

Chapter 3 Travel Demand Forecasting

3.1 Introduction

This chapter has two purposes: (1) to provide general information for public and elected officials to support discussion of and decisions about transportation issues in Polson; and (2) to develop estimates of the amount and location of growth in population and employment that can be used as a basis for transportation analysis and modeling.¹

3.2 Context for the Evaluation

3.2.1 Objectives

A main purpose of socioeconomic and land-use evaluations in transportation planning is forecasting growth: the expected number, type, and location of new households and employees. Though our purposes relate primarily to transportation, the information we assemble about the likely amount and distribution of growth is also of value for other planning the City might be doing for infrastructure, land use, and for economic development.

3.2.2 Methods

In the context of land use and transportation, the main variables to forecast in a socioeconomic analysis are population and employment, which are then used to forecast the demand for new built space (housing, commercial uses, etc.), which in turn becomes travel origins and destinations for trips that use the transportation system.

Any forecast has uncertainty, and the longer the forecast period, the greater the uncertainty. Less appreciated and perhaps counterintuitive is that forecasting for small areas can be more uncertain than forecasting for large areas. Small areas (like Polson) are less complex than larger metropolitan areas, but because they are small their growth rates can be changed substantially by developments that would be lost in the averages in large metropolitan areas. Some of the issues are as noted below:

- Projections for population in most cities and counties are not based on deterministic models of growth; they are simple projections of past growth rates into the future. They have no quantitative connection to the underlying factors that explain why and how much growth will occur.
- Even if planners had a sophisticated model that links all these important variables together (which they do not), they would still face the problem of having to forecast the future of the variables that they are using to forecast growth (in, say, population or employment). In the final analysis, all forecasting requires making assumptions about the future.

¹ The modeling included the use of MDT's *TransCAD* travel-demand model, which required as inputs the expected growth in population (households) and employment (retail and non-retail jobs) by subarea in the City.

- Comparisons of past population projections to subsequent population counts have revealed that even sophisticated methods "are often inaccurate even for relatively large populations and for short periods of time."² The smaller the area and the longer the period of time covered, the worse the results for any statistical method.
- Small areas start from a small base. A new subdivision of 200 homes inside a large city has a small effect. That same subdivision in a small city would be a substantial increase in the community's housing stock and would have a big effect on its growth rate.
- Problems of small size are compounded in areas with the potential for fast growth. The area around Flathead Lake, including Polson, has a strong tourism and seasonal economy, and is a desirable location for seasonal and second homes.
- Public policy makes a difference. Cities can affect the rate of growth through infrastructure, land supply, incentives, and other policies. Such policies generally do not have an impact on growth rates in a region, but may cause shifts of population and employment among cities.

In summary, the longer the forecast, the greater the potential that actual population growth will vary from the forecast. This implies that cities should closely monitor actual population growth so that either (1) plans can be modified to account for variations, or (2) policies can be implemented that increase the likelihood of achieving the population growth.

In many cases, the longer the period of observation, the greater the confidence one can have in using the trend to forecast the future: cyclical variation gets averaged out in a long-run trend. But forecasting based on trends implicitly assumes that the conditions that influenced past growth will be similar in the future. If there are reasons to believe that certain causal factors will change substantially in the future, then there are reasons to adjust a trend-based forecast. For example, vehicle-miles traveled in all states in the US have consistently grown faster than population for 100 years. But the rate of increase has begun to decrease in the last few years because of changes in many of the causal variables (attenuation of the trend of women entering the labor force, saturation of automobile ownership, real increases in fuel prices, and so on).

The exact time period used in assessing a trend is less important than the annual rate of growth for whatever period is being assessed. Working with rates of growth, rather than with absolute amounts of growth, also helps address the problems that (1) not all of the data from the 2010 US Census are available, and (2) Polson is a relatively small city for which there are not many good sources of estimates for non-Census years. Thus, in some cases it is important to look at average annual growth between 1980 and 2010 and at estimates in the Polson Growth Policy of 2006 to estimate rates of growth that can be used for forecasting growth beyond 2010.

To establish baseline assumptions and estimate future growth in population and employment in Polson through the year 2030, available documents and data were reviewed, including the Polson Growth

²Murdock, Steve H., *et. al.* 1991. "Evaluating Small-Area Population Projections." *Journal of the American Planning Association*, Vol. 57, No. 4, page 432.

Policy 2006, Lake County Growth Policy, state of Montana labor market information, and 1980/1990/2000/2010 Census data. For population, the analysis used historical growth patterns coupled with population and household estimates from the Polson Growth Policy to generate future population growth forecasts.³ For employment trends, two primary sources of data were used: (1) US Census and (2) Quarterly Census of Employment and Wages (QCEW). The Census gathers employment data (by industry) as part of its survey of households⁴ and includes all employment (including workers not covered by unemployment insurance). QCEW gathers information directly from reports submitted by employers to the Montana Unemployment Insurance Program. It is a tabulation of employment and wage information for workers covered by state unemployment insurance laws (it does not include armed forces, the self-employed, proprietors, domestic workers, unpaid family workers, and railroad workers covered by the railroad unemployment insurance system).

Both sources (Census and QCEW) use the North American Industry Classification System (NAICS) to categorize industries. NAICS was developed as the standard for use by federal statistical agencies in classifying business establishments. In 1997, NAICS replaced the Standard Industrial Classification system (SIC). An implication for this analysis, and many other analyses of employment growth, is that direct comparison of employment sectors between 1990 and 2000 is not possible. Further, both sources are limited by the geographies they cover. For example, the Census does not provide employment estimates for small areas (like Polson) for the years 2000-2009/2010. While QCEW data are available for Polson during that time, some of the information is confidential because it could be used to identify individual businesses. The combination of the SIC-NAICS conversion and the geographical limitations of Census and QCEW underscore the challenges of preparing forecasts for small areas.

So far the methods we used to forecast *total* population and employment in the study area have been described. But for transportation modeling planning, some method for distributing (allocating) the total population sub-areas in the study area is required: where the growth goes makes a difference to how the transportation system will perform. Judgments about where growth would go are made by considering (1) available and potential infrastructure; (2) platted but undeveloped lots; (3) vacant land; and (4) the opinions of local experts. The methods utilized are described in detail in Section 3.4.

