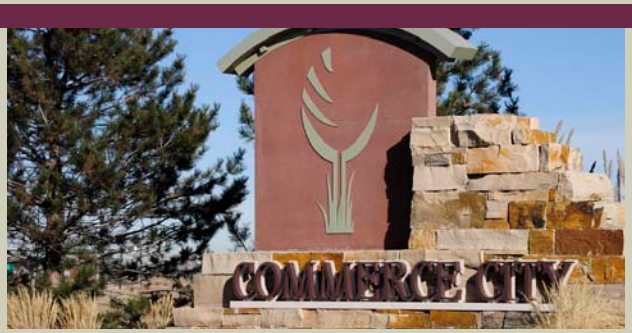
CITY OF

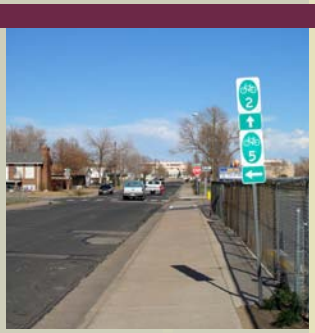
COMMERCE CITY

C3 VISION

Transportation Plan










Final: July 12, 2010

CITY OF
COMMERCE CITY
C3 VISION

Transportation Plan

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CITY OF
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C3 VISION

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Common Acronyms Used in this Plan (alphabetical)

ARRA	American Recovery & Reinvestment Act of 2009
BNSF	Burlington Northern Santa Fe Railway
C3	City of Commerce City
CAC	Citizen Advisory Committee
CCTV	Closed Circuit Television
CDOT	Colorado Department of Transportation
CIPP	Capital Improvements and Preservation Program
CMAQ	Congestion Mitigation/Air Quality program
DIA	Denver International Airport
DMS	Dynamic Message Sign
DRCOG	Denver Regional Council of Governments
DSMD	Dynamic Speed Message Display (radar speed sign)
HAR	Highway Advisory Radio
IGA	Intergovernmental Agreement
ITS	Intelligent Transportation Systems
LOS	Level of Service
LRT	Light Rail Transit
LWCC	LiveWell Commerce City
NATE	Northeast Area Transit Evaluation
PUD	Planned Unit Development
RMANWR	Rocky Mountain Arsenal National Wildlife Refuge
RMRA	Rocky Mountain Rail Association
RTD	Regional Transportation District
SOV	Single Occupant Vehicle
SWG	Staff Working Group
TAG	Technical Advisory Group
TAZ	Traffic Analysis Zone
TCHD	Tri-County Health Department
TDM	Transportation Demand Management
TMA	Transportation Management Association
TOC	Traffic Operations Center
TOD	Transit-Oriented Development
UPRR	Union Pacific Railroad
URA	Urban Renewal Area
V/C	Volume to Capacity Ratio
VMS	Variable Message Sign
VPD	Vehicle per Day

1 Why is a Transportation Plan Needed?

The Transportation Plan provides a vision for the future transportation network in Commerce City. The transportation network is a system of planned and improved vehicular, bicycle, pedestrian and bus facilities that will assure residents, workers, and visitors high-quality mobility and access for all of their travel needs. The plan will help staff and elected officials make many decisions about future land use and transportation for the city, including:

- ✔ What improvements are needed to foster and maintain a balanced and sustainable community?
- ✔ How can the requirements of all modes of travel (vehicles, transit, bicycles, and pedestrians) best be accommodated?
- ✔ What locations have inadequate capacity, experience congestion, and/or exhibit poor safety records? How can they be addressed?
- ✔ When and where will transportation improvements be needed to address these conditions?
- ✔ How much will improvements cost, and what are the benefits so that limited financial resources can best be invested?
- ✔ Who will be affected and benefited by these investments?

The last transportation plan for Commerce City as a whole was completed in 1985. Since then, many changes have occurred that should be considered when making decisions about investment in the transportation system. The following changes merit a comprehensive review and update of Commerce City's 1985 transportation plan:

- ✔ Substantial growth in the Northern Range
- ✔ The opening of E-470 and Denver International Airport (DIA) with primary access via Peña Boulevard
- ✔ A shift to more environmentally sensitive, health promoting, and sustainable transportation solutions
- ✔ The approval of FasTracks, metro Denver's regional rail initiative.

1.1 Commerce City Location and Context

The City of Commerce City, Colorado (C3) is located in the rapidly growing Denver-metro area, northeast of Denver in Adams County. The city is surrounded by the communities of Brighton, Denver, Aurora, and Thornton, several wildlife parks (Barr Lake State Park to the north and the Rocky Mountain Arsenal National Wildlife Refuge to the east), and the Denver International Airport

Multi-use Path along 96th Avenue in Northern Range

(DIA). After a period of rapid growth over this past decade, Commerce City is home to more than 42,500 people (estimated 2008 population from the U.S. Census Bureau) and occupies nearly 41-square miles. Additional land for growth, contained within the Growth Boundary (i.e., the area for future urban growth and expansion, shown in **Figure 1.1**) will bring the city to a long-range total of almost 62-square miles. A key feature of the city is its location along major regional travel routes: roadways (I-76, I-270 and E-470), railways (Burlington Northern Santa Fe and Union Pacific), and air (Denver International Airport). These have helped to retain a strong industrial base for the city's economy.

1.2 Overview of the Transportation Plan

As the following pages will explain, the C3 Vision Transportation Plan is a multimodal vision for the future of Commerce City. It links transportation and land use growth with numerous strategies aimed toward developing a balanced and sustainable community. Over the past decade, the City of Commerce City experienced rapid growth. In the last few years growth has slowed, but Commerce City still has a very large amount of developable land. Commerce City is likely to see substantial growth in both population and employment. This Plan builds on the existing transportation network by determining which aspects work well today, and what improvements are needed to create a robust multimodal transportation network in the future.

This report describes the process undertaken to complete the Transportation Plan, recommendations included in the Plan and actions to undertake to fund and implement the plan. The major sections are:

- ✔ **Transportation Planning Process –** This section describes the previous planning efforts, and the public outreach process conducted as part of developing this plan.
- ✔ **Transportation Goals and Policies –** This section lists the goals and policies that will help guide development of the transportation network over time.
- ✔ **Forecasted Growth –** This section describes the changes in land use in Commerce City between now and 2035 and buildout.

- ✔ **Transportation System –** This section describes what the road network, transit system, and bicycle and pedestrian network should look like in 2035. It includes recommendations for physical improvements, as well as guidelines about how to best achieve a balanced multimodal transportation network.
- ✔ **Financing –** This section describes potential funding methods that Commerce City can pursue to help fund and implement needed transportation improvements.
- ✔ **Plan Implementation –** This section describes a prioritization process and strategies to help achieve the Transportation Plan vision.
- ✔ **Measuring Success –** This section lists suggested performance criteria that can be used by staff and City Council to assure that the goals of the Transportation Plan are being achieved.

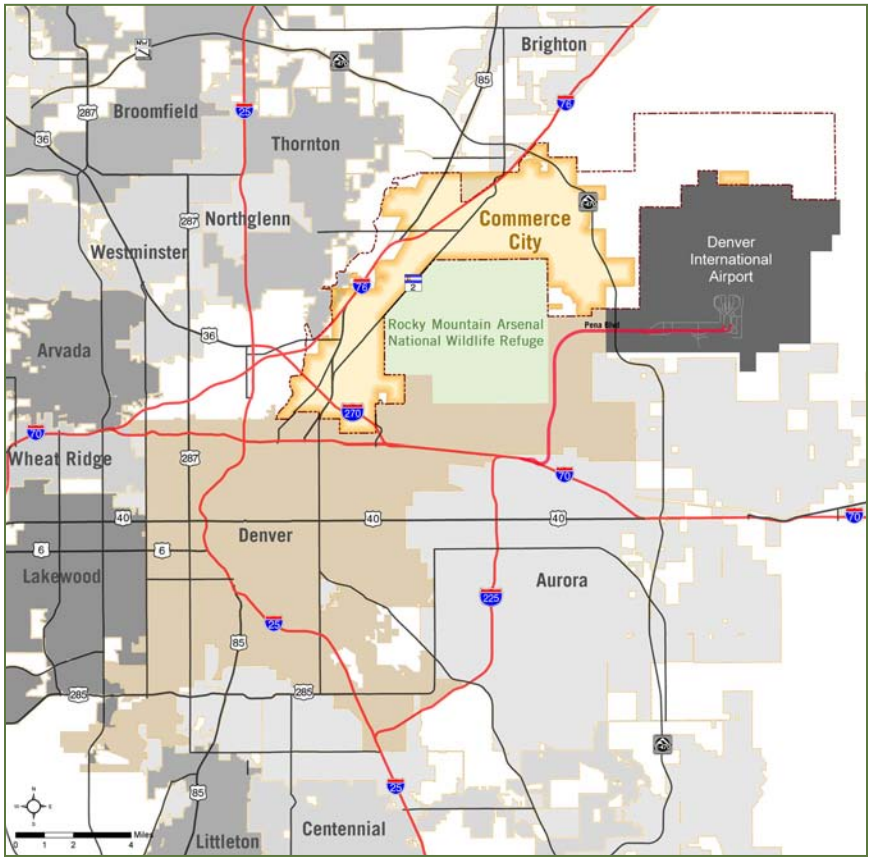


Figure 1.1: Commerce City Location and Context

2 Transportation Planning Process

2.1 Past and Current Planning

The City's first Comprehensive Plan was adopted in 1977 and was most recently updated in 1985.

Commerce City is a relatively new city that incorporated in 1952, although its past can be traced to a number of historic, smaller communities that emerged nearly 100 years ago. **Figure 2.1** shows the current planning area for the city and its strategic planning areas. The first comprehensive plan for the city (the 1975-2000 Comprehensive Plan) was adopted in 1977. The most recent transportation plan element covering the entire city can be found in the 1985-2010 Plan and was adopted in 1985. More recently, there have been more detailed planning efforts for sub-areas in the city, including Irondale, Derby, the Prairie Gateway, and the Northern Range. Specific transportation planning efforts have primarily been limited to the Northern Range. These efforts include the New Lands Transportation Plan (TranSystems Corporation, 2000) and the New Lands Transportation Plan (Felsburg Holt & Ullevig, 2002).

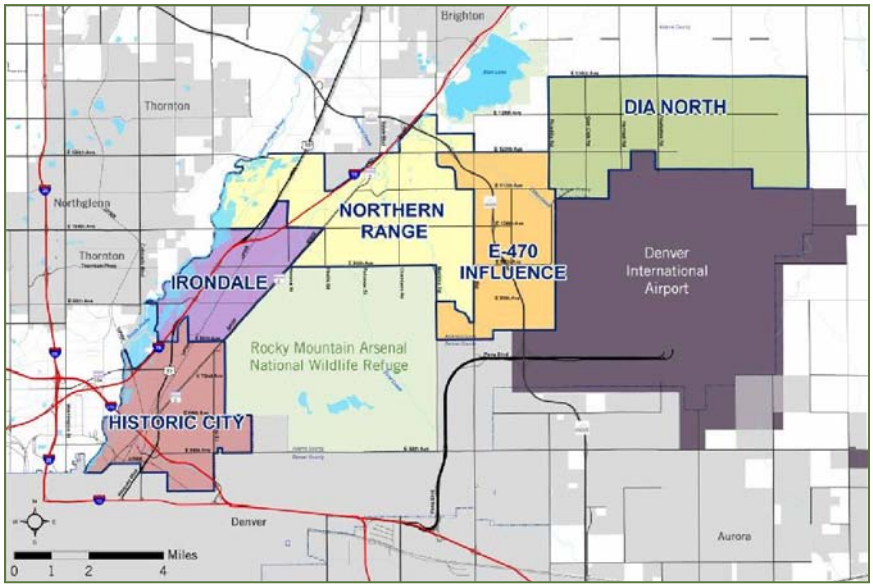


Figure 2.1: Strategic Planning Areas

The most recent Transportation Plan for the entire City was adopted in 1985.

Commerce City's Parks and Recreation Department has been active in planning and developing the system of bike routes and recreational trails for the city. Planning for the overall city has included Commerce City Bikeways and Trails Masterplan (Urban Edges, Inc., 1998) and the Park, Trail & Open Space System Map

& Guide (Commerce City Department of Parks and Recreation, 2006). More detailed plans have also been completed for specific areas. These include The Emerald Strands (1990) which was completed by a number of public agencies for the area surrounding DIA. The Historic City was the subject of Commerce City Bikeways and Trails and the Bikeway Masterplan Study (Commerce City, 1998). These plans identified the current system of numbered, on-street bike routes in the Historic City.

The Prairieways Action Plan was completed by Commerce City in 1999 to guide development of parks, trails and open space in the 43-mile area north of the Rocky Mountain Arsenal National Wildlife Refuge (RMANWR), as well as west and north of Denver International Airport (DIA).

The C3 Vision Comprehensive Plan encompasses the many elements necessary for a comprehensive plan, including transportation. The comprehensive and transportation plans were developed concurrently with many elements of overlap and interaction. This concurrency is fairly unique, in that a transportation plan is often completed subsequent to adoption of the comprehensive plan. Concurrency allowed vital interaction between land use and transportation planning to occur during the analysis process, to the benefit of both plans. More detail about land use forecasts can be found in Chapter 4 and Appendix D of this plan. The transportation input to the evaluation process of land use options for the E-470 Influence Area is provided in Appendix C of the C3 Vision Transportation Plan.

2.2 Community-Driven Planning Process

The C3 Vision Plan process for developing joint comprehensive and transportation plans was community-driven. It is vitally important that residents, business and property owners, and investors help shape the future of the city. The plans are based on frequent meetings with the public, elected and appointed officials, and city and agency staff. There were a number of formal public workshops where those attending were asked specific questions concerning current and future land use and transportation issues. Attendees could then state their preferences through electronic voting. Each workshop involved two meetings: one in the northern part of the city and a complementary session in the Historic City. These meetings were typically held at schools or recreation centers. This detailed feedback enabled staff and the consultant team to build on this information for further detailed planning.

Well attended public workshop in January 2009

In addition to the public meetings, there were three advisory groups that met throughout the planning process. The Citizens Advisory Committee (CAC) consisted of approximately 17 residents from all areas of the city, business owners, and developers. The committee met every six to eight weeks throughout the effort. The Technical Advisory Group (TAG) included staff from nearby agencies, Adams County, the Regional Transportation District (RTD), Colorado Department of Transportation (CDOT), and the

October 2008 CAC Meeting

Denver Regional Council of Governments (DRCOG). Finally, there were frequent Staff Working Group (SWG) meetings that involved individuals from different city departments including the City Manager's office, economic development, housing, parks and recreation, community development, police, public works, and finance.

Guiding Principles for Transportation

Comprehensive input was obtained at public workshops in late January and early February 2009. Participants completed workbooks containing a series of statements about guiding principles and follow-up questions about specific modes. A total of 47 responses were obtained. A large majority (85%) of the participants agreed with the following five guiding principles:

1. **Plan for Comprehensive Transportation and Multiple Modes**
   Incorporate all future modes of travel – vehicles, transit, railroads, bicycles, and pedestrians – in the Transportation Plan and develop priorities for providing Commerce City residents and businesses with the greatest number of transportation options.

2. **Coordinate Regionally on the Transportation System**
   The numerous regional transportation entities including RTD, DIA, E-470, Colorado Department of Transportation, and the railroads all help to form the transportation framework within Commerce City and throughout the metro area. Continue coordination among all of these entities to provide sufficient infrastructure and funding for current needs and future growth, and improve the image of road corridors and safety.

3. **Improve Local Connections and Safety**
   Establish and improve connections (both road and bicycle/pedestrian) through the Transportation Plan, as well as clearly identify local and truck routes, and look at ways to reduce traffic and increase safety in congested areas.

4. **Develop a Comprehensive Transit Strategy**
   Develop a long-term transit strategy to address RTD bus service as well as the future light rail line, and ensure that the light-rail transit station is built in a suitable location that will tie in with other modes of transportation.

5. **Expand a Connected System of Trails**
   Expand the existing trail network and provide linkages in the Northern Range area and to the National Wildlife Refuge, to reduce congestion and promote regular physical activity and recreation.

Elements of the Transportation System

In addition, the workshop participants were asked a series of questions regarding various aspects of the transportation system.

Workshop in Reunion, Summer 2009

Importance of a Multimodal Transportation System

The results of a question asking participants to rank (1 = most important to 4 = least important) the four transportation modes in order of importance provided the following results:

Mode	*Average Rank*
Vehicles and Roads	1.8
Transit – buses and light rail	2.0
Bicycling – paths and bike lanes	2.8
Walking – sidewalks and trails	2.9

Image versus Traffic Flow

A question about which is more important – image or traffic flow - in determining project priorities yielded the following results:

Mode	*Average Rank*
Improve traffic flow	53%
Improve image	16%
About equal	31%

Bus Service Improvements

Participants were asked what improvements they think are needed to improve bus service in the community. The following are ranked in order of the most positive responses:

Improvement	*Affirmative Response*
More regional express buses	70%
Bus routes that serve the Northern Range	62%
More frequent buses on existing routes	54%
Bus routes between the Historic City and Northern Range	55%

In addition, the responses included were 19 specific suggestions for bus system improvements.

Walkability

The participants were presented with several options related to the improvements that would help them walk around Commerce City more. The following are ranked in order of the most positive responses:

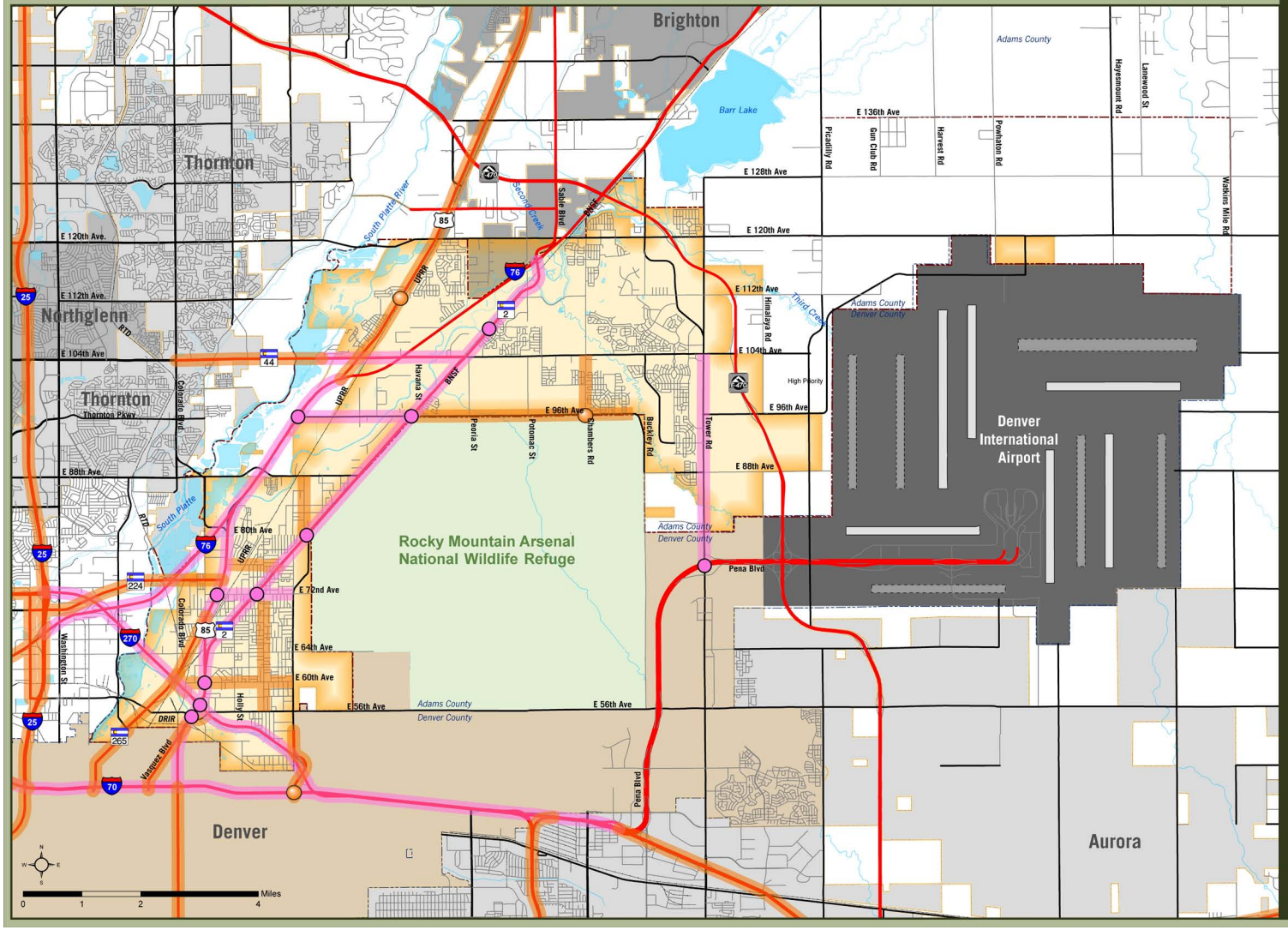
Improvement	*Affirmative Response*
Improved safety crossing busy streets	81%
Off-street walking trails	68%
Slower traffic – particularly in neighborhoods	53%
Wider sidewalks	53%

Many of the respondents live in the Historic City where there are a number of minor arterials and residential collectors that serve this older community. The highest response reflects a desire for locations where they feel safer when crossing streets with a high volume of traffic.

Congested Locations

The final question in the workbook requested input about corridors and intersections where congestion is regularly encountered. The responses are located geographically on **Figure 2.2**. The corridors and intersections that were most frequently mentioned in the workbook are shown in pink, and those that were mentioned by only one or two respondents are shown in orange.

CURRENTLY CONGESTED CORRIDORS & INTERSECTIONS



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Legend

- Corridors with High Levels of Concern
- Intersections with High Levels of Concern
- Corridors with Moderate Levels of Concern
- Intersections with Moderate Levels of Concern
- Main Highways
- Arterial Roads
- Local Roads
- Railroad
- Streams
- Lakes
- DIA Existing Runways
- DIA Future Runways
- Current Commerce City Limits
- County Boundary
- IGA Growth Boundary

FIGURE 2.2

03.10.10 CLARION, BBC, FHU

3 Transportation Goals And Policies

Creating a sustainable community is the one concept that best encapsulates the goals of the C3 Vision Comprehensive Plan. Chapter 2 defines the concept of sustainability as follows:

> "A sustainable community is one in which the economic, social, and environmental systems provide a productive, healthy, meaningful life for its residents, as well as affording the opportunity for prosperity. It is a community working toward the betterment of local conditions, linking the local economy, community, and environment with the region and the world. In the long-term, it means meeting the needs of the present and planning for the future, by striving for the three Cs of sustainability:
>
> ✔ Commerce and Economy
> ✔ Context and Environment
> ✔ Community and Social Well-Being"

"A sustainable community is one in which the economic, social, and environmental systems provide a productive, healthy, meaningful life for its residents as well as affording the opportunity for prosperity…"

Transportation is certainly one of the more important elements that must be considered in creating a sustainable community. As a growing and dynamic community, Commerce City needs a transportation system that provides for all modes of travel throughout the city, as well as the region, and focuses on improving mobility, efficiency, and safety. The C3 Vision Comprehensive Plan identifies 12 Guiding Principles that support and reinforce plan elements, including Transportation (#6) which states the following: "Ensure a quality community by providing efficient, effective, and varied modes of transportation that integrate and connect neighborhoods, the community, and the region."

"Ensure a quality community by providing efficient, effective, and varied modes of transportation that integrate and connect neighborhoods, the community, and the region."

The Plan Element chapters of the C3 Vision Comprehensive Plan provide goals and policies. Chapter 9 specifically addresses Transportation, and Chapter 13 concerns appearance and design.

Goal T1 – Improve the balanced, comprehensive transportation system to maximize mobility

The city will strive to provide access to all modes of travel and will develop priorities for providing residents and businesses with the most efficient multimodal transportation network possible.

RTD park-n-Ride at Revere Street and 104th Avenue

Citywide Policies

T1.1 Multiple-Mode Transportation System

Provide residents and employees with transportation options to increase the share of trips that use alternative travel modes.

T1.2 Coordinated Land Use/Transportation Planning

Future land use patterns will consist of a balanced mix of uses with higher density in centers and along corridors, which also will increase potential for transit use and promote bicycling and walking. Such a pattern will lower vehicle miles traveled, reduce congestion on the road network, lower greenhouse gas emissions, and promote active lifestyles.

T1.3 Interconnected Transportation Modes

Streets, sidewalks, pedestrian paths, and bike paths will contribute to a system of connected routes between origins and destinations that facilitate transfer from one transportation mode to another (e.g., park-n-Ride, and bicycle facilities near transit).

Goal T2 – Connect origins/destinations, relieve traffic congestion, and improve safety on streets

Additional streets, sidewalks, and trails will serve as an effective grid network to connect origins and destinations in all directions, provide safe and accessible access for multiple modes, clearly identify truck routes, and focus on reducing traffic congestion.

