

MODES

SCOPE OF WORK - PEL STUDY

The Study will be conducted in accordance with the most recent Iowa Department of Transportation (Iowa DOT) Location and Environment Bureau Manual as found on the Iowa DOT website. The findings of the Planning and Environmental Linkages (PEL) Study will establish the Purpose and Need, early action items and reasonable alternatives, logical termini and independent utility, and programming priorities/timeframes/funding to be used in updating transportation plans and transportation improvement programs (TIPs).

The Study will include development and evaluation of alternatives based on a consideration of Purpose and Need, geometric, traffic, planning and environmental factors, the location of communities and other developed areas, and public and agency input.

The Study will be developed and documented in a form that can be incorporated by reference, as appropriate, in subsequent NEPA document(s) as outlined in Iowa DOT Location and Environment Bureau Manual and NEPA Processes. All final deliverables identified in this contract will be of such quality that they could be incorporated directly or by reference into these NEPA documents.

A Project Management Plan will be developed which satisfies the requirements of the project development. The activities of communication, consensus building, project reviews, conceptual design, data gathering, documentation, and formal public notice will be coordinated with the stakeholders/steering committee. The type and number of meetings, documents, etc., will depend on the category and characteristics of the project work.

1. TASK 1 - PROJECT INITIATION AND CONTINUING REQUIREMENTS

A. Initial Project Meeting

An initial project kick-off meeting will be held with the appropriate disciplines. The meeting will review the Project Management Plan, project scope, schedule, key milestones, and project study area boundary. The meeting may include an on-site inspection to familiarize the entire Project Team with the character and conditions of the area.

B. Project Management Plan

Provide a Project Management Plan for management coordination and control to ensure successful and timely completion of this study. The Project Management Plan shall:

1. Include a detailed work plan, including schedule and cost breakdown for each sub-task described in this scope of services
2. Identify the method for tracking budget and schedule for the duration of the project

3. Establish key project contacts within the Project Team and other Stakeholders
4. Establish the project milestones
5. Include a Quality Control Plan that describes the Quality Control Process to be used on the project

C. Project Management Communication

1. The project team shall meet at least monthly to review the cost, schedule status and progress of the work, as well as address unanticipated problems and potential solutions. The project milestones include: Scoping, Purpose and Need Statement, Corridor Conditions Assessment Report, Alternatives Development/Analysis, Proposed Action(s), Funding/Prioritization/Phasing, and PEL Report.
2. Submit monthly cost and schedule reports to enable project monitoring. The contract budget and schedule shall be regarded as the baseline against which status and progress are measured and reported.
3. Submit working and final drafts on all work products in a timely manner to allow for adequate review and revision prior to final submittal schedules.

D. Consensus Building Process and Public Outreach

1. Key Stakeholder Interviews: Understanding ideas, perspectives and needs of the key stakeholders in the corridor is critical for broadly supported decisions. At the start of the project, interviews will be conducted with key stakeholders to understand their respective interests, goals, issues and desired outcomes for the PEL Study. An interview template will be prepared prior to conducting interviews. An overall summary of interview issues will be prepared after the interviews take place and results will be part of both the public participation plan and the Innovation Brainstorming Workshop agenda.
2. Innovation Brainstorming Workshop: An interactive Innovation Brainstorming Workshop will be held with design professionals, Iowa DOT, and key stakeholders to explore Managed Lanes, Intelligent Transportation Systems (ITS), Active Traffic Management (ATM), Transportation Demand Management (TDM), transit, bicycle corridors, and short-term and long-term alternatives to forward into the alternative analysis. Prepare and facilitate the Innovation Brainstorming Workshop and lay the foundation for the workshop by identifying potential concepts for discussion, and key issues and concerns from the interviews. A summary of the Innovation Brainstorming Workshop will be produced and distributed.
3. The Agency Coordination and Public Outreach Plan shall at a minimum include:

