

## A Connected Multimodal Region

### INTRODUCTION

The DRCOG region aspires to have a connected multimodal transportation system that provides everyone viable travel choices. The region will have a multimodal approach to move people and goods, with transportation facilities and services tailored to the desires of individual communities. Public transit, bicycling, walking, and carpooling will be used for a greater share of personal trips over time. The region's transportation system will address and adapt quickly to major trends affecting the region, such as significant population growth, a rapidly aging population, new technology, an evolving economy, and changing residential and workplace styles. Transportation and land use planning will be integrated to improve the region's quality of life.

Transportation needs far outweigh available funding. This necessitates difficult tradeoffs and choices, such as balancing the need for additional multimodal capacity with maintenance and preservation needs. The region must use a range of funding solutions, such as public-private partnerships, managed lanes, innovative local funding strategies, and other cost-effective methods to build and maintain transportation infrastructure and services. Coordinated regional and statewide actions must be taken to increase transportation funding.

This Metro Vision element outlines an overall policy framework and vision for the transportation system through the year 2040, organized around three regional outcomes:

#### OUTCOMES FOR A CONNECTED MULTIMODAL REGION:

- **A well-connected, regional multimodal transportation system;**
- **A safe, dependable, and efficiently operated transportation system, and**
- **A transportation system contributing to a better quality of life.**

Supporting objectives and strategies will help the region achieve these outcomes. The companion 2040 Metro Vision Regional Transportation Plan (2040 MVRTP) implements the transportation element of Metro Vision. The 2040 MVRTP defines the specific transportation system the region desires and can fund through 2040.

#### MULTIMODAL CONSIDERATIONS

The region will have a multimodal system of regional roadways and local streets to serve people and goods via all travel modes. The roadway system will be managed and operated to optimize existing capacity and enable safe travel for all users. New capacity (new roads and widening projects) will address Metro Vision outcomes, and traffic congestion within the UGB/A and along major statewide connections. Managed lanes will be considered as part of new capacity projects where feasible. New and reconstructed roadways will be designed to optimize movement of people and vehicles.

Transit will also play a crucial role in moving people. This includes completing RTD's FasTracks rapid transit system and envisioning future intra- and inter-regional transit connections. Regional, local, specialized, and private transit services will be provided to meet the needs of the region's commuters, general public, and growing older adult and limited-mobility populations. Finally, the region and local jurisdictions will invest in transit solutions tailored to specific community needs, such as first- and final-mile connections, improved access to transit stations, and new or expanded transit service.

Walking and bicycling are valued travel choices in the DRCOG region, with their mode share steadily climbing. The region and local jurisdictions will increase the viability of walking and bicycling to reach destinations by expanding the bicycle and pedestrian network and providing additional supportive infrastructure. The network will also be accessible for people using mobility aids, such as wheelchairs and walkers.

Transportation demand management and other mobility innovations are also key transportation strategies. Carshare, rideshare, and bikeshare programs are important travel options within the region. Emerging technology innovations, such as connected and driverless cars, also have potential to influence personal mobility in the future. Technology and other innovations (e.g., broadband, smartphones, trip planning tools) play an important role in a connected multimodal transportation system, as does implementing strategies to avoid or manage travel, reduce congestion, and optimize existing capacity, such as teleworking, flexible work hours, and virtual meetings.

**CONNECTING THE DOTS: WHY IS THIS IMPORTANT?**

**An Efficient and Predictable Development Pattern.** Maintaining an integrated approach to land use and transportation planning and investments in the region is essential. Focusing new housing and employment in urban centers that are well-connected to other destinations helps promote efficiency in the provision of transit services, increases transportation options for area residents and employees, and creates less reliance on motor vehicle trips. Likewise, encouraging infill and redevelopment in established parts of the region and limiting urban development outside the UGB/A minimizes the need to extend new transportation infrastructure or upgrade existing infrastructure.

**Healthy, Inclusive, and Livable Communities.** A well-connected transportation system plays a direct role in the health and wellness of the region’s population. By providing travel choices to help reduce vehicle miles traveled, ground level ozone and other air pollutants can be reduced. This in turn will help reduce chronic and acute respiratory diseases, including asthma. In addition, people who have the option of walking or bicycling to meet many of their daily needs are more likely to incorporate regular physical activity into their daily lives and maintain better health. Lastly, transit can help ensure people of all ages, income levels, and abilities have the means to access needed services and amenities.

