

# Denver Regional Council of Governments



## DRCOG Regional TDM Short Range Plan (2012-2016)

June 2012



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This report and other documents are available at the DRCOG website at [www.drcog.org](http://www.drcog.org)

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# DRCOG Regional TDM Short Range Plan (2012-2016)

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# 1. Introduction

Travel Demand Management (TDM) is a key tool to facilitate mobility options for residents of the Denver region while reducing single-occupant vehicle (SOV) travel by eliminating or shortening trips, changing the mode of travel, or changing the time of day a trip is made. It includes actions that increase transportation system efficiency through the promotion and facilitation of alternative modes of travel such as, but not limited to, carpooling, vanpooling, transit, bicycling and walking. TDM strategies also include employer-based programs such as alternative work schedules, which can shift demand away from peak travel times, and telework, which can reduce the necessity for trips and reduce demand on the region’s transportation system. The Denver Regional Council of Governments (DRCOG), as the metropolitan planning organization (MPO), coordinates the large-scale TDM funding and service efforts in the Denver region along with other partner state, regional and local agencies. Services range from regionwide programs to local government and employer-based activities.

Population and employment growth in the Denver region will have a profound effect on the region’s transportation system and quality of life. Today, three quarters of the region’s workers drive alone to work. Total vehicle miles of travel (VMT) are forecast to increase by more than 60 percent between now and 2035 (see Table 1). The number of roadway segments in the region that experience pervasive, severe congestion is expected to more than double.

Limited funding is available to build additional capacity to address such congestion. Even if funding became available for major capacity projects, additional vehicles on the roadways would further contribute to air pollution and greenhouse gas emissions.

**Table 1. Regional Growth Projections**

	2010	2035	% increase
Residents	2,885,100	4,348,700	51%
Jobs	1,561,400	2,576,000	65%
Daily VMT	74,000,000	119,000,000	61%

Source: U.S. Census and DRCOG estimates and projections

Given these challenges, it is important to have plans, goals and strategies in place in order to protect the quality of life in the Denver region.

## A. Metro Vision 2035 Goals

DRCOG’s regional plans incorporate TDM as a strategy in preserving the quality of life in the Denver region. The Metro Vision 2035 Plan (MV Plan), adopted in February 2011, is the long-range growth and development plan for the Denver region. Its goal is to protect the quality of life that makes the region such an attractive place to live, work, play and raise a family. A regional transportation system and associated services are integral to the growth and development elements of Metro Vision. The MV Plan establishes a transportation **vision** that entails a balanced sustainable multimodal transportation system that will include rapid transit, a regional bus system, a regional roadway system, local streets, bicycle and pedestrian facilities, and associated system and travel demand management services.

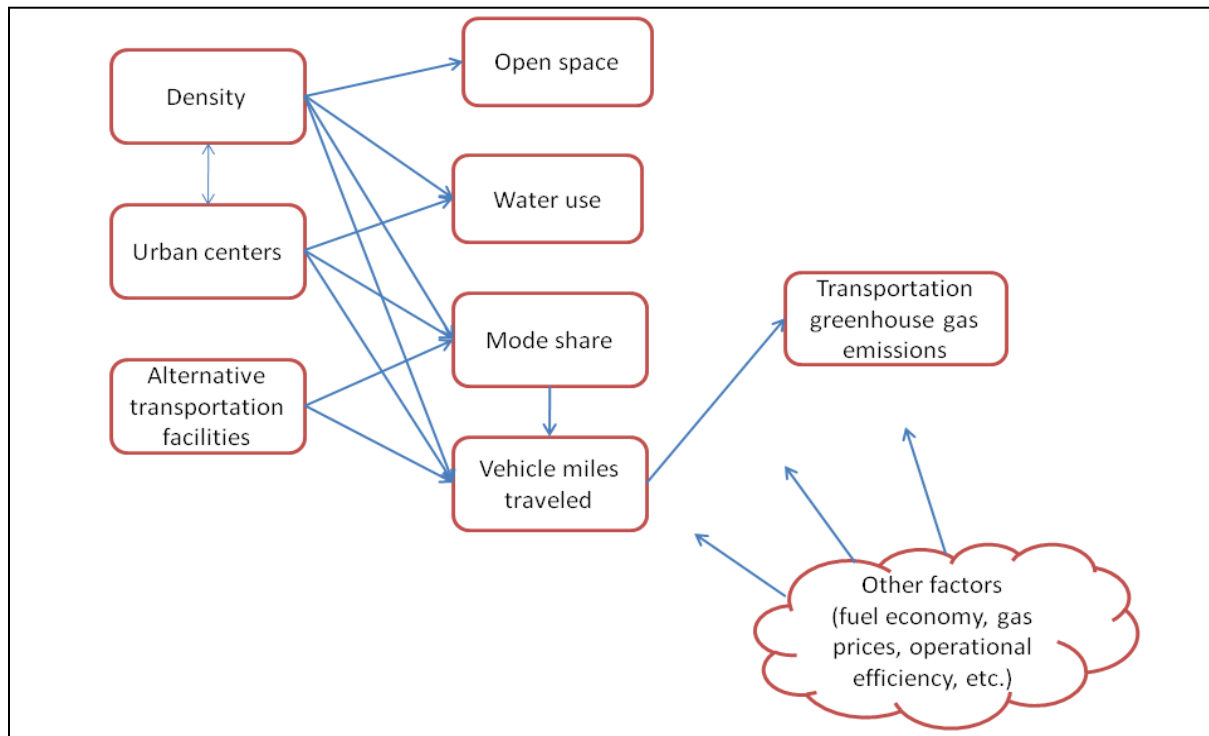
The transportation **goal** of Metro Vision is to provide safe, environmentally sensitive, efficient, and sustainable mobility choices for people and goods; and integrate with and support the social, economic,

and physical land use development of the region and state. The MV Plan includes several regional goals to be routinely measured and tracked. The close relationship of the various goals is depicted in Figure 1. The specific transportation-related goals to which TDM attends include:

- Reduce work trip mode share by SOV from 74 percent in 2008 to 65 percent by 2035.
- Reduce per capita VMT by 10 percent; from 26.3 miles per day to 23.7 by 2035.
- Reduce the current annual per capita level of transportation greenhouse gas (GHG) emissions by 60 percent from 10,000 to 4,000 pounds of CO2 per capita by 2035.

Another complementary Metro Vision transportation-related goal is to increase the rate of construction of alternative transportation facilities. The DRCOG TDM programs do not directly fund the construction of alternative mode facilities (such as bike lanes, transit facilities, etc); they are implemented through other agencies and sources of funding. The transportation vision, goals, and policies of Metro Vision collectively provide a strong basis for the TDM Plan.

Figure 1. Metro Vision Goal Relationships



## B. Benefits of Implementing Metro Vision 2035 Transportation-related Goals

Implementing TDM strategies will play an important role in achieving the Metro Vision transportation-related goals to reduce SOV travel, VMT and GHGs. TDM strategies can have multiple benefits due to the close relationship between the goals as demonstrated in Figure 1. For example, a TDM program that results in more commuters carpooling instead of driving alone will reduce VMT, and therefore GHGs. TDM strategies can be especially effective when coupled with other transportation-related strategies such as the construction of alternative transportation facilities. Additional benefits realized from implementing TDM strategies include:

- **Lower levels of air pollution** – A decrease in VMT will result in less air pollution.
- **Less demand for foreign oil** – More than half of the petroleum used in the U.S. is imported.
- **Money saved by residents and businesses** – In a regional survey, monetary savings was found to be the number one motivator for using alternative transportation. Reducing motor vehicle travel frees dollars for other basic needs, goods and services.
- **Pursue other activities during commute** – The average one-way commute time by SOV in the Denver region is 25 minutes per person. Carpooling or using public transportation, instead of driving alone, gives individuals the opportunity to work, read, study, rest, phone/email/text family members, friends, or business contacts, or talk with fellow commuters during this time.
- **Reduced stress** – Traffic and long commutes are a source of stress for many commuters. Reducing stress was identified as the second greatest motivator for using alternative transportation.
- **More effective use of the existing roadway system** – Travelers opting to use alternative modes in lieu of SOVs will permit roads to carry more people.
- **Improved regional access to jobs and services** – More travel-mode options and faster travel times for transit vehicles are important for people who do not drive or have access to a vehicle, or for those who simply choose to use an alternative form of transportation. More than 70,000 households in the Denver region do not have a motor vehicle.
- **Improved access to a broader and more experienced labor pool** – Businesses benefit from having a broader labor pool to recruit from.
- **Improved physical health** – Increased walking and bicycling can improve physical fitness and reduce obesity rates contributing to overall quality of life.
- **Improved health and lifestyle for elderly and disabled population** – Convenient options like walking, bicycling, transit and ridesharing help the aging population remain independent and mobile. Currently, 12 percent of the region’s population is age 60 or older. This figure is expected to increase to more than 25 percent by 2035.
- **Fewer parking spaces needed** – More use of non-SOV travel modes reduces the demand for parking and associated environmental (e.g. water run-off) and pedestrian connectivity impacts.

The above benefits contribute to improving the quality of life for persons of all ages, incomes, and abilities.

## C. 2035 Metro Vision Regional Transportation Plan

### 1. Overview of the RTP—The Vision, Goals, Policies, and Action Strategies

The *2035 Metro Vision Regional Transportation Plan* (2035 MVRTP) (adopted February 2011), is a companion document to the MV Plan and provides greater detail on how to address transportation-related goals. The 2035 MVRTP presents the vision for a multimodal transportation system that is needed to respond to future growth, as well as influence how growth occurs for the entire DRCOG region. The implementation of TDM strategies is a key component towards achieving this vision. The MV 2035 RTP includes 14 Metro Vision transportation policies, supported by action strategies to achieve the aforementioned transportation-related goals. The policies and action strategies applicable to TDM are shown in Figure 2:

**Figure 2. Travel Demand Management: Metro Vision Transportation Policies and Action Strategies**

**MV Policy #4. Management and Operations.** Make the best use of existing and future transportation facilities by implementing measures that actively manage and integrate systems to optimize system performance and safety, provide accurate real-time information, reduce the demand for single-occupant motor vehicle travel, and reduce per capita Vehicle Miles Traveled (VMT).

