

Arapahoe Road Corridor Study I-25 to Parker Road

Final Corridor Study Report

Submitted to



Arapahoe County

10730 E. Briarwood Avenue, Ste. 100

Centennial, CO 80120

Submitted by



David Evans and Associates, Inc.

1331 17th Street, Ste. 900

Denver, CO 80202

November 2007



Arapahoe Road
corridor study

Arapahoe Road Corridor Study

I-25 to Parker Road

Final Corridor Study Report

November 2007



Arapahoe County
10730 East Briarwood Avenue, Suite 100
Centennial, CO 80120



David Evans and Associates, Inc.
1331 17th Street, Suite 900
Denver, CO 80202

Endorsement

November 2007

The agencies that were engaged in the preparation of this Corridor Study for Arapahoe Road between I-25 and Parker Road have expressed their endorsement of this Plan, as defined in the Final Corridor Study Report, dated November 2007.

- The agencies will work to complete the NEPA requirements that will determine the specific improvements on state highways and other Federal/State funded projects. Subsequent to future NEPA clearance, the agencies will work cooperatively to fund and implement the Corridor improvements.
- Issues such as water quality, access control, ROW, and context sensitive design will continue to remain priorities for each of the agencies as development/redevelopment emerges along this corridor.
- The agencies support evaluating the needs at the I-25/Arapahoe Road Interchange as the next priority project along the corridor once the final design for the interchange at Parker Road/Arapahoe Road is complete and that project is fully funded.
- The agencies will develop collaborative transportation partnerships to support the corridor recommendations through the DRCOG planning process to help facilitate improvements to this corridor.

Appendix A contains written letters of endorsement from the agencies represented on the Arapahoe Road Corridor Study Executive Committee. The Executive Committee endorses the recommendations of this project as indicated by the following signatures:

(Name) – **Arapahoe County**

(Title)

(Name) – **City of Centennial**

(Title)

(Name) – **City of Greenwood Village**

(Title)

(Name) – **City of Aurora**

(Title)

(Name) – **Town of Foxfield**

(Title)

(Name) – **Douglas County**

(Title)

(Name) – **Regional Transportation District**

(Title)

(Name) – **Colorado Department of Transportation**

(Title)

Acknowledgements

The Arapahoe Road Corridor Study, I-25 to Parker Road Corridor Study Report has been prepared with contributions from many individuals:

Consultants

David Evans and Associates

Joseph Hart, PE
Leah Langerman
Steve Long, PE
Jane Boand, AICP
Ed Schumm, AICP
Stacy Tschuor, PE
Kara Showalter

Felsburg Holt & Ullevig

Bob Felsburg, PE, CCE
Chris Fasching, PE
Elliot Sulsky, PE, AICP
Debbie (Weaver) Scott

Ordonez & Vogelsang, LLC

Chris Vogelsang, PE
Beth Ordonez, AICP

Economic & Planning Systems

Dan Guimond, AICP
Nicole Monroe Layman, AICP
Brian Duffany

Webb PR

Pete Webb
Heather Halpape
Haley McKean

Poitra Visual Communications

Ann Poitra

Technical Advisory Committee

Bryan Weimer - Arapahoe County

Phil Weisbach, PE - SEH, for City of Centennial

Tom Reiff - City of Greenwood Village

Mac Callison - City of Aurora

Jeff Allen, PE - Colorado Department of Transportation

Bill Hoople - Regional Transportation District

George Scheuernstuhl, PE - Denver Regional Council of Governments

Marcee Allen - Federal Highway Administration, CO Division

Executive Committee

Susan Beckman, Commissioner - Arapahoe County

Randy Pye, Mayor - City of Centennial

Jacque Wedding-Scott, City Manager – City of Centennial (alternate)

John Pazour, Former City Manager - City of Centennial (alternate)

Nancy Sharpe, Mayor - City of Greenwood Village

Bob Broom, Council Member - City of Aurora

Greg McKnight, Transportation Commissioner - Colorado Department of Transportation

Randy Jensen and Reza Akhavan, PE, Region 6 Representatives - Colorado Department of Transportation (alternates)

Steve Sullivan, Mayor - Foxfield

O'Neill Quinlan, Vice Chairman, Board of Directors - Regional Transportation District

Melanie Worley, Commissioner - Douglas County

Duane Fellhauer, Public Works Director - Douglas County (alternate)

Corridor Study Documentation

This Final Corridor Study Report summarizes the findings of the following previous Reports and Memorandums completed throughout the study process:

Reports (available on project website)

- Final Existing Transportation Conditions Report, May 2006
- Retail and Commercial Opportunity Analysis Report, July 2006
- Land Use and Socio Economic Data Summary Report, July 2006
- Revised Final Travel Forecasts Report, April 2007
- Revised Environmental Overview, April 2007
- Final Alternatives Development and Analysis Report, June 2007

Memorandums

- Integrating the Transportation Planning Process with NEPA, June 23, 2006
- Logical Termini, November 2, 2006
- Linking Planning and NEPA – Documentation of the Arapahoe Road Corridor Study Process, November, 20, 2006
- Arapahoe Road Transit Modeling, December 6, 2006
- Funding Opportunities for Arapahoe Road, February 13, 2007
- Centennial Alternative Corridor Concept, April 25, 2007
- Key Intersection Findings, May 16, 2007
- Modeling Process and Methodology, May 29, 2007
- Near-term Implementation Recommendations for Bicycle Routes and Signage, August 8, 2007
- Drainage and Utilities along the Arapahoe Road Corridor, October 10, 2007

Meeting Summary Documents

- Public Meeting Summary Documents
- Community Resource Panel Meeting Notes

Table of Contents

Overview 1

Need for Corridor Improvements 1

 Traffic Volumes..... 1

 Mobility and Congestion 2

 Design 2

 Safety 2

Corridor Vision and Study Objectives 3

 Operations and Safety 3

 Community, Business and Environment 3

 Feasibility and Cost..... 3

Summary of Analysis Process and Public Input..... 4

 Analysis Process 4

 Concept Development and Level 1 Screening..... 4

 Concept Refinement, Analysis and Level 2 Screening..... 5

 Alternatives Development and Analysis and Level 3 Screening 5

 Agency Coordination 6

 Executive Committee (EC)..... 6

 Technical Advisory Committee (TAC) 6

 Public Participation 6

Summary of Final Recommendations..... 7

 I-25 Interchange 7

 Arapahoe Road Corridor 8

 Context Sensitive Urban Design Elements10

 Parallel and Intersecting Roadways 11

 Transit Services 12

 Pedestrian/Bicycle Facilities..... 13

 ITS, TDM and TSM Strategies 13

 Traffic Operations with Recommended Improvements 14

Prioritization of Improvements..... 14

Maintenance of Traffic During Construction 15

Right of Way Preservation..... 16

Access Management..... 17

Costs and Funding 17

 Identified Federal Funding 17

 Potential Federal Earmarks 18

 Local Funding Requirements 19

 Potential Local Funding Options 19

 Study Area Applications..... 23

Steps Taken to Integrate Corridor Study with Subsequent NEPA Requirements23
Next Steps24

List of Tables

Table 1. Summary of Cost for Recommended Improvements19

List of Figures

Figure 1. Implementation Process26

Appendices

Appendix A. Final Recommendations 1
 Figure A-1. Arapahoe Road Corridor Roadway Recommendations 2
 Figure A-2. Context Sensitive Urban Design Elements Recommendation 3
 Figure A-3. Broncos Parkway/Easter Avenue/Havana/Dry Creek Recommendation 4
 Figure A-3a. Havana/Easter/Peoria Intersection Alternatives and Planned Broncos Parkway
 Improvements, Easter to Potomac 5
 Figure A-4. Circulator Roadways Recommendation 6
 Figure A-5. Transit Service Improvements Recommendation 7
 Figure A-6. Frequent Fixed Route Local Service Recommendation 8
 Figure A-7. Pedestrian and Bicycle Facility Improvements Recommendation 9
 Figure A-8. Recommended Typical Sections10
 Figure A-9. Peak Hour Intersection Levels of Service11

Appendix B. Letters of Endorsement from Participating Agencies12

Overview

This report documents the development and analysis of alternatives for improvement of the Arapahoe Road (SH 88) Corridor from I-25 to Parker Road (SH 83). A thorough and inclusive technical and public process was used to identify a wide range of improvement options. The initial improvement options were screened to eliminate those that were incompatible with desired corridor travel characteristics; unreasonably impacted corridor communities, businesses and the environment; or were financially infeasible due to unrealistically high implementation costs. The remaining options were then refined to provide more detail regarding physical improvements and operations, and to identify concepts most applicable to expected future corridor travel demands.

The refined concepts were packaged into reasonable alternatives for further study. Reasonable alternatives are defined as those that are practical and feasible from technical and economic standpoints. The analysis of the reasonable alternatives provides further definition of their estimated ability to accommodate forecasted travel demands, their impacts to the corridor communities, businesses and environment, and the financial commitments necessary for their phased implementation.

Need for Corridor Improvements

The need for corridor improvements has grown substantially since the 1980's. These needs, summarized below, are based on the analysis and findings documented in this report and in separate documents prepared as part of the project, including the *Existing Transportation Conditions Report* (May 2006) and the *Revised Final Travel Forecast Summary* (April 2007).

Traffic Volumes

Traffic volumes on Arapahoe Road have increased substantially since the mid 1980's when the last significant improvements were made to the corridor and I-25 Interchange. Traffic volumes are projected to grow to over 80,000 vehicles per day by 2030.

Travel forecasts indicate that improvements to other local or regional parallel corridors would result in little diversion of future traffic anticipated along the corridor.

Currently, the heaviest traffic volumes are the westbound AM and eastbound PM commuter traffic flows at the east end of the corridor. The lesser direction volume flows are expected to increase more rapidly as adjacent and nearby lands are developed to their full potential, adding to regional commuter traffic traveling through the area.

Current and forecasted regional trips (trips that begin or end outside the study area) comprise 85 to 90% of trips on Arapahoe Road. The percentage of "through traffic" is expected to decrease over the next 20 years from over 20% to less than 10% of all trips as land within the study area is developed and, in some locations, redeveloped.

The I-25 Interchange at the west end of the corridor experiences heavy traffic throughout the day, with peak traffic flows in the AM, noon time and PM. Over 90,000 vehicles per day enter the interchange from either Arapahoe Road or the I-25 ramps. This volume is forecast to increase to 135,000 vehicles per day by 2030.

The Parker Road intersection at the east end of the corridor also experiences heavy peak traffic flows. Daily forecasted travel demand on Parker Road at Arapahoe Road is estimated to exceed 100,000 vehicles per day by 2030.

Mobility and Congestion

Travel times along the corridor from west of Yosemite Street through the Parker Road intersection are predicted to more than double, from approximately 15 minutes to 30 minutes, by 2030 without improvements to corridor operations.

Design

The arterial corridor is already 6 lanes wide with some auxiliary turn lanes at the widely-spaced high volume intersections, and relatively few private access drives as a result of a strict access management policy applied in the 1980's.

Sidewalks exist along only a portion of the corridor and the wide intersections make it difficult for pedestrians and bicyclists to safely cross Arapahoe Road. The lack of sidewalks is also a deterrent to transit usage along the corridor.

The current "retrofit" design at the I-25 Interchange does not have adequate capacity nor expansion capabilities to accommodate traffic volumes today or into the future. The existing I-25 Interchange configuration causes vehicles on the southbound I-25 off-ramp to back up onto the interstate throughout the day and especially during the peak hours, limiting the benefits of the recent TREC interstate improvements and creating hazardous conditions on I-25, the ramp and Arapahoe Road.

At the Parker Road intersection, the interim improvements for triple left turns eastbound to northbound and triple right turns southbound to westbound have enhanced traffic operations for these high volume turns. However, traffic queues of up to a half-mile are regularly experienced in the peak hours as the heavy through traffic volumes on both Arapahoe and Parker Road intersect.

Safety

The majority of accidents along the corridor are rear-end collisions resulting from congestion and queues of vehicles at signalized intersections; some lacking auxiliary turn lanes.

The Arapahoe/I-25 Interchange experiences the highest accident rate among the interchanges in the southeast corridor. During the last three years for which data are available, 128 accidents occurred within the interchange, representing an economic cost of more than \$1.6

million. Even at the slow speeds within the interchange, over 20% of these crashes involved injuries.

The Parker Road intersection has experienced a number of highly publicized accidents resulting in serious injuries and fatality, each closing the intersection for several hours.

Poor operations at the I-25 Interchange and intersections along the corridor cause delays for emergency vehicles, resulting in longer response time for incidents.

Corridor Vision and Study Objectives

Over the next 20 years and beyond, Arapahoe Road between I-25 and Parker Road will serve as a highly effective arterial corridor that meets the needs of commuters, employers, residents and the communities it serves. Arapahoe Road will provide a balance of improved regional mobility, local accessibility, and enhanced safety, with minimal impact on neighborhoods, corridor businesses and the environment.

Project objectives to achieve this vision include:

Operations and Safety

- Providing roadway and intersection improvements that maintain safe and reliable traffic operations through and within the Arapahoe Road corridor, including improvements on other nearby corridors that could accommodate a portion of regional traffic. This objective addresses the existing and forecast traffic congestion and safety along the Arapahoe Corridor, and the under utilization of the parallel road network.
- Expanding mobility opportunities, including transit, bicycle and pedestrian facilities. This objective responds to the lack of pedestrian and bicycle accommodations and increasing demand for transit services in the study area upon completion of the Southeast Corridor LRT.

Community, Business and Environment

- Enhancing the corridor image, design character and identity of places within the project corridor for corridor residents, businesses and traveling public. The corridor currently lacks cohesive design elements and sense of place.
- Avoiding or minimizing community or environmental impacts resulting from the recommended improvements. This objective addresses the need for context sensitive solutions to enhance and improve the corridor image.

Feasibility and Cost

- Accommodating or supporting previous and planned transportation and infrastructure improvements, and comprehensive land use and economic plans. This objective responds to the need that improvements be cost-effective and within fiscally constrained plans.

Steps taken throughout the Arapahoe Road Corridor Study to help achieve the vision for the corridor include:

- Collaboration with local jurisdictions and the public to find creative solutions that consider current transportation plans, comprehensive land use and economic plans.
- Identification of roadway and intersection improvements along the Arapahoe Road corridor and other study area corridors using applicable design standards to achieve minimum corridor and intersection operations at Levels of Service D and E, respectively.
- Defining an appropriate level of future transit services, bicycle and pedestrian infrastructure.
- Reflecting Context Sensitive Design in development of improvement options.
- Maintaining consistency with the CDOT Access Code Classification while providing reasonable access to businesses adjacent to the corridor.
- Assessing economic viability of the corridor and potential benefits and impacts from transportation improvements.
- Determining cost allocation and funding sources for recommended improvements.
- Identifying phasing opportunities for timely implementation of corridor improvements.
- Defining future right of way (ROW) needs to aid in local planning efforts.
- Maintaining a high level of communication with the public, corridor agencies and regulatory and planning agencies.
- Recognizing and addressing methods to streamline subsequent NEPA documentation and clearance.

Summary of Analysis Process and Public Input

Analysis Process

Concept Development and Level 1 Screening

The initial improvement concepts considered for the Arapahoe Road study corridor were developed based on numerous sources including: the Arapahoe County Transportation Plan, input from the corridor study's TAC and EC, public input, and the technical input of the study team.

The initial improvement concepts were qualitatively assessed at an Initial Planning Framework level based on the following Level 1 evaluation criteria:

- Operations and Safety - This factor includes consideration of the concept's ability to provide a balance of regional mobility and local access within the Arapahoe Road area of influence, responsive to the travel characteristics of the corridor, and the ability to function as a "stand-alone" improvement, or to be packaged with other options

- Community, Business and Environmental - This factor considers the magnitude of anticipated impact on area businesses, communities and environmental resources
- Feasibility and Cost - This factor addresses the practicability for implementation when considering cost and foreseeable funding for phased improvements

Concept Refinement, Analysis and Level 2 Screening

Options from the Initial Planning Framework level of screening were refined to add more definition of the proposed improvements. Options for intersection improvements were considered, as appropriate for projected intersection traffic flows, corresponding to corridor improvement concepts. Anticipated operations, improvement impacts and costs were determined at a concept level. This refinement allowed for more detailed evaluation based on the following Level 2 screening criteria:

- Operations and Safety
- Balance of Regional Mobility and Local Access
- Travel Reliability and Safety Improvement
- Capacity for Anticipated Growth
- Community, Business and Environmental
- Consistency with Local and Regional Plans
- Enhancement of Visual Character
- Type and Magnitude of Community and Environmental Impact
- Feasibility and Cost
- Magnitude of Cost for Improvements
- Constructability and Phasing Opportunities

Alternatives Development and Analysis and Level 3 Screening

Options were then packaged as alternatives, where appropriate, or further refined as potential independent project improvements. Proposed improvements were further refined to minimize costs and impacts and maximize traffic operation benefits. A third level of screening was conducted with Level 2 criteria applied at an increased level of detail to assist in identifying sets of improvement alternatives.

