

Opening Remarks

Ray Wilkerson, Chairman
Mike Heiligenstein, Executive Director

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority

Opportunity for Public Comment

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority

National/State/Local Update

Brian Cassidy, Locke Lord
Jerry Valdez, The Valdez Company
Karen Johnson
Ashby Johnson, CAMPO

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority

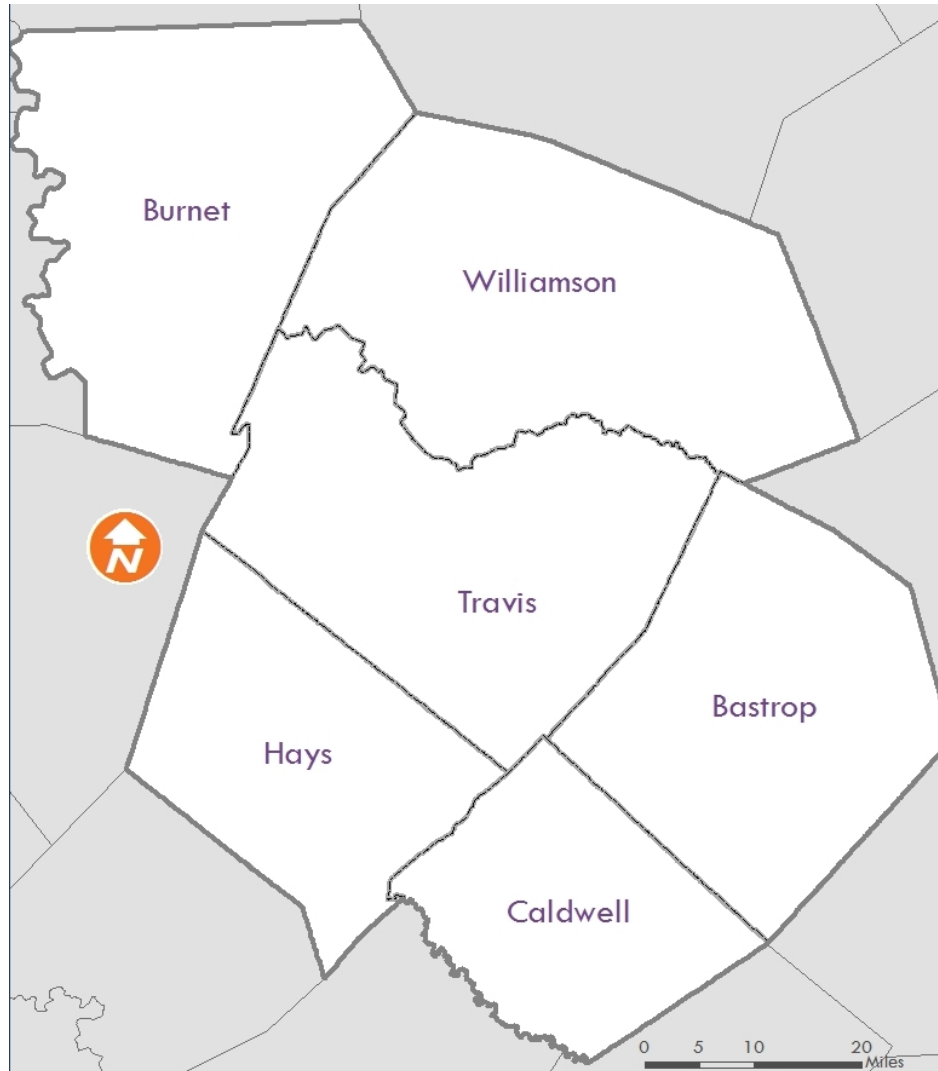


CAMPO AND CTRMA: PARTNERSHIP AND OPPORTUNITY

Ashby Johnson
Executive Director
512-215-8225



CAMPO REGION



- Six Counties
- 1.9 Million People
- 4th Largest MPO in Texas, 11th Largest in the Nation
- In the Top 5 of Fastest Growth

- Transportation Policy Board Allocates State & Federal Funding for the Region
- Produces a Unified Planning Work Program
- Produces a 20-year fiscally constrained long-range transportation plan
- Produces a 4-year Transportation Improvement Program

HOW MUCH FUNDING DOES CAMPO RECEIVE?

- **Federal**
 - \$28 Million Annually (Surface Transportation Program – Metropolitan Mobility; Also known as “Category 7”)
- **State**
 - \$110 Million Annually (Category 2 funds – also includes Propositions 1 & 7)

- Transportation Policy Board – 20 Voting Members (18 elected)
- MPO Staff – Administrative & Planning
- Technical Advisory Committee
 - Serves as Technical Review for Policy Board and Makes Recommendations
 - Does NOT Review Policy Issues or Make Financial Recommendations

Policy Board Members

- Will Conley, Hays
- Clara Beckett, Bastrop
- Steve Adler, Austin
- Jeff Travillion, Travis
- Victor Gonzales, Pflugerville
- Gerald Daugherty, Travis
- Sarah Eckhardt, Travis
- Alison Alter, Austin
- Jimmy Flannigan, Austin
- Matt Powell, Cedar Park
- John Thomaidis, San Marcos
- Ann Kitchen, Austin
- Cynthia Long, Williamson
- Terry McCoy, TxDOT
- Craig Morgan, Round Rock
- Hoppy Haden, Caldwell
- James Oakley, Burnet
- Dale Ross, Georgetown
- Brigid Shea, Travis
- Terry Mitchell, Cap Metro

WHAT IS THE CAMPO/CTRMA RELATIONSHIP?

- ALL Planning Studies Must be in UPWP
- ALL Regionally Significant Projects Must be in the Plan & TIP
- Demonstration of Regional Fiscal Constraint includes CTRMA Revenue Estimates
- State & Federal Transportation Dollars Allocated by CAMPO Policy Board

WHAT IS THE RELATIONSHIP TO TXDOT?

- TxDOT Statewide Plan
- TxDOT Unified Transportation Program (UTP)
 - Allocates State/Federal Transportation Funding by Region/Program
 - 10 Year Horizon
- TxDOT Statewide Transportation Improvement Program (STIP)
 - MPOs + Rural Projects

WHAT IS UPCOMING AT CAMPO?

- 2045 Plan Update
- Regional Arterials Study
- Regional Transit Study (to include Park and Ride)
- Regional Incident Management Study
- Capital-Alamo Corridor Study
- Call for Projects

QUESTIONS?



Financial Report

Bill Chapman, Chief Financial Officer
Mary Temple, Controller

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority



Article 3. RESERVE FUND POLICY

In Resolution No. 10-12, dated February 26, 2010, the board approved the establishment of a reserve fund. The reserve fund is intended to ensure that the authority maintains adequate funds to satisfy its outstanding financial commitments and operational requirements in the event of unforeseen circumstances or events.

The board recognizes that establishment and maintenance of sufficient reserve funds is of particular importance in light of the authority's dependence upon discretionary user fees as its primary revenue stream.



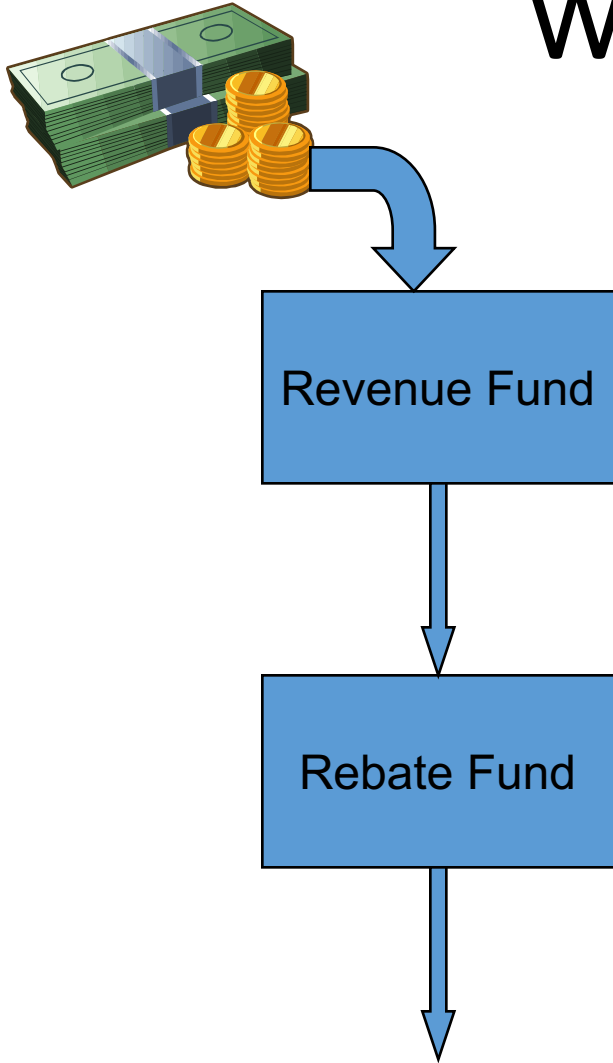
28. Fund Balance

It shall be the goal of the authority to maintain twelve months of funds sufficient to pay, maintain, or satisfy all required debt service, debt service coverage, contractual financial commitments, and operational requirements (collectively, "Funding Requirements") as a reserve fund; provided, however, that the executive director shall have the authority to take action resulting in a reduction of the reserve fund to a minimum of nine months of funding sufficient to pay, maintain, or satisfy all Funding Requirements if he determines that such action is necessary, in the best interest of the authority, and will not adversely affect the authority's financial ability.

(b) In the event that the executive director authorizes action on behalf of the authority to reduce the reserve fund balance to less than twelve months of funding sufficient to pay, maintain, or satisfy all Funding Requirements, he shall disclose to the board at the next regular board meeting the amount by which the reserve fund was reduced and the circumstances that led to the reduction.

(c) In no event may the reserve fund balance be reduced to less than nine months of funding sufficient to pay, maintain, or satisfy all Funding Requirements without the prior approval of the board.

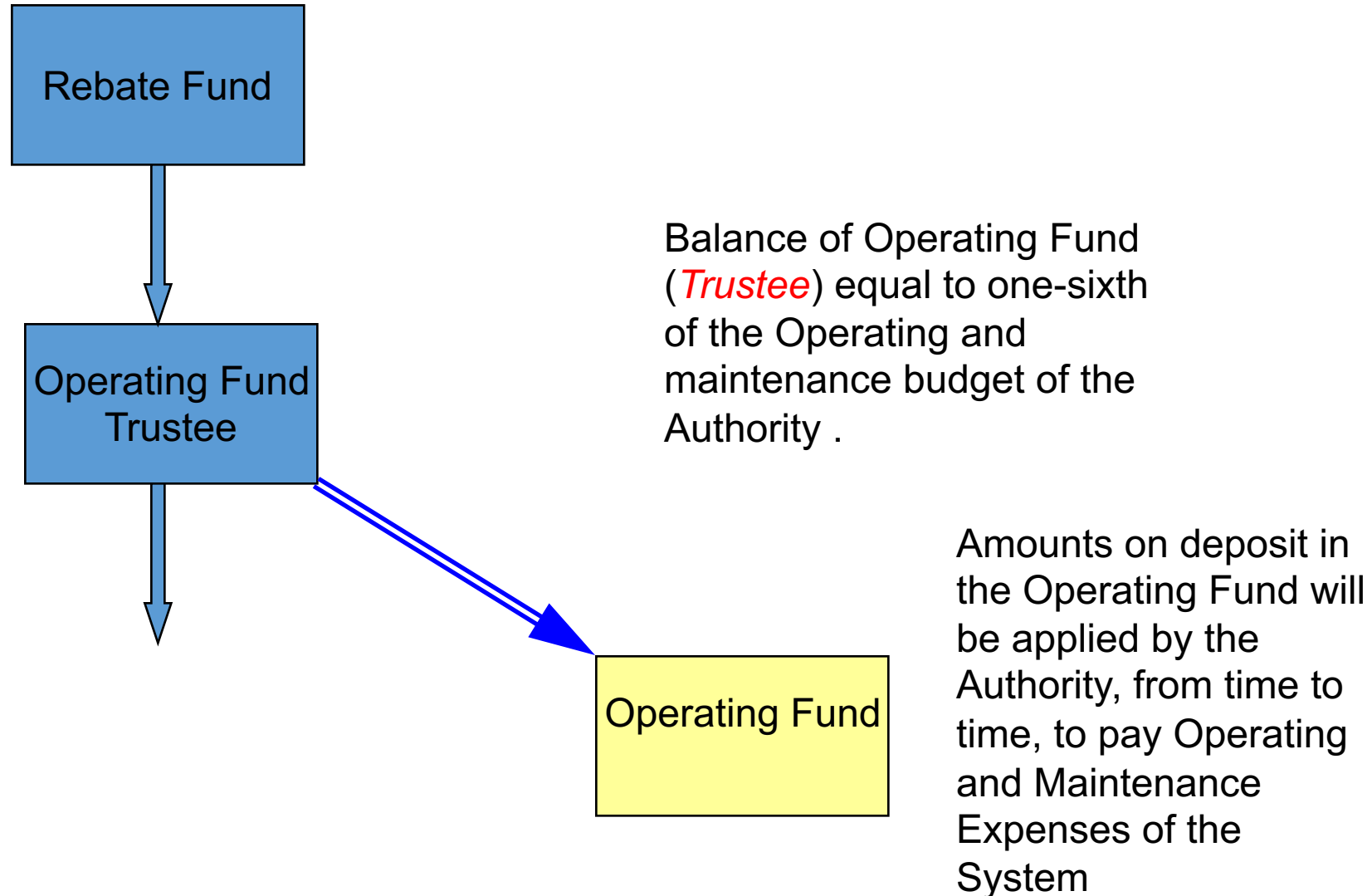
Waterfall Process



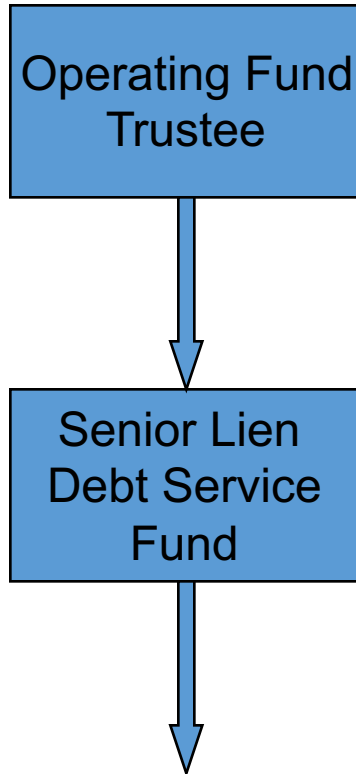
All revenues will be deposited as received into the Revenue Fund

Amounts held in Rebate Fund may be used solely to make payments to the United States of America under section 148 of IRS code

Waterfall Process

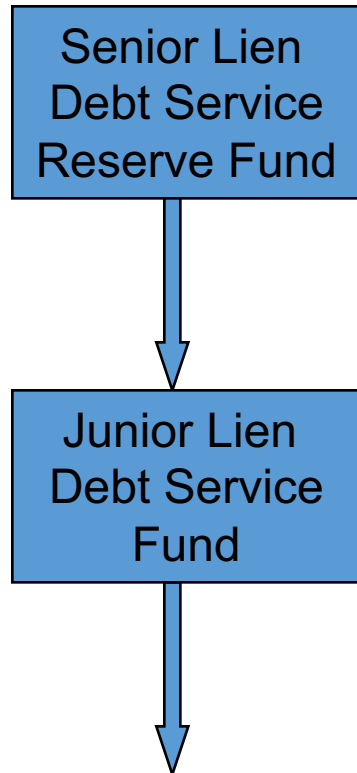


Waterfall Process



One-sixth of the interest due on the next semiannual interest payment date with respect to Senior Lien Obligations... and one-twelfth of the principal or Maturity Amount , as applicable

Waterfall Process

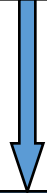


One-sixth of the interest due on the next semiannual interest payment date with respect to Junior Lien Obligations... and one-twelfth of the principal or Maturity Amount , as applicable

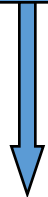
CTRMA has no Junior Lien Debt outstanding

Waterfall Process

Junior Lien
Debt Service
Fund



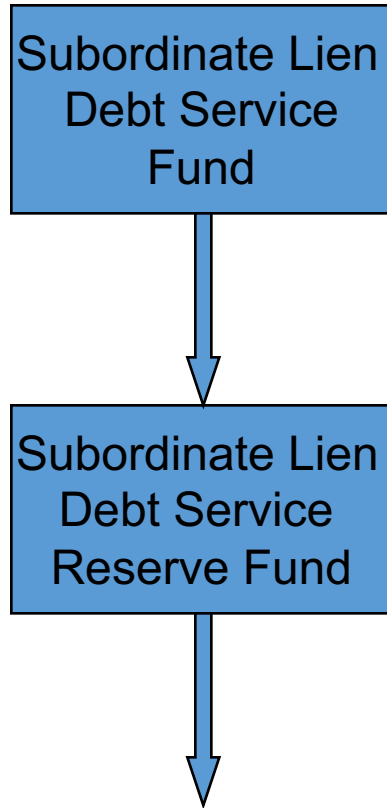
Junior Lien
Debt Service
Reserve Fund



CTRMA has no Junior
Lien Debt outstanding

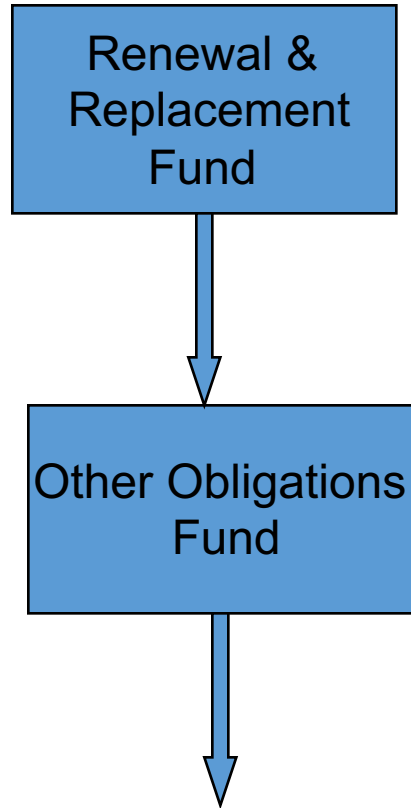
...all amounts, if any, which,
together with amounts on
deposit therein...will be
sufficient to make ...the Junior
Lien Debt Service requirement,
if any...

