

US DOT's Congestion Initiative and High Performance Highways

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Introduction

- US DOT's Urban Partnerships Program
- High performance highways with congestion pricing
- Getting public acceptance
- Costs, revenues and benefits

Urban Partnerships Program

- Goal: To demonstrate congestion *reduction* in the short-term
- Four T's:
 - ◆ Tolling/ congestion pricing
 - ◆ Transit
 - ◆ Telecommuting/ flextime
 - ◆ Technology and operations

High Performance Highway

- Managing traffic flow on *all* lanes of a freeway
- Manage demand with pricing
 - ◆ On congested segments only
 - ◆ During peak periods only
- Complementary strategies
 - ◆ Operations – ramp metering, etc.
 - ◆ Transit – express bus, vanpools
 - ◆ Telecommuting, flextime, etc.

Advantages

- Reduce congestion *now*
- Advantages relative to managed lanes:
 - ◆ Costs *lower* – less need for right-of-way, pavement and barriers
 - ◆ Capacity per lane *higher*
 - ◆ Safety – *less* weaving
 - ◆ User cost - *lower* toll for premium service
 - ◆ *Entire facility* congestion-free

Gaining Public Acceptance

- Propose as a “trial” subject to public approval at a referendum
- Money-back guarantee
- Return surplus to motorists, or use revenue to provide benefits to toll-payers
- Provide travel alternatives
- Provide discounts for low-income users
- Optimize traffic signals on arterial system

Key Feasibility Questions

- Toll rates
- Costs to implement
- Revenues
- Social benefits

Peak Period Toll Rates for 10-mile Trip

	Moderate Cong.	Severe Cong.	Extreme Cong.
■ Travel time index	1.39	1.51	1.75
■ Avg. peak period speed	43 mph	40 mph	34 mph
■ Avg. toll	\$1.13	\$1.36	\$1.95

Annual Costs for 100-mile Network (million \$)

	Moderate Cong.	Severe Cong.	Extreme Cong.
Highway	\$25	\$33	\$41
Transit	\$53	\$72	\$92
TOTAL	\$78	\$105	\$133

Costs vs. Revenues and Benefits (million \$)

	Moderate Cong.	Severe Cong.	Extreme Cong.
Costs	\$78	\$105	\$133
Revenues	<u>\$118</u>	<u>\$196</u>	<u>\$358</u>
Surplus	\$40	\$91	\$226
Benefits	\$111	\$194	\$378
B/C ratio	1.4	1.8	2.8

What This Means

- High performance highways will be financially self-sufficient
- Potential to involve private partners in implementing a multimodal package