MOVING COLORADO
VISION FOR THE FUTURE

2035 Statewide Transportation Plan

Socioeconomic Overview

TECHNICAL REPORT

March 2008

DEPARTMENT OF TRANSPORTATION

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INTRODUCTION

Colorado has wide ranging socioeconomic characteristics that vary from one geographic region to the next. In order to understand the projected transportation system for 2035, it is important to have an understanding of the socioeconomic trends and their potential impacts. An overview of key demographic characteristics in Colorado related to population, employment, and income is presented in this report. Additionally, this report includes forecasts for population and employment, the effects on transportation and the economy, and an environmental justice baseline analysis.

GENERAL POPULATION CHARACTERISTICS

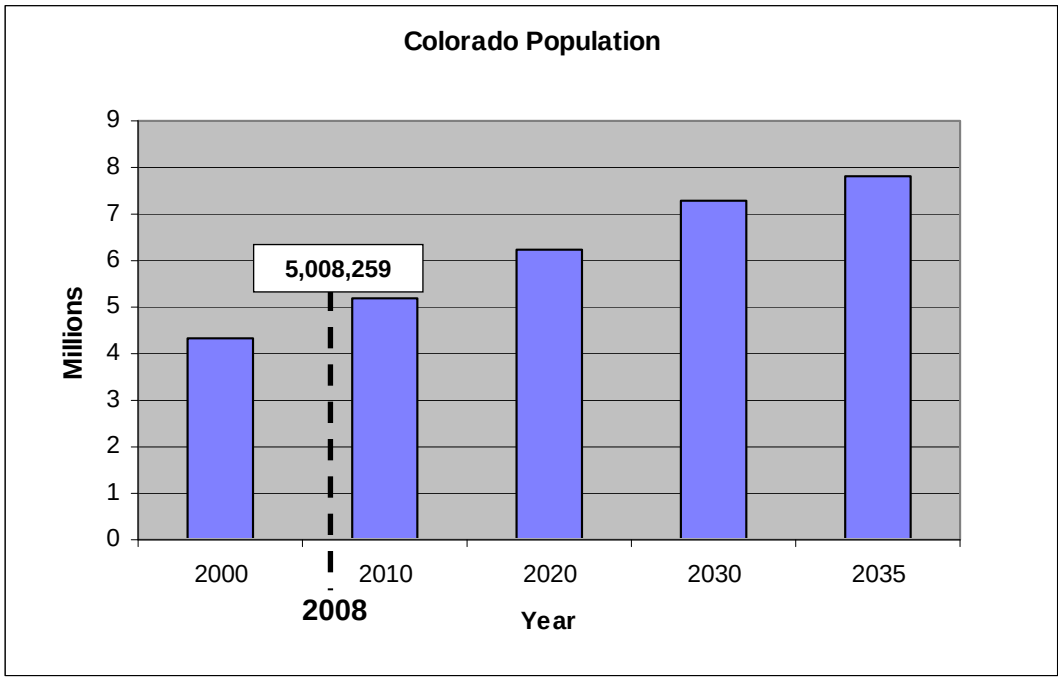
The general population characteristics section focuses on total state population and population by age cohorts (age groups), households, race, and disabilities. Population data is analyzed in relation to vehicle miles traveled. The information demonstrates what transportation needs should be considered in the future based on the needs of different age groups and how those needs may change over time. It is likely that, as Colorado's total population increases and the number of individuals within each age group changes, particularly for the elderly population, future transportation needs will be impacted. Regulations are in place to ensure the general population is provided with equal opportunity in regard to the transportation planning process. Title VI of the Civil Rights Act of 1964 and the Environmental Justice Executive Order 12898 will discuss this idea in detail. After investment analysis and research study, this concept can be demonstrated from different perspectives.

Forecasts are important to long range transportation planning as they serve as a basis for determining future transportation needs in the State. Population growth and changes in characteristics help determine the range of mobility options necessary to meet the needs.

Population Growth

Figure 1 shows the projected increase in the total state population from 2000-2035. According to the U.S. Census Bureau and the Colorado Division of Local Government, Demography Office, the population estimated to increase from 4.3 million in 2000 to 7.8 million in 2035. The population for 2008 is 5,008,259.

Figure 1 – Colorado Population



Source: Colorado Division of Local Government, Demography Office, November 2007

Figure 2 shows that the largest growth will occur in Metro Denver and the rest of the Front Range.

Figure 2 – Regional Growth

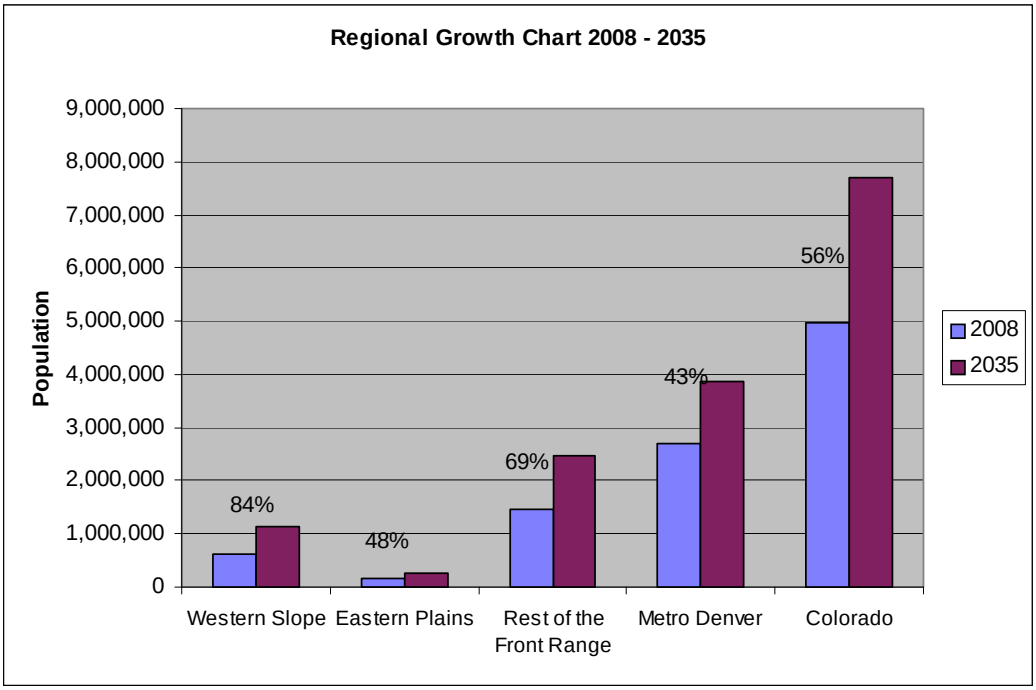
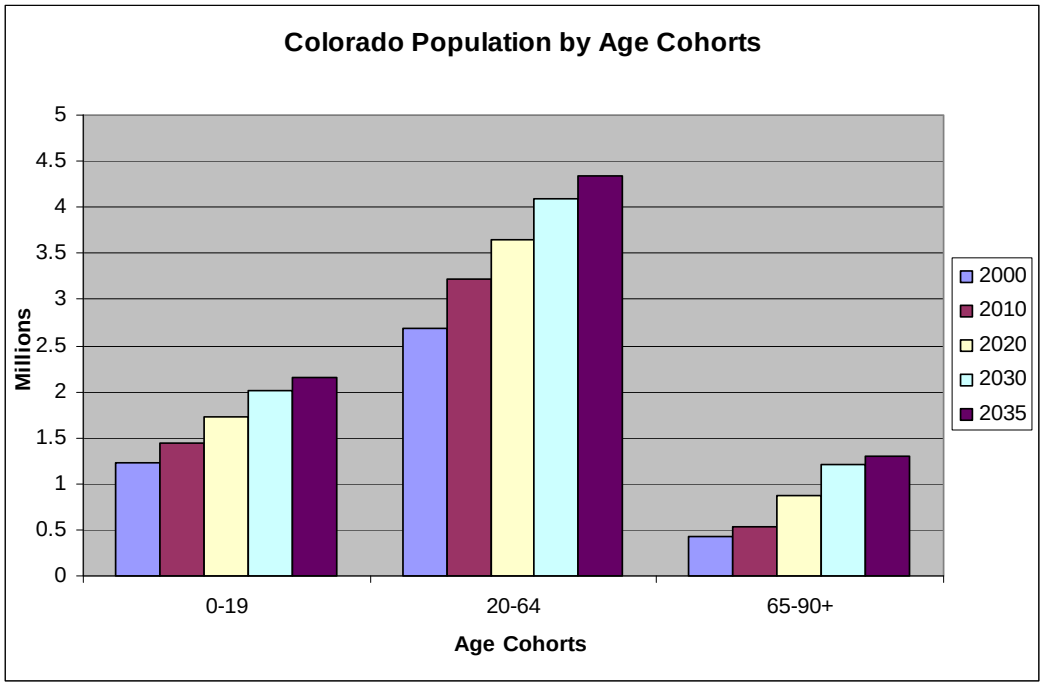


Figure 3 shows the 20-64 year age group is projected to have the largest growth in population, and also comprises the majority of the working population. The population of this age group in 2000 was approximately 2.7 million and is projected to increase to over 4 million by 2035.

In addition, transportation needs for seniors between the ages of 65 – 90+ is projected to increase from 418,981 in 2000 to more than 1 million people by the year 2035. The Pikes Peak Area Council of Governments completed a Senior Survey in 2004 and found that certain characteristics are associated with the senior population, such as a decrease in licensed drivers 75 and older and increased dependency on others for their travel needs. Travel distances and travel patterns also change. The senior population tends to make fewer long distance trips from their residences, in part because of income and safety considerations.

