

Purpose

The purpose of the Gold Line project is to implement fixed-guideway transit within the Gold Line corridor between Denver Union Station and Ward Road in Wheat Ridge.

Need

The need for the project is defined by the requirement for a cost-effective, alternative mode of transportation service in the Gold Line study area.

A transit alternative that would meet the needs of the study area would satisfy needs in the following areas:

- Need for mobility improvements, which would include;
 - Improved travel times over single occupancy vehicle travel time in the corridor in 2030
 - The provision of travel options and
 - Improvements to the regional transit system and rail system interconnectivity
- Need to serve both traditional transit users and new transit users
- Need to provide environmental benefits to the study area and the region
- Need to be cost effective and ability to be financed within the FasTracks program
- Need to meet the voter mandate of the FasTracks program

The following provides further information with regards to these needs.

NEED FOR MOBILITY IMPROVEMENTS

There are needs in this corridor to provide mobility improvements, travel options, and regional transit connectivity. Mobility improvements will be needed to provide travel time savings for corridor residents especially in light of decreasing funding for roadway improvements. Additionally mobility improvements will need to provide travel options and alternatives to single-occupancy vehicle travel in the corridor. Finally, new transportation improvements in the corridor should provide convenient and reliable connectivity to the regional network of transit improvements anticipated by 2015 as part of the RTD FasTracks plan.

- **Travel Time Savings.** According to DRCOG's *Metro Vision 2030*, between now and 2030, nearly four million people will call the Denver region home (an increase of 47%), and 800,000 new jobs will be created (an increase of 51%). And while different parts of the study area are forecast to experience differing rates of growth, the overall study area is forecast to experience a 36% increase in population and a 35% increase in employment between now and 2020. This increase in growth will result in increased congestion and travel time delays throughout the corridor and the region:

- Regional person trips will increase by 45%;

- Regional vehicle miles traveled will increase by 59%;
- Regional roadway lane miles with more than three hours per day of severe congestion will increase by 75%; and
- Regional vehicle hours of delay will increase 160 percent.

In response to those congestion issues, reliable alternative modes of travel that provide travel time savings are needed, especially in light of the fact that existing highways in the study cannot be widened without adverse impact or within the confines of existing funding.

Information from RTD indicates that travel on any Gold Line fixed guideway transit alternatives would reliably take roughly 31 minutes from Ward Road to Denver Union Station, while single-occupant auto travel times were approximately 50 minutes at best, in unreliable and congested conditions.

The selected Preferred Alternative will need to provide travel time savings compared to the No-Action and Baseline alternatives.

➤ **Mobility Options.** There are no anticipated funding sources for major Interstate (including I-70 and I-76) or arterial improvements in this corridor. The DRCOG 2030 Metro Vision plan assumes funding for very few roadway improvements in the study area. The only improvements in the study area shown in the 2030 fiscally constrained plan are:

- The addition of new lanes to Sheridan between 52nd Ave. and I-76 (100% local funding);
- Reconstruction of the I-70/Kipling interchange (eligible for future TIP funds); and
- The addition of new lanes on Wadsworth between 46th Ave. and 36th Ave. (also eligible for future TIP funds).

Since the Denver metro region and the study corridor face continuing pressures from population growth, travel option alternatives are necessary to accommodate anticipated growth and related congestion above and beyond planned roadway improvements.

DRCOG's Mobility 2030 Plan forecasts that most of I-70 throughout the Gold Line corridor will experience "pervasive congestion" by 2030 even with implementation of the region's fiscally constrained roadway system. In addition, most major north-south arterials through the corridor already experience severe congestion and are forecast to remain congested through 2030. Any transportation improvements recommended by the Gold Line project must provide convenient and reliable options to congested roadways for study area residents and employees.

➤ **Regional Connectivity.** There are gaps in multi-modal regional connectivity throughout the Denver Metro Area. FasTracks is primarily a plan to fill in major gaps through the provision of fixed guideway rail transit. Residents and employees in the corridor have limited transit access to many other parts of the region. Current access is provided mainly through local and regional bus service, which is forced to use the increasingly congested roadway network. The Gold Line corridor will allow residents and employees in the study area to connect with all the other RTD corridors through

convenient connections at Denver Union Station. The Gold Line and its associated stations will provide residents of the study area increased access to the RTD bus system through the FastConnects program, which includes a redesign of the regional bus network to connect to Gold Line stations and other parts of the area.

