

# Information Needs For Managed Lanes Users: Fifteen Years Of Research On Traveler Information Systems And Traffic Control Devices

TRB MANAGED LANE SYMPOSIUM

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Presentation by:

Sue Chrysler, TTI



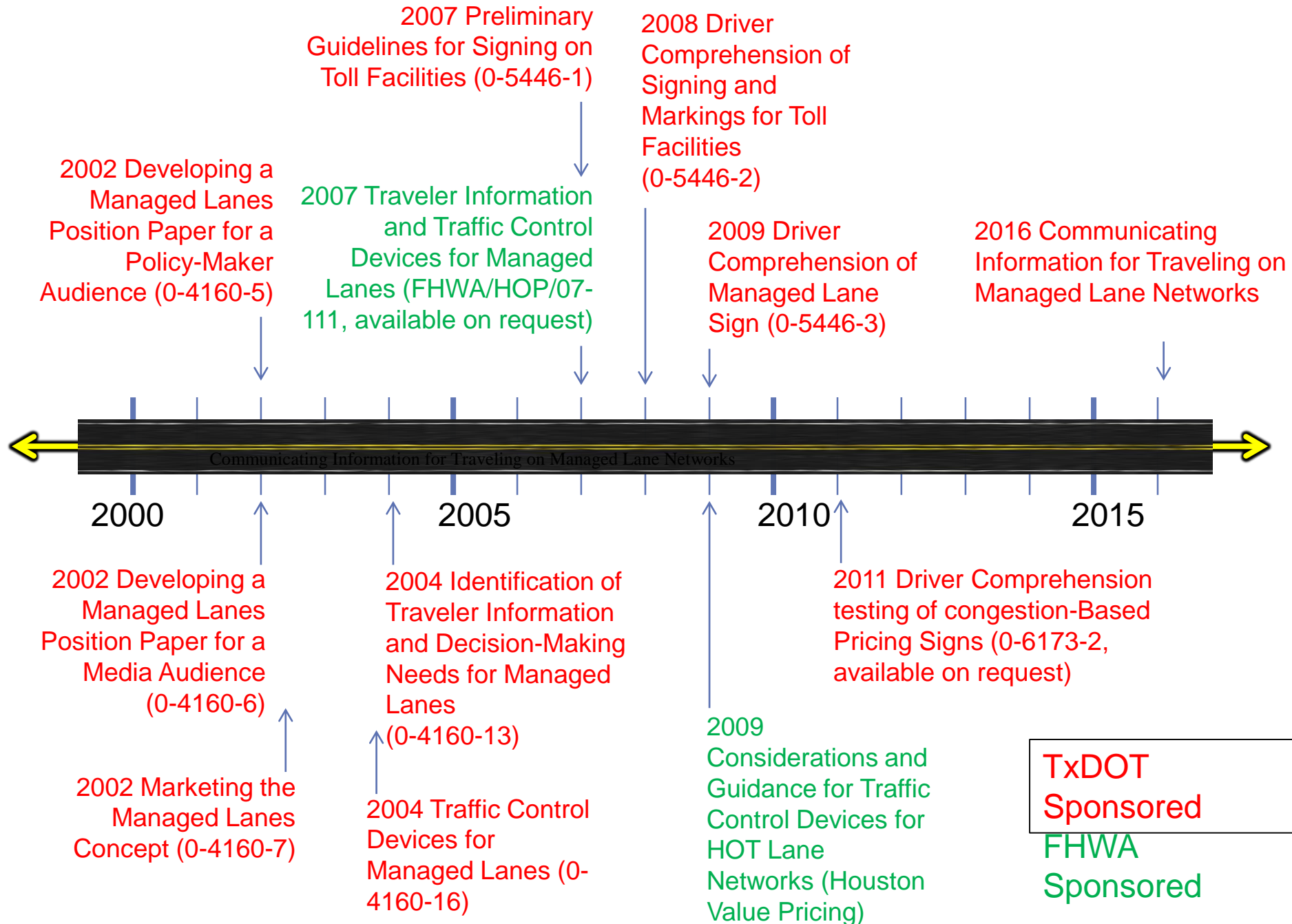
# TTI'S HISTORY WITH MANAGED LANES RESEARCH

