



**Colorado Counties**

# COLORADO'S COUNTIES

## READING THE MAPS

The first impression created by the map of Colorado Counties is of a large box filled with smaller geometric figures -- squares, rectangles, quadrangles, and so forth. In fact, nearly one-half (29) of the counties have purely geometric, i.e., straight line boundaries. Many of the remaining thirty-five have borders that are partially or even primarily straight lines. Not one of Colorado's sixty-four counties has purely "natural" boundaries, though counties such as Jackson, Summit, Chaffee, Ouray, San Juan, and Huerfano come closest.

Geometric boundaries, as opposed to "natural" ones, have a history of being superimposed upon the Earth's surface with little regard for the nature and distribution of pre-existing physical and cultural landscape features. In contrast, natural boundaries may follow rivers, mountain ranges, edges of plateaus, or other visible physical features.

The most consistently "geometric" part of Colorado is in the eastern Plains. Secondary concentrations of straight line boundaries occur in the northwestern Plateau region and the San Luis Valley. A greater frequency of natural county boundaries is evident in a band extending north/south through the center of the state.

## QUESTIONS TO THINK ABOUT

What spatial associations or correlations can be made between types of county boundaries, e.g., geometric or natural, and their location or clustering within Colorado?

Clearly, there is an association between topography and the nature of boundaries. What is it? Compare the county boundaries of Colorado with those of some other state, preferably from the eastern United States (Kentucky, West Virginia, or Georgia provide instructive comparisons).

Another way to look at and think about counties is in relationship to their size. Colorado has several very large counties, such as Las Animas, Weld, Moffat, Mesa, and Huerfano (the five largest), as well as some quite small ones, e.g. Gilpin, Denver, Clear Creek, and Lake. Do the largest counties have anything in common other than size? Do they have large or small populations? Are population densities high or low?

What about the Colorado counties with the smallest land areas? Gilpin, Denver, Clear Creek, and Lake have already been mentioned. But Colorado's newest county, Broomfield, is the smallest of all at only 33.6 square miles. Why did the residents of the suburb of Broomfield desire their own county, approved in 2001? Do the smaller counties share common origins or traits? Do you think more counties will be formed in the future?

A third way to regionalize or group Colorado's counties is by name. Names usually reflect something about the people who chose them; this can include their history (Lincoln), national origin (La Plata), or original inhabitants (Cheyenne, Kiowa). Some names tell about the local physical geography (Mesa, Mineral, Summit, Costilla). By mapping the counties that belong to a particular category you will identify different regions within the state that may share other characteristics as well.



# COUNTY SEATS

## READING THE MAP

Each Colorado county has a town or city designated the County Seat. This is where government offices are located and where the county's elected officials normally carry out their duties, for example, the judges and their courts. Official records are also maintained at the County Seat.

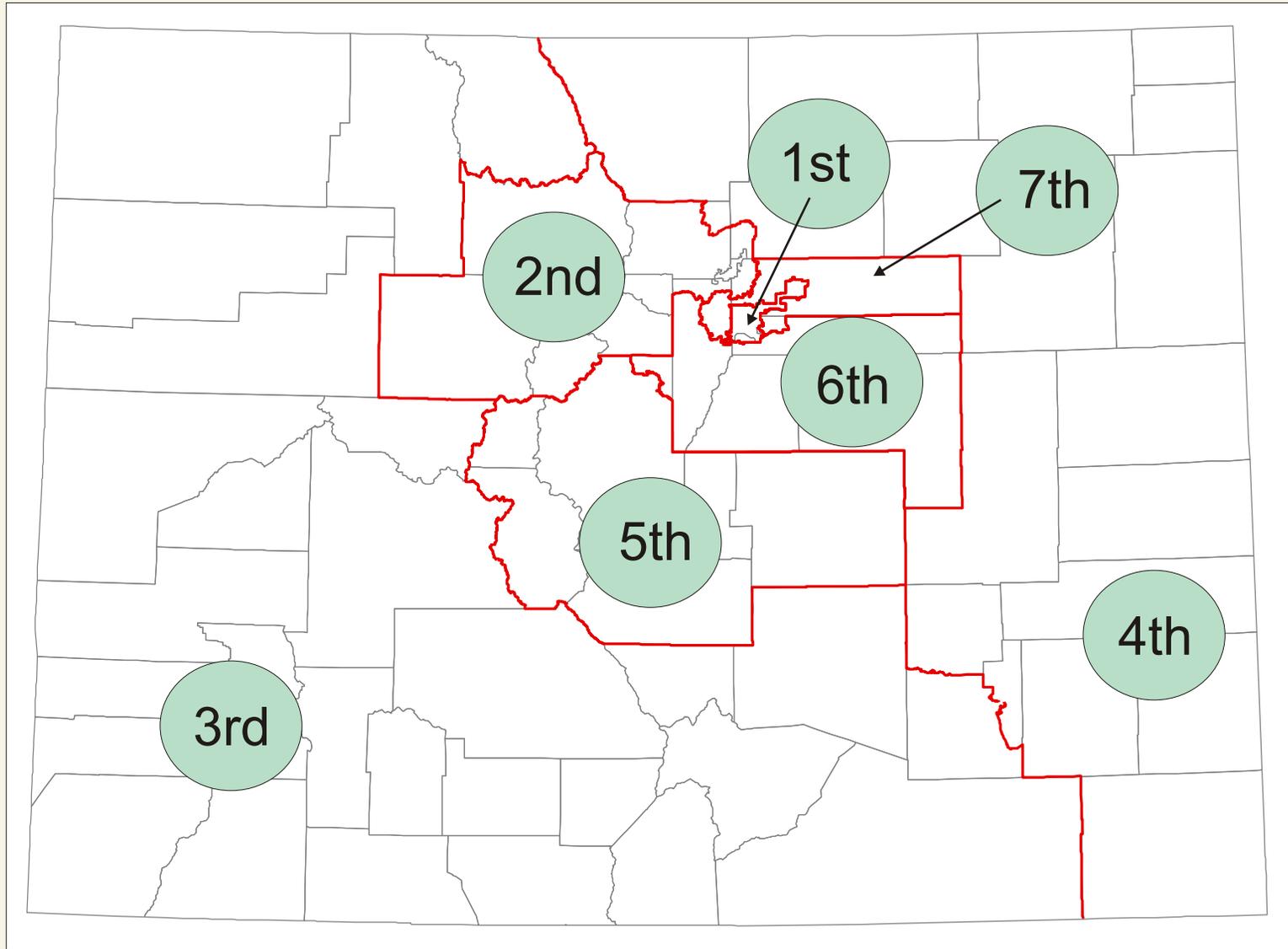
The present County Seat in each county has not always had that function. Some counties have switched their Seats several times and for various reasons. In some cases, it was the desire to have the seat of government more centrally located or at least more accessible to a majority of the people. Some country seats were originally mining "boom towns," but when the mines were worked out the population dwindled and eventually citizens voted to move the County Seat function to a larger, more important town. At times, towns people in various counties even tried various "extra-legal" means to move the County Seat from some other town to their own, including moving the official records and even the building that housed such documents. Virtually all efforts to move or maintain a County Seat were prompted by the belief that such a governmental function increased the permanence of a town and provided some employment. For a fascinating map and account of such activities, see *Colorado Historical Atlas*, by Noel, Mahoney, and Stevens.

