

U.S. Highway 16 Neighborhood Area

FUTURE LAND USE PLAN



in conjunction with the
Rapid City Area Metropolitan Planning Organization
and the
South Dakota Department of Transportation
and the
U.S. Department of Transportation
Federal Highway Administration

US Highway 16 Neighborhood

Future Land Use Plan

Executive Summary

The Future Land Use Plan is an indispensable tool for all sectors of the community. Local government can invest public infrastructure dollars more wisely if the location and magnitude of anticipated growth is identified. Private sector businesses can use the Plan to make more accurate growth projections and better position themselves to meet the needs of the future population. The Plan will provide developers and landowners with a clear idea of the location and type of development desired by the community thus saving time and money in assembling development plans. The Plan will enable individual citizens to be more aware of how the community and their specific neighborhoods will develop, assisting them in making more informed decisions about where to live and work.

The US Highway 16 Neighborhood Future Land Use Plan includes parts of the South Robbinsdale, Downtown/Skyline Drive, Southwest Connector, Sheridan Lake Road and Spring Creek Future Land Use Neighborhood Areas or five of the 14 neighborhood plans. The US Highway 16 Neighborhood Area encompasses approximately 8,450 acres and is located in the southern portion of the community. The following points summarize the intent of the US Highway 16 Neighborhood Future Land Use Plan.

- Residential growth patterns will increase, primarily as single family dwelling units.
- Extension of infrastructure is identified to support the anticipated growth patterns.
- Professional office areas are identified to support an increase in retail and office services.
- The Plan acknowledges the importance of both the Heartland Expressway and US Highway 16 and has identified commercial areas along these road networks to accommodate the tourism and community retail and service needs.
- The Plan acknowledges the importance of reducing traffic accidents along the US Highway 16 and has identified frontage and/or rearage roads consistent with the adopted Major Street Plan to help ensure that adequate access management techniques are implemented.

TABLE OF CONTENTS

Executive Summary	i
Introduction	1
Neighborhood Profile	
Physical Characteristics.....	1
Residential Characteristics	1
Non-Residential Characteristics.....	2
Existing Land Use Profile	3
Growth Profile	
Density	9
Year 2025 Residential Growth Projections	10
Year 2025 Non-Residential Growth Projections.....	11
Residential Build Out	14
Non-Residential Build Out	15
Entryway Overlay	15
Summary.....	18

US HIGHWAY 16 NEIGHBORHOOD FUTURE LAND USE PLAN

Introduction

The US Highway 16 Neighborhood Area encompasses approximately 8,450 acres and is located in the southern portion of the community. The limits of the Neighborhood are Cathedral Drive/Fairmont Boulevard on the north and the Reptile Gardens/Neck Yoke Road intersection on the south. The Future Land Use Neighborhood Area Map included at the end of this text identifies the US Highway 16 Neighborhood Area in geographic relation to the other neighborhoods in the Future Land Use Neighborhood Area.

The Rapid City Area Future Land Use Plan Overview provides the background information used in preparing the calculations for the US Highway 16 Neighborhood Land Use Plan as well as describing the process in developing the Future Land Use Plan. A copy of the Plan Overview is available in the Rapid City Growth Management Department.

Neighborhood Profile

Physical Characteristics

The US Highway 16 Neighborhood Area includes a wide variety of topography ranging from approximately 3,300 feet above mean sea level in the northeastern corner of the Neighborhood area just east of the Black Hills Eye Institute to around 4,020 feet in the southwestern corner of the Neighborhood area west of Reptile Gardens. One major creek, Spring Creek, passes through the Neighborhood area and several major drainage ways are located throughout. There are at least six different drainage basins located within the US Highway 16 Neighborhood Area boundaries. The Arrowhead Drainage Basin extends over most of the western portion of the Neighborhood area with the Meade-Hawthorne and South Robbinsdale drainage basins located in the northeastern portion of the Neighborhood area. The South Truck Route and Landfill drainage basins cover the east-central part of the Neighborhood area. The Dry Creek and Spring Creek drainage basins cover the southern portion of the Neighborhood area.

Residential Characteristics

Between 1990 and 1997, the number of dwelling units in the US Highway 16 Neighborhood Area has increased by 63.5 percent. This 63.5 percent increase amounts to a 9.08 percent average annual increase in total dwelling units in the US Highway 16 Neighborhood Area, an increase of approximately 54 dwelling units per year.

Figure 1 below identifies the number of residential units in the US Highway 16 Neighborhood Area. This information was taken from the 1990 U.S. Census and approved building permits between 1990 and 1997.

Figure 1

**US Highway 16 Neighborhood Area
1990 – 1997 Residential Growth**

<u>Dwelling Units</u>	<u>1990 U.S. Census</u>	<u>1990-1997 Increase</u>	<u>1997 Total</u>
Single Family	417	289	706
Multi-Family	<u>245</u>	<u>91</u>	<u>336</u>
Total	662	380	1,042
Percent of Total in Future Land Use Neighborhood Areas	2.35%	12.76%	3.34%

Source: Rapid City Growth Management Department

Group homes are included in a category other than the single family homes and the multi-family units because there are not separate kitchen facilities in the group home units. Group home units are identified as assisted living facilities, dormitories, and jails. At 1997 year end, there were 109 group home units in the US Highway 16 Neighborhood Area.