**A Vibrant Regional Economy.** Ensuring people, goods, and services move through the region safely, efficiently, and predictably is essential to our economic health. Providing a range of multimodal travel options will help ensure the Denver region remains competitive with other major metropolitan areas for both new employers and residents seeking a high quality of life, lower transportation costs, and diverse lifestyle choices.

**A Safe and Resilient Built and Natural Environment.** The region’s multimodal transportation system plays a direct role in the quality of our built and natural environment. Minimizing growth in VMT and providing multimodal travel options are key components to reducing ground level ozone, greenhouse gas emissions, and other pollutants. The design and proper use of transportation facilities can reduce the number of fatalities and serious injuries caused by traffic crashes. Likewise, designing roadways and other transportation facilities using stormwater best management practices (BMPs) can help minimize the effects of runoff on the region’s water quality.

**Outcome 5: A well-connected, regional multimodal transportation system.**

A balanced, well-connected, multimodal transportation system will include regional and local roadways and streets, transit (bus and rail), bicycle and pedestrian facilities, and air and freight rail linkages. The integrated components of this system will provide reliable mobility choices to all users throughout the DRCOG region. The system will permit efficient regional, state, and nationwide connections for people and freight, and will evolve to address future technology and mobility innovations as appropriate.

**OBJECTIVE 5.1: PROVIDE A MULTIMODAL ROADWAY SYSTEM THAT ENABLES PEOPLE, GOODS, AND SERVICES TO TRAVEL SAFELY AND RELIABLY**

**Strategy 5.1(a): Maintain and enhance a regional roadway system**

Maintain and enhance a regional roadway system comprised of freeways, tollways, major regional arterials, and principal arterials that provides regional and statewide multimodal connectivity for the safe movement of people, goods, and services reliably (predictable travel times, minimal infrastructure closures, efficient incident clearing, etc.).

**Strategy 5.1(b): Incorporate multimodal facilities or treatments into all roadways and streets**

Build new streets and roadways, and retrofit existing facilities, with applicable multimodal elements, where feasible, that enable safe, convenient, and comfortable travel and access for people using all modes—driving, transit, walking, and bicycling.

## **Strategy 5.1(c): Expand the carrying capacity of existing regional roadways in the most critically congested corridors**

Expand the carrying capacity of existing regional roadways (people, vehicles, and freight) in the most critically congested corridors, at key traffic bottlenecks, and along major statewide connections—such as I-25 and I-70. Agencies should first consider travel demand management and transportation system management and operations strategies to optimize the use of existing capacity.

## **Strategy 5.1(d): Consider the use of managed lanes in new capacity projects where feasible**

Consider the use of managed lanes in new capacity projects where feasible to optimize the use of the new capacity, help fund the project, provide more reliable travel times, and encourage carpooling and transit use.

### **REGIONAL ACTIONS**

- Coordinate efforts of the Colorado Department of Transportation (CDOT), the Regional Transportation District (RTD), local governments, and other regional stakeholders to get the most efficient use of the existing multimodal roadway system while planning for future use.
- Maintain a fiscally-constrained regional transportation plan that identifies priority roadway improvements within fiscal realities.
- Adopt Transportation Improvement Program (TIP) project selection policies that consider all users of roadways.

### **LOCAL ACTIONS**

- Adopt and implement street and development standards to improve multimodal connectivity in a variety of contexts—urban, suburban, and rural—while considering unique land use settings, such as schools, parks, and offices.
- Fund roadway preservation, operational, and expansion projects through local capital improvement programs.

Insert 2040 Metro Vision Regional Roadway System map

## **OBJECTIVE 5.2: EXPAND TRANSIT FACILITIES AND SERVICES TO ALL PEOPLE**

### **Strategy 5.2(a): Complete FasTracks**

Complete FasTracks' remaining corridors, including extensions to existing corridors.

### **Strategy 5.2(b): Develop and maintain an expanded metropolitan rapid transit system**

Develop, operate, and maintain an expanded metropolitan rapid transit system to provide connectivity for people traveling throughout the region. The rapid transit system includes FasTracks and future rail lines, Bus Rapid Transit (BRT) corridors, transit-capable managed lanes, and bus-on-shoulder facilities.