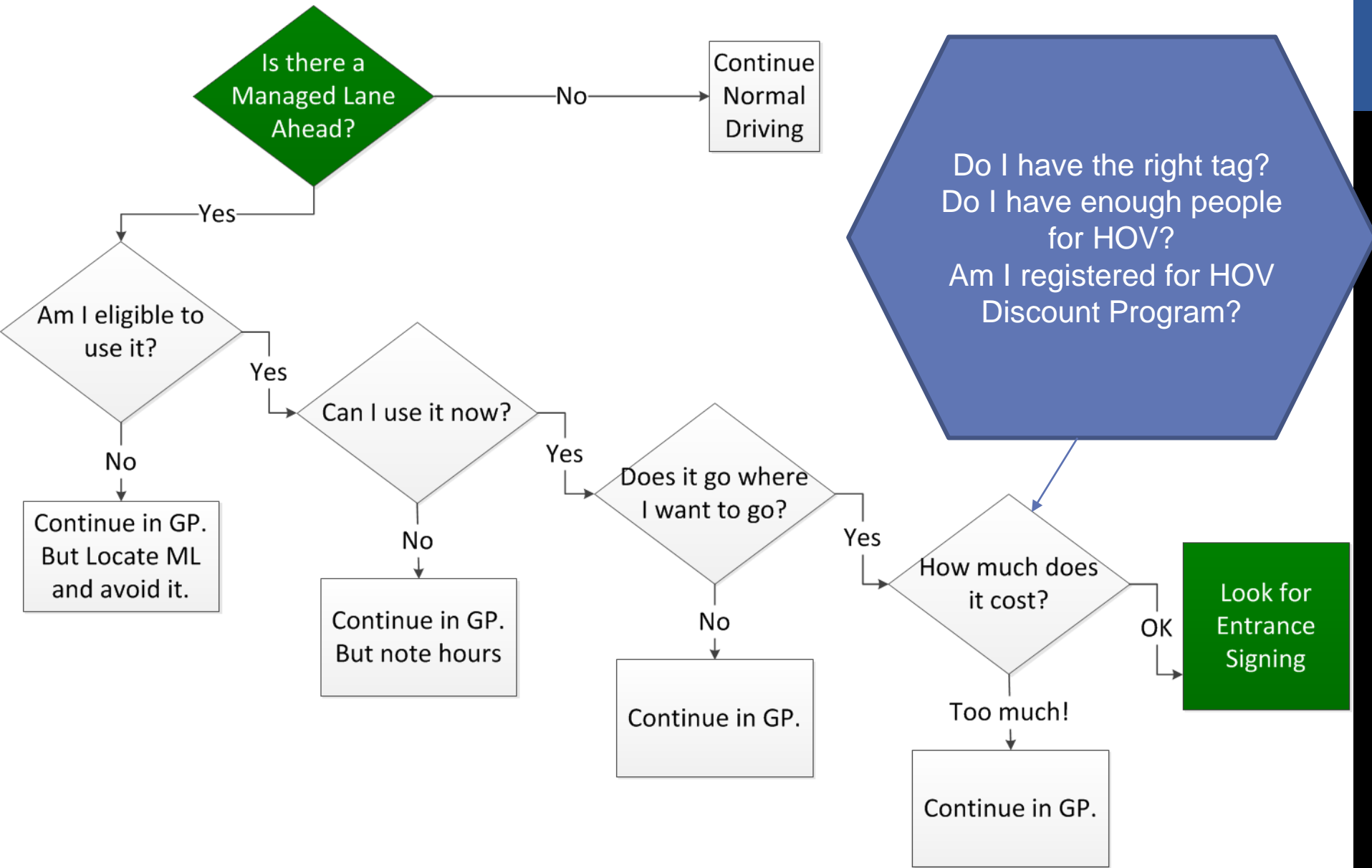
- Identified through TxDOT and FHWA projects in 2000's
- Focus Groups
- Surveys
- Interviews with operators



