HEALTHY COMMUNITY INDICATORS

A Tool for Sustainable Development in the Roaring Fork & Colorado River Valleys

A report on long-term trends
in our region by

The Sustainable Roaring Fork Valley Committee
&
Healthy Mountain Communities

February 1996

The Sustainable Roaring Fork Valley Committee

Started by Leadership Aspen alumni in 1994, the Sustainable Roaring Fork Valley Committee is a citizen group fostering development strategies that minimize impact to the environment and people, build community, and encourage a long-term perspective on our region's prosperity. For more information, call Marie Layton @ 920-9600.

Healthy Mountain Communities

HMC is a grassroots, regional, nonprofit corporation working to improve the quality of life in the Roaring Fork-Colorado River Valley Region (Parachute to Aspen).

In the spring of 1993, over 100 residents of the region began a year long planning process that evaluated the region's overall health, developed a regional vision for the future, and established goals for the organization. HMC fosters citizen participation, collaborative problem solving, consensus decisionmaking, and a long-term, broad perspective on the health (social, economic, environmental) of our communities to work on three interconnected goals:

- Develop the regional community and encourage regional collaboration
- Foster a diverse, environmentally balanced, and sustainable economy
- Strengthen families

To learn more, receive our newsletter, or become involved in HMC's work visit www.hcmcolorado.org, call 970-963-5502 or write us at P.O. Box 1582, Carbondale, CO 81623.

-- PLEASE COMMENT --

Please call with your ideas -- suggest an indicator, volunteer information, or offer ideas on how to make future reports as useful as possible. We welcome all comments and suggestions. You can reach us @ 970-963-5502. Thanks for your interest and participation.

Table of Contents

Introduction

The Healthy Community Indicators Project is an effort to promote an integrated long-term perspective on the health and sustainability of the Roaring Fork-Grand Valley Region (Parachute to Aspen). By examining trends that affect our communities, the project hopes to provide citizens with useful information about the health and livability of our region and the qualities that make it a special place.

This report does not offer a complete picture of our region. It is our first effort to sample some trends that affect the health of the Roaring Fork-Grand Valley Region -- good and bad -- and to illustrate how examining a broad range of indicators can help us make decisions about our collective future. There are other indicators we will include in subsequent reports.

GOALS

The goals of the *Indicator Project* are threefold:

- **Raise public awareness** -- educate ourselves about important environmental, social, and economic trends that affect the health of our communities and the sustainability of the region.

- **Develop a tool for decision-making** -- inform decisions that affect our health, the lives of our children, our economy, our environment, and our community.

- **Monitor our progress** -- help evaluate our efforts toward creating a healthy, vibrant, sustainable future. By monitoring and reporting community indicators, local governments, nonprofits, health and human service agencies, civic organizations, local media, and citizens can help track our progress to a better tomorrow.

WHY INDICATORS?

The idea of using indicators to determine how we are doing is not new. Nations, states, and corporations have used and continue to use a variety of indicators to gauge where they stand. In all cases, there is a general accounting for what matters most -- or what people believe matters most.

What is new about indicators of community health is that the accounting goes beyond economics. Healthy community indicators are *vital signs* of social, environmental, and economic trends.

Almost every local news paper has headlines on sales tax, housing starts, or how the Dow-Jones Industrial Average is doing. But what do these economic indicators mean on Midland Avenue in Basalt, Main Street in Aspen, and Railroad Avenue in Rifle? As important as such indicators may be, the picture they provide is incomplete. This project hopes to complete the picture of our communities' health and sustainability by examining trends that affect our quality of life.

"Indicators are like gauges and dials of an aircraft's instrument panel. By designing them carefully, watching them closely, and interpreting them wisely, we know the status of our flight and can make good decisions about where to go. With out indicators we're just flying by the seat of our pants."

Introduction
Sustainable Seattle Report

HISTORY

This report was inspired by work done in other communities across the country. The work of a group called *Sustainable Seattle* was particularly helpful and this document benefits greatly from their pioneering example.

One of the first efforts to understand some of trends that affect our region began with Healthy Mountain Communities' *Community Health Profile* in 1993. The *Profile* was an attempt to gather in one document a "snap-shot" of our region's economic, environmental, and social health.

"Much of the data support intuitive notions," the report says, "for example, income levels decrease as the distance from Aspen increases." Other data may be more surprising; for example, such as high school graduation rates are highest in Aspen and Rifle, and lowest in the Glenwood-Carbondale-Basalt area. Other findings of the *Profile* include:

- Education levels are generally lower down valley.
- High housing costs may be forcing over-crowded living conditions.
- Economic growth is reliant on the service industry, yet the service industry pays relatively low wages.
- Seasonal employment and long commutes decrease long-term commitment to the community.
- Lengthy commutes and the need for multiple incomes may foster juvenile delinquency.
- Domestic violence and juvenile delinquency are highest in communities with greatest commuting times.
- Balancing environmental protection and economic development may be the defining challenge for our community.

A second effort to understand regional trends began in 1994, when several Leadership Aspen participants (later to be known as the Sustainable Roaring Fork Valley Committee) became interested in new perspectives on development. The idea of sustainable development -- that decent jobs and successful business ventures need not come at the expense of community life or the health of the environment -- led them to explore ways to increase community awareness about sustainability. During the last year, group members have been indentifying and researching a variety of trends in our region.

This report builds on both these above efforts. The information it presents is an initial attempt to measure the vital signs of our community. It also hopes to demonstrate how trends are interconnected.

THE FUTURE OF THIS PROJECT

The communities of the Roaring Fork-Grand Valley Region face difficult decisions. The combination of a growing economy, small communities, and natural beauty make the region an attractive place to live, retire, or raise a family. Changes are happening fast. We are all being affected by powerful eco-nomic and social forces. In a period of rapid change, it is crucial to keep a long term perspective.

"There are many ways to define sustainability. The simplest definition is: A sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support."

Donella Meadows
Beyond the Limits

Over the next 18 months, HMC will be working with citizens, local governments, and other organizations to develop additional reports on trends in our region. For these reports to reach their full potential, however, they need your input. Please call with your ideas -- suggest an indicator, volunteer information, or offer ideas on how to make this effort as useful as possible. We welcome all comments and suggestions.

ACKNOWLEDGMENTS

This report owes much to the people listed on the next page. Without their tremendous effort, this report would not exist. We also want to thank the Thrift Shop of Aspen for their generous support, which made priniting this report possible.

Participants

The following is a list of the people who have contributed to this report:

Karla Bascayni
Darcey Brown
Rick Cote
Russell Disberger
Mark Donaldson
Amy Gilbertson
Gary Gleason
Doug Graybeal
Tom Goodwin
Carolyn Hardin
Lynne Haynes
Cindy Houben
Alice Hubbard
Gail Hutchinson
Michael Kinsley
Leslie Robinson
Nan Sundeen
Barbara Umbreit

Writing, Editing, and Design:
Colin Laird
Marie Layton
Randy Udall

"[W]hat holds people together long enough to discover their power as citizens is their common inhabiting of a single place."

Daniel Kemmis
Community and the Politics of Place

Regional Vision

WHAT DO WE WANT THE PARACHUTE TO ASPEN REGION TO BE LIKE IN THE YEAR 2020?

The following draft regional vision statement for the Parachute to Aspen Region is the result of synthesizing community comprehensive plans from the region and gathering region-wide citizen input. Healthy Community Indicators could be an important part of monitoring our progress toward such a vision. Please send us any comments you might have.

The Parachute to Aspen Region will be a place of diverse, unique, and healthy communities. Through foresight in planning, citizen participation, and collaboration between local governments, our region will have directed growth to maintain the character of our small towns, diversified the local and regional economy to meet our needs, enhanced the natural beauty in and around our communities, and fostered a sense of stewardship toward people and place. Listed below are further details on what the region will look like in different areas of concern.

AGRICULTURE

- Diverse ranching and farming operations are viable and valuable components of the regional economy.
- Local meat and produce is available in local markets, stores, and restaurants.

BUSINESS/ECONOMY

- The region has a diverse, sustainable economy with balance between locally focused and tourist oriented businesses.
- There is increased opportunity for people to work in the community they live in.

COMMUNITY DESIGN/CHARACTER

- The region consists of "real communities" with small town character and characters participating year-round.
- Communities are "people friendly" and accessible to all members, especially children and seniors.

CULTURE/EDUCATION

- There are cultural activity centers where people of all ages can share with each other through art and cultural activities.
- Community members are active, caring, and culturally and spiritually respectful and aware.
- Education in the region is diverse, innovative, experiential, experimental, flexible, encourages life-long learning, and fosters a commitment to people and place.
- Recreational opportunities are abundant and affordable.

ENVIRONMENT/RESOURCES

- The region uses resources (water, energy, land) efficiently to sustain the environment as well as manage and shape growth.
- Buildings, communities, and transportation systems in the region are designed efficiently to eliminate or minimize waste.

GOVERNANCE

- There is significant regional cooperation, visioning, and planning (*i.e.,* intergovernmental council, mid-valley government, regional county)
- The systems of governance in the region is efficient, cooperative, and service oriented.
- There is consistency between regional, county, and town comprehensive plans.

