Repopulating the Rockies

Highlighting the Megapolitans and Rural Economic Clusters of the Region

By Porter Friedman

The 2009 Colorado College State of the Rockies Report Card

Key Findings

• The Rockies region contains six Megapolitans spanning seven states.

• 82.5 percent of people in the Rockies live in urban areas. Nationwide, 79 percent of people live in urban areas.

• In the Rockies' rural service clusters, 67 percent of the economy is comprised of the service sector without the leisure and hospitality industries.

• On average, the mining industry occupies 19 percent of the economy in rural resource extraction clusters.

• In 18 of the region's rural recreation clusters, leisure and hospitality services account for more than 25 percent of the area's economy.

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Introduction

The eight-state Rockies region is the fastest growing region in the country. This once empty area is now teeming with people drawn to the region's natural beauty and booming metropolitan areas. Historically, the population of the Rockies region was distributed across small frontier towns serving ranches or mines. These towns, scattered across the West, created the cowboy image that the region still holds. Supporting these frontier towns were urban hubs such as Denver, Salt Lake City, and Phoenix.

Today, two developing trends in population distribution are occurring in the Rockies region: mega-regions and rural economic clusters. These two classifications are the urban and rural growth patterns of the region's future. While the general layout of urban centers supplying mountain towns remains, much has changed. These urban centers have grown to become booming metropolises still supplying mountain towns, but are also major players in both the national and global economies. The rapid growth of these metropolitan areas has created vast urban corridors called mega-regions, defined as areas where large cities have begun to merge together to become one continuous urban region.

Frontier towns of the old West have also grown to include more modern services and amenities. These towns, defined in this Report as "rural economic clusters," provide residents and visitors with the small mountain town feel of the Wild West while providing convenient services and amenities to surrounding towns and rural areas.

As population continues to grow in the Rockies region, these two development trends will largely direct the region's growth. Essentially the urban and rural manifestations of similar dynamics, cities will continue to grow together into mega-regions, and the rural centers will continue to attract people as small, comfortable places to live. This Rockies report first takes a detailed look at the megapolitan phenomenon in the region, reviewing both the existing classifications and the State of the Rockies Project classification developed specifically for the Rockies region. Our classification identifies six growing mega-regions in the eight-state Rockies region: the Front Range of Colorado; the Wasatch Front of Utah; the Valley of the Sun in Arizona; greater Las Vegas, Nevada; the Enchanted Corridor in New Mexico; and the Treasure Valley in Idaho (See Table 1). We then examine the rural economic clusters of the Rockies region. For this report, we developed a classification to describe three types of rural economic clusters; rural service clusters, rural resource extraction clusters, and rural recreation clusters. Each of these rural classifications identifies the small towns with well developed and semi-diversified economies out of the array of Rockies towns and small cities not associated with the megapolitan trend.

Rockies Region Mega-regions

The once "Wild West" is today no more. The long cattle drives, outlaws, and ghost towns made famous by the likes of Clint Eastwood and John Wayne have largely been replaced by SUVs, tech geeks, urban centers, and expansive suburbs. The 2000 Census reported that 82 percent of Westerners lived in an urban setting, a value 4 percent higher than the national average (See Figure 1).[1] Historically, the population of the West was more spread out, on farms and ranch lands as well as in small towns, with minor cities serving as outposts connected to urban East coast centers. Most of the urbanization of the West once had its roots in supporting mining and energy as well as agriculture, which at one time dominated the regional economy. Now, however, human capital and services dominate the economies of Rockies urban areas.

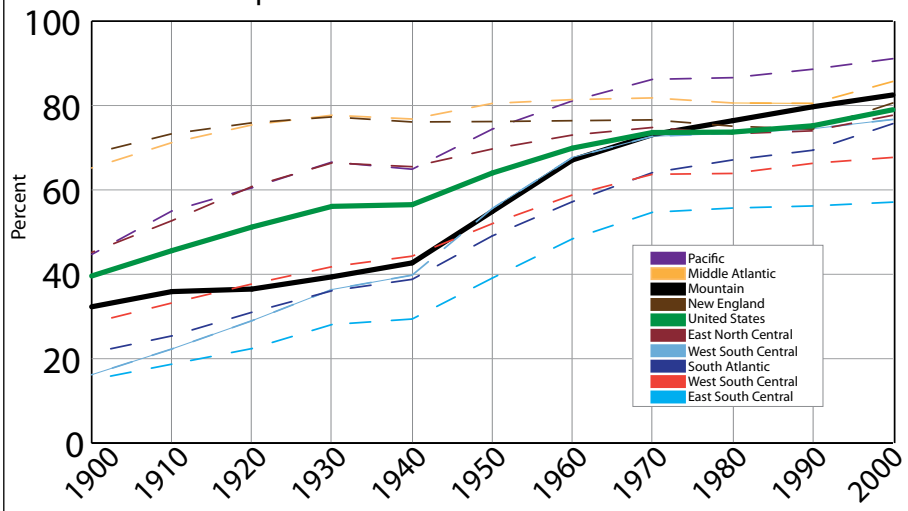
From 2000 to 2005 the Rockies region population grew nine percent - 4.5 times the national rate.[2] Astoundingly this may be only a harbinger of changes to come. Projected population growth 2000 to 2030 shows the Mountain states growing another 65 percent, faster than any other Census Division (See Figures 2 and 3). Most existing population growth in the Rockies and projected additional expansion is concentrated in and around urban centers, where in some places urban sprawl has created suburbs larger than many cities.

Table 1: Megapolitan Region Population Growth

Megapolitan Area	2000 Population (U.S. Census)	2060 Population Estimate (Geolytics)	Population Added Per Year	Percent Annual Growth Rate
Front Range (Denver)	3,734,897	6,646,045	48,519	1.3%
Valley of the Sun (Phoenix)	4,608,190	14,923,267	171,918	3.7%
Enchanted Corridor (Santa Fe)	886,316	1,558,717	11,207	1.3%
Wasatch Front (Salt Lake City)	2,049,934	5,396,443	55,775	2.7%
Snake River Valley (Boise)	502,950	1,603,238	18,338	3.6%
Greater Las Vegas (Las Vegas)	1,456,714	3,700,564	37,398	2.6%

2000 population values are taken from the U. S. Census Bureau.
2060 population estimates are provided by Geolytics, Inc.
Note: population estimates here include all census tracts located within the megapolitan boundaries, not tracts above a specified population density.

Figure 1:
Urban Population Percent



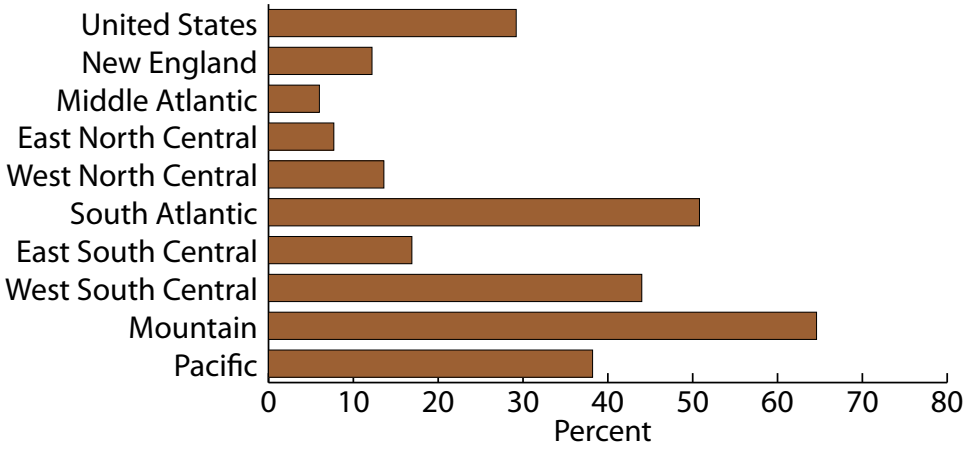
Source: Collected from American Fact Finder (2000)
and the 1990 Census of Population and Housing (1900-1990)

Robert Lang of the Metropolitan Institute at Virginia Tech has coined the term "boomburb" to describe the phenomenon of rapidly growing suburbs. According to Lang, boomburbs are places with more than 100,000 people that have maintained double-digit population growth rates in the past decades and are not the largest cities in their respective metropolitan areas.[3] One example is the Phoenix suburb of Mesa, which had almost 500,000 residents in 2006.[4] In fact, Phoenix has seven suburbs each with more than 100,000 people.[5] These boomburbs are a major indicator of sprawl. A study done by Alan Berube and Benjamin Forman used 1990 census data to divide the 100 largest US cities into three "rings" according to distance from the central business district. They found that more people lived in the outer ring neighborhoods than the middle ring or inner core, and that when looking at population change between 1990 and 2000, 60 percent of population growth occurred in the outer ring neighborhoods compared to 11 percent in the inner ring neighborhoods.[6] These suburban areas represent the urban growth of the twentieth century, dominated by car commuting and master-planned community development. Most of America's boomburbs exist in the Southwest as a result of master-planned community development and the need to form large water districts.[7]

As cities continue to expand outward in the Rockies region, they are coalescing into what are known as "mega-regions," formed when once-separate cities, suburbs, and towns merge together along transportation corridors. These mega-regions show economies growing past traditional city, county, and even state boundaries to form economic zones that house most of the region's productivity and talent, and share commuters, businesses, and economies.[8] Because mega-regions span established boundaries, it can be difficult for planners and elected officials to coordinate and facilitate their growth and development.

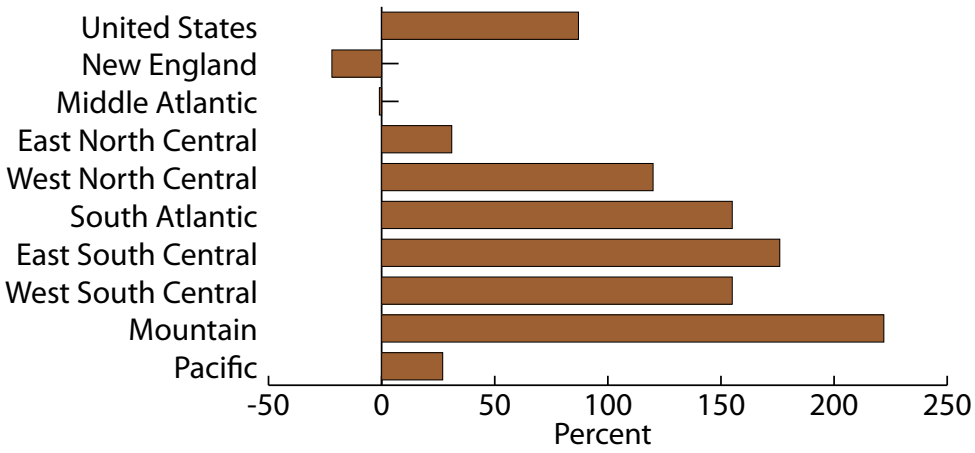
Mega-regions often occur in linear form along transportation corridors such as the I-25 corridor through the Front Range and I-10 through Phoenix and Tucson. Interstate corridors facilitate the flow of goods

Figure 2:
Projected Population Percent Increase, 2000-2030, by Nation and Census Division



Sources: United States Census Bureau, United States Department of Commerce, 2000
(2000 population);
and Geolytics, Inc., 2008, (2030 and 2060 population estimates)