Citywide Policies

T2.1 Connected Street Networks

Identify and reserve rights-of-way for connected streets in future development areas, to balance resident and non-resident use of the street system. The Transportation Plan will identify street connections (e.g., extend 96th Avenue between Buckley Road and Tower Road) and overcome barriers (e.g., bridges to cross the S. Platte River at 56th Avenue; Colorado Boulevard/Highway 85, and 96th Avenue; the O'Brian Canal at Yosemite Street, and I-270 at Holly Street and railroad overpasses at 88th, 96th, 104th, 112th, and 120th Avenues).

T2.2 Modified Grid Street Network

The city will plan for a modified, connected grid street network and will not promote cul-de-sacs, due to their restrictions on connectivity.

T2.3 Relieve Traffic and Improve Safety

The city will use the Transportation Plan to identify solutions to reduce traffic congestion and make improvements to improve traffic flow and safety, including shifting regional traffic away from local roads. The Transportation Plan will address solutions such as using grid systems, widening streets, traffic calming measures, constructing missing segments, grade-separated crossings for railroads, intersection improvements, traffic signal timing, grade separations, interchanges, mode shift, and trip reduction through increased land use mix. Adequate systems will be provided for the appropriate use (i.e., regional traffic on arterial roadways).

T2.4 Multimodal Transportation Corridors

In general, future development and street improvements will extend and connect a transportation system that provides safe access for vehicles, transit, bicycles, and pedestrians. Streets should be attractive and enhance the visual character of adjacent development. However, streets in industrial areas will not necessarily be fully multimodal, if their primary purpose is industrial truck traffic, where it is better to separate trucks from bikes and pedestrians.

Striped bike lanes on 69th Avenue

T2.5 Traffic Calming Measures

Provide traffic calming measures in business areas and neighborhoods, to reduce vehicle speeds on streets with high potential for pedestrian and bicycle activity, when justified.

T2.6 Railroad Crossings (Quiet Zones)

To ensure safety and promote an increased quality of life, the city will expand and continue quiet zones at railroad crossings.

Goal T3 – Improve local bicycle and pedestrian connections and safety

The city will establish and improve bicycle and pedestrian connections.

Citywide Policies

T3.1 Develop an Interconnected Network Throughout the City

Provide a complete bicycle and pedestrian circulation system. The network will consist of all-weather surfaced bike and pedestrian trails and paths within all sub-areas and with connections between sub-areas, and the region. Multi-use paths and on-street bike routes and lanes constructed along all newly constructed arterial and collectors will generally provide the most consistent and direct paths within the city for bicyclists and pedestrians. All schools and parks within the city should be linked by trails or on-street bike routes or lanes.

Bike route in Historic City

T3.2 Bicycle, Pedestrian Facility Improvements and Maintenance

Develop a list and prioritize public and private bicycle and pedestrian improvements to increase safety, comfort, and connectedness. Improvements include curb and gutter repairs and additions, lighting, strategic extension of sidewalks for connectivity, sidewalk repair, better wayfinding, railroad and busy street crossings, and provision of dedicated walking paths. The city will strive to clear bike and pedestrian facilities of debris, gravel, sand and snow. Grade separations will be provided to surmount significant barriers – freeways, expressways, railroad tracks, and streams and canals. Stream and canal corridors will be used wherever possible to provide off-street trails.

T3.3 Land Uses Supportive of Bicycling and Walking

Plan for a mix of land uses and street design in neighborhoods that support bicycling and walking.

Goal T4 – Improve transit service

Commerce City will work with partners to develop a long-term transit strategy to address the future FasTracks rail, identify better transit service and park-n-Ride locations, and ensure that future development is coordinated with transit.

RTD local bus service

Citywide Policies

T4.1 Long-term FasTracks Strategy

Work with partners, including RTD, to ensure that a FasTracks station is built to serve Commerce City, and that the station area development is well-integrated.

T4.2 Transit Funding

Continue to plan for and explore additional funding sources for RTD bus routes and better transit service.

T4.3 Bus Stop Improvements

Improve bus stops throughout the city in areas that receive high bus transit use (e.g., shelters, seating, kiosks for wayfinding, and trash collection).

T4.4 Transit Planning

Work with RTD to provide transit service throughout Commerce City in both the Historic City and the Northern Range.

Policies for Strategic Planning Areas

T4.5 Northeast Area Transit Evaluation (NATE), Highway 2

Plan for the NATE Highway 2 transit corridor with potential stations at Wembley, Derby, and East 104th Avenue.

T4.6 Northern Range Park-n-Ride Bus Routes

Explore strategic locations for park-n-Ride and transit stations. Identify local funding to enhance RTD service for Northern Range area and along E-470.

T4.7 E-470 Future Transit Corridor

Continue to plan for future rail along E-470 (from DIA to Adams County Government Center), including a potential stop at East 104th Avenue. Work with DRCOG and the E-470 Authority on this corridor.

Goal T5 – Expand a connected system of multi-use trails

The city will expand the existing multi-use trail network and provide linkages. The system will enable regular physical activity and recreation, and provide an opportunity for alternative transportation modes (e.g., bicycling and walking).

Citywide Policies

T5.1 Implement Trails Plans

This plan supports the Strategic Plan for Recreation Programs, Services and Facilities, which addresses the trails and multi-use path network. Some future trails may allow equestrian uses. Its priorities address connectivity, completing loops, and expanding the current trails, including:

- ✔ Trails connecting the Northern Range area to the Historic City and to the Rocky Mountain Arsenal National Wildlife Refuge
- ✔ Trails connecting to the South Platte River trailheads
- ✔ Multi-use trails connecting parks and schools with neighborhoods
- ✔ Trails included in the Prairieways Action Plan

Multi-use path along 104th Avenue

T5.2 Trails in New Growth Areas

New development will provide trails to further connect the system and link destinations in the Northern Range, the E-470 area, and DIA North.

Bicyclists on Sand Creek Trail

Policies for Strategic Planning Areas

T5.3 Historic City Bike Routes and Trails

Provide further bike and pedestrian connections to link destinations in the Historic City, including the following:

- ✔ East/west bicycle connections in Historic City (possibly as part of the bicycle/pedestrian circulation system through existing parks, and school properties),
- ✔ Along the South Platte River and other trail networks connected to the South Platte River,
- ✔ Enhancements to the Sand Creek Regional Greenway, and
- ✔ Create a comprehensive bicycle and pedestrian plan focusing on the Historic City and connections to the Northern Range.

Goal T6 – Coordinate transportation regionally

The city will work with the numerous regional transportation entities, including RTD, Denver Regional Council of Governments (DRCOG), Denver International Airport (DIA), E-470 Public Highway Authority, Colorado Department of Transportation (CDOT), and the railroads that contribute to the transportation framework within Commerce City and neighboring cities, communities, and the Denver-metro area.

Citywide Policies

T6.1 Coordinated Efforts to Address Traffic

Continue coordination among the regional entities to provide sufficient infrastructure for current needs, improve traffic flow and safety, provide north/south and east/west connections, recognize impact of traffic outside the community, address street connections across boundaries, and address future growth.

T6.2 Regional Investment Share

Continue planning and coordination to promote Commerce City for regional investments (e.g., FasTracks).

T6.3 Coordinated Efforts for Roadway Appearance

Continue coordination and identify funding to improve the appearance of public roadways, especially at city gateways, including streetscaping and signage. Investigate Adopt-a-Highway and Adopt-a-Trail programs for maintenance.

T6.4 Coordinated Efforts for Trails

Continue coordination among regional entities and adjacent jurisdictions to work toward transportation network and trail connectivity across jurisdictional boundaries.

Goal AD-1 Improve the image of gateways and corridors

The City will continually improve the appearance of gateways and corridors, and improve way-finding into and throughout the community as funding permits.

Gateway at Quebec Street and 56th Avenue

City Policies

AD 1.1 – Gateways

Gateways should provide a sense of arrival when coming into Commerce City and offer a consistent thematic image for the city. Enhance landscaping and signage at key gateways, as identified through Entryway Sign Plans (approved by the city).

AD 1.2 – Corridor Enhancement Plans

Develop plan to address cost-effective streetscaping enhancements (including tree-planting and xeriscape), support clean-up and adopt-a-highway programs in public right-of-way, and encourage beautification outside of the right-of-way. The community has identified the following priority corridors, which would require joint efforts with the Colorado Department of Transportation (CDOT).

- ✔ Highway 2,
- ✔ US 85,
- ✔ I-270, and
- ✔ I-76

Develop design elements that will allow a consistent theme for signage, landscaping, lighting, and streetscape within the total community.

AD 1.3 – Aesthetics and Local Way – Finding Signs

In public rights-of-way, enhance public streetscaping, historical markers, way-finding signs, and other features of the city, concentrating improvement in the areas of highest visibility (gateways and high-travel corridors), or locations with the potential to convey a positive image.

AD 1.4 – Highway Signage Updates

Work with CDOT and E-470 to update and change Commerce City entry and identification signs, as needed (e.g., I-76).

4 Forecasted Growth

In order to properly identify potential improvement projects that will be required for the transportation system in Commerce City, it is important to first understand the nature and volume of future traffic in the planning area. The analysis of future traffic volumes for the Commerce City planning area is based on the 2035 regional travel model developed by the Denver Regional Council of Governments (DRCOG). This computerized model is updated frequently and includes the eight urban counties of the Denver metropolitan area. The DRCOG model was used as the basis for developing forecasts for Commerce City because travel to, from, and within the city can only be analyzed in relation to the rest of the Denver metro area.

Two basic inputs to the computer model are the land use estimates and the transportation network. The amount of traffic which different types of land uses (residential, retail, office, industrial, etc.) generate on an hourly and daily basis has been measured for the Denver area and nationally. The level of development (number of households, type of businesses and their employment, etc.) can then be used to determine the volume of traffic that will be generated and attracted by any specified area. DRCOG has subdivided its planning area into more than 2800 traffic analysis zones (TAZs) in order to develop specific allocations of residential and commercial development throughout the Denver area. TAZs in the Commerce City planning area were subdivided based on a detailed review to recognize barriers (such as railroad tracks), to acknowledge major new roadways, and to reduce their size to no more than one square mile. More information about the modeling process, the location of TAZs, and the population and employment forecasts can be found in Appendix D.

The model's transportation network includes those improvement projects which are contained in the DRCOG 2035 Fiscally Constrained Regional Transportation Plan. In the Commerce City planning area, the model includes the widening of I-270 to six lanes from I-70 to Highway 85, widening of E-470 to six lanes, the construction of Picadilly Road in the E-470 Influence Area, and the widening of numerous principal and minor arterials in Commerce City.

Growth in the Northern Range will allow extension of the Second Creek Trail

4.1 Land Use Forecasts

One of the major analysis efforts undertaken during the preparation of Commerce City's C3 Vision Comprehensive Plan was forecasting 2035 population and employment. For ease of discussions in the comprehensive planning process, Commerce City was divided into five strategic planning areas (see **Figure 2.1**). The DRCOG 2035 land use forecasts were reviewed in detail and revised to reflect current and approved development in each of the established sub-areas (particularly in the Northern

Range) as well as potential development of the E-470 Influence Area and eventual development of DIA North. The primary development pattern in the Northern Range will continue to be low to moderate density, single family residential use with nearby retail sites to serve this growing population and a moderate level of commercial/office development. The E-470 Influence Area was subject to extensive analyses and discussion with residents and property owners to ensure an appropriate jobs-housing balance (see following discussion and Appendix C). There will be extensive growth in commercial activity along E-470, based on the visibility of and accessibility to this high capacity, regional facility.

Forecasting the ultimate development (called build out) of all land within Commerce City's planning area was useful in planning for the final configuration of the transportation system. This helps assure that the roadway improvements planned for 2035 have adequate expansion capability (particularly right-of-way) to provide for ultimate requirements. It should be noted that the DIA North strategic planning area is very large, and significant development of this area will occur after the 2035 time horizon. For this reason, two estimates of the build out of this area were made. The 100% scenario assumed the land use and densities would be similar to that planned for the North Range and E-470 Influence Areas. This yielded very high forecasts of potential households and employment. Due to the uncertainty in forecasting this far into the future, 30% of this large absorption total was used for the subsequent analyses described in following sections.

Table 4.1 provides a summary of current, 2035, and build out development forecasts in the five strategic planning areas of Commerce City. According to the 2000 U.S. Census, the population within the city limits of Commerce City was 21,000. The 2008 unofficial estimate of Commerce City's population in the planning area has doubled to 42,500. It is anticipated that Commerce City will continue to experience significant growth over the next 25 years and beyond. **Table 4.1** shows modest potential for further development in the Historic City and Irondale sub-areas, and more substantial growth in the three newer areas of the City where there is significant land remaining for development.

- ✔ **Historic City and Irondale –** Growth in these older sub-areas will be through infill and redevelopment. There is the potential for 13% growth in households and 27% growth in employment from 2005 to 2035. In 2035, there will be limited potential for further development. The number of households will be at 94% of their forecasted build out total and employment at 76% of the build out total.
- ✔ **Northern Range and E-470 Influence Area –** These two sub-areas are forecasted to have the majority of the growth in the city over the next 25 years. There is the potential for 10,400 more households by 2035 (219% growth) and 11,500 more employees (2,700% growth) by 2035. After

Industrial development in Historic City

2035, there is still significant potential for growth since the forecasted number of households will be at 49% of their build out total, and employment will be at 16% of the build out total.

✔ **DIA North –** This very large sub-area will still be largely undeveloped in 2035. As mentioned previously, only 30% of the potential build out level of development was used for these analyses. Even at these reduced levels, the number of households in 2035 will be only 5% of the forecasted (30%) build out total and employment at 2% of the 30% build out total.

This shows the large potential for future growth of Commerce City and why it was important for the C3 Vision Plan process to involve the public in guiding this growth in a sustainable and efficient direction. The planning responsibilities and financial obligations will be enormous. Table 4.1 shows that there could be 11,700 more households by 2035 (89% growth) and 17,855 more employees (75% growth) by 2035. After 2035, there is still significant potential

Table 4.1: Summary of Land Use Forecasts

Sub-Area	Households			Employment		
	2005	2035	Build Out	2005	2035	Build Out
Historic City	7,200	7,700	8,100	17000	20,300	24,300
% Growth from previous period		7%	5%		19%	20%
% of Build Out	89%	95%		70%	84%	
Irondale	1,100	1,700	1,900	6,600	9,600	15,100
% Growth from previous period		55%	12%		45%	57%
% of Build Out	58%	89%		44%	64%	
Sub-total for Older Sub-Areas	8,300	9,400	10,000	23600	29,900	39,400
% Growth from previous period		13%	6%		27%	32%
% of Build Out	83%	94%		60%	76%	
Northern Range	4,600	12,100	23,300	300	4,500	21,500
% Growth from previous period		163%	93%		1400%	378%
% of Build Out	20%	52%		1%	21%	
E-470 Influence Area	140	3,000	7,300	120	7,400	52,300
% Growth from previous period		2043%	143%		6067%	607%
% of Build Out	2%	41%		0%	14%	
Sub-total for Newer Sub-Areas	4,740	15,100	30,600	420	11,900	73,800
% Growth from previous period		219%	103%		2733%	520%
% of Build Out	15%	49%		1%	16%	
DIA North	100	300	6,500	25	200	10,000
% Growth from previous period		200%	2067%		700%	4900%
% of Build Out	2%	5%		0%	2%	
Commerce City Total	13,140	24,800	47,100	24045	42,000	123,200
% Growth from previous period		89%	90%		75%	193%
% of Build Out	28%	53%		20%	34%	
Jobs / Housing Balance (Goal = 1.5)	1.83	1.69	2.62			

for growth since the forecasted number of households will be approximately half their build out total and employment will be at one-third of the build out total.

4.2 Land Use / Transportation Connection

The connection between land use and transportation is well known. **Figure 4.1** is a commonly used illustration of the cyclical pattern of interaction. Joint land use and transportation planning efforts during the process of developing the C3 Vision Comprehensive Plan recognized that shaping the pattern of development (by influencing the location, scale, density, design, and mix of land uses) can guide and help reduce the need to travel, shorten the length of journeys, and make it easier for people to access jobs, shopping, leisure facilities, and services by public transit, walking, and cycling. While land use distribution and the design of development do not solely cause shifts towards more sustainable travel behavior, they can provide choice and support for more sustainable opportunities. This will hopefully moderate past patterns of land use development that primarily rely on new and/or widened roadways to provide their mobility and accessibility needs.

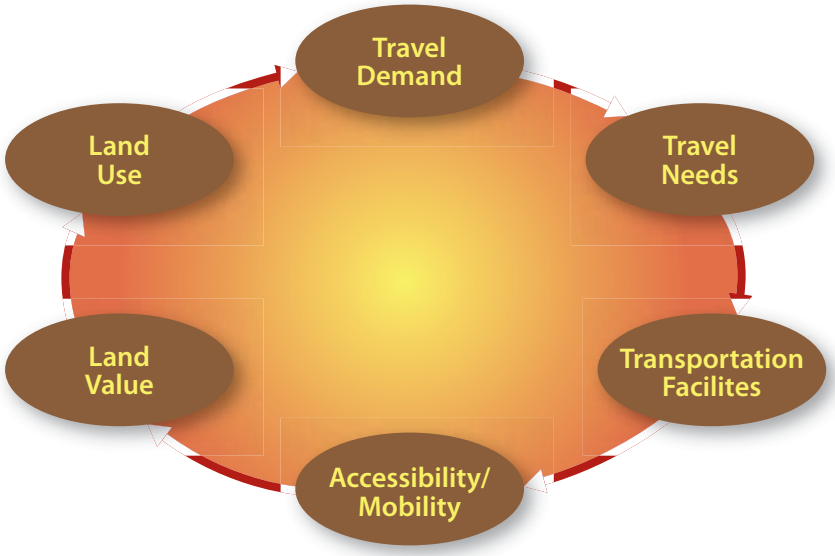
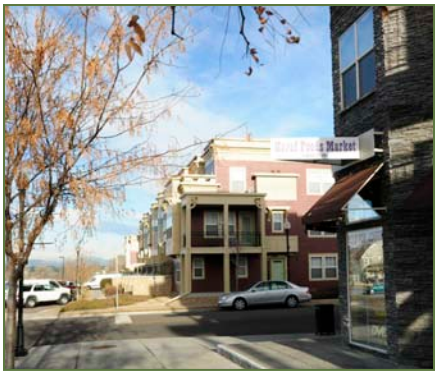


Figure 4.1 Land Use / Transportation Cycle of Change

In planning for a more sustainable transportation system for Commerce City, there are a number of land use considerations that can influence the use of alternative modes. Neighborhood retail can prompt residents to walk, cycle, or take transit to reasonably close job sites and shopping. Locating retail in and around office projects can influence commuting, mainly by reducing the need to have a car on-site. Research has shown that having plentiful retail and service activities within three miles of residences encourages walk and bicycle travel. This relationship is particularly strong for walking within one mile to a destination. More details regarding transit-supportive design are provided in the next chapter.



Belle Creek is an example of mixed-use development

The E-470 Influence Area is currently undeveloped

The jobs/housing ratio is a general indicator of a community's transportation and land use balance. The entire Denver-metropolitan area has a ratio of approximately 1.5 jobs per household. At this ratio and higher, working age residents have an opportunity to find jobs within the community. Commerce City's current jobs/housing ratio is 1.83. It is forecasted to decrease slightly to 1.69 in 2035 (see **Table 4.1**).

The jobs/housing ratio was one of several considerations in early planning efforts for the E-470 Influence Area (see Appendix C of the C3 Vision Transportation Plan). The land use/transportation analyses of the E-470 Corridor confirmed that balanced, mixed-use growth (for example, putting jobs and retail shops close to housing) can reduce vehicular travel in terms of distance, time and quantity. Balanced land use provides the opportunity for converting motorized trips to walking, cycling, and transit modes.

5 Transportation System

5.1 Roadway Network

One of the elements that will help determine the character and viability of Commerce City is the quality of the roadway system. As will become apparent in this chapter, all modes (automobiles, trucks, buses, bicycles and pedestrians) rely on the roadway network for basic mobility. The existing grid of roads in Commerce City is the basis for current economic activity, future land use growth, and future expansion of the network.

Railroad tracks create barriers

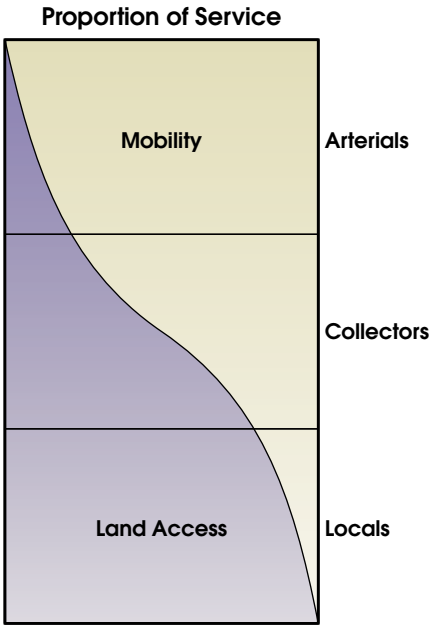
The existing conditions of Commerce City's transportation system were well covered in the Community Profile (Appendix A of the C3 Vision Comprehensive Plan). This document was prepared early in the C3 Vision Plan process, and the transportation element of this assessment is provided as Appendix A of this plan. Current road classifications (see **Figure A-14**) reveal that the network is largely unclassified in the Historic City and incomplete in the Northern Range, because a number of major roads are still unpaved. Traffic operations along existing roads are also summarized in the Community Profile (see **Figure A-17**). Segments of Tower Road, Highway 85, and I-270 are currently operating over capacity. Likewise, portions of I-270, SH 2, Highway 85, Tower Road, 88th Avenue, 96th Avenue, and 104th Avenue are operating near capacity. The information on this figure has a high degree of correlation with the corridors and intersections that were identified by the public during the outreach effort as having safety and congestion concerns. Current intersection safety is discussed in more detail in Appendix B. The safety analysis validates the experiences described by the public during the outreach effort.

One of the key insights that was gained early in the planning process is the role that major barriers have in shaping the transportation system (see **Figure 5.1**). Commerce City's transportation network includes a number of freeways and mainline railroad tracks. These are positive assets to the community in that they provide regional mobility for residents, business, and commodities. The amount of mainline railroad traffic on the Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway (BNSF) is significant, 15 and 40 trains per day respectively. The South Platte River and Sand Creek create natural barriers, since expensive bridges must be provided for all crossings. Barr Lake north of the city, and the Rocky Mountain Arsenal National Wildlife Refuge (RMANWR), present significant barriers to free movement within the community. There are no east-west through streets between 56th and 96th Avenues, a distance of five miles. These barriers and the geography of Commerce City result in the Irondale area being a relatively narrow "neck" connecting the Historic City and the Northern Range. DIA further restricts east-west movement, and 120th Avenue is the only route in Commerce

96th Avenue is the northern boundary of the RMANWR

Freeways and railroads through Commerce City are barriers that create circuitous travel paths.

City that has regional continuity to the east of the city. One of the objectives of Commerce City's Transportation Plan is to continue development of the transportation network, in order to overcome these barriers. The details of how this will be done are presented in the following sections.