Non-Residential Characteristics

In 1992, the US Highway 16 Neighborhood Area included 229,372 gross square foot floor area in retail land uses including motels, campgrounds, tourism and recreational facilities. During the five year period between 1992 and 1997, the retail land use gross square foot floor area in the US Highway 16 Neighborhood Area increased by 74,066 square feet, to 303,438 square feet total in 1997. This 303,438 total gross square foot floor area in the US Highway 16 Neighborhood Area accounted for only 3.51 percent of all retail land uses within the entire Future Land Use Neighborhood Area. The retail land use has been concentrated along U.S. Highway 16.

The office/service land uses in the US Highway 16 Neighborhood Area included health care facilities and office buildings and had 620,731 gross square foot floor area in 1992. The office/service land uses in the Area increased 133,831 square feet, for a total of 754,562 by 1997 and represented 18.53 percent of all total office/service land uses within the Future Land Use Neighborhood Area. The neighborhood area experienced a 21.56 percent increase in office/service gross square foot floor area during the period between 1992 and 1997, a 2.7 percent average annual increase. This 21.56 percent gross square foot floor area increase can be directly related to the increase in medical offices within the US Highway 16 Neighborhood Area. These health care

facilities/medical offices have been located in close proximity to Rapid City Regional Hospital.

The industrial land uses increased from 113,561 gross square foot floor area in 1992 to 127,875 square feet in 1997, a 14,314 square foot increase in five years, or 12.6 percent change. Industrial land uses in the US Highway 16 Neighborhood Area include mostly storage facilities to support retail businesses. The 14,314 square foot five-year gain represents 1.9 percent of all industrial gross square foot floor area increases in the Future Land Use Neighborhood Area.

Public land use increases in the structural square footage for the US Highway 16 Neighborhood were very limited. The growth between 1993 and 1997 included one new school, representing 59,434 square feet of floor area. In 1992, there was 131,429 square foot of floor area within the US Highway 16 Neighborhood Area and 190,863 square foot of floor area by 1997. This 131,429 square feet represented 7.53 percent and 10.17 percent in 1992 and 1997, respectively, of all publicly used structures in the Future Land Use Neighborhood Area. Public land uses within the US Highway 16 Neighborhood Area include churches, school buildings and a fire station.

Figure 2

**US Highway 16 Neighborhood Area
Non-Residential Land Use
1992 and 1997 Total Gross Square Foot Floor Area**

	1992		1997		1992-1997 Percentage Change
	Gross Sq. Ft. Floor Area	Percent of Total	Gross Sq. Ft. Floor Area	Percent of Total	
Retail Land Uses	229,372	2.98%	303,438	3.51%	32.29%
Office/Service Land Uses	620,731	16.64%	754,562	18.53%	21.56%
Industrial Land Uses	113,561	2.27%	127,875	2.23%	12.60%
Public Land Uses	131,429	7.53%	190,863	10.17%	45.22%

Source: Rapid City Growth Management Department

Figure 2 above provides a comparison of the non-residential land uses in 1992 and 1997, as well as the US Highway 16 Neighborhood Area's percentage of the total gross square foot floor area in comparison to the other neighborhood areas. Figure 2 also identifies the percentage increases for the four land use categories.

Existing Land Use Profile

To identify future land uses, it is first essential to determine the existing land uses within a neighborhood area. There are four residential and four non-residential categories of

uses identified in this Neighborhood. Single family residential, multiple family residential, group homes, and mobile homes are evaluated based on the number of units. Retail, office/service, industrial and public uses are evaluated based on the gross square foot floor area.

Figure 3

**US Highway 16 Neighborhood Area
Existing Land Use Compilation**

	Acres	Area	Units	Units	Homes	sites	Homes
<u>Residential Uses</u>							
Low Density Residential	201.21	143,619	243	0	0	0	0
Low Density Residential 2	0.00	0	0	0	0	0	0
Low Density Residential with Planned Residential Development	1.77	0	6	0	0	0	0
Park Forest	0.00	0	0	0	0	0	0
Medium Density Residential	19.64	0	8	244	0	0	0
Medium Density Residential with Planned Residential Development	1.87	0	0	21	0	0	0
Planned Residential Dev -- 6.7/1	3.56	5,200	3	0	0	0	0
Planned Residential Dev -- 5.5/1	1.37	0	9	0	0	0	0
Planned Residential Dev -- 4.8/1	0.00	0	1	0	0	0	0
Planned Residential Dev -- 4/1	0.00	0	0	0	0	0	0
Planned Residential Dev -- 3.8/1	0.00	0	0	0	0	0	0
Planned Residential Dev -- 3/1	33.37	0	156	12	0	0	0
Planned Residential Dev -- 2.5/1	177.01	0	12	0	0	0	0
Planned Residential Dev -- 2/1	48.69	0	9	0	0	0	0
Planned Residential Dev -- 1.2/1	0.00	0	0	0	0	0	0
Planned Residential Dev -- 1.5/1	0.00	0	0	0	0	0	0
Planned Residential Dev -- 1/1	48.98	0	10	0	0	0	0
Planned Residential Dev -- 1/2	0.00	0	0	0	0	0	0
Planned Residential Dev -- 1/3	298.33	3,080	45	0	0	0	0
Mobile Home Residential	99.82	0	70	0	0	0	0
Planned Unit Development	63.00	36,875	77	0	0	0	0
Residential Totals	998.62	188,774	649	277	0	0	0
<u>Commercial Uses</u>							
Business Park	26.53	121,859	0	0	0	0	0
Neighborhood Commercial with Planned Commercial Development	0.00	0	0	0	0	0	0
Office Commercial	27.19	143,515	0	0	15	0	0
Office Commercial with Planned Commercial Development	25.90	44,947	3	59	28	0	0
General Commercial	56.87	125,573	2	0	59	211	0
General Commercial with Planned Commercial Development	146.77	751,249	10	0	7	62	7
Commercial Totals	283.26	1,187,143	15	59	109	273	7

