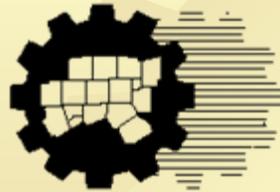


**DEVELOPING A POLICY TO
PLAN AND OPERATE MANAGED LANES
IN NORTH CENTRAL TEXAS:
LBJ IN DALLAS COUNTY AND
AIRPORT FREEWAY IN
TARRANT COUNTY**

**Regional Transportation Council
May 11, 2006**



**North Central Texas Council of Governments
Transportation Department
www.nctcog.org**



Recent Policy Questions

Toll Roads vs. Managed Lanes

	<u>Toll Roads</u>	<u>Managed Lanes</u>
Toll Rate?	X	X
Rate Change Over Time?	X	X
Rate Vary by Corridor?	X	X
Time-of-Day Pricing?	X	X
Fixed or Dynamic Pricing?		X
Continuous Performance Monitoring?		X
Vehicle Type/Occupancy Pricing?		X
Excess Revenue?	X	X



Schedule for Tolling Managed Lanes and Development of Regional Policies

RTC

April 13, 2006

Public Meetings

April 24 - 26, 2006

Joint STTC/RTC Workshop

April 27, 2006

STTC

April 28, 2006

RTC

May 11, 2006



Some Definitions

Freeway – Limited access facility open to all traffic without toll

Tollroad – Limited access facility where travelers pay a toll to use the facility

SOV – Single Occupant Vehicle (one person in one vehicle)

HOV – High Occupancy Vehicle (two or more people in one vehicle)

Managed Lanes – A set of lanes where operational strategies are proactively implemented and managed in response to changing conditions (Federal Highway Administration)



Elements of Managed Lanes

Increase Corridor Efficiency

Relatively Congestion Free Travel

Travel Time Reliability

Provide for Operational Flexibility in Response to Changing Corridor Needs

Active Demand Management

Vehicle Eligibility

Pricing

Access Control



Managed Lanes vs. Other Facility Types

	Vehicle Eligibility	Toll Pricing	Access Control
Freeway	All	No	Frequent Access Points
Tollway	All*	Yes	Frequent Access Points
HOV Lane	Vehicle Occupancy*	No	Less Frequent Access Points
Managed Lane	All*	Yes Varies by Vehicle Type/Occupancy	Less Frequent Access Points

* Heavy trucks are sometimes restricted.



Traveler Choice in Corridor

Frontage Roads – Serves Local Trips, No Demand Management

Freeway – Serves Subregional/Corridor Trips, No Demand Management

Managed Lane – Serves Regional Trips, Active Demand Management



HOV – High Occupancy Vehicles

SOV – Single Occupant Vehicles



Policy Questions

What is the primary purpose of the managed lanes?

What types of vehicles are eligible to use the managed lanes?

Should the rate vary by time of day, vehicle type, or occupancy?

Should the rate be fixed (schedule) or dynamic (i.e., change in response to congestion)?

What should the rate be?

How should the rate be adjusted over time?

Should the policy vary by corridor?



What is the Primary Purpose of the Managed Lanes?

Provide Additional Capacity in Corridor

**Provide Trip Reliability for HOV and Transit
(improve air quality and increase vehicle
occupancy and person movement)**

Generate Revenue to Construct Facility

**Generate Revenue to Operate and Maintain
Facility**



What Types of Vehicles are Eligible to use the Managed Lanes?

SOV

HOV

Vanpools

Transit Vehicles

Motorcycles

Large Trucks*

Special Vehicle Type (e.g., “Green Vehicles”)

*** Tunnels will likely have vehicle restrictions.**

Should the Rate Vary by Time of Day, Vehicle Type/Occupancy?

Time of day

Peak Period

Off-Peak

Nighttime

Lanes Closed at Certain Times

Vehicle Type/Occupancy

Free

Full Rate

Reduced Rate



Why Time-of-Day Pricing?

Increase Carpooling

Increase Vanpool/Transit Use

Move Discretionary Trips to Off-Peak

Move Short Trips to the Frontage Roads

Encourage Trip Chaining

Increase Flextime Hours

Encourage Work Schedule Changes

Encourage Telecommuting

Reduce Trip Length Over Time

Increase Reliability



Should the Rate be Fixed or Dynamic?