3.3 Trends

3.3.1 Population

Counties in Montana have experienced uneven population growth over the last 20 years. With some exceptions, many eastern counties have experienced population decline while western counties have experienced growth, especially as a result of in-migration (i.e., people moving to Polson from other states and other counties in Montana, in contrast to growth in Polson from “natural increase”—an excess of births over deaths).¹² Table 3.1 shows population in Montana, Lake County, and Polson in

³ Population and demographic analysis for areas with less than 20,000 people (like Polson) are not included in the annual U.S. Census American Community Survey, the most reliable source of demographic and economic data for communities.

⁴ Because the data are gathered from households, the employment data are by *place of residence*, not *place of work*, which makes comparing certain data difficult (discussed later).

1990, 2000, and 2010. In 2010, Census data show that Polson’s population was 4,488, Lake County’s was 28,746, and Montana’s was 989,415. Over the 20-year period, Polson’s population grew by 37% or 1.58% annually—mimicking growth in Lake County and higher than the annual rate of Montana.

Table 3.1 Population in Montana, Lake County, and Polson (1990 – 2010)

	1990	2000	2010	Change 1990 - 2010		
				Number	Percent	AAGR
Montana	799,065	902,195	989,415	190,350	24%	1.07%
Lake County	21,041	26,507	28,746	7,705	37%	1.57%
Polson	3,283	4,041	4,488	1,205	37%	1.58%

Source: U.S. Census 1990, 2000, and 2010

Note: Polson AAGR is not corrected for annexation. Please see narrative text below.

To properly compare growth rates, however, a City’s population growth must take annexations into account. If a city annexes property that people already live on, the population of the city will increase even if the population of the larger region is not growing. For most purposes, analysts want estimates of net new growth, not transfers based on boundary adjustments. Polson has grown in part through expansion of its boundaries and in part through natural population growth. Analysis in the Polson Growth Policy gives some idea about annexation for the period between 1990 and 2000.

During this ten-year period, Polson’s population increased from 3,283 to 4,041 – a 2.10% annual growth rate. However, considering boundary expansions between this same period, the City grew in size from 1,152 to 1,733 acres. The Polson Growth Policy estimates that approximately 42% of the growth in the City’s population between 1990 and 2000 was attributable to annexation. Thus, the increase of 758 people occurred because 318 people were added through boundary expansion, and 440 were added as a result of natural increase and in-migration within the 1990 boundary. After subtracting the amount attributable to boundary expansion, growth averaged about 1.26% per year, which is lower than the rate for Lake County during that period (about 1.63%) and faster than the State of Montana during that period (1.05%).

It is important to realize that the 2010 Census Population for Polson of 4,488 persons is slightly lower than the 2006 Polson Growth Policy projection (4,714 persons) for the year 2010. The difference in the two of 226 persons can be attributed to more current data that inherently recognizes the recent trends as provided by the Census Bureau that was not available when the Polson Growth Policy was developed beginning back in 2005.

The median age in Polson has increased over time, from 36 in 1990 to 40.0 in 2010, which is lower than Lake County (41.3), but higher than Montana (39.8) and the nation (37.2). The US Census estimates that the median age in the state will increase to 46 by 2030.⁵ Table 3.2 shows the change in age composition

⁵ US Census Population Projections Demographic and Summary Indicators for States, 2010

in Polson between 1980 and 2010. The fastest-growing age groups between 1980 and 2010 were 45-54 year olds (162% growth over the period), under 10-year olds (111%), and 30-44 year olds (61%).

Table 3.2 Population by Age, Polson, 1980 and 2010

Age	1980		2010		Change 1980-2010	
	Number	Percent	Number	Percent	Number	Percent
Under 10	304	11%	641	14%	337	111%
10 to 19	373	14%	539	12%	166	45%
20 to 29	391	15%	610	14%	219	56%
30 to 44	443	17%	713	16%	270	61%
45 to 54	207	8%	542	12%	335	162%
55 to 64	295	11%	559	12%	264	89%
65 and over	668	25%	884	20%	216	32%
Total	2,681	100%	4,488	100%	1,807	67%

Source: Census Bureau, 1980, 2000, 2010, and Polson Growth Policy 2006

Note: Percents may not add to 100 exactly due to rounding

Lake County has a higher percentage of American Indians (discussed below) than the state average. American Indians tend to have a younger average age than the white population (which is over two-thirds of the area's population).⁶

The state Department of Labor and Industry expects the working age population in the state of Montana to decline starting in 2012 and the population over 65 years old to increase.⁷ An increasingly older population can impact the way a community grows in the future. People over 60 tend to drive less than those in their 30s and 40s.⁸ Lower school enrollment and a declining workforce can also reduce vehicle miles traveled.

Table 3.3 shows race and ethnicity in Polson in 1980 and 2010. Over the period, the American Indian population of Polson increased from 22 to 706.

⁶ According to the US Census, the median age for American Indians in Montana is 26.5, significantly younger than the white population (40.1).

⁷ *Economic Recovery and the Effects of Montana's Aging Workforce*, Montana Department of Labor and Industry, 2010

⁸ *National Household Travel Survey*, US Department of Transportation, 2001

Table 3.3 Population by Race, Polson, 1980 and 2010

Race/Ethnicity	1980		2010	
	Number	Percent	Number	Percent
White	2,637	98%	3,352	75%
Black/African American	22	1%	8	0%
American Indian/Alaskan Native	22	1%	706	16%
Asian	0	0%	35	1%
Native Hawaiian/Pacific Islander	0	0%	2	0%
Other or Multiple	0	0%	231	5%
Hispanic or Latino	0	0%	154	3%
Total	2,681	100%	4,488	100%

Source: Census Bureau, 1980 and 2010

The race/ethnicity make-up of Polson is similar to that of Montana, with the exception of the American Indian population. According to the Census, American Indians make up about 6% of the state's population, but about 16% of Polson's. Regarding the change between 1980 and 2010, research suggests that several factors make the comparison unreliable.⁹

Table 3.4 shows the level of educational attainment for population above the age of 25 in Polson in 1990 and 2000. Note that 2010 Census data was not available at the time of this analysis.

