

Lessons Learned from National and State-Level Analyses

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Texas Transportation Institute

I-95 Corridor Coalition Webinar
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Overview

- The basics
- TTI experience to date
 - Evaluations, prototypes, reports
- Lessons learned

The Basics

- Offline analysis of historical data
- Does not require real-time data feed, simply license historical data
 - Day-of-week averages, variation, percentiles, etc.
 - Day-to-day archive for some companies
- GPS-based probes - does not require roadway sensors to be deployed

What is provided?

- Only link speed, no traffic counts/flows
- Time intervals
 - Hourly or 15-minute day-of-week averages
 - Sometimes separate holiday averages
- Date range
 - Annual, sometimes quarterly or monthly
- Road coverage
 - TMC (traffic message channel) referencing

Who?



- Others

TTI Experience to Date

- Evaluations and prototypes
 - Minneapolis freeway & arterials
 - Phoenix freeway & arterials
 - SHRP 2 L03 research project
- Reports
 - Texas "100 Most Congested"
 - Minnesota Statewide Pilot Project
 - 2010 Urban Mobility Report

Texas 100 Most Congested

- Rider 56 - Lt. Governor held up state highway funds until Top 100 list published by TxDOT
- First iteration used TxDOT road inventory data to estimate congestion
- Disagreement and debate
- 2nd iteration - Competitive RFP for 2009 statewide historical data award to INRIX

Texas 100 Most Congested

Gmail - Inbox (1) - shawn... x 100 Most Congested Roa... x

apps.dot.state.tx.us/apps/rider56/list.htm

Home-Personal Work Massive Traffic Jam ... NCHRP 20-45 - Stati... TRB 2010 Annual M... TWC 77845 Weather Fore... Traffic situation in N... Thanksgiving Holid... Other bookmarks

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100 Most Congested Roadway Segments in Texas

These are the top 100 congested segments of roadways in the state. Improvements are identified for each segment.

View information as a: [Map](#) | [List \(Text Version\)](#)

[How were the sections identified?](#)

Click on column heading to sort by that column | [Download](#) a copy of this table

Accuracy is limited to the validity of available data as of December 31, 2009

2010 Rank	Roadway	County	From	To	Annual Hrs of Delay per mile	Annual Hrs of Delay	Annual Cost of Delay	TCI ?	CSI ?	MPO	Mitigation Plan
1	IH 45	HARRIS	SL 8 North	IH 610	484,630	4,507,059	\$98.03 million	1.30	1.71	H-GAC	📄
2	US 59	HARRIS	IH 610 West	SH 288	440,416	2,422,287	\$52.68 million	1.33	2.04	H-GAC	📄
3	IH 635	DALLAS	IH 35E	US 75	432,244	3,414,730	\$74.27 million	1.34	1.85	NCTCOG	📄
4	IH 35	TRAVIS	SH 71	US 183	421,778	3,880,359	\$84.4 million	1.45	2.40	Capital Area MPO	📄
5	SS 366 Woodall Rodgers Freeway	DALLAS	IH 35	US 75	397,861	636,577	\$13.85 million	1.41	2.39	NCTCOG	📄
6	IH 45	HARRIS	IH 10	IH 610 South	366,486	2,858,589	\$62.17 million	1.26	1.61	H-GAC	📄
7	IH 45	HARRIS	IH 610 North	IH 10	342,303	1,061,140	\$23.08 million	1.22	1.61	H-GAC	📄