Figure 3 – Colorado Population by Age Cohorts

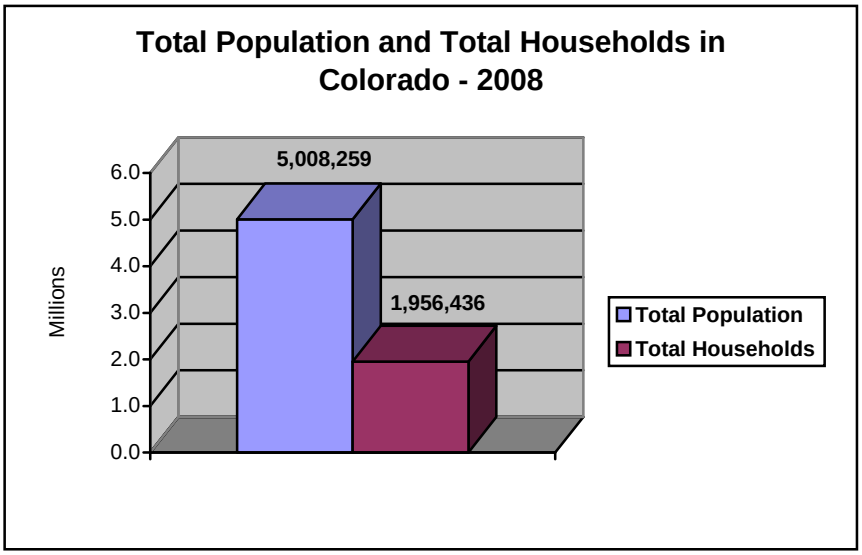


Source: Colorado Department of Local Government, Demography Office, November 2007

HOUSEHOLD CHARACTERISTICS

Figure 4 shows total population and total households within the state. Colorado's total population in 2008 was 5.0 million with approximately 1.9 million total households. The average household size is 2.63 down from 2.69 in 2000.

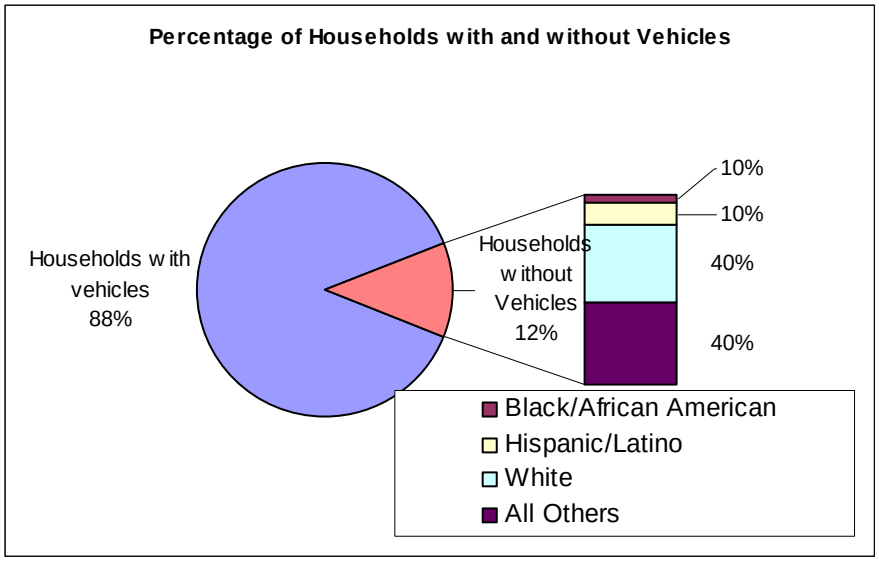
Figure 4 – Total Population and Total Households in Colorado



Source: Colorado Division of Local Government, Demography Office, 2007

Figure 5 indicates 12% of all households in Colorado did not own vehicles in 2000. Respectively 88% of all households did own vehicles; this demonstrates that vehicle usage is an important method of transportation for people to travel within the state.

Figure 5 – Percentage of Households with and without Vehicles

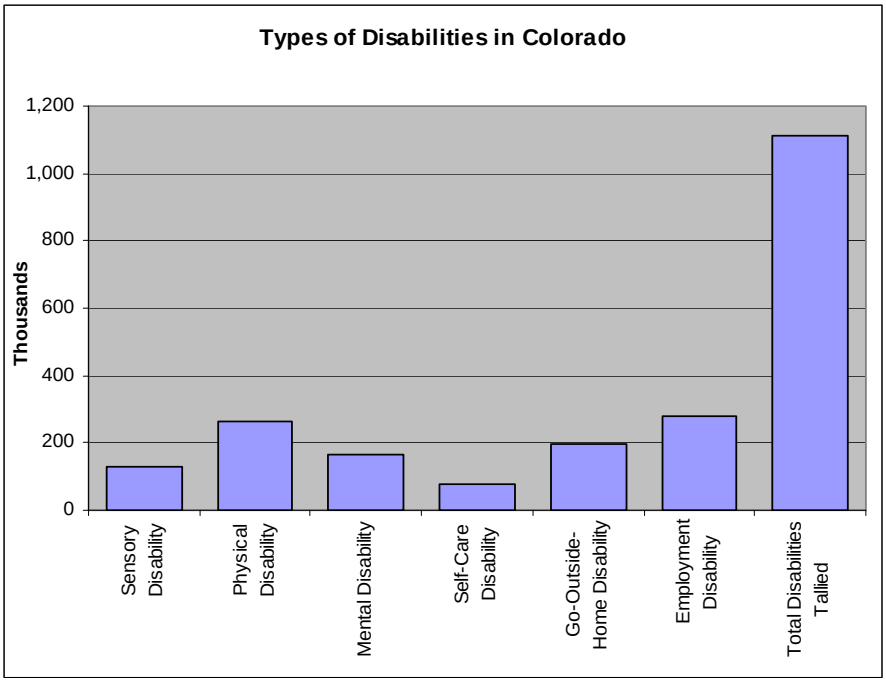


Source: U.S. Census Bureau, September 2007

According to the US Census Bureau 60% of the households without vehicles are minorities, alternatively 40% of the households without vehicles are white. Given that the white population for Colorado is approximately 90% there are a proportionally higher number of minorities without vehicles.

Figure 6 shows the total disabled population in 2000 was around 1.1 million people. This is further broken down in to six categories. Two of the largest categories (physical and employment related disabilities) each have over 200,000 people. The disabled population creates a greater need for various mobility options such as the need for public and private transit service to get residents to major activity centers such as health care and shopping.

Figure 6 – Colorado Disabled Population



Source: U.S. Census Bureau, 2000

ENVIRONMENTAL JUSTICE

Title VI of the federal Civil Rights Act of 1964 (Title VI) and the president's Environmental Justice Executive Order 12898 is only one of many non-discrimination laws and presidential order's that apply to planning. Title VI and environmental justice require a careful analysis of impacts and possible mitigation factors that help to avoid disproportionate impacts caused by transportation projects and services. Administration of programs and activities should ensure that social impacts are recognized early and that they be monitored continually throughout the transportation decision-making process. Enhanced public input and participation at all access points of the statewide transportation planning, design, construction, and maintenance processes helps to ensure meaningful participation and non-discrimination as mandated by Title VI and environmental justice requirements.

Title VI is a component of a comprehensive federal civil rights law that mandates non-discrimination on the basis of race, color, or national origin in programs and activities for recipients of federal aid. The purpose of the law is to ensure nondiscrimination in the provision of services, benefits, and opportunities in all programs and activities of a federally funded recipient like CDOT. All CDOT activities, regardless of whether an activity is specifically funded by federal dollars, must be administered in compliance with Title VI.

The Executive Order requiring environmental justice is a reaffirmation of Title VI. In this application, environmental justice is the fair and equitable treatment and meaningful involvement of all citizens, regardless of ethnicity, or income, in promoting all phases of the statewide transportation system. The obligations of environmental justice are described in the Presidential Executive Order 12898 on environmental justice. Environmental justice requires that at the transportation planning stage, members of communities be provided fair access to planning activities. Similarly, efforts must be made to identify potential disproportionate and adverse impacts to communities that may be caused by changes to the transportation system. The communities must be notified prior to any transportation changes that have been identified and explained how they may be impacted. This process is completed through proactive public participation.

