

**MID-YEAR MEETING AGENDA
TRB COMMITTEE ON MANAGED LANES
Committee AHB35**

**Saturday, July 15, 2017, 4:00 – 5:30 p.m.
Hilton Anatole, Wedgwood Ballroom, Dallas, Texas**

DRAFT MINUTES

1. Opening Remarks and Announcements

- Welcome and Introductions

Self-introductions were made by all. See **Attachment 1** (sign-up sheet) for attendance.

2. Approval of Minutes from Mid-year Meeting

Minutes were approved by voice roll call.

3. Reports

- Co-Chairs' Report Chuck Fuhs/Casey Emoto

The following were introduced as newly appointed members to the committee:

Ed Barry, Washington State DOT
Matt Click, HNTB
Sue Datta, Michigan DOT
Srikanth Panguluri, CH2M
Javier Rodriguez
Willa Ng, Sidewalk Labs

A young member forum has been formed due to the large amount of interest among young attendees who want to join the committee. Carlos and Nick are serving as facilitators of the forum, with the goal of promoting selected participants to the committee as vacancies occur. A fourth slot will be filled later this summer from forum participants. Quarterly coordination calls are currently occurring. The committee will nominate this new forum for potential blue ribbon award recognition later this summer. Blue ribbon awards are made to committees that provide unique and innovative strategies that promote outreach and research.

Assistance is needed among members and friends for the annual meeting workshop the committee is hosting, as well as the managed lanes database of projects.

END OF CO-CHAIRS REPORT

- TRB Staff Engineer's Report

Rich Cunard provided the committee a TRB report presented by Chuck which highlighted recent annual meeting statistics, changes in TRB policies addressing the 2018 annual meeting and paper publication (**Attachment 2**). The 2017 annual meeting was attended by about 13,000 making it the largest yet. Paper submittals for the 2018 annual meeting should desirably be posted in advance, since the usual rush to submit has caused the web portal to experience problems. TRB is recommending to committee paper coordinators (Marcus Brewer for our committee), that lack of readability can be grounds for screening out papers before distribution to reviewers. About the same percentage of papers will be selected for publication in 2018, and TRB will be publishing them sooner if authors satisfactorily address review comments.

END OF TRB STAFF ENGINEERS REPORT

TRB TRANSPORTATION RESEARCH BOARD

OF THE NATIONAL ACADEMIES

- Overview of IBTTA/TRB Joint Conference Mike Davis

Mike Davis reviewed the IBTTA/TRB conference program. A number of plenary and break-out sessions are devoted to managed lane subjects, and a plenary session on opening day is devoted to research. Tours will highlight the TxPress Operation Center, LBJ Express Lanes and RT Thornton I-30 East Reversible Lane. Posters will be presented during the breaks.

- Autonomous Vehicle Symposium 2017 (5 min) Nick Wood

Nick reported on the joint session our committee helped sponsor and facilitate at the annual TRB-sponsored AVS. Attendance continues to grow for this annual event.

- FHWA Update Greg Jones

Greg provided a detailed summary of FHWA initiatives, research and outreach related to managed lanes and tolling, pooled fund research and related activities ([Attachment 3](#)). He expressed concern about big drops in occupancies being observed on some new capacity facilities, which is the subject of research.

- Subcommittee Reports

Research: AHB35(2)

The research subcommittee will host working session chaired by Randall Guensler during the conference to develop working problem statements from the top research needs. A screening process will first attempt to consolidate similar topics. Volunteers will draft up descriptions and justifications for the topics selected, and these will be reviewed and edited. A goal by the end of the conference is to have a number of problem statements ready to share with others as a foundation for seeking sponsorship and funding. At the end of the mid-year meeting Randall will be stepping down as chair and Nick Woods will be taking over as chair with Lee Han as deputy.

Outreach AHB35(1)

Tim and Marc reviewed a range of new outreach activities including an updated website and folders for committee use. Srikanth will be serving as the new webmaster helping coordinate and update content on a regular basis. Other outreach activities will include regular webinars, with another webinar planned for this Fall to be hosted by Matt Click. TRB will allow our committee to seek co-sponsorship, perhaps with IBTTA, if we cannot obtain a slot through TRB's webinar solicitation. A listing of future potential webinar topics was mentioned.

Meeting Planning: AHB35(3)

Lisa and Nick summarized plans for the 2018 annual meeting including a call for papers and posters, workshop, plenary and poster sessions and related activities and timeline for the balance of the year. Plans for the 2018 mid-year meeting co-sponsored by the Managed Lanes and Freeway Operations Committees is underway, to be held in Bellevue, Washington on September 25-28. A working group has been formed with the local agency sponsors and will be meeting monthly starting this fall. This meeting will take the form of a one-day symposium with tours of local projects. Linkages with local universities will also be included. Volunteers were solicited for both upcoming venues.

Multimodal Pricing Implementation: ABE25

Multi Modal Pricing Committee will be looking at ways to actively maintain NCHRP 835 Managed Lanes Guidelines with a focus on identified gaps outlined in the accompanying research publication.

END OF SUBCOMMITTEE REPORTS

4. Database outcomes and findings report Matt MacGregor, Carlos Campo

Matt and Carlos presented the latest development of a comprehensive database for all tolled managed lane projects in the U.S. Various graphic interfaces allow access to a substantial amount of information provided on the committee's website ([Attachment 4](#)).