## QUESTIONS TO THINK ABOUT

Are county names related to County Seat names? If the name of the county has a Native American origin (e.g. Arapahoe), is the County Seat name from the same or related origin? Look for name pairing of Spanish/Spanish (Costilla-San Luis), Anglo/Anglo (Weld-Greeley), and any others you can find. If you identify the counties with a particular pairing (e.g., Hispanic), do they tend to be clustered in one part of the state? If they are, it probably means that the people who first settled that region had considerable influence or power then. Do they still have influence or power in that part of Colorado? How might you find out? Check the names of county officials such as commissioners, the sheriff, the coroner, etc., for clues.

Is there any pattern of placement of County Seats within counties? For example, do they tend to be closer to the geographic center of the county or near its edge? Is County Seat location related to transportation? How many are located on federal or interstate highways?

Does Colorado have too many counties or not enough? Could some counties be combined so citizens could share the expense of law enforcement, road repair, education and other social services? One Colorado governor suggested this idea to residents of Colorado's San Luis Valley in the counties of Saguache, Mineral, Costilla, Alamosa, Rio Grande, and Conejos. They rejected the governor's idea. Why do you think they felt that way? In contrast, Colorado has a new county (Broomfield).



FEDERAL CONGRESSIONAL DISTRICTS 2002

## FEDERAL CONGRESSIONAL DISTRICTS

The U.S. Constitution provides that each of the fifty states will be represented by two Senators and a number of Representatives proportional to each state's population. Since the membership of the U.S. House of Representatives is fixed at 435, with each new census it is necessary to recalculate the number of representatives apportioned to each of the states. States that lose population or are growing slowly may have their number of representatives reduced (e.g., based on the 1960 census, Iowa was accorded seven U.S. Representatives; based on the 2000 census, that number is now five). In contrast, Colorado has experienced rapid population growth for several decades. As a consequence, the state gained an additional representative after the 1970 census, and another based on the census of 2000, bringing the total to seven.

Each U.S. Congressional Representative has a "home district." Such districts are really geographic regions, although they may be temporary ones. It is the responsibility of Colorado state government to identify and establish these districts in a fashion that provides an essentially equal number of residents in each district, with districts being as compact as possible, while using existing county boundaries whenever possible.

### READING THE MAP

It is immediately apparent that Colorado's seven Congressional Districts in 2002 varied tremendously in area. The Third and Fourth Congressional Districts cover well over one-half of the surface area of the entire state. In contrast, District One based on Denver County is comparatively tiny. This variation in physical size is necessary to provide each of the districts with essentially equal population.

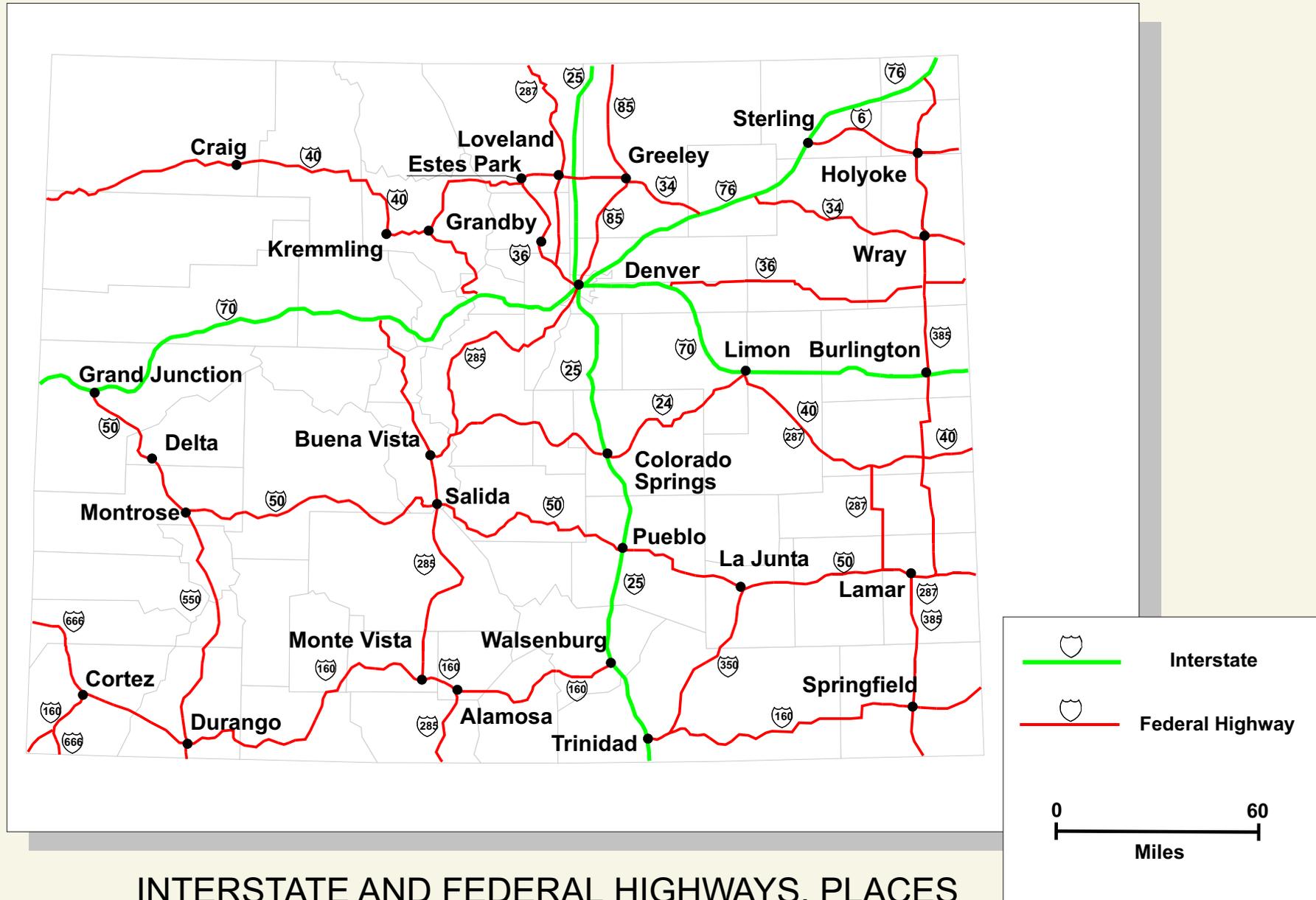
Check the map to see where the boundaries of Congressional Districts depart or vary from county boundaries. This is most commonly done to more nearly equalize the districts' populations. The district boundaries in the heavily populated Denver Metro Region are very complex and frequently combine parts of different counties. Another example is in Otero County where it was necessary to "equalize" population between Districts Three and Four. If Colorado continues to gain population it will be necessary in the future to redraw district boundaries (often termed "Redistricting") to assure equality of population. It may also be necessary to add yet another Congressional District.

### QUESTIONS TO THINK ABOUT

Politicians like to "mess with maps." While the process is officially termed "redistricting" or "reapportionment," there is another term. It is called gerrymandering. When population change makes it necessary to redraw Congressional District boundaries, it is in the interest of the different political parties to use the change to their political advantage. Moving a county, or part of a county, out of one Congressional District and into another can change the relative voting strength of a political party relative to its opponent. For this reason, the Colorado party in power (the one with a majority of state senators and representatives) always attempts to make district changes in a way that will benefit that party.

