

Table 2: Recommended Improvement Projects - Northeast Area Transit Evaluation

| Project Location/Type | Description | Document Source |
|------------------------------------|---|---|
| US 85 | | |
| US 85 interchange/Baseline (WCR 2) | Single-point diamond interchange | City of Brighton Transportation Master Plan |
| US 85/Bromley interchange | Single-point diamond interchange | City of Brighton Transportation Master Plan |
| US 85/144th Ave interchange | New interchange | City of Brighton Transportation Master Plan |
| US 85/136th Ave interchange | New interchange | City of Brighton Transportation Master Plan |
| US 85/120th interchange | New interchange | City of Brighton Transportation Master Plan |
| US 85/104th Ave interchange | New interchange with grade separation of the UP tracks | US 85 Access Control Plan I-76 to WCR 80 |
| US 85/112th Ave interchange | New interchange | US 85 Access Control Plan I-76 to WCR 80 |
| SH2 | | |
| Acquisition of road section | City acquire SH 2 from CDOT | Derby Area Study |
| Roadway redesign | Reconfigure SH 2 as boulevard in Derby area Preserve ROW for rapid transit | Derby Area Study |
| ROW preservation | The trail shares the railroad and road ROW. | RTD 3 Corridor Scoping Study |

Table 3: Fiscally Constrained 2030 RTP Roadway and Rapid Transit Capital Improvements - Northeast Area Transit Evaluation

| <i>Programmed Improvement Projects</i> | <i>Project Location</i> | <i>Description</i> | <i>Length (miles)</i> | <i>New Lanes</i> | <i>Cost Estimate Fiscal Year (FY) '05 to FY '30 ('05 \$ millions)</i> | <i>County(ies)</i> |
|--|--|-------------------------|-----------------------|------------------|---|--------------------|
| <i>Current Projects Identified in the 2005-2010 TIP/STIP</i> | | | | | | |
| Regional Roadway System - Regionally Significant Projects | | | | | | |
| | 120th Ave: Holly Street to Quebec Street | Add through lane(s) | 1.0 | 2 | \$2.9 | Adams |
| | | | | Subtotal | \$2.9 | |
| 100% Locally Derived Funding | | | | | | |
| | 104th Ave: SH-2 to E-470 | Add through lanes(s) | 4.6 | 2 | \$24.4 | Adams |
| | Bromley Ln. Sable Blvd to Tower Rd | Add through lanes(s) | 2.5 | 4 | \$15.4 | Adams |
| | Bromley Ln. Tower Rd to I-76 | Add through lanes(s) | 1.1 | 2 | \$1.4 | Adams |
| | Buckley Rd. 136th Ave to Bromley Ln | New road | 2.0 | 4 | \$12.2 | Adams |
| | I-76: E-470 | Reconstruct interchange | | | \$20.0 | Adams |
| | | | | Subtotal | \$73.4 | |

Table 2: Recommended Improvement Projects - Northeast Area Transit Evaluation (cont.)

| Project Location/Type | Description | Document Source |
|-----------------------|--|--|
| UP | | |
| Bromley Lane crossing | Grade separation | US 85 Access Control Plan I-76 to WCR 80 |
| Other | | |
| Adams Crossing | Light rail alignment that parallels BNSF ROW, then north along Chambers Road, east along north side of E-470 ROW, north along Brighton Esplanade (SH-2 alignment). Light rail station identified just southwest of the government center, in the center of the Adams Crossing development. | Adams Crossing – Adams County Government Center, City Council Presentation |

Table 2: Recommended Improvement Projects - Northeast Area Transit Evaluation (cont.)

| Project Location/Type | Description | Document Source |
|--|---|---|
| E-470 | | |
| Sable/E-470 interchange | Reconstruct | City of Brighton Transportation Master Plan |
| E-470/US 85 interchange | New | Brighton Comprehensive Plan |
| E-470/Nome Street interchange | New | US 85 Access Control Plan I-76 to WCR 80 |
| E-470/Potomac Interchange | Recommended that Potomac Street be realigned and constructed as a four lane arterial from I-76 to E-470 and the E-470/Potomac interchange be constructed. | City of Brighton South Sub-Area Plan |
| I-76 | | |
| Expanded bus service | Increased bus service through Commerce City and Brighton | Adams County Transportation Plan |
| Trail network | 7.1 mille paved 12' -wide concrete multi-use trail following the E-470 ROW through Commerce City | Prairieways Action Plan |
| 120th Avenue | | |
| Grade separation of 120th Ave over UP tracks | Grade-crossing of the UP rail tracks to the east of US 85 occur once traffic volumes on 120th Avenue approach 30,000 vehicles per day. | City of Brighton Transportation Master Plan; City of Brighton South Sub-Area Plan |

Table 3: Fiscally Constrained 2030 RTP Roadway and Rapid Transit Capital Improvements - Northeast Area Transit Evaluation (cont.)

| Project Location | Description | Length (miles) | New Lanes | Cost Estimate FY '05 to FY '30 ('05 \$ millions) | County(ies) |
|---|-------------------------|----------------|-----------|--|---------------|
| Other Future Improvements - Eligible for Future TIP Funds | | | | | |
| 104th Ave. Colorado Blvd to US-85 | Add through lanes(s) | 3.0 | 2 | \$25.0 | Adams |
| Colorado Blvd. I-76 to 92nd Ave (+ interchange at I-76 and Vasquez) | New road | 1.8 | 4 | \$61.4 | Adams |
| I-270 Vasquez Blvd to Quebec St | Add through lanes(s) | 2.2 | 2 | \$100.0 | Adams |
| SH-7: 164th Ave to US-85 | Add through lanes(s) | 8.0 | 2 | \$32.5 | Adams |
| US-85: Bromley Lane | New interchange | | | \$37.1 | Adams |
| | | | Subtotal | \$256.0 | |
| New Regional Transit | | | | | |
| North Metro Corridor | Rapid Transit Rail Line | 18.0 | | \$345.0 | Denver, Adams |

OPERATIONAL, POLICY AND DESIGN ANALYSIS

The project team performed research regarding certain operational, policy and design guidelines that may need to be considered for the development of a fixed-guideway transit system. Information was gathered from meetings with RTD, CDOT, the E-470 Toll Authority and railroads, as well as existing documentation. This inventory of information can be used as a base toward additional fact-finding steps needed to implement the system in the Northeast area.

Regional Transportation District (RTD)

Rail Design

General design parameters for transit alignments are based on RTD’s 2000 “Light Rail Design Criteria” and 2005 draft summary of Commuter Rail criteria.

The table below shows the general design parameters for transit alignments:

Table 4: General Design Parameters

| Item | Light Rail | Commuter Rail |
|------------------------------------|------------|---------------|
| Minimum Vertical Clearance | 16'-0" | 23'-6" |
| Track Centers | 14'-0" | 16'-0" |
| Track Centers at Freight Railroads | 25'-0" | 25'-0" |
| Maximum Grade | 6.0% | 2.5% |
| Maximum Design Speed | 79 mph | 79 mph |

Park-n-Ride/Station Design

The approximate areas for park-n-Rides are based on 80 spaces per acre for at-grade parking requirements. This includes the area required for the bus operations interface with the transit line.

Colorado Department of Transportation (CDOT)

General

Roadway improvements are to be designed in accordance with CDOT Roadway Design Guidelines and the American association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Streets and Highways.

US 85

Portions of US 85 are within the UP ROW, which will impact the addition of lanes on US 85, track or stations along the UP line. A grade separation is less likely for the UP line at 104th Avenue if freight traffic is relocated. Future interchanges and improvements will require the use of part of the railroad ROW. The general plan is for all interchanges will require a shift in the highway east into portions of the railroad ROW. Future plans call

Table 3: Fiscally Constrained 2030 RTP Roadway and Rapid Transit Capital Improvements - Northeast Area Transit Evaluation (cont.)

| FTA Section 5310 and 5311 Awards, 2000 to 2005 | | 5310 | 5311 | |
|--|---------------------------------|----------------|----------------|----------------|
| | Amount Awarded | Amount Awarded | Amount Awarded | |
| Adams County | \$119,001 | \$0 | Adams | |
| Special Transit | \$702,400 | \$1,420,100 | Boulder, Adams | |
| Long-Term Identified Needs for Increased Service | | | | |
| Adams County Community Transit | purchase 4 additional vans | | \$220,000 | Adams |
| Adams County Community Transit | increase operations 5% annually | | \$430,000 | Adams |
| Special Transit | increase service 5% annually | | \$3,100,000 | Boulder, Adams |
| Special Transit | expand Mobility program | | \$760,000 | Boulder, Adams |
| Special Transit | expand reimbursement program | | \$120,000 | Boulder, Adams |
| Special Transit | purchase 1 vehicle annually | | \$900,000 | Boulder, Adams |
| Special Transit | construct new facility | | \$6,000,000 | Boulder, Adams |

Table 3: Fiscally Constrained 2030 RTP Roadway and Rapid Transit Capital Improvements - Northeast Area Transit Evaluation (cont.)