- Preliminary identification of critical issues and problems in need of resolution.
 - Recommend the proper level and means of involvement in the study by the public.
 - Identification of Resource Agencies with an interest in the corridor and the level of consultation required with each agency for successful completion of the study.
 - Identification of Stakeholders, Resource Agencies, community leaders, elected officials and key community groups and recommend the level and means of involvement in the study by those identified.
 - Identification of planned community events near the highway and interchange complex that are scheduled during the study.
 - Description of participation methods, objectives, and where each fits into the schedule.
4. Technical Working Group (TWG) Coordination and Meetings: The TWG, composed of local agency & resource agency representatives at the staff level along the corridor, will serve as the focal point for the stakeholder engagement process and is the primary mechanism to directly interact and engage the corridor communities and stakeholders. The Project Team will coordinate with the TWG to determine the proper level of involvement and engagement required for their respective elected officials and other associated stakeholder groups. It is anticipated that there will be twenty-four (24) facilitated TWG meetings that will be the forum for addressing corridor-wide issues and making recommendations as a group. Segment-specific issues can be addressed through consultation with the affected jurisdictions as needed. Meeting agendas, associated materials and summaries will be prepared for each meeting. Community coordination and follow up will occur for each meeting as needed. Operating guidelines and a TWG work plan will be established to define the group's goals and how it will function.
 5. Resource Agency Scoping Meetings: Individual meetings will take place to coordinate and consult with Iowa Department of Public Health (IDPH), Iowa State Historic Preservation Office (SHPO), Iowa Department of Natural Resources (IDNR), and US Fish and Wildlife Service (USFWS).
 6. Public Meetings: Public meetings will be held at the beginning of the process to educate the public on the PEL process and to collect input about the vision for the highway and interchange complex and associated concerns, and later to present the range of short-term and long-term alternatives to the public and collect input for recommendations. It is anticipated that there will be three (3) meetings total. Community coordination and communication efforts will be carried out in conjunction with the meetings. Public meetings will include corridor wide public notifications such as press releases, post card mailing, social media, telephone Town Hall Meetings, or other methods.
 7. Outreach to Regional Partners and Small Groups: Coordinate closely with the TWG to develop effective strategies for involving their respective constituencies and other key stakeholders' groups. Various approaches may be used to engage and interact

with the broader community including utilizing existing communication channels, such as planned events or pre-existing meetings when necessary.

8. On-going Outreach and Public Involvement Efforts: Serve as point of contact for the distribution of information to key stakeholders, agencies or the general public; to populate and manage the email/ mailing lists and the contact database; to create content for Iowa DOT's project website if one is established; to support the creation and distribution of media advisories; and to advertise and communicate the public meetings.
9. Policy Committee Meetings: Building upon the TWG meetings with local agency representatives at the staff level, approximately 20 Policy Committee Meetings with their respective Elected Officials will be required.

2. TASK 2 – CORRIDOR CONDITIONS ASSESSMENT REPORT

A. Obtain Necessary Trespass Rights and Permits

Prepare the necessary paperwork and coordinate with the property owner or municipal entity in order to obtain the necessary written permission to enter the premises. The Consultant shall obtain any other permits, as required, for fieldwork activities.

B. Traffic Data Collection and Existing LOS Calculation

1. Collect and consolidate crash data and traffic counts (including truck traffic) for the project limits and surrounding roadway network impacted by the project to be used for the safety and operational analyses. Crash data will be obtained by the consultant from the Iowa DOT database, and requested by the consultant from local municipalities as required for the purposes of the study. Available traffic data shall be compiled from various State and municipal sources or counted in the field as required for the purposes of the Study.
2. Calculate levels of service at relevant locations within the project boundaries. At a minimum, this will include the mainline of Highways 23, 63, 92, and 163, including all ramp terminals, merge/diverge points, weave areas at all interchanges in the project limits, and signalized intersections. Additional locations to be evaluated will be determined in coordination with Iowa DOT, with input from the project stakeholders. Daily vehicle classification counts will be collected at locations determined to be relevant to the Study. Intersection turning movement count locations and origin/destination data are to be determined in coordination with Iowa DOT.
3. Document the existing and any planned transportation systems in the corridor including highway through and auxiliary lanes, interchanges, right-of-way and access; arterial lanes and access, weigh stations; high speed rail and transit types / service levels including

station locations, routes and frequency, safety records and ridership and major concentrations of riders. Document existing vehicle weigh station. The document shall also include bicycle and pedestrian facilities, planned and existing intermodal connection facilities and stations.

