I-25/Arapahoe Road
Conceptual Design,
Interstate Access Request, and
NEPA Environmental Assessment

8/19/09

PART A – GENERAL PROJECT OVERVIEW

SECTION 1 - PROJECT SPECIFIC INFORMATION

a, **Proposed Action** - The general proposed action is the modification and enhancement of the interchange at I-25 and Arapahoe Road to reduce existing and future congestion. Improvements will likely include modification of existing mainline I-25 and ramps, bridge reconstruction, construction of new bridges, roadway approaches, and other facilities necessary to address the Purpose and Need of the project. This Scope of Services is to prepare conceptual design as necessary to accomplish the goals of the project, an Interstate Access Request (IAR), and an Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) as the appropriate type of NEPA environmental clearance document, based on direction received in meetings with CDOT and FHWA held on February 12, March 4, and April 17, 2009.

b. **Project Goals** – The goals of this project are to a) obtain an approved IAR by CDOT and FHWA that identifies a recommended "Build" alternative and b) prepare a NEPA EA that evaluates the recommended "Build" alternative and the No Action alternative. The EA will identify a Preferred Alternative for documentation in a Finding of No Significant Impact (FONSI) if appropriate.

c. **Project Location** - The interchange project is located on I-25 at Arapahoe Road (SH 88) in Arapahoe County, CO.

d. **Work Duration** - The time period for the work described in this scope is approximately 540 days (18 months) including reviews. Efforts will be made to accelerate this schedule by the Consultant with the cooperation from the partnering agencies via decision making, timely direction, and timely review of deliverables.

e. **Consultant Responsibility** - The Consultant is responsible for the analysis of traffic operations and environmental and other impacts which may result from the improvements, the evaluation of possible methods and techniques to mitigate the impacts, the identification of a Preferred Alternative to address the Purpose & Need of the project, and preparation of an Interstate Access Request (IAR), Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) if appropriate.

This NEPA project was identified as a priority in the Arapahoe Road Corridor Study (2007), which was conducted as a CDOT pilot project for the FHWA Planning and Environmental Linkage (PEL) process. Because the Arapahoe Road Corridor Study included NEPA-like steps such as public and agency coordination, and identification of potential environmental issues, this EA will be conducted with streamlining measures to

avoid back-tracking on previous decisions made through the PEL process/System Level Feasibility Study and to make best use of available data, alternative analysis, screening, and recommendations previously made.

The Consultant will be responsible for the preparation, distribution, coordination of review, public comment, finalization of the Environmental Assessment, and the preparation of a Finding of No Significant Impact if appropriate. Additional conceptual design will be completed to address project constructability, help minimize design variances and minimize cost through value analysis. The Consultant will also be responsible for coordinating the final steps of the Interchange Feasibility Study in accordance with CDOT Policy Directive 1601 and preparation of an Interstate Access Request for submittal to FHWA.

f. **Deliverables** - The Consultant's deliverables include:

- Technical Reports and Memoranda
- Website and public information materials
- Conceptual Design Plans
- Interstate Access Request (draft and final)
- Environmental Assessment document (internal draft and public EA document)
- NEPA Decision Document (expected to be a FONSI. If an EIS is determined to be required due to significant impacts, a separate scope of services will be prepared.)
- Photo simulations
- Administrative Record
- Meeting notes and minutes
- Project status reports and schedules

Deliverables will be submitted to Arapahoe County, the cities of Greenwood Village and Centennial, CDOT and FHWA for review. Final acceptance of deliverables will be requested of CDOT and FHWA.

g. **CDOT Computer /Software Information** - The consultant will utilize the most recent CDOT adopted software. The primary software used by CDOT is as follows:

- Earthwork — InRoads
- Drafting/CADD — InRoads and Microstation with CDOT's formatting configurations and standards
- Survey — CDOT Inroads compatible
- Geometry — CDOT COGO (Coordinate Geometry)
- Bridge — Staff Bridge software will be used in either design or design check
- Specifications — Microsoft Word
- Traffic — TransCAD, CORSIM and HCS

h. **Additional Project Information** - Additional information regarding this project is included in the following references from the Arapahoe Road Corridor Study (Arapahoe County, 2007), which was conducted as the first part of a Planning and Environmental Linkages process:

- Existing Transportation Conditions Report, May 2006
- Retail and Commercial Opportunity Analysis Report, July 2006
- Land Use and Socioeconomic Data Summary Report, July 2006

- Travel Forecasts Report, April 2007
- Environmental Overview, April 2007
- Alternatives Development and Analysis Report, June 2007
- Arapahoe Road Corridor Study Report, October 2007
- I-25/Arapahoe Road Interchange System Level Study, December 2008

SECTION 2 - PROJECT MANAGEMENT AND COORDINATION

a. Arapahoe County Contacts - The Contract Administrator for this Project is:

Bryan Weimer, Transportation Division Manager
Arapahoe County Public Works
10730 E. Briarwood Avenue, Suite 100
Centennial, CO 80120

b. Project Coordination - Coordination will be required with the following:

- Arapahoe County
- Colorado Dept. of Transportation, Region 6
- Federal Highway Administration
- Regional Transportation District/Federal Transit Administration
- City of Greenwood Village
- City of Centennial
- Resource Agencies including, USCOE, SHPO, CDPHE, DRCOG (the extent of coordination required will be confirmed following scoping to determine likely resource impacts).

Submittals to agencies will be coordinated with Arapahoe County and CDOT.

SECTION 3 - PROJECT DESCRIPTION

a. Background

A partial cloverleaf interchange currently exists at Arapahoe Road and I-25, in the growing southeast I-25 corridor. Arapahoe Road (SH 88) is located in the southern portion of the Denver Tech Center and serves as a key east-west regional roadway connection from Broadway to east of E-470. I-25 runs north-south through the study area, extending north through Denver and Fort Collins and south through Colorado Springs. RTD's Southeast Corridor LRT line extends along the west side of I-25 crossing over Arapahoe Road and the southbound interchange ramps.

Traffic volumes have increased substantially since the mid 1980's when the last significant improvements were made to the Arapahoe Road corridor and I-25 Interchange. The interchange 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 Arapahoe Road and the I-25 ramps. This volume is forecast to increase to 135,000 vehicles per day by 2030.

The current "retrofit" design at the I-25 interchange does not have adequate capacity nor the expansion capabilities to accommodate traffic volumes today or into the future, and travel forecasts indicate that improvements to other local or regional parallel corridors

would not provide substantial relief. Arapahoe Road currently contains three lanes approaching the interchange in each direction, but only two lanes are carried eastbound and westbound through the interchange, which severely limits the capacity of the interchange. The location of the light rail bridge recently constructed with the Transportation Expansion (T-REX) project along the west side of I-25 highly constrains the options for the interchange, particularly the Southbound I-25 exit and entrance ramps and the Arapahoe Road alignment.

The Arapahoe/I-25 interchange experiences the highest accident rate among the interchanges in the southeast corridor. During the three years analyzed for the System Level Feasibility Study (2001 – 2003), 128 accidents occurred within the interchange area. Even at the slow speeds within the interchange, over 20 percent of these crashes involved injuries. Most accidents within the interchange area are rear-end collisions resulting from congestion and queues of vehicles at the ramps and signalized intersections.

The existing I-25 interchange configuration causes vehicles on the Southbound I-25 off-ramp to back up onto the interstate throughout several hours of the day and especially during the peak hours, limiting the benefits of the recent T-REX interstate improvements and creating potentially hazardous conditions on I-25, the ramp and Arapahoe Road. Poor operations at the I-25 interchange and nearby intersections along Arapahoe Road cause delays for emergency vehicles, resulting in longer response time for incidents on Arapahoe Road and I-25.

An interim operational improvements project is planned for construction in the summer of 2009. The improvements are being funded through “TREX contingency funds”. The improvements within the interchange area will include an additional eastbound and westbound through lane on Arapahoe Road through the ramp intersections on the outside of the existing bridge piers and barriers that will tie into the outside lanes approaching the Yosemite Street and Boston/Clinton Street intersections. A westbound right turn lane under the bridge from the new through lane outside the bridge piers and barrier to the Southbound I-25 loop ramp will also be constructed. The improvements will also include a free-flow southbound right turn lane from the Southbound I-25 exit ramp that will drop as a westbound right turn lane at Yosemite Street, modifications to the barrier median on the east leg of the Southbound I-25 exit ramp intersection to provide more room for truck traffic turning left from the exit ramp onto eastbound Arapahoe Road, and additional advanced overhead sign structures on Arapahoe Road east and west of the interchange.

The interim improvements will provide a benefit to the interchange traffic operations in the short term, particularly at the Southbound I-25 exit ramp and Yosemite Street intersections. However, analysis indicates that these short-term improvements will be insufficient to accommodate the projected traffic volumes.

A Systems Level Feasibility Study (I-25/Arapahoe Road) was completed (2008) to develop, review and evaluate alternatives for the modification and/or expansion of the existing interchange to enhance and improve the interchange vehicular and pedestrian traffic operations and safety. The interchange feasibility study was approved by the Colorado Transportation Commission in December 2008. The feasibility study was conducted as an element of the Arapahoe Road Corridor Study, which incorporated the “Planning and Environmental Linkage” effort by FHWA and CDOT to streamline the connection between planning and the formal NEPA environmental clearance process.

The corridor study included an Environmental Overview to identify potential environmental impacts that may result from any of the interchange alternatives. The corridor study also evaluated the logical termini of the study corridor to document that projects forwarded into NEPA would function independently and not cause unexpected side effects.

Based on the results of the Systems Level alternatives evaluation, an Improved Partial Cloverleaf Interchange, including a new connection of Costilla Avenue under I-25 from Yosemite Street to Clinton Street, was recommended for evaluation in a NEPA process. The System Level Study showed that this interchange configuration provides the necessary transportation facilities to adequately accommodate travel demand through and beyond the 2030 planning horizon with limited construction impacts and minimal impacts to surrounding businesses. The modified interchange will better serve the Arapahoe Road (SH 88) corridor and will also alleviate traffic congestion on the I-25 ramps. This will allow Arapahoe Road to continue to function as a major principal arterial facility consistent with its designation as a state highway. Most improvements would be generally located within the existing interchange footprint, with minor widening impacts along Arapahoe Road, construction impacts on I-25 related to a new bridge, and potential direct impacts to an office building west of I-25 and a hotel east of I-25 for the Costilla Avenue connection.