⁹ Table 3.3 shows that the proportion of the population that was American Indian increased from less than 1% in 1980 to more than 16% in 2010. Communications with tribal representatives suggest that the large increase is primarily the result of enhanced outreach efforts from the tribal government and the Census Bureau, starting in the 1980s, to encourage tribal members to complete the Census household survey. Some of the increase can also be attributed to tribal members returning to the reservation between 1980 and 2010 (voicemail correspondence between Jeff Key (CDM) and Janet Camel, Land Use & Development, Confederated Salish and Kootenai Tribes). Moreover, Census methods changed during that period: from an interviewer attribution of race to a respondent attribution: "The data on race in Census 2010 are not directly comparable to those collected in previous censuses." http://quickfacts.census.gov/qfd/meta/long_68184.htm

Table 3.4 Educational Attainment for Population Above 25, Polson, 1990 and 2000

Highest Educational Attainment	1990		2000		Change 1990-2000	
	Number	Percent	Number	Percent	Number	Share
Less than 9 th grade	218	9%	128	5%	-90	-4%
Some high school, no diploma	413	17%	293	12%	-120	-6%
High school graduate	944	40%	875	34%	-69	-6%
Some college, no degree	357	15%	633	25%	276	10%
Associate degree	133	6%	153	6%	20	0%
Bachelor's degree	175	7%	332	13%	157	6%
Graduate or professional degree	123	5%	132	5%	9	0%
Total	2,363	100%	2,546	100%	183	0%

Source: Census Bureau 1990 and 2000, and Polson Growth Policy 2006

In general, the City's population is becoming more educated. Eighteen percent of Polson residents had a bachelor's degree or higher in 2000, up from 12% in 1990. In 2000, 17% of Polson residents had not finished high school compared to 26% in 1990. The most likely explanation for the change is that the influx of people in the 30 – 54 age cohort have, on average, more education.

In summary, Polson and Lake County have been growing faster than the state of Montana for the last 20 years. Demographically, the area has become older, more educated, and more ethnically diverse than the rest of the state. The strong growth in the 30 – 54 age cohort, and in the 0 – 19 age cohort, suggests in-migration of families, which implies a growth in jobs to sustain them (few people 30 – 54 are retiring; most need income and a job to generate it).

3.3.2 Employment

A hundred years ago, the economy of Polson/Lake County was focused on agriculture and wood products. In the 1980s and 1990s, the Polson area transitioned to an economy focused on retail and service, government, healthcare, and manufacturing.¹⁰ The Polson Growth Policy suggests that in recent years, the area has seen growth in tourism and residential real estate development in and around Polson, and that much of the growth in residential real estate development is due to construction of retirement or second homes.

The unemployment rate in Lake County is estimated to be about 11.0% (June 2011), which is higher than both the national level (9.3%) and Montana's rate of 7.8% for the same time period.¹¹ Major employers

¹⁰ Montana Department of Labor and Industry, 2010 & Polson Growth Policy, 2006

¹¹ Montana Department of Labor and Industry, 2010

in Lake County are the school districts, the tribal government, the electric utility (Mission Valley Power), Community Bank, DRS Technical Services (defense technology and logistics), St. Joseph Hospital, S&K Electronics (electronics manufacturing), and the Jore Corporation (power tool manufacturing).¹² S&K and the Jore Corporation were established by the Confederated Salish and Kootenai Tribes and are based in Ronan, about 13 miles south of Polson.

The US Census estimates that the total number of people living in Lake County and who were employed¹³ grew from 11,069 in 2000 to 12,143 in 2009, which is an average annual growth rate of 1.03%. During that same time period, total employment in Montana grew from 425,977 to 473,186, a rate of 1.17%.

Table 3.5 shows employment by sector in Lake County in 2000 and 2009. Because of differences in reporting and estimating methods, total employment reported from the Census and QCEW cannot be compared directly. The QCEW data in Table 3.5 include only employees covered by state unemployment insurance: other work completed suggests that 15% to 20% of employees are not covered, and that specific percentage is even larger for Lake County. Thus, Table 3.5 is presented to get an idea of the relative composition of employment and how it has changed over time.

Table 3.5 Employment by Place of Work, by Sector, Lake County, 2000 and 2009

Industry Sector	2000		2009		Change 2000-2009		
	Number	Percent	Number	Percent	Number	Percent	Share
Agriculture, Forestry, Fishing & Hunting	68	1%	110	1%	42	62%	0%
Mining	26	0%	23	0%	-3	-12%	0%
Utilities	*	--	*	--	--	--	--
Construction	378	5%	438	6%	60	16%	0%
Manufacturing	1,324	19%	593	7%	-731	-55%	-11%
Retail trade	1,027	14%	1,108	14%	81	8%	0%
Transportation and Warehousing	42	1%	53	1%	11	26%	0%
Information	94	1%	133	2%	39	41%	0%
Finance and Insurance	244	3%	233	3%	-11	-5%	0%

¹² *Lake County Profile*, Montana Department of Labor and Industry, 2010

¹³ In other words, the US Census reports employees by place of residence, not place of work. Some of the people reported as employees work outside the County; some people outside the County work in jobs that are in the County. Data was not available to tell whether those effects are directly offsetting. Because Polson is in the center of a relatively large county, a reasonable assumption is that almost all of the people working in Polson live in Lake County.

Real Estate and Renting and Leasing	46	1%	58	1%	12	26%	0%
Professional and Technical Services	142	2%	199	3%	57	40%	1%
Management of Companies & Enterprises	89	1%	22	0%	-67	-75%	-1%
Administrative and Waste Services	323	5%	94	1%	-229	-71%	-3%
Educational Services	*	--	38	0%	--	--	--
Health Care and Social Assistance	932	13%	1,137	14%	205	22%	1%
Arts, Entertainment, and Recreation	73	1%	75	1%	2	3%	0%
Accommodation and Food Services	758	11%	708	9%	-50	-7%	-2%
Other Services, Ex. Public Admin	200	3%	218	3%	18	9%	0%
Total Government	1,341	19%	2,680	34%	1,339	100%	15%
Total Covered Employment	7,107	100%	7,920	100%	813	11%	0%

Source: Montana Department of Labor and Industry, based on QCEW data
<http://www.ourfactyourfuture.org/cgi/dataanalysis/AreaSelection.asp?tableName=Industry>

Note: Due to confidentiality and small number of employers, Quarterly Census of Employment and Wages data are not disaggregated for all industries. Utilities and Educational services are excluded from this table.