4. Document the existing travel markets that use the transportation system by using the Area 15 travel demand model (not field surveys) to establish:
 - a. Geographic locations of the origins and destinations
 - b. Trip purpose (Commuter/Non-commuter trips)
 - c. Local versus regional trips
 - d. Average Length of Trip

5. Summarize current roadway features including present lane configurations, roadway and right-of-way widths, adjacent land ownership characteristics, utility, and environmental concerns.

C. Travel Demand Forecasting

1. Summarize land use and modeling data as provided by the Area 15 travel demand model (Years 2020 and 2050).

2. If it is determined necessary to perform any additional Travel Demand Forecasting (e.g. to account for changed planned land use or travel network conditions), the consultant shall develop a sub-area model specific to the project study area and will utilize one of the Area 15 models that is available for such purposes. This may include local agency transportation models, the adopted 2050 regional Area 15 model, along with a mesoscopic model and an appropriate traffic micro-simulation software. Previously projected transit utilization may be incorporated into the study without new transit modeling being performed. The primary product of this work will be the 2050 travel demand forecasts approved for study use by Iowa DOT and Area 15. These forecasts will be used to develop 2050 traffic volumes on highways, arterial roadways, and peak hour turning movements at signalized intersections and freeway ramp terminals.

3. Ensure that the traffic analysis is compatible with the NEPA process.

D. Traffic Operations

1. Future travel demands shall be compared to existing corridor capacity at select screen lines and inadequately served travel patterns shall be identified.

2. Summarize future traffic (2050) operations along the corridor for both the AM and PM peak hours.

3. Traffic operational analysis will include an evaluation of the Corridor Conditions as well as a 2050 analysis for the No-Action and a preferred set of alternatives.

4. Modeling shall be used to help understand the regional distribution of traffic, possible

diversions for different design alternatives and to help determine the limits of the micro- simulation analysis. The specific model(s) to be used will be determined during the study and must be acceptable to both Iowa DOT and FHWA.

5. Perform a sketch plan sensitivity analysis for future traffic operations (beyond 2050) based on anticipated growth in traffic.
6. It is anticipated that Synchro and/or VISSIM software will be used for evaluation of intersection operations.
7. Use a micro-simulation model to evaluate the traffic operations of the complete roadway system, particularly the freeways, and report the agreed upon measures-of-effectiveness (MOE's) for the existing conditions, the No- Action and the preferred set of alternatives.. Site specific operational analysis (i.e. turning movement delays, weaving analysis, queue length determination, etc.) may also be required at strategic locations within the project boundaries to help identify preferred short-term improvements that may provide operational benefits while remaining consistent with the long-term preferred alternative. Specific locations will be determined in coordination with Iowa DOT. Follow the guidelines provided in the FHWA Traffic Analysis Toolbox as a framework for methods for collecting traffic data, setting up and calibrating the micro-simulation models. Coordinate with Iowa DOT at key milestones in the traffic modeling and approval process (i.e. model validation and calibration, MOE selections, etc) before additional work proceeds.
8. Based on the initial traffic data collection, travel demand forecasting, and traffic operational analyses, identify traffic problem areas and determine the effects to the surrounding roadway network and intersections. This analysis shall consider network travel patterns that include traffic volumes, travel/access patterns, LOS, delays, travel times, and speeds in neighborhoods and other areas of anticipated traffic congestion. Coordinate this work with other studies in the immediate area, as appropriate.
9. Analyze existing bicycle and pedestrian facilities for safety, adequacy, connectivity, and Americans with Disabilities Act Accessibility requirements and make recommendations for improvements in accordance with the latest Iowa DOT Statewide Bicycle and Pedestrian Plan and the local bicycle and pedestrian master plans.
10. Analyze the existing use and potential need of Park & Ride Facilities

E. Safety Assessment Report

1. Obtain all available Safety Assessment Reports from Iowa DOT which identify existing safety problems within the project limits to the extent that they are readily available. In the alternatives evaluation portion of the PEL Study, and any other sections that pertain to Safety, specifically identify how the "Build" alternatives propose to mitigate the existing safety problems based on the Safety Assessments and on crash data

collected as part of this PEL.