Projected Population Percent Increase, 2000-2060, by Nation and Census Division

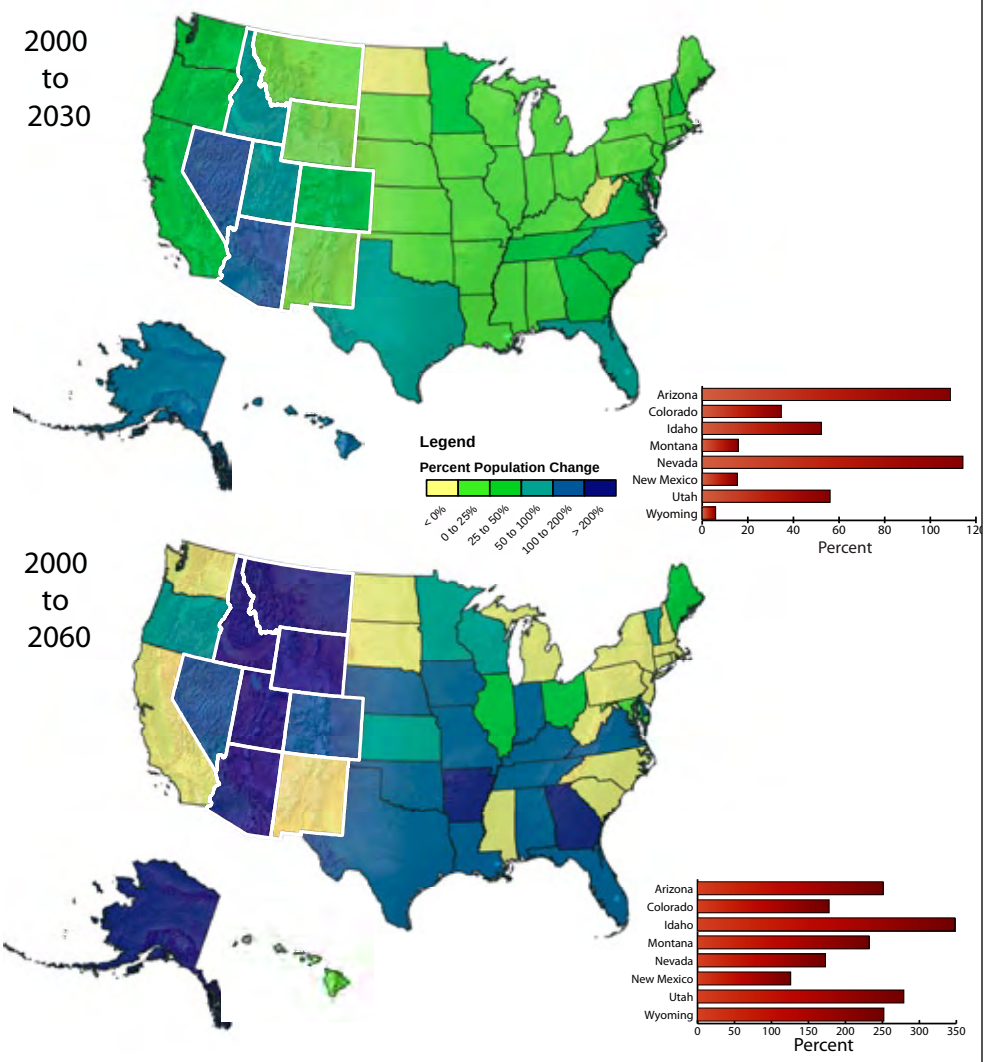


Sources: United States Census Bureau, United States Department of Commerce, 2000

and commuters, encouraging the mega-region to share resources. As the individual areas of developing mega-regions grow and interact, they demand more connectivity, to ease the strain of increased traffic on the interstates. In response, many mega-regions are investing in regional transit systems. In the Rockies region, Denver's and Salt Lake's investments in their light rail systems rank first and second among American metropolitan areas.[9]

These areas grow because they are attractive to certain demographics. It is through the tech industries of the Front Range or the aerospace industries of Phoenix and Tucson, that the mega-regions pull in professionals seeking jobs and attractive places to live, where opportunities for productivity and returns are highest.[10] Additionally, the mega-regions of the Rockies provide their residents with exceptional natural amenities, including good climates and natural beauty.[11] According to a report by David McGranahan and Calvin Beale of the U.S. Department of Agriculture's Economics Research Service, the Rockies region offers some of the highest natural amenities in the country.[12]

Figure 3: Estimated Population Change in the United States, 2000 to 2060



Sources: United States Census Bureau, United States Department of Commerce, 2000 (2000 population);
and Geolytics, Inc., 2008, (2030 and 2060 population estimates)

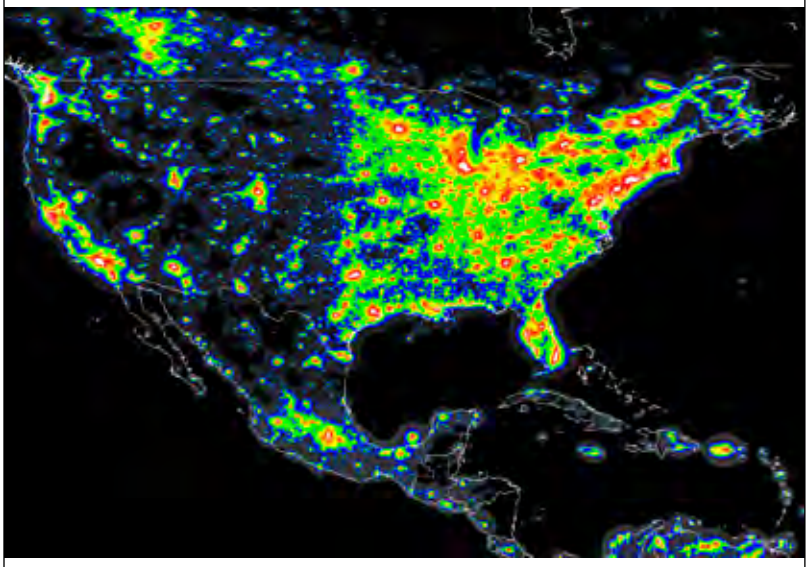
Defining a Mega-Region

The definitions of a mega-region vary. The concept started in 1961 with Jean Gottmann and his book *Megalopolis*, which described the agglomerated urban region stretching from Boston to Washington DC, or the "Bos-Wash corridor."[13] According to Richard Florida, this region is home to some 54.3 million people, more than 18% of the population of the United States, and generates $2.2 trillion in regional product; more than all national economies except those of the US and Japan.[14] Importantly, Gottmann noted that modern cities should not be viewed in isolation, but as parts of "city systems," or participants in urban networks.[15]

Gottmann's initial classification of the Bos-Wash corridor spawned myriad classifications of the megapolitan phenomenon. Perhaps the chief definition is that of the Metropolitan Institute at Virginia Tech, which defines such areas by the following criteria: at least two metropolitan areas, derived from contiguous metropolitan and micropolitan areas, projected to have a population of over 10 million by 2040, and with linked centers through major transportation networks.[16] This classification identifies ten megapolitans in the United States. Although this classification is useful, its population requirement filters out smaller regions that exhibit the mega-region characteristics but do not quite reach the population requirement.

Richard Florida, at the Martin Prosperity Institute of the University of Toronto, used satellite images of the world at night to classify mega-regions. Florida pieced together the lit regions of the world and combined them with estimates of national GDP and population data to estimate regional productivity (See Figure 4).[17] This interesting classification uses light "pollution", a standard byproduct of cities, as a measure of urbanization. However, the results by this method are not easily assessed or very accurate. Estimation based on satellite imagery of light pollution is not as simple or constant as using data provided through the US Census Bureau.

Figure 4:
Artificial Night Sky Brightness in the United States



Source: Cinzano, P., F. Falchi, C. D. Elvidge, 2001, The first World Atlas of the artificial night sky brightness, Mon. Not. R. Astron. Soc. 328, 689–707

The Brookings Institution recently released a study on the megapolitans of the Rockies region; the principal author, Robert Lang at Virginia Tech, is the co-director of the Metropolitan Institute. In the Brookings study, Lang adapted the previous classification of the Metropolitan Institute to fit the smaller regions of the Rockies. This new classification reduces the population requirement of 10 million by 2040 to 1 million and outlines five clear megapolitans of the Rockies region. [18]

With the exception of Florida who used light pollution to define mega-region boundaries, megapolitan classifications are based on county level census data. The county level has historically been the base level of US planning because the Census Bureau records all demographic data at the county level during each census.[19] Thus, the Office of Management and Budget (OMB), which establishes standards used by the Census Bureau, creates most designations based upon the county level of geography. These designations include the metropolitan and micropolitan statistical areas, combined statistical areas, and non-core areas.[20] These designations, which are used by the Census Bureau, are based on an economic integration of neighboring counties. For example, the Census Bureau scores commuting data at the county level, and a high degree of commuting within and between counties means a high degree of economic integration.[21] However, the use of county-level data can present problems, particularly in the West where some counties are bigger than some entire eastern states. In such counties, claims made for towns and cities based on county-level data would be broad and inexact. Still, most planners use county-level data to classify mega-regions because of the availability and depth of these data, and because county-level data are a standard unit in the planning community.

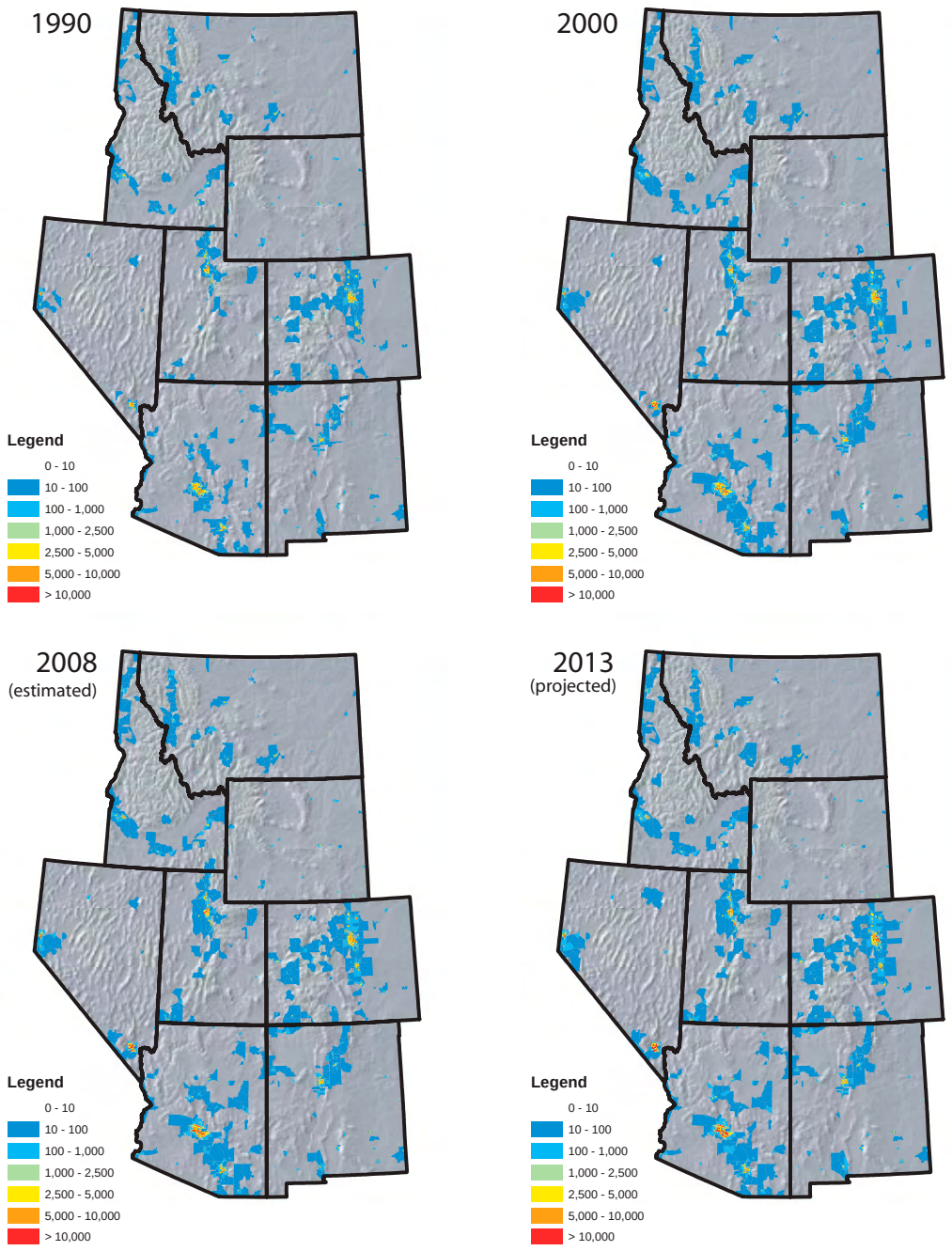
The principal indicator of a megapolitan area is a connection between metropolitan areas via commuters. These commuters live in one city and work in another, effectively beginning to bridge the economies of the cities involved. Because commuting data is only available at the county level, most planners base their mega-region classification on them. This presents problems when drawing a picture of the mega-regions on a map because many counties are only partially involved in megapolitan regions. This is best illustrated in the counties of Arizona. Those counties involved with the Sun Corridor mega-region are large and sparsely populated; the mega-region is occupying portions of otherwise rural counties. Although using counties as the basic building block for classifying megapolitans is convenient, data at this level cannot accurately depict the megapolitan phenomenon. County-level data are not precise enough throughout the Rockies to show house-by-house, development-by-development growth in an area.