HEALTH

- The basic health needs of all citizens in the region are met (adequate shelter, food, safety, and medical care) and there is comprehensive medical coverage.
- Community programs focus on prevention before intervention.

HOUSING/COMMERCIAL BUILDING

- There are efficient, diverse, affordable, owner-occupied homes to support people living in the same community that they work in.
- There is mixed-use commercial/residential development that complements the scale of each town and is accessible via foot, bicycle, or public transit.

LAND USE/TRANSPORTATION

- The region's communities are compact and pedestrian-oriented.
- There are non-auto transportation options available within and between communities.
- There is development based on urban growth boundary capacity, preserving open space, wildlife, and agriculture.

OPEN SPACE/WILDLIFE

- There is protection for and purchase of significant open space within and between communities including river corridors, wildlife corridors, public easements, and agricultural lands.

Healthy Community Indicators Summary

Roaring Fork-Grand Valley Region
(Parachute to Aspen)

☺👍 moving toward a healthy community moving away from a healthy community ☹👎

some aspects toward a healthy community away ☺/☹ some aspects away from a healthy community

Daily Traffic	☺/☹
Air Quality (PM10)	☹ 👎
Public Transportation Ridership	☺ 👍
Regional Population	☹ 👎
Deer & Elk Population	☺/☹
Energy Usage	☺ 👍
Landfill Volumes	☺ 👍
Voter Participation Rate	☹ 👎
Library Usage	☺ 👍
Price of Housing	☹ 👎

Healthy Community Indicators List

The following is a list of possible indicators that could help us determine the health of the communities in the Roaring Fork-Grand Valley. We hope to include many of them in future reports. (Italicized indicators are included in this report.)

- *Air Quality (PM10 Levels)*

Water Quality

Percentage of acreage in open space (dedicated)

Miles of hiking biking and pedestrian trails

- *Deer & Elk population*

Trout Population

- *Regional population*
- *Average daily traffic*

Per capita vehicle miles

- *Public transportation ridership*

Ratio of employees to jobs (within communities/within region)

Urban area expansion versus urban population growth rate

- *Annual landfill volumes*

Waste recycled

Per capita water and energy consumption

- *Energy usage*

Average wage levels

- *Average price of houses sold*

Percentage of employees at average wage levels

Ratio of median household income to median house value

Number of locally owned businesses

Number of operating ranches and farms

Percentage of employees in retail and service sectors

Per capita net income

Number of people children living below poverty level

Number of people without health insurance

Low birth weight rate

Literacy rate

- *Library usage*

High school graduation rate

Percent of second homeowners versus full time resident

Rate of foster care placement

- *Percentage of registered voters voting in local elections*

Daily Traffic

DESCRIPTION

The traffic passing by on the roads of our communities has a direct effect on their health. Increasing traffic can lead to congestion headaches for resident commuters and tourists alike. It can also make communities pedestrian nightmares and reduce the overall livability of an area.

DEFINITION

The Colorado Department of Transportation (CDOT) currently measures traffic at three sites: Cemetery Lane in Aspen; Old Snowmass; and the southern limit of Glenwood Springs.

This indicator is based on average number of vehicles passing each site daily per year.

INTERPRETATION

Average daily traffic data from CDOT indicates that the number of vehicles passing its vehicle counters increased dramatically from 1980 to 1990 in all three locations in the region. According to the traffic counts at the Aspen end of the region, daily traffic has decreased significantly over the last 5 years. Meanwhile, The number of cars at the midvalley and down valley sites continue to rise slowly and steadily.

EVALUATION

The increasing convenience of bus service bus service has probably had a significant impact on daily traffic into Aspen. This is a healthy trend. During the same period, however, the increasing amount of traffic recorded at downvalley sites may indicate the need for additional bus service to Carbondale, Glenwood Springs, and Rifle to reduce the steady trend toward more vehicles on the road.

LINKAGES

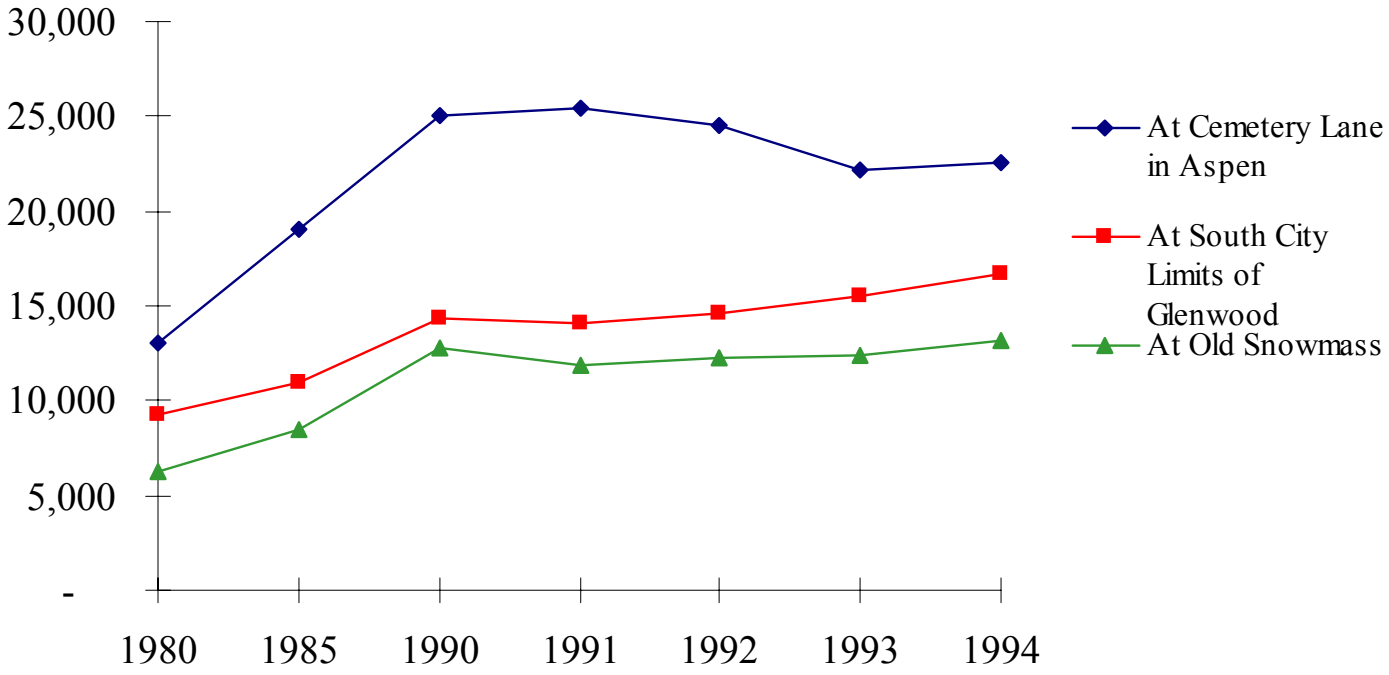
The number of vehicles on the road is linked to land use patterns, jobs to housing ratios in communities, the price of gasoline, and overall community livability. Increasing traffic can create traffic congestion, increase air pollution, and increase the cost of road maintenance.

Numerous communities across the country are realizing that the costs of traffic are substantial. (The Bay Area Economic Council estimates that San Francisco businesses lose $2 billion each year while employees sit in traffic.) Consequently, many are taking steps to remove traffic from downtown cores and neighborhoods by providing access through transportation alternatives such as electric buses, light rail, and bike and pedestrian paths.

"If the retail cost of gasoline reflected the costs of traffic regulation, police, firemen, highway construction and maintenance, accidents and related health care costs, and tax losses from land paved over for vehicle use, gas would cost $4.50 per gallon."

Center for Neighborhood Technology

Number of Vehicles



Air Quality

DESCRIPTION

Clean air is a basic requirement for human health and healthy communities. Poor air quality significantly affects all aspects of life -- from diminishing scenic views to causing respiratory illness. The best (or worst) example of poor air quality in Colorado is the "brown cloud" that often shrouds the Denver metropolitan area.

One common way to evaluate air quality is to count the number of small dust particles in an air sample.

DEFINITION

Particles of 10 micrograms (PM10) or smaller are inhalable and can do consider damage to lungs, causing difficulty breathing and respiratory illness.

PM10 particles come from several sources. They are created by power plants, cars, buses, and wood stoves. In the Roaring Fork-Grand Valley Region, the largest sources of PM10 are car and truck engines and traffic, which stirs dust from roads.

The Colorado Department of Public Health and Environment monitors air sampling stations in Aspen, Snowmass Village, Glenwood Springs, and Rifle. The 24-hour PM10 concentration is the best reflection of local air quality.

"There is a 30% difference in the rate of heart disease, respiratory diseases, and lung cancer between the most [air] polluted and least]air] polluted cities."

Campaign for Reliable Transportation

INTERPRETATION

In Colorado, the acceptable 24-hour maximum level of PM10 is 150 micrograms per cubic meter. Data suggest that air quality in Aspen has improved over the last few years. The same cannot be said for other communities. PM10 concentrations in Snowmass Village, Glenwood Springs, and Rifle have increased since 1991. In Rifle, PM10 levels have doubled.