**Strategies—**

- Implement stand-alone and project-related Travel Demand Management (TDM) strategies, including selective incentives and targeted promotions that will reduce the demand for single-occupant motor vehicle trips by informing the region’s residents and businesses about alternative travel choices and encouraging their use.
- Facilitate and encourage trip and vehicle sharing and teleworking.

**MV Policy # 9. Bicycle and Pedestrian.** Provide robust bicycle and pedestrian accessibility throughout the region.

**MV Policy #11. Transportation-efficient Housing and Business Developments.** Design new developments within communities to allow the efficient movement of pedestrians, bicyclists, buses and motor vehicles within, to, and through the area.

**MV Policy #14. Environmental Quality.** Develop and maintain a sustainable transportation system that protects and enhances air quality, energy efficiency and the overall environment.

**Strategy —**

- Provide a wide variety of 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 single-occupant vehicles.

The RTP further identifies TDM strategies adopted from the previous TDM Plan (2005) that fall into four general categories:

- Promotion of alternatives to SOV travel
- Promotion of changes in work patterns
- Incentives to encourage use of alternative modes
- Promote efficient land development designs

These core categories guide the TDM strategies which are discussed in more detail in Section 3.



## 2. Evolution and Importance of TDM

The original TDM concepts developed in the 1970s and 1980s to provide alternatives to SOV commuter travel in order to save energy (fuel) and money, improve air quality, and reduce peak period congestion. Today, managing travel demand has broadened to maximizing the current transportation system performance not only for commute trips, but for non-commute trips, and for recurring as well as non-recurring events. Managing travel demand now applies to trips to shopping malls, recreational sites and special events, in addition to employment areas. The need to manage demand can occur in the middle of the day, evenings, or on weekends.

Targeting work commuters, however, remains a priority focus since most of the congestion and delays occur during weekday rush hours. As shown in Table 2, 76 percent of the region's workers commuted to work by SOV in 2010. This measure is a good surrogate for monitoring trends of overall use of alternative modes of travel. The proportion of people commuting by SOV increased significantly between 1980–1990 and increased minimally through 2005. Recent data indicate that the past trend might be changing. The percentage of SOV travel to work in the Denver region declined slightly since 2005, with carpool and transit use increasing. Economic reasons certainly account for some of this shift, such as higher fuel prices, the national recession which began in late 2007, and slow economic recovery. However, regional and local TDM efforts have also had an effect on SOV travel.

**Table 2. Mode of Travel to Work**

	1980	1990	2000	2005	2010
Drive alone	65.1%	74.9%	76.0%	77.1%	75.6%
Carpooled	20.2%	12.5%	12.0%	9.2%	9.8%
Public Transportation	6.2%	4.2%	4.0%	3.8%	3.9%
Walk	5.4%	4.0%*	2.0%	2.4%	2.2%
Bicycle	-	-	1.0%	0.8%	1.1%
Other Means	1.0%	0.7%	1.0%	0.9%	1.0%
Work at Home	2.1%	3.6%	5.0%	5.8%	6.3%

Source: US Census Bureau

\*Walking and Bicycling are combined in 1980 and 1990

## 3. Relation of TDM to Other Plan Elements

TDM strategies are especially effective when implemented in concert with land use planning and infrastructure improvements that better accommodate pedestrians, bicyclists, and transit users. Also important are facilities such as high-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes that accommodate and give priority not only to transit but to HOVs such as carpools and vanpools. However, as defined for use in this plan, TDM does not actually include investments in the physical construction of most types of infrastructure. Rather, the TDM strategies as defined in the 2035 MVRTP focus on increasing the use of such infrastructure by people that otherwise would have traveled alone in a private automobile.

The relevant plan elements are:

- *Pedestrian and Bicycle Element of the 2035 Metro Vision Regional Transportation Plan* (amended May 20, 2009)—addresses bicycle and pedestrian facilities and treatments along with methods to promote their use.
- *Transit Element of the 2035 Metro Vision Regional Transportation Plan*—defines short-range and long-term transit needs for the Denver region and methods for increasing the use of transit.
- *Regional ITS Strategic Plan* and *Denver Regional Transportation Operations Strategy*—identifies day-to-day transportation operations and traveler information system linkages to the services of the DRCOG RideArrangers Program.

#### **D. What is the Intent of this TDM Plan?**

TDM is a key component to achieving the goals set forth in the *Metro Vision 2035 Plan* and the 2035 MVRTP. The purposes of the TDM Plan are to:

- Describe how TDM fits in the larger vision, goals, and strategies set forth in the DRCOG regional plans.
- Identify other TDM stakeholders throughout the region.
- Describe the newly formed Regional TDM Partnership, a collaborative effort between DRCOG and the region's Transportation Management Organizations TMOs.
- Define the roles of DRCOG and its partner agencies pertaining to TDM.
- Identify and expand upon the TDM strategies listed in the 2035 MVRTP.
- Define the short-range TDM policies to be followed and activities to be conducted over the next five years.

## **2. Current Structure of TDM in the Region**

### **A. Providers of TDM Services**

#### **1. DRCOG RideArrangers, as a lead agency with the Regional TDM Program**

DRCOG has hosted a regional rideshare program since 1975. Named RideArrangers in the 1980s, it has since evolved to become the umbrella program that provides centralized TDM services to the entire region. It also conducts direct employer outreach to the large portion of the region that is not within a TMO service area.

In July 2011, DRCOG RideArrangers along with the six established TMOs in the region entered in a formal partnership to collaborate on a comprehensive and coordinated effort to attack traffic congestion and poor air quality in the Denver region by promoting and implementing a suite of TDM services. The partnership couples the proven successes of the regionwide RideArrangers program with the subarea knowledge demonstrated by the six TMOs. DRCOG and the TMOs will work closely together to maximize both the service throughout the DRCOG region and return on investments of projects funded by DRCOG, while minimizing or eliminating the duplication of efforts.

To support the new partnership, DRCOG RideArrangers underwent an internal restructuring in 2011. Going forward, RideArrangers will:

- Offer training, support, and professional development opportunities for partnering TMO staff.
- Oversee an advertising agency responsible for developing and implementing the program's marketing, branding and advertising.
- Survey the full region to establish and report on the program's efficiency and effectiveness.
- Maintain iCarpool ridematching and other web-based services.
- Coordinate Bike to Work Day, vanpool services, and Schoolpool services; administer Guaranteed Ride Home; and provide employer outreach in areas not serviced by TMOs.

A key element of the partnership is to create a unified and consistent brand for regional TDM services each partner can localize. In January 2012, an advertising agency was selected to provide marketing and promotional services with the primary task of developing a branding program to effectively and efficiently promote TDM throughout the DRCOG metropolitan region. One of the needs identified in this process is for a regional marketing campaign that educates commuters and employers alike on the suite of TDM services that are offered through the Program. It is likely that the RideArrangers "brand" may be changed.

#### **2. TMOs as partners in the Regional TDM Program**

TMOs will play a key role in the promotion and implementation of TDM services in some of the most congested areas throughout the region. A TMO is a localized area non-profit partnership that supports, promotes and advocates for improved transportation opportunities and efficiency in a specific geographic area. TMOs serve as the primary contact for employee mobility services within their areas.

The terms TMO and TMA (Transportation Management Association) are often used interchangeably. For the purpose of this document, “TMO” will be used to represent all TMA and TMO providers of TDM services.

The six TMOs that currently operate in the Denver region and are part of the Partnership include:

- 36 Commuting Solutions
- Boulder Transportation Connections (formerly known as Boulder East Community Transportation Options)
- Downtown Denver Partnership
- South I-25 Urban Corridor Transportation Management Association
- Stapleton Area Transportation Management Association
- Transportation Solutions

In addition to the six established TMOs, a new TMO, Smart Commute Metro North, created by the North Area Transportation Alliance (NATA) was awarded start-up funds through the DRCOG TDM Pool, beginning in Fiscal Year 2012. Start-up TMOs are eligible to receive 80 percent federal funds in Year 1 and 50 percent in Year 2. The sponsor then must show a commitment of 100 percent locally-derived funds in the third year to support the operation of the TMO. Figure 3 depicts the boundaries of the six established TMOs as well as the new Smart Commute Metro North.

While TMOs may conduct many types of activities, TDM services in their localized areas are most important to this plan, including:

- Perform outreach services to members, employees and residents, within their respective area.
- Promote regional ridesharing programs (e.g., carpool and vanpool) to local customers.
- Promote regional TDM campaigns within their respective area.
- Implement specific, localized TDM projects.
- Complete surveys or before and after analysis to measure the benefits of federally-funded TDM projects.
- Complete annual evaluation reports for federally-funded TDM projects.

The six TMOs currently part of the Regional TDM Program are required to pursue and fulfill the following TDM-related tasks in their respective areas with the funds dedicated to this program:

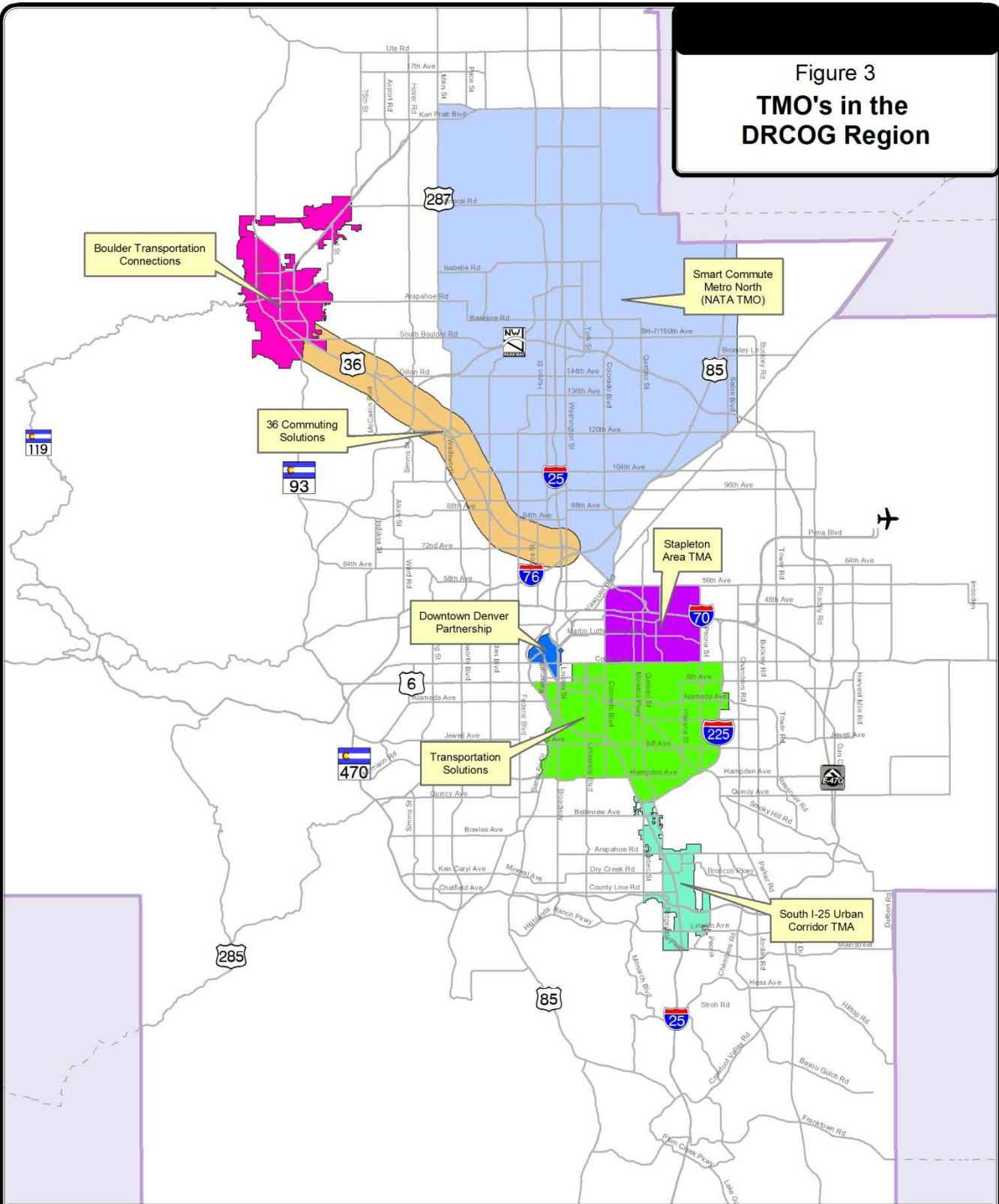
- Promotion and marketing of TDM services.
- Employer outreach.
- Employee surveys and reporting to evaluate travel behavior.
- Administration required as part of the program.

The majority of the emphasis will be on the promotion and marketing of TDM services and employer outreach. Additionally, the TMOs may pursue other eligible, yet optional tasks related to TDM. Example tasks include:

- Sponsoring and supporting Bike to Work Day breakfast stations.
- Community outreach.
- Promoting the inclusion of TDM into local policies and projects.
- Special projects and activities related to TDM.

The TMOs are required to provide a scope of work detailing planned activities over a two-year period (e.g., 2012-2013) as part of the contract process. These are reviewed by DRCOG and then sent on to CDOT for review and final approval. The effectiveness of the program will be reviewed two years after implementation to determine what changes, if any, may be necessary.

**Figure 3**  
**TMO's in the**  
**DRCOG Region**



This map and the data it depicts are intended for informational purposes only. DRCOG provides this information on an "as is" basis and makes no representation or warranty that the data will be error free. DRCOG is not responsible to any user for any costs or damages arising from inconsistencies in its data.  
 Projection: Colorado State Plane, NAD 83  
 Source: Regional Transportation District; TMA/TMO Provider; DRCOG  
 PJ 6/12

— Regional Roadway System  
 - - - Roads Outside Region  
 Area Outside Region



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### **3. Other Providers of TDM Services**

#### ***Regional Transportation District***

The Regional Transportation District (RTD) is the primary provider of transit service in the Denver region. The agency's local and regional buses, light rail and access-a-Ride service provided over 98 million one-way trips in 2011. Over the next decade, RTD will significantly expand its rapid transit system through FasTracks and will reconfigure its bus network to improve transit access in all parts of its service area. RTD often participates in regional and local TDM events and engages in TDM efforts. RTD offers and promotes community and corporate discounted transit passes. Recently, RTD was awarded TDM Pool funds to pursue regionwide promotion of its Flex Pass program. Additionally, RTD has partnered with regional TMOs, allocating funds annually to them to conduct transit marketing and outreach services in their respective areas. While future budgets are unknown, RTD has provided funding up to \$20,000 per year to the TMOs. RTD also subsidizes the region's vanpool program, managed by DRCOG.

#### ***Regional Air Quality Council***

The Regional Air Quality Council (RAQC) is the lead air quality planning agency for the metro Denver region. The RAQC has been charged with developing programs and projects that improve the Denver region's air quality and bring the region back into compliance with health-based standards. Many of the RAQC's activities include or promote TDM efforts and goals. The RAQC leads transportation-related air quality discussions and coordinates with state, regional and local agencies to develop programs that reduce vehicle emissions. RAQC is currently partnering up with the City of Arvada and other organizations on a TDM marketing campaign to reduce SOV use along the Wadsworth Corridor and around the Federal Center.

#### ***Colorado Department of Transportation (CDOT)***

CDOT is the state transportation agency, with a mission to provide the best multi-modal transportation system for Colorado that most effectively and safely moves people, goods, and information. CDOT identifies TDM in its 2035 Statewide Transportation Plan as a critical element in developing a well-rounded transportation strategy and making the most efficient use of existing transportation facilities to meet actual demand on state roadways. The plan lists carpooling, vanpooling, alternative work schedules, telework, and the promotion of alternative travel modes as existing TDM strategies that need to be extended. CDOT provides education and outreach as well as manages several federal and state programs that promote alternative modes and active transportation such as the Congestion Mitigation Air Quality (CMAQ) program, the Safe Routes to Schools (SRTS) program, and numerous transit programs. CDOT implements a statewide Bike Month program and assists the DRCOG area with Bike to Work Day, operates rural park-n-Rides, and has available a TDM Toolkit for use by agencies throughout the state.

#### ***GO Boulder***

GO Boulder, created by the Boulder City Council in 1989, supports and promotes the use of alternative modes of transportation in the City of Boulder. The agency helped develop and promote the many

options available for getting to and around the City of Boulder. GO Boulder provides educational information, outreach programs, financial incentives, and maintenance reporting. Additionally, GO Boulder has developed and promotes innovative systems such as the Community Transit Network, Boulder B-cycle, and the extensive system of off-street bicycle paths, pedestrian trails and underpasses. The agency encourages the use of these systems through TDM efforts such as the GO Smart individualized marketing campaign and the Driven To Drive Less challenge that encourages participants to leave their car at home one day a week.

***SkiCarpool.org***

SkiCarpool is a nonprofit organization that facilitates carpooling to Colorado resorts through a web site. Traffic between Denver and the Colorado mountain resorts, especially during ski season, is often very congested resulting in major delays. Most of the traffic between these destinations originates in the metro Denver region. SkiCarpool was awarded funds in a past TDM Pool cycle to conduct marketing and outreach.

***Local and county governments*** are continually implementing and participating in TDM activities through TMOs or on their own. Some examples include:

- Boulder County is very active in promoting TDM and has been awarded funds through DRCOG to pursue several projects such as the administration of subsidized community transit passes, vehicle trip reduction programs along local corridors, and the construction of secure bike facilities near transit (final mile project).
- The City and County of Denver has distributed funds to TMOs to conduct TDM services in their respective areas.
- The City of Golden, in conjunction with the Colorado School of Mines, has prepared a community- and campus-based TDM plan for the central portions of the City of Golden.
- The City of Arvada is working closely with the RAQC on a trip reduction program along the Wadsworth Corridor.

***Private businesses*** also take part in TDM activities. These companies may have employee transportation coordinators (ETCs) or Green Teams that educate employees on non-SOV transportation options available to them. These outreach activities can reduce the demand for parking and generate payroll tax savings for companies when employees are allowed to purchase transit passes with pretax dollars. Many ETCs also work directly with their TMO, local TDM service providers and/or RideArrangers to increase employee use of alternative modes and participation in programs such as Bike to Work Day and telework programs. Additionally, some businesses such as Kaiser Permanente promote healthy transportation options, specifically biking and walking, by sponsoring events and organizations such as B-Cycle, and by collaborating with TDM providers throughout the region, including DRCOG.



#### 4. Other Entities related to TDM

Various other organizations have either received Regional TDM Pool funding or they provide TDM-enhancing products or services:

- Bike Denver
- Community Cycles
- Boulder Valley School District
- Boulder B-Cycle
- Denver B-Cycle
- eGo Carshare
- Fitzsimmons TMA (former TMO)
- Groundwork Denver
- OccasionalCar
- Transit Alliance
- WalkDenver
- WeCar

Finally, there are numerous other organizations, such as non-profit health, community and neighborhood organizations that collaborate with DRCOG and the TMOs on various TDM activities.

### B. DRCOG TIP and TDM Programs

#### 1. TDM Programs and Funding Structure

Policies for the DRCOG TIP are contained in the *Policy on Transportation Improvement Program (TIP) Preparation* (TIP Policy) document, which is updated prior to each TIP cycle. Dedicated funding amounts are established in the TIP policy for the Regional TDM Program and the Regional TDM Pool for the first four fiscal years of the TIP. The most recent *TIP Policy (2012-2017)*, adopted in July 2010, identifies four years of program funding from 2012-2015 and identifies eligibility criteria for all project types including TDM.

The 2012-2017 TIP Policy contains the following key policies and funding levels related to TDM:

- TDM projects with a minimum request of \$200,000 were eligible to directly apply for funding under the Air Quality Improvements projects category as long as a letter of support from affected local governments was submitted.
- Two percent of the STP-Metro target for roadway capacity projects was taken off-the-top and directed to the Regional TDM Pool, for a total of \$866,000 over four years.
- \$4,722,000 of CMAQ funds were allocated to the Regional TDM Pool. The funds allocated to the TDM Pool increased approximately 60 percent in comparison to the previous TIP.

- The six TMOs participating in the Regional TDM Program ‘Partnership’ were eligible to submit projects for funding during the competitive Regional TDM Pool call for projects as long as project elements did not duplicate specific activities pursued under the ‘Partnership.’
- \$7,200,000 of CMAQ funds were allocated to the DRCOG Regional TDM Program.