Source: Rapid City Growth Management Department

Land Use Map

Figure 3 above identifies the existing uses according to various land use categories. Each category, i.e., residential use, commercial use, industrial use, and public use is further subcategorized to provide the basis for anticipated density information. These designations correspond to the future land use designations identified on Figure 4, the US Highway 16 Neighborhood Area Future Land Use Map.

Growth Profile

The Future Land Use Study Committee has identified over twenty-five categories for planning purposes, which include low density residential, medium density residential, park forest, planned residential developments, planned unit developments, neighborhood commercial, general commercial, office commercial, business park and public. These categories provide the basis of the residential, commercial, and public uses described above. Each land use category, with the exception of public use, also includes a planned development designation. It is essential to note that the commercial and industrial categories identified in Figure 3 vary from the types of land use. For example, the General Commercial category allows all four land uses (retail, office/service, industrial, and public).

Low density residential designations include only single family homes, typically with only one family per unit. Land areas designated for current and future residential use are located close to City services such as fire protection, schools, and parks. Low density residential designations generally have some type of buffer from commercial and/or industrial land use activities. Designations have been provided to ensure that any significant negative impacts are mitigated. Access to an adequate local road system has also been provided.

Medium density residential designations include all town homes, condominiums, and apartment complexes. Land areas designated for current and future multiple residential uses are located close to City services and near collector or arterial streets to address neighborhood traffic safety concerns and provide a buffer between non-residential uses and single family residential uses.

Planned developments provide flexibility in land development to encourage imaginative urban design. Planned developments allow a mix of land uses which are compatible and well integrated. Planned developments provide the opportunity for an adequate review procedure to promote the proper development of those areas that may be environmentally sensitive because of steep slopes and/or unusual topography. A planned development also promotes compatibility with adjacent land use and available public facilities in terms of such factors as intensity of use, density and traffic circulation.

There are twelve planned residential developments within the US Highway 16 Neighborhood Area, each with a different density specification. Each planned development was identified to specifically address issues relative to the property. These planned residential developments are identified in Figure 3 as:

- 1) Planned Residential Development 1 with an anticipated density of 6,500 square feet minimum lot size, or 6.7 dwelling units per acre;
- 2) Planned Residential Development 2 incorporates an anticipated density of 5.5 dwelling units per acre;
- 3) Planned Residential Development 3 includes an anticipated density of 4.8 dwelling units per acre;
- 4) Planned Residential Development 4 incorporates an anticipated density of 4 dwelling units per acre;
- 5) Planned Residential Development 5 includes an anticipated density of 3.8 dwelling units per acre;
- 6) Planned Residential Development 6 includes an anticipated density of 3 dwelling units per acre;
- 7) Planned Residential Development 7 specifies an anticipated density of 2.5 dwelling units per acre;
- 8) Planned Residential Development 8 includes an anticipated density of 2 dwelling units per acre;
- 9) Planned Residential Development 9 includes an anticipated density of 1.2 dwelling units per acre;
- 10) Planned Residential Development 10 includes an anticipated density of 1.5 dwelling units per acre;
- 11) Planned Residential Development 11 includes an anticipated density of one dwelling unit per acre;
- 12) Planned Residential Development 12 specifies an anticipated density of one dwelling unit per two acres; and
- 13) Planned Residential Development 13 incorporates an anticipated density of one dwelling units per 3 acres.

Each area's density designation addresses the physical constraints of the property including steep slopes, unusual topography, access issues, water pressure concerns, land use mix and adjacent land use compatibility, and to encourage unique development potential.

There are three planned commercial development designations within the US Highway 16 Neighborhood Area. These designations also provide flexibility in addressing slope stability, site entrances, traffic safety concerns, and access issues.

Infrastructure. The Rapid City Area Major Street Plan identifies several north/south and east/west arterial and collector streets. These roadways will enhance the existing road network and provide road connections which will adequately move traffic to the major roadways. It is anticipated that utility infrastructure, including water and sanitary sewer lines, will be extended along these roadways to provide services for existing and proposed subdivisions.