Based on the detailed screening analysis, preliminary recommendations were outlined for TAC and EC review. Additional refinements were suggested and evaluated, and appropriate modifications made. Preliminary prioritization of the recommended improvements was also outlined.

Agency Coordination

This study included the formation of an Executive Committee (EC) and a Technical Advisory Committee (TAC). Meetings were held approximately every two months throughout the study process. These meetings were intended to facilitate close coordination between the project team and the agency stakeholders in the area.

Executive Committee (EC)

The Executive Committee (EC) included elected/appointed officials or senior staff representing corridor agencies (Arapahoe County, City of Centennial, City of Greenwood Village, City of Aurora, Town of Foxfield, Douglas County), CDOT, and RTD. The EC met numerous times to address corridor vision, project purpose and need, alternative plans for improvements, mitigation options, prioritization of improvements, and project funding.

Technical Advisory Committee (TAC)

The Technical Advisory Committee (TAC) consisted of the Project Team project managers, along with technical staff from Arapahoe County, City of Aurora, City of Centennial, City of Greenwood Village, CDOT, RTD, DRCOG and FHWA. The TAC provided technical input on the need for corridor improvements, reviewed alternative plans, assisted in identifying potential impacts and developing mitigation options, and will assist in prioritization of improvements.

Public Participation

Public participation was emphasized throughout the study process. As with any large project, it was important that all participants, including potential users of the Arapahoe Road corridor and roadways in the vicinity and those benefiting from less traffic congestion on adjacent roadway facilities, clearly understand the details of each alternative design.

This study held four public meetings, to introduce the project and discuss corridor travel conditions and the need for improvement, to present the range of implementation options, to present alternatives and preliminary analysis, and a final meeting to discuss the improvement recommendations.

In an effort to gain as much community input as possible, the study utilized many methods of advertising and outreach. Each meeting was preceded by a news release, which was sent to local newspapers and television stations as well as local jurisdictions' Public Involvement Officers for inclusion in their community bulletins and newsletters. Also, a newsletter was mailed and e-mailed to businesses and residents in the area surrounding the corridor prior to each public meeting. In addition, public meetings were advertised with a variable message sign placed along the corridor that included an informational hotline phone number. Input was solicited at the public meetings and community members were also able to submit comments via the project website (www.arapahoecorridor.com) throughout the course of the study.

A Community Resource Panel (CRP) was formed to advise the project team of the concerns of various groups of stakeholders in the area. The CRP was divided into four separate focus groups, including representatives from:

- Homeowners' Associations and Neighborhood Associations
- Emergency Providers
- Bicycle and Trails groups
- Businesses, Metro Districts and Chambers of Commerce

The project team worked with the CRP to identify project needs, review proposed improvement alternatives, discuss likely impacts of improvements and possible mitigation or resolution techniques, and provide input on project implementation and phasing.

Summary of Final Recommendations

Based on the results of the Level 3 evaluation of alternatives, the following combination of improvements are recommended for phased implementation. This combination of improvements will provide the necessary transportation facilities and services to adequately accommodate travel demand through and beyond the 2030 planning horizon. **Appendix Figures A-1 – A-8** and the strip map located in the pocket at the end of this document provide a summary of the entire package of roadway improvement recommendations. It should be noted that the recommendations of this report are based on conceptual level engineering design and analysis. Final implementation plans will be based on a more comprehensive engineering analysis.

I-25 Interchange

The necessary CDOT Policy Directive 1601 Interchange Feasibility Study and environmental clearance documentation will be completed to identify the specific improvement concept for the Arapahoe Road/I-25 Interchange, including the Yosemite/Costilla connection and intersection improvements at the Yosemite and Boston/Clinton Street intersection approaches to Arapahoe Road. The strip map provided in a pocket at the back of this document provides an illustration of the preliminary recommendation for the interchange improvement.

The preliminary recommendation is for an Improved Partial Cloverleaf Interchange. This interchange configuration will provide the necessary transportation facilities and services to adequately accommodate travel demand through and beyond the 2030 planning horizon. Components of the conceptual design for the interchange, including local access, major intersection design along Arapahoe Road, and movements to/from I-25, are discussed below.

I-25 will be designed to meet the requirements of the typical section, which includes five twelve-foot through lanes in each direction, ten-foot inside and outside shoulders, a two-foot wide concrete median barrier and twelve-foot acceleration/deceleration lanes, where required. Because the improvements are generally located within the existing interchange footprint, the

existing interchange ramp merges and diverges along I-25 will remain in the current locations along I-25 and the existing lane add/drop configurations will not be modified.

The interchange ramps will be designed to accommodate 2030 traffic volume projections. The entrance ramps will provide one lane access to I-25, narrowing from two lanes at the ramp meter locations. The ramps will include a four-foot left shoulder, a fifteen-foot wide lane, and a minimum six-foot right shoulder. The exit ramps will consist of two lanes, diverging I-25 as a drop lane and an option lane approaching the ramp gore.

Arapahoe Road will be designed with a typical section to match the existing Arapahoe Road section east and west of the interchange, carrying three twelve-foot lanes through the interchange area.

With the Improved Partial Cloverleaf Interchange configuration, enhanced local access may be pursued in conjunction with future redevelopment in the southwest quadrant of the interchange via a roadway constructed directly across from the Southbound I-25 exit ramp. This enhanced access may benefit the interchange operations by reducing the traffic volume making the "Z" movement from the Southbound I-25 exit ramp to Southbound Yosemite Street. Signal operations, allowable movements, and safety concerns for such an access should be studied in detail with traffic projections considering the redevelopment potential within the southwest quadrant area prior to any access approvals. Similar considerations and analyses should be conducted for the northeast quadrant of the interchange where current access is provided opposite the northbound I-25 exit ramp. The City of Greenwood Village may pursue a more defined north/south circulator road leading from Arapahoe Road north to Southtech Drive.

The Costilla Avenue connection from Yosemite to Clinton will be designed with a typical section including eight-foot attached sidewalks, four eleven-foot travel lanes, three-foot buffers for bikes adjacent to the curb and gutter, and an eleven-foot painted median. The Yosemite Street/Costilla Avenue intersection will be designed providing Yosemite Street with the major through movements to avoid queuing impacts at the Yosemite Street/Alton Street signal to the south.

Arapahoe Road Corridor

Six Lanes with Combination of At-Grade Signalized Intersections and Junior Interchange Grade Separations is recommended for Arapahoe Road Corridor improvements from Boston/Clinton Street to east of Jordan Road. The strip map provided in a pocket at the back of this document provides an illustration of the six-lane improvement concept. A typical section of the improved roadway is included in the Appendix.

Right-turn auxiliary lanes would be provided consistently at all intersecting streets and private drives. The design speed of the Arapahoe Corridor would be reduced to provide consistency in overall corridor speed limit, improve corridor safety by providing consistency in design elements with design speed, and to allow for enhanced streetscape of the corridor

improvements consistent with a developed suburban arterial roadway that responds to the Corridor Vision.

Based on subsequent analysis and agency input, refinements were made to the Preliminary Corridor Alternative to develop the following corridor recommendations. Detailed laneage related to each intersection improvement recommendation is illustrated in the corridor strip map in the pocket at the back of this document and tabulated in the Technical Appendix (under separate cover).

- At Havana Street, long term improvements will be considered within the context of traffic and land use considerations foreseeable at the time subsequent interchange feasibility study and NEPA clearance is completed. Depending on the land use plans of the City of Centennial and the traffic needs identified at that time, both junior and diamond interchange configurations will be considered, along with potential at-grade intersection improvements. Subsequent to the final alternatives screening, the City of Centennial requested that an at-grade alternative be reconsidered if it could prove to serve the land use and traffic needs at the intersection while maintaining a maximum of 6 through travel lanes on Arapahoe Road. An improved at-grade intersection with northbound triple left turns and double right turns along with other auxiliary lane additions would be necessary to provide the minimum level of operational improvement. The subsequent Interchange Feasibility Study would consider, among other design and operational issues of these alternatives, the out-of-direction travel resulting from the junior interchange, ROW impacts of the tight diamond interchange, and difficult pedestrian crossing of the wide at-grade intersection.

Phased implementation of improvements may consider some initial at-grade enhancements, then construction of the junior interchange slip ramps with the Arapahoe Road bridge over Havana Street constructed to accommodate potential ultimate diamond interchange ramp movements. The initial slip ramps could become part of potential future commercial redevelopment of all four quadrants of the interchange.

- Lima Street is recommended as an improved at-grade intersection with northbound double right turns and other auxiliary lane improvements.
- At Peoria Street, an improved at-grade intersection is recommended. The at-grade improvements include north and southbound triple left turns and other auxiliary lane improvements that minimize commercial property impacts and construction costs, while providing adequate corridor traffic operations.
- Revere Parkway will be improved by construction of a junior interchange with Arapahoe Road crossing over Revere and slip ramps east of Revere connecting to Peakview and Briarwood Avenues.
- Potomac Street is also recommended to be improved at-grade with northbound double right turn lanes and other auxiliary lane improvements.

- At Jordan Road, a junior interchange is recommended as the least impact to Centennial Hospital facilities, with enhanced hospital accessibility an important factor in determining the final recommendation.
- Supplemental left-turn-in traffic movements may be considered at the following unsignalized intersecting streets to create $\frac{3}{4}$ turn intersections (right-turn-in and out plus left-turn-in from Arapahoe Road). The additional left turn opportunities will supplement the capacity needs of the high volume left turns at nearby signalized intersections, reduce out of direction travel on the parallel road network and, with the junior interchange concept at Jordan Road, provide direct access to the hospital southwest of the intersection. Sight distance, safety and traffic operations will need to be considered in conjunction with preliminary design. Additional left-turn-in accommodations may be considered with future redevelopment of adjacent property consistent with Access Control Plan modification agreement of the corridor agencies and CDOT. These left turn in locations are:
 - Westbound to southbound at Clinton Court
 - Westbound to southbound at Emporia Street
 - Eastbound to northbound at Havana Street slip ramp (with junior interchange option)
 - Eastbound to northbound at Paris Street
 - Eastbound to northbound at Vaughn Street
 - Westbound to southbound at Atchison Street
 - Westbound to southbound at Jordan Road slip ramp (with junior interchange option)
- Access modifications and some driveway and street closures are also required, primarily in conjunction with the tight diamond interchange option at Havana Street. All access locations will be reconsidered in conjunction with the Access Control Plan to be subsequently developed (see later section of this report).

Context Sensitive Urban Design Elements

Context sensitive design elements will be included appropriate for this urban arterial roadway. Lighting at all intersecting streets and interchange ramps along Arapahoe Road will be constructed. Additional corridor lighting will also be considered along the outside of the roadway to benefit pedestrians on the planned sidewalks. Initial lighting and landscape construction will be included in conjunction with the overall corridor improvements. However, maintenance of landscaped areas and lighting other than at intersections and interchanges will not be the responsibility of CDOT or Arapahoe County.

Additional design treatments that could be incorporated, as local funding may allow, include wall and bridge design enhancements, and other amenities complimentary to the suburban commercial design style of the area. Consistent application of these features is recommended to create a cohesive corridor image.

A variety of design treatment styles could be explored unique to each city's identity, but with a common corridor theme. A corridor aesthetic design plan is recommended to be developed

that would allow each city to upgrade materials for sign posts, lighting features and planting materials.

Wayfinding signage would also be important for the junior interchange alternatives to guide traffic to and from the slip ramps and intersecting and parallel streets.

The design requirements for median and slip ramp alternatives are related to design speed. The radius for slip ramp turns onto and off of Arapahoe Road, acceleration/deceleration lane lengths and spacing between successive slip ramp intersections are recommended to be constructed consistent with a 45 mph posted speed limit for the corridor. Implementation of the 45 mph posted speed limit would not occur until sufficient corridor improvements were constructed (medians constructed or more than one grade separated intersection improvement).

Slip ramp design at intersections along Arapahoe Road will incorporate 105' to 110' radii at 20 mph for right turns. Existing right turn only intersections will be improved to a minimum radius of 40' and a desirable 60' radius. Landscaping can be accommodated within the right turn islands but limited to low plant materials, turf or hardscape to not restrict sight distance for ramp traffic.

Median options with a 45 mph posted speed limit include maintaining the existing paved median or raised medians with curb, gutter, splash/snow storage area, and landscaping as illustrated in **Appendix Figure A-2**. With a raised median, left-turn in access could be incorporated at the intersections previously noted creating $\frac{3}{4}$ turn intersections. Landscaped median maintenance will not be the responsibility of CDOT or Arapahoe County.

Parallel and Intersecting Roadways

Widening of the Broncos Parkway/Easter Avenue/Havana Street corridor between the Parker Road/Broncos Parkway intersection and the Dry Creek/I-25 Interchange is recommended to supplement area accessibility. Broncos Parkway and Easter Avenue would be expanded to a full six-lane arterial section and auxiliary lanes added to Dry Creek Road and Havana Street. Curvilinear realignment of intersection through movements is being considered at the Peoria and Havana Street intersections (see **Appendix Figure A-3**). A reduction in the 45 mph posted speed limit on Broncos Parkway east of Potomac Street to 40 mph would result in a consistent speed for the entire Havana to Parker corridor. A speed study would be needed to confirm that this speed reduction is warranted. Sight distance improvements along the Broncos Parkway median would be completed in conjunction with intersection improvements to improve safety of the corridor.

Intersection improvements along Peakview and Briarwood Avenues would also be completed to create consistent four-lane collector facilities parallel to Arapahoe Road. Additional roadway width to provide for on-street bicyclists would be added in segments of new roadway construction or reconstruction. The junior interchange slip ramp intersections with these parallel streets would be improved to accommodate turning traffic and realignments made to favor east-west travel. Although not currently supported by South Suburban Parks and

Recreation, the long term recommendations include the extension of Briarwood Avenue between Lima and Peoria Streets through the existing golf course.

Costilla Avenue improvements between Clinton and Fulton Streets would be necessary in conjunction with the Yosemite/Costilla connection. A narrower typical section is recommended in this constrained ROW segment, with specific lane widths dependent on ROW negotiations.

Circulator roads north and south of Arapahoe Road between I-25 and Dayton Street would be implemented in conjunction with area redevelopment allowing for closure of driveway accesses along Arapahoe Road.

Although not part of these recommended improvements, further consideration should be given to the potential extension of Briarwood Avenue east of Jordan Road across Cherry Creek to provide an alternative east-west route south of Arapahoe Road and supplemental access to the proposed Cornerstar development.

Transit Services

Transit service improvement recommendations include additional call-n-Rides as warranted by demand, a Limited Route Overlay of Route 66 and a longer term Fixed Route Local service serving areas off of Arapahoe Road.

The three separate call-n-Ride expansion areas include the residential neighborhoods east of Havana Street and north of Peakview, south of Caley/Peakview and north of Arapahoe Road between Havana Street and Jordan Road, and south of Arapahoe Road to the Centennial Airport between Lima and Potomac Streets.

The Limited Route Overlay of Route 66 would compliment the current local Route 66 service with frequent service at high demand stops along Arapahoe Road during peak hours. The service would provide improved access to the Arapahoe Road LRT station and other key destinations and improved travel time for longer trips. The route overlay would be operated only during select hours to reduce operational costs and would use existing bus stops to reduce infrastructure costs.

The Fixed Route Local Service would provide local transit access to areas adjacent to the Arapahoe Road corridor that are not served by call-n-Ride service, as well as provide additional connecting service to the I-25/T-REX light rail system at the Arapahoe and Dry Creek stations. The Fixed Route Service could be configured in many ways to serve locations off of Arapahoe Road and its route could be based on flex routes with proven ridership patterns. The Fixed Route Service could be implemented as a phased option, after limited stop service is established on Arapahoe Road and call-n-Ride service have proven ridership potential.