The next step for this project effort is to update the traffic operations analysis to the current 2035 regional horizon year and to prepare an Environmental Assessment (EA) to evaluate the types and magnitude of potential environmental impacts. Upon completion of the public review period and a public meeting, and if no significant unmitigable impacts are determined to occur, a Finding of No Significant Impact (FONSI) will be completed for CDOT and FHWA review and approval.

b. **Project Limits** - Limits for the physical footprint of the project are assumed to be approximately:

- Two thousand feet (2000') south of Arapahoe Road along I-25
- Two thousand feet (2000') north of Arapahoe Road along I-25
- Eight hundred feet (800') east of the Boston/Clinton Street intersection along Arapahoe Road and eight hundred feet (800') north and south of Arapahoe along Boston/Clinton
- Eight hundred feet (800') west of the Yosemite Street intersection along Arapahoe Road and eight hundred feet (800') north of Arapahoe along Yosemite Street, including the Yosemite Circle intersection
- Two thousand feet (2000') along a new alignment of Costilla Avenue extending from Yosemite Street, crossing under I-25 to Clinton Street, then two thousand feet (2000') along existing Costilla Avenue from Clinton to Fulton Street
- Eight hundred feet (800') south of the new Costilla Avenue intersection along Yosemite Street, including the Alton Way intersection
- Seventeen hundred feet (1700') along Yosemite Street between Arapahoe Road and the new Costilla Avenue intersection

The project concept will also include such relocations, transitions, tapers, and other improvements to the I-25 ramps, Arapahoe Road, Yosemite Street and other local roads and access points addressing the goals of the project. ITS-related options may extend along Arapahoe Road from Quebec Street to Havana Street. Resource impacts and

mitigation will also be evaluated for project study areas that may vary in size depending on the resource and the anticipated type of impact (direct, indirect or cumulative) as determined from project scoping.

c. General Work Elements

The EA will incorporate findings of the Arapahoe Road Corridor Study (2008), which was conducted to incorporate some of the elements of the new FHWA Planning and Environmental Linkages process. This study identified a Vision and goals for the entire Arapahoe Road corridor from I-25 to Parker Road. This vision will be the basis for identifying a Purpose and Need specifically for the I-25/Arapahoe Road interchange. The study also identified a range of options for improvements to Arapahoe Road and to the Arapahoe/I-25 interchange. The interchange options will be screened in the IAR to one “build” alternative (and possibly a small range of options to the “build” alternative) and the “no action” alternative. These alternatives will be carried forward into the EA for full environmental evaluation and selection of the Preferred Alternative.

Major elements to be included in the project are as follows:

- Confirm the NEPA independent utility and logical termini of the proposed improvements based on the initial evaluation conducted for the Environmental Overview.

- Establish the purpose and need of the project within the context of the National Environmental Policy Act (NEPA), reflecting the Arapahoe corridor vision relating to:
  - Improved interchange traffic operations
  - Improved safety
  - Enhanced mobility
  - Accommodation of forecasted traffic volume
  - Minimized impacts to adjacent development and to the surrounding region
  - Avoidance of impacts to adjacent LRT line

- Prepare an Interstate Access Request (IAR) for submittal to FHWA that updates the analysis of operational effectiveness and safety of the recommended alternative from the System Level Feasibility Study based on year 2035 travel forecasts. The IAR will be used as the screening tool and documentation for a broad range of alternative interchange concepts. It is anticipated that the IAR document will precede the Environmental Assessment document.

- Summarize the methodology and evaluation of reasonable alternatives considered and documented in the Environmental Overview and System Level Feasibility Study to confirm the process used to determine the Preferred Alternative and to verify that the Preferred Alternative best meets the Purpose and Need for the project. Other alternatives may also be evaluated to provide comparison to the Preferred Alternative on the basis of traffic operations, feasibility, neighborhood/business impacts, constructability and cost, but will not be fully evaluated in the Environmental Assessment document portion of this project without appropriate adjustment to the project scope of services, budget and schedule. A No Action Alternative will be included in the list of reasonable alternatives and will be evaluated in the same manner as all other alternatives.

- Prepare a streamlined EA document that incorporates data and findings of the previous corridor study to the extent possible, does not revisit all previous screening decisions, and focuses on resources that are known to be impacted (potentially including noise, hazardous materials, wetlands and visual quality). Prepare the EA with previous study findings and decisions incorporated by reference to reduce the document length and improve readability.

- Investigate and assess the environmental impacts of the Preferred Alternative and the No Action Alternative. The assessment will be used to explore options to help avoid and/or minimize environmental impacts. The assessment will also include the affected environment, environmental consequences and mitigation measures.

- In consultation with Arapahoe County, City of Centennial, Greenwood Village, CDOT and FHWA, confirm the ability of the Preferred Alternative to achieve the project purpose and need and goals and avoid/minimize impacts. If appropriate, prepare a Finding of No Significant Impact (FONSI) for the Preferred Alternative.

- A public involvement process will be a part of this project including one public scoping meeting at the start of the EA process to disseminate information and to obtain input from the community, one intermediate meeting or newsletter, and one public meeting when the EA is released for public review. A formal public hearing will not be conducted.

- Complete conceptual design of the Preferred Alternative and develop an implementation phasing plan that responds to realistic funding potential.

SECTION 4 – ASSUMPTIONS: KNOWN EXISTING FEATURES

a. **Structures** - Existing structures within the project limits include the following:

- Structure F-17-DG, I-25 over Arapahoe Road
- Structures F-17-OQ, LRT over Arapahoe Road and interchange ramps

b. **Utilities** - Utilities known or assumed to exist within the project limits are as follows:

- Water distribution pipelines
- Sewer collection pipelines
- Natural gas distribution mains
- Overhead and underground electric distribution lines
- Overhead and underground telephone lines
- Overhead and underground cable television lines
- Fiber optic communication lines

c. **Irrigation Ditches** - There are no known irrigation ditches.

SECTION 5 - ITEMS TO BE FURNISHED BY ARAPAHOE COUNTY

a. Arapahoe County will provide, or assist the Consultant in obtaining from CDOT, the following:

- Existing wet utility (potable water, sanitary sewer, and reclaimed water) and stormwater information within the project area
- Preliminary and final plans, reports, survey, maps and other information related to Arapahoe Road, Yosemite Street and Costilla Avenue in the vicinity of the project area
- Available survey plats, property boundary, subdivision plats and vesting deeds needed within the project area
- Financing plan
- Right of way plans for Arapahoe Road and I-25
- Current property ownership information
- Tax Assessor data and ROW cost estimates

SECTION 6 - GENERAL INFORMATION

a. **Authorization to Proceed**. Work will commence upon receipt of written notice-to-proceed from Arapahoe County, and will be completed within the 18 month work duration. The time charged will be exclusive of time lost for:

- Extensive (more than 2 week) reviews and approvals or delay in receiving responses/direction from Arapahoe County, CDOT, FHWA or other local agency partners.

- Time lost will be monitored by the Consultant and a contract time extension request will be submitted to Arapahoe County, if needed, after approximately 365 days.

b. **Project Coordination**. The routine working contact will be between the Arapahoe County Contract Administrator and the Consultant Project Manager (C/PM). Each Project Manager will provide the other with:

- Written synopses of their respective contacts (both by telephone and in person) with others.
- Copies of pertinent written communications.

c. **Routine Reporting and Billing**. The Consultant will provide the following on a monthly basis:

- Coordination activities by the C/PM with Arapahoe County.
- The monthly reports and billings required by Arapahoe County for the 15 month contract duration.
- Minutes of all Meetings. The minutes will be completed and will be provided to the Arapahoe County Contract Administrator within seven (7) working days after the meeting. When a definable task is discussed during a meeting, the minutes will identify the “Action Item”, the agency responsible for accomplishing it, and the proposed completion date.
- All reports and submittals must be accepted by Arapahoe County prior to their content being utilized in follow-up work efforts.

d. **Personnel Qualifications**. The Consultant Project Manager (C/PM) must be approved by the Arapahoe County Contract Administrator. Design-related tasks must be done by Licensed Professional Engineers or Professional Land Surveyors who are registered

with the Colorado State Board of Registration for Professional Engineers and Land Surveyors.

PART B – SCOPE OF SERVICES

SECTION 1 - PROJECT MANAGEMENT

1.1 Project Management -David Evans and Associates (DEA) (the Consultant) will be responsible for coordination of all contract activities, including coordination of subconsultants. Monthly project status reports will be submitted in conjunction with monthly billings along with forms required by Arapahoe County, with regular meetings and/or telephone calls to discuss project progress.

1.2 Project Schedule - The Consultant will prepare a Master Project Schedule which will include activities for the IAR and EA as well as for Conceptual Engineering Services. A preliminary project schedule can be found in **Attachment A**.

1.3 Internal Team Meetings - Internal meetings will be held between DEA staff and sub-consultants during development of the EA. A total of 12 internal meetings are anticipated.

1.4 Meeting Notes - The minutes will be completed and will be provided to the COUNTY/PM and CDOT/PM within seven (7) working days after the meeting. When a definable task is discussed during a meeting, the minutes will identify the "Action Item," the agency responsible for accomplishing it, and the proposed completion date.

Assumptions:

- Agency review and comment on deliverables will be completed within seven working days of submittal.

Deliverables:

- Monthly project status reports in conjunction with monthly invoices
- Project schedule
- Meeting notes

SECTION 2 - SCOPING

2.1 Agency and Public Scoping

The Consultant will coordinate the agency and public scoping process in accordance with National Environmental Policy Act (NEPA) requirements, as well as CDOT and FHWA policy and guidance. The purpose of the scoping process is to provide information regarding the project to the public and to gain input regarding key issues and concerns. As part of agency scoping, study methodologies will also be discussed and confirmed along with the level of detail and extent of EA documentation.

The Consultant will coordinate and conduct scoping meetings with appropriate agencies, including the CDOT Region 6 and Environmental Programs Branch (EPB), Federal Highway Administration (FHWA), City of Greenwood Village, City of Centennial, Colorado Department of Public Health and Environment (CDPHE), Colorado Division of Wildlife (CDOW), Denver Regional Council of Governments (DRCOG), Arapahoe County, Regional Transportation District (RTD), U.S. Army Corps of Engineers (USACE), U.S. Department of Interior Fish and Wildlife Service (USFWS), Southeast Metro Stormwater Authority (SEMSWA) and other federal, state, and local agencies as

necessary. The Consultant will make the necessary arrangements and coordinate the logistics for these meetings. Input from these meetings will be used to determine which, if any, agencies will be cooperating and/or participating agencies as defined by NEPA and SAFETEA-LU (Section 6002). If determined appropriate and necessary, a Chartering Agreement will be prepared to assist with agency interaction during the project. This scope assumes that up to five separate meetings will be held and up to three Consultant staff members will attend each meeting.