School Sites. There are no existing public schools that lay within the US Highway 16 Neighborhood Area. (Grandview Elementary School, South Park Elementary School and South Middle School are located just to the north and east of the boundary.) The Rapid City Area School District has purchased 132 acres in the area just to the east of

this Neighborhood Future Land Use Plan and anticipates constructing an elementary school, a middle school and/or a high school depending on the population growth in this area and the needs of the entire community. There are several private schools located within this Neighborhood Area including St. Thomas More High School/St. Elizabeth Seton School, Zion Lutheran School and Preschool, and Calvary Christian School.

Parks. The US Highway 16 Neighborhood Area includes potential park sites which will provide a range of recreational opportunities. The principal criteria for siting future parks include size and proximity of population to be served, access, topography, and presence of environmental factors such as drainage ways.

One park is proposed for the US Highway 16 Neighborhood Area, containing a natural pond area ideal for fishing and picnicking. It is located north of, and is easily accessible from, US 16B in the southwest portion of the South Robbinsdale Neighborhood area. There are no park sites identified in the Southwest Connector Neighborhood Area Future Land Use Plan, however the potential exists for an open space area just southeast of Springbrook Acres. This would allow the Springbrook Acres Homeowners Association to preserve the land in perpetuity for the Homeowners Association. Establishing this open space is contingent upon mutual agreement between the landowner and the government authority purchasing the land.

Public Facilities. Currently, there are several public facilities located within the US Highway 16 Neighborhood Area. They include an above ground water tower, two water tanks, the future South Dakota Forest Service Regional Facility, and Rapid City Fire Station #6 just off of U.S. Highway 16 along Promise Road.

Truck Traffic. Truck traffic is expected to remain on US Highway 16B and US Highway 16. A significant amount of additional truck traffic along US Highway 16B is expected when the Heartland Expressway is completed in 2005, directing traffic through this neighborhood area via US Highway 16. US Highway 16 will remain the major tourism and truck traffic route into the Black Hills from the Rapid City area.

Safety. Pedestrian, bicyclist, and children's safety are a key concern as evidenced by the proposed bike path routes and the desire to locate high traffic generating businesses out of the residential areas and along collector streets and arterial streets. Keeping the truck traffic off local roads also addresses many neighborhood safety concerns. In conjunction with the Future Land Use Plan, the US Highway 16 Neighborhood identifies specific locations where direct access to US Highway 16 will be maintained as well as those access locations that will be consolidated to help ensure a safe corridor in the future.

Capacity. This Future Land Use Plan is also cognizant of neighborhood concerns regarding the capacity of the road system and the perception that many of the existing roads already carry more traffic than the roads can handle. Those concerns have been addressed through the identification of additional collector and arterial streets to handle the traffic flows.

Figure 5

**US Highway 16 Neighborhood Area
Land Use Density Comparisons**

	Option A Existing Density	Option B Maximum Density	Option C Anticipated Density
<u>Residential Uses</u>			
Low Density Residential	1.06 du / ac	6.7 du / ac	2.4 du / ac
Low Density Residential 2	0.00 du / ac	6.7 du / ac	2.4 du / ac
Low Density Residential w/ Planned Res. Dev.	0.41 du / ac	6.7 du / ac	2.4 du / ac
Park Forest	0.00 du / ac	1 du / 3 ac	.33 du / ac
Medium Density Residential	0.25 du / ac	25 du / ac	15 du / ac
Medium Density Residential w/ Plan. Res. Dev.	1.21 du / ac	25 du / ac	15 du / ac
Planned Residential Development 6.7 du / ac	0.11 du / ac	6.7 du / ac	6.7 du / ac
Planned Residential Development 5.5 du / ac	4.76 du / ac	5.5 du / ac	5.5 du / ac
Planned Residential Development 4.8 du / ac	0.13 du / ac	4.8 du / ac	4.8 du / ac
Planned Residential Development 4 du / ac	0.00 du / ac	4 du / ac	4 du / ac
Planned Residential Development 3.8 du / ac	0.00 du / ac	3.8 du / ac	3.8 du / ac
Planned Residential Development 3 du / ac	3.62 du / ac	3 du / ac	3 du / ac
Planned Residential Development 2.5 du / ac	0.27 du / ac	2.5 du / ac	2.5 du / ac
Planned Residential Development 2 du / ac	0.06 du / ac	2 du / ac	2 du / ac
Planned Residential Development 1.2 du / ac	0.00 du / ac	1.2 du / ac	1.2 du / ac
Planned Residential Development 1.5 du / ac	0.00 du / ac	1.5 du / ac	1.5 du / ac
Planned Residential Development 1 du / ac	0.11 du / ac	1 du / ac	1 du / ac
Planned Residential Development 1 du / 2 ac	0.00 du / 2 ac	1 du / 2 ac	1 du / 2 ac
Planned Residential Development 1 du / 3 ac	0.13 du / 3 ac	1 du / 3 ac	1 du / 3 ac
Mobile Home Residential	0.69 du / ac	6.7 du / ac	2.4 du / ac
Planned Unit Development	0.35 du / ac	6.7 du / ac	2.4 du / ac
<u>Commercial Uses</u>			
Business Park	3,402 SF / ac	7,000 SF / ac	3,200 SF / ac
Neighborhood Commercial w/ Plan. Com. Dev.	0 SF / ac	5,445 SF / ac	2,600 SF / ac
Office Commercial	4,296 SF / ac	6,353 SF / ac	3,000 SF / ac
Office Commercial w/ Plan. Com. Development	318 SF / ac	6,353 SF / ac	3,000 SF / ac
General Commercial	1,184 SF / ac	13,613 SF / ac	9,800 SF / ac
General Commercial w/ Plan. Com. Dev.	3,105 SF / ac	13,613 SF / ac	9,800 SF / ac
<u>Other Uses</u>			
Public	0 SF / ac	21,780 SF / ac	9,000 SF / ac