| Short-Term Identified Needs for Increased Service - Specialized Providers | | Cost 2005-2010 (2005 dollars) |
|--|---|--------------------------------------|
| Adams County Community Transit | purchase 5 additional vans | Adams |
| Adams County Community Transit | increase operations 5% annually | Adams |
| Special Transit | increase service by 3% annually | Boulder, Adams |
| Special Transit | expand Mobility Assessment and Travel Training program | Boulder, Adams |
| Short-Term Identified Needs for Increased Service - Specialized Providers | | Cost 2005-2010 (2005 dollars) |
| Special Transit | expand mileage reimbursement program | Boulder, Adams |
| Special Transit | purchase new vehicles, 1 per year | Boulder, Adams |
| Special Transit | purchase global positioning system (GPS) software and equipment | Boulder, Adams |
| Special Transit | upgrade compressed natural gas (CNG) fueling software | Boulder, Adams |
| Special Transit | Renovate Operations Center | Boulder, Adams |

Table 3: Fiscally Constrained 2030 RTP Roadway and Rapid Transit Capital Improvements - Northeast Area Transit Evaluation (cont.)

| Project Location | Description | Length (miles) | New Lanes | Cost Estimate FY '05 to FY '30 ('05 \$ millions) | County(ies) |
|---|------------------------------|----------------|-----------|--|--|
| Other Related Regional Transit Projects: | | | | | |
| East Corridor | Rapid Transit Rail Line | 23.6 | | \$600.0 | Denver, Adams |
| Gold Line | Rapid Transit Rail Line | 11.2 | | \$360.0 | Jefferson, Adams, Denver |
| I-225 Corridor | Light Rail Transit Line | 10.5 | | \$350.0 | Denver, Adams, Arapahoe |
| US-36 Corridor+Longmont Extension | Rapid Transit Rail Line | 38.1 | | \$450.0 | Denver, Boulder, Jefferson |
| RTD Bus System Expansion | Bus Routes & park-n-Rides | | | \$80.0 | Adams, Arapahoe, Boulder, Denver, Douglas, Jefferson |
| Maintenance Facilities | Rail and Bus | | | \$225.0 | Adams, Arapahoe, Boulder, Denver, Douglas, Jefferson |
| Other items funded through FasTracks | ITS, grade seps, project mgt | | | \$340.0 | |

for CDOT to utilize and acquire ROW all along the corridor (source: CDOT Public Benefits and Cost Study).

The City of Brighton would like a future park-n-Ride near the intersection of US 85 and 136th Avenue.

The Brighton Comprehensive Plan states that the corridor lying between US 85 and the railroad should be kept open for farming in order to enhance the entranceway to the community as well as to keep open the City's options for the location of potential future commuter rail facilities.

SH 2

Conceptual plans have been developed for a four-lane facility along the corridor from Quebec Parkway to I-76. While CDOT has no expansion plans in place, Commerce City may have plans. There is an issue of limited ROW and additional roadway elements would be difficult to construct. An additional rail line would further restrict space for roadway improvements (source: RTD 3 Corridor Scoping Study).

The City of Brighton would like to assume responsibility for SH 2 from CDOT.

A 9.6 mile paved 12'-wide multi-use trail is planned following the west side of SH 2 from Vasquez Boulevard to 114th Avenue. The trail would share the railroad and road ROW (see Prairieways Action Plan).

I-76

No operational changes are planned for I-76, with the exception of a potential future HOV lane between 120th Avenue and I-25. Bus/HOV facilities would be either barrier or buffer separated depending on location (source: RTD 3 Corridor Scoping Study).

Interchange improvements are programmed at 104th Avenue and E-470, along with a 250-space park-n-Ride at Bromley Lane and I-76.

E-470

Interchanges

A new intersection is proposed near the E-470 and Nome Street interchange (source: US 85 Access Control Plan I-76 to WCR 80). The E-470 and Potomac interchange is on the 2030 plan. Future ramps are planned at I-76 and E-470.

ROW

The ROW along E-470 is 300 feet, with an additional 75 feet on each side of the roadway for an easement. The total ROW at Potomac Street is 450 feet.

An existing overpass exists at Sable and E-470. This interchange will shift to Potomac once the CDOT 1601 review process is complete and the interchange is built. The Sable overpass will then be available to potentially retrofit for high-capacity rail.

Adams County policy is to preserve future development opportunities associated with the construction of E-470 in a manner that maintains and improves the quality of life for

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or the purchase of various properties as they may become available. The Plan also states that the type of transit technology in each of these corridors has not been identified, but several are probably constrained by existing conditions. The Plan identifies two active rail mainline tracks along which the potential for commuter rail service should be preserved: The BNSF line in Westminster and the UP line through Commerce City and Brighton. The document also lists highways as preservation corridors where HOV lanes or light-rail lines might be located in the future, including the entire E-470/Northwest Parkway, and I-76 between I-25 and 120th Avenue. (Adams County Transportation Plan, Long Range Transit Element).

The Brighton Comprehensive Plan noted an effort by the city to maintain adequate land in all development projects that are near the rail line for the possibility of transit parking. The Commerce City New Lands Comprehensive Plan states that the city must be concerned primarily with two aspects of fixed-guideway transit: the location of transit stops, and an adequate feeder system for these transit stops.

Conceptual layouts of potential alignments are featured in the next section to determine the availability of additional ROW needed for rail expansion.

Table 5: UP Grade Crossings

| Existing at-grade crossings | Maximum Train Speed (mph)* | Number of travel lanes |
|-----------------------------------|----------------------------|------------------------|
| Bromley at Main | 79 | 4 |
| 144 th Avenue at US 85 | 79 | 2 |
| 136 th Avenue at US 85 | 79 | 2 |
| 132 nd Avenue at US 85 | 79 | 2 |
| 104 th Avenue at US 85 | 79 | 2 |
| 96 th Ave at 176 | 79 | 2 |
| 88 th Ave at Rosemary | 79 | 2 |

(source: CDOT Public Benefits and Cost Study)

* Maximum operating speeds relate to signals, track condition and track geometry and do not reflect how fast the trains actually operate.

According to the CDOT Public Benefits and Cost Study, the UP railroad currently operates 14 trains per day and anticipates operating 19 trains per day by 2030 within the study area.

Burlington Northern & Santa Fe (BNSF)

Operations

The BNSF railroad currently has at-grade crossings and maximum operating train speeds at the following locations (actual speeds may vary):

Table 6: BNSF Grade Crossings

| Existing at-grade crossings | Maximum Train Speed (mph)* | Number of travel lanes |
|-------------------------------|----------------------------|------------------------|
| Bromley | 79 | 2 |
| East 120 th Avenue | 79 | 4 |
| Potomac Street | 79 | 2 |
| 104 th Avenue | 79 | 2 |
| 88 th Avenue | 79 | 2 |
| 80 th Avenue | 79 | 4 |
| 72 nd Avenue | 79 | 4 |
| 56 th Avenue | 40 | 2 |

(CDOT Public Benefits and Cost Study)

* Maximum operating speeds relate to signals, track condition and track geometry and do not reflect how fast the trains actually operate.

According to the CDOT Public Benefits and Cost Study, the BNSF railroad currently operates 32 trains per day and anticipates operating 45 trains per day by 2030 within the study area.

Area-wide Corridor Preservation and Land Development

Policy documents also addressed corridor preservation efforts. The Adams County Transportation Plan, Long Range Transit Element, states that until specific projects are identified and funding becomes available it is recommended that corridor preservation actions be taken in the short-term to ensure that future options are not precluded. The Plan states that preservation actions may include a combination of regulatory measures

County residents, while enhancing economic opportunities. E-470 has been designed to provide adequate ROW for fixed-guideway transit (see Adams County Comprehensive Plan).

A 7.1 mile paved 12'-wide concrete multi-use trail is planned in the north side of the E-470 ROW through Commerce City. The trail runs along a landscape corridor in the highway ROW set back far enough from the roadway to reduce traffic noise impacts on trail users. The trail continues along the entire length of E-470 from I-25 north to I-25 south (Prairieways Action Plan).

In order to operate within the E-470 ROW, the Public Highway Authority could sell a portion of the utility corridor or a common use agreement could be established. Note that the E-470 Authority owns the bridge that crosses the UP-Greeley line and UP-Boulder Branch.

Potential Rail Alignments

The water table in the area is high, which could impact the type of crossing (underpass verses overpass) of a rail line constructed at E-470. If the rail line extends along the east side of the BNSF line, it would need to flyover I-76 and E-470. This could be done with a single flyover and consist of a suspension station. In order to reach the US 85 alignment, the rail line would need to bridge over the existing rail line and ditch and extend between US 85 and the existing UP line.

Union Pacific (UP)

ROW

Most of the UP ROW along the US 85 corridor is on the west side of the existing track alignment. The 2020 Transportation Plan includes funds to purchase the UP ROW through Northglenn and Thornton (Boulder Branch). The average cost for this ROW was assumed to be \$0.50 per square foot for estimating purposes (source: Adams County Transportation Plan). Portions of US 85 are within the UP ROW, which will impact the addition of lanes on US 85, track or stations along the UP line. Expansion of lanes or track and stations along the UP line will also require the relocation of utilities (source: CDOT Public Benefits and Cost Study).