Texas 100 Most Congested

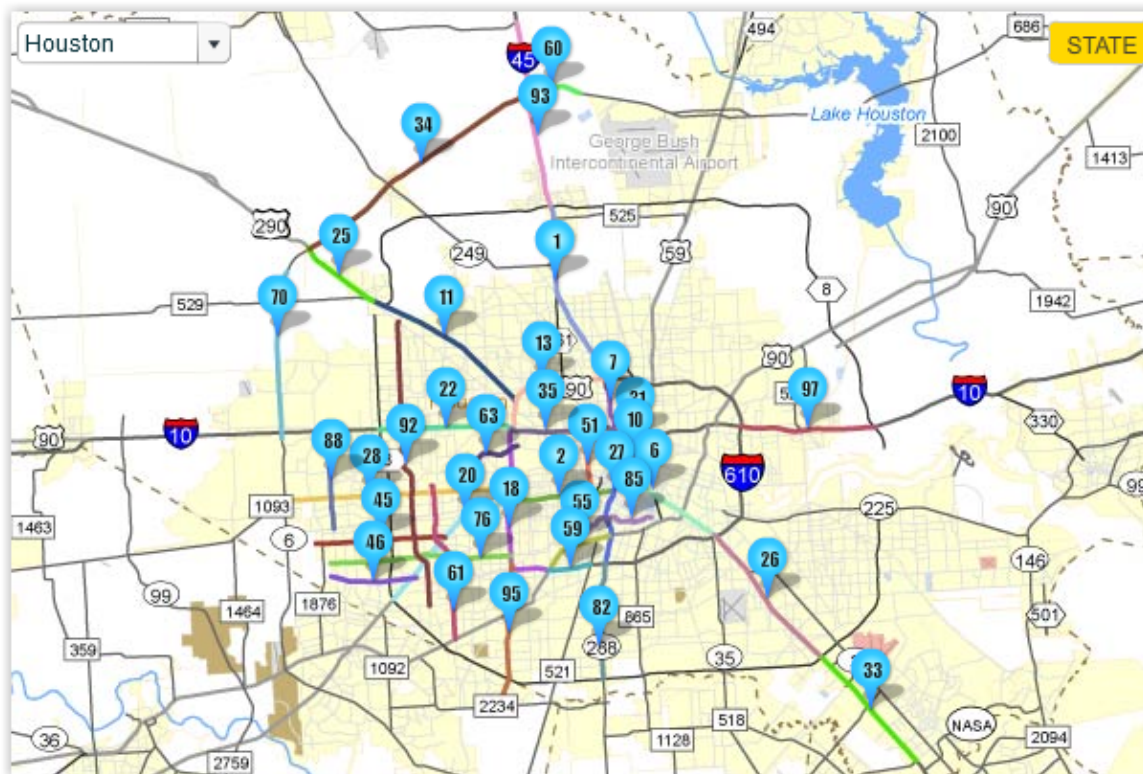
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You may view individual TxDOT districts by clicking on colored sections of the map or by using the drop down menu on the left. To return to the statewide view at any time, click on "state" in the upper right corner of the map. To view each segment's details, click on the corresponding blue balloon.



Roadway Name: IH 45

TxDOT District: Houston

MPO: H-GAC

Annual Hours of Delay: 4,507,059

Annual Cost of Delay: \$98.03 Million

Annual Hours of Delay per mile traveled: 484,630

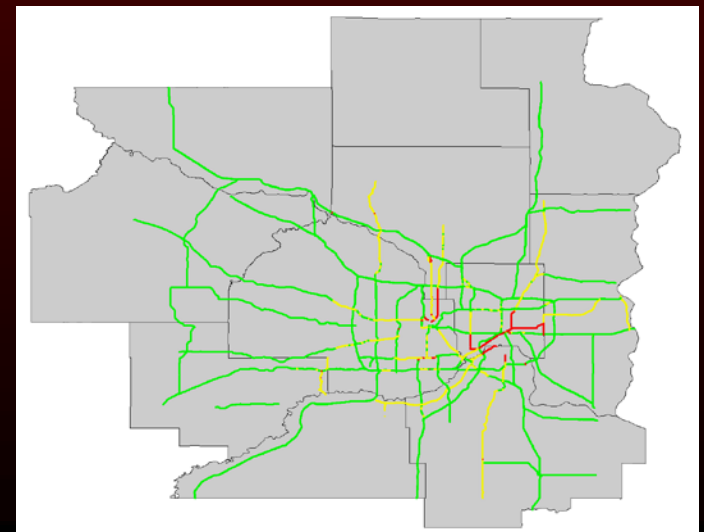
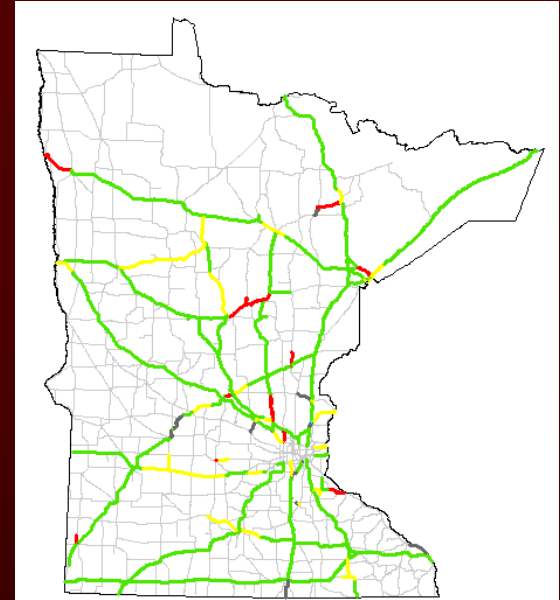
TCI: 1.3

Commuter Stress Index: 1.71

TCI is a measure describing how much longer a trip takes during the peak period (rush hour) than it would when traffic is flowing freely. A TCI of 1.0 indicates there is no difference in travel time between peak and off-peak periods while a TCI of 1.35 suggests it takes about 35% longer.