Waterfall Process



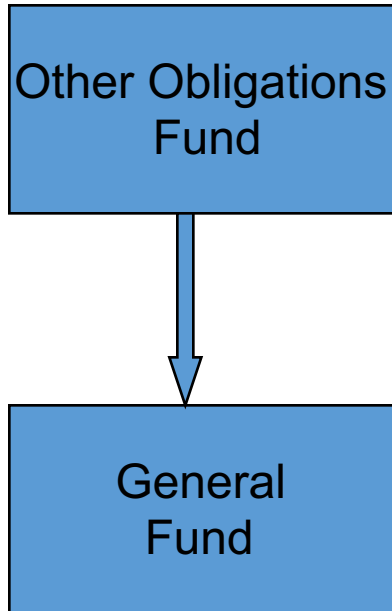
... if any, which, together with amounts on deposit therein...will be sufficient to make ...the Subordinate Lien Debt Service requirement, if any...

Waterfall Process



One-sixth of the interest due on the next semiannual interest payment date with respect to Other Obligations... and one-twelfth of the principal or Maturity Amount , as applicable.

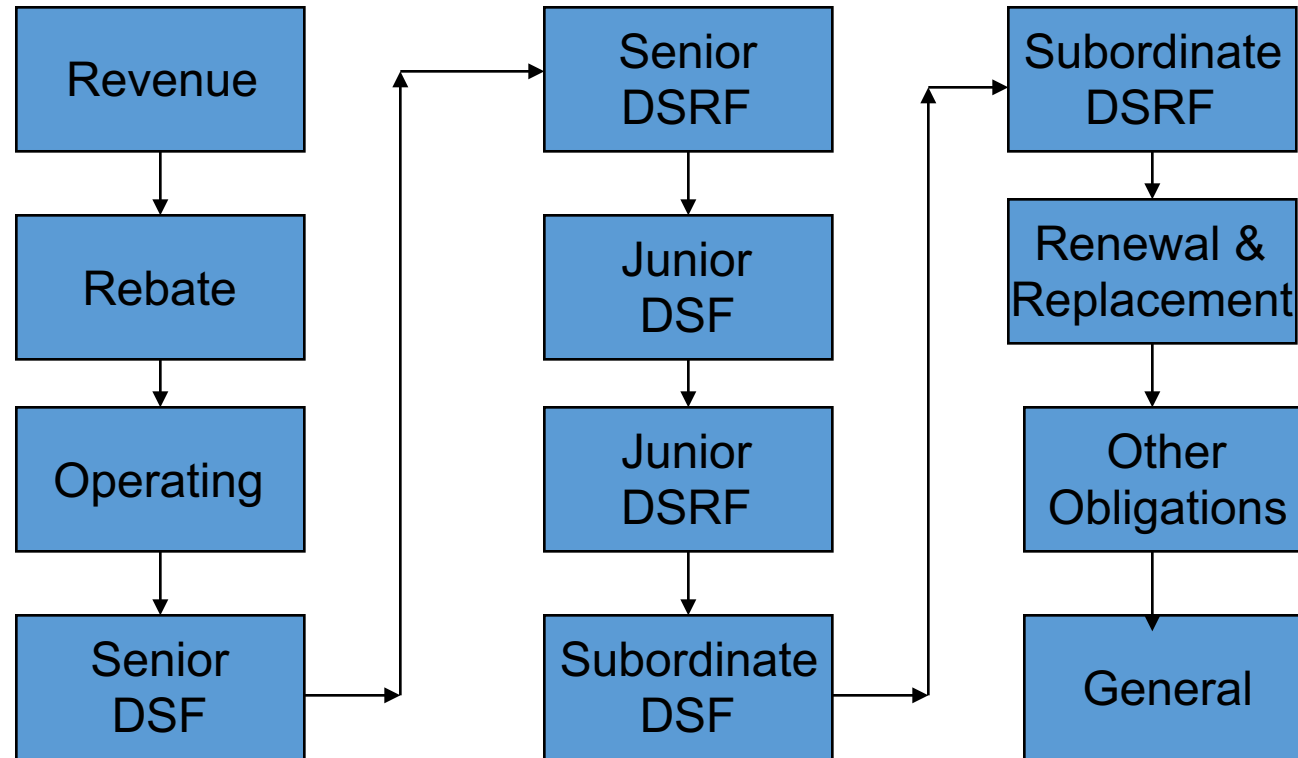
Waterfall Process



...all amounts remaining in the General Fund. Funds can be used for any lawful purpose

FLOW of FUNDS

Trustee Accounts



INVESTMENTS by FUND

		Balance March 31, 2017
Renewal & Replacement Fund		3.00
TexSTAR	505,187.52	
Goldman Sachs	188,632.33	
Agencies		693,819.85
TxDOT Grant Fund		
TexSTAR	4,095,196.76	
Goldman Sachs	5,469,651.91	
Agencies		9,564,848.67
Senior Debt Service Reserve Fund		
TexSTAR	10,624,946.49	
Goldman Sachs	29,361,448.53	
Agencies	39,988,725.96	79,975,120.98
2010 Senior Lien DSF		
Goldman Sachs	389,868.31	
TexSTAR	-	389,868.31
2011 Debt Service Acct		
Goldman Sachs	751,330.40	751,330.40
2013 Sr Debt Service Acct		
Goldman Sachs	2,751,305.07	2,751,305.07
2013 Sub Debt Service Account		
Goldman Sachs	1,520,014.53	6,535,623.80
TexSTAR	5,015,609.27	
2015 Sr Capitalized Interest		
Goldman Sachs	10,594,831.78	60,730,533.72
TexSTAR	50,135,701.94	
2015A Debt Service Account		
Goldman Sachs	3.30	3.30
2015B Debt Service Account		
Goldman Sachs	860,710.00	860,710.00
2016 Sr Lien Rev Refunding Debt Service Account		
Goldman Sachs	8,581,238.80	8,581,238.80
2016 Sub Lien Rev Refunding Debt Service Account		
Goldman Sachs	941,803.16	941,803.16
2016 Sub Lien Rev Refunding DSR		
Goldman Sachs	6,638,405.43	6,638,405.43
Operating Fund		
TexSTAR	554,792.55	
TexSTAR-Trustee	2,402,869.35	
Goldman Sachs	26,190.00	2,983,851.90
Revenue Fund		
Goldman Sachs	4,214,329.09	4,214,329.09
General Fund		
TexSTAR	25,078,968.60	
Goldman Sachs	18,627,923.78	
Agencies	4,407,796.25	48,114,688.63
2013 Sub Debt Service Reserve Fund		
Goldman Sachs	3,473,985.43	
Agencies		3,473,985.43
MoPac Revenue Fund		
Goldman Sachs	73,003.01	73,003.01
MoPac Construction Fund		
Goldman Sachs	44,038,423.08	44,038,423.08
2011 Sub Debt Project fund		
TexSTAR	-	
Agencies		
Goldman Sachs	0.00	0.00
2015B Project Account		
Goldman Sachs	5,042,299.88	
Agencies	20,192,027.72	40,275,038.30
TexSTAR	15,040,710.70	
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2015 TIFIA Project Account		
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2015 SIB Project Account		
Goldman Sachs	19,730,129.71	19,730,129.71
2011 Sr Financial Assistance Fund		
Goldman Sachs	11,452,494.95	26,499,322.89
TexSTAR	15,046,827.94	
Developer Deposits		
Goldman Sachs	370.97	370.97
183S Utility Custody Deposit		
Goldman Sachs	5,823,539.83	5,823,539.83
45SW Trust Account Hays County		
Goldman Sachs	229,887.40	229,887.40
45SW Trust Account Travis County		
Goldman Sachs	1,675,389.33	1,675,389.33
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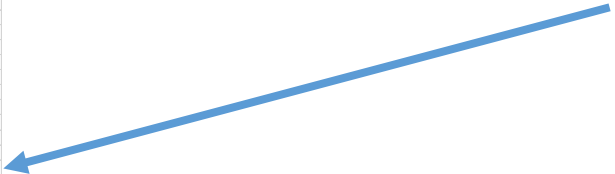


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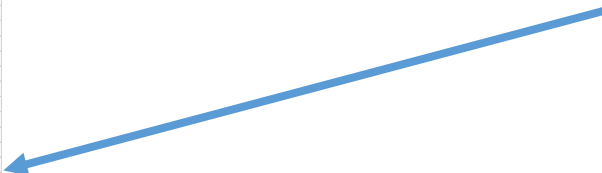
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Grant Fund	9,564,848.67
Operating Fund	2,983,851.90
General Fund	48,114,688.63
Revenue Fund	<u>4,214,329.09</u>
Unrestricted Cash as of 3/31/17	64,877,718.29

Senior Debt Service Reserve Fund	79,975,120.98
2013 Sub Debt Service Reserve Fund	3,473,985.43
2016 Sub Lein Rev Refunding DSR	<u>6,638,405.43</u>
Total Debt Service Reserve Funds as of 3/31/17	90,087,511.84



Cash flow System after refundings before 71E

Cash flow model through 2049

General Fund analysis



CTRMA Special Strategic Financial Plan

May 15, 2017

Introduction

- The Strategic Financial Plan allows CTRMA to confirm that its development plan for the next 10 years is financially viable
- The plan provides a reference for future development and financing needs
- Allows CTRMA to evaluate the impact to the current plan of changes to factors impacting projects including:
 - Schedule
 - Project priority
 - Demand
 - Financing costs
- Provides a reference for demonstrating to stakeholders how surplus toll revenues will be used

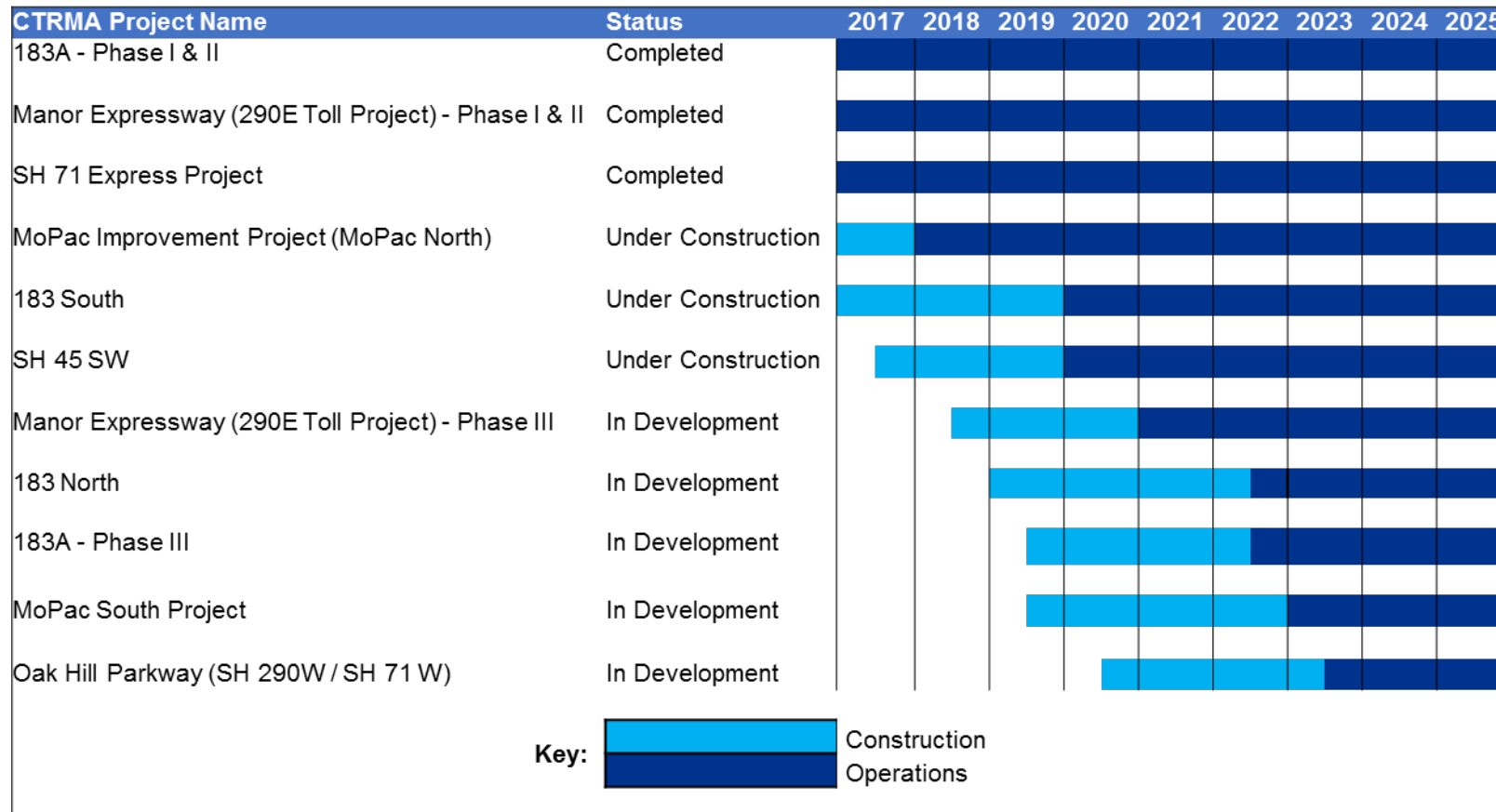
What is in the Plan

The plan includes:

- Projects scheduled for the next decade
- Latest estimates of construction costs, O&M costs and toll revenues
- Use of system and stand alone financing (including TIFIA)
- Assumptions for development with and without grant funding
- CTRMA general reserve funding requirements based on current policy
- Accumulation of surplus revenues in the General Fund
- Draws on the General Fund to deliver planned projects

