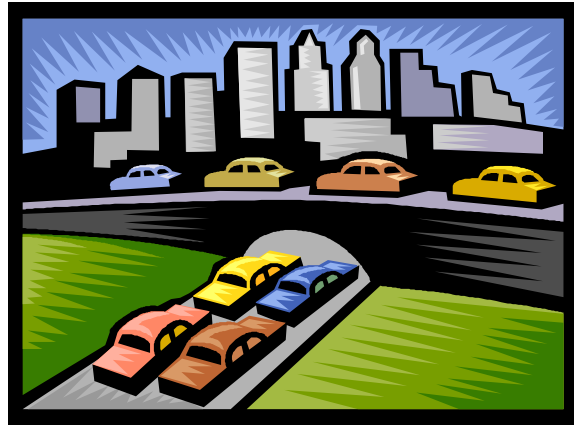


Road Tolling and Pricing Equity Issues



Problem – Solution Statement on Congestion and Highway Capacity

In the absence of any pricing of highway usage we seem to be faced with the following dilemma. *Either we construct a highway system of extravagant proportions*, which, while no greater than needed to carry its volume of traffic without congestion, is nevertheless much larger than the users would be willing to pay for if they had their choice between paying their share or doing without the facility or with one less ample, and being relieved of the corresponding share of the cost.

Alternatively, we construct a highway system that is severely congested during the rush hours, sufficiently so that resort to rail transit is the better alternative, if that is available, or possibly to bus transit if the busses can be sufficiently insulated for the impact of congestion, itself an expensive arrangement to provide. Nor is there any particularly attractive middle ground. *Specific pricing of highway usage is needed and needed badly.*

Congressional Committee meeting November 1959

Challenges

- **Equity**
- Environmental
- Political support
- Privacy
- Technology



Fundamental Principles

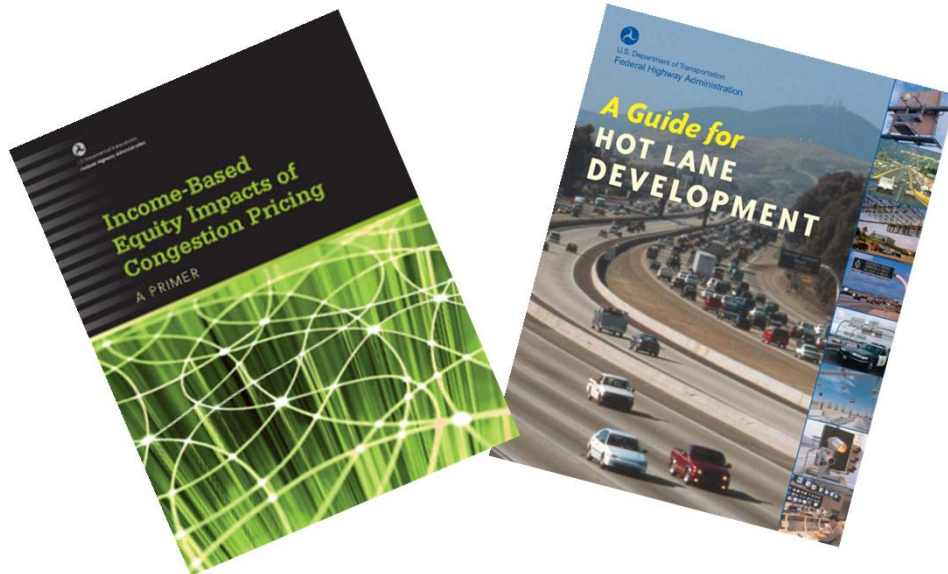
- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Five Areas to Examine

- Restricted benefit of the Priced lane specifically
- Changed condition
- Other Benefits
- Mitigation
- Construction / Physical ROW Take



www.ops.fhwa.dot.gov/publications/fhwahop08040/fhwahop08040.pdf



Future Guidance

Development of a Guidebook for State & Local Governments on Evaluating and Mitigating Equity Impacts of Road Pricing

