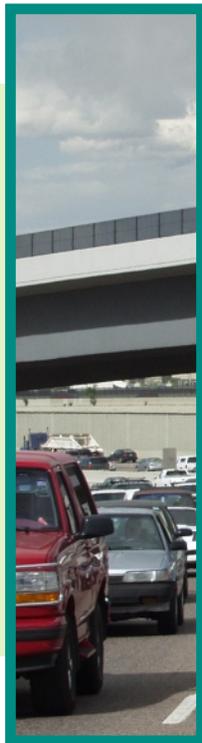


MEASURING PROGRESS



REGIONAL PERFORMANCE MEASURES AND INDICATORS

April 2005



THE DENVER REGIONAL COUNCIL OF GOVERNMENTS

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The logo for the Denver Regional Council of Governments is located in the top left corner. It consists of a light green horizontal bar with a dark teal shape cut out of its center. The text "DENVER REGIONAL COUNCIL OF GOVERNMENTS" is written in white, uppercase letters within the teal shape.

DENVER REGIONAL COUNCIL OF GOVERNMENTS

A Look at How the Region is Doing

In 1992, a group of local elected officials and business, environmental and civic leaders began a multi-step process to develop a long-range plan for the growth and development of the Denver metropolitan area, known as Metro Vision. The goal of Metro Vision is very simple and of extraordinary importance – to protect the quality of life that makes the region such an attractive place to live and work, and to raise a family.

The Board of Directors of the Denver Regional Council of Governments (DRCOG), an association of the region's local governments, adopted Metro Vision 2020 in March 1997. Metro Vision describes goals and policies in the areas of growth and development, transportation and the environment that will bring about the quality of life the region wants in the years leading up to 2020.

Seven years have passed since Metro Vision was adopted and the region is moving toward meeting Metro Vision's goals. An updated plan is in the works to carry the region to the year 2030. This report represents the first attempt to gauge progress on Metro Vision. It measures achievements on the major principles of the Metro Vision plan, along with some assessments for the overall quality of life. The report is structured along the major sections of the plan, with indicators for growth and development, transportation and the environment. An additional section describes socioeconomic changes in the region, such as population growth and employment. Each indicator focuses on a specific Metro Vision goal, but interrelationships exist between the goals. Success in reaching one goal will likely result in significant progress in achieving other goals as well. For example, implementing an urban center can reduce land consumption and vehicle trips. Urban centers also can encourage healthy lifestyles by making walking and biking convenient.

Seven years in the life of a plan with a 25-year horizon is a short amount of time to measure progress, but it's useful to assess where the region is and where it wants to be. In many cases, the indicators depict a baseline condition rather than defining a trend. The baseline becomes the foundation for future measurements. In addition, several indicators use 2000 as a starting point because 1997 data does not exist.

To quickly see how the region is doing, arrows have been used.



- An up arrow is displayed when the indicator is moving in a direction consistent with Metro Vision goals.



- A sideways arrow indicates that there is no major trend appearing or the indicator is being measured for the first time.



- A down arrow depicts if the region is moving away from Metro Vision goals.

What does the report tell us about the region? Of the 23 indicators, 17 show positive or stable trends (see summary). Over this initial seven-year span, a 74 percent positive or neutral composite bodes well for the future implementation of Metro Vision and its goals.

This report can only serve as an introduction to a set of indicators that, over time, can help citizens and their elected representatives determine if the quality of life is improving. It will be important for DRCOG to repeat this effort regularly to monitor trends in individual indicators. This effort will be able to show trends for the benchmark indicators as more data points are added.

This does not mean that Metro Vision is a failure or a success. As noted in the descriptions of each indicator, a number of actions have been identified to move every indicator into a positive direction. DRCOG and its member governments can take these action steps as a work program to ensure that the next report on regional performance will have even more positive indicators.

Growth and Development

-  Urban Area Consumption
-  Urban Density
-  Semi-Urban Development
-  Urban Centers
-  Freestanding Community Buffer
-  Freestanding Community Town Center Viability

Transportation

-  Funding of Major Transportation Projects that Add Capacity to the System
-  Congestion
-  Safety
-  Roadway Surface and Bridge Conditions
-  Use of Alternatives to the Single-Occupant Vehicle

Environment

-  Air Quality
-  Water Quality
-  Water Supply and Demand
-  Wastewater Capacity
-  Parks and Open Space per Capita
-  Amount of Protected Regional Open Space Preservation Focus Areas
-  Regional Biodiversity of Species and Significant Natural Communities

Social and Economic

-  Economic
-  Population
-  Housing
-  Health
-  Community Life



A Look at Growth and Development in the Region

Accommodating more than a million new people over the next 25 years challenges the Denver region to grow wisely. Metro Vision's growth and development goals and policies are designed with that in mind.

The Metro Vision 2030 plan has six growth and development goals.

- Ensure that urban development occurs within a defined 750-square-mile area, known as an urban growth boundary/area, to promote smart growth
- Minimize the amount of low-density, large-lot development occurring on the urban area's edge
- Encourage the location of higher-density, mixed-use, transit and pedestrian-oriented centers throughout the metro area
- Keep Boulder, Brighton, Castle Rock and Longmont distinct and separate from the larger urban area, and build their self-sufficiency
- Recognize the small communities located in the region's rural and semi-urban areas, and more clearly define and support their role in a regional context
- Promote development patterns and urban design features that meet the needs of older adults

To help the region assess its progress on growth and development goals, six indicators have been created:

1. Urban area consumption
2. Urban density increase
3. Semi-urban development
4. Urban center household and employment growth
5. Freestanding community buffer potential
6. Freestanding community town center maintenance

The following pages discuss and analyze the results of each indicator.

Highlights include:

- Urban land consumption isn't showing signs of slowing. In fact, if the region continues using land at its current rate, it will reach its targeted 2030 size well before 2030.
- On the other hand, density is increasing—thanks to infill and redevelopment activities. Densities remain low in new or greenfield development in the region, but infill development densities more than compensate. The region cannot continue to increase its density without denser new development.
- Semi-urban development is having an effect on the region. While not considered urban, this low-density development consumes land at a rapid rate.
- Household and employment growth in urban centers is mixed; the number of households is increasing but employment is decreasing. Without more employment growth, urban centers cannot meet their employment targets.
- The freestanding communities are adequately maintaining their physical and visual separation, or buffer, from the larger urban area.
- Results are mixed on the jobs-housing growth of the town centers in the freestanding communities. As with urban centers, more housing units are going in, but employment isn't keeping up.



Urban Area Consumption

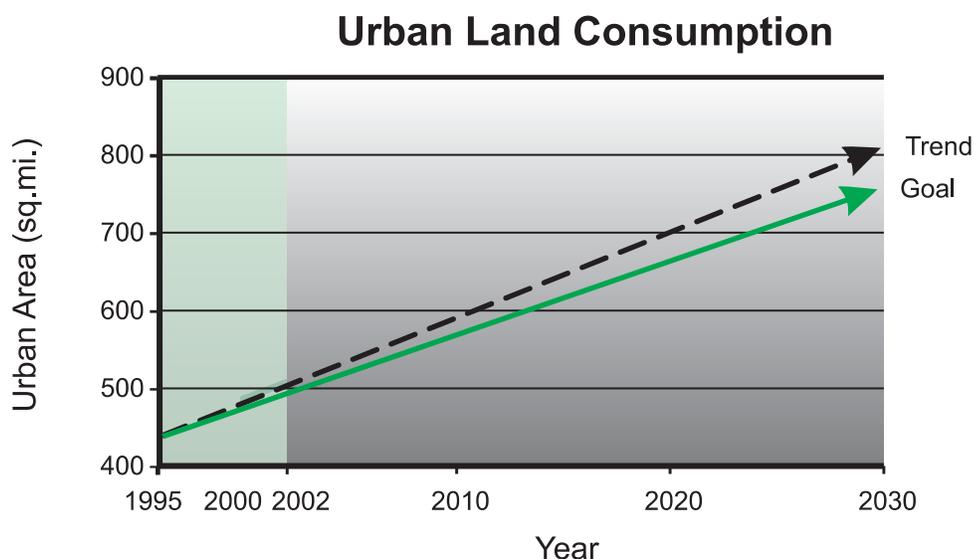
Goal: Metro Vision calls for the region's urban development to occur within a defined area, known as an urban growth boundary/area. Identifying where growth will occur will help the region promote a more orderly, compact and efficient pattern of future development and avoid the unnecessary and inefficient extension of transportation, water, wastewater and other urban services.

Policy: The Urban Growth Boundary/Area defines where urban development will take place in the region over the next 25 years. It is envisioned that no more than 750 square miles is necessary to accommodate the region's growth to 2030.

Measure: To give the region an idea of how fast it is growing, DRCOG measures urban land consumption. Using regionally accepted definitions of urban land, DRCOG tabulates the amount of urban development biennially. Data are available for both 2000 and 2002. Historic data for 1995 have been adjusted to estimate the effect of revisions in the definitions.

Conclusions: Between 2000 and 2002, the region added 22 square miles of urban development. The region's urban area now stands at 510 square miles. This is consistent with the rate of consumption between 1995 and 2000. As the urban land consumption graph shows,

the region is on a pace to reach its 750-square-mile goal **before 2030**. If the region continues at its current density and growth rate, its 2030 area will be closer to 800 square miles. Annual consumption should average no more than 8.6 square miles to meet the 750-square-mile goal in 2030.



Action Steps: To keep the region on the planned growth course, local governments need to:

- align their planned developments with the region's 750-square-mile goal;
- provide only those transportation facilities and services consistent with the urban growth boundary/area; and
- provide only those water and wastewater services consistent with the urban growth boundary/area.



Urban Density

Goal: Metro Vision's goal for urban development is to promote a more orderly, compact and efficient pattern of future development.

Policy: Metro Vision promotes smaller lot sizes and multifamily housing to achieve a more compact pattern of development. The plan calls for a 10 percent increase in density by 2030 from 2000. This density increase will provide compactness while still providing a variety of housing.

Measure: To measure density, the region's gross urban housing unit density is calculated. This is done using square miles of urban land and an estimate of the number of housing units in that area. Data are available for both 2000 and 2002.

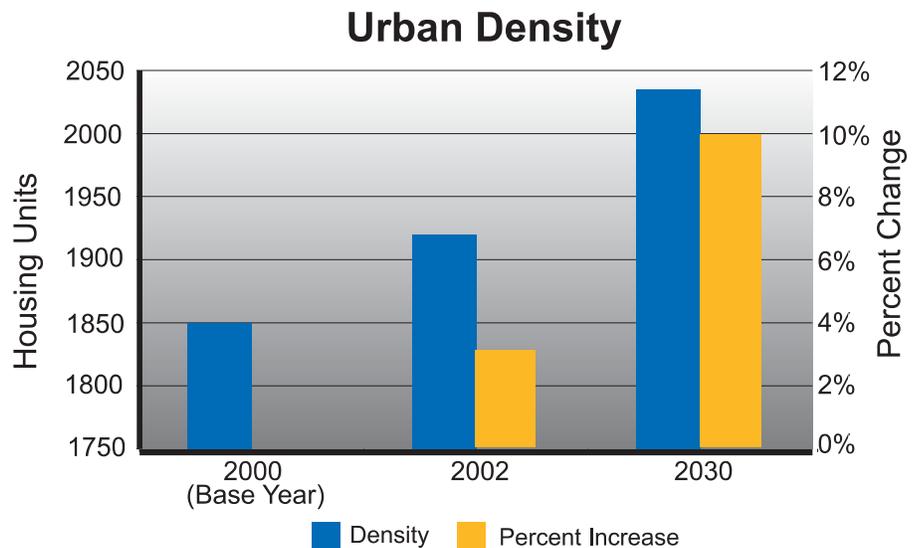
Conclusions: Between 2000 and 2002, the region's growth resulted in a 3.6 percent increase in housing unit density. This number, reflecting both new urban development and infill development, is moving toward the region's density goal. It may appear inconsistent for the density to be a positive indicator while the land consumption is negative, but

additional information can provide an explanation. Analysis shows that the region's increase in overall density is really a result of continuing development in the area already considered urban in 2000. This redevelopment

or infill development occurred on 488 square miles and increased from 1,850 to 1,930 housing units per square mile. Meanwhile, new development consumed 22 square miles with a density close to 1,700 housing units per square mile. The resulting regional average is 1,920 units per square mile. So, while density is increasing, it's primarily due to infill development. Denser new development will keep the region moving toward its density goal.

Action Steps: To help the region meet its density goal, local jurisdictions need to:

- establish higher densities for new development by encouraging a wider variety of housing types;
- support continued infill activities in areas already undergoing development; and
- implement urban centers and encourage transit-oriented development.





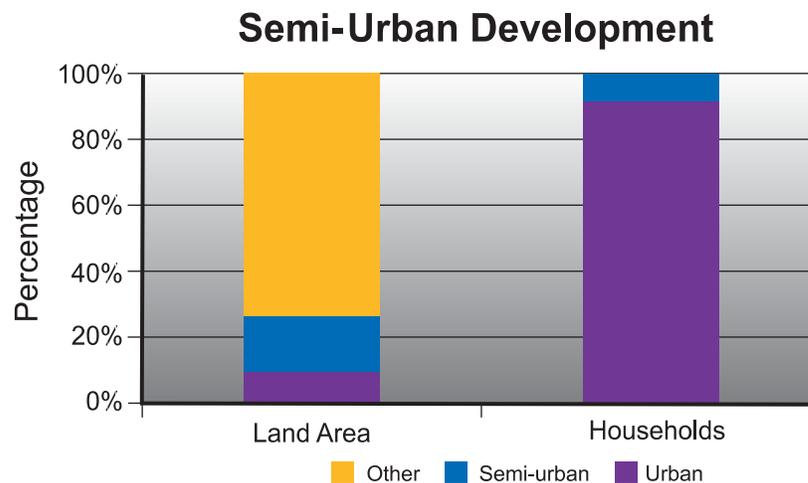
Semi-Urban Development

Goal: The Metro Vision Plan semi-urban development goal is to minimize the extent of low-density, large-lot development occurring in the periphery of the urban area.

Policy: Metro Vision does not encourage semi-urban development where parcels of one to 35 acres are not already platted.

Measure: As noted in the policy statement, semi-urban development is defined as parcels of one to 35 acres. As a baseline indicator, DRCOG measured the amount of semi-urban development in 1998 using statistical and geographical methods. DRCOG is working with local governments to develop other methods to measure the amount of semi-urban development in the region, as it changes over time.

Conclusions: While not considered urban, low-density development is of concern in the region because it consumes land at a rapid rate. Providing public services to low-density development can be difficult and expensive. Semi-urban development represented 17 percent of the region's land area in 1998 but contained only 8 percent of the households. The amount of land in semi-urban development was almost double the amount of urban land in the region in 1998. The "Other" category includes agriculture, forests, federal lands and open space.



Action Steps: Minimizing the future growth of semi-urban development will require:

- Local governments to limit semi-urban development to lots already platted.
- DRCOG to target investment in transportation infrastructure and other services to areas where urban development consistent with Metro Vision is planned.
- DRCOG to work with local governments on improved methods for tracking the amount of semi-urban development in the region.



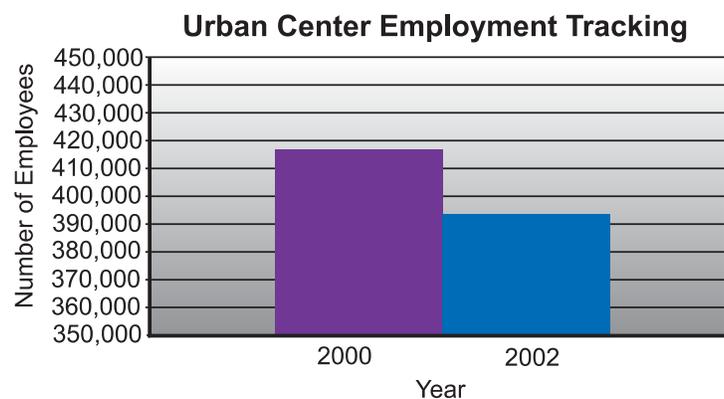
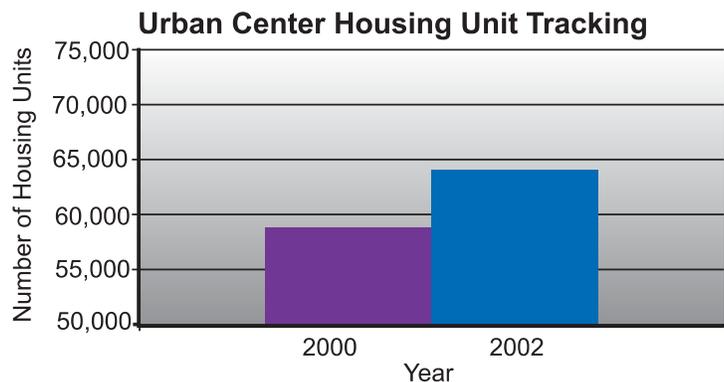
Urban Centers

Goal: Key to Metro Vision is the development of higher-density, mixed-use, transit and pedestrian-oriented urban centers throughout the Denver region.