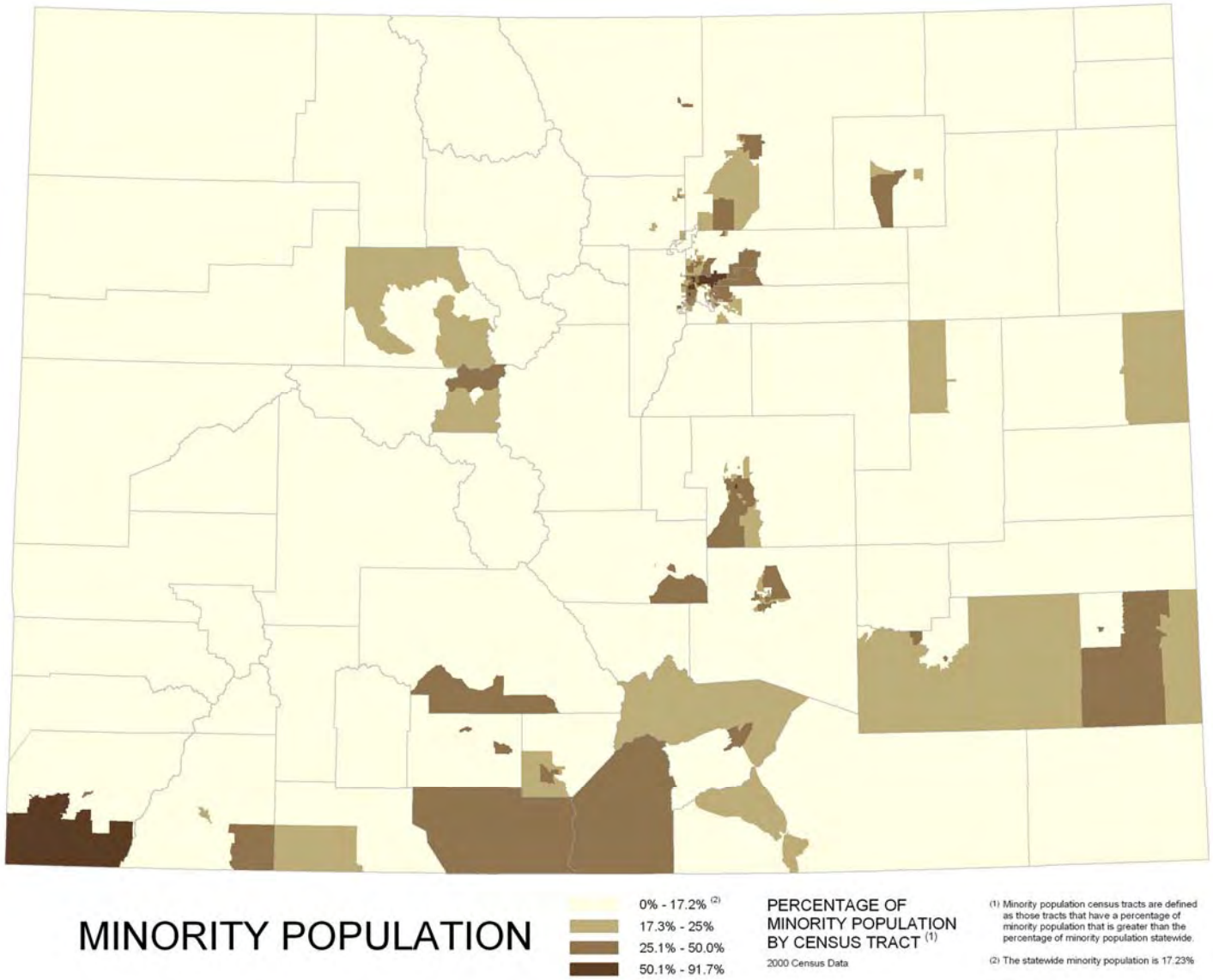
Adherence to environmental justice principles promotes an equitable distribution of the benefits of the transportation system without disproportionately impacting traditionally underserved communities. Environmental justice requires that CDOT identify and address high and adverse human health and environmental effects of a highway project on minority and low-income populations. These two populations have been identified as such because in the past, and based on national experience, they have been disproportionately impacted and underrepresented.

Three major concepts drive CDOT's environmental justice principles (Federal Highway Administration Environmental Fact Sheet). The first is to avoid future disproportionately high and adverse impacts on minority and low-income populations or at least to attempt to mitigate unavoidable impacts. The second is to prevent the denial, reduction, or delay in benefits received by minority and low-income populations. The third is to achieve full and fair participation on affected populations in transportation decision-making.

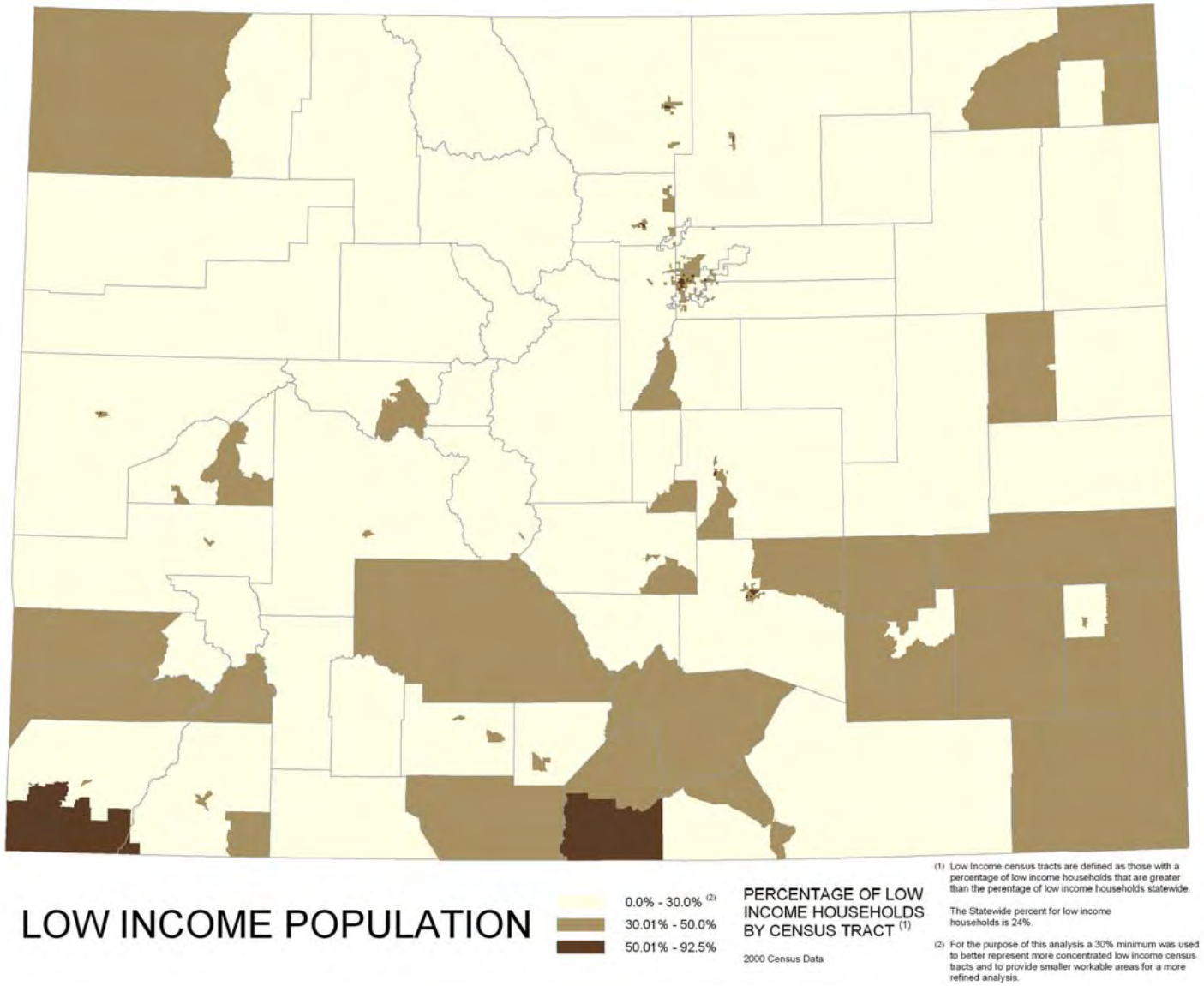
Maps 1 and 2 depict the minority population and low income population within the state of Colorado by census tract. Minority census tracts are those that are defined as having a percentage greater than the state average (17.23%). Map 1 depicts those tracts that have a higher percentage

of minorities than the state average percentage. Low income census tracts are defined as those that are defined as having a percentage greater than the state average (24%). However for purposes of this report a 30% minimum was used. Map 2 depicts those census tracts that have a greater percentage of low-income households above the 30% mark.

Map 1 – Minority Population in Colorado



Map 2 – Low-Income Population in Colorado



BASELINE ANALYSIS MEASURES – ENVIRONMENTAL JUSTICE

During the development of the 2030 Statewide Transportation Plan, CDOT's Division of Transportation Development compared CDOT's primary investment category system measurements in all minority and low income Census tracts and with those in the remainder of the state. For the 2035 Statewide Transportation Plan these measures have been updated for the purpose of evaluating the 2035 resource allocation. Table 1 outlines the corresponding system measure and investment strategy and the updated measures from 2030 to 2035.

Table 1: System Measure and Strategy

Investment Strategy	2030 Environmental Justice System Measure	2035 Environmental Justice System Measure
System Quality	Sampled pavement quality on the state highway system measured by fair, good and poor pavement quality. (2004)	Sampled pavement quality on the state highway system measured by fair, good and poor pavement quality. (2006)
Mobility	Sampled traffic volumes divided by roadway capacity. The (V/C) ratio is measured for all state highway lane miles. (2004)	Sampled traffic volumes divided by roadway capacity. The (V/C) ratio is measured for all state highway lane miles. (2006)
Safety	2001 Accident Rates for centerline miles on all state highway facilities.	2004 Accident Rates for centerline miles on all state highway facilities.

System Quality

System quality is defined as maintaining the functionality and aesthetics of existing transportation infrastructure by preserving the transportation system and keeping the transportation system available and safe for travel. Table 2 depicts centerline pavement conditions tested as good, fair and poor for all state highways, and compares state highway pavement quality statewide versus pavement quality in minority and low-income Census tracts.

Table 2: Statewide Pavement Quality

	Total Centerline Miles	% Of Statewide Centerline Miles	% Of Total Poor Pavement Statewide	% Of Total Fair Pavement Statewide	% Of Total Good Pavement Statewide
All Minority Census Tracts Statewide	1718	19%	38%	23%	39%
All Low-Income Census Tracts	2469	27%	37%	23%	40%
Statewide	9,158	100%	36%	20.9%	43%

Source: 2006 CDOT Highways

No substantial differences exist in the percentage of centerline miles of poor pavement quality within minority Census tracts verses centerline miles of poor pavement quality statewide. Additionally, no significant differences exist in the percentage of centerline miles of poor pavement quality within low-income Census tracts verses those statewide.

Safety

Safety as a system measure is defined as services and programs that reduce fatalities, injuries and property damage for all users of the system. Additionally, safety focuses on a reduction of transportation-related crashes, injuries and fatalities and the associated loss to society.

The 2004 accident rates were used as the safety measure for this analysis. Accident rates are a weighted factor using the number of total crashes per million vehicles or per million vehicle miles of travel, as appropriate, computed using number and severity of accidents. A threshold of 2.27 was selected which is an average accident rate by roadway classification type derived from the 2003 Accident Rate Book.