END OF DATABASE OUTCOMES AND FINDINGS REPORT

5. Emerging Issues

An open discussion was held among participants to identify and share what they see as emerging issues that may need to be addressed by the committee either through research, conference and session planning, or in other forums of exchange ([Attachment 5](#)):

Increasing congestion in managed lanes-- not able to accommodate all demand

Drivers paying high tolls while speeds may be slower in the managed lanes than GP lanes

Complexity of signing particularly for managed lane networks

Offering pricing information for a full trip, including parking, and how equity can be addressed

Caps and toll rate setting (Economics committee is recommending an NCHRP synthesis)

Impact on ridesharing services and apps

END OF EMERGING ISSUES DISCUSSION

6. Other Items

Attendees were encouraged to provide Matt MacGregor any project update information for inclusion in the committee minutes and project database.

7. Meeting adjourned at 5:30pm

TRB Managed Lanes Committee Mtg.

July 2017 - (if you already signed shb.com. sign-in you don't need to sign this)

<u>Name</u>	<u>Agency / Firm</u>	<u>Email</u>	<u>New to ML Com?</u>
DAVID UNGEMATH	WSP	DAVID.UNGEMATH@WSP.COM	
Bob Poole	Reason	bob.poole@reason.org	
RANDALL GUENSLER	GA TECH	RANDALL.GUENSLER@OF.GA.TH.ED	
WILLA NG	SidewalkLabs	will@sidewalklabs.com	Yes
Murali Ramanujam	VTA	murali.ramanujam@vta.org	
Leigh Petschelt	Transurban	lpetschel@transurban.com	
SONIKA SETHI	Leidos	sonika.s.sethi@leidos.com	
Nathaniel Price	FHWA	nathaniel.price@dot.gov	
Rimon Rafiah	Economikr	rimon@economikr.com	
ELIZABETH DEMBERSKI	ISRAEL HW	ELIZABETH@AYALONHW.CO.IL	
Joe Mahoney	CAOT	JOE.MAHONEY@STATS.CO.US	
Bernien Barks	NCTCOG	bbarks@nctcog.org	
Carlos Campo	WSP	carlos.campo@wsp.com	
DAN LAMERS	NCTCOG	DLAMERS@NCTCOG.ORG	
MD SAKOAT HOSSAN	CDM SMITH	hossanm@cdmsmith.com	
Greg Jones	FHWA	Greg.M.Jones@dot.gov	
Chuck Fuhs	Chuck Fuhs LLC	chuckfuhs@gmail.com	
Nick Wood	TTI	nickwood@tamu.edu	
Tim Haile	CCTA	thaile@ccta.net	
Chadi Chazbek	HNTB	cchazbek@hntb.com	

Parkol
York
Member
Forum

Handwritten notes in the top section of the page, including the word "HASTIE" and other illegible text.

Handwritten notes in the middle section of the page, including the word "HASTIE" and other illegible text.

Handwritten notes in the lower middle section of the page, including the word "HASTIE" and other illegible text.

Handwritten notes in the bottom section of the page, including the word "HASTIE" and other illegible text.

