SCOPE OF SERVICES

Background

As Central Texas enters a transformative period in transportation development, the Receiving Party and its regional partners are implementing a series of major mobility investments which include Austin's first light rail system, expanded MetroRapid bus services, I-35 reconstruction, and significant improvements to active transportation infrastructure for pedestrians and bikers. Collectively, these projects will expand multimodal travel options, enhance regional connectivity, and provide alternatives to single-occupancy vehicle (SOV) travel.

However, this large-scale construction effort is expected to cause significant short-term disruptions, especially along major travel corridors such as I-35 in Central Texas. These disruptions may temporarily increase vehicle miles traveled (VMT) and corresponding greenhouse gas (GHG) emissions and air pollutants. Additionally, without a shift away from SOV dependence, these long-term investments risk underutilization upon completion.

Exacerbating these challenges is the region's rapid population growth. The Austin-Round Rock-Georgetown Metropolitan Service Area is among the fastest-growing in the nation, with a projected population of 4.67 million by 2045, a 146% increase from 2015. If the region's car-centric travel behavior remains, the population increase would lead to a dramatic increase in SOVs and reinforcing car primacy across Central Texas.

To address these challenges, the Receiving Party and its partners have adopted a coordinated regional approach to implement CPRG-funded Transportation Demand Management (TDM) strategies. These strategies aim to:

- Encourage a shift from SOV to non-SOV travel modes (e.g., transit, carpooling, vanpooling, walking, biking, and shared mobility), and
- Reduce overall VMT and associated emissions, particularly along major construction corridors.

Objectives

The primary objectives of this project are to:

1. Evaluate the effectiveness of CPRG-funded TDM strategies in shifting behavior and reducing transportation demand (i.e., VMT) and emissions of GHG and air pollutants.
2. Develop evidence-based recommendations and tools to support future CPRG-funded TDM program improvements and investment decisions.

Project Tasks

The project comprises the following seven (7) tasks, which will be repeated annually throughout the four year duration.

Task 1: Project Management

The Performing Party shall plan and actively lead or support project management activities, including coordination with the Receiving Party and its partners. The Performing Party shall:

- Attend kick-off and recurring coordination meetings,
- Track and report progress,
- Manage the budget and schedule, and
- Document key decisions and communications.

Deliverables:

- Progress reports and annual reports, and
- Meeting summaries and action items.

Due date: Ongoing throughout the project duration.

Task 2: Data Collection, Processing, and Integration

The Performing Party shall collect, process, and integrate relevant datasets needed to assess the effectiveness of CPRG-funded TDM strategies. The Performing Party's data-related efforts shall be limited to strategies that have been approved in advance by the Receiving Party. The Performing Party shall receive the following data from the Receiving Party:

- Transit Service Data: Pre- and post-project ridership data by mode, route, and period.
- Bicycle and Pedestrian Data: Pre- and post-project counts and usage data for bike lanes, trails, sidewalks, and pedestrian zones.
- Mobility Hub Data: Pre- and post-project ridership and origin-destination patterns at mobility hubs.
- Web Platform Data: User engagement, trip tracking, and incentive program participation from City mobility platforms.
- Air Quality Index (AQI) Data: Pre- and post-project regional and corridor-level air quality indicators.

With the Receiving Party's approval, the Performing Party shall include supplementary data sources such as crash data, vehicle registration, traffic counts, third-party traffic data, travel demand models, and air quality/emissions datasets. The Performing Party shall:

- Develop methods to retrieve the data.
- Conduct Quality Assurance (QA)/Quality Control (QC) and data cleaning procedures.
- Perform exploratory analyses to understand data quality, coverage, trends and linkages across sources

Deliverables:

- Annual technical report that documents data processing, QA/QC performed, and findings.
- Processed and documented datasets

Due date: Annually.

Task 3: Travel Behavior and Mode Share Impact Assessment

The Performing Party shall utilize the data prepared in Task 2 to evaluate the impact of constructions and CPRG-funded TDM strategies on travel behavior. The Receiving Party will approve the specific constructions and strategies to be evaluated in advance. Key performance indicators include:

- Mode Share Shift: Analysis of shifts from SOV to alternative modes (transit, walk, bike, carpool, vanpool, etc.).
- VMT changes: Estimation of corridor-level and system-wide VMT changes.

Analytical methods may include:

- Pre-, mid-, and post-implementation comparisons.
- Trend analysis and counterfactual scenarios.
- Geographic information system-based spatial analysis of travel patterns.