2. If Iowa DOT deem that existing available traffic safety reports are outdated and need to be updated; prepare a traffic safety assessment report in accordance with Iowa DOT standards. Iowa DOT shall provide all data and statistical summaries necessary to complete the report. If required, a new Safety Assessment report shall include an evaluation of the Corridor Conditions as well as a 2050 analysis for the No-Action and a preferred set of alternatives using predictive crash models.

F. Conduct an Environmental Overview of the Corridor

The analysis for this environmental overview shall build from and be consistent with other environmental studies completed or nearing completion in the project area. The overall study area for this PEL project is rectangular in nature and includes the area of US Highway 63 from Mile Post 60 to Mile Post 68, Iowa Highway 92 from junction 163 to Queens Avenue. However, the Environmental Overview limits may be reduced, or expanded, depending upon the alternatives being studied.

The following environmental resources are considered "red-flag" resources and technical memos will be required as part of the PEL Study. This list is not all-inclusive and is subject to change based on meetings with project stakeholders. Modifications to the list may be necessary depending on the results of the Innovation Brainstorming Workshop. A scoping meeting with Iowa DOT will be required to define the levels of environmental analysis for each resource area.

- Land Use
- Air Quality
- Bicycle and Pedestrian Facilities
- Floodways and 100-year floodplain boundaries
- Parks, Open Spaces, Trails, Recreational Resources/4(f) and 6(f)
- Historic Resources
- Hazardous Substances (including oil/gas wells)
- Wetlands and Other Waters of the US
- Wildlife Movement
- Threatened and Endangered Species
- Water Quality
- Noise
- Cumulative Impacts

Incorporate the results into the overall PEL Study documentation.

- G. Reference the list of issues that resulted from contacts with stakeholders and general knowledge of the corridor to identify a list of key needs in the corridor.
- H. Prepare a preliminary list of existing and anticipated deficiencies in the corridor. The list should describe the existing or anticipated deficiencies in the transportation system and the growth or changing needs in the corridor along with an estimate as to the timeframe in which deficiencies will occur.

Prepare a Corridor Conditions Assessment Report which includes all elements as described above.

TASK 2 WORK PRODUCT: Corridor Conditions Assessment Report which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings will be included. Environmental Resource Technical Memos describing the Corridor Conditions in the corridor. In addition, a separate stand- alone traffic report that could be used for future Interchange Access Requests will be required.

3. TASK 3 - DEVELOP A STATEMENT OF PURPOSE AND NEED AND IDENTIFY GOALS FOR THE TRANSPORTATION SYSTEM

Develop a Technical Memo containing the following:

- A. Identify existing and expected deficiencies in the transportation system serving the corridor area and compile a list of system deficiencies. Where possible, locate the deficiencies on a base map for use at the public meetings.
- B. Prepare a draft or general Mission Statement and key issues to be discussed at a stakeholder meeting and at public meetings.
- C. Produce a written statement of purpose and need. This statement should be an "umbrella" statement for the corridor, based in identification of needs and deficiencies. The statement should reflect the context sensitivity of the corridor's communities to help reach their transportation goals by encouraging the consideration of land use, transportation, environmental and infrastructure needs in an integrated manner.
- D. Identify goals and visions for the highway and interchanges.
- E. Determine logical termini for the study area.

TASK 3 WORK PRODUCT: A Technical Memo which presents the findings from the task described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings.

4. TASK 4 - PLANNING ENVIRONMENTAL LINKAGE (PEL) STUDY

A PEL Study shall be prepared with the following objectives.

- A. Express a common vision between Iowa DOT and the stakeholders as to the

future operational functionality of the corridor.

- B. In addition to the No-Build Alternative, Develop up to three (3) short-term and three (3) long-term alternatives which:
- Meet the Purpose and Need identified in Task 3.
 - Balances regional mobility with local connectivity needs and access management.
 - Enhances corridor aesthetics and safety
 - Considers unconventional and innovative approaches including managed lanes, ITS, ATM and TDM as part of the solution
 - For highway expansion or other modal use of Iowa DOT right-of-way, an analysis should be conducted to identify alternatives for the most appropriate use of the existing right-of-way. A determination then must be made if this represents the maximum right-of-way capacity or if additional right-of-way should be acquired.