Fixed Schedule

Rate is published and set, price may vary by time of day and vehicle type/occupancy

Dynamic

Rate is adjusted throughout the day based on certain facility performance measures

May vary by time of day, vehicle type/occupancy, and level of congestion

May also be capped

Fixed with Transition to Dynamic

Start with a schedule and shift to dynamic based on a set of performance measures

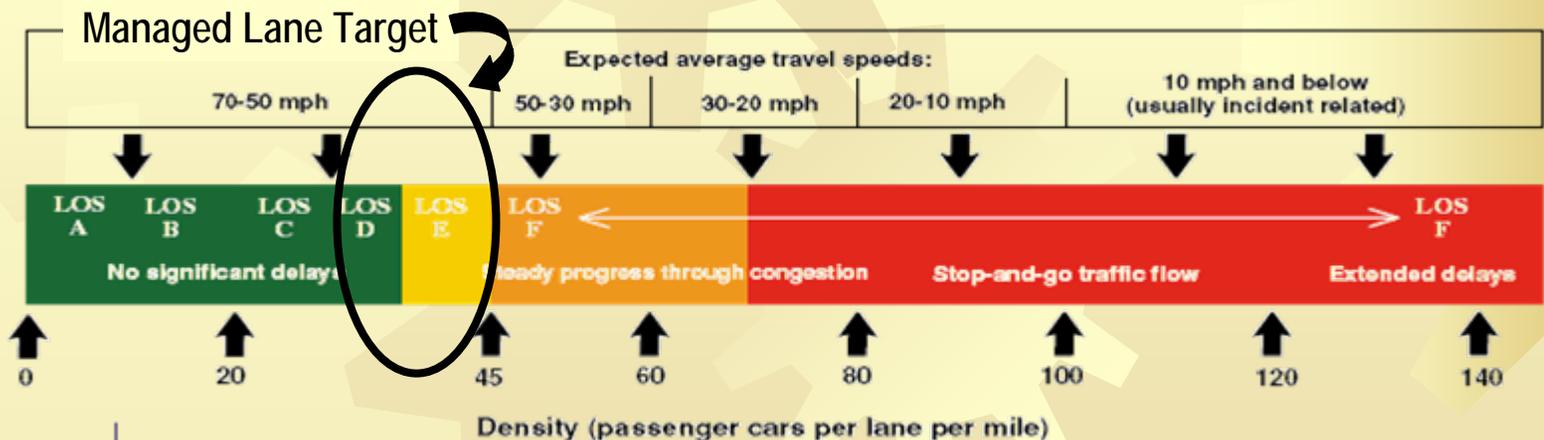


What Should the Rate Be?

Adjacent freeway lanes and variable managed lane demand facilitates market-based rates

Market-based rates (congestion pricing) will enable managed lanes to operate at higher speeds and increase travel reliability

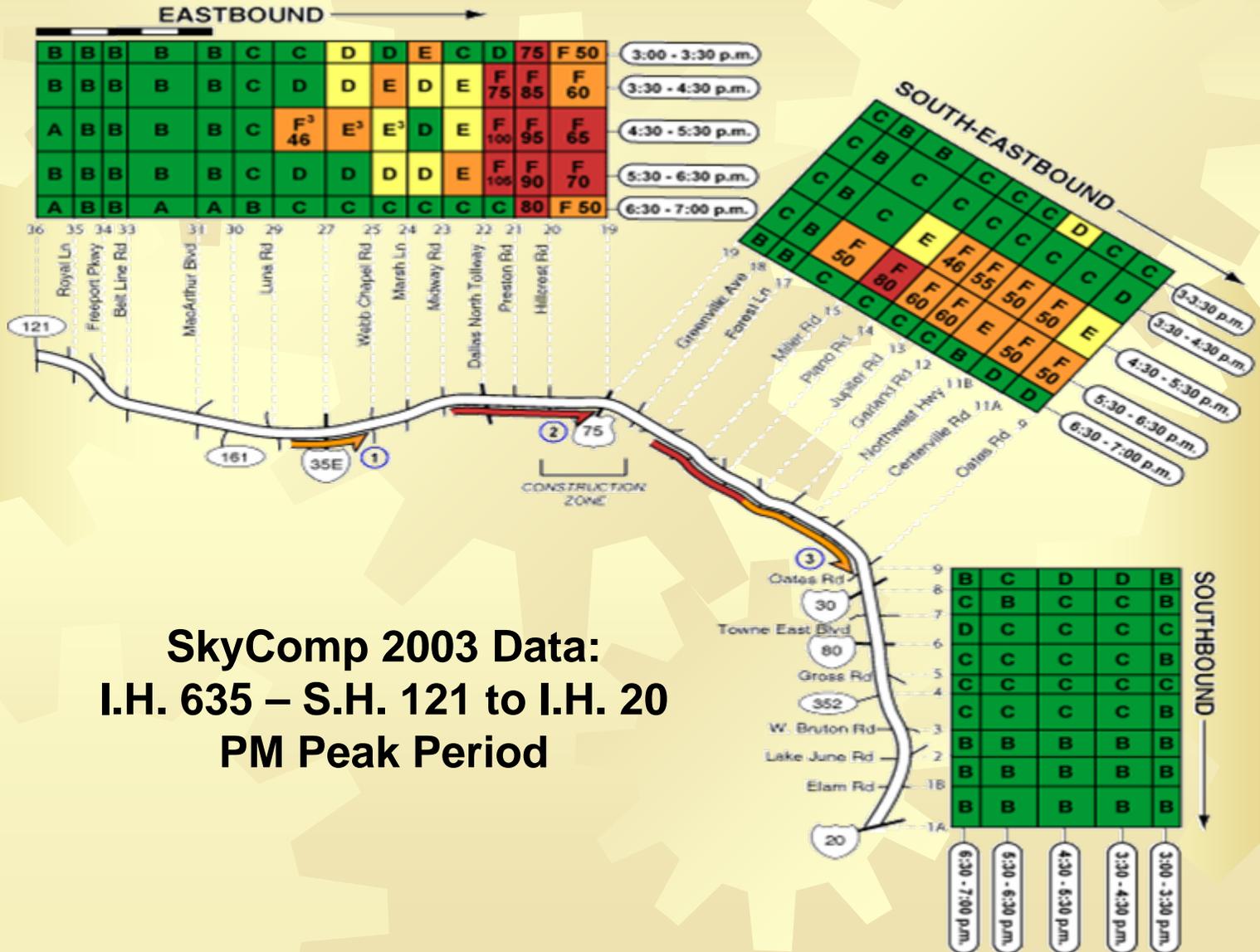
Summary of Freeway Traffic Condition Ratings (*Density-Based Level-of-Service*)