Public scoping for the EA will be conducted as a public open house meeting (see Task 3.5 below).

2.2 Scoping Summary

The Consultant will prepare a Scoping Summary that documents the agency and public scoping meetings and the results of the meetings.

Assumptions:

- The public and agency scoping process will build upon the previous scoping conducted during the Arapahoe Road Corridor Study.
- Project scoping will be used to screen out the parties that do not need to be a part of a potential Chartering Agreement.

Deliverables:

- Scoping Summary
- Chartering Agreement (potential)

SECTION 3 - PUBLIC AND AGENCY INVOLVEMENT

3.1 Public Involvement Program

The Consultant will develop a Public Involvement Program in accordance with CDOT and FHWA policy and guidance. The Consultant will establish and maintain a list of contacts for the communication process. The contacts will be compiled from the general list as supplemented by agency representatives and the attendees at public meetings. Contacts will include: public agencies (Arapahoe County, City of Centennial, City of Greenwood Village, FHWA, CDOT, RTD, SEBP), elected/appointed officials, utility companies/districts/metropolitan or special districts, neighborhood groups, property owners/business tenants (from County Tax Assessor database), civic associations, business interests and developers, special interests including bicycle advocates, media, South Metro Chamber of Commerce, Greenwood Village Chamber of Commerce, emergency providers, schools, and clinics. The information on the list will include, as a minimum, name, affiliation (if any), phone number, mailing address, and email address, if available.

A record of public comments received about the project via website, e-mail, mail and telephone will be maintained, and questions will be responded to (assume up to 150 questions requiring response) during the EA public process.

3.2 Public Notices/Advertisement

The Consultant will prepare postcard mailings at three points in the project prior to public meetings to a maximum of 3,000 contacts. Direct mailing will be planned to property owners in the vicinity of the interchange and proposed Costilla connection as highlighted on the attached map in **Attachment B**.

An electronic mailing list will also be maintained and individuals will receive e-mailings of postcards and/or newsletters in lieu of hard copies when an email address is provided. This will build upon the list of email addresses used for notification during the Arapahoe Road Corridor Study project.

News releases will be developed and distributed to local media and agency Public Information Officers to announce each public meeting. Local agency coordination representatives will be asked to disseminate project information to their respective elected officials and agency staff.

3.3 Business Tenant Notification

To supplement the first project notice mailing, the Consultant will hand deliver Newsletter #1 containing notification of the first public meeting to business tenants in close proximity to the proposed improvements, as highlighted on the attached map. The newsletter will contain a section soliciting email addresses for those tenants wishing to be added to the project mailing list.

3.4 Project Website

It is assumed that DEA will create a project website and secure hosting for the project duration. After the initial creation and information upload, the website will be updated up to six times with project information prior to and following public meetings to post public meeting announcements, news releases, newsletters, graphics and handouts, and to provide an opportunity for public comment. At the end of the project, the website files will be provided to Arapahoe County so they can be loaded onto the County website. The County will maintain the project page on their website until NEPA approval is granted.

3.5 Newsletters

A newsletter will be prepared prior to each of the three public meetings to describe the study progress and summarize analyses and findings to date. The newsletter will be posted on the project website and 50 hard copies will be provided to each of the following agencies for their distribution: Arapahoe County, CDOT Region 6, City of Centennial, City of Greenwood Village, and Arapahoe Library District's Castlewood Library.

3.6 General Public Meetings

Three public meetings will be held: an initial public scoping meeting/open house, one general public meeting conducted during evaluation of the Preferred Alternative for the EA, and a public meeting following release of the EA. The final public meeting will be held within the 30 day public review period and at least 15 days after public release of the EA. Topics of each meeting are listed in **Attachment C**. Up to six Consultant staff members will attend each of the public meetings.

The Consultant will prepare a meeting summary report for each meeting that documents public input and comments. The Consultant will coordinate public outreach with public information officers of Arapahoe County, Cities of Centennial and Greenwood Village and CDOT.

3.7 Stakeholder and Community Meetings

Additional community outreach will be conducted through meetings with some individual landowners, metropolitan districts, the SEBP and their TMA function, and homeowner association meetings. This scope assumes up to 10 small group or one-on-one meetings attended by up to three Consultant staff members.

The Consultant will also attend one Community Meeting planned and scheduled by the City of Centennial. Meeting logistics and invitations will be provided by the City. The Consultant will provide graphics available from public meetings (no graphic revisions or additional printing will be completed) and up to four Consultant staff members will attend.

3.8 Resource Agency Coordination Meetings

Up to 8 meetings will be held with resource agencies attended by up to three Consultant staff members, as needed to review findings and discuss permits or mitigation requirements.

3.9 Local Agency Briefings

These meetings are intended to disseminate project progress information to representatives of local entities. These meetings may occur at Study Sessions regularly scheduled by local agencies with their elected and/or appointed officials. The Consultant will provide the presentation aids, assist in the presentation, and provide a summary of the meetings and comments received to the County. The Consultant will assume that up to four (4) of these meetings be held in each jurisdiction. Briefings will be held at four times during the project with one meeting at each jurisdiction (Arapahoe County, Greenwood Village and Centennial) for a total of twelve meetings. The briefings at each jurisdiction will utilize the same graphics/materials.

3.10 Technical Advisory and Executive Committee Meetings

These meetings are intended to disseminate project progress information to agency technical staff and appointed/elected officials or their representatives. The Consultant will provide the presentation aids, conduct the meeting, and provide summaries of the meetings to the County, TAC and EC members and attendees. This task also includes the preparation of an agency charter or MOA to define the key decision points and methods for achieving consensus at those key decision times.

- A Technical Advisory Committee (TAC) will be organized consisting of the County and Consultant project managers, along with technical staff from City of Centennial, City of Greenwood Village, CDOT, RTD, FHWA, and DRCOG. The TAC will meet six (6) times to discuss the topics outlined in **Attachment D**. If additional meetings are requested, appropriate adjustment to the project scope of services, budget and schedule would be required.

- An Executive Committee (EC) will also be organized of elected/appointed officials or senior staff representing Arapahoe County, City of Centennial, City of Greenwood Village, Colorado Transportation Commission/CDOT, and RTD. The EC will meet five (5) times to address the topics outlined in **Attachment D**.

Assumptions:

- Arapahoe County and participating local jurisdictions will assist in developing a list of contacts for the project communication process.
- Up to 150 comments received from the public during the EA process will warrant response by the Consultant.
- The public involvement process will build upon the previous public involvement conducted during the Arapahoe Road Corridor Study.
- Postcard mailing will not exceed 3,000 postcards for each postcard mailing.

Deliverables:

- Project website
- Three project newsletters and related news releases (note: newsletters will be posted on project website and 250 copies of each newsletter will be available for agency distribution)
- Three postcards for mailing prior to public meetings
- Meeting summary reports for each public meeting

SECTION 4 - PURPOSE AND NEED DEVELOPMENT

4.1 The Consultant will develop a purpose and need statement for the project that is based on the Arapahoe Road Corridor Vision and goals identified in the Corridor Study, but is refined to address the I-25 interchange project. Findings of the scoping effort for this project will be incorporated into the Purpose and Need statement. The Consultant will coordinate with CDOT Region 6, CDOT Environmental Programs Branch, and FHWA to obtain concurrence on the P&N. The basis of the statement will be the data to be updated from the System Level Study on current and forecasted future conditions and on results of public and agency scoping. The purpose and need will be refined during the project if new or updated information becomes available.

Assumptions:

- Arapahoe County, CDOT and FHWA will provide review and comment on the draft Purpose & Need statement.

Deliverables:

- Draft and Final Purpose & Need Statement

SECTION 5 - ALTERNATIVES DOCUMENTATION

5.1 The Consultant will update the information to reconfirm and document the recommended alternative developed within the previous System Feasibility Study (2008), including the logical termini, and independent utility of the proposed improvements. The alternative analysis process and findings will be documented in the IAR, including the identification of the Preferred Alternative and the No Action alternative to be evaluated in the EA document.

The multi-criteria screening analysis applied in the System Feasibility Study to identify the recommended alternative will be revisited for the Interstate Access Request (IAR) and summarized in the EA. The screening criteria, screening process and findings from the previous interchange analysis will be documented. Expanded criteria related to the Costilla connection recommendation will be included. Qualitative criteria will include: roadway connectivity and continuity; impacts to local roads, business properties and neighborhoods; potential for diversion of traffic from Arapahoe Road; and geometric feasibility. Additional alternatives that may be suggested during public and agency scoping will have to be considered, although it may be subsequent to the IAR and during the EA process. These potential new alternatives would be evaluated to qualitatively assess their operational benefits, physical impacts, feasibility, and constructability.

The potential need for design variances and general constructability of the alternatives addressed in the Interstate Access Request will be analyzed and documented. Design variance documentation will consider the qualitative benefits of improved geometric conditions when compared to existing (post short-term improvement) conditions, and anticipated costs associated with the proposed improvements versus potential magnitude of cost of improvements to avoid the variances.

Subsequent sections of this scope of services include operational and design analyses that will be completed to address current operations and anticipated operation of the proposed improvements, the potential impacts of the No Action and Preferred Alternative improvements, and the proposed measures, if any, to avoid or reduce adverse impacts of the facilities and its users. Where new facilities are proposed as part of the project, the EA will include sufficient information to explain the basis for providing the facilities. The EA will identify reasonable measures to mitigate adverse impacts from the Preferred Alternative.

Assumptions:

- The alternatives documentation will build upon the alternatives analyses conducted during the Arapahoe Road Corridor Study and System Feasibility Study.
- FHWA will consider design variances since this project is for rebuild of an existing interchange with design constraints.
- Evaluation of potential new alternatives will be limited to qualitative assessment of their operational benefits, physical impacts, feasibility, and constructability. This process is consistent with NEPA requirements of non-predetermination of solutions. Depending on the project schedule, the new alternatives may be evaluated after the IAR document submittal.