Policy: A significant portion of future regional population and employment growth will occur within recognized urban centers.

Measure: Many local jurisdictions are planning for and constructing a series of mixed-use, transit-friendly, pedestrian-oriented, high-intensity urban centers. Local governments submit their urban center plans for recognition by the DRCOG Board. These plans identify the future employment and household targets, as well as the total size of each center. This information is compared to current estimates for housing and employment within each center to track implementation.

Conclusion: As the Urban Center Housing and Employment Tracking graph indicates, it appears that urban centers are not on track to meet their 2030 employment goals. The recent recession and subsequent job loss may be responsible. In addition, some employment loss can be expected when centers go through a period of redevelopment. It does appear that housing growth in urban centers is positive. Since a mix of uses is integral to the continued and future success of urban centers, it is important that both components of urban centers (housing and employment) achieve goals.



Action Steps: Metro Vision calls for establishing close to 70 compact, high-intensity, accessible, mixed-use urban centers in special areas throughout the region.

- Local governments need to support job-producing economic development at urban centers.
- Local governments will need to re-evaluate urban centers periodically to determine if they are developing as expected or should be removed from local and regional plans.
- DRCOG will also need to explore regional responsibilities, incentives and processes that guide jobs into planned centers.
- Transportation agencies will need to provide appropriate capacity to serve the travel demand at the urban centers.



Freestanding Community Buffer

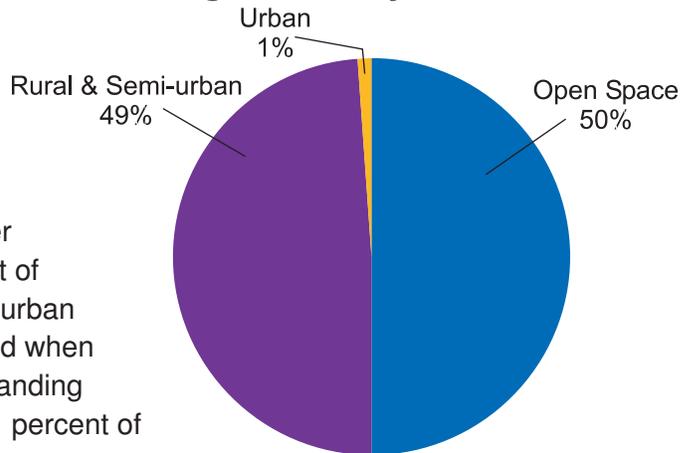
Goal: The four freestanding communities of Boulder, Brighton, Castle Rock, and Longmont should be maintained as distinct and self-sufficient communities, separate from the larger urban area.

Policy: Freestanding communities will establish a permanent open space or rural buffer to maintain physical separation from the larger urban area and retain a sense of community identity. Highway interchanges or transit stations will be located away from buffer areas to avoid development pressure.

Measure: To assess how well each freestanding community is maintaining its physical separation from the larger urban area, it is important to establish a “completeness potential” measure for each community’s buffers. The measure tracks how much of a community’s perimeter is open space, rural or semi-urban development, and urban development.

Conclusion: Each of the freestanding communities is different with respect to surrounding land uses. Overall, the freestanding communities have been successful at maintaining physical and visual separation from the larger urban area. Currently, the only community that does not have the opportunity to have a complete buffer is Brighton. Approximately 4 percent of Brighton is in contact with the larger urban area. This is a small percentage, and when viewed regionally (i.e., all four freestanding communities), it represents around 1 percent of the region’s total planned buffer area.

Freestanding Community Buffer Land Uses



Action Steps: This measure is expected to evolve over time since the buffer potential may change each year, based on development and purchase of open space within the buffer area. Freestanding communities will be well served to:

- ensure that uses developed within the buffer area remain non-urban. The greatest impact a local community can have in this respect is to preserve all potential open spaces in the buffer for future acquisition.
- pursue intergovernmental agreements with their counties and neighboring communities to gain assurances that potential development within the buffer area will be non-urban.
- in addition, transportation providers need to recognize the buffer in their plans to avoid locating major facilities in buffer areas.



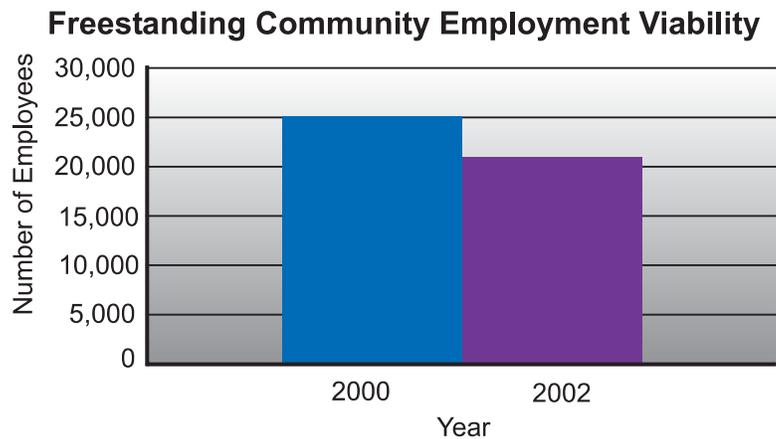
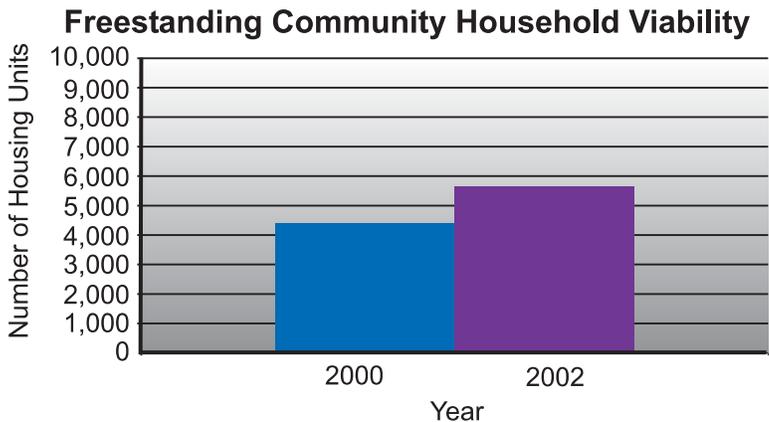
Freestanding Community Town Center Viability

Goal: The four freestanding communities of Boulder, Brighton, Castle Rock, and Longmont should be maintained as distinct and self-sufficient communities, separate from the larger urban area.

Policy: Each freestanding community will maintain a viable mixed-use town center to preserve community identity.

Measure: Because of the importance of each freestanding community's town center, the viability of each community's core can be measured. One way to look at center sustainability and possible growth is to track the number of housing units and employees in each center. These numbers will be recorded and compared over time.

Conclusion: As the freestanding community housing and employment chart indicates, housing units have remained relatively constant while employment has fallen within the freestanding community town centers. This decrease in employment may reflect the recent recession. If this trend continues, the balance of the town centers could be disrupted and the health of the center threatened. A truly mixed-use town center provides more opportunity for a freestanding community to act more independently. Absorbing both jobs and population is required to achieve the ideal mix, which is different for each community.



Action Steps: Since the unique personality of each freestanding community is what sets it apart from the rest of the metro area, freestanding communities need to:

- review development plans to ensure that further mixing of uses is promoted in their town centers.
- strive for economic stability and unique identity through increased and balanced job and housing growth.

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A Look at Transportation in the Region

Without a doubt, the region's transportation system will be one of its biggest and toughest challenges over the next 25 years. Growth and inadequate funding continue to reduce the ability of the region to achieve its transportation vision. This section gives a picture of what's been happening in the region and where we are today. It also sets the stage for tomorrow.

- The Metro Vision 2030 plan's transportation goal is to provide safe, environmentally sensitive and efficient mobility choices for people and goods; and integrate with and support the social, economic and physical land use development of the region and the state.

To consider how the region is addressing this goal, five indicators have been developed:

1. Funding of major transportation projects that add capacity to the system
2. Congestion
3. Safety
4. Roadway surface and bridge conditions
5. Use of alternatives to the single-occupant vehicle

The following pages discuss and analyze the results of each indicator.

Highlights include the following.

- The region faces a huge problem when it comes to funding the types of major transportation projects that can relieve congestion. Over the past decade, federal and state transportation funding has not kept up with the growth in population and in the number of miles of vehicle travel in the region. The Colorado Department of Transportation (CDOT) has focused on roadway maintenance, rather than on major projects that increase roadway capacity. As such, DRCOG's plan for future roadway projects has been severely curtailed. Additional funding must be developed.
- Congestion levels are getting worse due to increased growth and shortfalls in capacity funding. In 1990, about 50 lane miles of regional freeways and expressways were congested during peak periods. Today, more than 250 lane miles are classified as severely congested. DRCOG estimates for 2030 foresee a doubling of today's number. Congestion is not just aggravating; it's costly to business in delivering goods and services, and those costs are usually passed on to the consumer. Congestion levels and cost of congestion assess the region's mobility.
- Congestion is also affecting safety. The annual crash rate per 100 households in the region has increased from 7.3 to 8.4 over the last 15 years; the death rate has remained steady and the injury rate is declining. Congestion is the cause. Slower speeds and more stop-and-go conditions can increase the crash rate with fender-benders. Slower speeds also tend to reduce the severity of crashes.
- Roadway surface and bridge condition is a way to gauge the status of the region's existing transportation condition. Pavement conditions on state highways have improved since 2000, due to CDOT's emphasis on maintenance. Recent resource allocations for the 2005-2030 period are insufficient to maintain current road and bridge conditions. Bridge conditions, too, are expected to deteriorate over the next 25 years unless additional funding can be found. The picture is brighter on local roads and streets – about 92 percent of the region's local roads are in good or fair condition today. This is due to local governments directing significant funds to this activity above and beyond the funding they receive from motor vehicle fuel taxes and registration fees.
- One antidote to congestion is the use of transportation alternatives, such as transit, carpooling, vanpooling, bicycling, teleworking, etc. Transit ridership has gone up since 1990, with the exception of the last two years when the economy has had an effect. Carpool and vanpool use in the region increased slightly between 1990 and 2000, while working at home, or teleworking, has become a very popular alternative. The 2002 Census reported that the Denver region had 4.7 percent of its workers who worked at home; that's the highest percentage in the nation.



Funding of Major Transportation Projects that Add Capacity to the System

Goal: Metro Vision’s goal is to provide safe, environmentally sensitive and efficient mobility choices for people and goods; and integrate with and support the social, economic, and physical land use development of the region and state.

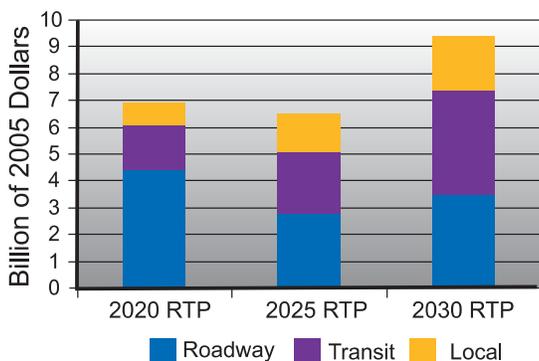
Policies: Metro Vision policies are to expand capacity of existing highways in the most critically congested corridors and at key traffic bottlenecks and encourage access control to maintain capacity; improve interconnection of the transportation system within modes, between modes, and between the metropolitan area and the rest of the state and nation; provide increased transit service and facilities that stimulate travel by means other than single-occupant motor vehicle (SOV); and reserve rights-of-way in newly developing and redeveloping areas for pedestrian, bicycle, transit and roadway facilities.

Measures: To assess how the region is doing in this area, measures include looking at a trend in the level of capacity funding and what needs the current level of funding can cover.

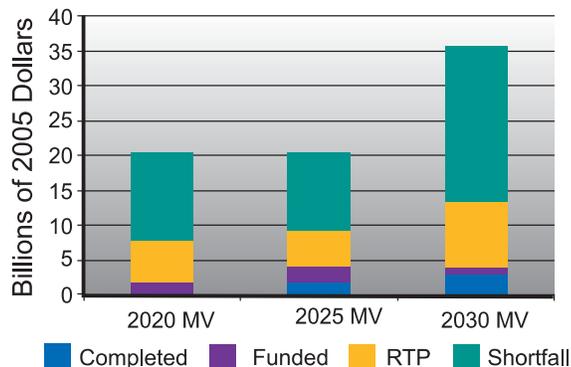
Conclusions: The overall level of federal and state highway and transit funds has declined. About \$6.1 billion was estimated as available for capacity improvements in the 2020 Regional Transportation Plan (RTP), the transportation element of Metro Vision. The available amount dropped to \$5.1 billion for the 2025 RTP and dropped to \$3.9 billion for the preliminary 2030 RTP. The approval of the FasTracks transit proposal by the public in November was a very positive step in addressing the region’s transportation funding. The total funding available to implement the 2030 plan now exceeds the assumed funding in the 2020 and 2025 Regional Transportation Plans (RTP). However, the state and federal funding for roadway capacity improvements has dropped from \$4.4 billion in the 2020 RTP to \$3.5 billion in the 2030 RTP.

The region has also lost ground in providing the expected capacity to meet the travel needs of its residents and businesses. The shortfall has increased from about \$12 billion in the 2020 RTP to about \$22 billion in the 2030 RTP draft. The maps on the following pages show the funded and unfunded roadway and transit projects.

**Regional Transportation Plan (RTP)
26-Year Long-Range Revenue Estimates**



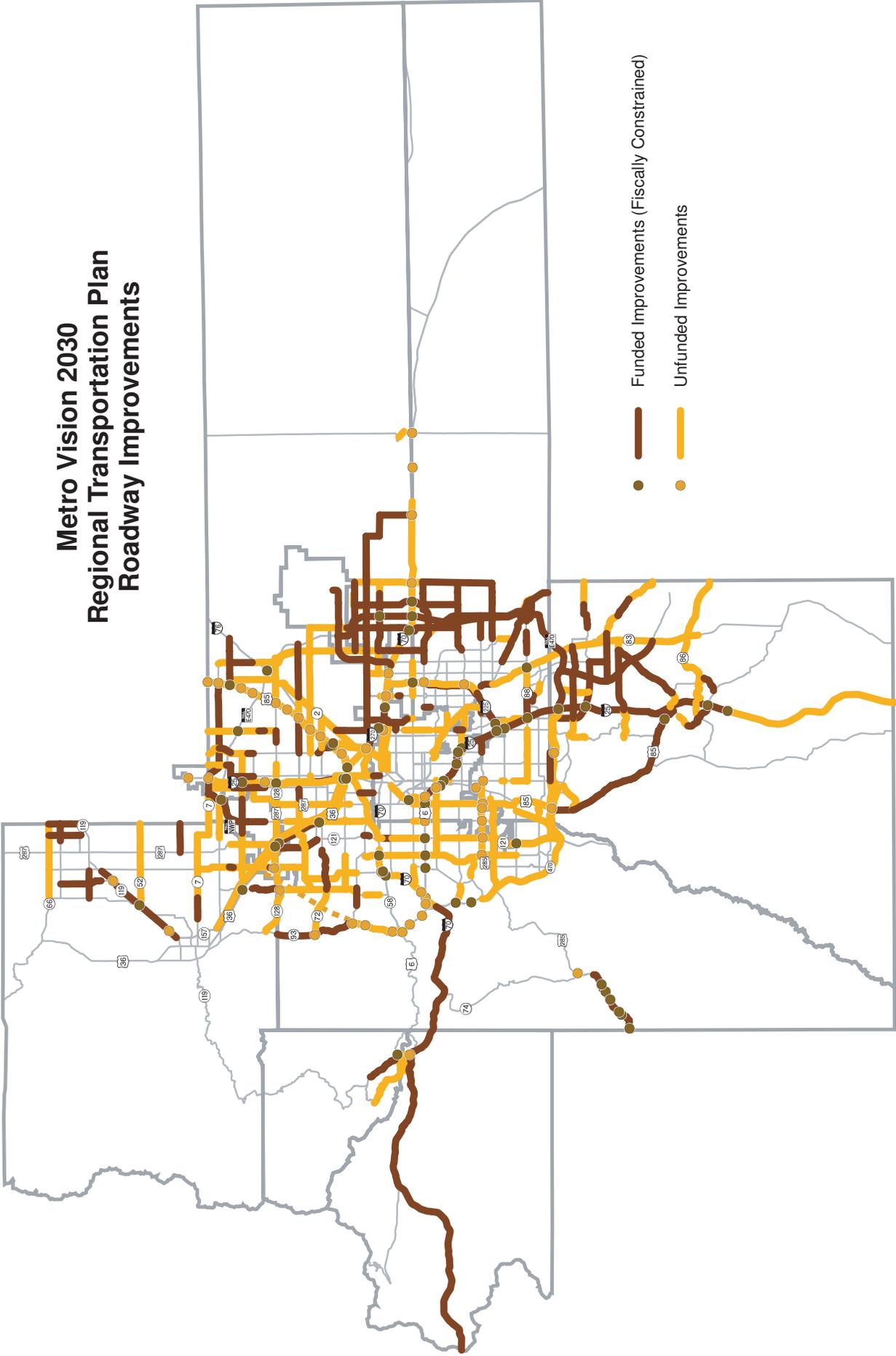
**Metro Vision Transportation
Cost and Shortfall**



Action Steps: To expand the capacity of the transportation system:

- The primary action needed by the region is to pursue additional funding.
- Actions would need to focus on increasing travel alternatives, shifting trips to off-peak periods to defer the need for system expansions and using technology and transportation demand management (carpools, vanpools, telework, etc.) to a greater extent to improve the system's operating efficiency.
- The region needs to adhere to the urban growth boundary/area to reduce the need for new infrastructure.