EVALUATION

Standards of "acceptable" pollution often reflect political compromise. There is debate over whether the existing PM10 standard should be lowered or raised, as well as what impact such changes will have on human health. (In California, the PM10 standard is 50 micrograms/cubic meter -- three times stricter than the Colorado standard.) There is increasing evidence that health can be damaged even from short-term exposure to high PM10 levels.

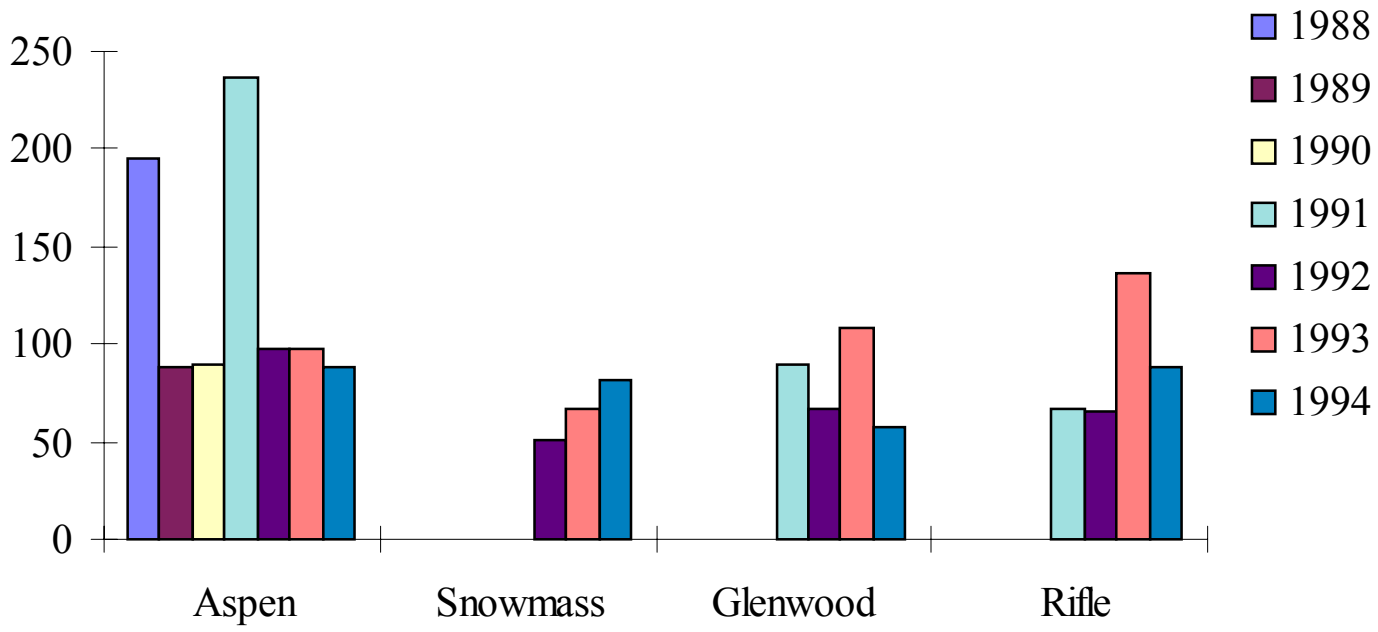
Increasing levels of PM10 are linked to increased numbers of vehicles and traffic in our region. The decrease in PM10 in Aspen is probably not due entirely to less traffic, but to a combination of more snow in recent years and a switch to spreading salt instead of sand on icy roads.

Although PM10 levels are still under 150 micrograms /cubic meter in most of our communities, the trend toward higher levels threatens our overall health.

LINKAGES

Air quality is related to increasing population, increase of single occupancy vehicles, and sprawling land use patterns. Poor air quality can increase short-term and long-term health care costs, and lead to social stress. It can also affect economic activity, especially tourism. People come to our region to see crystal clear skies not brown clouds.

Micrograms / cubic meter



Roaring Fork Transit Agency Ridership

DESCRIPTION

A healthy community provides people with transportation options to meet their needs. It also recognizes that the true goal of transportation is not mobility but access -- to work, school, shopping, day care, parks, and entertainment.

The ideal transportation system would be convenient, inexpensive, enjoyable, energy efficient and safe. Public buses are an important part of a sustainable transportation system.

DEFINITION

The Roaring Fork Transit Agency (RFTA) provides bus service between Aspen and Glenwood Springs. Ridership information is available from RFTA. This indicator uses yearly ridership for the entire RFTA service area and examines how ridership has changed between 1979 and 1995.

INTERPRETATION

The number of people taking advantage of the bus system has increase sign-ificantly since RFTA began offering hourly service between Aspen and El Jebel in 1988. In that year, ridership increased 10% over 1987.

Between 1988 and 1994 ridership increased an addi-tional 45%. This rapid climb came as RFTA expanded its service area and increased bus frequency. Except for 1991-92, when RFTA increased its fares, ridership has increased almost exponentially. Ridership estimates for 1995 are roughly twice 1989 totals -- 3.5 million passengers!

EVALUATION

Thanks to the foresight of citizens and elected officials who created RFTA, and the governments who fund it, our region is becoming healthier by providing residents and visitors with transportation alternatives.

RFTA continues to become more convenient and accessible, and as a result ridership has increased almost faster than the organization can handle. The development of a bus facility in Carbondale in the next few years will increase RFTA's ability to serve Carbondale, Redstone, Glenwood Springs, and Rifle areas.

The current pattern of land development in the region, however, threatens to make RFTA's job more difficult. Suburban sprawl and rural ranchettes are difficult to cost-effectively serve with buses. If sprawl continues, a larger and larger percentage of our population will not have easy access to a bus stops, and be forced to rely on the single occupancy automobile -- increasing pol-lution, congestion, and pavement.

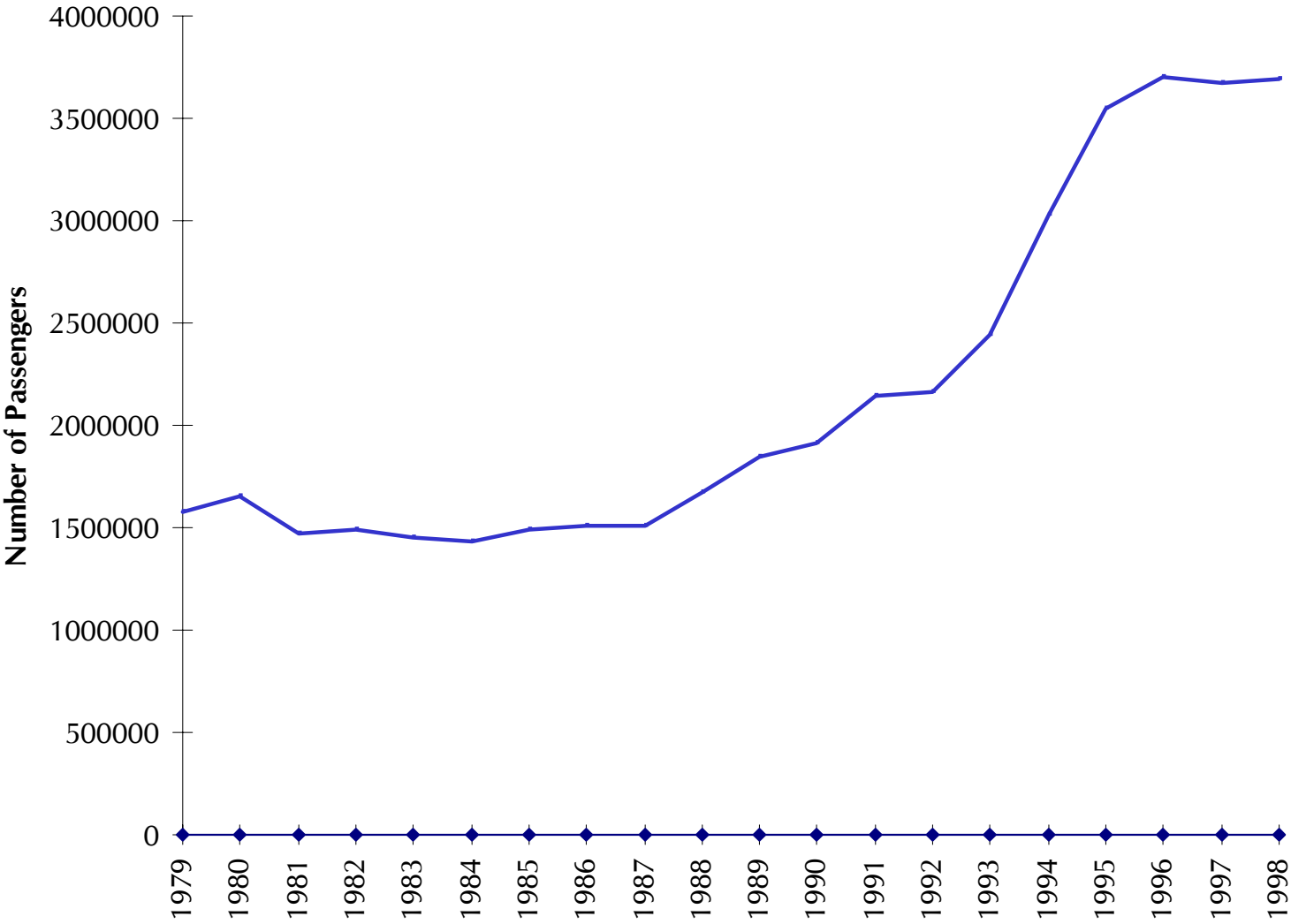
"Out of pocket costs of owning an automobile are estimated at $4,000 annually for fuel, insur-ance, and car payments . . . 35% of American families own two auto-mobiles, and 20 % own three or more."