Relationship of functional classification in serving traffic mobility and land access

5.1.1 Functional Classifications

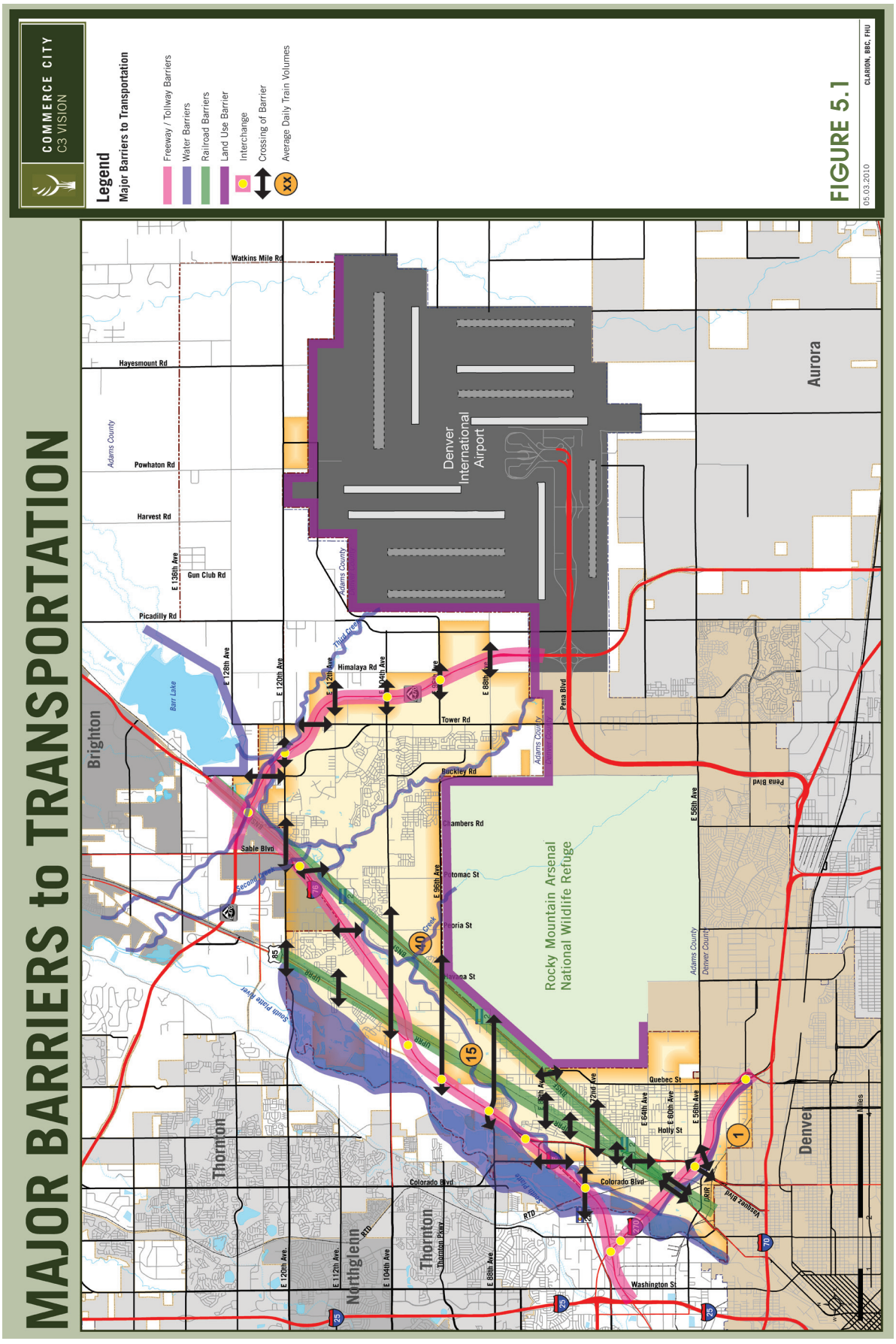
Within a roadway system, each road is classified by the relative functional levels of mobility and access it provides. These two functions, mobility (where higher speeds occur and direct land access is restricted) and accessibility (where speeds are lower and direct land access is emphasized), must be weighed in determining the proper classification for each individual roadway. The more access is allowed by a facility, the more its capability to provide mobility is reduced. Freeways and tollways have the highest levels of mobility and as a result, have the greatest restrictions on access. Collectors and local streets serve greater access needs and have less capability for traffic movement.

The primary determinants of functional classification are length of trip, average travel speed, frequency of access points, and continuity. Traffic volume is not the sole criterion that determines roadway function. It is possible, and frequently the case, that more accessible roadways carry relatively high traffic volumes (e.g., access to major office parks, regional shopping centers, etc.) and require multiple traffic lanes to accommodate the demand. By the same token, a facility that is more focused on mobility (such as an arterial that serves relatively long trips at higher speeds between low density land uses) may require only two traffic lanes to accommodate the demand.

The following descriptions of roadway types further clarify the distinction between the mobility and the accessibility functions. Typical roadway cross sections for these roads can be found in Commerce City's Standards and Specifications document. **Table 5.1** presents general characteristics for various types of roadway functions:

- ✔ **Freeways and Tollways –** These facilities have the highest level of access control. Access is allowed only at grade-separated interchanges; no at-grade intersections are allowed. Interchanges are typically at one mile or greater spacing. Freeways and tollways allow the highest level of mobility, providing unimpeded, high speed, high volume regional and interstate connections. I-76, I-270, and E-470 are freeways and the tollway in Commerce City. These facilities are designed to accommodate trucks and other large vehicles.

I-76 north of Dahlia Street


MAJOR BARRIERS to TRANSPORTATION
COMMERCE CITY
C3 VISION
Legend
Major Barriers to Transportation
Freeway / Tollway Barriers
Water Barriers
Railroad Barriers
Land Use Barrier
Interchange
Crossing of Barrier
Average Daily Train Volumes
FIGURE 5.1
05.03.2010
CLARION, BBC, FHU
Watkins Mile Rd
Hayesmount Rd
Powhaton Rd
Harvest Rd
Gun Club Rd
Picadilly Rd
E 136th Ave
E 128th Ave
E 120th Ave
E 112th Ave
E 104th Ave
E 96th Ave
E 88th Ave
E 80th Ave
E 72nd Ave
E 64th Ave
E 60th Ave
E 56th Ave
Himalaya Rd
Tower Rd
Buckley Rd
Chambers Rd
Sable Blvd
Potomac St
Peoria St
Havana St
Quebec St
Holly St
Colorado Blvd
Washington St
Pena Blvd
Denver International Airport
Rocky Mountain Arsenal National Wildlife Refuge
Barr Lake
Brighton
Thornton
Northglenn
Aurora
Denver
Adams County
Denver County
Third Creek
Second Creek
South Platte River
Big Dry Creek
Clear Creek
Sand Creek
Westminster Blvd
Thornton Pkwy
RTD
25
76
85
270
36
88th
40
15
1
70
0
2
4 Miles

- ✔ **Regional Arterials –** Regional arterials (also known as expressways) have limited access, typically via a mix of both grade-separated and at-grade intersections at approximately one-half to one mile spacing. They are typically signalized, but can be made into interchanges where high volumes on the crossroad require. Regional arterials provide high speed, unimpeded regional connections. Highway 85 (north of I-76) and 120th Avenue (west of I-76) are the regional arterials serving Commerce City. These facilities are designed to accommodate trucks and other large vehicles.

- ✔ **Principal Arterials –** Principal arterials should have limited access, typically via signalized or unsignalized, at-grade intersections at one-half mile spacing. Principal arterials provide relatively high speed, unimpeded, city-wide connections. There may be direct access where they pass by existing homes and businesses, but future development should provide internal street systems and limit or prohibit individual direct access to the arterial. Quebec Street, 120th Avenue (east of I-70), 104th Avenue, SH 2, and Highway 85 (in the Historic City) are among the numerous examples of principal arterials. These facilities are designed to accommodate trucks and other large vehicles.

96th Avenue is a typical minor arterial

Table 5.1: Functional Classification Criteria and Design Characteristics

Characteristics	Functional Priority			
	Freeways and Tollways *(Mobility Only)*	**Arterials** *(Mobility Primary, Accessibility Secondary)*	**Collectors** *(Accessibility Primary, Mobility Secondary)*	**Locals** *(Accessibility Only)*
Service Performed	Traffic movement highest speed, no direct land use	Traffic movement, relatively high speed, minimal land access	More frequent land access, relatively low speeds	Direct land access, lowest speeds
Typical Trip Lengths	Interstate and between major regions of metro area	Within major regions of metro area and between communities	Within communities	Within neighborhoods and business centers
Continuity	Totally interconnected and continuous over an entire metro area	Interconnected and continuous within major regions of metro area	Interconnected and continuous within communities	No continuity required
Access Type and Spacing	Interchanges at 1 to 1½ mile spacing and at-grade signalized intersections at ½ to 1 mile spacing. No private access	At-grade signalized intersections at ½ mile spacing (¼ on minor arterials). Private access usually restricted	Signalized and stop controlled intersections at 1/8 mile spacing. Some restrictions on private access	Stop sign controlled or uncontrolled intersections. Least restricted private access.
Facility Spacing				
Urban	1 to 3 Miles	1 Mile	¼ to ½ Mile	As needed
Rural	5+ Miles	1 to 2 Miles	1+ Mile	As needed
% System Mileage	5-10%	5-20%	5-10%	65-80%
% Vehicle Miles of Travel Carried	40-55%	20-35%	5-10%	15-30%

Commerce City will encourage developers to provide a system of collectors that enhances the grid network and minimizes discontinuous, curvilinear alignments.

- ✔ **Minor Arterials -** Minor arterials also have limited access, but may provide direct access to properties if no other reasonable form of access exists. Intersections are at-grade and may be signalized. Minor arterials provide relatively unimpeded connections within the community and distribute traffic to higher classification roadways. 72nd, 88th, and 96th Avenues are examples of minor arterials in Commerce City. These facilities are designed to accommodate trucks and other large vehicles.
- ✔ **Multimodal Arterials –** Multimodal arterials are a new classification that is appropriate for section line roads, primarily in the Northern Range (see **Figure 5.2**). These roads will have many of the characteristics of minor arterials (function, access and signalization), but they will generally carry traffic volumes appropriate for two lanes. As shown in **Figure 5.2**, they will have two 20-foot wide lanes separated by a 12-foot raised median. The additional pavement width required for emergency vehicle access will be delineated for on-street bike lanes. Potomac and Peoria Streets, Chambers Road, and 112th Avenue are examples of multimodal arterials in the Northern Range. These facilities are designed to accommodate trucks and other large vehicles.
- ✔ **Collectors -** Collectors provide connections between local streets and arterials and usually retain continuity through neighborhoods. While they may provide direct access to abutting properties, residential driveway access is typically discouraged. Intersections are at-grade and have some form of traffic control (stop signs). Three types of collectors are included in the Plan. Cross sections and specification for major and minor collectors are included in Commerce City's standards. Residential collectors are new and are discussed in more detail in a following section.

Monaco Street is a typical Residential Collector in the Historic City

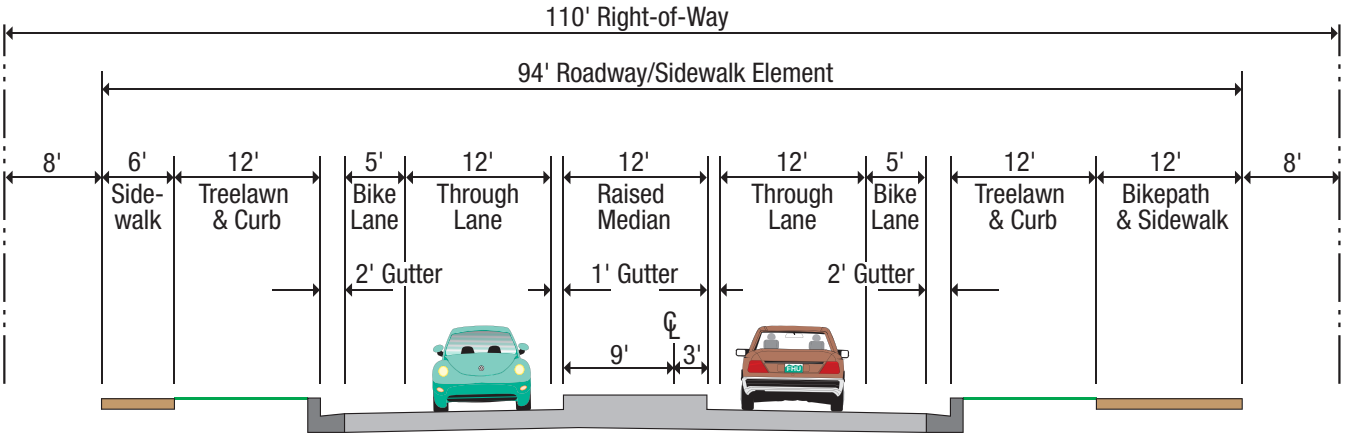


Figure 5.2: Multimodal Arterial Typical Cross Section

Collector streets are often identified during the development process, and therefore not all collectors are shown on the Roadway Classification Plan. Commerce City will work with developers to identify these future road alignments. Commerce City will encourage developers to provide a system of collectors that enhance the grid network and minimizes discontinuous, curvilinear alignments. Collectors within developing areas will be located opposite each other at arterial intersections, to minimize the number of offset T-intersections along an arterial corridor.

- ✔ **Local Streets -** Local streets serve the highest level of access, providing direct driveway access to adjacent properties and carrying traffic to the collectors. Local streets can be of limited continuity and may be designed to discourage through traffic. Existing street widths will generally be maintained, but changes (such as wider sidewalks) will be carefully considered in coordination with affected residents.

5.1.2 Roadway Classifications

The Roadway Classification Plan (see **Figure 5.3**) provides guidance for how the roadway network should be planned and constructed in the future. This provides a framework for overcoming the barriers that have been identified in Commerce City and provides direction about what types of streets will be needed to accommodate future growth, particularly in the Northern Range, the E-470 Influence Area, and the DIA North areas.

Two figures that are companions to the Roadway Classification Plan show the recommend roadway laneage (see **Figure 5.4**) and 2035 traffic operations (see **Figure 5.5**). As discussed in Chapter 2 and Appendix D, land use and traffic were forecasted for both 2035 and build out of the community. **Figure 5.4** shows the recommended laneage on Commerce City's arterials for these two time horizons. One of the most important outcomes of a transportation plan is to make sure that adequate right-of-way (ROW) is preserved by current development, and is available for use in the long-term future without disrupting adjacent development.

5.1.3 Historic City Streets

Although the Historic City is the oldest part of Commerce City, only roads in the higher levels of functional classifications have been identified in the past (see Community Profile – Appendix A, **Figure A-14**). The Roadway Classification Plan (**Figure 5.3**) addresses this lack of classifications, and an enlargement of the classified streets in the Historic City is provided as **Figure 5.6.** Roadways that maintain their current classifications in the new plan include Freeways such as I-76 and I-270; Arterial (expressway); Principal Arterials such as Quebec Street, 56th Avenue, Highway 85 (south

of I-76), SH 2, and 74th Avenue (SH 224); and Minor Arterials including Brighton Boulevard and 88th Avenue. Only a few Collectors (Brighton Road, Dahlia Street, 77th Avenue, and 80th Avenue) were identified previously.

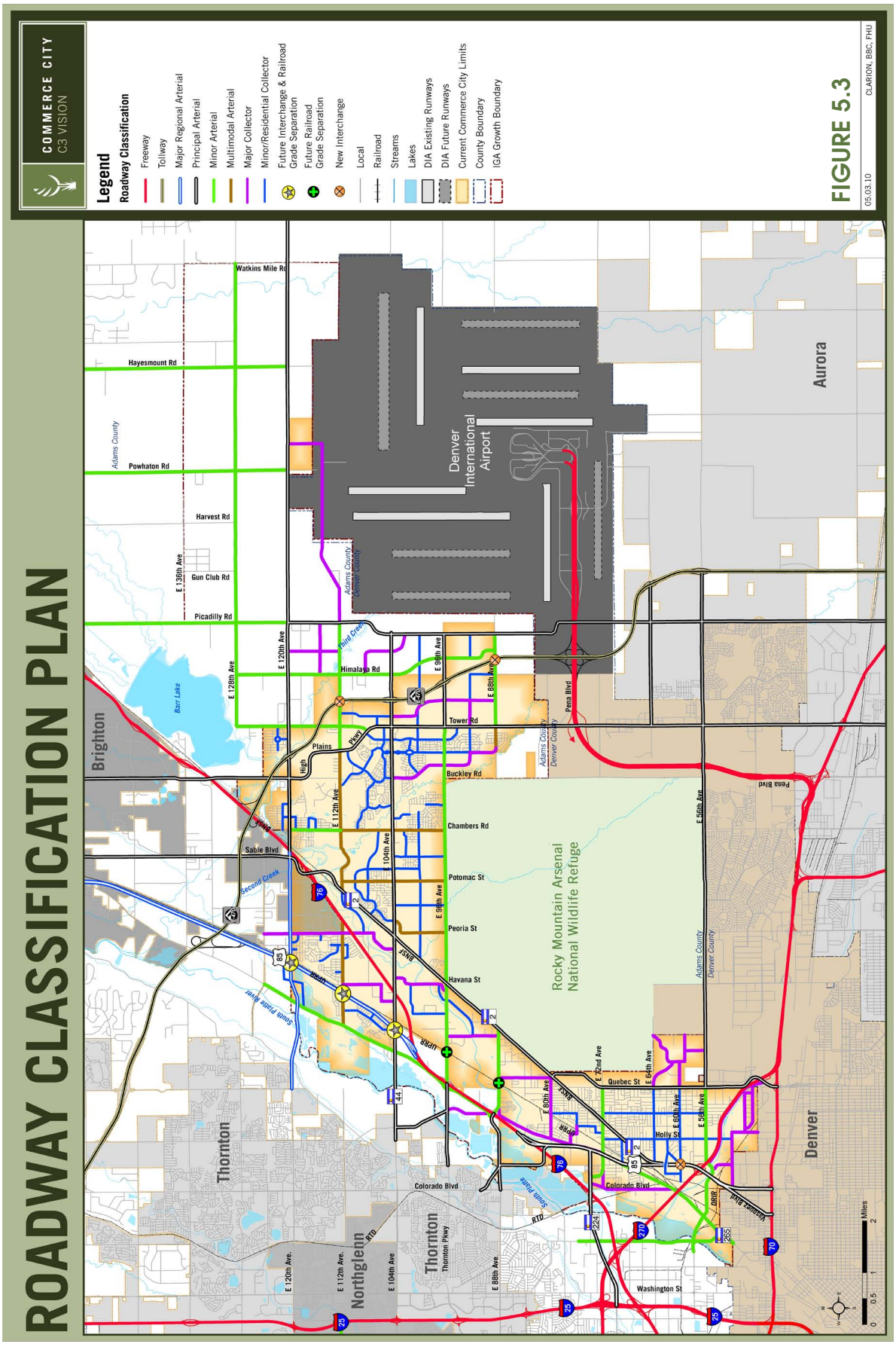
The primary addition that the Roadway Classification Plan provides is the designation of Residential Collectors. These collectors are existing residential streets in the Historic City that serve a higher function than many of the adjacent streets. They have more continuity, they are often slightly wider and carry somewhat more traffic, and some have bus or bicycle routes designated along them. Designated residential collectors include Holly, Kearney, Monaco Streets in the north-south direction and 60th, 62nd, and 64th Avenues in the east-west direction.

The intent of this designation is to give these streets more priority for city services, particularly earlier snow plowing during heavy storms in the winter. No specific street cross section is needed for the residential collectors, as the intent is not to change the current street configuration. When improvements may be required in the future, the current street width will be maintained as appropriate. Changes, such as wider sidewalks, will be carefully considered in coordination with affected residents.

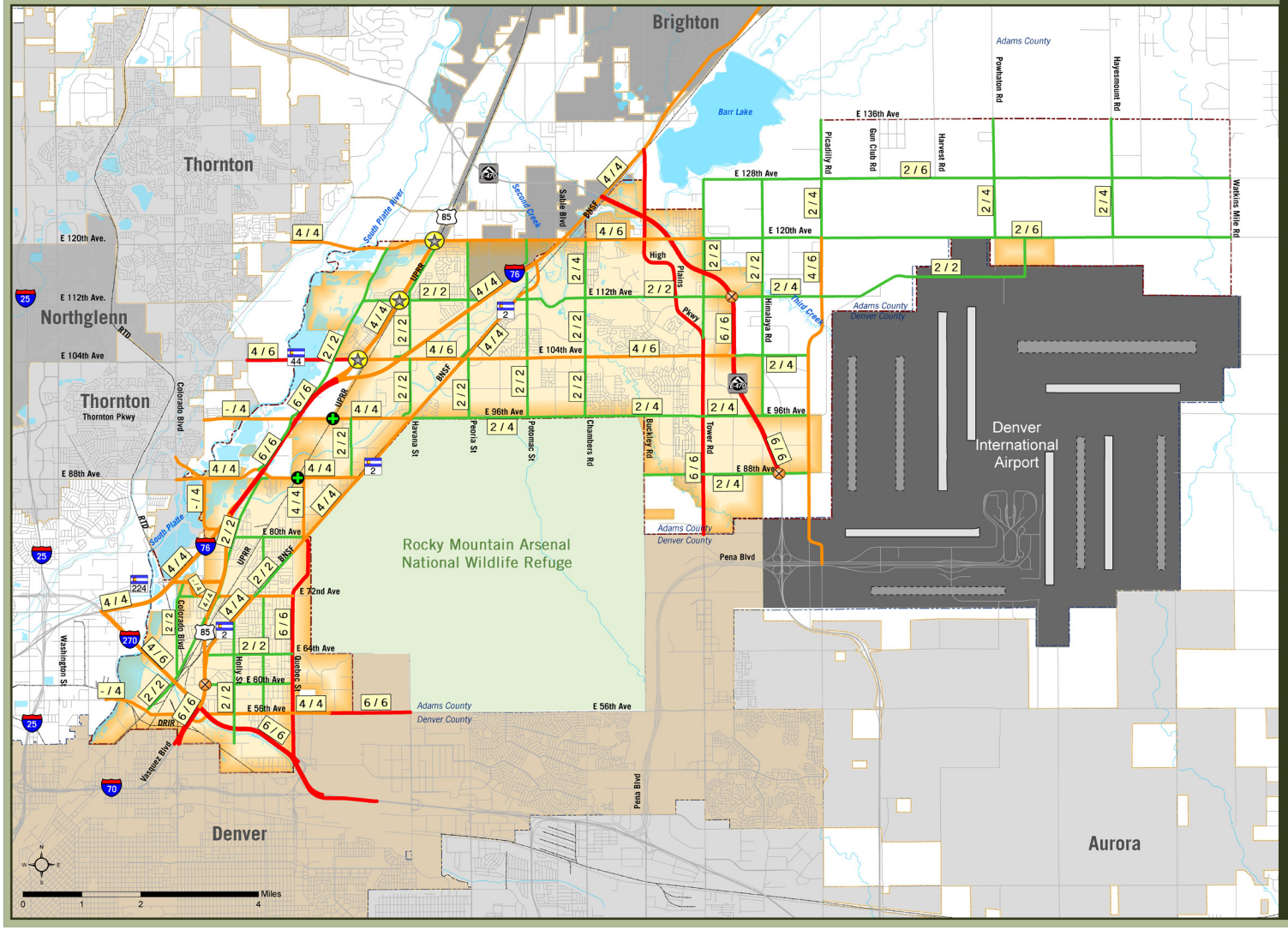
Highlights of the Roadway Classification Plan in the Historic City include the following:

72nd Avenue is a wide minor arterial

- ✔ **72nd Avenue –** This street provides a vital circulation function for the Derby neighborhood, which is in the center of the Historic City. It is designated as a Minor Arterial because it is the only street that crosses both the BNSF and UPRR tracks south of 80th Avenue and has continuity from Colorado Boulevard on the west to the new Adams City High School east of Quebec Street. Between Highway 85 and Quebec Street, it has four through lanes and carries traffic volumes up to 11,000 vehicles per day (vpd). West of Highway 85, it currently has two lanes. It will need to be upgraded in the future to serve the Commerce City station of the North Metro FasTracks line, which will be located between 65th Avenue and 72nd Avenue along Colorado Boulevard. In the long-term future, a connection between 72nd and 74th Avenues, somewhere between Colorado Boulevard and Highway 85, is proposed in order to improve access to the interchange at I-76. This connection has been designated so that it can be accomplished in coordination with future redevelopment in this area. It will eliminate the inefficiency of the current right-turn/left-turn maneuvers on Highway 85 and provide operational relief to this overburdened facility.