Deliverables:

- Summary of Alternatives Considered but not Advanced for use in the EA document.
- Summary of need for design variance(s) and comparative analysis of proposed design elements to existing conditions.

SECTION 6 – SURVEY

Surveys will be conducted in accordance with the CDOT Survey Manual, the latest addendum thereof, and applicable state statutes.

6.1 Pre-Survey Conference

A pre-survey conference will be held per the CDOT Survey Manual. Up to two Consultant staff members will attend the pre-survey conference prior to any right of way or survey work.

6.2 Survey Data Research

Research of available survey plats, property boundary, subdivision plats and vesting deeds will be performed at the Arapahoe County Clerk and Recorders office. Right of way plans for Arapahoe Road and I-25 will be acquired from CDOT. Current ownership information will be acquired from the Arapahoe County Assessors office. The survey data research will be compiled into the survey base file to establish the existing right of way lines, platted easements and the adjoining property lines.

6.3 Right of Entry

The mapping for this Environmental Assessment will be performed using aerial photogrammetry. The need for access to the majority of the private property in the project area is not expected. In areas where supplemental survey is required on private property, the Consultant will acquire permission to enter using the CDOT form 730 in accordance with CDOT and Arapahoe County requirements. For this Environmental Assessment, the Consultant estimates that up to ten private properties will need to be accessed and will require acquisition of right of entry.

6.4 Establish Project Control

DEA will establish a project control network utilizing GPS Fast Static techniques and will set up to eight durable monuments in locations that are expected to be safe from anticipated summer 2009 construction activities. To match the TREX improvements recent design projects, the project control network will be on the same datum as the TREX project control. All control will be established to CDOT standards. A project control diagram will be prepared and included in the plan set. The section corners controlling the property boundaries in the project area will be located and tied into the project control network and their coordinate values will be included in the project control diagram.

6.5 Supplemental Surveying

As required, supplemental field survey will be provided to acquire topographic, structural, utility as-built, detailed drainage information and right of way/boundary information in critical areas. Up to one week of two person field crew time is included in this task.

6.6 Survey Base File

The information compiled from the survey data research, utility research, hydraulic survey, supplemental surveying and the project control will be incorporated into the mapping developed from the aerial photogrammetry to create a survey base file.

6.7 Preliminary Right of Way/Ownership Map

The survey plats, subdivision plats, vesting deeds, right of way plans and ownership information compiled from the survey data research will be constructed using the section

corners located in the project control network. The constructed file will be used to create the preliminary right of way/ownership map. The preliminary right of way/ownership map will consist of a cover sheet, project control diagram, ownership tabulation sheets, and the preliminary ownership/right of way map sheets.

Deliverables:

- Right of Entry CDOT 730 form for up to 10 properties
- Pre-Survey Conference Meeting Notes
- Control Survey Report
- Preliminary Right of Way/Ownership Map
- Project Control Diagram
- 360 degree photography taken from the I-25/Arapahoe Road and the Costilla Avenue sites

Assumptions:

- CDOT, Arapahoe County and participating local agencies will provide survey information from recent nearby projects.
- Survey will be limited to one week of two person field crew time to providing additional information in critical design areas to supplement the TREX survey data and survey information collected during the Arapahoe Road Corridor Study.
- Hydraulic survey will be limited to visual observation and compiled from previous work. No hydraulic field survey is included in this scope.
- Utility research is included in Task 7.5.

SECTION 7 – CONCEPTUAL DESIGN

The design for the project will be performed to a level sufficient to reasonably define impacts associated with the proposed improvements and meeting goals of the project. This will include setting conceptual geometrics both horizontally and vertically of mainline, ramps and adjacent street networks. Additional survey will supplement the current survey data to expand geographic coverage and information in critical areas. The design of the Preferred Alternative will be further refined at a conceptual level within the EA document to define wall locations, cut/fill limits and major drainage facilities, including conceptual water quality mitigation considerations, considering Context Sensitive Solutions/Context Sensitive Design (CSS/CSD) to address environmental and community values. The effort included in this scope will be limited to the accuracy of horizontal and vertical survey information available from CDOT's TREX project and supplemental survey.

7.1 Project Design Data and Standards

General - All work will be performed recognizing AASHTO, CDOT, City of Centennial, City of Greenwood Village, and Arapahoe County Standards, as applicable.

Specific Design Criteria - Depending on the specific location within the interchange complex, the specific design criteria will be limited to the applicable jurisdictions requirements depending on the classification and agency's jurisdictional authority.

Identify Design Criteria - Submit a copy of applicable criteria and application locations prior to beginning design.

7.2 Existing Roadway and Major Structures

Evaluate existing conditions to assess the preferred alternative conceptual design relative to the following:

- Existing roadway, light rail and structures
- Geometry and points of access
- Street light poles
- Traffic signal devices

7.3 Materials Engineering/Pavement Design

Review of the existing pavement structure will be provided for all impacted roadways. Review will be limited to visual inspection and compiling any information supplied by CDOT and/or Arapahoe County.

The feasible alternatives of new pavement structure will be based on existing information complied within the project limits and consultation with CDOT, Arapahoe County, and Cities of Greenwood Village and Centennial staff to determine preferred pavement type, conceptual quantities and potential associated costs.

7.4 Hydrology/Hydraulic Engineering

Hydrology - Collect historical existing data related to previous construction projects adjacent to the project area from local partnering agencies and CDOT. Establish major drainage basins based on the historic existing data: delineate, determine size, waterway geometrics, vegetation cover, land use.

Hydraulics - Develop a conceptual outfall plan for the recommended alternative. Define major drainage requirements including detention, water quality and outfall at a concept level of design detail.

Storm Water Management Plan - Perform field observations to consider project roadway alignment and MS 4 related drainage mitigation requirements. Ascertain number of parcels, affected improvements, and possible problem areas (i.e., functional replacements, etc.). Initiate a conceptual Storm Water Management Plan in accordance with:

- Municipal Separate Storm Sewer Systems (MS4)
- CDOT's Erosion Control and Storm Water Quality Guide
- CDOT's Standard Specifications
- CDOT Standard Plans

Complete a Preliminary Hydraulics and Hydrology Technical Memo, which will include:

- Summary of existing drainage facilities
- Major structure hydraulic designs requirements
- Conceptual structure cross-sections
- Conceptual Storm Water Management Plan

This task also includes coordination with, review by, and approval of the Southeast Metropolitan Storm Water Authority (SEMSWA) for storm water related activities associated with this project.

7.5 Utility Coordination

The consultant will utilize the One Call system to acquire a list of the existing utility providers with facilities in the project area. The Consultant will contact the affected utility providers to acquire copies of their systems maps. CDOT will be contacted for utility as-built plans for the T-REX project and the design plans for the short-term interchange improvements project. The utility information from as-built plans and facility maps will be incorporated into the survey base file to show the approximate location of utility facilities in the project area. For this Environmental Assessment no survey or field utility as-built is anticipated.

It is assumed that up to ten (10) potholes will be provided to verify/supplement the utility research. These potholes will be only at critical locations of significant underground facilities which may distinguish or define alternatives.

Reviews and Investigations - Conduct field reviews and utility pot holes for with the Region Utility Engineer and utility companies to determine horizontal and vertical utility data.

Relocation Recommendations - Anticipated major utility relocations will be provided and summarized in a “utility assessment” technical memo. Utility relocations will be documented and an opinion of probable cost will be developed.

7.6 Roadway Design and Roadside Development

The design of the Preferred Alternative will be further refined as defined below:

Roadway Design:

- Check and plot existing survey data.
- Verify that a project specific coordinate system approved by CDOT and Arapahoe County is used to identify the horizontal locations of key points. The coordinate systems used for roadway design and ROW assessment will be compatible.
- Check horizontal and vertical alignments against all design criteria. Design constraints related to proximity of nearby intersections, up and down-stream interchanges and the SE Corridor LRT alignment and bridges within the interchange will be identified and documented. Necessary variances and/or design decisions will be identified with justification and concurrence by Arapahoe County, CDOT & FHWA.
- Provide alignments, toes of slope and pertinent design features, including permanent and temporary impacts to ROW, Utility and Environmental constraints.
- Using CDOT approved standard Inroads setup, generate a 3-dimensional design model and produce preliminary quantities for the Preferred Alternative.

Roadside Development:

For roadside items including but not limited to, guardrails, sound barriers, bike paths, sidewalks, general lighting, curb ramps, provide the following:

- Layouts in the plans
- Critical locations for utility conduits underneath the proposed roadways.
- Coordinate the roadside items with the Storm Water Management Plan (SWMP).

Walls Associated with the Project:

Determine approximate wall locations and heights.

- Layouts in the plans

Roadway design, roadside development, walls, and the major structural design outlined below, will consider CSS/CSD to address environmental and community values.

7.7 Major Structural Design:

There are two primary structural components which will be conceptually evaluated and considered for the project.

7.7.1 I-25 mainline bridge

7.7.2 Costilla crossing under I-25, and under/through RTD light rail mechanically stabilized earth (MSE) walls

The applicable work related to each structural component is described below.

Evaluate Existing Structure Condition - The Consultant will evaluate the condition of the existing bridge girder and deck of the superstructure and the columns, abutment, foundations of the substructure, and all walls which may be effective as required, based on existing as-built information available from the TREX project.

Site Constraint Investigation - Structural reports provided by CDOT and/or Arapahoe County staff will be reviewed to aid in the development of alternatives in the proximity of existing structures (including newly constructed LRT structures) which may remain in place as part or in conjunction with interchange improvement alternatives.

Structural design for the project will be limited to major design considerations and constraints required for each anticipated alternative. Structural layouts will be limited to the Preferred Alternative along with refinements and conceptual recommendations for bridges, walls and major drainage structures. Consideration will be given to potential accommodation of electrical conduits and sign mounting brackets.

Structural concepts will be developed in accordance with the AASHTO Load Resistance Factor Design (LRFD) Specifications and the CDOT Bridge Design Manual. The CDOT Structure Reviewer will participate in coordinating this activity.

Structural Data Collection - Obtain data on existing structures. Collect items such as existing plans, inspection reports, structure ratings, foundation information, and shop drawings

Structure Selection and Layout - Review the structure site data to determine the requirements that will control the structure size, layout, type, and rehabilitation alternatives. Provide support data and recommendations for the structure site data.