Source: Rapid City Growth Management Department

Density. The anticipated development density of the US Highway 16 Neighborhood Area was developed by comparing the existing density of the various uses to the maximum density allowed by the Rapid City Municipal Zoning Code. The gross density in surrounding and adjacent neighborhood areas was also considered for additional comparison. Figure 5 above provides the options used in determining the anticipated

development densities. The anticipated density value for dwelling units or square footage per acre is used as a multiplier to determine the total number of dwelling units or total square footage for the undeveloped property within the US Highway 16 Neighborhood Area.

The anticipated densities under each type of land use are influenced by the topography, the cost effectiveness in providing municipal water and sewer, and compatibility with surrounding development. A variety of residential land use classifications are used to accommodate housing demand, provide housing choices, and protect existing residential neighborhoods. Additionally, several non-residential uses were also identified to provide development flexibility in addressing the area's commercial and industrial growth needs.

The non-residential land use densities are based upon existing development. However, because of the large quantities of undeveloped land in the US Highway 16 Neighborhood Area, for many land uses, there is no existing land development of the same type. In these cases representative density numbers were sampled from other areas in Rapid City.

Year 2025 Residential Growth Projections

The year 2025 projections indicate how much of the total build out is anticipated in twenty-eight years. The projections provide the basis for planning many public services, including sewer and water, storm drainage, and road networks. The Future Land Use Study Area Year 2025 population estimate of 103,000 is based on numerous methodologies. Both the Rapid City Planning Commission and Rapid City Council have adopted this population projection. This population projection was then allocated to all the neighborhood areas based on the assumption that residential growth will continue in a pattern similar to the 1990-1997 residential growth. The individual neighborhood area growth projections were determined by dividing the 103,000 population estimate by 2.55 which is the average number of persons per household within the Neighborhood Area. This calculation provides the total number of dwelling units in the Year 2025, or 40,392 total dwelling units in the Future Land Use Neighborhood Area. The total number of dwelling units was then allocated to the type of dwelling unit according to the historical patterns within each neighborhood area, i.e., single family units or multi-family units.

During the period from 1990-1997, 12.76 percent of residential building permits for the entire Future Land Use Neighborhood Area occurred in the US Highway 16 Neighborhood Area. As shown in Figure 1 above, the US Highway 16 Neighborhood Area had 1,042 dwelling units in 1997, with 67.75 percent single family units and 32.25 percent multi-family units. In the Year 2025, it is anticipated that an increase of 2,783 new dwelling units will be constructed in the US Highway 16 Neighborhood Area, 2,393 of which will be new single family units and 390 will be multi-family dwelling units. The total dwelling units anticipated in the US Highway 16 Neighborhood Area is expected to reach 3,780 by the Year 2025. Figure 6 identifies the breakdown of dwelling unit increases for the years 1998 to 2025 and a total dwelling unit projection by dwelling unit type for the year 2025.

Figure 6

Future Land Use Neighborhood Area
Year 2025 Dwelling Unit Projections

	Dwelling Units	
	1998-2025 Increase	Total Year 2025
Single Family	2,393	3,099
Multi-Family	<u>390</u>	<u>726</u>
Total	2,783	3,780
Percent of Total in Future Land Use Neighborhood Area	30.32%	9.36%

Source: Rapid City Growth Management Department

This Plan anticipates new single family residential development extending southerly from US Highway 16B, in the vicinity of Catron Boulevard and also near Moon Meadows Road and Sammis Trail along both sides of US Highway 16/Mt. Rushmore Road. Many of these areas have few topographic constraints which allows for the potential of more dwelling units per acre.

The majority of vacant property four to five hundred feet beyond US Highway 16 is identified as planned residential developments with varying density designations. As indicated earlier, the planned residential development densities proposed for this area range from one dwelling unit per three acres to 6.7 dwelling units per acre. The planned residential developments provide the means to address such issues as water pressure, access, topography, slope stability, and road connections and give developers the ability to design unique developments while addressing these issues.

The single family residential development in the Neighborhood Area is mixed with small lots as well as larger lots, depending upon the topography. Many of the housing developments will utilize “finger” slope development to enhance the panoramic views of the Black Hills.

Some multi-family developments are identified near non-residential areas to provide a buffer between the non-residential developments adjacent to collector and arterial streets and the single family residential developments.

Year 2025 Non-Residential Growth Projections

The US Highway 16 Neighborhood Area non-residential gross square foot floor area is anticipated to increase within the next twenty-eight years. Figure 7 below identifies the projected gross square foot floor area by the four land use categories.