Table 3 shows estimated revenues available for dedicated TDM-related services by year from 2012-2015 within the DRCOG region.

**Table 3. Revenues Available for Regional TDM Services**

<b>Revenue Source (in dollars)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>4 Year Total</b>
DRCOG Regional TDM Program (Federal CMAQ funds in TIP)	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ <b>7,200,000</b>
Regional TDM Pool: TMO funding for the Regional TDM Program (Federal CMAQ funds in TIP)	\$ 480,000	\$ 480,000	\$ 480,000	\$ 480,000	\$ <b>1,920,000</b>
Regional TDM Pool: Funds dedicated to Pool projects (Federal CMAQ funds in TIP)	\$ 633,000	\$ 723,000	\$ 723,000	\$ 723,000	\$ <b>4,722,000</b>
Regional TDM Pool: Funds dedicated to Pool projects (Federal STP-Metro funds in TIP)	\$ 191,000	\$ 225,000	\$ 225,000	\$ 225,000	\$ <b>866,000</b>
<b>Total</b>	<b>\$ 3,104,000</b>	<b>\$ 3,228,000</b>	<b>\$ 3,228,000</b>	<b>\$ 3,228,000</b>	<b>\$ 12,788,000</b>

### Regional TDM Program Partnership Funding

The Regional TDM Program, restructured in 2011, is overseen by DRCOG staff. Contracts with the TMOs are administered by CDOT. A total of \$2.28 million is allocated annually to the program. \$1.8 million per year is allocated to DRCOG as part of the Partnership agreement; \$480,000 per year is evenly distributed to the six TMOs to carry out TDM activities defined in a Memorandum of Understanding. The dedicated funding to the TMOs comes from the Regional TDM Pool funds.

## 2. Coordination

### Coordination of TDM Activities: Roles and Responsibilities

To avoid duplication of efforts and ensure a single, consistent message regarding TDM and available TDM services is heard throughout the region, roles and responsibilities have been outlined for RideArrangers, CDOT and local TDM service providers.

### Interagency Responsibilities

- Develop a formal, collaborative relationship solidified through contracts between local, state, and regional TDM service providers, building upon shared project and program experiences and sharing knowledge and expertise of local and regional TDM programs.
- Promote and work to achieve regional goals, related to TDM, as outlined in DRCOG’s planning documents.

### **DRCOG Responsibilities**

- DRCOG will track and compile results of completed projects for all recipients of CMAQ funds for TDM projects based upon data collected and provided by fund recipients. All CMAQ funding recipients must track and submit project results, including total reduction in VMT and trips, final cost of the project, and other relevant data to CDOT and DRCOG once the project is complete.
- Employer outreach efforts by RideArrangers staff will focus on areas throughout the region not served by TMOs; however, some regional programs (e.g., Bike to Work Day) will be promoted in TMO areas. RideArrangers and TMOs will agree to protocols for mutual notification of items of interest that will impact the efficiency of TDM services to customers and the ultimate reduction of VMT.
- DRCOG will continue providing technical support to and coordination between TDM service providers for TDM-related projects and programs. This includes providing appropriate sources of surrogate data or establishment of other project benefit estimation methods if local data is not available or reliable. DRCOG will attempt to standardize some data inputs and formulas; however, each project and each TMO area and local government has unique attributes and project characteristics that must be accounted for during formula development.
- DRCOG will work with CDOT to develop an application for TDM projects that captures the level of detail similar to what is required in the scope of work in the CDOT contracts. Information provided in the applications to DRCOG should be easily transferred to the CDOT contracts. This process should minimize duplicative efforts and decrease the contract approval process time.

### **CDOT Responsibilities**

- As the steward of federal highway funds for Colorado, CDOT is responsible for administering all contracts with local and regional TDM service providers awarded federal funds. Contracts for TDM programs and projects shall be completed in a timely fashion establishing target completion dates agreed upon by DRCOG, CDOT and TDM fund recipients. DRCOG will also work with CDOT to determine the necessary time required for the review and approval of contracts.
- CDOT supplies DRCOG with copies of scopes of work for all contracted projects funded through the TDM Pool. When sponsors request to change a scope of work, CDOT will notify DRCOG prior to approval.
- All entities receiving CMAQ funding are required to fill out the CMAQ Reporter at the end of each fiscal year. CDOT is responsible for forwarding all information submitted through the CMAQ Reporter system to DRCOG.
- CDOT requires all CMAQ recipients to submit monthly and/or quarterly reports in association with invoices.
- Additionally, CDOT requires all CMAQ fund recipients to submit an annual CMAQ Status Report. All annual status and final reports should be forwarded by CDOT to DRCOG.

### **Project Sponsor Responsibilities**

- Recipients of TDM Pool funds are required to monitor the project through its funding lifetime and conduct post-project evaluations; reporting results to DRCOG and CDOT. More detailed information on reporting is covered in the following section.
- TDM service providers receiving TDM Pool funds or other funding through DRCOG must agree to promote, advertise, educate, and inform employees and other interested populations about applicable Regional TDM Program services provided. Likewise, RideArrangers promotes the activities of local TDM service providers.
- TDM service providers are encouraged to actively pursue alternative local funding resources for TDM programs and projects. It is a goal that successful projects, initially funded through the TDM Pool, become self-sustaining.

### **3. TDM Pool**

#### **Regional TDM Pool: Process, Policies and Criteria Types**

DRCOG coordinates the process to allocate Regional TDM Pool funds through a competitive process every two years. TDM Pool funds are used for specific local and regional projects. DRCOG initiates the call for projects; reviews, scores and ranks project submittals; and provides recommendations to the DRCOG committees. Once projects have been selected and approved by the DRCOG Board of Directors, CDOT is then informed of the awardees and can begin the contracting process directly with the project sponsors.

Potential applicants that meet the eligibility criteria established by both federal guidelines and by DRCOG can apply for funding for projects.

TDM Pool funds are not intended for significant investments in physical infrastructure, but are directed towards activities and services influencing conversion to non-SOV travel mode choices or eliminating trips altogether. However, certain infrastructure may be eligible for funding as new types of TDM projects emerge such as the purchase of vehicles and bikes for car- and bike-sharing, respectively. Additionally, limited bicycle parking facilities and other similar items may be appropriate.

TDM Pool funds are allocated in two-year cycles. The next cycle will be for fiscal years 2014 and 2015 with a total estimated availability of \$2,900,000 over the two years. Per the current TDM Pool eligibility rules, each project request must meet a funding minimum request of \$50,000, which can be spread across the two year time frame. A maximum funding amount to any one organization may be established during each TDM Pool funding cycle. The current target maximum is \$300,000 over two years to any one organization. A local funding match of at least 20 percent of the total project cost is required.

In the last cycle (2012-2013), there were 20 applications totaling \$4 million in requests. Fifteen of the projects were awarded funds by partially funding their requests. Requests for TDM Pool funding must be for a unique program or activity, which has included the expansion and modification of existing

programs. Any applicant seeking funds to form a new TMO must target an area not serviced by an existing TMO. Examples of TDM pool project types and activities include, but are not limited to:

- **Transit Passes** – Promotion, marketing and pass subsidies during ozone season.
- **Bicycling** – Marketing of bikeshare, bike parking marketing and infrastructure, promotion and outreach for biking as a form of transportation.
- **Car-share** – Vehicle purchases and marketing.
- **Active Transportation**—Promotion and campaigns geared toward walking and biking.
- **TMO Startup** – Congested areas not yet served by an established TMO.
- **TDM Services** – Marketing and promotion of a wide range of TDM services tailored to specific employment areas, populations, and neighborhoods.

Project and sponsor eligibility will be reviewed to determine if any changes should be recommended by DRCOG for the 2014 and 2015 TDM Pool cycle. This process will begin in late 2012.

#### 4. Monitoring and Evaluation

##### Project Monitoring and Evaluation

Measurement and evaluation of the Denver region’s TDM programs is important to demonstrate benefits and the efficient use of federal funds. The effectiveness of TDM programs can be measured in terms of their impact on travel behavior (reduction in VMT) and air quality benefits, including greenhouse gas reductions. It is important to evaluate the effectiveness of the regional program as well as individual projects.

##### CDOT Reporting Requirements

Each year CDOT administers the CMAQ Reporter, a tool to report the air quality and VMT benefits of all projects that have been obligated CMAQ funds in the previous fiscal year. DRCOG acts as the liaison between CDOT and fund recipients, requesting results from all applicable awardees. CDOT provides guidance on the specific formulas recommended to evaluate programs/projects after funds are obligated. TDM service providers are not required to use the CMAQ Reporter formulas for evaluating their projects, but must provide methodology documentation if they use a different evaluation formula. In some cases, projects are still on-going when data is required for CDOT’s CMAQ Reporter.

The results of the CMAQ Reporter may not be the best indicator of project success since reported results are required prior to project completion and in some cases prior to a project’s commencement. This is one of the reasons DRCOG requires monitoring throughout a project’s lifetime and results upon project completion.

##### CMAQ Status Reports

Project sponsors are required to submit to CDOT an annual report documenting the status of TDM Pool projects, as well as quarterly and monthly reports associated with invoices. The most important item on this report is the provision of data and measures of the change in travel behaviors as a result of the

project. DRCOG uses these reports to monitor the effectiveness of projects and to understand how a project is actually performing compared to the projected results submitted with the sponsor's original application. Most projects are funded over a two year period. Project sponsors may only be able to provide information and qualitative data reflecting a project in progress after the first year. After the project is complete, the project sponsor must provide complete data and information on the overall results of the project.

## **DRCOG Reporting Requirements**

### *TDM Pool Awardees*

DRCOG requires all TDM projects or programs receiving funds to provide results upon project completion. Results are calculated for the project time period itself, on an annual basis, and estimated lifetime results. At a minimum the results should reflect the number of trips and VMT reduced. Results must always reflect whether people actually changed from driving a single occupant vehicle to a new mode, rather than simply basing results on the number of contacts or the number of participants. It will be left to the discretion of the TDM provider to decide who will conduct the evaluation or survey, so long as the methodologies yield meaningful and relevant results and are as accurate as possible.