Table 3: Statewide Accident Rate Analysis

	Total Centerline Miles	% Of Accident Rate Centerline Miles Greater Than 2.27	% Of Accident Rate Centerline Miles Less Than 2.27	Total Centerline Miles Less Than 2.27 Accident Rate	Total Centerline Miles Where Accident Rates Greater Than 2.27	% Vehicle Miles Traveled (VMT)
All Minority Census Tracts Statewide	1581	28%	72%	1135	446	32%
All Low-Income Census Tracts	2453	25%	75%	1830	623	28%
Statewide	9095*	26.5%	73.5%	6682	2413	100%

* Centerline miles vary between accident rate measures and pavement quality because accident rate centerline miles are calculated using varying segment lengths and segments are not divided at Census tract boundaries. Therefore, centerline miles often overlap between analysis areas or are truncated within analysis areas. ** Total accident rates are defined as the number of total crashes per million vehicles or per million vehicle miles of travel, as appropriate, computed from: Total Accident Rate = (Total No. of Accidents)(1,000,000)/(V or M). The average total accident rate shown above does not factor in roadway classification.

The percentage of accident rate centerline miles that exceed the average of 2.27 is approximately 2% higher in minority Census tracts as compared to those statewide. Conversely, low-income Census tracks have approximately 2% less total lane miles then the statewide percentage of line miles that have an average that is greater than the 2.27. Overall, no substantial differences exist in the accident rates at the statewide level within minority and low-income Census tracts and accident rates on the remainder of the state system.

Mobility

The system measure of mobility is defined as the movement of people, goods and information by relieving congestion and providing travel reliability. The CDOT standard for congestion is traffic volume divided by roadway design capacity (V/C) of 0.85 and above. A roadway with V/C of 0.85 or greater is regarded as having severe congestion that impedes general mobility. In Table 4 the V/C measure is used to determine differences in mobility within low-income and minority Census tracts.

Table 4: Statewide Mobility Analysis

	Total Centerline Miles	% Of Total Centerline Miles Statewide	Total Centerline Miles V/C Greater Than 0.85	% Of Center Total Line Miles Of V/C Greater Than 0.85	% Vehicle Miles Traveled (VMT)
Centerline Miles In All Minority Census Tracts	1718	19%	133	8%	32%
Centerline Miles In All Low-Income Census Tracts	2470	27%	111	4%	28%
Statewide	9160	100%	519	6%	100%

Source: 2006 CDOT Highways

Minor variations exist between the percentage of total statewide centerline miles of congested roadway and the percentage of congested centerline miles in minority Census tracts. While statistically minor in variation, in future analyses this established baseline will be use to determine if trends exist and to what degree further scrutiny could refine the congestion measure results.

The overwhelming majority of congested roadways are contained within the Denver metro area. For the purpose of this analysis, the Division of Transportation considered congested conditions within the metro area and the minority and low-income Census tracts contained within the Denver Regional Council of Governments region, which is displayed in lane miles within minority and low-income Census tracts within the Denver metro area are clearly more congested than comparable roadways within other tracts in the Denver Metro area. Strong consideration for this difference needs to be given to the location of several low-income and minority Census tracts and their proximity to the central business district and other employment centers and highly traveled roadways. The proximity of low-income and minority Census tracts to urban centers often creates external congestion from the general commuting population that uses state highways that pass through minority and low-income communities. The Division of Transportation Development will closely monitor this measure and work to refine this analysis once additional information is made available.

Table 5: Denver Metro Area Congestion in Lane Miles

	Centerline Total Miles	Centerline Miles With V/C Less Than 0.85	Centerline Miles With V/C Greater Than 0.85	% Of Centerline Miles With V/C Greater Than 0.85	% Of Total Centerline Miles Denver Metro Area	% Vehicle Miles Traveled (VMT)
Centerline Miles In All Denver Minority Census Tracts	251	152	100	40%	26%	40%
Centerline Miles In All Denver Low-Income Census Tracts	212	120	91	43%	22%	33%
Denver Metro TPR	980	667	312	32%	100%	100%

Source: 2006 CDOT Highways

Baseline Analysis Measurement Summary-Environmental Justice

When taking the three primary investment categories: system quality, safety and mobility, into consideration there are no outstanding areas of concern or disproportional effects within minority and low-income Census tracts at the statewide level. Further investigation would be required to examine investment indicators at the CDOT region level to evaluate the distribution of funding at a more focused scale. Additionally, an analysis of direct project investment in minority and low-income Census tracts at the region level would provide further evaluation on the equity in distribution of transportation investments, resource allocation, and provide a comparison of the type of project investment.

2006 CDOT Mobility Needs of Low Income and Minority Households Research Study

In addition to this analysis, CDOT – DTD also commissioned a study to determine the mobility needs of low income and minority communities through a series of statewide focus groups. These focus groups allow CDOT to better response to future planning efforts that can better respond to needs while also identifying mobility barriers for low income and minority households in Colorado.

Seven focus groups were conducted in order to expand on the information obtained in the literature review and demographic research. Additionally, the focus groups provided a better understanding of the travel behavior, mobility needs and travel barriers of low income and minority populations in Colorado. Each focus group was comprised of members of a low income and/or minority household. The seven focus groups were held in Alamosa, Denver, Durango, Greeley, Lamar, Leadville, and Pueblo, and included a total of 77 participants.

Mobility Study Findings

Overall findings and conclusions were identified regarding how best to address the mobility needs of low income and minority individuals in Colorado in the future. In particular, providing reasonable travel options such as convenient public transportation and safe pedestrian facilities to individuals who do not own vehicles is a critical factor for individuals to access jobs and to participate in the same quality of life as the general population.

In addition, the relative lack of public transportation in many parts of the state places a high burden on low income individuals, including the inability to access essential life services, such as a grocery store or medical facility. Lack of access to a car and the need to allocate a high percentage of income to transportation costs also creates a high burden. There is a desire among low income and minority populations to invest in basic transit infrastructure improvements such as bus replacement, bus stops and bus shelters. Transit service improvements within small communities and transit access from the outskirts of those communities were expressed as a need.

Another key study finding is that better pedestrian facilities in both urban and rural areas would improve the travel safety and mobility of low income and minority individuals. Bicycle and pedestrian roadway safety is an issue for low income and minority populations who use these modes at a higher level than the general population because minority groups are more likely to travel by foot than white, non-Hispanic households.

Finally, creating carpool matching programs based at human service agency locations could help individuals without cars find more carpool options and may encourage individuals traveling alone to offer rides to others. Other new creative options could also be explored such as car sharing, rural vanpool services and telemedicine, which is a way of linking communication equipment to health care providers and patients in different locations.

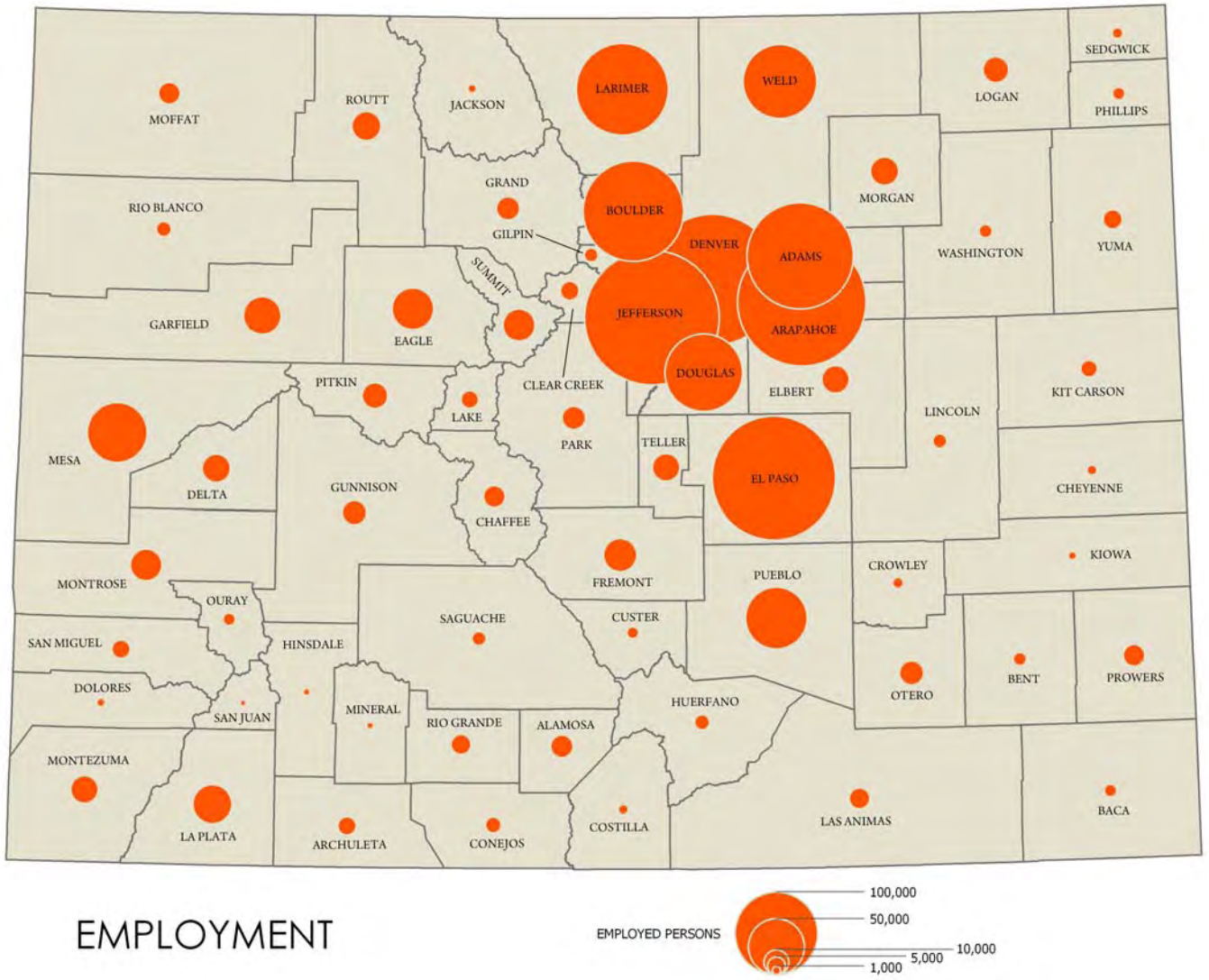
While the low-income and minority focus group findings emphasize pedestrian and transit safety and mobility, and carpool matching, those measures are not captured in this environmental justice analysis. The 2035 plan anticipates spending approximately 33% of the $76 billion in forecast revenue for all programs between 2008 and 2035 on transit/rail improvements; these improvements would most likely have some impact to address mobility barriers in low-income and minority Census tracts. In order to validate this claim of proposed improvement, an analysis would need to be performed that would include project and program investment and scope of impact of projects/programs in low-income and minority Census tracts.