Transit related facilities recommended to complement the current and expanded services include improved transit stops, and potential transit priority applications if found to be appropriate during implementation planning.

Pedestrian/Bicycle Facilities

Construction of bicycle lanes, sidewalks and bike route signing and pavement marking is recommended in conjunction with corresponding roadway improvements along Arapahoe Road and the parallel and intersecting streets. In addition to the pedestrian/bicycle accommodations at the three proposed vehicular interchange grade separations along Arapahoe Road, grade separated pedestrian crossing improvements are recommended in conjunction with area redevelopment in the vicinity of Clinton Court to serve the nearby commercial area hotel and restaurants.

A grade separated pedestrian crossing improvement is also recommended at the Cherry Creek bridge to enhance safety for the functional connections of and to the Cherry Creek Trail. When the Arapahoe Road bridge over Cherry Creek is reconstructed to improve its stream flow capacity and vehicular travel width, it would be desirable for it to accommodate pedestrians and bicyclists beneath Arapahoe Road where no vehicular traffic conflicts would occur. Pedestrians and bicyclists could also cross Arapahoe Road at the Jordan Road vehicular grade separation, but crossing at Jordan may require crossings at ramp intersections, depending on the interchange type ultimately constructed.

A separate pedestrian bridge over Cherry Creek may also be considered just south of Arapahoe Road if the Arapahoe Road bridge replacement is delayed. The current bridge has no accommodation for east/west pedestrian travel, and new nearby land uses will become pedestrian attractions increasing pedestrian travel demands in the area.

A bicycle route wayfinding system is also recommended for the collector roadway system in the project study area. This wayfinding system should begin with signing the primary routes identified in the plan. Nearby parks such as the Arapahoe Community Park should be connected to the future bicycle/pedestrian trail system. As bicycle and pedestrian elements of the plan are programmed and environmental clearances for the project proceed, feasibility and impacts will be addressed and refined. The jurisdictions involved in the project area should incorporate recommendations from the plan into their individual plans and work jointly to ensure implementation. AASHTO standards for bicycle facilities should be followed during the implementation phase.

ITS, TDM and TSM Strategies

A wide range of Intelligent Transportation System (ITS) Strategies, Travel Demand Management (TDM) and Transportation Systems Management (TSM) options were identified for consideration. Many of the TDM options would be appropriately initiated and implemented by private entities such as the Southeast Business Partnership (SEBP) or employers. Supplemental public funding of some initiatives, such as marketing/promotion of ridesharing or transit use, could be explored.

ITS elements identified as most appropriate include signal systems upgrades to improve reliability and decrease maintenance costs. These improvements would most likely be linked to

roadway and interchange construction along the corridor. Signal timing and progression modifications are also recommended to occur at more frequent (3 to 5 year) intervals.

Traffic Operations with Recommended Improvements

The package of recommended improvements will greatly reduce travel time and delay when compared to anticipated 2030 traffic operations if no transportation improvements were made. Peak hour intersection levels of service, assuming that the recommended improvements are completed by 2030, are illustrated in **Appendix Figure A-9**. Although congestion is expected at the at-grade signalized intersections, the additional intersection turn lanes and alternative route improvements on parallel streets will result in tolerable intersection delay, consistent with a vibrant commercial roadway corridor which serves this emerging activity area. The recommended improvements provide the balance of regional mobility and local accessibility, while enhancing safety and minimizing property impacts and environmental impacts.

The parallel roadway improvements will greatly benefit travel within the study area. South of the I-25/Arapahoe interchange, the new Costilla Avenue connection will allow traffic to avoid the busy intersections along Arapahoe Road between Yosemite and Dayton Streets. The six-lane improvements to Easter Avenue and Broncos Parkway will provide capacity for anticipated development south of Arapahoe Road and are expected to result in some diversion of travel from the busy Arapahoe Road Corridor.

The transit and pedestrian/bicycle improvement recommendations will add mobility options for residents, employees and business travel within and through the corridor study area. Although these improvements may not substantially reduce travel on Arapahoe Road, they are important to the economic vitality of this developing area.

Prioritization of Improvements

Prioritization for completion of the package of improvements recommendations has been based on a number of factors including:

- Public (Federal, State and local) funding availability and commitment to future funding for phased elements of an individual improvement project;
- Leveraged funding and implementation partnerships with private development adjacent to the corridor to construct transportation improvements concurrently with new development construction;
- Operational benefits to traffic operations and safety versus cost of improvements;
- Ease of implementation considering ROW availability, streamlined environmental approval due to type of improvement and location, etc.; and
- Ability to build in useful phases with minimum redundant project elements.

Overall phasing would include first finishing the Arapahoe/Parker interchange construction (2-5 years), then improvements at the I-25/Arapahoe interchange (5-10 years).

The order in which intersections along Arapahoe Road would be improved would consider the same factors as noted above. New development adjacent to the planned improvements should be required to dedicate ROW in conjunction with development planning. Some smaller projects, such as additional turn lanes at at-grade intersections, could potentially be funded and constructed in the next few years as early action projects due to their lower cost, ability to be constructed in multiple phases, and minimal environmental clearance requirements. Grade separations at Arapahoe Road intersections would likely be constructed last.

Broncos Parkway/Easter Avenue improvements, parallel road improvements and slip ramps would likely be constructed prior to other Arapahoe Road improvements, due to their traffic operations benefits during construction of Arapahoe Road intersection improvements. Some parallel and connecting road improvements would only occur in conjunction with adjacent land development or redevelopment. Improvements along the Arapahoe Corridor between I-25 and Parker Road could then be initiated pending funding availability, environmental clearance, ROW acquisitions and design.

Bicycle route signage and sidewalk improvements to transit stops should be considered as early action project elements. Bicycle wayfinding signage and striping of bike lanes where identified in the plan and space is available on primary routes should be an early action item. Components of the plan can also be implemented on a phased basis with priority given to projects that leverage other existing facilities most effectively.

Transit service expansion would first focus on the limited stop overlay of Route 66 and new call-n-Ride coverage areas. Longer term consideration should be given to moving local fixed route services to the parallel roadways (Peakview and Briarwood) as ridership demand warrants.

Maintenance of Traffic During Construction

Sequencing of construction packages and the overall timeframe of construction have not been finalized and would be dependent on funding. Specific construction staging concepts in critical areas would be defined and coordinated with CDOT and communicated with the public before plans are finalized.

Short-term construction detours will be required and are expected to create short-term impacts on local traffic circulation and congestion. Delays to the traveling public and inconvenience to corridor residents will occur but, through proactive planning, can be minimized. The primary goal of CDOT, Arapahoe County and local corridor agencies for the construction of the project is to minimize inconvenience to the public during construction. Bridge construction will result in short-term closure of local streets. Detour traffic would utilize adjacent streets. Lane closures on Arapahoe Road are expected during nighttime periods or on weekends. It is anticipated that high-volume intersecting streets would only be impacted by construction at night or on weekends. Low-volume streets may experience longer closures. Construction activities will also impact business access at a number of locations and result in short-term economic impacts.

The following steps will be taken to minimize impacts to traffic circulation during construction:

- Traffic management plans will be developed and reviewed with the public.
- The same number of existing lanes on Arapahoe Road will be maintained as feasible during peak travel times.
- Bridge construction and detour routes will be coordinated to avoid overloading local streets with detour traffic.
- Lengthy closures to low-volume streets and drives will be limited.
- Closure of high-volume streets would be limited to nights or weekends, if practical.
- Access to local businesses/residences will be maintained via alternative routes.

Right of Way Preservation

Steps that CDOT and corridor agencies can take to preserve ROW for future corridor and interchange improvements start with agency endorsement of the Corridor Study recommendations and incorporation into local and regional transportation plans. Specific ROW limits for corridor and intersection improvements would not be set until completion of preliminary and final design. However, the conceptual improvement plans and cross-sections provide a general indication of the potential future ROW needs. Where options still remain for intersection improvements, the greatest ROW area should be considered so as not to preclude future improvements with new development.

The existing Arapahoe Road Corridor provides for seven primary drainage outfalls with little or no formal water quality features. As proposed roadway improvements are implemented, water quality accommodations will be required both during and post-construction. The undulating profile of the roadway will allow for gravity storm sewer discharge systems to these outfalls with respect to Arapahoe Road. Adjacent street improvements will in most cases need to expand on existing local drainage systems, which will need to be upgraded to provide for municipal separate storm sewer systems (MS4) requirements.

Areas for both water quality and detention (due to increased pervious area) will need to be increased for the I-25/Arapahoe interchange improvements, Arapahoe Road Corridor and associated interchanges. The interchange improvements offer some infield areas that could be graded for detention and water quality. The remaining outfalls may utilize water quality features such as bio swales or may require mechanical cleansing vaults to limit additional right of way needs. However, these vaults can be expensive to install and maintain and should be carefully considered.

Access Management

The State Highway Access Code includes access categories defined for highways in the state. The access classification of Arapahoe Road (SH 88) from I-25 to Parker Road is Category NR-A, Non-Rural Principal Highway. This category applies to non-rural highways that have the capacity for medium to high speeds and provide for medium to high traffic volumes over medium and long distances. They provide for interregional, intraregional, intercity, and intracity travel needs in suburban and urban areas as well as serving as important major arterials. Direct access service to abutting land is subordinate to providing service to through traffic movements. This category is normally assigned to National Highway System routes, and other routes of regional or state significance.

Following adoption of a final recommendation for corridor improvements, an Access Control Plan will be completed. Signalized full turn movement intersections and limited turn public street intersections and driveways, and junior interchange slip ramps have been identified in the Corridor Study. Access modifications and driveway and street closures would be required, primarily in conjunction with the tight diamond interchange options. All access locations in the vicinity of interchanges should be considered tentative, pending more detailed engineering review. Accesses must meet the requirements of AASHTO design criteria for spacing near interchange ramps. This includes access drives along the junior interchange slip ramps between Arapahoe Road and Peakview and Briarwood, and along Jordan Road north of Arapahoe.

The Access Control Plan, which will document the specific access locations, will be adopted through an Intergovernmental Agreement (IGA) between CDOT, the Cities of Greenwood Village, Centennial and Aurora, and Arapahoe County. Access permits will be required for each public intersection and private driveway approach along the corridor. Existing permits will be reviewed for continued applicability, or modified as necessary. Additional public input would be solicited in conjunction with the Access Plan development.

Costs and Funding

A summary of the range of costs for the recommended improvements is provided in **Table 1**. The costs are based on the concept level of design detail of the study, and are consistent with bids on similar projects in the Denver Front Range.

Identified Federal Funding

- \$52.1 M has been allocated for the Arapahoe/Parker interchange in the 2030 Regional Fiscally Constrained Plan. The Preliminary 2035 Plan notes that \$20 M remains after the current TIP (\$16 M federal, \$4 M match).
- \$23.2 M has been allocated for I-25/Arapahoe interchange improvements in the 2030 Regional Fiscally Constrained Plan. The current TIP identifies \$1 M for NEPA clearance and preliminary design of interchange improvements. The Preliminary 2035 Plan

identifies \$83 M needed for the full interchange improvement, including the Yosemite/Costilla connection (\$66.5 M federal, \$16.5 M match). The interchange reconstruction is shown in the 2021-2030 “staging” time period of the 2035 Plan.

- \$40 M has been allocated in the 2030 Plan for Arapahoe Corridor improvements from I-25 to Potomac. The preliminary recommended improvements along the Arapahoe Road Corridor have an estimated cost of \$63 - \$113 M, including ROW. Only the \$40 M identified in the 2030 Plan is currently planned by DRCOG to be carried forward to the Preliminary 2035 Plan (\$36 M federal, \$4 M match). The corridor improvements are shown in the 2031-2035 “staging” time period in the 2035 Plan.

This study’s specific recommendations will be requested to be added to the 2035 Fiscally Constrained Plan, which would make the improvements eligible for federal funding in the competitive process of the Transportation Improvement Program (TIP) for allocation of funds under the metropolitan allocation of the Surface Transportation Program (STP-Metro).

Potential Federal Earmarks

Federal “Earmark” funds for the purpose of this discussions are defined as a request from a member of congress authorizing or recommending a specific amount of discretionary budget authority or other spending authority for a contract or other expenditure to an entity, or targeted to a specific State, locality or Congressional district, other than through a statutory or administrative formula-driven or competitive award process. Typically, the earmark funds are allocated to the member of congress and are typically above the established formula amount for the respective state, although there have been times in which the formula funds have been affected by earmark allocations.

Most funding in Department of Transportation (DOT) appropriation legislation such as SAFETEA-LU comes from the Highway Trust Fund (HUTF), funded from fuel taxes, and is distributed to the states and recipient organizations according to formulas established in periodic DOT authorizing legislation. Decisions on how to spend formula funds are made at the state and local level, not by the Administration, though those decisions are subject to federal review. The local process is the Transportation Improvement Program (TIP) process administered by DRCOG in the Denver Metropolitan Region. Also, historically included in the legislation and annual appropriation bills are provisions that direct funding to individual projects and/or organizations in specific locations and are referred to as earmarks. Directives usually specify both an amount to be spent and a recipient or project to which the money is to be directed. Some directives do not specify an amount of money, but direct DOT to give priority to specific projects or recipients within a program; some do not direct but “encourage” DOT to spend a specific amount on a project in a specific location. Typically, congressional members are allocated a specified amount to be used for earmarks to specific projects. The amount of funding allocation to each congressional member is dependent upon party affiliation, years of service, committees in which they are appointed to, and other political considerations. The term earmark appears rarely in the acts and conference reports and no definition is usually provided in those documents.

The Colorado Department of Transportation, Douglas County, Arapahoe County, and other local entities within Colorado have in the past pursued and been successful in obtaining earmarks from the Colorado congressional delegation for their specific projects via authorization and appropriation legislation. This process involves submitting an application to the congressional member with justification, support, and reasons for the project and also includes project costs. Although there are no federal requirements pertaining to eligibility for projects, most congressional members require that the project be included in regional transportation plans as an identified need or a priority, that analysis of the project has occurred such as NEPA clearance, design, etc., and that the project cost has been identified. The earmark also requires a local match to the federal transportation dollars. The minimum local match is typically 20% and the federal share of the project is 80%. The local match can be increased above 20% as an enticement to encourage funding of the project.

The availability of earmarks as a funding source and how they may interact with formula funds is unknown for the future because of the uncertainty of the HUTF. However, the likelihood of earmarks being abolished at the federal level is remote given that congressmen will continue to want to provide funding for their constituent's projects.

Local Funding Requirements

- Parallel road improvements (to Easter and Broncos Pkwy) would likely be funded by local jurisdictions and Metro Districts. Total recommended parallel and intersecting road improvements are estimated at \$25 - \$29 M, including ROW (includes Peakview, Briarwood and Broncos/Easter improvements). Peakview and Briarwood improvements may qualify for Federal Funding if closely linked to Arapahoe Corridor interchange operations of junior interchanges.
- Transit services and related facility expansion would be funded through RTD as development increases transit service demand. Local funding could be used to advance implementation of services as RTD funds are limited and may not be available for service expansion as soon as local agencies and the community may feel the service expansion is needed.

Potential Local Funding Options

Alternative transportation financing mechanisms and strategies that could be applied to elements of the recommended improvements have been identified. The identified sources are intended as supplemental to established CDOT funds for state highway construction allocated through the DRCOG MPO TIP allocation process.

Regional Transportation Authority - The Colorado statutes allow any two or more counties or municipalities to form a regional transportation authority (RTA) with powers to finance and construct, operate, or maintain transportation improvements (roads or transit). The RTA can utilize a number of financing methods to pay for the improvements including a sales and/or use tax of up to 1.0 percent, a motor vehicle fee of up to \$10 per year per vehicle, and a

lodging tax of up to 2.0 percent. The RTA allows for a financing structure that varies by jurisdiction based on the level of benefits received.

There are two existing RTAs in the state. The Pikes Peak RTA was formed in 2004. A one-cent sales tax was approved in Colorado Springs, El Paso County, Manitou Springs, and Green Mountain Falls. The tax raises approximately \$65 million per year with \$5 million set aside for maintenance. The Roaring Fork Transit Authority was formed in 2001 (under the earlier rural transportation authority legislation) to assume and expand operations and funding for transit service in the Roaring Fork Valley. The Roaring Fork RTA includes seven jurisdictions with a different sales tax rate charged in each location.