Figure 7

**US Highway 16 Neighborhood Area
Year 2025 Non-Residential Projected Increases in
Gross Square Foot Floor Area**

<u>Land Use Category</u>	<u>Gross Square Foot Floor Area</u>	<u>Percent of Total Increase</u>
Retail Use	229,970	4.73%
Office/Service Use	15,831	0.82%
Public	7,500	1.04%

Source: Rapid City Growth Management Department

The rate of growth for commercial and industrial land use is based upon the US Highway 16 Neighborhood square foot percentage as compared to the total gross square foot floor area for the entire Future Land Use Neighborhood Area. Growth projections for neighborhood area commercial and industrial uses are then extrapolated based upon twenty-eight year projections for the entire Future Land Use Study Area.

The Heartland Expressway, the Southwest Connector and the extension of Fifth Street and Elm Avenue to US Highway 16B will dramatically impact non-residential growth in the US Highway 16 Neighborhood Area. As a result of these road connections, the General Commercial land use designations adjacent to the intersections of US Highway 16 and US Highway 16B, US Highway 16 and Sammis Trail/Moon Meadows Road, and US Highway 16 and the Reptile Gardens area are expected to develop heavily within the next twenty-eight years. Planned commercial development designations were included on parcels not already zoned as a General Commercial Zoning District to allow for creativity in site development and to address issues such as landscaping, sight distance, drainage, topography, traffic safety concerns, and to also minimize impacts proposed development may have on adjacent properties.

Many parcels have been identified with an Office Commercial land use designation and with an Office Commercial/Planned Commercial Development land use designation in the vicinity of Cathedral Drive/Fairmont Boulevard and US Highway 16/Mt. Rushmore Road as well as some near the intersection of US Highway 16/US Highway 16B to accommodate the anticipated office/service land use increases created from the medical community expansions.

There are additional parcels classified with a General Commercial land use designation and General Commercial/Planned Commercial Development land use designation along US Highway 16. These areas are anticipated to address additional tourism needs as well as general community retail and service needs.

Figure 8

**US Highway 16 Neighborhood Area
Land Use Compilation Totals**

AREA WIDE Prop. Land Use	VACANT PLATTED LAND			REDEVELOPED PLATTED LAND			TOTAL PROJECTED D Units or Sq. Ft. on Platted	UNPLATTED LAND		
	Vacant Platted Parcels	Anticipated DU or Sq. Ft. per Acre	Projected DUnits or Sq. Ft.	Current Use	Redevel- oped Parcel Acreage	Projected DUnits or Sq. Ft.		Current Use	Vacant Undev- loped Acrg.	Projected Undevel. Dunits or Sq. Ft.
Residential Uses										
LDR	54.20	2.4	117	0	0.00	0	359	0	47.15	112
LDR2	0.00	2.4	0	0	0.00	0	0	0	60.08	143
LDR/PRD	0.00	2.4	0	0	0.00	0	6	5	126.88	300
PF	0.00	0.33	0	0	0.00	0	0	0	29.08	10
MDR	5.26	15	78	0	0.00	0	330	0	54.10	810
MDR/PRD	1.72	15	25	0	0.00	0	46	4	189.07	2,736
PRD 6.7/1	5.19	6.7	32		0.00	0	32	3	272.78	1,824
PRD 5.5/1	0.67	5.5	3	0	0.00	0	12	0	0.00	0
PRD 4.8/1	6.43	4.8	25	0	0.00	0	26	1	321.87	1,558
PRD 4/1	0.00	4	0	0	0.00	0	0	1	193.14	771
PRD 3.8/1	0.00	3.8	0	0	0.00	0	0	3	25.00	93
PRD 3/1	9.06	3.0	26	0	0.00	0	191	0	11.75	33
PRD 2.5/1	57.07	2.5	128	0	0.00	0	188	2	949.45	2,371
PRD 2/1	8.70	2	19	0	0.00	0	28	6	636.19	1,266
PRD 1.2/1	9.51	1.2	16		0.00	0	16	0	30.18	36
PRD 1.5/1	0.00	1.5	0	0	0.00	0	0		34.94	52
PRD 1/1	49.04	1	50	0	0.00	0	60	10	238.17	228
PRD 1/2	21.04	0.5	20		0.00	0	20	0	95.22	45
PRD 1/3	310.95	0.33	128	0	0.00	0	174	10	1,975.14	641
MHR	2.24	6.5	13		0.00	0	78	0	5.11	32
PUD	18.25	1	61		0.00	0	81	0	17.81	17
Total	559.33		741	0	0.00	0	1,647	45	5,278.17	13,078
Commercial Uses										
BP	0.00	3,200	0		0.00	0	121,859	0	0.00	0
NC/PCD	0.00	2,600	0	0	0.00	0	0	0	12.05	31,330
OC	1.45	3,000	4,350	0	0.00	0	147,865	0	8.30	24,900
OC/PCD	0.00	3,000	0		0.00	0	44,950	0	166.35	97,620
GC	20.39	9,800	132,496	0	0.00	0	328,290	0	15.43	151,214
GC/PCD	80.62	9,800	790,076	1	10.05	98,490	1,529,339	4	387.14	3,793,972
Total	102.46		926,922	1	10.05	98,490	2,172,303	4	589.27	4,099,036
Other Uses										
PUBLIC	31.63	9,000	342,090	0	0.00	0	292,170	0	35.10	180,000

Source: Rapid City Growth Management Department

Figure 8 above identifies the remaining US Highway 16 Neighborhood Area Land Use Compilation totals. This land use compilation provides a summary of all anticipated

land uses as identified on the US Highway 16 Neighborhood Area Future Land Use Map.