- Definition of the various types of transportation equity of concern in road pricing
- Definition of the units of analysis of concern – i.e., the categories of people of interest in the analysis
- Definition of the impacts of concern for each type of equity and for each unit of analysis
- Measures to assess the equity impacts of concern
- Ways to incorporate equity analysis in the planning and project-development processes.
- Methods of estimating and evaluating equity impacts.
- Ways to mitigate negative or disproportionately high and adverse impacts on specific geographic areas, groups, or individuals, including low-income and minority populations (EJ)

Definition of the various types of transportation equity of concern in road pricing

- *Market equity*, assessed by comparing the tolls paid by a motorist to the **costs imposed** by the motorist on society or the **benefits received** by the motorist.
- *Opportunity equity*, assessed by observing whether or not expenditures of toll **revenue** are equally **distributed**.
- *Outcome equity*, assessed by observing whether the cost **burdens** of tolls are equally **distributed**, and whether mobility and other **benefits** are equally **distributed**.

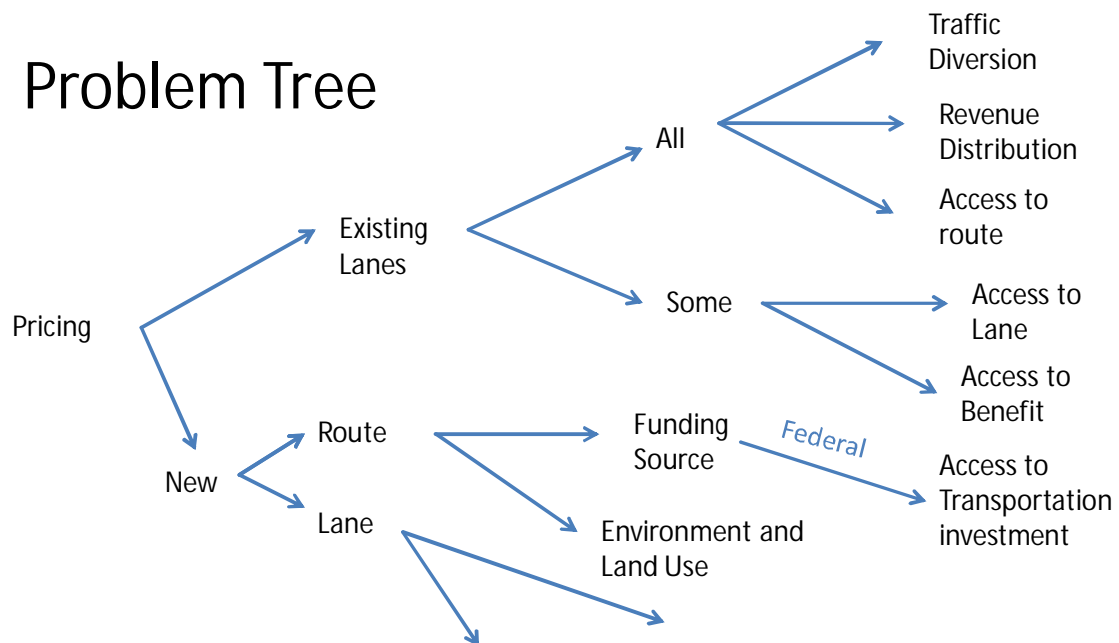
Definition of the units of analysis of concern / Categories of people of interest in the analysis

- Geographic areas: Impacts based on where people live or work
- Stakeholder groups: Barriers based on socioeconomic group (EJ)
- Individuals: general impacts or concerns of the public (double taxation, traffic diversion, etc)

Equity Types

- **Income:** Disproportionate impacts on low-income population
- **Geographic:** Impact to population living/working in affected locations
- **Modal:** Disproportionate impacts based on travel mode.
- **Participation:** Ability to use facility

Problem Tree



Summary

Equity issues:

- Vary by type of toll project
- Can be addressed in project design or use of revenues

Planning process is important:

- Analysis and outreach
- Geographic equity is best addressed at the regional planning level

Conclusions

- Pricing most effective when conceived, communicated, and implemented as a transportation package.
- Impacts can be mitigated through revenue rebates, exceptions, and other modal investment.
- Technology can be a barrier that needs to be addressed.
- Public engagement essential to identify and mitigate equity concerns and solutions.