In 2003, Colorado Congressional District boundaries were redrawn amidst great controversy. The new map ([http://www.state.co.us/gov\\_dir/reap/reapp\\_index.htm](http://www.state.co.us/gov_dir/reap/reapp_index.htm)) is quite different from the 2002 version in the Atlas. Compare the two maps noting where the greatest boundaries changes occur. Which districts changed most? Which changed least? Did your family "change districts?" How might this impact your family?

Understand that the latest Congressional District map (2003) is being challenged in court. Some charge that the changes are unfair and the map should be redrawn once again. Are you beginning to understand how "political geography" and "political maps" change over time?



INTERSTATE AND FEDERAL HIGHWAYS, PLACES

# INTERSTATE AND FEDERAL HIGHWAYS, PLACES

## READING THE MAP

Of Colorado's 85,000 miles of highway, the roads shown are demonstrably the most important and most intensively traveled. The total length of Interstate (1,170 miles) and federal highways (7,100 miles) is slightly more than 10 percent, by length, of all highways, yet these account for about 60 percent of the state's annual vehicle-miles.

East of the Rocky Mountains, the density of the highway network is greater than any other region of the state. Dramatic population growth along the Front Range during the 1990s severely strained the state's existing road network. Highways are also comparatively straighter, owing to more level or gentle terrain, and north-south travelers are better served. West of Interstate Highway 25 (I-25), topographic constraints affect the number and direction of highways. River valleys facilitate several east-west routes but major north-south roads are few since they must run counter to physical obstacles, namely mountains and plateaus.

There is a spatial relationship between highways and cities or towns. But what is that relationship? Observe that cities and towns tend to occur where two or more highways cross or converge. The most obvious example is Denver,\* where several important and heavily traveled routes meet. This is the only place in Colorado served by more than one Interstate highway.

\*The map scale did not permit Denver's suburbs to be shown but they are included in the statistics and analysis.

## QUESTIONS TO THINK ABOUT

Does Colorado have any large or important cities that are not located on one of the Interstate or federal highways shown on this map? What is the largest city or town in Colorado not on one of these two types of highway? (See Table below) Likewise, are there any counties in Colorado that do not have either an Interstate or Federal highway passing through them? Does this suggest anything about these counties?

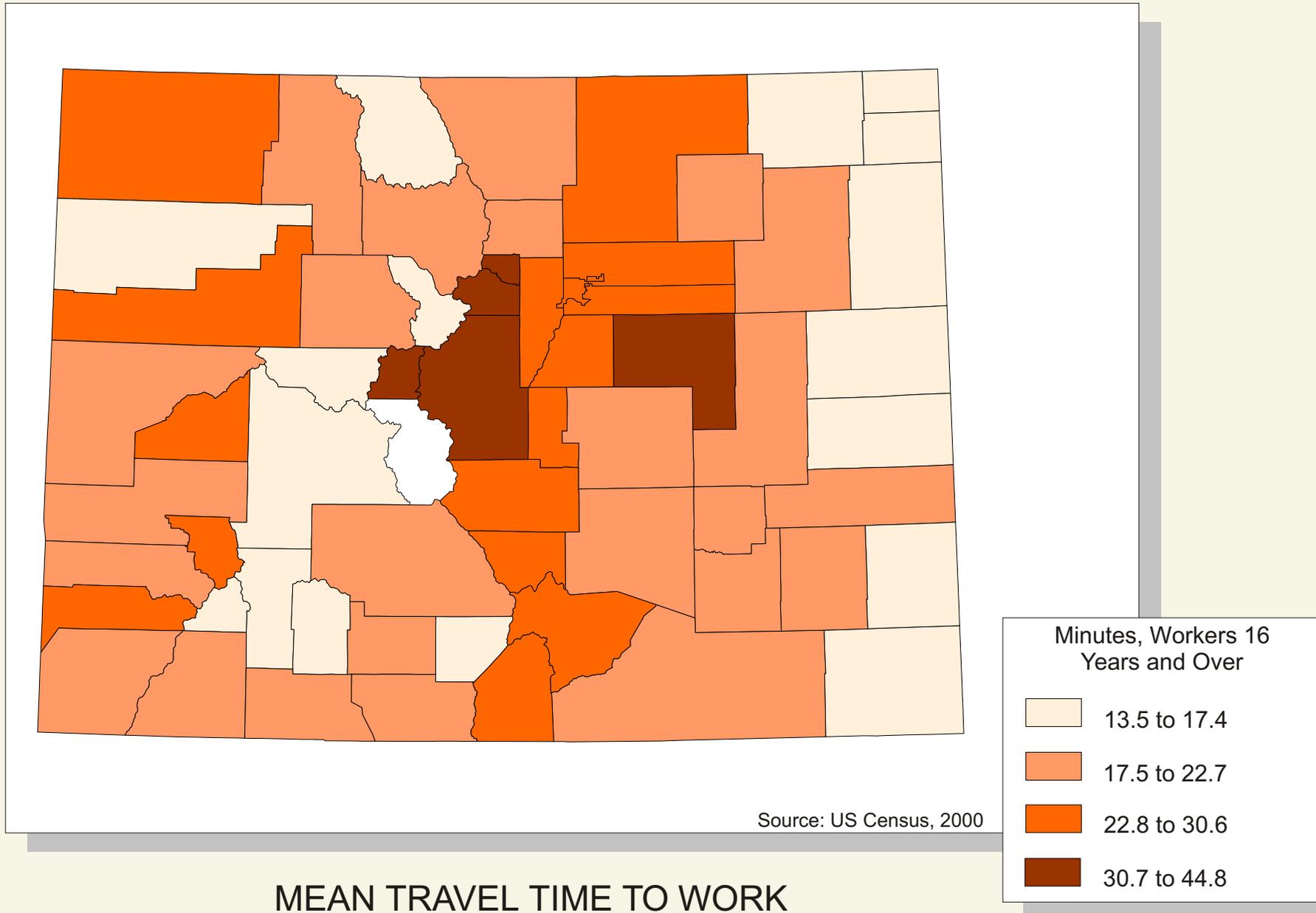
Roll a piece of paper into a short tube with an opening about the size of a 25 cent piece (quarter). Use this tube as a microscope and move it above the surface of the map. The area visible within the tube is approximately fifty miles across. Can you find places with more than one Interstate Highway visible inside your field of view? Where? How many? What are those places like in terms of their physical, population, or economic geography?

Are there locations on the map with a combination of two or more highways, either Interstate or Federal? Where are these and how would you describe the local geography? Finally, can you find any locations on the map where no highway appears within the circle of your view? What do you know or what can you learn about these places? Do you live in one of them? Would you want to?

### Colorado's 20 Largest Municipalities (July 2001 Estimates)

Denver	560,365	Greeley	80,806
Colorado Springs	369,853	Longmont	74,675
Aurora	283,650	Loveland	53,345
Lakewood	143,976	Grand Junction	44,782
Fort Collins	122,521	Broomfield	40,621
Pueblo	103,030	Littleton	40,503
Westminster	102,905	Northglenn	32,834
Arvada	102,470	Wheat Ridge	32,661
Centennial	102,457	Englewood	32,393
Boulder	94,680		
Thornton	88,434		

Source: Colorado State Demographer's Office.



## MEAN TRAVEL TIME TO WORK

Analyzing and understanding patterns of Work Travel is a somewhat complicated process. First, several factors can account for the time required for people to get from their residence to their place of employment. Most important are the distance separating the two locations, the physical geography (e.g., topography, weather conditions) through which the route passes, the type and condition of roads, and the nature and volume of traffic encountered.