These service level definitions are based on the 2000 Highway Capacity Manual.

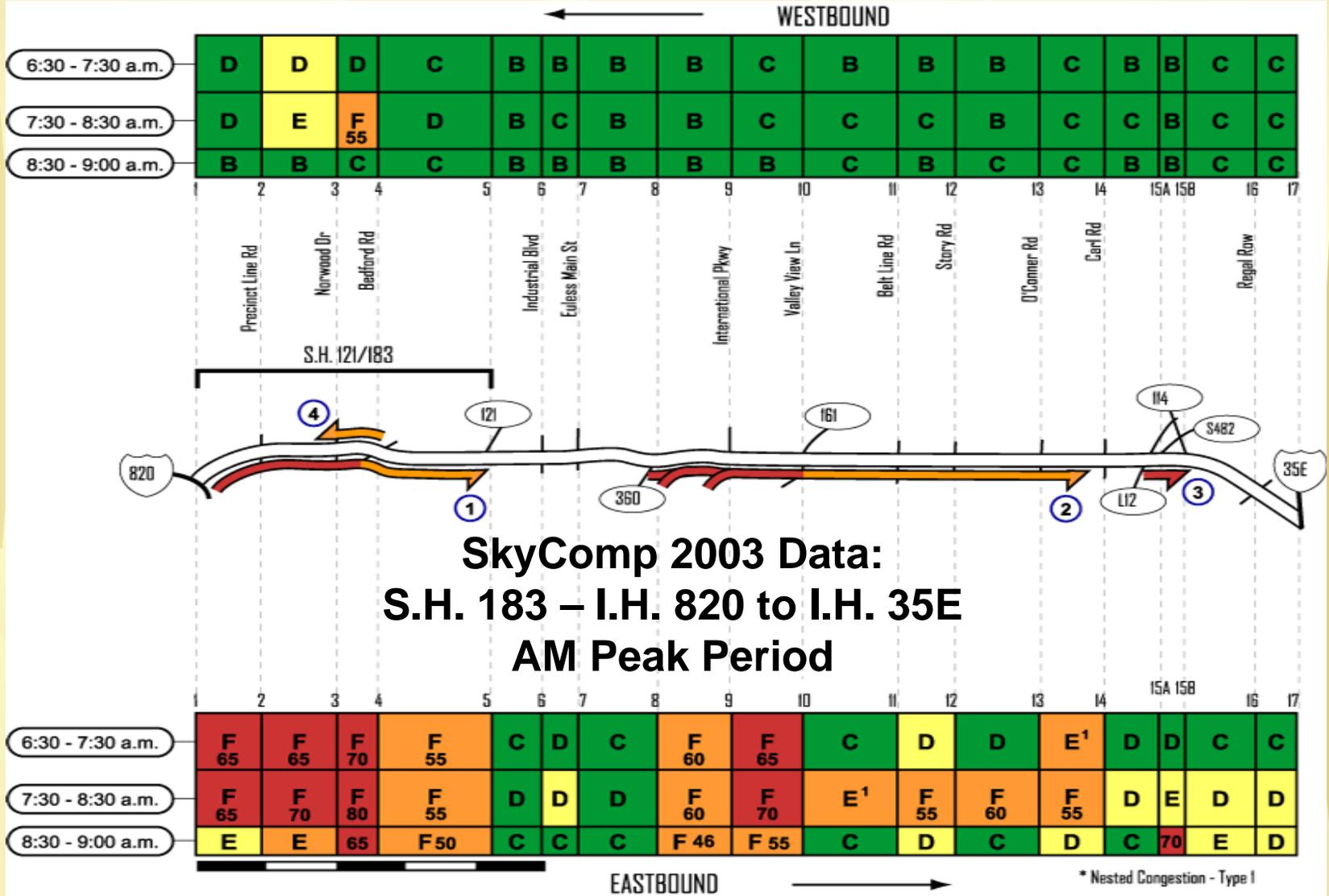


What Should the Rate Be? (continued)