The classification developed by the Colorado College State of the Rockies Project goes a step further than the alternatives by using tract-level US Census data to show only the parts of counties involved in the regions (See Appendix A: State of the Rockies Mega-Region Classification). This eliminates the vast empty spaces included in other classifications and also shows a higher resolution picture of the region itself (See Figure 5). Additionally, we use population data predicted to 2060 to show the regions growing together over time. With this feature, we can show individual tracts being added to a megapolitan area as it spreads through counties. The State of the Rockies Project classification accurately shows the size of these regions while simultaneously demonstrating their growth and expansion (See Figures 6, 7, 8, 9, 10, and 11).

Mega-Regions in the Rockies

According to Richard Florida's light-based regions, the world's ten biggest mega-regions house only six percent of the world's population, but 43 percent of its economic activity.[22] Florida reports that both Denver-Boulder and Phoenix-Tucson each generated about $140 billion in regional product in 2000.[23] On average, mega-regions outpace the average national population growth rate, and the Valley of the Sun is the fastest growing mega-region in the country.[24] In terms of population growth, it will take an estimated $33 trillion to fund residential and nonresidential structures in America's megapolitan areas by 2040 according to the Lincoln Institute of Land Policy.[25] America's mega-regions are massive in scale and economic importance, mostly growing without long-range foresight or planning for the region as a whole. These population levels and projections should indicate the importance of planning for such a phenomenon before it is too late logically and efficiently to plan organized expansion and add effective infrastructure.

Figure 5: Population Density in the Rockies by Census Tract, 1990-2013

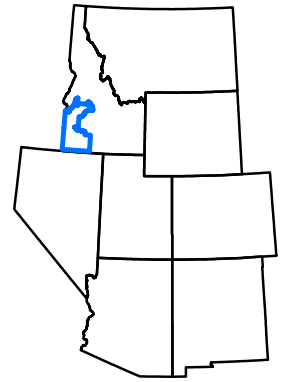


Note: population density is shown as the number of individuals per square mile.
Source: U. S. Census Bureau, 1990, 2000; Geolytics, Inc.., 2008 and 2013 Estimates and Projections

Currently in the United States regional planning refers almost entirely to metropolitan planning.[26] If the US Census Bureau were to adopt the mega-region classification it would be the largest Census designation in terms of both land area and population available.[27] Creating such a classification would encourage policy makers and planners to start thinking on a broader, more realistic level.[28] With two out of three Americans currently living in a mega-region, the implications of the growth and development of these areas are profound. Currently, no strategies exist to anticipate and manage the future growth and economic prosperity of America's mega-regions.[29] Planning for mega-regions is most important for policies that cross political boundaries, thus solving environmental, economic, and transportation problems for the entire region instead of each individual metropolitan area.[30]

For regional transportation, the Intermodal Surface Transit Efficiency Act of 1991 requires regions to form metropolitan planning organizations in order to receive federal money for projects.[31] The megapolitan scale is essential for planners to map transit systems and to acquire federal funding for infrastructure construction. Problems like securing water for growing mega-regions is much easier solved at the megapolitan scale than at the individual metropolitan scale, since large

Figure 6: The Treasure Valley Megapolitan Area Population Density Projections, 2000 to 2060



Source: Geolytics Inc., 2008

incorporated places are much better positioned to secure and develop water supplies than are smaller towns and cities.[32] Planning for mega-regions does not require new governments or authorities; it only requires strategic partnerships across regional and state boundaries.[33] Broad, regional planning commissions should be created and charged with responsibilities for facilitating the growth and development of these mega-regions. Overall, long-term planning for mega-regions can create a healthy and organized infrastructure to promote a better quality of life for people within the regions.[34]

This report identifies six growing megapolitans in the Rockies Region, The Front Range of Colorado, the Wasatch Front in Utah, the Valley of the Sun in Arizona, Greater Las Vegas in Nevada, The Enchanted Corridor in New Mexico, and the Treasure Valley in Idaho. Our population projection estimates through 2060 show these regions slowly growing together over time at the individual census tract level. This is not surprising considering that the Rockies region has had almost double the population growth of the national average in recent decades, and many of the cities in the Rockies region are among the fastest growing cities in America.[35] While the current economic crisis is slowing growth around the country, these mega-regions will still overall see a large population increase in the long term. After this recession is overcome, the housing market will resume, and the potential of the Rockies region will again be realized. As this region has been the fastest growing in the country and will likely continue to be in the future, it is beginning to experience some significant growing pains. These regions will have to address a number of issues when planning for their future development, including securing water rights, developing regional transit systems, and obtaining federal funding to cope with rapid growth.

Water

The Rockies region is a notoriously dry place. Receiving an average of only 30 inches of rain per year, water is a valuable resource.[36] Most water demand in the Rockies region is solved by the Colorado River, which was initially divided under the Colorado River Compact in 1922.[37] The compact allocated the river between all the states in the Rockies region except for Idaho and Montana. Currently Arizona, Colorado, and Utah all receive fairly large allocations of the Colorado River.[38] The Front Range and the Wasatch Front obtain additional water from winter snowpack in the nearby mountain ranges and Idaho gets plenty of water from snow pack and ground water storage[39] The Enchanted corridor receives an allocation of the Colorado River, supplemented by water from the Rio Grande.[40] Las Vegas, Nevada, however, only receives a small amount of the Colorado River, and nearby Lake Mead sends most its water to California and Arizona.[41] Rapid growth and climate change will likely have a large effect on water availability for the region in the future.[42] Watersheds

rely on plenty of snowfall in the mountains of Colorado, Utah, Idaho and Wyoming during the winter, and if snow fall decreases, so do the levels of the region's rivers and storage reservoirs.[43]

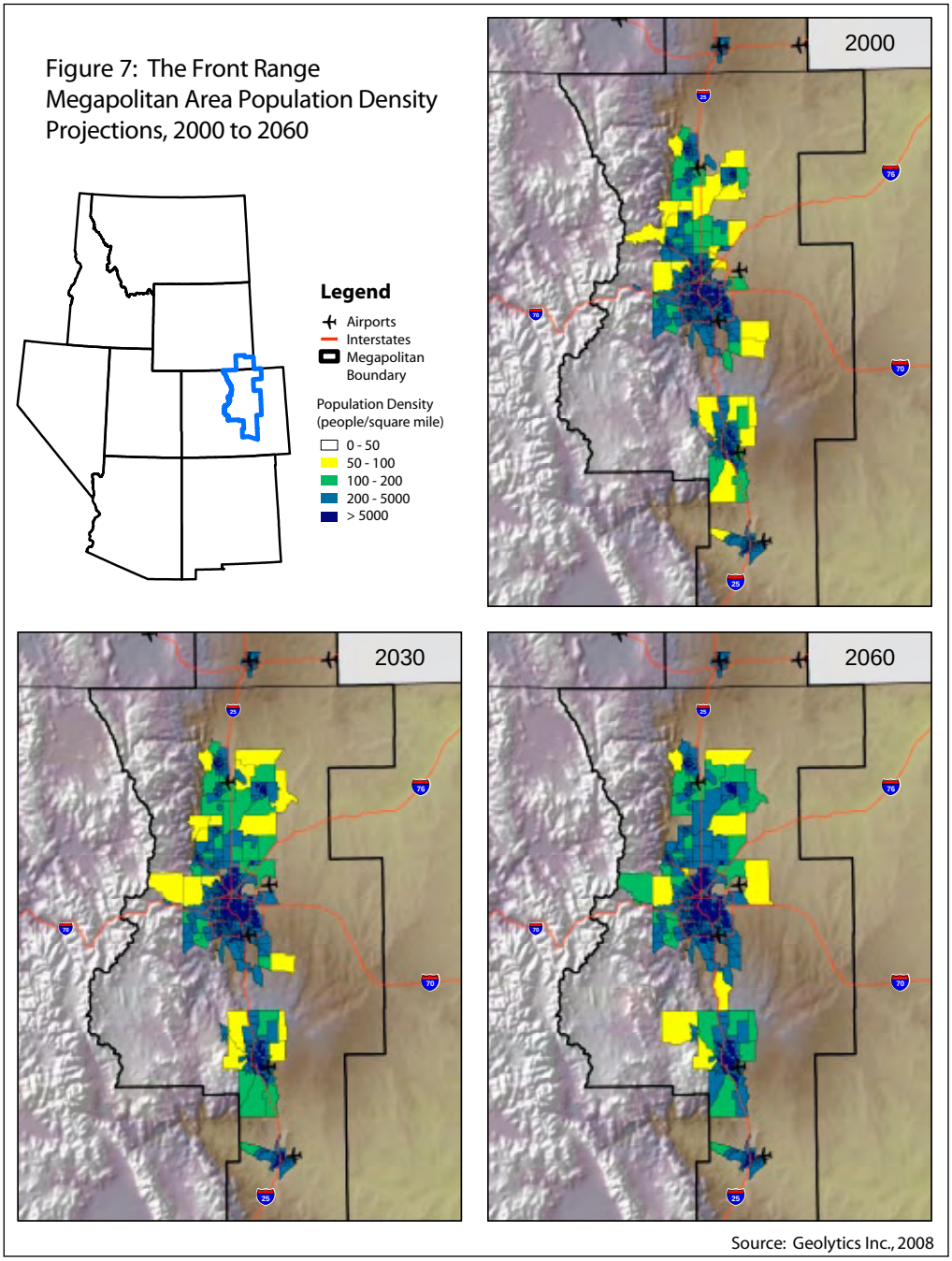
The increased water demand of the growing mega-regions will likely be met by a variety of conservation efforts. Southern Nevada encourages conservation by charging higher rates as water use increases.[44] Conservation can also come from changing the outdoor water use habits of residents.[45] Currently the Southern Nevada Water Authority is paying homeowners $2 per square foot to convert their lawns to xeriscaping.[46] Since Denver introduced water conservations efforts in 2000, water use has been lowered by 20 percent, with a ten-year goal of another 20 percent.[47] Conservation can also come in the form of repairing antiquated delivery systems. The American Society of Civil Engineers estimates water authorities loose six billion gallons of water a day just to leaks in the existing infrastructure.[48] An unfortunate result of urban expansion is the conversion of farmland to residential housing. This, however, can also help to conserve water since an area covered with housing often uses less water than displaced crops.[49] This can, however, present serious drought-related problems for growing urban areas; land used for farms and ranches can forgo a crop year, but municipal systems serving built housing developments cannot just cut back or shut down without serious consequences to the community.[50]

Overall, the mega-region areas in the Rockies region need to seriously consider their future water availability. Conservation will surely play a role in meeting growing water demand. In the Rockies region, the days of green lawns and leaky faucets are quickly vanishing.

Transportation

Cars allow people to live away from dense urban areas, have a house with a yard, and still maintain the big city job in the urban center.[51] Cars operate on a point-to-point model, connecting a commuter's house and job directly and providing a speedy, individualized commute.[52] Public transit, on the other hand, uses a hub-and-spoke model where commuters have to walk to and from the train or bus stop to their job.[53] This explains why public transit on average takes 48 minutes, twice the time of the average car commute.[54] Expansive urban areas enabled by automobiles have created a land-use model only more cars and highways can fill. People wanting to ride regional transit to work every day often remain in their cars for part or all of their commute, because rail and bus lines simply cannot service every house in every development.[55] Sustained high gas prices push people to sell their gas guzzling SUVs in favor of fuel efficient compacts and hybrids.[56] With the previous high gas prices or the current economic slump, people looking to dispose of their Ford Excursions or Explorers are left stranded with their vehicles going unsold even when priced below blue-book value.[57] While gas prices

Figure 7: The Front Range Megapolitan Area Population Density Projections, 2000 to 2060



Source: Geolytics Inc., 2008

Case Study: The Sprawling Valley of the Sun

The Valley of the Sun mega-region is largely made up of metropolitan Phoenix and Tucson and their surrounding suburbs. These two cities, 150 miles apart from each other, have been connected by US Interstate 10 since 1963.[1] At that time, they had a combined population of 929,170, which accounted for 71 percent of Arizona's population.[2] Since then, these two formerly independent cities have slowly merged together.

The growth of mega-regions occurs along transportation corridors. In this case it is I-10 which runs north south through the region from Flagstaff in Yavapai County down to Nogales in Santa Cruz County. As metropolitan areas develop near each other they begin to interact along these transportation corridors. Interaction begins with sharing commuters and eventually comes to sharing economies. These interactions are facilitated by the metropolitan areas growing closer and closer to each other through the growth and development of suburbs and small towns in between. Eventually, as the metropolitan areas grow, a continuous region of urban development extends between the two areas, cementing an economic link between them and, in doing so, creating a mega-region.