### **Strategy 5.2(c): Provide a comprehensive bus system**

Provide a comprehensive fixed-route bus system that includes high-frequency bus corridors, regional service, feeder routes to rapid transit lines, local route service, and call and rides.

### **Strategy 5.2(d): Provide demand -response service for targeted needs**

Provide demand-response transit service to meet targeted needs for older adults and persons with disabilities, travelers in less densely developed areas, or for feeder service to rapid transit lines. Providers of such service include taxi companies, transportation network companies, and other for-profit companies and non-profit agencies.

**Strategy 5.2(e): Integrate bicycle and pedestrian elements with transit**

Integrate bicycle and pedestrian elements at transit facilities, such as secure bicycle parking (racks, lockers, bike stations), bikesharing, bicycle repair kiosks, and infrastructure that supports bicycle and pedestrian trip-making to and from stations, park-and-rides, and major transit stops.

**Strategy 5.2(f): Add transit service where needed**

Support the establishment of new or increased transit service where needed.

**REGIONAL ACTIONS**

- Coordinate with RTD and other transit providers to implement major projects and services.
- Maintain transit system assets (vehicles and facilities) in a state of good repair per federal requirements.
- Coordinate with Denver Regional Mobility and Access Council (DRMAC) and transit operators to increase transportation services to older adults, persons with disabilities, and low income populations.
- Encourage and support fare structures and subsidy programs that keep transit service affordable to all users.
- Maintain a fiscally-constrained regional transportation plan that identifies priority transit improvements within fiscal realities.
- Conduct a region-wide evaluation of potential BRT corridors via a joint effort of RTD, DRCOG, CDOT, and other stakeholders.

**LOCAL ACTIONS**

- Adopt transit-supportive policies and development regulations.
- Implement bicycle and pedestrian facility connections to transit service (e.g., first and final mile connections).
- Address the needs of mobility-limited populations in transportation planning activities.
- Coordinate with RTD and other transit providers on transit facilities and infrastructure components of development projects.

Insert 2040 Metro Vision Rapid Transit System map

**OBJECTIVE 5.3: PROVIDE ROBUST BICYCLE AND PEDESTRIAN ACCESSIBILITY THROUGHOUT THE REGION**

**Strategy 5.3(a): Encourage pedestrian and bicycle accommodations along all roadways**

Encourage sidewalks or other pedestrian accommodations, as well as bicycle accommodations that meet applicable standards, along all roadways and within private developments.

**Strategy 5.3(b): Develop local and regional bicycle facilities**

Develop well-connected local and regional off-street and on-street bicycle corridor facilities to serve bicycle trips to all types of destinations.

**Strategy 5.3(c): Provide bicycle and pedestrian support facilities and services**

Provide bicycle and pedestrian support facilities and services, such as bikesharing, wayfinding, and bicycle parking in urban centers, at transit stations, and in association with major multi-use trails and other popular destinations.

## **Strategy 5.3(d): Provide first- and final-mile bicycle and pedestrian connections to transit**

Provide specific bicycle and pedestrian facilities that connect transit services and stations to nearby neighborhoods, employment, schools, shopping areas, parks, and other major destinations.

### **REGIONAL ACTIONS**

- Facilitate coordination between jurisdictions in expanding and connecting the region’s bicycle and pedestrian network.
- Support bicycle sharing programs throughout the region.
- Provide tools, informational forums, and resources to jurisdictions regarding bicycle and pedestrian design, guidance, and implementation.

### **LOCAL ACTIONS**

- Adopt and implement local street standards and other development codes/standards that address multimodal connectivity objectives in a variety of land use contexts, such as pedestrian and bicycle cul-de-sac cut-throughs.
- Fund projects that address multimodal connectivity through non-MPO programs.
- Establish wayfinding signage, bicycle parking, and other supportive infrastructure in high traffic areas to assist pedestrians and bicyclists.
- Provide first and final mile bicycle and pedestrian facilities and connections to transit, such as sidewalks and bicycle facilities, bikesharing, wayfinding, bicycle parking and shelters, and carsharing at transit stations.
- Implement striped and/or protected bike lanes (on-street and separated by a barrier from traffic) with proper consideration of how users transition to and from the lanes.
- Implement off-street sidewalks and multi-use paths that are comfortable to a wide array of users by providing separation from traffic, such as landscaping.
- Conduct education and promotional events to encourage bicycling and walking.
- Partner with local law enforcement agencies and advocacy groups on education and enforcement activities related to all road users.
- Ensure Americans with Disabilities Act (ADA) standards are met or exceeded in constructing or retrofitting facilities, such as curb cuts, ramps, etc.
- Coordinate with neighboring jurisdictions to ensure a well-connected system across boundaries.