### READING THE MAP

The two most evident patterns are these. One, the shortest amount of time spent getting to work is in rural counties, an especially large grouping of these is evident in extreme eastern Colorado. A second group of counties in the west-central part of the state is similarly characterized by short travel times. Several conditions link all these counties. Population densities are low and there are no large cities; likewise, population growth is below the state's average. With two exceptions (Summit and Pitkin) the counties are rural and agricultural. Most of the residents of the two regions work at or near their place of residence, which is likely a ranch, farm, or business establishment in a small town.

A second but less obvious travel pattern characterizes individuals in the two classes of most time consuming work travel, i.e., between twenty-two and forty-four minutes. With few exceptions, the distance commuters are in the Front Range region and most are linked to either the Denver Metro area or Colorado Springs, the state's two largest urban centers and sources of jobs. Linked closely to the two urban sites are counties such as Adams, Arapahoe, Jefferson, Douglas, and Teller that average between twenty-two and thirty minutes, though travel times would probably be longer except for access to Interstate 25.

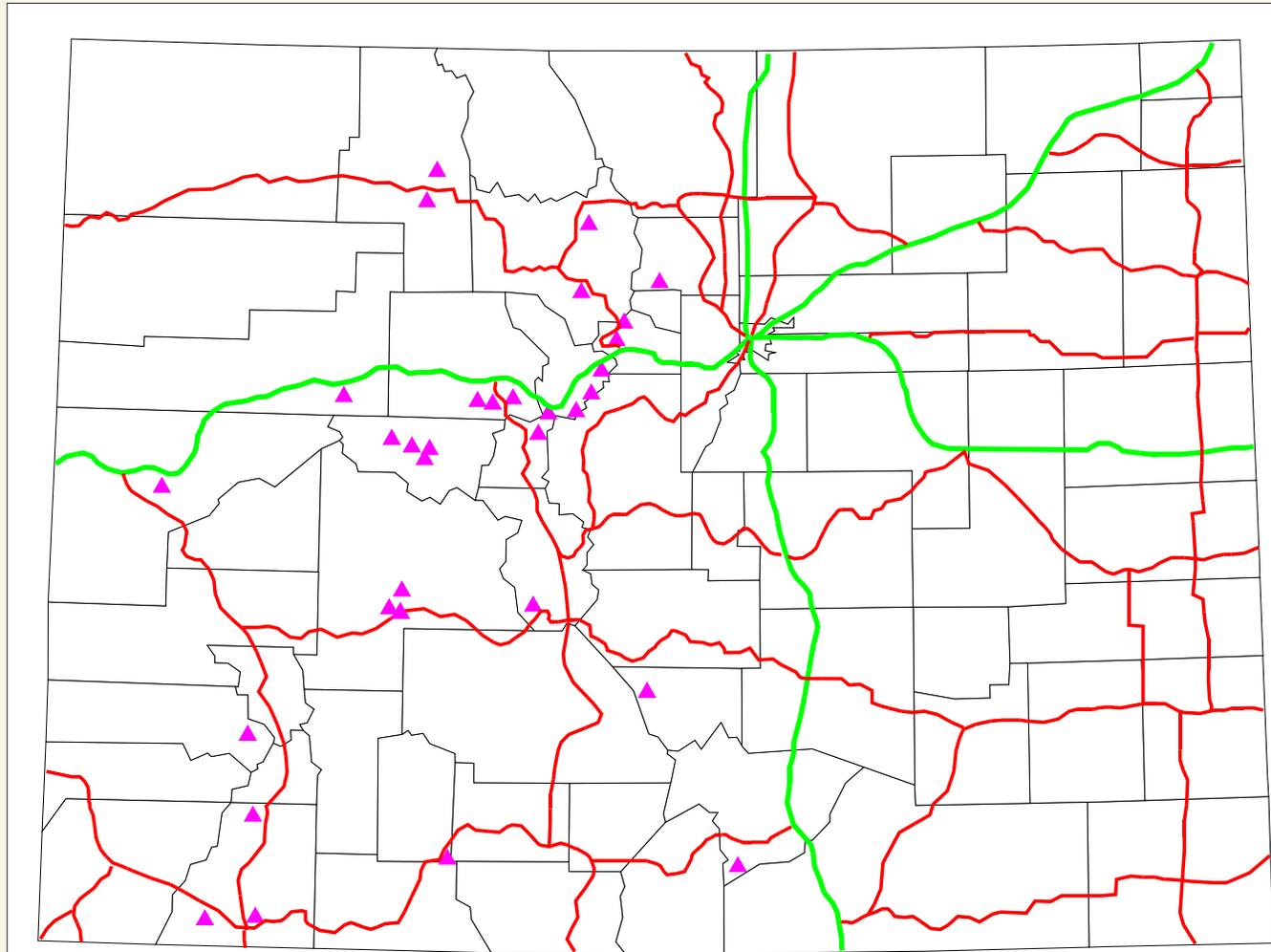
Colorado's longest commutes appear to originate both east and west of Denver and Colorado Springs. Elbert County may be experiencing spill over from the phenomenal residential growth in adjacent Douglas County, yet the former county has few local sources of employment and no physical connection to Interstate 25. The four county block of long commuters to the west involve a more complex situation. The allure of mountain living is clearly a factor, yet it offers limited local employment and residents are forced to seek work elsewhere. A growing volume of traffic, compounded by the nature of the roads and weather, also contribute to an average commute of between thirty and almost forty-five minutes.

### QUESTIONS TO THINK ABOUT

As we move across the landscape there is a general awareness of differences between places. The rural/urban boundary is usually rather distinct, as is that between mountains and plains. However, the change that distinguishes many regions, one from another, is often a gradual transition and it is only after we are well into the new regions that the new reality is apparent. With this in mind, look again at the map.

In most cases the colors (class intervals of travel time) occur in progression, e.g., dark red, red, orange, yellow, as you move from county to county. This indicates a transition as opposed to an abrupt change. But that is not always the case. Notice that Park County and Chaffee County are adjacent (their borders touch) but the two counties are at extreme opposites regarding how long it takes their residents to get to work. How do you explain this? And why does Jackson County have a lower travel time than any of the three counties with which it shares boundaries? Did you notice that Denver County, now Colorado's third smallest in area, has travel times in the next to highest class? How would you attempt to explain this apparent inconsistency?

Increasingly, we are a nation of commuters and Colorado is very near the national average for travel time to work. It is a number that will probably grow as population growth occurs. That reality has serious implications for our physical environment, including air quality and plant and animal life. Proposals to replace private or individual travel to work with some sort of public transportation system are being implemented on a limited basis, with more extensive plans under review. Using the MEAN TRAVEL TIME TO WORK map, where would you propose to build public systems to reduce private travel time?