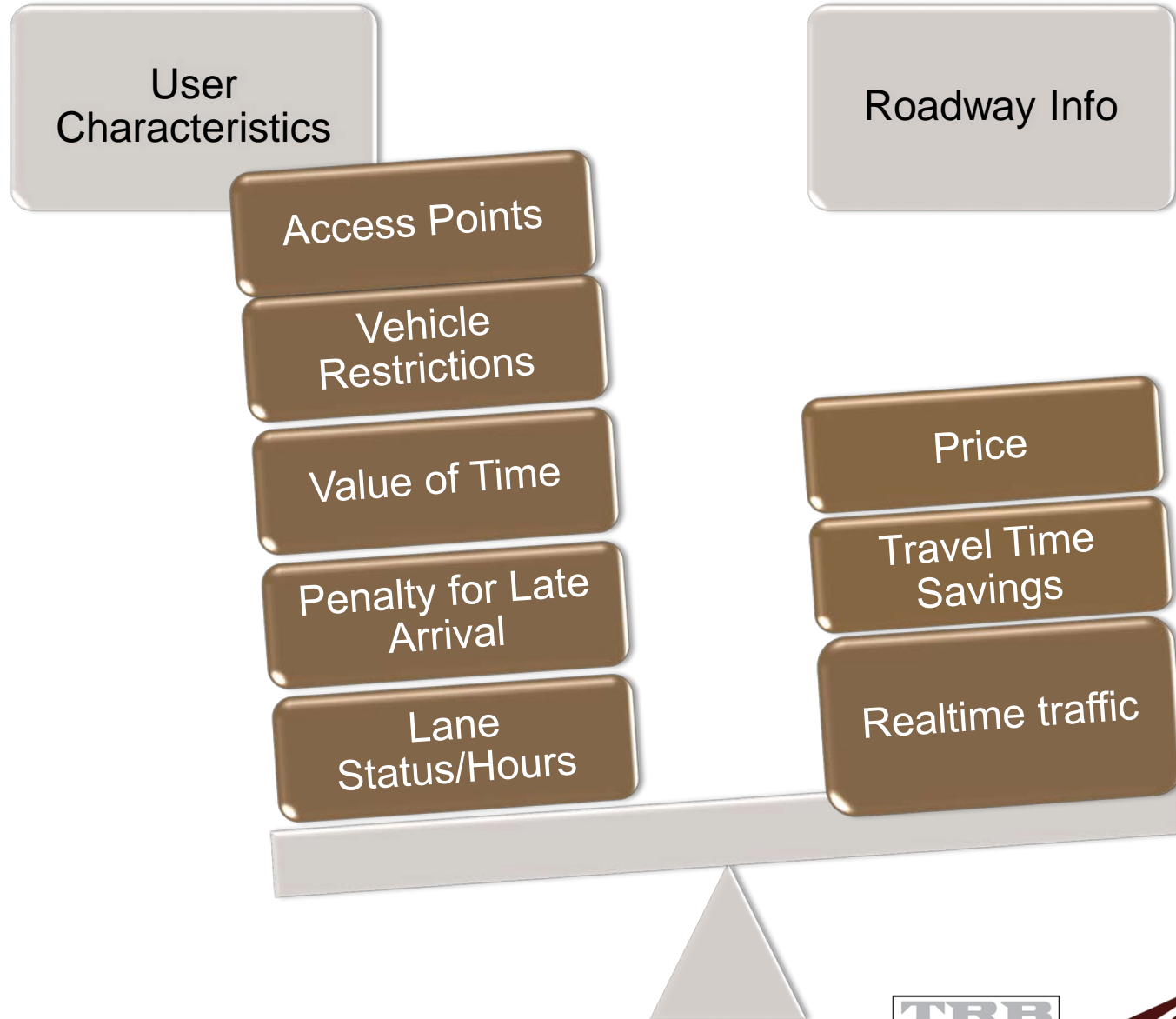
<http://managed-lanes.tamu.edu/resources/reports>