Post-project results are to be submitted to DRCOG after projects are completed. Baseline data and results may be obtained from outside sources (e.g., RTD transit route ridership), internal tracking mechanisms (e.g., iCarpool), or by means of simple participant surveys. Determining and developing better baseline data will be an ongoing process. In the applications submitted for TDM Pool projects, sponsors must include the estimated cost of their time and materials required for project monitoring and post-project evaluation. Evaluation costs will vary depending on whether they are carried out by the TDM provider or by an outside consultant. DRCOG will require that all future TDM Pool applicants dedicate a percentage of their budget, if awarded funds, to the project evaluation process. As part of the current TDM Partnership agreement, TMOs are required to spend 5-10 percent of their budget on surveys and evaluations. DRCOG stresses the importance of a post-project evaluation compared to a pre-project baseline, as well as monitoring throughout the project life in order to provide the most reliable results.

### *Reporting by the TMOs for the Regional TDM Program*

As part of the regional TDM Program, the TMOs provide reporting on their activities and are required to conduct employee surveys. Employee commute surveys are required to be conducted at least once per year to capture data and behaviors of pre- and post-program implementation. DRCOG will work with the TMOs to develop core questions to be embedded into the surveys and provide measurable data that can be analyzed and used to determine impacts and overall effectiveness of the Regional TDM Program. DRCOG will assemble the results of each individual TMA to estimate the air quality benefits and VMT reduced as a result of activities conducted under the Regional TDM Program.

### 3. Categories of TDM Strategies in the 2035 MVRTP

Many types of TDM strategies are available to help the region progress towards the Metro Vision goals of decreasing SOV travel, VMT, and greenhouse gases, while improving personal mobility options. The RTP identifies TDM strategies that fall into four general categories; promotion of alternatives to SOV travel, promotion of changes in work patterns, incentives to encourage use of alternative modes, and promotion of efficient land development designs. The following strategies are similar to those identified in the RTP.

#### **A. Promotion of Alternatives to SOV Travel**

##### *1. Rideshare Programs and Services*

Ridesharing occurs when two or more people share a single vehicle when making trips. Ridesharing is one of the most common and cost-effective alternative modes, particularly in areas of the region that are not well served by public transit. DRCOG RideArrangers ridematching services include vanpool, carpool and Schoolpool. These services are available to persons throughout the region. Local TDM service providers can enhance their own offerings by promoting RideArrangers ridematching services through locally focused outreach and marketing efforts. Below are descriptions of the ridematching services operated by the RideArrangers program.

##### **Carpool**

Carpool services are primarily delivered through a web-based software. The online matching program allows users to search for carpool partners for normal work trips, one-way trips, irregular trips, and personal trips. It combines commute ridematching, multi-modal trip tracking, vanpool management, Schoolpool, and other modules into one integrated system. Users may access the system online or call for personal assistance.

##### **Vanpool**

RideArrangers contracts with a private company, VPSI, to manage the operations, paperwork and maintenance of the vanpool fleet and oversee the recruitment and management of vanpoolers for the program. RideArrangers staff manages the contract with VPSI and handles the RTD subsidy contracts and billings as well as any general marketing of the service. iCarpool software is used to assist potential vanpoolers find existing vanpools with seats available, form new vanpools and maintain data about the vanpoolers and vehicles. VPSI, RideArrangers, and local TMOs all market the availability of vanpool services. As currently operated, the vanpool program is self-sustaining as operational costs are fully covered by user fees and subsidies. This philosophy allows the program to readily expand as demand for services increases.

## Schoolpool

Schoolpool helps families find others in their neighborhood to carpool, walk, bike or ride the RTD bus together to and from school. Schoolpool services are delivered directly to participating schools by RideArrangers. Schools may participate in two ways—by advertising the service to parents and letting them “opt in” by signing up at will, or by providing a roster of the families at the school and allowing parents to “opt out” if they do not wish to participate. The “opt out” program has proven successful and is a methodology unique to RideArrangers, making this Schoolpool program the largest in the nation.

## 2. Transit Service, Products, Programs and Amenities

### Transit Service

RTD is the primary transit provider in the DRCOG region. Current transit service includes an extensive bus system as well as a light rail system. FasTracks, RTD’s high capacity transit plan which includes rapid transit bus and rail, is currently underway and will significantly enhance the regional transit system.

- **Bus** – RTD offers a variety of bus service options from Local, Limited, Express and Regional Routes for everyday commutes to specialty rides such as SkyRide and RockiesRide.
- **Light Rail** – RTD currently provides light rail service in the southern and central part of the region, including five light rail lines with over 35 stations.
- **RTD FasTracks Program** – The FasTracks Program is a multi-billion dollar high-capacity transit expansion plan to build new and expanded light rail, new commuter rail, and new bus rapid transit lines across the metro Denver region. FasTracks will also fund and build new and expanded transit stations, park-and-Ride lots, maintenance facilities, and other support infrastructure, including additional bus service to serve the FasTracks lines and stations. FasTracks corridors span the region:
  - Light rail extensions to the Southwest and Southeast, and along Interstate 225.
  - New light rail service between Denver and Golden (West Corridor).
  - New commuter rail service between Denver and: Wheat Ridge (Gold Line), Denver International Airport (East Corridor), and Thornton (North Metro).
  - New commuter rail and bus rapid transit service between Denver and Boulder/Longmont.

FasTracks also includes the redevelopment of Denver Union Station into a mixed-use multimodal transportation hub. DRCOG annually reviews the latest FasTracks program and financial plan and prepares an *Annual FasTracks Review and Determination Report* for Board adoption.

### Transit Pass Products and Support Programs

*Transit support programs* such as transit pass marketing and certain transit subsidies, are eligible and supported through the TDM programs.

- **Transit Pass Products** – The Regional Transportation District (RTD) offers various pass products for use on public transportation that can be partially or fully subsidized by employers, local



governments, or other entities. Many employers in the region offer their employees the *EcoPass* which allows unlimited rides on the bus or light rail anywhere within RTD's fixed-route system. A newer product called the *Flex Pass* is designed to offer employers an annual pass program that can be customized to meet the needs of the company and their employees. Additionally, there are community pass products offered at a discount including the *College Pass* and *Neighborhood Eco Pass*.

- **Transit Pass Subsidies** – Transit passes can be partially or fully subsidized. Subsidies are typically offered as an incentive to initiate interest in transit with the goal of getting people to try transit and sustain a certain percentage of transit users even in the absence of subsidies. Federal guidelines place certain restrictions on the use of CMAQ funds for subsidized fare products. For example, subsidized fare products should only be used during ozone season, be targeted at non-transit using individuals, and be linked to a comprehensive area-wide air quality program. Several communities and TDM providers in the DRCOG region offer transit subsidies as a means to encourage and increase transit ridership.
- **Smart Cards** – RTD is currently in the process of implementing a smart card fare payment system on both buses and light rail that will provide a convenient and easy method for users to pay the fare. The card is the size of a credit card, and contains a smart chip that will enable passengers to buy and electronically load RTD passes and a cash value onto their cards. A pilot program to test the Smart Cards was initiated in Boulder in May 2011.

### Transit Amenities

Amenities on transit vehicles and at the stops/stations are important in maintaining and attracting ridership. Some examples of transit amenities include:

- Comfortable bus shelters that are covered, well-lighted, and provide seating.
- Informative and visible signs and maps.
- First/last mile amenities which may include locating car- and/or bike-sharing and secure bike parking/storage at transit stops.
- Accommodations for bicycles on transit vehicles.
- Wireless capabilities for transit riders.

TDM funds have been used to implement such projects as the Boulder County *Bus then Bike* shelters and for car- and bike-sharing infrastructure and marketing at locations adjacent to transit in Denver and Boulder.

### **3. Active Transportation: Programs and Infrastructure**

Providing services, amenities and convenience attracts more people to try and utilize non-SOV travel options. Additionally, certain services and infrastructure can serve to complement and support motorized-based TDM strategies.

## **Walking**

More than 1.5 million of the car trips made each day in the Denver region are less than five minutes in length. Many of these trips could be made on foot, especially with the region's mild climate which lends itself to walking. Walking in lieu of driving has many benefits. The air quality benefits associated with reducing these short trips can be significant. Automobiles' emission control systems do not reach their peak effectiveness until the engine warms up, making short trips disproportionately harmful to air quality. There are also many health benefits associated with walking. Pedestrian facilities, along with amenities and accessibility are fundamental in encouraging more people to walk.

## **Bicycling**

The mild climate and prevalent bicycle facilities in the Denver region provide an opportunity for many residents to make trips by bicycle. Replacing a car trip with a bicycle trip, even once a week can reduce pollution and traffic congestion. Bicycle facilities and amenities are both important factors in encouraging more bike ridership, especially for commuting purposes. Companies can encourage employees to bike to work by offering amenities such as secure bicycle parking and shower and changing facilities. Some organizations provide a commuter tax benefit or other cash incentives for bicycle commuters.

## **Bike to Work Day**

Bike to Work Day (BTWD), held the fourth Wednesday of every June, is a strategic annual event coordinated by DRCOG designed to get people to try their bikes for transportation, serving as a catalyst for them to use this alternative mode on a consistent basis to reduce congestion and improve air quality. There are prize giveaways and breakfast stations available to participants in this event. In 2011, over 23,000 people participated in BTWD. Past results have shown that people generally increase their frequency of functional bicycle trips following their participation in BTWD.

## **Bike Sharing Programs**

Denver B-cycle is a citywide public bike-sharing system where members can pick up a bike at any B-station and return it to that same station or any other B-station when they're done. Bike-sharing differs from bike rentals in that it is meant for short trips. A membership to the system can be purchased online or at any B-cycle kiosk and can vary from a 24-hour allowance to an annual membership. Launched in spring 2010, Denver B-cycle now includes more than 500 bikes and 50 stations, and is continuing to expand. B-cycle also launched in Boulder in Spring 2011. Denver and Boulder B-cycle memberships are reciprocal allowing usage in both communities under the same membership. Other communities around the region have expressed interest in implementing bike sharing in some capacity. In addition to individual memberships, corporate memberships are offered through B-Cycle Program, which allows companies to purchase various levels of memberships for employees.