Projects, Timing and Priority

- The plan has been developed to consider the following projects and schedule



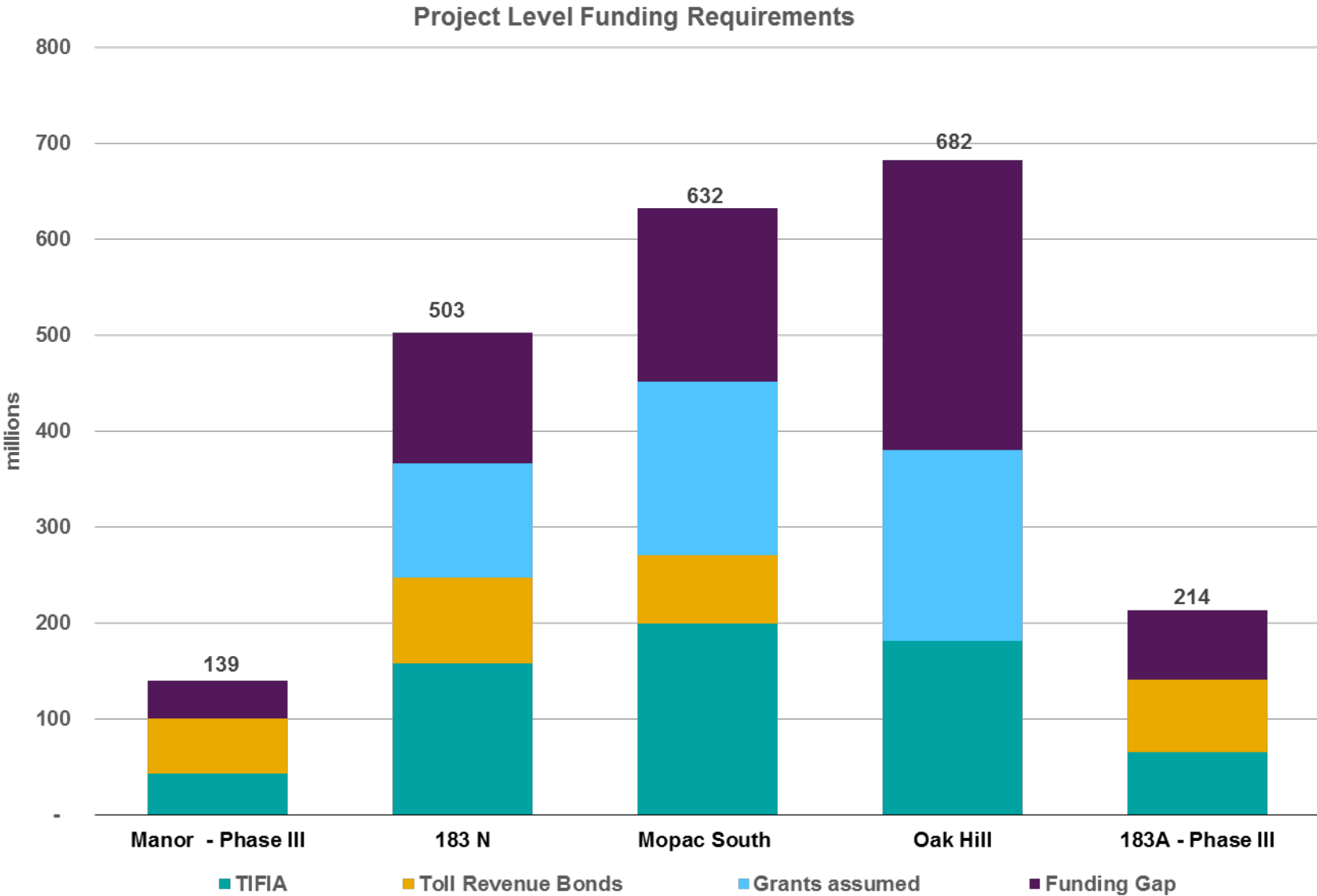
Stand Alone Project Analysis Assumptions

Each project was evaluated on a stand alone basis to help determine its general economics and the benefits of using system financing over stand alone financing

- Project timing follows CTRMA's current program
- Toll revenue bonds sized in order to limit the need for draws on the General Fund
- TIFIA considered for all projects using terms from CTRMA's current system loan agreement
- Grant funding is assumed to be 30% of project costs for MoPac South, Oak Hill Parkway and \$120 Million for 183 North*
- Commitments to TxDOT and CAMPO for SH 71 and MoPac North projects (respectively) are included
- A project's future impact on the General Fund is not considered
- Incremental funding required to meet CTRMA's reserve requirements not included in stand alone analysis

*Dependent upon action at the legislature

Stand Alone Project Funding Requirements



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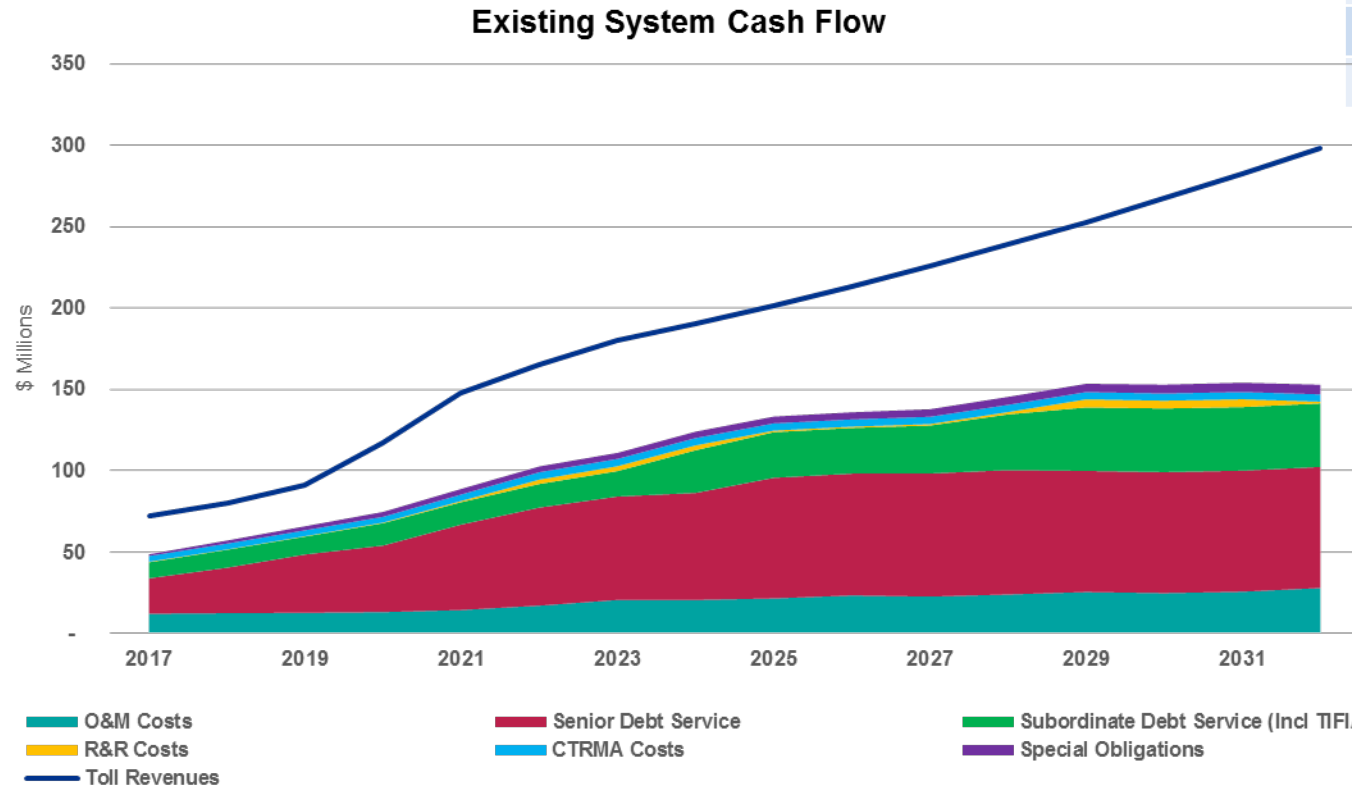
System Analysis

- Inclusion of projects in the CTRMA system allows for greater leveraging of incremental toll revenues, reducing the need for draws on the General Fund
- Lenders view system financing more favorably – reducing over debt costs
- Projects are added to the system following CTRMA’s current schedule
- Analysis considers delaying of projects if the General Fund is not sufficient
- Each new project is assumed to be funded through the following sources:
 - System toll revenue bonds in accordance with current indenture
 - System TIFIA loan (up to 33% of eligible project costs)
 - Funding with, and without, grants considered; grant sizing the same as for the stand alone analysis
 - Draws on the General Fund – when possible
- Funding to meet CTRMA’s general reserve policy included
- Repayment of \$30 million Qualified Energy Conservation Bond (QECCB) is included

Existing System Cash Flow

- Indenture allows for additional debt and projects to be added to the system
- Existing system has additional debt capacity at the senior and subordinate lien level

Project	System
183 A Phase I & II	✓
Manor Exprwy - Phase I & II	✓
SH 71 Express	✓
183 South	✓

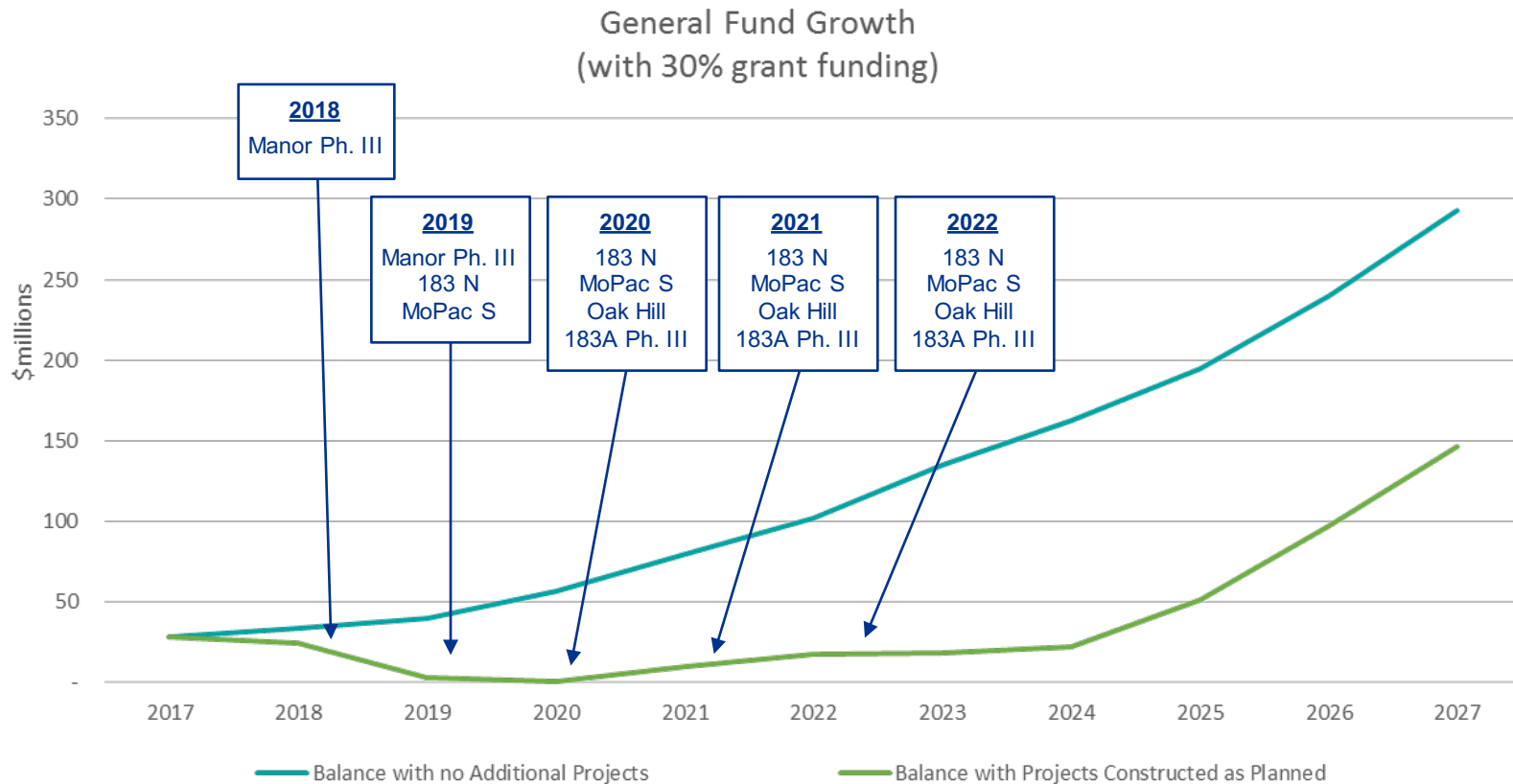


CTRMA General Fund

- Cash flow into the General Fund is assumed to occur only after all other payments are made (including reserve funding)
- Any increase in costs or reduction in toll revenues will decrease cash flow into the General Fund
- To account for the uncertain nature of this cash flow, only 60% of cash flows into the General Fund are assumed to be available for project costs
- A lack of grant funding will be compensated by either increase in the size of draws on the General Fund or by issuance of toll revenue bonds (to extent possible)
- Starting balance for the General Fund is approximately \$14 million after considering the CTRMA reserve requirement (which includes debt service)

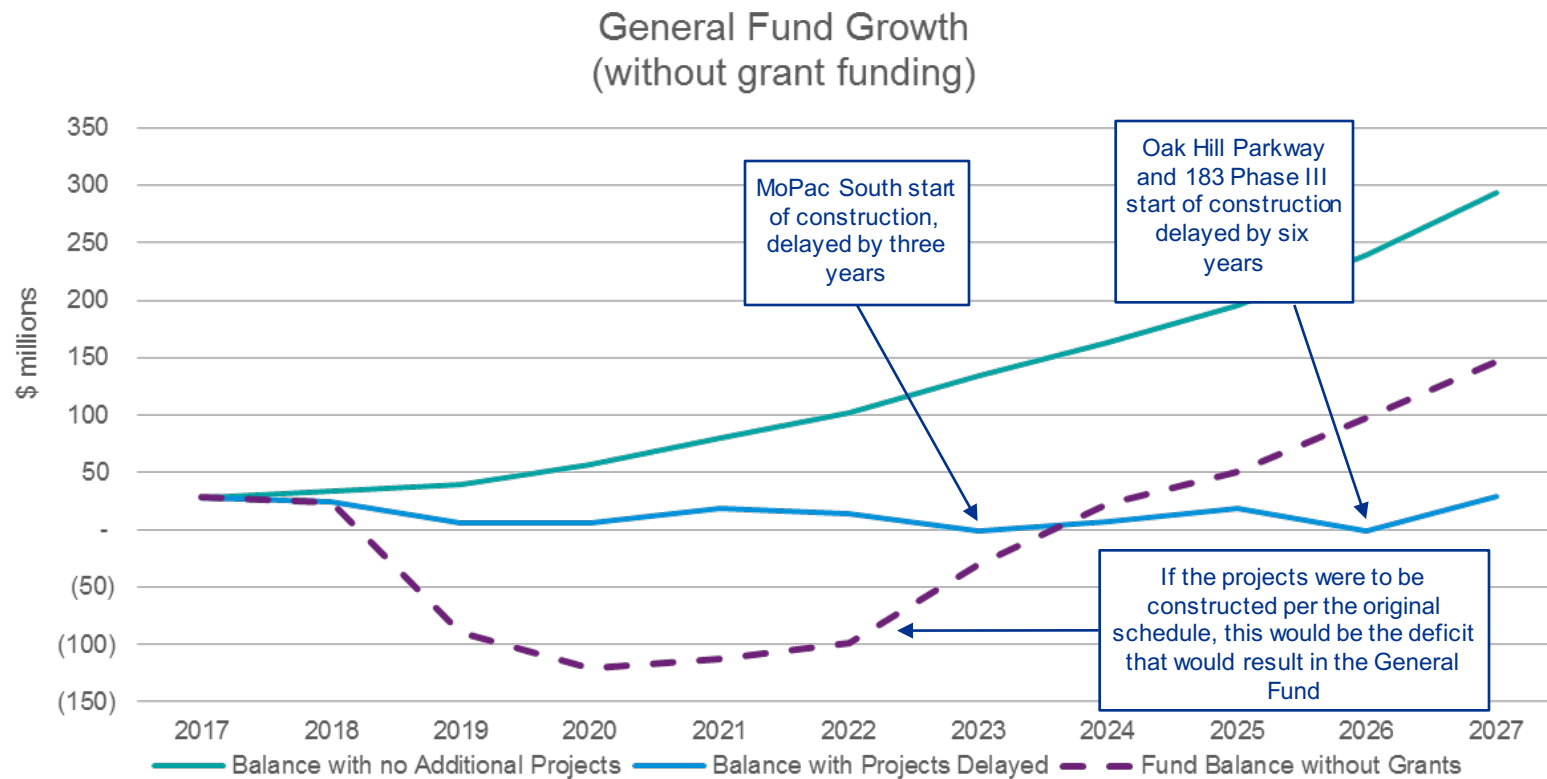
General Fund Growth with Grant Funding

- With grant funding and General Fund draws, projects can be delivered as scheduled
- Use of General Fund for project development prevents material growth in its balance until after 2024