Dan Carlson
At Road's End

LINKAGES

Bus ridership is linked to population density, land use patterns, and the proximity of supermarkets, schools, stores, work, and day-care to access points. Park-N-Ride lots can get people out of cars and onto buses for part of their daily commute. Fare price has a significant effect on ridership, but access and convenience seem to be equally or more important for many riders.

Despite the success of public transportation in the region, a lengthy commute of one to two hours each day via bus (or car for that matter) is time residents can't spend with their families, enjoying public amenities, or working to improve their communities. Increasing opportunities for residents to work and live in the same place is crucial to developing healthy communities.


Number of Passengers
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998

Regional Population

DESCRIPTION

We do many things that hamper our progress toward healthy communities. A rapidly increasing population further challenges our ability to manage traffic, maintain open space, control crime rates, and handle other social and environmental problems.

DEFINITION

Population information for years 1980, 1990, and 1993 comes from The State of Colorado Department of Local Affairs. Population information from 1890-1970 comes from *A Century of the Colorado Census*.

The data from both sources includes people within incorporated communities in our area. Consequently, actual regional population is probably higher. (Future reports will include comparisons between population in incorporated versus unincorporated areas.)

INTERPRETATION

The population of the communities in our region has been growing since the decade of the 1930s, after three decades of losing population. The rapid population growth in the area, however, began during the 1950s. During this post-war decade, communities like Glenwood Springs, Rifle, and Carbondale gained 30-50% more residents than they had when the decade started.

The rate of population in the region reached a high during the 1970s at 58% - a doubling of the region's population every 1.2 years! During the 1970s, communities such as Carbondale roughly tripled its number of residents from 724 to 2,084. Aspen and Rifle, increased their populations by 50%.

The 1980s had the region's population grow by 44% - a doubling of the population every 1.6 years. The early half of the 1990s has see growth in the region slow considerably to 7% between 1990 and 1993 (a doubling of the region's population every 10 years - faster than any developing country in the world).

"For immediate ecological improvements, power control, mass-production control, rubbish control, and pollution control are more imperative than as birth control."

Lewis Mumford
The Pentagon of Power

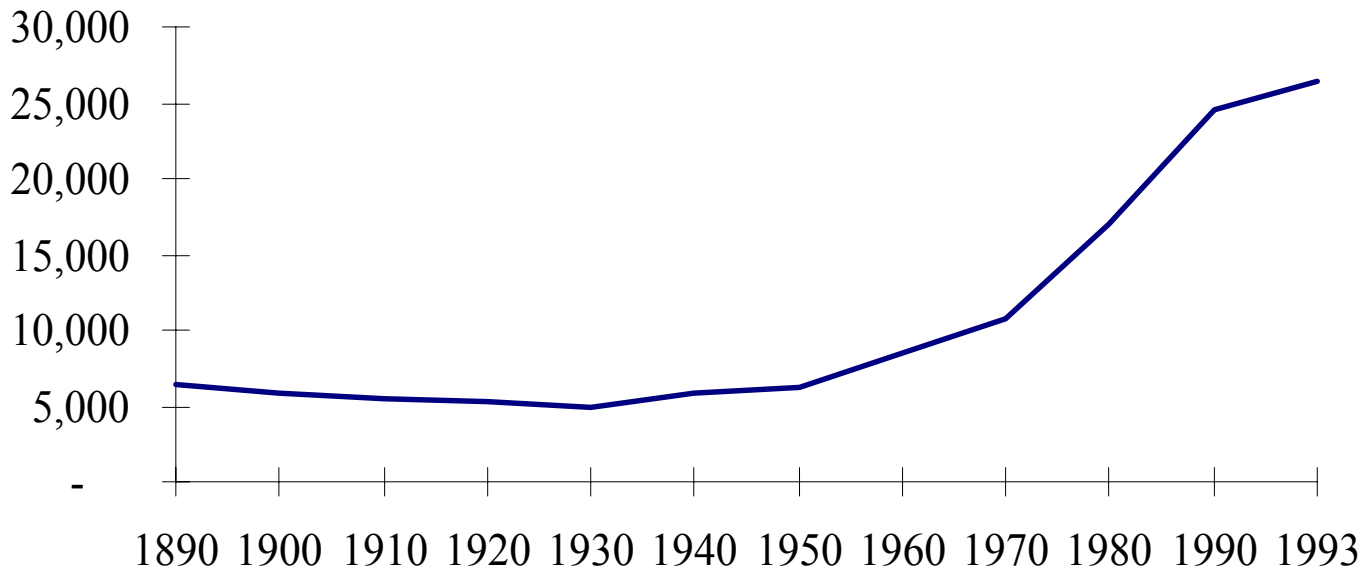
EVALUATION

Although the region's population growth has slowed down somewhat, particularly in Aspen, communities such as Basalt and Carbondale, (and possibly Silt) have large residential projects underway that will absorb additional residents for the next several years. How these projects are designed (*i.e.,* How efficiently will the buildings use energy and water? Will the project be easily served by public transit? Will they add to the traffic or mitigate for wildlife?) will determine whether they add or detract from the overall health and livability of the region.

LINKAGES

Population is linked to every other trend that affects our region since people are the force that create them -- from energy use to daily traffic. A growing population can be particularly destructive to the health of our region when it grows in suburban patterns - heavy reliance on the automobile, wide streets, and large lot development. This pattern is both expensive for families and local governments to maintain and adds to the unaffordability of the region as a whole.

Number of People (Parachute to Aspen)



Roaring Fork Elk and Deer Populations

DESCRIPTION

A healthy community is reflected in the health of the natural systems that surround it. Large mammals or birds are often key indicators of the health of an ecosystem and the impact human society has on it.

DEFINITION

The numbers in this indicator are based on Colorado Division of Wildlife (DOW) deer and elk subgroup estimated populations in our region. The deer information is based on post-hunt population numbers for the Maroon Bells, Basalt, and Sweetwater Creek herds. The elk information is based on post-hunt numbers from the Avalanche Creek and Frying Pan herds.

INTERPRETATION

The data for deer and elk in our region show opposite trends. The deer population has shown significant change and fluctuation since 1950 and is in decline. Elk, on the other hand, have been slowly and steadily increasing over the last four decades.

From a high of 45,844 in 1960, the deer population in the region has fallen, often dramatically, to a low of 18,942 in 1993. The elk population has doubled over the same period of time, from 4,185 in 1960 to 9,285 in 1993.

EVALUATION

Due to the extinction of predators to control their populations, the number of both deer and elk are influenced primarily by weather and human activity.

Because both deer and elk have large home range requirements in order to maintain a healthy population, the loss of open space and the disturbance of migration routes are two key elements in the deer's decline. This trend raises concern about the impact of development on both deer and elk populations. (One theory holds that elk maybe moving into deer range and further contributing to deer population decline.)

Although there is considerable public land in our region, the pressure for residential development, road expansion, and fencing on private holdings fragment both animals migration corridors and sometimes usurp calving grounds or winter forage, which makes survival for both animals all the more challenging.