In 2006 Metro Phoenix and Tucson had grown to 4,985,544 people, accounting for 80 percent of Arizona's population and 88 percent of its economy. As their suburbs have expanded, these cities have slowly been growing together along the interstate corridor. In fact, Phoenix alone has seven suburbs with more than 100,000 people, each having had double-digit population growth rates since 1990, and the Tucson metropolitan area grew 26 percent between 1990 and 2000.[3] The Valley of the Sun is the only Rockies mega-region which qualifies under the Metropolitan Institute's classification, as it is projected to break the 10 million person threshold by 2040.[4] By 2060 the area between Phoenix and Tucson will have reached a minimum population density of 50 people per square mile by the State of the Rockies Project mega-region classification, creating an urban corridor covering the 150 miles between the two cities.[5]

[1] Morrison Institute for Public Policy, "Megapolitan: Arizona's Sun Corridor." Phoenix, Arizona State University (May 2008).
[2] *Ibid.*
[3] U.S. Census Bureau, U.S. Department of Commerce, American Fact Finder Basic Counts/Population, http://factfinder.census.gov. Accessed July 15, 2008.
[4] Lang, Robert E. and Dawn Dhavale, "Beyond Megalopolis: Exploring America's New "Megapolitan" Geography," July 2005.
[5] Rockies analysis of our classification and U.S. Census Bureau, U.S. Department of Commerce, American Fact Finder Basic Counts/Population, http://factfinder.census.gov. Accessed July 15, 2008.

have recently receded, they will inevitably rise again, and likely take a toll on megapolitan development. These areas are based on their suburbs, since low gas prices pushed people further away from city "centers". Phases of high gas prices push people closer to the regional transit of the denser urban cores, which results in slower growth in the outer regions. As gas prices climb back up to previous highs we will see pressure to modify land use patterns toward regional transit systems and local governments will see the need to establish solid, integrated regional public transportation.

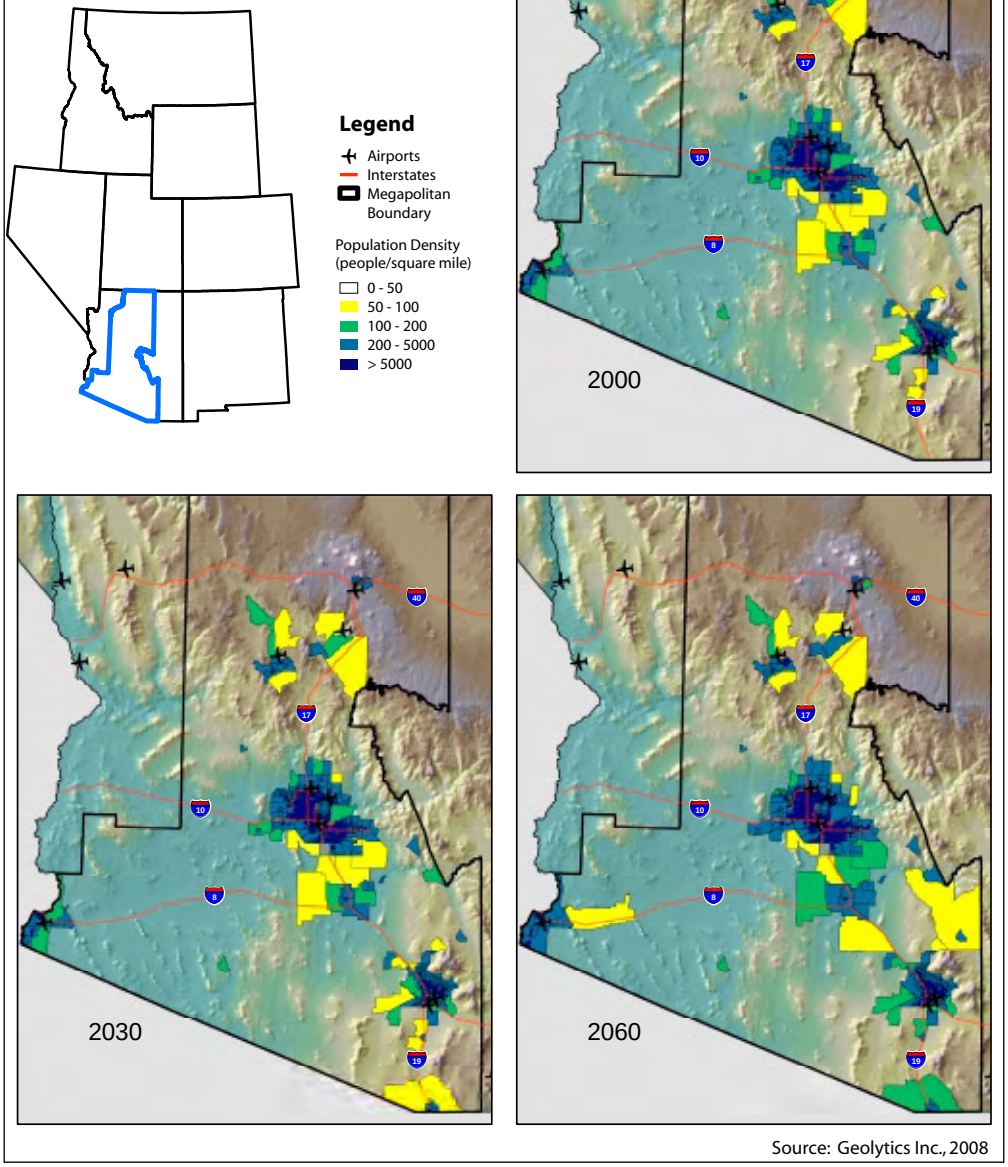
Four of the six Rockies mega-regions have established versions of light rail-based public transit systems (Las Vegas and the Treasure Valley do not). If high gas prices pressure commuters out of their cars, these systems will be crucial to maintaining growth and fluidity of the mega-regions. These metropolitan rail transportation systems need to be extended throughout the regions as a whole. Albuquerque, NM, has the Rail Runner regional transit system, which takes commuters along the I-25 corridor, extending north to Santa Fe. This will save commuters an estimated $360 per month on fuel alone for their cars, and help to relieve the projected congestion for 2025 on I-25 by an estimated 72,000 fewer vehicles per day.[58] Installing regional transit is a huge investment. Denver's investment in expanding its FasTracks system has already reached an estimated $6.1 billion, all coming from the city and private investors.[59] The Front Range's plans to extend rail service north to Fort Collins and south to Pueblo would cost the region up to one million dollars per mile of track.[60] An effect of higher gas prices, however, may be that commuters abandon their cars and start taking public transit systems, thus leading to a change in land use patterns as people move from suburban houses to apartments near rail or bus stations or city centers.[61] Such a trend is suggested in recent real estate markets, in which suburban homes have lost value, while homes and apartments in central urban areas have kept their value.[62]

Mega-regions can also greatly benefit from the installation of high speed rail (HSR). People in the Rockies mega-regions often travel within the region, and HSR is perfectly suited for travel between 200 and 500 miles.[63] Our rail systems need to be redesigned and rebuilt. As noted by the U.S. Secretary of Transportation, Norman Mineta in 2005, "The 34 year partnership between the government and Amtrak has failed. Far from yielding a vibrant and growing passenger system, it has produced one that limps along on life support from year to year."[64] The concentrated populations and corridor form of the Rockies' mega-regions make them excellent geographic

units around which Amtrak could be reorganized.[65]

Additionally, taking people off the interstates and putting them on HSR would reduce dependency on oil and reduce interstate congestion for the trucking industry. Electric trains will have the opportunity to run on renewable energy as the region shifts away from coal-fired power plants to wind, geothermal, and solar sources. Currently, all of the mega-regions have fairly well developed civic infrastructures, but largely underdeveloped public transportation systems.[66] For these regions to grow smoothly and operate efficiently, huge investment in both regional rail and high speed rail is necessary.

Figure 8: The Valley of the Sun Megapolitan Area Population Density Projections, 2000 to 2060



Source: Geolytics Inc., 2008

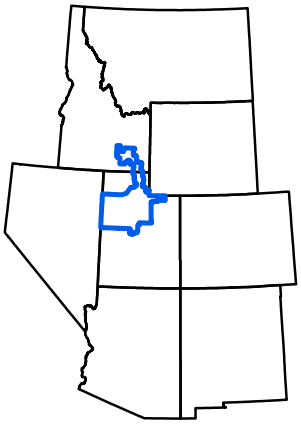
Federal Funding for the Mega Regions

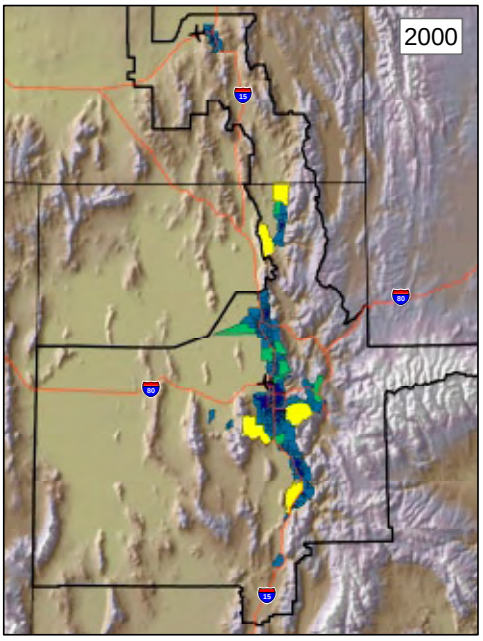
In terms of development, the Rockies region is still young. During the second half of the last century the U.S. Government built the Dwight D. Eisenhower Interstate System to include major metropolitan areas and cities.[67] Unfortunately for the Rockies region, many cities were still small and largely overlooked during the years federal aid was offered to build the interstates. Today, these regions are booming; largely without beltways or direct connections to each other. For example, Las Vegas and Phoenix, two of the Rockies region's largest mega-regions and the fastest growing cities in America, each have populations over two million, but are left without any direct interstate connection.[68] In fact, they are only connected by the two-lane highway, U.S. 93, which at one point even crosses the Hoover Dam. This section of highway is also the largest bottleneck in the CANAMEX freight corridor which connects Mexico and Canada.[69] Denver has also felt the repercussions of growing too late by having to use its own money to build its beltway, E470, as it grew into a major metropolis.[70]

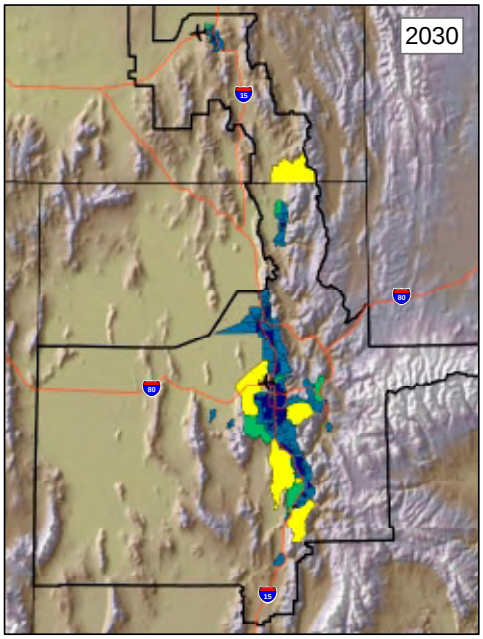
Though the West has a history of disdain for the federal government, the Rockies region needs financial support from Washington D.C. Many of the looming problems of the Rockies mega-regions are simply too large to be financed by the regions themselves. It may be too late to lay down more interstates to connect major Western cities, but corridors can be strengthened. The CANAMEX corridor, especially between Phoenix and Las Vegas, needs to be turned into an interstate and a bridge needs to be built over the Colorado River so traffic can be taken off Hoover Dam. Similarly, though Denver ranks first among metropolitan areas in its investment in light rail systems, it cannot afford to go much further by itself, especially if 2009's economic problems continue into 2010.[71]

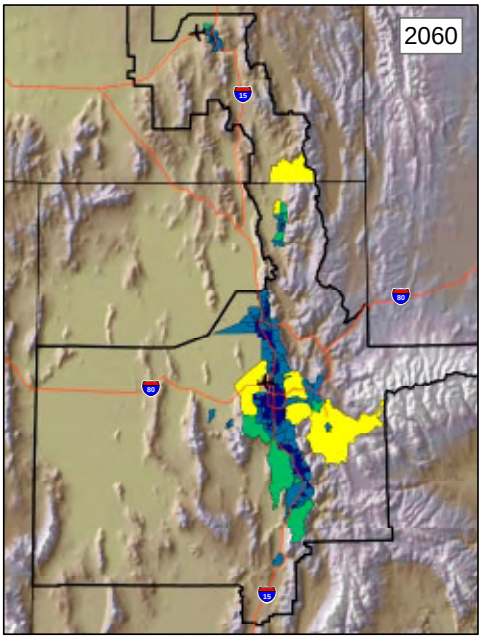
As Robert Lang and Mark Muro explain in "Mountain Megas", the Rockies region, and the mega-regions within it, cannot afford to update its old, inefficient infrastructure without federal assistance.[72]

Figure 9: The Wasatch Front Megapolitan Area Population Density Projections, 2000 to 2060









Source: Geolytics Inc., 2008

Rockies Region Rural Economic Clusters

While the urban areas of the Rockies region grow into mega-regions, the rural areas of the region will continue evolving into economic clusters. These two growth trends represent the future of the Mountain West as it shifts from the old to the new and becomes a region focused on services and technology.