General Fund Growth without Grant Funding

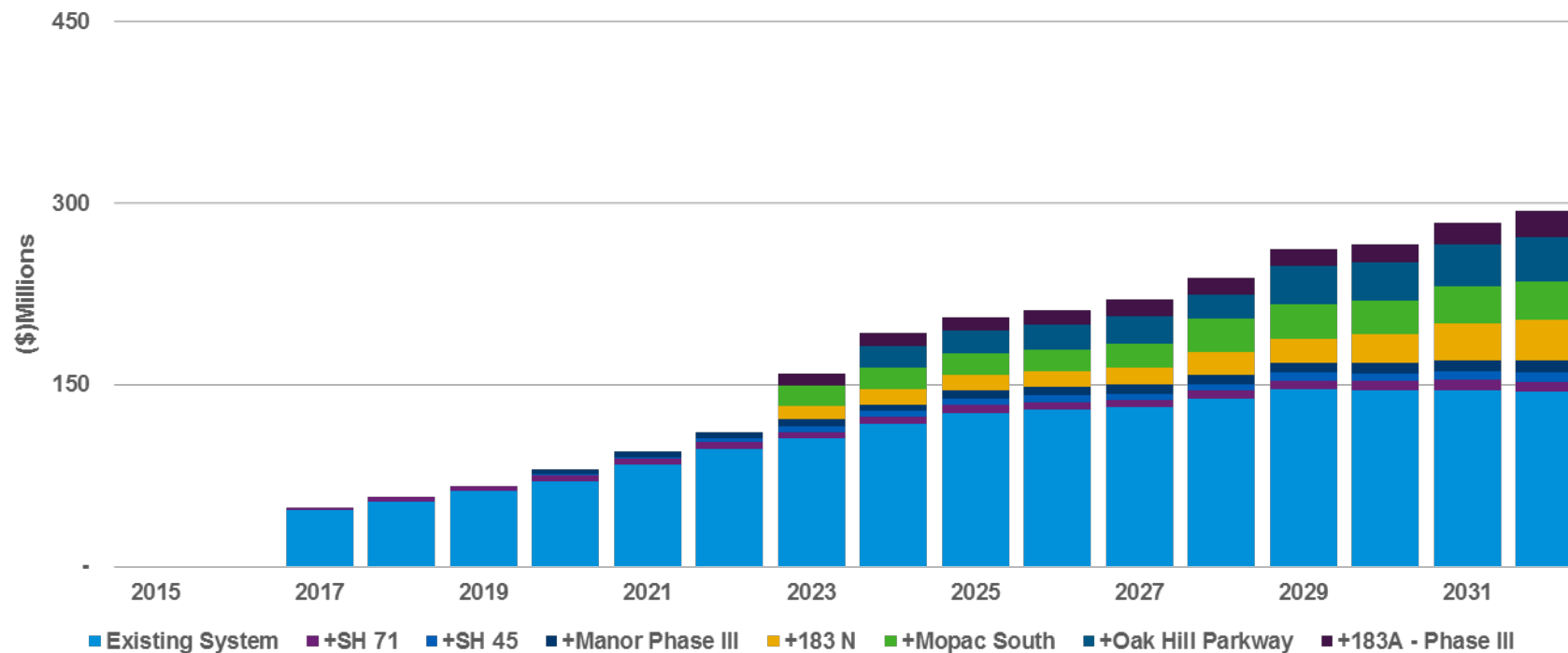
- Without grant funding Manor Phase III and 183 North can be delivered on schedule using system level toll revenue bonds and a TIFIA loan
- The additional debt and General Fund draws due to no grant funding results in the need to delay construction of MoPac South, Oak Hill Parkway, and 183 Phase III



Reserve Requirements

- Current CTRMA policy is to size reserve based on a one year look-forward of all obligations (including O&M, R&R, debt service and Admin Costs)
- Addition of new projects to the system greatly increases the size of the reserve
- Review of reserve policy may result in additional funds for funding of projects via General Fund

Reserve Requirements with addition of Projects



Summary

- The Strategic Financial Plan confirmed CTRMA's current development plan is feasible with grant funding using current cost and financing assumptions
- If there were no grant funding for 183 North, Mopac South and Oak Hill Parkway the current development plan may be delayed
- Other options could be evaluated in the Strategic Financial Plan model such as:
 - Different percentages of grant funding
 - Grant funding for some projects but not others
 - Changes to the CTRMA reserve funding policy to release funds into the General Fund
 - Revisions to project development schedule

Mobility Authority Projects Report

Jeff Dailey, Deputy Executive Director
Justin Word, Director of Engineering

May 15, 2017



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Regional Mobility Authority



THE MOBILITY AUTHORITY SYSTEM

reliable travel times
& reinvestment

*getting you moving is
what keeps us going*



Project Timelines: From Inception to Substantial Completion

Jeff Dailey, Deputy Executive Director
Justin Word, Director of Engineering
May 15, 2017

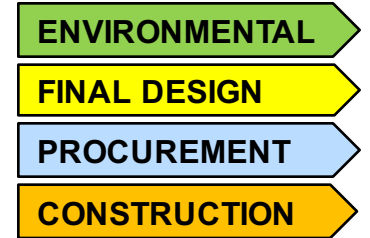


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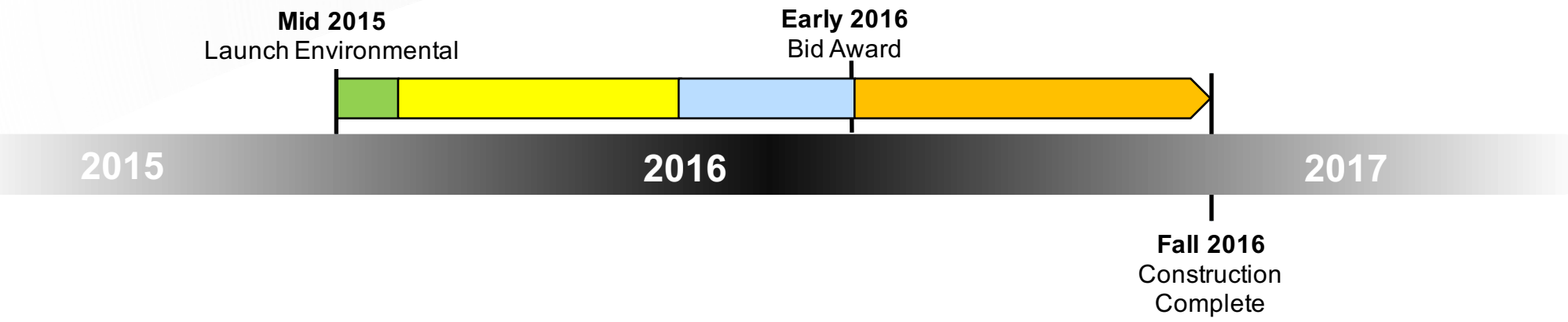
PROJECT TIMELINES



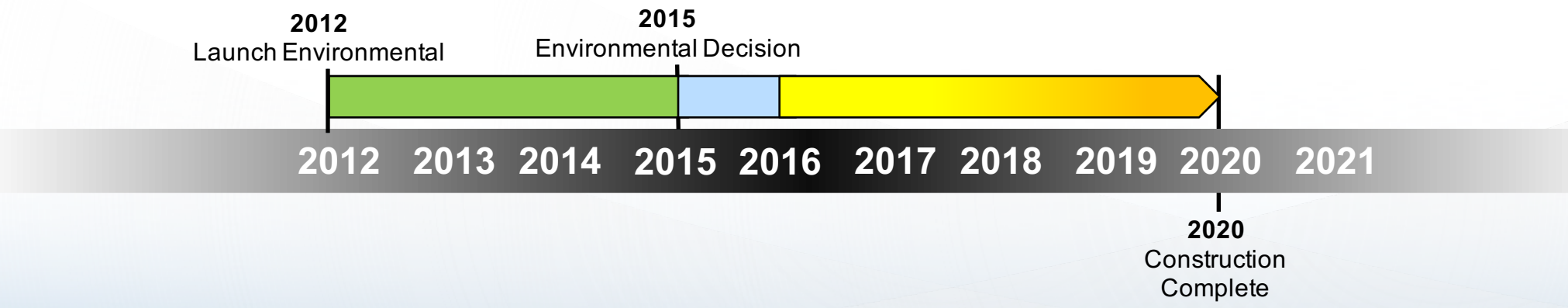
LEGEND



SMALL PROJECTS; *Example, 290 Toll/SH 130 Interim Improvements (Design/Bid/Build)*



LARGE PROJECTS; *Example, 183 South (Design Build)*





- **Board Votes to Exercise Option to Develop Project (Primacy)**
- **Board Approves ILAs and Authorizes Executive Director to Enter into Agreement**
- **Board Approves PDA and Authorizes Executive Director to Enter into Agreement**
- **Board Accepts Toll Equity Assistance and Authorizes Executive Director to Enter into Agreement**
- **Board Authorizes Financing, including financial assistance agreements, SIB loans, TIFIA loans, and toll revenue bond financing**
- **Board Authorizes ROW Condemnation**
- **Board Approves Consultant Support, including: GEC, PS&E, Environmental/Engineering Services, Construction Oversight, Material Testing, Public Involvement, T&R, Financial and Legal Advisory Services, and other specialty consultants**
- **Board Approval to Publish RFQ**
- **Board Approval of Shortlist, Stipend and Issuance of RFDP**
- **Board Approval of D/B Selection & Award**
- **Board Approval to Initiate Negotiations with Apparent Best Value Proposer**
- **Board Approves Change Orders that Exceed Executive Director's Authority**

PROJECTS UNDER CONSTRUCTION



◀◀ MOPAC IMPROVEMENT PROJECT ▶▶

WHAT ARE WE BUILDING?

One variable-priced Express Lane in each direction along a central 11-mile stretch of MoPac

ANTICIPATED TO OPEN SUMMER 2017



WHAT ARE WE BUILDING?

Three new tolled lanes and up to three non-tolled lanes each direction along US 183 in east Austin

ANTICIPATED TO OPEN PHASE I IN LATE 2019, PHASE II IN LATE 2020



WHAT ARE WE BUILDING?

A new four-mile toll road, connecting MoPac eastward to FM 1626 in Hays County with two lanes in each direction

ANTICIPATED TO OPEN SUMMER 2019



290 TOLL PHASE III (DIRECT CONNECTOR RAMPS)



WHAT WILL WE BUILD?

Three new direct connector bridges will be constructed between SH 130 and 290 Toll.

Project Limits: US 290/SH 130 interchange, including 13,550 feet of direct connector bridges

Total Project Cost: \$130 million

Delivery Method: Design-Bid-Build

Schedule:

- Environmental Clearance: Received April 2017
- Anticipated Letting: 2018



290 TOLL PHASE III (DIRECT CONNECTOR RAMPS)



WHAT WILL WE BUILD?

Three new direct connector bridges will be constructed between SH 130 and 290 Toll.



The new ramps will:

- give drivers a free-flowing, direct connection between SH 130 and 290 Toll without the need to pass through a signalized intersection
- reduce travel delays at the non-tolled general purpose lane intersections.

At grade travel at the intersection of 290 Toll and SH 130 today



WHAT WILL WE BUILD?

Two variably-priced express lanes in each direction in the existing median, one additional general purpose lane, and significant reconstruction of the existing general purpose lanes in each direction along a thirteen-mile stretch of US 183.

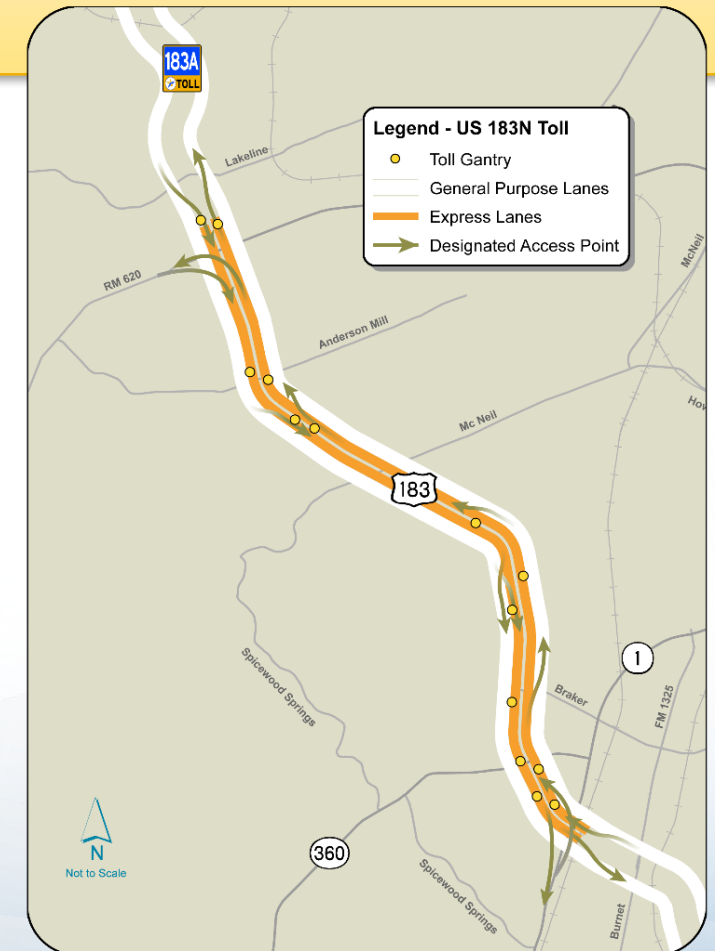
Project Limits: SH 45/RM 620 southerly to MoPac; along MoPac from US 183 to RM 2222 (Direct Connector)

Delivery Method: TBD

Total Project Cost: \$484-\$501 million

Schedule:

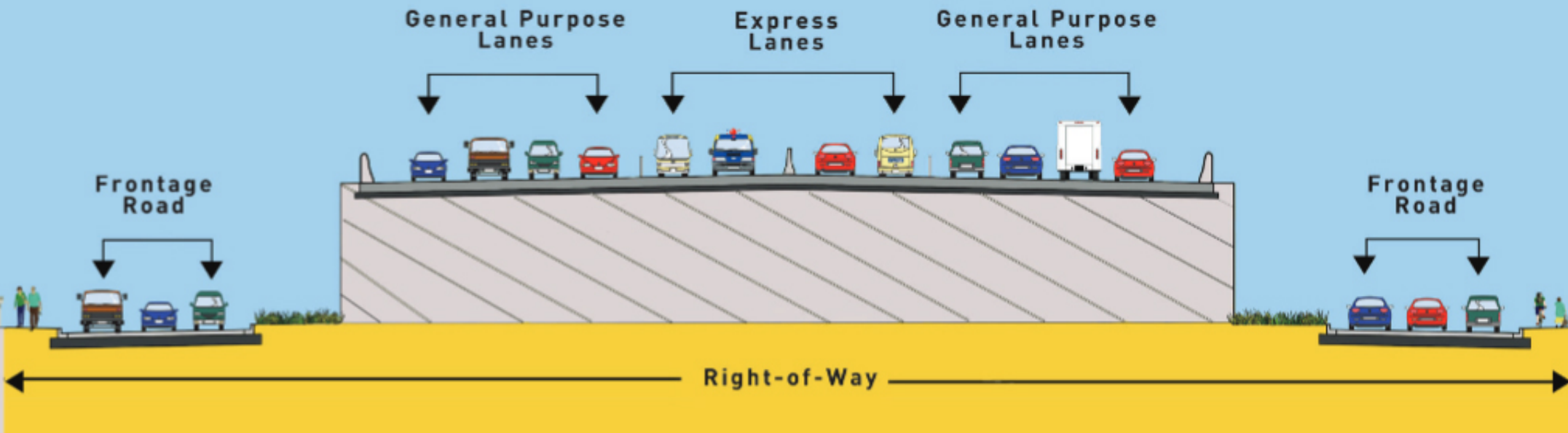
- Environmental Clearance: Received April 2016
- Anticipated Letting:
 - Design/Build: June 2018; Design-Bid-Build: April 2019





WHAT WILL WE BUILD?

Two variably-priced express lanes in each direction in the existing median, one additional general purpose lane, and significant reconstruction of the existing general purpose lanes in each direction along an thirteen-mile stretch of US 183.



The fourth non-tolled general purpose lane would be extended where only three exist now, creating four continuous general purpose lanes in each direction between MoPac and SH 45 North.



MOPAC SOUTH
ENVIRONMENTAL STUDY

WHAT ARE WE STUDYING?

Proposal to add one to two variably-priced express lanes in each direction along eight miles of MoPac south of downtown.