FIRST TIME
✓ if YES

Name Agency/Firm Email

MEETING PLANNING

Joe Rouse Caltrans (phone)
Scott Pitera WSP USA Scott.Pitera@WSP.COM

ANNIE GILLESPIE SRTA AGILLESPIE@SRTA.GA.GOV

Krishna Satti HNTB ksatti@hntb.com

TAYLOR GLAKAS SRTA TGLAKAS@SRTA.GA.GOV

Joe Mahoney COOT joe.mahoney@state.co.us

DANN UNSEMAN WSP DAN.UNSEMAN@WSP.COM

ELIZACH DEBILSKI ATALON.IT ELIZACH@ATALON.IT

Patty Rubstello WSDOT rubstep@wsdot.wa.gov

Peggy Catlin C&C peggy@catlinandco.com

Catherine Larson Jacobs catherine.larson@jacobs.com

Danny Wu WSP Danny.Wu@wsp.com

Kathy McCune LA Metro mccunek@metro.net

Gary Rylander TransSmart Technologies grylander@transmartinc.com

Angela Jacobs FHWA angela.jacobs@dot.gov

Jennifer Tsien Atkins jennifer.tsien@atkinsglobal.com

JOHN PETERS CITY UNIV. OF NY JOHNATHAN.PETERS@CITYUNIV.CUNY.EDU

CHRISTOPHER MWALIWANDA EDMSMITH mwalwandace@edmsmith.com

Colleen Gants PRR cgants@prmbiz.com

RAMI HARB ATKINS Rami.harb@atkinsglobal.com

Rachel Hiatt San Francisco CTA rachel.hiatt@sfta.org

2017 Midyear - Dallas - Sign-In

<u>Name</u>	<u>Agency/Firm</u>	<u>Email</u>	<u>First Time?</u> <u>✓ if YES</u>
Casey Emoto	VTA	casey.emoto@vta.org	
Chadi Chazben	HNTB	cchazben@hntb.com	
Tim Haile	CCTA	thaile@ccta.net	
Lisa Klein	MTA	lklein@mta.ca.gov	
Matt Click	HNTB	mclick@HNTB.com	
Carlos Contreras	C&M	cmcontreras@candm-associates.com	
Srikanth Panguluri	CH2M	Srikanth.Panguluri@ch2m.com	
Saad Shbaklo	HNTB	saad.shbaklo@hntb.com	
Garth Lynch	HNTB	glynch@hntb.com	
Jennifer Frankl	STC	jfrankl@silicantc.com	
MARK MURIELLO	PANYNJ	mmuriello@panynj.gov	
ROBERT BAIN	RB CONSULT	rb50@robain.com	
Murali Ramanujam	VTA	murali.ramanujam@vta.org	
Don Samdahl	Felw & Peers	d.samdahl@felwandpeers.com	
MIKE DAVIS	RS&H	michael.davisj@rsandh.com	
Carlos Campo	WSP	carlos.campo@wsp.com	
DAN LAMERS	NCTCOG	DLAMERS@NCTCOG.ORG	
Darryl VanMeter	GDOT	dvanmeter@dot.ga.gov	
Chuck Fuhs	Chuck Fuhs LLC	chuckfuhs@gmail.com	
Nick Wood	TTI	nickwood@tamuedu	
Rami Harb	ATKINS	Rami.Harb@atkinsglobal.com	
Andy Lelewski	NORTH CAROLINA TURNPIKE	andy.lelewski@ncdot.gov	
Berrien Berrien Barks	NCTCOG	bbarks@nctcog.org	
ED BARRY	WSDOT	barryed@wsdot.wa.gov	
TYLER PATTERSON	WSDOT	patterty@wsdot.wa.gov	
Jennifer Charles	WSDOT	charlej@wsdot.wa.gov	
(turnover)			OUTREACH



TRB Staff Report for Managed Lanes Committee Meeting, July 2017

The 2018 Annual Meeting continues in early/mid-January -- January 7-11, 2018.

2017 Annual Meeting Highlights

- ~13,200+ attendees (another new record for attendance).
- Earlier evening sessions: Monday and Tuesday evening Sessions started at 6:00 pm and were very well received with a noted increase in attendance. So this will likely continue in 2018.
- Some evening Committee Meetings will also started at 6:00 pm. It was reported that many Committees liked the earlier start time -- so we will continue to offer it in 2018.
- Thanks to Committees for reviewing a record 5900+ papers (>725 operations related), and organizing more than 800 sessions and workshops (91 operations related) with over 5000 presentations.
- Record number of exhibits >250.
- **Go green!** In 2017 we continued the major change to the printed Final Program (140 pages now vs. 600+ it would have been in the former, detailed format). The new format reduced our use of paper by >3 Million sheets of paper – which equates to saving 200-300+ trees (a small forest – based upon Sierra Club estimates).
- More than 50 sessions and meetings on Connected-Automated Vehicles.

Five committees were recognized as 2016 Blue Ribbon Committees for their accomplishments and activities – two were from the Operations Section:

- The Committee on Highway Capacity and Quality of Service won the Blue Ribbon award in the area of Advancing Research for Promoting and sponsoring transportation research that has advanced the state of the practice and led to the establishment of a broad range of tools that are applied by practitioners, researchers, educators, and public policy makers.
- The Committee on Vehicle-Highway Automation and the Committee on Intelligent Transportation Systems won a Blue Ribbon award in the area of Contributing to TRB and the Transportation Community for Leading the International Community for Road Vehicle Automation through their Automated Vehicle Symposia.

MAJOR CHANGE for the 2018 Annual Meeting: For any paper submitted for either Presentation and Publication; or Presentation Only; and the paper is accepted for presentation – TRB **will require** that the paper will be posted on the AMOnline website. This is a result of the TRB Sponsor frustration with not finding papers that were presented because the author declined to allow TRB to post their paper. The number of papers in this situation has been increasing over the past few years and was almost 20% in 2017. As an alternative, any author not wishing to have their full paper posted, will be allowed to submit an extend Abstract to replace the paper in our online database.

TRB Annual Meeting Compendium of Papers Continues Online

Continuing in 2017, the TRB Annual Meeting Online offers web-access to ALL information collected from the 2013 through 2017 Annual Meetings. TRB Online is FREE to TRB Annual Meeting registrants (using the email address you used to register and the confirmation # located at the bottom of your name badge), TRB Sponsors, and Annual Meeting Patrons; for others, there is a modest fee to access the following information:



- Final Program PDF
- Program Participants PDF
- Compendium of Papers downloadable in 'iso' format for running on your personal computer
- Viewing and downloadable access to more than 15,000 papers presented at the various Annual Meetings.
- Visual Aid Presentations: A visual collection of more than 16,000 slide and poster presentations (2013 through 2017).

Transportation Research Record:

- Committees reviewed approximately 5900 papers for the 2017 Annual Meeting.
- Almost 170 papers were approved for "early publication." These were all be published by the end of March.
- **A decision was made to go to all-electronic publication of the TRR starting with this year's papers. This is primarily a budget reduction decision. However, it will also facilitate one of the other peer review recommendations which is to move to an article-based process rather than a volume-based process. This transition may begin in 2018.**
- The number of papers submitted for TRR peer review each year has basically doubled in the past 10 years (~8%/yr. avg.). We have published almost 1,000 papers each year for the past several years

2017-18 TRB Priorities:

The TRB Executive Committee continues to emphasize 3 Hot Topics:

- Transportation and Public Health,
- Transportation Resilience and Sustainability,
- Transformational Technologies

TRB Webinar Series

- TRB committees sponsored ~50 TRB webinars in 2016
- Total attendance at TRB webinars topped 20,000 during 2016.
- Average attendance was ~380 participants
- Consider suggesting a TRB webinar for 2017. The deadline to submit webinar requests for the second half of 2017 is March 1, 2016.

TRB's 100th Anniversary Planning

- Finally, plans are beginning to get underway to celebrate TRB's 100th Anniversary during 2020, leading up to the 100th anniversary in 2021. The Technical Activities Executive Committee will communicate initial plans later this year. You will hear more about this in 2018.