## **OBJECTIVE 5.4: PROVIDE EFFICIENT INTERCONNECTIONS OF THE TRANSPORTATION SYSTEM WITHIN AND BEYOND THE REGION**

### **Strategy 5.4(a): Facilitate the movement of goods and services throughout the region**

Facilitate the movement of goods and services throughout the region by roadway, rail, and air travel by reducing obstructions such as congestion, bottlenecks, and disconnections between facilities; while providing sufficient opportunities for intermodal freight connection to destinations outside the region.

### **Strategy 5.4(b): Balance primary park -and -ride functions with opportunities for transit-oriented development**

Balance the need for dedicated parking at park-and-ride lots with future transit-oriented development opportunities, taking into account potential increases in transit ridership, housing and employment options, and other location-specific considerations.

**Strategy 5.4(c): Provide safe and convenient access for pedestrians and cyclists**

Provide safe and convenient access for pedestrians and bicyclists to access rapid transit stations, bus stops, and park-and-ride lots. Also provide secure bicycle parking and bike sharing at these locations and maintain and expand the capability of transit vehicles to carry bicycles.

**Strategy 5.4(d): Maintain Denver Union Station as the region’s primary multimodal hub and further develop other transit mobility hubs**

Support and maintain DUS as the primary multimodal hub of the region’s transportation system. Further develop transit mobility hubs to support other urban centers and major destinations across the region.

**Strategy 5.4(e): Improve transportation linkages to major destinations and attractions beyond the region**

Support existing linkages and plan for future intercity bus and rail linkages to destinations beyond the region.

**Strategy 5.4(f): Maintain multimodal access to Denver International Airport and the region’s other airports**

Maintain convenient access to DIA and other regional airports for all applicable travel modes. Support DIA’s important role in connecting the Denver region to the rest of the world.

**Strategy 5.4(g): Maintain and enhance airport capacity throughout the region**

Maintain the capacity of DIA and general aviation airports throughout the region by supporting facility enhancements in response to air transportation demands, consistent with adopted plans.

**REGIONAL ACTIONS**

- Include major roadway and transit capacity projects in DRCOG’s fiscally constrained Regional Transportation Plan once construction funding is identified for such projects.
- Manage and invest in the region’s multimodal transportation system to support freight movement and freight users, such as trucks and commercial vehicles.
- Actively monitor and participate in discussions concerning through rail freight traffic to bypass population centers.

**LOCAL ACTIONS**

- Adopt local multimodal transportation plans that address connections within and between jurisdictions and communities.
- Adopt land use standards around airports to guide compatible long range development.
- Provide wayfinding signage for bicyclists, pedestrians and transit users to reach key destinations.

**Outcome 6: A safe, dependable, and efficiently-operated transportation system.**

As the region continues to grow, maintaining the safety, dependability, and efficiency of the region’s multimodal transportation system is essential. A variety of approaches will be used to monitor and manage the flow of people and goods throughout the system, and to identify ways to enhance safety and improve functionality. The region will maximize the multimodal transportation system’s capacity through coordinated operations and management. As technology and mobility innovations occur, the multimodal system will evolve accordingly.

## **OBJECTIVE 6.1: ASSURE EXISTING AND FUTURE TRANSPORTATION FACILITIES ARE WELL-MAINTAINED**

### **Strategy 6.1(a): Maintain the transportation system infrastructure in good condition**

Fund and conduct maintenance and preservation efforts to keep roadways, multi-use trails, sidewalks, transit vehicles and all supporting infrastructure in good operating condition.

### **Strategy 6.1(b): Develop and apply asset management principles and techniques**

Develop and apply asset management principles and techniques for operating, maintaining, and improving existing transportation infrastructure.

### **REGIONAL ACTIONS**

- Collaborate with CDOT, RTD, local governments, and other regional stakeholders to implement and monitor asset management techniques.

### **LOCAL ACTIONS**

- Maintain transportation facilities in good condition and implement asset management principles and techniques.