CO₂ and Congestion Pricing

Chris Swenson, P.E.
Wilbur Smith Associates

MPO Managed Lanes Conference
Fort Lauderdale, Florida
February, 2011

WilburSmith
ASSOCIATES

Why Does Congestion Pricing Reduce CO₂ Emissions?

Congestion Pricing
leads to
Improved Efficiency
leading to
Lower Fuel Consumption
leading to
Lower Emissions

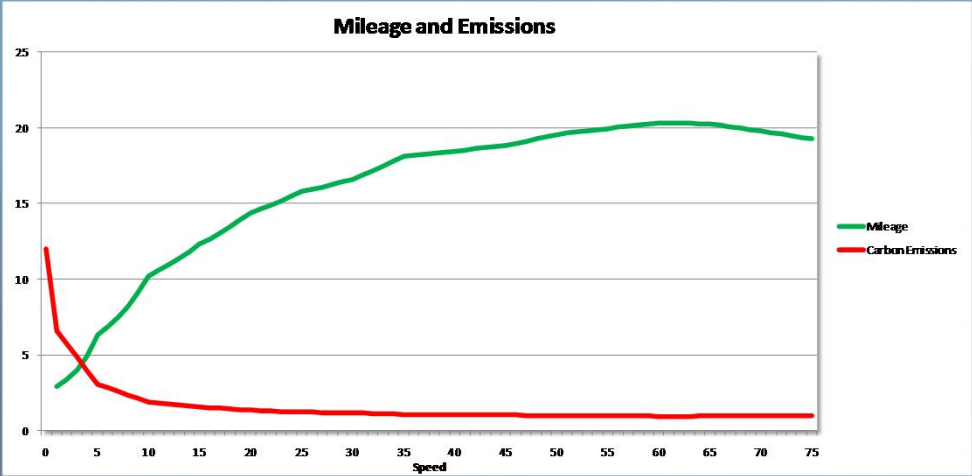
WilburSmith
ASSOCIATES

Why Does Congestion Pricing Reduce CO₂ Emissions?

- Value pricing keeps the lanes uncongested, smoothing traffic flow.
- Congested traffic is accelerating and decelerating increasing fuel use.
- Congestion likely forces traffic onto less efficient roadways.
- Other emissions are also reduced

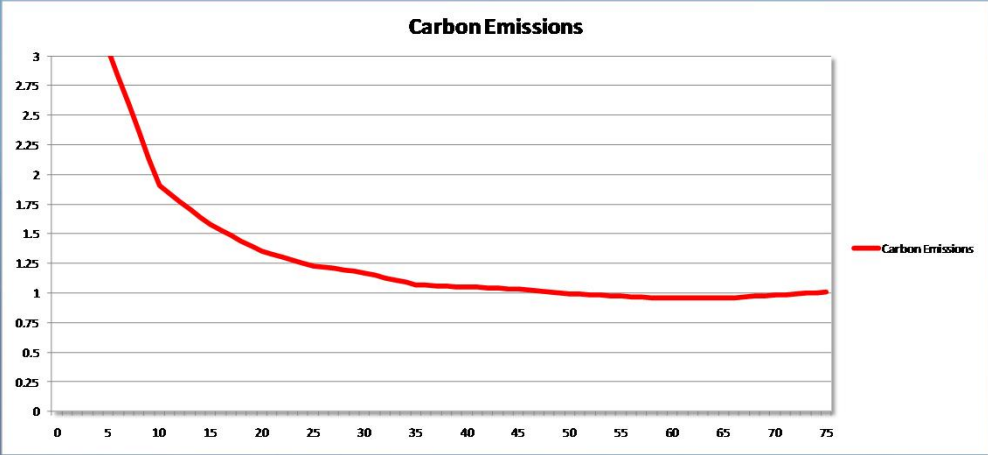
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How Significant is the Effect?