The Wild West was made famous by one-road towns of saloons, general stores, and banks that provided services and facilities needed by ranchers and farmers throughout the area. During the 19th century the amenities and luxuries people desired were basic compared to modern lifestyles. As desired amenities change, people in the once "Wild West" are gathering into rural service clusters. These are mid-size towns that offer the amenities desired by modern consumers, such as a variety of restaurants, stores, good medical care, and high-speed internet. People in the Rockies region may want to live in quaint isolated mountain towns, but do not want to commute long distances to the grocery store, doctor, or lumber yard. They find compromise in towns just large enough to supply these luxuries while still small enough to provide the small-town feeling. These rural economic clusters of the new West are replacing the mountain towns of the old West.

Many people seek out areas that have a high degree of natural amenities such as warmer sunny winters, temperate dry summers, bodies of water, and varied topography.[73] The Natural Amenities Scale (NAS) was designed by the Economic Research Service of the U.S. Department of Agriculture and ranks counties on a scale from one to seven based on their level of natural amenities.[74] The eight-state region as a whole is very highly rated for the abundance of natural amenities.[75] Population increase in rural areas rich in natural amenities is far higher than in areas based on agriculture or natural resource extraction where natural amenities are typically much lower.[76] People who are "foot-loose" in choosing where they live and work are drawn to areas with plenty of recreational opportunities, such as towns near national parks, national forests, and rivers. Illustrating this, populations in counties with a high percentage of federally owned land grew from 1990 to 2000, while populations in counties dependant on agriculture or mining declined.[77] Counties that had both a high degree of natural amenities and a strong service-based economy grew the most during the 1990's.[78]

Whether people are coming to these clusters from smaller mountain towns or big cities, from the east or west, they are moving to places that provide the quality of life they desire. This quality of life is enhanced by ready access to services such as schools, stores, restaurants, and doctors.[79] Largely, nonmetropolitan growth is fueled by people coming from metropolitan areas, with natural increase accounting for only a third of population increase between 1990 and 2000.[80] Urbanites are looking for a simpler life away from the

Case Study: Front Range Regional Transportation

Denver is the principal city of the Front Range mega-region and is leading the way for regional connectivity in the Rockies region. It is currently building a huge addition to its existing light rail system and also funding feasibility studies on establishing high-speed rail along the I-25 and I-70 corridors. If all goes as planned, Denver will prove to be a shining example in efficient local and regional public transit systems.

Denver's Regional Transportation District (RTD) currently operates a light rail and bus system known as "TheRide," which includes 170 fixed bus routes and 35 miles of light rail track, servicing 40 municipalities in the Denver area.[1] While Denver already has a better public transit system than many cities, its citizens voted in 2004 to approve a sales tax to fund a projected $4.7 billion dollar addition called Fastracks.[2] This project will add 122 miles of light and commuter rail, 18 miles of bus rapid transit, and 57 new stations to the current transportation network.[3] Budget setbacks remain, however. The price tag on the expansion has risen to $6.1 billion and could rise again to $7.9 billion if commodity prices continue to rise in 2009, creating many questions on how the city will cover the deficit.[4] While some people are calling for a decrease in stations and lines, Denver mayor John Hickenlooper has said he plans to deliver the entire project as originally promised to voters.[5]

Regardless of its price, Fastracks could be a huge addition to the region's transportation. As 2008's rising gas prices funneled commuters into public transit, systems like Fastracks are seeing huge increases in riders. Denver's RTD reported that ridership was up ten percent in the first four months of 2008 compared to 2007, reaching the highest mark in its history.[6] Once the Fastracks addition is finished, transit riders will have a much greater access to Denver and its surrounding areas.

In addition to increasing the local public transit of Denver, the Front Range mega-region can expect an increase in regional connectivity. Denver and Wyoming have funded feasibility studies on establishing high speed rail (HSR) along the I-25 corridor from Wyoming to New Mexico, possibly between Cheyenne and Casper and Albuquerque.[7] This HSR system would interface with local transportation networks such as Fastracks to provide Front Range residents with seamless and efficient regional transportation.

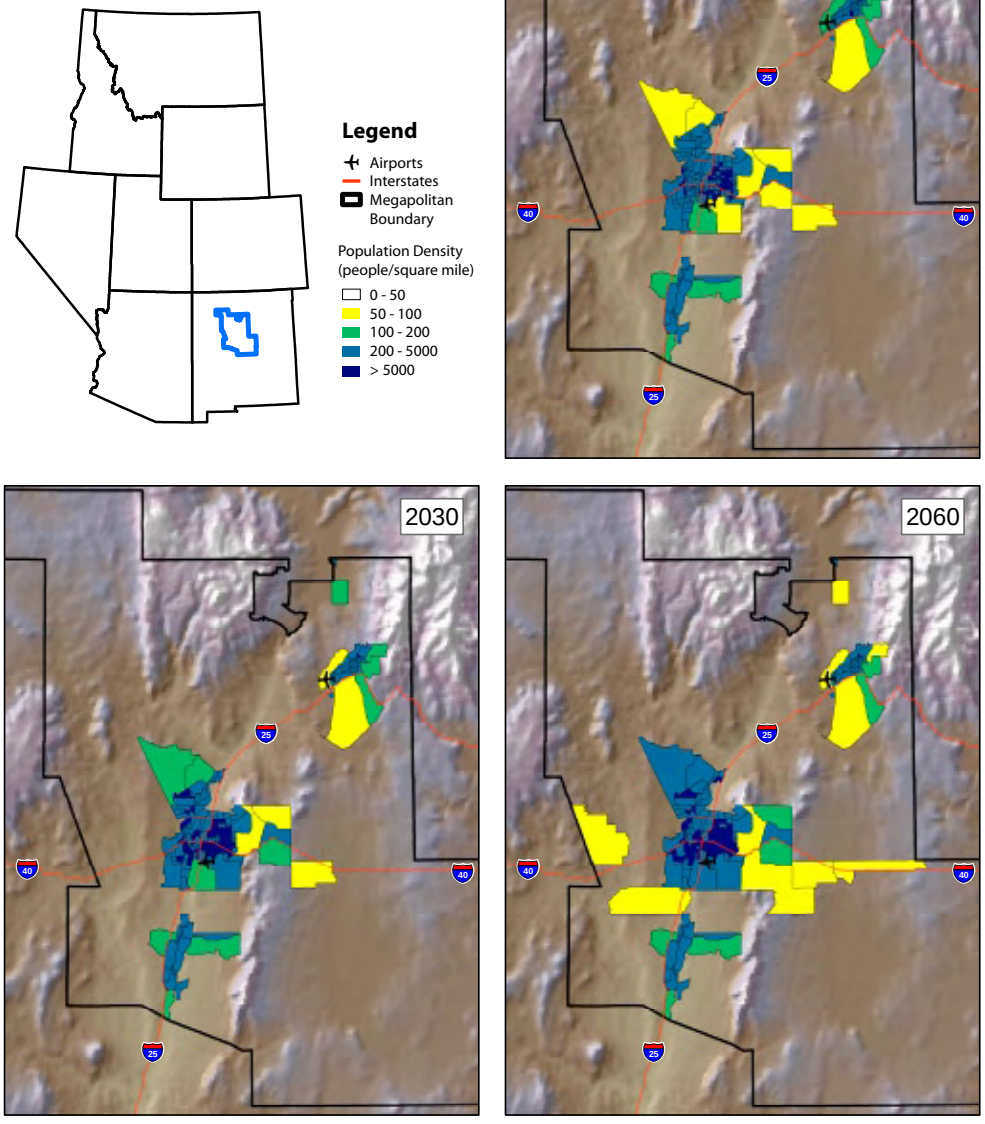
Denver has provided $1.5 million and Wyoming has provided $200,000 for each of their studies.[8] These studies will not only lay out prospective plans for lines and station locations, but will make the project eligible for federal funding.[9] The Wyoming study has initially found that costs could be as high as 1 million dollars per mile of track which would require a hefty investment from the region and a most likely a helping hand from the federal government.[10]

While many people argue that train travel is unrealistic in the United States, experts explain that it is only our outdated personal car-based system that is to blame. As Norman Y. Mineta, the secretary of transportation has noted, "The problem is not that Americans don't use trains, it is that Amtrak has failed to keep up with the times, stubbornly sticking to routes and service, even as they lose money and attract few users."[11] Additionally, HSR has shown to be an excellent substitution to air travel for distances of 200 to 300 miles, which would perfectly suit travel between the mega-regions of the Rocky Mountain West.[12]

With Denver's expanding public transit system and a HSR line possibly in the future, the Front Range is poised to become an icon for Western regional transportation. Hopefully in the near future a resident in Colorado Springs can take a bus to a HSR station, get on a train to Denver, transfer to Fastracks, and end up at Denver International Airport in time to catch a flight to Europe or Asia.

[1] Regional Transportation District, "Transit Planning History." http://www.rtd-denver.com/History/index.html (accessed Mar. 15, 2009).
[2] Wolf, Jeffery and Deborah Sherman, "Transportation Project More Than a Billion Dollars Over Budget," *9News.com*, May 18,2007, http://www.9news.com/includes/tools/print.aspx?storyid=70353 (accessed Nov 1, 2008).
[3] See www.rtd-fastracks.com/main_26 (accessed Dec 10, 2008).
[4] Proctor, Kathy, "FasTracks Price Rises Again," *Denver Business Journal*, Aug 21, 2008, http://www.bizjournals.com/denver/stories/2008/08/18/daily31.html (accessed Nov 2, 2008).
[5] Lieb, Jeffery, "Denver Resists Cuts in FasTracks," *Denver Post*, Oct 13, 2008.
[6] Editorial: "A Long Road to Fuel Efficiency," *Denver Post*, July 1, 2008, and "RTD Passenger Numbers Hit 96M." Denver Business Journal, Feb 20, 2008, denver.bizjournals.com/denver/stories/2008/02/18/daily25.html (Accessed Nov 2, 2008).
[7] Miller, Jared, "Report Sheds Light on Commuter Rail Plan," *Caspar Star Tribune*, July 25, 2008.
[8] Miller, Jared, July 25, 2008, and McGhee, Tom, "Rapid Rail Eyed Along I-25, I-70 Corridors," *Denver Post*, Aug 13, 2008.
[9] McGhee, Tom, "Rapid Rail Eyed Along I-25, I-70 Corridors," *Denver Post*, Aug 13, 2008.
[10] Miller, Jared, "Report Sheds Light on Commuter Rail Plan," July 25, 2008.
[11] Mineta, Norman Y., "Starving Amtrak to Save It," *New York Times*, Feb 23, 2005.
[12] Lang, Robert E., Andrea Sarzynski, and Mark Muro, July 2008.

Figure 10: The Enchanted Corridor Megapolitan Area Population Density Projections, 2000 to 2060



Source: Geolytics Inc., 2008

crime, pollution, and poor schools of the cities.[81] Rural areas with population increases are generally places with high education levels and employment opportunities.[82]As these places grow through an influx of new residences, their economies grow, which further encourages existing residents to stay.[83] This process creates rural economic clusters.