## **OBJECTIVE 6.2: ACTIVELY OPERATE, MANAGE, AND INTEGRATE SYSTEMS TO OPTIMIZE PERFORMANCE**

### **Strategy 6.2(a): Monitor and manage transportation systems**

Deploy Intelligent Transportation Systems (ITS) such as roadway and traffic monitoring, transit monitoring, and coordinated and real-time traveler information systems (such as multimodal real-time trip planning technology) to improve the effectiveness and efficiency of the transportation system. Develop and deploy performance monitoring procedures and processes and integrate into system operations.

### **Strategy 6.2(b): Implement Transportation Systems Management and Operations (TSM&O) projects**

Implement transportation systems management and operations (TSM&O) processes and projects, such as intersection improvements, transit queue jumps and signal priority, ramp metering, acceleration/deceleration lanes, active traffic management, and real-time traveler information, to reduce bottlenecks and improve personal mobility while balancing operational considerations for all modes.

### **Strategy 6.2(c): Implement access management projects to optimize the efficiency of roadways, reduce conflict points, and improve safety**

Manage access (curb cuts on arterials or interchange ramps on freeways) to optimize existing capacity, reduce conflict points, and improve safety for all users and travel modes.

### **Strategy 6.2(d): Develop and deploy incident management procedures and processes**

Develop and deploy effective incident management to reduce the duration and impact of incidents, such as motor vehicle crashes or stalled vehicles, and to promote stakeholder collaboration and consistency across the region.

### **Strategy 6.2(e): Implement and operate coordinated traffic signal systems**

Implement, operate, and manage coordinated traffic signal systems across jurisdictional lines that integrate transit signal priority and emergency vehicle pre-emption techniques.

**Strategy 6.2(f): Support the use of congestion pricing and other tolling techniques**

Where feasible, and when cooperatively decided, support congestion pricing and other tolling techniques on existing freeways, and implement a tolling component (price-management) on new freeway/highway lane-addition projects.

**Strategy 6.2(g): Implement other active demand management strategies**

Implement other active demand management strategies, including parking supply and pricing mechanisms, such as shared, unbundled, and priced parking, where appropriate.

**REGIONAL ACTIONS**

- Work with CDOT, RTD, and other regional stakeholders to expand effective TSM&O projects, incident management procedures and processes, transportation demand management initiatives, and other innovative tools and techniques to safely optimize performance.
- Consider supporting alternative pricing and revenue producing strategies that directly reflect the cost of vehicle travel to the user.

**LOCAL ACTIONS**

- Develop and implement access management principles along major streets.
- Monitor and manage transportation systems (including traffic signal systems) in collaboration with neighboring jurisdictions.

**OBJECTIVE 6.3: DEVELOP AND MAINTAIN A SAFE AND SECURE TRANSPORTATION SYSTEM****Strategy 6.3(a): Identify and implement safety enhancement projects**

Identify and implement safety enhancement projects that reduce the likelihood and severity of crashes involving motor vehicles, freight and passenger trains, buses, bicycles, and all travel modes.

**Strategy 6.3(b): Develop and implement strategies that enhance security**

Develop and implement projects and strategies that enhance the security of all transportation facilities for users, including air and transit passengers, and aid in the efficient movement of people and vehicles during homeland security events.

**REGIONAL ACTIONS**

- Support cost-effective improvements to driver, passenger, pedestrian, and bicyclist safety.
- Collaborate with public safety stakeholders to assess threats to and vulnerabilities of the transportation system, including consideration of national and regional homeland security initiatives, and establish and implement resolution processes in response.
- Coordinate with federal, state, regional, and local agencies to implement applicable homeland security plans and initiatives.
- Facilitate interagency coordination on safety and homeland security initiatives.

**LOCAL ACTIONS**

- Accurately monitor and maintain crash and traffic safety data for all transportation modes.
- Implement projects that reduce the likelihood and severity of crashes involving motor vehicles, freight and passenger trains, buses, bicycles, and pedestrians.
- Enforce traffic laws and ordinances as they apply to all users of the transportation system.
- Participate in federal, state, and regional initiatives related to safety and homeland security initiatives.