Upcoming Conferences:

- Freeway Operations and RTSMO Joint meeting, August 22-25, 2017 Woods Hole, MA
- 22nd International Symposium on Transportation & Traffic Theory (ISTTT) July 24-26, 2017 (Traffic Flow Theory and SimSub meetings)
- 5th Florida Automated Vehicles (FAV) Summit on November 14-15, 2017 in Tampa, Florida
- 12th Access Management Conference July 17-19, 2018 in Madison, Wisconsin
- 2018 Workshop on Managed Lanes on September 25-27, 2018 in Bellevue, Washington

Attachment 2

FHWA Update on Managed Lanes/HOV/Congestion Pricing – Greg Jones, FHWA Resource Center

Freeway Management/Managed Lanes - New Publications/Resources:

Freeway Management and Operations Handbook – An update to the existing Handbook has been essentially completed. The previous Handbook dated back to the early 90s.

The update to the Handbook focused on producing an electronic reference document that will incorporate as much current content as possible. The expectation is that this will help keep the document up to date as individual chapters of the handbook are updated over time.

The documents will be posted on the FHWA Operations website this Fall at:

www.ops.fhwa.ops.gov

Until such time the documents are posted on the FHWA site, the final draft chapters can be found at the TRB Freeway Operations Committee website at:

https://sites.google.com/site/trbfreewayops/sub_committees/freeway-operations-management-handbook

HOV/Managed Use Lane Pool Fund Study: 10 states currently provide funding for the pooled fund research studies (CA, GA, WA, FL, VA, TN, NY, MN, and OH) plus 2 MPO's (Dallas and San Francisco). This is a great opportunity to get priority research needs addressed. The opportunity is open for other States, MPOs, and tolling authorities to join on and be a member of this pooled fund research effort.

PFS Research Efforts currently underway:

Synthesis of Operational Aspects and Safety Implications of Reduced Cross-Sectional Elements for Managed Lanes - This effort is now complete. It looked at projects that had to deal with limited cross-sectional width, and the priorities placed on allocating space for buffer width, shoulder width, and travel lane width. It is now available on the FHWA Operations web site at:

<https://ops.fhwa.dot.gov/publications/fhwahop16076/index.htm>

Best Practices for Signing on a Multi-Segment Facility – This effort is to identify managed lane corridors that have long multi-zone corridors or would involve the junction of multiple managed lane corridors. The study gathered best practice efforts on providing motorists with information on toll rates within individual zones and throughout the length of the facility. A final report has been developed and will be posted to the FHWA website soon.

Operations Based Planning for Managed Lane Systems – A synthesis of planning best practices for development of Regional Managed lane networks. This research looked at regional plans that have been developed to date and identified key components for inclusion in regional plans. It also looked at the level of conceptual Operational Plans developed, including regional integration and

consistency policies. A final report has been developed and should be posted to the FHWA website soon.

Tolling Practices for Multi-Segment Facilities - Regional policies for tolling of managed lanes that have multiple zones or multiple interconnected facilities – This effort will explore the development of regional pricing policies that will cover these types of facilities that could be operating with multiple pricing needs, and if they operating independently or inter-connected. This research is currently finishing and will be posted to the FHWA website later this year.

New research topic areas:

- Marketing aspects of Managed Lanes
- How to use Demand Management to maintain High Occupancy rates
- Using Managed lane facilities as a targeted test bed for connected vehicles
- Shared Use Mobility concept and Managed Lanes
- Automated Vehicle Occupancy Detection

FAST Act Legislation:

- If an HOV Facility allows tolls be charged and the facility is an Interstate route within a designated metropolitan area, the public authority shall consult with the MPO concerning the placement and amount of tolls on the facility.
 - (NOTE: No specific guidance is being developed)

Congestion Pricing:

- **Congestion Pricing Web Site**
 - <http://www.ops.fhwa.dot.gov/congestionpricing>
- **Congestion Pricing: A Primer on Back Office Issues**
 - Explores the range of back office issues that have arisen on congestion pricing projects throughout the United States. The issues are organized into eight categories: policy decisions, interoperability back office efficiency, enforcement, data analysis and warehousing, transparency, privacy, and private sector involvement.
- **Primer on the Evolution of Second Generation Pricing Projects**
 - Explores the evolution of first-generation pricing strategies (conversions of existing HOV lanes into high-occupancy-toll (HOT) lanes) into more complex express toll lanes using new or expanded capacity. This second generation movement also includes the implementation of integrated networks of priced roadways with urban regions. The primer explains these differences and provides insights from case studies around the United States. The primer concludes with guidance for agencies looking to develop second-generation pricing projects.

ATDM

Part-time Shoulder Lane Research:

- **Use of Freeway Shoulders for Travel** – The document is complete and includes: the types of safety and operations analysis recommended, pavement structure, sight distance and other geometric issues, trucking considerations (including oversize loads), use of ITS and ATM, drainage, snow storage and maintenance considerations, concepts of operations, potential environmental, air quality and noise implications, and pavement marking and signing.

