CENTRAL TEXAS
Regional Mobility Authority

AGENDA ITEM #10 SUMMARY

Executive Director's report.

Strategic Plan Relevance: Regional Mobility

Department: Executive

Associated Costs: N/A

Funding Source: N/A

Board Action Required: No

Description of Matter:

Executive Director's Monthly report

A. Project and Operations Updates

B. Maha Loop/Elroy Road

C. 2015 Legislative Session

Reference documentation:

Executive Director's report

Contact for further information: Mike Heiligenstein, Executive Director

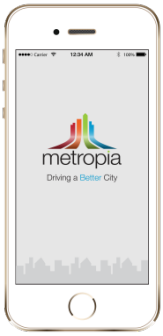
CENTRAL TEXAS
Regional Mobility Authority

REPORT TO THE BOARD OF DIRECTORS

DECEMBER 17, 2014

Mike Heiligenstein – Executive Director

Metropia Mobile App Pilot Project Moving Forward with Funding from FHWA



The Federal Highway Administration has advised the Mobility Authority that it has authorized $2.4 million to implement a pilot project with Metropia Inc. to launch mobile app and traffic management system as part of the MoPac Improvement Project.

Using a mobile app and robust traffic management software systems, Metropia Inc. will assist the Mobility Authority in improving the mobility and alleviating congestion during MoPac Express Lane construction and beyond, through the effective traffic prediction and routing, incentive-program and the formation of the Metropia Mobility Ecosystem (MME) in the Austin region.

The four types of ecosystem partners – agency, commuter, merchants/sponsors, and employers – play an integral role in the success of this endeavor; each will contribute to and benefit from participating in the MME.

Metropia Mobility Ecosystem

Benefits to MoPac Construction Project

The creation of the Metropia Mobility Ecosystem will deliver to the Mobility Authority the ability to:

- Effectively reduce congestion for
  - Recurring congested areas,
  - Planned work zone events, and
  - Unexpected major crashes.
- Effectively communicate with motorists through
  - Pre-trip alerts and
  - Agency alerts.
- Effectively collect non-privacy aggregated traffic data region-wide, including:
  - Arterials of all types and
  - Speed and volume.
- Manage capacity in the event of a closed lane, detour, etc. Deliver innovative mobility solution to the Austin region.
- Sustain continual operations in a financially viable manner.
- Minimize impact to existing Mobility Authority operations and provide added enhancements to future the Mobility Authority Traffic Management Center operations.
- Flexibility to adjust incentives and other associated mobility management strategies to cope with future demand increase.

Future phases of the project are expected to be implemented for Mobility Authority projects and other central Texas roadways. The final contract with Metropia is being finalized.

Updated Information for Disabled Veterans added to Web Site

We have updated the Mobility Authority Website to include a new page describing how eligible military veterans, including those with Disabled Veterans, Purple Heart of Legion of Valor specialty license plates can qualify to receive reimbursements for certain trips made on 183A Toll or 290 Toll (The Manor Expressway). While our current policy does not provide for these distinguished veterans to drive toll-free on our facilities, this page will provide helpful information on how veterans can be reimbursed for their tolls for qualified trips to VA facilities and other trips.

Featured Industry Article

A version of the following article has been submitted to Thinking Highways Magazine. www.thinkinghighways.com

The Central Texas Regional Mobility Authority: Keeping Austin Moving through Innovation and Technology

By Mike Heiligenstein

As one of the fastest growing cities in the United States, Austin, Texas has built a world-wide reputation as an innovative, technology hotbed – attracting newcomers at a rate of 70 people every day according to recent studies. That kind of phenomenal growth has led to clogged roadways – earning the hip city a less popular reputation as one of the most traffic-jammed cities in the country.