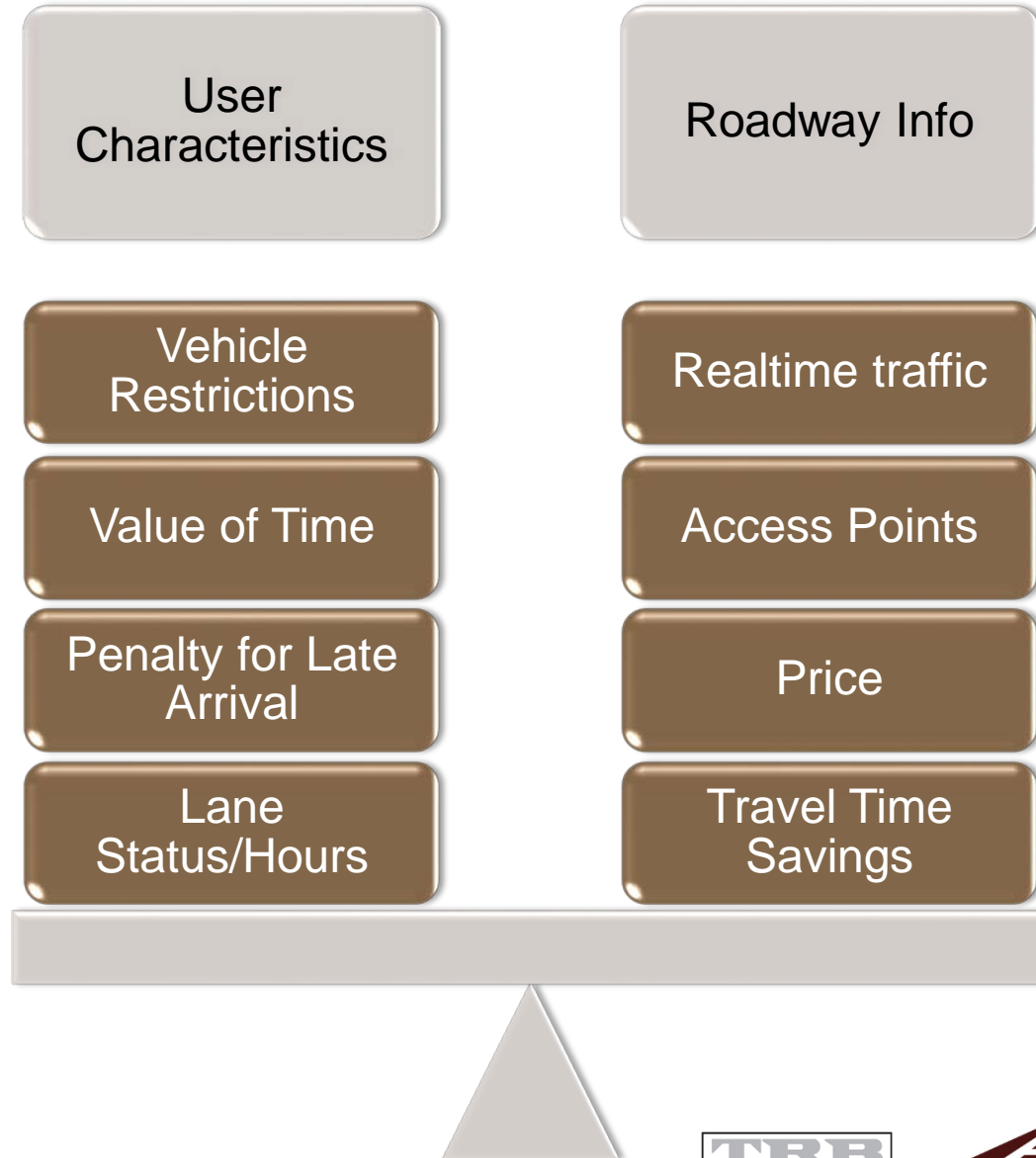




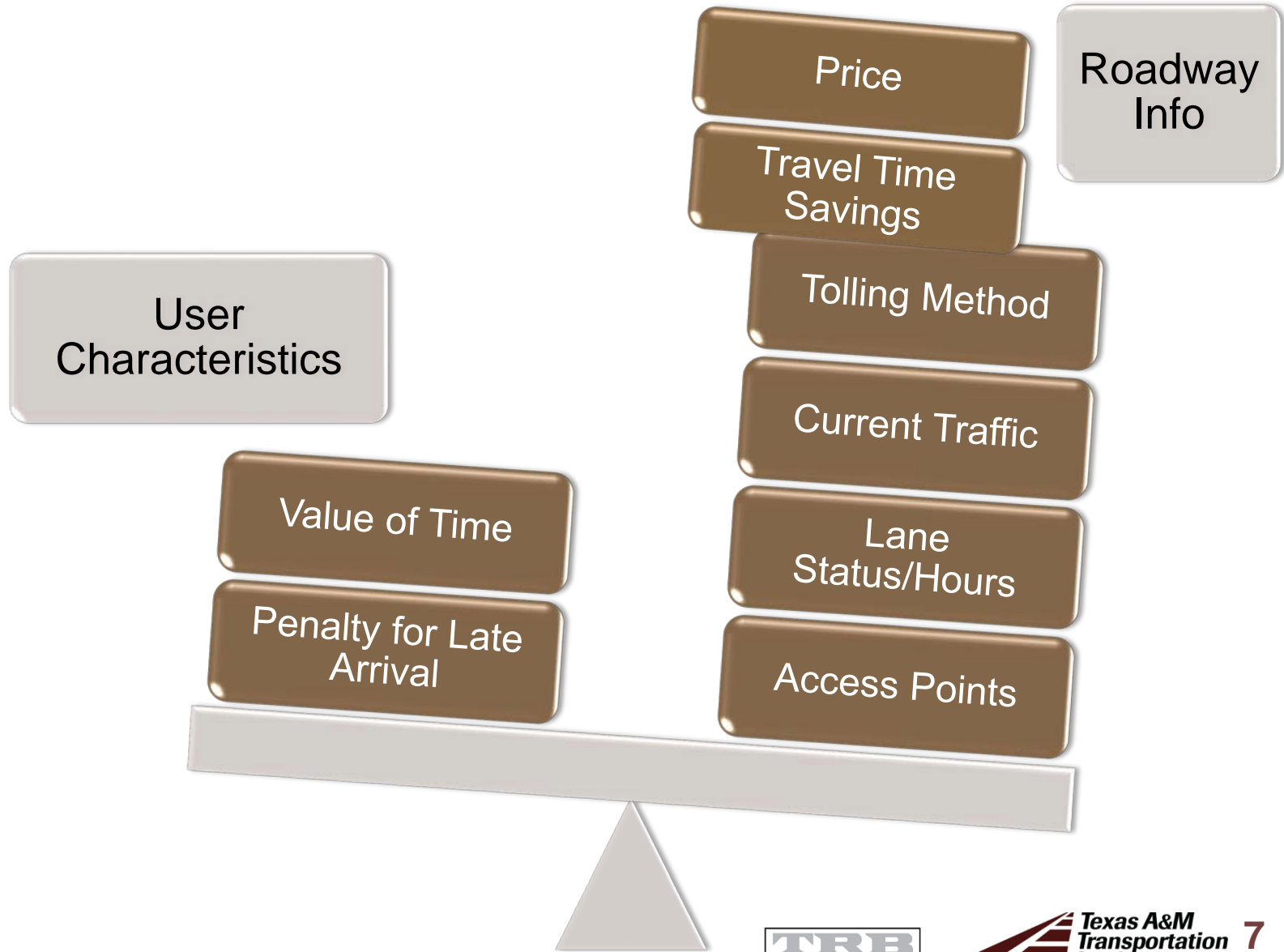
# REGULAR MANAGED LANE USERS



# LOCAL DRIVERS



# UNFAMILIAR DRIVERS





# THAT'S A LOT OF SIGNS!





# FOCUS GROUPS & SURVEYS



# EXAMPLE VIDEO CLIP

- **Change to Media Player**



Produced by HNTB as part of TxDOT project 5446 in 2008