Most industries stayed close to their relative share of employment over the period, with two exceptions: manufacturing and government, the two largest sectors in the County. In 2000, there were close to the same number of jobs in manufacturing as there were in government, about 1,300. In nine years, manufacturing jobs fell to about 600 while government jobs grew to nearly 2,700.¹⁴

Retail trade, the third-largest sector in 2000, grew by 8%. Health care and social assistance, the fourth-largest in 2000, grew by 22% and became the second-largest sector in the County because of the drop in manufacturing.¹⁵

Taken together, these data show a shift from a manufacturing to a service economy, a trend common across the US at all levels of geography. That shift is consistent with another shift that several of the people we interviewed presumed was occurring: an increase of retirees and tourists. But the data are difficult to interpret because (1) Table 3.2 suggests growth of workers, not retirees, and (2) the

¹⁴ That much growth in government was a surprising finding. Interviews conducted in the Polson area and with state economic analysts suggest that the purported growth is more likely to be a result of a change in definitions or reporting than a real increase in government jobs.

¹⁵ The drop in manufacturing jobs may be a result of reclassification of some manufacturing jobs to “government” to reflect that they are owned or managed by the tribal government. In addition to providing governmental services, such as health care services, law enforcement and land management for tribal lands, some of Lake County’s major employers are owned and/or managed by the tribal government (e.g. Mission Valley Power, S&K Technologies).

employment in the Construction sector (which one would expect to be building retirement and second homes) grew slowly, but did not increase its share of total employment.¹⁶

Several sectors in Lake County grew faster between 2000 and 2008 than the national average for those sectors, including farming, construction, retail, and real estate. Others grew slower, including health care, food and accommodations, and management. Overall, County employment overall grew at a slightly slower rate than national employment, but that was because County employment is weighted more heavily in sectors that grew slower nationally.

The share of retail vs. non-retail jobs is a key input in MDT's *TransCAD* travel demand model. Employment data from the federal Bureau of Economic Analysis for 2008 for Lake County show retail at 11.4% of total employment, and food and accommodation at 5.8% (the two main components of "retail"). But many "services" might also be considered "retail": arts and entertainment was 2%, and other services were 5.6%. Table 3.6 is for Polson, not Lake County. It shows about a 42% increase in total employment between 1990 and 2000, or about 502 jobs, separated into retail and non-retail sectors. Polson had about the same share of retail employees in 2000 as it did in 1990 (28%).¹⁷

Table 3.6 Retail and Non-Retail Employment, Polson, 1990 and 2000

	1990		2000	
	Number	Percent	Number	Percent
Retail employment	328	28%	480	28%
Non-retail employment	862	72%	1,212	72%
Total employment	1,190	100%	1,692	100%

Source: U.S. Census 1990 and 2000

Note: 2000 retail employment contains NAICS categories: Retail Trade" and "Accommodations and Food Services"

3.4 Forecasts

This section has three subsections. Section 3.4.1, Factors That Affect Growth in Polson and Lake County, sets the context for forecasts of population and employment; Section 3.4.2. and 3.4.3 provide those forecasts in two parts: (1) aggregate forecast of growth for the entire study area for 20 years, and (2) an allocation of that growth to different parts of the study area. As noted previously, by being more specific the allocations are also more uncertain, but for the transportation modeling to occur, the growth must be allocated to areas smaller than the entire study area. The allocations on maps that are provided

¹⁶ Discussions with team members at CDM suggest that some larger homebuilders and their employees are located outside of Lake County and therefore these data would not show an increase in construction employment despite an increase in residential construction in Polson.

¹⁷ As the 1990 and 2000 Censuses used different industry classification systems, a straight comparison of retail and non-retail was not made. For 1990, the only industry considered "retail employment" is SIC 580-699 Retail Trade. For 2000, the new industry sector Accommodations and Food Services was included, as it is generally considered to be a category of retail employment.

herein have underlying census tract boundaries so that the growth forecasts can be allocated to Census tracts, a requirement of the *TransCAD* model being used for this planning effort.

In large metropolitan areas, allocations are often done by looking at where growth has gone historically. But in those areas (and, for the reasons discussed in Section 3.2. 3, Methods, even more so in small cities) the supply of land can have a big effect on the location of growth. Thus, it is common to allocate growth based on a combination of demand- and supply-side considerations, with an emphasis on supply: where is the buildable, serviceable land, and especially, where are the platted lots? That is the approach taken in the evaluation that follows.

One can try to work from secondary data sources (e.g., building permits, assessment data), but expert opinion, especially in small areas, is often superior, especially in dealing with factors that affect buildability but that do not show up in secondary data bases (e.g., certain policy constraints, landowner preferences).

3.4.1 Factors that affect growth in Polson and Lake County

This section describes factors that may affect population and economic growth in Polson and Lake County between now and 2030. An implicit assumption in this analysis is that the factors that have influenced growth in the past are approximately the same ones that will influence growth in the future and that they will do it in approximately the same way (i.e. that conditions will not change radically). Implicitly we assume there will not be any severe land use restrictions that would prevent or restrict future growth.

Population and economic growth over the next 20 years will occur in the context of long-run national and state-wide trends. While short-term national trends will affect economic growth in the region, these trends are difficult to predict. At times these trends may run counter to long-term trends. Some of the key national and state trends:

- **Aging population and increases in life expectancy.** Nationally, the number of people age 65 and older is predicted to more than double by 2050, while the number of people under age 65 will grow only 22 percent.¹⁸ Montana has the eighth oldest population in the US (14.6% are 65 or older compared to 12.9% nationally during 2009), and the percentage of Montana residents over 65 is projected to grow from 15% in 2010 to 24% of the population by 2023.¹⁹ The economic effects of this demographic change include a slowing of the growth of the labor force, an increase in the demand for healthcare services, and an increase in the percent of the federal budget dedicated to Social Security and Medicare. The aging population also means that growth in the labor force is projected to slow and the need for

¹⁸ The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2008, *The 2008 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, April 10, 2008.

