

# SOCIOECONOMIC DATA AND GROWTH TRENDS

*Technical Memorandum*  
**FINAL**



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## **ABBREVIATIONS / ACRONYMS**

<b>ACS</b>	American Community Survey
<b>BEA</b>	Bureau of Economic Analysis
<b>EPS</b>	Economic Profile System
<b>FHWA</b>	Federal Highway Administration
<b>MDT</b>	Montana Department of Transportation
<b>REMI</b>	Regional Economic Models, Inc.
<b>RPA</b>	Robert Peccia and Associates
<b>TCC</b>	Transportation Coordinating Committee
<b>TMP</b>	Transportation Master Plan
<b>TWG</b>	Technical Working Group
<b>W&amp;P</b>	Woods & Poole Economics, Inc.

# Socioeconomic Data and Growth Trends

## 1.0. INTRODUCTION

Local and regional population and economic characteristics have important influences on motor vehicle travel in the Bozeman area. The study area for the Bozeman Transportation Master Plan (TMP) includes all of the land within the city of Bozeman and encompasses adjacent lands in Gallatin County where suburban development has occurred and will likely occur in the future.

A review of demographics within the study area is appropriate to gain an understanding of historical trends in population, age, employment and other socioeconomic conditions. Understanding the composition of the population is necessary, as the data may influence the types of improvements that are identified. For example, an aging population may indicate a need for specific types of transportation improvements such as transit services and/or non-motorized infrastructure improvements. Additionally, the presence of a disadvantaged population may warrant other considerations.

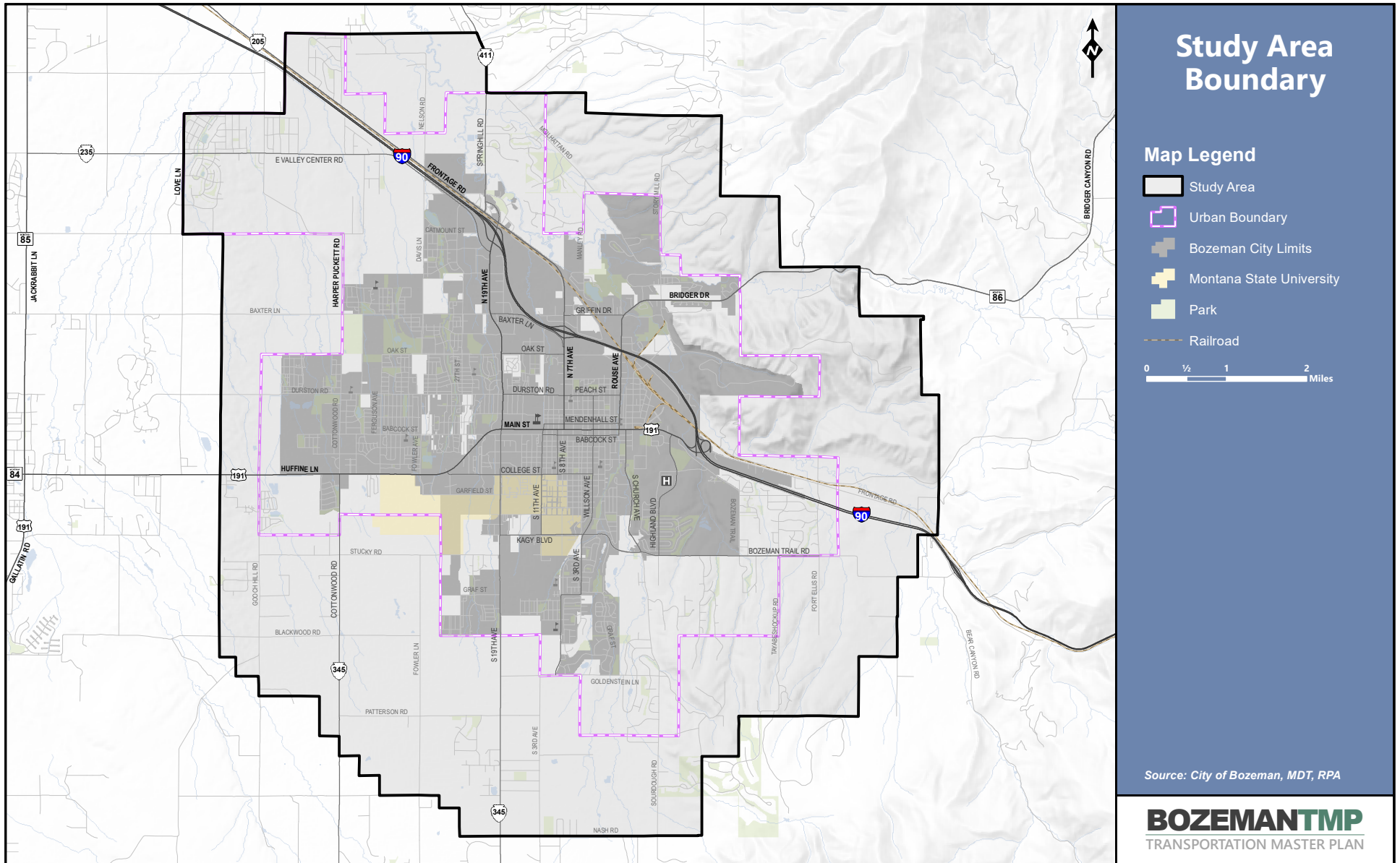
Existing land uses and potential land use changes have a direct influence on the transportation network and its use. For this reason, it is important to review community development patterns over time and understand where community conditions may be favorable for new residential and commercial growth.

This memorandum discusses the background and assumptions used to project growth in the Bozeman area to the year 2035. By using population, employment and other socioeconomic trends as aids, the future transportation requirements will be defined. A travel demand model (traffic model) of the transportation system for the Bozeman area was built by the Montana Department of Transportation (MDT) and information from this analysis will be used to allocate future residential and employment growth. The changes to the system that are projected to occur by the year 2040 will be incorporated into the model to forecast future transportation conditions. Using the updated model, various scenarios will be developed to test a range of transportation improvements to determine what affects they will have on the transportation system within the Bozeman area.

Although not within the study area, population growth occurring in the incorporated areas of Belgrade, Manhattan, and Three Forks and in the unincorporated Four Corners area is an important consideration for the TMP. Residents of these Gallatin Valley areas work, shop, attend educational institutions, and recreate in Bozeman and their commuting patterns have impacts on the local transportation system.

## 1.1. STUDY AREA BOUNDARY

A map showing the study area boundary for the TMP is shown as **Figure 1**. The study area includes the Bozeman city limits, other lands within the Urban Boundary, as well as areas with potential to be annexed into the city in the future. The study area boundary is important as it defines the limit of what will or will not be considered in developing the TMP. Although a travel demand model will be developed which utilizes land use considerations outside of the study area boundary, analysis of “on-the-ground” transportation system conditions on the city’s transportation system will only occur within the boundary limits.



**Figure 1: Study Area Boundary**



## 2.0. POPULATION AND DEMOGRAPHIC TRENDS

### 2.1. HISTORIC POPULATION TRENDS

**Table 1** shows the total populations for Gallatin County, the City of Bozeman, all incorporated areas of the county, and unincorporated areas of the county over the 1970 to 2010 period. Since considerable growth and development seen in Gallatin County occurs in and around incorporated communities of the county, historical population totals for incorporated cities and towns and for unincorporated areas were examined. These population totals were provided to help identify general trends in “urban versus rural” living within the county. The table also shows the overall change (shown as a percentage) in residents of the County, the city of Bozeman, and other geographies since 1970. Population data for the State of Montana and the nation provide benchmarks to help compare local population growth trends.

Gallatin County has been one of Montana’s fastest growing counties over the last 30 years. In terms of numeric increases, Gallatin County has seen the most new residents of any county in the state since 1980. **Table 1** shows the total population of Gallatin County grew from 32,505 in 1970 to 89,513 in 2010—adding more than 57,000 residents. With the exception of the 1980s, the county’s population has increased by more than 30% every decade since 1970. Population growth during the 1980s was still notable and the number of county residents increased by nearly 18% between 1980 and 1990. Likewise, the city of Bozeman experienced significant growth over the 1970-2010 period; however, population increases were not quite at the rates seen for Gallatin County as a whole. Between 1970 and 2010, the city’s population grew from 18,670 to 37,280 residents. Population growth slowed to less than 5% during the 1980s similar to the trend seen for Gallatin County but total population increases of between 15% and 35% were seen during the other decades of the 1970-2010 period.

Both the State of Montana and the United States (U.S.) showed population increases during each decade between 1970 and 2010 but the rates of increase were well below those seen in Gallatin County and the city of Bozeman during the period. The population of the U.S. and State of Montana grew by about 52% and 42%, respectively, between 1970 and 2010. Over the same four decades, the population of Gallatin County grew by more than 175% and Bozeman’s population doubled.

Historical census data also shows that all other incorporated communities within Gallatin County grew significantly between 1970 and 2010. The population of the city of Belgrade, the second largest incorporated area in the county, grew from just over 1,300 residents in 1970 to a 2010 population of 7,389. The 2010 population in Belgrade was 4.65 times higher than it was in 1970. As **Table 1** shows, other incorporated

Between 1970 and 2010, the population of the City of Bozeman doubled from 18,670 to 37,280 and grew at an average rate of about 2.5% per year. Gallatin County’s population grew by 2.75 times over the same period at an average rate of about 4.4% per year.

communities in the county did not grow as dramatically as Belgrade during the 1970-2010 period; however, notable increases in population were still seen in Manhattan, Three Forks, and West Yellowstone. During the four-decade long period, the populations of the town of Manhattan increased by 86%, the city of Three Forks increased by more than 57%, and the town of West Yellowstone grew by 68%.

The population of unincorporated areas of Gallatin County increased by 311% over the 1970-2010 period, with significant growth seen during the 1970s and after 1990. In 2010, the number of residents living outside incorporated communities in Gallatin County was 40,184—4.1 times higher than in 1970. The majority of the unincorporated area population in 2010 lived in the greater Gallatin Valley area between Bozeman, Belgrade and Four Corners and along the I-90/Frontage Road corridor between Manhattan and Three Forks.

**Table 1: Historic Population Data**

Area	1970	1980	1990	2000	2010	Change (1970-2010)
<b>Gallatin County</b>	<b>32,505</b>	<b>42,865</b>	<b>50,463</b>	<b>67,831</b>	<b>89,513</b>	<b>57,008</b>
<i>Net Change (%) over Decade</i>	--	31.9%	17.7%	34.4%	32.0%	175.4%
<b>City of Bozeman</b>	<b>18,670</b>	<b>21,645</b>	<b>22,660</b>	<b>27,509</b>	<b>37,280</b>	<b>18,610</b>
<i>Net Change (%) over Decade</i>	--	15.9%	4.7%	21.4%	35.5%	99.7%
<b>City of Belgrade</b>	<b>1,307</b>	<b>2,336</b>	<b>3,422</b>	<b>5,728</b>	<b>7,389</b>	<b>6,082</b>
<i>Net Change (%) over Decade</i>	--	18.5%	8.5%	28.4%	31.4%	465.3%
<b>Town of Manhattan</b>	<b>816</b>	<b>988</b>	<b>1,034</b>	<b>1,396</b>	<b>1,520</b>	<b>704</b>
<i>Net Change (%) over Decade</i>	--	18.5%	8.5%	28.4%	31.4%	86.3%
<b>City of Three Forks</b>	<b>1,188</b>	<b>1,247</b>	<b>1,203</b>	<b>1,728</b>	<b>1,869</b>	<b>681</b>
<i>Net Change (%) over Decade</i>	--	18.5%	8.5%	28.4%	31.4%	57.3%
<b>Town of West Yellowstone</b>	<b>756</b>	<b>735</b>	<b>913</b>	<b>1,177</b>	<b>1,271</b>	<b>515</b>
<i>Net Change (%) over Decade</i>	--	18.5%	8.5%	28.4%	31.4%	68.1%
<b>All Unincorporated Areas of County</b>	<b>9,768</b>	<b>15,914</b>	<b>21,231</b>	<b>30,293</b>	<b>40,184</b>	<b>30,416</b>
<i>Net Change (%) over Decade</i>	--	62.9%	33.4%	42.7%	32.6%	311.4%
<b>State of Montana</b>	<b>694,409</b>	<b>786,690</b>	<b>799,065</b>	<b>902,195</b>	<b>989,415</b>	<b>295,006</b>
<i>Net Change (%) over Decade</i>	--	13.4%	1.8%	12.9%	9.7%	42.5%
<b>United States</b>	<b>203,392,031</b>	<b>226,545,805</b>	<b>248,709,873</b>	<b>281,421,906</b>	<b>308,745,538</b>	<b>105,353,507</b>
<i>Net Change (%) over Decade</i>	--	11.4%	9.8%	13.2%	9.7%	51.3%

Source: U.S. Bureau of the Census, Census of the Population

**Table 2** presents historical annual average percent changes in population for Gallatin County, the city of Bozeman, and other local geographies and compares them with the annual rates of change for the State of Montana and the nation over the same time periods. The

The Census Bureau releases population estimates each year for various geographies to update information collected in the most recent census. Each new series of data incorporates the latest administrative record data, geographic boundaries, and methodology to provide annual revisions to the decennial census. **Table 3** shows the U.S. Census Bureau estimates of current (as of July 1, 2014) population estimates for Gallatin County, the city of Bozeman, as well as the State of Montana, and the nation. These estimates show populations in the County and City are continuing to increase at rates comparable to those seen during the last decade. The rate of growth continues to outpace that seen for the state and nation. A substantial portion of the growth continues to be due to the migration of new residents into the county.