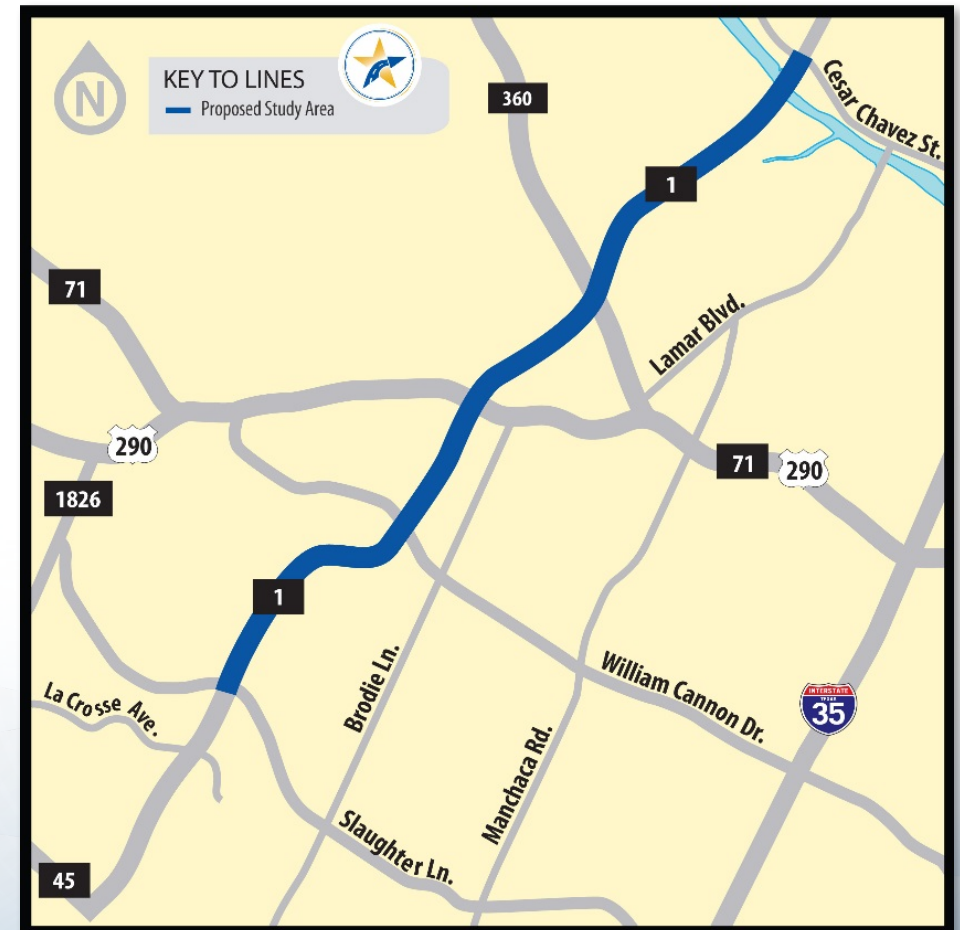
Project Limits: Cesar Chavez St. Southerly to Slaughter Lane

Delivery Method: TBD

Total Project Cost: \$435-540 million

Schedule:

- Environmental Finding: Anticipated 2018
- Anticipated Letting: TBD





MoPac South
ENVIRONMENTAL STUDY

WHAT ARE WE STUDYING?

Proposal to add one to two variably-priced express lanes in each direction along eight miles of MoPac south of downtown.



ONE LANE EXPRESS LANE RAMP EXTEND OVER THE MAINLANES JUST SOUTH OF BEE CAVE ROAD, PROVIDING ACCESS TO EXPRESS LANES WITHOUT IMPACTING MAIN LANE TRAFFIC.

BARTON SKYWAY

Artistic rendering of one of the configurations under study



WHAT ARE WE STUDYING?

Proposal to add three tolled lanes in each direction and upgrade the existing non-tolled general purpose lanes along approx. four miles of US 290 and one mile of SH 71 in southwest Austin.

Project Limits: US 290 West: West of RM 1826 easterly to MoPac; SH 71 West: Silvermine Drive to US 290

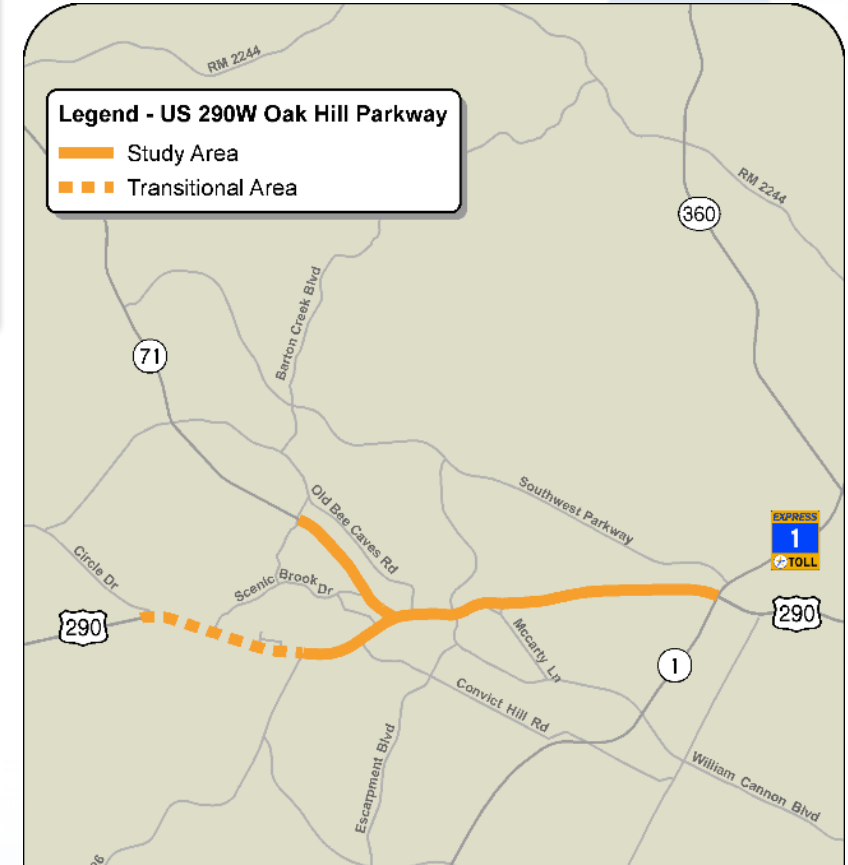
Delivery Method: TBD

Total Project Cost: \$550-\$600 million

Schedule:

- Environmental Finding: Anticipated 2018
- Anticipated Letting: TBD

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TxDOT is leading the effort for the environmental study, and the **Mobility Authority** is leading the community outreach.

ALTERNATIVE A



Artistic Rendering –
Subject to Change

ALTERNATIVE C



**Public
Hearing
anticipated
later this
year**



WHAT ARE WE STUDYING?

Proposal to add two to three toll lanes in each direction as a five mile extension of 183A northward to SH 29

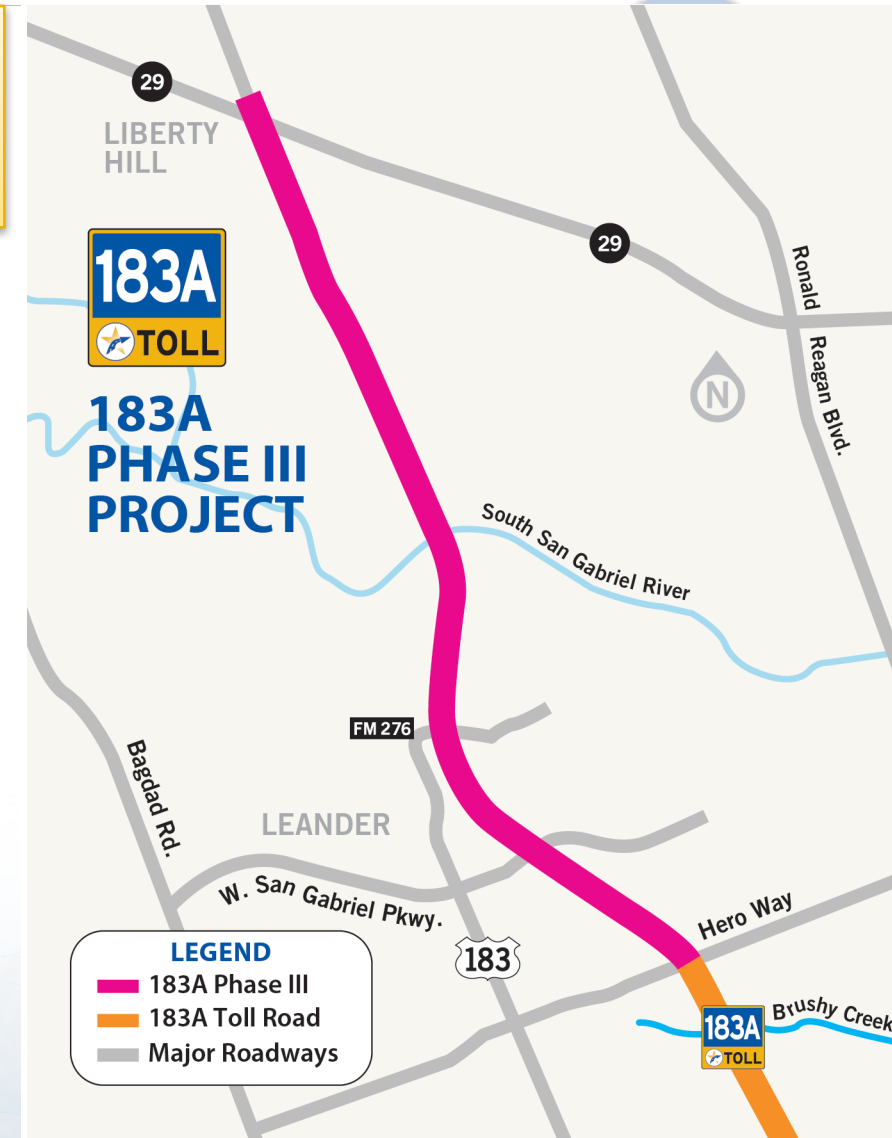
Project Limits: Hero Way to SH 29

Delivery Method: Design-Bid-Build

Total Project Cost: \$210 million

Schedule:

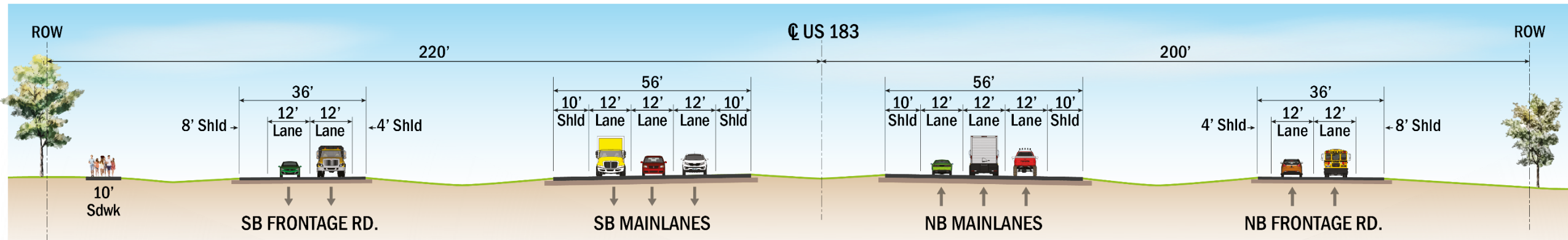
- Environmental Finding: Anticipated 2018
- Anticipated Letting: April 2019





WHAT ARE WE STUDYING?

Proposal to add two to three toll lanes in each direction as a five mile extension of 183A northward to SH 29





WHAT ARE WE STUDYING?

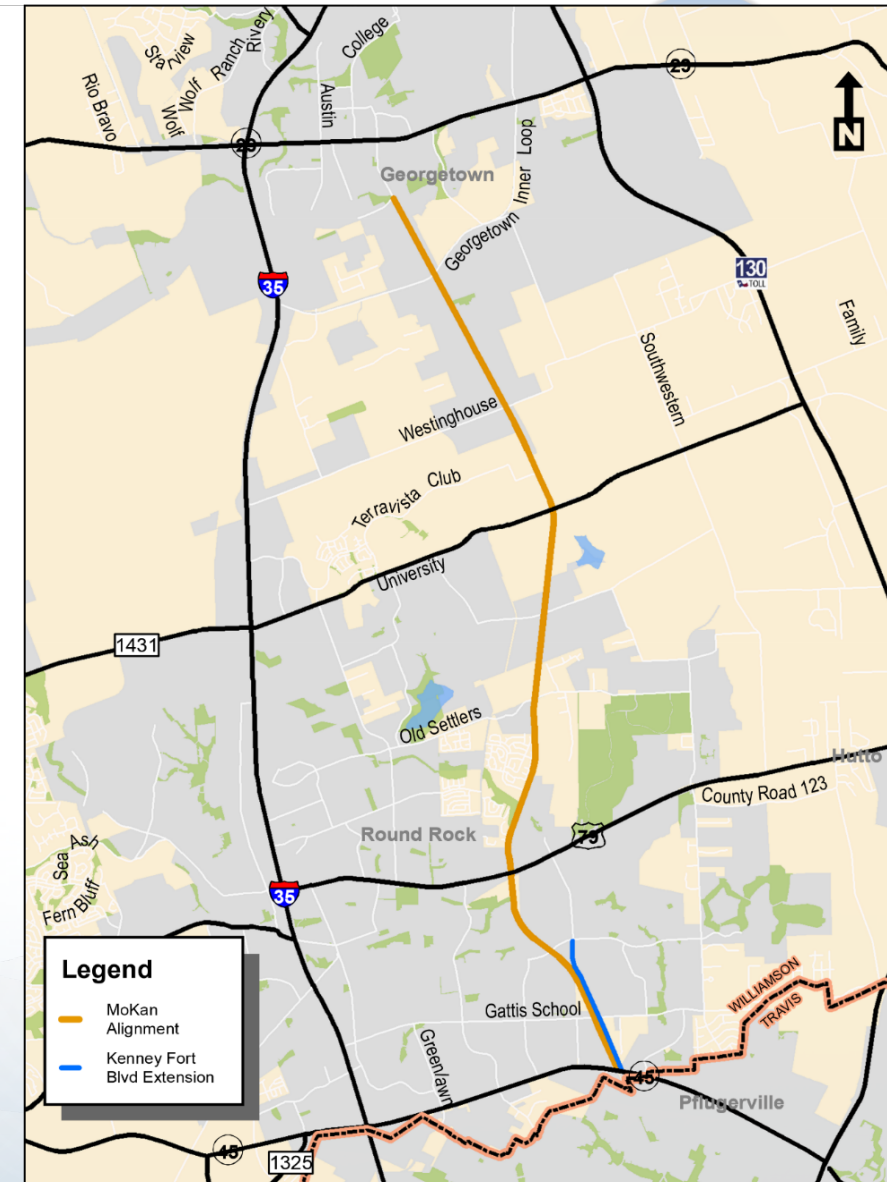
Proposal to look into possible transportation uses of a nine-mile portion of the abandoned MoKan rail corridor.

Project Limits: SH 45 to SE Inner Loop

Delivery Method: TBD

Total Project Cost: TBD

Schedule: TBD



Engineering Delivery Structure

Jeff Dailey, Deputy Executive Director
Justin Word, Director of Engineering
May 15, 2017



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Regional Mobility Authority

Project Delivery Enhancements

Jeff Dailey, Deputy Executive Director
Justin Word, Director of Engineering
May 15, 2017



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Project Delivery Enhancements



- **More rigorous review of low bid qualifications and amount**
- **Increased outreach with contractors prior to and during procurements**
- **Detailed and specific plan to contractors, no room for deviations**
- **Balanced risk management contract terms**
- **Detailed utility exploration, preliminary design, and coordination**
- **Specify the lane rental bank amount**
- **Invest in a single point of contact at the City of Austin**
- **Environmental Compliance Monitor**
- **Invest in Community Outreach Budget and Go Dynamic, Robust**
- **Include sustainability requirements (i.e. Greenroads® Certification)**

Ethics Training

Geoff Petrov, General Counsel

May 15, 2017



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- **AVOID: THE APPEARANCE OF IMPROPRIETY**
- **DO: CONSULT WITH YOUR EXECUTIVE DIRECTOR OR GENERAL COUNSEL**



- **Required for all RMAs and all entities that receive financial assistance from TxDOT**
- **Designed to detect and prevent violations of law, regulations, and ethical standards**
- **Periodic training required for all RMA officers and employees**



- **Open Meetings – Attorney General Certification**
- **Open Records – Attorney General Certification**
- **Personal Financial Statements – Annual Report**
- **Internal Ethics & Compliance Program – Ongoing**



- **Conflicts of Interest**
- **Gifts and Honoraria**
- **Use of RMA Property**
- **Public Information and Retention of Records**
- **Open Meetings**
- **Personal Financial Statements**
- **Compliance Standards and Procedures**



Board members may not:

- **Accept employment or engage in business activities that might induce disclosure of confidential information or impair independence of judgment**
- **Make personal investments that could create a conflict between their private interest and that of the RMA**
- **Have a personal interest in an RMA contract**



Board members may not:

- **Be employed by, or own or control more than a 10% interest in, a business that is regulated by or receives money from TxDOT or the RMA**
- **Use or receive a substantial amount of tangible goods, services, or money from TxDOT or the RMA**



Board members must:

- **File an affidavit and abstain from participation in a matter that could have a special economic effect on a business entity or real property in which the member has a substantial interest**
- **File a conflicts disclosure statement to disclose a business relationship with a potential RMA contractor**



Board members may not accept:

- **Any benefit that is being offered in an attempt to influence the member**
- **Any benefit from a potential contractor during a pending procurement**



Board members may not accept:

- **An honorarium for services related to the member's position with the RMA**
- **Benefits other than food, lodging, transportation, or entertainment from those with an interest in RMA contracts, including current consultants**



- **Computers and software (including email systems), phones, fax and copy machines, and other equipment owned or leased by RMA or provided for RMA use should be used for official RMA business only**
- **Lost or stolen property must be reported immediately**



- **Avoid using personal devices and email accounts when conducting RMA business**
- **Forward communications received on a personal account or device to an RMA server**
- **Assume that any communication regarding RMA business is subject to the TPIA, regardless of medium or public/private nature of account**



- **Notify RMA staff immediately of any requests for public information; cooperate in responding to requests**
- **DO NOT delete or destroy records that are the subject of a pending information request or litigation hold**



- **Avoid successive one-on-one meetings (whether in person or by electronic means)**
- **Do not send texts, emails, or other electronic communications during an open meeting**
- **Use caution when using “reply all”**



- **DO NOT participate in a meeting that has not been properly called or a closed session that is not authorized**
- **Public officials can be held criminally liable for certain violations of the Open Meetings Act**



- **Must be filed annually with the Texas Ethics Commission**
- **Statement covers financial activity for the preceding year**
- **Form and instructions are provided by the Ethics Commission**
- ***Due April 30 (or next business day) unless an extension is requested prior to the deadline***



Program Elements:

- **Record Retention**
- **Fraud**
- **Equal Opportunity Employment**
- **Sexual Harassment & Sexual Misconduct**
- **Conflicts of Interest**
- **Personal Use of CTRMA Property**
- **Gifts and Honoraria**



- **A suspected violation of RMA policies, a violation of law, or a breach of fiduciary duty must be reported immediately to the Executive Director or Chairman**
- **The ED or Chairman will take and enforce appropriate remedial measures or sanctions**
- **Retaliation for reporting suspected violations will not be tolerated**



Questions concerning whether a particular course of conduct is appropriate should be directed to the Executive Director or General Counsel.



