

ATTACHMENT A: SCOPE OF SERVICE

Phase I – Establish Corridor Needs

Steering Committee Meeting #1 Kick-Off Meeting

SCM #1 will serve as the kick-off meeting to allow stakeholders to understand the study's key goals and to identify key issues and assumptions related to rail, traffic, and land use. The scope and approach for the project will be discussed and finalized for the project during this initial meeting.

Task 1.1 – Data Collection

Through both a desktop and field review, KLJ will document the existing roadway conditions in the area. Information gathered will include roadway functional classifications, existing multimodal facilities, roadway geometries, pavement conditions, roadway lighting, and available ROW. AM and PM peak hour intersection turning movement counts will be provided by the MPO, and train volume information will be obtained from traffic signal railroad preemption outputs.

Task 1.3 – Traffic Forecasting

KLJ will develop 2030 and 2045 traffic projections through an analysis of existing traffic data and the regional travel demand model outputs. KLJ will work with ATAC to identify potential travel demand model enhancements to assess vehicle rerouting potential during train events. We will also coordinate with BNSF and other stakeholders to generate train volume projections on the Mill Spur to make appropriate adjustments to assumed blockage frequency/duration for future scenarios.

Task 1.4 – Traffic Operations Analysis

KLJ will evaluate weekday peak hour traffic operations at each study intersection using the Vissim traffic simulation software. This analysis will identify existing and future no-build traffic operations in the study area. Using predicted traffic volumes and train activity, We will estimate daily, monthly, and yearly train-related delays.

We will use Vissim since it provides more analysis details compared to other software packages like HCS and Synchro. Some benefits of using Vissim include collecting delay information for specific vehicle-types (passenger cars, trucks, and transit), more accurate modeling of alternative intersection designs such as continuous flow intersections, and the ability to provide high-quality visualizations of the concepts to better convey concepts to stakeholders and the public. Vissim outputs will also be used for conflict analysis using Federal Highway Administration's (FHWA) Surrogate Safety Assessment Model (SSAM), allowing for a site-specific safety analysis between future alternatives.

Task 1.5 – Safety Analysis

In addition to the Vissim-based conflict analysis described, KLJ will review the most recent five years of vehicle crash data and available FRA train crash data to identify potential trends and over represented areas of concern. Special attention will be paid to rail-related crashes.

Task 1.6 – Traffic Control Warrant Analysis

KLJ will perform Manual on Uniform Traffic Control Devices (MUTCD) signal warrant analysis for each of the four study intersections to verify if existing traffic signals are an appropriate form of intersection control.

Task 1.7 – Social and Environmental Impacts

Our team will conduct a planning-level review of potential environmental conflicts. The review will include a desktop assessment of wetlands, floodplains, and drains to evaluate potential environmental barriers and conflicts along the corridor.

Task 1.8 – Access Control and Emergency Management

We will summarize study area access locations and compare the existing configuration to MPO and NDDOT-preferred access spacing. We will also identify typical emergency routes and emergency management procedures during a train blockage event.

Task 1.9 – Land Use Review

KLJ will review existing and future land use, parcels, proposed plats, expected redevelopment areas, etc. This will include a review of relevant planning documents and coordination with local planning staff.

Task 1.10 – Pedestrian, Bicycle, and Transit Facilities Analysis

KLJ will review pedestrian, bicycle, and transit facilities along the corridor to identify gaps and limitations in the networks that could be addressed through this study. This will include a review of programmed facilities and future facilities as documented in the regional pedestrian and bike plan.

Steering Committee Meeting #2 – Visioning Workshop

SCM #2 will serve as an opportunity for KLJ to present existing and future conditions information to stakeholders and to begin brainstorming possible alternatives. This meeting will have a mapping exercise to understand issues from the stakeholders' perspective. We will also be using this workshop to create a value profile for the stakeholders to better understand stakeholders' visions for improvements related to traffic operations and safety, rail conflicts and delay, multimodal considerations, and cost and ROW impacts.

Public Input Meeting #1 – Early Input Meeting/Visioning Workshop

PIM #1 will serve as an opportunity for us to present existing and future conditions information to the public, obtain input from the public related to existing issues, and begin brainstorming possible alternatives. We will also be using this workshop to create a value profile for the public based on the same criteria for stakeholders.

To maximize effectiveness of the first public input meeting, it will be important to reach out to major stakeholders with the MPO, sending direct mailers those directly impacted by improvements.