## 2.2. POPULATION CHANGES SINCE 2010

Area	Last Four Decades (1970 - 2010)	Last Two Decades (1990 - 2010)	Last Decade (2000 - 2010)
Gallatin County	2.56%	2.91%	2.81%
City of Bozeman	1.74%	2.52%	3.09%
All Incorporated Areas (includes City of Bozeman)	1.96%	2.65%	2.77%
All Unincorporated Areas of County	3.60%	3.24%	2.87%
State of Montana	0.89%	1.07%	0.93%
United States	1.05%	1.09%	0.93%

**Table 2: Historic Annual Average Growth Rate in Population**

table shows that annual population growth rate for Gallatin County has typically been approximately three times higher than annual growth rates seen for the state and nation over the 1970-2010 period. Population growth seen in unincorporated area of the county between 1970 and 2010 averaged about 3.6% per year. Much of the growth seen in the county after 1990 can be attributed to in-migration. Similarly, the city of Bozeman's population grew at rates significantly higher than those seen for the state and nation. The annual average percent change in population for the city of Bozeman was nearly approximately three times higher than the state's annual average growth rate over the 1970-2010 period. It is notable that the city of Bozeman's population grew at a slightly higher rate during the 2000-2010 period than Gallatin County as a whole and all unincorporated areas of the county. In 2010, about 42% of the county residents lived in the city of Bozeman.

**Table 3: Population Changes Since 2010**

Area	2010 Population	Estimate as of July 1, 2014	Total % Change 2010-2014	Annual Average % Change
Gallatin County	89,513	97,308	8.71%	2.11%
City of Bozeman	37,280	41,660	11.75%	2.82%
State of Montana	989,415	1,023,579	3.45%	0.85%
United States	308,745,538	318,857,056	3.27%	0.81%

Source: U.S. Bureau of the Census, Current Estimates Data, available at <http://census.missouri.edu/acs/profiles/>

### 2.3. RACE AND ETHNICITY

**Table 4** presents the estimated race and ethnicity characteristics of Gallatin County and the city of Bozeman as indicated in the *American Community Survey (ACS)* Profile Report for the 2009-2013 period. Similar statistics are provided for the State of Montana and the U.S. for comparison purposes. The ACS data are period estimates meaning they represent the characteristics of the population and housing over a specific data collection period (5 years in this case). For this reason, the total populations shown differ from those recorded during the 2010 Census or Census Bureau estimates for years after 2010. The percentages listed for ethnic groups presented in the table may not match the Census total percentages and percentages may not add up to 100%.

**Table 4: Population Race and Ethnicity Data (2009-2013)**

Race/Ethnicity	Gallatin County	City of Bozeman	State of Montana	United States
White	95.3%	92.3%	89.4%	74.0%
Black or African American	0.3%	0.6%	0.4%	12.6%
American Indian and Alaska Native	1.1%	1.8%	6.5%	0.8%
Asian	0.9%	1.8%	0.6%	4.9%
Native Hawaiian and Other Pacific Islander	0.1%	0.0%	0.1%	0.2%
Some Other Race	0.4%	0.5%	0.6%	4.7%
Two or More Races	2.0%	2.9%	2.4%	2.8%
Hispanic or Latino (of any race)	2.9%	3.0%	3.1%	16.6%
<b>Total Population</b>	<b>91,499</b>	<b>38,204</b>	<b>998,554</b>	<b>311,536,608</b>

Source: U.S. Bureau of the Census, American Community Survey (ACS) Profile Report: 2009-2013 (5-year estimates), available at <http://census.missouri.edu/acs/profiles/>

The populations of Gallatin County and the city of Bozeman are predominately white with percentages of minority populations generally similar to those seen for the State of Montana. The racial and ethnic composition of the geographic subdivisions examined are not nearly as diverse as that of the nation as a whole.

## 2.4. AGE DISTRIBUTION

**Table 5** depicts the changes in age distribution for residents of Gallatin County and the city of Bozeman and presents similar data for the State of Montana and the U.S. Three age categories—residents less than 18 years old, residents 18 to 64 years old, and residents over age 65—were considered in the analysis of age distribution.

As shown earlier, the populations of Gallatin County and the city of Bozeman increased significantly between 1980 and 2010. The county’s population is younger than that of the state and nation. The data consistently shows Gallatin County and the city had a larger share of residents in the “less than 18 years old” category and fewer residents in the “65 years and over” category than either the state or nation. The age group from 18 to 64 generally represents the working-age population. Although numbers of residents in this broad age group has increased notably in both geographies, the share of residents in the 18-64 age group has changed relatively little over the 1980 to 2010 period. The share of Gallatin County and city of Bozeman residents in this age group has remained considerably above that seen for the state and nation over the same time period.

Changes in the structure of the population also impact another measure of population composition, median age. The median age is the age at the midpoint of the population. Half of the population is older than the median age and half of the population is younger. The median age of Gallatin County residents increased from 25.1 years to 32.5 years between 1980 and 2010. The median ages for residents of the city of Bozeman showed a slightly lower increase in median age over the period—from 23.3 years in 1980 to 27.2 years at the time of the 2010 Census. In both geographies, the median ages of county and city residents were consistently below that seen for the state and nation.

Age group data from the 2000 Census and 2010 Census were reviewed to examine more specifically how age groups have changed in Gallatin County and the city of Bozeman. This review showed the following:

- Changes in age distribution followed the same general patterns (increases/decreases) across all age groups.
- Residents aged 20-34 comprised nearly 29% of the county's population and almost 42% of the city's population in 2010. The share of the population falling within this age group changed little between 2000 and 2010.
- The number of residents aged 55 to 75 increased between 2000 and 2010.
- Residents aged 45 to 64 accounted for about 24% of the county's population and some 17% of the city's population in 2010. This age group generally represents the "Baby Boom" generation and includes people born from mid-1946 to 1964. The Baby Boom is distinguished by a dramatic increase in birth rates following World War II and comprises one of the largest generations in U.S. history. The share of the county and city populations within this age group increased by 4% and 2%, respectively, during the 2000-2010 period.

**Table 5: Age Distribution (1980 to 2010)**

Area	1980	1990	2000	2010
<b>Gallatin County Median Age</b>	<b>25.1</b>	<b>29.8</b>	<b>30.7</b>	<b>32.5</b>
% Less than 18 Years Old	23.8	24.3	22.0	20.9
% 18-64 Years Old	68.7	66.8	69.5	69.6
% 65 Years and Older	7.5	8.9	8.5	9.5
<b>City of Bozeman Median Age</b>	<b>23.3</b>	<b>25.7</b>	<b>25.4</b>	<b>27.2</b>
% Less than 18 Years Old	16.8	18.1	16.0	15.7
% 18-64 Years Old	75.2	72.8	76.0	76.2
% 65 Years and Older	8.0	9.1	8.0	8.1
<b>State of Montana Median Age</b>	<b>29.0</b>	<b>33.8</b>	<b>37.5</b>	<b>39.8</b>
% Less than 18 Years Old	29.4	27.8	25.5	22.6
% 18-64 Years Old	59.9	58.9	61.1	62.6
% 65 Years and Older	10.7	13.3	13.4	14.8
<b>United States Median Age</b>	<b>30.0</b>	<b>32.9</b>	<b>35.3</b>	<b>37.2</b>
% Less than 18 Years Old	28.2	25.6	25.7	24.0
% 18-64 Years Old	60.5	61.8	61.9	63.0
% 65 Years and Older	11.3	12.6	12.4	13.0

Source: U.S. Bureau of the Census, Census of the Population 1980-2010

## 2.5. DISABILITY STATUS

The 2009-2013 ACS 5-Year Estimate for Gallatin County and the city of Bozeman was consulted to obtain information about the number of residents with disabilities (which include hearing or vision difficulties, cognitive difficulties, and ambulatory difficulties). This information is important to review since segments of the population with disabilities may require special accommodations for transport or unique considerations in the design of transportation infrastructure.

The ACS data showed that approximately 7-8% of the civilian non-institutionalized populations of the County and city of Bozeman were considered to have one or more disabilities. This data also indicated the following for disabled residents:

- About 2-3% of residents of the County and city of Bozeman under the age of 18 had one or more disabilities;

- About 5-6% of the residents between 18 and 64 years of age (the working-age population) living in Gallatin County and the city of Bozeman had one or more disabilities; and
- Nearly one-third of residents 65 years and older in Gallatin County and the city of Bozeman had one or more disabilities.

## 2.6. PERSONAL TRAVEL AND COMMUTING CHARACTERISTICS

According to the ACS profile for the 2009-2013 period, residents in about 96% of all occupied housing units in Gallatin County had access to one or more vehicles to commute to work or meet other personal needs. In the city of Bozeman, 93% of residents had access to at least one vehicle. In comparison, residents of nearly 95% of all occupied housing units in Montana and 91% of all occupied housing units in the nation had access to one or more vehicles.

Information about the number of workers (16 years and older) and their commuting characteristics is also available from the ACS. The ACS information provided estimates of the total share of workers who commute or work at home, the transportation modes used by commuters, and the mean travel times to work for commuters. **Table 6** presents commuting characteristics for workers in the various geographies of Gallatin County. Similar statistics for the State of Montana and the United States are provided for comparison.

The table shows that 81% of commuting workers in Gallatin County rely on personal vehicles or carpools for transportation to work destinations. About 77% of commuting workers in the city of Bozeman drove alone or carpooled. Workers in Gallatin County and the city of Bozeman were more likely to walk to work as compared to all workers in the state and nation. The data also shows workers in the city used public transportation for commuting more than typically seen for all workers in Montana. The table suggests public transportation options are more limited for Montana residents as compared to elsewhere in the United States. Workers in Gallatin County and the city Bozeman also have notably shorter commute times than elsewhere in the state or nation.

The ACS data showed workers in Belgrade, Manhattan, and Three Forks had commute times of 17.2 minutes, 23.6 minutes, and 17.6 minutes, respectively. Due to the relatively small sizes of these communities, these commute times suggest residents are working at jobs outside their communities. Many of these jobs likely exist in the Bozeman area.