**Call or email Geoff Petrov at
(512) 450-6313 or gpetrov@ctrma.org.**

Consensus Building on Regional Solutions

Bill Ilho, Stantec
Matthew Juckes, Kapsch
CTRMA Staff
Clark Heidrick, AARO

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority



- **Traffic and revenue history and future mobility planning**
- **Technology – Commute Solutions, other traffic apps, cyber security/privacy, big data, etc.**
- **Research (CTRMA behavioral study, AARO Study, etc.**
- **Partnerships with TxDOT, Local Municipalities, Travis and Williamson Counties, FHWA and other key stakeholders**

Traffic and Revenue History and Future Mobility Planning

Bill Ilho, Stantec

May 15, 2017

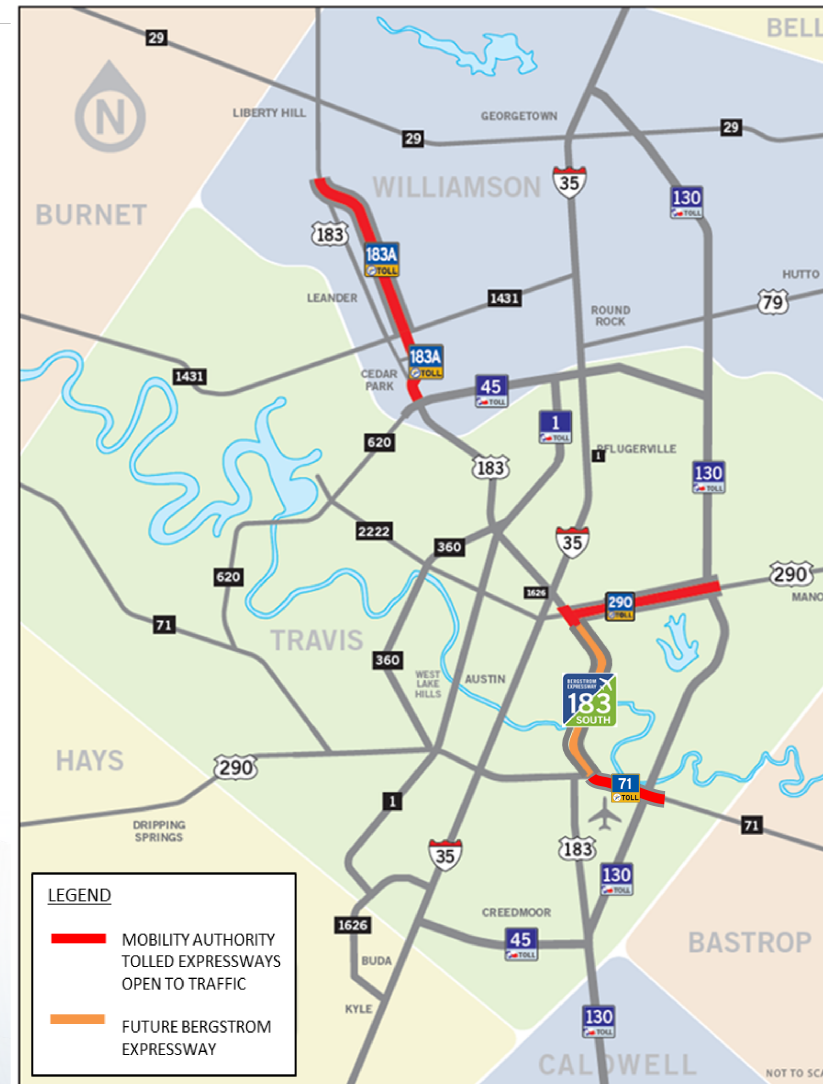


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Austin T&R History

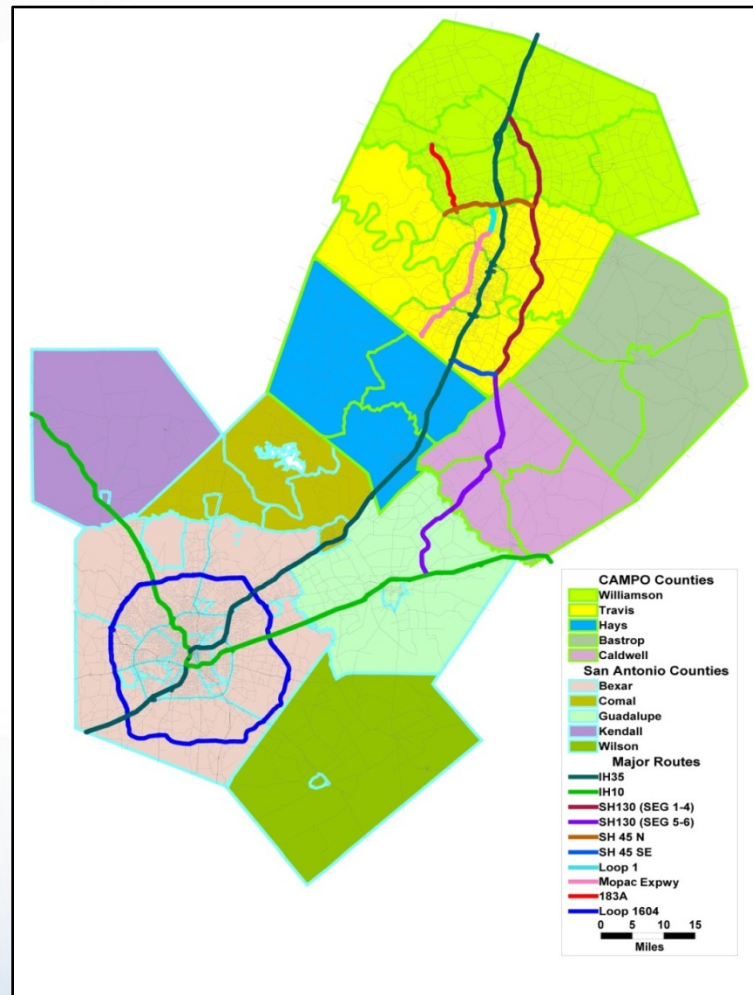


- 1998 Initial Feasibility Studies
- 2006-2007: SH 130, SH 45 N, Loop 1, 183A
- 2008-2017: SH 45 SE, 290E, 71E





Traffic Model Limits



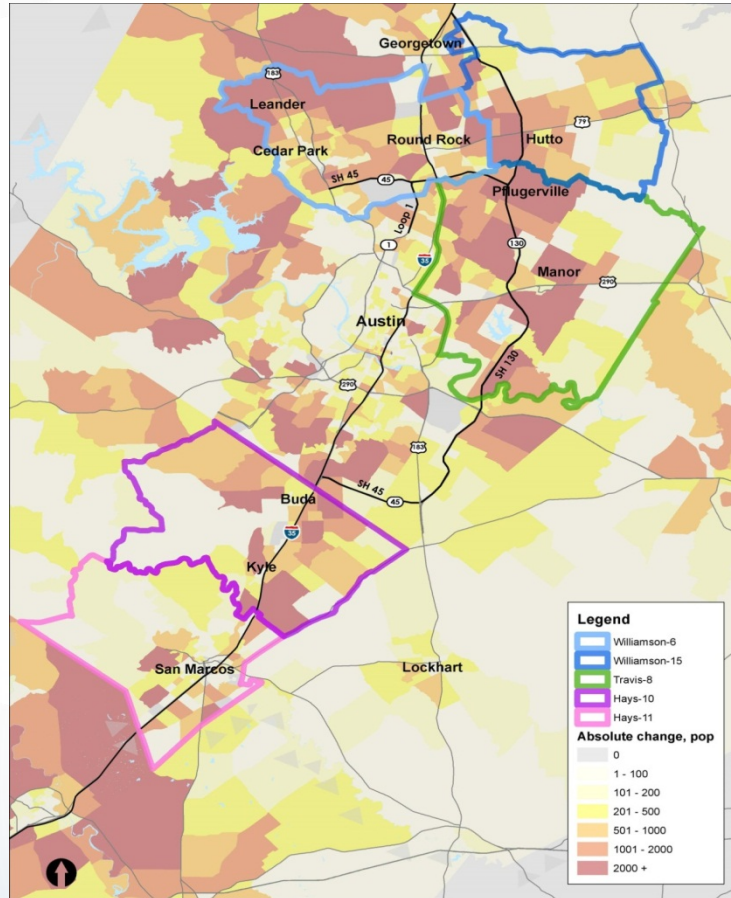
Travel Demand Model

- Austin Region (CAMPO)
- San Antonio Region (AAMPO)
- TransCAD Model/Cube Assignment
- Area 7,500 sq. mi ± (50x150)
- Network Links

Freeway & Ramps	5k
Principal Arterial	10k
Major Arterial	12k
Frontage Rds	5k
Collectors	10k
Total	42k
- Calibration Update Counts >2200 Links (60 hours per Model Run – Multiple Iterations)

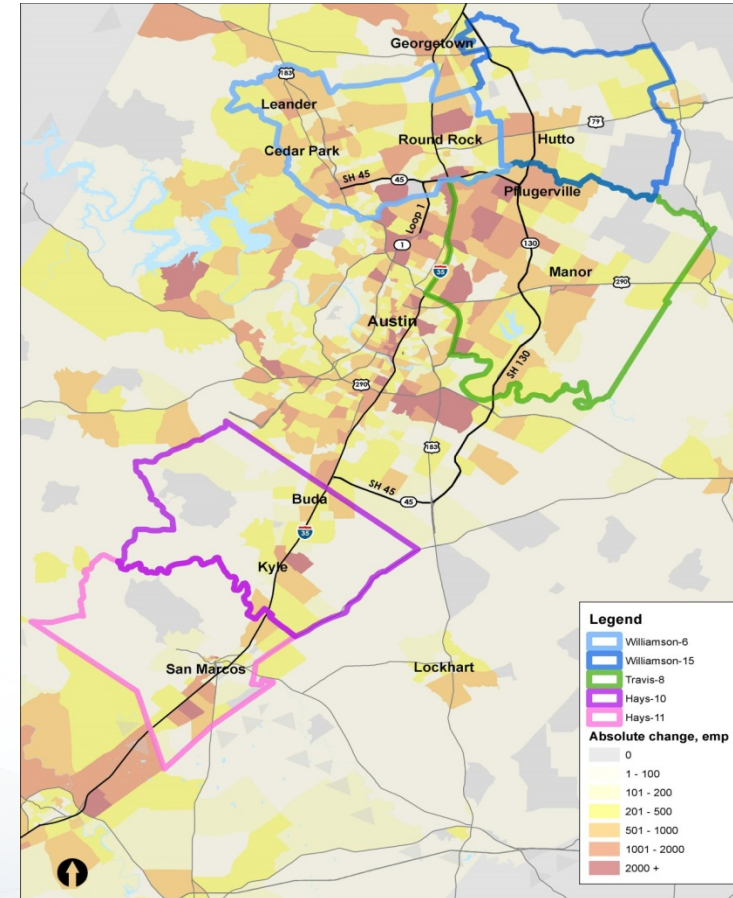


Population Growth, 2013-2030



Source: Michael Bomba, PhD

Employment Growth, 2013-2030



Source: Michael Bomba, PhD

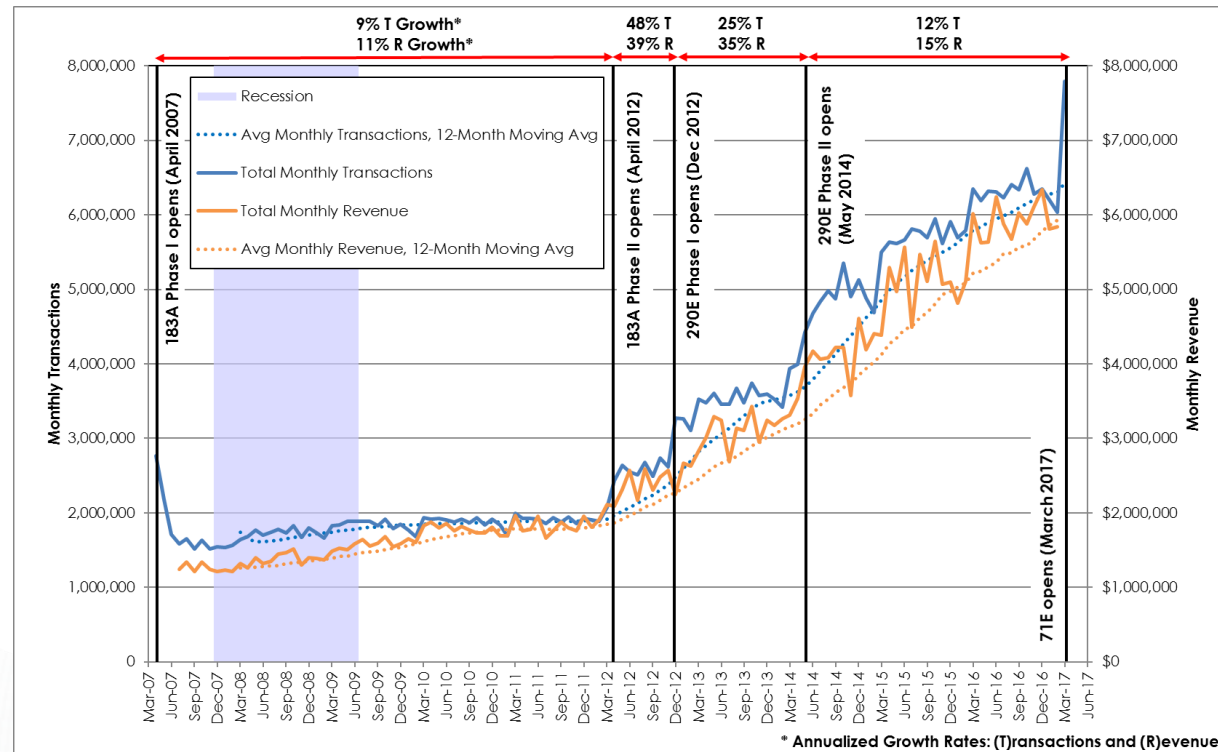


- **Greenfield vs Developed Areas**
- **Socioeconomic Growth**
- **Network Improvements**
- **Value of Time**
- **Electronic Toll Collection**
- **Revenue Leakage**
- **Toll Policy**
- **Marketing & Signage**