**Outcome 7: A transportation system contributing to a better quality of life.**

Transportation planning and investments should be integrated with land use planning and the environment. Focusing new housing, employment, and services in urban centers, along multimodal corridors, and other areas served by transit will provide a broader range of travel options for residents of all ages, incomes, and abilities. Although specific needs will vary by location, development will be encouraged to incorporate – consistent with local jurisdictional plans – compact development patterns, a mix of land uses, complete streets, direct bicycle/pedestrian connections to transit and multiple land uses, and other features that can help reduce VMT, support aging in place, and enhance the region’s economic vitality and quality of life. These actions will also help protect the region’s essential natural resources—air and water, open space, parks, trails, and agricultural lands. Minimizing growth in VMT is also a key component to reducing ground level ozone, greenhouse gas emissions, and other pollutants.

**OBJECTIVE 7.1: EXPAND TRANSIT-SUPPORTIVE LAND USE AND DEVELOPMENT PATTERNS****Strategy 7.1(a): Maintain and improve efficient transportation access to regional employment hubs**

Continue to support transportation improvements that enhance access to downtown Denver and other existing and future major employment hubs within the region.

**Strategy 7.1(b): Expand mobility options within urban centers and other areas of concentrated major activity centers**

Within urban centers and adjacent to transit, provide internal pedestrian, bicycle, and transit connections between uses, as well as more mixed and compact land uses. Provide and connect multiple travel modes in urban centers and in other concentrated areas of activity.

**Strategy 7.1(c): Focus roadway capacity increases within the urban growth boundary/area**

Focus roadway capacity increases and new interchanges primarily in areas within the UGB/A, in the most critically congested corridors, at key traffic bottlenecks, and along major statewide connections. Link the provision of new capacity to assuring a balanced, well-connected, safe, multimodal transportation system, and add capacity after first considering demand management strategies and implementing operational efficiencies to optimize the use of existing capacity.

**Strategy 7.1(d): Promote multimodal connectivity**

Design new development and retrofit established communities to facilitate the efficient movement of pedestrians, bicyclists, buses, cars, goods, and services within and between centers, corridors, and neighborhoods.

**Strategy 7.1(e): Implement transportation improvements that enhance transit-oriented development (TOD) opportunities**

Target bus, other transit, bicycle, pedestrian, and other transportation improvements in locations where transit-oriented development (TOD) already exists or is planned.

**Strategy 7.1(f): Consider issues of land use compatibility**

Encourage coordinated decision-making to minimize potential incompatibility between high intensity uses—such as airport operations, intermodal facilities, or other similar uses—and neighboring land uses.

**REGIONAL ACTIONS**

- Encourage integrated land use and transportation planning among state and regional agencies, local governments, and the development community.

**LOCAL ACTIONS**

- Coordinate local comprehensive plan and transportation plan updates with neighboring and affected jurisdictions.
- Adopt land use policies and development regulations to support compact, mixed-use development patterns where appropriate.
- Reserve adequate rights-of-way in newly developing and redeveloping areas, as feasible, for pedestrian, bicycle, transit, and roadway facilities.

**OBJECTIVE 7.2: EXPAND TRANSPORTATION SERVICES AND ACCESS THAT ADDRESS THE NEEDS OF PERSONS WITH MOBILITY OBSTACLES OR IMPAIRMENTS****Strategy 7.2(a): Provide local and regional transportation services that improve personal mobility, employment access, independence and well-being, and access to health services for those with mobility obstacles or impairments.**

Provide transportation services, such as fixed route and specialized transit, ridesharing, travel training, and other services that improve personal mobility, employment access, independence and well-being, and access to health services for those with mobility obstacles or impairments (mobility-limited populations).

**Strategy 7.2(b): Address the transportation needs of mobility-limited populations in land use planning and development.**

Address the transportation needs of mobility-limited populations in short- and long-range land use planning and development decisions as feasible.

**Strategy 7.2(c): Address the needs of older adults and mobility-limited populations in upgrading and redeveloping existing transportation facilities.**

Ensure traffic engineering and roadway redevelopment activities consider the needs of mobility-limited populations who are traveling on foot and/or with the use of mobility aids.

**REGIONAL ACTIONS**

- Routinely evaluate and address the mobility needs of persons with mobility obstacles or impairments.
- Coordinate information and services among all transportation providers.
- Address the transportation needs of mobility-limited populations as feasible in local and regional transportation and land use planning and decision-making.
- Increase coordination of transportation services to reduce trip times and increase access to employment and vital human services for low-income and mobility-limited populations.