Intergovernmental Agreements - Intergovernmental agreements or IGAs have been increasingly used in Colorado to fund interchange improvements benefiting adjacent cities when CDOT funding is not available within the necessary timeframe. The cities of Westminster and Thornton formed an IGA to jointly fund the \$11.9 million I-25 and 136th interchange. The interchange itself was evenly split at \$5.0 million each with Thornton paying an additional \$1.9 million based on additional improvements needed in its boundaries. The two cities also have a separate IGA providing revenue sharing within this corridor.

The 144th and I-25 Interchange has been more recently funded under an IGA between Westminster, Thornton, and Broomfield. Also the City of Fort Collins and the Town of Windsor have entered into an IGA regarding interchange improvements for the I-25 and State Highway 392 interchange.

Improvement Districts - More site specific improvements within a single political jurisdiction can be funded by improvement districts with the power to finance a broad spectrum of public improvements including for streets and roads. Most districts are single purpose districts and are not intended to function beyond project completion.

A **General Improvement District (GID)** is a separate legal entity formed by a city for a specified set of public improvements. Although it is formed by the city and governed by the city council as the board of directors, the city is not liable for the district's debt. A GID has the ability to levy taxes to pay for improvements. It can also levy an assessment which would allow for a varied fee structure to address differential benefits. A disadvantage is that the fees are levied against all properties whether they are ready to develop or not. A GID can be initiated by petition of 30 percent of the property owners followed by an election of the majority of the owners of the district.

On the other hand, a **Local Improvement District (LID)** is a part of city government and not a separate governmental entity like a general improvement district. The district charges an assessment (as distinguished from a tax levy) against the properties which can be paid as a lump sum or over time. The district can assess all or part of the improvement costs against the properties that benefit from the improvements. An LID may be initiated by the City or by the property owners. If more than 50 percent of the property owners object to the district, the city can only assess up to 50 percent of the cost of the improvements back to the property owners.

Table 1. Summary of Cost for Recommended Improvements

Improvement Element	Opinion of Probable Cost ⁽¹⁾
I-25/Arapahoe Interchange	
<ul style="list-style-type: none"> Partial Cloverleaf with Yosemite/Costilla connection 	\$85 M to \$105 M
Arapahoe/Parker Interchange	
<ul style="list-style-type: none"> Completion of ramps and grade separation 	\$52 M
Arapahoe Road Corridor	
<ul style="list-style-type: none"> Boston/Clinton to Cherry Creek bridge – Six Lanes with Combination of At-Grade and Grade Separated Intersections 	\$51 M to \$117 M
Parallel and Intersecting Roadways	
<ul style="list-style-type: none"> Peakview and Briarwood Intersections, and widening from Dayton to Havana 	\$4 M
<ul style="list-style-type: none"> Briarwood extension across Golf Course 	\$2.5 M
<ul style="list-style-type: none"> Six Lanes Broncos Parkway/Easter (including bike lanes and intersection realignments) 	\$34 M to \$43 M
<ul style="list-style-type: none"> Circulator Roads, I-25 to Dayton Street ⁽²⁾ 	\$15.5 M to \$22.5 M (excluding ROW)
Transit Services	
<ul style="list-style-type: none"> New call-n-Rides/Flex Routes 	\$60 K capital cost/ \$200 K annual operating cost (per call-n-Ride)
<ul style="list-style-type: none"> Limited Route 66 Overlay on Arapahoe Road 	\$2.2 M capital cost/ \$800 K annual operating cost
<ul style="list-style-type: none"> Fixed Route Local Service (off of Arapahoe Road) 	\$3.1 M capital cost/ \$800 K annual operating cost
Pedestrian/Bicycle Facilities	
<ul style="list-style-type: none"> Sidewalk Improvements 	\$3.5 M to \$5.5 M
<ul style="list-style-type: none"> 2 Grade Separated Crossings of Arapahoe Road 	\$3 M to \$5 M
<ul style="list-style-type: none"> Cherry Creek Bridge, including Ped/Bike Underpass 	\$5 M to \$10 M (included in Corridor cost)
<ul style="list-style-type: none"> Pedestrian Bridge across Cherry Creek 	\$ 1 M
<ul style="list-style-type: none"> Bike Route Signing/Striping 	\$0.75 M to \$1 M
Other Improvement Elements	
<ul style="list-style-type: none"> ITS (Signal timing/coordination and communications infrastructure) 	\$0.4 to \$0.6 M

(1) The Opinion of Probable Cost is based on 2007 dollars.

(2) Much of this cost could be borne by adjacent developers in conjunction with redevelopment, with circulator roads in easements.

A **Business Improvement District (BID)** is designated and authorized, through resolution or ordinance, by the local legislative body and operated by a district board of directors. The purpose of the BID is to finance the construction and maintenance of public improvements in a designated area and to promote the growth of local businesses and the surrounding neighborhood (e.g. street lighting or marketing collateral for the district). A BID has the authority to levy ad valorem taxes on commercial property, to establish special improvement areas and impose special assessment, and to issue bonds (e.g., general obligation, revenue bonds, and assessment bonds). A BID can be initiated by a petition from a majority of impacted property owners. Vote must be approved by a simple majority of the number of property owners as well as the assessed valuation.

Special Districts - Colorado has approximately 65 types of quasi-municipal and improvement districts. Special districts are autonomous units of local government having an array of powers with the ability to determine their own objectives, finance improvements, perform services, and control their own budgets. Special districts are designed to address multiple projects and/or to provide services over a period of time.

A **Title 32 Metropolitan District (Metro District)** is the most widely used special district. A metro district is a separate and independent unit of government and must include two or more improvement projects or services. It is the most commonly used by the master developer of a large project to help finance a wide range of improvements and services (e.g., water and sewer, streets, parks and recreation, fire protection, or public transportation). The Metro district can levy and collect ad valorem taxes for capital construction and operations. Metro districts are formed by petition of the property owners, which in many cases is initially one entity.

Special Authorities - These quasi-municipal organizations are typically formed to halt the spread of slum and blight and redevelop deteriorating areas. An authority board appointed by the mayor governs these authorities. These authorities are designed to address multiple projects over a period of time. Special authorities have a broad array of powers including the use of eminent domain and tax increment financing. However, recent legislation may curtail the use of the eminent domain power for economic development limiting the effectiveness of special authorities.

An Urban Renewal District (URA) is a quasi-municipal organization and is created to eliminate slum and blight and finance improvements (e.g. removal of dilapidated buildings and road improvements). URA can issue revenue bonds as well as utilize tax increment financing (TIF). Property tax TIF can include the increment from all taxing entities including the City, County, and school district. Sales tax increment is limited to the local (municipal) portion only. Tax increment financing (TIF) funds can be used on a pay as you go basis or to support revenue bonds.

Study Area Applications

A RTA could be formed among Arapahoe County and the Cities of Aurora, Centennial, and Greenwood Village for the purpose of specifically funding improvements to the Arapahoe Road Corridor. Alternately, the RTA boundaries could be expanded to include other needed improvements such as Parker Road. A third alternative would be to establish a county-wide authority formed to augment existing funding sources for a larger list of needed capital improvements.

An IGA would be more appropriate for more localized improvements located at the boundary of two jurisdictions. This approach has been most commonly applied to interchange improvements such as what is anticipated at the intersection of Parker and Arapahoe.

The use of an improvement district is more commonly motivated by the interest of private property owners to fund transportation improvements needed for their real estate development project to move ahead. A metro district is most applicable for a single development as long as the needed infrastructure improvements include more than streets. A GID or LID would be more applicable for an interchange or intersection improvements desired by multiple property owners. The downside to this approach is that the tax assessment will need to be paid regardless of whether all property owners are ready to move ahead with development. BIDs and URAs cannot span more than one local jurisdiction and therefore could not be used to fund corridor wide improvements. This restriction coupled with the specific purpose of these mechanisms (i.e, to promote the growth of local businesses and the surrounding neighborhood) would limit their use as potential funding mechanisms.

Steps Taken to Integrate Corridor Study with Subsequent NEPA Requirements

The Arapahoe Road Corridor Study process has addressed topics that correlate to required NEPA topics:

<u>NEPA Topic</u>	<u>Corridor Study Topic</u>
Purpose and Need	- relates to - Corridor Vision
Affected Environment	- relates to - Environmental, Traffic and Land Use Evaluations
Alternatives	- relates to - Improvement Options

Information on each of these topics can be found in the *Final Alternatives Development and Analysis Report* (June 2007), the *Final Environmental Overview* (April 2007), the *Land Use and Socioeconomic Data Summary Reports* (July 2006) and the *Final Travel Forecasts Report* (April 2007). The Corridor Study has also included tasks to:

- Document the logical termini for the entire project area

- Demonstrate the air quality conformity status for the existing Corridor Study area

The extensive public and agency involvement program, previously described, was conducted throughout the Corridor Study to:

- Provide input into the options/alternatives screening process
- Identify potential physical, economic and operational impacts early in the alternatives development process
- Identify potential environmental impacts and mitigation opportunities, and,
- Obtain local agency consensus on:
 - Corridor vision
 - Range of options and alternatives
 - Recommended corridor plan
 - Prioritization of corridor plan elements
 - Funding options

This Corridor Study was conducted following FHWA/FTA guidance regarding the integration of transportation planning and the NEPA process, which encourages the use of planning studies to provide information for incorporation into NEPA documents. The goal of these early integrated planning efforts was to streamline subsequent alternatives analysis during the NEPA clearance work.

For the corridor improvements, individual projects will be initiated as funding becomes available for elements of the full set of corridor improvements. It is anticipated that these improvement projects could move forward with individual NEPA clearances, with this Corridor Study providing the documentation of the intent to implement the full set of corridor improvements.

Next Steps

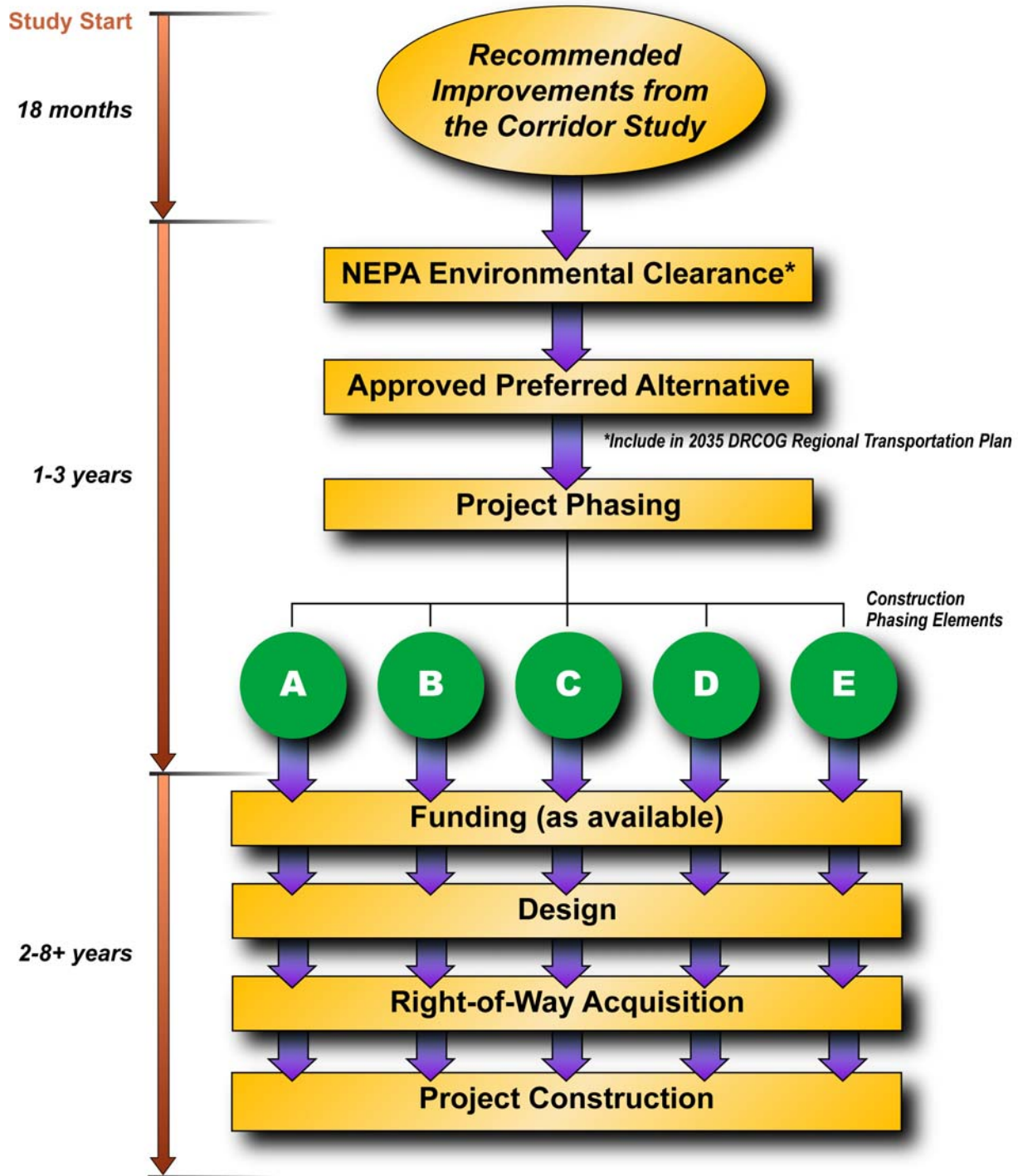
The next steps in the corridor improvements implementation process are outlined below and illustrated in **Figure 1**. Multiple projects may be implemented concurrently if funding is available. These steps include:

- Identify phased alternative elements to forward into NEPA analysis
- Secure necessary funding
- Complete NEPA analyses
- Complete design
- Obtain ROW
- Construction
- Develop landscape guidelines
- Complete IGA regarding maintenance

These steps will be coordinated with CDOT and FHWA to ensure consistency with the NEPA process for the recommended alternative and phased project elements.

At the I-25/Arapahoe Road Interchange, the subsequent steps will be to complete assessments of logical termini and independent utility of the interchange improvements to proceed separate from the corridor improvements. The CDOT Procedural Directive 1601 Feasibility Study process would then be completed, and an Interstate Access Request submitted for FHWA approval. Regulatory agency scoping would be conducted and the appropriate NEPA clearance documentation prepared, preliminary and final design completed, ROW obtained and construction initiated.