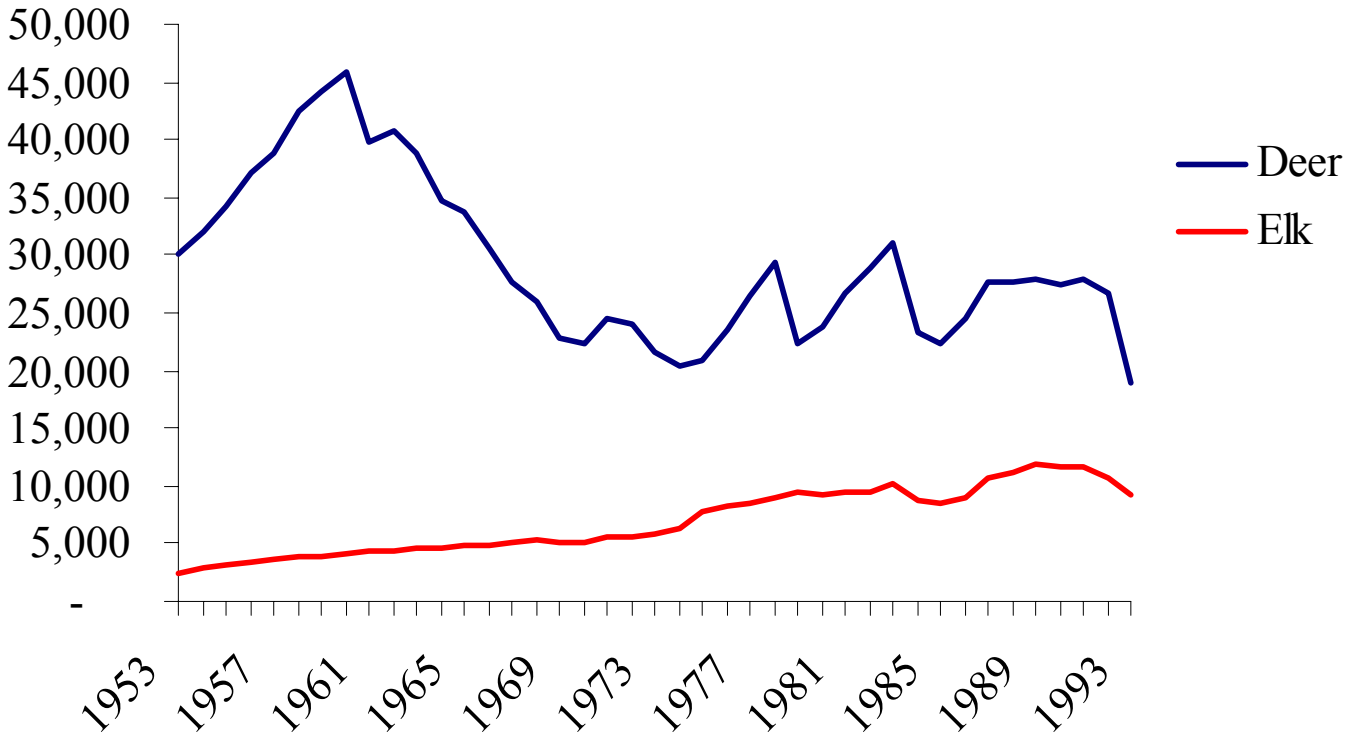
"If we speak of a healthy community, we cannot be speaking of a community that is merely human. We are talking about a neighborhood of humans in a place and the place itself: its soil, its water, its air and all of the families and tribes of the non-human creatures that belong to it."

Wendell Berry
Living with the Land

LINKAGES

The health of the deer and elk populations are linked to the extent and placement of residential and commercial development, access to migration routes and the local rivers, and winter forage. They are also linked to our recreational economy and our overall quality of life.

Number of Elk and Deer



Energy Usage

DESCRIPTION

A healthy community uses energy -- electricity, gasoline, and natural gas efficiently. In each case, such a community realizes it is not power per se it craves, but the services energy provides -- cold beer, hot showers, transport, lights, music, entertainment.

Consumers and businesses who can meet these "end-uses" at the least total cost can save money. By using energy efficiently, they also reduce the amount of fuel that needs to be stripmined or drilled for on their behalf as well as the air pollution caused by burning it. Energy efficiency thus becomes an important element in community health and sustainability.

DEFINITION

Holy Cross Electric Association, Public Service Company of Colorado, Aspen Municipal Electric System, and Glenwood Springs Municipal Electric System provided the data used in this report. Because of the many sources of energy use information, electricity usage was the easiest energy category to gather information on. Consequently, this indicator is based only on kilowatt hours of electricity comsumed in the Aspen to Glenwood Springs area. Subsequent reports will include a more complete picture of energy use in the region.

"In a typical town, 70 to 80 cents of every dollar spent on energy leave the local economy."

The Community Energy Workbook

INTERPRETATION

Residential and commercial use of electricity has increased steadily over the last five years. The average rate of growth over those five years was 4%. In 1994, however, electricity used in the Aspen to Glenwood area increased 8%.

EVALUATION

Over 85% of the electricity used in our region comes from coal-fired power plants in Colorado, Wyoming, and Nebraska. Although coal burning at those plants does not increase air pollution in our own backyard, it does contribute to acid precipitation and global warming. For example, the Mt. Zirkel Wilderness Area, immediately downwind of power plants near Hayden and Craig, Colorado, currently receives the most acidic precipitation of any mountain range west of the Mississippi River. In an average winter the Zirkel snowpack is 2.5 times more acidic than any other snowpack in the state.

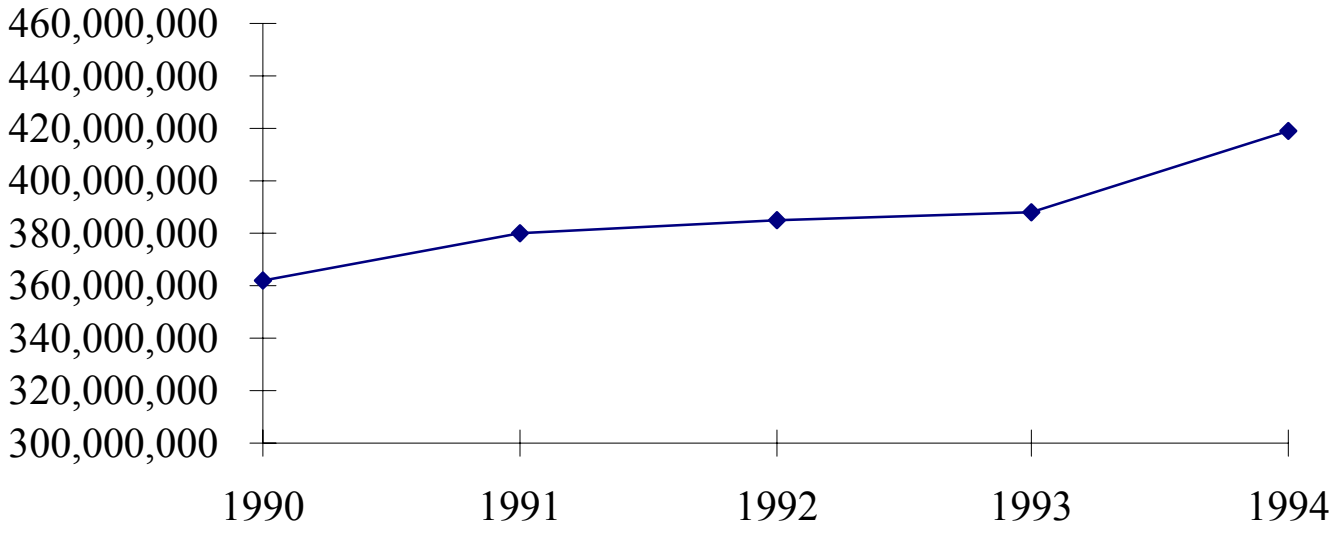
This indicator is not a per capita measure and is influenced by increasing population. In general, however, growth in the region's electricity usage is less than growth in its population. This suggests that the region as whole is showing a healthy trend of becoming more electricity-efficient.

However, a quick survey of shops and homes reveals that we have barely begun to tap our region's efficiency potential. Whether it is better lights in the local supermarket, more efficient snowguns at the ski area, or more insulation and better refrigerators in area homes, there's plenty of room to improve energy productivity.

LINKAGES

The use of electricity specifically, and energy in general is linked to awareness of the consequences of energy use, price, and design of buildings and machinery. Communities and companies across the country are recognizing the benefits of using energy efficiently. Efficiency is also a win-win situation for utilities and their customers. Energy efficiency can not only can save money and prevent environmental degradation, can be a foundation of a healthy economy by keeping money in the local economy longer. As Ben Franklin once noted, "waste not, want not."

Kilowatt hours of electricity used (Glenwood to Aspen)



Landfill Volumes

DESCRIPTION

A healthy community uses resources efficiently and produces little waste. Instead of using a resource only once, a healthy community finds ways to use and re-use a resource and associated wastes several times. Ideally, it tries to "close the loop" so that there is no waste at all. By reducing per capita production of waste, a community can also extend its landfill's life, postponing the need to build an expensive new one.

Landfill volumes provide a rough measure of how efficiently resources are used in our region.

DEFINITION

Valley Resource Management gathers information on three local landfills from Pitkin County, Garfield County, and the City of Glenwood Springs. (VRM is compiling data on local recycling programs for each community, and we will include such information in subsequent reports.)

INTERPRETATION

Over the last five years, landfill volumes in Pitkin and Garfield County have decreased somewhat. At South Canyon, near Glenwood Springs, however, the volume of waste has increased significantly over the last five years. The sudden jump in 1993 is probably due to the closure of the Carbondale landfill in that year.

EVALUATION

Despite the increase in the region's population over the last four years, total landfill volumes for the region have remained roughly constant. This implies that the amount of trash and waste being discarded by the average citizen has declined. (Since this indicator is not a per capita measurement, it is difficult to provide a exact amount of the decline. We hope to provide such information in subsequent reports.)