ROADWAY CLASSIFICATION PLAN
COMMERCE CITY
C3 VISION
Legend
Roadway Classification
Freeway
Tollway
Major Regional Arterial
Principal Arterial
Minor Arterial
Multimodal Arterial
Major Collector
Minor/Residential Collector
Future Interchange & Railroad Grade Separation
Future Railroad Grade Separation
New Interchange
Local
Railroad
Streams
Lakes
DIA Existing Runways
DIA Future Runways
Current Commerce City Limits
County Boundary
IGA Growth Boundary
FIGURE 5.3
05.03.10
CLARION, BBC, FHU
Watkins Mile Rd
Hayesmount Rd
Powhaton Rd
Harvest Rd
Gun Club Rd
Picadilly Rd
E 138th Ave
E 128th Ave
E 120th Ave
E 112th Ave
E 104th Ave
E 96th Ave
E 88th Ave
Himalaya Rd
Tower Rd
Buckley Rd
Chambers Rd
Potomac St
Peoria St
Havana St
Quebec St
Sable Blvd
Colorado Blvd
Washington St
Peña Blvd
E 56th Ave
E 64th Ave
E 72nd Ave
E 80th Ave
Holly St
Brighton
Thornton
Northglenn
Aurora
Denver
Denver International Airport
Rocky Mountain Arsenal National Wildlife Refuge
Barr Lake
Third Creek
Second Creek
South Platte River
Adams County
Denver County
RTD
Miles

FUTURE ARTERIAL LANE REQUIREMENTS



COMMERCE CITY
C3 VISION

Legend

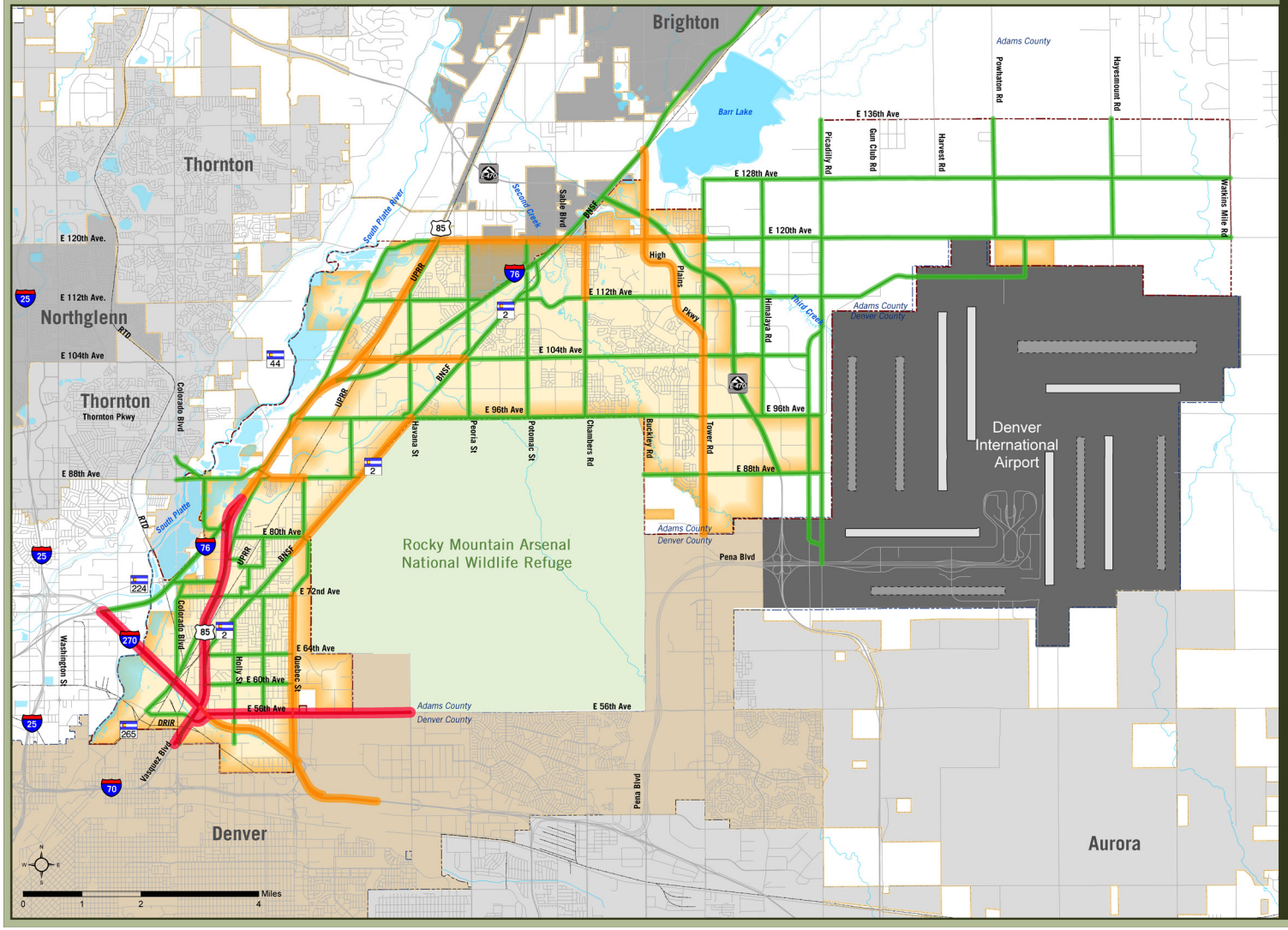
2035 Road Lanes

- 2 Lanes
- 4 Lanes
- 6 Lanes
- X / X — 2035 Lanes / Buildout
- Future Interchange & Railroad Grade Separation
- Future Railroad Grade Separation
- New Interchange
- Roads
- Railroad
- Streams
- Lakes
- DIA Existing Runways
- DIA Future Runways
- Current Commerce City Limits
- County Boundary
- IGA Growth Boundary

FIGURE 5.4

05.03.10 CLARION, BBC, FHU

2035 TRAFFIC SERVICE



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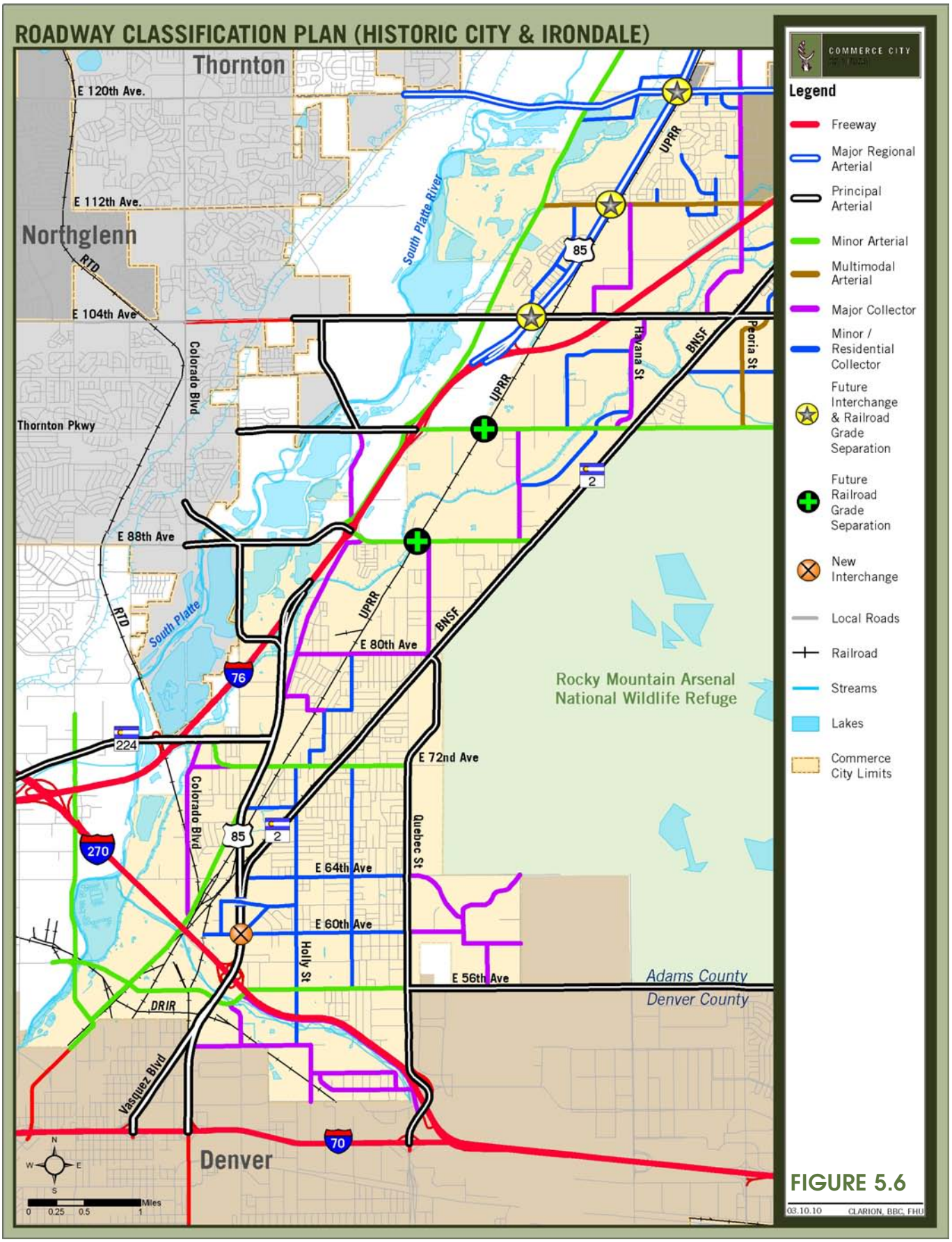
2035 Traffic Service with Recommended 2035 Laneage

- Volume to Capacity (V/C) Ratio 0.0 to 0.79
- Volume to Capacity (V/C) Ratio 0.8 to 1.0
- Volume to Capacity (V/C) Ratio > 1.0
- Roads
- Railroad
- Streams
- Lakes
- DIA Existing Runways
- DIA Future Runways
- Current Commerce City Limits
- County Boundary
- IGA Growth Boundary

FIGURE 5.5

03.10.10 CLARION, BBC, FHU


ROADWAY CLASSIFICATION PLAN (HISTORIC CITY & IRONDALE)
Thornton
E 120th Ave.
E 112th Ave.
Northglenn
RTD
E 104th Ave
Colorado Blvd
Thornton Pkwy
South Platte River
UPRR
85
Havana St
BNSF
Peoria St
2
E 88th Ave
RTD
South Platte
E 80th Ave
76
224
Rocky Mountain Arsenal
National Wildlife Refuge
E 72nd Ave
Colorado Blvd
85
2
270
Quebec St
E 64th Ave
E 60th Ave
Holly St
E 56th Ave
Adams County
Denver County
DRIR
Vasquez Blvd
70
Denver
N
W
E
S
0 0.25 0.5 1 Miles
COMMERCE CITY
Legend
Freeway
Major Regional Arterial
Principal Arterial
Minor Arterial
Multimodal Arterial
Major Collector
Minor / Residential Collector
Future Interchange & Railroad Grade Separation
Future Railroad Grade Separation
New Interchange
Local Roads
Railroad
Streams
Lakes
Commerce City Limits
FIGURE 5.6
03.10.10 CLARION, BBC, FHU

- ✔ **72nd Avenue Enhancement Project –** Enhancements to 72nd Avenue that would make bicycle and pedestrian improvements to the street section were included in the Derby Redevelopment Health Impact Assessment, Tri-County Health Department and LiveWell Commerce City, September 2007. The proposed changes would involve reducing the number of lanes on 72nd Avenue from five lanes to three from east of SH 2 to west of Quebec Street. The space that is no longer used for through vehicles can be used for bike lanes, on-street parking, landscaping, and wider sidewalks. Benefits can include reduced vehicle speeds, improved mobility and access, and improved safety that can result in improved livability and quality of life. Other surveys and assessments in the Derby area have revealed that pedestrians find it hard to cross 72nd Avenue due to its width and high traffic speeds. The current volume of 11,000 vpd is well within the capacity of a three-lane road (up to 20,000 vpd before noticeable traffic diversions occur). The concept that has been proposed would involve several stages of implementation. The first phase could involve restriping the street to provide two through lanes, parking and bike lanes in each direction, and either a single wide center turn lane or two side-by-side left-turn lanes in the median. There should be a thorough public involvement program to get input and ideas from the adjacent business and residents who would be most affected. The initial restriping should best be accomplished in conjunction with a resurfacing project (either chip seal or asphalt overlay, depending on current pavement conditions) to obscure existing striping as much as possible. Without major changes to curb and gutter or raised medians, the current situation can be restored if necessary. An ongoing effort to improve conditions along 72nd Avenue was recently initiated with a series of interviews and an education campaign. The initial results are discussed in 72nd Avenue Traffic Calming Project: A Community Education Campaign, Tri-County Health Department and LiveWell Commerce City, November 2009.

- ✔ **I-270 –** The 2035 Fiscally-Constrained RTP includes widening of I-270 between I-70 and Highway 85 from the current four lanes to six lanes.

- ✔ **Highway 85 –** The section of Highway 85 between the Colorado Boulevard (SH 2) and Vasquez Boulevard (US 85) interchange on the south and the interchange with I-76 on the north was studied several years ago (Highway 85 Corridor Study, Felsburg Holt & Ullevig, 2002). That report recommended both short-term and long-term improvements that would address the current congested conditions. The analyses performed for this transportation plan did not find reason to change the basic recommendations of that report. From the previous

report, the extension of 62nd Avenue over Highway 85 to provide an alternative connection to 60th Avenue is shown in the Roadway Classification Plan. This will reduce the barrier between the Wembley redevelopment and Clermont sub-areas that have been designated for future redevelopment. The Highway 85 Corridor Study concluded that improvement to near freeway standards would ultimately be needed along Highway 85, involving interchanges with major cross streets. The intersection of Highway 85 and 60th Avenue is currently the most congested and should have the highest priority for improvement. An overpass of Highway 85 and a large roundabout to encompass 60th Avenue, Parkway Drive, the ramps, and frontage roads should be considered by more detailed study in the future. Unfortunately, this corridor has not been included in the 2035 Fiscally-Constrained Regional Transportation Plan (RTP) by DRCOG, and thus, no funding for improvements is identified. CDOT should undertake the additional engineering and environmental studies necessary to include these badly needed improvements in future RTPs.

✔ **Highway 85/Colorado Boulevard Connection –** The intent of this connection is to complete Colorado Boulevard across the Denver metropolitan area. However, the South Platte River is a barrier to north-south traffic. Thornton and Commerce City have studied this new roadway extensively in the past (Colorado Boulevard / I-76 Interchange System Level Feasibility Study, Washington Infrastructure Services, 2001). It was included in several previous Fiscally-Constrained RTP, but not the current 2035 RTP. Thus, there is currently no funding identified for this project, and it is not anticipated that it will be completed by 2035. As proposed in the Feasibility Study, the connection would begin with a ramp/bridge north of the 77th Avenue intersection and turn northwest where a new diamond interchange with I-76 would be constructed. It would connect with Dahlia Street and follow this alignment north to 88th Avenue. It would then veer to the northwest again to cross the S. Platte River and tie to Colorado Boulevard north of 88th Avenue. In addition to completing a missing link in Colorado Boulevard, it would provide a more convenient interchange to I-76 for the northeast metro area. Currently, this traffic jogs east to use the 88th Avenue interchange. Traffic forecasts show no significant increase traffic south of 72nd Avenue when this connection is made, because much of this traffic is currently using 88th Avenue, I-76, and/or Dahlia Street to make this north-south movement.

Colorado Boulevard connection to Highway 85

✔ **56th Avenue Extension –** This major arterial would provide a more convenient link for traffic on 56th Avenue to connect to 58th Avenue on the west side of the S. Platte River and use its interchange with I-25. It would extend between 56th Avenue and Brighton Boulevard and 58th

56th Avenue extension to 58th Avenue

Avenue and York Street. In addition to crossing low-lying private property, it would have to cross a number of barriers including a spur railroad track and the S. Platte River. Traffic currently must jog south to the Brighton Boulevard/York Street intersection to make this maneuver. This is also a long-term (after 2035) project.

Holly Street connection between 52nd Avenue and 56th Avenue

- ✔ **Holly Street Extension –** This long-term (after 2035) project would connect 56th Avenue and 52nd Avenue along the Holly Street alignment. It would be quite expensive with long bridges over I-270 and Sand Creek. This would also mean that no intersection with Sand Creek Drive would be possible. It would shorten the distance between these two industrial areas.

5.1.4 Irondale Streets

Irondale is the "neck" constrained between SH 2 and the S. Platte River that connects the Historic City and the Northern Range sub-areas of Commerce City (see **Figure 2.1**). The Roadway Classification Plan (**Figure 5.6**) provides for overcoming the numerous barriers in Irondale to provide more continuity and mobility. Improving the major streets in Irondale, as described below, will add sidewalks and several multi-use paths that are currently non-existent along these corridors. The Roadway Classification Plan includes the following:

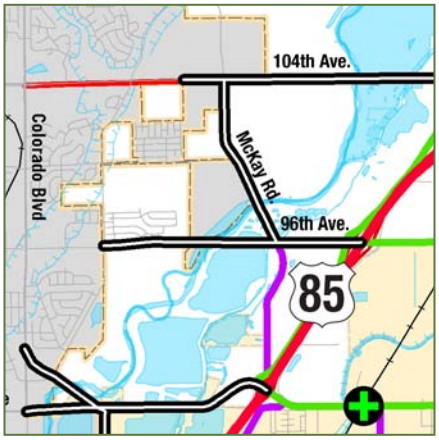
- ✔ **Yosemite Street Extension –** Commerce City has secured right-of-way and built portions of Yosemite Street between 88th and 96th Avenues. A bridge over the O'Brian canal is needed to complete this roadway and cross this barrier. This will provide a badly needed, one-mile connection within the area bounded by the two railroad tracks.
- ✔ **Rosemary Street –** This major collector connects 80th and 88th Avenues. It will need to be widened to four lanes in the near future.
- ✔ **80th Avenue –** 80th Avenue has been designated as a major collector. It functions as a boundary between the residential uses to the south and the more industrial uses in Irondale to the north. It is not anticipated that the existing street cross section will need to be modified in the future.
- ✔ **88th and 96th Avenues –** Grade separations at the Union Pacific Railroad (UPRR) tracks should be built for both of these minor arterials. Both of these minor arterials should be widened when the grade separations are built. Both roads serve industries in Irondale and therefore carry a significant amount of truck traffic. The overpasses are estimated to cost at least $10M each.

Trains can create long back-ups on 96th Avenue

- ✔ **SH 2 –** This principal arterial is the only local connection in practical terms between the Historic City and Northern Range. Between Quebec Street and 96th Street (more than two miles), it only has one intersection – at 88th Avenue. Because of the proximity of the BNSF railroad tracks to the west and the Rocky Mountain Arsenal National Wildlife Refuge (RMANWR) to the east, there is no adjacent development and thus no need for local access. This means that SH 2 can efficiently carry more traffic than a normal two-lane major roadway, as long as sufficient capacity is provided at the intersections with Quebec Street, 88th Avenue, and East 96th Avenue. It will need to be widened to four lanes when traffic merging downstream of the signalized intersections becomes too difficult.

SH 2 will need to be widened to 4 lanes

- ✔ **96th Avenue Extension –** This long term (after 2035) project would complete the missing link across the barrier presented by the S. Platte River. It would begin at the current McKay Road intersection and connect to Thornton Parkway at Riverdale Road. 96th Avenue between I-76 and McKay Road would need to be widened.



96th Avenue extension from McKay Road to Colorado Boulevard

5.1.5 Northern Range Roadways

As noted in Table 4.1, the Northern Range is anticipated to experience significant growth between now and 2035 with additional growth remaining until build out. The recent widening of 104th Avenue has significantly improved mobility in this area. The Roadway Classification Plan identifies the roadway framework and establishes adequate standards for right-of-way for arterials and collectors, so future widening can accommodate future growth. Significant roadways include:

- ✔ **Tower Road and High Plains Parkway –** Tower Road is currently the only north-south arterial roadway serving the eastern part of Commerce City (E-470 is a tollway). It is highly congested, particularly during the morning and evening peak hours. It was mentioned frequently by citizens of the Northern Range as having a high priority for improvement. The Roadway Classification Plan (see **Figure 5.3**) shows Tower Road as a Principal Arterial that will shift north of 104th Avenue to become the High Plains Parkway and connect with Buckley Road at 120th Avenue. Buckley Road lies west of Barr Lake and has an existing bridge over I-76 to provide a connection to the eastern portions of Brighton. Since the Tower/High Plains/Buckley corridor is one of the few north-south arterials, it will carry a high volume of traffic and will need to be widened to six through lanes by 2035 (see **Figure 5.4**).

Tower Road is busy in the middle of the day

✔ **Tower Road at Peña Boulevard –** One of the consistent requests heard from citizens is the need to build a southbound on-ramp to Peña Boulevard at Tower Road. The three other ramp movements are currently provided, but southbound Tower Road traffic must currently continue south to 56th Avenue before alternative routes are available to access destinations in the rest of the metro area. Two of the ramps for the interchange were constructed at the time of airport construction, at the expense of the City of Commerce City of approximately $1.3 million. A third ramp from eastbound Peña Boulevard to Tower Road was built later. An agreement between Commerce City and the E-470 Authority dated January 27, 1995 provides that in the event the west ramps have not been constructed by January 1, 2012, the E-470 Authority will construct them. Commerce City has identified the remaining ramp as a high priority need and funding requests have been submitted to the appropriate Congressional representatives.

The primary purpose for Peña Boulevard is to provide access to Denver International Airport, similar in many ways to the limited access provided on the Dulles Parkway to Dulles Airport outside of Washington, D.C. The Federal Aviation Administration (FAA) contributed substantial funding for DIA, including Peña Boulevard. DIA staff is concerned that this new ramp would add non-airport traffic and thus hasten the need to widen Peña Boulevard to six lanes. The Peña Boulevard corridor has been identified as a major investment corridor by DRCOG. A National Environmental Policy Act (NEPA) study will be funded in the future to address this ramp, as well as other access issues in the area west of Tower Road. Commerce City should strongly encourage DIA and Denver staffs to initiate this effort as soon as possible.

Relief for Tower Road traffic can be provided north of Peña Boulevard by widening the road from its current two lanes, portions of which are in both Commerce City and Denver.

96th Avenue will be extended east of Buckley Road

✔ **96th Avenue –** This minor arterial is located along the northern boundary of the RMANWR. There is currently a missing segment between Buckley and Tower Roads. As development occurs in the Northern Range by 2035, this segment should be completed as a two-lane road, including a new bridge over Second Creek. The volumes are lower than normally expected for an arterial of this length, because there is no development to the south due to the wildlife refuge. 96th Avenue will need to be widened to four lanes at build out.

104th Avenue is a new principal arterial

- ✔ **104th Avenue –** This principal arterial was recently widened to four lanes between SH 2 and E-470 and is a signature street in Commerce City. Further widening to four lanes west of SH 2 to US 85 is planned to be completed by 2012. Widening between US 85 and Brighton Boulevard is anticipated by 2035. Reconstruction of the intersection with US 85 to an interchange and a grade separation with the UPRR tracks will also be necessary by 2035. A possible configuration for this complex is included in the US 85 Corridor Access Corridor Plan, Felsburg Holt & Ullevig, 1999. Since 104th Avenue has westward continuity through Thornton and Westminster, it will need to be widened to six lanes at build out.

- ✔ **120th Avenue –** This arterial has the most east-west metro-wide continuity of any corridor north of I-70. The missing link across the S. Platte River was completed several years ago. West of I-76/SH 2, 120th Avenue is classified as a Regional Arterial by DRCOG and as a Principal Arterial east of I-76. As traffic increases on both 120th Avenue and US 85, the current signalized intersection and at-grade crossing with the UPRR tracks will need to be reconstructed as an interchange and grade separation. The need for this expensive improvement was identified in 1999 as part of the US 85 Corridor Access Control Plan, It will need to be widened to four lanes east of US 85 by 2035, and the entire corridor will need to be six lanes at build out. From a regional perspective, 120th Avenue would have the highest priority for an interchange since it is classified as a regional arterial. Adams County is currently seeking funding to update the necessary planning and environmental studies.

- ✔ **Multimodal Arterials –** There are a number of section line roads in the Northern Range that are relatively short for arterials, but serve a higher function than normal collectors. These roads include Peoria Street, Potomac Street, Chambers Road and 112th Avenue. Due to their length, they are not expected to carry large volumes of traffic and can remain at two lanes. A new cross section that recognizes this likelihood is shown on **Figure 5.2**. The US 85 Corridor Access Control Plan includes an interchange/grade separation at 112th Avenue in the long-term future similar to those needed at 104th and 120th Avenues, but the benefits would be much less since 112th Avenue does not have regional continuity.

- ✔ **US 85 Corridor –** As mentioned previously, the US 85 Corridor Access Control Plan identifies future interchange/grade separations at 104th, 112th, and 120th Avenues. These improvements would also increase the likelihood that the current four lanes on US 85 could serve well beyond 2035 (although any construction should anticipate eventual six-lanes).

E-470 bridge over 120th Avenue

5.1.6 E-470 Influence Area Roadways

The E-470 Influence Area lies generally east of Tower Road north of 80th Avenue. It is largely undeveloped at this time but has great potential for growth in the future, as discussed in Chapter 4. The transportation needs in the corridor were assessed in close coordination with potential land use forecasts during the preparation of the Comprehensive Plan (see Appendix C). The primary roadways needed in the corridor are as follows:

- ✔ **E-470 –** This existing tollway is the key to future development. It provides convenient access to DIA, the eastern and southeastern Denver metro area, and also to Brighton, Thornton, Westminster, Broomfield, and Boulder to the north and northwest. The E-470 Highway Authority anticipates the need to widen E-470 from the current four lanes to six lanes by 2035. New interchanges are anticipated at 88th Avenue (a split diamond configuration incorporating frontage roads to 96th Avenue) and at 112th Avenue. These will greatly enhance the development potential of adjacent properties.
- ✔ **Picadilly Road -** This north-south Principal Arterial lies just to the west of the DIA boundary. The area is planned for fairly intense commercial and industrial development. Although no road currently exists, Picadilly Road will need to have four lanes if the current E-470 Influence Area land use forecasts are realized. It will ultimately need to have six lanes. As shown on the Roadway Classification Plan, it will shift approximately one-quarter mile west of the section line near 112th Avenue to provide potential developable land on both sides.
- ✔ **Other Arterials –** There will be extensions of existing east-west arterials to serve the corridor. Principal Arterials include 96th (east of Tower Road), 104th, and 120th Avenues and have the potential to require six lanes ultimately. Minor Arterials include 88th (east of Tower Road) and 112th Avenues (east of High Planes Parkway), with Himalaya Road in the north-south direction. Two or four lanes should be adequate for these Minor Arterials.