## **Bicycle and Pedestrian Facilities**

In a 2006 bicycle and pedestrian survey administered to residents in the DRCOG region, the construction of new pedestrian/bicycle facilities, the improvement of existing facilities, enhanced safety features, and better accessibility/linkages were among the top factors that would encourage people to walk and bicycle more often. While the Regional TDM Pool does not directly fund the construction of alternative mode facilities, such as bike lanes and sidewalks, increasing the rate of construction of alternative transportation facilities is a DRCOG goal. The *Pedestrian and Bicycle Element of the 2035 Metro Vision Regional Transportation Plan* provides greater information about such facilities. TDM funds have been used to construct supporting infrastructure and promote bicycle parking facilities.

### ***4. Other Services and Infrastructure Supporting non-SOV travel***

#### **Car-sharing**

Car-sharing refers to member-based programs offering 24-hour access to a fleet of vehicles (cars, vans, trucks) within a city or neighborhood. Most programs offer vehicles at an hourly and mileage based rate, with prices including gas, insurance and maintenance costs. Typically, members of car-share programs can reserve vehicles on a first-come, first-served basis either on-line or by phone indicating the date, time and location of the vehicle needed. The ability to access a vehicle when needed allows members to reduce the number of vehicles they own or go car-free altogether. Because car-share programs typically charge by the hour, users are more likely to make several stops in one trip instead of making multiple trips throughout the day. Currently, there are two car-share providers, eGo Carshare and Occasional car, with more than 65 cars and locations in Denver and Boulder. Additionally, WeCar, a subsidiary of Enterprise, has several cars located on college campuses in the Denver area.

#### **HOV and HOT lanes**

High-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes help improve the efficiency of the transportation system by restricting or limiting access to SOVs and giving priority to ridesharing and transit, providing a travel time incentive for these modes' users.

An HOV lane, sometimes called a carpool lane, is a special lane reserved for the use of carpools, vanpools, and buses. Such are usually located next to the regular general purpose, or unrestricted, lanes. HOV lanes enable those who carpool or ride the bus to bypass the traffic in the adjacent, general purpose lanes. These lanes may be restricted to high-occupancy users at all times (e.g., current US-36) or during rush hours (e.g., South Santa Fe Drive), depending on location.

HOT lanes are HOV lanes that allow drivers of single occupant vehicles to use the lanes if they pay. Like HOV lanes, HOT lanes encourage ridesharing, and increase the speed of transit service, and allowing use by fee-paying SOVs assures that the infrastructure is more efficiently utilized. HOT lanes currently exist on I-25 (North I-25 Express Lanes) and will soon be provided west on US-36 from I-25 to Broomfield.

## 5. Promotional and Marketing Campaigns

Effective marketing often requires delivering different messages to people, with special emphasis on those most ready to change. It is generally unrealistic and least cost-effective to focus on shifting the population that is unwilling or uninterested in trying an alternative mode. It is important that implementers evaluate their marketing programs for effectiveness.

Most projects in the TDM Pool have a marketing component in some capacity. Some programs are purely marketing, promoting the use of alternative modes of transportation whether it's at the regional, corridor, municipal, or neighborhood level. Other projects have very specific marketing objectives, such as the promotion of transit passes directed at certain populations, the promotion of existing programs such as bikesharing to expand the user base, or the promotion of a newly opening transit line or HOV facility.

There are several scales of marketing efforts, all of which are more effective and efficient if they link to the Regional TDM Program services:

- **Regional campaigns** require participation and collaborative efforts among all TDM service providers and the media in order to be the most successful and cost-effective. Recent examples include RTD's *RideSmart Thursdays* and DRCOG's *Give Yourself a Raise*. The RAQC also coordinates the regional *Ozone Aware* campaign which includes TDM elements such as the *Every Trips Counts* program. Future regional media campaigns should engage regional partners in order to create a strong unified message.
- **Subarea campaigns** are often led by the individual TMOs or local governments with specialized messaging for their localized audience.
- **Site-based marketing** efforts are usually led by individual employers or property managers. Example strategies may include the designation of employer trip coordinators, conducting SOV trip reduction challenges, sponsoring of an employer vanpool, or the provision of transit passes or discounts.
- **Individualized marketing** delivers tailored information and incentives to selected individuals based on specific factors. This technique enables organizations to tailor their messages and focus resources strategically on people who are likely to change. For example, marketing efforts will be very different for rural versus high-density areas. Key components that need to be considered when creating an individualized marketing program include:
  - Baseline information regarding demographics, land use patterns and travel characteristics.
  - Local-based, informational communication pieces.
  - Partnerships with local agencies, businesses and organizations to provide funding and sponsorships.
- **Social media** is now being widely used as a tool for promoting TDM. Using sites such as Facebook, Twitter, etc., community-based social media (CBSM), for example, focuses on

reducing barriers and promoting benefits of the desired behavior changes. CBSM strategies such as commitments, prompts, incentives and social norming, can be used to break down individual barriers to reducing SOV and VMT.

- **Provision of information** is an important element in raising awareness and determining the success of a program geared towards the promotion and support of alternative transportation options and TDM efforts. This includes information about options such as transit routes, HOV lanes, flexible schedules, parking management, and bicycle accommodations and maps. The dissemination of information can occur via various media outlets, web sites, social media, and through pamphlets and signage.

## **B. Promotion of Changes in Work Patterns**

Employers can influence the travel choices of their employees by offering flexible work arrangements in terms of where and when the employee works, including telework, compressed work weeks, and flexible work hours. These programs not only contribute to reducing SOV travel and congestion, but have proven benefits to both employee and employer alike. Flexible work arrangements and their benefits are described as follows;

### **1. Telework**

Teleworking allows employees to work at home one or more days each week or on occasion as needed, instead of coming to the office. Working from home is the one alternative to SOV travel that has consistently increased over the past thirty years. Employers that offer telework programs benefit from increased employee productivity. Employees who telework benefit from fewer parking and commuting expenses, better balance of work and personal lives, and less commuting stress. For these reasons telework is becoming a major recruitment and retention strategy for companies. In a compensation survey by Robert Half International, of 1,400 chief financial officers, 46 percent said telecommuting is second only to salary as the most effective way to attract top talent.

### **2. Compressed and Flexible Work Schedules**

Compressed work schedules typically allow employees to work 40 hours in four days or 80 hours in nine days. This allows these employees to reduce the number of days they must commute to work. It also allows more opportunities for travelers to avoid peak congestion weekday travel times. Alternative or flexible work schedules allow employees to start and end their work days at non-traditional times, ideally avoiding peak travel times.

## **C. Other Incentives and Pricing Mechanisms to Encourage Use of Alternative Travel Modes**

There are several strategies that can further incentivize the use of alternative travel modes, or conversely discourage the use of SOVs.

- **Guaranteed Ride Home (GRH)** is a service offered by RideArrangers that provides free cab rides to people who have used a non-SOV travel option to get to work, but unexpectedly need

emergency transportation. This could include having to pick up a sick child in the middle of the day or working so late that a carpool or transit ride home is missed. GRH is a support service offered as part as the RTD EcoPass, free to vanpoolers or sold independently for a nominal cost to employers as an employee benefit. GRH acts as a safety net and is an incentive to encourage the regular use of non-SOV choices.

- **Pay-As-You-Drive (PAYD) Insurance** is a "by-the-mile" form of auto insurance. Initially launched in Texas, a pay-as-you-drive (PAYD) insurance program links insurance premiums to vehicle miles of travel, essentially rewarding low-mileage drivers with lower premiums than traditional, flat-rate insurance.
- **Parking Management Strategies** can help address a wide range of transportation, land use development, economic, and environmental objectives. Some parking management strategies that can help to reduce SOV travel include parking regulations, parking space maximums, remote parking with shuttle service, and parking pricing.

Wider use of pricing strategies requires a change in the common belief that parking should be abundant and free at most destinations. The new paradigm strives to provide an optimal parking supply and price and use parking facilities more efficiently. It discourages against a supply of too much free parking. It considers full lots to be acceptable, provided that spillover problems are addressed, additional parking is available nearby, and convenient alternatives to SOV travel are available. Pricing strategies charge parking costs more directly to users, thus providing a real-time price signal of this key cost of driving.

- **Other Pricing Mechanisms:**
  - **VMT Fees or Mileage-based User Fees (MBUF)** are based on how much one drives. MBUF provides a more real-time indication of the cost to travel than the collected-at-the-pump fuel tax, and would be applied to all vehicles. Policy makers concerned about declining motor fuel tax revenues, are exploring MBUF as an alternative (or supplemental) fee to the fuel tax. Several states including Colorado are in various exploratory phases.
  - **Tolling** (fixed or variable rate) is the act of charging a driver a toll (a fee) for use of a privately or publicly built road, bridge, or tunnel. Toll rates on most of the existing facilities in the U.S. do not vary by time or day of usage, though the number of variable-toll-rate facilities is growing. Variable toll rates are typically much higher during the most congested times of the day. Facility tolling is not currently implemented as a demand management tool in the Denver region but is being considered in select corridors
  - **Cordon Pricing** involves charging a fee to motorists to enter or drive within a congested area, typically a city center. This pricing scheme was first introduced in Singapore in the 1970s and to central London in 2003. It is not currently under consideration in the Denver region.

## D. Promote Efficient Land Development Designs

- **Transit-oriented development (TOD)** is often defined as higher-density, mixed-use development within walking distance or a half mile from transit stations. By locating trip origins and destinations near one another, this compact land use pattern reduces the demand for motor vehicle travel and increases transit use. TODs allow individuals, such as the elderly, to live in communities where their daily needs can be accomplished without relying on an automobile. The denser land use patterns increase the likelihood of individuals finding carpool partners. TODs are also ideal locations for car-share pods and bikeshare stations.
- **Pedestrian and Bicycle Connections**  
Development plans of all sizes should include a well-connected network of pedestrian and bicycle facilities within the site (e.g., between buildings, through parking lots, and among different land uses) and connecting to the transportation system beyond the site. Providing adequate amenities such as bicycle racks, lighting, and benches along facilities and at destinations also contributes to the minimization of SOV trips.

## E. Emerging Strategies and Factors

### Emerging Strategies

Managing travel demand has broadened to cover not only commute trips, but also non-commute trips, such as to trips to shopping malls, recreational sites and special events, in addition to employment areas. The need to manage demand can occur in the middle of the day, evenings, or on weekends. TDM is now also about providing all travelers, regardless of whether they drive alone, with choices of location, route, and time, not just mode of travel.