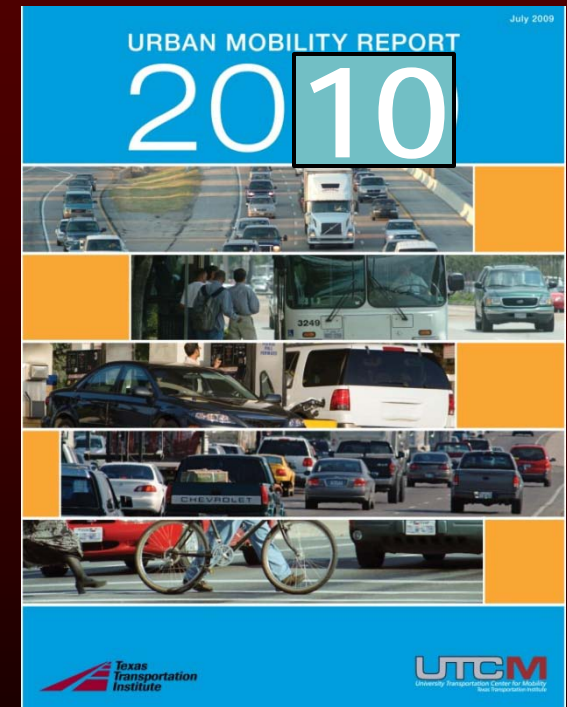
Minnesota Statewide Pilot

- Competitive RFP for statewide historical data award to INRIX
- First foray into rural intercity corridors and urban arterials
- Segment definitions



2010 Urban Mobility Report – Partnership with INRIX

- To be released in next few weeks
- Integrates nationwide speeds with HPMS volume estimates
- “Under the hood” upgrades in 2010
- Possible in future upgrades:
 - Intercity corridors
 - Worst 10 bottlenecks each city
 - Travel time reliability



Lessons Learned

1. Integrating speed and volume data

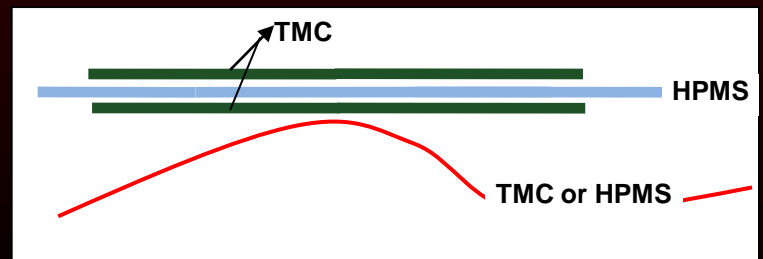
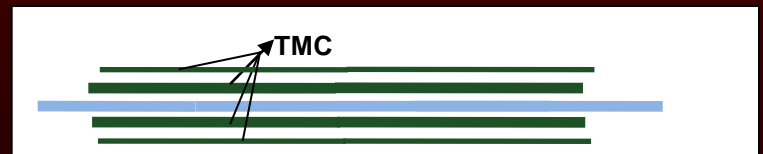
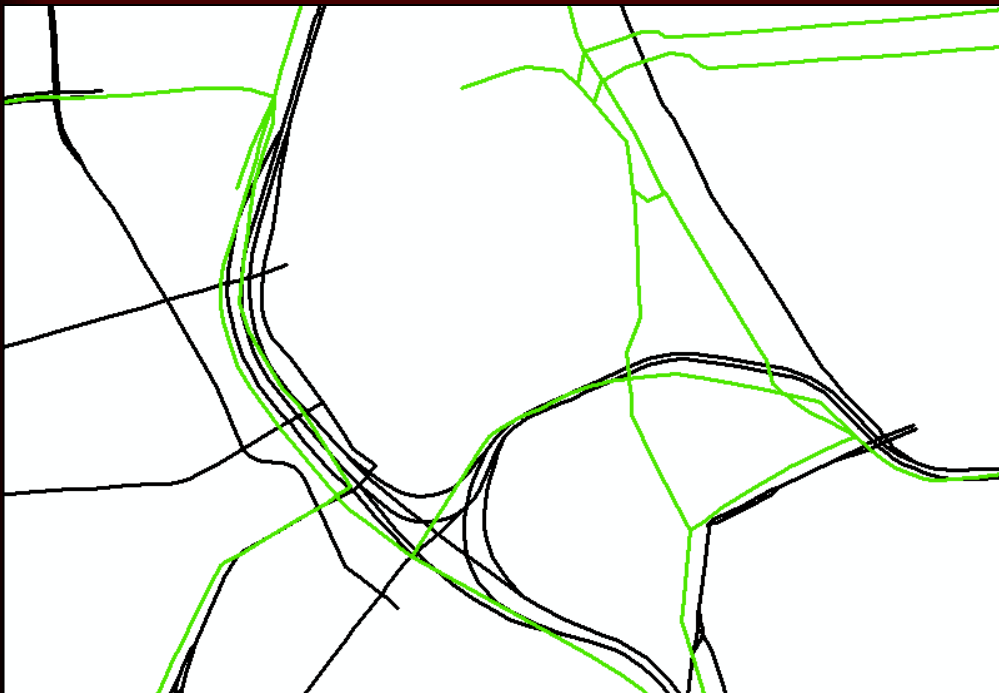
- VMT essential for
 - Delay & throughput calculations
 - Corridor or network averages
 - Understanding trends