Specifically, the Performing Party shall make a best-effort attempt to quantify the VMT reduction attributable to each major strategy/mode and analyze potential factors contributing to the success or underperformance of each strategy/mode. Additionally, the Performing Party shall use the performance indicators to assess the effects of construction and CPRG-funded TDM strategies on representative low-income neighborhoods.

Deliverables:

- Annual technical report on mode shift and VMT changes analysis including VMT reduction estimates by strategy/mode and corridor, and visualizations and summary tables.

Due date: Annually.

Task 4: Air Quality Impact Assessment

The Performing Party shall utilize the data prepared in Task 2 to assess the environmental impacts of CPRG-funded TDM measures, with a focus on air quality improvements near representative low-income neighborhoods, schools and idling lines. The Receiving Party shall approve the specific constructions and strategies to be assessed in advance. Based on data availability, activities may include:

- Estimating changes in mobile-source GHG and air pollutants associated with VMT changes and mode shifts.
- Analyzing AQI trends and pollutant concentrations before, during and after TDM measures implementation.
- Aligning findings with regional and state-level air quality goals.

Specifically, the Performing Party shall make a best-effort attempt to quantify the GHG, and air pollutant changes attributable to each major strategy/mode and analyze potential factors contributing to the success or underperformance of each strategy. Additionally, the Performing Party shall also make a best-effort attempt to assess the potential impact of major strategies on the region's attainment status.

Deliverables:

- Annual technical report on emission impact estimates by strategy/mode and corridor, AQI trend analysis by corridor/region, and air quality implications.

Due date: Annually.

Task 5: Economic and Operational Impact Assessment

The Performing Party shall examine the broader impacts of CPRG-funded TDM strategies on system performance and economic outcomes, including:

- Congestion Reduction: Changes in travel speeds, delays, and bottlenecks.
- Travel Time Savings: Average commute time reductions across key corridors.
- Safety Impacts: Assessment of crash rates and changes in crash risk exposure.
- Economic Benefits: Time cost savings, productivity impacts, and potential business access improvements.

The specific constructions and strategies to be evaluated shall be approved in advance by the Receiving Party. Where applicable, the Performing Party shall explicitly evaluate these impacts within representative low-income neighborhoods.

Deliverables:

- Annual technical report that documents quantitative assessment of travel time and congestion changes, safety and economic impact.

Due date: Annually.

Task 6: Forecasting and Baseline Development for Future Impact Evaluation

The Performing Party shall support the development of projected impacts and baseline conditions for future evaluations. The Performing Party shall:

- Use historical and current data to establish baseline performance indicators for post-project comparison and develop projected travel activities.
- Estimate projected impacts of selected CPRG-funded TDM strategies/mode over short-, mid- and long-term horizons on selected corridors.

Deliverables:

- Annual technical report that documents models and assumptions used for projected travel activities, projected impact analysis by strategies/mode and corridors.

Due date: Annually.

Task 7: Results Dissemination

The Performing Party shall communicate findings in previous tasks through clear, accessible, and actionable formats for both technical and non-technical audiences. The Performing Party shall develop visualizations and decision-support tools to assist the Receiving Party in interpreting results and making informed decisions.

The Performing Party shall:

- Create interactive dashboards using tools such as Power Business Intelligence (BI) and Tableau to visualize key performance indicators (e.g., mode shift, VMT reduction, emissions trends, and economic impacts).
- Design static graphics and maps to support presentations and public engagement.
- Develop technical reports that summarize methodologies, findings, limitations, and recommendations.
- Provide input, as needed, when the Receiving Party develops briefing, marketing, and education materials tailored for various stakeholders, including policymakers, agency staff, and hard-to-reach communities impacted by major construction projects. Identify additional challenges that Receiving Party's CPRG-funded TDM strategies could address and emerge questions that the project's results could help answer.
- Explore opportunities to replicate, adapt, or scale the CPRG-funded TDM strategies and project methodologies for application in other geographic or operational contexts.
- Support the Receiving Party's efforts to collaborate with other agencies and to identify new funding mechanisms that can help regional attainment goals over the long term.

Deliverables:

- Data visualizations and infographics such as Power BI and/or Tableau dashboards with documentation.
- Annual technical report and supporting appendices.
- Annual executive summary and stakeholder briefing, marketing, and education materials.

Due date: The Performing Party shall submit a technical report and visualization products at the end of each fiscal year and other supporting materials as needed or upon request by the Receiving Party.