120th Avenue will provide essential access to DIA North

5.1.7 DIA North Roadways

Very little development in the DIA North subarea is projected to occur by 2035. Thus, only 30% of the full development potential in this large area was included in the forecasts of build out traffic used to develop the assessment of future laneage included in **Figure 5.4**. The only elements of the future roadway network that are certain is the importance of 120th Avenue and Picadilly Road. Thus, 120th Avenue and Picadilly Road south of 120th Avenue are shown as Principal Arterials in the Roadway Classification Plan (see **Figure 5.3**).

5.1.8 Roadway Ownership

There are a number of roadways in Commerce City that are under the jurisdiction of the Colorado Department of Transportation (CDOT). These represent a number of facilities with higher classifications: I-76, I-270, US 85, SH 2, SH 44, SH 224, and SH 265. A number of years ago, CDOT began exploring abandonment of certain state highways in coordination with the affected local jurisdictions. The concept involves exchanging existing state facilities that serve primarily local functions for more regional facilities that would improve the efficiency of the state transportation system. Four state highways located partially in Commerce City were identified for potential abandonment: SH 2 (I-76 to SH 85), SH 44 (104th Avenue), SH 224 (74th Avenue), and SH 265 (Brighton Boulevard).

An April 26, 2001 memorandum from Adams Movers Group to all Adams County Mayors, Managers, and County Commissioners describes criteria that will be used to guide negotiations with CDOT. Commerce City will carefully consider any proposed changes in light of the following criteria:

- ✔ Abandonments will require intergovernmental agreements with all affected local agencies.
- ✔ Any facilities to be abandoned will first be improved to be consistent with the 20 Year Regional or Local Transportation Plan.
- ✔ Trades are preferred. CDOT should add new facilities to their system to compensate for changing jurisdiction over existing facilities.

5.2 Transit Network

5.2.1 Transit System Characteristics

The C3 Vision Transportation Plan includes a comprehensive and robust network of transit services to accommodate Commerce City's future transportation needs. The transit plan is an important element in creating a sustainable multimodal transportation network.

The quality of transit service in a community is determined by factors such as geographic service coverage, frequency of service, and span of service. In order to efficiently provide a community with high quality transit services, the land uses must also be transit supportive. While there are no set standards for providing transit service, there are guidelines to assist with decisions on both land use and provisions for transit.

Areas where population and employment densities are high can be served by transit most cost effectively. It is typically considered less efficient to provide transit services in developing areas until they reach a critical mass. The Historic City has reached this

The Historic City is well served by buses

critical mass, and RTD is currently providing relatively robust bus service. However, the Northern Range is still developing and has discontinuous clusters of residential development that do not readily lend themselves to providing substantial transit services.

This section is intended to help Commerce City understand what will make transit service in their community efficient and sustainable. The first portion of the discussion focuses on what types of development patterns are considered transit supportive. The second section describes the characteristics a high-quality transit system should include.

Transit Supportive Land Uses

Transit supportive land uses are defined by the density of households and jobs, the layout of the streets on which transit vehicles run, and the pedestrian network connecting users to transit stops.

Areas that are not expected to support fixed-route transit services may be served by other service types such as call-n-Rides, park-n-Rides or vanpooling.

Studies in other communities suggest that a minimum household density of three units per acre, or employment densities of four jobs per acre, are necessary to support hourly transit service. As household and employment density increase, the frequency (and quality) of service provided can be increased to meet demand. RTD's Service Standards suggest a minimum of five people per acre and two jobs per acre for providing suburban local service. Additionally, developments that include a mix of land uses can support transit, as well as reduce auto trip making. All areas that meet RTD's minimum criteria should be provided transit service within ¼-mile walking distance.

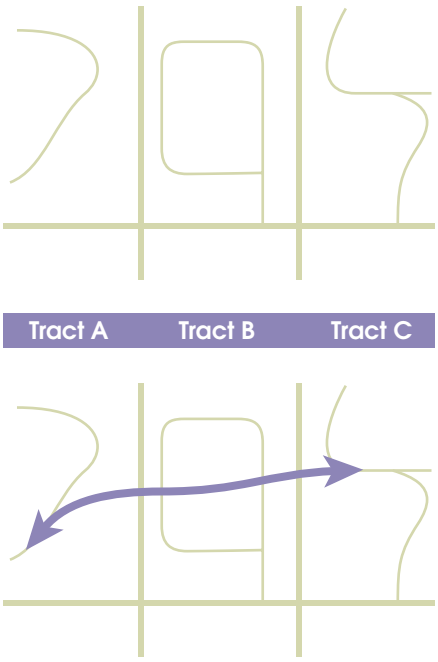
Pedestrian, Bicycle and Road Layout

Transit service is most efficient when the road network that it travels on is straight and continuous and when block lengths are a comfortable walking distance for most people (generally, no more than 600 feet). Cul-de-sacs and indirect routes make it difficult to provide efficient transit service, and discourage pedestrian travel. As the road network in the Northern Range develops, connecting the grid network of both the arterial and collector streets will help RTD provide transit service in the area. In addition, pedestrian walkways connecting residential developments to the arterial and collector street system, where bus routes will be located, should be provided to ensure that pedestrians have quick and direct access to transit services. Throughout Commerce City, pedestrian ways connecting residences and jobs to bus stops should be well-maintained and lit.

System Characteristics

The second aspect of providing efficient and sustainable transit relates to the transit service itself. This section describes key characteristics of a successful transit system and the system goals in the Historic City and Northern Range.

- ✔ **Frequency of Service –** This criterion refers to how often a bus serves the bus stop and is one of the most important criteria to service quality. Measures provided in the Transit Capacity and Quality of Service Manual, TRB suggest that the quality of transit service improves as the frequency of service increases.
- ✔ **Service Span –** Service span is the number of hours in a day that transit service is provided. Service quality improves as the number of hours of service provided in a day increases.
- ✔ **Service Coverage –** Service coverage is the portion of the community that can readily access transit service. It considers pedestrian access and environment, bicycle access and environment, and access via automobile (park and rides and kiss and rides). The higher the portion of the community that has access to transit, the higher the quality of service.



Provide roadway connections between residential developments to improve ability to provide bus transit service.

Table 5.2 summarizes the criteria established for Commerce City to help support the implementation of high-quality transit service. As shown, the span of service and coverage are highest in the Historic City, where the highest development density currently exists, and lowest in DIA North, which is expected to have limited development in 2035.

Table 5.2: 2035 Transit Service Characteristic Goals

	Historic City	Northern Range	DIA North
Span of Service (Hours per day)	16	12	6
Coverage (% of population within ¼ mile)	100%	75%	50%
Frequency (# of peak hour buses)	4	2	1

5.2.2 Existing Transit System

The City of Commerce City is currently served by the Regional Transportation District (RTD) transit services. RTD operates four local routes (40, 48, 72, and 88), two regional routes (DD, R/RX), one express bus route (145X) and one skyRide (AA). These routes connect Commerce City to downtown Denver, Boulder, Brighton, DIA, Stapleton and the existing light rail station at Colorado Boulevard and I-25. Additionally, RTD provides two park-n-Ride lots: one on the southwest corner of US 85 and 72nd Avenue and the second at the intersection of 104th Avenue and Revere Street in the Northern Range. **Figure 5.7** illustrates existing bus routes provided in Commerce City. **Table 5.3** summarizes the key characteristics of the existing routes. As shown in **Figure 5.8**, the Historic City is currently well served by RTD local routes.

Table 5.3: RTD 2007 Service Performance Measures for Routes Traveling Through Commerce City

Route Number	Route Name	Peak Period Frequency (minutes)	Annual Boardings (in 1,000s)	Boardings/Hour	Subsidy/Boarding
40	Colorado Boulevard Crosstown	30	1,684	41.4	$2.27
48	East 48th Avenue/Commerce City	30	591	27.4	$3.35
72	72nd Avenue Crosstown	30	227	15.7	$6.82
88	Northglenn/Commerce City/Stapleton	30	347	18.8	$4.92
145X	Brighton/DIA Express	60	17	9.7	$14.99
AA	Wagon Road/DIA	60	177	16.9	$6.37
DD	Boulder/Colorado Boulevard	30*	90	12.3	$12.18
R/RX	Brighton/Denver	30*	83	18.2	$10.86

* Peak period, directional service only.

5.2.3 Future Transit Plan

In addition to the fixed-route services described in the Transit Plan, Commerce City stakeholders expressed interest in a circulator service that would connect key activity centers in the Historic City. This service could connect City Hall, Adams County Social Services, Walmart and other major employers to residences in the Historic City.

Figure 5.9 illustrates the Future Transit Plan. The Plan was developed with the intent of achieving the following objectives, which were identified through input from staff and stakeholders:

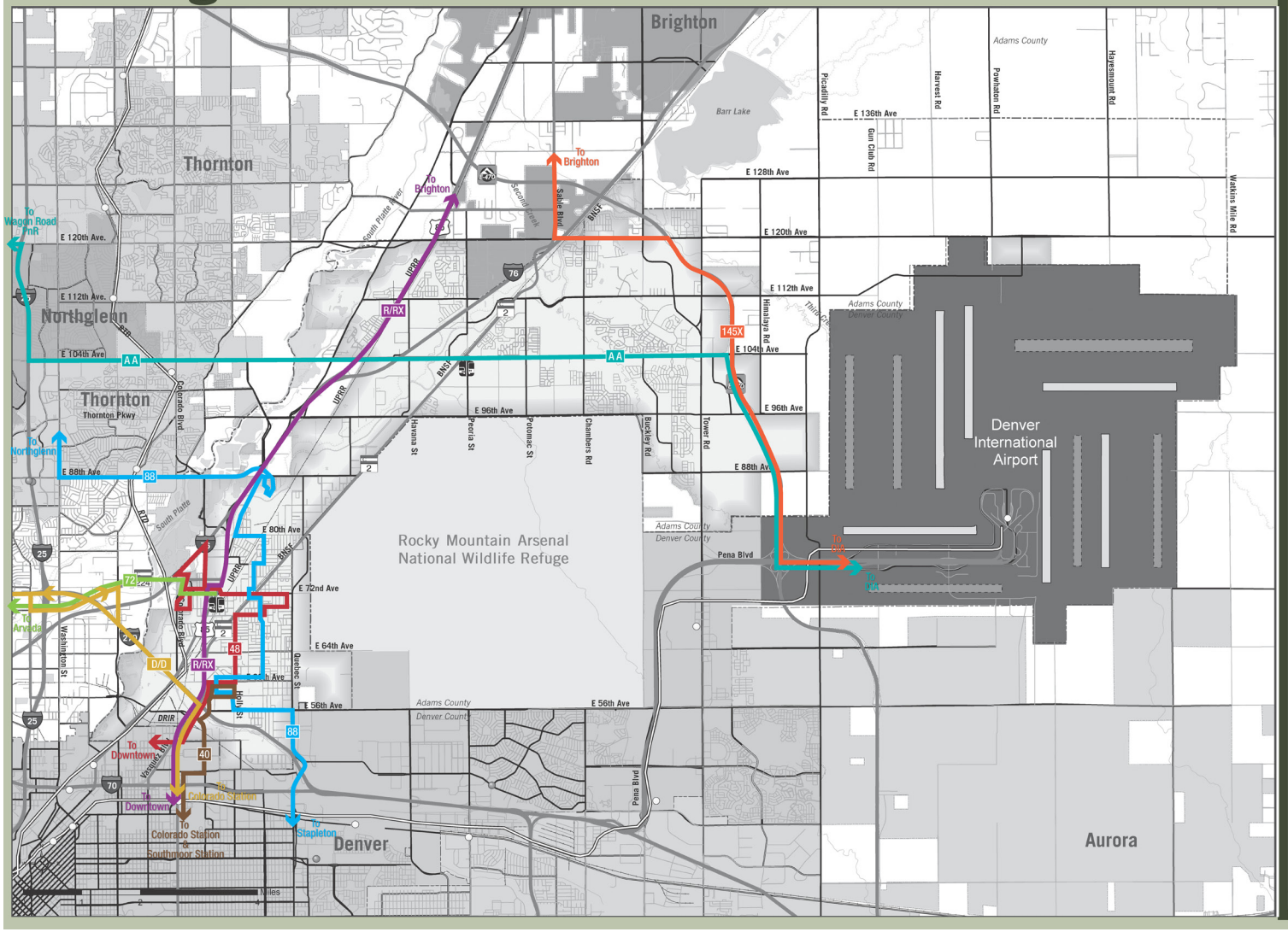
- ✔ Connect the Historic City to the Northern Range
- ✔ Serve high-density residential areas
- ✔ Serve mixed-use areas
- ✔ Connect residents and employees to planned FasTracks stations
- ✔ Connect existing and future urban centers
- ✔ Connect the Northern Range to downtown Denver

While the plan identifies alignments for future bus routes, actual alignments and operating characteristics will be determined with RTD as the transit routes are implemented. Commerce City should periodically review the services being provided and work with RTD as new services are implemented, to ensure that the objectives described in Section 5.2.1 are being met.

Large or complex developments should be reviewed with RTD service planners prior to approval to ensure that they are transit supportive.

Each development proposed within the city, especially in the Northern Range, should be reviewed by staff to ensure that the road and pedestrian networks are consistent with objectives outlined in this chapter and are transit supportive. Large or complex developments should be reviewed with RTD service planners to gain insight about how RTD will provide services.

Existing Bus Routes



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Legend

XX Bus Route Number

park n Ride

Source:

FIGURE 5.7

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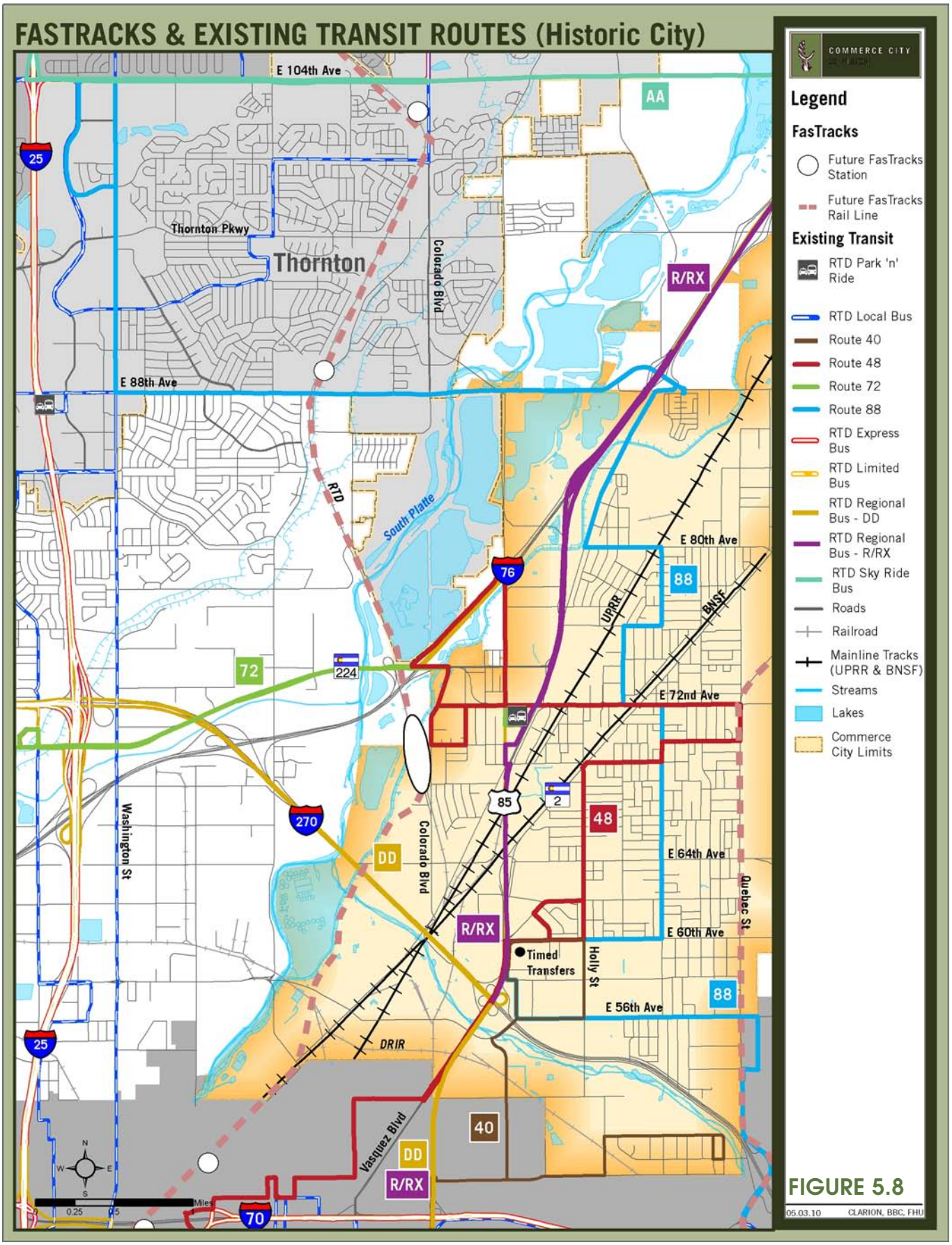

FASTRACKS & EXISTING TRANSIT ROUTES (Historic City)
E 104th Ave
AA
25
Thornton Pkwy
Thornton
Colorado Blvd
R/RX
E 88th Ave
RTD
South Platte
E 80th Ave
76
88
UPRR
BNSF
72
224
E 72nd Ave
85
2
48
270
Washington St
DD
Colorado Blvd
E 64th Ave
Quebec St
R/RX
E 60th Ave
Timed Transfers
Holly St
88
E 56th Ave
25
DRIR
40
Vasquez Blvd
DD
R/RX
70
N
W
E
S
0
0.25
0.5
Miles
COMMERCE CITY
Legend
FasTracks
Future FasTracks Station
Future FasTracks Rail Line
Existing Transit
RTD Park 'n' Ride
RTD Local Bus
Route 40
Route 48
Route 72
Route 88
RTD Express Bus
RTD Limited Bus
RTD Regional Bus - DD
RTD Regional Bus - R/RX
RTD Sky Ride Bus
Roads
Railroad
Mainline Tracks (UPRR & BNSF)
Streams
Lakes
Commerce City Limits
05.03.10
CLARION, BBC, FHU

FIGURE 5.8

The Transit Plan identifies new routes to serve Commerce City, as well as modifications to existing routes needed to accommodate the planned North Metro commuter rail line and Commerce City.

FasTracks

In 2004, voters passed FasTracks, RTD's regional transit initiative. The FasTracks program is a multi-billion dollar comprehensive transit expansion plan to build commuter rail, light rail, bus rapid transit, and parking facilities throughout the Denver-metro area.

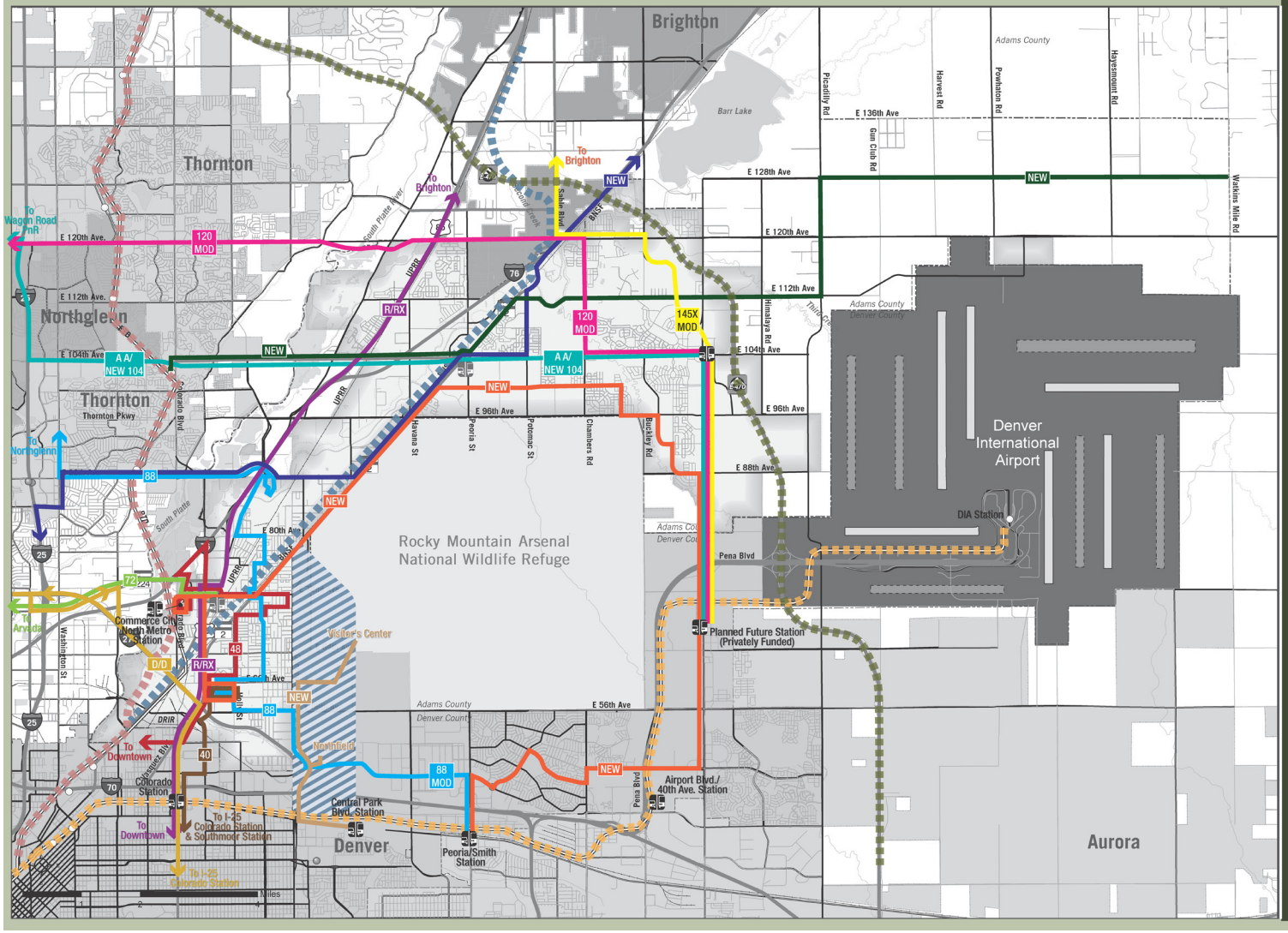
LRT vehicles like these will serve the North Metro Corridor

- ✔ **North Metro Corridor –** The FasTracks plan includes a commuter rail line along the Union Pacific Railroad Dent Branch on the west side of the Historic City. There will be one station on this line in Commerce City, in the vicinity of 68th or 72nd Avenue. RTD's latest North Metro FasTracks alignment would deviate from the BNSF rail line south of 56th Avenue. This alignment was chosen to address Sunoco's concerns about the safety of passenger traffic on the BNSF alignment bisecting their property. When constructed, the North Metro commuter rail line will travel from downtown Denver to Thornton, near SH 7, through Commerce City. It will operate seven days per week, 19 hours per day. It will run every 15 minutes during peak periods and every 30 minutes in off-peak periods.

- ✔ **East Corridor –** The FasTracks plan also includes a commuter rail line that would generally parallel I-70 and Peña Boulevard connecting downtown Denver to DIA. This line could have a station near Tower Road and Peña Boulevard that would serve Commerce City. This station will only be constructed if it can be privately funded.

- ✔ **NATE –** The FasTracks initiative also includes purchase of right-of-way through Commerce City to Brighton. This is referred to as NATE, Northeast Area Transit Evaluation. Right-of-way would be purchased along this corridor with the intent of constructing a commuter rail line between Brighton and Denver in the post-2035 timeframe. Commerce City, along with Adams County and Brighton, initially identified their preferred alignment for this line along the BNSF from York Street to approximately 120th Avenue and Sable Avenue, then along E-470 to the UPRR, and finally north along US 85 to Brighton. This alignment is illustrated in **Figure 5.9**. However, RTD is currently working with the communities and local businesses to address concerns about bisecting the Sunoco property and more direct access to DIA. Other potential alignments could travel along Quebec Street or Central Park Boulevard and connect into the East Corridor rail line instead of the North Metro Corridor line. Commerce City should continue to actively participate in the evaluation and identification of a preferred NATE rail alignment and support alignments that promote transit-oriented development, improve mobility, and increase accessibility for Commerce City businesses and residents.

