CR 44 Widening from SH 288 to Loop 274
BCA Narrative

H-GAC provided travel demand model date for the Base year (Year 2018), No-Build condition (Year 2025 and Year 2045) and Build condition (Year 2025 and Year 2045) scenarios. The build condition models assumed CR 44 as a 4-lane roadway (two lanes in each direction) between SH 288 and Loop 274. Opening year for the proposed improvements is assumed as Year 2022.

Criteria used in Delay Benefits Spreadsheet

- Type of improvements is assumed as "Adding New Lanes or Roads" that provide 40% delay reductions with a service life of 20 years.

- AMVOL_T and PMVOL_T were extracted from H-GAC base year model (Year 2018) for individual links of CR 44 within the limits. Calculated weighted average for both AMVOL_T and PMVOL_T by distance for all links. Added weighted average of AMVOL_T and PMVOL_T to obtain 2018 Peak Period Traffic Volume (2,516). Similarly, Year 2025 Peak Period Traffic Volume (2,988) and Year 2045 Peak Period Traffic Volume (3,313) were estimated from Build conditions models (Year 2025 and Year 2045) provided by H-GAC.

- AMCAP and PMCAP (per direction) were extracted from H-GAC base year model (Year 2018) for individual links of CR 44 within the limits. Calculated weighted average for both AMCAP and PMCAP by distance for all links. Added weighted average of AMCAP and PMCAP and then multiplied by 2 for both directions to obtain 2018 Peak Period Roadway Capacity (10,976). Similarly, Year 2025 Peak Period Roadway Capacity (21,098) and Year 2045 Peak Period Roadway Capacity (21,098) were estimated from Build conditions models (Year 2025 and Year 2045) provided by H-GAC.

- FFSPD data were extracted from H-GAC base year model (Year 2018) for individual links of CR 44 within the limits. Calculated weighted average by distance of FFSPD for all links to obtain the estimated Free Flow Speed before improvement (36 mph).

- PeakVMT and PeakVHT data were extracted from base year model (Year 2018) for individual links of CR 44 within the limits. Average Peak Period Corridor Speed before Improvement (32 mph) is calculated by dividing sum of VMT over sum of VHT for all links of the project location.

Criteria used in Safety Benefits Spreadsheet

- Safety Improvement Type is assumed as "Convert 2-Lane Facility to 4-Lane Divided" for this project that provides 45% of Appropriate Crash Reduction Factor with a service life of 20 years.

- Inputs for peak period traffic volumes and capacity are same as utilized in the delay benefit calculation spreadsheet.