¹⁹ *Economic Recovery and the Effects of Montana's Aging Workforce*, Montana Department of Labor and Industry, 2010

workers to replace retiring baby boomers will outpace job growth. The state of Montana predicts a shortage of workers beginning in 2012.²⁰

- More directly relevant to this study are the implications for transportation and land use in Polson. An older population is more likely to live in smaller dwelling units and in urban areas where services are more readily available, and to drive less and shorter distances.
- **Continued shift of employment from manufacturing and resource-intensive industries to the service-oriented sectors of the economy.** Increased worker productivity and the international outsourcing of routine tasks lead to declines in employment in the major goods-producing industries. Projections from the Bureau of Labor Statistics indicate that U.S. employment growth will continue to be strongest in healthcare and social assistance, professional and business services, and other service industries. Construction employment will also grow, but manufacturing employment will decline.²¹
- **Continued westward and southward migration of the U.S. population.** Although there are some exceptions at the state level, a 2006 U.S. Census report documents an ongoing pattern of interstate population movement from the Northeast and Midwest to the South and West.²² Lake County is among the eight fastest growing counties in the state and among the counties experiencing in-migration from other states.

In addition to national and state trends, other local factors will impact future growth in Polson and Lake County:

- **Quality of life and natural amenity.** Polson is known for its proximity to numerous natural and recreational amenities, including Flathead Lake, Flathead National Forest, Glacier National Park and the National Bison Range. This proximity and its impact on overall quality of life make the area attractive to retirees, tourists, and to second-home owners.
- **Flathead Reservation.** A large portion of Lake County is made up of lands within the Flathead Reservation. The Confederated Salish and Kootenai Tribes employ a significant percentage of the local area workforce through its government and companies it owns (e.g. tribal government, Jore Corporation, S&K Electronics, Mission Power), suggesting that the tribe's economic development activities will continue to influence employment growth in the Polson area.
- **Location relative to major markets.** Polson is located in the northwest part of the state. It is 70 miles from Missoula, 180 miles to Helena, and 200 miles from Spokane/Coeur D'Alene. Polson's location on the main highway between the growing economies of Kalispell and

²⁰ Given the growth in the 30-55 age cohort, it is recognized that Polson may be attracting a working-age population.

²¹ Eric B. Figueroa and Rose A. Woods, 2007, "Industry Output and Employment Projections to 2016," *Monthly Labor Review*, November 2007, pp. 53-85.; Arlene Dohm and Lyn Shniper, "Occupational Employment Projections to 2016," *Monthly Labor Review*, November 2007, pp. 86-125.

²² Marc J. Perry, 2006, *Domestic Net Migration in the United States: 2000 to 2004*, Washington, DC, Current Population Reports, P25-1135, U.S. Census Bureau.

Missoula give it some advantages, but its distance from major employment centers and markets is an impediment to some types of economic expansion. Increases in real fuel prices (which many analysts expect over the next 20 years) will increase the impediment. That is not to say that local growth will not occur—it seems likely that it will. Rather, it is a comment on the type and amount of employment that is likely in Lake County.

The above factors suggest that Polson will see its population and economy continue to grow over the next 20 years.

According to the Montana Department of Labor and Industry, some of the fastest growing industry sectors in the state over the next 5-10 years will be Arts, Entertainment, and Recreation; Fishing, Hunting, and Trapping Administrative and Support Services; and Professional and Businesses Services. The first two sectors account for less than 5% of the employment in Lake County. The State also projects that through 2018, Region 1 (which contains Lake County) will see growth in Arts, Entertainment, and Recreation, Administrative and Support Services, Professional Services, Education and Health Services, Leisure and Hospitality, Manufacturing, (but not in Fishing, Hunting, and Trapping).²³

If the area continues to change the way it has historically, it will see agriculture and wood products manufacturing continue to be relatively less important to the economy, while the area's proximity to recreational opportunities and natural amenity will continue to attract tourists and retirees, thus making recreation, retail, real estate, construction, retirement-related industries, and health care a larger share of the economy over time.

3.4.2 Population and households

Totals

The City of Polson does not have an adopted population forecast, but the 2006 Polson Growth Policy cites a Lake County population forecast performed for the State of Montana by NPA Data Services, and estimates population within Polson city limits based on Polson's share of Lake County growth between 1990 and 2000. Table 3.7 shows the NPA's Lake County forecast and City's local population forecast for the 2000-2025 period.

Table 3.7 Population Forecast, Lake County and Polson, 2005-2025

Year	Lake County	Polson
2000	26,507	4,041
2005	28,920	4,372
2010	31,410	4,714
2015	33,910	5,056

²³ Industry Employment Projections, 2018, Montana Department of Labor and Industry, 2010

Year	Lake County	Polson
2020	36,430	5,402
2025	39,000	5,755
Change 2000-2025		
Number	12,493	1,714
Percent	47%	42%
AAGR	1.56%	1.42%

Source: Polson Growth Policy 2006

Note: AAGR: Average annual growth rate

The inherent problems of forecasting for small areas are well documented and described in Section 3.2.3.²⁴ In large metropolitan areas forecasters are helped by large numbers: they can be wrong about individual projects and still get it close to right on average. In a small area, just one large development project can substantially change a city's rate of growth. Thus, there can be more uncertainty about small area forecasts in growing regions.

One response to that uncertainty is to forecast not a "point" but a "range." For example, "we think that there is a 90% probability that the future population will be between x and y." Another response is to not get too fussy about the forecast, remembering that a 20 – 30 year forecast will probably get done every five years, and that while it might be nice to be right in 20 years, it is more important to have some broad ideas about the right direction for short-run policy.

Table 3.9 is based on the Polson Growth Policy's forecast from 2000-2025. It shows Polson growing at about 1.4%, slightly slower than Lake County. These estimates are not adjusted for annexations, which means that the average annual growth rates may be high (we know this is true for Polson).

Table 3.8 Population Projection, City of Polson, 2000-2030

Year	Population	Households
2000	4,041	1,796
2005	4,372	1,943
2015	5,056	2,247
2025	5,755	2,558

²⁴ For one example, see Murdock, Steve, Rita Hamm, Paul Voss, Darrell Fannin, and Beverly Pecotte. 1991. *Evaluating Small-Area Population Projections*. Journal of the American Planning Association 57,4: 432-43.