- Determine the structure layout alternatives. For bridges, determine the conceptual structure length, width, and span configurations addressing horizontal and vertical clearance criteria.

- Determine the conceptual structure type alternatives. For bridges, consider precast and cast-in-place concrete and steel superstructures and determine the spans and depths for each.

- Determine the foundation alternatives. Consider piles, drilled caissons, spread footings, and mechanically stabilized earth foundations based on geology information provided.

- Compute preliminary quantities and conceptual cost estimates to aid in evaluating and comparing the structure layout, type, and rehabilitation alternatives.

- Evaluate the structure alternatives. Establish the criteria for evaluating and comparing the structure alternatives that, in addition to cost, encompass all aspects of the project's objectives. Based on these criteria, select the optimum structure layout, type, and rehabilitation alternative, as applicable, for recommendation to CDOT.

- Prepare preliminary general layout for the recommended structure(s). Prepare structure layouts in accordance with the CDOT Bridge Detailing Manual. Special detail drawings and an opinion of probable construction cost will accompany the general layout.

Structure Selection Technical Report - Prepare a structure selection Report to document, and request approval for, the structure conceptual design. By means of the structure general layout, with supporting drawings, tables, and discussion, provide for the following:

- Summarize the structure site data used to select and layout the structures, including existing structure data (including sufficiency rating and whether or not the structure is on the "select list" for replacement), project site plan, roadway vertical and horizontal alignments and cross sections at the structure, construction phasing, located utilities on, below, and adjacent to the structure, hydraulics, preliminary geology information for structure foundation, and architectural requirements (if required).

- Report on the structure selection and layout process. The Report shall include a discussion of structure layout, type, and rehabilitation alternatives considered. Criteria used to evaluate the structure alternatives and how the recommended structure was selected will be defined. A detailed conceptual cost estimate and general layout of the recommended structure will be provided.

- Determine the rehabilitation alternatives. Continued use of all or parts of existing structures will be considered as applicable. The condition of existing structures will be documented. Determine potential modifications and rehabilitation to use all or parts of existing structures and the preliminary cost. This will include major modifications of existing RTD LRT MSE walls which may need significant structural modification to accommodate the Costilla crossing alternatives. These modifications must consider options to construct improvements without impacting LRT operations. Findings will be documented in the Structural Selection Technical Memo.

7.8 Construction Phasing Plan

A conceptual construction phasing plan will be developed for the Preferred Alternative which integrates the construction of the project work elements. The plan will accommodate the existing traffic movements during construction (detours). The construction phasing plan for the Preferred Alternative will be refined to determine preliminary cost implications.

7.9 Preparation of Conceptual Plans

Conceptual layouts will be provided for the Preferred Alternative. These layouts will be limited to horizontal geometrics and supported by vertical profiles to aid in addressing construction feasibility. The Preferred Alternative will be refined and will include additional specificity along with complete conceptual profiles and 3-dimensional modeling utilizing CDOT approved Inroads setup. Layout plans for the Preferred Alternative will include the following:

- Data related to, hydraulics, traffic, ROW, bridge and roadway geometrics.
- General structural conceptual layout(s) will be provided for all major structures.
- Prepare the preliminary cost estimate for improvements
- Conceptual plans will comply with CDOT and Arapahoe County requirements and will include: title sheet, typical sections, plan/profile sheets, and preliminary layouts of interchanges/intersections.

The plan/profile sheets will include the following: all existing topography, survey alignments, projected alignments, profile grades, ground line, existing ROW, rough structure notes (preliminary drainage design notes, including pipes, inlets, ditches and channels), and existing utility locations.

The following items will also be included:

- Preliminary earthwork (plotted cross sections at critical points with roadway template and existing utility lines at known or estimated depths)
- Catch points
- Proposed Right-of-Way an “A” line
- Structure general layouts
- Typical plan sheet scales will be as follows:
- Plan and Profile 1 inch = 50 Feet (Urban)
  1 inch = 100 Feet (Rural)
- Intersections 1 inch = 20 feet
- The conceptual ROW ownership map will be included in plan set.

- The construction phasing concept will be schematically represented in the plan set.

7.10 Opinion of Probable Construction Cost

An updated opinion of probable construction cost will be prepared based on the conceptual design of the Preferred Alternative consistent with CDOT preliminary cost analysis methodology and recent construction bid prices provided by CDOT and Arapahoe County. ROW costs will be based on information provided by Arapahoe County from County Assessor information and/or recent similar ROW acquisitions, along with estimated relocation and other costs for acquisition as available from CDOT, generally consistent with the "Uniform Act".

7.11 Value Engineering

This project meets FHWA criteria for the requirement of a Value Engineering study. The consultant will provide CDOT with a Value Engineering (V.E.) Analysis. This Analysis will be provided in a 40 hour V.E. Workshop jointly staffed by up to two members of the Consultant design team, CDOT specialists and senior experts in appropriate areas and with directly relevant CDOT experience. Work will be coordinated by a certified V.E. specialist. The Consultant will be responsible for supplying all the independent professional staff required (assume outside certified facilitator and five industry experts representing the major disciplines associated with the project).

Assumptions:

- The conceptual design will be limited to the accuracy and coverage of existing mapping within the interchange supplied by the TREX project along with the additional survey completed during the Arapahoe Corridor Study.
- CDOT Utility Engineer, utility companies and applicable local agencies will assist in providing relevant utility plans.
- CDOT will provide applicable existing design, soils reports, and as-built plans for use by the Consultant.
- It is assumed that a total of ten (10) potholes will be provided to verify/supplement the utility research. These potholes will be only at critical locations of significant underground facilities which may distinguish or define alternatives.
- Construction and ROW costing by the Consultant and County will be limited to the CDOT preliminary cost analysis methodology and County Assessor and/or recent similar ROW cost information.
- The consultant team will provide mapping and other background information to the VE team prior to the VE workshop and will participate as needed in the VE review panel.

Deliverables:

- Summary of Design Criteria (to be transmitted electronically)
- Property Ownership and Land Use Maps (10 copies)
- Preliminary Hydraulics and Hydrology Memo (to be transmitted electronically)
- Utility Assessment Memo (to be transmitted electronically)
- Structure Selection Technical Memo (10 copies)
- Construction Phasing Plan (10 copies)
- Conceptual Design Plan and Profile Sheets (10 copies)
- Opinion of Probable Construction Cost (10 copies)

- Value Engineering Preparation Packet (to be transmitted electronically to VE team members)
- Value Engineering Summary Report and Recommendations (to be transmitted electronically to VE team members)

SECTION 8 - TRAFFIC ANALYSIS

8.1 Travel Forecasts/Land Use

Travel forecasts will be developed for the following timeframes/land use scenarios:

- Opening year = Assumed to be 2020 as the earliest date
- Horizon year = 2035
- One Higher Land Use Scenario (year to be decided in coordination with the TAC)

The Consultant will prepare summaries of DRCOG 2035 household and employment forecasts for the study area and vicinity. The Consultant will meet with Arapahoe County, Greenwood Village, and City of Centennial planners to identify the applicability of forecasts for application in the IAR and the EA. Planned or potential major development that is not incorporated in DRCOG forecasts will be identified for inclusion in one future sensitivity analysis with higher land use forecasts that may be considered a potential post-2035 traffic condition. This sensitivity analysis will test the effects of alternative forecasts on interchange improvement alternatives at a macro-level (daily traffic forecast changes on major roadway links).

The Consultant will utilize the new “existing conditions” traffic data collected prior to summer 2009 construction of planned short-term interchange improvements. Year 2035 traffic projections will be developed for four alternatives developed from the System Level Study. Daily, AM peak hour, and PM peak hour traffic forecasts will be developed for each of the alternatives and the no-action scenario to address 2035 traffic operations. The no-build scenario will assume completion of the short-term TREX Contingency funded improvement project planned for the summer of 2009. The data will include percentage of trucks, directional splits, and turning movements. A select-link analysis will also be conducted for the 2035 forecasts to determine general origins and destinations of travelers through the interchange. These data will be documented in the IAR report and incorporated by reference in the EA.

8.2 Safety Study

The Consultant will conduct a Safety Analysis for the freeway system and the local street intersections that are elements of the Preferred Alternative. The analysis will utilize similar methodologies and documentation will be similar in nature to the Safety Assessment reports prepared by CDOT Safety and Traffic Engineering. The Safety Analysis will involve:

- Collection of accident data for the state highways in the vicinity of the I-25/Arapahoe Road interchange and the non-state highway intersections as identified in the EA.
- Documentation of the magnitude and nature of the obvious existing safety problems within the project limits.
- Relate accident causality to roadway geometrics, roadside features, traffic control devices, traffic operations, and driver behavior and vehicle type.
- Suggest potential cost-effective mitigation measures to address identified problems.

- Prepare a technical report documenting the Safety Analysis with format and a level of detail similar to that used for recent CDOT Safety Assessment reports.

Once completed, the Safety Analysis will be summarized for the freeway system and the local street intersections for inclusion in the Interstate Access Request and EA. Collision diagrams at intersections and along the freeway will be prepared to illustrate the nature of the current safety concerns in the vicinity of the interchange.

The four interchange alternatives will be evaluated in the IAR for their ability to address the safety concerns identified. Qualitative assessment of each alternative from a safety perspective will be performed considering readily available research and methodologies as appropriate for each alternative.

8.3 Interchange Micro-Simulation Traffic Analysis

Micro-simulation analysis of the interchange will be conducted in the IAR process to support the evaluation of the freeway mainline, ramp, and intersection operations. The proposed scope of work is in response to FHWA and CDOT requirements to supplement Highway Capacity Manual level of service analysis within oversaturated conditions. The following is an outline of the major tasks and key characteristics of the proposed scope of work.

- Software – The CORSIM micro-simulation software will be used for the analysis. Synchro Software will be used to supplement the arterial road network analysis.

- Analysis Corridor – Analysis will include I-25 from south of the Dry Creek Road Interchange on the south to north of the Orchard Interchange on the north. Ramp terminal intersections will be included at the Dry Creek and Orchard interchanges. The Greenwood Plaza Boulevard, Yosemite, Boston/Clinton, and Dayton Street intersections will be included with the ramp terminal intersections at the Arapahoe interchange.

- Methods and Assumptions - A Methods and Assumptions memo will be completed and submitted to CDOT and FHWA for agreement with proposed modeling methods and data collection efforts.