The document can be found here: <http://www.ops.fhwa.dot.gov/publications/fhwahop15023/>

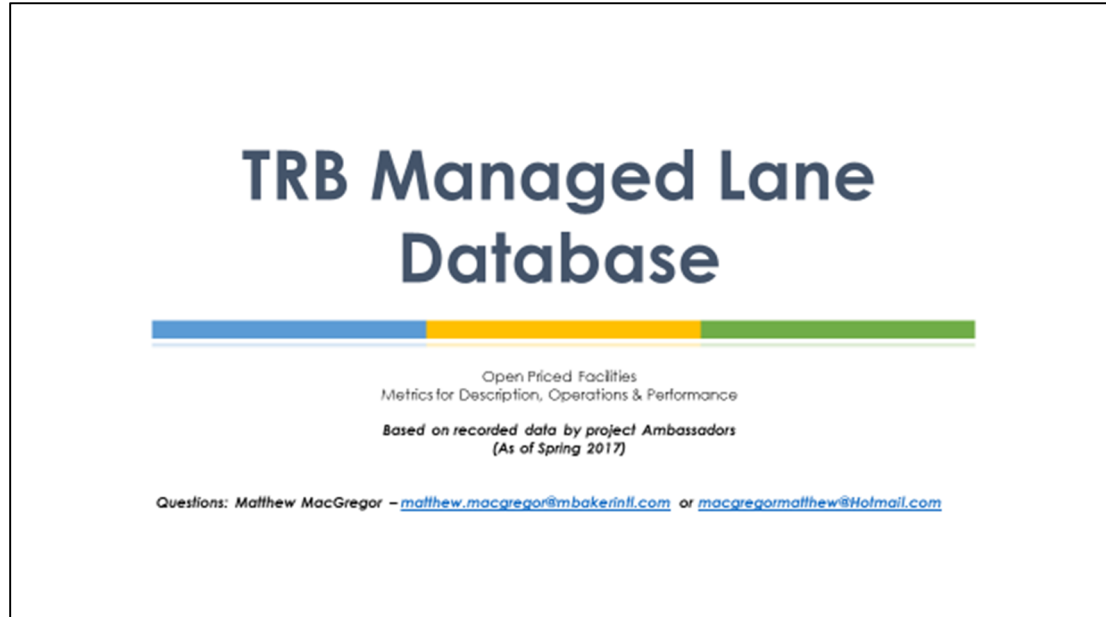
- **Part-time Shoulder Lane Workshops** – As many as 8 workshops will be available during 2017 for areas that are considering implementing part-time shoulder lanes as a TSMO strategy. The first 5 workshops have been held:
 - 1) Baltimore, MD
 - 2) Portland, OR
 - 3) IN/OH
 - 4) WA
 - 5) Northern CA

Attachment 4
Managed Lane Database

ML Database Viewing Instructions

Please Link to: <https://managedlanes.wordpress.com/2017/07/07/projects-database/>

Presentation Title slide at 2017 IBTTA / ML Symposium (For Reference and a contact person)



The web page will look similar to this slide

The image shows a slide titled 'TRB Managed Lane Database - Purpose'. The slide has a vertical bar on the left side with three colored segments: blue at the top, yellow in the middle, and green at the bottom. The title is in a large, bold, dark blue font. Below the title is a bulleted list of three items: 'Purpose', 'Table', and 'Map'. Each item is preceded by a small orange square. The 'Purpose' item is followed by a sub-bulleted list of three items: 'Part 1', 'Part 2', and 'Part 3'. At the bottom of the slide, there is a light blue rectangular box containing the text 'These - [ML Database Viewing Instructions](#) - Will be posted here'.

TRB Managed Lane Database - Purpose

- **Purpose** – Collect readily available data on operating priced managed lanes to foster the exchange of characteristics related to description, operations and performance.
 - Part 1 – Facility Description, Hours, Access and Occupancy
 - Part 2 – Discounts, Exemptions, Violations and Pricing Approach
 - Part 3 – Volume, Usage, Price, Revenue and Performance
- **Table** – Current data is populated by project ambassadors
- **Map** – Data is geographically tied to sortable metrics

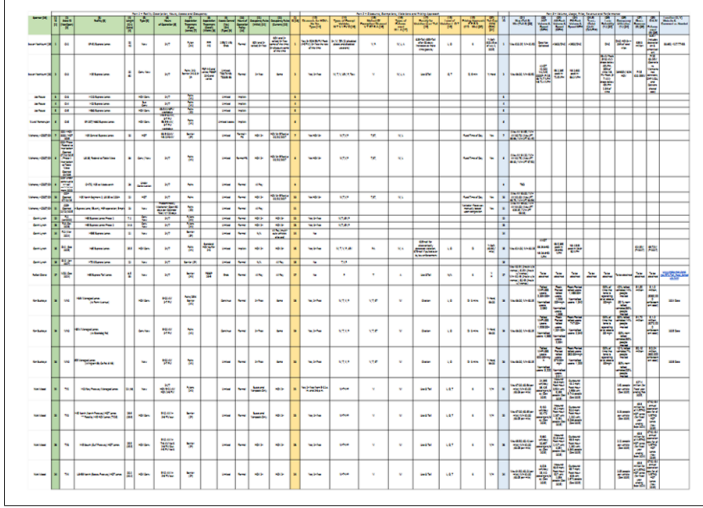
These - [ML Database Viewing Instructions](#) - Will be posted here

Link to the [ML Database](#) from the TRB Managed Lane Page:

The full [ML Database](#) looks like this.