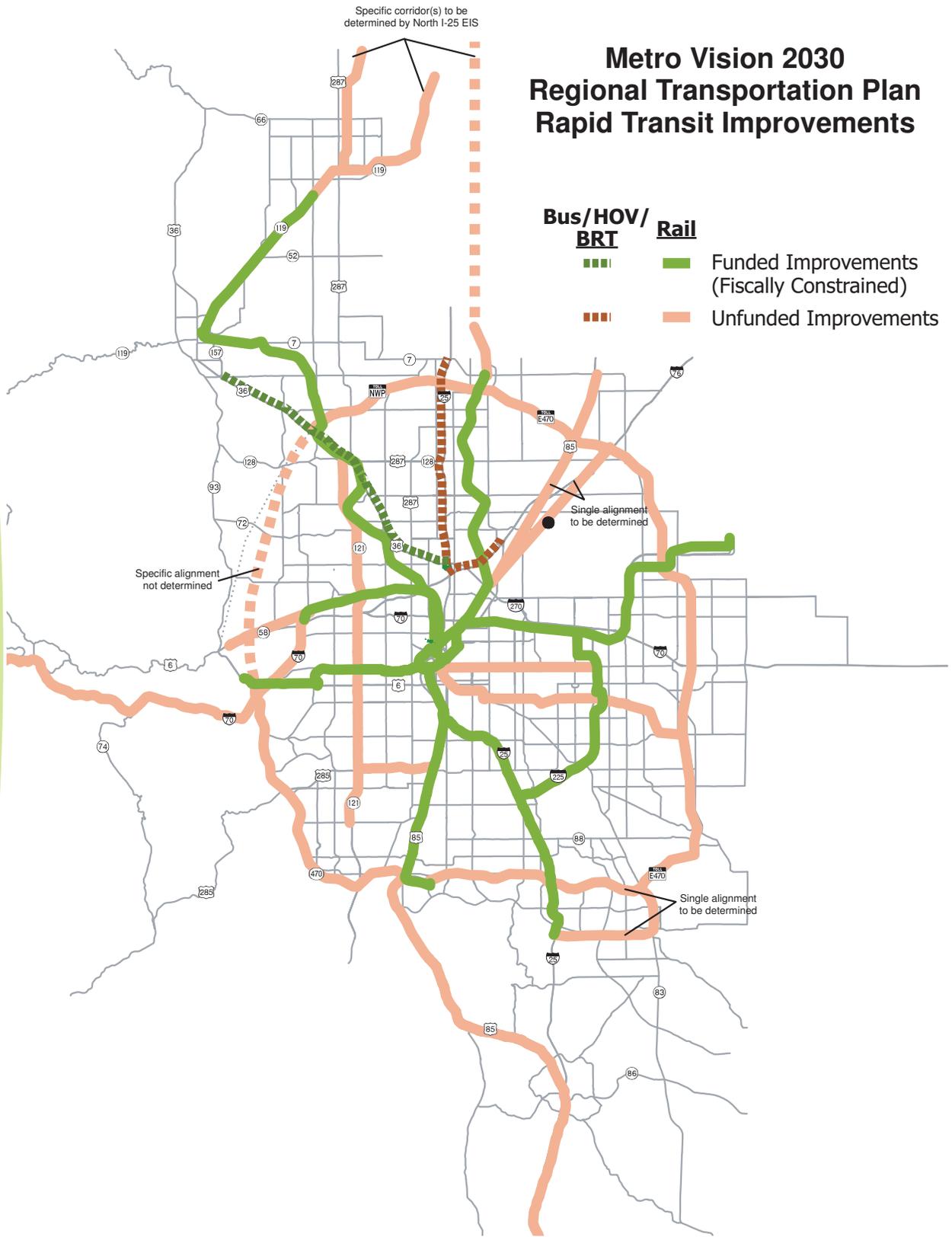
Metro Vision 2030 Regional Transportation Plan Roadway Improvements



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REGIONAL PERFORMANCE MEASURES AND INDICATORS

Metro Vision 2030 Regional Transportation Plan Rapid Transit Improvements





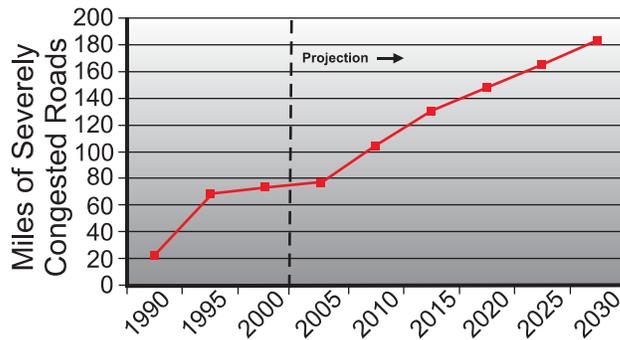
Congestion

Goal: The Metro Vision transportation goal is to provide safe, environmentally sensitive and efficient mobility choices for people and goods; and integrate with and support the social, economic, and physical land use development of the region and state.

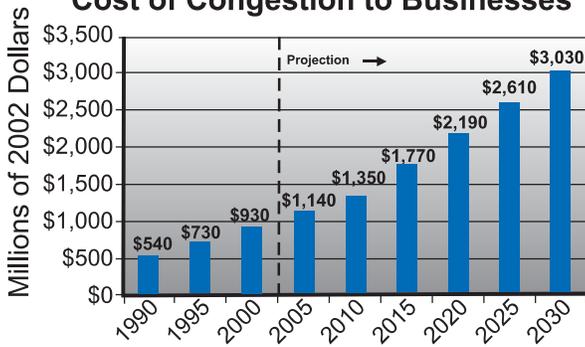
Policies: Metro Vision seeks to reduce the growth in travel delays attributed to recurring congestion.

Measures: Three measures show the level of congestion in the region. The first focuses on the congestion of the system with historical and forecast miles on congested freeways and major regional arterials. The figure shows the location of the severely congested roadways from 1999 through 2030. The second two measures focus on the cost of congestion: what congestion costs local businesses and commuters annually in time wasted in traffic per person.

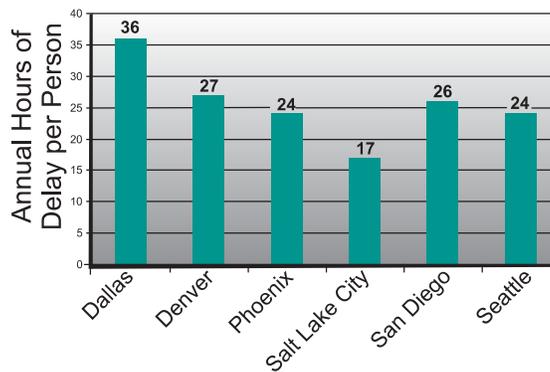
Trend in Major Roadway Congestion:
Freeways and Major Regional Arterials



Cost of Congestion to Businesses



Delay Compared to Peer Regions



Conclusions: All the congestion measures show a negative trend, indicating that congestion is bad and getting worse. The miles of congestion dramatically increased starting in about 1990, corresponding to population and economic growth. Projections by DRCOG indicate that even more roads will be congested in the future. Currently, someone who commutes during peak hours spends over 60 percent of his or her trip in congested conditions. That statistic has increased from 40 percent in 1990, and is expected to continue to increase.

Congestion is not just an inconvenience, it is a major cost to local businesses. The cost of congestion to businesses was about \$930 million per year in 2000, a 70 percent

increase over the 1990 level. That cost is expected to triple between 2000 and 2030. These costs represent wasted dollars for businesses that could otherwise be invested in capital or workforce development.

Perhaps the most significant consequence of congestion is its effect on residents and workers in the region. Each person in the Denver metro area wastes an average of 27 hours each year sitting in traffic. The greater Denver area lags Dallas with 36 hours of delay per person per year, exceeding the delay in other western regions that are similar in size to the Denver region. Performing poorly on this quality of life measure makes it more difficult for the region to attract and retain a top-notch work force and employers.

The increasing congestion levels result from continued growth in the region with limited investment in transportation infrastructure or transportation alternatives.

Action Steps: To tackle congestion in the region, DRCOG, transportation providers and local governments need to:

- increase the capacity of the multimodal system by funding capital projects in congested corridors and at bottlenecks,
- reduce growth in highway demand by promoting alternative modes and investing in rapid transit,
- implement the land use elements of Metro Vision, such as urban centers, to allow for shorter trips, minimizing the impact on travelers even as congestion persists, and
- initiate increased transportation system management actions, such as the use of intelligent transportation systems and incident management, to assure more reliable travel time.

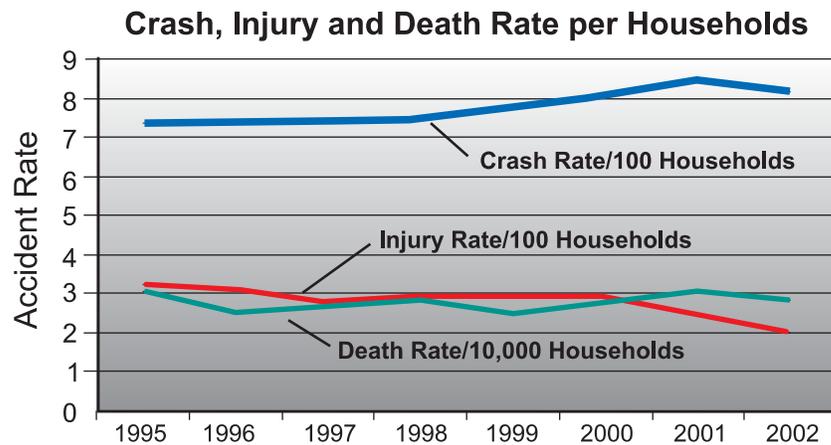


Safety

Goal: Metro Vision calls for providing safe, environmentally sensitive and efficient mobility choices for people and goods; and integrating with and supporting the social, economic and physical land use development of the region and state.

Policies: Metro Vision policy is to develop a transportation system that promotes increased safety and security for all of its users.

Measures: To measure how the region is doing on safety, the level and severity of motor vehicle crashes on the region's roadways can be examined. Crashes are defined as reported collisions between autos/trucks and other vehicles, trains, bicycles, pedestrians or objects and reported single-vehicle incidents, such as rollovers.



Conclusions: Traffic safety is a major public health concern. An average of 250 people die on roadways in our region each year. Motor vehicle crashes are the number one cause of death for persons aged 1-35. The region's motorist death rate from crashes is stable and the injury rate is decreasing, but the crash rate has increased. There are now more than eight crashes for every 100 households. On average, a person from one in 12 households was in a motor vehicle accident in 2002.

The relationship between safety and congestion can make the situation worse. As congestion increases, the accident rate is likely to increase, although accident severity may be less if travel speeds are lower. Further, crashes can cause significant additional congestion and delays on top of routine congestion.

Increased safety engineered into new vehicles should help reduce injury and death rates in the future. A difficulty in reducing the number of crashes is the role that human behavior plays. In Colorado, 80 percent of injury crashes were caused primarily by improper driver behavior.

Action Steps: Crash data need further analysis to determine what actions will decrease crashes, especially those involving fatalities.



Roadway Surface and Bridge Conditions

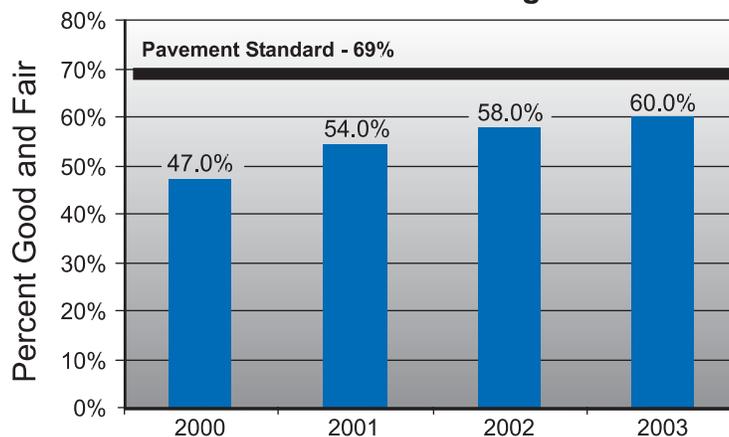
Goal: Metro Vision calls for providing safe, environmentally sensitive and efficient mobility choices for people and goods; and integrating with and supporting the social, economic, and physical land use development of the region and state.

Policy: Metro Vision calls for assuring the preservation and maintenance of existing facilities.

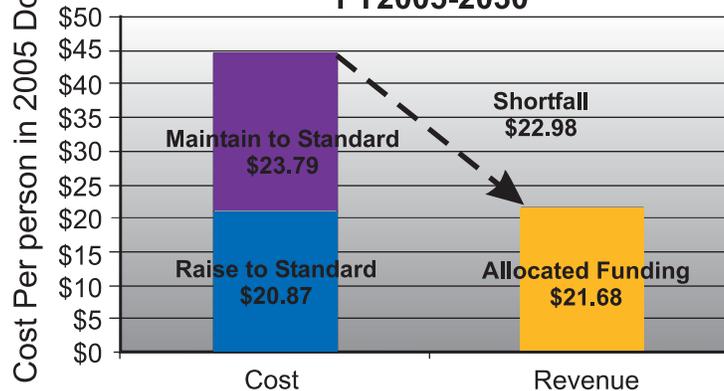
Measures: Assessing roadway surface and bridge conditions can be accomplished by looking at the percentage of roads and streets in good or fair pavement condition and the percentage of roads and bridges needing reconstruction. Another measure is the amount of funds available to keep existing facilities in good and fair conditions.

Conclusions: Pavement conditions have been improving on the state highways in the region. Road surface in good and fair condition increased from 47 percent in 2000 to 60 percent in 2003. The CDOT target for the state highways in the Denver region is 69 percent. In some cases, preventive maintenance is no longer financially feasible. Roadway and bridge reconstruction is the next step for about 24 percent of the road miles and 5 percent of the bridges. The I-70 viaduct east of Brighton Boulevard also needs to be replaced by 2030 and is currently classified by CDOT as being in fair condition. The region's bridges are dominated by the I-70 viaduct, which makes up about 7 percent of the total state highway bridges in this region.

State Highway Surface Conditions in the Denver Region



Annual Cost and Funding Allocation to Maintain State Roadways and Bridges FY2005-2030



MEASURING PROGRESS

REGIONAL PERFORMANCE MEASURES AND INDICATORS

State Roadways and Bridges

In simpler terms, it costs about \$45 per person annually to adequately maintain the state highway surface conditions and bridges. That is about \$21 per person for road and bridge reconstruction. Another \$24 per person is needed to maintain state highways in good and fair conditions. Recently, the Colorado Transportation Commission allocated about \$22 per person annually, which will meet about half of the needs. Poor road conditions increase driver costs by \$71 per year per person in motor vehicle maintenance, according to CDOT.

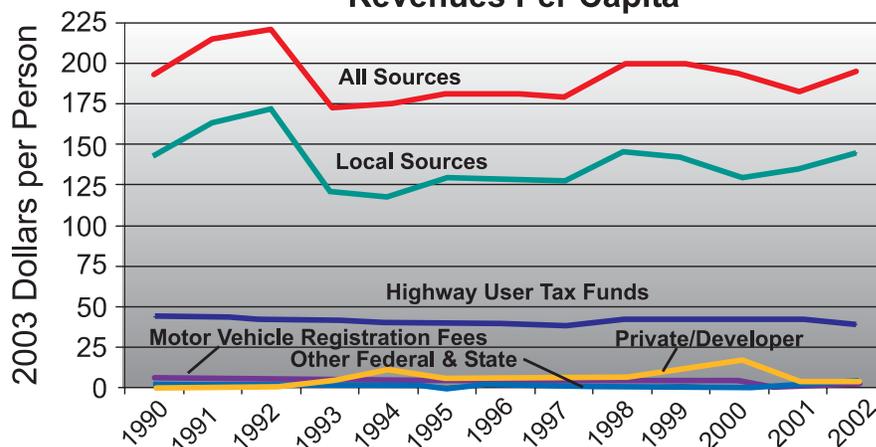
Deferring maintenance needs shifts the cost later in time and usually leads to a facility reconstruction. Facility reconstruction costs are usually much higher than the cumulative cost to maintain facilities in good operating order.