Austin T&R Performance

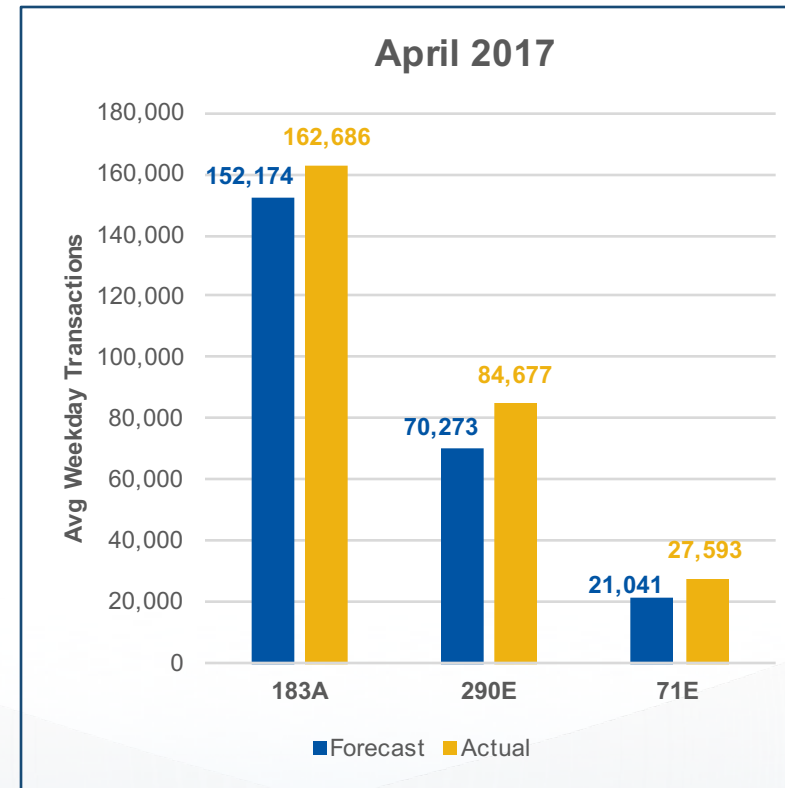
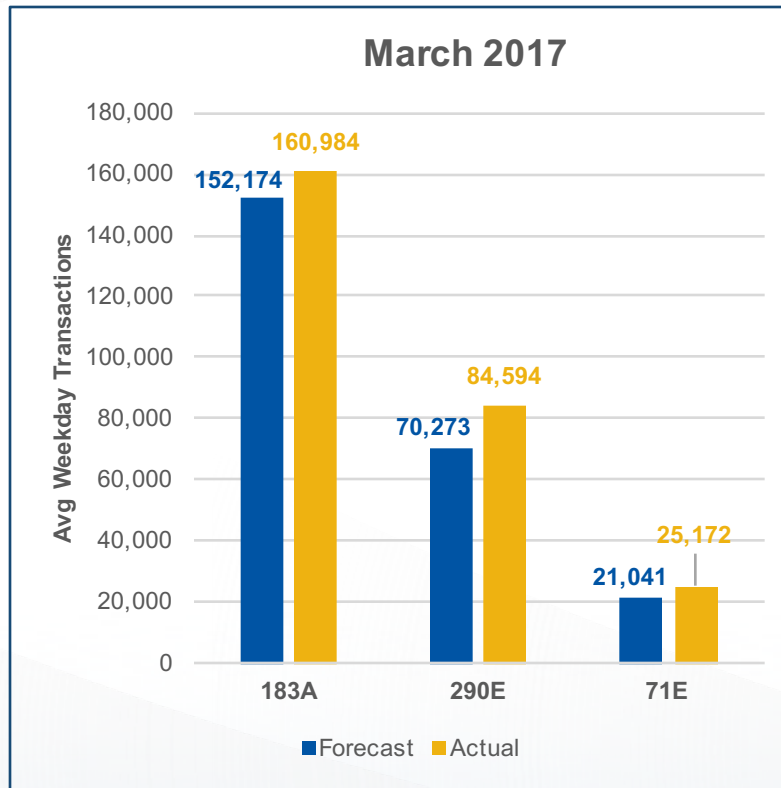


- Most roads have met or exceeded forecasts
- Cashless conversion
- Accelerated construction
- New projects
- Toll policy tied to inflation index
- Diverse economy
- The system begins to develop



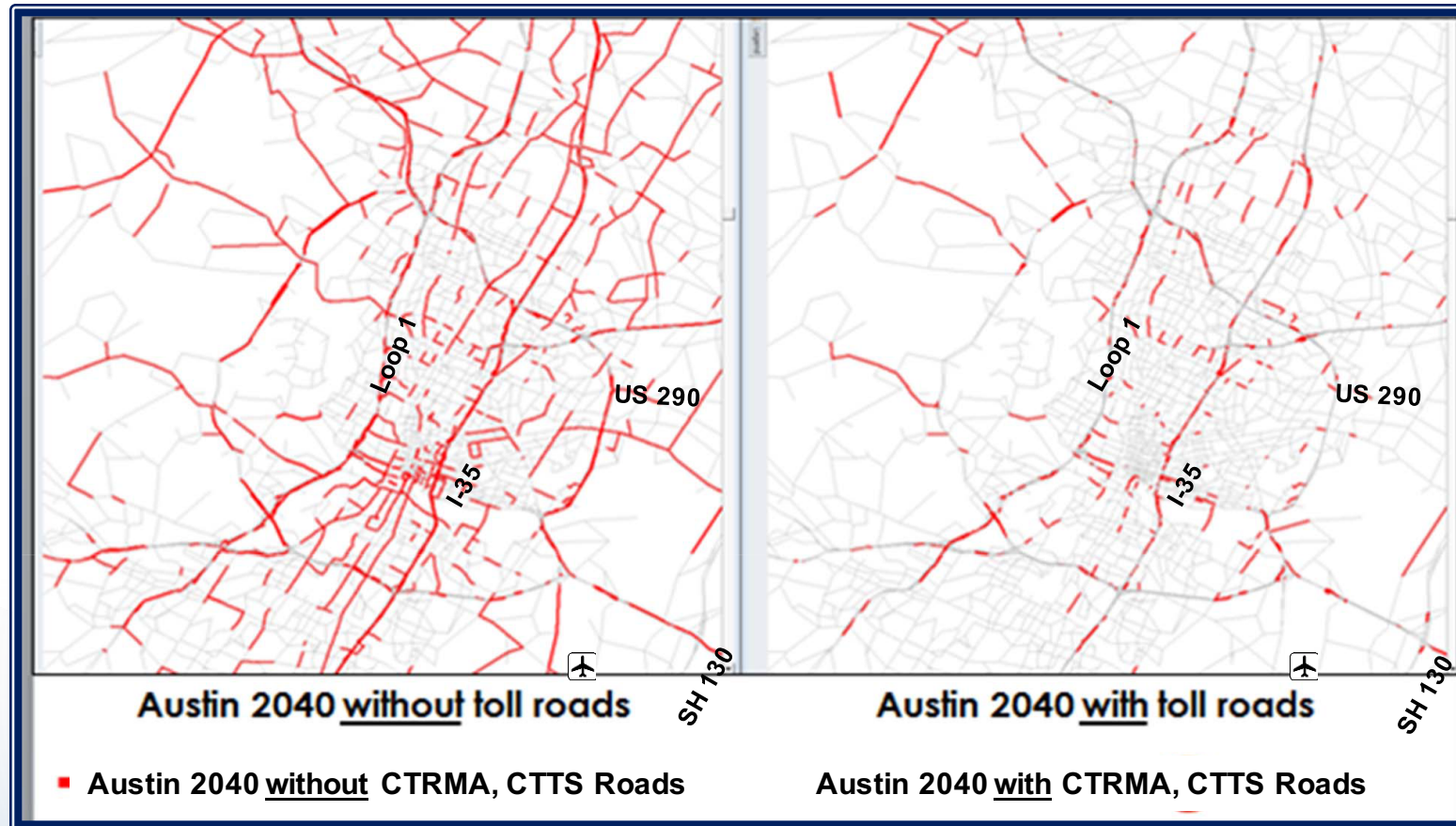


- Average weekday transactions are also exceeding forecasts





Toll roads required to meet Austin's infrastructure needs



Future Highway Projects



- **Under Construction:**
 - MIP
 - Bergstrom Expressway
- **Planning & Design:**
 - 290E Phase III
 - SH 130 widening
 - 183N Managed Lanes
 - 183A Phase III
 - Oak Hill Pkwy
 - IH-35
 - MoKan
- **Congestion Pricing**
- **The System matures**
- **Feeders & Competitors**



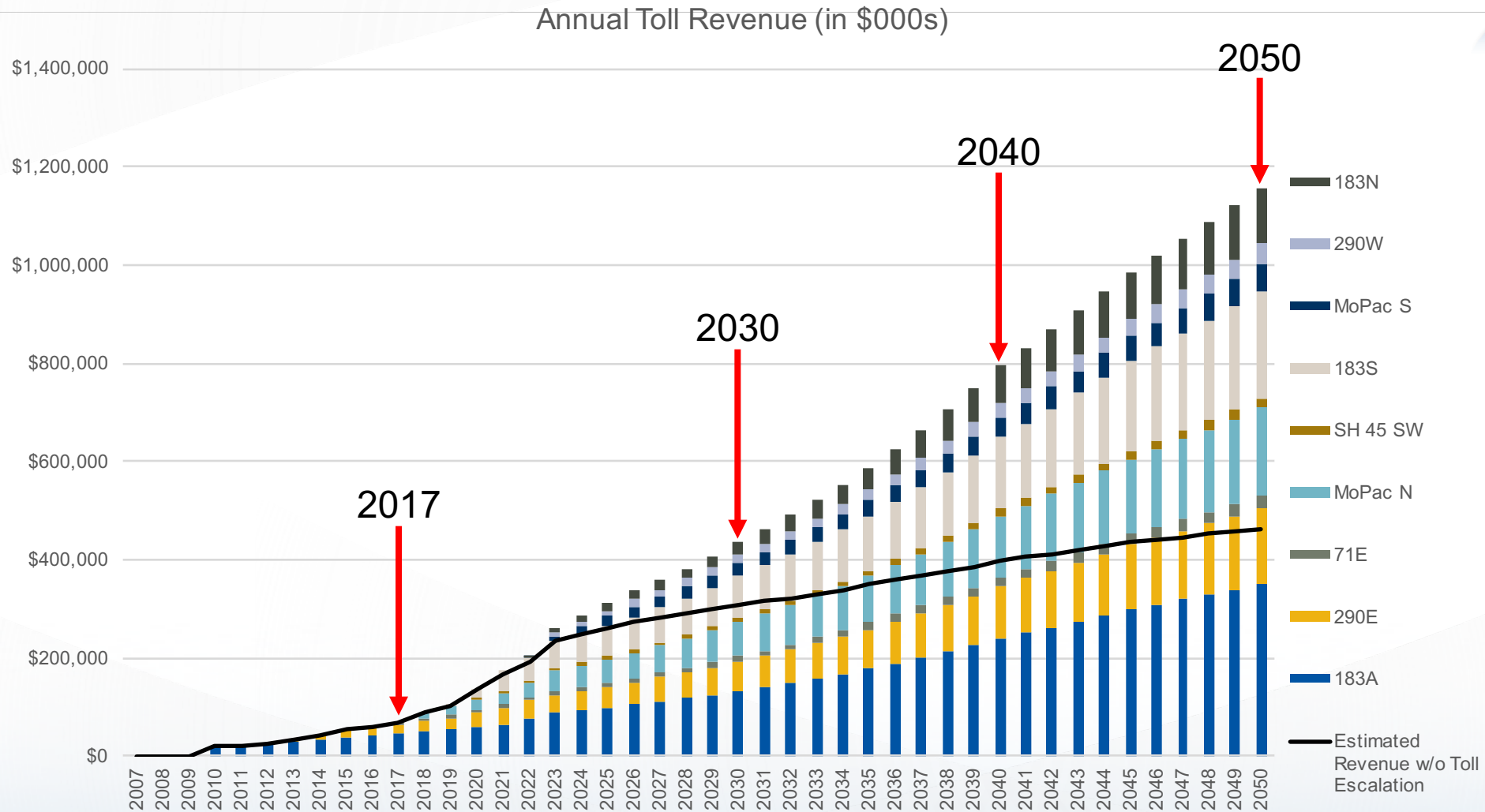


- **Transit System Expansion**
- **Park & Ride**
- **MaaS (Helsinki experience)**
- **Commuter Solutions**
- **Mobility apps**
- **Connected & Autonomous Vehicles (CAV)**



- **All of the Traditional Risk Factors**
- **System is more complex**
- **New technology**
- **CAV's**
- **Political Influences (NAFTA)**
- **Board policies that could impact traffic and revenue**

Annual Toll Revenue Projections



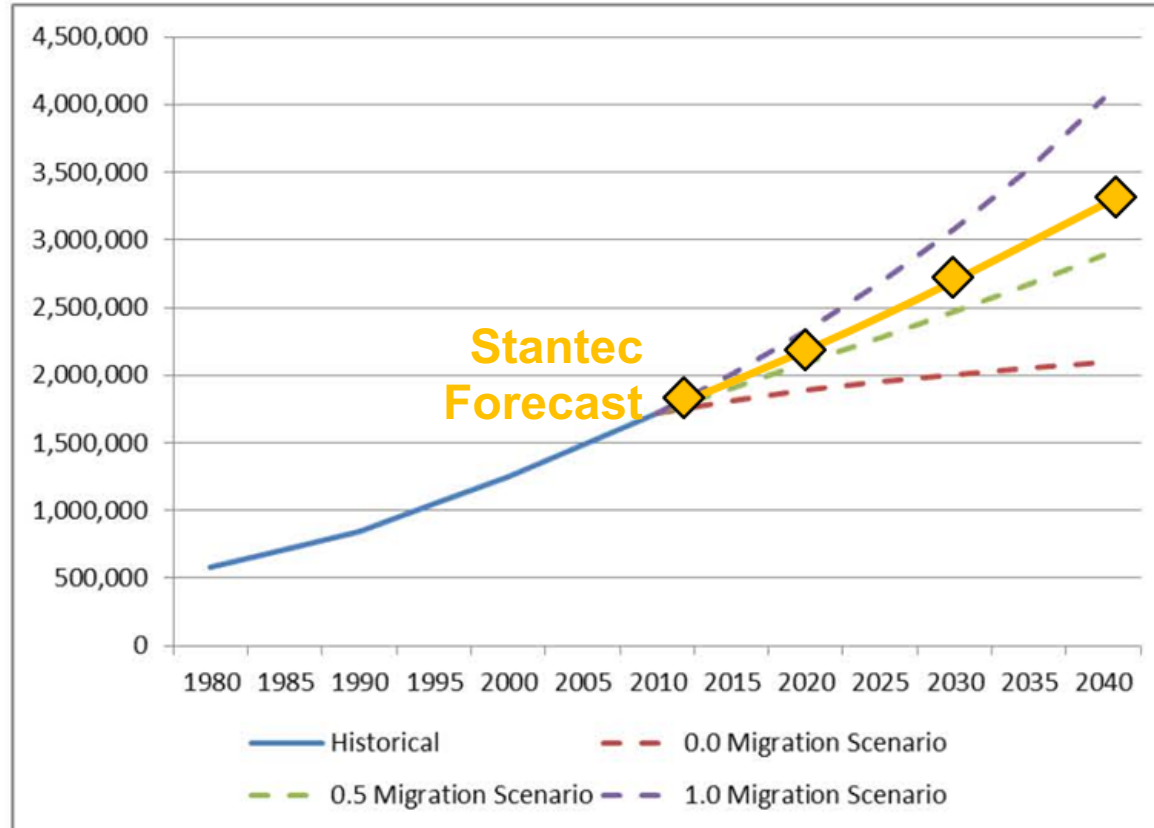


Questions and Comments?



