



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

September 26, 2018
AGENDA ITEM #11

Authorize the Executive Director to enter into one or more Interlocal Agreements with the Capital Area Council of Governments for Emissions and Fuel Consumption Analysis on CTRMA Facilities

Strategic Plan Relevance: Regional Mobility/ Sustainability/Environmental Quality.

Department: Administration

Contact: Mike Heiligenstein, Executive Director

Associated Costs: Not to exceed \$50,000.00

Funding Source: Administration – Special Projects

Action Requested: Consider and act on draft resolution

Summary:

As the past Chair of the Central Texas Clean Air Force I have always been interested in the impact of improving the flow of traffic would have on air quality in the Austin region. In 2009, we undertook a vehicle emissions study on our first road, 183A. We partnered with the Texas A&M Transportation Institute and utilized tailpipe emissions capture with specialized equipment from the University of Minnesota. The report was released in October of 2009 and updated in May of 2010. Since that time, more cost and operational efficiencies have been created for such studies with data collection from the roadway and scientific modeling.

I am recommending to the Board that we utilized this new methodology and conduct another study for roadways added to the system over time to understand the impact of more efficient travel on our urban core and the environment in general. I would begin by proposing we study the MoPAC corridor since we now have a year of traffic experience. I would also recommend studying the SH 45 corridor since many travelers will have that as an option soon as opposed to the stop and go traffic of the existing commuting routes.

Another interesting study might be a “what if” study of MoPAC south and what the air quality impact might be of building an express lane (s) in that corridor.

All this being said, I highly recommend that we begin with MoPAC north and expand from there as the sophistication of the model permits. Also, please see the attached summary of the 2009 study results.

This item proposes to enter into interlocal agreements with the Capital Area Council of Governments (CAPCOG) to analyze the emissions and fuel consumption impact of Mobility Authority facilities.

The first study proposed is for the MoPac express lanes with an estimated cost of \$10,000. This study will analyze the impact of vehicle speed change along MoPac express vs. general-purpose lanes as well as the impact of mode-shift attributed to CapMetro express bus service (MetroExpress). It will be a collaborative effort between the Mobility Authority, CapMetro, North Central Texas Council of Governments (NCTCOG), and led by CAPCOG.

Staff requests Board approval of the resolution authorizing the Executive Director to execute project level interlocal agreements with CAPCOG for an amount not to exceed \$50,000.

Backup Provided: Draft Resolution
2009 CTRMA/Texas Transportation Institute Emissions Study
Executive Summary
Presentation

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 18-0XX

**AUTHORIZE THE EXECUTIVE DIRECTOR TO ENTER INTO ONE OR MORE
INTERLOCAL AGREEMENTS WITH THE CAPITAL AREA COUNCIL OF
GOVERNMENTS FOR EMISSIONS AND FUEL CONSUMPTION ANALYSIS ON
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY FACILITIES**

WHEREAS, Chapter 791 of the Texas Government Code provides that any one or more public agencies may contract with each other for the performance of governmental functions or services in which the contracting parties are mutually interested; and

WHEREAS, Section 370.033 of the Transportation Code provides that regional mobility authorities may enter into interlocal agreements with other governmental entities; and

WHEREAS, the Central Texas Regional Mobility Authority (Mobility Authority) and the Capital Area Council of Governments (CAPCOG) have developed a plan to study the emissions and fuel consumption impact of the MoPac express lanes and other projects; and

WHEREAS, it would be beneficial to better understand the emissions and fuel consumption impact of Mobility Authority facilities; and

WHEREAS, CAPCOG, CapMetro, and North Central Texas Council of Governments have agreed to partner with the Mobility Authority to perform the desired emissions and fuel consumption analysis; and

WHEREAS, the Executive Director requests that the Board authorize him to negotiate and execute one or more interlocal agreements with CAPCOG up to an amount not to exceed \$50,000 to study emissions and fuel consumption on Mobility Authority facilities.

NOW THEREFORE, BE IT RESOLVED, that the Executive Director is hereby authorized to negotiate and execute one or more interlocal agreements with the Capital Area Council of Governments up to an amount not to exceed \$50,000 to study emissions and fuel consumption on Mobility Authority facilities.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 26th day of September 2018.

Submitted and reviewed by:

Approved:

Geoffrey Petrov, General Counsel

Ray A. Wilkerson
Chairman, Board of Directors

1. Executive Summary

In June, 2009, a vehicle emissions study was conducted and constrained to only evaluate the differences in fuel usage, emissions and travel time between the parallel facilities of US 183 and the 183A Toll Road. The study area was bounded to the south by RM 620 and FM 1431 to the north. The vehicle emission study process consisted of a series of trial runs using two test vehicles under actual traffic conditions; including both AM and PM peak periods. The test vehicles consisted of a standard sedan and an SUV. Each vehicle was equipped with special emissions testing equipment.

Based on data obtained from the vehicle emissions study, current traffic counts and previous time travel analysis, the following observations are noted and conclusions can be made for motorists traveling the 183A Toll Road as compared to traveling on US 183:

- Average travel time was reduced by approximately 6-7 minutes
- Compared to US 183 prior to construction of 183A Toll Road, average time travel was reduced by approximately 15 minutes; a time reduction of over 75%
- All emissions were reduced for both peak and off-peak hours
- Fuel consumption was reduced for both peak and off-peak hours
- Estimated annual fuel savings per vehicle of 108 gallons with an annual cost savings of \$281
- Total estimated annual fuel savings of 664,723 gallons with cost savings of \$1,728,280
- Data indicates that for every vehicle that uses the 183A Toll Road, there is significant reduction in overall emissions within the study area when compared to all vehicles using US 183 only
- Although the total life cycle analysis of the carbon footprint was not evaluated as part of this study, the study demonstrates a reduction of vehicle carbon footprint for the 183A Toll Road through a reduction of vehicle emissions as seen in the CO₂ and CO calculated annual reductions
- Annual reduction in emissions and fuel consumption was calculated to be:
 - Carbon Dioxide (CO₂) emissions reduced by 28% (7,231.9 Tons/Yr)
 - Carbon Monoxide (CO) emissions reduced by 47% (21.8 Tons/Yr)
 - Nitrogen Oxides (NO_x) reduced by 56%
 - Total Hydrocarbon (THC) emissions reduced by 37%
 - Fuel consumption reduced by 26%