Operations

The UP railroad currently has at-grade crossings and maximum operating train speeds at the following locations (actual speeds may vary):



UP line south of Bridge Street (Hwy 7)

TECHNOLOGY CONSIDERATIONS

Technology considerations for the NATE study focused on commuter corridor-type service with widely spaced stations, versus local access service with more closely-spaced stations. It was agreed by the study's working committee that the type of service between Brighton and Denver should be express, with stops only at selected activity areas. A regional-type of transit was thought to attract the majority of riders as opposed to local service. Local service could exist through enhanced local bus feeder routes and the FastConnects bus system. For the purposes of this study, the following technology considerations were discussed:

Commuter Rail

The study identified the following factors that should be considered with the operation of commuter rail to serve the NATE study area:

- Commuter rail could operate within the existing UP or BNSF ROW, since the technology is considered to be freight-compliant.
- The type of commuter rail was not considered as part of this study. DMU or Electrified Multiple Unit (EMU) should be examined in future studies. Factors that may impact the selected technology include available ROW and types of technologies selected for the FasTracks system. Note, as of the issuance of this report a preferred technology has not been chosen for the North Metro corridor.
- Two additional rail lines would need to be constructed to run commuter rail service due to existing and future freight activity along the UP and BNSF rail lines.
- Regardless of the type of commuter rail technology chosen, the rail service could be impacted by numerous rail spurs that service existing commercial and industrial uses.
- Service within the UP-Greeley corridor and within the BNSF-Chicago corridor would operate on two separate tracks and a maximum speed of 79 mph.
- An average ROW of 50 feet is needed for two commuter rail tracks in addition to space for an easement to locate utilities and drainage improvements. This ROW requirement may be difficult within some areas of an alignment that is outside the existing railroad ROW.
- Tail tracks for an end-of-line station in downtown Brighton would most likely be placed on the north side of SH 7/Bridge Street due to space requirements.
- The cost would be less for DMU/EMU than LRT if operation occurs within the existing track alignments and ROW.
- Most existing structures would need to be retrofitted or reconstructed to accommodate additional commuter rail tracks.

INITIAL ALTERNATIVES IDENTIFICATION AND EVALUATION

This section provides a description of initial alternatives for the NATE study and the results from the preliminary evaluation of those alternatives. The alternatives were developed by the project working committee during a work session on November 15, 2006. Evaluation criteria were identified during a working committee meeting on November 8, 2006, and preliminary screening results were presented in December 2006. The RTD Team discussed evaluation criteria and preliminary screening results during a meeting on January 24, 2007.

Initial Alternatives

The attached “Initial Alternatives” text summary and Figure 14, Alternative Alignments Map, represent the alternatives recommended by the project team for consideration in future studies. The recommendations were based on the consideration of existing and future land uses, future population and employment data, environmental resources, and previous studies.

There are three basic alignment corridors as shown on the attached map, all with the base technology of commuter rail. The alignment corridors and associated transit technologies include:

- Commuter rail along the UP railroad – Greeley Line between Commerce City and Downtown Brighton.
- Commuter rail along the BNSF – Chicago Line between Commerce City and SH 7.
- Commuter rail alignment along the BNSF from Commerce City to just south of E-470, crossing E-470 in the area of Potomac Street, then continuing north and east to the UP alignment, and ending near the SH 2/US 85/UP railroad convergence area at the old depot (near SH 7), or “Cross-Country” alignment.

The consensus alignment by the working committee based on an analysis of evaluation criteria and consideration of factors described later in this section is to operate commuter rail north from Commerce City along the BNSF ROW to the Adams County Government Center (124th Avenue), then extend along the US 85 ROW north to downtown Brighton.

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Other

Other factors that should be considered in future technology evaluation for the study area include:

- The Prairie Falcon Parkway project by CDOT should be considered as an option to divert freight traffic.
- The impact of CDOT's Colorado Rail Relocation Study could result in less freight traffic along the UP and BNSF rail lines. A reduction in freight traffic could provide an opportunity to conduct commuter rail service on existing tracks.
- Existing and future land use plans could impact the type of technology for the corridor. If the desire is to provide service to multiple activity areas, LRT technology may be preferred. Additional ROW would be needed outside of the railroad ROW, which could affect existing land use and street designs.

In the next section, the project team has applied the information gained through data collection and technology considerations toward the development of evaluation criteria and the analysis of alternative alignments.

Light Rail Transit

The study identified the following factors that should be considered with the operation of light rail to serve the NATE study area:

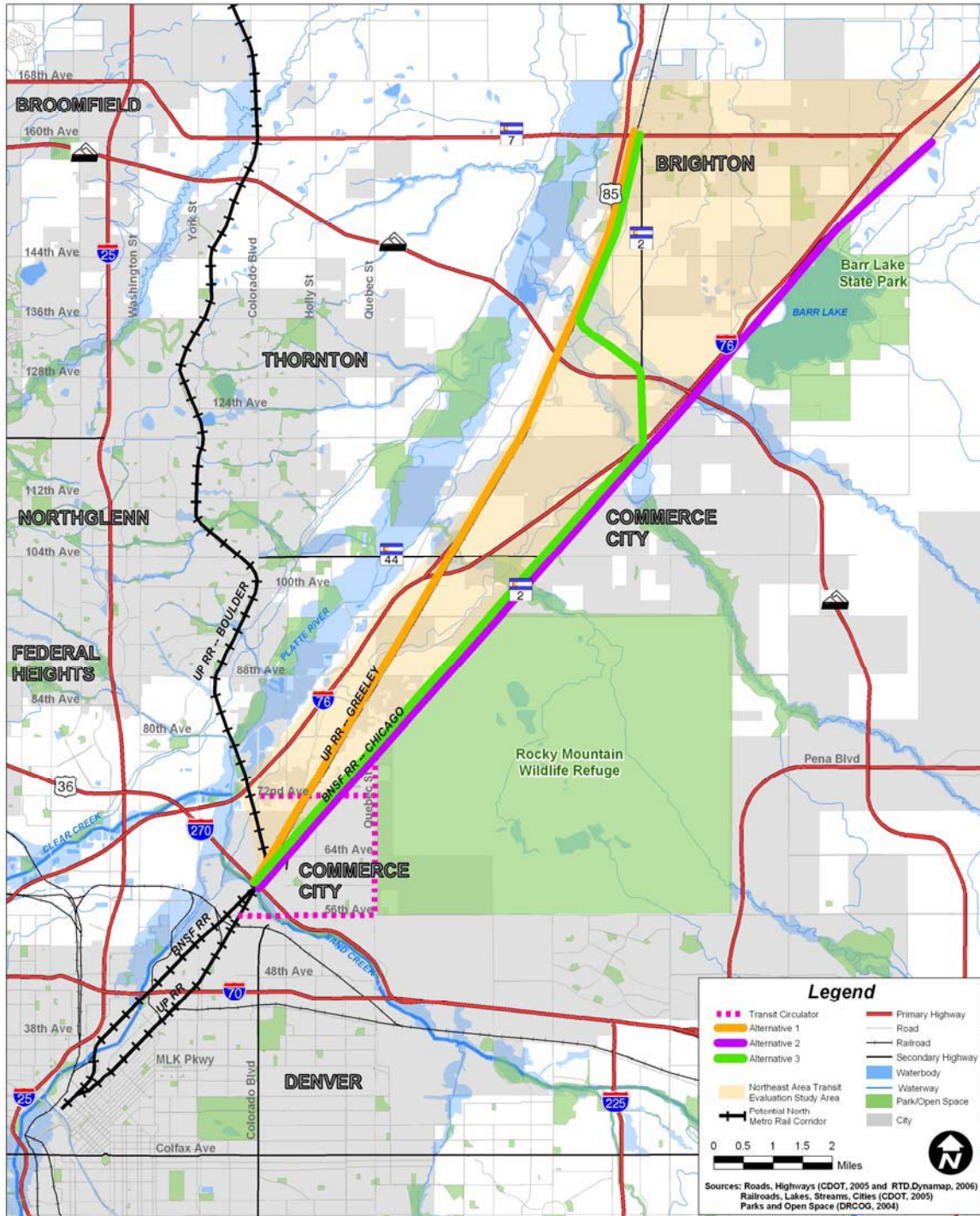
- LRT technology is not compatible adjacent to freight tracks within the railroad ROW, and there are operational issues related to an LRT line extension from Denver Union Station (DUS) to the northeast due to limited space between the UP and BNSF lines.
- The cost for new LRT track is \$40M/mile x 20 miles to Brighton. LRT may be too expensive in relationship with ridership potential.
- There is insufficient space to accommodate LRT into DUS from a north approach.
- If LRT was a preferred technology, transfer stations would be needed to accommodate connections with the FasTracks system.
- There is a need to reconcile the type of technology and purpose for an on-street system. LRT would have different ROW needs and signaling requirements than a streetcar system. A connector system would need to provide service to multiple corridors and stations, while a system used to connect activity areas could be designed as more of a circulator service and may not need to access rail stations or transfer stations.

Express Bus/Bus Rapid Transit

The study identified the following factors that should be considered with the operation of express or bus rapid transit (BRT) to serve the NATE study area:

- There may be a need to break up an on-street system into logical, affordable segments and initially provide bus service.
- Consideration should be given regarding the North Front Range Study, specifically a recommendation of express bus service along the US 85 Corridor. It is questioned whether environmental clearance is needed for additional service concepts along US 85 if the North Front Range Record of Decision includes express bus service on US 85.
- Ridership estimates will have an input into the technologies appropriate to the area of service. Note, the North Front Range Study identified a daily ridership of 925 persons for express bus service between Brighton and Denver.
- BRT could operate along US 85, SH 2, or I-76 in general purpose lanes or dedicated lanes.