Local Government Programs

The cities and counties in the Denver region have maintained 92 percent of their roads and streets in good and fair surface conditions. Only 1 percent of the local bridges are in poor condition. To meet this level of quality, local governments have added significant levels of funding from other sources. The traditional highway users tax fund and motor vehicle registration fees only contribute about \$40 per person per year or 24 percent of the local government road program revenues. Local government special assessments and general funds contribute about \$137 per person per year or 73 percent of the road program revenues. It is unknown if local governments can and will continue to allocate this level of non-transportation revenue for the road programs.

Total Highway Users Tax Funds and motor vehicle registration fees have increased over time. It should be noted that these funds have declined from 25 percent of the local road program revenues in 1990 to about 20 percent in 2002. The reason: other local sources have been growing faster than these state-derived funds.

Local Government Roadway Program Revenues Per Capita



Action Steps: DRCOG, the Colorado Department of Transportation, other transportation providers and local governments need to seek additional funds to support a return of investment levels necessary to maintain the system.



Use of Alternatives to the Single-Occupant Vehicle

Goal: Metro Vision’s transportation goal is to provide safe, environmentally sensitive and efficient mobility choices for people and goods; and integrate with and support the social, economic, and physical land use development of the region and state.

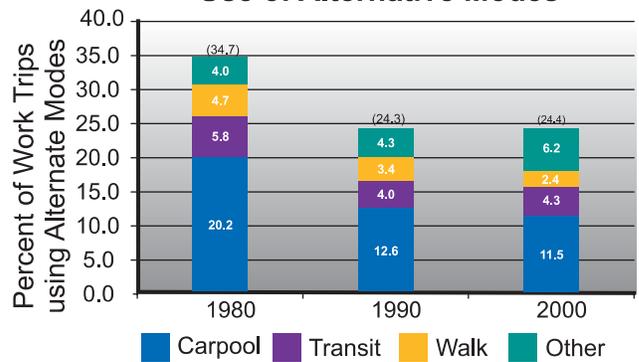
Policies: Metro Vision policies include reducing the demand for single-occupant motor vehicle travel, and expanding transit service to reduce the need for additional roadway capacity and to serve people who are unable to or choose not to drive. The net results should be to reduce the growth in motor vehicle miles traveled, air pollutant emissions and energy consumption.

Measures: Progress in this area can be gauged by examining historical trends in use of transportation alternatives and transit ridership. The region’s use of alternative modes can also be compared to similar regions.

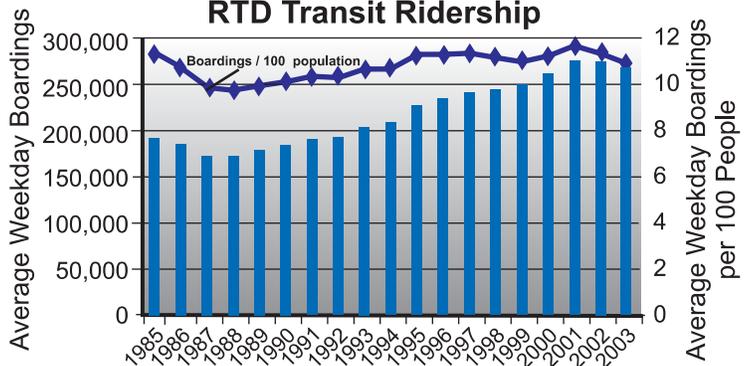
Conclusions: The use of alternative modes (anything other than the single-occupant vehicle) can relieve congestion by reducing the demand for highway capacity. Transit, in particular, can serve to relieve demand on the most highly congested roadways. For example, the use of transit in the Southwest corridor increased from 11 percent in 1997 to 20 percent in 2001 after the Southwest light rail line opened.

The use of alternative modes in general, and transit ridership specifically, dropped sharply in the 1980s. Much of this trend can be attributed to increased auto

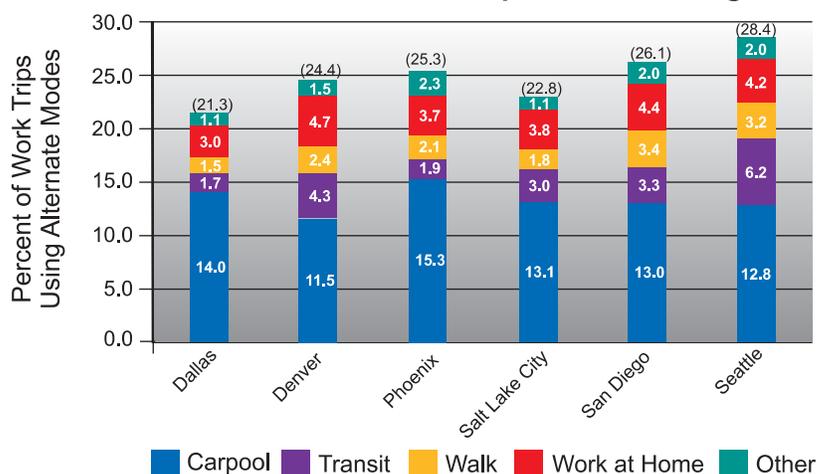
Use of Alternative Modes



RTD Transit Ridership



Use of Alternative Modes Compared to Peer Regions



ownership and the growing number of two-worker households. In the 1990s, both of these demographic trends leveled off. Transit ridership grew steadily throughout the 1990s, making up for declines in walking and carpooling, but recently declined, possibly due to the economic downturn.

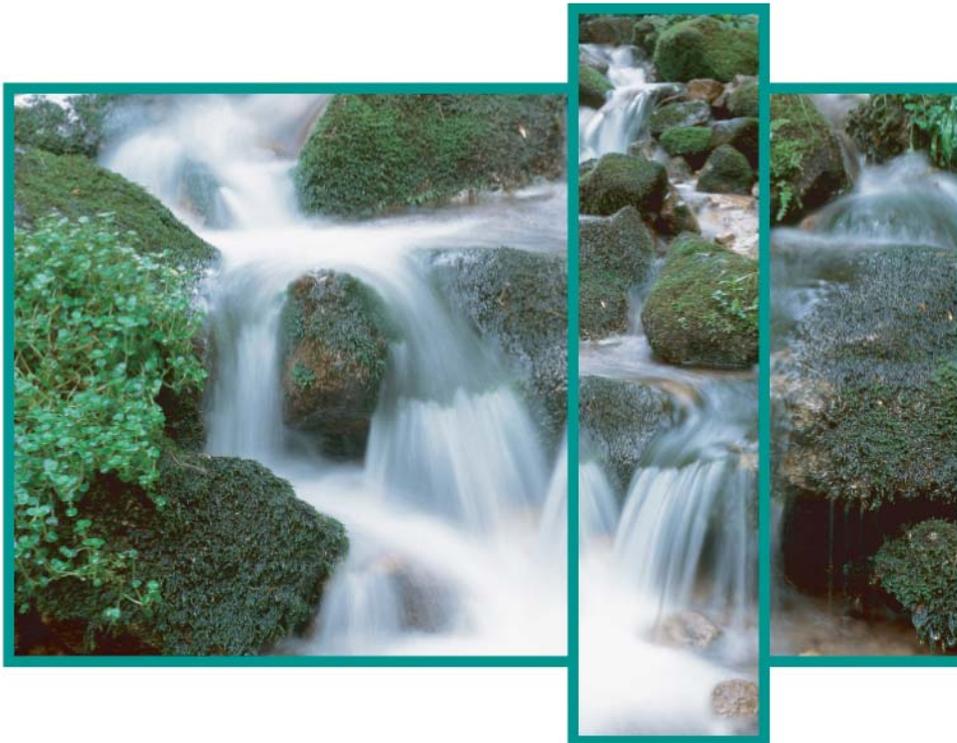
Relative to other regions, Denver is competitive in the total share of alternative modes. The region has a lower share of carpools, but a higher share of commuters who use transit and work at home (telework). The share of persons in the Denver region working at home has grown steadily, and is reported at 4.7 percent, the highest in the nation.

Overall, the use of alternative modes has stabilized in the past 15 years. That number could turn upward in the future, particularly if the region invests in rapid transit and the trend toward working at home continues.

Action Steps: The region can continue to encourage the use of transportation alternatives by doing the following.

- Invest in more transit in the region
- Invest in high-occupancy vehicle or high-occupancy/toll lanes
- Promote a workplace culture that allows flexibility such as teleworking, compressed work weeks, or flex-time
- Implement the urban centers called for in Metro Vision, which make alternative modes more convenient
- Establish employer-based incentives to carpooling and vanpooling, such as parking cash-outs.

DENVER REGIONAL COUNCIL OF GOVERNMENTS



A Look at the Environment in the Region

The Denver region's setting is one of its greatest assets. It's no mystery why the region's climate, location at the foot of the Rocky Mountains and proximity to the South Platte River have attracted human activity for centuries. Protecting the environmental assets that make the region so special is the focus of Metro Vision.

The Metro Vision 2030 plan has three goals that relate to the environment and are designed to help the region mitigate the effect of more than one million additional residents by 2030. They include the following:

- Establish an integrated, linked, permanent parks and open space system that includes a variety of open space and make appropriate open space accessible to all of the region's population
- Restore and maintain the chemical and physical integrity of the region's waters to ensure clean water for residents and a balanced, healthy ecological community
- Protect human health and environmental quality by achieving and maintaining air quality standards.

Taking a look at various air quality, water quality, and parks and open space activity, the region can gauge its environmental progress. Seven ways to measure environmental progress have been developed:

1. Air quality
2. Water quality
3. Water supply and demand
4. Wastewater capacity
5. Parks and open space per capita
6. Amount of protected regional open space preservation focus areas
7. Regional biodiversity

The following pages discuss and analyze the results of each indicator.

Highlights include:

- Regional air quality has improved dramatically in the last 20 years. Carbon monoxide levels are well below federal standards, but ozone needs to be a focus for the region as its population continues to grow.
- The water quality assessment is mixed. The quality of urban lakes in the region is down and the number of stream segments classified as impaired is on the increase. On the other hand, some stream segments have improved.
- While adequate water supplies are critically important to the quality of life, measuring them is very difficult. A new analysis by the Colorado Water Conservation Board may provide a baseline and a methodology for future updates. This first assessment suggests that the region could face a water shortfall in 2030.
- The region's wastewater treatment system is working well for now and seems to be anticipating future needs. Plant capacity is in better shape today than in 1997 and the number of permit violations at these facilities is declining. With the growth forecasted in the region, each facility will need to continue to plan for expansions and to operate efficiently.
- In the area of parks and open space, results are mixed. While anecdotal evidence suggests significant acquisition of open space, more needs to be done to inventory the acquisitions and to identify areas of priority open space that need to be protected in the future. Measuring the biodiversity of plant and animal species in the region is a new effort and will tell us in the future if the increasing population is having a negative effect.



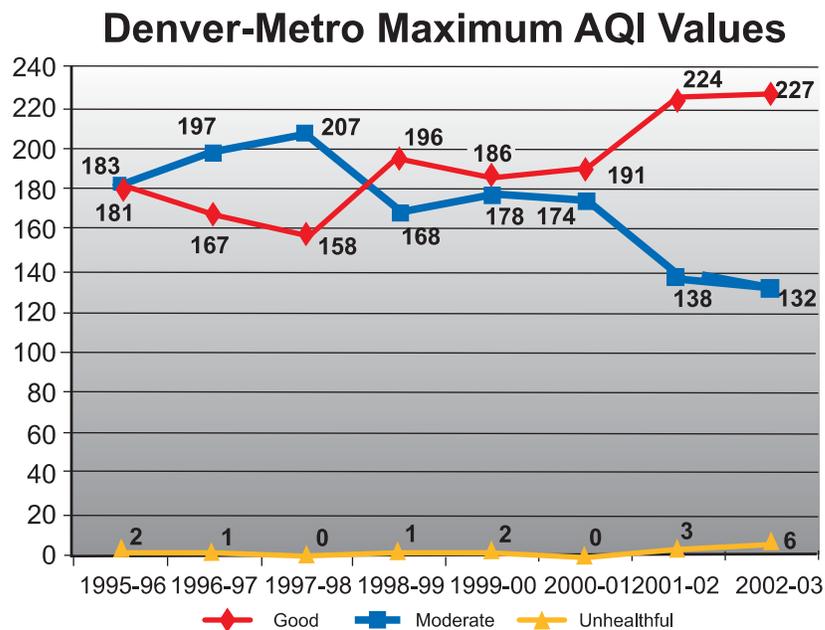
Air Quality

Goal: The Metro Vision Plan goal for air quality is to protect human health and environmental quality by achieving and maintaining ambient air quality standards.

Policy: Metro Vision calls for reducing growth in mobile source air pollution emissions by providing travel alternatives, improving the efficiency of the regional transportation network, and by changing key features of the development pattern. Changing the land development pattern will help achieve national, state and regional air quality objectives.

Measure: The Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment collects information on a core group of pollutants with a known impact on public health. APCD analyzes air quality data and converts it into a standardized reporting scale, called the Air Quality Index. In addition, regional air quality trends are available for the pollutants that have national air quality standards. Two of these pollutants, carbon monoxide and ozone, have been measured throughout the region for many years.

Conclusions: The first chart shows the data from the Air Quality Index since 1995. Values for the number of days that were good, moderate and unhealthful are shown. The trend for this data generally shows improving air quality. The number of good days has increased from 181 in 1995 to 227 in 2002-2003, while the number of moderate days has declined.



The only measure of some concern is the number of unhealthful days in 2002-2003, which jumped to six from levels between zero and three in previous years, primarily due to increased ozone levels.

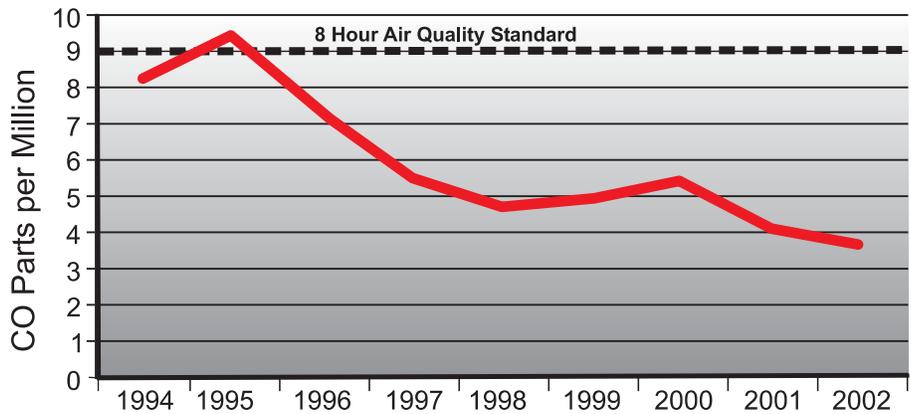
The second figure shows the trend in carbon monoxide levels since 1994. During the 1980s, the region regularly violated the CO standard. Since 1995, however, the region has not violated the standard and the trend line continues to show improvement.

There's been a true regional effort to fight small particulate (PM_{10}) pollution. PM_{10} , particulates less than 10 microns in size, posed a problem for the region in the 1980s. Efforts to implement wood-burning bans on high-pollution days, use of liquid deicers and increased street sweeping of sand after snowstorms have resulted in dramatic reduction of PM_{10} levels.

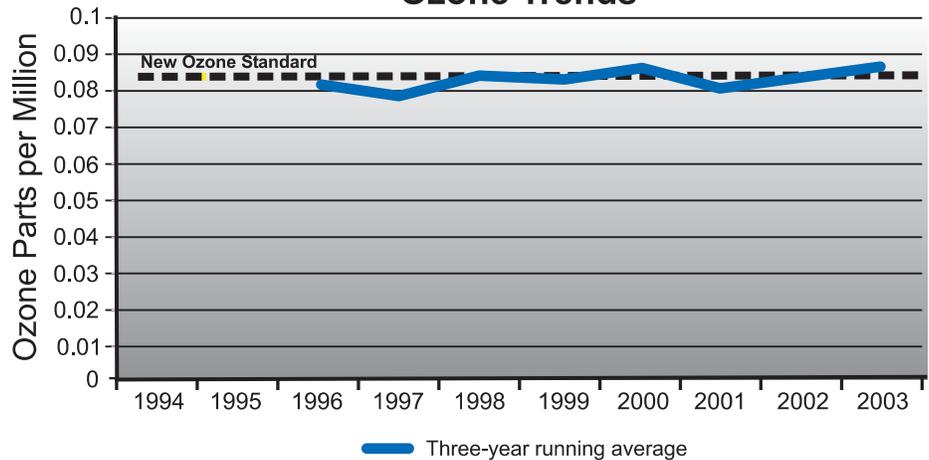
Ozone levels for the region are shown in the third chart. The values for each year and the three-year average are shown. The three-year average is the national indicator for ozone attainment.