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How Significant is the Effect?



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ASSOCIATES

Is the Positive Impact Offset by the Additional Capacity?

Yes, but only on the managed lane itself.

Overall, it is likely that the increase in traffic is more than offset by decreases on less efficient roadways.

WilburSmith
ASSOCIATES

For More Information

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GHG Issues and the San Diego Region



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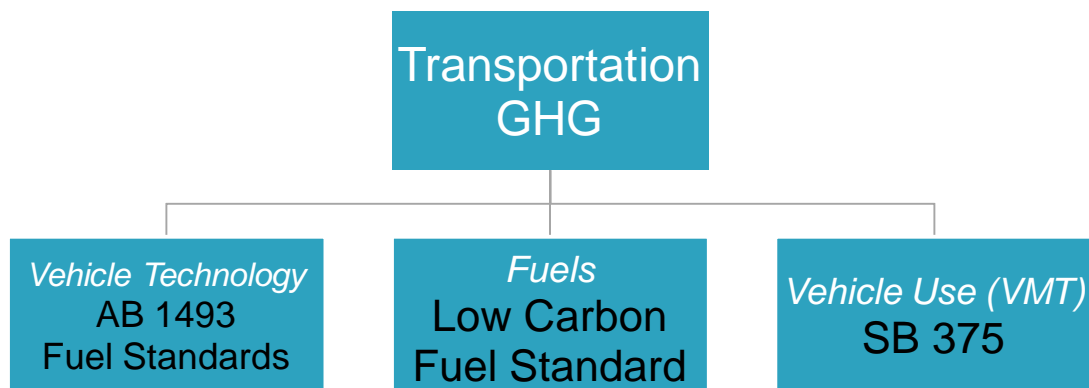


Background

- Executive Order S-3-05
- CA Global Warming Solutions Act of 2006 (AB 32)
- AB 32 Scoping Plan
- California Energy Commission Agreement
- Attorney General comments on SANDAG RTP
- SB 375 (Steinberg, 2008)



Multi-pronged approach



Key provisions of SB 375

- Creates regional targets for greenhouse gas emissions
- Requires regional planning agencies create Sustainable Communities Strategy
- Connects regional housing allocation planning with Regional Transportation Plan (RTP)
- Requires regional transportation funding decisions be consistent with RTP
- Streamlines and creates new California Environmental Quality Act (CEQA) exemptions for certain projects

SB 375 Final GHG Targets: San Diego Region

Target Year	Per-Capita Reduction from 2005 Baseline
2020	7%
2035	13%

Targets set by California Air Resources Board in September 2010



Sustainable Communities Strategy

- SB 375 creates a new element for the RTP, a Sustainable Communities Strategy
- Sustainable Communities Strategy must show how the GHG targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies



2050 Regional Transportation Plan

Once approved, SANDAG's 2050 RTP will:

- be the first plan developed by a major MPO under the provisions of SB 375
- be out for review spring 2011 with adoption expected in fall 2011



Equity Issues and I-15 Managed Lanes



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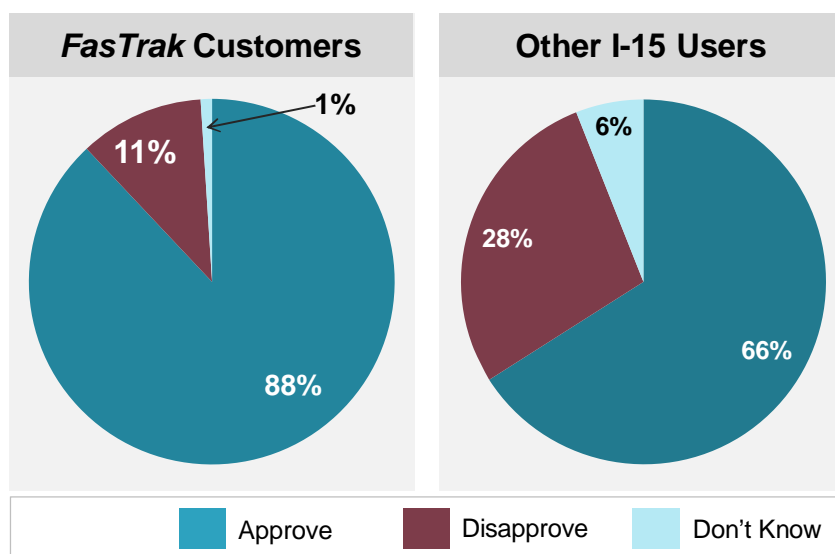


