Redmond, Highway 126 is known as the McKenzie Highway. It extends westward from Redmond, passing through Sisters and Eugene, and eventually connects with the Coast. East of Redmond, Highway 126, also known as the Ochoco Highway, extends to Prineville, connecting with Highway 26 to access eastern Oregon. Within the city, Highway 126 travels over several roadways. The McKenzie Highway connects with Highland Avenue which intersects with Highway 97. From this intersection, Highway 126 turns northeastward, running along Canal Boulevard before turning eastward again on Evergreen Avenue.
4. The commercial zones are focused around Highways 97 and 126. With the exception of a few small pockets, residential zoning is located west of Highway 97. The east side of Highway 97 is primarily manufacturing. Because of the commercial development along Highway 97, a large percentage of the local traffic is concentrated in the highway corridor.
5. Highway 97 is the principal north-south route through central Oregon. For the City of Redmond, it also serves as the main thoroughfare in the downtown commercial district. As a result, it carries high volumes of local traffic as well as many semi-trailer trucks, log trucks, and recreational vehicles passing through town. The high through volumes combined with the increasing local traffic volumes are resulting in congestion, especially where Highway 97 intersects with Highway 126.
6. To the east of Highway 97, the airport and industry are the predominant land uses while the western half of the city is mostly residential. This separation of uses by zoning results in many trips between home and work having to cross Highway 97.

Bicycle and Pedestrian Systems

1. Bicycle usage is fairly low (less than 1 percent) at the present time but there are currently few roadways with dedicated bicycle lanes on them.
2. Pedestrian activity is at a moderate level but walking is decreasing as a mode of travel to work. Many citizens expressed concern about the high traffic volumes, especially trucks, on Highway 97.

Street Systems

1. Most Redmond roadways are laid out in a grid pattern. Block sizes are typically 300 feet to 330 feet each side (although some are 280 feet). Several natural features disrupt the grid system causing discontinuities and odd-shaped blocks. These features include Dry Canyon and Forked Horn Butte. Manmade features such as Pilot Butte Canal, the railroad, and large school lots also divide up the city.

2. Most of the major road segments in Redmond were operating at LOS D or better in 1992, indicating minor congestion during peak periods. However, there are a few locations where 1992 traffic volumes were at or near capacity. The Sisters Avenue approach to Highway 97 was very near capacity, as was the Evergreen Avenue intersection with 6th Street. Kingwood Avenue also appeared to be an area where motorists were experiencing noticeable delays during peak periods.

Transportation Financing

1. The City of Redmond has seen significant increases in its capital outlays for transportation. Over the past two years, expenditures for capital outlay have more than tripled
2. Historically, the City of Redmond has accounted for transportation funding sources through a special revenue fund, the Street Fund. A significant percentage of the City's Street Fund revenues comes from state gas tax revenues. Other revenue sources for the Street Fund have included property taxes, county forest receipts, system development charges, and interest earnings. Expenditures from the account are typically used for the construction, improvement, maintenance, and operation of public roads, highways, streets, and roadside rest areas.
3. In April 1996, the City of Redmond adopted a transportation system development charge. It is anticipated that the recently adopted SDC will generate about \$12.9 million over the next 20 years.
4. The City of Redmond adopted an Urban Renewal Plan for its downtown area. Included within the plan is tax-increment financing for approximately \$5.5 million in transportation improvements that are included in the Transportation System Plan proposed capital improvements.
5. The Highland Avenue Extension is a project in the development stage of ODOT's draft 1998-2001 State Transportation Improvement Program (November 1996). An environmental document is scheduled for Federal Fiscal Year 2002.

NORTH REDMOND US 97 INTERCHANGE AREA MANAGEMENT PLAN (IAMP)

The policies, projects, and standards adopted into the Transportation Element are based on the City of Redmond's participation with ODOT in the North Redmond IAMP. The North Redmond IAMP is a policy document that was prepared to guide future transportation, access and development decisions as a result of the interchange for the US97 Reroute project. The IAMP, in appendix 7, recommended several Comprehensive Plan and Transportation Plan changes, which are incorporated herein as amendments. The "North Redmond US 97 Interchange Area Management Plan", dated November 2006 is the basis for policies, projects, and standards within the Comprehensive Plan.