TRB Managed Lane Database – Table

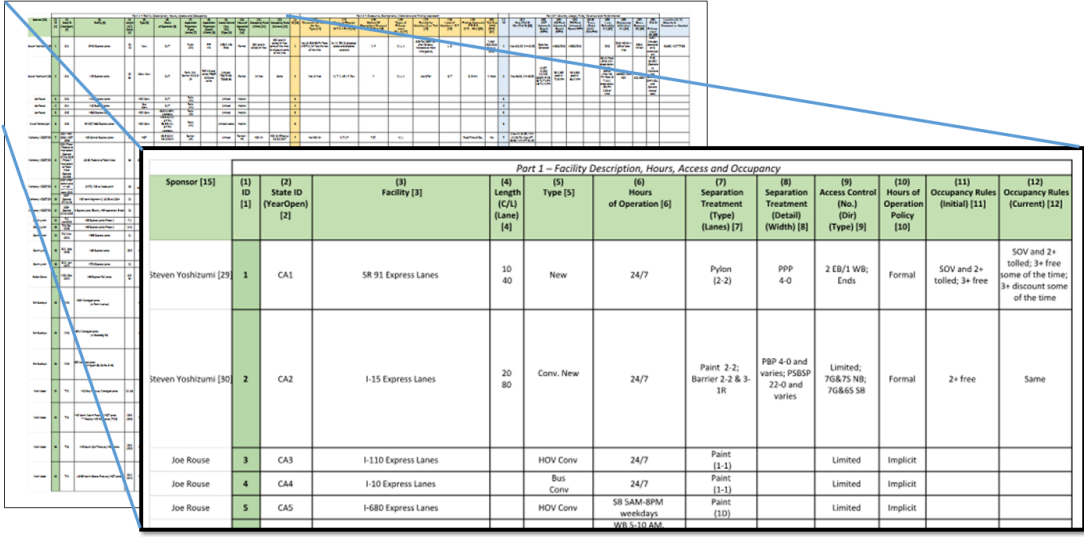
- Link to Read Only Managed Lane Database <https://goo.gl/NiM9cx>



[Zoom in closer](#) to see more detail like this

TRB Managed Lane Database – Table

- Link to Read Only Managed Lane Database <https://goo.gl/NiM9cx>



Part 1 – Facility Description, Hours, Access and Occupancy												
Spponsor [15]	(1) ID [1]	(2) State ID (YearOpen) [2]	(3) Facility [3]	(4) Length (C/L) (Lanes) [4]	(5) Type [5]	(6) Hours of Operation [6]	(7) Separation Treatment (Type) (Lanes) [7]	(8) Separation Treatment (Detail) (Width) [8]	(9) Access Control (No.) (Dir) (Type) [9]	(10) Hours of Operation Policy [10]	(11) Occupancy Rules (Initial) [11]	(12) Occupancy Rules (Current) [12]
Steven Yoshizumi [29]	1	CA1	SR 91 Express Lanes	10 40	New	24/7	Pylon (2-2)	PPP 4-0	2 EB/1 WB; Ends	Formal	SOV and 2+ tolled; 3+ free	SOV and 2+ tolled; 3+ free some of the time; 3+ discount some of the time
Steven Yoshizumi [30]	2	CA2	I-15 Express Lanes	20 80	Conv. New	24/7	Paint 2-2; Barrier 2-2 & 3-3R	PBP 4-0 and varies; PSBSP 22-0 and varies	Limited; 76B 75 NB; 76B&65 SR	Formal	2+ free	Same
Joe Rouse	3	CA3	I-110 Express Lanes		HOV Conv	24/7	Paint (1-1)		Limited	Implicit		
Joe Rouse	4	CA4	I-10 Express Lanes		Bus Conv	24/7	Paint (1-1)		Limited	Implicit		
Joe Rouse	5	CA5	I-680 Express Lanes		HOV Conv	SB SAM-6PM weekdays WB 1-10 AM	Paint (1D)		Limited	Implicit		

Click the **(#) Column Cell** for a description of the entered data

TRB Managed Lane Database – Table

- Link to Read Only Managed Lane Database <https://goo.gl/NiM9cx>

The screenshot shows a large data table with a callout box highlighting column (2). The callout box contains the following text:

(2) State ID (YearOpen)
State abbreviation and Chronological within the State and the year the managed lane opened

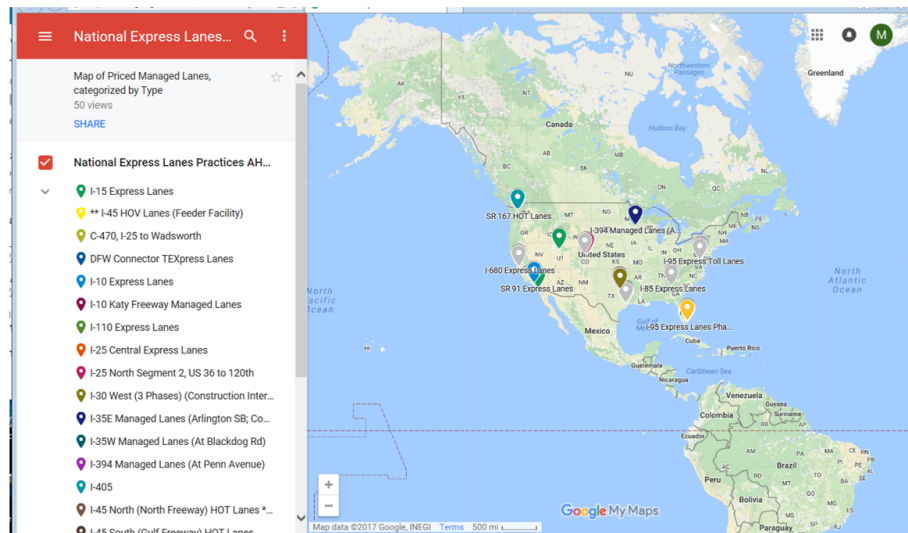
Sponsor [15]	(1) ID [1]	(2) State ID (YearOpen) [2]	(3) Facility [3]	(4) Length (M) (Lane) [4]	(5) Type [5]	(6) Hours of Operation [6]	(7) Separation Treatment (Type) (Lanes) [7]	(8) Separation Treatment (Detail) (Width) [8]	(9) Access Control (Dir) (Type) [9]	(10) Hours of Operation Policy [10]	(11) Occupancy Rules (Initial) [11]	(12) Occupancy Rules (Current) [12]
Steven Yoshizumi [29]	1	CA1	SR 91 Expre	10			Evlon	PPP	2 EB/1 WB		SOV and 2+	SOV and 2+ tolled; 3+ Free of the time; count some the time
Steven Yoshizumi [30]	2	CA2	I-15 Expre									Same
Joe Rouse	3	CA3	I-110 Expre									
Joe Rouse	4	CA4	I-10 Express Lanes		Conv	24/7			Limited	Implicit		
Joe Rouse	5	CAS	I-680 Express Lanes		HOV Conv	SB 5AM-8PM weekdays WB 9-10 AM			Limited	Implicit		