- **Real-time information**  
Technology that delivers real-time information to travelers is beginning to have significant impact on managing demand for commute and non-commute situations alike. Travelers can make better decisions with real-time information about how they travel (mode), when they travel (time), where and whether they travel (location), and which route they travel (path). Real-time capabilities open up ridesharing opportunities to non-traditional ridesharing situations such as planned one time trip carpools and event carpools. Real-time traveler information systems can be used at employment centers and to manage shifts in demand due to non-commute related activity that may occur as a result of special events, tourist activity, incidents and emergencies, schools, shopping centers, recreation areas, medical facilities, weather problems, and reconstruction projects. Some features of real-time information systems include:
  - Google™-style mapping features of ridesharing routes, pick-up locations, transit, pedestrian and bicycle routes.
  - Improved commute tracking and customer feedback. Allows the user to access and track data on dollars saved and how they've contributed to reduce congestion and improve air quality in the region.

- **Real-time ridesharing**

Real-time ridesharing tools are already in place and offered by ridematching providers such as iCarpool. These tools are available on smartphones and can also be used from desktop computers connected to the internet. An example situation is where a recurring carpool or vanpool with an empty seat may be able to provide a ride to a last-minute user only needing the service at that time. This unique approach improves seat utilization. In places such as the United Kingdom, services are available that allow people to use Short Message Service (SMS) messaging to reserve a seat in a shared taxi, limousine, or bus with people travelling in the same direction.

### **Long Range Factors**

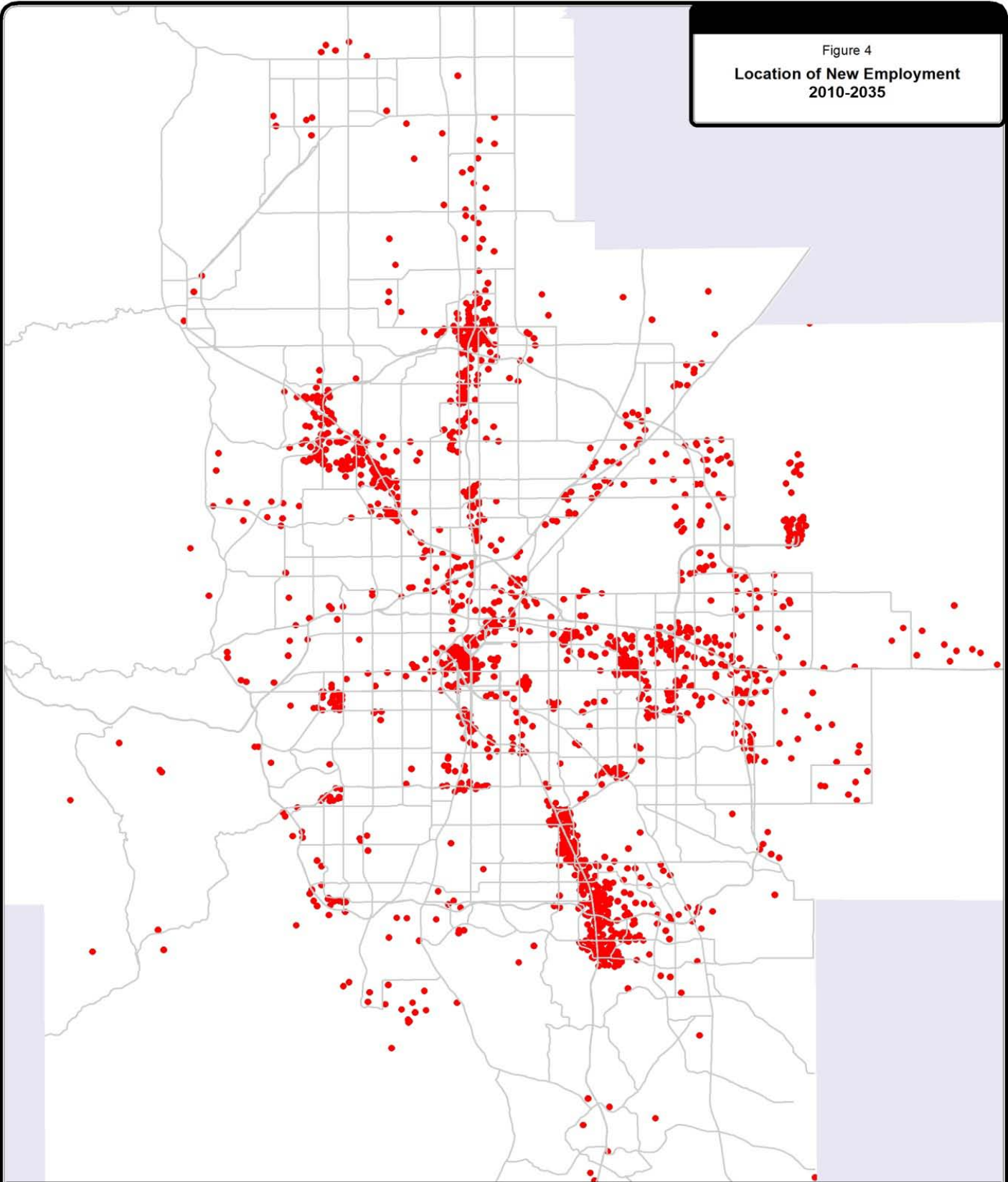
Demographic and societal changes over the long term will require TDM service providers to be nimble and adapt their services to whatever changes the future brings. The region's population and jobs are each expected to grow by more than 50 percent to 4.4 million and 2.6 million respectively by 2035 and DRCOG has a good grasp on where people will live and work (for example, see the employment growth map of Figure 4). However, answers to other questions that would influence TDM services are more difficult to predict for the long range future:

- What types of industry and jobs will be most prevalent?
- What will typical work days or work weeks look like?
- How many jobs will be suitable for teleworking?
- What kinds of traveler information will be readily available? Who will provide it and on what platform?
- Will the current methods of funding transportation infrastructure and services change?
- Will some "long range" changes occur sooner than we think?
- What will the transportation impacts and needs of an older population be?

As these long range questions cannot be answered with any certainty at this time, DRCOG has chosen to focus this TDM Plan on the short range.



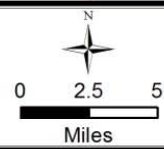
Figure 4  
**Location of New Employment  
 2010-2035**



This map and the data it depicts are intended for informational purposes only. DRCOG provides this information on an "as is" basis and makes no representation or warranty that the data will be error free. DRCOG is not responsible to any user for any costs or damages arising from inconsistencies in its data.  
 Source: DRCOG  
 Projection: Colorado State Plane, NAD 83  
 PJ 412  
 ©ClintonDevelop\TDM\Map\TDM\_Loc\_New\_Employment.mxd

- Regional Roadway System
- - - Roads Outside Region
- Area Outside Region

● 1 Dot = 500 Employees  
 Dots are placed randomly within zones. They do not represent exact locations of employment.



## 4. TDM Short Range Plan

The recent restructuring of the Regional TDM Program serves as the basis for maintaining and enhancing TDM services over the next several years. The plan for TDM policies to be followed and activities to be conducted is presented below with the understanding that there are many events that may impact the plan:

- A new federal transportation bill and associated rules will be enacted.
- The DRCOG 2040 Metro Vision Regional Transportation Plan will be prepared (late 2014).
- Several new FasTracks corridors will be opened for service or nearing completion.
- The DRCOG 2016-2021 TIP (and associated Policy Document) will be completed (2015).
- New social media and communication technologies will emerge.

As noted in Chapter 3, because of the difficulty in predicting long-range trends impacting TDM, the plan components presented below do not look intensely beyond 2016.

### A. Funding Levels

It is anticipated that the existing TIP funding structure for the Regional TDM Program Partnership and the Regional TDM Pool will be retained through 2015 (see Table 3). The key item that could impact this is the outcome of the new federal transportation bill. If there are significant changes to funding levels and categories, the DRCOG Board (and/or potentially a different agency assigned such authority) may have to make adjustments to the programmed projects and funding in the 2012-2017 TIP. The funding levels for TDM beyond 2015 are similarly uncertain. One thing known is that the demand for funding of TDM activities will likely exceed the amount available. Given this, the importance of providing defensible data on the performance of individual projects (to determine the comparative benefits of different project types) and the overall TDM program cannot be overstated.

### B. Service Provision Structure

The current structure for providing TDM services through the Regional TDM Program (with the partner TMOs) and through individual projects funded through the TDM Pool will continue through 2015. The services provided and benefits accruing from the Regional TDM Program will be evaluated and it is anticipated that the six existing TMOs will continue as partnership members. The TMOs will continue to focus on efforts in their respective areas and may expand their coverage areas if needed. DRCOG will continue to focus TDM efforts on areas not served by a TMO. DRCOG and the TMOs should continue coordinating efforts especially for areas where boundaries touch or overlap. The success of the new NATA TMO, Smart Commute Metro North, in establishing itself as a self-sustaining TMO per the policy described in 2.A.2 will determine if it ultimately becomes a funded partner in the Regional TDM Program. If Smart Commute Metro North continues through a third year of operation using locally derived funds (with a statement of such provided to DRCOG at that time), it would be eligible to sign the Regional TDM Program MOU. The Regional TDM Program will assist the initial efforts of Smart Commute Metro North as appropriate.

### **C. Agency Role and Responsibilities**

DRCOG will continue to administer the TDM Pool call for projects and manage the evaluation, selection, and review process. CDOT will continue to administer and maintain the contracts and manage the financial reimbursements and accounting processes. Both agencies will continue to be involved in the evaluation process. DRCOG and CDOT will work together to create a more efficient and time-sensitive process pertaining to the project reviews, contract executions, distribution of funds, and project evaluations. Both agencies are dedicated to improving the overall process. It is important that all of the required information is properly communicated to and provided by project sponsors.

Feedback from TDM stakeholders is invaluable to improving the processes including applications, review, contracts, and evaluations processes. DRCOG will work with stakeholders in the future to solicit recommendations on process improvements. DRCOG will also review the new Regional TDM Program, including the associated results of from each partner (DRCOG and each TMO) and the performance of the overall program, to determine what changes need to be applied, if any. Roles and responsibilities will be evaluated periodically to ensure that the most efficient processes are being conducted.