Future Transit Routes & ROW Preservation



Legend

- XX — Existing Bus Route
- XXX MOD — Existing Bus Route Modified
- NEW — New Bus Route
- Existing park-n-Ride
- New park-n-Ride
- FasTracks East Corridor and Stations
- FasTracks North Metro Line and Stations
- FasTracks Northeast Area Transit Evaluation (NATE) Rail Preservation (potential alignment locations)
- E-470 Rail Preservation

COMMERCE CITY
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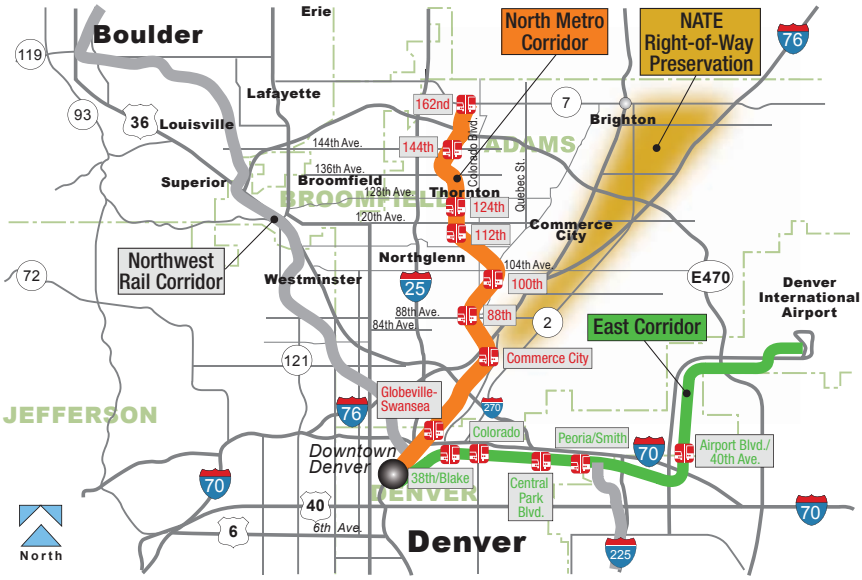
FIGURE 5.9

7.28.10 CLARION, BBC, FHU



E-470 Right of Way Preservation

Design and construction of E-470 included right of way adequate to accommodate a future passenger rail system. While right of way was maintained, no specific plans were developed at that time for building or operating rail in the corridor. The Rocky Mountain Rail Authority is currently conducting a high-speed rail feasibility study for the Front Range and along the I-70 mountain corridor. One Front Range alignment being considered would utilize the E-470 Influence Area. Implementation of service along this corridor (high speed or other) is not anticipated until the post 2035 time frame.

Modifications to Existing Routes by 2035

This section describes how existing routes are expected to be modified when the North Metro and East Corridor Rail lines are built. These route modifications are generally consistent with RTD's Draft North Metro operating plan, February 2009.

- ✔ **Route 40 –** The Route 40 would continue to connect Commerce City to the Denver Zoo, Rose Medical Center, and the Southeast LRT Line on the south end. To the north, the route would be extended from 60th and Dahlia near the WalMart to 104th Avenue and Washington via Dahlia and Colorado Boulevard.

- ✔ **Route 48 –** The Route 48 would continue to connect Commerce City to downtown Denver, Adams County Social Services, and Parkway Market Center. The route would be modified to serve the new North Metro commuter rail station at 72nd Avenue and Colorado Boulevard.

Route 72 serves 72nd Avenue

Route AA stops at the 104th Avenue park-n-Ride

- ✔ **Route 72 –** Route 72 would continue to connect Commerce City and Arvada. The eastern terminus would be modified to serve the new North Metro commuter rail station at 72nd Avenue and Colorado Boulevard.
- ✔ **Route 88 –** Route 88 would be extended west to connect Commerce City to Arvada. It would continue to provide service to the East Corridor rail line at the Stapleton station.
- ✔ **Route 120 Mod –** The Route 120 currently provides crosstown service between Broomfield and Brighton and does not serve Commerce City. The Transit Plan recommends extending the Route 120 east on 120th Avenue to provide service to the Northern Range development along 120th Avenue, south on Chambers, and connecting to the East Corridor rail station near Peña Boulevard and Tower Road.
- ✔ **Route 145X Mod –** The Route 145X would connect Brighton and Commerce City to DIA via the East Corridor commuter rail line. The route would terminate at the rail station near Peña Boulevard and Tower Road. Passengers destined to DIA would transfer to the East Corridor rail line to complete their trip.
- ✔ **Route AA –** The Route AA would continue to provide service between the Wagon Road and 104th/Washington park-n-Rides and the airport via 104th Avenue in the northeast section of Commerce City. Like the 145X, the Route AA would terminate at the East Corridor rail station near Peña Boulevard and Tower Road. Passengers destined to DIA would transfer to the East Corridor rail line to complete their trip.
- ✔ **Route DD –** Route DD would continue to provide service between Boulder and south Colorado Boulevard. Service to Boulder would be via FasTracks planned Northwest Rail line. Passengers destined to Boulder would transfer to the Northwest Rail Corridor at 71st and Lowell to complete their trip.
- ✔ **Route R/RX –** The Route R/RX would continue to provide service between the City of Brighton and downtown Denver via US 85 and I-76 in Commerce City. This route will be used as a precursor to NATE, the northeast area transit extension.

Since current land uses in the Northern Range can only support a minimum level of fixed route transit, Commerce City should initiate discussions with RTD in the near term about implementing a call-n-Ride service between US 85 and Tower Road and 96th and 120th Avenues.

New Bus Routes and Facilities by 2035

New routes included in the Transit Plan primarily focus on service in the Northern Range. All continuous arterials and collectors on the grid network between Tower Road and US 85 are expected to merit transit service by 2035.

- ✔ **New Orange Route –** At its west end, the new orange route would connect to the North Metro planned Commerce City station. It would then travel northeast on

SH 2 and east on 100th Avenue, south on Tower Road and eventually tie in to the East Corridor and I-225 rail lines at Peoria Street and Smith Road. Connecting Commerce City to the Peoria/Smith station will provide substantially more mobility, as this is a major station with connections to the East Corridor commuter rail line as well as the I-225 light rail line.

- ✔ **New Route 104 –** This route would be similar to the AA, but would provide local service with more frequent stops along 104th Avenue. It would connect riders to the Wagon Road park-n-Ride on the west to the East Corridor rail station near Tower Road and Peña Boulevard.
- ✔ **New Gold Route –** A recent study conducted for the Rocky Mountain Arsenal National Wildlife Refuge recommended a shuttle connecting Stapleton to the RMANWR visitor's center via Quebec.
- ✔ **New Blue Route –** This new route would serve Brighton, Commerce City, and downtown Denver via I-76, SH 2, 88th Avenue, and I-25.
- ✔ **New Green Route –** In the post 2035 time frame, a new route is proposed along 128th Avenue between Watkins Mile Road and Picadilly Road, south on Picadilly Road to 112th Avenue and west on 104th Avenue to the planned North Metro commuter rail station at 100th Avenue and Colorado Boulevard.
- ✔ **104th Avenue/Tower Road park-n-Ride –** While the Northern Range develops, the coverage of local fixed-route transit services will be somewhat limited. Providing a park-n-Ride is an opportunity for transit travelers to utilize bus and rail service, even when they are not within walking distance. The Transit Plan includes a new park-n-Ride facility at the intersection of 104th Avenue and Tower Road. A site at this intersection, which minimizes out-of-direction travel and provides quick access and egress for buses, should be selected.

All areas of Commerce City with continuous development that meet RTD's minimum household and employment criteria should be provided transit service.

5.3 Bicycle & Pedestrian Plan

"Active transportation refers to "foot-powered" physical activity that is undertaken as a means of travel. It includes walking, bicycling and use of transit, which usually involves some walking or bicycling to or from the bus or train. Lack of regular physical activity is a key risk factor for obesity and related chronic diseases. Research has shown that walking can improve health by helping to prevent obesity, heart disease, diabetes, some cancers, and a number of other diseases. Walking and bicycling are also more sustainable modes of transportation. By displacing vehicle trips, they can make a significant contribution to reducing greenhouse gas emissions and air pollution from vehicle emissions. Neighborhoods that are designed to support active transportation can also be laid out so that access to transit stations and stops is convenient, thus supporting transit ridership.

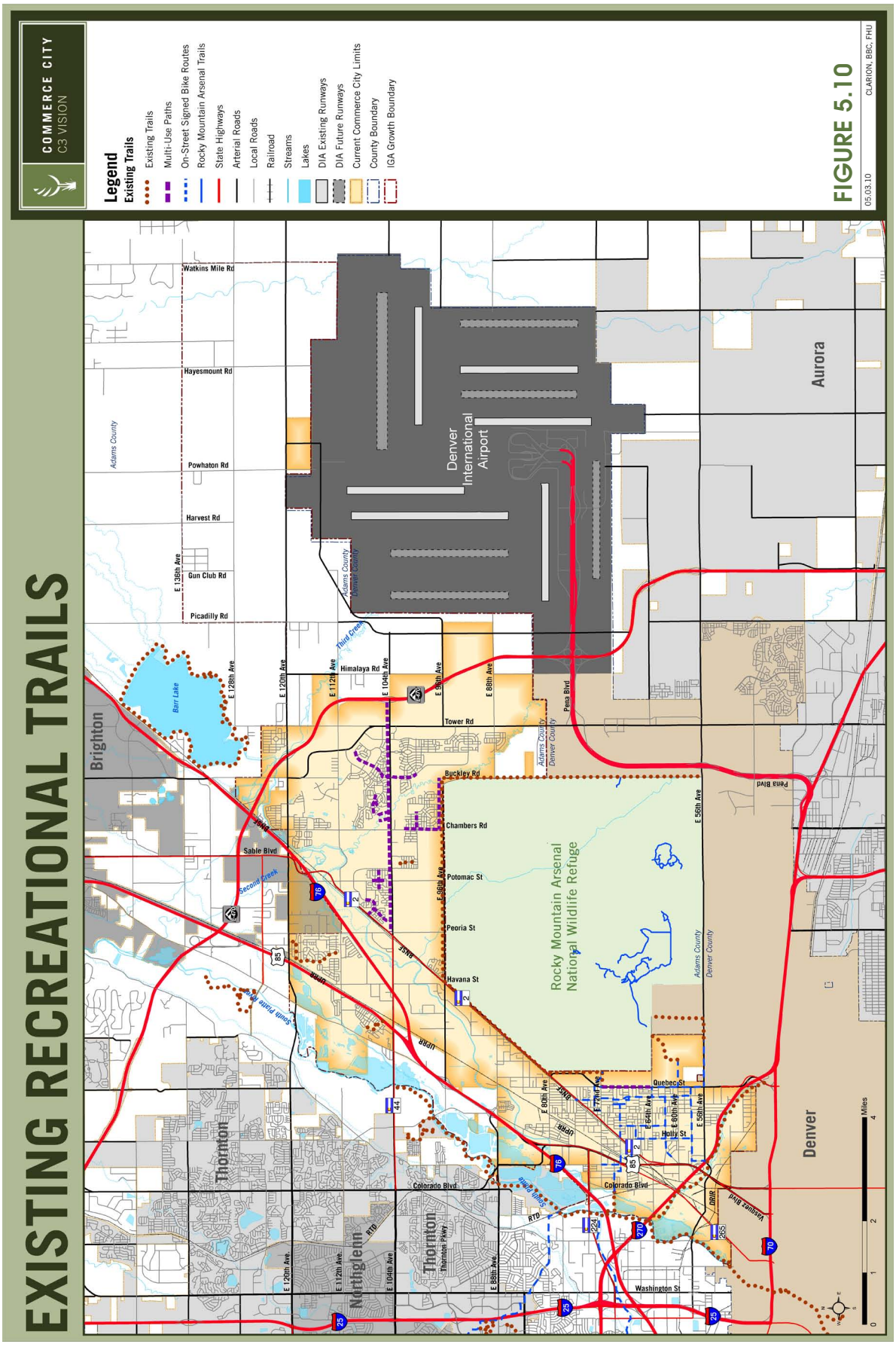
Bicyclist on RMANWR perimeter trail

LiveWell Commerce City (LWCC) is a collaborative community initiative (including the city, its local health department - Tri-County Health Department (THCD), and other agencies) that was created in 2006 "to empower a partnership of people who live, work and play in historic Commerce City to flourish through a lifetime of healthy eating and active living" (LiveWell Colorado, 2009). The Historic City is an ideal area to promote walking due to its mixed land uses and higher densities that place potential destinations close to more people. The Historic City also has a grid pattern to the street network that provides more alternative travel routes and more direct routes between destinations. Between 2006 and 2008, LWCC conducted six walkability assessments in three neighborhoods: the Derby Business District, and the Kemp and Monaco neighborhoods. These assessments involved a convenience sample of 194 residents who evaluated their sidewalks and streets for appearance and ease, comfort, and safety of walking. A little less than a third (30.9%) described their assigned area as very walkable. More than half (54.1%) indicated that the area they assessed was "somewhat walkable" or an area that "needs work" (Walkability Report for the Derby, Kemp and Monaco Areas of Commerce City, Colorado, Partnerships for Healthy Communities, December 3, 2009). In addition, TCHD prepared the Derby Redevelopment Health Impact Assessment (September 2007), which recommended a number of physical improvements to local streets to make them safer and more inviting for bicyclists and pedestrians. These recommendations were based on significant public input, literature reviews, and best practices and included specific suggestions for 72nd Avenue between SH 2 and Quebec Street (see following discussion).

Bike Route #3 in Historic City

5.3.1 Existing Network

Commerce City adopted two plans for developing bicycle and pedestrian trails: The Prairieways Action Plan (1999) and the Strategic Plan for Recreation Programs, Services and Facilities (2007). There are a number of types of trails and bike routes that are included in these plans. These include regional trails, off-street trails, multi-use paths adjacent to arterials in the city, and on-street bike routes. As shown in **Figure 5.10**, there are a number of segments of the ultimate network that are already in place. These include the regional trails along the S. Platte River and Sand Creek on the western and southern borders of the city. The perimeter trail around the RMANWR allows bicyclists and walkers to travel between the Historic City and Northern Range without crossing any major streets. A multi-use path has been constructed along 104th Avenue between SH 2 and E-470. Other elements of the plan (particularly in the Northern Range) rely on adjacent residential development for construction, and thus there are currently a number of gaps and missing segments that will be filled in over time.


EXISTING RECREATIONAL TRAILS
COMMERCE CITY
C3 VISION
Legend
Existing Trails
Existing Trails
Multi-Use Paths
On-Street Signed Bike Routes
Rocky Mountain Arsenal Trails
State Highways
Arterial Roads
Local Roads
Railroad
Streams
Lakes
DIA Existing Runways
DIA Future Runways
Current Commerce City Limits
County Boundary
IGA Growth Boundary
FIGURE 5.10
05.03.10
CLARION, BBC, FHU
Denver International Airport
Rocky Mountain Arsenal National Wildlife Refuge
Brighton
Thornton
Northglenn
Aurora
Denver
Adams County
Denver County
Watkins Mile Rd
Hayesmount Rd
Powhaton Rd
Harvest Rd
Gun Club Rd
Picadilly Rd
E 136th Ave
E 128th Ave
E 120th Ave
E 112th Ave
E 104th Ave
E 88th Ave
E 72nd Ave
E 64th Ave
E 60th Ave
E 56th Ave
Himalaya Rd
Tower Rd
Buckley Rd
Chambers Rd
Potomac St
Peoria St
Havana St
Quebec St
Holly St
Colorado Blvd
Washington St
Pena Blvd
Sable Blvd
Thornton Pkwy
Bull Lake
Second Creek
Third Creek
South Platte River
Miles

A more complete network of on-street bike routes has been in place for a number of years in the Historic City (see **Figure 5.11**). These routes were originally identified in the Commerce City Bikeway & Trail Plan. They are delineated with numbered signs attached to sign and utilities poles. There are a total of five numbered routes that are comprehensive in the area between SH 2 and Quebec Street. An underpass has been constructed beneath the BNSF tracks near 68th Place to provide a continuation of Route #1 west of the tracks.

BNRR underpass on Bike Route #1

5.3.2 Bicycle & Pedestrian Vision

Figure 5.12 provides a supplement to and expands the vision of the Park, Trail & Open Space System Map & Guide. The plan is based on the following hierarchy of trails and paths:

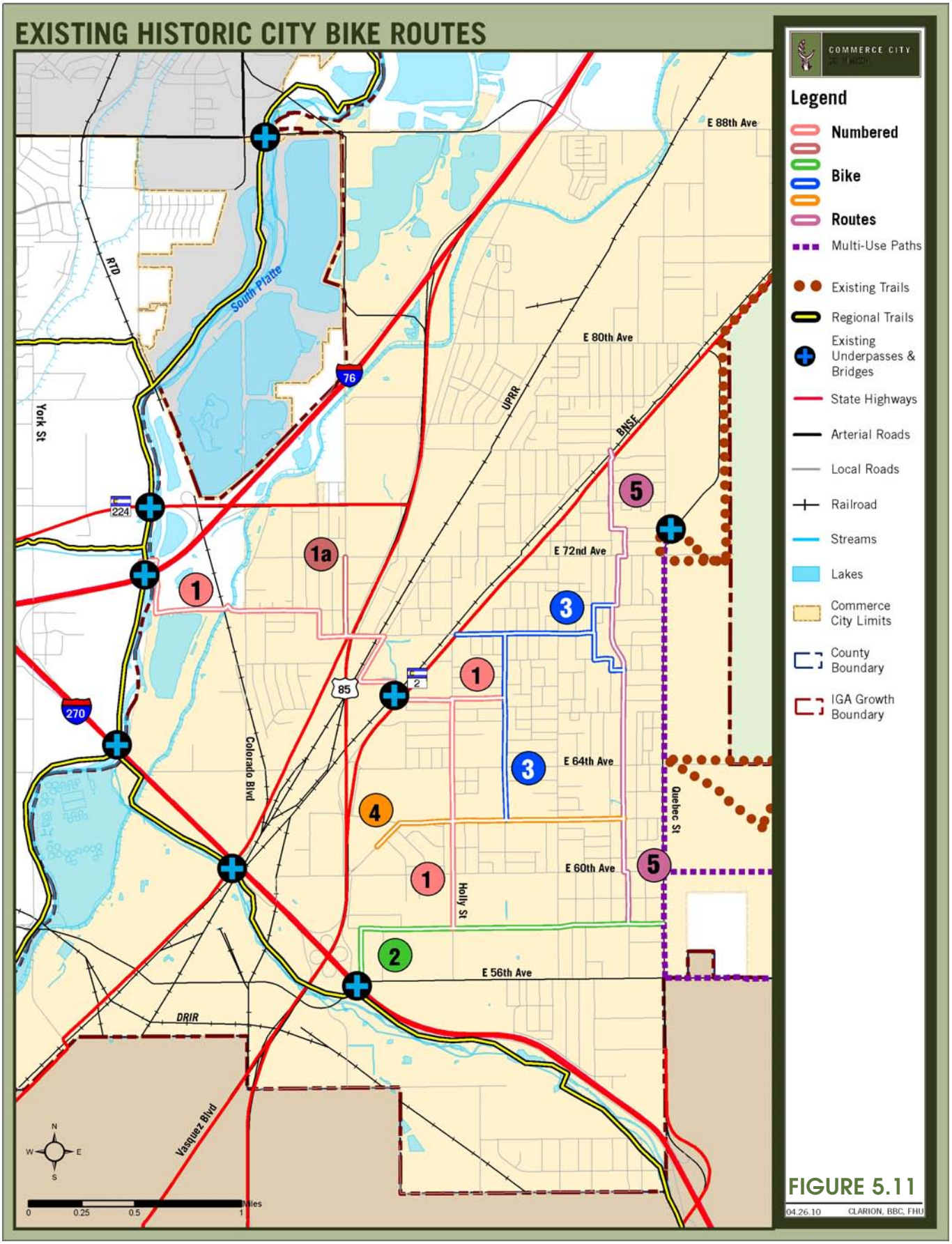
- ✔ **Regional Trails –** The S. Platte River regional trail will be extended north from 104th Avenue. A significant new regional trail is planned along Second Creek all the way through the Northern Range and connecting to Adams County on the northwest and Denver and Aurora on the south.
- ✔ **Trails and Separated Bike Lanes –** Creeks, canals, and utility easements will be utilized to complete a number of off-street trails in the Northern Range and E-470 Influence Area.
- ✔ **Multi-use Paths –** These facilities are included in all arterial cross sections.
- ✔ **On-Street Bike Routes –** These facilities will be built along all new collectors and Multimodal Arterials (which also include multi-use paths).

Second Creek will have a regional trail in the future

A similar program of bicycle and pedestrian improvements has been planned for the Historic City sub-area (see **Figure 5.13**). Important elements of the plan include the following:

- ✔ **O'Brian Canal –** A trial is planned along the canal from Sand Creek (near I-270) north to Barr Lake.
- ✔ **Railroad Underpasses –** A new underpass beneath the BNRR tracks near SH 2 and Oneida Street would allow new routes to be added along 76th Avenue, Monaco Street, and 80th Avenue to provide links to Monaco and DuPont Elementary Schools. In addition, the warning signs along SH 2 at the cross walks should be pedestrian actuated. The advance warning signs at the current crossing at 68th Avenue have flashing beacons, but they flash continuously. Drivers become habituated to them and don't "see" them when pedestrians are actually crossing. The proposed beacons would only be actuated when pedestrians are actually present and using the crosswalk.

Pedestrian-actuated flashing beacon


EXISTING HISTORIC CITY BIKE ROUTES
COMMERCE CITY
Legend
Numbered
Bike
Routes
Multi-Use Paths
Existing Trails
Regional Trails
Existing Underpasses & Bridges
State Highways
Arterial Roads
Local Roads
Railroad
Streams
Lakes
Commerce City Limits
County Boundary
IGA Growth Boundary
E 88th Ave
E 80th Ave
E 72nd Ave
E 64th Ave
E 60th Ave
E 56th Ave
South Platte
RTD
York St
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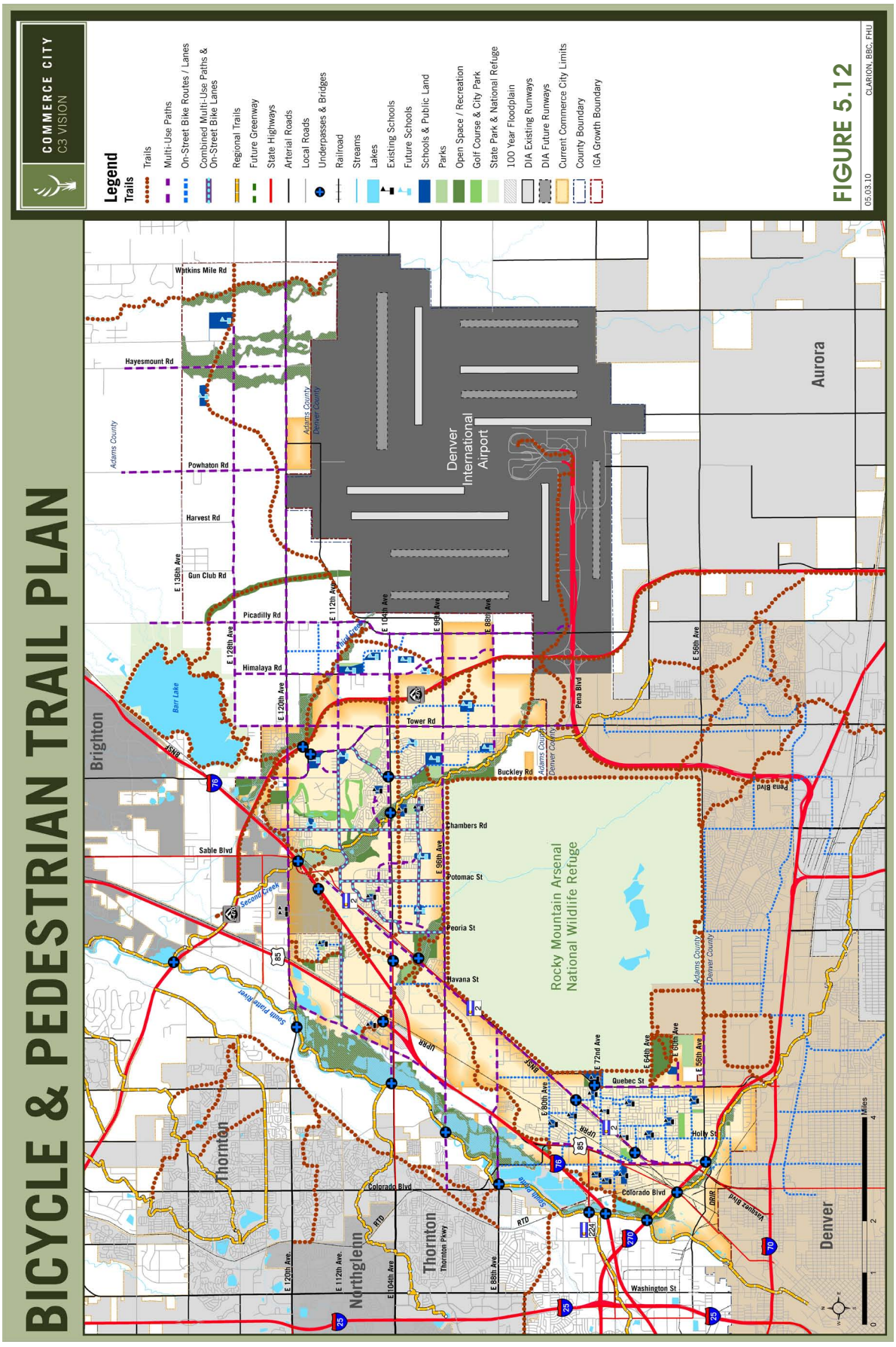
04.26.10
CLARION, BBC, FHU