EMPLOYMENT AND THE ECONOMY

Employment

The Colorado Department of Local Affairs projects total jobs to increase 71%, from 2.7 million in 2000 to 4.6 million in 2035. The county with the highest employment number was Denver; however most counties had employment figures of less than 14,000. Other counties with a high rate of employed persons include Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, Weld and Mesa Counties. Map 3 illustrates the number of employed people by county.

Map 3 – Number of Employed People by County



Source: U.S. Census Bureau, 2000

The total number of jobs in Colorado for 2000 was 2.7 million, expected to grow to 4.6 million in 2035.

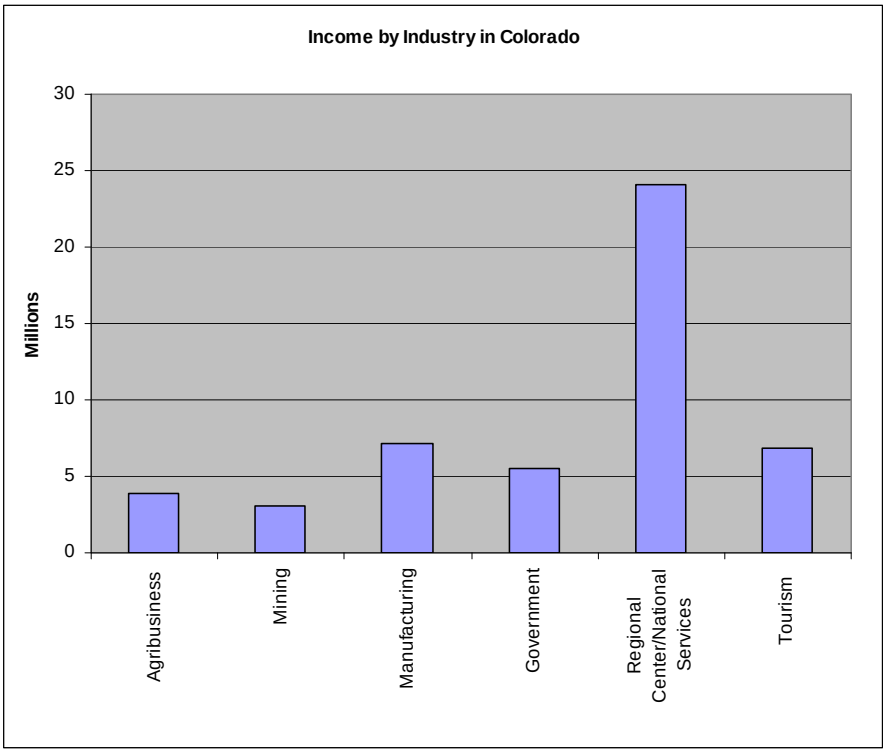
Table 6: Jobs and Labor Force

	2000	2010	2020	2030	2035
Total Jobs	2,710,577	3,122,469	3,810,864	4,397,949	4,564,998
Multiply Held Jobs	210,701	247,114	306,950	355,607	383,607
Unemployment Rate	3	5	4	5	5
Labor Force	2,384,269	2,783,597	3,438,687	3,969,135	4,276,155

Source: Center for Business & Economic Forecasting, Inc. (CBEF) 2007

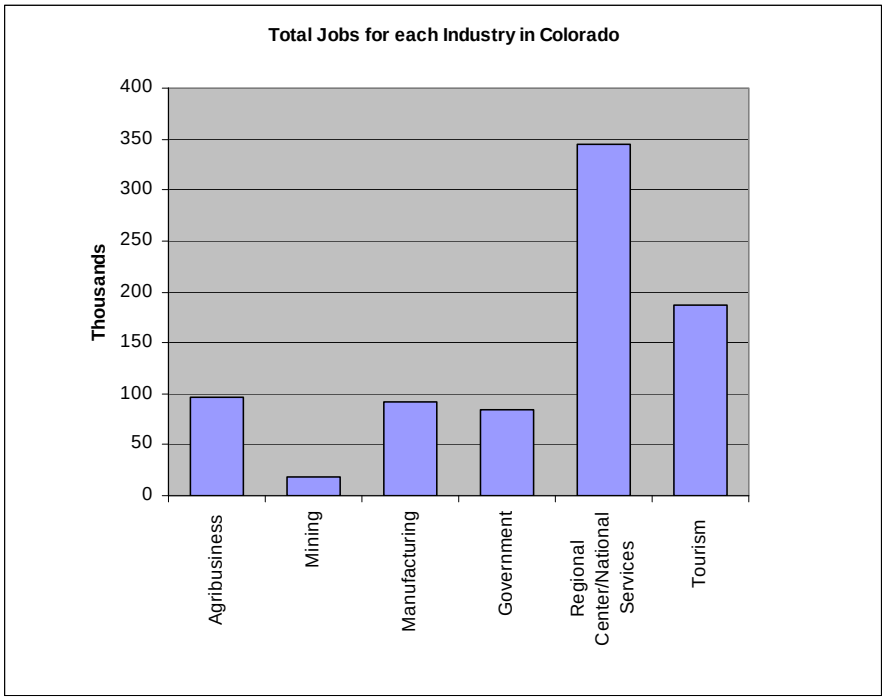
Figures 7 and 8 depict the income and jobs for the six highest income industries in Colorado. The Regional Center/National Services category provides the largest number of jobs as well as income. Although tourism represents the second highest number of jobs for Colorado the income from tourism is not reflective of that, alternatively, manufacturing represents more income, but fewer jobs than tourism. Interpreting this data it is assumed that people working in tourism are making less money than those who are working in manufacturing.

Figure 7 – Top Six Income Industries in Colorado-2005



Source: Colorado Department of Local Affairs, 2007

Figure 8 – Total Jobs for Highest Six Income Industries in Colorado-2005



Source: Colorado Department of Local Affairs, 2007

Table 7 depicts the total number of jobs by Transportation Planning Region and by Industry for these planning regions.

Table 7: Jobs in Colorado by Transportation Planning Region and by Industry

	2005 Total		Agribusiness		Mining		Manufacturing		Government		Regional Center/National Services		Tourism	
	Income	Jobs	Income	Jobs	Income	Jobs	Income	Jobs	Income	Jobs	Income	Jobs	Income	Jobs
Intermountain	6,606,377	113,451	41,634	1,951	313,457	2,055	71,641	1,209	333,957	7,256	591,396	10,263	1,604,232	41,045
Southwest	2,741,605	51,015	30,896	2,757	79,794	786	23,756	902	67,458	1,130	196,335	5,161	249,546	10,164
San Luis Valley	1,590,809	32,480	143,992	5,952	6,220	100	11,061	332	64,887	1,330	72,464	2,107	79,965	3,925
Greater Denver	120,321,522	1,634,366	2,012,887	38,167	1,960,828	7,250	5,610,786	66,218	3,691,670	49,252	20,939,747	283,837	3,599,023	83,759
Eastern	2,448,895	39,244	322,839	9,875	44,615	562	12,571	273	68,256	1,398	100,563	2,140	12,696	763
Southeast	1,240,342	22,719	163,985	4,634	2,169	32	32,815	783	61,181	1,425	32,881	981	6,996	426
Upper Front Range/ North Front Range	16,884,570	276,627	976,169	21,780	189,077	2,499	1,161,594	16,038	734,301	14,347	1,391,479	24,090	331,691	13,944
Northwest	2,122,570	39,764	15,471	2,239	174,809	1,953	17,329	340	62,495	1,257	131,163	2,485	363,866	11,222
Central Front Range/ Pikes Peak Area	22,755,211	353,759	84,000	4,757	129,589	560	1,251,364	19,651	3,496,964	47,823	3,357,070	57,929	507,775	20,734
Gunnison	2,843,835	53,683	68,220	4,454	174,226	1,251	39,706	1,172	167,716	3,428	177,467	4,158	288,495	10,345
Grand Valley	3,992,180	70,917	62,599	2,918	94,624	1,363	159,396	3,471	108,915	1,435	340,493	7,147	155,238	5,676
South Central	580,728	10,792	201	1,040	17,906	284	4,258	128	7,994	189	23,206	459	12,319	607
Pueblo Area	4,178,398	66,676	50,507	2,111	849	3	215,539	3,324	154,499	3,281	158,503	4,201	53,379	2,653
State Total	188,307,042	2,765,493	3,973,400	102,635	3,188,162	18,698	8,611,816	113,839	9,020,292	133,551	27,512,767	404,957	7,265,222	205,264

Source: Colorado Department of Local Affairs, 2007 * The top six industries will not equal the income and jobs total per transportation planning region.