**Table 6: Mode of Transportation to Work (2009-2013)**

Subject	City of Bozeman	Gallatin County	State of Montana	United States
<b>Number of Workers 16 Years and Older</b>	<b>21,050</b>	<b>48,847</b>	<b>469,319</b>	<b>139,786,640</b>
<i>Commuted to Work</i>	94.7%	92.5%	93.7%	95.6%
<i>Worked at Home</i>	5.3%	7.5%	6.3%	4.3%
<b>Transportation Mode</b>				
<i>Drove alone, car, truck, van</i>	69.5%	71.8%	75.4%	76.3%
<i>Carpooled</i>	7.3%	9.2%	10.1%	9.8%
<i>Public Transportation (excluding taxicabs)</i>	1.3%	0.9%	0.8%	5.0%
<i>Walked to Work</i>	9.8%	6.1%	4.9%	2.8%
<i>Other means of commuting</i>	6.8%	4.5%	2.5%	1.8%
<b>Mean Travel Time to Work</b>	<b>13.6 min</b>	<b>16.8 min</b>	<b>18.0 min</b>	<b>25.5 min</b>

Source: U.S. Bureau of the Census, American Community Survey (ACS) Profile Report: 2009-2013 (5-year estimates), available at <http://census.missouri.edu/acs/profiles/>

## 2.7. MONTANA STATE UNIVERSITY STUDENT POPULATION

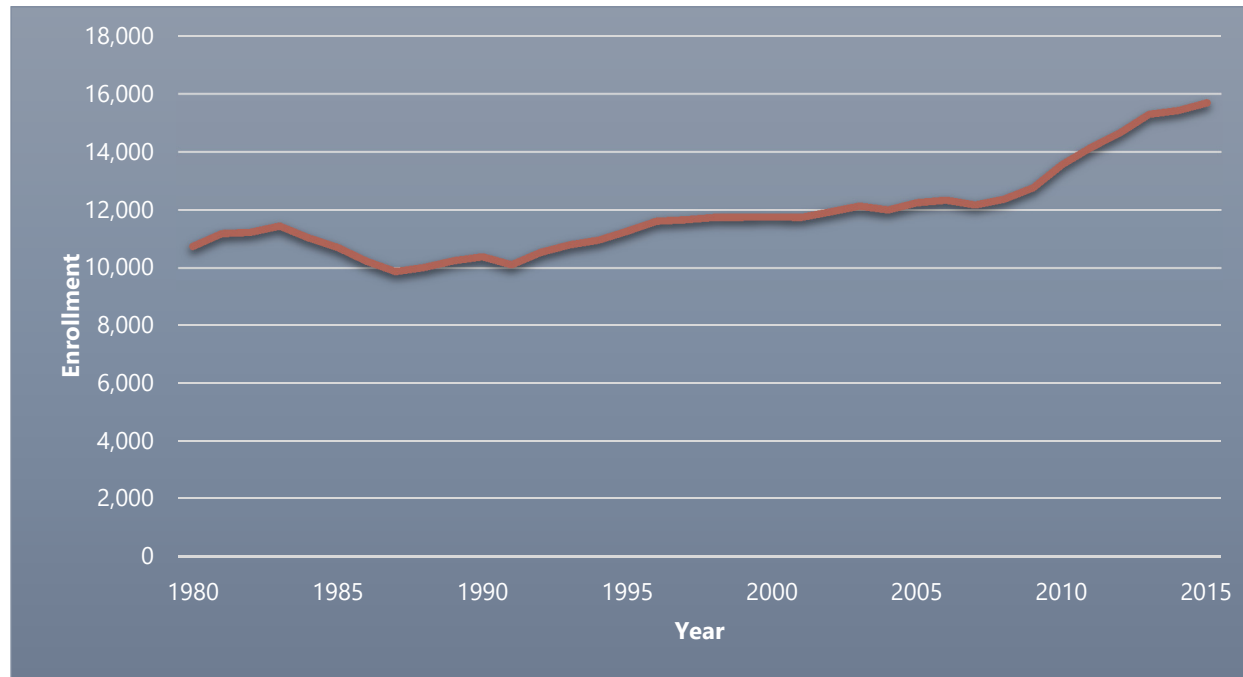
Montana State University-Bozeman (MSU) attracts a large number of full-time and part-time students to the city of Bozeman each year. Enrollment at MSU has increased steadily since 1991 and the university has seen record enrollment nine times over the past 10 years.

**Figure 2** shows the trend in enrollment at MSU since 1980. As of fall semester 2015, MSU’s enrollment was 15,688 including 12,196 (78%) full-time students and 3,492 (22%) part-time students.

The Montana State University Strategic Plan 2012 (available at <http://www.montana.edu/strategicplan/documents/montanastate-strategic-plan.pdf>) clearly indicates it is a goal of the university to continue growing the student enrollment. The 2012 strategic plan identified a goal of increasing the total student population to 16,000 by the year 2019. It is clear from the recent enrollment numbers that the university is poised to exceed this target population well ahead of that time.

The annual influx of students to MSU means the city of Bozeman and surrounding areas must accommodate this population. Housing opportunities for students are available both on campus and off campus within the greater Bozeman area. With the addition of a new dormitory in 2016, MSU will be capable of housing more than 3,700 students in the residence halls at the university. MSU also offers family and graduate housing in nearly 600 apartments located within walking distance of the campus. Approximately 70 percent of the on-campus population is comprised of freshmen undergraduate students.

**Figure 2: Fall Enrollment at Montana State University (1980-2015)**



**Enrollment at MSU has increased steadily since 1991 and the university has seen record enrollment nine times over the past 10 years. As of fall semester 2015, MSU's enrollment was 15,688. Over the 2005-2015 period MSU's enrollment has grown by 3,438 students.**

### **3.0. HOUSING UNITS AND HOUSEHOLDS**

The Census Bureau identifies a housing unit as a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements. A household includes all the persons who occupy a housing unit according to the Census Bureau definition. For purposes of allocating future residential growth, housing units are of interest since they are inputs to the travel demand model (TDM).

### 3.1. NUMBER OF HOUSING UNITS

**Table 7** lists the number of housing units that existed within Gallatin County and the city of Bozeman during recent decennial censuses. Overall, the number of housing units in the County increased by nearly 146% during the 1980-2010 period with significant increases in the number of housing units recorded during each of the last two decades in the County. This trend is similar for the city of Bozeman which showed a 119% increase in housing units between 1980 and 2010 and a 239% increase in the number of housing units between 2000 and 2010.

**Table 7: Number of Housing Units (1980-2010)**

Area	1980	1990	2000	2010
<b>Gallatin County</b>				
Population	42,865	50,463	67,831	89,513
Housing Units	17,173	21,350	29,489	42,289
Net Change	--	4,177	8,139	12,800
<b>Population per Housing Unit</b>	<b>2.50</b>	<b>2.36</b>	<b>2.30</b>	<b>2.12</b>
<b>City of Bozeman</b>				
Population	21,645	22,660	27,509	37,280
Housing Units	7,971	9,117	11,577	17,464
Net Change	--	1,146	2,460	5,887
<b>Population per Housing Unit</b>	<b>2.72</b>	<b>2.49</b>	<b>2.38</b>	<b>2.13</b>
<b>Unincorporated Areas of the County</b>				
Population	15,914	21,231	30,293	40,184
Housing Units	6,949	9,298	13,559	18,826
Net Change	--	2,349	4,261	5,267
<b>Population per Housing Unit</b>	<b>2.29</b>	<b>2.28</b>	<b>2.23</b>	<b>2.13</b>

Source: US Bureau of the Census, Census of the Population

Several interesting findings are apparent from the housing unit data presented in **Table 7**:

- 25,116 housing units were added within Gallatin County between 1980 and 2010, with 47% of all the housing units being added in unincorporated areas of the county and 38% of all the housing units added within the city of Bozeman.

- 9,493 housing units were added within the city of Bozeman over the 1980-2010 period.
- 8,347 housing units were added within the city of Bozeman over the 1990-2010 period with more than 70% of these units (5,887) being added between 2000 and 2010.
- In total, there were 12,800 more housing units in the County in 2010 than there were in 2000, with 46% of these housing units being added within the city of Bozeman.
- Of the new housing units added between 2000 and 2010 in the County, 41% were added within unincorporated areas and 59% were added within incorporated cities and towns.
- In 2010, 44.5% of the County's housing units were located in unincorporated areas and 41% of the housing units were located within the city of Bozeman.

Historic census data for Gallatin County areas showed notable increases in the number of housing units in other incorporated communities within the Gallatin Valley. Between 1990 and 2010, nearly 1,900 new housing units were added to the city of Belgrade with 935 new housing units being added during the 2000-2010 period. The town of Manhattan recorded an increase of 589 housing units over the 1990-2010 period with 72% of these housing units (424 units) being added between 2000 and 2010. The number of new housing units in the city of Three Forks did not increase as dramatically as in Belgrade or Manhattan. However, more than 300 new housing units were added in Three Forks over the 1990-2010 period. These communities, particularly Belgrade and Manhattan, are within easy commuting distance of Bozeman and likely offer housing costs lower than those generally available in Bozeman.

### **3.2. POPULATION PER HOUSING UNIT**

The data in **Table 7** shows that the population per housing unit decreased for all geographies considered over the 1980-2010 period. The population per housing unit in Gallatin County and the city of Bozeman were almost the same at 2.12 and 2.13 persons per housing unit, respectively, at the time of the 2010 Census. For comparison, the population per housing unit for the State of Montana was 2.04 according to the 2010 Census.

Because not all housing units are occupied, it is interesting to consider the number of residents per occupied housing unit. At the time of the 2010 Census, more than 86% of the housing units in Gallatin County were occupied and over 90% of those in the city of Bozeman were occupied. If only occupied housing units are considered, the resulting population per housing unit rates are 2.45 people per unit in the County and 2.36 people per unit in the city of Bozeman. The population per occupied housing unit for the State of Montana was 2.41 based on data in the 2010 Census.

## 4.0. EMPLOYMENT AND INCOME TRENDS

The Bozeman area economy experienced a significant contraction early in the 2008 recession. However, the economy began to turn around in 2010 and has continued upward ever since. According to the *2015 Economic Outlook* (by Paul Polzin, Bureau of Business and Economic Research) only Gallatin County and Yellowstone County significantly exceeded the statewide growth rates during the recovery phase of this business cycle.

Gallatin County is Montana's fourth most populous county, while the city of Bozeman, the county seat, is the state's fourth largest city. As discussed earlier in this memorandum, the city of Bozeman is one of Montana's fastest growing cities and recorded a population increase of more than 35% between 2000 and 2010. The economy of Gallatin County is fairly diverse with construction, government, manufacturing, technology, retail trade, services, and agriculture all playing notable roles. Bozeman's transition into a regional trade and service center provide a solid basis for continued economic growth. Montana State University comprises the largest component of Gallatin County's economic base. Montana State University and the associated Gallatin College are located in Bozeman and have combined annual enrollments approaching 16,000 students.

### 4.1. HISTORIC EMPLOYMENT IN GALLATIN COUNTY

Employment by industry for Gallatin County for milestone years between 1980 and 2013 is represented in **Table 8**. The most recent available data shows that total full and part-time employment in the county was 70,269 in 2013 with more than 98% of the jobs being non-farm related employment. Total full and part-time employment in Gallatin County in 2013 was 223% higher than that recorded in 1980. This means total employment in the county increased 3.2 times since 1980. Over this 33-year period, the average annual increase in employment in Gallatin County was about 6.8% per year.

The data in **Table 8** shows that between 1980 and 2013, all industry sectors in the county gained jobs with the most notable net increase in employment occurring in the services industry where the total number of jobs increased by 25,300 over the period. Other industry sectors showing sizable increases in employment since 1980 include: construction (net gain of 5,166 jobs); finance, insurance and real estate (net gain of 4,752 jobs); retail trade (net gain of 4,371 jobs) and state and local government (net gain of 3,408 jobs). The industries showing the lowest gains in employment between 1980 and 2013 were federal and civilian government, the military, agriculture and forestry, mining, and transportation.