City	Travel Time Index		Difference (points)
	Weighted by VMT	Weighted by length	
1	1.33	1.22	+11
2	1.27	1.19	+ 8
3	1.48	1.32	+16
4	1.19	1.16	+ 3
5	1.14	1.08	+ 6

Lessons Learned

2. Location, location, location

- TMC network vs. DOT network
- Conflation to integrate speed and VMT

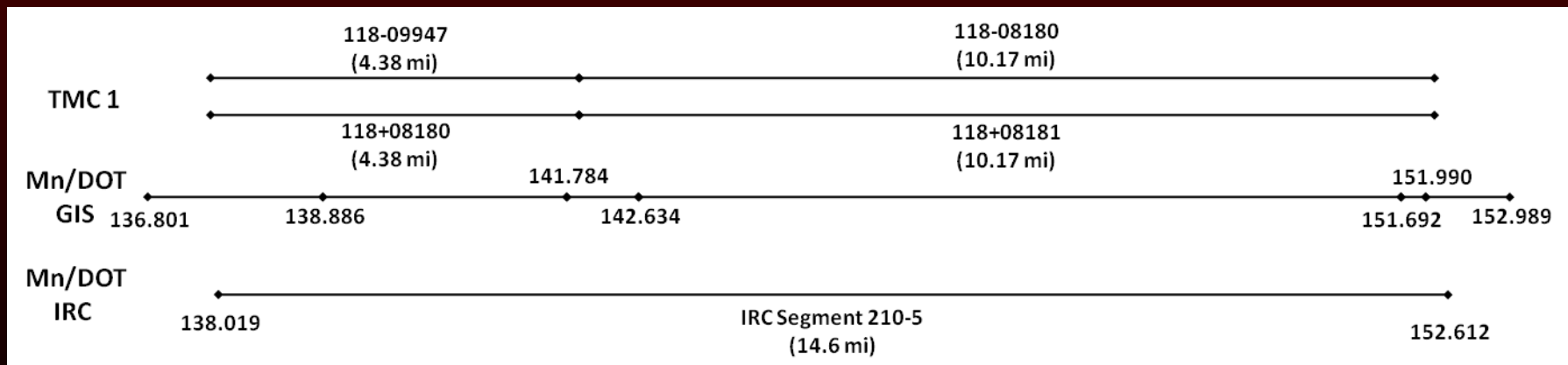


Lessons Learned

3. Segmentation for summary statistics

- TMC paths “rolled up” to segments/routes
- Reporting and tracking purposes

- Mn/DOT example



Lessons Learned

4. Single-use vs. open licensing

- Analogy - single desktop vs. enterprise-wide software licensing
- Licensing rights - most things are possible, but you will have to pay for more control and ability to release detailed data

Questions?

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