# Version 1



# Version 2



Slide 11

# EXAMPLE PRICE SEGMENT QUESTIONS

◇ HOV/TOLL LANE

Ash St **\$.50**

Birch Dr **\$1.00**

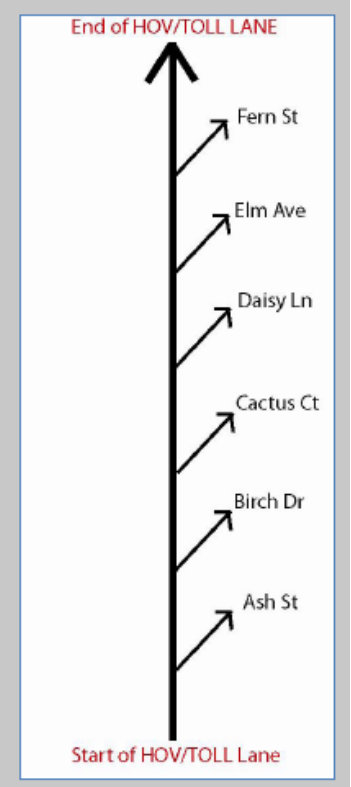
◇ HOV/TOLL LANE

Ash St **1/2 Mi**

Birch Dr **2 Mi**

How much is it to drive to Birch Dr on the HOV/Toll Lane?