**Table 8: Employment Trends for Gallatin County (1980–2013)**

Employment	1980	1990	2000	2010	2013	Net Change (1980 - 2013)	% Change (1980 - 2013)
<b>Total Full and Part-time Employment</b>	<b>21,731</b>	<b>31,744</b>	<b>51,116</b>	<b>63,768</b>	<b>70,269</b>	<b>48,538</b>	<b>223.4%</b>
<i>Farm Employment</i>	1,075	1,128	1,377	1,116	1,134	59	0.2%
<i>Non-Farm Employment</i>	20,656	30,616	49,739	62,652	69,135	48,479	234.7%
<b>Employment by Industry</b>							
<b>Agricultural Services &amp; Forestry</b>	180	363	826	537	625	445	247.2%
<b>Mining</b>	106	175	171	391	610	504	475.5%
<b>Construction</b>	1,222	1,782	4,748	5,626	6,388	5,166	422.7%
<b>Manufacturing</b>	1,325	2,021	3,120	2,624	3,189	1,864	140.7%
<b>Transportation &amp; Public Utilities</b>	772	1,025	1,511	1,332	1,701	929	120.3
<b>Wholesale Trade</b>	511	1,094	1,678	1,675	1,901	1,350	245.0%
<b>Retail Trade</b>	4,311	6,263	10,618	8,117	8,682	4,371	101.4%
<b>Finance, Insurance &amp; Real Estate</b>	1,633	2,316	3,512	6,049	6,385	4,752	291.0%
<b>Services</b>	4,461	8,408	15,048	26,450	29,769	25,308	567.3%
<b>Federal &amp; Civilian Government</b>	567	610	580	670	620	53	9.3%
<b>Military</b>	279	404	374	447	468	189	67.7%
<b>State &amp; Local Government</b>	5,249	6,155	7,553	8,734	8,657	3,408	64.9%

Source: U.S. Department of Commerce Bureau of Economic Analysis – Table CA25 and Table CA25N.

## 4.2. EMPLOYMENT TRENDS BY INDUSTRY

**Table 9** presents data on the estimated number of civilian employees (age 16 years and older) and the industries in which they are employed in the State of Montana, Gallatin County and the city of Bozeman. The data in the table, taken from 2009-2013 ACS profile for these geographies, also includes employment estimates by industry. As the table shows, the employed population in Gallatin County for the period is estimated at 50,021 with about 43% of the employed persons in the county being residents of the city of Bozeman.

The employment by industry data from the 2009-2013 ACS for the various geographies of Gallatin County generally supports the information presented earlier in **Table 8**. The majority of the employment in the County and city of Bozeman is associated with education

and the service industries, retail trade, and professional, management and administrative occupations. The employment data in **Table 9** suggests that more about one-third of the County’s employment occurs in the city of Bozeman.

**Table 9: Civilian Employment by Industry (2009-2013)**

Industry	State of Montana		Gallatin County		City of Bozeman	
	Count	%	Count	%	Count	%
<b>Agriculture, forestry, fishing, hunting, and mining</b>	34,395	7.2%	2,092	4.2%	499	2.3%
<b>Construction</b>	37,617	7.9%	4,195	8.4%	1,247	5.8%
<b>Manufacturing</b>	22,278	4.7%	2,997	6.0%	1,369	6.3%
<b>Wholesale Trade</b>	11,647	2.4%	1,153	2.3%	484	2.2%
<b>Retail Trade</b>	57,294	12.0%	6,529	13.1%	2,951	13.6%
<b>Transportation, warehousing, and public utilities</b>	23,539	4.9%	1,508	3.0%	485	2.2%
<b>Information</b>	8,771	1.8%	721	1.4%	293	1.4%
<b>Finance and Insurance, and real estate and rental and leasing</b>	26,771	5.6%	2,682	5.4%	1,132	5.2%
<b>Professional, scientific, management and administrative</b>	39,604	8.3%	6,049	12.1%	2,613	12.1%
<b>Education services, health care, and social assistance</b>	108,670	22.8%	11,379	22.7%	5,544	25.6%
<b>Arts, entertainment, and recreation, and accommodation, and food services</b>	54,179	11.4%	6,827	13.6%	3,385	15.6%
<b>Other services, except public administration</b>	21,844	4.6%	2,038	4.1%	895	4.1%
<b>Public administration</b>	30,406	6.4%	1,851	3.7%	750	3.5%
<b>Total Employed Population 16 year of age and older</b>	<b>477,015</b>		<b>50,021</b>		<b>21,647</b>	

Source: U.S. Bureau of the Census, American Community Survey (ACS) Profile Report: 2009-2013 (5-year estimates), available at <http://census.missouri.edu/acs/profiles/>

It is worth noting the difference in the total employed population for Gallatin County presented in **Table 9** and the full and part-time employment total presented for the county in **Table 8**. The data in **Table 8** shows employment by industry in the county and does not consider where employees reside. **Table 9** provides estimates of the employment by industry for residents of Gallatin County. With that in mind, the employment data suggests there are a substantial number of jobs being filled by persons living outside Gallatin County.

Information obtained from Headwaters Economics Inc. Economic Profile System (EPS) in 2015 verifies that workers from neighboring counties are coming to Gallatin County for work. The *Profile of Socioeconomic Measures* report produced by the EPS shows that from 1990 to 2013, the outflow of earnings grew by 224% and the net residential adjustment (inflow less outflow) changed from 0.0% to -0.6% of

personal income. These measures describe the flow of earnings into the county by residents who work in neighboring counties ("inflow" of earnings because they bring money home); the flow of earnings by residents from neighboring counties who commute into the county for work ("outflow") of earnings because they take their earnings with them); and the difference between the two ("net residential adjustment"). If net residential adjustment is positive (inflow exceeds outflow), it means county residents commute outside the county for work and bring in more personal income than leaves the county in net terms. If net residential adjustment is negative (outflow exceeds inflow), it means the economy of the county attracts workers from nearby counties and loses more personal income than it brings into the county in net terms.

Montana State University is the largest employer in Gallatin County. As of fall 2014, MSU employed 3,092 permanent faculty and staff, and 649 graduate teaching and research assistants. Of the 3,092 permanent employees, 2,321 were classified as full time and 771 were part time employees. Classified, professional, and service staff at MSU numbered nearly 1,900 in 2014. The Bozeman Public School District, Gallatin County, and City of Bozeman are also large public employers in the county.

The most recent *Montana County Flier* publication for Gallatin County (February 2012) prepared by the Montana Department of Labor and Industry, Research and Analysis Bureau identifies large private employers in the County including:

- Bozeman Deaconess Hospital (1,000+ employees);
- Right Now Technologies (500-999 employees);
- Walmart (250-499 employees); and
- 17 other businesses with 100 to 249 employees.

### **4.3. CURRENT EMPLOYMENT STATISTICS**

Unemployment rates are represented in **Table 10** and are current as of August 2015. The data shows unemployment rates for Gallatin County and Bozeman lower than comparable rates for the State of Montana (3.7%) and for the United States (5.2%).



**Table 10: Employment Statistics (August 2015)**

Area	Total Labor Force	Employed	Unemployed	Unemployment Rate
Gallatin County	59,639	57,943	1,696	2.8%
City of Bozeman	26,873	26,234	639	2.4%
State of Montana	531,246	511,514	19,732	3.7%
United States	157,390,000	149,228,000	8,162,000	5.2%

Source: MT Department of Labor and Industry, Research and Analysis Bureau – Labor Force Statistics, August 2015 (data is not seasonally adjusted) available at <https://data.datamontana.us/Employment/Labor-Force-by-Area/2t9m-tkyy>. Please note these Local Area Unemployment Statistics (LAUS) are variable and represent monthly and annual labor force estimates and unemployment rate statistics.

#### 4.4. INCOME LEVELS

Estimates of median household income and per capita income for Gallatin County, the city of Bozeman, and other geographies are available in the 2009–2013 ACS profile and shown in **Table 11**. The ACS shows estimated median household incomes for Gallatin County and the city of Bozeman as \$52,833 and \$44,615, respectively. The median household income level of county residents was higher than that of the state as a whole but slightly below that of the nation. The median household income of city of Bozeman residents was below that of the county, state, and nation. In general, households within Gallatin County earned about 14% more than what is earned by an average Montana household during the period.

Per capita income levels in Gallatin County were similar of those of the nation but notably higher than those for Montana as a whole. The per capita income of city residents was estimated to be higher than for state residents as a whole but below the per capita income level seen for all county residents and the nation as a whole.

Estimates of per capita personal income for 2013 are available from the U.S. Department of Commerce, Bureau of Economic Analysis (BEA) for the nation, states, and counties. Personal income is the income received by all persons from all sources. Per capita personal income is calculated as the total personal income of the residents of an area divided by the population of the area. BEA data for 2013 shows the estimated per capita personal income for residents of Gallatin County is slightly above that for all residents of the State of Montana but is about 10% below that estimated for the nation as a whole.

**Table 11: Income Levels (2009-2013)**

Area	Median Household Income	Per Capita Income	2013 Per Capita Personal Income
Gallatin County	\$52,833	\$28,939	\$40,670
City of Bozeman	\$44,615	\$26,335	No Data
State of Montana	\$46,230	\$25,373	\$39,366
United States	\$53,046	\$28,155	\$44,765

Sources: US Bureau of the Census, American Community Survey (ACS) Profile Report: 2009-2013 (5-year estimates), available at <http://census.missouri.edu/acs/profiles/>  
U.S. Department of Commerce, Bureau of Economic Analysis (BEA) News Release – Local Area Personal Income (November 20, 2014) available at <http://www.bea.gov/newsreleases/regional/lapi/2014/pdf/lapi1114.pdf>

## 4.5. POVERTY STATUS

**Table 12** presents poverty statistics for various geographies in Gallatin County and comparable statistics for the State of Montana and the nation. According to the 2009-2013 ACS profile, the number of county residents living below the poverty line was below that seen for the State (14.8%) and nation (14.9%). However, the ACS estimates show the number of city of Bozeman residents living in poverty was higher than the county as a whole, and the state and nation. The county (including the city of Bozeman) had fewer residents under the age of 18 years and over the age of 65 living in poverty than seen for the state and nation.

**Table 12: Poverty Status (2009-2013)**

Area	Persons Living in Poverty (%)	Persons Under 18 in Poverty (%)	Persons over 65 in Poverty (%)
Gallatin County	14.1	12.5	5.4
City of Bozeman	21.2	13.5	7.5
State of Montana	15.2	20.1	8.4
United States	14.9	20.8	9.4

Source: U.S. Bureau of the Census, American Community Survey (ACS) Profile Report: 2009-2013 (5-year estimates), available at <http://census.missouri.edu/acs/profiles/>

## 5.0. EXISTING LAND USE AND DEVELOPMENT

### 5.1. EXISTING LAND USE

Land use plays a critical role in shaping transportation networks. Land use decisions affect the transportation system and can increase viable options for people to access work and recreation sites, goods, services, and other resources in the community. In turn, the existing and future transportation system may be impacted by the location, type, and design of land use developments through changes in travel demands, travel mode choices, and travel patterns.

#### 5.1.1. Historic Development Patterns and Current Land Uses

Bozeman's developed land use pattern has evolved steadily from the time of first settlement. The historic development of the city of Bozeman was centered on the commercial core of Main Street and later included the industrial core established around the railroad yard. The city developed around a street and block pattern that served residents by providing for most basic needs within relatively close proximity to residential areas. This pattern flourished for many years and maintained a thriving central core area within the city.

The development pattern changed as automobiles became commonplace and allowed people to move greater distances over a shorter period. The newfound mobility served to create commercial corridors as business owners relocated to or expanded on parcels of less expensive land on the edges of town. The development of I-90 along the north edge of the city reinforced the commercial corridor pattern seen in the community. Commercial development, with concentrations of motels/hotels and other services, was spurred in areas along East Main Street and North 7th Avenue (and later North 19th Avenue) where interchanges were constructed along I-90.

