



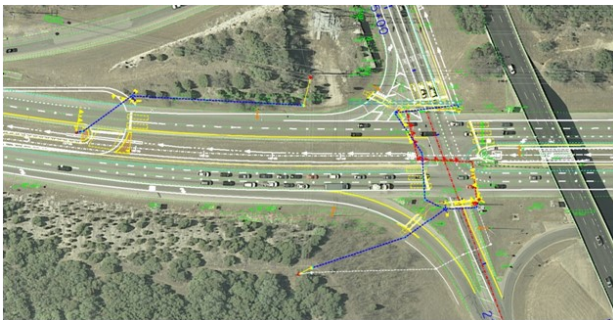
Traffic Modeling and Simulation

Our Traffic Modeling and Simulation services include performing traffic flow modeling of various roadway facilities utilizing state-of-the-art traffic simulation and modeling software and methodologies. ISE is proficient in microscopic and macroscopic simulation modeling and analysis using VISSIM, Synchro, and HCS. We have utilized VISSIM in previous projects to test various geometry and/or configuration alternative scenarios and to evaluate and rank them based on traffic operation Measures-of-Effectiveness (MOEs).

For the IH 35W Segment 3C reconstruction project, ISE performed a thorough traffic analysis of the Schematic in order to develop cost-saving solutions while improving or otherwise maintaining the same operational Level-of-Service. The corridor including main lanes, managed lanes, frontage roads and the connecting ramps, DCs, and interchanges were modeled in VISSIM and several alternatives were evaluated against the base scenario. Additionally, the individual freeway segments and the entire general purpose facility were modeled with HCS and the level of service improvements resulting from various alternatives were observed. One of the outcomes of the traffic analysis was eliminating two direct connectors connecting managed lanes and general purpose lanes and replacing them with slip ramps with left exit/entry on the general purpose lanes. This change resulted in \$8.6 million in construction cost savings and the simulation analysis showed marginal improvement in motorists travel time for the design hour which adds up to \$7.5 million through a 15-year horizon.



IH 35W Segment 3C



State Loop 360

On Loop 360 (Capital of Texas Highway) in Austin, ISE performed traffic analyses including data collection and peak hour analysis, simulation analysis of various alternatives for proposed innovative intersections throughout the 14-mile corridor. ISE used Synchro and VISSIM, corridor signal timing optimization and field implementation of the optimized timings in collaboration with the City of Austin Local Area Traffic Management Center and TxDOT, and microscopic simulation analysis of operation and safety of the proposed Median U-Turn south of LP 1 interchange.

ISE is currently tasked with developing Schematic design for a 3-mile segment of IH 30 to the west of Ft. Worth. We are performing traffic analysis and simulation modeling of the proposed reconfiguration alternatives for IH 30/SP 580 interchange to narrow down the alternatives. ISE will be responsible for developing an Interchange Access Justification Report for the entire corridor between Linkcrest Drive and the IH 820 interchange.

Our traffic modeling and simulation design experience includes the following projects:

- IH 35W Segment 3C, TxDOT
- State Loop 360 corridor in Austin, TxDOT
- IH 30 Widening and Reconstruction, TxDOT