SkyComp 2003 Data:
I.H. 635 – S.H. 121 to I.H. 20
PM Peak Period

What Should the Rate Be? (continued)



What Should the Rate Be? (continued)

The toll rate will affect the demand and level-of-service of the managed lanes

To ensure travel reliability, average toll rates will generally be higher than stand-alone tollroads

Rate Scenario	Toll Rate*	Managed Lane Demand	Level-of-Service
Low	<\$0.25/mile	High	Severe Congestion Likely During Peak
Medium	\$0.25-\$0.75/mile	Moderate	Some Congestion Possible During Peak
High	>\$0.75/mile	Low	No Congestion Expected

* Peak period discounts for HOV users.



How Should the Rate be Adjusted Over Time?

Discretion of Managed Lane Operator

Fixed Schedule and Fixed Index (i.e., annually based on CPI)

Fixed Schedule and Performance Based (i.e., annually based on facility performance)



Should the Policy Vary by Corridor?

Overall Corridor Traffic Demand

Hours of Freeway Lane Congestion

Proximity of Parallel Routes

Number of Freeway/Managed Lanes

Concurrent vs. Reversible Managed Lanes

Number/Location of Managed Lane Access Points

**Adjacent Land Uses, Special Generators (malls),
or Special Events (arenas/stadiums)**



Examples from Other Areas

SR 91 – Orange County, CA

10 Miles; 2 Lanes in Each Direction

**Fixed Schedule with Variable Time-of-Day Tolls
(\$0.11 - \$0.85/mile)**

SOV/HOV2 Pays Full Toll

HOV3+ Free (50% toll PM peak)

IH 15 – San Diego, CA

8 Miles; 2 Reversible Lanes

**Dynamic Toll Rate Varies by Speed
(\$0.07 - \$0.50/mile)**

SOV Pays Full Toll; HOV2+ Free



Examples from Other Areas (continued)

IH 394 – Minneapolis, MN

10 Miles; 1 Lane in Each Direction

Dynamic Toll Rate Varies by Speed on Managed Facility (up to \$0.80/mile)

SOV Pays Full Toll; HOV2+ Free

IH 25/US 36 – Denver, CO (June 2006)

7 Miles; 2 Reversible Lanes

Fixed Schedule with Variable Time of Day Tolls (up to \$0.47/mile)

SOV Pays Full Toll; HOV2+ Free



Adopted Managed Lane Policy Regional Transportation Council May 11, 2006

**Fixed Schedule for First Six Months; Dynamic Pricing
After**

SOV Pays Full Rate

Trucks Pay Higher Rate (no trucks in LBJ tunnel)

HOV2+ Full Rate in Off-Peak

HOV2+ and Publicly-Operated Vanpools

**50% Discount for Peak Period, Phase Out After Air
Quality Attainment Maintenance Period (RTC will
approve changes)**

Price with Speed Guarantee (maintain 50+ mph)

***6 hours per weekday: 6:30 a.m. - 9:00 a.m. and 3:00 p.m. - 6:30 p.m.**



Adopted Managed Lane Policy Regional Transportation Council May 11, 2006 (continued)

During Dynamic Pricing Phase: Traveler Receives Rebate if Average Speed Drops Below 35 mph (will not apply if speed reduction is out of the control of the operator)

Motorcycles Qualify as HOV

No Discounts for “Green Vehicles”

Transit Vehicles Not Charged Toll

Toll Rate up to \$0.75 per Mile During Fixed Schedule Phase, Evaluate and Adjust if Warranted (requires RTC approval)



**Adopted Managed Lane Policy
Regional Transportation Council
May 11, 2006
(continued)**

Market-Based Tolls During Dynamic Phase

Rates Updated Monthly During Fixed Schedule Phase

No Scheduled Inflation Adjustments Over Time

Same Policy in Every Managed Lane Corridor

No Change to RTC Excess Revenue Policy

**RTC Requests that Local Governments and
Transportation Authorities Assign Representatives
to the CDA Procurement Process**

Duration of CDA Should Maximize Potential Revenue

Tolls Remain on Managed Lanes After CDA Duration