Today different types of services have consolidated into larger units, causing people to expect greater specialization and choice.[84] With the advent of shopping malls and Wal-Marts, people are looking more and more for one-stop shops where all their needs can be met at once. With an increase in shopping choices, consumers now get to choose specialized products or services. Most people want to be close to a good hospital in case of an emergency and in a good school district to provide their children with a strong education. They move to areas that can provide these amenities along with a variety of shopping and dining options. And, with the advent of high-speed internet many people moving from metropolitan areas can continue their desk jobs from their rural homes in the Rockies region.[85]

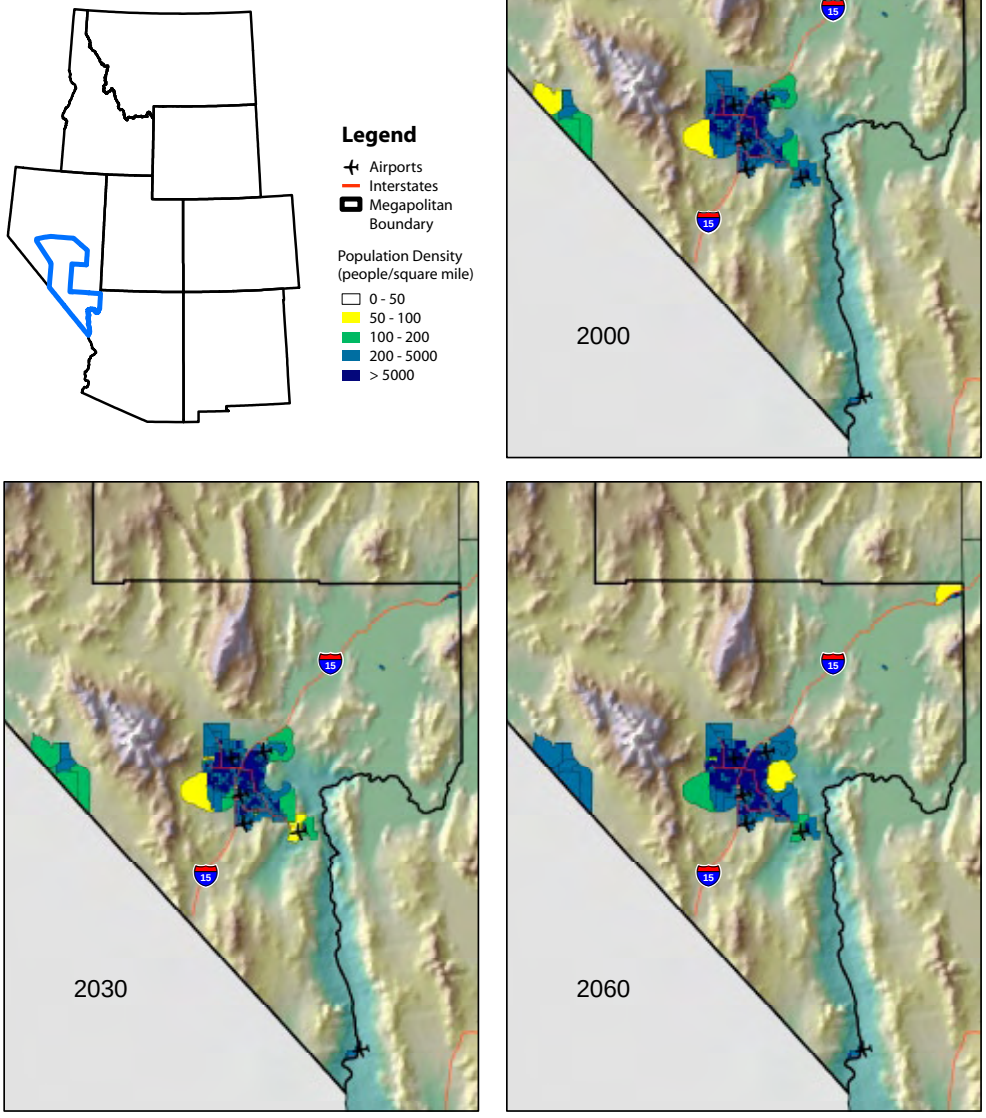
Identifying Rural Economic Clusters

To begin describing the rural economic clusters of the Rockies region we need a classification system to distinguish them from the many small towns and cities of the region (See Appendix B for the State of the Rockies Project classification). These clusters will be smaller cities and towns that provide a local community feel while still having modern services. They will attract people not just by attractions such as ski resorts or as job magnets such as coal, oil, and natural gas operations, but as nice places to live. A service cluster will be based on no single industry; employment will span the economy. While population attractants such as major resorts and big industry pull populations in and develop economies around them, rural service clusters are places that lure people in through their own comprehensive mix of attractions.

In this paper we identify three different types of rural economic clusters. First is the *rural service cluster*, which has an economy based mostly on the service industry. These are the small towns and cities that offer modern day services while still maintaining a community feel. Second are the *rural resource extraction clusters* which have well-rounded economies with strong service and mining industries. These are towns with large natural resource extraction industries that still maintain a diverse economy. Finally are the *rural recreation clusters* which also show well-rounded economies with both strong service and recreation sectors.

The rural resource extraction and rural recreation clusters identified with our classification are places that have developed stable economies not based on any one industry. These clusters differ greatly from the many individual mining and recreational towns in the West that have developed solely around an industry, with population flows following commodity boom-bust

Figure 11: The Las Vegas Megapolitan Area Population Density Projections, 2000 to 2060



Source: Geolytics Inc., 2008

cycles. Mining towns will develop, thrive for a while, and then die out completely because they never established functional economies. Pinedale, Wyoming, has recently experienced a huge wave of workers coming to its natural gas fields. Though it has had a large increase in population, it still has only a small grocery store and minimal services, and its economy is dominated by the mining industry.[86] Similarly, towns based completely on recreation follow seasonal and cyclical tourist flows. They are empty and dead in the fall and spring and thriving in the summer and winter. Poor weather conditions and droughts present cyclical challenges. Restaurants and shops shut down in the low seasons awaiting the resurgence of customers in the next season. The economy of Buena Vista, Colorado, waits most of the year for the spring and summer rafting season. When there are no tourists waiting to float the nearby rivers, the town's economy slumps.

Our classification requires resource extraction and recreation clusters to have a significant service industry. These places are unlikely to experience the boom and bust waves of typical mining and leisure towns and will likely maintain stable economies.

Rural Economic Cluster Breakdown

Rural Service Clusters
(See Figure 12 and Table 2)

Within the identified rural service clusters, 67 percent of the economy is comprised of the service sector without the leisure and hospitality industries.[87] These places have strong service industries, the biggest sectors of which are trade services such as retail, utilities, and transportation. On average, wholesale and retail trade services occupy almost ten percent more of a rural service cluster's economy than the next highest sector: education and health services.[88] The importance of these two sectors in a service cluster's economy and a relatively high retail service index indicate an established service-based economy which can provide for the needs of its population.[89] While the average rural service cluster's economy is mainly based on the service industry, these areas still exhibit some minor reliance on the goods producing industry and leisure and hospitality sector, each taking up 17.6 percent and 15 percent, respectively, of the average economy.[90] While these service clusters have some reliance on these two industries, since goods production and hospitality comprise a small percentages of the economy, these communities should not experience major swings in economic activity, thus helping to provide a well-rounded economy.

Rural Resource Extraction Clusters
(See Figure 13 and Table 3)

Like the other rural economic cluster types, resource extraction clusters rely heavily on the service industry (which make up an average of 65 percent of their local economies), but they have a much higher percentage of industry based on the goods producing sector. For

example, the mining industry in these communities is six times larger than mining-based industry in an average rural service cluster.[91] On average, mining occupies 19 percent of the economy in the rural resource extraction cluster,[92] while service sectors, such as trade (23 percent), education and health services (10 percent), and leisure and hospitality (13 percent), make up a larger total portion. Economic activities are thus spread out among sectors, suggesting that the economies are relatively stable and not dominated by any one industry. The relatively high retail service index represents an ability to satisfy the needs of the population.[93] Because of their well-rounded economies, these rural resource extraction clusters are unlikely to follow the worst extremes of the boom and bust population waves of many mining towns.

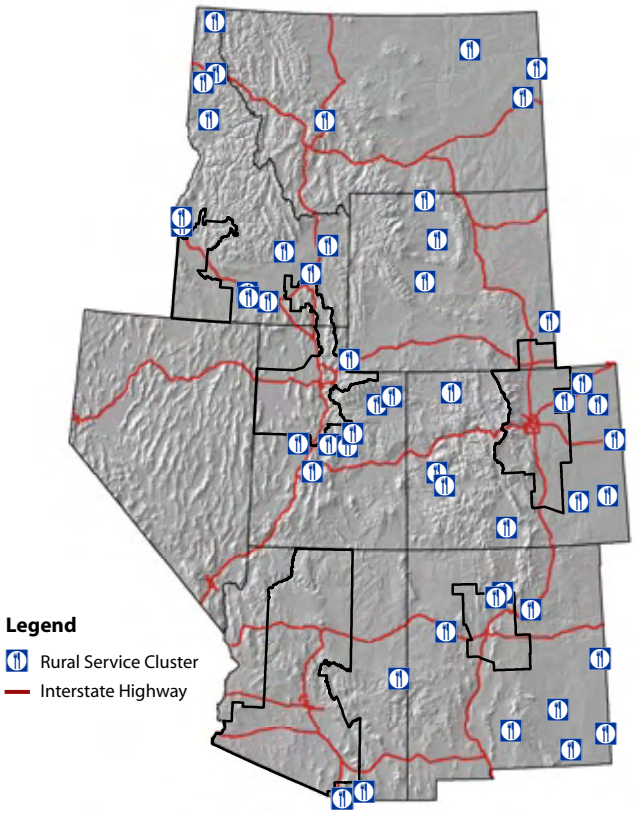
Rural Recreation Clusters
(See Figure 14 and Table 4)

Within a list of 50 identified rural recreation clusters, communities showed a wide range of values for the importance of the leisure and hospitality sector. Although the lowest percentage did not drop below the ten percent, as with rural resource extraction clusters, values ranged from 50 to 14 percent.[94] This makes the average percentages for each sector breakdown a little less descriptive. The overall trends in the average percentages of the goods producing and service industries closely follow the averages for the rural service cluster, with differences of only approximately three percent.[95]

However, differences are revealed when looking at the breakdown of the service industry. Leisure and hospitality services make up 15 percent of the economy in an average rural service cluster and 23 percent in rural recreation clusters. In 18 of the rural recreation clusters, however, leisure and hospitality services account for more than 25 percent.[96] These areas are less based on services such as retail, transportation, and utilities and more focused on the tourism industry of leisure and hospitality. This is reflected by a relatively low average retail service index when compared to the other two types of clusters.[97] In terms of the goods producing industry, rural recreation clusters are dominated by the construction sector; on average rural recreation clusters are twice as reliant on the construction sector (11.9 percent) than either the natural resources and mining sector (3.8 percent) or the manufacturing sector (4.8 percent).[98] Additionally, rural recreation clusters have an average natural amenity index of 5.3, which is higher than average amenity values for both the rural service clusters (4.6) and rural resource extraction clusters (4.7).[99] The average rural recreation cluster thus has an abundance of outdoor recreation possibilities; usually located in scenic areas near mountain ranges, rivers, and lakes.

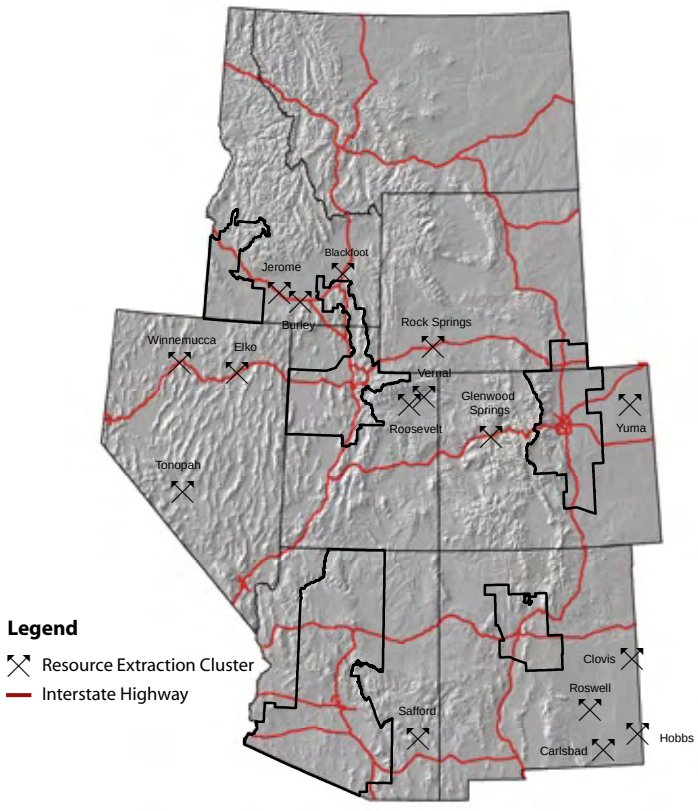
For the rural resource extraction and rural recreation clusters, requiring a minimum of a 50 percent service based economy creates a list of places that not only offer seasonal jobs and tourism, but the ability to support a community. Such places can offer their residents grocery

Figure 12: Rural Service Clusters in the Rockies



Source: Bureau of Economic Analysis, U.S. Department of Commerce, NAICS, 2006

Figure 13: Rural Resource Extraction Clusters in the Rockies



Source: Bureau of Economic Analysis, U.S. Department of Commerce, NAICS, 2006

stores, hospitals, and restaurants. These are places like Taos, New Mexico, or Montrose, Colorado, which are primarily small towns with distinct cultural identities and secondarily tourist attractions (e.g., ski resorts) or job attractors (e.g., large oil fields). Because the list of rural service clusters is ranked by service sector without leisure and hospitality, it indicates places that are likely to be year-round, stable communities, not those that primarily follow the swings of seasonal tourism.