NEED TO SERVE TRADITIONAL TRANSIT USERS AND NEW USERS

- **Number of Traditional Transit Users Served.** DRCOG forecasts over 25 percent of the population will be over the age of 60 by 2030. The older population can be well-served by providing transit as an alternative to the private motor vehicle. The highest concentration of elderly population currently exists in the Regis neighborhood north of I-70 and west of Sheridan Blvd. The study area also contains a population that is transit-dependent and who would benefit from additional access to employment centers and savings in travel time. The highest concentration of minority population is located in Northwest Denver, generally south of I-70, including the Globeville, Sunnyside, and Highland neighborhoods. The highest concentration of low-income population occurs in the Sunnyside neighborhood near I-25 and I-70. The Gold Line project will provide convenient and reliable transit service and regional connections to these populations above and beyond the services provided today, as measured by the number of traditional transit users within one-half mile of any potential alignment.
- **New Transit Users.** In addition to providing convenient new services to traditional transit users, the Gold Line transportation improvements will provide an opportunity and an incentive for new “choice” users to take advantage of transit services. Many parts of the Gold Line corridor include redeveloping areas, including the area around Denver Union Station, portions of Northwest Denver, and the new mixed-use residential neighborhoods in place or planned in southeast Arvada, Olde Town Arvada, Ridge Home, and Wheat Ridge. Arvada and Wheat Ridge are moving forward with plans for mixed-use developments in areas designated by the FasTracks program as potential station sites.

Transportation improvements in the Gold Line corridor should be aimed at providing convenient and reliable local and regional transit connections to these newly redeveloping areas to increase ridership and system productivity and to increase regional connectivity.

NEED TO PROVIDE FOR AIR QUALITY BENEFITS FOR THE STUDY AREA AND FOR THE REGION

The pollutants of primary concern when assessing the potential impacts of transportation projects are CO, ozone and PM₁₀. The Denver metropolitan area is an attainment/maintenance area for PM₁₀, CO, and the 1-hour ozone standard, and currently is in attainment for the other criteria pollutants.

The Regional Air Quality Council (RAQC), in cooperation with the State, prepared a maintenance plan for ozone. On October 11, 2001, the EPA approved the Denver one-hour ozone standard redesignation request, the maintenance plan, and the volatile organic compounds (VOC) and summertime NO_x conformity budgets. However, in 2002 and 2003, there were measured violations in the Denver area of the eight-hour ozone standard, but the area has not yet been declared nonattainment for the eight-hour ozone standard by EPA.

Because there have been recent measured violations of the ozone standard in the greater Denver area, the RAQC, in conjunction with the State of Colorado, has initiated an early action compact (EAC) process with EPA to address the issue before EPA needs to declare the Denver area nonattainment for ozone. This process is under way with a modeling evaluation of the sources of ozone precursors (VOCs and NO_x), and the ambient concentrations of ozone that result in the base year 2002 and the projection year of 2007. The EAC will also require the adoption of ozone precursor control measures in the State Implementation Plan (SIP) for the Denver area and legislation from the Colorado Legislature to authorize the implementation of these control measures. The ozone precursor control measures that will be added to the Denver-area State Implementation Plan (SIP) will include emission controls on stationary reciprocating internal combustion engines, controls on oil well equipment that emit VOC's and a reduction in the vapor pressure of gasoline sold in the Denver area.

The improvements recommended by the Gold Line project should result in measurable reductions in air pollutant emissions, greenhouse gas emissions and energy consumption over the No-Action and Baseline alternatives.