Legislation – SB 313

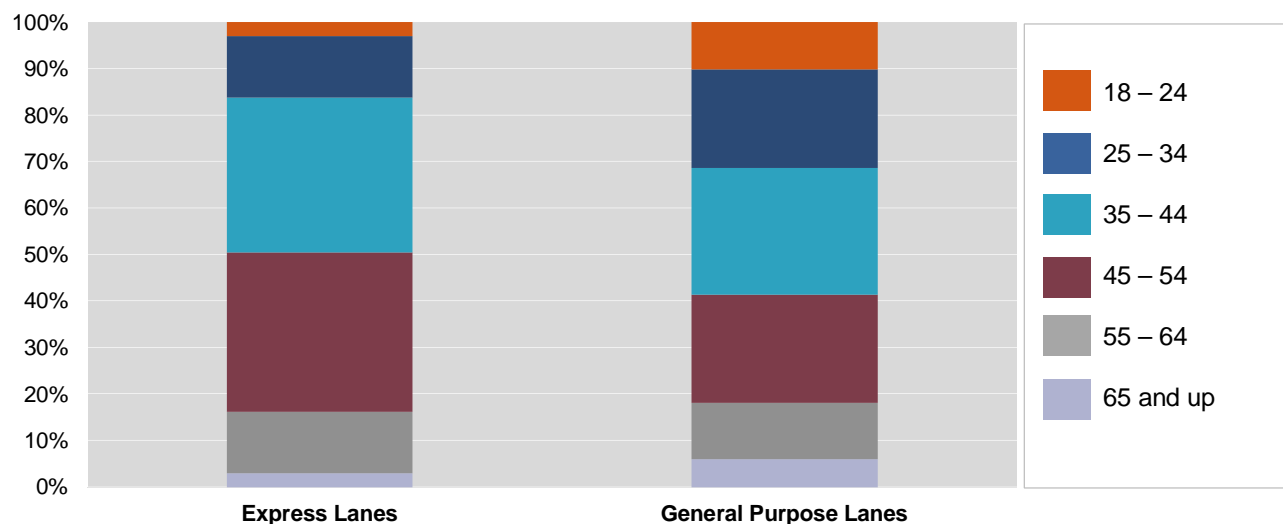
- SB 313 approved in 2001
- Allowed SOVs to use HOV facility for a fee
- Required that remaining revenue stay in I-15 corridor to be used exclusively for:
 - the improvement of transit service, including support for transit operations
 - high-occupancy vehicle facilities