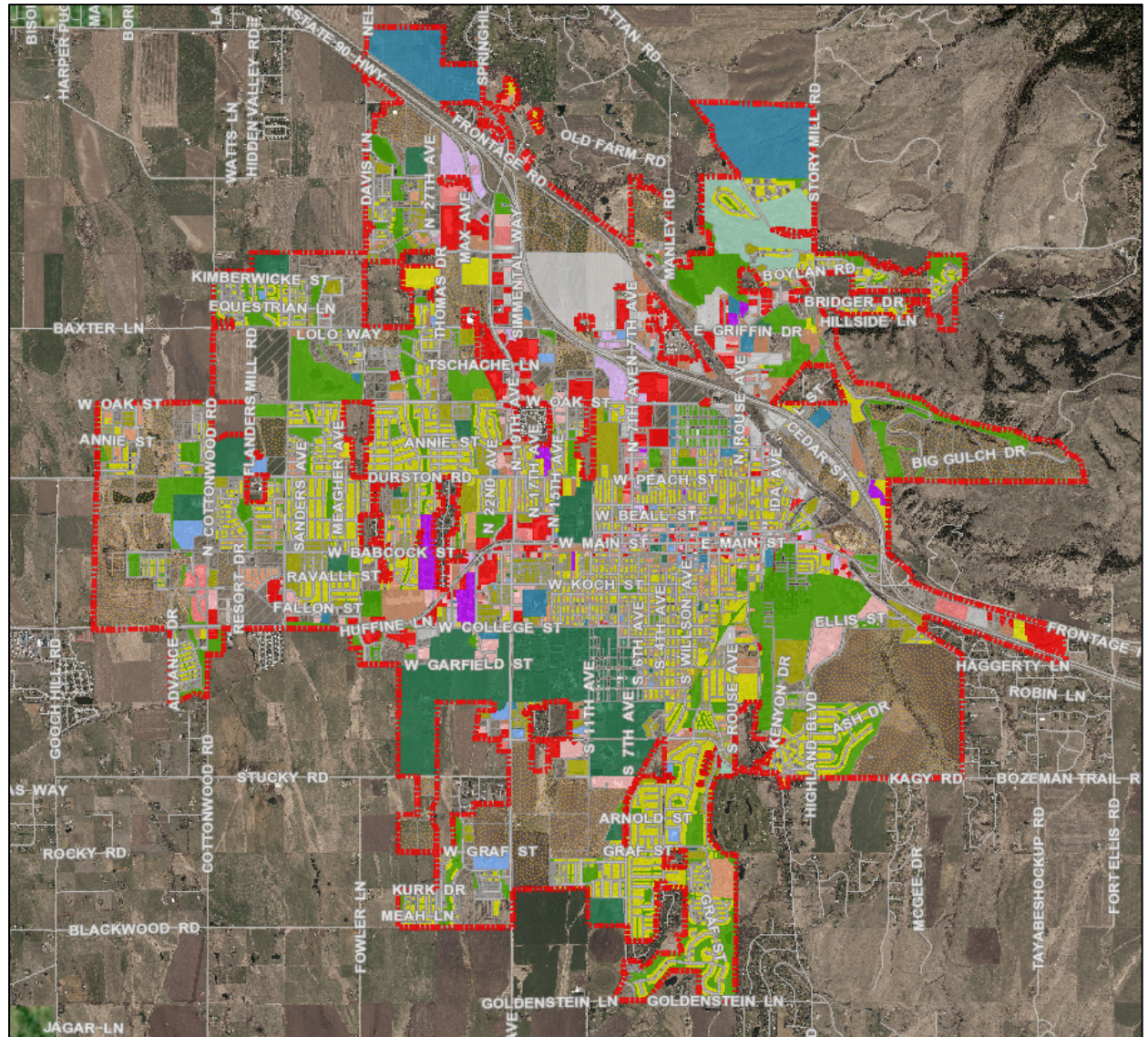
The periods of rapid residential growth seen in the Bozeman area from 1980 forward resulted in significant new residential areas on former agricultural lands that surrounded the city. This growth has manifested itself through numerous large residential developments, primarily on lands adjoining the north, west, and southwest portions of the city and through infill developments in other areas of the city. Residential and commercial development on lands near Montana State University has also been notable in recent years.

Today, the city is seeing substantial redevelopment and enhancements within its historic downtown core area and East Main Street. This activity has contributed to making downtown Bozeman a very vibrant area. Rapid expansion of commercial uses has also continued along North 19<sup>th</sup> Avenue and portions of West Main Street. Most other major streets in the city also have some level of commercial development.

**Figure 3** depicts current land uses for the community as compiled by the city of Bozeman GIS Department.

**Land Use**

- Mixed Use
- Restaurant\Bar
- Hotel\Motel
- Commercial Auto
- Administrative\Professional
- Light Manufacturing
- Golf Course
- Park or Open Space
- Conservation Easement
- Church
- Public Facility
- School\Educational Facility
- Single-Household Residential
- Duplex\Triplex Residential
- Multi-Household Residential
- Mobile Home\Mobile Park
- Right-of-Way
- Undeveloped
- Vacant



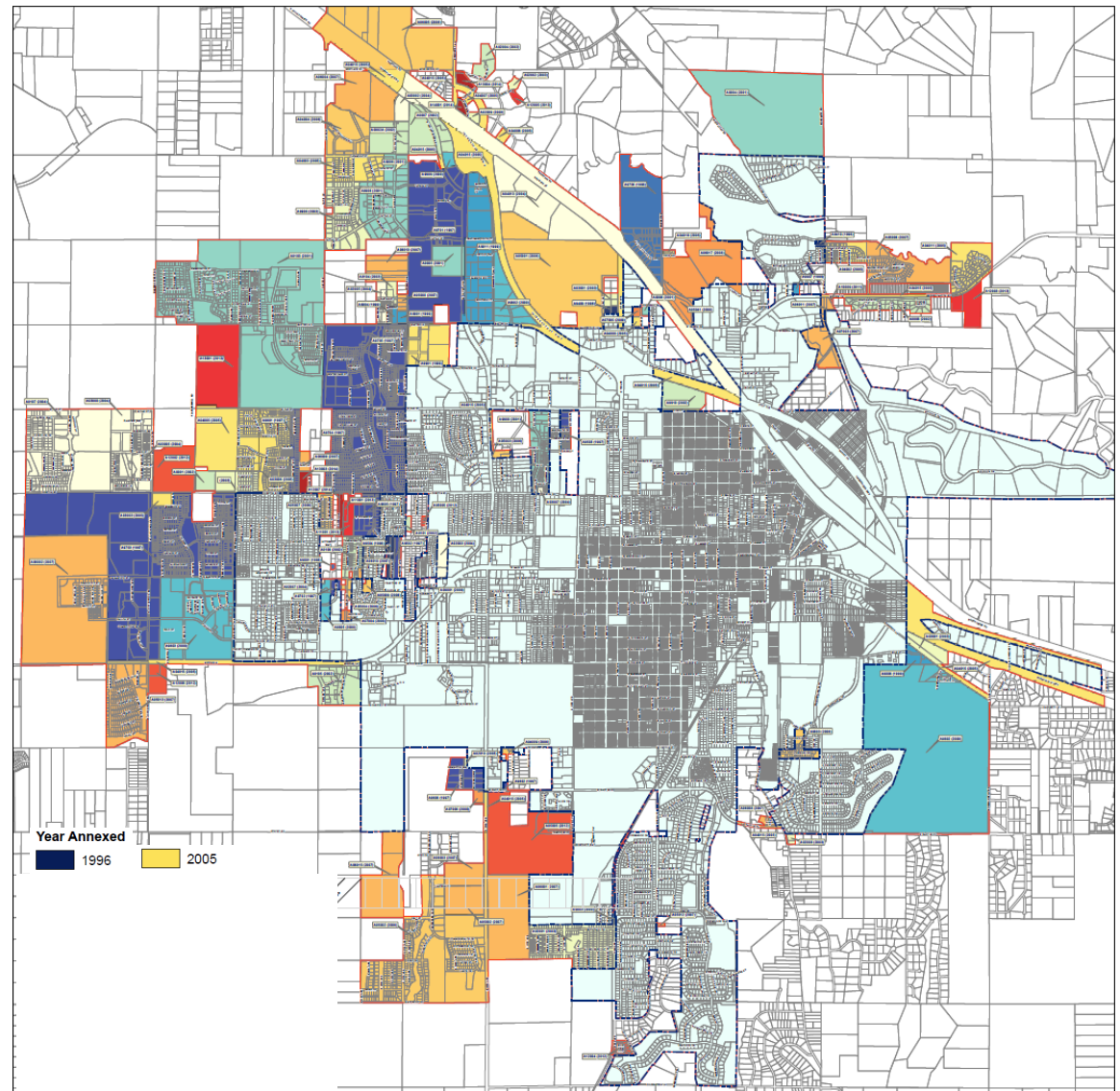
Source: City of Bozeman GIS Department, accessed February 15, 2016, <http://gisweb.bozeman.net/Html5Viewer/?viewer=maps>

**Figure 3: Existing Land Use in the City of Bozeman (2015)**

### 5.1.2. Recent Annexations

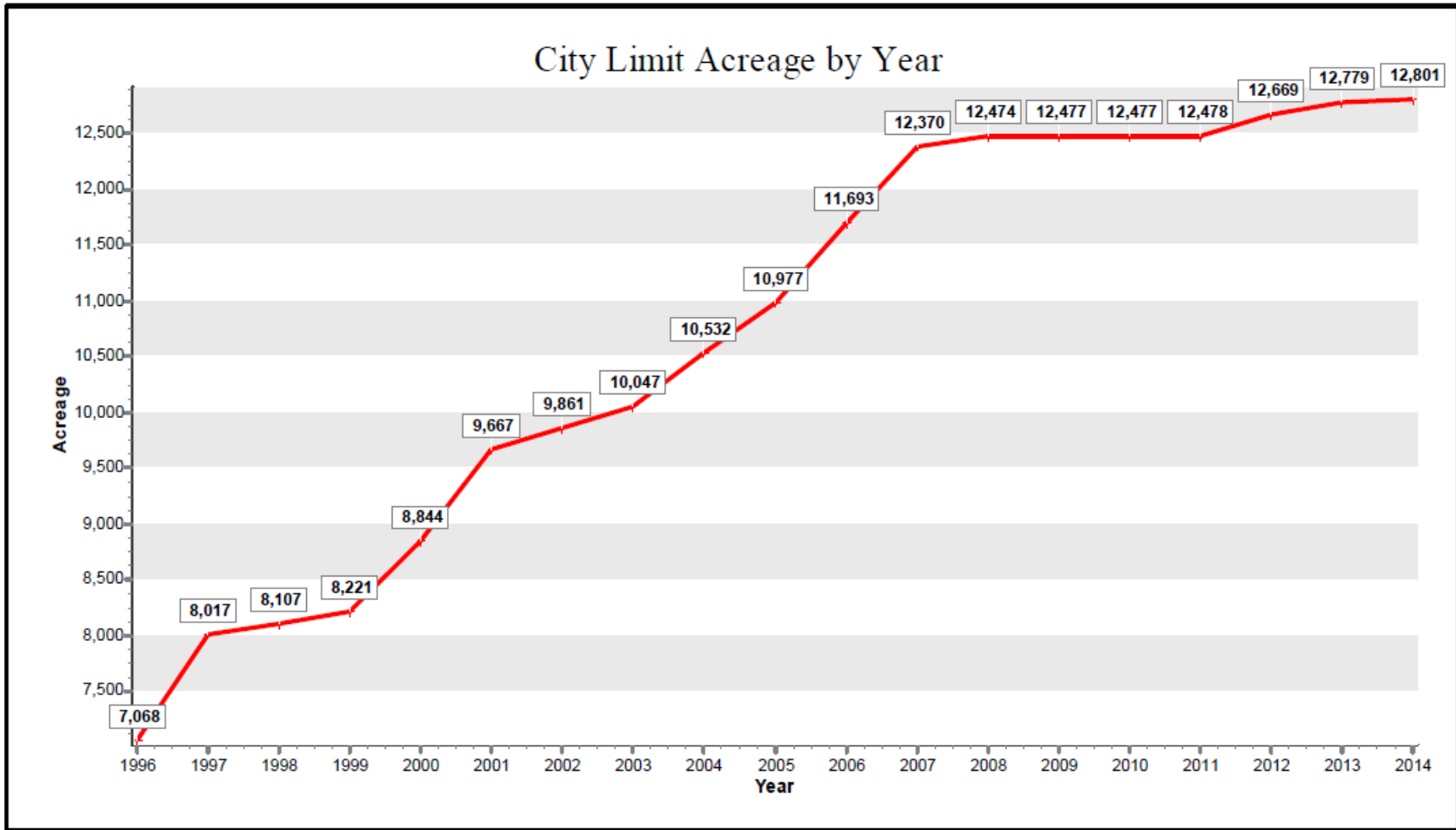
The city of Bozeman has increased in size over the years due to annexations. Annexations are typically done to accommodate new developments and/or extend municipal services. **Figures 4 and 5** show annexations from 1996 through 2014. The light blue area in the map shows the municipal boundaries as of 1996 and the colored areas represent annexed lands for subsequent years with orange to red colors representing the most recent annexations.