Figure 1. Implementation Process



Appendix A

Final Recommendations

Figure A-1. Arapahoe Road Corridor Roadway Recommendations

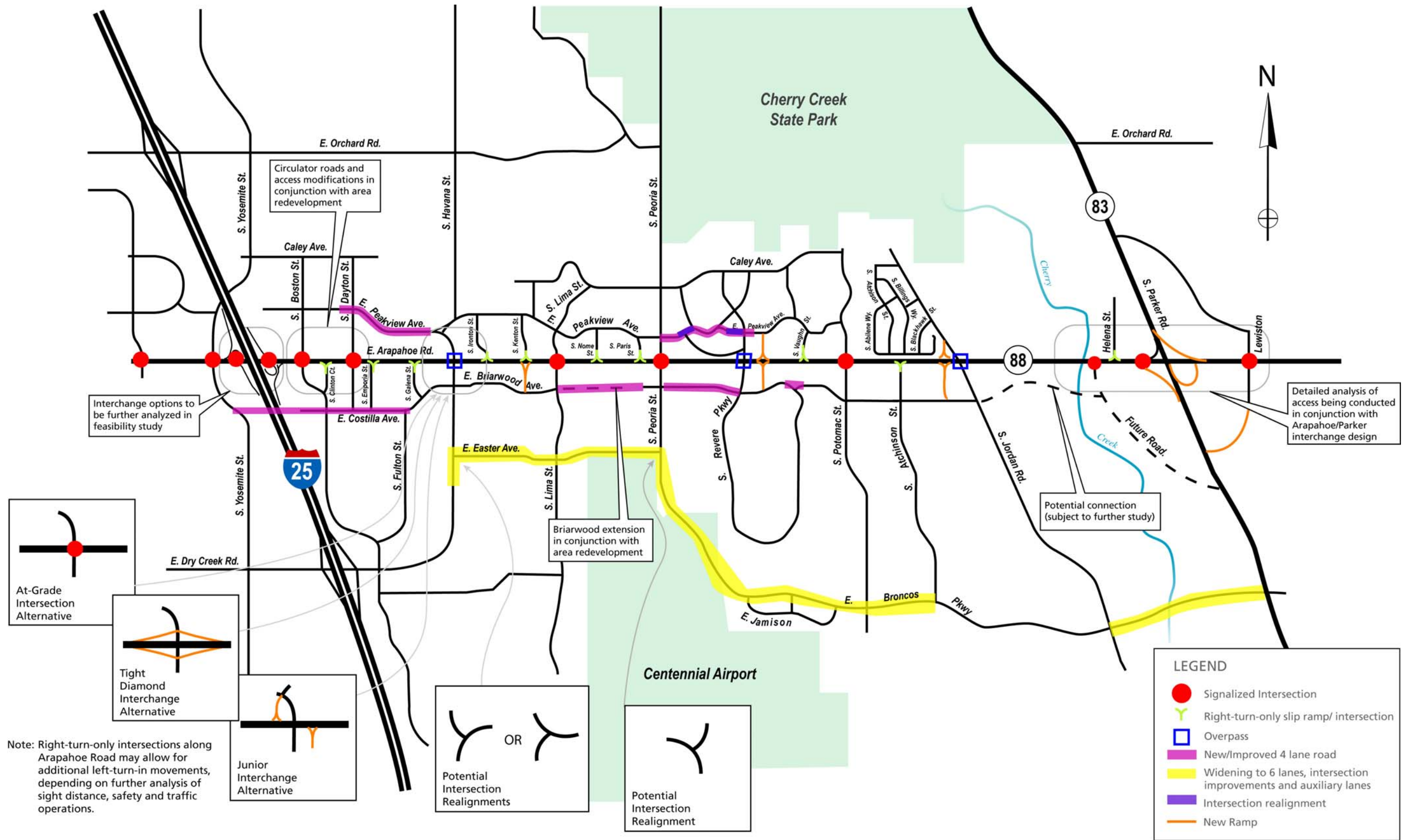


Figure A-2. Context Sensitive Urban Design Elements Recommendation

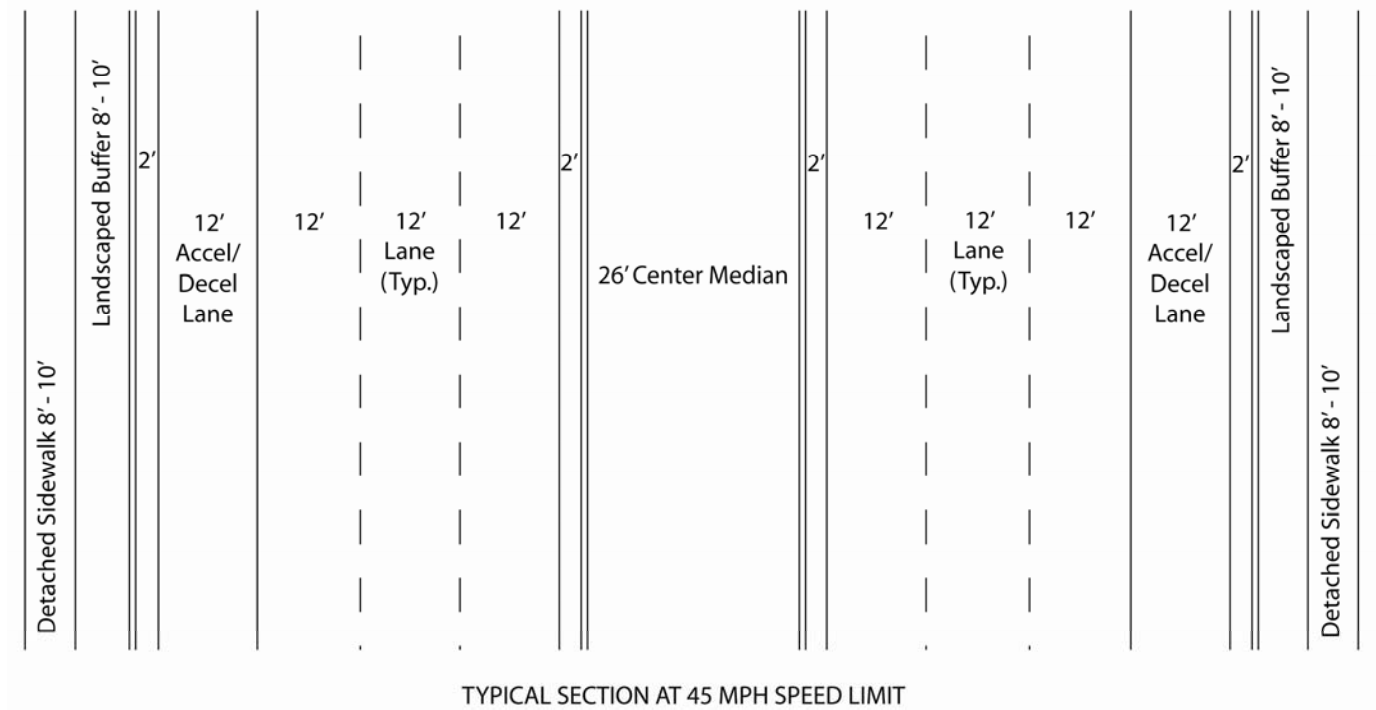
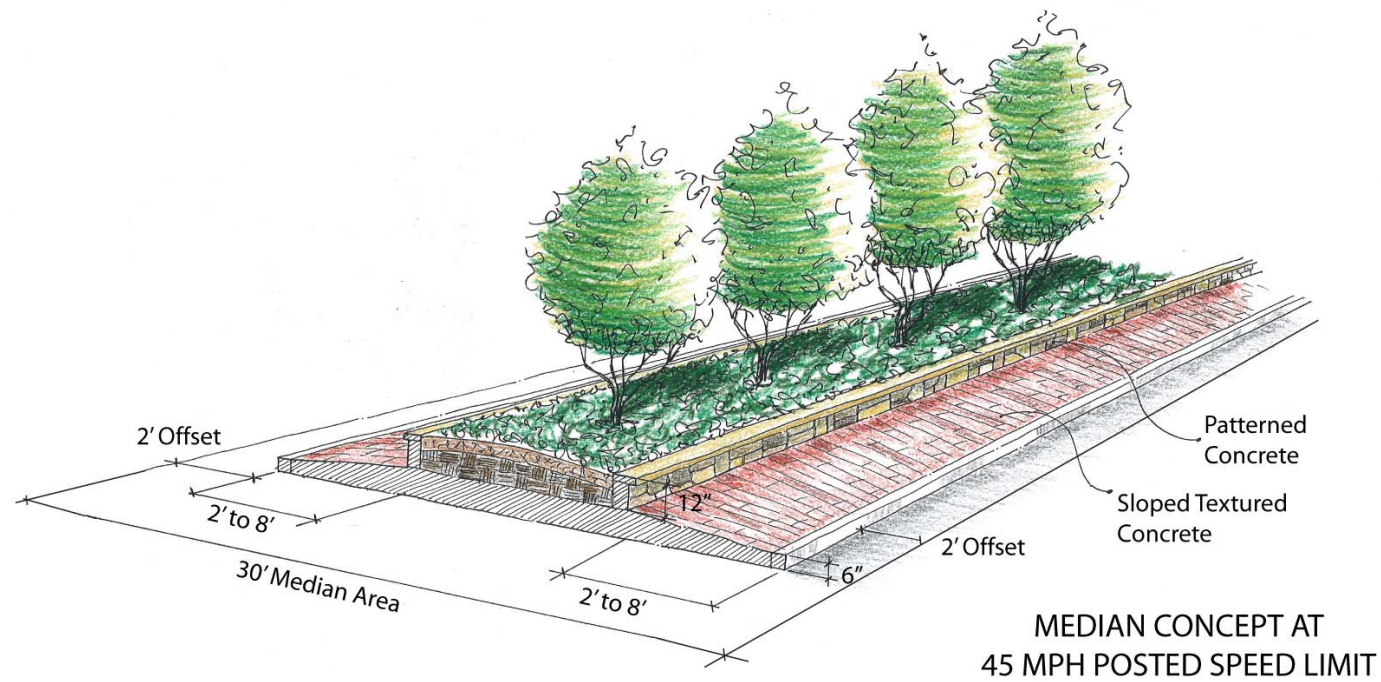
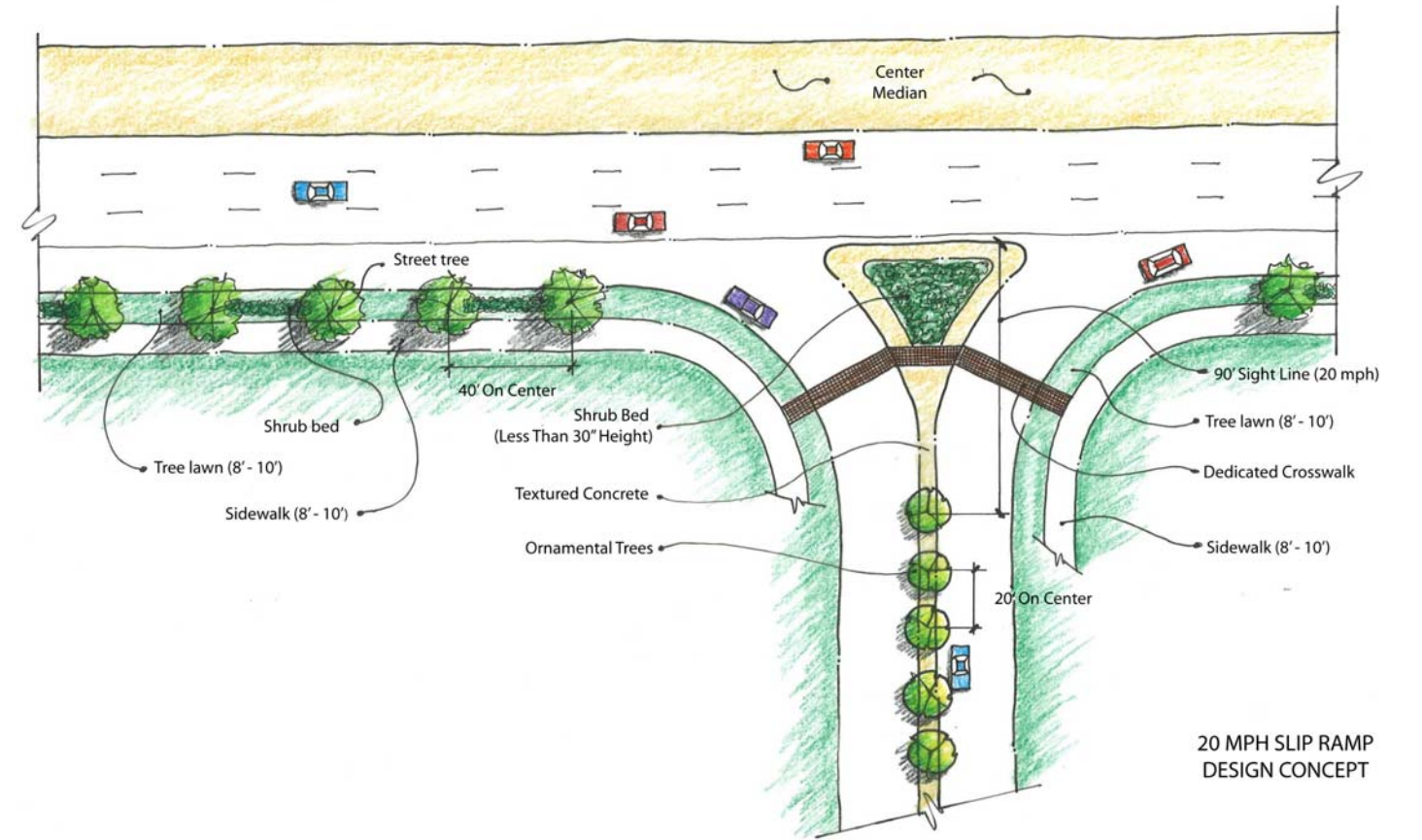
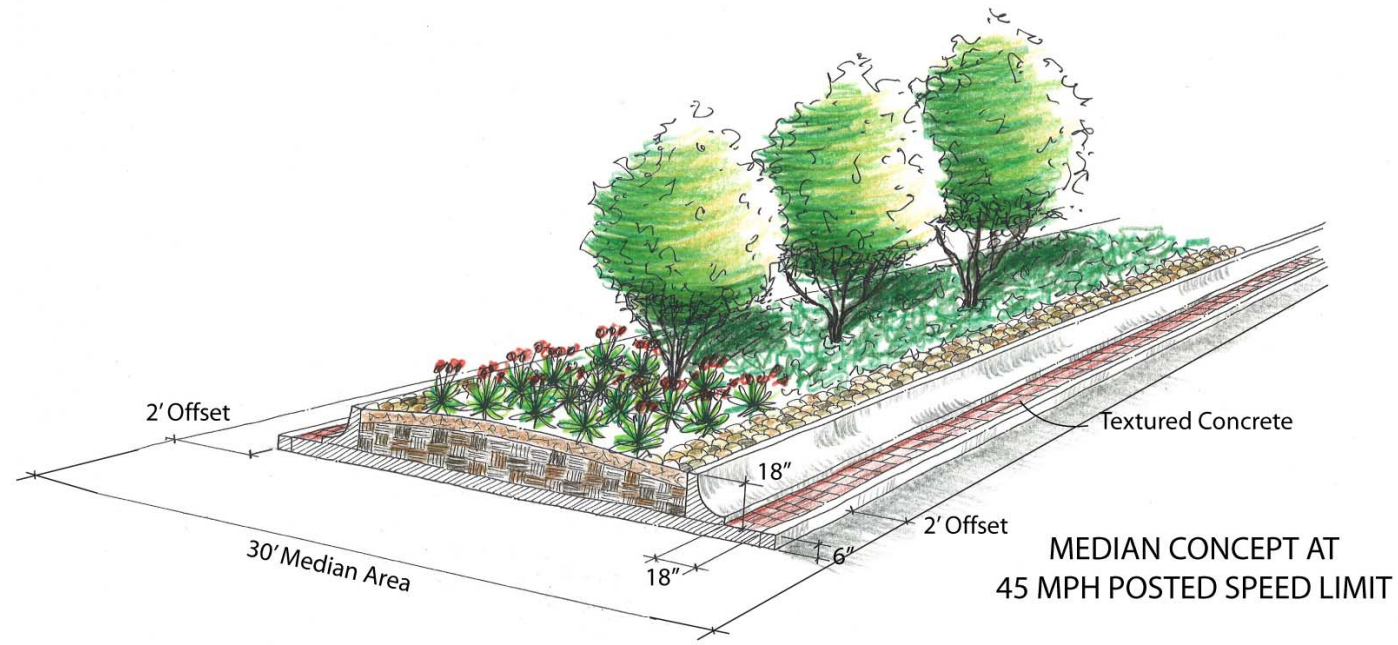


Figure A-3. Broncos Parkway/Easter Avenue/Havana/Dry Creek Recommendation

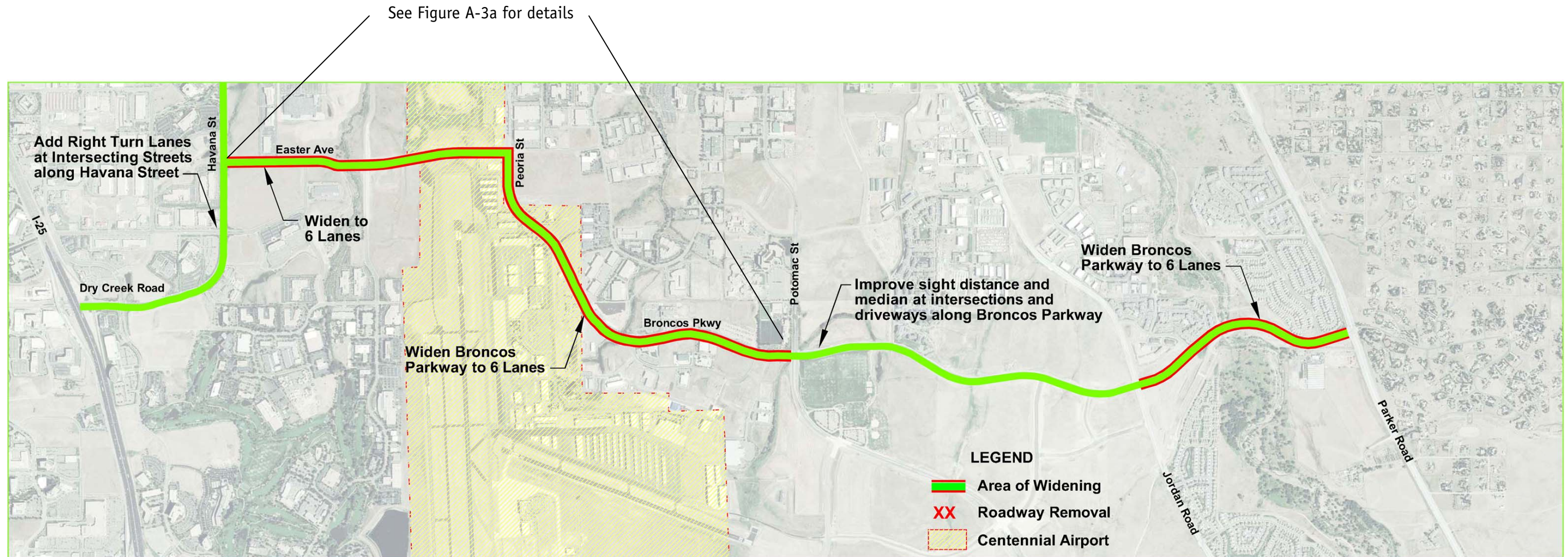


Figure A-3a. Havana/Easter/Peoria Intersection Alternatives and Planned Broncos Parkway Improvements, Easter to Potomac