Source: Colorado Department of Transportation

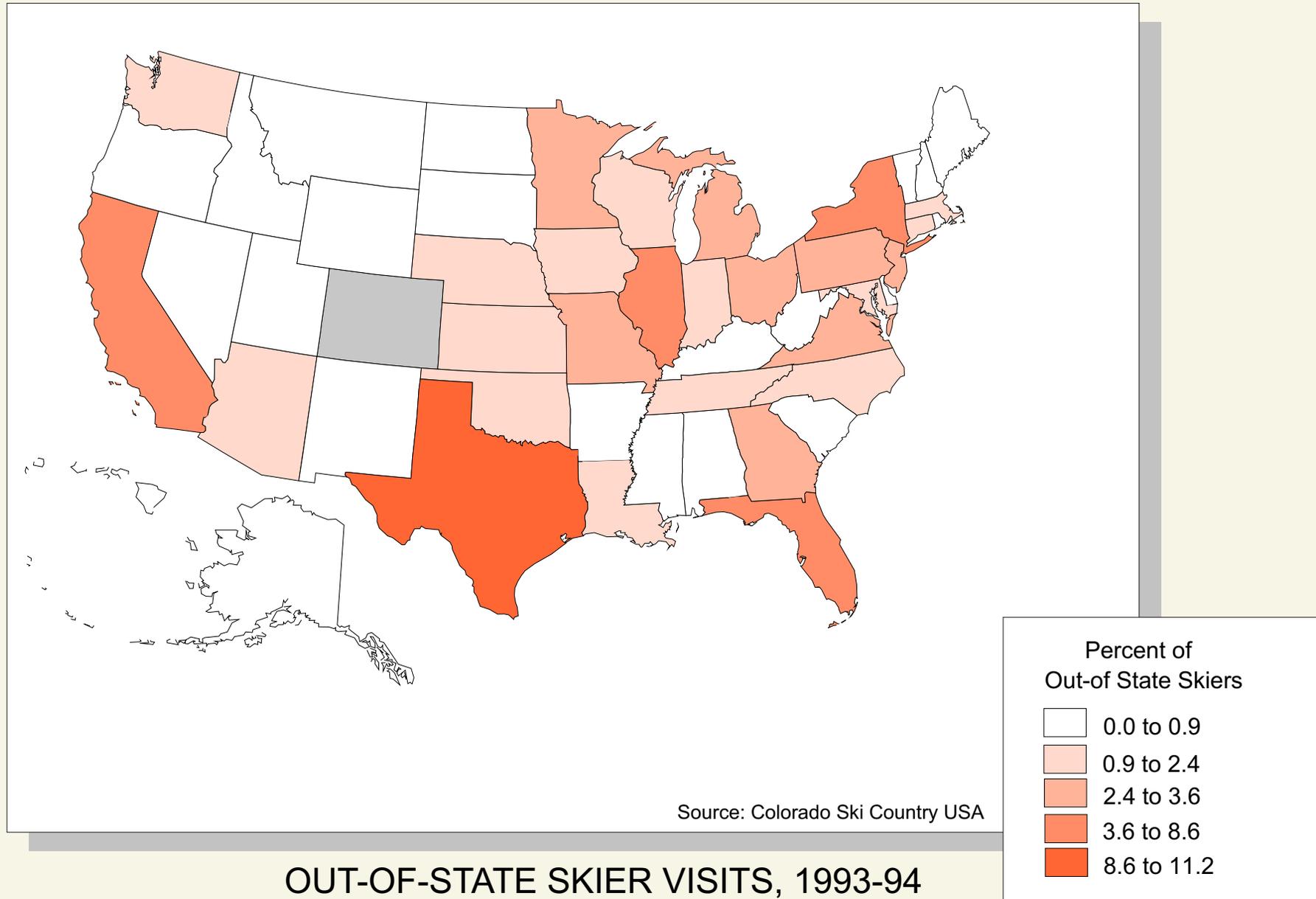
Downhill or  
Cross Country Ski Areas

— Interstate

— Federal Highway

0 Miles 60

## SKI AREAS



# SKI AREAS

A geography of skiing would seem to depend first and foremost on the distribution of two things, snow and mountainous topography. Both can be found widely distributed over central and southwestern Colorado. But skiing is also dependent upon a third variable, a supply of skiers.

## READING THE MAP

Approximately one-half of Colorado's ski areas, and most of its larger and better known ski resorts, are clustered in a five county region west of the Denver metropolitan area [I 10]. This location is not the snowiest part of the state nor does it possess the most spectacular topography. To be sure, the snow is usually adequate and the slopes sufficiently challenging. But what the geography of this part of the state does offer in unrivaled abundance is accessibility to a large metropolitan center with a resident pool of avid and potential skiers, plus air connections to the remainder of the nation and points abroad.

Notice that with few exceptions, all of the state's ski areas are on or near either a Federal or Interstate highway. With their superior design and maintenance, these routes offer more reliable travel during the snowy months of the ski season [I 6, I 23], though traffic congestion is sometimes a problem [I 8]. Proximity to Interstate 70 west of Denver can be especially important for out-of-state skiers who fly to Denver's International Airport and reach their destination by car or bus.

An apparent exception to the concentration of ski areas near major highways is the cluster of ski destinations in Pitkin County, in and near Aspen, Colorado. Congestion and driving conditions on the secondary highway leading from Interstate 70 to Aspen is a concern to those who must travel it frequently during snow season. Proposals have even been aired for a light rail connection along this route. On the other hand, Aspen is an internationally renowned resort for the affluent, many of whom arrive and depart by private aircraft. Increased accessibility would, for some members of this "jet set," reduce the exclusivity and attractiveness of this locale. A similar attitude prevails among some who favor the Telluride ski area in San Miguel County.