Link to the **Map** the TRB Managed Lane Page (or) key in the exact address listed below.

The full **Map** looks like this.

TRB Managed Lane Database - Map

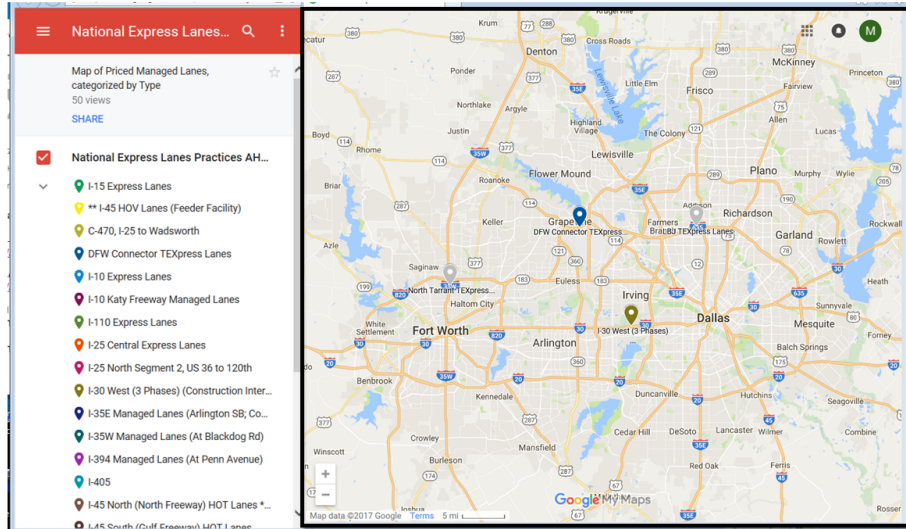
- Link to Read Only Managed Lane Map <https://goo.gl/1Pxgpk>



Scroll in for a closer look – North Texas and the Dallas and Fort Worth Region for example.

TRB Managed Lane Database - Map

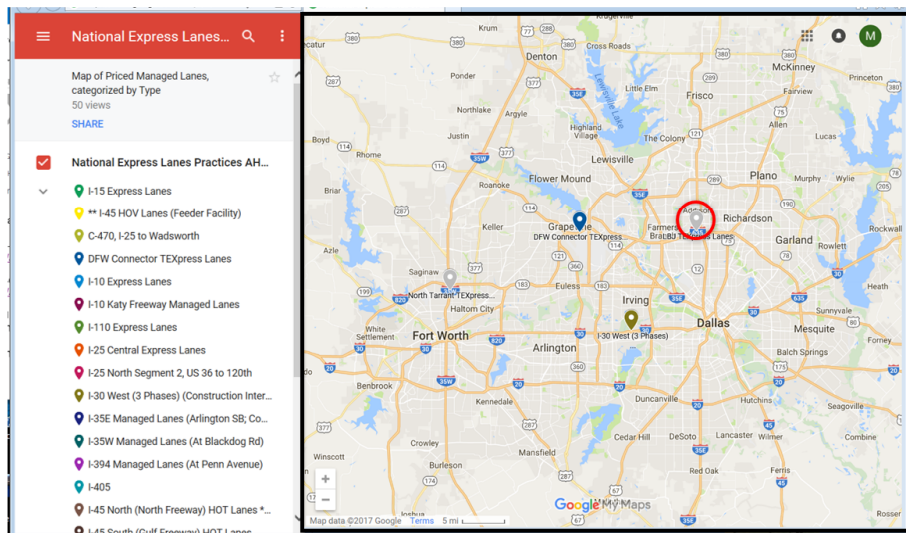
- Link to Read Only Managed Lane Map <https://goo.gl/1Pxgpk>



Focus in on a particular project balloon.

TRB Managed Lane Database - Map

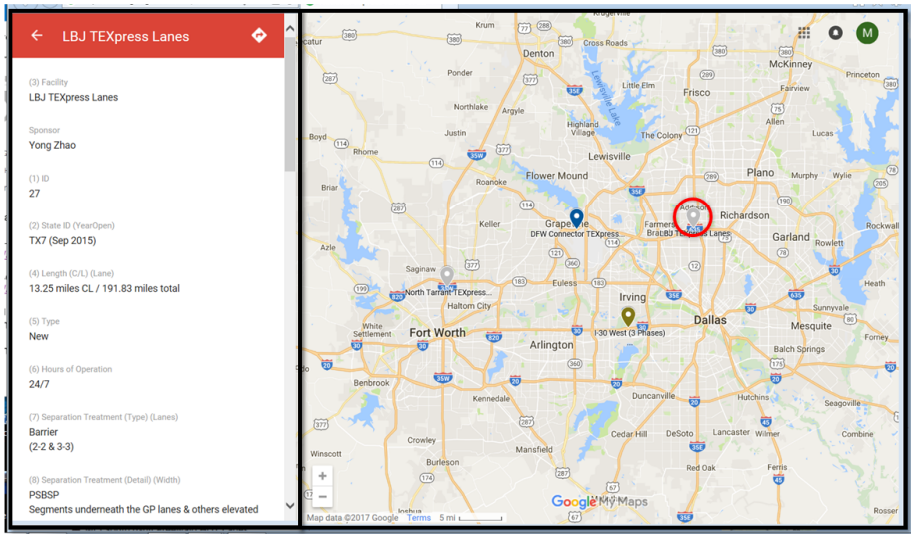
- Link to Read Only Managed Lane Map <https://goo.gl/1Pxgpk>