Appendix

Population Growth Projections Match Historical Trends



Sources: U.S. Bureau of the Census; Texas State Data Center

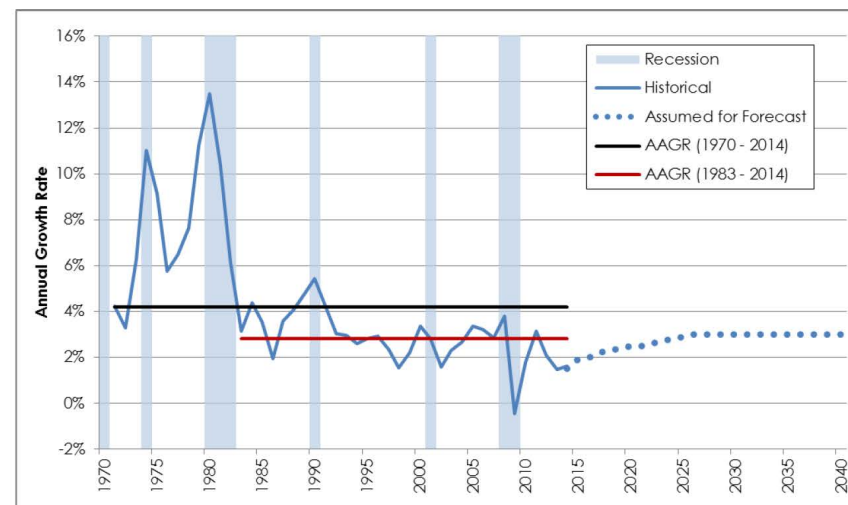
Year	CAMPO Population	Annualized	
		Growth per year	Rate of Growth
1980	585k		
1990	846k	26k	3.8%
2000	1,250k	40k	4.0%
2010	1,716k	47k	3.2%
2013	1,883k	56k	3.1%
2014	1,923k	40k	2.1%
2015	1,969k	46k	2.4%
2020	2,188k	44k	2.1%
2030	2,654k	47k	1.9%
2040	3,166k	51k	1.8%

Consumer price index assumptions conservative compared to historical values



- Toll rates are escalated on January 1 of every year based upon the published CPI data available in August/September
- The Board has the option to choose an escalation rate different than the CPI
- The average annual growth of nominal CPI for the past 30 years is 2.9% per year; the effective rate for 2014-2050 is 2.6%.
- Stantec is applying the following toll rate escalators in the forecast:
 - 2015: 1.9%
 - 2016: 2.0%
 - 2017: 2.2%
 - 2018: 2.3%
 - 2019: 2.4%
 - 2020-2040: 2.5%-3.0%

Figure 4.2 Annual Consumer Price Index – Historical and Projected



Big Data Analytics and Performance Measures

CTRMA

May 2017

Agenda

- > What is Big Data?
 - > Capture
 - > Manage
 - > Analysis
- > Dynamic Pricing Algorithm Validation
- > Incident and Congestion Prediction
- > Equipment Failure Prediction
- > Pattern Evaluation and Market Analysis

What Is Big Data?

“Big data is a collection of data from traditional and digital sources inside and outside your company that represents a source for ongoing discovery and analysis.” – Lisa Arthur, Contributor – Forbes.com

>Big Data Management and the Process

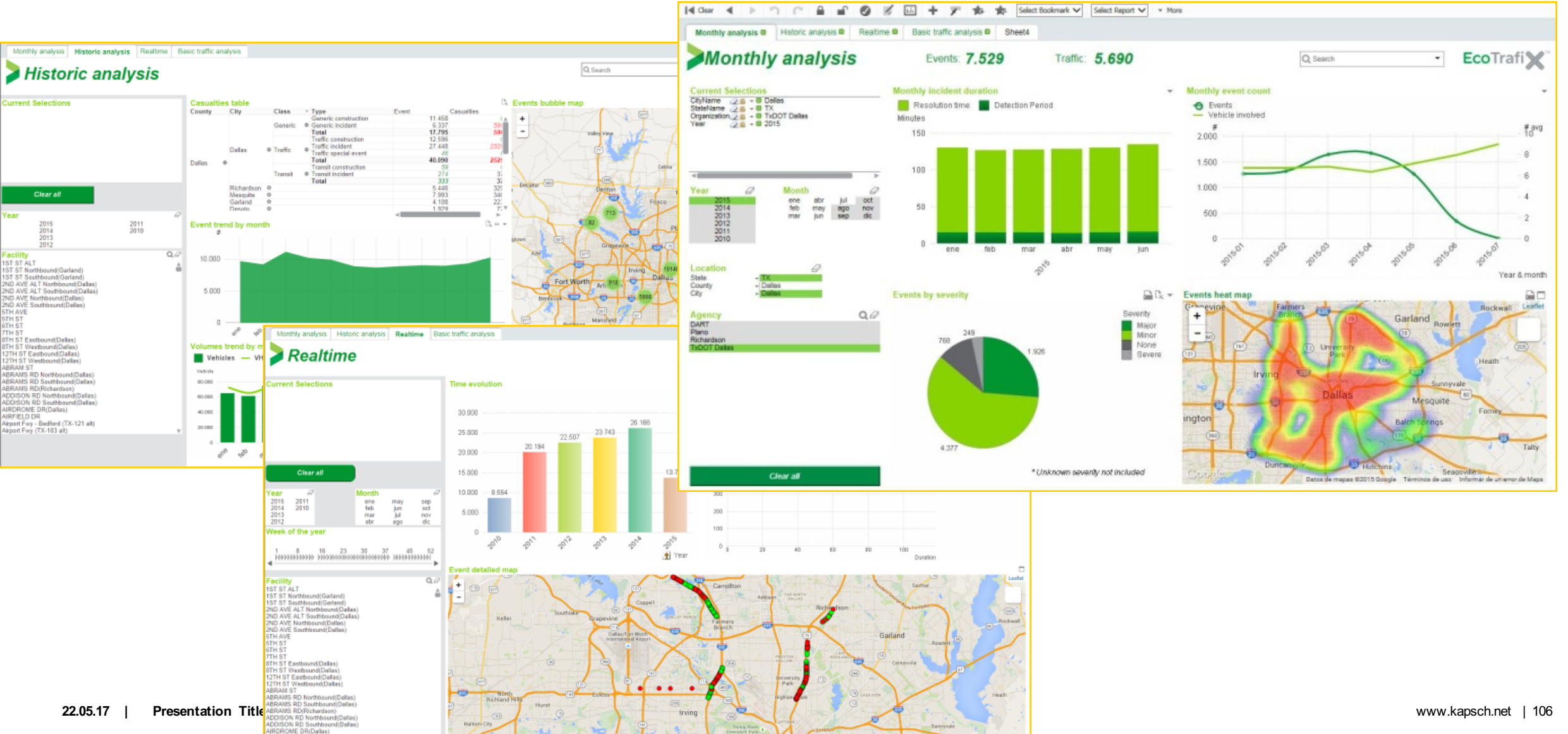
Acquisition

Processing

Aggregation

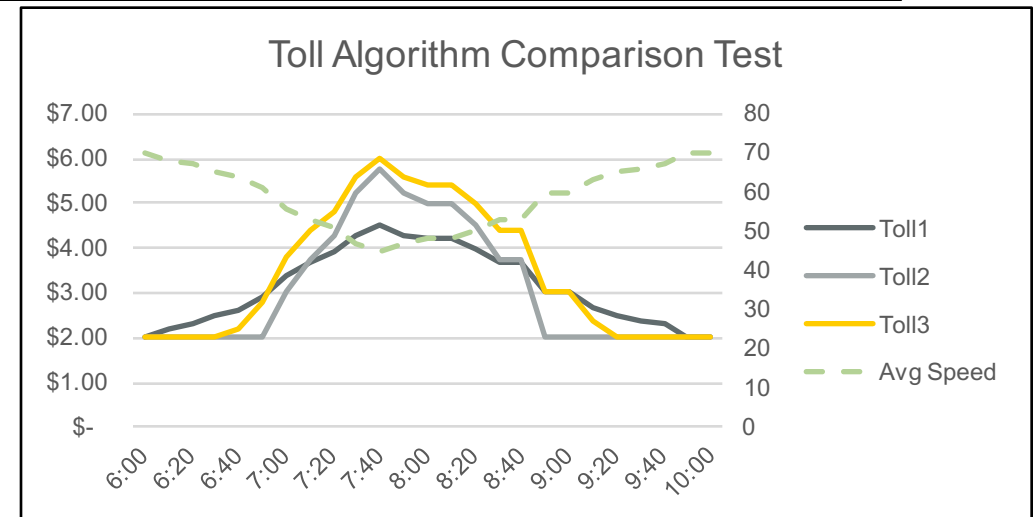
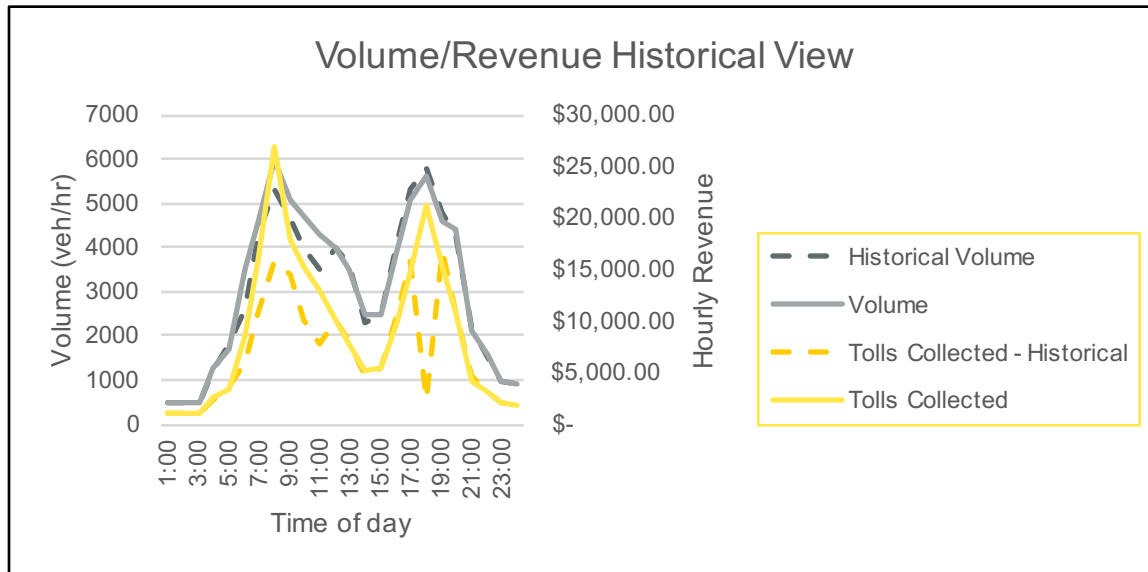
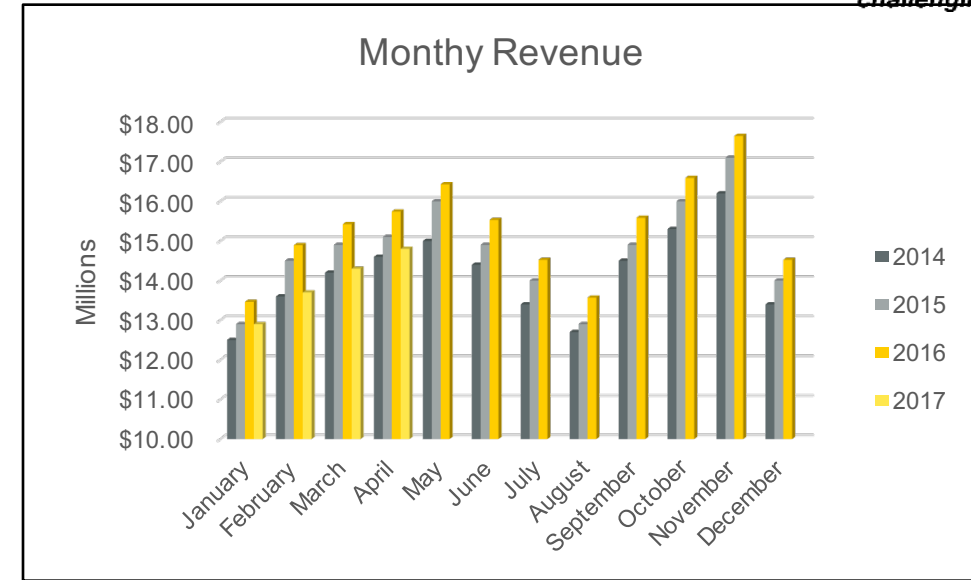
Delivery

Performance Measures & Data Sharing



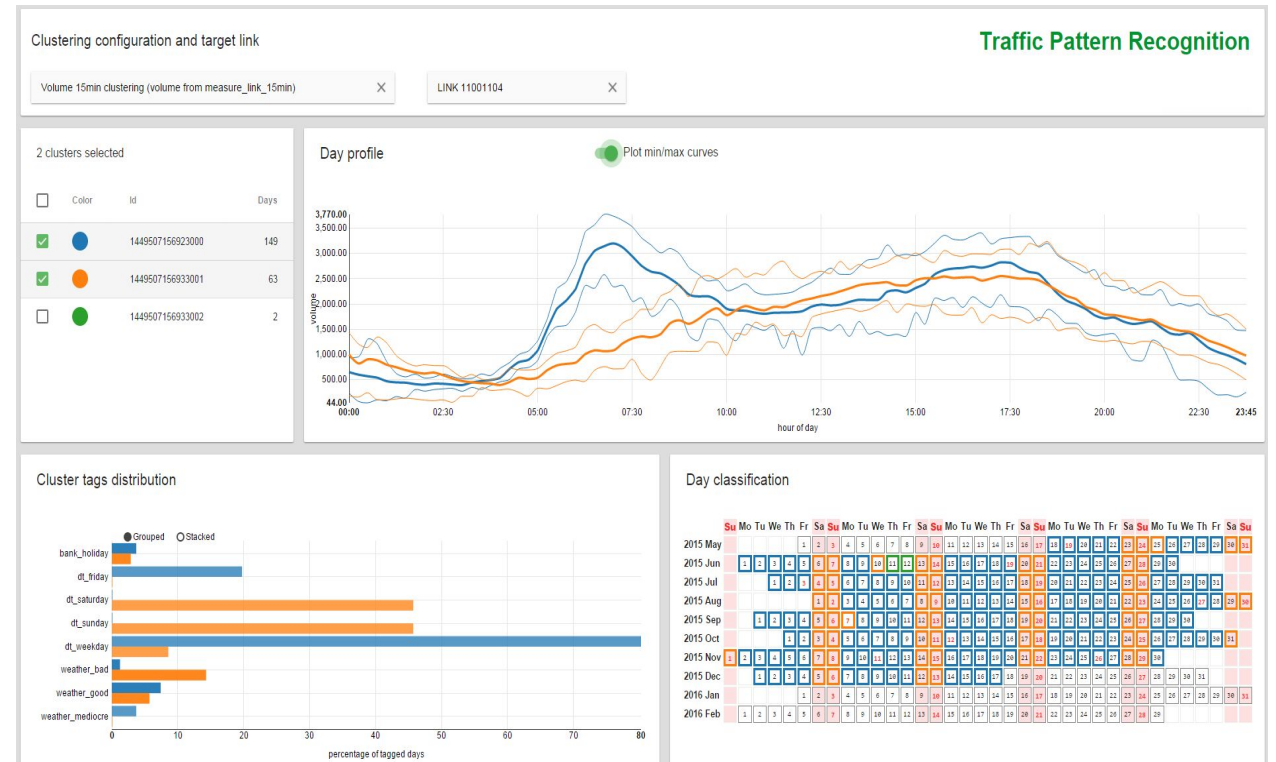
Dynamic Pricing Algorithm Testing and Validation

- > Trend Analysis
- > Daily Toll Revenue Review
- > Toll Algorithm Testing
- > Toll Predictive Algorithms



Incident and Congestion Predictions

- Analytics for Flow/Speed/Travel time Predictions
- Historical Pattern Based Profiles



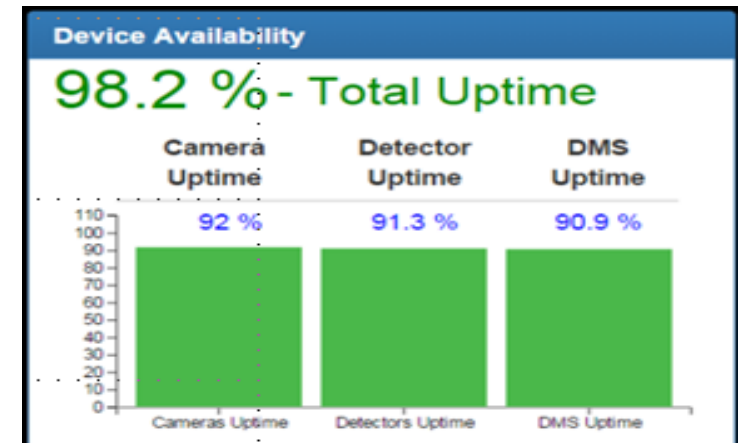
Maintenance and Tolling Device Failure Prediction

- > Manage and Monitor Health of Devices
- > Predict Device Maintenance Schedule prior to Failure

Maintenance and Inventory Management System Activity			
Trouble Tickets	Broward ITS	Palm Beach ITS	N3C ITS
Generated Daily (# of tickets)	1	4	1
Completed Daily (# of tickets)	1	4	0
Average Response Time (min)	3280	1097	2715
Average Completion Time (min)	105	857	0

Period: Daily Last Update: September 19th 2016, 2:33 pm

Maintenance Activity			
	Monthly Average	Daily Average	Current
MIMS Trouble Tickets	6.3	5.2	5.8
MIMS Preventative Maintenance Tickets	65.8	6.2	8





- **Traffic Management Center (TMC)**
- **Fiber**
- **Cyber security/privacy**



AARO Research Study

Clark Heidrick, AARO

May 15, 2017



CENTRAL TEXAS
Regional Mobility Authority

Roundtable Discussion

May 15, 2017



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Closing Comments and Feedback

May 15, 2017



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