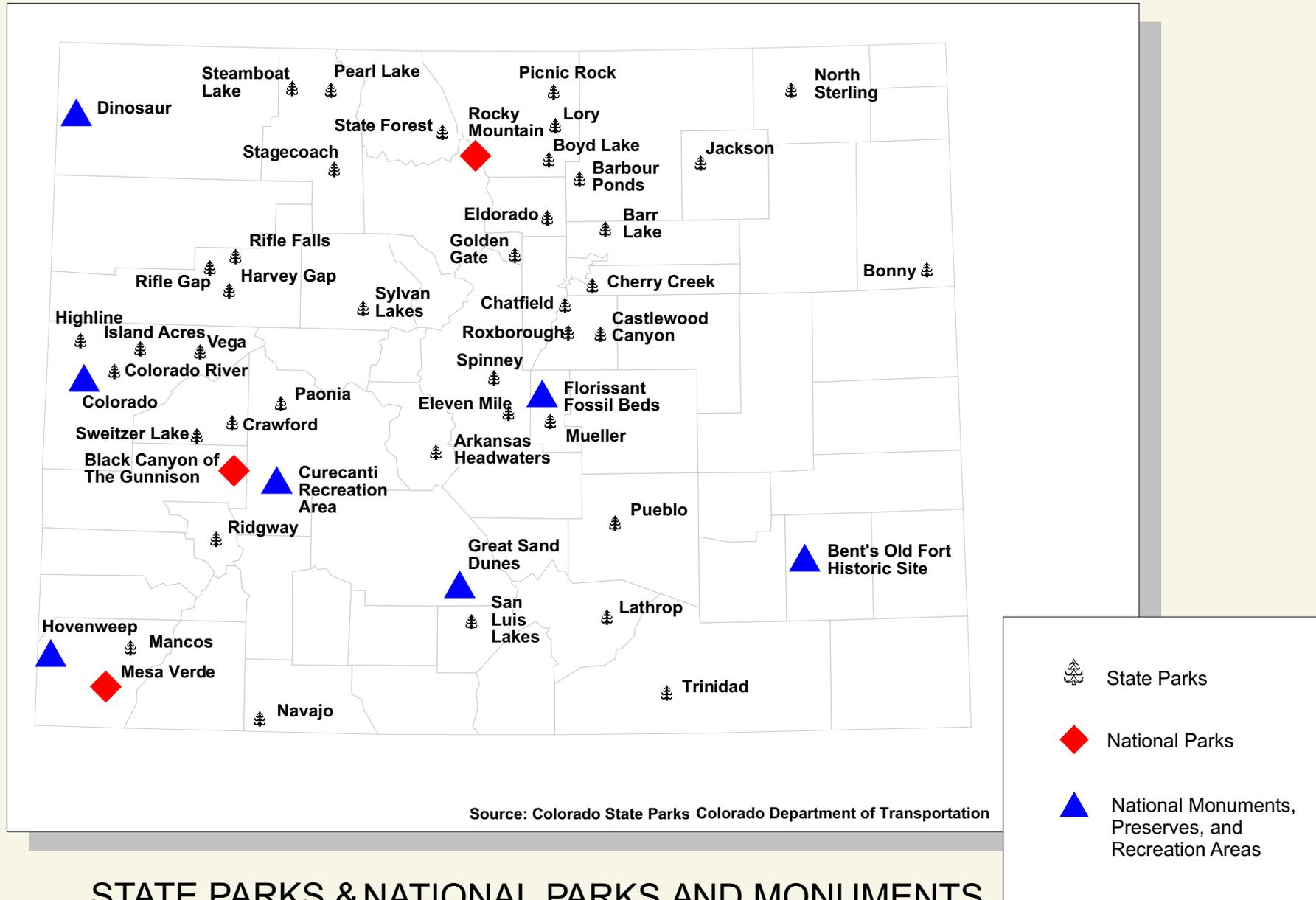
## QUESTIONS TO THINK ABOUT

In 1997, Arapahoe Basin Ski Area announced plans to develop year-round skiing. Even in the "snowiest" years this would require at least two months of artificial snow making, and in some years perhaps twice that amount, to provide acceptable skiing. This suggests that owners and operators of major ski resorts consider large-scale snow making a viable option. In turn, this suggests that future ski resorts might be built at locations somewhat or largely independent of natural snow conditions. How do you think the recent (2000-2002) drought affected Arapahoe Ski area's plans?

Assume that you want to build a new ski resort in Colorado using primarily or exclusively machine-made snow. Where would you place this resort if:

- a. You wanted to maximize access (and your profits!) for Colorado day-skiers;
- b. You wanted to attract more skiers from California;
- c. You wanted to attract more skiers from Texas.

In each case, indicate where you would establish the resort, what other facilities would be needed to support the ski area, and why? Finally, what might be the impact on existing ski areas? What might be the environmental impact of such a year-round ski resort on local vegetation, animal life, and water supply?



## NATIONAL PARKS AND MONUMENTS, STATE PARKS NATIONAL HISTORIC SITES

Approximately 42 percent (about 43,000 square miles) of Colorado's land area is publicly owned. Of this, the State of Colorado controls about 3 million acres, but the great majority, 24 million acres (38,000 square miles) are administered by a host of federal agencies. Among the agencies are the Department of Energy, Defense Department, Bureau of Reclamation, and Bureau of Indian Affairs. However, the largest areas of public land are those controlled by the Forest Service and Bureau of Land Management and administered as national forests and parks, recreation areas, monuments, and extensive lands leased for livestock grazing. On a smaller scale, the State of Colorado administers public lands for many of these same purposes.

### Rocky Mountain and Mesa Verde National Parks

#### Rocky Mountain National Park (PH 26)

Rocky Mountain National Park (RMNP) covers over 400 square miles of the front range of the Southern Rocky Mountains. The Park contains some of the most scenic and spectacular landscapes found in the U.S. Within the Park are 76 named peaks with elevations of 12,000 feet or more, with 14,255 foot Long's Peak the highest. Glacial landforms are found throughout the Park and five active glaciers (Andrews, Rowe, Sprague, Taylor, Tyndall) occupy high valleys (cirques).

A great variety of plant and animal life thrives in RMNP. Bighorn sheep, elk and deer are common sights, while coyotes, black bears, mountain lions, and bobcats are present but seldom seen by visitors. Large numbers of visitors are attracted each fall to witness the color change of the aspen tree leaves to a bright yellow. On some weekends the traffic through the park is bumper-to-bumper. (P1, P2)

#### Mesa Verde National Park (PO 55)

Located in southwest Colorado near Cortez, Mesa Verde is one of the nation's major archeological areas. Translated as "green table," the name Mesa Verde describes the flat topped local topography and its juniper and pinon pine forest cover. The Park covers about 80 square miles and the mesa top is generally 1800 to 2000 feet above the bordering valleys.

This part of the Colorado Plateau surface is cut by scores of steep-sided canyons along whose walls are found some of the world's largest and best preserved cliff dwellings. Thus far relatively few of the ruins have been extensively excavated, though the more accessible ones can be reached by auto or on ranger-led hiking tours.

About 1300 years ago, people living in the present Four Corners area picked Mesa Verde for their new home. For a time they lived and prospered on the mesa and in its canyons, but near the end of the 13th century the site was abandoned. When they departed, the builders of Mesa Verde left their villages and many of their personal possessions virtually intact. Today artifacts of this historic settlement are preserved in the Park. Among the most accessible of the excavated cliff dwellings are Spruce Tree House and Step House.

### Dinosaur and Great Sand Dunes National Monuments, Bent's Old Fort Historic Site

#### Dinosaur National Monument (PH 34)

Dinosaur National Monument straddles the Colorado-Utah border on the big bend of the Green River. In a single sandstone cliff is preserved one of the world's greatest concentrations of fossilized dinosaur bones, including those of Brontosaurus, Allosaurus, and other species from the age of the giant reptiles. Initially, the remains of many specimens, an estimated 350 tons, were mined from the site and shipped to the Carnegie Institute in Pittsburg. Eventually conservation became the watchword and today the emphasis is upon study of the remains on site, although several skeletons are exhibited in the Denver Museum of Natural History

Among the exceptional landscape features of Dinosaur National Monument are the deep, narrow gorges cut by the Green River. These red-tinted sheer sandstone canyons are bordered by cliffs rising from 1,000 to 3,000 feet above the river. A notable is Lodore canyon, described and mapped first by John Wesley Powell, a one-armed Civil War veteran who led an exploration of the Green River by boat in 1879.

### Great Sand Dunes National Monument (PH 21)

The 38,000 acre Great Sand Dunes National Monument is in the San Luis Valley about 40 miles northeast of Alamosa. The Monument consists of over 50 square miles of dune sand deposited in the past 15,000 years by westerly winds blowing across the dry valley floor. As the velocity of the wind slows upon contact with the Sangre de Cristo Range the sand settles out on the valley floor. Some of the dunes are 700 feet high and because of the variable wind patterns all are in a continual state of change. Local legends maintain that wagon trains, herds of sheep, and shepherds vanished in the dunes and that strange web-footed horses roam the dune's inner reaches. What does vanish within the sands is a local stream, Medano Creek, and among the stranger creatures are the giant sand treader camel cricket that uses shovel-shaped hind feet to dig burrows and a beetle that sprays a stinking liquid to fend off predators.

### Bent's Old Fort Historic Site (PO 56)

Bent's Old Fort is located on the north side of the Arkansas River about 15 miles west of La Junta. The fort, completed in 1833, was an important stop on the Santa Fe Trail and a place where hunters, traders, Native Americans and others gathered to barter and celebrate. At one time or another visitors to the fort included Kit Carson, John C. Fremont, Colonel Henry Dodge, and General Stephen Kearny, important figures in the exploration and settling of present-day Colorado.

