Texas Statewide Transportation Planning 2050

Client

Texas Department of Transportation (TxDOT)

Facts

Period 2020

Project Country United States

EBP (formerly EDR Group) was part of a consultant team providing statewide transportation planning and analysis services to the Texas Department of Transportation (TxDOT).

The team's work focused on developing an updated Texas Transportation Plan (TTP 2050) and identifying enduring improvements to TxDOT business processes and tools. Key elements of this work include leveraging data analytics to assess performance-based needs, evaluating investment strategies, and advancing agency strategic goals and objectives. Major tasks included the development of two new alternative technology scenarios to modify the travel demand model for needs assessment under uncertainty and evaluation of four alternative investment strategies. EBP reviewed data, tools, processes, and policies associated with TTP implementation, with a particular focus on enhancing programming methodologies for resiliency and supporting effective technology deployments.

EBP was a key contributor to TTP's Transportation Today reports, including topics on sociodemographic and economic trends and drivers of transportation, freight and trade patterns, and existing planning and prioritization efforts. This builds on earlier work on key performance metrics to be tracked, major data needs and gaps for plan development, and new or improved methodologies and prioritization criteria that would be considered by the plan to facilitate implementation activities.

The next phase of EBP's work focused on the development of alternative futures for consideration in the travel modeling framework that would be used for needs assessment and the development of investment strategies. EBP was primarily responsible for the effect of transportation and communication technologies on travel demand, including establishing moderate and optimistic forecasts of technology deployment in 2050 for different technologies and connecting these forecasts to travel modeling variables. Technologies considered included connected and autonomous passenger vehicles, mobility on demand, the effect of connectivity and automation on long-haul freight, new technologies for local goods delivery, augmented and virtual reality and other communications technology impacts on work-from-home trends, and pressures on transit from new modes.

After teammates completed the travel demand model runs for the alternative freight and technology futures and needs and investment strategies were established, EBP worked on evaluating the economic benefits and impacts of transportation investments under different scenarios. The first evaluation compared business-as-usual investment strategies under both moderate and optimistic technology futures and included an evaluation of how radical improvements in vehicle technology would affect the economy. Four additional evaluation scenarios compared investment strategies tracking business-as-usual or focusing on preservation, rural mobility, or urban accessibility to a no-investment beyond existing and committed projects alternative. Each of these comparisons was made with moderate freight and technology growth.

In addition to scenario development and evaluation work, EBP worked with teammates to

develop implementation strategies for realizing the long-range plan objectives. This focused on prioritizing resilience infrastructure and preparing for the impacts of technology. For the final step, EBP supported the development of the final plan documents.

Contact Persons

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