Figure 14: Alternative Alignments Map



Potential Station Locations

The project team and working committee identified potential station locations for each alignment (see Figure 15, Potential Station Location Map). Acreage and parking space requirements were not examined as part of this study. Locations were identified based on an analysis of minimum spacing requirements for commuter rail service, location of planned activity areas and commercial areas, and points of connections to rail corridors. General potential station location areas include:

UP Railroad Alignment

- Area between 64th Avenue and 72nd Avenue (connection to North Metro Corridor)
- 120th Avenue and US 85
- Downtown Brighton (Old Depot station area) end of line station

BNSF Railroad Alignment

- Area between 64th Avenue and 72nd Avenue (connection to North Metro Corridor)
- 72nd Avenue at Derby Redevelopment Area
- 104th Avenue (relocate existing park-n-Ride at southeast corner of 104th Avenue and SH 2)
- Area between 124th Avenue and E-470 (serve Adams County Government Center)
- Bromley Lane near I-76 (park-n-Ride is included in FasTracks program)

“Cross-Country” Alignment

- Area between 64th Avenue and 72nd Avenue (connection to North Metro Corridor)
- 72nd Avenue at Derby Redevelopment Area
- Area between 124th Avenue and E-470 (serve Adams County Government Center)
- 136th Avenue and US 85 (UP alignment connection)
- Downtown Brighton (Old Depot station area) end of line station

An end-of-line station should consider an extended area for vehicle layover and tail tracks for vehicle turnaround. This

study identified these factors and recommends potential end-of-line station north of SH 7/Bridge Street. In addition, a maintenance facility was not included in this study,



Potential Brighton end-of-line station area north of Hwy 7

Figure 16: Transit Circulator Map

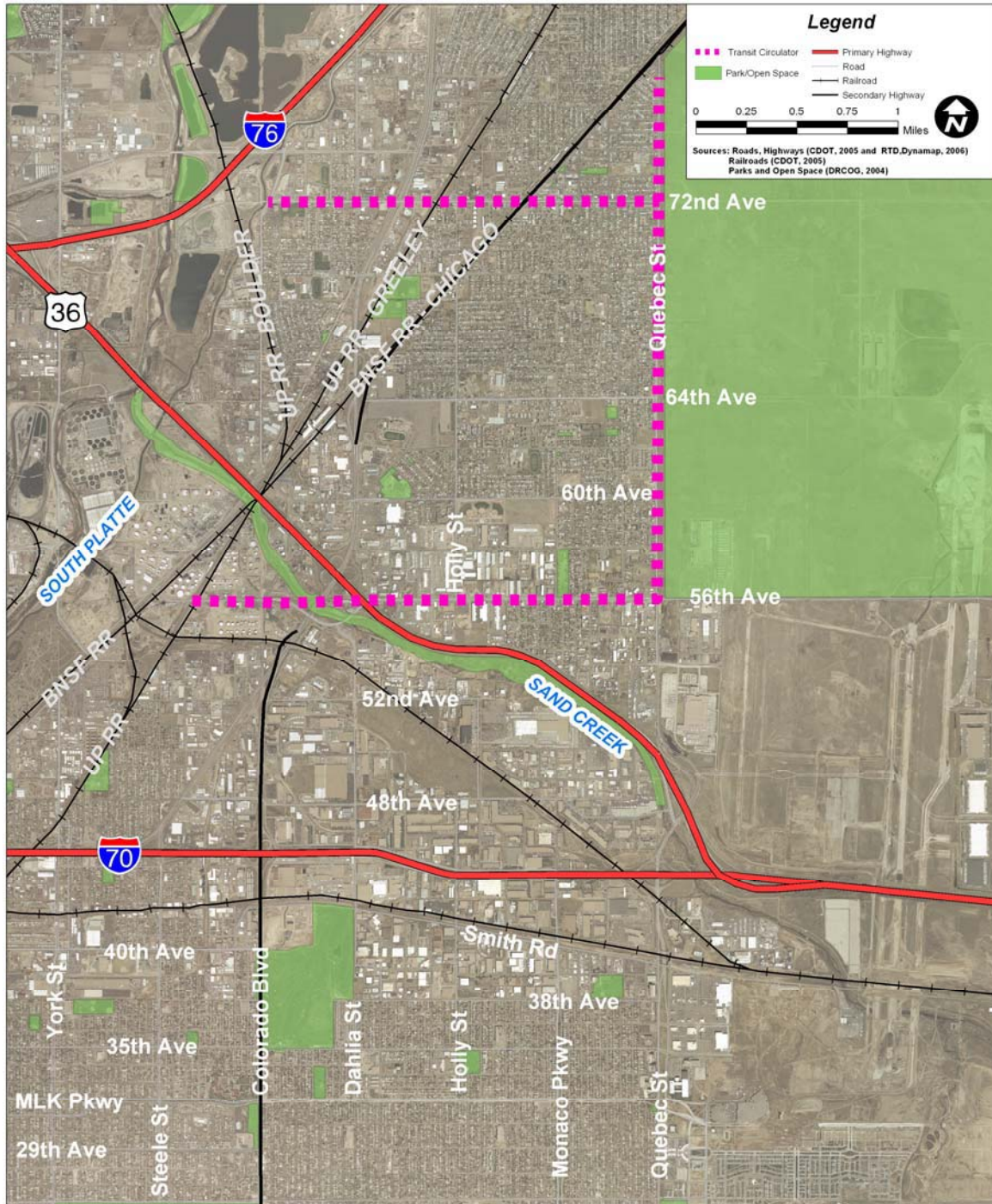
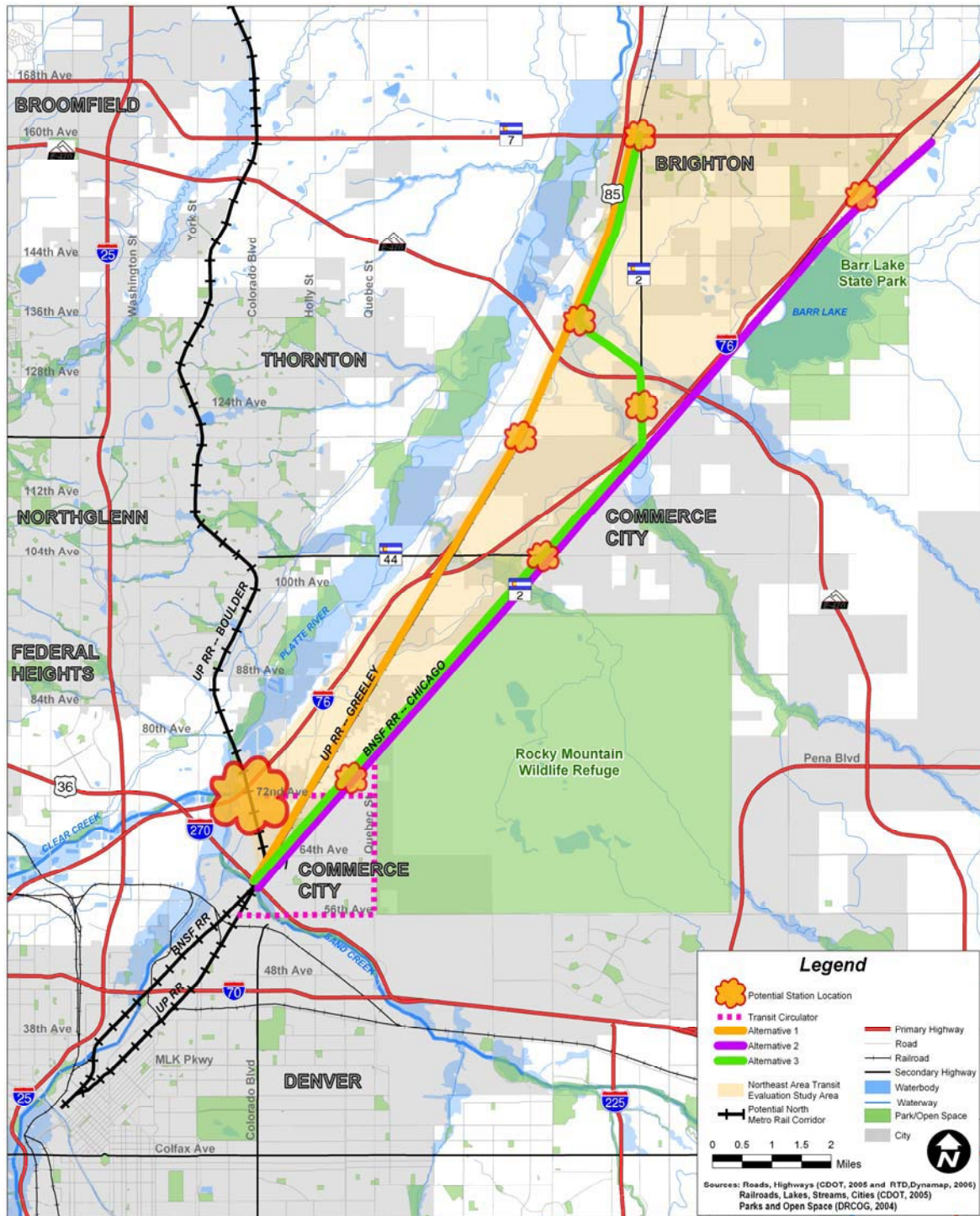


Figure 15: Potential Station Location Map



although the City of Brighton indicated an interest to have such a facility operate within Brighton city limits.