Survey Overview

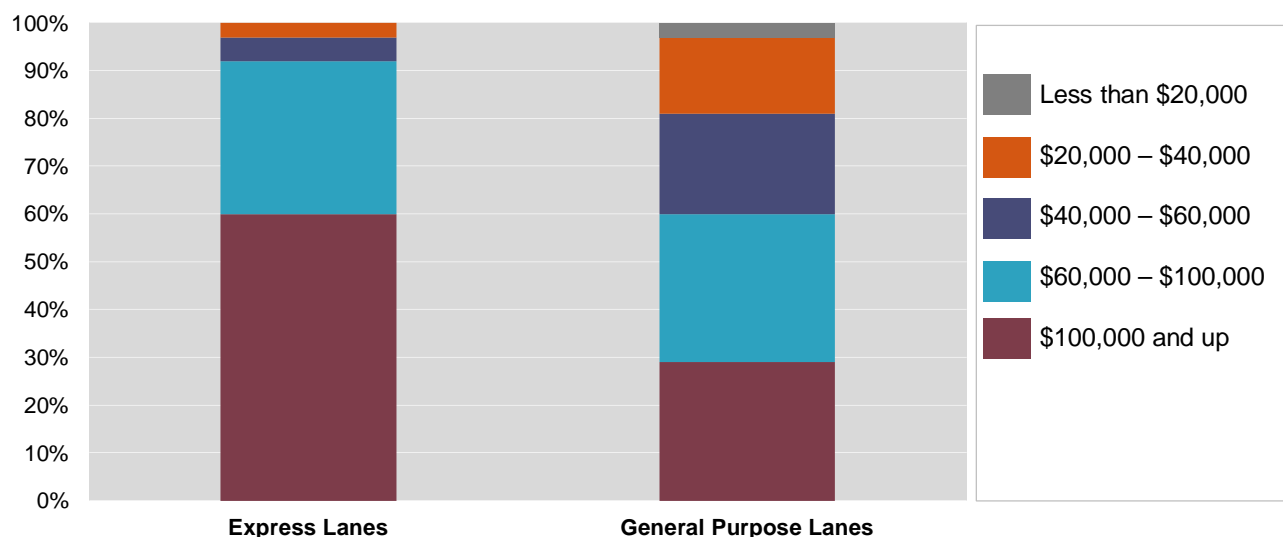
- Survey completed in 2002
- Included focus groups, telephone survey and stakeholder interviews



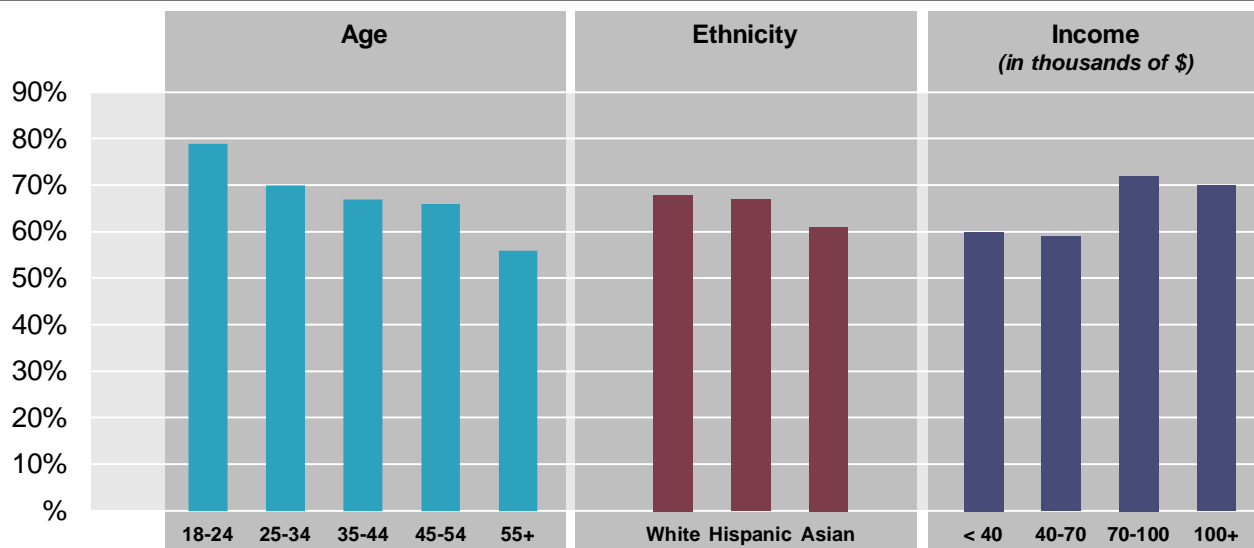
Who uses the I-15 corridor? (By Age)



Who uses the I-15 corridor? (By Income)