FIGURE 5.11


BICYCLE & PEDESTRIAN TRAIL PLAN
COMMERCE CITY
C3 VISION
Legend
Trails
Trails
Multi-Use Paths
On-Street Bike Routes / Lanes
Combined Multi-Use Paths & On-Street Bike Lanes
Regional Trails
Future Greenway
State Highways
Arterial Roads
Local Roads
Underpasses & Bridges
Railroad
Streams
Lakes
Existing Schools
Future Schools
Schools & Public Land
Parks
Open Space / Recreation
Golf Course & City Park
State Park & National Refuge
100 Year Floodplain
DIA Existing Runways
DIA Future Runways
Current Commerce City Limits
County Boundary
IGA Growth Boundary
FIGURE 5.12
05.03.10
CLARION, BBC, FHU
Watkins Mile Rd
Hayesmount Rd
Powhaton Rd
Harvest Rd
Gun Club Rd
Picadilly Rd
Himalaya Rd
E 136th Ave
E 128th Ave
E 120th Ave
E 112th Ave
E 104th Ave
E 96th Ave
E 88th Ave
Adams County
Denver International Airport
Aurora
Brighton
Barr Lake
Tower Rd
Buckley Rd
Chambers Rd
Potomac St
Peoria St
Havana St
Sable Blvd
Second Creek
South Platte River
Rocky Mountain Arsenal National Wildlife Refuge
Peña Blvd
E 56th Ave
E 60th Ave
E 64th Ave
E 72nd Ave
Quebec St
Holy St
Colorado Blvd
Vasquez Blvd
Thornton
Thornton Pkwy
Northglenn
Denver
Washington St
RTD
UPRR
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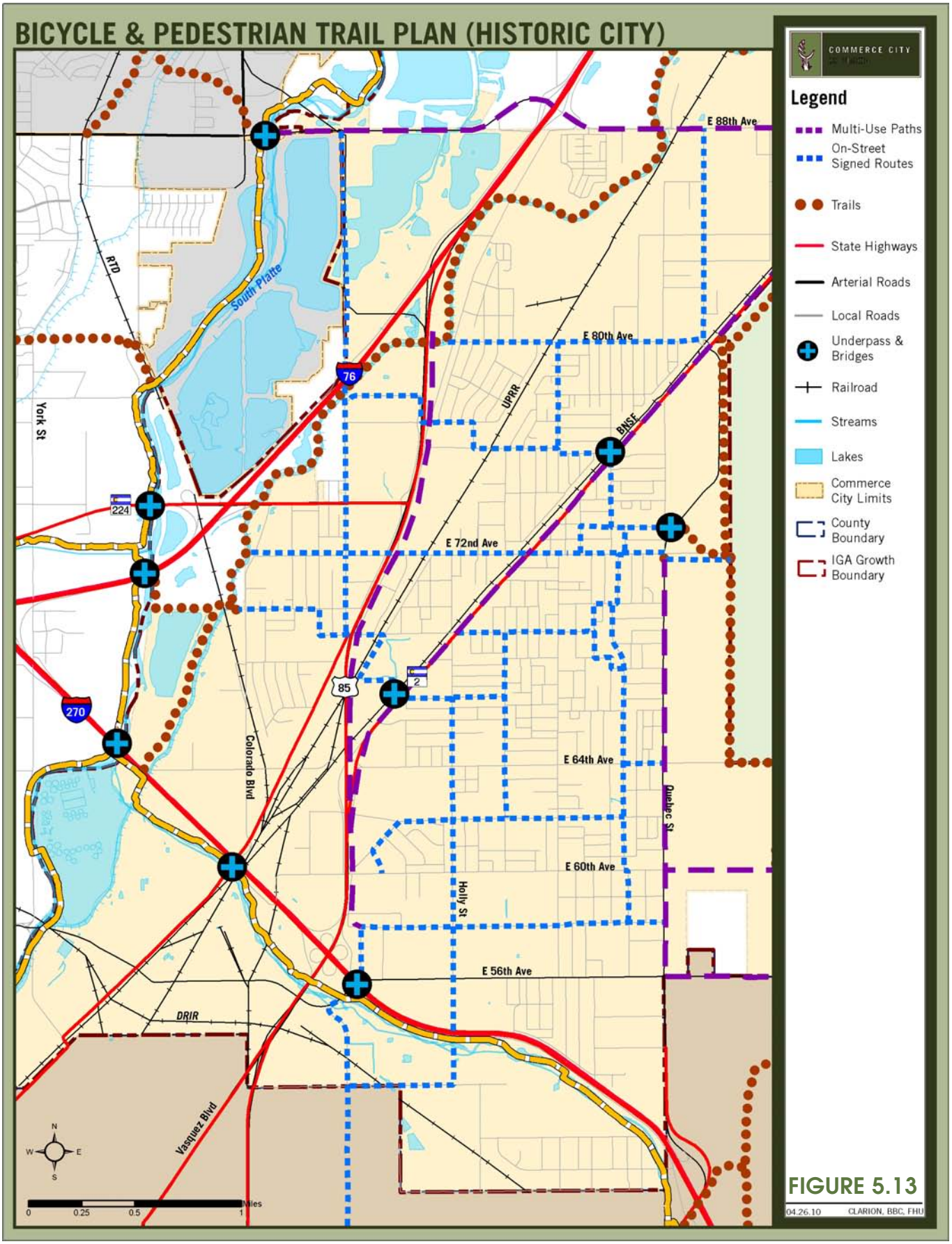
BICYCLE & PEDESTRIAN TRAIL PLAN (HISTORIC CITY)
COMMERCE CITY
Legend
Multi-Use Paths
On-Street Signed Routes
Trails
State Highways
Arterial Roads
Local Roads
Underpass & Bridges
Railroad
Streams
Lakes
Commerce City Limits
County Boundary
IGA Growth Boundary
E 88th Ave
E 80th Ave
E 72nd Ave
E 64th Ave
E 60th Ave
E 56th Ave
RTD
South Platte
York St
UPRR
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Vasquez Blvd
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CLARION, BBC, FHU

FIGURE 5.13

Sharrow pavement marking

- ✔ **On-street bike routes –** Commerce City should consider using "sharrows" to better delineate existing and new on-street bike routes. These markings are much more visible to automobile drivers than the existing route signs, and should increase their awareness of the likelihood of bicyclists sharing the travel lane.

- ✔ **Multi-Use Paths –** The improvements of Highway 85 and SH 2 from 56th Avenue to I-76 should include a multi-use path. This type of facility has been constructed along portions of the new Quebec Street, but there are several segments that are currently missing.

- ✔ **72nd Avenue –** The Derby Redevelopment Health Impact Assessment, September 2007, includes a number of ideas for physical improvements along 72nd Avenue between SH 2 and Quebec Street (Derby and nearby neighborhoods). Potential physical improvements to the street cross sections were discussed previously. Short-term improvements that make it easier for pedestrians to cross 72nd Avenue would be to change all the pedestrian indications to the new "countdown" signals. These signals tell pedestrians how much crossing time remains and makes them more comfortable in crossing this wide street. This change should also be made for all indications at Highway 85 and 72nd Avenue. The crosswalk at Niagara Street is the only one that is not currently signalized, and pedestrian actuated beacons should be added to larger signs. In the medium term, the signal at the intersection of SH 2 and 72nd Avenue should be converted to mast arms to reduce the visual clutter at this heavily used intersection. In the long term, sidewalks and possibly bike lanes (particularly west of Highway 85) will be needed along 72nd Avenue to connect the planned FasTracks Station west of Colorado Boulevard with the new high school east of Quebec Street.

- ✔ **Traffic Calming –** Measures that slow vehicles in residential areas along local streets and collectors have great potential for improving safety for pedestrians and bicyclists. Commerce City has implemented some traffic calming measures in residential areas (speed humps and raised medians/chicanes in a few places), in accordance with its Traffic Calming Policy, September 1999. In addition to these physical measures, dynamic speed message displays (DSMD) that monitor and report approaching vehicle speeds using radar have been found to keep speeds closer to the posted speed limits. It is the City's goal to design new subdivisions so that traffic calming will not be an issue when areas are built out. Utilizing roundabouts, eliminating potential cut through streets and alternating stop directions at intersections in grid pattern neighborhoods will be employed in an effort to reduce traffic speeds in neighborhoods.

The Northern Range and E-470 Influence Area will also see a similar program of bicycle and pedestrian improvements in the future (see **Figure 5.14**). A combination of separated trails along drainages and easements, multi-use paths along arterials, and on-street bike lanes will provide active transportation accessibility throughout these subareas and to the rest of the city. All schools and parks will eventually be linked by this network.

5.4 Transportation System Efficiency

Commerce City is no different than other municipalities: there's never enough money to provide all the services that citizens want. This is particularly true with public infrastructure that has high costs for initial construction and on-going maintenance. There are several "toolboxes" that offer the city ways to make the existing transportation operate more efficiently and safely, and hopefully stretch out the time when it reaches its existing capacity. These techniques are known as Intelligent Transportation Systems (ITS) and Travel Demand Management (TDM).

5.4.1 Intelligent Transportation Systems (ITS)

The goal of ITS is to improve the transportation system by making it more effective, more efficient, and safer through the application of modern information technology and communications. Common applications of ITS technology include:

- ✔ Advanced signal control systems can reduce delay in traveling along a corridor, reduce the variability in travel times (improving the reliability of arrival time estimates), and reduce the number of stops.
- ✔ Traveler information systems, such as variable message signs (VMS) and highway advisory radios (HAR), can assist in trip planning and help re-route drivers around congested areas or incidents.
- ✔ Closed circuit television (CCTV) and speed monitoring can detect crashes and other incidents, in order to reduce response times for emergency vehicles.

These and many other applications can help reduce air pollution and the consumption of greenhouse gases.

Commerce City's traffic engineers have been steadily implementing various ITS programs on city streets. The city has instrumented a Traffic Operations Center (TOC) at the Public Works facility on Rosemary Street. It will continue to expand ITS capabilities in the future. Traffic signals are coordinated using fiber optic cable and spread spectrum radio for communications. Fiber optic cable can also be used by a number of other city departments for communications. Existing fiber cables are in place along Quebec Street, 60th Avenue, and SH 2.

Traffic Operations Center (TOC)

The city should continue to cooperate with other agencies in Adams County, Denver, and regionally (CDOT and DRCOG) in expanding fiber networks and jointly using them. The city should also include fiber optic cable in the construction of all new arterials and collectors or widening of existing streets. Corridors that are slated to have fiber optic cable placed in the future include 56th Avenue, 64th Avenue, and 72nd Avenue. Unfortunately, existing signal controllers at many intersections in the Historic City are not compatible with current communications protocols, and will need to be replaced.

A number of the intersections in the vicinity of City Hall and the Prairie Gateway complex have closed circuit television (CCTV) cameras installed. This allows traffic engineers, police, and other emergency response personnel to monitor traffic arriving and leaving events. Further equipment installations should be considered, so that more active management of traffic is possible in the future. This could help refine signal timings and direct visitors to improve responsiveness to changing traffic conditions, so that congestion and delays are reduced as much as possible.

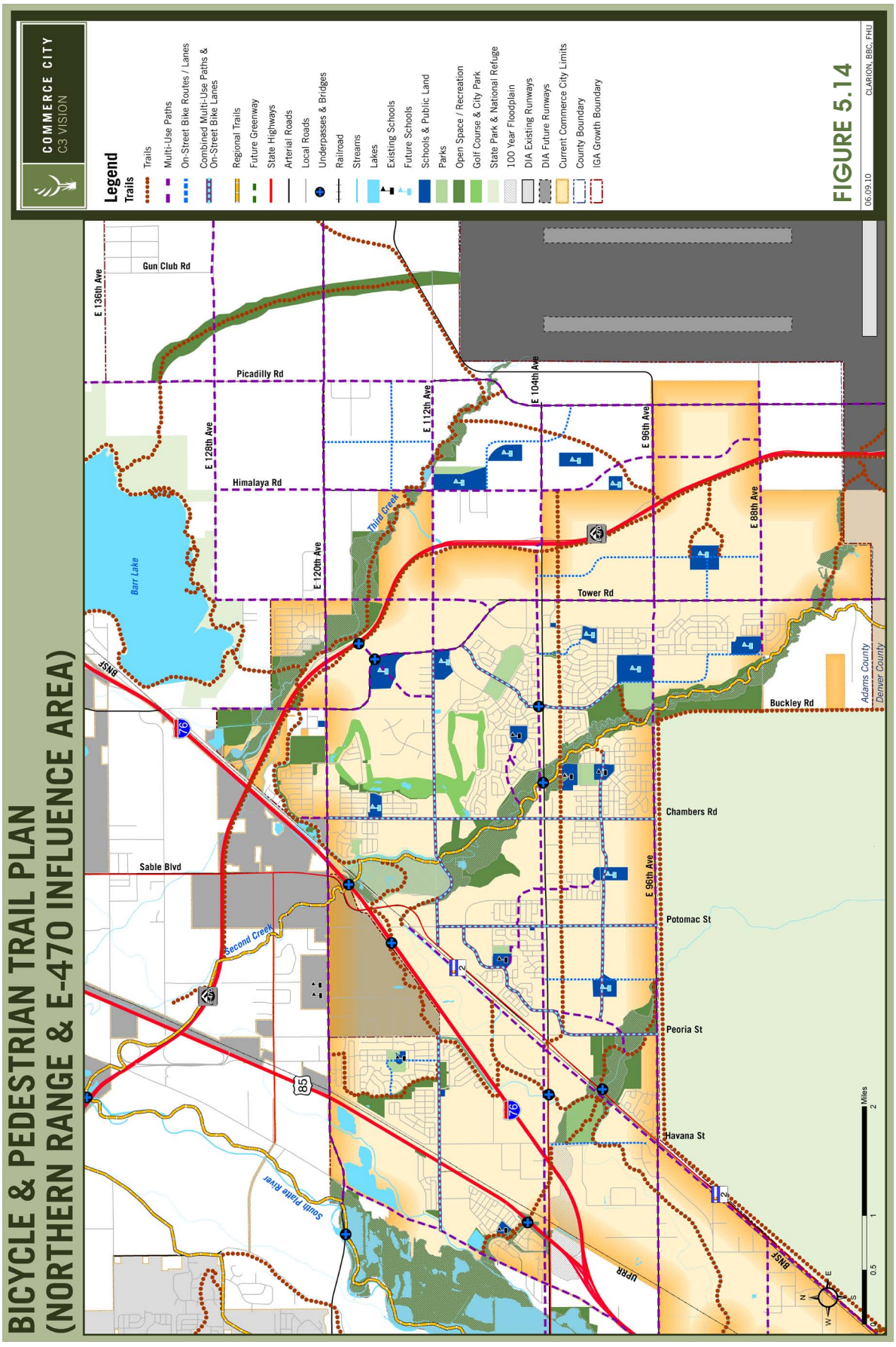
City staff should continue to monitor their operations and responsiveness on an on-going basis. Additional CCTV cameras and new Variable Message Signs (VMS) installations should be considered to address high-priority locations. Likewise, small weather monitoring stations could be installed to supplement CCTV and assist in deploying Public Works and police vehicles in response to inclement weather of all types.

5.4.2 Travel Demand Management (TDM)

TDM strategies attempt to reduce the demand on transportation system capacity by either removing single occupant vehicle (SOV) trips from the system, changing the character or mode of the trip, or by shifting the trip to a different time or route. TMD has no uniform applications and must be specifically tailored to the needs of a community or sub-area. TDM strategies are appealing because often times they require little or no expenditure of capital costs.

Every community is different with varying socio-economic conditions, travel habits, alternative modes of transportation, existing transportation systems, and other factors that make each TDM application potentially unique. The degree of effectiveness of TDM measures is based on their ability to alter the different aspects of the trip. The more aspects of the trip the TDM measure can alter, the more effective it will be.

There are four general categories of TDM measures: pricing management, alternative modes programs and incentives, parking management, and alternative work arrangements. Different TDM measures can be combined to create a TDM program. Depending on the size of the program and whether multiple companies may be involved, part-time or full-time dedicated staff is generally required to implement and manage


BICYCLE & PEDESTRIAN TRAIL PLAN
(NORTHERN RANGE & E-470 INFLUENCE AREA)
COMMERCE CITY
C3 VISION
Legend
Trails
Trails
Multi-Use Paths
On-Street Bike Routes / Lanes
Combined Multi-Use Paths & On-Street Bike Lanes
Regional Trails
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Arterial Roads
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Underpasses & Bridges
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Future Schools
Schools & Public Land
Parks
Open Space / Recreation
Golf Course & City Park
State Park & National Refuge
100 Year Floodplain
DIA Existing Runways
DIA Future Runways
Current Commerce City Limits
County Boundary
IGA Growth Boundary
FIGURE 5.14
06.09.10
CLARION, BBC, FHU
Gun Club Rd
E 136th Ave
Picadilly Rd
E 128th Ave
Himalaya Rd
E 120th Ave
E 112th Ave
E 104th Ave
E 96th Ave
E 88th Ave
Barr Lake
Third Creek
Tower Rd
Buckley Rd
Adams County
Denver County
Chambers Rd
Sable Blvd
Second Creek
Potomac St
Peoria St
Havana St
South Platte River
BNSF
UPRR
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Miles
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the various transportation programs and strategies. As the E-470 Influence Area develops and matures, the opportunity to form a transportation management association (TMA) should be explored. TMAs have been formed along the US 36 corridor and in the Denver Tech Center.

The following list shows some of the potential TDM measures that have been used successfully and may have potential in Commerce City. Some of these TDM measures may fall under more than one general category.

Pricing Strategies

- ✔ Transit/ride share use subsidies – RTD's Eco–Pass is an example
- ✔ Paid parking

Alternative Mode Programs and Incentives

- ✔ Carpooling/vanpooling – ride sharing, commuter information and guaranteed ride home programs
- ✔ Pedestrian and bicycle facilities and site improvements – Examples include bike racks, secure indoor bike parking, shower and changing room/locker room facilities, bicycle maintenance agreement, bike share program, etc.
- ✔ Transit incentives – Examples include reduced transit fares, on-site transit pass sales, direct money incentives for alternative transportation use, RTD Eco-Pass program, etc.
- ✔ Increased transit service and accessibility – Examples include design features to facilitate transit access, lunch time shuttle services, transit pass subsidies, etc.

Parking Management

- ✔ Preferential parking spaces for carpool/vanpool vehicles and car sharing
- ✔ Park-n-Ride lots
- ✔ Paid Parking

Alternative Work Arrangements

- ✔ Alternative work schedules – For example flextime
- ✔ Telecommuting / work-at-home options

5.4.3 Roadway Access Standards

Access management has been defined by the Transportation Research Board as the "systematic control of the location, spacing, design, and operation of driveways, median opening, interchanges, and street connections to a roadway." Research and operational experience have shown that highways that manage access have the following desired outcomes:

- ✔ Are safer for vehicular and pedestrian traffic;
- ✔ Allow motorists to operate vehicles with fewer delays, less fuel consumption, and fewer emissions;
- ✔ Provide reasonable access to properties;
- ✔ Maintain their functional integrity and efficiency, helping to protect the investment of taxpayer dollars;

- ✔ Reflect coordination between land use and transportation decisions; and
- ✔ Are used for the purposes (functions) for which they are designed.

Commerce City adopted Roadway Access Standards in January 2000 (see Appendix E). These standards are consistent with those adopted by surrounding jurisdictions, including Adams County, CDOT, and E-470. Detailed standards are identified in this document for each of the roadway classifications in Commerce City.

5.5 Enhancement of City Gateways and Corridors

The gateways and highway corridors (the rights-of-way and lands adjacent to them) are key considerations for improving image in the city. Over the past decade, the city has worked hard to begin to address them. However, improving their appearance over the long-term will take perseverance; prioritization; coordination with the Colorado Department of Transportation (CDOT) and other property owners; and outside sources of funding.

5.5.1 Gateways and Corridors

Gateways and street corridors are akin to the "front doors" and public "entries" of the city's image and appearance. Improving gateways and corridors is not just about signage but also the overall appearance of the public right-of-way, quality of development, and adjacent landscaping.

- Gateways should provide a welcoming feeling and sense of arrival.
- They should incorporate appropriately-sized city signage and themed features such as bridges, sculpture, walls, or other features that fit the scale of the gateway (e.g., highway, arterial, or local street).
- Landscaping and lighting should be integrated with signs, so they are not "lost" background clutter.
- Local gateways should include site furnishings, public art, and signage reflecting the area's character (e.g., Reunion).
- Development along a corridor, or in the vicinity of a gateway, should be consistent with a certain theme if appropriate (e.g., medical district, or campus), be of high quality (e.g., medical district, or campus), be of high quality (e.g., four-sided with durable materials, interesting character), and contain landscaping.

6 Financing

As discussed in the previous and following chapters, the C3 Vision Transportation Plan generates a list of recommended multi-modal transportation system improvements that have a cost considerably beyond the financing capability of Commerce City based on existing funding mechanisms. Two types of responses are important for the implementation of the transportation plan. First, the plan must include an improvement prioritization and phasing plan that identifies the most important short-, medium-, and long-range improvements (see Chapter 7) and also maintains flexibility to adjust to inherent uncertainties in funding availability. Second, the plan should address potential funding methods that Commerce City can pursue to expand and accelerate its ability to implement needed improvements.

The basic mechanism for funding new transportation facilities, or improvements to existing ones, is through the City's Capital Improvements and Preservation Plan (CIPP). The CIPP is prepared for five-year periods and is updated annually. Commerce City's current plan was prepared in 2010, and portions of the following discussion were taken from that document. The purpose of the plan is to provide the City Council and city departments with a guide for planning capital expenditures beyond the annual budget year. The CIPP and its projects are funded from sales and use tax revenues, for the most part.

Quebec Street is a principal arterial

The C3 Vision Transportation Plan provides decision-makers with the necessary elements to update the CIPP. It identifies projects, estimates their costs, and evaluates priorities for candidate projects. The plan includes a clear picture of the current status of the transportation system and the improvements necessary to correct deficiencies. In addition, it outlines future needs and the projects that will be required to keep up with anticipated growth.

6.1 Basic Funding Mechanisms

There are only two basic alternatives for funding capital projects. They can be financed on a "pay-as-you-go" basis, when funding is paid out of revenues received, or funds can be borrowed with an annual repayment schedule made over a number of years. There are a number of variations on these two basic financing alternatives. The "pay-as-you-go" method can be strictly a determination of an annual appropriation restricted for only a one-year period. A second alternative is the annual appropriation of cash to be placed into a "sinking fund" for a specified number of years, in order to fully fund a project.

There are also a number of methods of structuring long-term debt financing. There are a number of types of bonds that can be paid back through a variety of different tax and use fee sources. In all cases, bond underwriters require the pledging of dedicated

funding sources for repayment. The more reliable the source of funds and the more coverage provided (ratio of revenue to debt payment), the better the credit rating and the lower the interest to be paid. For example, General Obligation bonds are the most secure debt instrument, since the full faith and credit of the city is pledged to repaying the debt with the lowest interest rate a result.

Following is a summary of other sources of funds that can assist Commerce City in funding CIPP projects:

6.1.1 Federal and State Funding

There is a wide variety of federal and state funding programs for surface transportation, most of which are administered by DRCOG, CDOT, or RTD. Programs range from broadly applicable ones like the Surface Transportation Program (STP) Metro program to more specific categorical programs targeting safety, bridge, congestion mitigation/air quality, and a host of other objectives. The current federal surface transportation funding program, Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) expired on September 30, 2009, and a new funding program is still being developed to replace it. The various "stimulus" programs (such as the American Recovery and Reinvestment Act of 2009 (ARRA)) are currently providing substantial additional funding through state and metropolitan planning organization allocation processes, specific categorical programs, and federal project earmarks. The future continuation of these programs is unknown, but Commerce City should monitor their status and develop projects where these funding sources can be utilized as they are available.

The recent launching of the joint FHWA/HUD/EPA Sustainable Communities Initiative signals that federal funding will be targeted to those regions and communities that integrate planning for transportation and land use, housing, and environmental protection. The city's process of integrating the Comprehensive Plan and Transportation Plan updates, and the Comprehensive Plan's explicit emphasis on sustainability, embody this concept.