Year	Population	Households
2030	6,128	2,724
Change 2000-2030		
Number	2,087	928
Percent	52%	52%
AAGR	1.40%	1.40%

Source: Polson Growth Policy 2006, ECONorthwest

To provide some idea about a reasonable range for population growth rates in Polson, Table 3.9 shows average annual growth rates for Polson and five comparison cities for three periods (1980-1990, 1990-2000, and 2000-2008). Cities within a few hundred miles of Polson are presented that were similar in size (3,500 to 8,500 people, compared to Polson at 4,488 in 2010), and had a moderate or strong tourism / second-home component to their economies.

Table 3.9 Average Annual Growth Rates for Population in Polson and Comparison Cities (Various Years)

	2000-2009	1990-2000	1980-1990
Polson	2.91%	2.07%	1.64%
Polson	3.33%	3.07%	0.28%
Lewistown	0.23%	-0.48%	-1.52%
Livingston	0.83%	0.22%	-0.43%
Shelby	1.02%	1.53%	-1.28%
Whitefish	5.86%	1.43%	1.67%
Sandpoint	2.28%	2.77%	1.55%

Source U.S. Census Population Estimates 2009, <http://ceic.mt.gov/historicalpopdata.asp>
U.S. Decennial Census 1990 and 2000, <http://www.sandpoint.com/Community/stats.asp>

Polson, Whitefish, and Sandpoint all have strong tourism economies. None ever had a negative growth rate; in general, their average growth rates for any nine- or ten-year period were over 1.4%; average growth rates over 2% were more common than not. These points were true for Polson also. The data in Table 3.9 suggest that a future average annual growth rate for population in Polson in the range of 1.4% to 2.5% would be reasonable.

For the purposes of this study, a rate of 1.4% is used because (1) that is the rate used in the Polson Growth Policy report, and (2) it is easily supported by the data. The actual rate may be higher or lower, but Table 3.9 suggests that it is more likely to be higher than lower. Assuming the US recovers from the current recession, economic and demographic forces suggest continued growth in and around Polson.

Population growth can be translated into household growth (and number of dwelling units) by understanding the average household size of an area. The average household size in Polson grew from 2.16 in 1980 to 2.25 in 2000, though it still remains lower than Lake County (2.54), Montana (2.45) and the US (2.59). Overall population growth trends in Polson suggest in-migration of a working-age population and an increasingly older population, which may mean the household size will remain stable. Thus, the average household size of 2.25 (from the 2000 Census) is utilized to conclude that Polson's population growth rate translates into approximately 928 households, or an average of 31 households per year over the 30-year period from 2000 – 2030. The period from 2000 – 2010 appears to be consistent with that estimate. Thus, the forecast is for another 620 dwelling units to be built over the next 20 years.

It is important to realize that the 2010 Census Population for Polson of 4,488 persons is slightly less than the 2006 Polson Growth Policy projection for the year 2010 of 4,714. The difference in the two of 226 persons can be attributed to more current data that inherently recognizes the recent trends as provided by the Census Bureau that was not available when the Polson Growth Policy was developed beginning back in 2005.

A check on the growth rate of a small area is to review residential building trends. The Polson Growth Policy estimates about 22 housing units were constructed per year between 1990 and 2000. That rate increased to about 33 housing units per year from 2001 to 2005.²⁵ This is generally consistent with the City's estimated growth rate described above.

The Growth Policy estimated that in 2000 approximately 1,497 people lived outside of Polson City limits but within a two-mile Polson Growth Policy Planning area buffer. If this unincorporated area grows at the same rate as the City of Polson, it would grow by about 775 people (344 households) between 2000 and 2030, about 11 households per year.

In summary, for the 20-year planning period from 2010 to 2030:

- The population forecast for the City and the larger study area is based on an assumption of an average annual growth rate of 1.4%. In rough terms, it is likely that the actual growth rate for that period will be in the range of 1.0% to 2.5%.
- Polson will see about 620 new dwelling units constructed during that period; outside of Polson but in the study area, there will be another 225 new dwelling units constructed during that period.

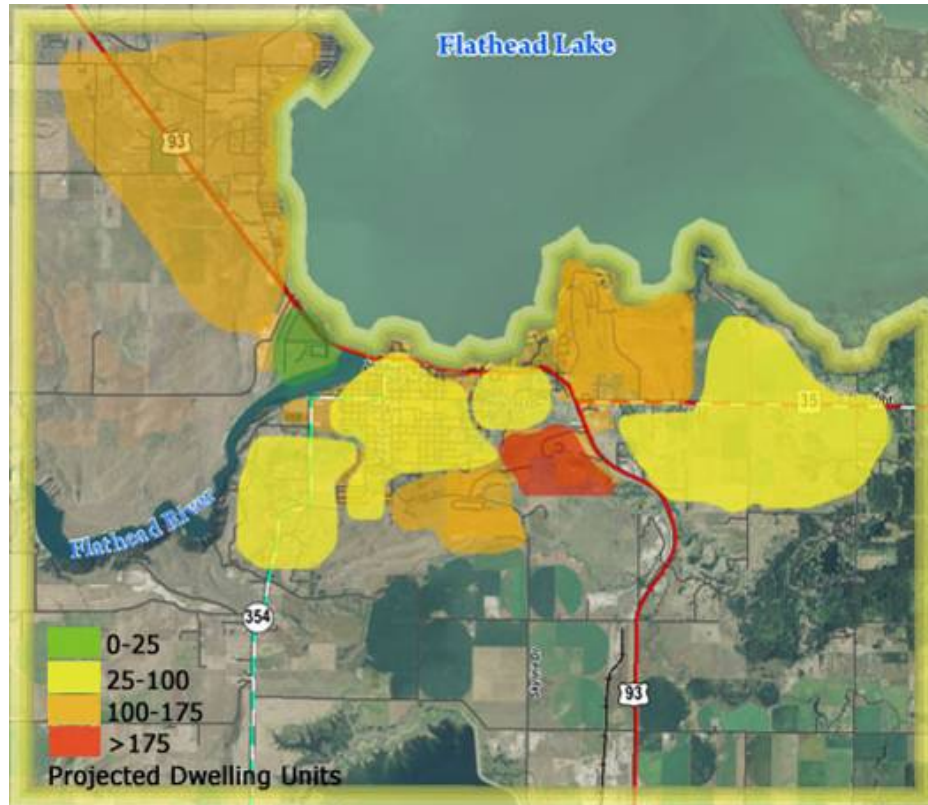
²⁵ The Growth Policy does not indicate whether data about new housing units was generated by the City (i.e. from building permit data) or from the Census Bureau (which gathers permit data based on local reporting)