The fort was built by the Bent brothers, Charles, Robert, George and William, and their partner Ceran St. Vrain. All were instrumental in the early development of trade in the West. The original fort was 180 feet long, 135 feet wide and built of adobe by Mexican workmen brought from Taos. The adobe walls were 15 feet high and 4 feet thick. After a series of events that drastically reduced profits from trading, the fort was intentionally destroyed by William Bent in 1852.

Bent's Old Fort was designated a National Historic Site in 1959 and is rebuilt to its approximate 1830's appearance. The contemporary fort is a "living museum" where guides in period dress lead tours through the restored blacksmith's shop, living quarters, recreation room, and warehouse, and visitors can see live demonstrations of some of the skills and crafts common there 150 years ago.

## Colorado State Parks

Between 1937 and 1957, several attempts were made to establish a Colorado state park and recreation authority, but owing to lack of resources all proved unsuccessful. Finally, in 1957, Colorado's governor was authorized to create a Parks and Recreation Department. The first unit in the system was acquired when the state signed a twenty-five year lease with the U.S. Army Corps of Engineers for Cherry Creek Reservoir. In 1960, the first land was purchased specifically for park development, land now part of Golden Gate Canyon State Park. By 1997 the system included more than 40 recreation sites.

### Bonny State Park (I 28)

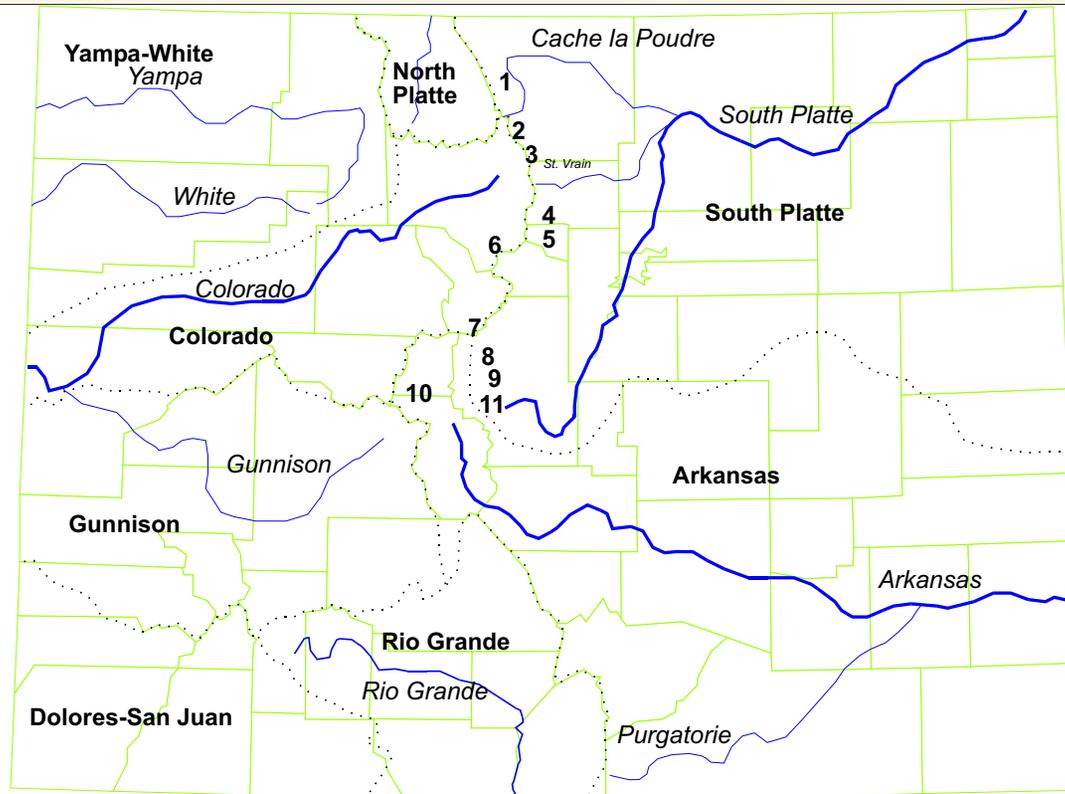
Bonny State Park and Bonny Reservoir are located on the South Fork of the Republican River not far from the Colorado-Kansas state line. Situated in the Great Plains, the park has been subjected to alternating periods of drought and above normal precipitation common to the region. For example, in the spring of 1935 a unique set of weather conditions developed and on May 31 a fierce rain storm produced 24 inches of rain in 45 minutes. Towns and farms were devastated and there was loss of life. In an attempt to mitigate future problems the U.S. Bureau of Reclamation selected this site for a flood control dam and reservoir, completing the project in 1951.

A unique feature of Bonny State Park is the Bonny Prairie Natural Area. Here the primary soil is a fine grained, wind deposited material called loess, also found in adjacent areas of Kansas and Nebraska. The plants and animals native to the loess prairie environment have been largely destroyed across the region but in the Bonny Prairie Natural Area many have been reintroduced. Visitors may hike a trail providing interpretive stations that explain the geography, history, plant and animal life of the region.

## QUESTIONS TO THINK ABOUT

Some Colorado counties have neither State Parks, National Parks, nor Monuments. Do you think this is because such counties lack attractive scenery, are too remote, or have too few residents? Plot these counties on a map and study their location.

Some counties have more than one type of park or monument. If you highlighted such counties on the map what kind of pattern do you see? One county has an example of each - - a national park, a state park, and a national monument. Which county is it? Where is it? And why is so much happening there?



**DIVERSIONS THAT EXCEED 8,000 ACRE FEET PER YEAR**

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| 1. Laramie to Cache la Poudre      | 7. Blue to Middle Fork South Platte |
| 2. Colorado to Cache la Poudre     | 8. Eagle to Arkansas/South Platte   |
| 3. Colorado to Big Thompson        | 9. Frying Pan to Lake Fork - Ark.   |
| 4. Fraser to S. Boulder Creek      | 10. Roaring Fork to Lake Cr. - Ark. |
| 5. Blue to N. Frk. South Platte    | 11. Eagle to South Platte           |
| 6. Williams Fork to W. Clear Creek |                                     |

**MAJOR TRANSMOUNTAIN DIVERSIONS**

## MAJOR TRANSMOUNTAIN DIVERSIONS

When national legislation was approved creating the Territory of Colorado, and subsequently, the State of Colorado, there was apparently little concern over the fact that the Continental Divide essentially split in two the land area of the new state. It would not be long, however, before this topographic partition became the focal point of an issue pitting Colorado's western residents against those of the east. The issue was water.

The Continental Divide separates the state into two regions: a western sector drained by streams that flow to the Pacific and an eastern slope drained into the Atlantic via the Gulf of Mexico. Thus defined, the two regions are quite different in these aspects:

- A. Approximately 63 percent of Colorado's land area is east of the Continental Divide;
- B. An estimated 69 percent of the state's natural precipitation falls on land west of the Continental Divide;
- C. As much as 90 percent of Colorado's resident population lives east of the Continental Divide.

This uneven distribution of water and population, or some would consider it a "separation of people from water," is at the root of a long-standing regionalism in Colorado pitting the "Western Slope" against the "Front Range."

## READING THE MAP

Most of the mountains east of the Continental Divide, and all the eastern plains of Colorado are drained by two river systems, the Platte and the Arkansas. The Platte drainage includes both the North Platte which arises in North Park and exits into Wyoming, and the larger South Platte which drains most of the northeastern quarter of the state. The Arkansas River and its tributaries carry water from a slightly smaller drainage in southeastern Colorado.