Click the LBJ TEXpress balloon to see the data for the facility shown in a scrollable screen to the left.

TRB Managed Lane Database - Map

- Link to Read Only Managed Lane Map <https://goo.gl/1Pxpak>



The screenshot shows a mobile application interface. On the left is a red header with a back arrow and the text 'LBJ TEXpress Lanes'. Below the header is a scrollable list of details for the facility:

- (3) Facility: LBJ TEXpress Lanes
- Sponsor: Yong Zhao
- (1) ID: 27
- (2) State ID (Year/Opened): TX7 (Sep 2015)
- (4) Length (CL/L) (Lane): 13.25 miles CL / 191.83 miles total
- (5) Type: New
- (6) Hours of Operation: 24/7
- (7) Separation Treatment (Type) (Lanes): Barrier (2-2 & 3-3)
- (8) Separation Treatment (Detail) (Width): PSBSP
Segments underneath the GP lanes & others elevated

The map on the right shows the Dallas-Fort Worth area with a red balloon over the LBJ TEXpress Lanes facility near the intersection of I-35 and I-75. The map includes labels for various cities and highways.

Some interesting data populated in the full Managed Lane Database.

TRB Managed Lane Database – Data

What do we know of these 41 facilities

- First facility SR 91 Express opened in December 1995
- Last facility opened in Dallas on I-35E North spring 2017
- 10 States – CA-6, CO-5, FL-3, GA-2, MD-1, MN-3, TX-16, UT-1, VA-2, WA-2. Note: The last one open makes 42.
- Total Length-513, Total Lanes-107, Total Lane Miles-870
- Barrier-15, Pylon-9, Paint-15, Combination-2
- Pricing – Fixed-3, Peak-0, Scheduled-10, Dynamic-14, ??-14
- HOV Policy – 13-2+Free, 10-3+Free, 4-Discount, 7-Full, 10-??
- More are in the pipeline – Planning, Design, Construction
- Most to all facilities are supported positively when operating

Some areas to continue to work on in the future.

TRB Managed Lane Database - More

- Additional sorting counting and analysis could be done.
- More operational data on speed and volume would help
- Actual operating costs would help
- Actual Gross or Net revenue would be helpful
- Only looking for safe data to share objectively

Questions ...

Suggestions ...

Data to add ... See blank data entry form posted on the site as well

Contact: Matthew MacGregor – email: matthew.macgregor@mbakerintl.com, Cell: 214-417-9814

Others: TRB MI Committee Co-Chairs: Chuck Fuhs and Casey Emoto

Others: TRB ML Sub Committee – Marc-Andre Seguin, Tim Haile

Attachment 5
LIST OF EMERGING ISSUES
MID-YEAR MEETING, TRB COMMITTEE ON MANAGED LANES
Committee AHB35
July 15, 2017
Hilton Anatole, Wedgwood Ballroom, Dallas, Texas

Addressing hyper-congestion

Congestion on the managed lane does not allow all demand to be accommodated. This could be a pricing or toll rate issue, even if toll rate is quite high. How do we address hyper-congested period when managed lane speeds may be slower than general purpose lanes. Some users are not sensitive to price (HOVs) and those not setting transponder correctly (LA experience).

Enforcement

Better enforcement technology is needed to back-up self-declaration transponder technology. Pricing alone may not be sufficient to address hyper-congestion. Toll caps may be too low to manage demand, and the psychological impacts of high tolls on customer perceptions. A decision to take the ML may be driven by the price or perception of congestion that affects the price. The right users need to get the right information at the right time.

Signage

Multi-destination signs make it impossible to sign every destination, and advise users of the toll to every point. The current practice is not feasible for emerging systems. Problem may be compounded when two entities (state DOT and toll operator) are involved. The solution needs to be solved from multiple perspectives, not just the DOT perspective. We can't communicate everything to all users, including those unfamiliar with the system. The MUTCD may hurt since it is too generic to address this need.

Signing networks with connectivity. Options become more complex on signing, particularly for facilities with different pricing structures. Local business rules are difficult to sign on the roadside. We have to find a signing strategy that works.

Tolling rate consistency

Charging different prices to different customers is a local and regional concern in Florida. The toll agency may be part of a critical link in the network.

Rate setting synthesis topic is being proposed by the Economics and Pricing Committee (February 2018)

Equity

Helping users understand the total cost of the trip including parking. Equity is important.

Impact of Autonomous Vehicles (AVs)

Disruptive technology and its impact on ridesharing. For HOV2, many are free right now, but eventually maybe not. What about impact of AV on managed lanes, their routings and use.

Private concession conflicts

Use of state DOT right-of-way for telecommunications may impact managed lane concessions, where two or more private operators share the same right-of-way. More fiber is needed in almost every major corridor in Atlanta.