Figure A-4. Circulator Roadways Recommendation

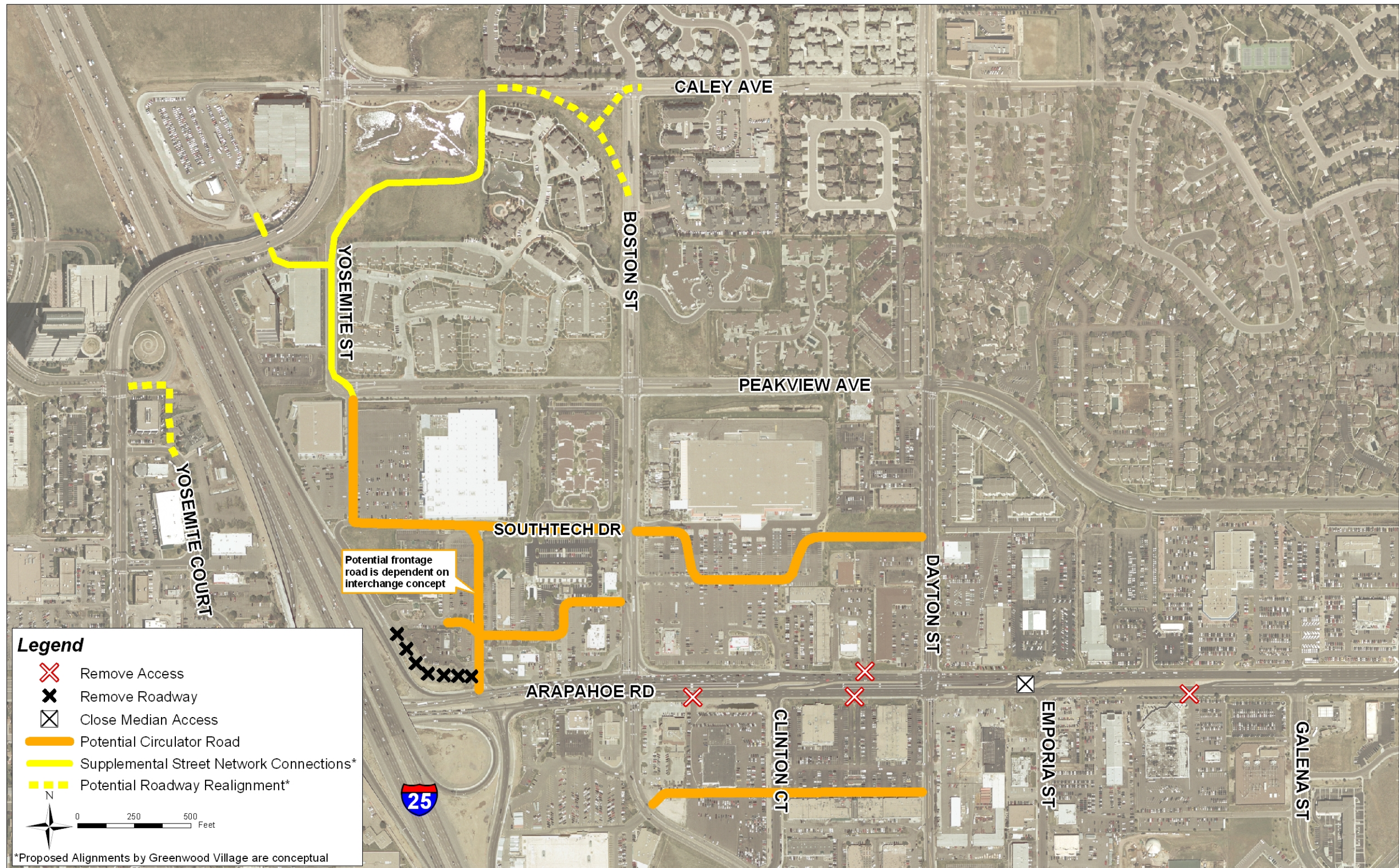


Figure A-5. Transit Service Improvements Recommendation

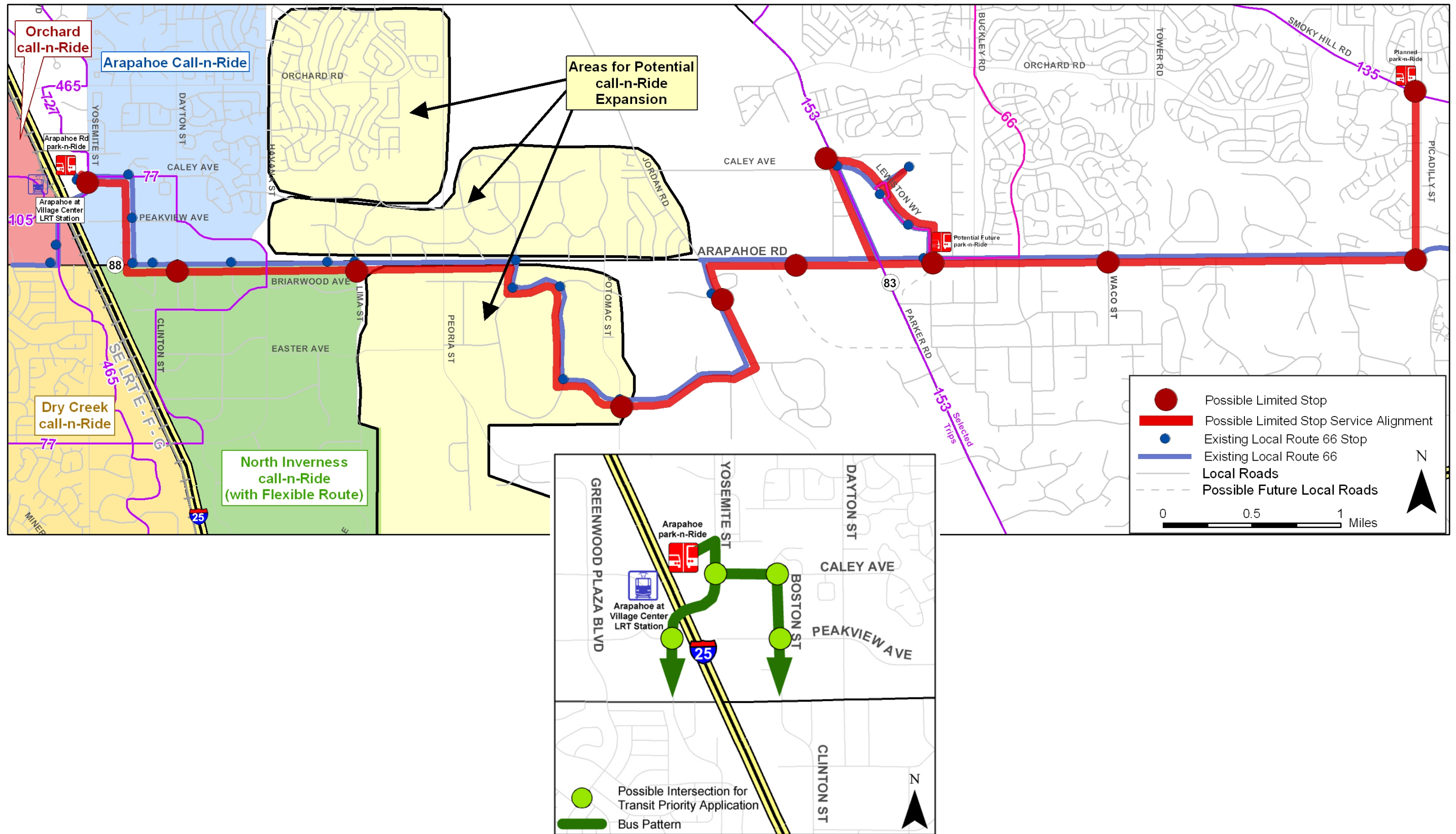


Figure A-6. Frequent Fixed Route Local Service Recommendation

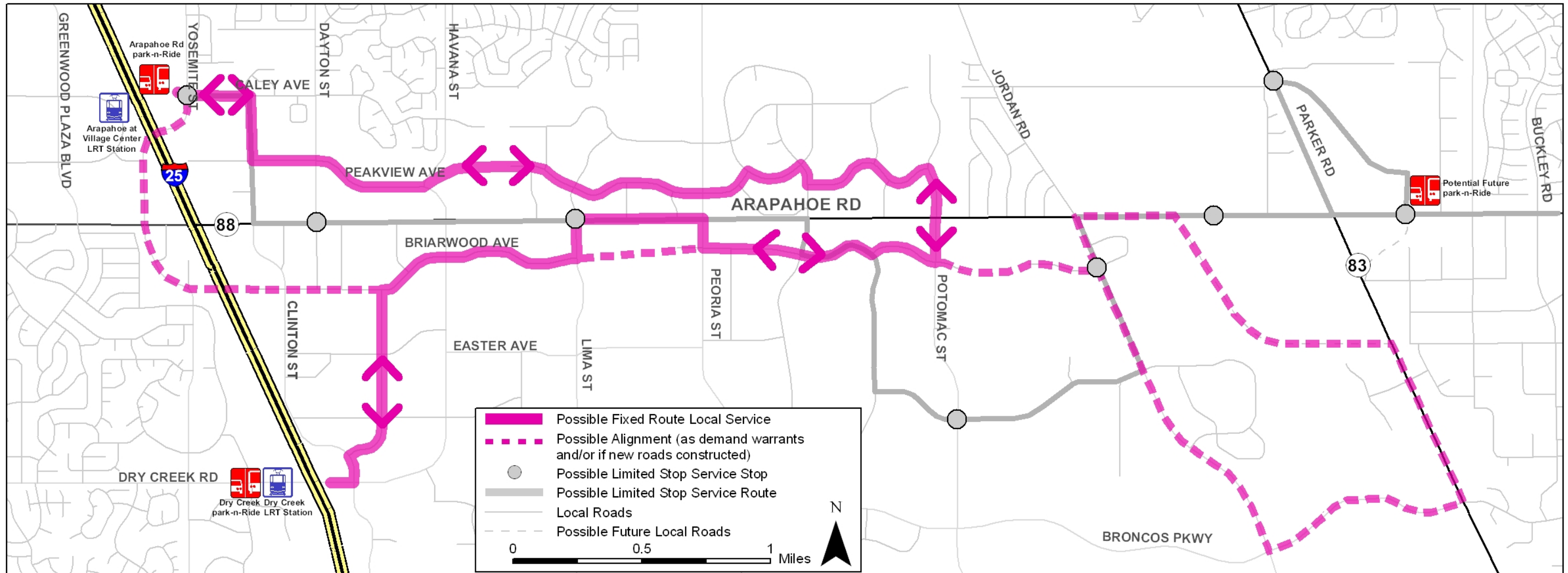


Figure A-7. Pedestrian and Bicycle Facility Improvements Recommendation

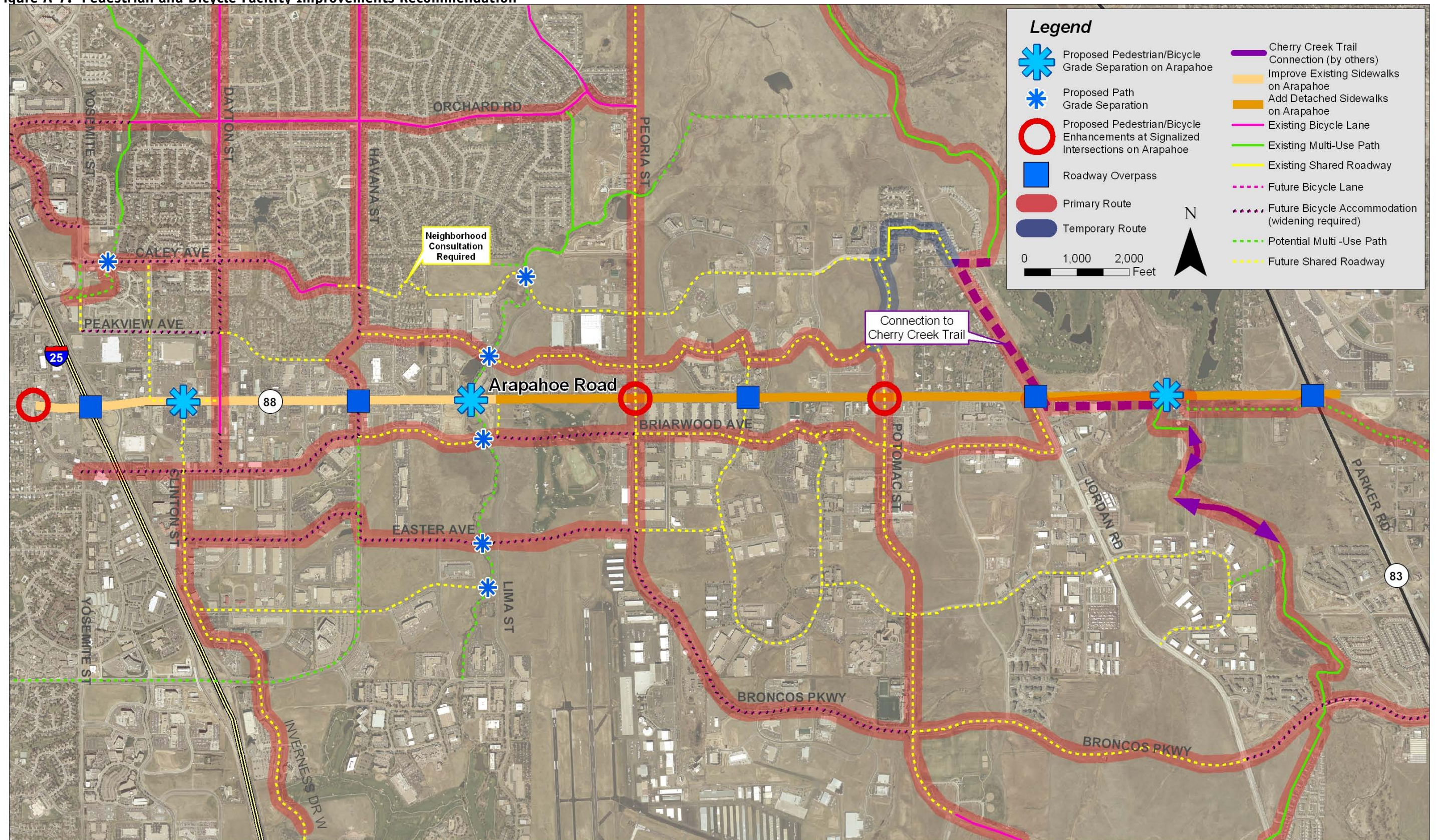
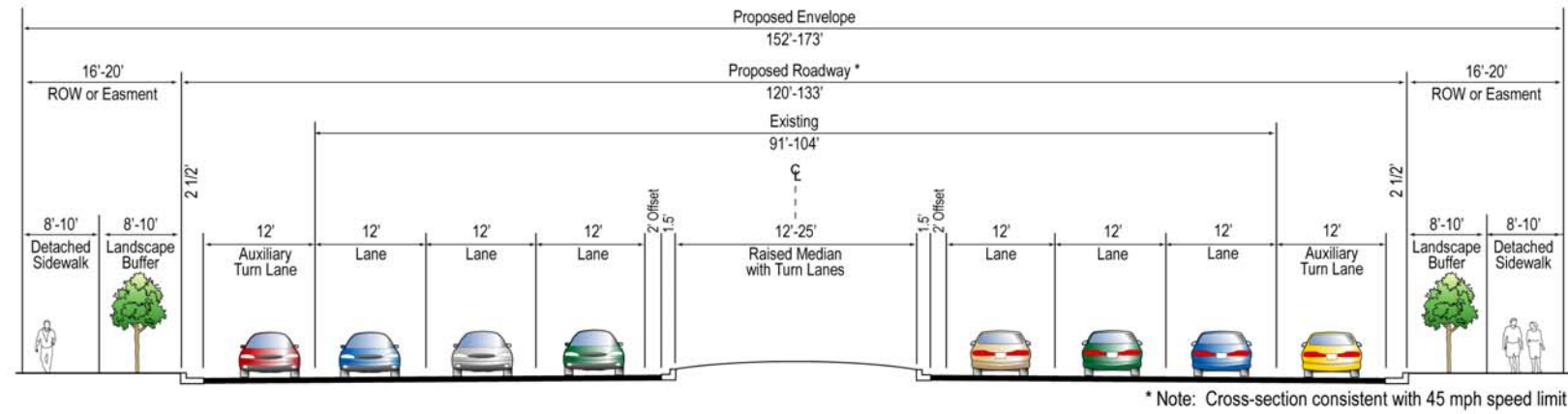
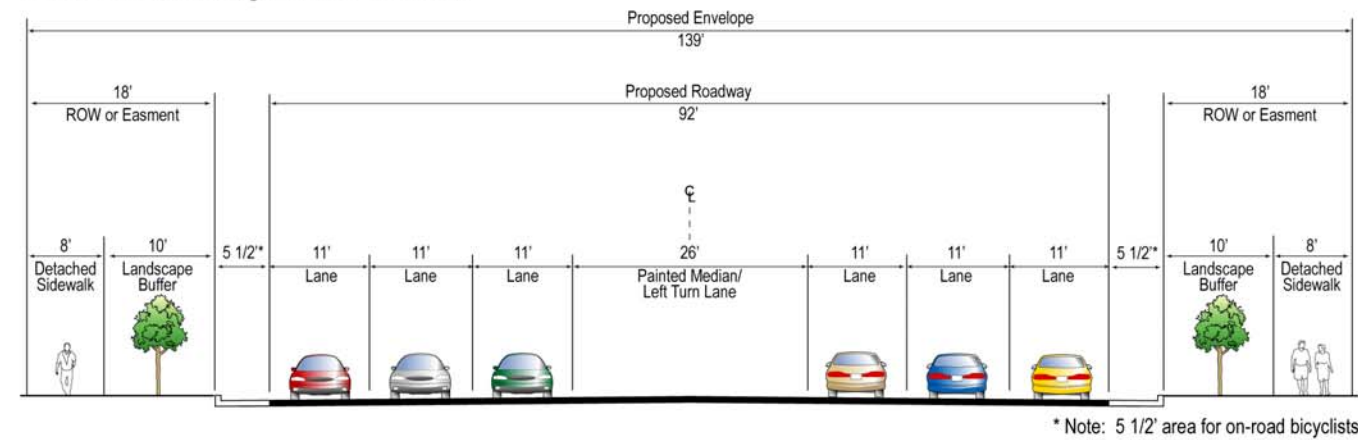