An alignment is also shown for an on-street transit circulator system, which was considered as a support transit system for the alternatives (see Figure 16). Transit circulator alternative alignments include:

- Quebec Street (north-south) from the BNSF line south to 56th Avenue.
- 72nd Avenue (east-west) from Quebec Street west to the North Metro Corridor.
- 56th Avenue (east-west) from Quebec Street west to the North Metro Corridor.

There also may be an opportunity to connect the transit circulator system between Commerce City and the East Corridor (Stapleton Station).

An alignment to DUS is not included as part of this study. Rather, the focus on the south end of the study area is to connect to the FasTracks system.

Initial Screening Results

The study team reviewed preliminary screening results of the initial alternative alignments at the Alternatives Identification work session held on November 15, 2006. While all alternatives meet the general purpose and goals of the study, the alternatives meet the evaluation criteria to differing degrees. Table 7 provides a summary of the alternatives evaluation.

Table 7: Preliminary Screening Results

| Alignment Number: | 1 | 2a | 2b | 3a | 3b |
|---|---------------------------------------|--------------------------|-----------------------------------|----------------------|-----------------------------------|
| Alignments: | Commerce City to Brighton via: | | | | |
| | UP-Greeley Line | BNSF-Chicago Line | BNSF-Chicago Line | BNSF/E-470/UP | BNSF/E-470/UP |
| Technology: | Commuter Rail | Commuter Rail | Commuter Rail /Transit Circulator | Commuter Rail | Commuter Rail /Transit Circulator |
| | | | | | |
| Does the alternative meet the project purpose and goal: | Yes | Yes | Yes | Yes | Yes |
| How does the alternative perform against the evaluation criteria: | | | | | |
| 1. Compatible with Land Use Plans? | Mid | Mid | Mid | Low-Mid | Low-Mid |
| 2. Potential Ridership (magnitude of ridership potential)? | Mid | High | Mid-High | Mid-High | High |
| 3. Engineering Feasibility/Constructability? | High | Mid-High | Low-Mid | Low-Mid | Low |
| 4. ROW Availability? | High | High | Low-Mid | Low-Mid | Low |
| 5. Environmental Impact? | Low | Mid | Mid | Mid | Mid |
| 6. Agency/Stakeholder Agreement? | Low-Mid | Low-Mid | Low-Mid | High | High |
| 7. Safety Risk? | Low | Low | Mid | Mid-High | Mid-High |
| 8. Affordability? | High | Mid | Low | Low | Low |
| 9. Connectivity opportunities to North Metro/FasTracks system | High | Low-Mid | Mid | Low-Mid | Low-Mid |
| Preliminary Findings: | Mid-High | Mid | Low-Mid | Low-Mid | Low-Mid |

Alignment 3b

BNSF/E-470/UP alignment (Commuter Rail/Transit Circulator): Commerce City via on-street circulator, connect to BNSF rail line via Quebec St, to 124th Ave, cross-country to UP rail line to Brighton

1. Compatible with Land Use Plans? Low-Mid: Compatible with future land uses to reach activity centers and future major developments but may have significant property impacts due to curvatures required for commuter rail.
2. Potential Ridership? High: Serves major activity areas in Commerce City and Brighton but does not serve hospital or large residential developments in Brighton.
3. Engineering Feasibility/Constructability? Low: Feasible to engineer but issues could exist with Transit Circulator connections and operations along streets. Would need large flyover to cross I-76 and E-470, and potential curvature issues to connect to UP alignment.
4. ROW Availability? Low: Assume operation within BNSF and UP ROW, low ROW availability between rail lines. Would require property takings to run commuter rail line adjacent to Sable Blvd. and achieve connections due to large curvature requirements. Available ROW along Quebec Street, uncertain ROW along 72nd and 56th Avenues.
5. Environmental Impact? Mid: Potential environmental impacts along Quebec St., crosses Third Creek, wetlands and ditch near US 85.
6. Agency/Stakeholder Agreement? High: Reaches identified activity centers (Derby development, Commerce City Civic Center, new high school and stadium; Adams County Government Center; and Downtown Brighton).
7. Safety Risk? Mid-High: Uncertain street crossing of Transit Circulator, assume operation within railroad ROW with uncertain crossings between rail lines.
8. Affordability? Low: Requires on-street construction, overpasses/flyovers crossing I-76 and E-470, significant ROW/property purchases between rail lines, and preservation of BNSF corridor. High potential to operate within UP ROW. Would require structure over UP-Greeley line and ROW with property takings along 72nd Avenue to correct to North Metro Corridor.
9. Connectivity opportunities to North Metro/FasTracks system: Low-Mid: Connects to local bus routes, 104th/SH 2 and downtown Brighton park-n-Rides. Would need to connect to North Metro corridor at 72nd Avenue.

Preliminary Finding: Low-Mid level

The following considerations were made by the Working Committee and RTD during the alternative alignment evaluation process:

8. Affordability? Low: Need operating agreement to operate within BNSF ROW, structures required over drainage channels and E-470/SH 2 interchange, large on-street construction and operation costs for transit circulator.
9. Connectivity opportunities to North Metro/FasTracks system? Mid: Connects to local bus routes and provides access to 104th/SH 2 and I-76/Bromley (planned) park-n-Rides. Would need to connect to North Metro corridor at 72nd Avenue.

Preliminary Finding: Low-Mid level

Alignment 3a

BNSF/E-470/UP alignment (Commuter Rail): Commerce City via BNSF rail line to 124th Ave, cross-country to UP rail line, north/south to Brighton

1. Compatible with Land Use Plans? Mid: Most compatible with future land use to reach activity centers and future major developments but may have significant property impacts due to curvatures required for commuter rail.
2. Potential Ridership? Mid-High: Serves major activity areas in Commerce City and Brighton but does not serve hospital or large residential developments in Brighton.
3. Engineering Feasibility/Constructability? Low-Mid: Feasible to engineer but requires large flyover to cross I-76 and E-470, and curvature requirements to connect to UP alignment. Would require most structures of any alignment options due to roadway, rail and drainage crossings.
4. ROW Availability? Low-Mid: Assume operation within the UP ROW and BNSF ROW but uncertain ROW availability and operating ability between rail lines. Need ROW along 72nd Avenue to connect to North Metro Corridor.
5. Environmental Impact? Mid: Crosses Third Creek, wetlands and ditch near US 85; crosses First and Second Creek on BNSF corridor.
6. Agency/Stakeholder Agreement? High: Reaches identified activity centers (Derby development, Adams County Government Center, Downtown Brighton).
7. Safety Risk? Mid-High: Assume operation within railroad ROW for portion of line with minimal grade crossings; may need to run adjacent to residential areas between UP and BNSF line; uncertain crossings between rail lines.
8. Affordability? Low: Requires overpasses/flyovers crossing I-76 and E-470, ROW/property purchases between rail lines, and flyover to cross UP-Greeley line to reach North Metro Corridor.
9. Connectivity opportunities to North Metro/FasTracks system? Low-Mid: Connects to local bus routes, 104th/SH 2 and downtown Brighton park-n-Rides. Would need to connect to North Metro corridor at 72nd Avenue with commuter rail extension between BNSF line and North Metro line.

Preliminary Finding: Low-Mid level

5. Environmental Impact? Mid: Floodplain crossings near 100th Ave., 120th Ave, and E-470; close proximity to Barr Lake. Impact dependent on the side of the rail line.
6. Agency/Stakeholder Agreement? Low: Does not serve downtown Brighton.
7. Safety Risk? Low: Minimal at-grade rail crossings along the BNSF line, assume use of existing overpasses.
8. Affordability? Mid: Assume operation within BNSF ROW which would require operating agreement; may need to construct new overpasses to support additional tracks.
9. Connectivity opportunities to North Metro/FasTracks system? Low-Mid: Connects to local bus routes and provides access to 104th/SH 2 and I-76/Bromley (planned) park-n-Rides. Would need to connect to North Metro corridor at 72nd Avenue with commuter rail extension between BNSF line and North Metro line.

Preliminary Finding: Mid level

Alignment 2b

BNSF-Chicago Line (Commuter Rail/Transit Circulator): Commerce City via on-street circulator, connect to BNSF line via Quebec St, to Brighton via BNSF railroad adjacent to SH 2 and I-76

1. Compatible with Land Use Plans? Mid: Serves activity and population areas but not downtown Brighton. Could serve new hospital and planned park-n-Ride at Bromley and I-76.
2. Potential Ridership? Mid-High: Serves main activity areas, services regional hospital, and is located near largest residential developments. Would require transfer (mode switch) to reach North Metro Corridor.
3. Engineering Feasibility/Constructability? Low-Mid: Issues may exist with on-street Transit Circulator alignment (crossings, signal timing, stops), connection to rail line and operation along streets. Would require larger station area at 72nd Avenue to accommodate mode switch.
4. ROW Availability? Low-Mid: Availability of ROW is undetermined within the BNSF ROW (east side) and would require agreement for operating rights. Transit Circulator alignment along Quebec requires limited property takings due to ROW availability but 72nd Avenue may require many property takings.
5. Environmental Impact? Mid: Some environmental impact may exist along Quebec Street (Transit Circulator alignment) and floodplain crossings near 100th Ave., 120th Ave, and E-470.
6. Agency/Stakeholder Agreement? Low-Mid: Does not serve downtown Brighton but serves downtown Commerce City and Adams County Government Center.
7. Safety Risk? Mid: Some safety risk with Transit Circulator alignment along street but has minimal at-grade rail crossings along the BNSF line.