Conclusion

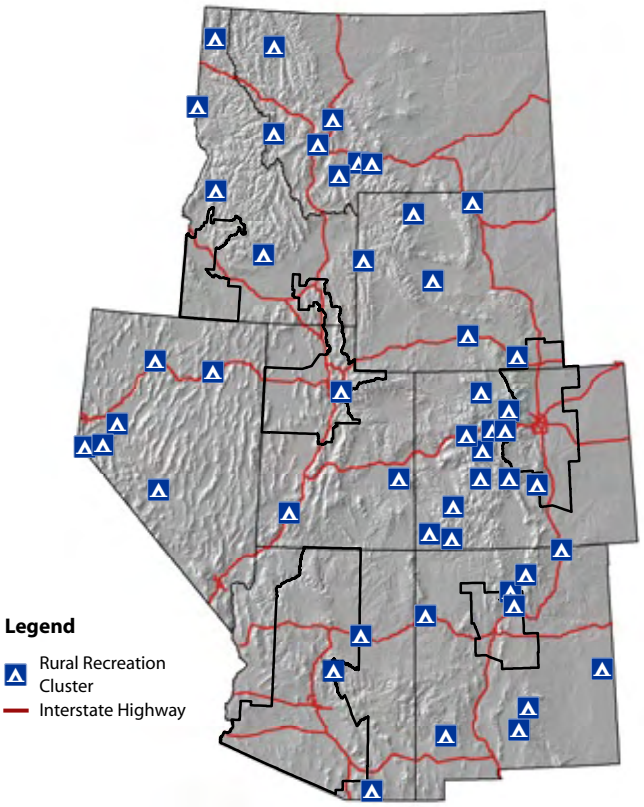
The Rockies region houses some of the fastest growing states and cities in the country. People are flooding into the area's mega-regions and rural economic clusters. These two "urban" classification categories represent the population distribution patterns of the Rockies region's future and provide a basis for analyzing what these changing areas need to grow successfully.

Several different classifications for mega-regions have been developed, but the one developed for this report goes a step further than those prior. We have created a fine-grained classification which accurately portrays the region itself and its growth over time. Our classification provides a high definition classification of the Rockies region mega-regions through time. Hopefully in the future one of the mega-region classifications will be adopted by the US Census Bureau so that planners and law makers can start creating a future for the regions as a whole and not for each individual city within them. The success of these regions relies on teamwork and sharing of resources between the areas within them. Overall, the mega-regions here in the Rockies region will need to address issues of regional and local connectivity, securing water, and ways to draw government assistance to implement these plans.

The rural economic clusters of the region show the future small town development of the region. Our classification identifies the small towns that have stable and well rounded economies. It separates these places from the boom and bust towns of the region which rely on tourism or mining. People are drawn to these beautiful small towns with high education rates, access to services, and nearby recreational opportunities.

Combined, these two phenomena depict population movements that are occurring throughout the Rockies region. They are important for understanding the growth and development of the urban and rural areas and can provide guidance on future development. Ideally these two classifications will take hold in the future and jointly provide insight as to how each of these phenomena works and interacts. The result can be an enhanced "repopulation" of the Rockies region that does not despoil the area's natural beauty and abundant natural resources.

Figure 14: Rural Recreation Clusters in the Rockies



Source: Bureau of Economic Analysis, U. S. Department of Commerce, NAICS, 2006

Appendix A: State of the Rockies Mega-Region Classification

The classification developed for this report aims to improve upon those currently available first by only including land area involved in the mega-regions and second by showing these regions growing together over time. This is accomplished by going below the county level down to tract level population density data which provides a much higher resolution picture of these regions. Additionally, by using projected 2060 population data, our classification will effectively show the formation of population "islands" and "continents" that are expected to grow together in coming decades.[100]

There are three basic requirements for our classification. First, the region must have a population of at least one million people by 2060. This assures that the identified regions will be important economic and cultural players in the nation. Second, the region must contain at least two metropolitan areas. Without this requirement, regions could exist as urban sprawl from one large city, not by connecting separate entities. Third, the metropolitan areas must be connected by a transportation corridor such as an interstate. This guides and facilitates the growth and expansion of the region, creating the urban corridors.

In terms of land area, this classification starts at the county level and includes all counties in a region that are classified as metropolitans. We then go down to tract level Census data and exclude any tracts in the metropolitan

counties that have a population density of less than 50 people per square mile. This eliminates all of the empty/sparsely populated space in many megapolitan counties and depicts only the actual mega-region itself. Projected 2060 population data is then used to project the growth of these regions. As these regions grow in population, any connected tracts that surpass 50 people per square mile or areas that surpass the population requirement to become a metropolitan are added to the region. If an adjacent county becomes a metropolitan area, the tracts in its county with more than 50 people per square mile are also added.

The use of tract level data and projected population data are what make this classification unique. Our classification illustrates the megapolitan phenomenon itself as urban and metropolitan areas slowly grow together over time and is not simply just a snapshot in time. This classification helps people to understand that mega-regions are dynamic entities that form over time and are not just "places" that exist here and now. This refined approach will allow planners to foresee the growth and development of up and coming mega-regions before that have totally grown together.

Appendix B: Defining Rural Economic Clusters

We developed a classification based on county- and place-level Census data and the North American Industry Classification System's (NAICS) 11 supercategories to extract service clusters out of the Rockies Region's many towns and cities.[101] The county- and place-level census data are first used to identify the counties of the Rockies region and the largest cities or towns in them. For the purpose of this classification, we only look at the largest town or city in each county; such towns have the main base of population and are assumed to have the largest influence on the county's economy. This is useful because most counties of the Rockies region have only one major town or city. Also, the NAICS industry data are on the county level, and the biggest town or city should exert the most influence on county-level data. Census data were also used to eliminate any counties involved in a metropolitan area. This creates a list of small towns and cities uninvolved in the mega-regions and urban centers of the region. The NAICS data provide an industry-level break down of each county's economy based on its 11 supercategories which range from mining to education. The NAICS information makes it possible to determine how much the economy of each county relies on any one industry.

In addition to census and NAICS data, we added a retail index to describe the existence of specific service amenities and the NAS ranking of natural amenities. However, these two indices are only used as references. They do not affect the actual classification of the different rural economic clusters and only provide an illustration of the available natural and service amenities. Our retail index rates towns and cities on a scale from one to nine by the existence of Wal-Marts, Starbucks, Home Depots, hospitals, and airports. These facilities are weighted so that hospitals are most important and Starbucks and Home

Table 2: Top 25 Rural Service Clusters

Rank	County and State	Major City or Town	Percent Service	Percent Service Without Lesiure	Percent Mining	Percent Recreation	Retail Index (1-9)	Natural Amenity Index (1-7)
1	Butte, ID	Arco	99%	98%	0%	1%	5	4
2	Los Alamos, NM	Los Alamos	98%	93%	0%	4%	6	5
3	Dawson, MT	Glendive	93%	76%	3%	16%	5	3
4	Santa Cruz, AZ	Nogales	90%	76%	1%	14%	8	6
5	Apache, AZ	Eagar	89%	76%	1%	13%	0	5
6	Cibola, NM	Grants	88%	74%	3%	14%	7	5
7	Lewis and Clark, MT	Helena	89%	73%	1%	16%	9	5
8	Custer, MT	Ismay	92%	73%	3%	19%	0	3
9	Valley, MT	Glasgow	88%	73%	3%	15%	5	3
10	San Miguel, NM	Las Vegas	89%	72%	2%	17%	7	5
11	Roosevelt, MT	Wolf Point	91%	72%	2%	19%	5	2
12	Hill, MT	Havre	89%	71%	3%	18%	7	3
13	Otero, NM	Alamogordo	86%	71%	1%	15%	8	5
14	Madison, ID	Rexburg	81%	71%	3%	10%	7	4
15	Silver Bow, MT	Walkerville	88%	71%	3%	17%	0	4
16	Otero, CO	La Junta	83%	71%	4%	13%	7	4
17	Cochise, AZ	Sierra Vista	85%	70%	3%	15%	8	7
18	Rio Arriba, NM	Espanola	84%	68%	2%	16%	7	6
19	Huerfano, CO	Walsenburg	85%	68%	2%	16%	5	6
20	Santa Fe, NM	Santa Fe	87%	68%	1%	20%	9	5
21	Goshen, WY	Torrington	78%	67%	3%	11%	5	4
22	Logan, CO	Sterling	80%	67%	6%	13%	8	4
23	McKinley, NM	Gallup	86%	67%	3%	19%	8	5
24	Alamosa, CO	Alamosa	82%	67%	8%	15%	7	4
25	Twin Falls, ID	Twin Falls	76%	67%	6%	9%	9	4

This table shows the top 25 rural service clusters along with the county and state they are in. Additionally listed is the percentage that their economy is based on service, service without the leisure and hospitality industry, mining, and recreation. For reference the retail index, natural amenity index are also listed.

Source: Calculated by the State of the Rockies from County and Place level Census data and the North American Industry Classification System (NAICS), 2007.

Depots are least important. This index provides a general idea of the availability of retail, health, and transportation services offered by each place. We use the index only as an indicator, however, because many places have strong service economies without the existence of big-box type commercial stores. There are many places in the West that pride themselves on existing without Wal-Marts and Starbucks, alternatively supporting local businesses. Additionally, the NAS rankings provide a number value for the available natural amenities of each county. This will show the typical beauty and natural resource availability for each type of rural economic cluster.

To create a list of rural service clusters we ranked all of the micropolitan and rural counties of the region by the percentage of their economies that is based on the service industry, excluding the leisure and hospitality sector. This created a list of places which have strong service industries that are not largely based on tourism and recreation. We then filtered out the towns with less than 1,000 people working in the service industry. This leaves only places with strong economies and eliminates any small towns that rely solely on one or two restaurants or shops. We then selected the top 50 places as rural service clusters. This leaves a list of 50 places with economies largely built on the service industry, and leaves out places in which service industries are either too small or largely based on recreation.

Rural resource extraction clusters are classified in much the same way as rural service clusters. They are first based on counties with at least a 50 percent service-based economy. This establishes a strong service industry and indicates a well-rounded economy. From that list, the remaining places are ranked by the percentage their economies are based on mining and resource extraction. Again, the top 50 towns with at least 1,000 people working in the mining and resource extraction sector are then classified as rural resource extraction clusters. The minimum of 1,000 people leaves places with fairly strong mining economies, not constituting small mom-and-pop operations. While the classification calls for the top 50 to be identified as resource extraction clusters, the requisite 50 percent economy based on the service sector caused the dependency on mining to run low. We created a cut off at a minimum of ten percent mining economy to represent the places with a significant impact from the industry.

The classification for the rural recreation cluster follows the rural resource extraction classification. These places are defined as having at least 50 percent of industry based on the service sector. We then rank them by the percentage of their economies based on the leisure and hospitality sector. The top 50 places with at least 1,000 people working in the leisure and hospitality field are then classified as rural recreation clusters.

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[4] U.S. Census Bureau, U.S. Department of Commerce, American Fact Finder Basic Counts/Population, http://factfinder.census.gov. Accessed July 15, 2008.
[5] *Ibid.*
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Table 3: Top 16 Rural Resource Extraction Clusters
note: only 16 resource clusters were identified

Rank	County and State	Major City or Town	Percent Service	Percent Service Without Lesiure	Percent Mining	Percent Recreation	Retail Index (1-9)	Natural Amenity Index (1-7)
1	Yuma, CO	Yuma	57%	48%	35%	10%	5	4
2	Uintah, UT	Vernal	58%	49%	31%	8%	7	5
3	Lea, NM	Hobbs	60%	50%	29%	9%	8	4
4	Humboldt, NV	Winnemucca	61%	41%	28%	19%	7	5
5	Sweetwater, WY	Rock Springs	56%	44%	27%	12%	9	5
6	Jerome, ID	Jerome	51%	46%	27%	6%	7	4
7	Duchesne, UT	Roosevelt	59%	51%	23%	8%	5	5
8	Eddy, NM	Carlsbad	68%	57%	20%	11%	7	6
9	Graham, AZ	Safford	69%	55%	19%	14%	7	6
10	Cassia, ID	Burley	63%	56%	18%	6%	7	4
11	Elko, NV	Elko	77%	41%	14%	36%	9	4
12	Bingham, ID	Blackfoot	56%	48%	13%	8%	7	4
13	Curry, NM	Clovis	76%	63%	12%	13%	7	4
14	Nye, NV	Tonopah	77%	57%	11%	20%	5	6
15	Garfield, CO	Glenwood Springs	67%	53%	11%	14%	8	5
16	Chaves, NM	Roswell	76%	62%	10%	14%	8	5

This table shows the top rural resource extraction clusters along with the county and state they are in. Additionally listed is the percentage that their economy is based on service, service without the leisure and hospitality industry, mining, and recreation. For reference the retail index, natural amenity index are also listed.