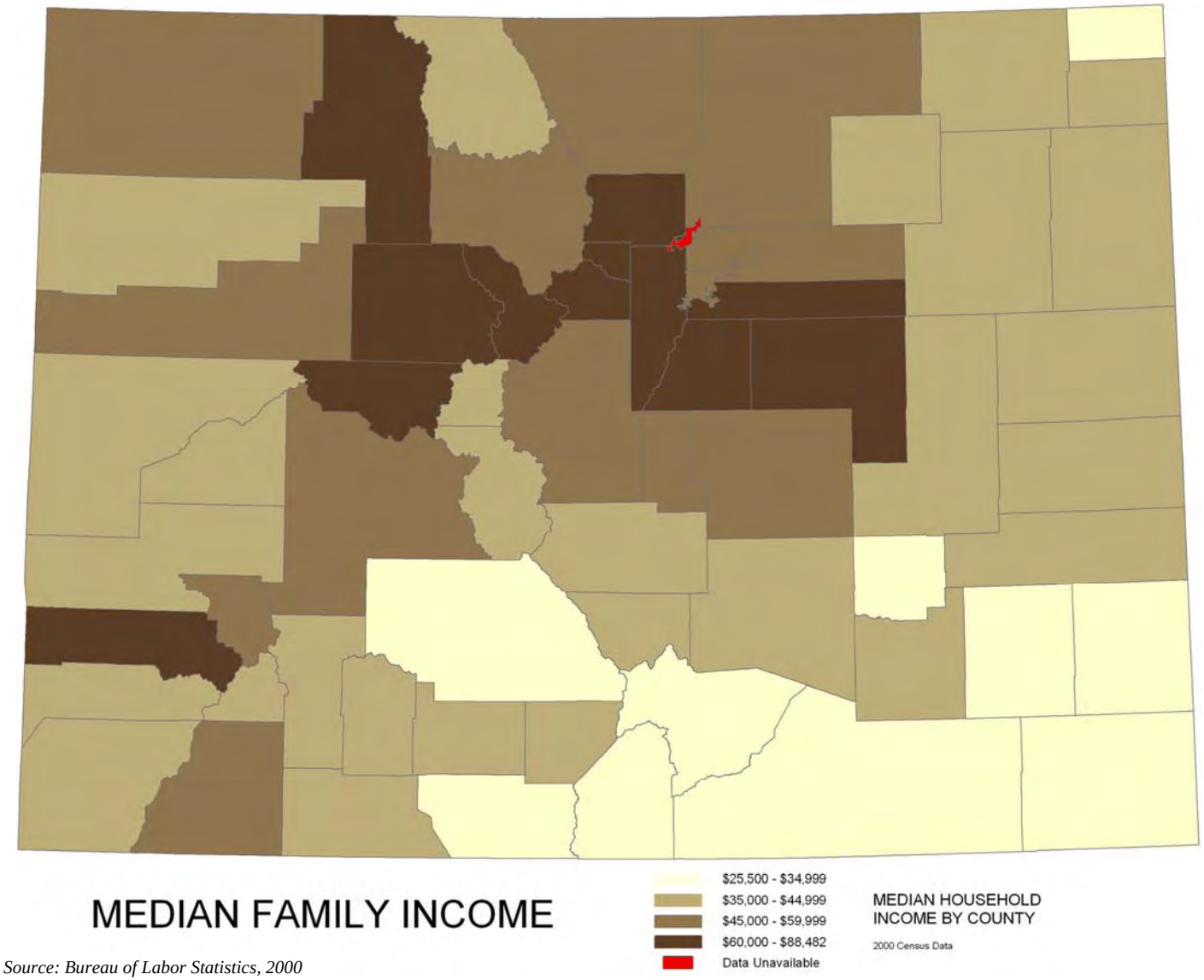
Household Income

Household income is the mean income for households in a geographic area. Household income is the sum of money income received in the calendar year by all household members 15 years old and over, including household members not related to the householder, people living alone, and other non-family household members. Included in the total are amounts reported separately for wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income.

Since answers to income questions are frequently based on memory and not on records, many people tend to forget minor or sporadic sources of income and, therefore, underreport their income. Underreporting tends to be more pronounced for income sources that are not derived from earnings, such as public assistance, interest, dividends, and net rental income.

Map 5 shows household income in 2000, the highest income in the state was in Pitkin County with a mean income of $45,768 -$69,960. The counties with the lowest per capita incomes of less than $19,966 were in various locations throughout the state, the highest concentrations are found in the south central region. Statewide ranges for per capita income were from $14,512 to $69,960. Per capita income is directly related to trip generation; higher income individuals, families and households typically make more trips per day. (Trip Generation Manual Institute of Transportation Engineers, 6th Edition)

Map 5 – Colorado Household Income Map

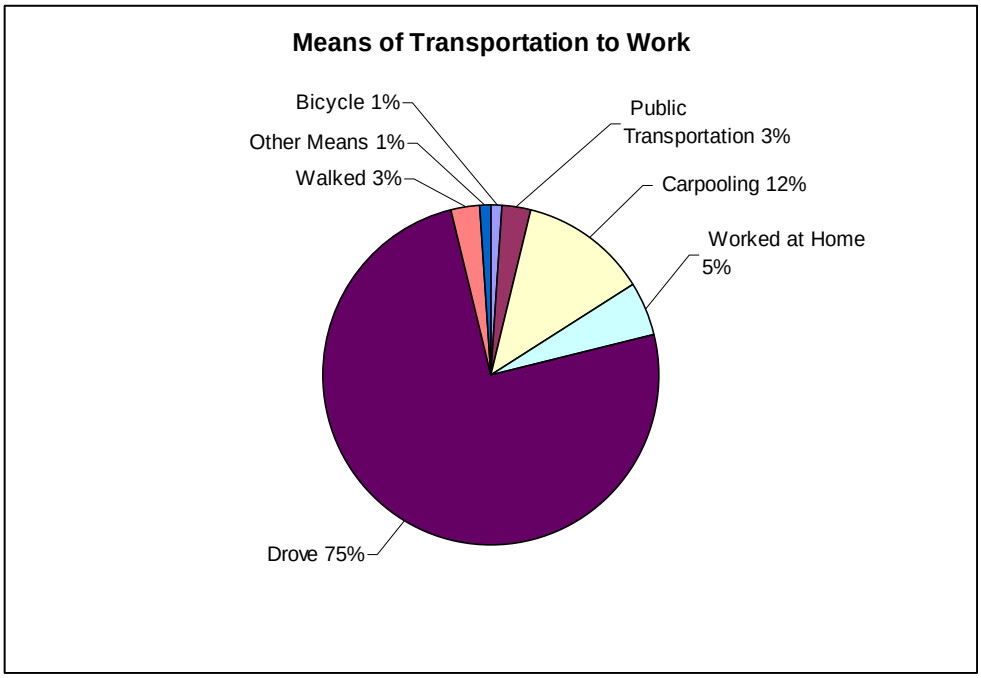


Source: Bureau of Labor Statistics, 2000

Commuting

Employment related commuting is a key element of the state's transportation system. According to the U.S. Census Bureau in 2000, 75% of individuals who traveled to work drove as single passengers, as shown in Figure 9. 20% of individuals traveling to work used other modes of transportation that included: carpooling, public transportation, walking, motorcycle, bike, and other means. The remaining 5% means of transportation, accounts for those individuals who work from home (See the Transportation Demand Management Technical Report for more information).

Figure 9 – Means of Transportation to Work



Source: U.S. Census Bureau, 2000

Tourism

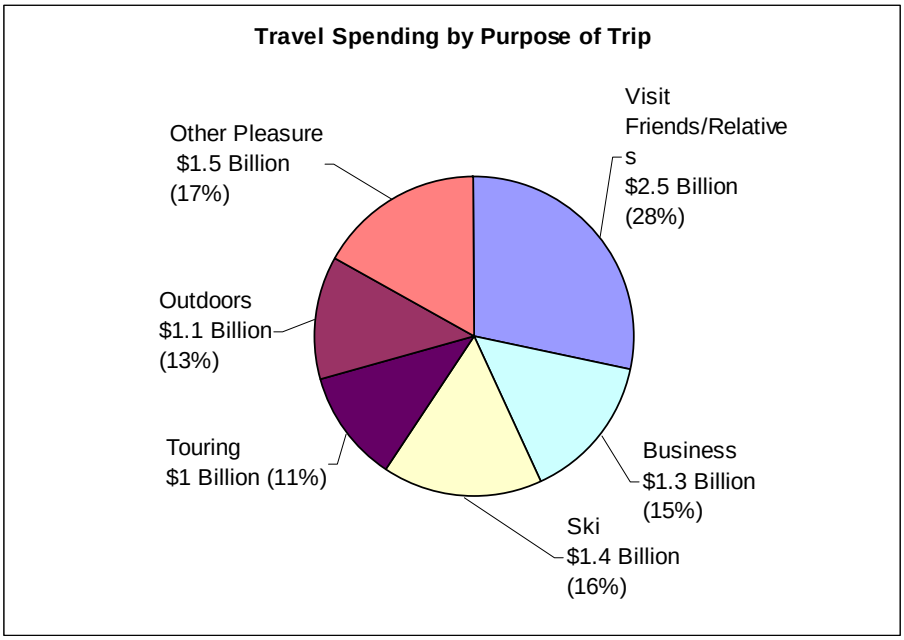
Tourism is one of the major industrial sectors in Colorado's diverse economic base. In 2006, the tourism industry generated a record $8.9 billion from domestic overnight spending, an increase of eight percent over the previous year. For the third year in a row, visitation increased, up four percent to an all time record of almost 27 million overnight visitors. About one-third of Colorado visitors travel on I-70 west, one-third visit Denver, and one-third visit other areas. As a result, the travel industry is one of the state's largest industries and Colorado is one of the country's leading markets for travel revenues (Longwood's International, Colorado Visitors Study, Final Report, May 2007). Since tourism is important to the economy of the state, having a good transportation system in place is important.

