1.0 Visualizations

1.1 Preferred Alternative Simulation

The SERVICE PROVIDER will develop an interactive model of the project corridor for the preferred alternative. The models will be built on the alignments and surface models created as part of the Engineering scope. The accuracy of the models will reflect the design development at the time, but the quality of the presentation will be realistic.

The 'interactive model' as described below consists of a realistic 3D model of the existing corridor, proposed project development and surrounding existing context that a user can navigate in real-time. This is made possible due to using real time gaming engines such as Unity 3D or Unreal and the optimization of the assets within the model. This interactive model can be then used for a variety of 'visual experiences' including:

- Image and video renders based on pre-set cameras or from the free moving camera
- Interactive kiosks used via touch screens (can be used to develop image and video renders)
- 360 Degree virtual reality videos
- Other visual experiences such as driving simulator, mobile apps and augmented reality which are outside the scope of this current project but could be applied for future phases.

Characteristics of this interactive model include:

- Free flowing traffic while interacting in real-time
- A phasing system that allows the user to switch between existing and proposed conditions
- A user-friendly menu that takes little to no training to use and is useable via touch screens
- Labels identifying streets or key features
- The ability to change the time of day
- Animated features such as trees with leaves that blow in the wind, moving trains or sculptures that blow in the wind.

Interactive visualization differs from traditional rendered animation in the following key differences:

- Real-time navigation vs video files with predetermined views for traditional animation
- Proposed and existing context modeled on all sides to look realistic even if cameras move to various parts of the project
- The ability for project managers and public information personnel to render without the assistance of the visualization team
- Faster render times due to the use of real-time gaming engines and optimization

Deliverables:

- Interactive model (with touch menu) showing existing and preferred project alternative conditions optimized for real-time performance
- [OPTION: DOTs may want to include interactive model for major traffic control phases]
- Video flythrough animations showing major movements
- Image renders showing areas of interest as needed
- Two 360 Degree virtual reality videos showing the improvements
- Attendance (# CONSULTANT personnel) at # public/stakeholder meetings
- Hardware including two touch screen laptops and two virtual reality headsets

Schedule Assumptions:

- Early preview in *[DATE]*
- Draft renders in *[DATE]*
- Final renders and interactive files by *[DATE]*

Level of Effort Estimate Basis Assumptions:

- *[State any assumptions for basis of cost estimate and schedule of deliverables]*