Residential Build Out

Build out is when all developable land parcels have reached anticipated density. The US Highway 16 Neighborhood Area build out scenario as proposed under this Plan is based on an analysis of existing patterns of development, physical constraints, access to municipal water and sewer, and existing plans for the area.

Figure 9 below identifies the anticipated total dwelling units at build out categorized by the various proposed residential land use categories within the US Highway 16 Neighborhood Area.

Figure 9

***US Highway 16 Neighborhood Area
Build Out Projected Dwelling Units at Anticipated Densities***

Proposed Land Use	Gross Neighborhood Acres	Anticipated Density per Acre	Total Dwelling Units
<u>Residential Uses</u>			
Low Density Residential	330.65	2.4	472 DU
Low Density Residential 2	60.11	2.4	143 DU
Low Density Residential w/PRD	128.17	2.4	274 DU
Park Forest	42.42	0.33	14 DU
Planned Residential Development -- 6.7 du/ac	303.10	6.7	1,856 DU
Planned Residential Development -- 5.5 du/ac	2.56	5.5	12 DU
Planned Residential Development -- 4.8 du/ac	336.00	4.8	1,584 DU
Planned Residential Development -- 4 du/ac	199.55	4	771 DU
Planned Residential Development -- 3.8 du/ac	25.00	3.8	93 DU
Planned Residential Development -- 3 du/ac	63.87	3	224 DU
Planned Residential Development -- 2.5 du/ac	1,244.16	2.5	2,447 DU
Planned Residential Development -- 2 du/ac	708.20	2	1,108 DU
Planned Residential Development -- 1.2 du/ac	40.72	1.2	52 DU
Planned Residential Development -- 1.5 du/ac	34.94	1.5	52 DU
Planned Residential Development -- 1 du/ac	342.09	1	285 DU
Planned Residential Development -- 1 du/2 ac	83.10	0.5	48 DU
Planned Residential Development -- 1 du/3 ac	2,639.84	0.33	795 DU
Mobile Home Residential	109.26	6.5	110 DU
Planned Unit Development -- Wellington Heights	89.62	1	98 DU
Planned Unit Development -- Hart Ranch	23.91	2.4	58 DU
Total Single Family Units			10,496 DU
Medium Density Residential	91.86	15	1,140 DU
Medium Density Residential w/ PRD	208.19	15	2,782 DU
Total Residential Dwelling Units			14,418 DU

Source: Rapid City Growth Management Department

Between 1990 and 1997, the US Highway 16 Neighborhood Area grew by 41 single family dwelling units per year and 13 multi-family dwelling units per year. If history repeats itself, the US Highway 16 Neighborhood Area will have the anticipated maximum single family dwelling units of 10,967 by the Year 2247, and the anticipated maximum multi-family dwelling units of 2,782 by the Year 2193.

Non-Residential Build Out

The US Highway 16 Neighborhood Area gross square foot floor area build out expectations at anticipated densities are identified in Figure 10. The size of the parcels significantly impacts the total amount of acreage available for development.

Figure 10

***US Highway 16 Neighborhood Area
Non-Residential Gross Square Foot Floor Area
Build Out Projections at Anticipated Densities***

	Gross Neighborhood Area	Anticipated Density per Acre	Gross Sq. Ft. Floor Area
<u>Commercial Uses</u>			
Business Park	35.82	3,200	121,859
Neighborhood Commercial with Planned Commercial Development	14.07	2,600	31,330
Office Commercial	43.16	3,000	172,765
Office Commercial with Planned Commercial Development	221.76	3,000	286,150
General Commercial	141.87	9,800	479,504
General Commercial with Planned Commercial Development	665.68	9,800	<u>4,854,283</u>
Total Commercial Uses			5,945,891
<u>Other Uses</u>			
Public	83.79	9,000	472,170

Source: Rapid City Growth Management Department

Entryway Overlay

Purpose of the Entryway Overlay

U.S. Highway 16 is a major federal highway that links Rapid City to the Black Hills. It is an entryway for travelers entering the community from the south as well as a Gateway for visitors traveling from Rapid City to Mount Rushmore and the Black Hills National Forest. The purpose of this element of the Neighborhood Plan is to ensure that a high level of visual quality is maintained along this entryway as the adjacent land develops.

Overlay Area

This Overlay Area applies to all property located within 500 feet of the U.S. Highway 16 right-of-way (including dedicated right-of-way, land acquired in fee simple for highway purposes and Highway or H lots) between the southern study area boundary to 500 feet south of the intersection with the Catron Boulevard right-of-way. In addition, all the commercially identified property, including land shown as General Commercial, Neighborhood Commercial, Business Park and Office Commercial lying adjacent to the previously described area and identified as being within the overlay area on the Future Land Use Map shall be subject to the Overlay Recommendations.