One key transportation related tourism program is the Scenic and Historic Byways Program, which to date has recognized 25 special routes across the state. Nearly 60 percent of all overnight pleasure travelers participated in history or cultural activities, contributing to 44 percent of all travel expenditures. About half of these traveler trips were on the state's scenic byways.

Increasing numbers of visitors and Coloradans expect an effective transportation system whether traveling by car, air, bus or train to and from airports, ski areas, and western slope communities. The mountain resort region, much of which encompasses the I-70 West Corridor, is the most travel dependent region in the state. The often over-crowded I-70, the lifeline to tourism in ski country and the western slope, presents a special challenge due to weather and other natural conditions, including high mountain passes, snow storms, avalanches, rock slides and a concentration of tourism destinations. Colorado's twenty-six ski resorts hosted 12.6 million skier visits during the 2006-2007 season, 21 percent of the nation's total.

In order to support the tourism industry and to reap the benefits to Colorado, we need to assure reliable transportation with minimal delay for our visitors. Addressing congestion in tourism corridors is vital to the continued strength of the industry.

Figure 10 – Travel Spending by Purpose



Source: Longwoods International – Colorado Travel Year 2006, Final Report. May 2007

Visitor Information

There are a variety of tourist attractions in Colorado. Natural outdoor attractions include: parks, wilderness areas, ski areas, and scenic byways. Table 8 shows the number of visitors to national parks and national monuments in 2006. National parks and monuments around the state attracted approximately 4.3 million visitors in 2006.

Table 8: National Parks and National Monuments

NATIONAL PARKS AND NATIONAL MONUMENTS	TOTAL VISITORS (2006)
Rocky Mountain National Park	2,743,676
Mesa Verde National Park	557,248
Black Canyon National Park	160,450
Great Sand Dunes National Park	258,660
Dinosaur National Monument	278,473
Colorado National Monument	332,654
Florissant Fossil Beds	56,094

Source: National Park Service, 2006

Colorado ranks sixth in the nation for parks and recreation, surpassing each of its neighboring states in both number and acreage of state parks. The 43 state parks and outdoor recreation areas attracted 11.1 million visitors in the 2001 – 2002 season and 11.2 million visitors in 2005 – 2006 season (Colorado State Parks).

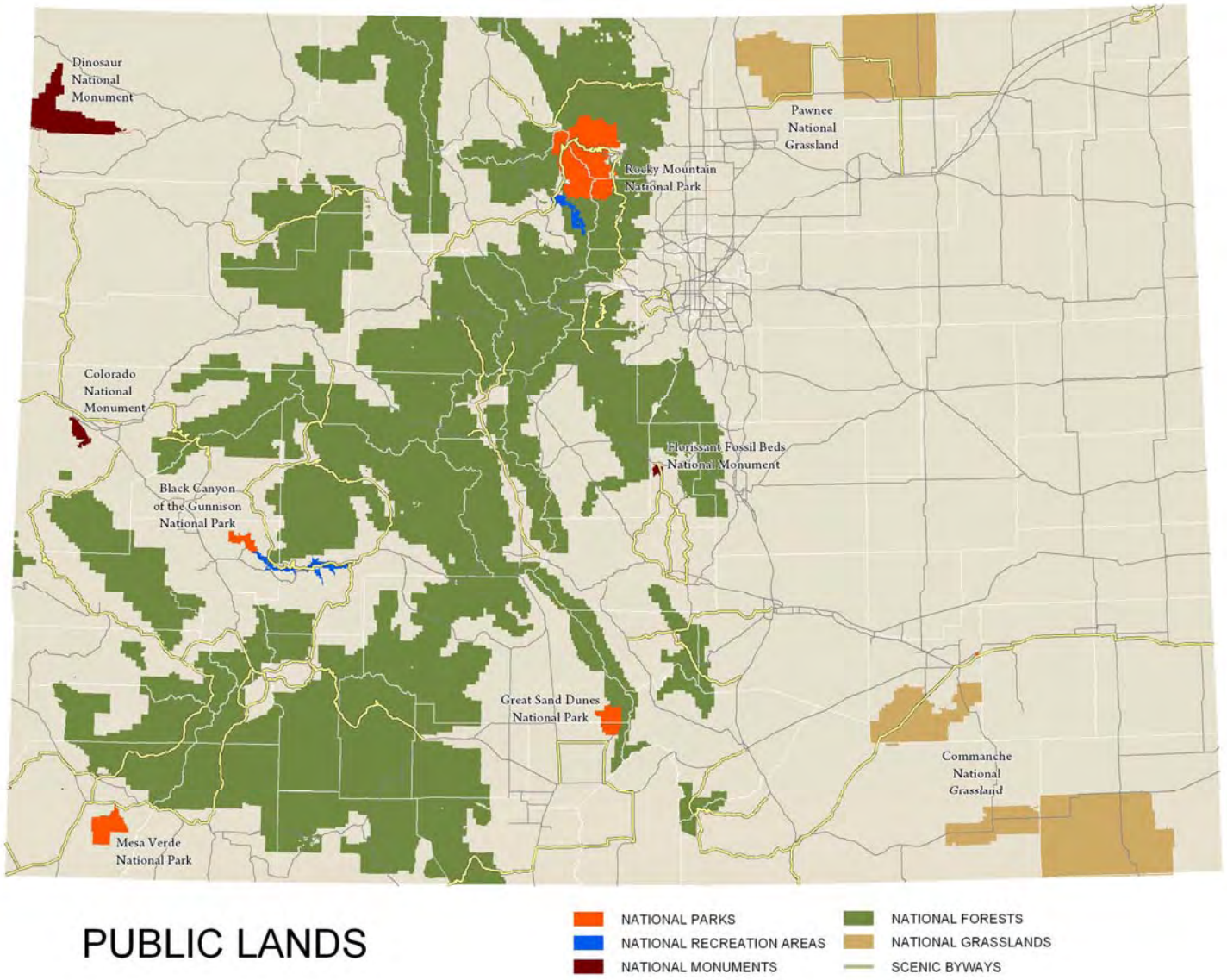
Colorado has more than 35 winter recreation areas for: downhill skiing snowshoeing, snowmobiling, snow cat tours, sleigh rides, ice skating, cross-country skiing, and snowboarding. There are a total of 26 ski resorts throughout the state. Ski Magazine readers ranked six Colorado ski areas in the top 10 ski resorts in North America. Skier spending is $2 billion to $2.6 billion annually with up to two-thirds of the spending in local businesses within resort communities (Colorado Ski Country USA, 2004). In addition, Colorado leads the nation in the share of total overnight ski trips with 18.5% (Longwood's International, Colorado Visitors Study, Final Report, May 2007). In the 2003-04 ski season, there were 11.2 million skier visits (Colorado Ski Country USA, 2004). Having a transportation system that enables visitors to get to these recreational areas is very important for the economy of Colorado.

Visitor numbers to specific tourist attractions can help identify where people will be traveling on a regional basis. Having transportation routes well maintained without congestion as well as having good air quality is beneficial to tourism. It is important to entice new visitors to come to the State, but it is also important to maintain the current visitors in order to keep the revenues these visitors bring to the State.

Transportation Impacts and the National Forests and National Grasslands

Transportation issues are addressed in the National Forest and National Grasslands Service plans. Map 6 illustrates where the eleven national forests which are: Arapahoe, Grand Mesa, Gunnison, Pike, San Isabel, San Juan, Rio Grande, Roosevelt, Routt, Uncompahgre, and White. The two national grasslands shown on Map 6 include Comanche and Pawnee. Since some of the national forests and national grasslands are located near populated areas, they are likely to have well traveled routes for people seeking recreational amenities. Well traveled routes near populated areas could mean an elevation in air pollution with more traffic. Also, as visitor traffic increases, adequate emergency vehicle access within the national forests is another important fact to consider.

Map 6 – Public Lands



Source: Colorado Department of Transportation, 2004

Another factor that could impact communities located near national forests, would be an increase in local traffic, and increase in the demand for real estate in close proximity to these types of amenities. Housing costs can affect employment. If jobs can not be filled within these communities because they do not adequately pay people to live in the area where their job is located, then people will commute longer distances to work from areas where there is affordable housing. Roads will become more congested and there will be an increase in the amount of air pollution with an increase in commuter traffic.

A final factor addressed here are the mountain communities in proximity to forests and grasslands. Many of the homes in these communities are second homes that are lived in only part of the year. The local governments may not be able to adequately handle the additional need for local services. Increasing visitor numbers to the national forests and national grasslands not only affects transportation routes in the national forests, but it also affects transportation routes in local communities.

As a result of an increase in truck traffic, there is a need to transport natural resources, such as coal, due to an increase in energy needs.

Heritage Tourism

Heritage tourism is defined as travel to experience the places, traditions, art, celebrations, and experiences that portray a scenic byway, region, county, or country's past. Colorado heritage travelers accounted for 57% of overnight leisure travel in 2006. Of these, 37% identified themselves as "interested in cultural heritage activities", 20% did not identify themselves as "interested in cultural heritage activities" but nonetheless participated in cultural heritage activities on their trip, 30% traveled on the state's scenic byways. Cultural heritage travelers accounted for 44% of all overnight leisure spending ($3.4 billion). These travelers are generally better educated, spend more ($392 per trip per person compared to $326 for all travelers), stay longer, travel year round, and stay in paid lodging. Within the category of heritage travelers, 68% travel by car and take three or more trips per year. Since September 9, 2002, the trend in travel has been shorter weekend trips, more use of the Internet, and a broader interest in history.

Activity Centers

There are a variety of cultural activities and sports events in Colorado that attract large groups at different times including: large shopping centers, business centers, hospitals, higher education institutions, and agricultural centers. These attractions draw crowds for short periods at different times of the year. When planning events, knowing that certain travel routes could get busier at certain times could prepare people to better plan alternative routes.