**LOCAL ACTIONS**

- Connect populations in need of transportation with service.
- Develop transportation service options to address mobility needs within communities.
- Upgrade existing facilities (sidewalks, signal timing, bus stops/shelters) to improve transit access for older adults and mobility-limited populations.

- Use DRCOG’s Boomer Bond assessment tool to help address the needs of the region’s rapidly increasing aging population.

### **OBJECTIVE 7.3: DEVELOP AND MAINTAIN A TRANSPORTATION SYSTEM THAT PROTECTS AND ENHANCES AIR QUALITY, ENERGY EFFICIENCY, AND THE OVERALL ENVIRONMENT**

#### **Strategy 7.3(a): Expand Travel Demand Management (TDM) services and strategies**

Expand Travel Demand Management (TDM) services and strategies, including new and diverse incentives and targeted promotions that will reduce VMT and the demand for single-occupant motor (SOV) vehicle trips, and improve personal mobility and regional air quality. TDM services and strategies include carpooling, vanpooling, carsharing, bicycling, walking, trip-planning, teleworking, and others.

#### **Strategy 7.3(b): Provide efficient, low-polluting alternatives to single-occupant vehicles**

Provide varied transportation facilities, including rapid transit, bus service, high-occupancy vehicle (HOV) lanes, and bicycle and pedestrian facilities, that are more energy efficient and less polluting in aggregate than SOVs.

#### **Strategy 7.3(c): Ensure traditionally underserved populations receive a proportionate share of transportation improvements and are not disproportionately affected by negative impacts**

Ensure that minority, low-income, and older adult populations, as well as individuals with disabilities, receive a proportionate share of transportation improvements and are not disproportionately affected by negative impacts associated with transportation projects and facilities.

#### **Strategy 7.3(d): Reduce potential environmental impacts of roadway construction and maintenance activities**

Promote improvements in roadway construction and street maintenance activities to reduce dust and particulates, decrease associated energy consumption and pollutant emissions, and minimize and mitigate stormwater runoff.

#### **Strategy 7.3(e): Encourage the use of alternative fuel vehicles and infrastructure**

Encourage use of alternative fuel sources and clean-burning technology infrastructure and services for alternative fuels that lead to lower levels of pollutants and greenhouse gas emissions.

#### **Strategy 7.3(f): Support legislation that increases fuel economy standards and incentives**

Support legislation that to increase fuel economy standards; establish fuel economy standards for heavy-duty vehicles; incentivize the purchasing of high fuel economy or alternative fuel vehicles; and provide incentives for accelerated retirement of inefficient and/or high-polluting personal, commercial, and fleet vehicles beyond repair.

### **REGIONAL ACTIONS**

- Work with partners to expand the regional TDM program consisting of outreach, promotion, trip-planning, and marketing activities to shift commute choices to non-single occupant vehicle modes, including carpools, vanpools, transit, bicycling, and walking, as well as telework and alternative work schedules. Continue and expand marketing consisting of advertising campaigns such as “Stop Being an SOV” and events such as Bike to Work Day.
- Provide funding, tools, informational forums, and resources to jurisdictions, TMA/Os, non-profits, and other TDM stakeholders to increase TDM awareness and use.
- Facilitate and provide services for ride-sharing (e.g. carpools, vanpools, and schoolpools).

- DRCOG Way to Go and TDM stakeholders continue to work with local jurisdictions and employers to distribute information about and encourage the use of technology, including multimodal real-time trip planning.
- Fund transportation system improvements that minimize transportation-related fuel consumption, as well as air pollutant and greenhouse gas emissions.
- Fund first and final mile bicycle and pedestrian facilities and connections to transit, such as sidewalks and bicycle facilities; and bikesharing, wayfinding, bicycle parking and shelters, and carsharing at transit stations.
- Support actions that reduce engine idling.
- Cooperatively develop mitigation strategies for transportation projects to address environmental impacts.
- Develop and invest in regional alternative fueling station infrastructure plans and projects focused on fuels that lead to the greatest reductions in air pollution and greenhouse gas emissions.
- Support large-scale fleet conversions by local governments and shared fleets around the region.

**LOCAL ACTIONS**

- Conduct activities to inform and promote the use of TDM strategies and services by Transportation Management Associations/Organizations (TMA/O) and local TDM providers.
- Implement parking supply and pricing mechanisms, such as shared, unbundled, managed, and priced parking in urban centers and other major activity centers to manage parking availability and incentivize walking, bicycling, carpooling, and transit use.
- Include alternative fuel infrastructure within transportation projects as appropriate.
- Develop supporting infrastructure and local regulations, policies, and ordinances regarding alternative fuels, fleet conversions, environmental preservation, and related topics.