- Model Calibration – Existing I-25 mainline traffic counts, available freeway speed data, and AM and PM peak period turning movement counts will be utilized to prepare peak period existing conditions CORSIM models. Peak period observations of existing traffic conditions during the peak periods, including queue lengths and speed estimates, will be conducted. Model parameters will be adjusted as needed to develop existing conditions CORSIM models with freeway speeds, link throughput, and observed queue lengths calibrated within approximately 10% of observed conditions.

- Model Scenarios – AM and PM peak periods will be modeled for each of the four alternative packages, using Opening Year and 2035 forecasts. The length of each peak period will be determined from existing traffic counts. Multiple models will be completed for each scenario and the results reported will be an average of those runs. The number of runs required will be established during model calibration. Model scenarios will include:

- Existing – 2009 (for model calibration)
- No Action – 2009 (for model calibration)
- No Action – Opening Year
- No Action – 2035 (Horizon Year)
- Costilla Underpass Only – Opening Year
- Costilla Underpass Only – 2035 (Horizon Year)
- Improved Partial Cloverleaf (with underpass) – Opening Year
- Improved Partial Cloverleaf (with underpass) – 2035 (Horizon Year)
- SPUI (with underpass) – Opening Year
- SPUI (with underpass) – 2035 (Horizon Year)
- Improved Partial Cloverleaf (no underpass) – Opening Year
- Improved Partial Cloverleaf (no underpass) – 2035 (Horizon Year)
- Preferred Alternative – higher land use scenario

- Measures of Effectiveness – Model results will be compared based on:
  - Average Speeds along the freeway mainline between interchanges
  - Queue Lengths at observed intersection hot spots
  - Throughput on the mainline freeway

- Coordination – Up to four coordination meetings that will include staff from the local jurisdictions, CDOT, and FHWA are anticipated, including:
  - One kick-off meeting to discuss available data and calibration parameters
  - One meeting to discuss calibration results
  - One meeting to discuss preliminary model results
  - One meeting to present revised model results

- Traffic Operations – The no-build and build alternatives will be analyzed with the traffic projection data to identify the impacts and benefits on traffic operations. Measures of effectiveness (MOEs) will be included in the analysis for the study area freeway system and the local street intersections. In addition to the MOEs noted above, overall intersection and approach delays will be compared for signalized and unsignalized intersections within the study area. Travel time along Arapahoe Road through the interchange area will also be compared between alternatives. Mitigation for proposed modification to local access will also be analyzed.

- Documentation – A technical memo will be prepared in advance of the preliminary future model results meeting listed above. This memo will document the modeling study area, data utilized, methodology, and calibration steps. Final documentation will include details of the model scenario results and anticipated traffic operations within the study area.

8.4 Interstate Access Request

The Consultant will complete an Interstate Access Request (IAR) in accordance with Colorado FHWA guidelines. The content will summarize the operational analysis of up to four “Build” interchange alternatives in addition to the “No Action” alternative, and a safety study, design constraints and conceptual traffic signing plan for each alternative. This scope assumes preparation of an internal Draft IAR document for review by Arapahoe County and CDOT (6 hard copies). Comments from this review will be incorporated into a final Draft IAR document for FHWA review and comment (12 hard copies). The Final IAR document will be transmitted to Arapahoe County, CDOT, FHWA, Centennial and Greenwood Village (12 hard copies total). This includes an initial

meeting with FHWA to discuss the IAR process, analysis steps and documentation. Relevant data and findings from the IAR will be incorporated by reference into the subsequent EA document.

Deliverables:

- Safety Analysis Technical Memo (to be transmitted electronically)
- Interchange Micro Simulation Model Technical Memo (to be transmitted electronically)
- Draft IAR (10 hard copies)
- Final IAR (15 hard copies)

SECTION 9 - ENVIRONMENTAL DATA COLLECTION, ANALYSIS, MITIGATION

This scope of work assumes that environmental data collection, analysis and identification of appropriate mitigation will be focused on the Preferred and No Action Alternatives. If more than one "build" alternative is identified, the project scope of work, budget and schedule would need to be appropriately adjusted to account for the additional planning and design services. The level of environmental evaluation for each resource will be based on the anticipated degree of impact, as determined by sources including the previous Environmental Overview (2008), public and agency scoping conducted for this EA, and other limited resource evaluation conducted for the specific project area. Tasks are described below.

9.1 Implementation Plan

The Consultant will prepare a plan identifying elements of the Preferred Alternative that could be implemented in phases over the entire project timeframe considering potential schedule, costs and benefits. The plan will indicate appropriate TSM and construction phases considering safe and efficient traffic operations (see Task 7.8) according to an expected funding stream as identified in a Financial Plan provided by Arapahoe County and its partners. The phasing plan will address the logical termini and independent utility of the major phases of implementation.

9.1.1 Financial Plan

The Consultant will provide necessary data, facilitate discussion/resolution, document discussion/decisions, and provide other support requested by the stakeholder agencies of CDOT, Greenwood Village, Centennial, Arapahoe County, and others to develop a financial plan for implementation of the recommended improvements. The financial plan is a requirement to finalize the CDOT1601 Interchange Approval process. The agencies will have the primary responsibility for development of the Financial Plan and the Consultant will act in a supporting role for this task.

9.2 Right-of-way (ROW) and Relocations

The Consultant will perform the following:

- Review the right of way and property ownership information compiled from Task 6.7 and determine the anticipated ROW requirements and impacts to businesses from the Preferred Alternative
- Coordinate with a CDOT Region 6 ROW specialist on potential ROW impacts

- Develop EA section on ROW and Relocations including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Coordinate with the necessary CDOT/FHWA personnel to clarify questions or comments
- Revise EA section, as required, in response to CDOT and FHWA comments

9.3 Hazardous Materials

The Consultant will prepare an Initial or Phase I Site Assessment (ISA) in accordance with CDOT Region 6 guidance. This activity will include the following:

- Perform a limited site reconnaissance of sites in the Preferred Alternative footprint
- Review readily available documents (CDOT, CDPHE) identifying historical uses of the sites associated with the Preliminary Project Footprint
- Review readily available local, state, and federal environmental agency databases for sites within a maximum distance of one mile of the Preferred Alternative footprint as required by ASTM Standard E1527-05 and CDOT Region 6 guidance
- Review previous investigations and other accessible records from local, state, and federal agencies
- Conduct interviews with relevant agencies and regulatory staff regarding the potential for historical releases of hazardous substances or petroleum products on sites associated with the Preferred Alternative footprint
- Prepare an ISA report (draft and final) based on CDOT comments
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation and permits
- Revise EA section and ISA in response to CDOT and FHWA comments

9.4 Socioeconomics

The Consultant will consider the effect of the Preferred and No Action Alternatives on the social, economic and community characteristics of the project area. This will include:

- Land use
- Population and employment
- Consistency with adopted local and regional plans
- Public services
- Community cohesion

The Consultant will:

- Collect existing conditions and planning information from local and state agencies regarding the above community characteristics (consistent with Task 8.1)
- Prepare a land use map which identifies land usage per County records and field observation. The parcel use categories will identify ITE Trip Generation Manual land use type summarized by:
  - Land in public ownership: use and responsible agency/jurisdiction
  - Commercial: retail, wholesale, industrial, other commercial
  - Residential: single or multi-family
  - Vacant

    - Mixed Uses
- Analyze the potential impacts of the Preferred Alternatives and the No-Action alternative to socioeconomic character of the project area
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Revise EA section, as required, in response to CDOT and FHWA comments

9.5 Environmental Justice

The Consultant will identify and address disproportionately high and adverse human health, social, and environmental effects on minority and low-income populations consistent with Executive Order 12898, and FHWA and EPA guidance. This task will be coordinated with the public involvement process to promote open and fair participation.

The Consultant will collect the accessible data to help identify existing low income and minority populations, disproportionately high and adverse effects, and mitigation measures or alternatives that would avoid or reduce the impacts. Positive effects, if any, will also be identified. The analysis will reference potential impacts to other resources as appropriate (e.g. – noise, air and water pollution, aesthetics, community cohesion, relocation impacts, etc.).

The Consultant will document the identified effects of the Preferred Alternative on minority and low-income populations as follows:

- Identify minority and/or low-income populations in the project area based on census data
- Identify impacts to these Environmental Justice populations and develop avoidance/mitigation measure to avoid disproportionately high and adverse impacts
- Consider project benefits shared by minority and/or low-income populations
- Coordinate with CDOT and FHWA regarding the analysis, public involvement plan, mitigation, and finding
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Revise EA section, as required, in response to CDOT and FHWA comments

9.6 Air Quality

The Consultant will evaluate potential air quality impacts through the following tasks:

- Collect information from the CDPHE Air Pollution Control Division (APCD) and previous air quality reports about air quality conditions in the project area. No monitoring is assumed.
- Coordinate with the CDOT and APCD to discuss air quality issues and gain approval on the air quality study methodology
- Conduct a “hot spot” analysis for CO at up to three locations if warranted by forecasted levels of service identified with the traffic operations analysis results of the Preferred Alternative.
- Prepare an Air Quality Impact Assessment Report and circulate draft for review by CDOT Region 6 and CDOT EPB as necessary. Address comments and prepare final version for submittal to CDOT.

- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Coordinate with the necessary CDOT/FHWA personnel to clarify questions or comments
- Provide formal response to comments to the EA sections and reports

9.7 Noise

The Consultant will analyze potential noise impacts in accordance with FHWA and CDOT noise guidelines, including the following tasks:

- Conduct noise data collection task to measure ambient noise conditions at up to 10 locations
- Perform noise measurement forecasts according to FHWA guidelines
- Review land use data and other GIS based information to identify potentially sensitive receptor locations (FHWA Category B receptors)
- Coordinate with the CDOT to discuss noise issues and gain approval on noise study methodology
- Model traffic noise for existing conditions, No Action and the Preferred Alternative using TNM 2.5 software
- Prepare a Noise Technical Report including identifying any potential noise receptors that may qualify for mitigation
- Develop EA section, including affected environment, potential impacts from the Preferred and No Action Alternative, and identification of potential mitigation
- Coordinate with the necessary CDOT/FHWA personnel to clarify questions or comments
- Revise EA section and reports, as required, in response to CDOT and FHWA comments

9.8 Cultural Resources

- Based on findings of the Corridor Environmental Overview, no historic resources are anticipated to be located within the project footprint or the immediate vicinity. This previous study finding will be confirmed with SHPO. If newly identified resources are noted, the following steps will be conducted:
- Coordinate with the Colorado Historical Society/State Historic Preservation Officer (SHPO) on the identification of the Area of Potential Effect (APE) for the Preferred Alternative
- If warranted, conduct a field survey of the APE to determine National Register of Historic Places (NRHP) eligibility
- Prepare a comprehensive survey report according to Section 106 guidelines established by the Colorado Historical Society/Office of Archaeology and Historic Preservation and identify affected resources. Circulate draft to CDOT and SHPO, address comments and revise as necessary.
- Coordinate with SHPO on the National Historic Preservation Act Section 106 process, including preparation of Section 106 evaluation, impacts assessment and MOA if required.
- Develop EA section including affected environment, evaluation of impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Provide formal response to comments to the EA sections and reports

9.9 Vegetation and Wildlife

Based on findings of the previous Corridor Study Environmental Overview (2007) these resources are limited in size and quality within the project study area, and a low level of effort is anticipated The Consultant will perform the following:

- Conduct windshield field survey to identify the presence or absence of wildlife habitat and noxious weed locations.
- If habitat is identified, request species lists from USFWS, CDOW, and Colorado Natural Heritage Program (CNHP) and determine potential vegetation, T&E and wildlife impacts from the Preferred Alternative. Identify appropriate mitigation measures
- Prepare the Vegetation, Wildlife, and Threatened and Endangered Species sections of the EA, including a Weed Management Plan as mitigation for the Preferred Alternative, if required
- Revise EA section, as required, in response to CDOT and FHWA comments

9.10 Wetlands

- Conduct a field evaluation within the study area to determine the boundaries and size of wetlands that may be affected by the project work, especially in the southeast quadrant of the study area where a small area of wetlands currently exists. Determine if these wetlands are jurisdictional.
  (a) Prepare a wetlands map that identifies the wetland boundaries.
  (b) Coordinate the findings with USACE, CDOT, and FHWA, as necessary
  (c) Prepare wetland findings if required and include preliminary recommendations for replacement or mitigation.
  (d) Coordinate with the USCOE on the identification of the LEDPA throughout the screening process, and on the required 404 permit type if needed
  (e) Prepare a Wetland Findings Report if required
- Prepare EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation
- Coordinate with the necessary CDOT/FHWA and COE personnel to clarify questions or comments
- Revise EA section and reports, as required, in response to CDOT and FHWA comments

9.11 Water Resources/Drainage

The Consultant will evaluate water resources with regard to the affected environmental and potential impacts, including:

- Assemble and review data and conclusions from the previous corridor study. Based on findings of the 2007 Environmental Overview, no floodplain impacts are anticipated.
- Review and analyze water quality information (surface and groundwater) from local, state, and federal agencies to assess existing conditions and evaluate potential impacts due to additional impervious pavement and altered drainage patterns.
- Identify potential impacts to existing drainage structures and to drainage capacity within the project influence area.

- Coordinate with Task 7.4 (Hydrology/Hydraulic Engineering) to Identify additional drainage and water quality management requirements in accordance with CDOT and local jurisdictional design criteria.
- Determine BMPs and other mitigation relative to the Preferred Alternative, including coordination with the UDFCD and incorporation of water quality control measures as per applicable MS4 permit requirements.
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, proposed mitigation and identify required permits
- Provide formal response to public and agency comments to the EA sections
- Coordinate with the necessary CDOT/FHWA personnel to clarify questions or comments
- Revise EA section and reports, as required, in response to CDOT and FHWA comments

9.12 Visual/Aesthetics

The Consultant will evaluate the Preferred Alternative to assess the anticipated visual impacts of the Preferred Alternative to the surrounding environment, and will prepare an EA section describing potential impacts, treatments and mitigation measures. Up to six (6) photo simulations will be prepared to illustrate design concepts for the Preferred Alternative interchange improvements.

9.13 Section 4(f)/6(f) Evaluation

The Consultant will evaluate potential impacts to Section 4(f)/6(f) resources. However, based on findings of the previous corridor study Environmental Overview, only one Section 4(f)/6(f) resource (Walnut Hills Park and trail) is located within the likely project study area. If the IAR alternative evaluation process determines that this resource would not be directly or indirectly impacted, the task will be discontinued after subtasks a-b, below:

a) Confirm if any Section 4(f) resources (e.g., public parks, recreation facilities, historic resources, wildlife refuges, etc.) are located within or adjacent to the footprint of the Preferred Alternative
b) Research State Parks and other data to determine if Land Water Conservation Funds were used to acquire or improve parks and recreation resources that would constitute a Section 6(f) impact

If required, the following tasks will be conducted:
- Prepare an analysis of avoidance, minimization, or mitigation alternatives considered for indirect or direct impacts to 4(f) and 6(f) properties.
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation and permits

9.14 Paleontology

Based on findings of the previous corridor study Environmental Overview, few or no paleontological resources are anticipated to be encountered in the project study area. If the initial evaluation process confirms that the resource would not be directly or indirectly impacted, the task will be discontinued after subtasks a-c, below:

The Consultant will perform the following:

- Assemble and review data and conclusions from the previous corridor study
- Perform literature search and field survey, as necessary
- Determine the presence or absence of paleontological resources.

If required, the following tasks will be conducted:

- If resources are present, conduct analysis to determine the scientific significance (research and/or educational value) of the resource, as necessary.
- Determine the potential for impacts to resources
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation and permits
- Coordinate with the necessary CDOT/FHWA personnel to clarify questions or comments
- Revise EA section, as required, in response to CDOT and FHWA comments

9.15 Soils and Geology

Data collection and a visual inspection of the project area will be performed to determine possible geologic impacts from the Preferred Alternative. Potential impacts such as major rock cuts, unsatisfactory subgrade materials, etc., will be evaluated. This scope does not include soil sampling, excavation or materials testing.

The Consultant will develop an EA section and provide formal response to comments to the EA section. The Consultant will coordinate with CDOT/FHWA personnel to clarify questions or comments.

9.16 Utilities

- The Consultant will summarize the potential impacts to known existing utilities from the Preferred Alternative based on information collected under Task 7.5, Utility Coordination.
- The Consultant will develop an EA section and provide formal response to comments to the EA section. The Consultant will coordinate with CDOT/FHWA personnel to clarify questions or comments.

9.17 Construction Impacts

The Consultant will analyze/investigate potential general construction impacts of a temporary nature including maintaining traffic flows during construction. The Consultant will:

- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation and permits
- The Consultant will coordinate with CDOT/FHWA personnel to clarify questions or comments.
- Revise EA section in response to CDOT and FHWA comments

9.18 Permits

The Consultant will identify local, state and federal permits and approvals that may be required following the selection of the Preferred Alternative. The Consultant will develop an EA section and revise per CDOT and FHWA comments. The Consultant will coordinate with CDOT/FHWA personnel to clarify questions or comments.

9.19 Cumulative Impacts

The Consultant will:

- Coordinate with CDOT, FHWA and other agencies to identify resources that may be cumulatively impacted, and the timeframe and area for the cumulative impact analysis.
- Collect information on other planned transportation and major development projects in the area of analysis
- Assess cumulative impacts to resources using primarily qualitative analysis
- Develop EA section including affected environment, impacts anticipated from the Preferred and No Action Alternatives, and proposed mitigation and permits
- Revise EA section in response to CDOT and FHWA comments

Assumptions:

- No farmlands exist in the project area.
- An EA is the appropriate level of NEPA environmental analysis and documentation.
- The EA will build on the Environmental Overview work completed during the Arapahoe Road Corridor Study.
- The EA will evaluate a No Action and a Preferred Alternative. Adjustment to the project scope of work, budget and schedule would be necessary if more than one "build" alternative is fully analyzed in the EA.
- A financial management plan will be completed by the stakeholder agencies with Consultant assistance prior to the FONSI, and will identify the proposed allocation of funds for phased project implementation as identified in the EA.
- It is assumed that no extensive rewrites or additional research for any of the resources described above will be required by CDOT or FHWA, and that no major changes in existing conditions from findings of the Environmental Overview (2007) will have occurred at such time that research is conducted for this EA.
- This scope does not include detailed noise mitigation analysis or the preparation of design plans for any warranted noise walls or barriers.
- This scope assumes that a biological assessment will not be required, and that Section 7 consultation with the USFWS is not required.
- Based on findings of the previous Corridor Study Environmental Overview (2007) wetlands are limited in size and quality within the project study area, and a low level of effort is anticipated.

Deliverables:

- Implementation Plan
- Financial Plan data and documentation (10 copies draft, 15 copies final)
- EA sections for each of the identified environmental resources

SECTION 10 – EA DOCUMENTATION

The Consultant will prepare an EA document that summarizes the environmental consequences and mitigation of the Preferred Alternative. It is anticipated that this document will reflect the Planning and Environmental Linkages process by incorporating references from the previous corridor study and the IAR to reduce the document volume and improve readability. The Consultant will coordinate with CDOT/FHWA personnel to clarify questions or comments. A "comment resolution workshop" will be held to resolve conflicting comments.

The Consultant will compile the EA in accordance with the now-current provisions of the following laws, regulations, and standards, as well as any others that may then apply: NEPA and its implementing regulations, CDOT's NEPA Manual, the USDOT Order 5610.1E, the FHWA Federal-Aid Highway Program Manual (FHPM), FHWA Regulations for Environmental Impact Statements and Related Procedures (23 CFR Part 771-777), the Technical Advisory T 6640.8A, FHWA Section 4(f) Final Rule (23 CFR 774), and the Council on Environmental Quality's (CEQ) Regulations and guidance (40 CFR Part 1500 et seq, as amended).

The Consultant will coordinate submittal of the EA and decision document to CDOT Region 6, CDOT Environmental Programs Branch, and FHWA for review and concurrence.

This scope assumes the following documents and meetings:

10.1 Draft internal EA document for concurrent review by CDOT and FHWA (12 hard copies and one CD)

10.2 Final EA for public review (50 hard copies and one CD) including mailing or other distribution to public libraries or other repositories, and

10.3 FONSI (if appropriate) including responses to public and agency comments on the EA (50 hard copies and one CD)

The Consultant will also create and maintain an Administrative Record for the project, including hard copies and/or electronic versions of major deliverables, mapping, background data and research, meeting minutes, public involvement materials and documentation of major decisions and findings.