Goals

The following goals are established for the Entryway Overlay Area:

- A. Create an attractive and inviting environment along the corridor.
- B. Incorporate consistent and appropriate design standards that unify the corridor and incorporate regional forms and materials in design elements.
- C. Incorporate a high level of craftsmanship, high quality materials and superior design in all corridor improvements.
- D. Preserve the existing vistas of prairie land to the east and the Black Hills to the west by maintaining openness along portions of the corridor by clustering structures and setting them back from the roadway.
- E. Protect the night skies through implementation of dark skies requirements.
- F. Develop an environment that is friendly and safe for pedestrians and bicyclists.

Recommendations

- A. Within this Entryway Overlay area, the following design elements shall be incorporated into the design of all projects occurring within the Entryway Overlay Area as part of the Planned Development review. Alternative design features may be approved through the Planned Development process based on the goals of this plan, good design, preservation of vistas and site specific topographic features. Such alternative design features may include, but are not limited to, increases in the maximum height limit based on topographic feature or building uses, reduced berm heights with the provision of additional landscaping, or a reduced landscape zone on existing parcels.
 - 1. Forty foot landscape zones from the U.S 16 Highway right-of-way and any frontage roads shall be provided throughout the majority of the corridor. No parking or loading areas or structures shall be allowed in these landscape zones; however, ground signs, as well as pedestrian and bicycle paths may be allowed in the landscape zone when integrated into the landscaping.

2. An informally arranged mix of deciduous and coniferous trees and shrubs, with naturalized grasses and wildflowers will be incorporated into the landscape zones.
3. Berms and mass plantings shall be incorporated into the landscape zones to screen off-street parking areas from the U.S. Highway 16 roadway.
4. All structures shall have single story construction to maximize and protect the view sheds to both the east and west of the U.S. Highway 16 Roadway.
5. Buildings shall be clustered when possible to provide strong spatial relationships between buildings and maintain view windows to both the east and west of U.S. Highway 16.
6. Building setbacks and orientations shall be varied to avoid a walled corridor effect. Building entries should be oriented so as to be visible from U.S. Highway 16 wherever possible.
7. Structural materials shall be earth tone with primarily subtle, neutral colors reflective of the prairie environment.
8. HVAC, trash receptacles, loading docks and other service facilities shall be screened from view from all adjacent properties, including rooftop facilities.
9. Loading, storage and services areas shall be screened from adjacent residential uses and from view from the U.S. Highway 16 roadway. Building design and layout should be integrated into the screening of these areas.
10. Chain link fences with slats shall not be utilized within the Entryway Overlay Area.
11. Materials for fences, retaining walls and screening shall be warm-toned, natural materials, or materials that are sympathetic to natural materials.
12. Any fences shall be designed so as to have the finished side viewed from the outside.
13. Horizontal profile signage made of subtle, earth toned materials incorporated into the landscaping areas shall be provided. All signs shall be less than 12 feet in height and no pole signs will be allowed.
14. Plant materials should be incorporated around the base of the ground mounted signs to aide in integrating the signs into the natural environment. Plant material around floodlight fixtures shall be carefully located to visually screen the fixtures.
15. Off street parking areas shall incorporate significant landscaping islands to avoid the appearance of large expansive parking areas. Where feasible, parking areas shall be located away from the U.S. Highway 16 roadway so as to minimize the visual impact.
16. Berming and shrub plantings shall be used to screen the parking lot ground plane from view from the U.S. Highway 16 roadway.

17. Landscape areas shall incorporate native plant materials where possible and shall be designed consistent with xeriscape principles wherever possible.
 18. All landscaping areas shall be irrigated with sensors installed to avoid wasting water.
 19. Berming and shrub plantings shall be used to screen the ground plane for retail uses allowing view opportunities to stores and building mounted signage.
 20. Landscaping for other non-residential uses shall be designed to focus views into the site at key image locations such as entries, focal points or architectural features, including building mounted signs.
 21. Six foot berms and shrubs shall be used to provide visual and noise separation between U.S. Highway 16 and residential areas that are adjacent to U.S. Highway 16.
 22. Off premise advertising will be limited to the greatest degree possible.
 23. Pedestrian and bicycle paths shall be integrated into all development with linkages provided to both commercial and residential areas identified in the Study Area.
 24. All utility lines shall be relocated underground wherever feasible.
- B. The City shall proceed with a dark skies ordinance to address lighting throughout the community. The dark skies concepts shall be implemented immediately as part of the Planned Development review process throughout the U.S. Highway 16 Study Area.

Summary

The US Highway 16 Neighborhood Area Future Land Use Plan anticipates that the residential growth patterns will continue, primarily as single family units. Additionally, the Plan identifies extension of the infrastructure to support the anticipated growth patterns. There is a need for additional parks and recreational opportunities in the Neighborhood Area and the Future Land Use Plan has identified some areas where those sites would be appropriate. The Plan identifies professional office areas to support the increase in regional medical facilities. The Plan acknowledges the importance of the Heartland Expressway and has identified commercial areas along this road network to accommodate the tourism and community retail and service needs.

Future Land Use Neighborhood Area Map