

Texas DOT



Contact Information:

Andy Naranjo

✉: andy.naranjo@txdot.gov

☎: 512-506-5858

Developing Capacity for Whole-Life Life-Cycle Assessment (LCA)

Project Goals:

- (1) Set up the LCAPave tool for TxDOT specific bid codes for paving operations.
- (2) Perform benchmarking analysis of current TxDOT paving operations.
- (3) Perform whole-life LCA for flexible and rigid pavement types typically used in Texas.
- (4) Develop and administer training to TxDOT pavement and materials engineers.

Project Tasks:

- **Training:** Develop and administer training to TxDOT pavement and materials engineers
- **LCAPave tool:** Setting up tool with TxDOT specific bid codes and materials library
- **Benchmark Analysis:** Perform benchmarking analysis of TxDOT's paving operation for various paving operations (i.e. Flexible pavement, concrete pavements (CRCP), pavement recycling, and maintenance operations).
- **Use phase Analysis:** Provide a report on the embodied and lifecycle GHG emissions, driver fuel use consequences, and suggestions for reducing GHGs. Lifecycle emissions include those associated with materials and construction (embodied) as well as use phase emissions due to pavement-vehicle interaction, carbonation, and albedo.
- **Provide guidance** on how to best carry out whole-life LCA for future TxDOT projects which includes what data is needed and what sources for that data exist within TxDOT and what tools are best suited to complete this analysis.