In 1996, the City encompassed about 7,100 acres. Between 1999 and 2007, the city annexed nearly 4,150 acres. As of the end of 2014, the municipal boundaries of Bozeman covered about 12,800 acres. It is apparent from the map that most lands annexed since 1996 were on the north and west perimeters of the city.



Source: City of Bozeman GIS Department (2015), [http://www.bozeman.net/Smarty/media/GIS\\_Media/maps/Annexation\\_Map.pdf](http://www.bozeman.net/Smarty/media/GIS_Media/maps/Annexation_Map.pdf)

**Figure 4: City of Bozeman Annexations (1996-2014)**

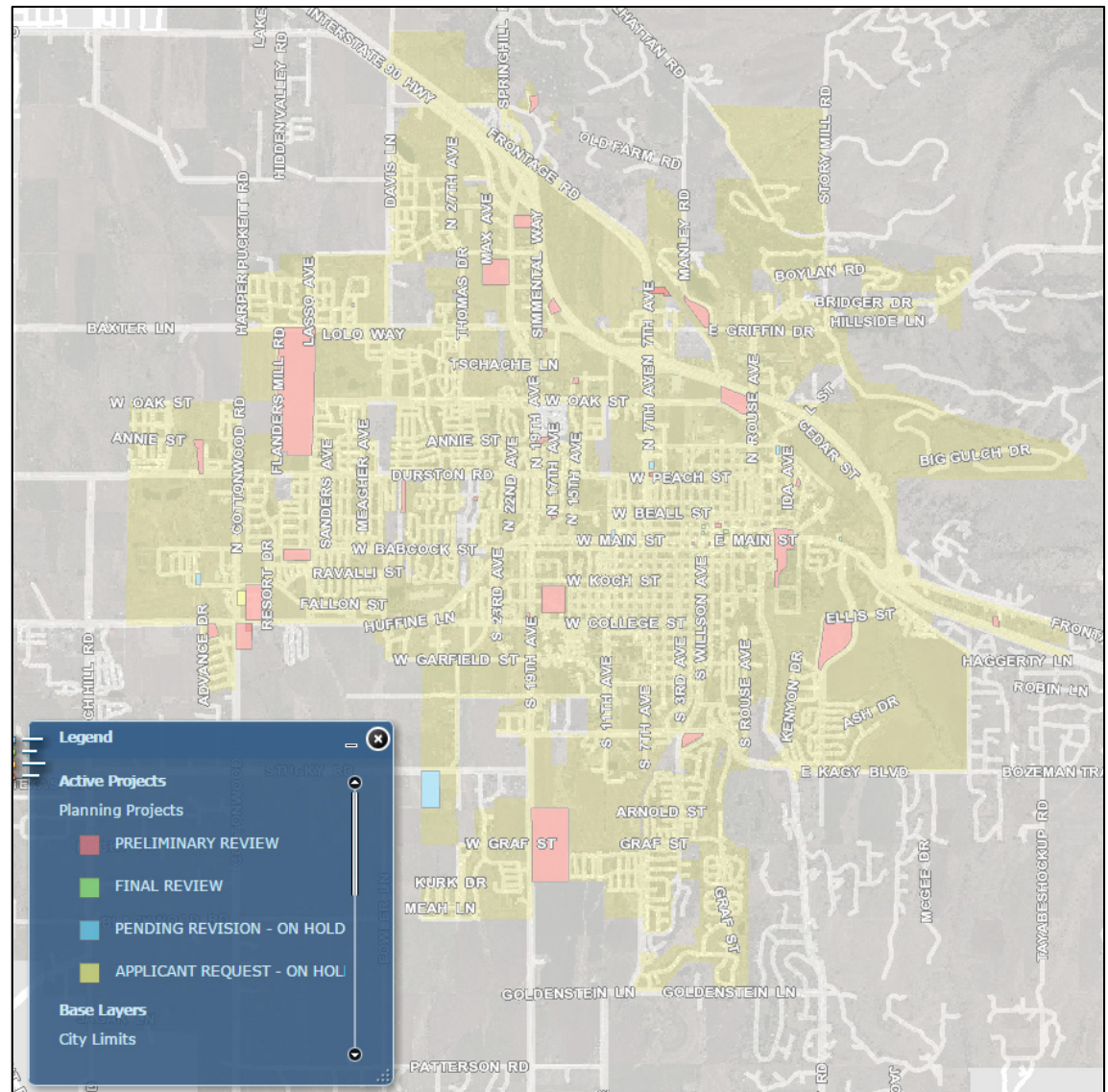


Source: City of Bozeman GIS Department (2015), [http://www.bozeman.net/Smarty/media/GIS\\_Media/maps/Annexation\\_Map.pdf](http://www.bozeman.net/Smarty/media/GIS_Media/maps/Annexation_Map.pdf)

**Figure 5: City of Bozeman Acreage**

### 5.1.3. Current Development Projects

The city of Bozeman’s GIS Department has created an interactive map showing development projects currently underway within the Bozeman area. **Figure 6** shows a map of active planning projects in the area. These projects cover the 2006 through 2015 period and include a wide variety of planning actions ranging from zoning variances and conditional use permits for individual properties to small commercial projects and pending subdivisions or annexations. The figure is presented to provide some indication of the location of recent and ongoing development activities. It is apparent that these activities are occurring throughout the community.

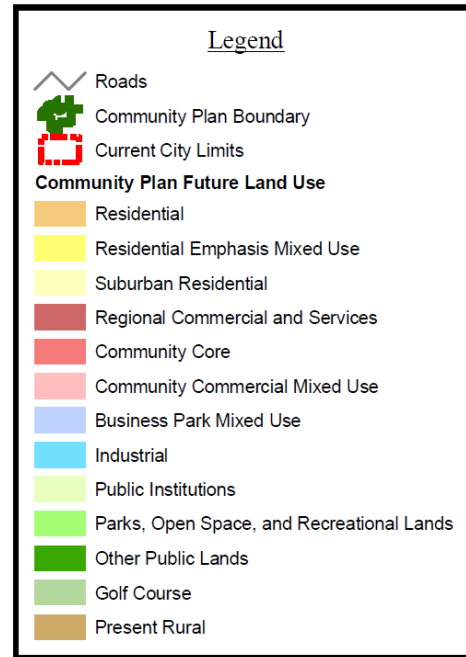


Source: City of Bozeman GIS Department, accessed February 15, 2016, <http://gis.bozeman.net/flexviewers/planning/>

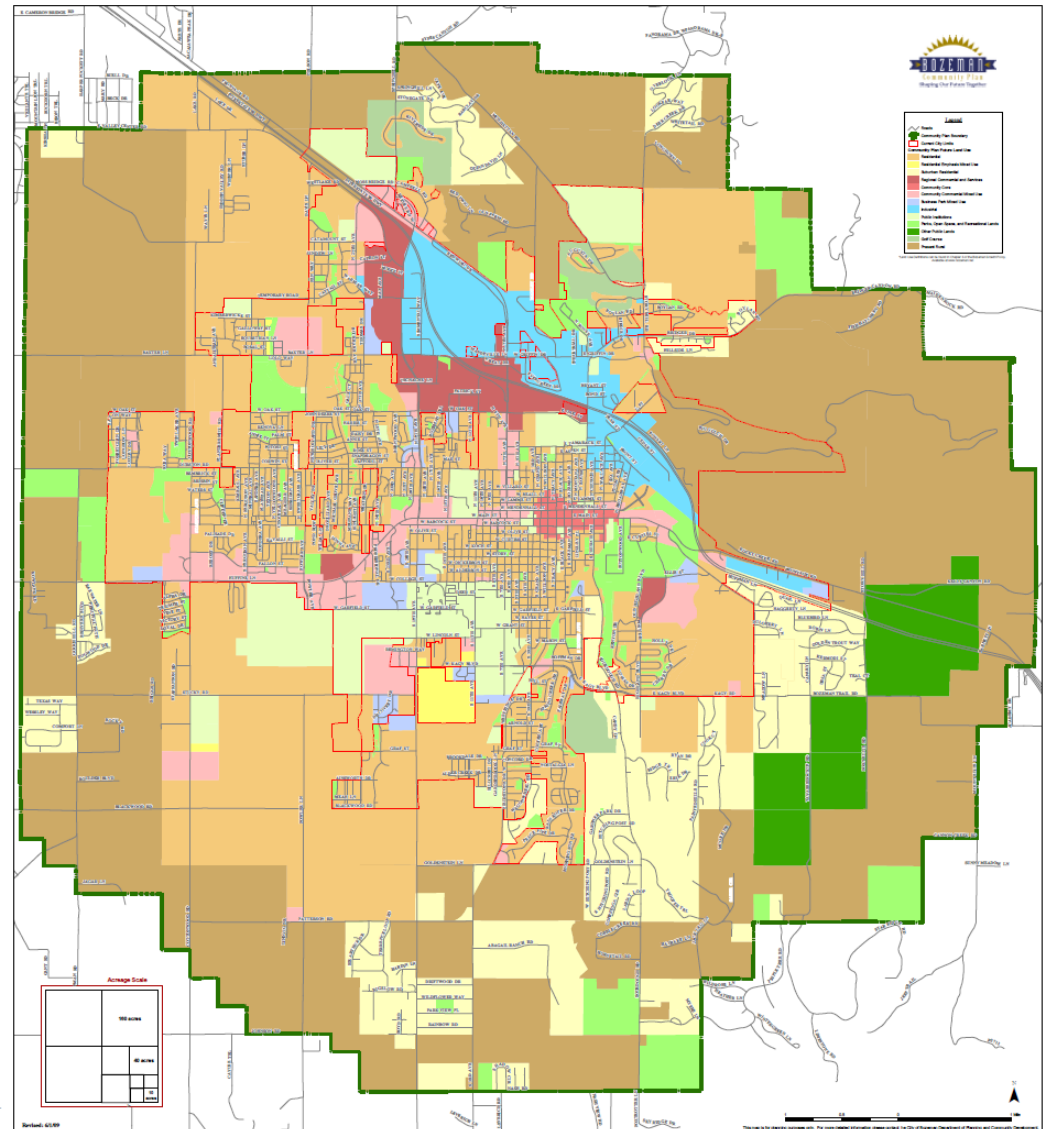
**Figure 6: Current Development Projects**

## 5.2. FUTURE LAND USE

**Figure 7** presents a future land use map for the Bozeman area taken from the Bozeman Community Plan adopted in 2009. In general, the future land use plan for the city seeks to move away from the auto-oriented development pattern of the past, increased the urban density by implementing more mixed use developments that combine uses on one site or within one building and more efficiently use land. Center-based commercial development is viewed as desirable. The city also seeks to create more options in housing choice, location, and cost.



\*Land Use Definitions can be found in Chapter 3 of the Bozeman Growth Policy. Available at [www.bozeman.net](http://www.bozeman.net)



Source: Bozeman Community Plan (2009), accessed February 15, 2016, <http://www.bozeman.net/Smarty/files/e6/e6a049b8-fad5-4886-b7f5-3ebfd2f4556.pdf>

**Figure 7: Future Land Use Map for the Bozeman Area**



## 6.0. FUTURE PROJECTIONS

### 6.1. POPULATION AND HOUSING PROJECTIONS

Projections are estimates of the population for future dates. They illustrate reasonable estimates of future population based on assumptions about current or expected demographic trends. Population projections (along with forecasts of the number of future housing units or households and employment conditions) are used to help predict future travel patterns and assess the performance of the transportation system.