Figure A-8. Recommended Typical Sections

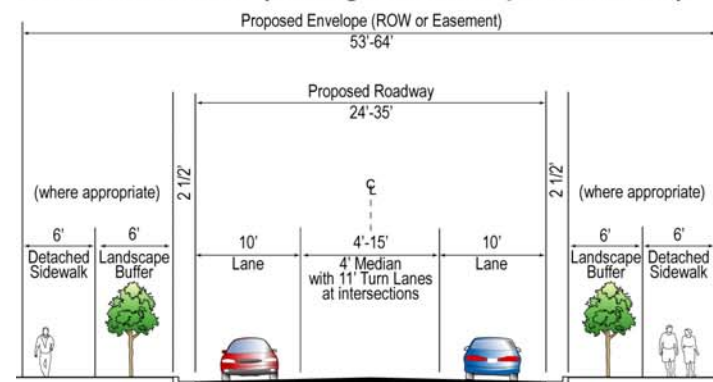
Arapahoe Road Six-Lane Corridor



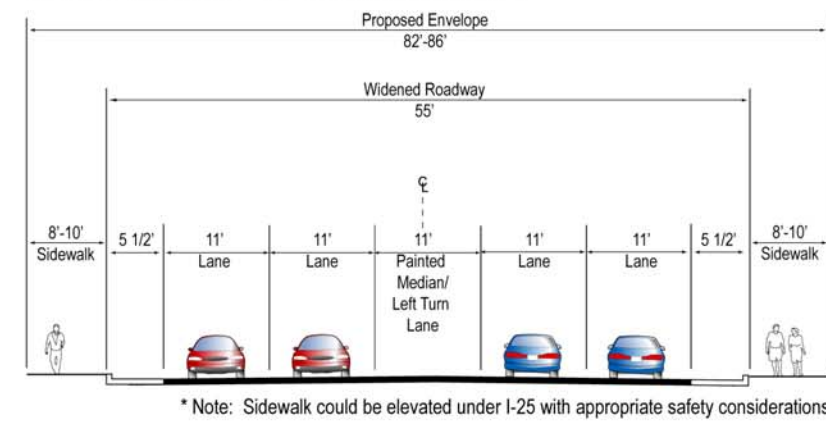
Broncos Parkway/Easter Avenue



Circulator Roads (through redevelopment areas)



Costilla Avenue - Yosemite to Fulton



Peakview/Caley and Briarwood Avenues - Desirable (New Construction)

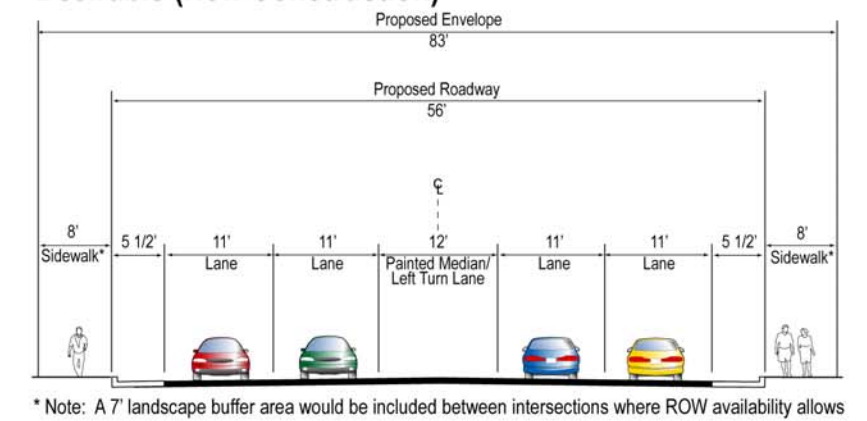
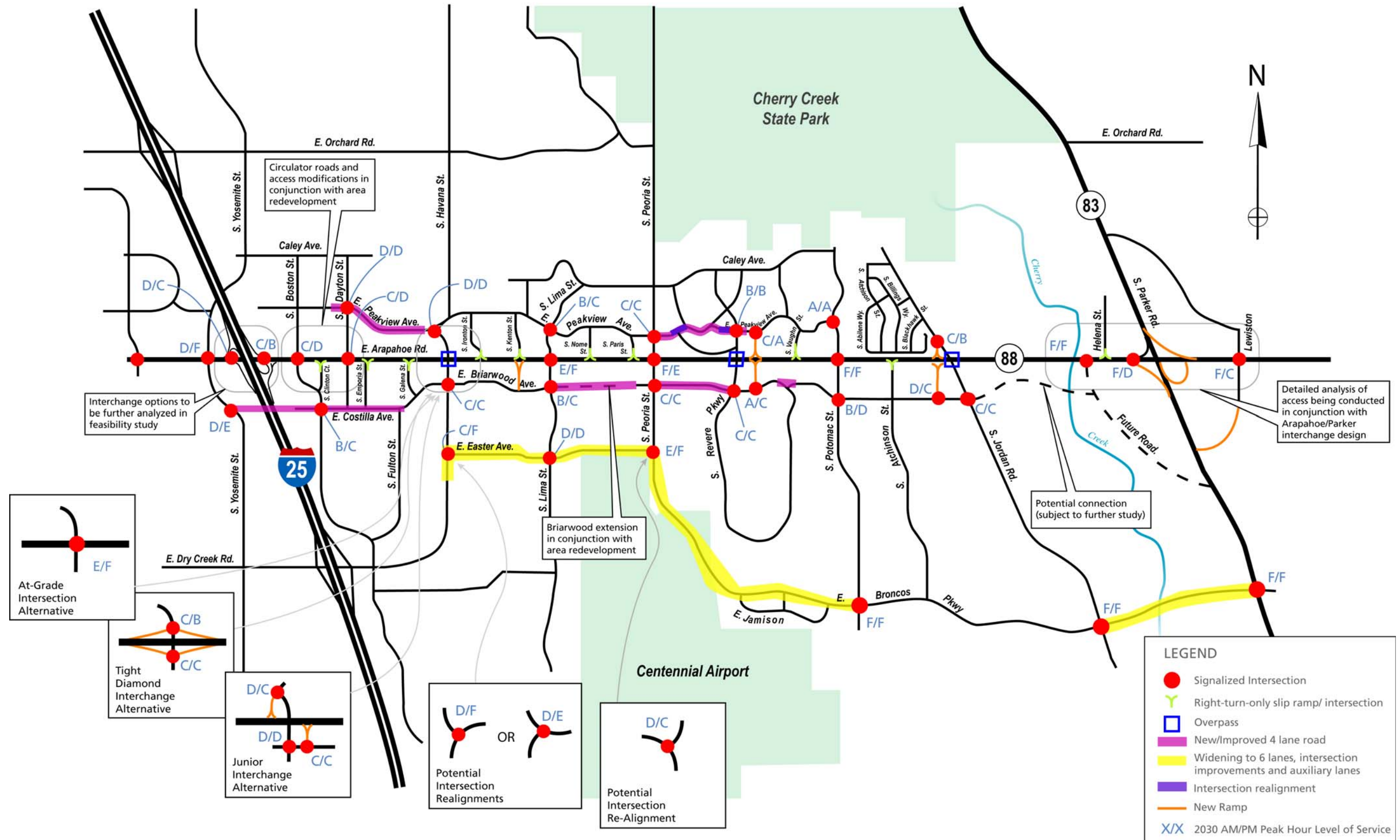


Figure A-9. 2030 Peak Hour Intersection Levels of Service



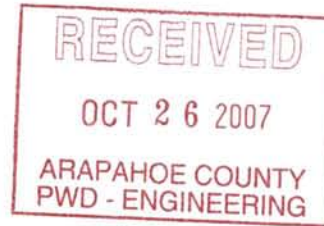
Appendix B

Letters of Endorsement from Participating Agencies

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

Region 6
2000 South Holly Street
Denver, CO 80222
(303) 757-9459
(303) 757-9073 FAX



October 25, 2007

Mr. Bryan Weimer, Program Manager
Capital Improvement Program
Arapahoe County, DSIM
10730 E. Briarwood Avenue, Suite 100
Centennial, Colorado 80112-3853

Re: Support Letter for Arapahoe Rd Corridor Study Dated August 2007

Dear Mr. Weimer:

CDOT is proud to have been a participant in the SH 88, Arapahoe Road Corridor Study. Our involvement in the Study on the Technical Advisory Committee and Executive Committee panels provided us the opportunity to discuss the transportation significance of this corridor with fellow stakeholders. For us at CDOT, we applaud the efforts and vision of the study panel members and their respective agencies to help define and shape this critical transportation corridor for the future.

It is important to keep in mind the intent of the study and also consider how it might mesh with future planning and NEPA efforts. This Study did an excellent job in its implementation of the new streamlining initiative for linking planning and NEPA in accordance with FHWA guidelines. The Arapahoe/I-25 effort and other identified improvements along the corridor were never intended to be a substitute for the formal NEPA process, but rather a planning document establishing a vision for the future of Arapahoe Road between I-25 and Parker Road and should be regarded as such. The Study also included FHWA Staff involvement at key intervals where they provided constructive comments and recommendations that improved the Study.

Issues such as water quality, access control, ROW, and context sensitive design should continue to remain priorities for each of the participating agencies as development/re-development emerges along this corridor. As a participant in the study, CDOT's intention from both a planning and engineering perspective would be to strive to support the recommendations of the Study when planning evolves into detailed project implementation.

Now that the Study is complete, CDOT supports evaluating the needs at I-25/Arapahoe Rd Interchange as the next priority project along the corridor once the final design for the interchange at Parker Rd/Arapahoe Rd is complete and that project is fully funded. At this time, CDOT is unable to commit any type of funding improvements for I-25/Arapahoe Rd Interchange except what has already been identified as the T-REX contingency funds targeted for interim improvements at this interchange.

B. Weimer
October 25, 2007
Page 2 of 2

We will continue to work with you through the DRCOG planning process to help facilitate improvements to this corridor. We encourage all of the agencies involved in the study to continue to partner and work toward collaborative transportation partnerships that will ultimately provide benefits for all.

Sincerely,



Randy L. Jensen
Region 6 Transportation Director

cc: Gregory B. McKnight – Transportation Commissioner
Pamela Hutton – CDOT Chief Engineer
Reza Akhavan – CDOT South Program Engineer



Board Officers

Nancy N. Sharpe, Chair
Rick Garcia, Vice Chair
Pat Cronenberger, Secretary
W. R. "Skip" Fischer, Treasurer
Will Toor, Immediate Past Chair
Jennifer Schaufele, Executive Director

February 27, 2007

Mr. Bryan D. Weimer
Project Manager, Capital Improvement Program
Arapahoe County Public Works and Development
10730 E. Briarwood Ave. Ste. 100
Centennial, CO 80112-3853

Dear Mr. Weimer:

In response to your request for DRCOG's concurrence with your Arapahoe Road traffic analysis, as presented in *Arapahoe Road Corridor Study, I-25 to Parker Road: Final Travel Forecast Summaries*, we took the following steps:

- Conducted several meetings with your project staff, including the principals of Ordonez and Vogelsang, the subconsultant that developed the adjusted land use forecasts used in the project;
- Engaged in a lengthy telephone and email exchange concerning technical details of your approach to these forecasts; and
- Conducted a careful analysis of the forecasts presented in the above report.

As a result of these activities, we find the forecasts presented in the above-referenced report acceptable for use by Arapahoe County and other jurisdictions for planning purposes in this corridor. Particular points of our analysis that led us to this conclusion include:

- For your reported counts, your 2005 raw model outcomes, your 2030 no action raw model outcomes, and your 2030 no action adjusted outcomes, we calculated screenline volume totals immediately west of Parker Road, including Arapahoe Road, Bronco Parkway, E-470, and Lincoln Avenue, as follows:
 - Reported 2005 counts (142,000 vehicles/day)
 - Raw 2005 model outcomes (155,000 vehicles/day)
 - 2030 no-action raw model outcomes (240,000 vehicles/day)
 - 2030 adjusted model outcomes (216,000 vehicles/day)

The 2005 raw model screenline outcomes are approximately 10% higher than reported counts, and your adjustment reduces the 2030 no action screenline outcomes by approximately 10%, as appropriate.

Enhancing and protecting the quality of life in our region

February 27, 2007
Page 2

- The raw volumes for the same screenline produced by the latest DRCOG cycle of model runs for the Regional Transportation Plan (2006 Cycle 2) are 267,000 vehicles/day, as compared to your raw no action outcomes of 240,000 vehicles/day. This difference is within acceptable limits.
- The demographic assumptions used within the study area in your 2030 model runs, in comparison to those used for the the latest DRCOG cycle of model runs for the Regional Transportation Plan (2006 Cycle 2) are:
 - Population: FHU – 114,064; DRCOG – 114,574
 - Households: FHU – 44,445; DRCOG – 44,084
 - Employment: FHU – 178,222; DRCOG – 177,760These differences also are within acceptable limits.

On future projects, we would prefer that you discuss with us your proposed demographic changes at the earliest point possible in the process, before they have been proposed and accepted by project committees, to ensure consistency between DRCOG and project demographic assumptions to the maximum extent possible.