Future Economic Outlook

The Center for Business and Economic Forecasting provided a long-term economic outlook for Colorado at the 2004 Colorado Demography Conference. Several economic measures were discussed. As the population rises to over 7 million people by 2035, there will be a sharp increase in people over 65 years old. In addition, service jobs and retirees will make the biggest contribution to the growth in the State. The job growth will be slow and migration will stay high. The unemployment rate will be in the 4 – 5% range. In the next 30 years, the fastest growing parts of the State will be in the mountain areas, Western slope, and Larimer – Weld Counties. Furthermore, high energy prices will be helpful to the oil, gas, and coal industries, but it will have a negative impact on travel and tourism.

ENERGY DEVELOPMENT

The explosive growth of the energy industry has generated unprecedented truck volumes on Colorado roadways. Colorado has substantial conventional fossil fuel and renewable energy resources. Truck traffic from the Western Slope to the Eastern Plains supports coalbed methane, natural gas, coal, oil shale and oil development, in addition to wind power and agriculture-based fuels (biofuels). Two of the Nation's 100 largest oil fields are located in Colorado. Top oil producing counties include Weld, Rio Blanco, Garfield and Cheyenne. Colorado accounts for more than five percent of annual U.S. natural gas production. Seven of the Nation's 100 largest natural gas fields are located in Colorado. One-fourth of all the United State's coalbed methane (natural gas produced from coal seams) comes from Colorado. Top natural gas and coalbed methane gas producing counties include La Plata, Garfield, Weld, and Las Animas. Substantial deposits of coal are found in the state. Colorado coal production ranks seventh in the nation and supplies 70 percent of the state's electricity from its 12 mines. Colorado ranks 11th in the U.S. for wind energy potential; wind farms are currently located or under construction in Baca and Washington Counties.

The growing energy development boom has had a major effect on local, regional and statewide economies, injecting nearly $22.9 billion ($17 billion in direct revenues) to the Colorado economy in 2005 alone. The oil and gas industry employed over 70,000 direct and indirect workers and generated $640 million in local and state taxes that same year; a 400 percent increase from 2000 (Colorado Energy Research Institute, Colorado School of Mines, 2007). Table 9 depicts the coal producing counties in Colorado. Gunnison produces the most at 32%, followed by Routt and Moffat at 23% and 22%, respectively, and Delta at 15%. The remaining four counties account for the remaining 7%.

Table 9: Coal Producing Counties (2007)

County	# Miners	Production (tons)	% of Total State Production (tons)
Gunnison	669	9,805,463	32%
Routt	454	7,124,672	23%
Moffat	414	6,764,449	22%
Delta	258	4,418,018	15%
Rio Blanco	134	1,329,230	4%
La Plata	81	410,214	1%
Montrose	23	339,173	1%
Garfield	22	213,580	1%
Total	2,055	30,404,799	100%

Source: Colorado Division of Reclamation, Mining and Safety, Monthly Coal Summary Report; Period 1/2007 thru 10/2007

Along with the benefits of energy dollars that are strengthening Colorado's job markets and the tax base, come some challenges for transportation. The increasing presence of drill rigs and heavy trucks traveling highways and back roads stresses the existing infrastructure, and creates mobility and safety issues for commuters and other travelers. A 2006 report from the Utah Department of Transportation indicates that up to 1,375 heavy truck roundtrips, depending on well location and depth, are required to bring a single gas or oil well to production in the Uinta Basin just west of Colorado. One heavy truck equals 5,440 passenger cars when it comes to damage to the roadway. From 2002 to 2007, the number of active wells in Colorado grew by one half and new drill permits tripled. The challenge will be to address the increased impact to the transportation system from these heavy trucks in terms of roadway impacts, safety and congestion without any additional funding.

Table 10 depicts the total number of permits issued in Colorado for the past four years. The number of permits has more than doubled from nearly 3,000 to over 6,300. Table 11 shows how these 6,300 permits are issued by county. A total of 64% of the permits have been issued in Garfield and Weld county. A total of 28% are issued in Yuma, Las Animas, Rio Blanco, Mesa and La Plata. The remaining 8% are in other counties.

Table 10: Annual Drilling Permits 2004-2007

Year	2004	2005	2006	2007
# Permits	2,917	4,363	5,904	6,368

Source: Colorado Oil and Gas Conservation Commission; Weekly & Monthly Statistics; Jan. 7, 2008; www.cogcc.state.co.us.

Table 11: Drilling Permits by County (2007)

County	# Permits	% Total
Garfield	2,550	40%
Weld	1,527	24%
Yuma	541	8%
Las Animas	362	6%
Rio Blanco	321	5%
Mesa	293	5%
La Plata	251	4%
All other counties	523	8%

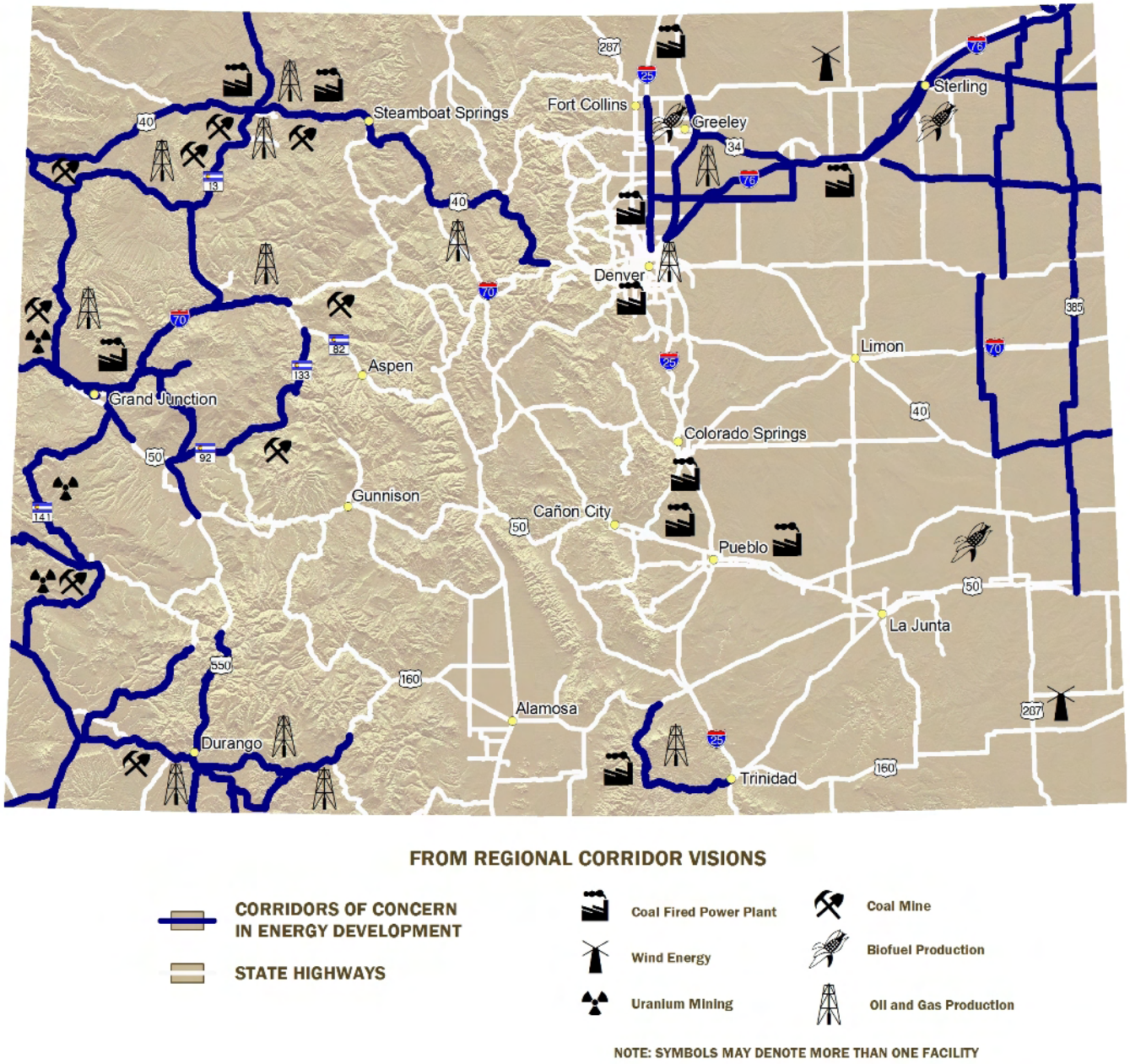
Source: Colorado Oil and Gas Conservation Commission; Weekly & Monthly Statistics; Jan. 7, 2008; www.cogcc.state.co.us.

Table 12 depicts the total number of wells by county for 2007. Weld County has the highest number of wells with 12,424 or 37%, followed by Garfield with 4,423 or 13%. Yuma, La Plata, Rio Blanco and Las Animas have a combine total of 11,100 or 34%. All other counties account for 5,868 or 17% of the active wells in Colorado.

Table 12: Active Wells by County (2007)

County	# Wells	% Total
Weld	12,424	37%
Garfield	4,423	13%
Yuma	3,000	9%
La Plata	2,907	9%
Rio Blanco	2,629	8%
Las Animas	2,564	8%
36 other counties	5,868	17%
Total	33,815	100%

Map 7 – Energy Development



The symbols on Map 7 depict locations where energy development is occurring, but can also represent more than a single facility, with in the state of Colorado for purposes of identifying impacts to Colorado's highways.

CONCLUSION

Population studies, employment estimates and projections are some factors that should be considered when planning for future transportation needs. Tourism is also an important factor to analyze for transportation planning. To understand the projected transportation system for 2035, it is important to comprehend the socioeconomic characteristics of today. Having a good transportation system in place allows for increased mobility and allows Colorado to continue to grow economically and improve the quality of life for its residents.