Downtown Austin and the MoPac Blvd Interchange

So, when the two counties that surround Austin created the Central Texas Regional Mobility Authority in 2002 to provide innovative transportation programs to help ease traffic congestion, it was assumed that the Mobility Authority would have to serve its citizens with advanced technology. After all, Austin was the home of several high technology firms at the time, including Dell, Motorola, Advanced Micro Devices, IBM and Apple. Many more now call Austin home such as Google, Facebook, EBay, Samsung, Oracle and more. So there was a native population that not only was receptive to high tech solutions, but would also demand them on any effort to improve mobility.

The Trouble with Technology

With little or no state or federal transportation funding in site, the Mobility Authority began building a system of toll roads to re-connect the community. When the Mobility Authority opened its first toll road in 2007, it included gantries for Electronic Toll Collection (ETC), and also expensive, staffed, toll booths built on land that cost hundreds of thousands of dollars. Why the frustrating duplication in toll collection methods? When it came to financing the toll roads, bond rating agencies and the investment community insisted that payment by cash was necessary because the risks were too high to trust the certainty that "all electronic tolling" would not see high violation rates and reduced revenues.

When actual experience proved that reliable revenue streams could be built on all ETC, the investor world relented and the cash tolling options were decommissioned. Since then, moving to all ETC has saved the Mobility Authority millions of dollars. The Authority was the first agency in the U.S. to convert to all ETC from a mixed cash and ETC cash payment system.

183A Toll Gantry

As a result of technological innovation and the demand to ease traffic congestion, the Authority has aggressively pursued new layers of technology. Just a few years after opening of the agency's first tolled roadway, the Authority decided to offer customers that did not want electronic toll tags, or that only planned to occasionally use our toll roads, another option – video tolling, which photographs a vehicle's license plate and then generates an invoice to be mailed. While more costly to the consumer than toll tag bills, video tolling provides another option and allows motorists to access nearly every toll facility in Texas.

Bullets before Cannonballs

But advances in technology had only just begun – the world was changing, and tolling agencies (if they wanted to thrive) were becoming enterprises defined by finance and technology, not concrete and steel.

What made the adoption of innovative solutions important to the Authority was that it fashioned itself as an entrepreneurial entity – one that had to adapt and adopt. But with adoption of new technology comes risk. As an agency we decided to heed the advice of researcher and author Jim Collins (in his book, "Great by Choice") and adopt the "bullets before cannonballs" approach to change. The bullets began with all ETC and video tolling, and lent themselves to our next phase of development; managed or express lanes with all the tolling complexity that accompanies that method.

New Horizons: Mobile Technology Breakthroughs

But before we entered that world, we decided to explore more travel options to determine whether we could offer our customers a more rewarding and cost effective travel experience. One research effort partnered with the Federal Highways Administration to determine if offering drivers a discount to drive on "shoulder" times would encourage off-peak trips. (Austin, like much of the nation, has particularly bad congestion during peak commuter hours).

The drivers were offered a discount on their toll rates if they chose to do so. The point of all this is that we know that it's not just about new capacity, or even new and better technologies that will be needed to address congestion – it's also human behavior and how the new technologies will interact with existing behavior patterns and alter or eliminate those elements that contribute to congestion.

To that end, working with two technology industry partners, we have invested in two smart phone technologies; a mobile app for ride sharing and another app to help drivers use existing capacity and avoid as much congestion as possible.

The Carma Carpooling ride sharing app helps drivers with similar destinations and time constraints to connect in order to share rides and the costs of driving and tolls. The Authority offers toll reimbursements to those that give the ride share option a chance to work for them.

In Austin, as in most American urban areas, a large percentage of commuters drive alone. That number equates to 900,000 empty car seats a day in Austin! It would be fair to ask: what in the world would a toll agency be doing to encourage drivers to share rides?

Carma Carpooling promotion

Wouldn't that raise the prospect of diminishing the opportunity for toll paying customers? Of course it might, but in one of the fastest growing cities in America, in order to address congestion in meaningful way, all options need to be on the table, including behavior modification.

After all, we are a Mobility Authority, not just a toll agency. With that in mind, we're also developing a mobile app and intelligent traffic management system with Metropia, Inc. that will help commuters navigate to their destination and help reduce capacity on our overcrowded roadways.