We also request that the figures reported in Table 9 as being DRCOG results either be removed from the final report or not labeled as "DRCOG" results. They are not consistent with any model results developed by DRCOG.

If you have questions regarding these comments, please contact Erik Sabina, at DRCOG, 303 480-6789.

Sincerely,



George Scheuernstuhl
Director, Transportation Planning and Operations

GS/kc

cc: David M. Schmit, Director Public Works and Development
James E. Pankonin, Engineering Division Manager
Erik Sabina, DRCOG
Joe Hart, David Evans & Associates
Elliot Sulsky, Felsburg, Holt & Ullevig
Beth Ordonez, Ordonez & Vogelsang

INTRODUCED BY: COUNCILMEMBER PRESLEY

**A RESOLUTION ADOPTING THE ARAPAHOE ROAD
CORRIDOR STUDY RECOMMENDATIONS**

WHEREAS, the *City of Greenwood Village* has authority for making land development decisions within its jurisdiction and is responsible for transportation planning within the *City of Greenwood Village*; and

WHEREAS, the *Greenwood Village City Council* desires to improve transportation facilities between I-25 and Parker Road in order to best provide the desired services for Greenwood Village residents and businesses, and

WHEREAS, the *City of Greenwood Village* has been an active participant in the Arapahoe Road Corridor Study along with other jurisdictions and agencies which includes: Arapahoe County, City of Aurora, City of Centennial, City of Greenwood Village, Colorado Department of Transportation, Douglas County, Regional Transportation District, and Town of Foxfield, collectively the corridor agencies; and

WHEREAS, the *City of Greenwood Village* has worked with other corridor agencies via the Corridor Study Executive Committee and Technical Advisory Committee to establish consensus on corridor vision, goals and objectives, reviewed alternatives and concurred with the improvement recommendations; and

WHEREAS, the corridor agencies have concurred that it is in the best interest of the Arapahoe Road Corridor to incorporate the general Arapahoe Corridor Study recommendations into their respective Transportation and Land Use Plans; and

WHEREAS, the corridor agencies commit to work to complete the NEPA requirements that will determine the specific improvements on state highways and other Federal/State funded projects; and

WHEREAS, the corridor agencies will work cooperatively to secure funding from all available sources including but not limited to local, federal, state, private, and developer and will take appropriate actions to implement the Arapahoe Road Corridor improvements; and

WHEREAS, the corridor agencies will commit to request right of way dedication, as allowed by law, or at a minimum right-of-way reservation necessary to implement the recommended improvements of the Arapahoe Road Corridor Study in conjunction with new development or redevelopment of lands adjacent to the recommended Arapahoe Road Corridor Study improvements; and

WHEREAS, the corridor agencies will work together to develop an Intergovernmental Agreement addressing an Arapahoe Road Corridor improvements implementation plan; and

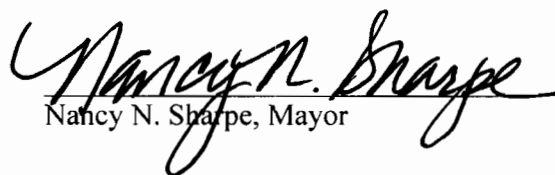
WHEREAS, the corridor agencies recognize that the implementation plan may vary based on funding availability and opportunity to partner with adjacent development activities,

NOW, THEREFORE, BE IT RESOLVED by the City of Greenwood Village, as follows:


The *Greenwood Village City Council* authorizes the adoption of the Arapahoe Road Corridor Study and all associated recommendations prepared by Arapahoe County, in conjunction with CDOT, RTD and the cities of Aurora, Centennial, Greenwood Village and the Town of Foxfield. The Arapahoe Road Corridor Study will be used as a planning and guidance document for implementation of the transportation improvements within the study area and efforts will be made to incorporate such by reference into the Greenwood Village Transportation and Comprehensive Plans.

The *Greenwood Village City Council* further resolve that the *City of Greenwood Village* will use its best efforts to secure right-of-way, obtain funding, following NEPA regulations as appropriate, guide development proposals, and actively work in conjunction with the corridor agencies to ensure the recommendations of the Arapahoe Road Corridor Study are implemented.

READ, PASSED, AND APPROVED the 15th day of October, 2007.


Nancy N. Sharpe, Mayor

ATTEST:


Susan M. Phillips, CMC, City Clerk

STATE OF COLORADO }
COUNTY OF ARAPAHOE } ss.

At a regular meeting of the Board of County Commissioners for Arapahoe County, Colorado held in the Administration Building, Littleton, Colorado on Tuesday the 3rd day of June 2008, there were present:

Susan Beckman, Chair	Present
Jim Dyer, Chair Pro-Tem	Present
Rod Bockenfeld, Commissioner	Present
Frank Weddig, Commissioner	Present
Pat Noonan, Commissioner	Present
Kathryn L. Schroeder, County Attorney	Present
John E. Bush, Jr., Deputy County Attorney	Present
Nancy A. Doty, Clerk to the Board	Absent & Excused
Joleen Sanchez, Assistant Clerk to the Board	Present

when the following proceedings, among others, were had and done, to-wit:

RESOLUTION NO. 080436 It was moved by Commissioner Beckman and duly seconded by Commissioner Dyer to adopt the following Resolution:

WHEREAS, the Board of County Commissioners of Arapahoe County (“Board”) has the authority for making land development decisions within its jurisdiction and is responsible for transportation planning within unincorporated Arapahoe County; and

WHEREAS, the Board desires to improve transportation facilities for Arapahoe Road (Colorado Highway 88) between Interstate Highway 25 (I-25) and Colorado Highway 83 (South Parker Road) in order to best provide the desired services for Arapahoe County residents and businesses, and

WHEREAS, Arapahoe County has been an active participant in the Arapahoe Road Corridor Study along with other jurisdictions and agencies which include the City of Aurora, the City of Centennial, the City of Greenwood Village, the Colorado Department of Transportation, Douglas County, the Regional Transportation District, and the Town of Foxfield, and collectively referred to as the “corridor agencies”; and

WHEREAS, Arapahoe County has worked with other corridor agencies including the Corridor Study Executive Committee and the Technical Advisory Committee to establish consensus on corridor vision, goals and objectives, reviewed alternatives, and concurred with the improvement recommendations; and

WHEREAS, the corridor agencies have concurred that it is in the best interest of each agency to incorporate the general Arapahoe Road Corridor Study recommendations into their respective Transportation and Land Use Plans; and

WHEREAS, the corridor agencies are committed to work to complete the NEPA requirements that will determine the specific improvements on state highways and other Federal/State funded projects; and

WHEREAS, the corridor agencies will work cooperatively to secure funding from all available sources including but not limited to local, federal, state, private, and developer sources and will take appropriate actions to implement the Arapahoe Road Corridor Study improvements; and

WHEREAS, the corridor agencies will commit to request right-of-way dedication, as allowed by law, or at a minimum right-of-way reservation necessary to implement the recommended improvements of the Arapahoe Road Corridor Study in conjunction with new development or redevelopment of lands adjacent to the recommended Arapahoe Road Corridor Study improvements; and

WHEREAS, the corridor agencies will work together to develop an Intergovernmental Agreement addressing an Arapahoe Road Corridor improvements implementation plan; and

WHEREAS, the corridor agencies recognize that the implementation plan may vary based on funding availability and opportunity to partner with adjacent development activities.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Arapahoe County as follows:

A. The Board authorizes the adoption of the Arapahoe Road Corridor Study (I-25 to Parker Road) and the System Level Feasibility Study for the I-25 and Arapahoe Road interchange Improvements and all associated recommendations prepared by Arapahoe County, in conjunction with the Colorado Department of Transportation, the Regional Transportation District, the cities of Aurora, Centennial, and Greenwood Village and the Town of Foxfield and authorizes the Chair of the Board of County Commissioners to sign the endorsement of said Arapahoe Road Corridor Study.

B. The Arapahoe Road Corridor Study and the System Level Feasibility Study will be used as a planning and guidance document for implementation of the transportation improvements within the study area and efforts will be made to incorporate such by reference into the Arapahoe County Transportation Plan and the Arapahoe County Comprehensive Plan.

C. Arapahoe County will use its best efforts to secure right-of-way, obtain funding, following NEPA regulations as appropriate, guide development proposals, and actively work in conjunction with the corridor agencies to ensure the recommendations of the Arapahoe Road Corridor Study are implemented.

The vote was:

Commissioner Beckman, Yes; Commissioner Bockenfeld, Yes; Commissioner Dyer, Yes; Commissioner Weddig, Yes; Commissioner Noonan, Yes.

The Chair declared the motion carried and so ordered.

I, Nancy A. Doty, County Clerk and ex-officio Clerk of the Board of County Commissioners in and for the County and State aforesaid, do hereby certify that the annexed and foregoing Order is truly copied from the records of the proceedings of the Board of County Commissioners for said Arapahoe County, now in my office.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said County, at Littleton, Colorado this 19th day of July, 2008.



Nancy A. Doty, Clerk to the Board

Nancy A. Doty by *[Signature]*

April 29, 2008

Mr. Bryan Weimer, Program Manager
Capital Improvement Program
Arapahoe County
10730 East Briarwood Avenue, Suite 100
Centennial, Colorado 80112



Re: Support Letter for Arapahoe Road Study, August 2007

Dear Mr. Weimer:

The Regional Transportation District strongly supports the regional transportation planning process so well represented by the Arapahoe Road Corridor Study (I-25 to Parker Road) completed in 2007. We also appreciate the opportunity afforded to RTD by the study team to participate in the transit planning aspect of the study.

During the planning process RTD staff participated in and reviewed the results of the transit planning process, and supports the general conclusions regarding transit routings and bus stop improvements and placements. Since this is a long-term project, any routing, construction and operating scenarios will require specific project review and funding determinations at the time these projects are proposed.

The RTD Planning and Development and Service Planning staffs look forward to working with Arapahoe County and CDOT as the Arapahoe Road projects develop in the future.

Sincerely,



Clarence W. Marsella
General Manager

CWM/WH

cc: O'Neill Quinlan, RTD Director, District G
Bruce Abel, RTD Assistant General Manager of Customer & Contracted Services
Jeff Becker, RTD Senior Manager of Service Development
Bill Porter, RTD Manager of Service Planning & Scheduling
Jessie Carter, RTD Senior Service Planner/Scheduling
Greg Smith, RTD Schedule Analyst



City of Centennial

Mayor
Randy Pye

City Council

WARD I
Rick Dindinger
Vorry C. Moon

WARD II
Sue Bosier
Bart Miller

WARD III
Rebecca McClellan
Andrea Suhaka

WARD IV
Todd Miller
Ron Weidmann

Treasurer
Greg Hill

City Clerk
Goldie Fishbein

December 18, 2007

Susan Beckman, Commissioner
Arapahoe County
10730 E. Briarwood Ave., Ste 100
Centennial, CO 80120

Bob Broom, Council Member
City of Aurora
15151 E. Alameda Pkwy
Aurora, CO 80012

Steve Sullivan, Mayor
Town of Foxfield
17877 E. Easter Pl.
Foxfield, CO 80016

O'Neill Quinlan, Director
Regional Transportation District (RTD)
1600 Blake Street
Denver, CO 80202

Nancy Sharpe, Mayor
City of Greenwood Village
6060 S. Quebec St.
Greenwood Village, CO 80111-4591

Greg McKnight, Commissioner
Colorado Dept. of Transportation
5434 South Geneva Way
Greenwood Village, CO 80111

Melanie Worley, Commissioner
Douglas County
100 Third Street
Castle Rock, CO 80104

Re: Arapahoe Road Corridor Study

Dear Members of the Executive Committee:

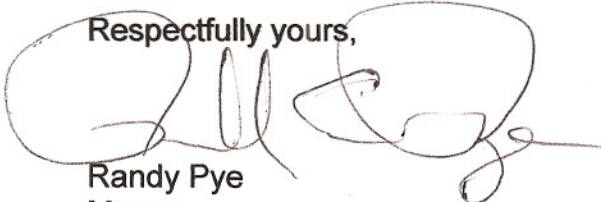
The City of Centennial is a staunch supporter of regional cooperation on transportation projects that will affect the Denver Metropolitan area. For that reason we have actively participated in the discussions and preparation of much of the Arapahoe Road Corridor Study (ARCS). We recognize that the ARCS will have regional impacts and we believe our voice in the ARCS is critically important due to the fact that a majority of those impacts will directly and primarily affect the City of Centennial.

We have reviewed the Arapahoe Road Corridor Study I-25 to Parker Road Final Corridor Study Report (November 2007) and generally support the plan at this time as a preliminary or conceptual planning document, with our recommended alternatives presented. Due to the long-range nature of this project, we believe that the plan will require further review and greater attention and discussion of certain details contemporaneously with project funding to ensure that the plan addresses then-existing and projected conditions for traffic and transportation in the region. We look forward to this future review and discussion as we seek to address impacts of traffic and transportation on the region and specifically upon the City of Centennial.

The City of Centennial is unable to implement *at this time* the recommendation from the Executive Committee that the local governmental agencies begin reserving right-of-way as a condition of new development in anticipation of the future implementation of the ARCS. Our caution is due, in part, to the conceptual nature of the plan and the potential for changes in circumstances between the initial plan preparation and its much later implementation as funding is made available. Moreover, we are concerned that the use of the ARCS as a regulatory tool to demand landowner right-of-way reservations and dedications may run afoul of constitutional protections concerning the taking of private property for public use without compensation.

Again, we look forward to future discussions and plan review as our region develops and project funding is made available.

If you have any questions concerning this matter, please do not hesitate to contact me.

Respectfully yours,

Randy Pye
Mayor

cc: Jacque Wedding-Scott, City Manager
Bob Widner, City Attorney
Wayne Reed, Director of Planning & Development



U.S. Department
of Transportation
**Federal Highway
Administration**

Colorado Federal Aid Division

February 3, 2009

12300 W. Dakota Ave.
Suite 180
Lakewood, CO 80228

Mr. Bryan Weimer, Program Manager
Capital Improvement Program
Arapahoe County, DSIM
10730 E. Briarwood Avenue, Suite 100
Centennial, Colorado 80112-3853

SUBJECT: Arapahoe Road Corridor Study (I-25 to Parker Road)
Planning and Environmental Linkages (PEL) Process

Dear Mr. Weimer:

This letter is in response to your request for FHWA acknowledgement of completion of the Planning and Environmental Linkages (PEL) study initiative undertaken by Arapahoe County, CDOT, and David Evans and Associates on the Arapahoe Road Corridor Study project. We appreciate and commend the efforts the team has undertaken to conduct this corridor planning study in a manner consistent with the FHWA PEL guidance which outlines a process similar to that required by NEPA. The benefits of this streamlining effort will undoubtedly be realized in terms of time and cost savings on future NEPA studies conducted within the corridor planning study limits.

The completed PEL Questionnaire submitted to FHWA on January 29, 2009 provides a good summary of the work completed in PEL study and the information that will be needed once projects enter into the NEPA process. The strengths of the corridor study include a solid corridor vision statement, meaningful public involvement throughout the process and an evaluation of a reasonable range of alternatives. Early and continuing coordination with resource agencies and a quantitative analysis of environmental impacts were not addressed in depth in the corridor study and will be required in subsequent NEPA studies. As individual projects are initiated and funding becomes available, it will be necessary for FHWA to meet with Arapahoe County and CDOT on a project-by-project basis to determine the scope of the NEPA study including level of study required, purpose and need, logical termini, and the extent to which the corridor study can be used to supplement or replace certain milestones in the NEPA process.

**MOVING THE
AMERICAN
ECONOMY**



If you have any questions, please don't hesitate to contact Ms. Stephanie Gibson, Environmental Program Manager for the Division Office, at (720) 963-3013. Ms. Gibson may also be contacted by e-mail at Stephanie.gibson@fhwa.dot.gov.

Sincerely yours,



Karla S. Petty, P.E.
Division Administrator

Attachments(2):

- Arapahoe County Request for Concurrence dated August 22, 2007
- Arapahoe Road Corridor Study PEL Questionnaire dated January 29, 2009

cc: Pamela Hutton – CDOT Chief Engineer
Reza Akhavan – CDOT South Program Engineer
Abe Lavassani – CDOT Region 6 Resident Engineer
Jim Paulmeno – CDOT Region 6 Environment
Joe Hart, David Evans and Associates
Jane Board, David Evans and Associates