Source: Calculated by the State of the Rockies from County and Place level Census data and the North American Industry Classification System (NAICS), 2007.

Table 4: Top 25 Rural Recreation Clusters

Rank	County and State	Major City or Town	Percent Service	Percent Service Without Lesiure	Percent Mining	Percent Recreation	Retail Index (1-9)	Natural Amenity Index (1-7)
1	Madison, MT	Ennis	78%	29%	6%	49%	5	5
2	Summit, CO	Silverthorne	90%	45%	0%	44%	0	7
3	Grand, CO	Granby	81%	38%	2%	43%	2	7
4	Douglas, NV	Gardnerville Ranchos	79%	36%	1%	43%	0	7
5	Teton, WY	Jackson	84%	43%	0%	41%	5	6
6	Grand, UT	Moab	87%	46%	3%	41%	5	4
7	Pitkin, CO	Aspen	90%	53%	0%	38%	6	6
8	Elko, NV	Elko	77%	41%	14%	36%	9	4
9	Eagle,CO	Avon	81%	46%	0%	35%	4	5
10	Valley, ID	Mccall	77%	43%	3%	33%	5	5
11	Gunnison, CO	Gunnison	73%	41%	12%	33%	7	6
12	San Miguel, CO	Telluride	73%	41%	4%	32%	2	6
13	Chaffee, CO	Salida	83%	53%	1%	30%	7	6
14	Taos, NM	Taos	84%	55%	5%	29%	7	5
15	Lincoln, NM	Ruidoso	84%	56%	2%	28%	8	5
16	Park, MT	Livingston	80%	52%	3%	28%	5	5
17	Colfax, NM	Raton	83%	54%	3%	28%	5	5
18	Routt, CO	Steamboat Springs	74%	49%	4%	25%	8	6
19	Blaine, ID	Hailey	75%	51%	2%	24%	3	5
20	Roosevelt, NM	Portales	66%	43%	20%	24%	7	4
21	Wasatch, UT	Midway	74%	51%	2%	23%	0	6
22	Park, WY	Cody	76%	54%	8%	22%	7	5
23	Latah, ID	Moscow	84%	63%	4%	21%	8	4
24	Nye, NV	Tonopah	77%	57%	11%	20%	5	6
25	Santa Fe, NM	Santa Fe	87%	68%	1%	20%	9	5

This table shows the top 25 rural recreation clusters along with the county and state they are in. Additionally listed is the percentage that their economy is based on service, service without the leisure and hospitality industry, mining, and recreation. For reference the retail index, natural amenity index are also listed.
Source: Calculated by the State of the Rockies from County and Place level Census data and the North American Industry Classification System (NAICS), 2007.

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Case Study: Helena, MT

Helena, Montana, is the principal city of Lewis and Clark County and is another example of a rural service cluster. Helena, which had 27,885 residents in 2006, was established as a gold camp during the gold rush and housed 50 millionaires in 1889, per capita more than any other city on earth.[1] The town itself is home to a beautiful mansion district with original period homes, a magnificent cathedral, and the state capitol building. In addition to the town's rich history is it's fondness for the arts. Helena houses a theatre, an acting company, two dance companies, an art museum, and a regional art auction.[2] Helena also ranks very highly on the natural amenities scale, as it is near many lakes and rivers, the continental divide trail, the 1.5 million acre Bob Marshall Wilderness Complex, and located between Glacier and Yellowstone national parks.

With 73 percent of Lewis and Clark County's economy based on services other than leisure and recreation, Helena is town full of retail and service based industry.[3] As the state capital, Helena provides much government-related employment. After government, retail and services such as health and legal services and businesses are the largest employers.[4] The beauty and history of Helena have apparently not gone un-noticed. Lewis and Clark County had a 75 percent increase in the population from 1970 to 2000, higher than the state and national averages.[5] The number of jobs in Lewis and Clark County has increased with the population, providing jobs for newcomers, and boasts an unemployment rate below the state and national averages.[6] Adding to these factors is Helena's desirability as a place to live; Lewis and Clark county shows a very high percentage of people 25 and over with a college education and a low percentage of people 25 and over without a high school diploma.[7] A somewhat high per capita income and average earnings combined with a roughly average rich-to-poor ratio suggest a balanced county where the median family can afford the median house.[8]

When compared to the average rural service cluster, Helena shows a slightly increased dependence on service providing industry and slightly decreased dependence on goods producing industry.[9] While 73 percent of its economy is based on services other than leisure and hospitality, 11 percent is based on goods producing (construction, manufacturing, and resource extraction), and 15.6 percent is based on leisure and hospitality.[10] Construction ranks the highest in the goods producing sector at seven percent, and is a necessary industry for a growing town with historic buildings and old infrastructure.[11] Leisure and hospitality still have a strong influence on the economy and take advantage of the abundant nearby outdoor recreation opportunities and tourism. Helena also earns the highest ranking on the retail service index, indicating the existence of Wal-Marts, Home Depots, Starbucks, hospitals, and airports.[12]

Helena accurately depicts the Rockies region rural service cluster. It is a small city that provides a unified community feel and is drawn together through its history and culture. With an economy largely based on the service sector and plenty of nearby recreational opportunities, Helena accurately depicts a new age Rockies mountain town that provides a small mountain town feel while providing the services that a modern population desires.

Photo from Wikipedia

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Case Study: Las Vegas, NM

Las Vegas, New Mexico is a beautiful little town in San Miguel County that ranks high on the list of rural service clusters. Founded in the 1800's, Las Vegas was first made famous as a town of outlaws.[1] Doc Holliday had an office downtown and Billy the Kid was often seen hanging around.[2] Today Las Vegas' 13,889 residents take pride in their town's history and scenic beauty.[3] There are current projects to revitalize the main street and foster regional art and culture.[4] Las Vegas has many natural amenities, including the Gallinas River that runs through town and many nearby recreational activities such as a National Wildlife Refuge, a box canyon, and the Sangre de Cristo Mountains.[5] With 72 percent of its economy based on services other than leisure and hospitality, Las Vegas supports a strong service industry and has a high retail index, providing a Wal-Mart, hospital, and airport.[6] In San Miguel County, of which Las Vegas is the principal city, the two biggest industries in 2000 were retail trade, which occupied 16 percent of the workforce, and services such as health, business, and legal which occupied 25.8 percent of the workforce.[7] These two industries are only outnumbered by government jobs (San Miguel County has a disproportional amount of government workers compared to the national average).[8] The size of these two industries shows the significance of Las Vegas as a rural service cluster.

Between 1970 and 2005 San Miguel County showed a relatively stable population and employment growth rate that demonstrates an ability to quickly return from recessions.[9] Since 1970, the annual population growth rate of 0.8 percent has been outpaced by the employment growth rate of 2.3 percent, showing that the population gains are welcomed by industry in need of workers.[10] Both employment and population growth rates in San Miguel County have been higher than those of New Mexico and the nation when recovering from the last economic downturn in 2001.[11] While per capita income has increased over $10,000 from 1970 to 2005, it still remains a little low at $22,074 compared to the national average of $34,471.[12] Further, while housing affordability shows that the median-income family can afford the median-priced house, the overall affordability is low when compared to the national averages.[13] These two statistics are understandable in the rural West, in a place far from urban centers and big businesses.

When compared to the other identified rural service clusters, Las Vegas has a greater percentage of its economy based on the service sector, half as much based on mining, and little less than average based on recreation.[14] The data on San Miguel County show Las Vegas to be a perfect example of a rural service cluster. It is a small town with a stable population and employment based on services. It offers shopping and dining options as well as health services for its residents.

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Photo from Wikipedia

Case Study: Jackson, WY

Jackson, Wyoming, is a good example of a rural recreation cluster. Popularly known for its proximity to Yellowstone National Park, the Teton mountain range, and ski resorts, Jackson attracts residents and visitors interested in outdoor recreation. Jackson is the largest town in Teton County and had a population of about 9,215 in 2006.[1] First occupied by trappers and Indians, the Jackson Hole area was later home to cattle ranchers and finally established itself as an outdoor recreation center.[2] Jackson represents both a tourism hotspot and a small community based around the town square.

Jackson has a high natural amenity index value and attracts many outdoor enthusiasts.[3] In addition to its location near two national parks (Yellowstone and Grand Teton) it is home to the National Elk Refuge and lies on the Snake River. Summer activities include rafting, rock climbing, hiking, biking, and exploring, while winter opportunities include downhill and cross-country skiing, snowmobiling, snowshoeing, and wildlife watching. It is no surprise that 40 percent of Teton County's economy is based on leisure and recreation.[4] The rest of the county's industry is largely divided among the construction, trade, and business sectors which together make up another 40 percent of the economy.[5] With Teton County having a growth rate faster than the state and national averages, it is no surprise that a large part of industry is taken up by these three sectors.[6] New residents need places to live, eat, shop, and work and this is additionally reflected by the high employment growth rate which also outpaces both the state and nation.[7]

Though housing affordability and the rich-to-poor ratio are both fairly low for Teton County, Jackson has a highly educated population with an extremely high percentage of adults with a college education and high school diploma.[8] These factors make it an attractive place to live. Statistically speaking, towns with high rates of education tend to grow while towns with low

rates tend to shrink.[9] The quality of life in Jackson is further enhanced by high per capita income and average earnings per job.[10] Jackson does not have a high score on the retail index because it has tried to fend off big boxes and keep its stores local. It still, however, maintains a hospital and regional airport.

Jackson is not simply a resort or ski town; it supports an extensive service industry that is independent of the seasonal changes in tourism many resort towns experience. Jackson typifies a rural recreation cluster because it supports both a tourism industry based on its extensive recreational possibilities and a fully functioning town that offers its residents services and amenities.

2007/08 Rockies Researchers in Jackson, WY

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Case Study: Winnemucca, NV

Rural resource extraction clusters have strong reliance on the mining industry while still supporting a diverse economy. Winnemucca, Nevada, has these features. Located in northern Nevada's Humboldt County, Winnemucca is home to almost 8,000 people.[1] The town was established by President Lincoln's mapmakers in the 1880's and since has been a home to ranchers, farmers, and prospectors.[2] Currently mining companies searching for gold, silver, and other precious metals employ the largest numbers of people in Humboldt County.[3] While the town's economy is largely based on the mining industry, it still remains fairly diverse and largely service oriented with 60 percent of its workforce devoted to the service providing industry.[4] Winnemucca is not the typical boom and bust western mining town whose population flows with the resources being extracted, but instead a small town with a developed history and culture that has enjoyed the fortunate presence of precious metals.

Since 1970, Humboldt County has grown by 10,793 people, representing a 170 percent increase in population.[5] This fast population growth was met by a fast employment growth rate, mostly in the service sector.[6] While mining employs almost 30 percent of the county workforce, 24 percent comes from the trade sector which includes retail trade, utilities, and transportation, and almost 20 percent comes from the leisure and hospitality sector which includes hotels, restaurants, and recreation.[7] Humboldt County enjoys a very low average unemployment rate, an average per capita income, and high average earnings per job.[8] These factors, along with average rates of adults with a high school diploma and college degrees, provides the residents of Humboldt County a high quality of life.[9]

Though the mining industry is a large part of Humboldt County's economy today, Winnemucca has established a diverse economy to last through the decades. A high retail service index indicates the existence of basic amenities; the town also has a hospital, Wal-Mart, and good public school system. Winnemucca's location at the crossroads of I-80 and U.S. Highway 95, daily Amtrak service, and a municipal airport capable of handling up to Boeing 737s provide excellent connection to the rest of the country.[10] Additionally, Winnemucca enjoys a high natural amenities ranking, reflecting its many outdoor recreational activities. The hills and deserts around the town provide plenty of opportunities for hiking, mountain biking, off-roading, and hunting.

Winnemucca embodies the classification of a rural resource extraction cluster. With an economy largely devoted to the mining industry, it still supports a strong service sector with plenty of retail, restaurant, and tourism income.

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