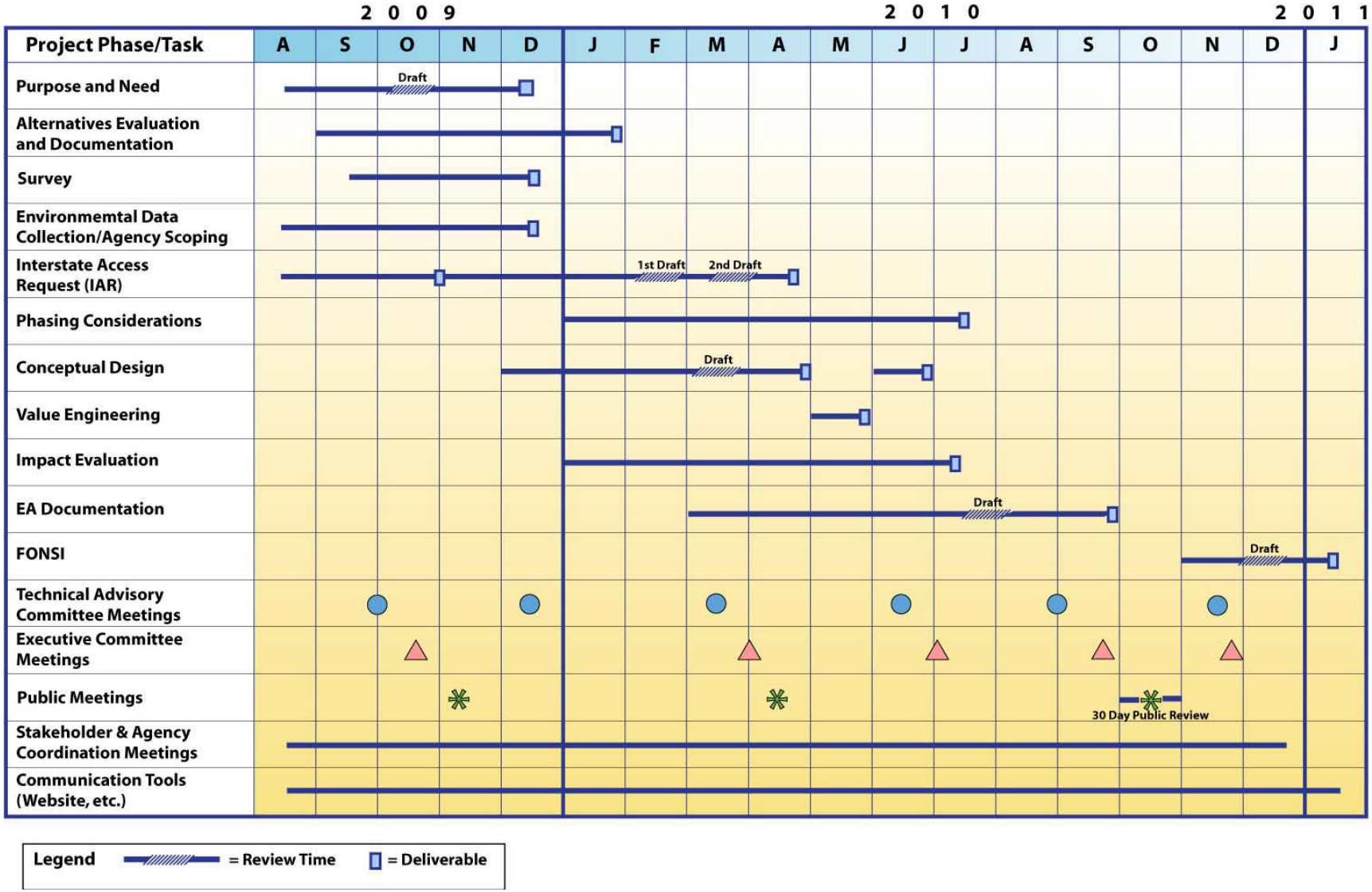
Assumptions:

- The FONSI will address only the portion of the Preferred Alternative that has committed funding.
- No extensive rewrites will be required for each document by CDOT or FHWA, and no substantial controversy, major changes in existing conditions or extensive CDOT or FHWA reviews will be required.

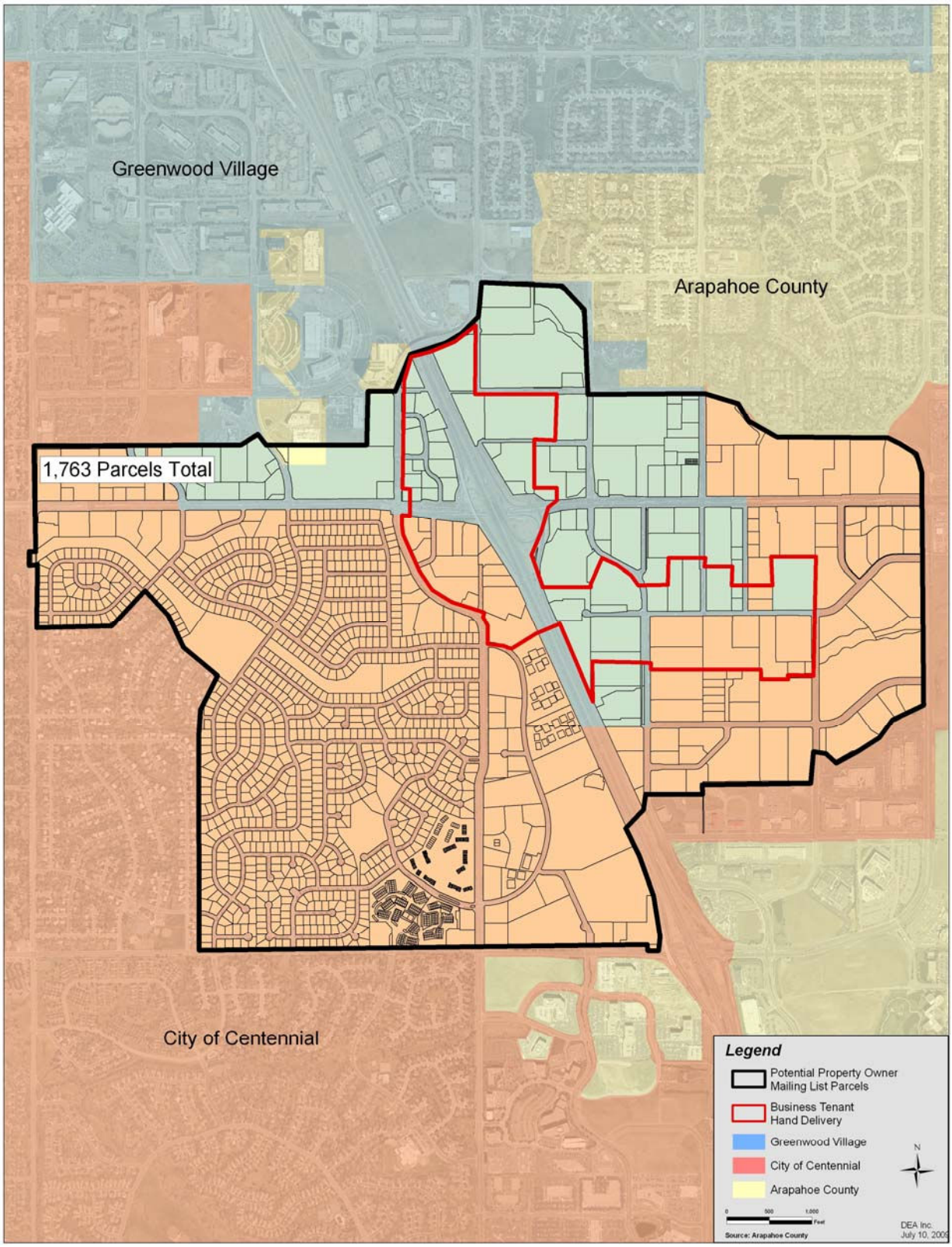
Deliverables:

- Draft Internal EA (12 hard copies and one CD)
- Final EA (50 hard copies and one CD)
- FONSI (50 hard copies and one CD)
- Administrative Record (One CD) (will include log of public comments and responses)

ATTACHMENT A
Preliminary Draft Project Schedule



ATTACHMENT B
Project Mailing and Notification Area Map



ATTACHMENT C

Public Meeting Topics

Public Meeting #1	Review initial Purpose & Need for interchange improvements and receive public input on key issues and concerns. Review of alternatives previously considered as documented in the System Level Feasibility Study (SLFS) and review environmental information from the Corridor Study Environmental Overview. Discuss study methods.
Public Meeting #2	Discuss progress to date. Review project Purpose & Need statement and operational analyses of the proposed improvements. Discuss alternatives evaluation process and review draft conceptual design recommendations and phasing considerations. Present overview of impacts of improvements and receive input on potential mitigation.
Public Meeting #3	Receive comments on findings and conclusions of the Environmental Assessment.

ATTACHMENT D

Technical Advisory Committee (TAC) and Executive Committee (EC) Meeting Topics

	TAC Topics	EC Topics
Meeting 1	Project initiation and committee organization. Discuss Purpose & Need, issues, project work tasks and schedule. Obtain info on environmental data collection. Gather input on public involvement process (specifically public meeting #1 materials).	Project initiation and committee organization. Discuss Purpose & Need, issues, project work tasks and schedule. Gather input on public involvement process (specifically public meeting #1 materials).
Meeting 2	Review comments from first public meeting and results of environmental data collection. Discuss draft Purpose & Need, progress on IAR, alternatives evaluation and documentation.	Review public comments to date and materials for second public meeting. Begin discussion of phasing and funding.
Meeting 3	Review public comments to date and materials for second public meeting. Discuss draft IAR and potential phasing of improvements. Discuss upcoming VE.	Review comments from second public meeting. Begin discussion of potential available funds. Review impacts and potential mitigation.
Meeting 4	Review comments from second public meeting. Discuss potential available funds. Review impacts and potential mitigation. Review findings from VE.	Present overview of draft EA. Continue funding discussion.
Meeting 5	Present overview of draft EA findings and conclusions.	Review final public comments and any necessary modifications to Preferred Alternative.
Meeting 6	Review final public comments and any necessary modifications to recommendations. Review steps to complete FONSI.	