The region has been showing increased levels of ozone since 1994 and exceeded the national standard in 2003. However, no violations have been recorded in 2004.

Carbon Monoxide Trend



Ozone Trends



Action Steps: To meet national air quality standards and maximize the number of healthy days in the region, the region needs to continue working together on a variety of strategies:

- Moving forward with the Ozone Action Plan designed to keep the region from violating the standard
- Having the responsible entities (including local governments) carry out the actions identified in the plan
- Implementing the maintenance plans for each air quality pollutant.



Water Quality

Goal: The Metro Vision Plan goal for water quality is to restore and maintain the chemical and physical integrity of the region's waters to provide clean water for residents and a balanced, healthy, ecological community.

Policy: Metro Vision anticipates that water quality protection and water resource management initiatives will achieve a balanced community of fish and other aquatic life while meeting state and federal standards.

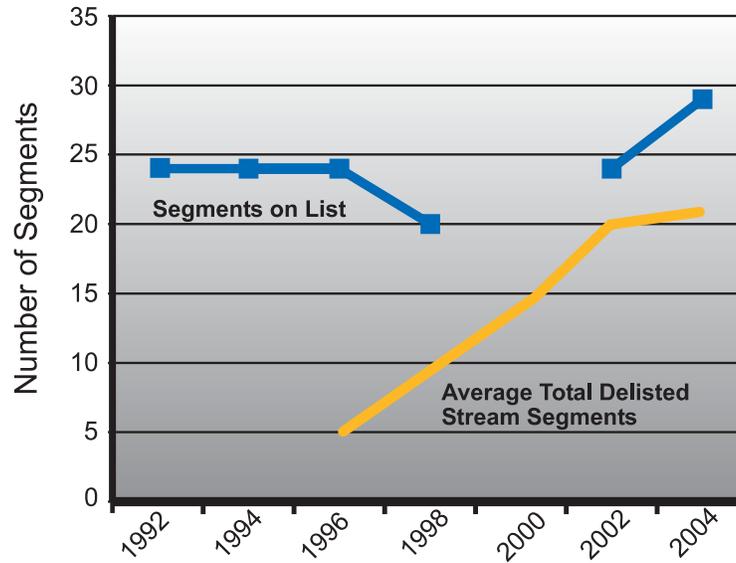
Measures: The number of bodies of water classified as impaired by the Colorado Water Quality Control Commission is the key measure of water quality. This is called the 303(d) list and it is supplemented by water quality data trends for a typical lake and stream in the region.

Conclusions: Despite efforts by governments at all levels to improve water quality, the indicators show some decline in overall quality. Some of this is due to more accurate measurement and tightening of water quality standards. For example, the number of stream segments on the 303(d) list has increased over time because of degradation, effects of drought, and the implementation of new standards and constituents, as shown on the graph. The region has also been able to take some streams off the list each year, indicating that efforts are improving overall water quality.

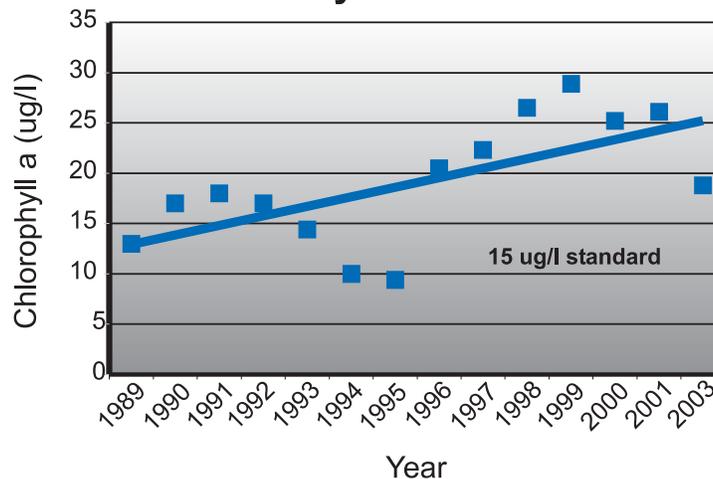
To provide more specific examples, the next graph shows the concentration of chlorophyll *a* in Cherry Creek Reservoir from 1989 to the

Streams Listed as Impaired

Denver Region 303(d) List



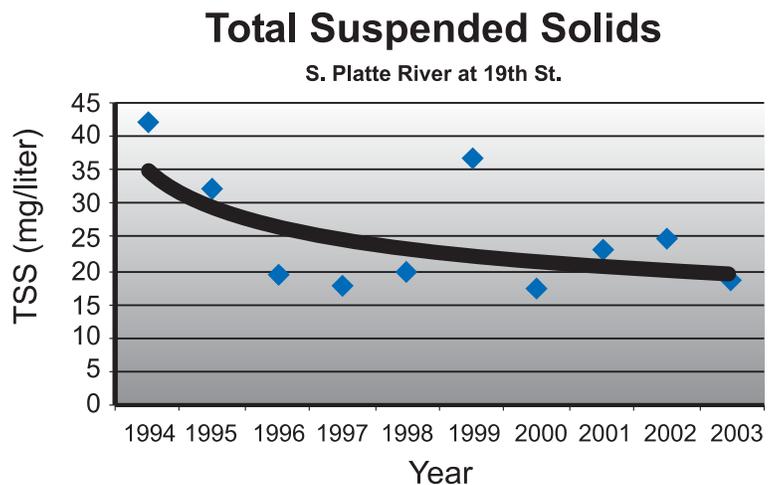
Chlorophyll *a* Concentration in Cherry Creek Reservoir



present. This is a key measure of the health of a lake or reservoir. This increase is primarily due to increasing nutrient runoff such as nitrogen and phosphorus from various artificial and natural sources.

Taking a comparable look at the region's streams, the next chart shows the trend in total suspended solids in the South Platte River near the confluence with Cherry Creek. Total suspended solids measure pollution content of a river or stream. Suspended solids not only decrease the aesthetic appeal of our streams, but they carry many of the pollutants such as metals, e. coli and nutrients.

The chart shows that, while the data are erratic, there appears to be a downward trend in the amount of total suspended solids in the South Platte at this location. As new wastewater technology is brought online and stormwater management practices are enacted, the region's streams are expected to continue to improve.

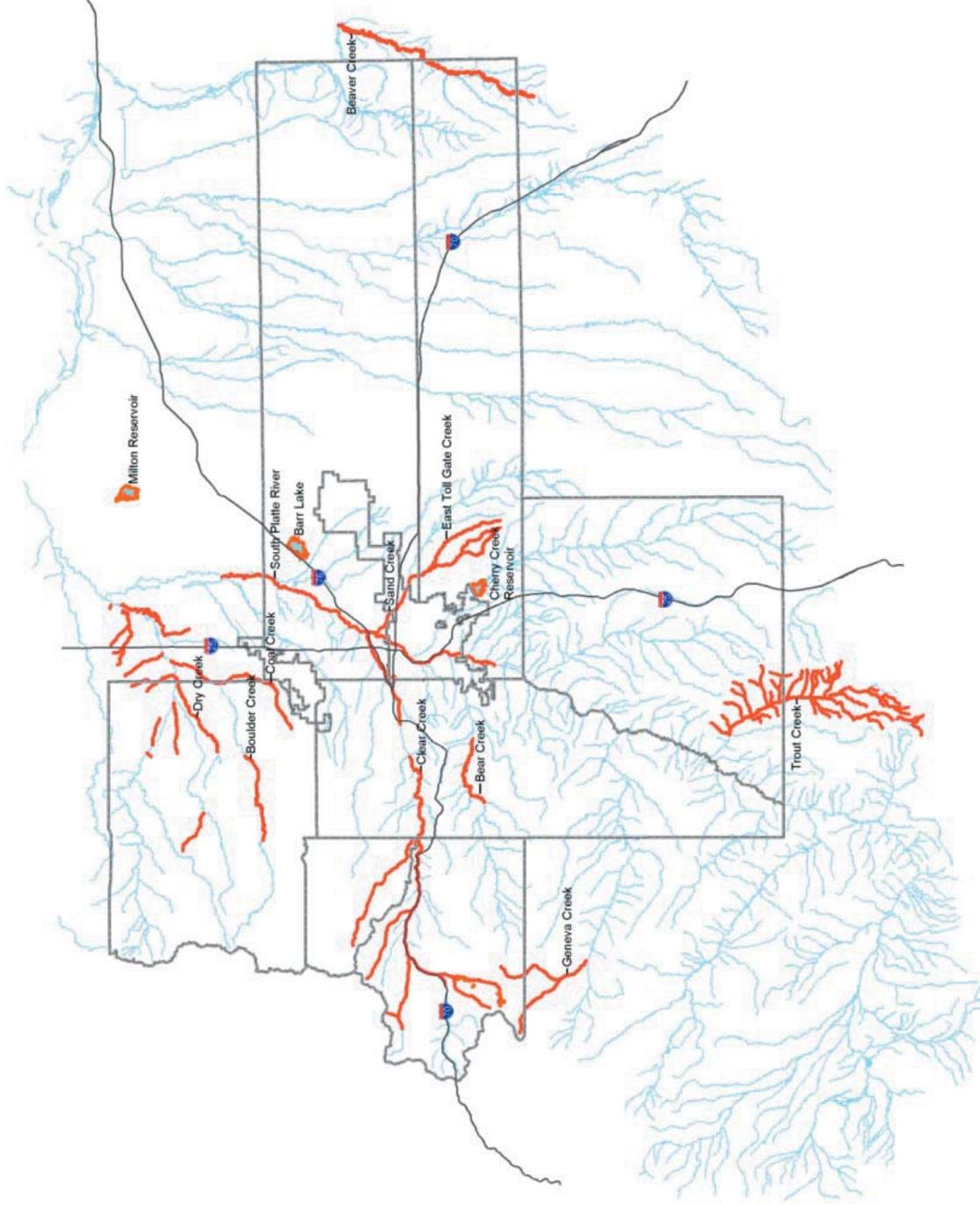


Impaired streams in the region are shown in the following map.

Action Steps: There are several actions that will help the region reach its water quality goals.

- The Metro Vision Clean Water Plan presents actions necessary in each watershed to achieve the water quality goals.
- Watershed associations or authorities and designated management agencies will need to carry out those actions.
- Local governments, through Metro Vision and comprehensive plans, can use growth management and urban design to improve water quality.
- Local governments can develop policies to require stormwater management to reduce runoff and improve its quality.

Impaired Stream Segments



MEASURING PROGRESS

REGIONAL PERFORMANCE MEASURES AND INDICATORS



Water Supply and Demand

Goal: The Metro Vision Plan assumes that the growth of the region will be supported by adequate infrastructure, including water supply.

Policy: Metro Vision calls for urban development only in areas where long-term water service can be established or where adequate service is available from an existing water supply system.

Measures: The Colorado Department of Natural Resources is undertaking a Statewide Water Supply Initiative (SWSI) that provides information about water demand and supply in subareas of the state. The department's geographic divisions don't exactly match those used in the DRCOG region, but the initiative represents the most current analysis of water needs.

Conclusions: The SWSI has four areas that include portions of the DRCOG region.¹ While this area is larger than DRCOG, it provides the most accurate picture of water supply for the region. The Identified Gross Demand Shortfall is based on an assessment of projects that are in some phase of planning or development to meet the total increase in gross demand. Even under the optimistic assumption that all of these projects are successful, the area that includes DRCOG will still be almost 10 percent short of meeting 2030 demand for municipal and industrial water.

Municipal and Industrial Water Demand Forecasts
(Acre-feet per year)

Subbasin	2000 Gross Demand	2030 Gross Demand	Projected Conservation Savings	Increase in Gross Demand	Identified Gross Demand Shortfall
Denver Metro	366,000	486,600	26,800	120,600	12,500
South Metro	152,900	241,500	15,400	88,600	1,500
Upper Mountain	9,800	27,700	1,700	17,900	1,400
Northern	212,500	377,400	22,600	164,900	18,400
TOTAL	741,200	1,133,200	66,500	392,000	33,800

Action Steps: The region needs to provide water for the growth forecasted.

- Each of the water supply agencies in the region will need to assess its own supply and identify actions that can meet the demands projected for its service area.
- Where appropriate, intergovernmental projects may be identified that can serve the region.
- DRCOG can work with the region's water providers to update the SWSI information on a regular basis.
- DRCOG and local governments can use growth management and urban design to reduce the growth in water demand.

¹ The Denver Metro subbasin includes Adams, Denver and Jefferson counties. South Metro includes Arapahoe, Douglas and Elbert counties. Upper Mountain includes Clear Creek, Gilpin, Park and Teller counties. Northern includes Boulder, Broomfield, Larimer and Weld counties.



Wastewater Capacity

Goal: The Metro Vision Plan goal for water quality is to restore and maintain the chemical and physical integrity of the region’s waters to ensure clean water for residents and a balanced, healthy, ecological community.

Policy: Metro Vision calls for identifying an effective regional system of wastewater treatment facilities that meets federal and state standards.

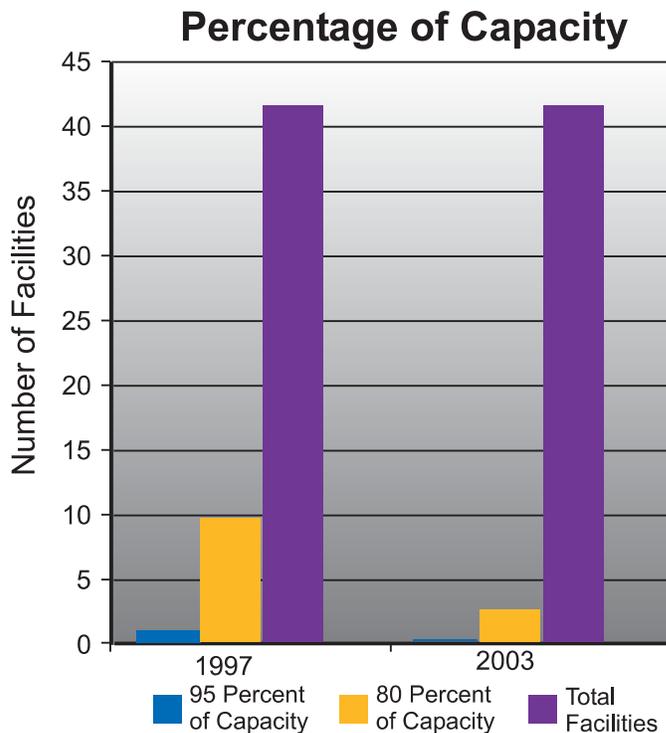
Measures: The ability of the region’s wastewater treatment facilities to meet this goal is measured in two ways. First, is the capacity being expanded to meet growth needs? Colorado’s Water Quality Act requires that wastewater providers begin planning for expansion when they reach 80 percent of their capacity and be under construction at 95 percent of capacity. Second, are the facilities meeting their treatment standards? This is measured by tabulating the number of permit violations in a year.

Conclusions: The region’s facilities are keeping up with growth and expanding their capacities. As shown in the figure, in 1997, two of 42 major treatment facilities had reached 95 percent of capacity and 11 had reached 80 percent. By 2003, none of these facilities was approaching full capacity and only four were at the 80 percent “planning” level.

Facilities are also improving the quality of their treatment processes. In 1997, 109 violations were recorded from 26 dischargers. In 2003, the number had decreased to 91 violations from 25 dischargers. No attempt has been made to assess the seriousness of these violations, although none resulted in cease and desist orders from the Colorado Department of Public Health and Environment.

Action Steps: Wastewater capacity needs to respond to the population forecast for the region through the following actions.

- Each wastewater treatment facility needs to consider the impacts of growth on its service area.
- DRCOG needs to work with all the facility providers to prepare utility plans that can anticipate the need for future expansions. Such planning can ensure that capacity is increased in time to handle such growth.





Parks and Open Space Per Capita

Goal: The Metro Vision plan goal for parks and open space is to establish an integrated, linked and permanent parks and open space system. This system will include varied types of open space and make appropriate open space accessible to all of the region's population.

Policy: Metro Vision sets a goal of protecting at least 100 square miles of additional open space before the year 2020. That goal was set to maintain the region's 1997 ratio of 90 open space acres per 1,000 population.