NEED TO BE COST EFFECTIVE AND FINANCED WITHIN THE FASTRACKS PROGRAM

The FasTracks financial plan projected costs and financing for each of the FasTracks corridors and projects, and reflected the adopted FasTracks implementation schedule for each corridor. Each year, RTD re-analyzes the financial plan to reflect actual program progress, expenditures and receipts. Recent increases in materials costs have encouraged RTD to revise and review its financial plan to ensure that the overall project stays within its \$4.7 billion regional construction budget. In addition, the FasTracks financial plan designated the Gold Line corridor as one of three FasTracks corridors that would seek Federal "New Starts" funding and a corresponding Full Funding Grant Agreement.

The Gold Line corridor's transportation improvements must be planned and designed to meet not only the mobility and environmental needs discussed earlier, but also the financial constraints of the FasTracks plan and its Federal funding requirements. The Preferred Alternative must be both *affordable* and *cost-effective* at serving the transportation and other needs defined earlier.

- **Affordability.** The FasTracks plan allocated \$463.5 million in capital costs out of the overall \$4.7 billion system-wide budget to the Gold Line corridor. Any improvements recommended by the Gold Line project team must be affordable, generally defined as within 10% of the FasTracks budget. In addition, the associated operating costs must be realistic and reasonable.
- **Cost-Effectiveness.** A transit project's cost-effectiveness is generally defined by its cost per user, including capital and operating costs. The Federal Transit Administration, in its "New Starts" federal funding process, has further defined cost-effectiveness as a cost per hour of user benefit (including a quantitative measure of travel times savings for new and existing transit users). Because the Gold Line corridor is designated by the FasTracks financial plan as one that should potentially be eligible for federal funding, its cost-effectiveness should contribute to a "Recommended" rating by the Federal Transit Administration. The Gold Line's

Preferred Alternative therefore needs to be affordable in its capital and operating costs, must result in benefits to new and existing riders, and must provide travel time savings to its users in a manner sufficient to meet federal funding requirements and receive an FTA “Recommended” rating.

NEED TO MEET THE VOTER MANDATE OF THE FASTRACKS PROGRAM

The goal of the FasTracks program is to provide a regional system of transit infrastructure to provide connections throughout the Denver metropolitan area between Downtown Denver and other parts of the region. As one critical component of the system, the Gold Line, will link to eight other FasTracks Rail and Bus Rapid Transit corridors, including the US 36 Corridor/Northwest Rail corridor, the North Metro Corridor, the I-70 East Corridor (to serve Denver International Airport), the West Corridor, the Central/Central Platte Valley Corridor, the Southwest Corridor, the Southeast Corridor, and the I-225 Corridor.

The FasTracks financial plan states, “Unlike typical transit development strategies, which are pursued one corridor at a time and can take decades to accomplish, the Plan offers a comprehensive, region-wide approach to transit development. Integral to the Plan is the ability to simultaneously improve mobility throughout the region. This approach will not only address congestion needs, but will also provide an unprecedented economic stimulus to the region, providing a measure of protection against recession through 2017.” The Plan assumes that the Gold Line corridor will be constructed and operating in the 2014-2015 timeframe, virtually simultaneously with other new transit corridors in the region.

To meet the financial and schedule requirements of the FasTracks plan, the transportation improvements recommended by the Gold Line project team must be *practical* and *implementable*.

- **Practicality:** The Gold Line corridor transportation improvements must be practical in that they need to be reasonable and within the range of traditional transit improvements. In other words, any improvement recommended by the Gold Line project should be a transit technology that is in use in everyday revenue line-haul service somewhere in North America or other similar environments. While new and experimental transit technologies hold promise for the future, only more traditional transit technologies that have been used in corridors similar to the Gold Line in length, climate, topography, and urban characteristics are appropriate and are necessary to meet the financial and schedule requirements of the FasTracks plan.
- **Implementability:** Any transportation improvement recommended for the Gold Line corridor must be able to be constructed and operated within the financial and schedule constraints of the overall FasTracks program. While the environmental process will note where mitigation issues must be addressed regarding issues such as noise and vibration, traffic impacts, and other related issues, the Gold Line improvements must avoid difficult and costly construction and operational issues if it is to meet the budget and schedule. Any alternatives that are too costly, complex, or difficult to implement should be avoided. The project should therefore focus only on those alternatives that have a reasonable chance for construction and operations within the FasTracks budget and schedule.