### **D. Monitor Outcomes and Benefits of Current TDM Projects**

DRCOG will continue to compile and/or calculate the VMT reduction and associated benefits of all TDM projects over the next four years. Meaningful project evaluations are an important component in determining what types of efforts have the most impact on reducing SOV travel and improving air quality. DRCOG will continue to work with TDM stakeholders on identifying best methodologies and improving the process of calculating benefits. Results will be compiled, analyzed, and reported to help guide decisions on the most cost-effective use of funding. Progress on the Metro Vision VMT, SOV mode share and GHG reduction goals will also be monitored.

DRCOG stresses the importance of all TDM fund recipients sharing information on what types of activities and services were successful (or not successful) so the best practices can be disseminated within the TDM community. A summary report on progress, status, and outcomes of projects funded through the TDM program and pool will be prepared. It will be updated at applicable times and posted on the DRCOG TDM web page.

### **E. Selection of FY 2014 and 2015 TDM Pool Projects**

The TDM Pool process for fiscal years 2014 and 2015 will begin in late 2012. DRCOG will work with CDOT and the TDM partners to identify necessary timelines and improved processes to minimize duplication of efforts and to allow ample time to conduct the application, scoring, evaluation, and selection process. This is so contracts can be executed in a timely manner and fund recipients can plan their budgets and execute their projects according to schedule.

Updated evaluation criteria will be established and approved by the Metro Visions Issues Committee. Projects recommended for funding will be approved in mid-2013.

As part of defining project and sponsors eligibility, DRCOG will communicate with FHWA and CDOT prior to the call for projects to determine any changes in CMAQ eligibility rules and will clearly portray this to all applicants. Additionally, DRCOG, with the approval of its decision-making committees, may apply eligibility requirements beyond the CMAQ requirements, restricting certain types of projects.

## **F. Incorporate TDM into new Policies for the 2016-2021 TIP**

Discussions regarding the definition of policies for the upcoming 2016-2021 TIP will begin in late 2013. Existing policies related to TDM will be evaluated, including:

- Amount of funding for Regional TDM Program and for Regional TDM Pool.
- Eligibility of stand-alone TDM projects for direct TIP funding (e.g., in air quality project type).
- Minimum and maximum funding level request thresholds.
- Rewarding roadway and other projects that include TDM components.
- Other topical areas potentially.

## **G. Research new TDM Methods and Technologies**

DRCOG will conduct ongoing research in order to stay abreast of the latest and best TDM methods and technologies, so that that the products and services offered are relevant and applicable to what the market demands and is utilizing. Some of these activities include:

- Incorporate advances in social media technology in marketing strategies.
- Implement advances in ridematching software that make it easier for commuters to join carpools and vanpools and track their usage of alternative travel modes.
- Implement a customer relationship management system that allows better coordination of employer marketing efforts between DRCOG and the TMOs. This system will increase the efficiency and effectiveness of all marketing personnel in prospecting, qualifying and closing agreements with employers to implement TDM strategies at work locations.
- Evaluate new U.S. Census and other economic data to help identify unique new markets as they develop.

## **H. Location Emphasis Areas**

- **Rapid Transit Corridors**

There are currently four light rail and several bus/HOV/HOT rapid transit corridors. By the end of 2016 several additional corridors (or portions thereof) are planned to be open adding more than 50 miles of rapid transit lines and associated stations. The opportunity for mixed-use development and multimodal connectivity, such as 'last mile' programs around and near these locations is plentiful. TDM services can complement other efforts to achieve the greatest benefit out of these lines and station areas. Traveling to transit stations by ridesharing, bus, bicycling, and walking

should be facilitated. TDM efforts can focus on not only near-by residents and employees, but all travelers going to sites adjacent to the station.

In addition, corridor-wide TDM efforts to encourage travelers to use available rapid transit service are appropriate. DRCOG, TMOs, and RTD should collaborate on promotions, marketing, and incentives supporting newly opening corridors and recurring collaborations should be pursued along corridors as their operations mature.

- **DRCOG Urban Centers**

The DRCOG Board has identified a Metro Vision goal of locating 50 percent of all new housing units and 75 percent of all new jobs in designated Urban Centers between 2005 and 2035. The Urban Centers goal is ambitious but critical related to efforts to achieve other goals, including reducing per capita VMT, greenhouse gas emissions and water use. Urban centers are existing or planned areas that are more dense and mixed in use than surrounding areas and offer efficient multi-modal connections and parking strategies. Most are, or will be, located adjacent to rapid transit or high-frequency bus corridors. Urban center plans prepared by local governments or other appropriate entities should identify applicable TDM services. TDM efforts in the next few years should focus on the established and emerging urban centers.

- **Accompanying Major Roadway Construction Projects**

TDM efforts should be initiated or intensified as major highway and transit improvements are constructed. TDM opportunities can make travel more efficient both during construction and after a project is completed. TDM alternatives are usually considered during the environmental assessment and planning processes and are seen as an important supplement to capital construction to improve conditions along congested roadways. Corridor-based operations and management groups should include TDM or TMO representatives along with CDOT, RTD, public works, emergency responder, and public communications staff when planning for dealing with construction activity and associated traffic congestion. The Regional TDM Program will keep abreast of other major upcoming construction projects and encourage the project sponsor/team to also incorporate effective TDM strategies.

- **Rural Town Centers**

Rural town centers (RTCs) are small established towns and villages found in rural areas beyond the region's urban area. They are relatively compact, each with a town center, small lots and a street grid. Residents within RTCs that commute to work, especially to urban areas, tend to drive much greater distances than the regional average. If transit service is available in or near an RTC, incentives such as transit subsidies can be effective in encouraging transit use. For example, transit subsidy programs offered in Nederland and Lyons report increased transit ridership. If an RTC is not served by transit, promotion of other TDM measures such as vanpooling and carpooling may be effective.

## **5. Adopting Resolution**

DENVER REGIONAL COUNCIL OF GOVERNMENTS  
STATE OF COLORADO

BOARD OF DIRECTORS

RESOLUTION NO. 4, 2012

A RESOLUTION ADOPTING THE REGIONAL TDM SHORT RANGE PLAN 2012-2016

WHEREAS, the Denver Regional Council of Governments, as the Metropolitan Planning Organization, is responsible for carrying out and maintaining the continuing comprehensive transportation planning process designed to prepare and adopt regional transportation plans and programs; and

WHEREAS, the urban transportation planning process in the Denver region is carried out through cooperative agreement between the Denver Regional Council of Governments, the Regional Transportation District, and the Colorado Department of Transportation; and

WHEREAS, the Metro Vision 2035 Plan identified the need for travel demand management strategies to reduce the demand for single-occupant vehicle travel; and

WHEREAS, the 2035 Metro Vision Regional Transportation Plan identified the need for travel demand management strategies to reduce the demand for motor vehicle travel; and

WHEREAS, the document *Regional TDM Short Range Plan 2012-2016* was prepared as an update to the *2005 DRCOG Regional TDM Strategic Plan*, which incorporates Board policy and describes those strategies, and

WHEREAS, the document *Regional TDM Short Range Plan 2012-2016* was submitted to the Transportation Advisory Committee and key TDM stakeholders for review and comment and this document incorporates several of the comments provided, and

WHEREAS, the Metro Vision Issues Committee (MVIC) has recommend the *Regional TDM Short Range Plan 2012-2016* with modifications that have been integrated into the document,

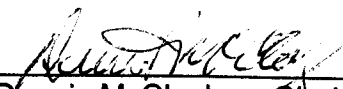
WHEREAS, the Regional Transportation Committee has recommended adoption of the *Regional TDM Short Range Plan 2012-2016*.

NOW, THEREFORE, BE IT RESOLVED that the Denver Regional Council of Governments hereby adopts the *Regional TDM Short Range Plan 2012-2016* document dated June 27, 2012 as the policy plan for regional travel demand management planning activities associated with the regional transportation planning process.

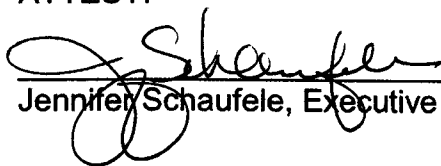
A RESOLUTION ADOPTING THE REGIONAL TDM SHORT RANGE PLAN 2012-2016

Resolution No. 4, 2012  
Page 2

RESOLVED, PASSED AND ADOPTED this 27<sup>th</sup> day of June, 2012  
at Denver, Colorado.

  
\_\_\_\_\_  
Dennis McCloskey, Chair  
Board of Directors  
Denver Regional Council of Governments

ATTEST:

  
\_\_\_\_\_  
Jennifer Schaufele, Executive Director



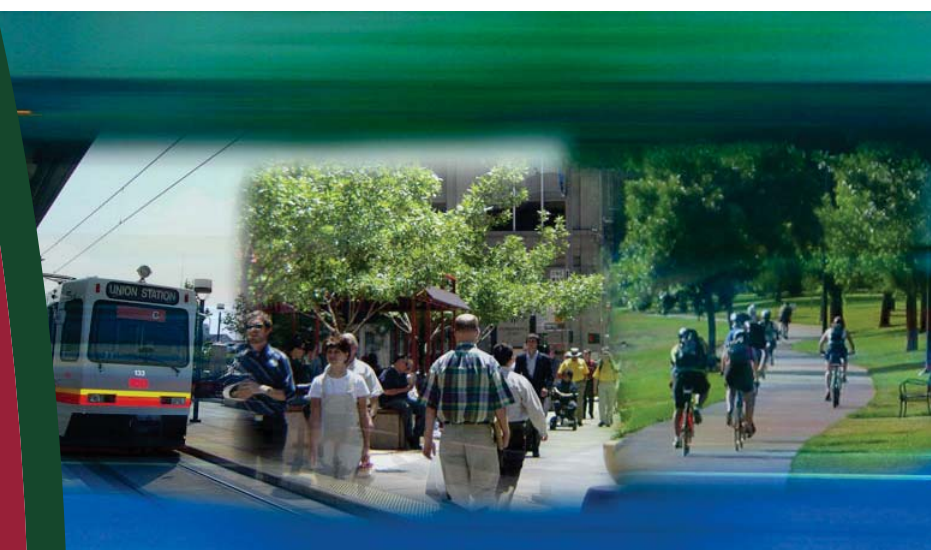




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## Mobility

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# DRCOG Regional TDM Short Range Plan (2012-2016)

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