Alternatives Development – Basic concepts for alternatives will be developed through the project’s Technical Working Group, Stakeholders, and the project team. Basic roadway engineering will generally be to a conceptual level of design; however, more detail may be needed in some areas to support screening. Survey work in specific areas to the level needed to support design work could be required.

For the Proposed Action(s), a cross section study will be developed. This information shall be sufficient to determine general cut and fill limits, toe of slope locations, right-of-way needs and easement requirements, earthwork requirements, structural requirements, and water quality facilities.

The conceptual design for the roadway alignments, interchange configurations, roadway templates, lane additions, pedestrian facilities, bicycle facilities, and major structures (bridges, grade separations, retaining walls, etc.) included in the Proposed Action(s) will be completed to approximately five (5)% design so that planning-level cost estimates can be established. This may also include short term improvements as identified in the analysis.

For a limited number of early action projects perform a full range of engineering design services up to and including final design.

- C. Establish meaningful project phases and connect them with potential funding packages. Given the variability in the amount and timing of funding, identify and prioritize projects for a range of funding scenarios to ensure that the corridor is getting maximum benefit for the available dollar. Other options such as Business Improvement Districts, Tax Increment Financing, and new federal programs such as livable communities, will also be reviewed for applicability on the corridor.
- D. Alternatives Screening – Utilize a NEPA-appropriate screening process. A two-step or three step screening process through which the level of analysis detail becomes greater as the number of alternatives reduces shall be considered. Several basic measures shall be used to judge alternatives. This evaluation is intended to illuminate the issues and provide a coherent discussion prior to selecting a preferred corridor strategy. Develop

evaluation criteria and will submit the criteria to FHWA for review. The following measures shall be included:

- Operational Effectiveness – This analysis should quantify how each alternative addresses deficiencies and needs as identified in Tasks 2 and 3. The analysis should also identify negative upstream, downstream and any other roadway network consequences of proposed improvements. For estimating purposes, it is anticipated that a general analysis will be done on initial screening of alternatives and a more detailed analysis will be required for up to three (3) short-term alternatives and three (3) long-term alternatives. The detailed analysis will consider the AM and PM peak hour to determine how well each alternative addresses the deficiencies and needs as identified in Tasks 2 and 3.
- Land Use Consequences - This analysis should quantify how the alternatives will affect accessibility and mobility in the corridor. Resultant land use implications should then be assessed and compared to adopted comprehensive plans and zoning. Any inconsistencies between the proposed transportation investment and levels or types of development in local plans should be clearly identified and understood by all decision-makers.
- Economic Feasibility – This analysis should compare the alternatives in terms of whether the benefits are commensurate with the costs. It also should consider the availability of funds for construction and operation as well as equity – the distribution of costs and benefits.
- Environmental Feasibility - Impacts of each alternative on important environmental resources and feasibility regarding environmental issues and regulations. Conceptual avoidance and minimization measures should be developed following the identification of impacts and concerns.

Following screening, the Proposed Action, or Actions, will be documented and the conceptual design will be refined as needed to avoid impacts and/or provide mitigation.

- E. Provide an easy-to-read pictorial summary guide that helps evaluate the pros and cons of each alternative in a creative and meaningful way.
- F. Recommend ROW needs along the corridor expressed as typical sections and as part of any proposed interchange reconstruction concept. The recommended ROW for the Proposed Action(s) will be identified (including physical environmental mitigation like Storm water controls). These elements will combine to allow for corridor preservation by the local communities.
- G. Prepare a PEL Study report that includes an Executive Summary and the following chapters: Introduction including Purpose and Need Statement, Alternative Development and Analysis including the No-Action Alternative, Study Recommendations, Affected Environment and Environmental Consequences, Agency Coordination and Public Involvement, and Next Steps.

TASK 4 WORK PRODUCT: PEL Study Report, which presents the findings from the Responsibilities described above in a clear and concise manner; Traffic and Environmental Resource Technical Memos/Reports; and a summary of comments and key issues received as a result on the implementation of the Public Participation Work Plan as per Task 1.

5. TECHNICAL AND PEER REVIEW

All study reports and design work products will be reviewed by Iowa DOT, Stakeholders, and Resource Agencies.

6. PROJECT SCHEDULE

The schedule shall be twenty-four (24) months from the date of BUILD grant funds being obligated.