Detailed criteria measures for each alternative are provided below.

Alignment 1

UP-Greeley Line (Commuter Rail): Commerce City to Brighton via UP railroad adjacent to US 85

1. Compatible with Land Use Plans? Mid: Not compatible with future land use plans to service major activity areas but has lowest impact on land encroachments.
2. Potential Ridership? Mid: Services only one identified activity center, yet could provide the most direct service between Denver and Brighton and future regional park-n-Rides.
3. Engineering Feasibility/Constructability? High: Limited crossings, available ROW, limited structures (drainage channels), and connection to North Metro corridor.
4. ROW Availability? High: UP ROW available within preservation corridor.
5. Environmental Impact? Low: Assume operation within UP ROW. Only crossing of ditch north of E-470. Wetlands south of 104th Ave. and north of E-470.
6. Agency/Stakeholder Agreement? Mid: Serves downtown Brighton and future commercial center at 136th Avenue (per future land use plan) but does not serve Adams County Government Center or downtown Commerce City.
7. Safety Risk? Low: Elimination of at-grade crossings if operated within UP ROW.
8. Affordability? High: Limited structures needed but high potential to operate within UP ROW.
9. Connectivity opportunities to North Metro/FasTracks system? High: Connects to east-west bus routes, and park-n-Ride in downtown Brighton. Connects to North Metro Corridor via commuter rail extension along 72nd Avenue to station.

Preliminary Finding: Mid-High level

Alignment 2a

BNSF-Chicago Line (Commuter Rail): Commerce City to Brighton via BNSF railroad adjacent to SH 2 and I-76

1. Compatible with Land Use Plans? Mid: Serves activity and population areas but not serve downtown Brighton. Could serve new hospital and planned park-n-Ride at Bromley and I-76.
2. Potential Ridership? High: Serves main activity areas, regional hospital, and largest residential developments.
3. Engineering Feasibility/Constructability? Mid-High: Assume operation within BNSF ROW but may need to construct overpasses to cross drainage areas and E-470.
4. ROW Availability? High: Availability of ROW exists within east side of BNSF ROW.

UP Alignment

- The railroad ROW along US 85 extends into the existing road for at least one lane, which could impact the available ROW for commuter rail.
- As shown Figure 16, Roadway Cross Sections, ROW availability exists within the UP alignment.
- There is a higher degree of safety on alignments that would operate within the railroad right of way and have minimal at-grade crossings versus those that would operate in mixed traffic and have multiple at-grade crossings.
- The cost of constructing two additional rail lines and connecting to the North Metro corridor is lower for the UP alignment as compared to the other alternatives.
- The UP-Greeley line could connect to the North Metro line via tracks that leave the UP ROW at approximately 72nd Avenue. The line would continue west and connect to the North Metro line at a station tentatively planned at 72nd Avenue. ROW would be needed in this area only, and could impact the displacement of approximately 20 homes. Many at-grade crossings have been closed along the UP line and an undercrossing exists at E-470. Adequate ROW exists along the remainder of the corridor. As a result, grade separations and land acquisitions are minimal.

BNSF/SH 2 Alignment

- The SH 2 (BNSF) alignment serves the core of Commerce City residential growth areas.
- The BNSF owns a swath of land along the west side of SH 2. Commuter rail along the west side of SH 2 would need to cross numerous rail spurs that service existing commercial and industrial uses.
- If a commuter rail line extends along the east side of the BNSF-Chicago line, it would need to fly over I-76 and E-470. City staff and County staff suggested that this could be done with a single flyover and consist of a suspension station.
- Environmental impacts could be significant on the east side of the BNSF tracks, and each of the alignments cross wetland and floodplain areas.
- Based on a preliminary analysis, tracks along this corridor would need to leave the BNSF line at some point north of Sand Creek to connect to the North Metro line. This would require significant property purchases and a flyover to separate from the UP-Greeley line. Multiple at-grade crossings would be needed once the line leaves the BNSF corridor and connects to the UP corridor. As a result, grade separations (structures) and land acquisitions are high with the BNSF alignment.
- ROW availability exists within the BNSF alignment (see Figure 16, Roadway Cross Sections) but would need an agreement to operate commuter rail within the BNSF ROW (no discussions between RTD and the BNSF as of February 2007).

Since many at-grade crossings have been closed along the corridor, the safety risk along the line is fairly low. An additional station would be needed between downtown Brighton and connection to the North Metro corridor in order to increase ridership.

In comparison, commuter rail operation along the BNSF-Chicago line is compatible with existing and future land use plans, provides the opportunity for high-speed rail service, and has adequate ROW available to add two additional rail tracks for commuter rail service.

Costs are higher to construct and implement due to the need to construct an additional structure over the UP rail line to connect to the North Metro



BNSF line at 72nd Avenue

corridor with high property impacts (see Figure 18), and potential environmental mitigation due to the line's proximity to wetlands and water bodies. Service between the FasTracks system (DUS) and Brighton is not as direct as compared to the UP-Greeley corridor, with a higher safety risk because of the number of existing at-grade crossings.

Commuter rail service along a portion of the BNSF corridor and the UP corridor with a "cross country" line between is supported by all jurisdictions within the study area but has significant land use impacts along with high estimated construction costs. Based on the alignments needed to meet required commuter rail operating speeds and curvatures, Figure 19, "Cross-Country" Alignment Options, shows the potential property impacts of this alternative.



Residential homes adjacent to SH 2

Note, the map shows two alignment options: one showing the most immediate connection to the UP corridor, and one showing an alignment along Sable Boulevard and connection at a point where the UP corridor turns northeast. It appears that either alignment shown on the map would bisect properties and would operate within residential areas, which would increase the safety risk. Future land use plans would need to be updated to reflect the alignment if this alternative was strongly supported by the jurisdictions.

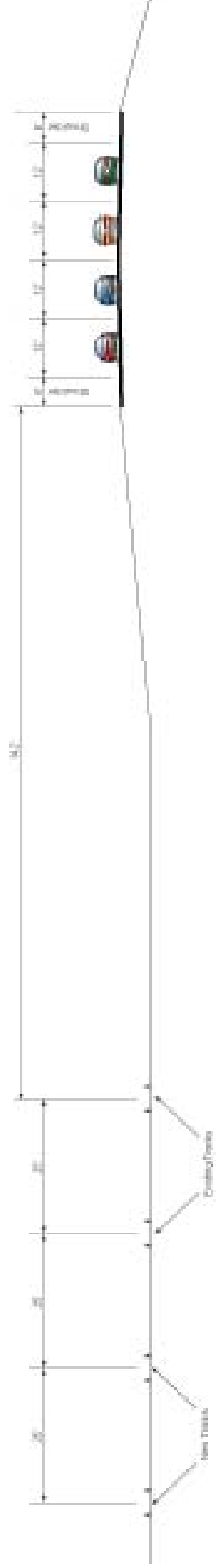
Preservation of required ROW would be suggested before the areas develop. The City of Brighton, Commerce City and Adams County support this alignment because it serves the Derby redevelopment area (downtown Commerce City), Adams County Government

Figure 17: Roadway Cross Sections

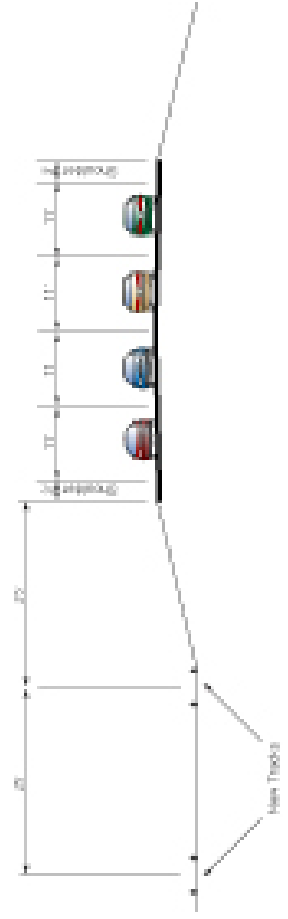
US 85 Cross-section



SH 2 Cross Section (south of E-470)



SH 2 Cross Section (Sable Boulevard Alignment)



Summary of Findings

Based on a conceptual-level comparative analysis of the alternative alignments considered as part of this study, the most favorable alignment is commuter rail operation within the UP-Greeley line between the North Metro Corridor (serving DUS) and downtown Brighton. While all alternatives meet the project purpose and goal, certain alternative alignments perform better against the evaluation criteria compared to others.

Based on the base-level information available, operation of commuter rail technology within the UP-Greeley ROW provides a minimal impact on existing and future land use plans. Since a connection to the North Metro Corridor needs to occur north of Sand Creek due to space limitations, the UP line could provide direct high-speed rail service and connection to the FasTracks system via 72nd Avenue (see Figure 18) and has a high degree of implementability. Adequate ROW exists within the UP-Greeley corridor to add two additional rail tracks for commuter rail service with a lower relative cost.