#### 6.1.1. Gallatin County

Several sources of population projections for Gallatin County were examined to help understand potential growth within the County. These sources consisted of both published community planning documents and recognized sources for demographic projections. These projections are briefly discussed in the following paragraphs and summarized in **Table 13**.

- *Gallatin County Growth Policy* (2003)
- *Greater Bozeman Area Transportation Plan (2007 Update)*
- *Bozeman Community Plan (2009)*
- Regional Economic Models, Inc.
- Woods & Poole Economics, Inc.

The *Gallatin County Growth Policy* projected the County's population through the year 2030. The *Growth Policy* showed an estimated population of 82,000 for the year 2010 and projected the county's population to be 116,000 by the year 2030. The *Growth Policy* did not project populations beyond 2030.

The *Greater Bozeman Area Transportation Plan (2007 Update)* included projections of the County's population through the year 2030 based on Low, Moderate, and High growth scenarios. The Low Growth scenario reflected fairly flat population trends experienced during the 1980s. The Moderate Growth scenario reflected Woods & Poole projections for Gallatin County available at the time. The High Growth scenario was established to reflect population growth trends seen between 1990 and 2005. The *Transportation Plan* update projected the following 2030 populations for Gallatin County—117,824 residents (Low Growth), 135,986 residents (Moderate Growth), and 163,863 residents (High Growth). The Moderate Growth scenario was identified as the most likely to occur and its associated population and employment projections were used as the basis for transportation modeling.

Appendix B of the *Bozeman Community Plan* approved in 2009 includes a section devoted to population projections for both Gallatin County and the city of Bozeman. The sources of the projections were identified as the city of Bozeman's 2007 *Wastewater Facility Plan* and

projections made by NPA Data Services Inc, in 2006. The *Bozeman Community Plan* presents population projections for each 5-year period from 2010 to 2025. Gallatin County’s population was estimated at 88,300 for 2010 with steady increases to a year 2025 population of 116,450. It should be noted that the Montana Department of Commerce Census & Economic Information Center (CEIC) contracted with NPA Data Services to provide population projections for all Montana counties during the time the *Bozeman Community Plan* was developed. Population data from the 2010 Census was not available at the time the planning document was produced.

In April 2013, the CEIC released projections developed by Regional Economic Models, Inc. (eREMI) which provided complete annual demographic forecasts through the year 2060 for the State of Montana and each county. The eREMI model projects Gallatin County’s population to be 122,432 by the year 2040. This projection suggests the county’s population would be about 37% higher than the population at the time of the 2010 Census. The projection represents a 30-year increase of 32,919 people over the 2010 Census population and an average annual increase in population of 1.05 percent for the period.

Woods & Poole Economics, Inc. (W&P) produces long-term economic and demographic projections for every county in the U.S. The W&P database for Gallatin County includes population projections through 2050 and projects the county’s population to be 176,191 by 2040. This projection suggests the county’s population would be about 97% higher than it was at the time of the 2010 Census. The projection represents a 30-year increase of 86,678 people over the 2010 Census population and an average annual increase in population of 2.28 percent over the 30 year period.

**Table 13: Population Projections for Gallatin County**

<b>Estimate or Projection Source</b>	<b>2010</b>	<b>2014</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>AAGR</b>
<b>U.S. Census Bureau/CEIC Estimate</b>	89,513	97,308	--	--	--	--	--	167,438*	2.11%
<b>Gallatin County Growth Policy</b>	82,000	--	--	--	--	116,000		137,969*	1.75%
<b>Greater Bozeman Area Transportation Plan</b>									
<i>Low Growth Projection</i>	84,935	--	92,177	100,037	108,567	117,824	--	138,774*	1.65%
<i>Moderate Growth Projection</i>	87,406	--	97,618	109,023	121,760	135,986	--	169,618*	2.23%
<i>High Growth Projection</i>	90,727	--	105,187	121,930	141,350	163,863	--	220,218*	3.00%
<b>Bozeman Community Plan</b>	88,300	--	97,780	107,100	116,450	--	--	153,574*	1.86%
<b>eREMI Model</b>	89,616	95,470	97,197	105,568	112,302	116,627	119,368	122,432	1.05%
<b>Woods &amp; Poole Economics, Inc.</b>	<b>89,587</b>	<b>96,989</b>	<b>99,352</b>	<b>112,214</b>	<b>126,452</b>	<b>142,028</b>	<b>158,662</b>	<b>176,191</b>	<b>2.28%</b>

\* Estimated using average annual growth rate (AAGR).

For the purposes of the Bozeman TMP, the W&P projections were selected as the preferred set of population projections for Gallatin County. With a projected year 2040 population of more than 176,000, these projections reflect sustained and significant growth in Gallatin County and are generally in line with the “Moderate Growth Projection” presented in the *Greater Bozeman Area Transportation Plan (2007 Update)*.

### 6.1.2. City of Bozeman

Population projections for the city of Bozeman are not available from eREMI or W&P, so the principal sources of projections for the city’s population are other published community planning documents including:

- *Bozeman Wastewater Collection Facilities Plan Update (2015)*
- *Bozeman Integrated Water Resource Plan (2013)*
- *Bozeman Community Plan (2009)*
- *Fire Protection Master Plan (2006)*
- *Bozeman Water Facility Plan (2005)*
- *Bozeman 20/20 Community Plan (2001)*

Population projections from these sources are shown in **Table 14**. Please note the projections made in the *Greater Bozeman Area Transportation Plan (2007 Update)* were for Gallatin County only and does not include projections specific to the city of Bozeman.

It is apparent from a review of **Table 14** that substantial variation exists between the population projections for the city. This is due in part to the fact that several of the planning documents were produced before 2010 Census data became available that firmly established populations for all geographies of the county. Planning studies prior to the 2010 Census data had to rely on older Census data or other information to help estimate population growth trends. Several planning documents also presented projections based on a range of growth rates to help frame the magnitude of future growth. More recent planning studies containing population projections for the city have the advantage of additional information from the 2010 Census information and current estimates of population from the CEIC to establish growth trends and project future populations.

**Table 14: Population Projections for the City of Bozeman**

Estimate or Projection Source	2010	2014	2015	2020	2024	2025	2030	2034	2035	2040	AAGR
U.S. Census Bureau/CEIC Estimate	37,280	41,660	--	--	--	--	--	--	--	85,763*	2.82%
Bozeman Community Plan	42,700	--	54,500	69,500	--	88,700	--	--	--	184,255*	4.99%
<b>Bozeman Integrated Water Resource Plan</b>											
<i>Moderate Projection (2% annual growth)</i>	--	--	41,160	45,444	--	50,174	55,396	--	61,161	67,527	2.00%
<i>High Projection(3% annual growth)</i>	--	--	42,383	49,133	--	56,959	66,031	--	76,548	88,740	3.00%
<b>Bozeman Wastewater Collection Facilities Plan Update</b>	--	41,056	--	--	55,176	--	--	63,964	--	73,064*	2.24%
<b>Bozeman Water Facility Plan</b>	42,700	--	54,500	69,500	--	88,700	--	--	--	184,255*	4.99%
<b>Bozeman Fire Protection Master Plan</b>											
<i>Census Based Projection</i>	--	34,029	--	--	37,747	--	--	--	--	44,559*	1.04%
<i>Development Based Projection</i>	--	42,400	--	--	49,400	--	--	--	--	63,082*	1.54%
<b>Wastewater Facilities Plan/Bozeman Community Plan (2008)</b>	44,500	--	56,800	72,500	--	92,500	--	--	--	192,275*	5.00%
<b>Bozeman 20/20 Community Plan, 2001</b>	39,600	--	43,120	46,600	--	--	--	--	--	64,531*	1.64%
<b>Woods &amp; Poole Economics, Inc.**</b>	<b>37,280</b>	<b>40,798</b>	<b>41,728</b>	<b>46,708</b>	<b>51,116</b>	<b>52,281</b>	<b>58,520</b>	<b>64,042</b>	<b>65,503</b>	<b>73,319</b>	<b>2.28%</b>

\* Estimated using average annual growth rate (AAGR).

\*\* Estimated using 2010 Census and Woods & Pool Economics, Inc. AAGR calculate for Gallatin County.

While the W&P projections are not available specifically for the city of Bozeman, the 2.28% AAGR calculated for Gallatin County was applied to city of Bozeman population for reference purposes. This method results in a projected city of Bozeman population of approximately 73,000 for the year 2040.

### 6.1.3. Bozeman TMP Study Area

The share of the population living within the TMP study area was estimated using Census population data. GIS analysis was used to identify the total population within all census blocks entirely within or crossed by the study area boundary. This analysis established the study area population to be 49,814 in 2010 and 56,924 in 2014. The population of the TMP study area accounted for about 56 percent of the County's total population in 2010 and 57 percent in 2014.

For future projections, the percentage of population within the TMP study area in the year 2014 was held constant through the year 2040. **Table 15** shows, the projected population of the TMP study area through the year 2040. The table shows the population of the TMP study area is projected to be more than 100,000 residents by 2040, which account for approximately 57% of the county's projected population.

The number of housing units is a key component in the traffic model. Housing units distribute people throughout the network to given locations. They represent the population and act as a hub for traffic within the network. Having a realistic value for number of people per housing unit helps distribute the traffic more accurately. However, it is often quite difficult to precisely represent the population through housing units. This is in part because the number of people per housing units varies based on location and can change at any time.

According to the 2014 baseline conditions, Gallatin County had 99,586 residents distributed among 47,048 housing units. Within the study area, the baseline conditions show a population of 56,924 distributed among 26,035 housing units. The number of occupants per housing unit under baseline conditions is 2.12 and 2.19, respectively, for Gallatin County and the study area.

The number of housing units within Gallatin County and the TMP study area by the year 2040 was determined by dividing the total populations for these geographies by the occupancy. Applying this occupancy rate to the projected 2040 population for Gallatin County results in 83,239 housing units; an increase of 36,191 from the year 2014. For the TMP study area, an increase of 20,027 housing units is projected for the year 2040. **Table 15** shows population and housing unit projections for Gallatin County and the TMP study area for the year 2040.

**Table 15: Population and Housing Unit Projections**

Area	2010 (Census)	2014 (Baseline)	2040 (Projection)	Net Change (2014-2040)
<b>Gallatin County</b>				
Population				
Housing Units	89,513	99,586	176,191	76,605,191
<b>Population per Housing Unit</b>	42,289	47,048	83,239	<b>2.12</b>
<b>TMP Study Area</b>				
Population	49,814			
Housing Units		56,924	100,712	43,788,027
<b>Population per Housing Unit</b>	22,783	26,035	46,062	<b>2.19</b>
<b>Outside Study Area</b>				
Population	39,699	42,662	75,479	32,817
Housing Units	19,506	21,013	37,177	16,164
<b>Population per Housing Unit</b>				<b>2.03</b>

## 6.2. EMPLOYMENT PROJECTIONS

Employment numbers are used in the traffic model to help distribute vehicle traffic as accurately as possible within the street and road network. Places with high levels of employment will tend to generate high levels of vehicle traffic. The traffic generated is based in part on the employment type: retail, service, or basic.

### 6.2.1. Gallatin County

**Table 16** presents full and part-time employment data for Gallatin County over the 2010 to 2040 period. In 2010, the total employment for Gallatin County was estimated to be 63,768 with farm and nonfarm employment totaling 1,116 and 62,652, respectively. Future employment projections for Gallatin County to the year 2050 are available from Wood’s and Poole Economics, Inc. The W&P projections show that total nonfarm employment in the county may reach 127,937 by 2040—56,868 more jobs than seen in 2014. This represents a total overall increase of approximately 80 percent in nonfarm employment over the 2014-2040 period and an average increase in employment of just under 2.3 percent per year. The W&P employment projections clearly suggest Gallatin County will continue to see steady and significant job growth in the future.