Metropia video illustration

By planning their trip ahead of time on the mobile app, the driver will receive a reward for using the designated route at the designated time – with greater rewards for off-peak trips. What coffee company in the world wouldn't want to have their product be part of that incentive package – by offering an incentive to drivers to get to their retail outlets in a more timely and reliable fashion?

Blending Human Behavior and Smart Road Technology

A key project we're implementing will combine technology and the science of human behavior to create a "new normal" in the world of transportation. Congestion pricing, or managed lanes, have taken on increasing importance in the United States.

The Mobility Authority, after "firing bullets", has decided to loft a few cannonballs to improve reliability on some of our more congested freeways. Austin, like most cities don't have available real estate to create new corridors of a sufficient width to provide multiple new lanes of capacity.

MoPac Improvement Project Construction

In order to provide a more reliable trip time on one of our most congested corridors, the Authority is adding one new "express" lane in each direction of an 11-mile stretch of on MoPac Boulevard, a very congested "core" artery. Advanced monitoring technology and back-end software will be generate sophisticated algorithms to dynamically price the lanes based on the elasticity demand – taking into consideration not only the managed express lane, but also the general purpose lanes and how they are operating.

Mobility Authority Traffic Management Center

Having given due praise to technology and its benefits, I must also point out that while firing a cannonball, we also incorporated a safety valve for backup. We will have the ability to manually override the functioning of the algorithms in the operations center, especially during the first couple of years, in the event we see anomalies that need to be addressed on a real-time basis. This is truly the merging of finance, technology and micro-economics.

Smart Roads = Smart (and Safe) Drivers

Finally, smart technology cannot be limited to cars, toll gantries and back rooms. We, in the tolling industry must lead the way with new, smart roadways. Technology must be included and embedded in all new roadways so that those roadways will be able to accept the most innovative technologies coming out of auto factories and research institutions. We must lead the way and ensure that our toll facilities are as safe as possible, and provide a premium experience for our customers.

Vehicle to infrastructure communications is now entering a phase that will permit transportation agencies the opportunity to proactively avoid collisions on our highways. How many fatalities could be prevented if infrastructure could communicate with and shut down wrong way drivers who mistakenly enter an exit ramp before they become a deadly force, better yet, notify oncoming traffic to steer clear of such dangers?

Tolling agencies have learned that "seeing is believing." That driving forward in the name of what our customers want is what really matters. By capitalizing on the relationships we've built with our customers over time, and integrating the many new, innovative features that technology has to offer, we can truly begin to bring roadway infrastructure into the future.

Toll agencies offer a unique opportunity to lead the way and to study the results in a controlled environment that can improve the experience over time. We should offer a service on an entrepreneurial platform – and we should learn from and be just as inventive as our private sector peers. To do less would be a disservice to all who depend on us to keep our regions, states, and nation safe and mobile.

Mike Heiligenstein is the Executive Director of the Central Texas Regional Mobility Authority in Austin, Texas.

PROJECT UPDATES

MoPac Improvement Project

- CH2M HILL is revising the project schedule to address timeline and production slippage concerns and has increased the work force by forty percent.
- Final design is complete and plans have been released for construction in all segments. The permitting process with utilities and railroads continues.
- Work from Parmer Lane to US 183 includes the first paving course on proposed Express Lane.

MOPAC IMPROVEMENT PROJECT

- Work from RM 2222 to Enfield includes the first course of pavement on main lanes south of Enfield; sound wall drilled shafts are being constructed.
- Pre-casting of girders and sound wall panels continues.

Retaining Wall Construction near Lake Austin Blvd Exit and Johnson Creek Trail – Nov. 20, 2014

- Mowing operations and litter pick-up continue.
- CH2M HILL will continue to provide a courtesy vehicle (similar to HERO) during peak hours and during construction and handle maintenance of the corridor until final acceptance of the project.
- MoPac Man continues to update the website daily with closure information and has responded to numerous e-mails and tweets. His 800 AM broadcasts are updated weekly with closure information as well as information about the upcoming Express lanes.

