

Developing a Value Pricing Project: The I-30W Experience, Dallas, Texas

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OVERVIEW

Project Overview

The I-30W Tom Landry Freeway is the main corridor connecting Dallas, Fort Worth and Arlington. This corridor is a general purpose freeway with a managed lane facility in the median. The managed lane operation varies along the corridor to match travel demand. In general, the western section is two-lane reversible, the center section is one-lane reversible, and the eastern section is one-lane Westbound-only. The two-lane reversible section serves the high demand between SH-360 and Loop 12.

The Dallas region has an aggressive managed lane policy to test various operational and pricing strategies. The I-30W corridor serves as the region's value pricing test bed where strategies can be tested before being applied in other corridors.



STEPS FOR A SUCCESSFUL VALUE PRICING PROJECT

Data Collection

To provide the basis for comparing the different phases of the project as it transitions from an HOV-only lanes to Fixed Schedule Mode and finally to Dynamic Mode. To accomplish these objectives, key metrics and a comprehensive data collection plan were developed.

Survey

To gather public opinion regarding the introduction of value pricing in the DFW region, current perception of the I-30W managed HOV lanes and signing that may be used in the corridor.

Focus Group

To delve more deeply into opinions and information learned in the survey, focus groups of targeted individuals recruited from the survey were conducted. The groups allowed the researchers to discuss the rationale and reasoning behind opinions as well as assessing how these opinions may change based on information.

Stakeholder Interviews

To gauge stakeholders' perceptions and opinions about future operations in the corridor and how it will impact their own operations.

IMPLEMENTATION PHASES

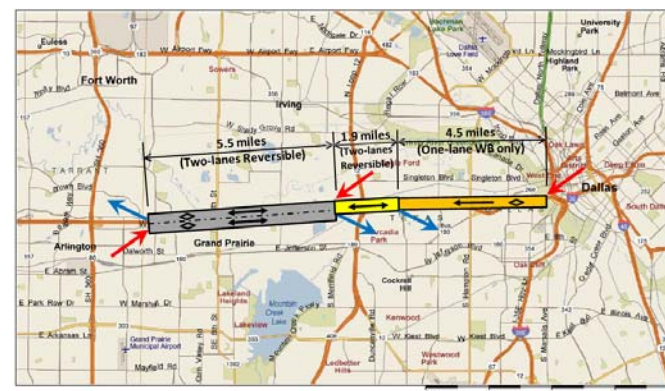
Interim HOV Phase (Current)

Opened in July 2007 as a reversible managed HOV lane. Only HOV 2+ vehicles, vanpools, motorcycles, and transit vehicles are allowed to use the facility.



Value Pricing Phase (Tolling)

In 2009 the facility will be extended to Dallas Downtown by adding a 6.5 miles segment and additional entry and exit points. Initially it will operate as HOV-only and in 2010, value pricing will be introduced. A fixed-fee schedule will be applied during the first six months of operation; dynamic pricing will be applied thereafter.



Research sponsored by:

US Department of Transportation
Texas Department of Transportation



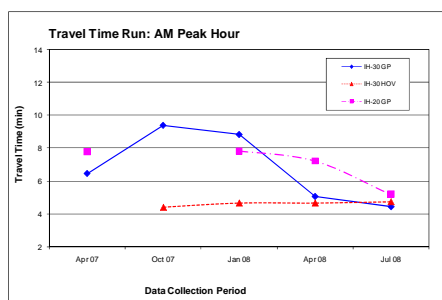
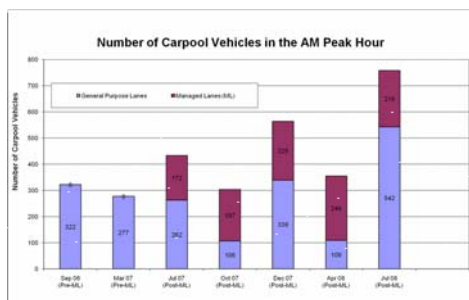
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QUARTERLY METRICS

Description of Data Collection

- Data collected on a quarterly basis starting in Mar 2007
- Type of data collected: 1) travel time runs, 2) manual occupancy and vehicle counts, and 3) automatic counters
- Use of a control corridor (I-20) to ensure data reliability and measure the impact beyond I-30W



LESSONS LEARNED

Lesson Learned That Can Be Applied to Similar Projects

- Goals of the managed lane should be established early in the project. The goals should be used to define the metrics of the evaluation program.
- Construction of the managed lane can impact the before data collection period. Consider starting the before data collection period before any construction starts to control for data collected in the construction period.
- If general purpose capacity is being added at the same time as the managed lane, then expectations on benefits must be adjusted to account for the reduction in congestion that the new general purpose lane capacity will provide.
- The use of a control corridor is an effective way to supplement the evaluation methodology. The control corridor should have similar characteristics and serve similar population.
- Use of survey and focus group are useful in gauging public's perception and making the necessary changes and preparations to ensure public acceptance.