**TRACKING OUR PROGRESS: A CONNECTED MULTIMODAL REGION**

The table below contains some preliminary measures to track our progress toward a connected multimodal region. Key considerations in selecting measures were the overall availability of data and the extent to which measures are currently being tracked by DRCOG or others in the region to minimize overlap and promote efficiency.

Outcome 5. A well-connected, regional multimodal transportation system.		
OBJECTIVES		MEASURES
Objective 5.1	Provide a multimodal roadway system that enables people, goods, and services to travel safely and reliably	Miles of roadways with protected bike lanes, striped bike lanes, or parallel multi-use paths
		Miles or share of Regional Roadway System (RRS) arterial roadways in urbanized area with sidewalks on both sides of road
		Average weekday delay (person hours and vehicle hours) on the RRS
		Average travel time variation (peak vs. off-peak)*
		<b>Foundational Measure 9:</b> Lane-miles of RRS with severe congestion
Objective 5.2	Expand transit facilities and services to all people	Transit mode share to work
		Share of housing and employment within ¼ mile of bus stop or ½ mile of rapid transit station*
		Share of population with good transit-job

		accessibility (100,000 jobs within 45 mins.)
		Annual RTD boardings
		RTD transit on-time performance
Objective 5.3	Provide robust bicycle and pedestrian accessibility throughout the region	Bicycle and pedestrian mode share to work
		Share of housing and employment within ½ mile of a bicycle travel way facility <sup>10</sup>
		Number of bikeshare stations and bicycles
		Miles of off-street multi-use trails
Objective 5.4	Provide efficient interconnections of the transportation system within and beyond the region	Number of secure bicycle parking spaces at transit stations/park-and-ride lots
		Non-stop flights from Denver International Airport
		Lane-miles of the region’s freeways with severe congestion
		RTD park-and-ride utilization
<b>Outcome 6. A safe, dependable, and efficiently operated transportation system.</b>		
<b>OBJECTIVES</b>		<b>MEASURES</b>
Objective 6.1	Assure existing and future transportation facilities are well-maintained	Bridge structural ratings
		Share of the CDOT and arterial roadway system with high or moderate drivability life or fair/good pavement condition
Objective 6.2	Actively operate, manage, and integrate systems to optimize performance	<b>Foundational Measure 7:</b> Non-SOV (single occupancy vehicle) mode share to work
		Annual average weekday vehicle miles traveled (VMT)
		<b>Foundational Measure 8:</b> Annual average weekday VMT per capita
		VMT percent of total PMT (person miles traveled)
Objective 6.3	Develop and maintain a safe and secure transportation system.	<b>Foundational Measure 10:</b> Number traffic fatalities
		Rate of fatal crashes per VMT
		Rate of traffic fatalities per 100,000 population*
		Annual total of serious injury crashes and injuries
		Rate of serious injury crashes per VMT
		Rate of serious injuries per 100,000 population

<sup>10</sup> A “bicycle facility,” based on the categories assigned in the DRCOG Bicycle Facility Inventory, includes all categories except “Shared Lane Bicycle Route,” which are signed but otherwise unmarked.

		Annual number of bicyclist and pedestrian fatalities and serious injuries
<b>Outcome 7. A transportation system contributing to a better quality of life.</b>		
<b>OBJECTIVES</b>		<b>MEASURES</b>
Objective 7.1	Expand transit-supportive land use and development patterns	Average weekday vehicle trip length
Objective 7.2	Expand transportation services and access that address the needs of persons with mobility obstacles or impairments	Number of demand response trips provided by non-RTD public transportation service providers
		Share of population in low-income or minority areas with good transit-job accessibility (100,000 jobs within 45 mins.)*
		Share of bicycle travel way facilities in low-income communities/neighborhoods
Objective 7.3	Develop and maintain a transportation system that protects and enhances air quality, energy efficiency, and the overall environment	<b>Foundational Measure 6:</b> Surface transportation related greenhouse gas (GHG) emissions (total annual and per capita)*
		Petroleum fuel burned (total annual and per capita)
		Compressed natural gas (CNG) and electric vehicles*