UP at-grade crossing on 72nd Avenue

“Cross-Country” Alignment

- RTD does not have the funds to acquire ROW and property for the cross-country alignment within the FasTracks budget. If the jurisdictions within the study area would prefer the cross-country alignment, they would need to provide the funds to hold properties and construct the line until it reaches the UP alignment.
- RTD stated that they cannot use the existing bridge over E-470 at Sable Boulevard due to structural requirements. Based on design curvatures, the alignment would need to operate adjacent to Sable Boulevard or within the road’s ROW before reaching the UP alignment. Such an alignment could negatively impact the residential nature of the area and conflict with future land use plans. As a result, grade separations (structures) and land acquisitions are high with the cross-country alignment.
- E-470 has preserved a transit envelope within their corridor, but commuter rail curve requirements cause a challenge to merge into/out of the corridor.
- In order to operate within the E-470 ROW, the Authority could sell a portion of the utility corridor or a common use agreement could be established.
- The north/south alignment of SH 2 through Adam’s Crossing (near 124th Avenue) may move one mile east, which could open a corridor to extend commuter rail (see Figure 17, Roadway Cross Sections, for illustration of typical cross section of SH 2).
- In order to reach the US 85 alignment, the rail line would need to bridge over the existing UP rail line and extend between US 85 and the existing UP line.
- Costs to construct will be higher on those alignments that require on-street signals and crossings, as well as those that require overpass crossings.
- There is a higher degree of agency support to move forward for analysis those alignments that connect major activity areas.

Center and downtown Brighton. It should be noted that since the entire National Environmental Policy Act (NEPA) process must still be completed, communities should not use the study results to secure ROW without risk.

In addition, the following considerations were discussed by the Working Committee and RTD regarding a potential transit circulator system:

- Commuter rail could extend along the east side of Quebec Street south from the existing BNSF line.
- An on-street transit circulator could extend along Quebec Street in Commerce City south from SH 2 to serve the new high school, Derby development, Prairie Gateway, stadium, and city hall.
- The transit circulator could connect to the UP line from Quebec Street along 72nd Avenue, or along 56th Avenue. A transfer station would be needed at each location.
- The transit circulator could connect to the East Corridor at the Stapleton station and run along Quebec Street in existing preserved ROW. This alignment could also serve the Stapleton development area.
- City of Denver staff recommended the following alignments for further study:
 1. Quebec Street south through Commerce City, crossing I-270, then to I-70 and to the Stapleton station.
 2. Quebec Street south through Commerce City (either to 56th Avenue or past the post office) then east through Stapleton North and continuing south down Central Park Boulevard.

- Roadway improvements
- Development plans along to tollway corridor and near interchanges
- Tollway improvements
- Interchange at E-470 and Potomac
- Development of multi-use trail(s)
- Future ramps at I-76 and E-470
- Conduct roadway/access planning

Local jurisdictions could develop access plans to close certain drives, identify access points, anticipate potential rail crossing/vehicular conflict points. Improvements to identified points can be made at the time properties redevelop or change use/ownership.
- Negotiations with the railroads (RTD)

RTD could begin to negotiate with the Union Pacific and Burlington Northern railroads to preserve the opportunity to conduct commuter rail service within their respective ROW's.
- Reserve operating rights (RTD)

Through negotiations, RTD could allocate the \$7.3 million designated in the FasTracks program to reserve the opportunity for operating rights within the railroad ROW's. Based on previous negotiations with the railroads on other corridors within the metro area, it is estimated that the entire \$7.3 million would reserve the opportunity for future operating rights only within one corridor.
- Designate funds toward corridor preservation and development (ROW, facility and land acquisitions) *in addition* to RTD's \$7.3 million

Although the FasTracks program has allocated funds toward the preservation of a corridor for fixed-guideway transit, additional funds will be needed to acquire the land needed for facilities (park-n-Rides, maintenance facility, *ROW outside of rail corridors*). Communities in the study area could begin to reserve funds now toward land holdings and acquisition of key properties needed for a commuter rail corridor. Funds could be generated via local tax increases, impact fees or increased development fees to establish a financial base. Local governments could also implement a policy to allow the transfer of development rights in an effort to provide an incentive to developers to preserve a portion of property toward a commuter rail alignment or station in exchange for enhanced development opportunities elsewhere in the community.

Long-Term Strategies

Strategies not identified above could be considered by northeast area communities toward the preservation of future commuter rail improvements, including:

- Conduct station area planning studies

Along with coordinating with local developers, local governments could hold meetings with local and regional groups to update, plan and generate support for commuter rail service. Meetings could be held with urban renewal authorities, downtown redevelopment groups, transportation committees and neighborhood groups to communicate and gather feedback regarding commuter rail plans.

- Revisit and update existing and future land use plans, sub-area plans and land use codes

An ongoing working group could provide a joint approach toward the preparation of land use planning efforts. Planning and transportation staff from the City of Brighton, Commerce City and Adams County could collaborate during their preparation of future land use plans, rezoning proposals, and code amendments. Regularly scheduled coordination meetings could be held to discuss the planned and desired development of lands within the study area, discuss needed infrastructure improvements in an effort to maintain the vision of a commuter rail line. Land use codes should designate urban centers since this is an important classification for DRCOG. In addition, sub-area plans could be conducted specific to potential station areas and alignment areas to identify and plan land uses, transportation and engineering improvements in preparation for future commuter rail service.

- Revisit and Capital Improvement Programs

Communities could incorporate desired infrastructure improvements toward the future development of a commuter rail corridor within their respective capital improvement programs. Improvements may include roadway lane improvements, sidewalk and other off-street improvements, utilities, and drainage improvements.

- Revisit and update area drainage and utility plans

Communities could modify their drainage and utility plans to adjust to opportunities created by a commuter rail corridor. Typically, an easement area will be reserved within the commuter rail corridor to locate utilities and drainage basins.

- Provide DRCOG with updated information to include the most recent development plans within the study area

In order to ensure that DRCOG has the most population and employment information, it is necessary to provide them with the most updated development information for projects within the study area as they prepare the 2035 plan and subsequent amendments. The working group could establish regularly scheduled meetings with DRCOG staff to provide ongoing communication regarding development status within the area and future land use and transportation visions for the northeast area. The group should participate in DRCOG's Section 208 annual review process.

- Perform joint planning with the E-470 Authority

The working group could hold a regularly scheduled coordination meeting with the E-470 Authority to share information regarding:

Near-Term Strategies

- Identify immediate properties for investment

Figures 18 and 19 show potential alignments and impacted parcels. In addition, Figure 15 shows potential station location areas. Communities in the study area could identify the alignment that is preferred and identify those properties that would be affected by the alignment. Communities could then work with current land owners to preserve the corridor alignment.

- Establish ongoing study area working group

Communities within the study area could appoint staff representatives to participate in an ongoing working group. Similar to a transportation management organization (TMO), this group could act as a unified body to provide joint comments on projects, and coordinate land use and transportation decisions within the northeast metropolitan area.

- Monitor/Provide Input on Area Studies

An ongoing working group could provide a joint approach toward the review and issuance of comments for area transportation and land-use related studies and projects, including:

- RTD FastConnects Bus System
- Existing and Future RTD park-n-Rides
- Front Range Relocation Study
- Prairie Falcon Study
- North Metro Environmental Impact Statement (EIS)
- North Front Range EIS
- High-Speed Rail Feasibility Study
- Environmental study planned for Quebec Street south of I-70 (potential impact on an on-street circulator alignment)
- I-76 1601 study
- E-470/Potomac interchange CDOT 1601 review
- US 85 and Bromley Lane improvements
- SH2/104th Avenue intersection improvements
- Potential circulator system to serve both Commerce City and Stapleton North

It is important that the working committee provide comments relevant to a preferred alternative in order for the consideration to be included in the local planning efforts.

- Coordinate with area developers

Once local jurisdictions in the study area identify a preferred alignment or common elements associated with the alternative alignments and identify impacted properties, the communities could then work with developers who hold the land to jointly plan and develop the properties in order to preserve the corridor alignment.

- Coordinate with local and regional groups

Table 8: Northeast Area Transit Evaluation Action Strategies and Future Considerations

| Strategies | Near-Term (0-5 years) | Long-Term (6-10 years) |
|--|-----------------------|------------------------|
| Identify properties for immediate investment | x | |
| Establish ongoing study area working group | x | |
| Monitor/provide input on area studies and projects | x | x |
| Coordinate with area developers | x | x |
| Coordinate with local and regional groups | x | x |
| Revisit and update existing and future land use plans, sub-area plans and policies, and land use codes | x | x |
| Revisit and update capital improvement programs | x | x |
| Revisit and update area drainage and utility plans | x | x |
| Provide DRCOG with updated land development data | x | x |
| Perform joint planning with the E-470 Authority | x | x |
| Conduct roadway/access planning | x | x |
| Conduct station area planning studies | | x |
| Conduct detailed environmental sensitivity analysis | | x |
| Begin negotiations with the railroads (RTD) | x | x |
| Reserve operating rights within existing ROW (RTD) | x | x |
| Designate funds toward corridor preservation and development (ROW, facility and land acquisitions) in addition to RTD's \$7.3 million* | x | x |

* Since the entire NEPA process must still be completed, communities should not use the study results to secure ROW without risk.