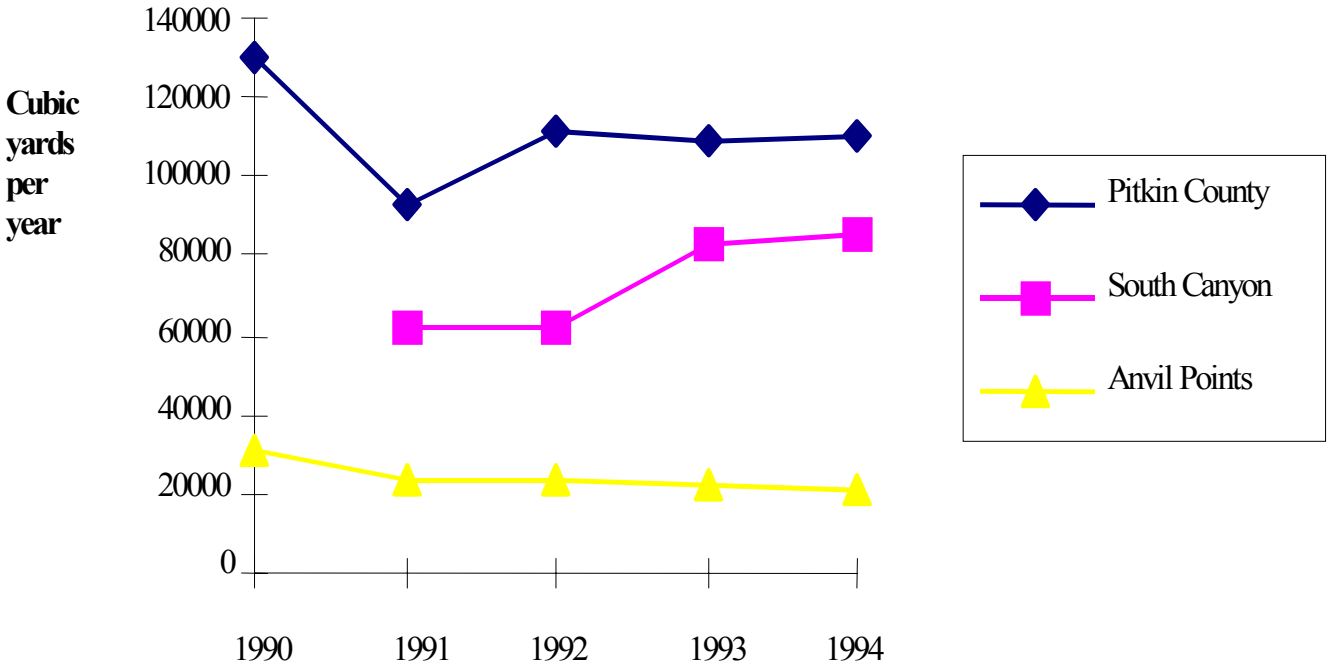
The recent trend in landfill volumes also strongly suggests that an increasing amount of household and business waste is being recycled at the numerous local recycling stations established over the last five years. This is a healthy trend we can build upon.

LINKAGES

Landfill volumes are linked to population, construction activity (about 25% of landfill waste is construction and remodeling debris), tipping fees, and the convenience of recycling. The numbers suggest that residents of the region are, in fact, throwing out less stuff, being more resource-efficient, and recycling more.

"Every American consumes about 36 pounds of resources a week, while 2,000 pounds of waste are discarded to support that consumption.

Paul Hawken
The Ecology of Commerce


Cubic yards per year
140000
120000
100000
80000
60000
40000
20000
0
1990
1991
1992
1993
1994
Pitkin County
South Canyon
Anvil Points

Voter Participation in Local Elections

DESCRIPTION

In democratic society, government "by the people" rests upon the participation of citizens. A healthy society is one in which citizens are fully engaged in the most obvious form of democracy -- voting -- as well as in the civic institutions that support and breed the skills of democracy.

DEFINITION

The percentage of registered voters participating in elections gives a sense of the most visible aspect of participation in a democratic society.

The range of record keeping techniques in the many communities in the region and the accessibility of such information made it difficult to create an indicator with information from the entire region. We hope to present a more complete picture of this indicator in future reports.

Information for this indicator came from the Clerk and Recorder Ofices of Pitkin County, the City of Aspen, and the Town of Basalt.

On a final note, voter participation in elections does not measure the number of people who refuse to register despite their eligibility.

"Over the last three decades, the faith of the American people in their democratic institutions has declined, and Americans have begun to doubt their ability to improve the world through politics. [...] Voters doubt that elections give them any real control over what the government does, and half of them don't bother to cast ballots."

- E.J. Dionne, Jr.
Why Americans Hate Politics

INTERPRETATION

Citizen participation in the political process is down in the U.S. as a whole and places like Pitkin County, the City of Aspen, and the Town of Basalt are no different. Although the number of registered voters who vote hovers around 80% in Pitkin County during Presidential elections, interest in local elections is substantially less.

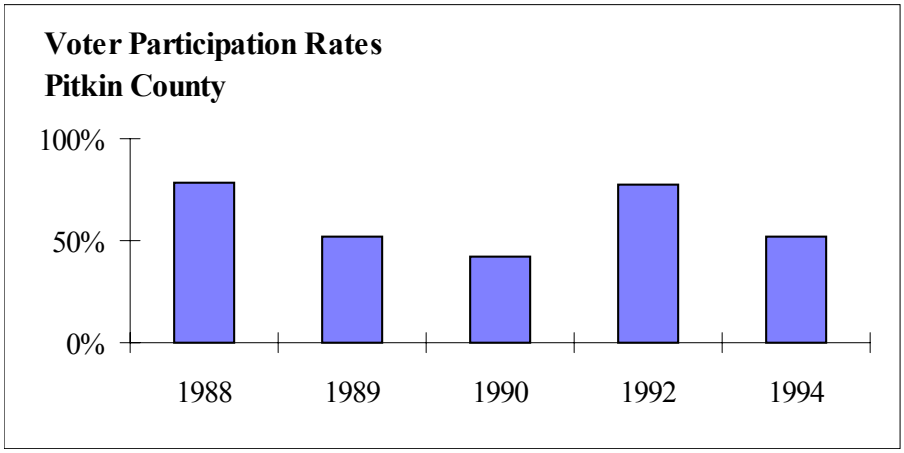
This trend of decreasing or minimal citizen participation is more evident in the municipal elections in Aspen and Basalt. From a high voter turnout of roughly 60% in 1989, recent City of Aspen elections have consistently drawn fewer than 50% of the eligible voters. The Town of Basalt has also had poor voter participation.

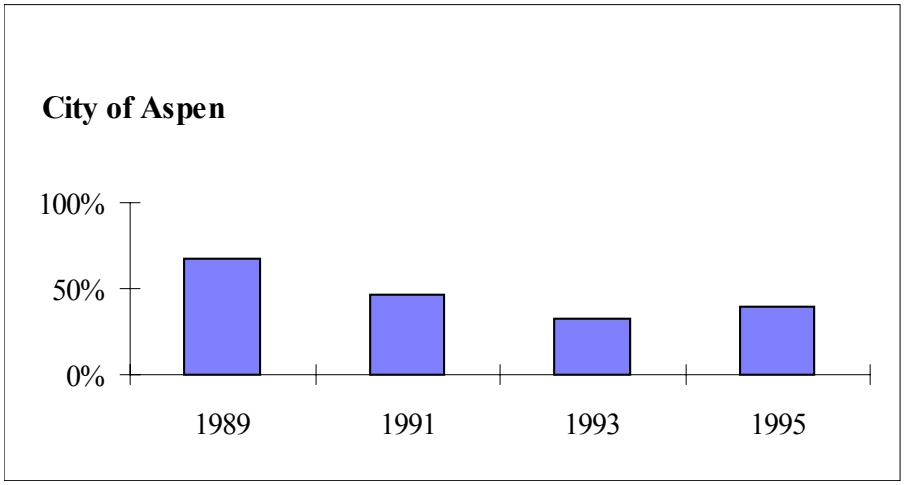
EVALUATION

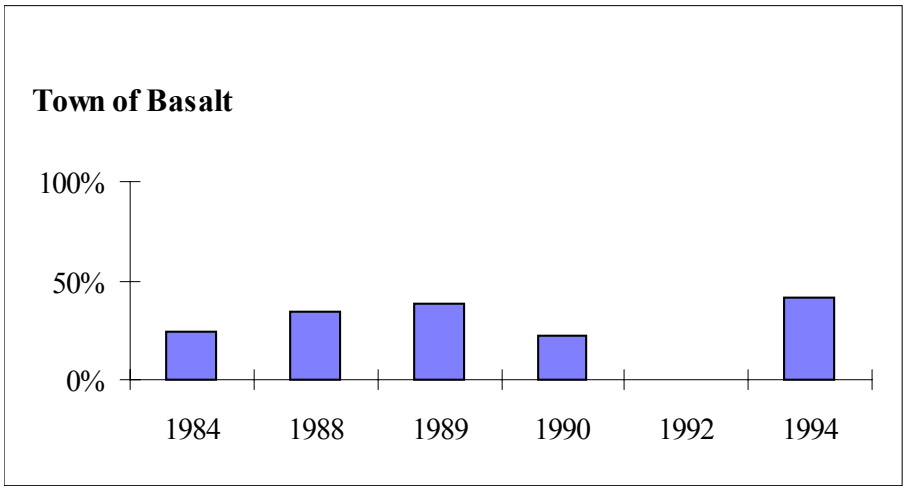
There has been a growing dissatisfaction with the political process in the U.S. recently. Many voters feel disenfranchised and angry at a system of governance that seems inaccessible and ignores their concerns. Unfortunatley, it is an unhealthy trend for citizens in a democracy to hate their government. It is ultimately disempowering and counter-productive, whether it is at the national or local level. If politics is "the process by which we define our collective existence," poor participation in the most basic form of democracy -- voting -- is a disturbing trend.