6.1.2 Development Fees

Different communities in Colorado and throughout the US have different means to ensure that new development contributes its fair share of the cost of transportation infrastructure improvement needed to accommodate that development. Commerce City, like nearly all jurisdictions, requires development to finance the street network within new developments and to contribute toward needed improvements immediately adjacent to new developments. Specifically, Commerce City has adopted a road impact fee program. Impact fees are assessments on new development, requiring that each unit of development pay for its pro-rata share of the cost of transportation facilities needed to serve the development. Funds collected through impact fees allow Commerce City more flexibility in addressing larger

area concerns than specific adjacency requirements would allow, since a pool of funds is formed that the City can allocate to the highest priority improvement needs within a specified benefit area. Commerce City should monitor the improvement project needs and costs on an ongoing basis, so that new growth continues to pay its fair share in light of ever increasing cost of construction. Preliminary comparisons of anticipated transportation improvement costs, with anticipated road impact fee revenue, show that these fees will cover approximately one-third the anticipated needs. Efforts will be needed to identify additional funding sources and to keep impact fees in line with costs in order to reduce anticipated funding shortfalls.

6.1.3 Improvement Districts

A variety of improvement district types can be formed to finance transportation infrastructure, including: Special Improvement Districts, General Improvement Districts, Tax Increment Districts, Urban Renewal Districts, Transit Districts, or Rural/Regional Transportation Authorities. Such districts can be funded through various tax and fee mechanisms. Districts can range in size from small subareas of a municipality established to fund a specific improvement or set of improvements all the way to multi-jurisdictional Rural Transportation Authorities or Regional Transit Districts.

7 Plan Implementation

The Transportation Plan recommends a wide range of roadway, bicycle, pedestrian, and transit improvement projects. Because Commerce City has limited fiscal resources, it is essential that the highest priority projects be identified and pursued. It should be remembered that the roadway priorities identified in **Table 7.1** represent information available during the development of the Comprehensive and Transportation Plans. These priorities should be reconsidered in light of changed conditions that come to the fore much more frequently than the suggested cycle for updating the planning documents (at least every five years). Thus, the list of roadway project priorities should be considered as a guideline. Actual implementation will be analyzed in detail each time the City's Capital Improvements and Preservation Plan (CIPP) is updated. This provides the opportunity for other non-transportation factors to be considered. These factors can include economic development priorities, the pace of developments along a corridor, and the ability to leverage City funds.

This chapter provides an initial process to determine roadway priorities and considerations that are important in coordinating transit and trail projects. In addition, strategies are provided that the city can implement to help achieve the Transportation Plan vision.

7.1 Roadway Project Prioritization

This bridge on 104th Avenue over Second Creek was recently constructed

The roadway project prioritization process used for the C3 Vision Transportation Plan provided an objective methodology for ranking future roadway improvement projects within Commerce City. The scoring guidelines were based on prioritization criteria developed by the Adams County Planning Department and the North Front Range Metropolitan Planning Organization (NFRMPO). These prioritization criteria were then modified to fit Commerce City's unique characteristics. A complete listing of the project priority criteria for Commerce City can be found in Appendix D.

The roadway projects included in the evaluation process were selected based on whether there is expected to be a traffic operational problem in 2035, if there is currently or expected to be a safety problem, and/or if the project is known to be included in any future plans. There are six categories where roadway improvement projects were scored by the prioritization process. Each of these categories was given an individual weight depending on the importance of the category. In addition to a weight for each category, all six categories have a score that ranges between zero and three. A total score for each roadway project was then calculated by multiplying the category weight by the given category score. For example, if a project's regional significance was given a score of 3, the score for the project in

that category was 60. Based on the given category weights and potential scores, the maximum overall score attainable for any project is 345.

The following is a description of the evaluation categories and their weights:

- ✔ Project's Regional Significance (Weight of 20) – Evaluation based on whether or not the project appears in a regional plan or transportation plans for Commerce City or adjacent jurisdiction
- ✔ System Continuity (Weight of 20) – Evaluation of the degree the project would improve transportation system's continuity
- ✔ Congestion Mitigation (Weight of 20) – Current level of traffic congestion and how much the project would help to improve traffic congestion
- ✔ Safety Enhancement (Weight of 20) – Current accident occurrence rate and how much the project is expected to improve this condition
- ✔ Timely Implementation (Weight of 15) – Evaluation of whether the project is expected to be implemented in a timely fashion, whether private sector funding assistance is expected, and if there are any major roadblocks to completing the project
- ✔ Land Use (Weight of 10) – Is the project in an area anticipated for growth and does it conform to applicable land use plans
- ✔ Multimodal Enhancement (Weight of 10) – Will the project be beneficial to multiple modes of travel or just a single mode of travel

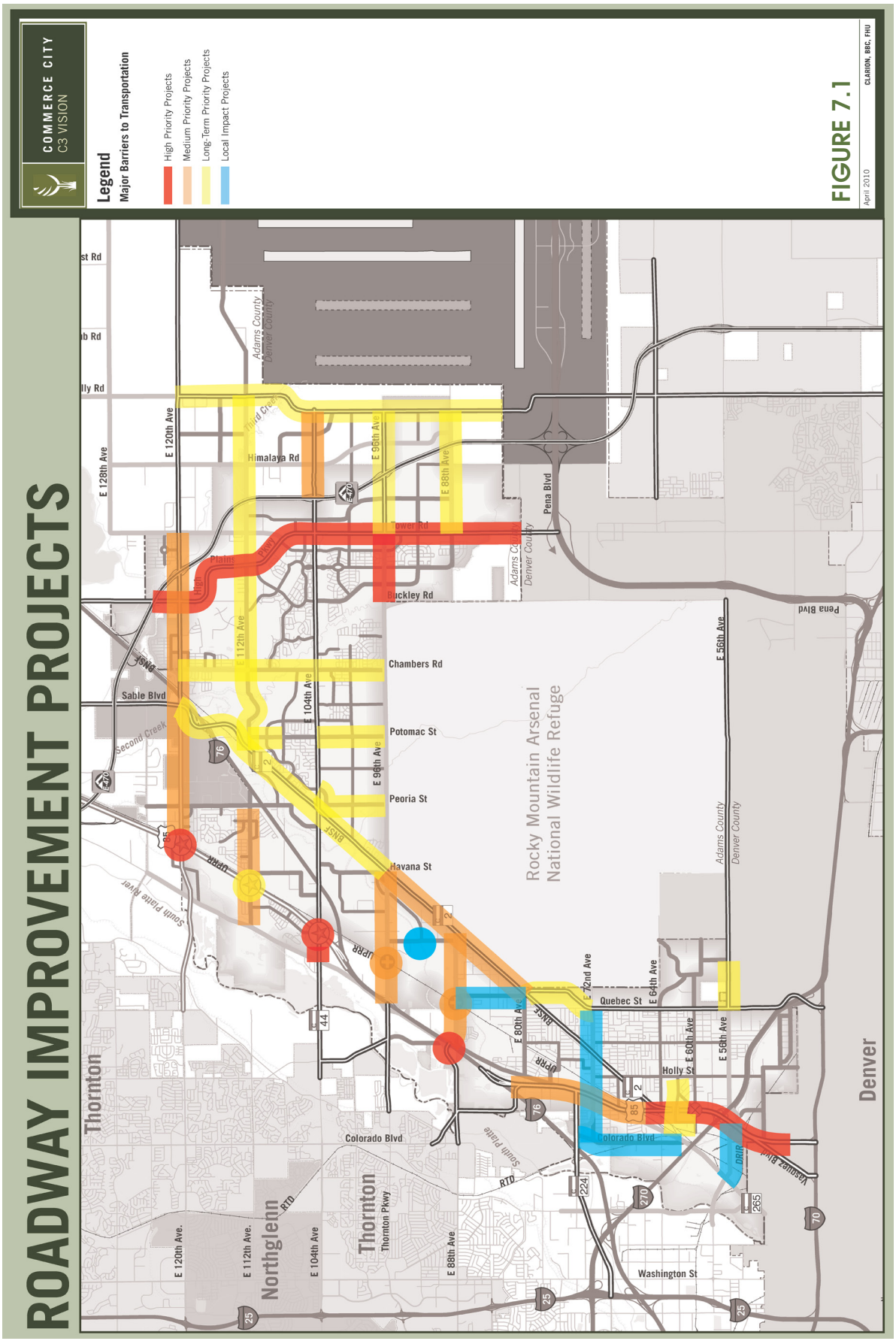
Once the potential projects were identified, each category was given a score for each project, and total scores were calculated for each project. These scores are provided in Appendix C. The projects were then ranked according to their total scores and placed into priority categories (high, medium and long-term priorities) as shown in **Table 7.1** and shown graphically on **Figure 7.1**. Construction cost estimates for each project were developed in coordination with Commerce City staff based on recent construction experience. These costs were grouped into three categories for relative comparisons, again as shown in **Table 7.1**. **Table 7.1** and **Figure 7.1** separate major projects on state highways and arterials from smaller projects that have a more local impact.

Table 7.1: Summary of Project Priorities and Costs (through 2035**)

Projects on State Highways and Local Arterials		
Project	**Project Improvement**	**Project Cost***
High Priority Projects		
Tower Rd. - 80th Ave. to 104th Ave.	2 to 6 Lanes	$$$
US 85 - 52nd Ave. to 64th Ave.	Roadway Improvements	$$$
96th Ave. - Buckley Rd. to Tower Rd.	New Roadway Segment	$$
104th Ave. - Brighton Blvd. to US 85	2 to 4 Lanes	$
High Plains Parkway - 104th Ave. to 124th Ave.	New Roadway Segment	$$$
I-76 / 88th Interchange	Reconstruct Interchange	$$
US 85 / 120th - Interchange and RR Grade Separation	New Interchange	$$$
US 85 / 104th - Interchange and RR Grade Separation	New Interchange	$$$
Medium Priority Projects		
120th Ave. - US 85 to Tower Rd.	2 to 4 Lanes	$$$
96th Ave. - Grade Separate at UPRR Tracks	Grade Separate RR	$$
96th Ave. - I-76 to SH 2	2 to 4 Lanes	$$
Picadilly Rd. - 120th Ave. to 80th Ave.	New Roadway Segment	$$$
88th Ave. - Grade Separate at UPRR Tracks	Grade Separate RR	$$
US 85 - 64th Ave. to I-76	4 to 6 Lanes	$$$
88th Ave. - I-76 to SH 2	2 to 4 Lanes	$$
112th Ave. - Brighton Rd. to Peoria St.	Improve to Standard	$$
SH 2 - Quebec St. to 96th Ave.	2 to 4 Lanes	$$$
Long-Term Priority Projects		
104th Ave. - E-470 to Picadilly Rd.	New Roadway Segment	$$
US 85 / 112th - Interchange with RR Grade Separation	Reconstruct Intersection	$$$
Chambers Rd. - 112th Ave. to 120th Ave.	2 to 4 Lanes	$$
Chambers Rd. - 96th Ave. to 112th Ave.	Improve to Standard	$$
SH 2 - 96th Ave. to I-76	2 to 4 Lanes	$$$
Wembly Redevelopment Improvements - 62nd Ave. Extension	Roadway Improvements	$
96th Ave. - Tower Rd. to Picadilly Rd.	2 to 4 Lanes	$$
56th Ave. - Valentia St. to Havana St.	2 to 6 Lanes	$
Peoria St. - 96th Ave. to 104th Ave.	Improve from Dirt Road	$
Potomac St. - 96th Ave. to 104th Ave., 108th Ave. to 112th Ave.	Improve from Dirt Road	$$
Quebec St. - 72nd Ave. to SH 2	4 to 6 Lanes	$
88th Ave. - Buckley Rd. to Picadilly Rd.	Improve to Standard	$$
112th Ave. - SH 2 to Picadilly Rd.	Improve from Dirt Road	$$$
Local Impact Projects		
72nd Ave. - US 85 to Colorado Blvd.	Improve to Standard	$
Yosemite - Bridge over O' Brian Canal	New Roadway Segment	$
72nd Ave. - SH 2 to Quebec St.	Improve to Standard	$
Signal System / ITS Upgrades	Ongoing Signal Projects	Open
Rosemary St. - 80th Ave. to 88th Ave.	2 to 4 Lanes	$
Colorado Blvd. - Brighton Blvd. to 74th Ave.	2 to 4 Lanes	$
56th Ave. - Brighton Blvd. to US 85	2 to 4 Lanes	$

* Note: $ = < $20M $$ = $20M to $50M $$$ = > $50M

** Additional information about very long-range projects (post 2035) can be found in Appendix C.


ROADWAY IMPROVEMENT PROJECTS
COMMERCE CITY
C3 VISION
Legend
Major Barriers to Transportation
High Priority Projects
Medium Priority Projects
Long-Term Priority Projects
Local Impact Projects
FIGURE 7.1
April 2010
CLARION, BRC, FHU
Thornton
Northglenn
Denver
Rocky Mountain Arsenal
National Wildlife Refuge
Adams County
Denver County
E 120th Ave.
E 112th Ave.
E 104th Ave
E 88th Ave
E 128th Ave
E 120th Ave
E 112th Ave
E 104th Ave
E 96th Ave
E 88th Ave
E 80th Ave
E 72nd Ave
E 64th Ave
E 56th Ave
Himalaya Rd
Tower Rd
Buckley Rd
Chambers Rd
Potomac St
Peoria St
Havana St
Quebec St
Holly St
Sable Blvd
Pena Blvd
Colorado Blvd
Washington St
Thornton Pkwy
Second Creek
South Platte River
Big Dry Creek
Little Dry Creek
Farmers High Line Canal
BNSF
UPRR
RTD
DRIR
25
76
270
85
44
224
265
70

7.2 Transit System Prioritization

Land use patterns, demographics, travel patterns, and mobility benefits should all be taken into account when prioritizing potential improvements to transit service in Commerce City. It is anticipated that the transit service in Commerce City will continue to be provided by RTD, metro Denver's regional transit agency. However, Commerce City should pro actively request transit services from RTD as development occurs throughout the City, similar to ensuring that new developments have adequate roadways and vehicular, bicycle, and pedestrian access. As Commerce City coordinates service with RTD, consideration should be given to the following factors:

- ✔ **Demographics –** When possible, areas of Commerce City with higher-than-average transit dependent populations should be provided frequent, reliable transit service. These populations are typically defined as low-income households, elderly and disabled households, and zero-vehicle households.
- ✔ **Land Use Patterns –** Areas of continuous development with densities of five people per acre and two jobs per acre should be provided local service. Growing areas with discontinuous development patterns should be considered for specialty services, such as call-n-Rides.
- ✔ **Regional Significance –** Supporting projects, such as FasTracks North Metro Corridor and RMRAs high speed rail, should be given priority when they improve mobility for Commerce City residents and employees.
- ✔ **Multimodal Connectivity –** Projects that help to create a safe, cohesive, balanced, multimodal network should also be given priority.
- ✔ **Congestion Mitigation –** Transit projects that provide congestion relief and have the potential to reduce or eliminate the need to widen roadway infrastructure should have priority.
- ✔ **Environmental Benefits –** Transit projects that have the ability to reduce congestion and/or vehicle miles of travel, and therefore result in air-quality benefits, should be given higher consideration.

7.3 Bicycle and Pedestrian Project Prioritization

Implementing bicycle and pedestrian projects is dependent on a number of factors. Multi-use paths and on-street bike lanes rely on the construction of the roadway of which they are an element. Some of the paths and lanes shown on **Figure 5.12** are part of roadway improvements that have been identified on **Figure 7.1** and **Table 7.1**. Many more of the bike/ped improvements are along collectors or through open space lands, and their construction will be dependent on the timing of the adjacent development and available funding.

This trail will completely encircle the RMANWR

The final category of potential improvements are those in already developed areas (such as a trail along the O'Brian Canal and the BNSF underpass and on-street bike route west from Oneida Street/75th Place) and others that are more regional (such as the Second Creek regional trail). Commerce City staff is encouraged to determine project priorities and to apply for regional funds, such as Congestion Mitigation/Air Quality (CMAQ) and multimodal enhancement programs, to leverage city funding that may be available.

7.4 Implementation Strategies

This section contains a list of strategies to implement the transportation goals. **Table 7.2** coincides with the six goals presented previously in Chapter 3. It identifies specific actions to achieve the goals.

Table 7.2: Transportation Strategies

Goal/ Strategy	Related Goals/Strategies
Goal T1	**Balanced, Comprehensive Transportation System**
T1a	**Road Network** Implement improvements to roadway network, signals, and intersections, based on a 5-year Capital Improvement Plan (CIP) with priorities as determined by the Transportation Plan. Priorities will be based on safety, congestion relief, connectivity, multimodal, and implementability.
T1b	**Fees** Determine potential new sources of funding for transportation improvements (e.g., road impact fees, street fees, etc.).
T1c	**Transportation for Special Needs (and all demographic groups)** Research best practices for design elements to accommodate the aging and disabled (e.g., lighting, materials, other visual and auditory cues, traffic control measures and crosswalks, traffic calming, etc.).
Goal T2	**Connected Transportation System**
T2a	**Right-of-Way Reserved** Reserve right-of-way for future roads identified (especially the Northern Range and E-470 Influence Area) based on road classifications and standard cross-sections.
Goal T3	**Improved Bicycle, Pedestrian System**
T3a	**Traffic Calming** Implement traffic calming measures, as identified by residents through procedures described in the City's Traffic Calming Policy, 2007.
T3b	**Bicycle/Pedestrian Components** Include bicycle and pedestrian components in the Transportation Plan. Research best practices for bicycle and pedestrian system design criteria to be used for new construction and possible improvements to the existing transportation network.
T3c	**Prioritize Pedestrian Improvements** Coordinate high-priority pedestrian improvement areas with the Transportation Plan Capital Improvements Plan.
T3d	**Prioritize Traffic Safety Improvements** Monitor (vehicle, pedestrian, and bicycle) traffic accident data to prioritize areas for traffic safety improvements.

Goal/ Strategy	Related Goals/Strategies
T3e	**Promotion of Bicycling** Prepare a citywide Bicycle and Pedestrian Plan (that might include components such as Adopt-a-Bikeway program to allow residents to adopt a bikeway route, report obstructions, and keep it clean; bicycle racks, lockers, and structures; Bike to Work Day – City promotes bicycling, working with businesses to provide free breakfast; C3 Bikes – City sponsors bicycling and program to promote safety, so students will use alternative transportation to/from school.
Goal T4	**Improved Transit**
T4a	**Alternative Modes – City Employees** Promote employee use of alternative modes, including bicycle commuting and transit.
T4b	**FasTracks North Metro Corridor** Work with partners, including RTD, to ensure that Commerce City's FasTracks' North Metro Corridor station is built to serve Commerce City and that the station is well connected to the entire community through sidewalks, bikeways and local transit service.
T4c	**FasTracks East Corridor** Work with partners, including RTD, to ensure that stations on FasTracks' East Corridor are built to serve and are well connected to Commerce City through sidewalks, bikeways and local transit service.
T4d	**Future Commuter Rail** Work with RTD to develop an alignment and station locations along the NATE rail corridor that best serves Commerce City
T4e	**Bus Transit Corridors** Include provision for bus transit priority features along congested transit corridors. These could include queue jump lanes or transit signal priority equipment. Ensure land use and design standards, support future transit goals; design for pedestrian connectivity.
T4f	**Northern Range Bus Routes** Identify transit services that connect the Northern Range developments to their primary destinations such as the Historic City, downtown Denver and DIA through the use of local bus services and planned commuter rail routes.
T4g	**E-470 Future Rail Transit Corridor** Work with partners, including E-470 Authority, RTD, and Rocky Mountain Rail Authority to develop an alignment and station locations along the E-470 Influence Area that best serve Commerce City.
Goal T5	**Multi-Use Trails Connected**
T5a	**Trails Plan** Implement Trails Plans.
Goal T6	**Regional Coordination of Transportation**
T6a	**Intergovernmental Agreements/Joint Funding** Explore/develop intergovernmental agreements with adjacent jurisdictions to apply for joint project funding, to promote seamless connectivity, and to negotiate complementary standards for the transportation network.
Goal AD 1	**Image of Gateways and Corridors Improved**
AD 1a	**Prioritize Gateways and Corridors** Identify gateway and corridor areas to prioritize for Historic City and Northern Range enhancements.
AD 1b	**Overlay Districts – Gateways and Corridors** Develop overlay districts for gateways and corridors (e.g., E-470, Highway 2) to address corridor improvements and future development.
AD 1c	**Beautification Programs** Develop *Adopt-a…* (highway, street, trail open space, etc.) programs with businesses and community organizations (for trails, highways, roads). Sponsor volunteer clean-up days and events for public roads and open space areas..

8 Measuring Success

The C3 Vision Comprehensive Plan is a consensus statement of Commerce City's vision, core values, goals, policies, and needed actions, including those related to transportation. The C3 Vision Comprehensive Plan represents a comprehensive summary of where the city is today, where it wants to be tomorrow, and what the community and city need to do to get there. Many of the actions may take years to develop, fund, and implement. Some short-term impacts are likely to be subtle. Some will be more noticeable. Over time, smart decisions and the cumulative effects of city and community actions will result in achieving the future the Plan envisions.

Bus service will expand as Commerce City grows

The C3 Vision Transportation Plan provides more details about the multimodal transportation network envisioned for Commerce City and the strategies required for implementation over the next 25 years. It will be important to regularly monitor the city's progress in attaining the goals of the Transportation Plan over time. Monitoring progress of the Transportation Plan implementation will require measuring changes in key performance measures for the transportation system. Table 8.1 expands the possible transportation indicators that were included in the C3 Vision Comprehensive Plan.

Of the performance indicators listed, Commerce City should choose one or two indicators from each category. The indicators should be relatively easy to gather data on and should provide an intuitive, valid result. The indicators should be a relevant measure of the transportation goals Commerce City is trying to achieve. Using daily transit ridership per capita (1,000) as an example, Commerce City could contact RTD service planners to request data on the number of boardings and alightings that occur at each stop in Commerce City and divide by the City's current population. In 2009 there were 4,520 transit trips (boardings and alightings) that occurred on an average day in Commerce City. The 2008 population (the most recent data available) was 42,473. This results in a performance indicator ratio of 106 transit trips per 1,000 people residing in Commerce City. Over time, the City may choose to adopt specific targets.

Like the Comprehensive Plan, this Plan recommends that the city monitor progress periodically and report to the City Council and the community changes in the performance indicators. The city should issue a report every year, documenting areas showing positive progress and recommending changes in areas in need of continued work.

Transportation Plan Amendments and Updates

For this Plan to remain valid over time, it is recommended that a comprehensive update be conducted every five years. A Plan update will include a re-evaluation of the goals, policies, and

strategies contained within this Plan. This will ensure that the Plan reflects changes in population, land use, economic, physical, social, or political conditions of the city or region. The Plan could also be amended as necessary to reflect changed conditions due to specific developments, adoption of a sub-area plan, or regional funding opportunities, to cite a few examples.

Table 8.1: Transportation Indicators

Related Goals	Target	Possible Indicators
T1 – Improving multimodal system	Additional transportation options; shift modes away from single occupancy vehicle to other modes	• Jobs and shopping opportunities within walking and bicycling distance of residences, 1 and 3 miles respectively. • Mode split. • Funds spent on transit, bike, and pedestrian improvements relative to the road network.
T2 – Street connections, congestion, and safety improvements	Improved traffic flow in hot spots reduce number and severity of crashes, and a create a connected street system	• Number of road miles operating at or over capacity. • Number of road and intersection projects improving network connectivity. • Number of road and intersection projects reducing congestion and delay and improve alternate mode mobility. • Number of traffic calming projects. • Crash rates for intersections and roadway segments. • Number of bicycle and pedestrian crashes.
T3 – Improving bicycle and pedestrian access	Increased bicycle and sidewalk connections and safety	• Connectivity index to measure walkability • Linear feet of sidewalks and multiuse paths built and repaired. • Number of new crosswalk improvements. • Bicycle facilities built and routes designated. • Number and rate of accidents involving alternate modes. • Number of local streets with 25 or 30 mph speed limit. • Portion of new developments within five minute walking distance to transit stop/station.
T4 – Transit service	Increased availability of transit for all residents	• Annual transit ridership per capita. • Route miles with 30 minute headways. • New transit routes. • Number of households (or percentage) that are within a quarter mile of a bus stop. • Number of RTD stops. • Number of park-n-Ride facilities. • Transit service hours per capita. • Portion of new developments within five minute walking distance to transit stop/station.
T5 – Expanding connected trails	Increased trail system and availability to households	• Linear feet of trail/paths per capita. • Linear feet of trails built and repaired. • Number of households (or percentages) that are within half-mile of a multi-purpose trail.
T6 – Coordinating regionally	Additional regional coordination	• Funding allocation to projects wholly or partially sponsored by Commerce City
AD 1 – Gateways and corridors	Improve appearance of gateways and corridors	• Number of volunteer hours for city cleanup effort. • Number of trees planted in public places and along public streets. • Funds for enhancement (i.e., matching grants received from state or federal sources). • Community survey - image rating. • Number of new local and highway signs installed.