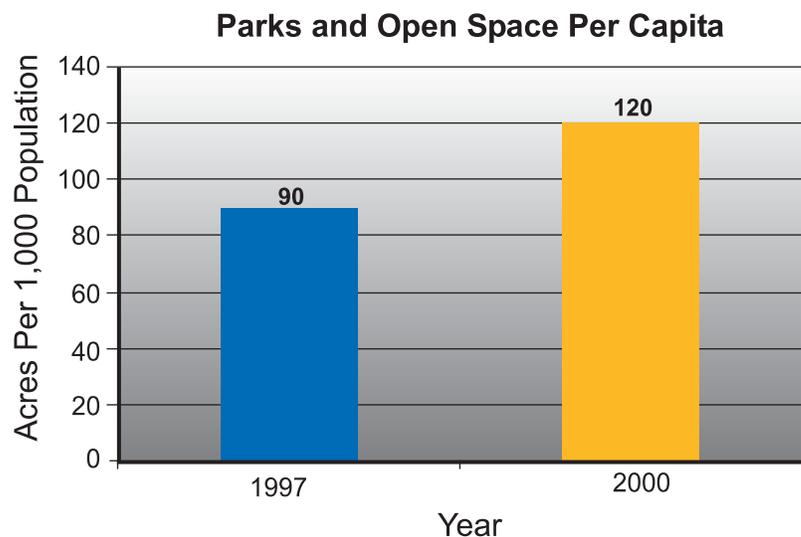
Measure: The DRCOG region benefits from the large quantity of nearby federal open space in national parks, forests and wilderness areas. These areas are not likely to grow with population so a more relevant open space indicator is the amount of land in state and local "protection" for each 1,000 residents.

The definition of protection includes full ownership, conservation easements and other methods that preserve the long-term open space character of a land parcel.

Conclusions: In 2000, the region had 120 acres of parks and open space (local and state) per 1,000 residents. Non-federal parks and open space lands have been steadily increasing across much of the region. This is due, in large part, to an increasing number of sales tax-funded county and municipal open space programs. The location, however, of these protected areas is often on or beyond the edge of the expanding urban area making the open space less accessible to residents of the central urban area.

Action Steps: Building on the Metro Vision open space per capita progress requires:

- each community continuing to act on opportunities for protecting additional open space and working to make future open space acquisition accessible to all the region's residents.
- providing information in the next performance measures report on how the region is doing with its per capita amount of open space and parks.
- DRCOG and local governments, working with Great Outdoors Colorado, to increase the amount of parks and open space in the metro area.





Amount Of Protected Regional Open Space Preservation Focus Areas

Goal: The Metro Vision plan goal for parks and open space is to establish an integrated, linked, permanent parks and open space system. This system will include varied types of open space and make appropriate open space accessible to all of the region’s population.

Policy: Metro Vision encourages preserving open space in key focus areas including canyons and river corridors, the mountain backdrop, prominent geographic features, east metro area plains preserve and open space community buffers surrounding each of the region’s four freestanding communities.

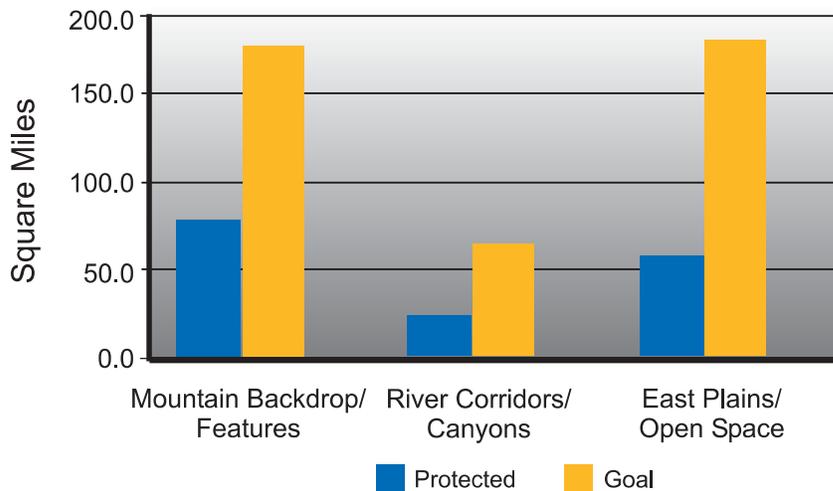
Measure: For each focus area, DRCOG has estimated the total area needing protection and the amount currently protected by state and local governments. The figure shows the amount (in square miles) and proportion of each focus area that was protected by governmental actions (purchase, easement or other action) in 2000.

Conclusions: This indicator shows that the region is roughly halfway to reaching its 2020 goals. The focus areas, however, are large, regional scale “overlay zones” that include much land that is already urban

(See map on page 40). For example, the river corridors and mountain canyons areas are continuous zones, 200 feet wide, along all major streams and rivers in the region. These zones include much land area that is already developed and isn’t

likely to be protected as park or open space land. More detailed mapping of the areas to be protected is an important future planning effort.

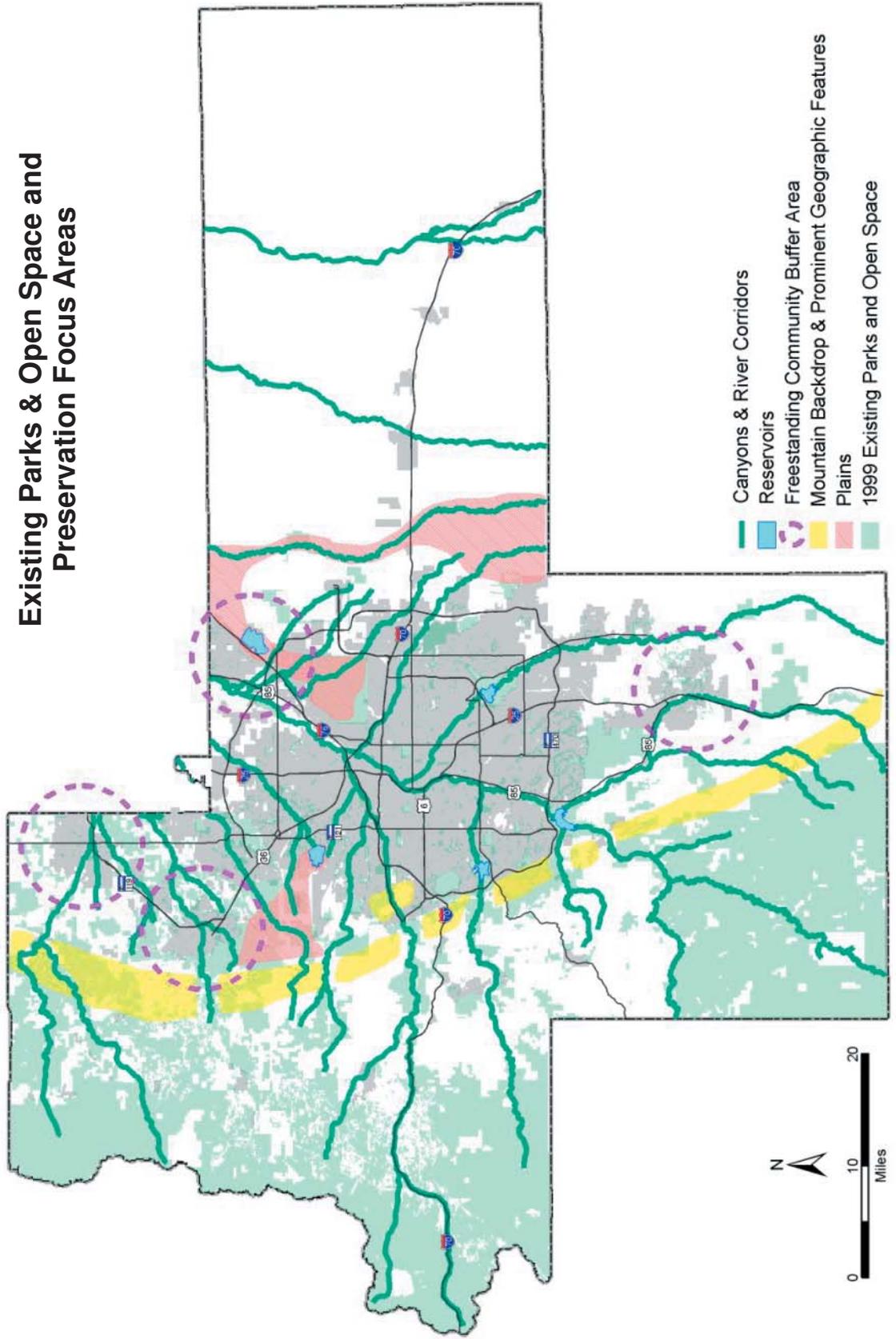
Open Space Preservation Focus Area



Action steps: Protection of the open space preservation focus areas will require:

- communities affected by the focus areas to take steps to protect their portions,
- active open space acquisition programs to make the focus areas high priority and
- continuing regional and local planning efforts to refine the mapping of the focus areas.

Existing Parks & Open Space and Preservation Focus Areas





Regional Biodiversity of Species and Significant Natural Communities Status

Goal: The Metro Vision Plan goal for parks and open space is to establish an integrated, linked, permanent parks and open space system. This system will include varied types of open space and make appropriate open space accessible to all of the region’s population.

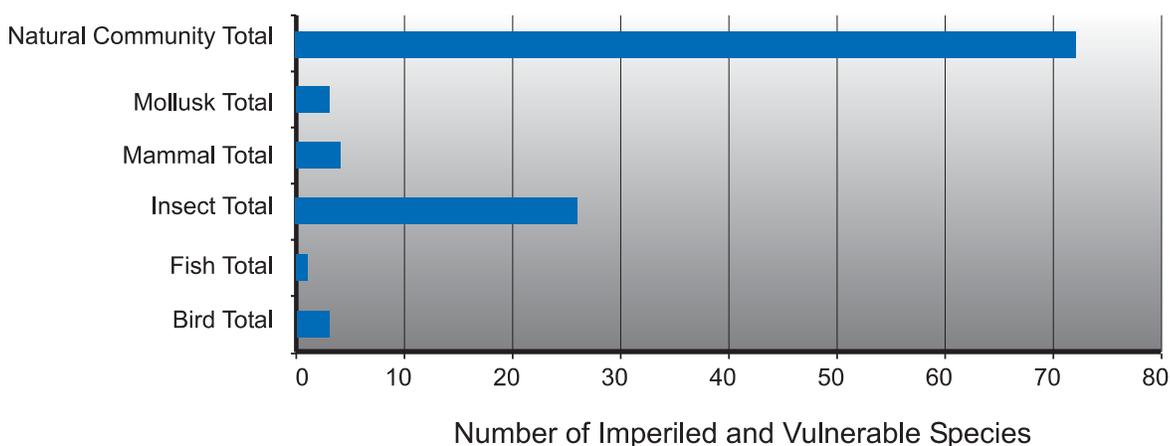
Policy: Metro Vision anticipates that natural resource areas will be conserved and protected for future generations. Natural resource areas include wildlife habitat.

Measure: The Colorado Natural Heritage Program (CNHP) tracks and ranks Colorado’s rare and imperiled species and habitats. CNHP is a program of Colorado State University, sponsored in conjunction with the Nature Conservancy. CNHP has data available for several major life forms including birds, fish, insects, mammals, mollusks and vascular plants. Data is also available for natural communities, generally defined as ecological plant associations.

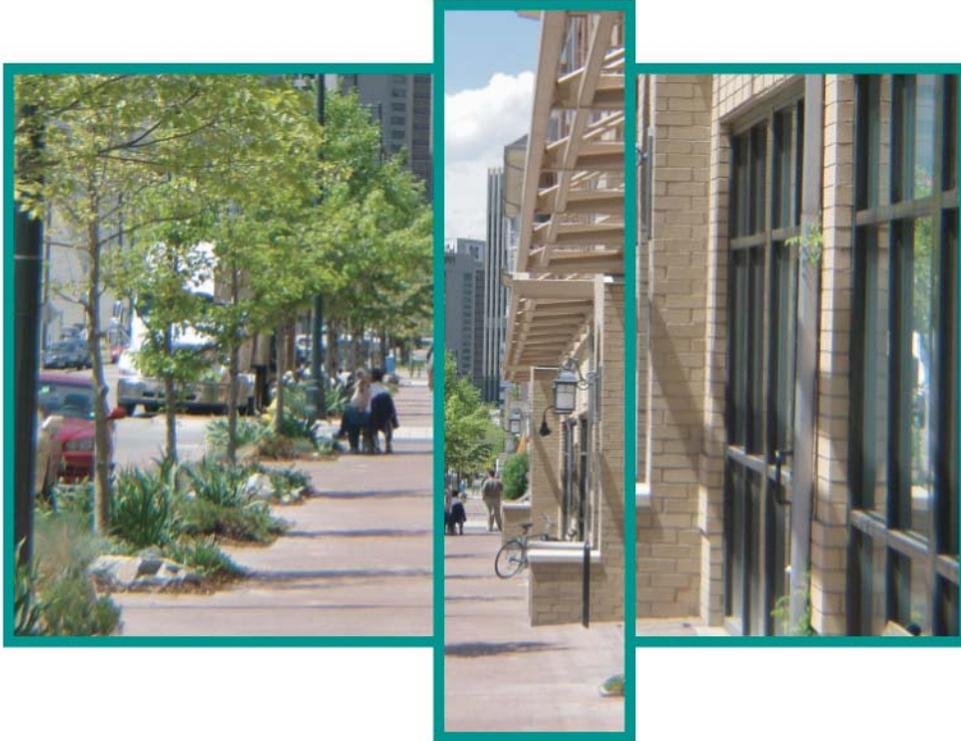
Conclusions: The 149 species and natural communities imperiled or vulnerable in the DRCOG region are shown in the figure. The number represents 4.1 percent of the state’s biodiversity (total number of species). Despite being a relatively small percentage, any species loss is irretrievable and has implications for the region. Biodiversity must be closely monitored, a problem since data used in the program is collected infrequently due to inconsistent funding. Future updates of this measure can be used to determine if the region’s natural resource areas are improving or declining.

Action steps: To protect the region’s natural resources, governments at all levels need to be aware of the impacts their decisions have on biodiversity. DRCOG will include this indicator in the next performance report to determine if biodiversity is increasing or decreasing.

Biodiversity in the DRCOG Region



DENVER REGIONAL COUNCIL OF GOVERNMENTS



A Look at the Region's Social and Economic Profile

What makes the Denver region such a wonderful place to live? Different people will answer the question in different ways. This group of indicators describes the changing nature of the people within the region.

Quality of life is a broad topic discussed in Metro Vision, but without specific policies. As a consequence, there are no quantitative targets to track how well the region is doing in the area of quality of life.

Taking a look at economics, the characteristics and mix of the population, housing conditions and health of residents gives a good view of the region's quality of life. In addition, an initial attempt has been made to gauge levels of community life and interactions. Each of these topics could be explored in much greater depth. This section is intended to provide a snapshot of these characteristics.

The following pages discuss and analyze the results of each indicator.

Highlights include:

- The region's economy is in a recession that began in 2000. This is reflected in job loss, higher unemployment rates and declining wages. This is partially a mirror of the national recession, exacerbated by a lack of diversity in the region's economy.
- The region's population continues to rise, largely due to natural increase. While level of educational attainment has increased, much of this is the result of people moving into the region. These newcomers could leave for opportunities elsewhere in the nation.
- The region's population is becoming more diverse both in ethnicity and language.
- Housing choices have not changed since 1990 with about 70 percent single-family and 30 percent multifamily dwellings. During this period, housing prices have increased faster than wages, leading to problems of housing affordability.



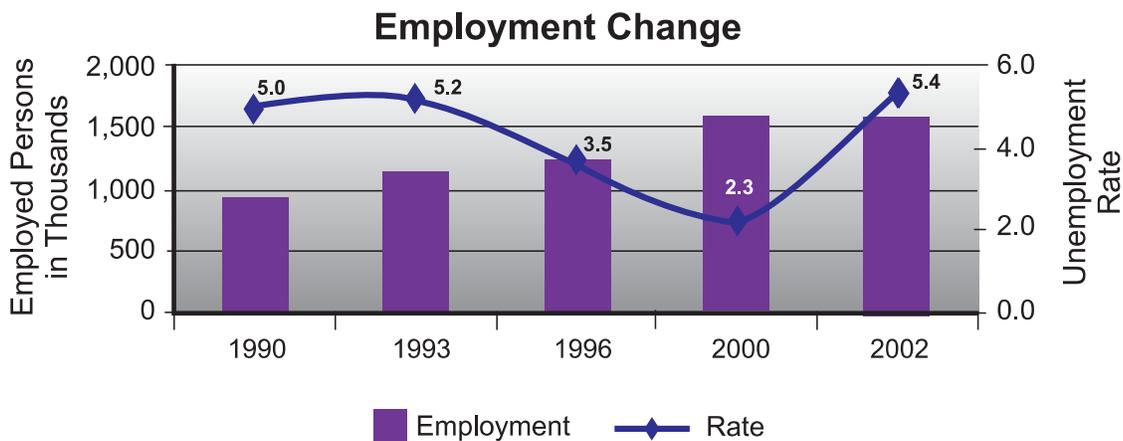
Economic

Goal: Metro Vision’s goals revolve around maintaining and improving quality of life in the greater Denver region. They further call for the region to build on its stature as the economic and cultural center of the Rocky Mountain region and to position itself as one of the nation’s most attractive and desirable metropolitan areas.