ACTION STRATEGIES AND FUTURE CONSIDERATIONS

This section identifies implementation strategies and issues for future consideration as it relates toward the planning and implementation of fixed-guideway transit service within the NATE corridor. The strategies described in this memorandum are designed to accomplish the goal of the NATE study to investigate options to extend future, post-FasTracks, fixed guideway bus and/or rail transit improvements to serve northeastern Commerce City and Brighton with direct connection to the North Metro Corridor.

As part of the study objectives, the strategies seek to:

- Examine potential investment options. This will include potential highway features, station locations, park-n-Rides, and other key locations to preserve ROW.
- Develop recommendations toward future coordination and planning.

As listed in Table 8, the project team identified near-term (0-5 years) and long-term (6-10 years) efforts to maintain and further the objective of fixed-guideway transit in the Northeast Corridor. The purpose of identifying these efforts are to maintain consensus and to further coordination and planning efforts among all jurisdictions and with RTD, while making appropriate land use decisions and investments.

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Figure 19: "Cross-Country" Alignment Options

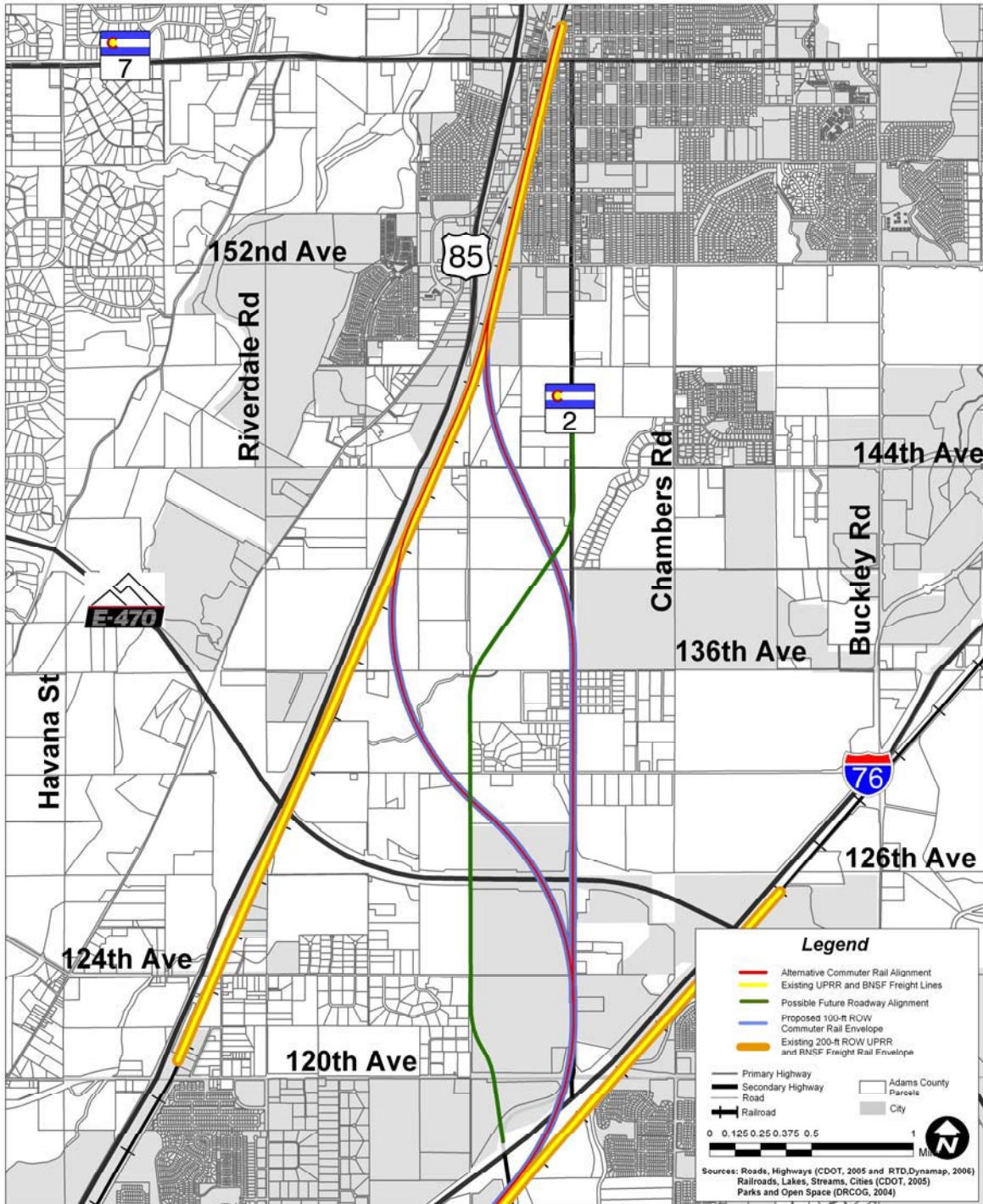
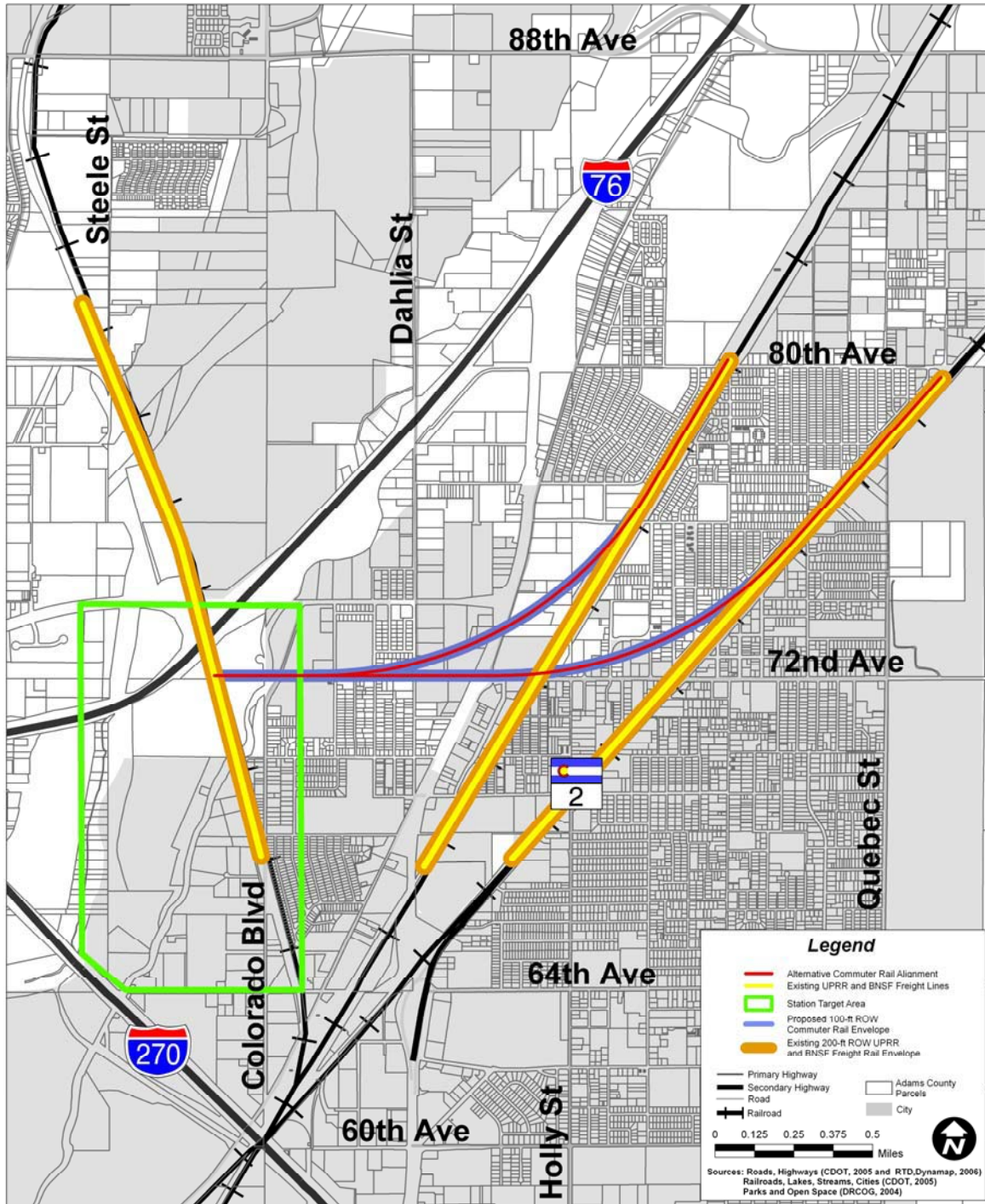


Figure 18: Potential North Metro Corridor Connection Alignment



Once corridor alignments are identified, plans could identify and plan land uses conducted specific to potential station areas and alignment areas, transportation and engineering improvements in preparation for future commuter rail service. Land use plans could be updated to reflect the desired land development in and around station areas.

- Conduct detailed environmental sensitivity analysis

Typically performed as part of an Environmental Assessment (EA) or EIS process, detailed environmental impacts of potential alternative alignments would be performed. Local governments could assist this effort by maintaining updated information and plans on environmental elements.