Survey results: Approval of FasTrak[®] Program



SANDAG

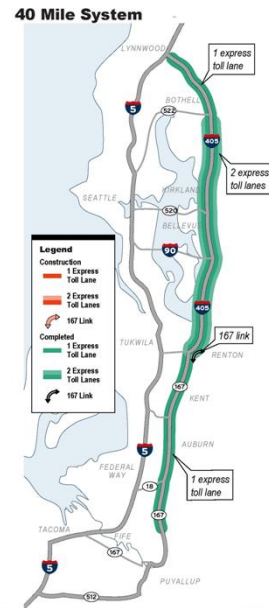
Survey results: Broad support

- Broad support for managed lanes
- Pricing considered “effective”
- Pricing considered “fair”
- Equity not perceived as an issue

SANDAG

Factors most predictive of support for express toll lanes

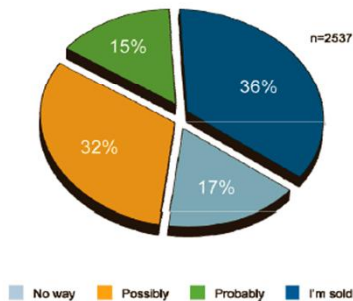
- The more traffic congestion experienced in the last week, the more supportive of express toll lanes
- Strong appeal of the statements:
 - "Tolling will help guarantee travel speeds of at least 45 mph, providing a more reliable trip to those who use express toll lanes"
 - "Moving vehicles out of the general purpose lanes and into express toll lanes will increase speeds in all lanes"
 - "Tolling funds could go directly into a dedicated account to maintain and improve the corridor"
 - "Express toll lanes would collect tolls electronically as vehicles travel at regular highway speeds. There would be no toll booths"



Online Survey Results

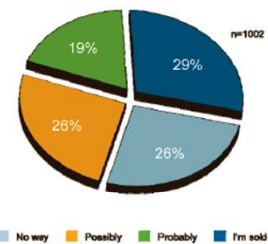
- Market segments:

Online Survey Market Segments
Base: All respondents who participated in the online survey



Phone Survey Results

Phone Survey Market Segments
Base: All respondents who participated in the phone survey



- Factors most predictive of support for express toll lanes:
 - Previous experience using HOT lanes on SR 167
 - Experienced more congestion on SR 167 in previous week
 - Younger in age

Key Findings from Research on Managed Lanes

Use = Support. Focus groups show that those who have used toll lanes, like the HOT lanes, and support the idea of more HOT lanes.

Congestion relief = Willingness to pay. Approximately 52 percent of those who filled out comment forms would pay to use express toll lanes if it would give them a faster, more reliable trip. Participants in the focus groups who have used HOT lanes are willing to pay up to \$5 a segment for travel faster.

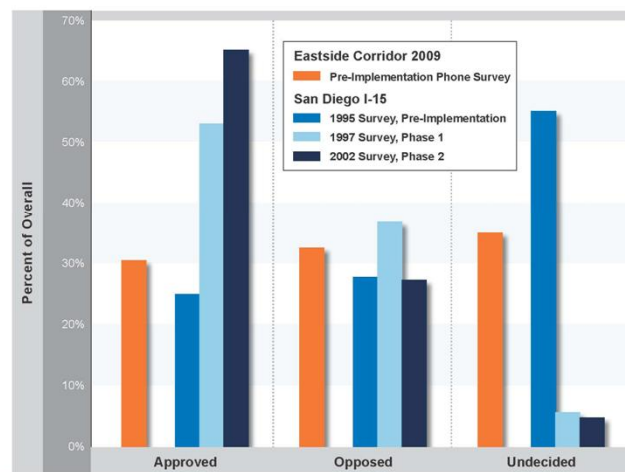
Understanding = Support. People who understand the benefits of express toll lanes tend to support them. When electronic toll operations were explained to phone survey participants, they found the collection method to be appealing.

Undecided = Opportunity. For people who do not yet know the benefits of express toll lanes, there is an opportunity to alleviate their concerns through further information.

Dislike of tolls = Non supporters. People who dislike the idea of tolling under most or all circumstances are unlikely to become supporters.