LINKAGES

Voter participation in elections is linked to education level, time, and accessibility and responsiveness of government and elected officials. It is also linked to our ability (or inability) to collectively solve problems, which threaten our long-term prosperity


Voter Participation Rates
Pitkin County
100%
50%
0%
1988
1989
1990
1992
1994


City of Aspen
100%
50%
0%
1989
1991
1993
1995


Town of Basalt
100%
50%
0%
1984
1988
1989
1990
1992
1994

Library Usage Rates

DESCRIPTION

Libraries are some of our most valuable institutions. They provide access to a wealth of information for all members of a community They help set a tone of questioning, exploration, and learning that is a critical part of a healthy community.

DEFINITION

Although libraries are used in many ways and for many purposes, one quantifiable measure of library usage is annual book circulation for each of the library systems in our region.

Information for this indicator was provided by the Pitkin County Regional Library in Aspen and the Garfield County Public Library in New Castle.

INTERPRETATION

The number of books and other articles checked out annually from the Pitkin and Garfield County libraries has steadily climbed over the last decade.

Since 1981 and 1994, the use of the Garfield County libraries increased 35% as a whole. In Pitkin County, usage grew gradually between 1981 and 1990. Since 1991, when Pitkin County opened its new library, usage has shot up an additional 43%.

"There is not such a cradle of democracy upon the earth as the Free Public Library, this republic of letters, where neither rank, office, nor wealth receives the slightest consideration."

Andrew Carnegie

EVALUATION

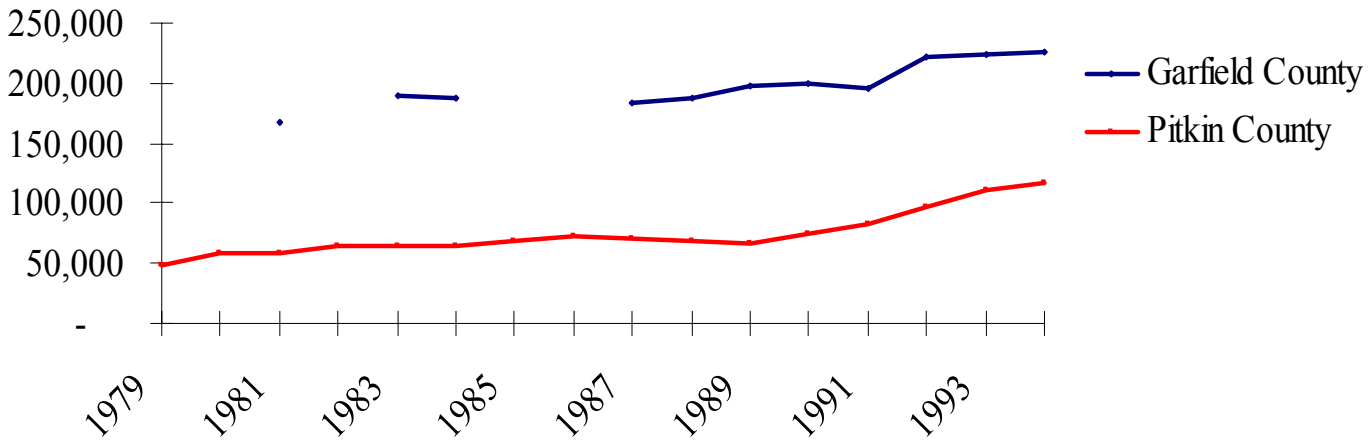
Interest in, and use of, public libraries in the Roaring Fork Region is obviously growing. In Garfield County, however, library usage is not growing as quickly as is population. It may be that newcomers take awhile to begin patronizing the local library, or that many people are simply reading less. Since many Garfield County residents commute long hours to jobs up-valley, they may also have difficulty accessing libraries during regular hours

In Pitkin County, on the other hand, library usage is exceeding population growth, particularly since the new library opened.

LINKAGES

Library use is linked to education, literacy, and civic involvement. Libraries have long been a focal point of community pride. Library usage is also, of course, linked, in a negative way, with television viewing. One cannot do both at the same time. It would be interesting to know whether local residents are spending more or less time watching TV.

Books checked out annually



Average Price of Houses Sold

DESCRIPTION

The price of housing is one of the prime determinants of whether a community is affordable to a wide range of community members. Trends toward housing unaffordability can be an indicator that a community is becoming more of an enclave for a particular segment of the population than a diverse and healthy community.

DEFINITION

Many people already know that housing is very expensive in Pitkin County. Consequently, this indicator looks at the average price of houses sold in Garfield County as an indicator of the affordability of the region.

Information for this indicator comes from the Glenwood Chamber Resort Association semi-annual publication, *TRENDS: A SEMI-ANNUAL REVIEW OF ECONOMIC INDICATORS*, and the Garfield County Assessor.

INTERPRETATION

Since 1991, the average price of a house sold in each of the communities of Garfield County has increased, with the exception of Silt and Parachute

Housing prices are highest in communities closest to Pitkin County. In 1994 there was a $100,000 difference between the price of housing in Carbondale compared to Rifle.

The rate of increase in the average price of housing sold has also increased greatly during the last few years. Housing prices are 28% higher in Glenwood in 1994 than they were in 1992. A similar trend is apparent in Rifle.

EVALUATION

Rising housing prices in Garfield County follow a trend in the region and nation as a whole -- it is becoming harder for families to buy median-priced homes. This is underscored by the fact that in 1970, half of all families could afford a median priced single-family home, while today, less than a quarter can. This same trend is magnified in our region and jeopardizes its health and livability.

LINKAGES

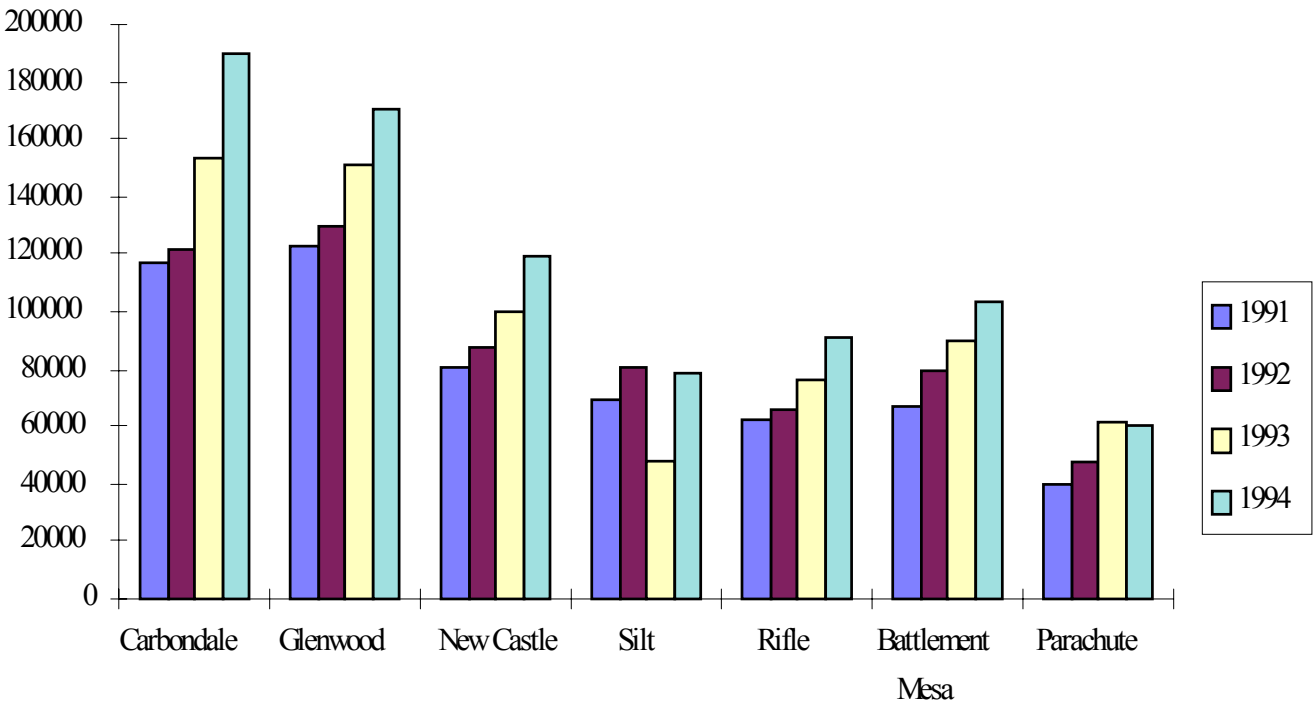
Housing costs are linked to community attractiveness, in migration, housing availability, the number of commuters, traffic, and the type of new suburban development. The notion of being able to live and work in the same community is a significant challenge for the communities if this region.

Although the lack of affordable housing in the City of Aspen has been cited as a cause of traffic problems on Highway 82, a recent study by the Glenwood Springs Community Development Department shows that the high cost and low availability of housing in Glenwood has roughly 5,000 workers commuting from New Castle, Silt, Rifle, and Parachute.

"Home ownership has become a troublesome -- if not unattainable -- goal, even with our double-income families. Affordable housing is growing ever more elusive and families have to move to cheaper but distant peripheral sites, consuming irreplaceable agricultural land and overloading the roads."