South central Colorado is drained southward by the Rio Grande. Much of the collection area is in the San Luis Valley and eastern portions of the San Juan mountains, plus the western slope of the Sangre de Cristo. Water from all three systems -- Platte, Arkansas, and Rio Grande -- flows into the Gulf of Mexico and the greater Atlantic basin.

Essentially all of Colorado west of the Continental Divide is drained by the Colorado River system. The map indicates other basins, namely the Yampa-White, Gunnison, and Dolores-San Juan, but all streams from these basins eventually join the Colorado River system before it reaches the Pacific Ocean via the Gulf of California.

The Colorado River system is far and away the largest in the state measured by volume of water. In a typical year (if such exists!), the annual flow of the entire system is approximately 10.5 million acre feet (AF). The combined flow of the Platte, Arkansas, and Rio Grande systems is on the order of 5 million acre feet (AF).

As early as the 1880s proposals advocated the transfer of water between drainage basins, with the first operational diversion carrying water from a tributary of the North Platte into the Cache la Poudre River (number 1 on the map). By 1894, water from the headwaters of the Colorado River was flowing into the South Platte basin, again via the Cache la Poudre. This was the first diversion that truly brought water from one side of the Continental Divide to the other, that is, from the western slope to the eastern.

In the 1990s, twenty-four ditches and tunnels carry water across or through the Continental Divide. All originate in the Colorado River system and augment either the Platte, Arkansas, or Rio Grande systems. The largest by volume is the Colorado-Big Thompson (CBT) project, which annually diverts an average of 220,000 AF to eastern slope users. Initially, most of this water was for agricultural purposes; but over the more than fifty years of operation, CBT water has been shifted increasingly to municipal and industrial uses.

## QUESTIONS TO THINK ABOUT

Do you know where your water supply comes from? It may be ground water from local wells. But in significant areas of Colorado, the water you use may be transferred from a considerable distance. Water that naturally would have flowed to Utah, Arizona, California, Mexico, and finally to the Pacific Ocean now keeps the lawn in front of your house green or your family's car clean. Your community's demand for water, and willingness to pay for it, literally denies water to the Pacific Ocean and sends it to the Atlantic.

After you have determined the source of the water you use, think about what differences that water makes to the area in which you live. Does it change the appearance of the landscape around you? Does it make a difference in the jobs that are locally available? Does it affect the number of people who can live where you do? What would happen if less water was available?

If you live in a part of eastern Colorado that receives diversion water, what is the source of that water and how is it used locally? Try to imagine your area or neighborhood without benefit of diversion water. Ask your parents to do the same.

If you live in a part of western Colorado from which water is obtained for the eastern slope, identify any changes this produces in your area or neighborhood. By having water diverted, has there been a change in the appearance or the economy of your part of Colorado? Ask your parents to respond to these questions.

If you live on the east side of Colorado's Continental Divide, try to contact a class in a school on the west side (and vice versa). Invite them to discuss the subject of water and water use in the state from their geographic perspective. An E-mail conference could shed light on how we think about and use the limited water resources of Colorado. A topic for discussion might be the traditional axiom, "In Colorado, water runs uphill toward money."

The proposed "Big Straw" project would take the State of Colorado's unused Colorado River water near the Colorado/Utah border and through a very elaborate system of aqueducts, pumping stations, and other facilities ship the water to the east side of the Continental Divide. This project would be very expensive, but could help lessen water shortages during drought years. Do you think the "Big Straw" project is a good idea? Do you think the record-setting 2002 drought might influence opinion on the project? Information on the project can be found at state/local newspaper, state government, and non-governmental organization websites.



Denver Light Rail

While the population of Denver proper has essentially stabilized, the growth of surrounding commuting suburbs continues to be vigorous. One result can be seen in the "brown cloud" that frequently hangs over the metropolitan area, much of which comes from vehicles operating in this high basin at the foot of the mountains. Responding to poor air quality and the need for commuting, is the construction of limited light rail. Supporters urge such a service for all the Front Range region.



Denver International Airport

Colorado can now claim one of the newest and largest airports in the World. Despite much controversy concerning its \$4 billion cost and location, in 1995 the state inaugurated DIA amidst wheat fields 20 miles east of Denver. Touted as state-of-the-art and an all-weather airport, DIA's modernistic terminal resembles a cluster of high tech tipis. Today, the area around the airport is rapidly being developed.



Glenwood Canyon

Glenwood Canyon is a fifteen mile long gorge carved by the Colorado River. For years this challenging bottleneck confronted drivers with two-lane traffic and a thirty mile per hour speed limit. Proposals to widen the highway were resisted by those concerned with preserving the rugged beauty and natural habitat of the canyon. In 1992, engineers finally managed a four-lane linkup through Glenwood Canyon by the use of tunnels, plus elevated and two-tiered lanes.



Interstate Highway 70

I-70 is Colorado's premier east-west highway. East coast tourists, Kansas farmers, long-haul truckers, West coast refugees, and a significant portion of Coloradans depend upon this route. At certain times and under certain conditions, especially ski-season weekends, I-70 is the scene of delays and backups. Even so, traffic demand on this critical highway continues to grow. Proposals to deal with the delays include: a light rail or monorail system from Denver to Eagle County and the addition of more lanes for vehicular traffic.



Vail Pass

Snow is a mixed blessing in Colorado. Much of the state's agriculture depends upon irrigation water that comes from snowmelt. Likewise, skiing, snowmobiling, and snow boarding are the basis for the lucrative winter sports industry. However, when winter storms descend upon the highways crossing the Rockies they pose a serious problem to truckers, business travelers, and even those bound for or returning from high country recreation.



Motels

To the uninitiated, the seemingly endless fields of wheat and pastures of native grass convey a feeling of monotony. Many travelers comment that "there is nothing of interest to be seen!" However, in the small towns consistently bypassed by the interstate highway system there is much local "color." Motels in the region advertise and prepare for the annual influx of pheasant hunters, and as the sign suggests, if you lack the skill to shoot one, you can buy one (or more) to take home.



Western Slope Winery

The creation of Colorado wines is not new, but the industry has experienced significant growth in recent years. Some of the land, farming experience, and labor formerly devoted to other fruit crops have facilitated development of local wineries. The product nicely compliments Colorado's expanding resort and recreation economy.



Black Hawk

The boomtowns of Black Hawk and Central City were part of the region that produced Colorado's Initial Gold Rush of 1859. Rich placer mining was followed by the general digging up of the mountain sides, as today's huge tailings piles attest. The boom past, the towns' economies suffered as there was little else to support significant population. In recent years legalized gaming has arrived and with it a new boom in casino construction to accommodate increased tourism.



Bonny Reservoir

In 1951, the U.S. Bureau of Reclamation completed a dam on the South Fork of the Republican River for the purposes of flood control and irrigation. Today, the reservoir is the focal point of Bonny State Park, a multiple use facility that includes water sports, fishing, hunting, camping, and bird watching. The park also protects a limited acreage of native "loess prairie," a grassland ecosystem otherwise destroyed by farming and grazing on this part of the Great Plains.



Hayden Power Plant

Relative to other economic activities, mining in Colorado has declined in importance. Much of what remains is either for construction materials, such as sand and gravel, or for energy sources. The thermal electric plant at Hayden burns locally mined coal to produce power for a regional grid extending beyond the state's boundaries. Studies have identified the plant as a source of emissions causing acid rain affecting downwind forests.