Allocations to the study area

Judgments about where growth would go are made by considering (1) available and potential infrastructure; (2) platted but undeveloped lots; (3) vacant land; (4) city and county policy, and (5) the opinions of local experts. The main points:

- As with all cities, residential development is most likely to occur on land zoned for residential purposes. Polson has such land.
- Polson has many platted lots with existing or proximate water and sewer. These include the following areas (with approximate number of vacant lots):
 - *Skyline (100)*
 - *Mission Bay (150)*
 - *Cougar Ridge (200)*
 - *Hillcrest (100)*
- Land in the south hills of Polson, especially on the south side, has been constrained by poor water supply/pressure, and to a lesser extent by transportation. The City is improving its sewer treatment plan, has extended water lines, and is improving Skyline Drive
- Some land is constrained. Within the city limits vacant land zoned for medium- and low-density residential north and west of the high school (south of 11th Avenue and west of Second Street) has large areas that are wetlands. Land farther south (in the agricultural flat land outside the city limits) has water from irrigation canals, but deep groundwater. Land farther west is platted and substantially developed for low-density residential. The south entry to the City on Highway 93 is hilly on the west and mainly commercial along the east until the city limits.
- Outside the City limits but in the study area, the main expansion areas are to the east and northwest (Stonehorse development alone is planned for 250 units).

The forecast is for another 620 and 225 dwelling units to be built in Polson and the rest of the Study area, respectively, over the next 20 years. The estimates above suggest that Polson and the larger study area can come close to accommodating that number on existing platted lots. That fact strongly influences the allocation, which is illustrated in Figure 3-1.



Source: ECONorthwest, based on analysis presented in the text of this report

Figure 3-1 Growth of Housing Units / Households, by sub-area, 2010 to 2030

3.4.3 Employment

Totals

Table 3.10 shows the 2006 Polson Growth Policy's employment projections from 2000-2025. The projections relied on a Lake County employment forecast, which assumed that Polson's portion of Lake County employment would remain constant over the period. Between 2000 and 2025, the Growth Policy projects employment growth of 1,004 employees, an increase of 59% or 1.9% annually.

Table 3.10 Employment Forecast, Lake County and Polson, 2000-2025

Year	Lake County	Polson
2000	11,069	1,692
2005	12,383	1,892

Year	Lake County	Polson
2015	15,008	2,294
2025	17,633	2,696
Change 2000-2025		
Number	6,564	1,004
Percent	59%	59%
AAGR	1.9%	1.9%

Source: Polson Growth Policy 2006

That employment growth forecast is relatively close to Lake County's growth rate between 1990 and 2000 (over 2.0%), but higher than the more recent growth rate between 2000 and 2009 (1.03%). It is also higher than the forecasted employment growth rate for Montana between 2008 and 2018 (1.1%)²⁶.

A growth rate of 1.9% per year for employment in Polson could be reasonable given that (1) Lake County and Polson (along with the western part of the state) have seen higher population growth rates than other parts of the state, (2) the population growth rate from the Polson Growth Policy could be on the low side: it could easily be 1.9% rather than 1.4%, and it would not be unreasonable to expect employment to grow at the same rate as population, and (3) it is not unreasonable to expect an employment growth to outpace population growth: that can happen when a growing county has small cities and has a large amount of residential growth happening outside of cities, while a large amount of employment growth is happening inside cities.

That said, all the small-area forecasting problems mentioned previously certainly apply here. Given the uncertainty, it is better to talk about a range of future employment than about a point estimate. If employment in the City grew at a rate consistent with the State and the County, the City's employment would grow by 1.1% to 1.9% per year, or add about 20 to 40 jobs per year.

For the purposes of MDT's *TransCAD* travel demand model inputs, forecasted employment growth in the city was divided into retail and non-retail employment. Table 3.11 shows the total projected employment growth allocated between retail and non-retail related industries using (1) the high-end annual growth rate for employment assumed by the Polson Growth Policy (1.9%), and (2) the ratio of retail employees to total employees in Polson between 1990 and 2000, which remained relatively constant at 28%.

²⁶ 10-year Industry Employment Projections 2019, Montana Department of Labor and Industry, 2010

Table 3.11 Retail and Non-Retail Employment Forecasts, High-End Growth Rate, City of Polson, 2000-2030

Year	Employment	Retail Employment	Non-retail Employment
2000	1,692	480	1,212
2005	1,892	537	1,355
2015	2,294	651	1,643
2025	2,696	765	1,931
2030	2,959	840	2,120
Change 2000-2030			
Number	1,267	360	908
Percent	75%	75%	75%
AAGR	1.9%	1.9%	1.9%

Source: Polson Growth Policy 2006, ECONorthwest

Note: Totals may be affected by rounding

The data available to about 2008 suggest that employment growth in Polson has been tracking the forecasts in Table 3.11 since 2000. Thus, Table 3.11 suggests that slightly fewer than 850 employees will be added to Polson between 2010 and 2030, with about 250 of them in the retail sector. Other data sources suggest that the retail component could be lower (say 20% as opposed to the 28% we used to create Table 3.11), but (1) the overall differences for the *TransCAD* modeling are probably small, and (2) modelers can adjust the allocations if they desire.

These forecasts are for the Polson city limits *only, not* (as for population) for the larger two-mile area. Comparable data for sub-areas outside the city limits is not available. The presumption is that any employment growth near Polson but outside its city limits will be along Highway 93 and near the city limits. There is Highway Commercial zoning southeast of the City and Commercial-Industrial zoning northwest of the City. Outside the city limits along Highway 35 the land is suited for employment development except that it is not zoned for it, so no employment was allocated there. Additional employment in the range of 3% to 10% of the total for the City is possible for these areas, but is more likely to be at the lower than the higher end. It is projected at 5%—about 60 employees—and that half of them will be retail.