Peter Calthorpe
The Pedestrian Pocket

Average Price of Houses Sold



Regional Treasures

Below is a list of "treasures" of the Parachute to Aspen Region that were identified during the *Citizens Meeting on Growth and Our Future* organized by Healthy Mountain Communities and the Roaring Fork Forum on May 20, 1995. Participants were asked to identify the things they care about - a meadow, a park, a spot on the river, a farm or ranch, a building, an event -- on a rough map of the region. These are the places and things over 50 citizens from the region thought it would be a real shame to lose. Please feel free to add to the list. You can send your additions to HMC for future editions of the this report.

Parachute
- Bookcliffs

Rulison
- Cowboys
- Rulison

Rifle
- D & RG Railroad (for whole region)
- Rifle golf course
- Ranchers
- Rifle Mountain Park
- Rifle Gap
- Harvey Gap
- Open land

Silt
- Peach Valley Orchards
- Flat Tops Ute sacred sites

Glenwood Springs
- Hanging Lake
- Glenwood Canyon
- Canyon bike trails
- Hotel Colorado
- Old neighborhoods
- Hot Springs Pool
- Open/undeveloped ridgeline
- Red Mountain
- Old ski area
- River access
- Open space/ranchland between Glenwood and Carbondale
- 4-mile Park

Carbondale
- Open space/ranchland between fish hatchery and Thompson Creek
- Crystal River Ranch
- Bottom lands between RD 100 and Hwy 82
- Public access to rivers
- Main St. - small town character
- Riparian corridors
- Roaring Fork, Frying Pan, and Crystal Rivers
- Mt. Sopris Vista/clean air

Redstone
- Coke ovens
- historic character

El Jebel
- Missouri Heights rural character
- Open Space between El Jebel and Basalt
- River access

Basalt
- Old downtown Post office
- Bernard's bench
- Swinging Bridge
- Downtown character
- Rivers
- People
- Fishing access on all rivers
- Water sports on Reudi
- Reudi Reservoir
- Frying Pan Valley
- Groves of trees around town also by Bypass
- Open meadows between Basalt and Old Snowmass

Old Snowmass
- Snowmass Creek
- Open fields and ranch lands
- Rural character
- Cow Camp Trailhead
- Biking up Capitol Creek
- Llamas
- Watson Divide dirt road
- Snowmass Canyon/Big Trees/Riparian habitat

Snowmass Village
- Elk migration corridor
- Bike /walkway
- Brush Creek road
- Owl Creek valley
- Snowmass Village

Aspen
- RFTA
- Maroon Bells
- Nordic Trails
- Grottos
- Wilderness areas
- Smuggler Mountain
- Hunter Creek Trails
- Rio Grande Trails
- Pyramid Vista/clean air

Sources of Information

The following are the sources of information for each indicator. The source of quoted material associated with each indicator is also listed below.

General Information on indicators and related topics
Indicators of Sustainable Community: A Report to Citizens on Long-Term Trends in Our Community, 1993. Sustainable Seattle, c/o Metrocenter YMCA, 909 Fourth Avenue, Seattle, WA 98104 (206-382-5013). (1995 edition also available.)

Daniel Kemmis, 1990. *Community and the Politics of Place*. University of Oklahoma Press, Norman, OK.

The GDP Myth: How it harms communities, our quality of life, and what communities can do about it, 1995 by Susan C. Strong. The Center for Economic Conversion, 222 View Street, Mountainview, CA 94041-1344 (415-868-8798).

"If the Economy is Up, Why is America Down," October, 1995. Clifford Cob, Ted Halstead, and Jonathan Rowe. *The Atlantic Monthly*, 1290 Avenue of the Americas, New York, NY 10104, (212-830-1900).

Ecocity Cleveland: Ideas and Tools for a Sustainable Bioregion, May 1995 Newsletter. Editor/Writer David Beach. Ecocity Cleveland, 2841 Scarborough Rd., Cleveland Heights, OH 44118, (216-932-3007) E-mail: ecocleveland@ipc.apc.org.

A Pathway to Sustainability, 1995. Institute of Portland Metropolitan Studies, Portland State University, P.O. Box 751, Portland, OR 97207-0751, (503-725-5170).

The Community Health Profile: Parachute to Aspen, 1993. Healthy Mountain Communities, P.O. Box 451, Basalt, CO 81621 (970-963-5502).

Regional Vision
Since last April, 1995, when 70 citizens from the region met at the Governor's Regional Smart Growth Summit in Vail, the Roaring Fork Forum and Healthy Communities have been facilitating work to develop a regional vision and tools to help citizens create their preferred future. This draft vision statement synthesizes previous efforts to create community vision statements in the region, citizen input from a meeting last May sponsored by HMC and the Forum, and a regional vision developed by over 100 citizens from the region for Healthy Mountain Communities in 1993.

Daily Traffic
Colorado Department of Transportation, 4201 E. Arkansas Ave., Denver, CO 80222-3400 (303-757-9489).

The Neighborhood Works, February/March, 1993. The Center for Neighborhood Technology, 2125 West North Ave., Chicago, IL 60647 (312-278-4800).

Building Livable Communities: A Policymaker's Guide to Infill Development, 1995. Local Government Commission, 1414 K St., Suite 250, Sacramento, CA 95814 (916-448-1198).

Air Quality
Colorado Air Quality Data Report, 1991, 1992, 1993, 1994. State of Colorado, Department of Public Health and Environment, Air Pollution Control Division, Technical Services Program. 4300 Cherry Creek Drive South, Denver, CO 80222-1530 (303-692-3230).

Campaign for Reliable Transportation, 1995. Surface Transportation Policy Project, 1400 16th Street, NW, Suite 300, Washington, DC 20036 (202-939-2470) E-mail: stpp@transact.org.

Roaring Fork Transit Agency Ridership

Roaring Fork Transit Agency. Marketing Department, Aspen, CO 920-1905.

David Carlson, 1994. *The End of the Road.* Surface Transportation Policy Project, 1400 16th Street, NW, Suite 300, Washington, DC 20036 (202939-2470) E-mail: stpp@transact.org.

Regional Population

Demographics Section, Colorado Division of Local Government. November 21, 1994. *Population Estimates and Ranking for Municipalities, 1980-1993.*

A Century of the Colorado Census, 1977. Suzanne Schulze. University of Northern Colorado, Greeley, CO.

Lewis Mumford, 1970. *The Myth of the Machine: The Pentagon of Power*. Harcourt, Brace, Jovanovich, NY.

Roaring Fork Elk and Deer Populations

Colorado Division of Wildlife, Department of Natural Resources, 50633 Hwy 5 & 24,Glenwood Springs, CO 81601 (945-7288).

Wendell Berry, 1992. *Living with the Land*. Journal of Soil and Water Conservation, January/February. The Soil and Water Conservation Society, 7515 Northeast Ankeny Rd., Ankeny, IA 50021 (800-843-7645).

Electricity Usage

Information for the indicator was synthesized from the following sources:

Holy Cross Electric Association, Inc. Office of Power Supply and Special Projects, Glenwood Springs, 945-5491

The City of Aspen. Electric Department, Aspen, 920-5030.

The City of Glenwood Springs. Electric System, Glenwood Springs, 945-2575.

Public Service Company of Colorado (for the Carbondale Area). Western Region Sales Office, Grand Junction, 970-244-2611.

The Community Energy Workbook: A Guide to Building a Sustainable Economy. Alice Hubbard and Clay Fong. 1995. Rocky Mountain Institute, 1739 Snowmass Creek Road, Snowmass, CO 81654 (970-927-3851).

Landfill Volumes

Valley Resource Management, P.O. Box 251, Glenwood Springs, CO 81602 (970-945-8643).

Paul Hawken, 1994. *The Ecology of Commerce: A Declaration of Sustainability*. Harper Collins/Business Books, NY. Page 37.

Voter Participation Rates

City of Aspen Clerk and Recorder Office, 920-5060.
Pitkin County Clerk and Recorder Office, 920-5180.
Town of Basalt Clerk and Recorder Office, 927-4701.

E.J. Dionne, Jr., 1991. *Why Americans Hate Politics.* Simon & Schuster, NY. P. 10.

Library Usage Rates
Garfield County Regional Library System, New Castle, 970-984-2346.
Pitkin County Regional Library System, Aspen, 970-925-4025.

Andrew Carnegie quote from the world wide web site www.nlc-bnc.ca/ifla/l/humor/author.htm

Average Price of Houses Sold
Glenwood Chamber Resort Association. 1991-1995. *TRENDS: A SEMI-ANNUAL REVIEW OF ECONOMIC INDICATORS.* 1102, Grand Avenue, Glenwood Springs, CO 81601 (970-945-6589).

Peter Calthorpe, 1992. *The Pedestrian Pocket: New Strategies for Suburban Growth*, *in Sustainable Cities: Concepts and Strategies for Eco-City Development*. Edited by Bob Walter, *et. al.* Page 28.

Regional Treasures
The treasures of the Parachute to Aspen Region were identified during the Citizens Meeting on Growth and Our Future organized by Healthy Mountain Communities and the Roaring Fork Forum on May 20, 1995. Over 50 citizens from the region participated in this activity.