Measure: Employment growth, the unemployment rate, wage/salary levels, industry mix and new business starts are indicators of the general health of the region’s economy.

Conclusions: Until 2000, the region regularly outperformed the national economy. In fact, the region grew by approximately 40,000 jobs annually in the 1990s. Due in part to the national recession, the region has lost about 50,000 jobs over the last several years. This job loss was more pronounced than that experienced by the rest of the state and many other parts of the nation. The recession had a greater impact on several new and emerging industries that notched strong employment growth in the ‘90s.

Going along with job loss, unemployment has risen since 2000. In the 1990s, unemployment in the region was below the national average, but the unemployment rate has doubled since 2000. Even the higher unemployment rate may understate the recession’s impacts since many unemployed persons may have become discouraged and dropped out of the labor force. The region has an excess of skilled and motivated potential employees who can meet the labor needs of expanding and relocating firms. The following bar graph tracks employment change.



The pool of available workers in the region has allowed firms in the region to become both more selective in their hiring and more conservative in their awarding of raises for salary and wage earners. Average wages in the region have dropped since 2000, after adjusting for inflation. This reverses the trend of wage rate increases that were above the change in the cost of living within the region. The pie chart (see next page) shows the percentage of the region’s workers in each wage category. The chart includes part- and full-time workers, with the part-time workers concentrated in the less than \$20,000 a year

category. As the pie chart shows, most full-time workers make between \$30,000 and \$50,000 a year.

Industry mix measures how concentrated the region's employment is in certain sectors. It is healthier to have a varied industrial mix – lack of diversity weakens the region's ability to withstand economic cycles, making it more difficult for the region to recover in times of recession. This is particularly true if a core industry is affected by the recession. The following bar graph shows an increase in the percentage of jobs in the top 10 industrial sectors. This increase means a less diverse economy.

The rate of new business starts has fallen since 2000. There was a huge jump in the number of new businesses in the early 1990s. Growth in business starts is a good indicator of general attitude about the health of the economy. A slowdown in new business growth shows a lack of confidence in the region's economic recovery.

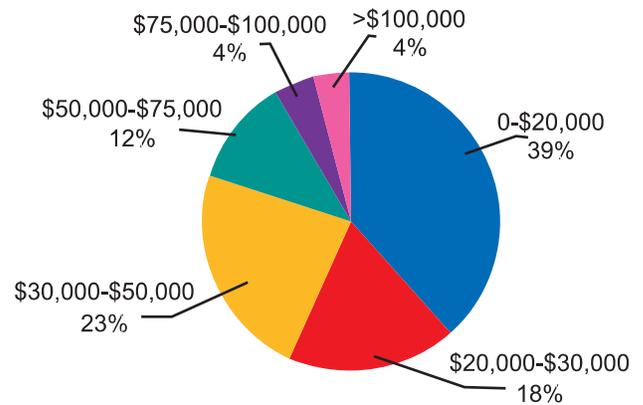
Action Steps: To help the

region keep its economy healthy, local governments need to:

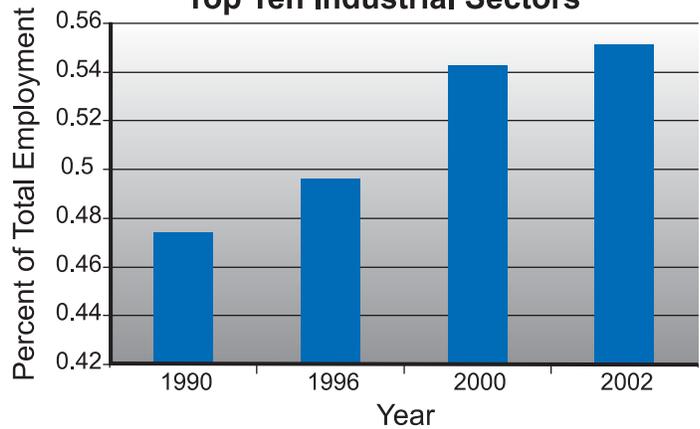
- Support economic development programs that target industries to provide jobs with the appropriate wage and skill levels for the resident labor force
- Continue to provide the infrastructure needed to attract industry clusters that will further diversify the economy, such as biotech and software development
- Continue to enact or encourage policies that streamline the permit and licensing of small business to encourage new business starts
- Provide programs that support existing businesses
- Retain individuals who are educated in Colorado's school system and encourage them to obtain higher levels of education.

2002 Median Wages for Employed Persons

(0-\$20,000 includes part-time workers)



Employment Share of Top Ten Industrial Sectors





Population

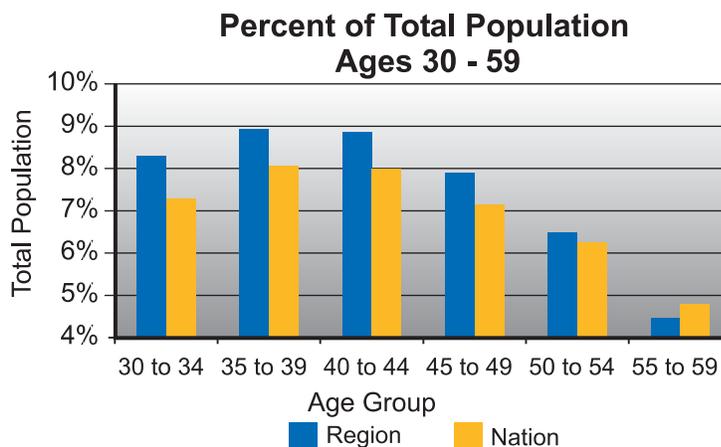
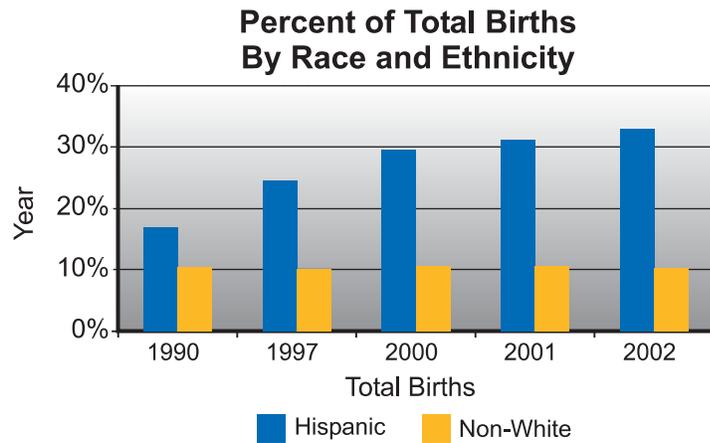
Goal: While Metro Vision’s goals focus on maintaining and improving quality of life in the greater Denver region, they also are geared to accommodate anticipated population growth.

Measure: Indicators of the region’s vitality include education, age, poverty, diversity and population growth.

Conclusions: During the 1990s, the region’s educational attainment rose. Residents over the age of 25 with bachelor’s degrees rose from 27 percent in 1990 to 30 percent in 2000. The share of population over the age of 25 with a graduate degree also rose – from 10 percent to 12 percent over the same time period. The growth in high tech jobs requiring advanced, skilled workers is responsible. One downside is that many of the region’s residents were educated elsewhere and moved to the region to work. The region could lose these trained and educated workers if job loss continues.

In 1990, 16 percent of the population lived below the poverty level. As the region grew in numbers during the past decade, it also prospered economically. As a result, those in the region living below the poverty level decreased during the ‘90s. In 2000, the most recent year for which data are available, 8 percent of the population lived below the poverty level. The expanding regional economy of the 1990s that grew nearly twice as fast as the nation led to the region’s 1.4 percent decrease in the unemployment rate. Lately, however, with the national and regional recessions, the poverty rate is likely to have climbed back above 10 percent.

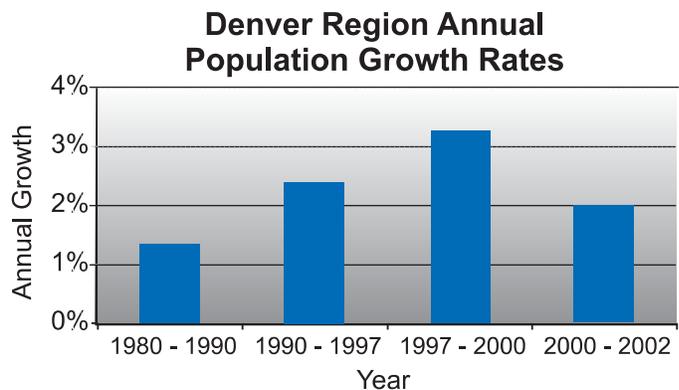
Increasing diversity is one way to bring new ideas and perspectives to communities. The region’s racial composition didn’t change much during the 1990s, but the region’s Hispanic population grew by 53 percent.



Much of this increase was due to people moving into the region, but just over one-third of the increase came from births to existing residents.

The share of the age groups within the region hasn't begun to shift dramatically yet, but that seems about to change. As migration slows, the aging of the baby boom population will affect the region's age composition. At the same time, life expectancy continues to rise. Looking toward the future and assuming the existing baby boomers stay in the region, age make-up will mirror the national picture. These shifts will have big effects on not only demographics, but on a range of regional services and decisions.

Population growth soared during the 1990s, reaching as high as 3.3 percent annual growth for the decade's last four years. Comparatively, the region grew at a 1.3 percent annual rate during the 1980s. Since 2000, the region's growth has slowed to just below 2 percent annually. The region, with a desirable quality of life, is expected to continue to grow for years to come. This population growth will more than likely occur at a rate of about 2.5 percent through the remainder of the decade.



Action steps: Local governments will want to continue watching and understanding regional population changes because of their wide-ranging effects. Local governments need to:

- Support funding for K-12 and higher education.
- Retain individuals who are educated in Colorado's school system and encourage them to obtain higher levels of education.
- Recognize the impacts of a more diversified population, both in terms of ethnic and age characteristics. Communities can consider planning to provide services, housing and transportation networks that meet the needs of this changing population.



Housing

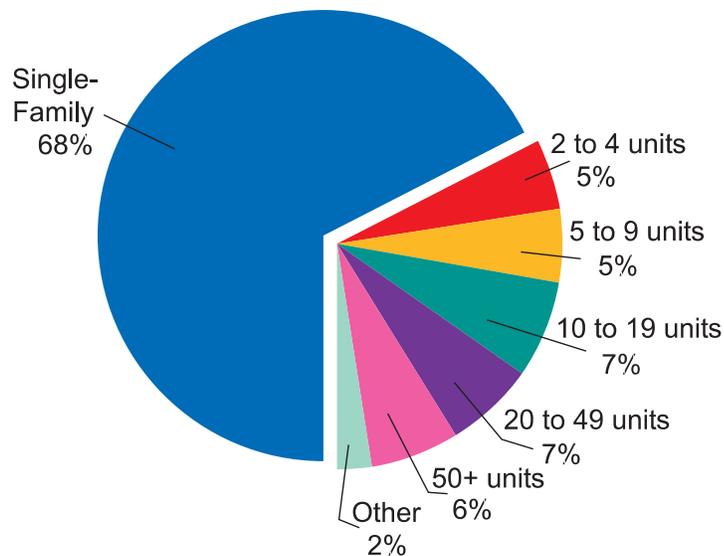
Goal: Specific housing types are not discussed in Metro Vision, but the plan recognizes the need to provide varied housing opportunities for the region’s residents, such as multifamily and traditional single-family detached residential housing.

Measure: Understanding the region’s housing characteristics is important for several reasons. First, the region’s residents consider housing price and quality in deciding where to live and that, in turn, affects demand and need for services. Second, because residential construction consumes land, it is necessary to examine what types of housing are built and how this construction affects the environment.

Conclusions: The region’s housing types range from single-family ranch homes on larger lots to studio apartments in 30-story buildings. As the pie chart shows, the single-family and multifamily housing markets in the region offer a mix of housing choices. In 2002, the region had approximately 718,000 single-family units and 305,000 multifamily units. From 1990 to 2002, the region maintained a fairly consistent ratio of 70 percent single-family homes to 30 percent multifamily homes. When compared to the nation as a whole, the region has about 5 percent more single-family homes, proportionally. As land becomes more expensive and opportunities for new single-family housing development move farther out from the region’s core, the proportion of new housing may increasingly move toward multifamily.

Home ownership is a goal of most Denver area residents. Meanwhile, the rental market provides both affordable and flexible housing choices for others. Sixty-six percent of the region’s homes were owner-occupied in 2000, up 4.8 percent from 1990. The trend toward home ownership also was apparent for the nation, which experienced a 2 percent increase. In 2000, almost 90 percent of the region’s single-family homes were owner-occupied while fewer than 20 percent of the multifamily homes were owner-occupied.

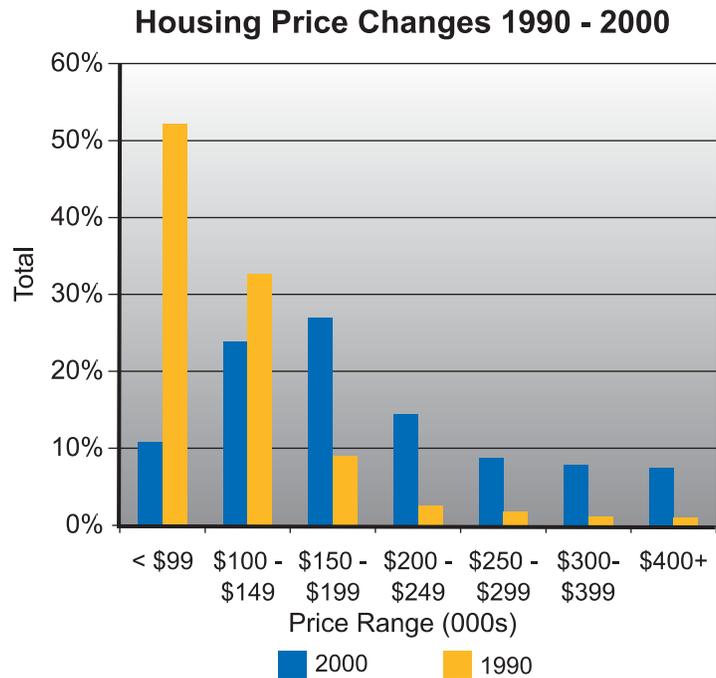
**Units In Housing Structure
Census 2000**



Over the past 15 years, housing prices in the DRCOG region have steadily climbed, often significantly. These increases are both good and bad. In many cases, a home is

a family's principal asset; an increase in housing prices positively affects the finances of these families. At the same time, though, when housing prices rise more quickly than wages, more of the population is restricted from home ownership. In 1990, the region's median home price was \$81,000 (\$117,207 in 2000 dollars). By 2002, it had jumped to \$184,000.

Housing prices have increased faster than wage levels since 1990. As a result, the region's housing has become less affordable. Taking a longer-term perspective, the region's housing affordability index in 2000 matched levels witnessed in 1980 and 1970. Recently, wage levels and housing prices have experienced limited growth or no growth at all. So, even with the recession's impacts, the relationship between housing prices and wage/salary levels is on a par with the 2000 levels.



Action Steps: To address the region's housing needs, local governments need to

- Encourage construction of a diverse set of housing types, bearing in mind the effect of each type on housing affordability, land consumption and individual preference.
- Further investigate, with DRCOG support, the relationship between housing choices and retention of diverse workers needed to support the region's current and growing economy.



Health

Goal: Metro Vision’s goals revolve around maintaining and improving quality of life in the greater Denver region. Health is not mentioned specifically, but is certainly a quality of life indicator.

Measure: Examining the region’s composite health index and the percent of residents who exercise regularly is a good way to gauge the health of the community. Five indicators are used: obesity, physical activity, tobacco use, motor vehicle accidents and health insurance coverage.

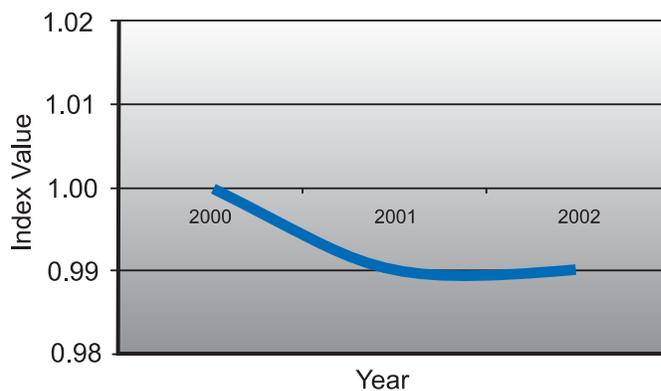
Conclusions: Heart disease, certain types of cancer, stroke and unintentional injuries are leading causes of premature death in the United States. Four of the five indicators included in the region’s composite health index represent conditions and lifestyle choices that increase these health risks: obesity, physical activity, tobacco use and motor vehicle accidents. The fifth indicator reflects the number of residents who have health insurance, an important factor in detecting and treating health problems.