Allocations to the study area

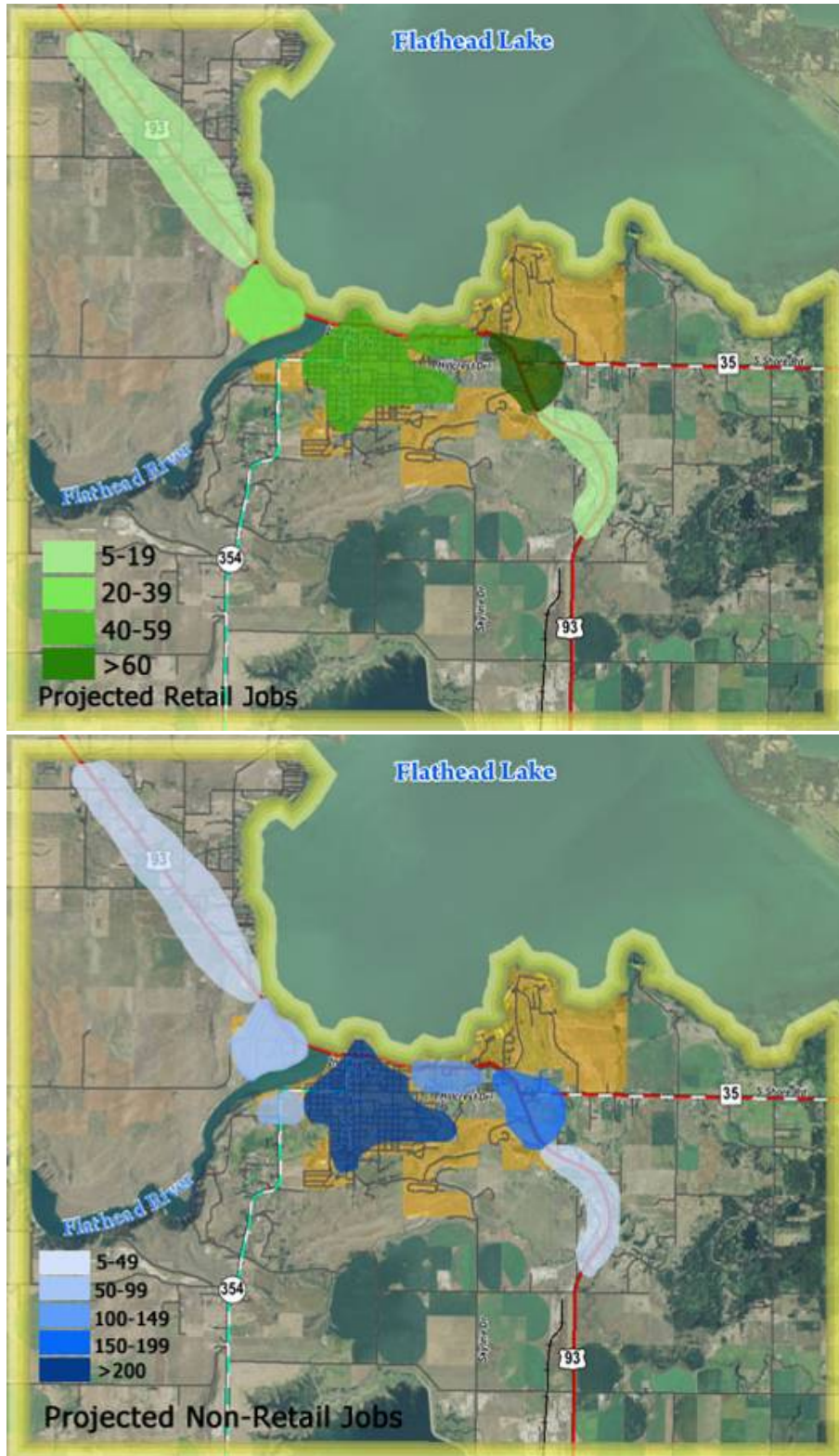
The areas for employment growth are relatively well defined. Existing areas are:

- Highway 93 commercial strip.
 - *There are large tracts of land on both sides of the south entrance to the City. This area would be especially attractive to big-box retail (e.g., Walmart).*
 - *There are many opportunities for infill development and redevelopment in the stretch along the lake.*
 - *There is vacant commercial land northwest of the river at the north entrance to the city.*
 - *Per the discussion in the previous section, a small percentage of the total growth will be outside but near the city limits along Highway 93.*
- Downtown. Primarily the area between First West and Second East, north of Seventh Avenue, to the lake.

Potential areas for employment, which would require rezoning, are:

- South of Seventh Avenue East. Again, certain re-routings of Highway 93 might make this more feasible, but those are speculative.

Without developing a more detailed model, the allocations of where new employment will go are informed guesses. Figure 3-2 shows a broad assessment of where retail and non-retail employment growth is likely to occur between 2010 and 2030. It allocates 250 retail and 850 non-retail employees to subareas *within* the City, and 30 retail and 30 non-retail employees to subareas *outside* the city limits.



Source: ECONorthwest, based on analysis presented in the text of this report

Figure 3-2 Growth of Retail and Non-Retail Employment, by Sub-Area, 2010 to 2030

3.5 Using the Results

The ultimate purpose of the analysis in this chapter is to get to reasonable estimates of households and employment, by sub-area, that can be used for the transportation modeling that is part of the Transportation Plan. In that context, the forecasts described earlier are summarized as follows:

- Ultimately, the transportation model (*TransCAD*) wants as inputs the location of total households and jobs by Census block in a base year (2010) and the forecast year (2030).
- For 2010, MDT modelers already have in the *TransCAD* model estimates of existing (2010) households and employment.
- This chapter documented estimates of growth (i.e., of new households and employment) by sub-area between 2010 and 2030 (Table 3.11 and Figure 3-2). MDT used these estimates as control totals for a further allocation of growth to Census blocks.
- For 2030 modeling, MDT summated the 2010 estimates and the 2010-2030 growth forecasts.