183 North Mobility Project

183 NORTH MOBILITY PROJECT

- Technical Memoranda continues to be prepared for social, economic, and environmental impact evaluations.
- Next Technical Working Group meeting is scheduled for late February 2015.
- Traffic analysis for operations and environmental evaluations continues.
- The next public workshop is planned for early 2015
- Initial draft Environmental Assessment (EA) submittal is planned for early 2015 with public hearing in late 2015.

MoPac South Environmental Study

- Technical Memoranda continues to be prepared for social, economic, and environmental impact evaluations.
- A Technical Working Group met on Dec. 3 to review the alternatives analysis and make a selection. Representatives from 19 different agencies and municipalities attended and provided input.

- A preliminary schematic was submitted to TxDOT for review and was also presented to the Working Group. It will continue to be refined as operations analysis is conducted and agency and public comment is received.
- Refinement of traffic models for traffic operational analysis and environmental evaluations should be complete early next year.

MoPac Intersections Environmental Study

- The environmental document is being finalized with a public hearing anticipated mid-2015.
- Stakeholder outreach and public communication is planned over the next several months.
- TxDOT will take over the final design and construction when project is environmentally cleared.

SH 45SW Environmental Study

- TxDOT is addressing public hearing comments and finalizing the environmental document.
- An environmental finding is anticipated early 2015.
- The design team is collecting survey data, setting up files, reviewing commitments, and preparing to begin preliminary design tasks.
- Stakeholder meetings and CSS efforts will be initiated as the project design progresses.

Bergstrom Expressway Project

- Final design schematic is under review by Federal Highway Administration and has been approved pending any modifications from the Summary and Analysis from the public hearing.
- Approximately 40 people attended the Context Sensitive Solutions Open House on Nov. 13. The Nov. 19 public hearing had approximately 50 attendees and four speakers during the public comment session.
- Outreach and status reporting activities continue as the team meets with stakeholders.
- Procurement process is in progress with Best Value Section scheduled for spring 2015.
- Project programming activities continue as the team works to finalize Project Funding Agreements with TxDOT and Federal Highway Administration.
- Financing activities continue as updates to TIFIA Application are developed and the Investment Grade Traffic & Revenue Study begins.
- Continuing early utility coordination and right-of-way acquisition activities for items with long lead times.

Maha Loop/Elroy Road, Phase I Project

- Contractor is on schedule for March 2015 completion.
- Placement of the flexible base is complete.
- Placement of hot mix Type B began the second week in December.
- Concrete pours for the bridge slabs should be complete by the first part of January; the south bridge was completed before Thanksgiving.

Maha Loop South Bridge Construction

- The bridge rail is being formed and poured, as each slab pour is complete.
- Sidewalk placement and roadside ditch excavation are 2/3 complete.
- There is a pending change order to add a traffic signal and turn lanes on SH 71, and a traffic signal on Pearce.
- Final surface course of pavement scheduled for February, and may be impacted by temperatures.

290 Toll (Manor Expressway)

- Central Texas Mobility Constructors is finalizing the non-conflict utility relocations required by the project to obtain Final Acceptance.

Oak Hill Parkway Project

- Efforts with TxDOT and the City of Austin continue for potential regional detention facilities.

- Design-level schematics for both concepts moving forward into the alternatives analysis phase are being developed, as well as a 3D visual rendering to help the public better understand elevations and characteristics.
- Outreach occurred through a technical Working Group in December to seek input on the design schematics; additional outreach will occur with the HOAs in early January to discuss access and other issues of concern.
- Next Open House is scheduled for Jan. 20 at Covington Middle School.

SH 71 Express

- Notice to proceed is anticipated from TxDOT in early December.
- TxDOT anticipates holding a ground-breaking ceremony on Jan. 27. Representatives from the Mobility Authority will participate.
- Atkins will provide Schneider Electric toll plans as soon as they are available for review.