- 1 \$0.50
- 2 \$1.00
- 3 \$1.50



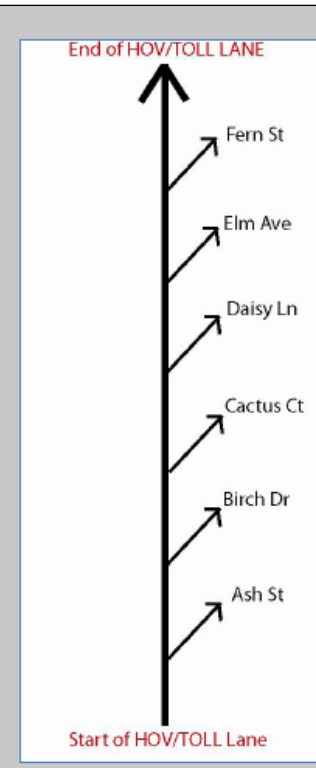
	Total Green is Correct
1	17.93%
2	76.63%
3	5.43%

# PRETTY GOOD ON PRICE, BUT THEY DIDN'T REMEMBER DISTANCE

	Total Green is Correct
1	20.65%
2	54.35%
3	20.11%
4	4.89%

According to the last sign, how far is it to Birch Dr on the HOV/Toll Lane?

- 1 .5 mile
- 2 1 mile
- 3 2 mile
- 4 2.5 mile





# PRICE AND DISTANCE ON SAME SIGN

How much is it to drive to Daisy Ln on the HOV/Toll Lane?

- 1 \$1.50
- 2 \$2.00
- 3 \$2.50
- 4 \$3.50

How much is it to drive to Fern St on the HOV/Toll Lane?

- 1 \$2.50
- 2 \$3.00
- 3 \$4.50
- 4 \$5.50

◇
HOV/TOLL LANE

Cactus Ct	3½						
			<b>\$1.50</b>				
Daisy Ln	5			<b>\$2.00</b>			

◇
HOV/TOLL LANE

<b>\$2.50</b>	Elm Ave	6½			
<b>\$3.00</b>	Fern St	8			

	Total
1	30.43%
2	47.28%
3	10.33%
4	11.96%

	Total
1	31.52%
2	53.80%
3	8.70%
4	5.98%

# EXAMPLE TRAVEL TIME QUESTION

Which is more important in making your decision to enter the HOV/Toll Lane?

Total

11.96%

1 HOV/Toll Lane travel time

25.54%

2 Main freeway lanes travel time

62.50%

3 I would need them both to make a decision

# EXAMPLE PRICE ALGORITHM QUESTIONS

If there is an accident in the HOV/Toll Lane, you would expect the HOV/Toll Lane price to:

Total

13.04%

22.83%

64.13%

- 1 Increase
- 2 Decrease
- 3 Stay the same

If there is an accident in the main freeway lanes, you would expect the HOV/Toll Lane price to:

Total
17.93%
8.15%
73.91%

- 1 Increase
- 2 Decrease
- 3 Stay the same

# WHAT AFFECTS THE PRICE?

If you notice that today's HOV/Toll Lane price is higher than yesterday's at the same time of day, what do you expect may have happened?

Total
17.39%
39.67%
42.93%

1

An accident in the HOV/Toll Lane

2

An accident in the main freeway lanes

3

An accident in either the HOV/Toll Lane or the main freeway lanes



# TCD-SPECIFIC RESEARCH GAPS IDENTIFIED IN CURRENT NCHRP PROJECT

- **Sign sequencing and priority**
  - “what is the highest to lowest level of information needed?”
- **Amount and type of information presented to motorists on one structure**
- **Specific sign legends**
  - Pay by plate, Pay by Mail, Bill by Mail
  - Express Lanes term comprehension
  - HOV Symbols
- **Exit Numbering**
- **Pavement Markings**
  - Access areas
  - In-pavement lighting
  - Pull-through pavement markings associated with left-side ramps
- **TCDs for Reversible Lanes**
- **Toll rates**

# EMERGING ISSUES

- Provision of comparative travel time information
- Communicating managed lane network connections
- Transponder and in-vehicle technologies



# OTHER INFORMATION DISSEMINATION METHODS

- **Local Media outlets**
- **Virtual Drive-throughs used at public meetings and on websites**
- **Billing inserts or websites**
- **Apps**



# QUESTIONS OR TO GET REPORTS

Susan T. Chrysler, Ph.D.

Senior Research Scientist

Transportation Operations Group

Texas A&M Transportation Institute

3135 TAMU College Station TX 77853-3135

979-845-4443

[s-chrysler@tti.tamu.edu](mailto:s-chrysler@tti.tamu.edu)