**Table 16: Employment Projections to 2040 for Gallatin County**

Employment Projection	2010	2014	2015	2020	2030	2040	Net Change (2014-2040)	AAGR (2014-2040)
<b>Total Full and Part-time Employment</b>	63,768	72,210	74,182	8,411	105,604	129,184	56,974	2.26%
<b>Farm Employment</b>	1,116	1,141	1,148	1,180	1,225	1,247	106	0.34%
<b>Nonfarm Employment</b>	<b>62,652</b>	<b>71,069</b>	<b>73,034</b>	<b>82,931</b>	<b>104,379</b>	<b>127,937</b>	<b>56,868</b>	<b>2.29%</b>

NOTES:

1. Employment data for 2010 was obtained from US Department of Commerce Bureau of Economic Analysis – Table CA25 and Table CA25N.
2. Employment data for years 2015 through 2014 were obtained from the Woods & Poole Economics, Inc. dataset for Gallatin County, Montana.

**6.2.2. Bozeman TMP Study Area**

The total employment within the TMP study area was extracted from the MDT traffic model. Similar to the process followed to establish baseline population data, GIS analysis was used to identify the total employment within all census blocks entirely within or crossed by the study area boundary. This analysis of the model established the total employment for the study area to be 38,387 in 2014. This means that 62.83% of employment in Gallatin County occurred within the TMP study area.

**Table 17** presents employment projections for the year 2040. Future employment was projected using the AAGR established by W&P data discussed in the previous section (2.29%). Applying this growth rate to the 2014 baseline employment numbers from the model resulted in 30,288 new jobs within the TMP study area. Outside of the study area, 17,970 new jobs are projected for the purposes of the model. The percent distribution of retail, service, and basic job classifications was held constant for year 2040 projections.

**Table 17: Employment Projections to 2040 for the TMP Study Area**

Area	2010	2014 (Baseline)	2040 (Projection)*	Net Change (2014 - 2040)
<b>Gallatin County</b>				
Retail				
Service	22,810	33,671	60,238	26,567
Basic	12,825	13,645	24,411	10,766
<b>Total</b>	<b>12,915</b>	<b>13,847</b>	<b>24,772</b>	<b>10,925</b>
<b>TMP Study Area</b>				
Retail				
Service	15,004	21,720	38,857	17,137
Basic	9,196	10,050	17,979	7,929
<b>Total</b>	<b>6,030</b>	<b>6,638</b>	<b>11,838</b>	<b>5,200</b>
<b>Outside Study Area</b>				
Retail				
Service	7,806	11,951	21,380	9,429
Basic	3,629	3,595	6,431	2,836
<b>Total</b>	<b>6,818</b>	<b>7,230</b>	<b>12,935</b>	<b>5,707</b>

\* 2040 projections were based on a 2.29% per year AAGR as calculated based on Woods & Poole projections.

### 6.3. ALLOCATION OF FUTURE GROWTH

Modeling of future travel patterns out to the year 2040 planning horizon using MDT’s traffic model required identification of future socioeconomic characteristics within each census tract and census block. County population and employment projections were translated into predictions of increases in housing and employment within Gallatin County and the TMP study area.

To accomplish this task, an initial allocation of future housing and employment growth within the study area was made based on a review of existing land use and zoning maps for Bozeman and surrounding county area, draft versions of city and county growth policy updates, and other community planning documents. These planning documents helped identify where residential, commercial and industrial development has occurred in the Bozeman area and provided information about where future residential and commercial growth is



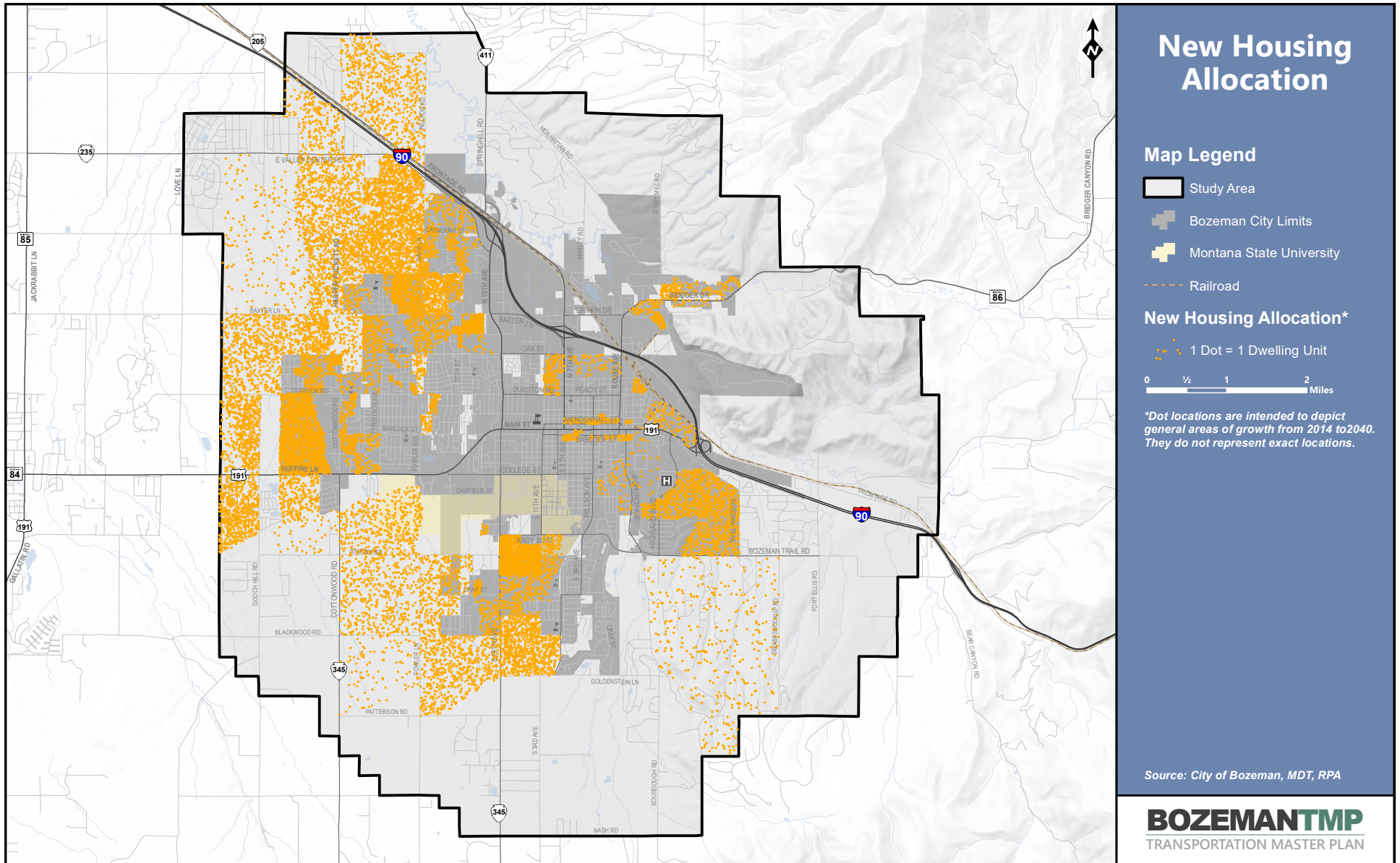
expected in the community. The initial allocation of future housing units and employment attempted to reflect known patterns of growth and potential new growth areas within the study area.

After the initial assignment of housing and employment through the year 2040 was made, a land use workshop was held with various city and county staff on January 20, 2016 to discuss and reach consensus on the distribution of future housing and employment growth within the study area. This enabled local staff to consider and revise the growth assignments as needed based on their knowledge of recent land use trends, land availability and development limitations, land use regulations, planned public improvements, and known development proposals.

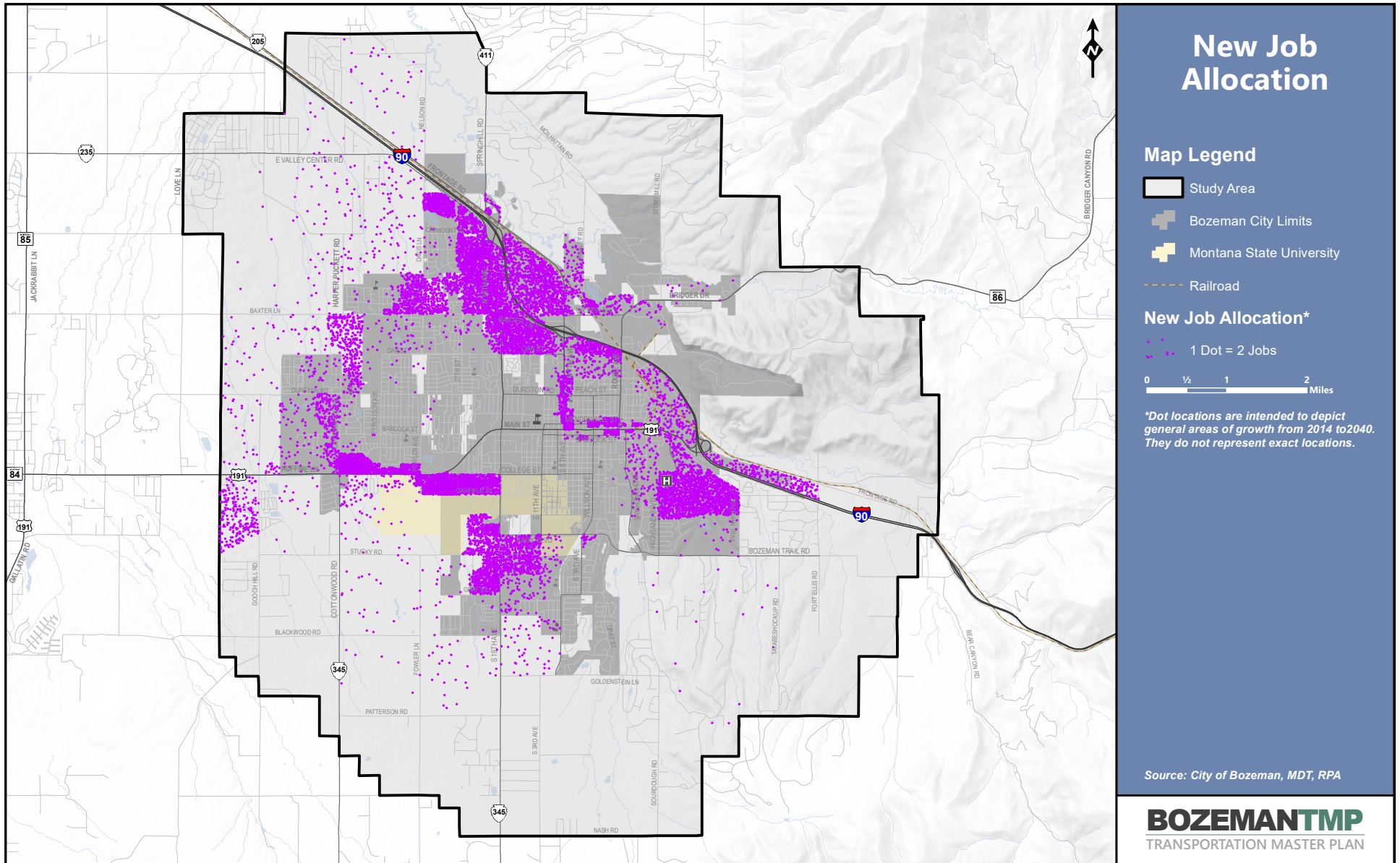
**Figure 8** shows areas where future housing units are expected to be developed by the year 2040. As discussed previously, 20,027 new housing units were allocated within the study area. An additional 16,164 units were distributed outside of the study area and within the County based on a growth rate applied to select census blocks.

Similarly, **Figure 9** shows where the projected increases in jobs is anticipated through the year 2040. Within the study area, 30,288 new jobs were allocated. An additional 17,970 new jobs were distributed outside of the study area and within the County by applying a growth rate to select census blocks.

Note that for purposes of the traffic model Montana State University is considered to be a special generator, and as such does not necessitate development of conventional housing or job allocations. An average annual growth rate of 1.5% per year was applied to the MSU student population to accommodate projected increases. This AAGR is based on the last 26 years of student growth at MSU.



**Figure 8: New Housing Allocation (2014 – 2040)**



**Figure 9: New Job Allocation (2014 - 2040)**