SURVEY

SURVEY FACTS

- Bilingual Web based survey (English and Spanish)
- Conducted from Jul to Aug 2008
- Survey sample of 870 cases (after removing duplicative and partial responses)
- Respondents recruited from employers along the corridor, public websites with link to survey, and press releases that generated radio, TV and newspaper articles

SURVEY STRUCTURE

- Use of I-30W in general
- Awareness of HOV lanes in the region
- Perception of I-30W Managed HOV Lanes
- Awareness of value pricing on I-30W Managed Lanes

	Yes	No	Not Sure
Did you know the I-30 managed HOV lanes will introduce pricing in the future?	48.2%	47.3%	4.5%
Do you understand how variable pricing works?	56.3%	34.2%	9.5%
Do you support variable pricing on the I-30 managed HOV lanes?	17.1%	61.1%	21.8%
Do you believe variable pricing is fair?	17.3%	58.7%	24.0%

ACKNOWLEDGEMENTS

Participating Agencies

- Texas Department of Transportation (TxDOT)
- Dallas Area Rapid Transit (DART)
- North Texas Tollway Authority (NTTA)
- North Central Texas Council of Governments (NCTCOG)
- Texas Transportation Institute (TTI)

Key Project Team Members

- Stephen Endres, P.E., Project Manager, TxDOT
- Matthew MacGregor, P.E., CDA/Tollway Director, TxDOT
- Koorosh Olyai, P.E., Assistant Vice President, DART
- Dan Lamers, P.E., North Central Texas Council of Governments
- Christopher Poe, P.E., Assistant Agency Director, TTI
- Roberto Macias, Associate Research Scientist, TTI
- David Ungemah, Associate Research Scientist, TTI
- Tina Geiselbrecht, Associate Transportation Researcher, TTI
- Casey Dusza, Assistant Transportation Researcher, TTI

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TOLL GANTRY DESIGN FIELD TEST

Description of Field Test

- Full scale mock-up of the toll gantry design with temporary pavement markings and pylons
- Conducted at the TTI Riverside Facility in College Station, TX
- Project team and staff from participating agencies able to drive the through the design at highway speed
- Unable to simulate vertical curvature or overhead signing



Question to be Answered by Field Test

- How does the lane shift at the gantry work?
- Does the design encourage/discourage passing?
- What is the comfort at high speed?
- What is the comfort with a vehicle platoon?
- How is visibility behind a large vehicle?
- Do the pylons assist the design?
- Do we agree with HOV being in the right lane?



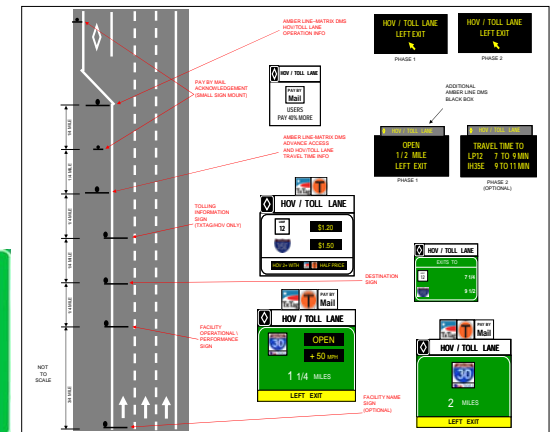
Field Test Findings

- Lane shift design was comfortable at highway speeds
- Design may discourage passing maneuvers
- Pylons effective traffic control
- Visibility of the gantry when following a platoon of vehicles was a concern
- Design Revisions = adjust gore taper and include more emphasis on the overhead sign design

SIGNING CHALLENGES

Signing Information

- 1) Managed lane is ahead
- 2) Distance to the managed lane entrance
- 3) Managed lane is open or closed
- 4) Managed lane entrance is a left exit
- 5) Distance to Managed Lane destinations/exits
- 6) Location of the actual managed lane entrance
- 7) Means of payment



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