Phase I Deliverables

Task 1.11 – Existing and Future Conditions Memorandum

Existing and future corridor needs identified in Task 1.1 through 1.10 will be summarized in a technical memorandum that will become a chapter of the final report. This memo combines Existing and Future Conditions, Traffic Analysis, and Issues Technical Memorandum as listed in the RFP into a complete Existing and Future Conditions Memorandum.

Phase II: Develop and Analyze Alternatives

KLJ will develop up to six alternatives with varying benefits, project costs, and impacts, including both at-grade and grade-separated alternatives. The list of alternatives can include up to three sub-options for minor changes like bicycle/pedestrian alignments, ITS systems, etc.

The final list of alternatives to be considered will be based on input received in the Visioning Workshops as part of SCM #2 and PIM #1.

Task 2.1 – Preliminary Alternative Layouts

Once alternatives have been finalized, KLJ will develop concept layouts to help stakeholders visualize the alternatives. For alternatives involving grade separations, Concept Station software will be used to demonstrate the grade separated nature of the alternatives. Concept Station is a platform that can create 4D visualizations (3D plus time) of concepts for approximately half of the cost and time compared to traditional design and visualization methods. This enables a quick screening of alternatives to identify impacts and fatal flaws. The platform also has video-recording and cost-estimating capabilities.

Task 2.2 – Cost Analysis

KLJ will develop planning level cost estimates and summaries for improvement alternatives. Cost estimates will also identify the base year of construction costs, engineering fees, and associated percentage of total cost, and any required land acquisition and utility relocation costs.

Task 2.3 – Alternative Assessment

KLJ will use Vissim to model the six alternative intersections to identify intersection operations, network safety benefits based on SSAM conflict data, network delay comparisons, and to provide visualizations of alternatives for stakeholder and public engagement. Daily, monthly, and yearly train delays will also be quantified for all alternatives.

Task 2.4 – Technical Scoring and Evaluation

KLJ will use a technical scoring process to evaluate alternatives' performance related to:

- » Traffic operations and safety
- » Rail conflicts and delay
- » Multimodal facilities and safety (bicycles, pedestrians, and transit)
- » Cost and ROW impacts

Technical scoring will be weighted based on value profiles that were established by the Steering Committee at SCM #1. Once technical scores are established, KLJ will perform a benefit/cost analysis for each alternative.

Steering Committee Meeting #3 – Value Planning Workshop

SCM #3 will present results from alternative analysis to stakeholders. We will also present concept layouts and 3D simulation visualizations to help illustrate each alternative. This meeting will be an opportunity to rank and possibly refine alternatives prior to presenting alternatives at PIM #2.

Public Input Meeting #2 – Presentation of Alternatives

PIM #2 will present the alternatives analysis results to the public. This will include visualizations that were presented at SCM #3 to help illustrate each alternative to the public. After the information has been presented, ballot box scoring will be used to identify the public's preferred alternative. An online survey will be provided for people unable to attend the meeting in person.

Phase II Deliverables

Task 2.6 – Alternatives Development and Assessment Memorandum

This memorandum will include technical analysis results described in tasks 2.1 through 2.4, and will become a chapter of the final report. The Alternative Development and Alternative Evaluation Memorandum as listed in the RFP will be combined into a complete Alternatives Development and Assessment Memorandum.

Phase III Implement Corridor Vision

Steering Committee Meeting #4 – Implementation Workshop

SCM #4 will summarize the comments received from the public, and will function as a workshop to collaboratively develop an implementation approach for short-term, mid-term, and long-term improvements in the study area. Funding needs, opportunities, and programming strategies will be identified, and the next steps for project development will be laid out.

The implementation plan will be incorporated into the final report, which is described in more detail in Task 3.1 below.

Public Input Meeting #3 – Final Public Presentation

A final presentation will be made to the public that summarizes the recommended improvements, the draft report, and will serve as a final meeting to address public comments and concerns.

Option: The final public engagement phase can be instead done using online methods. The staff time saved from this approach could be used to generate high-resolution renderings to further increase the public's understanding of recommended improvements. We have successfully used this approach on similar projects, and recommend that this is considered.

Phase III Deliverables

Task 3.1 – Draft and Final Report

A draft and final study report will be created that includes chapters for Existing Conditions, Future Conditions, Alternatives Development, Alternative Assessment, Implementation, and Public Involvement. This report will also contain an executive summary that summarizes the preferred alternative and why it was selected. This report will include a three-week period to solicit and respond to stakeholder comments on the final results of the study.