Public Support For Tolled Lanes Increases After Implementation



2008 Phone Survey on Variable Toll Rates for an Existing Facility

- Three-fifths supported tolling 520 to help fund bridge replacement
- Electronic tolling increased support
- Variable rate tolling increased support
- Most supported early tolling when they considered its beneficial effect on toll rates and financing costs
- Most supported early tolling when they considered its beneficial effect on travel speeds

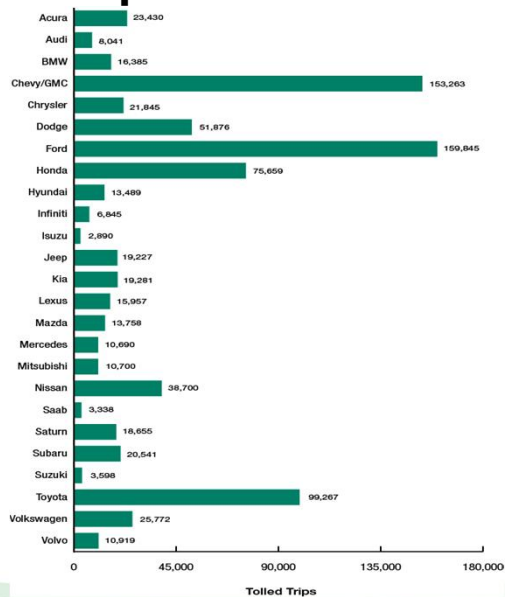


Debunking “Lexus Lanes” Perception

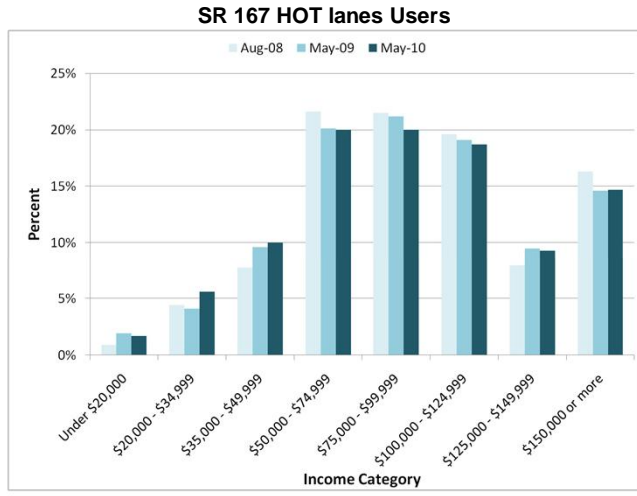
Five most frequently tolled vehicles in SR 167 HOT lanes:

1. Ford
2. Chevrolet/GMC
3. Toyota
4. Honda
5. Dodge

Based on *Good To Go!* account data for HOT Lanes users who paid a toll



Income Levels of HOT Lane Users



2008 median household income for:
 Washington State - \$58,081 (11.3% are below poverty level)
 King County - \$70,091 (9.2% are below poverty level)
 Pierce County - \$58,133 (11.3% are below poverty level)



Outreach to Minority and Low-Income Communities



- Held meetings with key agencies to ask for advice on reaching their communities
- Produced materials in six languages (Spanish, Russian, Korean, Vietnamese, Chinese, Japanese) and tap into existing networks for distribution
- Held trainings specifically for social service agency staff to help them educate clients and staff
- Advertised in multi-language newspapers
- Accept cash and Electronic Benefit Transfer (EBT) cards to set up and replenish *Good To Go!* accounts
- Promote transit as option to paying toll



Education Is Key to Success of HOT Lanes

- Purposely did not undertake a marketing campaign at launch of project in 2008
- Chose to wait and see response of existing drivers
- Already significant market penetration of *Good To Go!* accounts in the area
- Did not want to overload the lanes from the onset



- Undertook marketing campaign in 2010
- Focused on addressing issues we had heard about from customers:
 - How does the system work?
 - Who is eligible to use the HOT Lanes?
 - How do I get a *Good To Go!* account?

SR 167 HOT Lane Revenue