The graph shows that the region’s composite health index has changed little in the past few years. In fact, the indices for obesity, tobacco use and motor vehicle injuries have shown less than a 3 percent change since 2000.

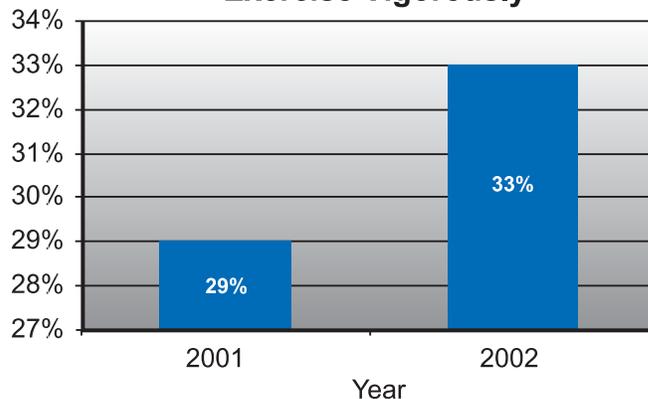
Despite any upward movement in the composite health index, residents of the region have increased their physical activity. Historically, compared to the national average, Coloradans are very physically active. And, building on this already high level of activity, the number of residents who regularly participate in vigorous exercise increased by 4 percent in the last several years, as shown in the bar graph.

The index, though, also reflects a decrease in the number of residents who have health insurance and a slight increase in the number of obese adults. Obesity contributes to heart disease and other leading

**DRCOG Region Composite Health Index
2000 - 2003**



**Percent of Residents who
Exercise Vigorously**



causes of premature death. It is a problem throughout the nation; Colorado and the DRCOG region are no exception.

Action Steps: The good news is that the region's residents are generally quite healthy and active, yet people can do more to ensure their future health. Local governments need to:

- Create goals similar to the national 2010 health objectives (<http://www.healthypeople.gov/Data/Data2010.htm>). Health goals could be set based on conditions within the region and focused on existing successes and concerns.
- Encourage a comprehensive approach to achieving personal health goals for community through schools, park and recreation districts and others interested in community design.
- Encourage pedestrian- and transit-oriented development because it can lead to healthier lifestyles.
- As part of its legislative effort, DRCOG should identify programs that can increase the number of people covered by health insurance.



Community Life

Goal: Community life makes a big contribution to the region's quality of life.

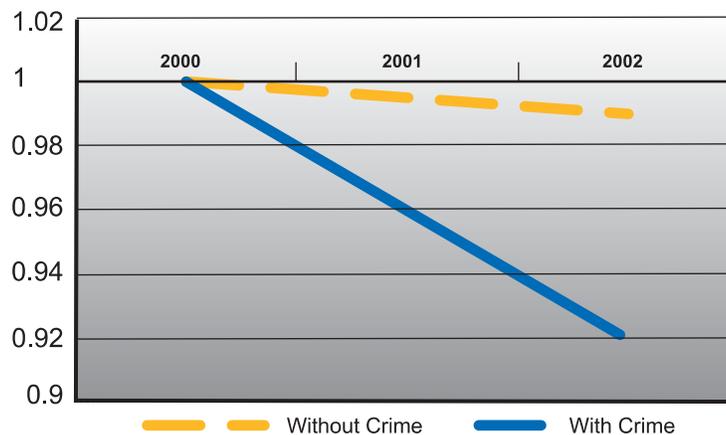
Measure: To gauge community life in the region, four indicators were chosen -- crime levels, park and recreation spending, cultural spending, and voter participation -- and included in a regional composite community life index. The index is designed to give a picture of the safety of the region's neighborhoods, resident interest in the community, and public and private sector investment in community projects and services.

Conclusions: As shown in the graph, the composite community life index has dramatically decreased. Since many of the factors in the community life index have a financial component and most communities suffered fiscal setbacks during the recent recession, a decline in the index isn't a surprise.

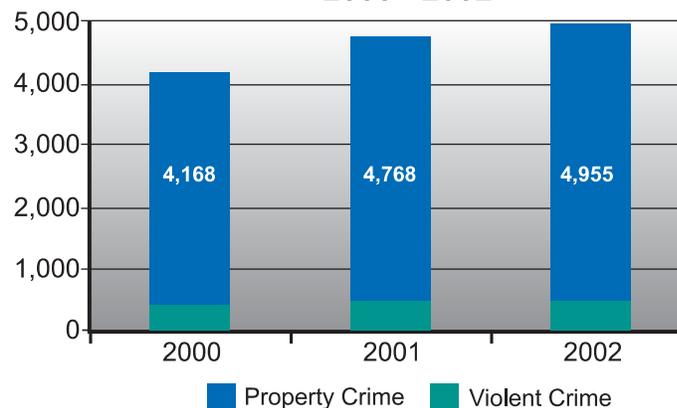
Economics affected local government investment in both cultural and recreational facilities and cultural amenities. Even private investment in parks and recreation facilities has exhibited a slow decrease since 2000. The economic downturn could be responsible for the Scientific and Cultural Facilities District experiencing a 4 percent loss in donations from 2000.

During this time, voter participation remained constant. Voter participation was chosen as an indicator because it reflects citizen involvement and interest in the community. In the DRCOG region, voter turnout is historically around 25 percent higher in presidential year elections than in non-presidential years. Election year analysis showed no change in the percentage of residents that exercise their right to vote.

DRCOG Region Community Life Index with and without Crime



DRCOG Region Crimes 2000 - 2002



Source: HUD State of the Cities Data System Offenses Known to Police (per 100,000 population)

The composite community life index decline is primarily caused by rising crime levels. The index is shown with and without crime statistics to illustrate the contribution crime makes to the index. As the bar graph illustrates, the number of violent crimes has remained relatively constant, but the total number of crimes in the region has risen since 2000. Fewer employment opportunities and reduced income levels may play a role in the crime increase. The increase in property crime has caused a sharp decline in the region's community life index.

The economy has a large influence on the community life index, but community life can be improved in other ways too. In the future, additional measures such as volunteerism and the quality of public schools will be added to the index.

Action Steps: To improve community life, local governments and their residents need to:

- Ensure adequate financial resources from public and private sources for both recreation and cultural amenities.
- Increase efforts to ensure public safety from certain crimes and in areas where crime rates are highest.
- Continue to focus on getting more eligible residents to register and to vote.
- Encourage the improvement of neighborhood design and social conditions that foster a sense of community.
- Encourage pedestrian- and transit-oriented development because it can lead to healthier lifestyles.

Action Steps

The regional performance measures and indicators provide an interesting look at the condition of the region, but their primary purpose is to spur action that will help the region meet its quality of life goals.

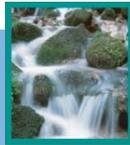
A number of activities have been identified to move each indicator into a positive direction by getting closer to Metro Vision goals. It should be noted that many of these action steps would affect more than one indicator. For example, actions to implement the urban centers will also help with the region's density and extent of development, reduce congestion, increase transit ridership, improve air quality and improve the health index. Similarly, actions that implement the regional open space preservation focus areas will also improve the extent of development, freestanding community buffer, water quality and community life indicators. Each indicator is designed to track a specific characteristic of the region's quality of life, but these characteristics also are linked to each other in many different ways.

A summary follows of the action steps for each indicator that need to be taken by:

- the region as a whole,
- DRCOG,
- local governments and
- other community organizations.

DRCOG can act on some of the steps, but many require actions by local governments, by state or other regional entities or by all levels of government. The steps are summarized and grouped by the responsible entity.

The Region



Transportation

- Increase the capacity of the multimodal system by funding capital projects in congested corridors and at bottlenecks
- Reduce growth in highway demand by promoting alternative modes and investing in rapid transit
- Initiate increased transportation management actions, such as the use of intelligent transportation systems and incident management, to assure more reliable travel time
- Seek additional funds to support a return of investment levels necessary to maintain the transportation system
- Invest in high-occupancy vehicle lanes
- Promote a workplace culture that allows flexibility, such as teleworking, compressed work weeks, or flex-time
- Establish positive incentives to carpool and vanpool, such as parking cash-outs
- Adhere to the urban growth boundary/area to reduce the need for new infrastructure

Environment

- Implement maintenance plans for each air quality pollutant
- Move forward with the Ozone Action Plan designed to keep the region from violating the standard and have the responsible entities carry out the identified actions
- Be aware of the impacts decisions have on the region's biodiversity of species
- Refine the mapping of the open space preservation focus areas

DRCOG



Growth and Development

- Explore regional responsibilities, incentives and processes that guide jobs into planned urban centers
- Work with local governments on improved methods for tracking the amount of semi-urban development in the region.
- Target investment in transportation infrastructure and other services to areas where urban development consistent with Metro Vision is planned

Transportation

- Pursue additional funding for the transportation projects the region needs

Environment

- Work with the region's water providers to update the Statewide Water Supply Initiative information on a regular basis
- Use growth management and urban design to reduce growth in water demand
- Provide information in the next performance measures report on how the region is doing with its per capita amount of open space and parks
- Continue regional planning efforts to refine the mapping of open space preservation focus areas

Social and Economic

- Further investigate the relationship between housing choices and retention of diverse workers needed to support the region's economy
- As part of its legislative effort, DRCOG should identify programs that can increase the number of people covered by health insurance



Local Governments

Growth and Development

- Align planned developments with the region's 750-square-mile urban growth boundary/area goal
- Provide only those transportation facilities and services, and water and wastewater services consistent with the urban growth boundary/area
- Establish higher densities for new development by encouraging a wider variety of housing types
- Support continued infill activities in areas already undergoing development
- Implement urban centers and encourage transit-oriented development
- Support job-producing economic development at urban centers
- Local governments will need to re-evaluate urban centers periodically to determine if they are developing as expected or should be removed from local and regional plans.
- Ensure that uses developed within each freestanding community's buffer area remain non-urban

Local Governments (continued)

- Pursue intergovernmental agreements between freestanding communities and their counties and neighboring communities to gain assurances that potential development within buffers areas will be non-urban
- Review freestanding community development plans to ensure that future mixing of uses is promoted in town centers
- Strive for freestanding community economic stability and unique identity through increased and balanced job and housing growth
- Limit semi-urban development to lots already platted.

Transportation

- Implement Metro Vision's land use elements, such as urban centers, to allow for shorter trips, minimizing congestion's impact on travelers
- Implement the urban centers called for in Metro Vision to make alternative modes more convenient

Environment

- Have each water supply agency in the region assess its own supply and identify actions that can meet the demands projected for its service area
- Identify intergovernmental water projects that can serve the region
- Have each wastewater treatment facility consider the impacts of growth on its service area
- Act on opportunities to protect additional open space
- Have communities affected by the open space focus areas take steps to protect their portions
- Make open space acquisition programs active, establishing the high priority of the focus areas
- Refine the mapping of the open space preservation focus areas

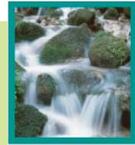
Social and Economic

- Support economic development programs that target industries to provide jobs with the appropriate wage and skill levels for the resident labor force
- Continue to provide the infrastructure needed to attract industry clusters that will further diversify the economy, such as biotech and software development
- Continue to enact or encourage policies that streamline the permit and licensing of small business to encourage new business starts
- Provide programs that support existing businesses
- Support funding for K-12 and higher education
- Retain individuals who are educated in Colorado's school system and encourage them to obtain higher educational levels
- Plan to provide services, housing and transportation networks that meet the needs of a more diversified population, both in terms of ethnic and age characteristics
- Encourage construction of a diverse set of housing types, bearing in mind the effect of each type on housing affordability, land consumption and individual preference
- Further investigate the relationship between housing choices and retention of diverse workers needed to support the region's current and growing economy
- Create goals similar to the national 2010 health objectives
- Encourage a comprehensive approach to achieving personal health goals for community through schools, park and recreation districts and others interested in community design

Local Governments (continued)

- Encourage pedestrian- and transit-oriented development to lead to healthier lifestyles
- Ensure adequate financial resources from public and private sources for both recreation and cultural amenities
- Increase efforts to ensure public safety from certain crimes and in areas where crime rates are highest
- Continue to focus on getting more eligible residents to register and to vote
- Encourage the improvement of neighborhood design and social conditions to foster a sense of community

Other Community Organizations



Growth and Development

- Have transportation agencies provide appropriate capacity to serve the travel demand at urban centers
- Have transportation providers recognize freestanding community buffers in their plans to avoid locating major facilities in buffer areas

Transportation

- Invest in more transit in the region

Environment

- Have watershed associations or authorities and designated management agencies carry out the identified actions for each watershed to achieve water quality goals
- Make open space acquisition programs active, establishing the high priority of the open space preservation focus areas

DRCOG has not attempted to inventory the steps currently being taken but intends to add that listing in future versions of this report.

Next Steps

This report represents the region's first attempt to assess its efforts to attain the goals of Metro Vision.

The purpose of this report is to determine if Metro Vision is moving the region in the right direction by measuring the progress the region has made to date. DRCOG believes the report:

- is a significant action taken by the region collectively to measure progress,
- represents a regional commitment to Metro Vision,
- needs to be shared with local communities so they can assess their individual progress, and
- shows the region is making progress in implementing Metro Vision, but still has work to do.

To move ahead on implementing Metro Vision, it is vital that the report be monitored over time to identify trends and respond where necessary. DRCOG will work with its member governments to produce subregional information for the various indicators and provide it to local communities for their use. Subregional information often is not readily available. In those cases, DRCOG will work with the communities to find local indicators that complement the regional information. Communities can use DRCOG's data to monitor their own progress in moving toward the Metro Vision plan goals.

In many cases, the information required to produce an indicator is not updated annually. DRCOG intends to produce this report triennially and tie its production to the triennial update of Metro Vision. The schedule calls for the first update of this report to be available in 2007, with the update of Metro Vision occurring the following year. In this manner, Measuring Progress can be used by the DRCOG Board of Directors to identify where Metro Vision changes need to be made.

Preparing this report revealed that many sources of information are limited or available at the wrong scale. DRCOG will work with the sources of the information to determine if improvements are possible.

Sources

Graphs, Charts, Maps

Growth and Development

p. 5: “Urban Land Consumption,” Denver Regional Council of Governments biennial urban area generated using aerial photo interpretation. Urban areas are defined as those areas that are predominantly covered by structures and public facilities. This includes residential areas with housing densities of one unit or more per acre and commercial, office or industrial areas.

p. 6: “Urban Density,” Denver Regional Council of Governments housing unit estimates in the defined existing urban area. Future percentage increases are defined by using Metro Vision policies and the 2030 Urban Growth Boundary/Area.

p. 8: “Semi-Urban Development,” Denver Regional Council of Governments Metro Vision 2030.

p. 8: “Urban Center Housing Unit Tracking” and “Urban Center Employment Tracking,” Denver Regional Council of Governments using DRCOG household and employment estimates and urban center areas submitted by local governments.

p. 9: “Freestanding Community Buffer Land Uses,” Denver Regional Council of Governments aerial photo interpretation and analysis of land uses found on the perimeter of each freestanding community.

p. 10: “Freestanding Community Household Viability” and “Freestanding Community Employment Viability,” Denver Regional Council of Governments using defined freestanding community town centers and DRCOG household and employment estimates.

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p. 15: “Regional Transportation Plan (RTP) 26-Year Long-Range Revenue Estimates,” compiled from the Denver Regional Council of Governments “2020 Regional Transportation Plan,” the “2025 Regional Transportation Plan” and the “2030 Regional Transportation Plan,” adjusted by the Colorado Department of Transportation Colorado Construction Cost Index, 2004.

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- p. 22: "Crash, Injury and Death Rates per Households," compiled from Colorado Department of Transportation annual accident data files and Denver Regional Council of Governments annual population and household estimates.
- p. 23: "State Highway Surface Conditions in the Denver Region," compiled from the Colorado Department of Transportation's annual Integrated Roadway Inventory System (IRIS).
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- p. 24: "Local Government Roadway Program Revenues Per Capita," compiled from Colorado Department of Transportation annual "Local Government Receipts and Expenditures Report" files and 2004 Construction Cost Index, Denver Regional Council of Governments annual population and household estimates.
- p. 25: "State Highway Pavement Condition in the DRCOG Region," Colorado Department of Transportation 2003 Integrated Roadway Inventory System IRIS).
- p. 26: "Use of Alternative Modes," "Journey to Work Trends in the United States and its Major Metropolitan Areas: 1960-2000," Publication No. FHWA-EP-03-058, prepared for the US Department of Transportation, 2003.

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