

# **Tolls and Public Private Partnerships: Boosting Transportation Performance and Choices or Just Building More Roads Faster?**

**Prepared for National Surface Transportation  
Policy and Revenue Study Commission**

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**ENVIRONMENTAL DEFENSE**

finding the ways that work

# How Do We Want To Use Road Pricing?

- Finance/accelerate road expansion?
- Spread the peak, manage congestion?
- Finance public transport, walking, biking, demand management, impact mitigation/remediation?

*If tolls are used just to pay for new highway lanes, equity and environment suffer*



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# Effect of More Tolls and Public-Private Partnerships in Transportation

- Better system operations and performance with expanded travel choices?

*Or just more roads, sprawl, pollution?*

- Sharper clarity about objectives?

*Or diminished public role setting priorities?*

- Stronger accountability for outcomes?

*Or less transparency than ever?*



# SAFETEA-LU: Transportation Plans Must Meet Federal Planning Objectives



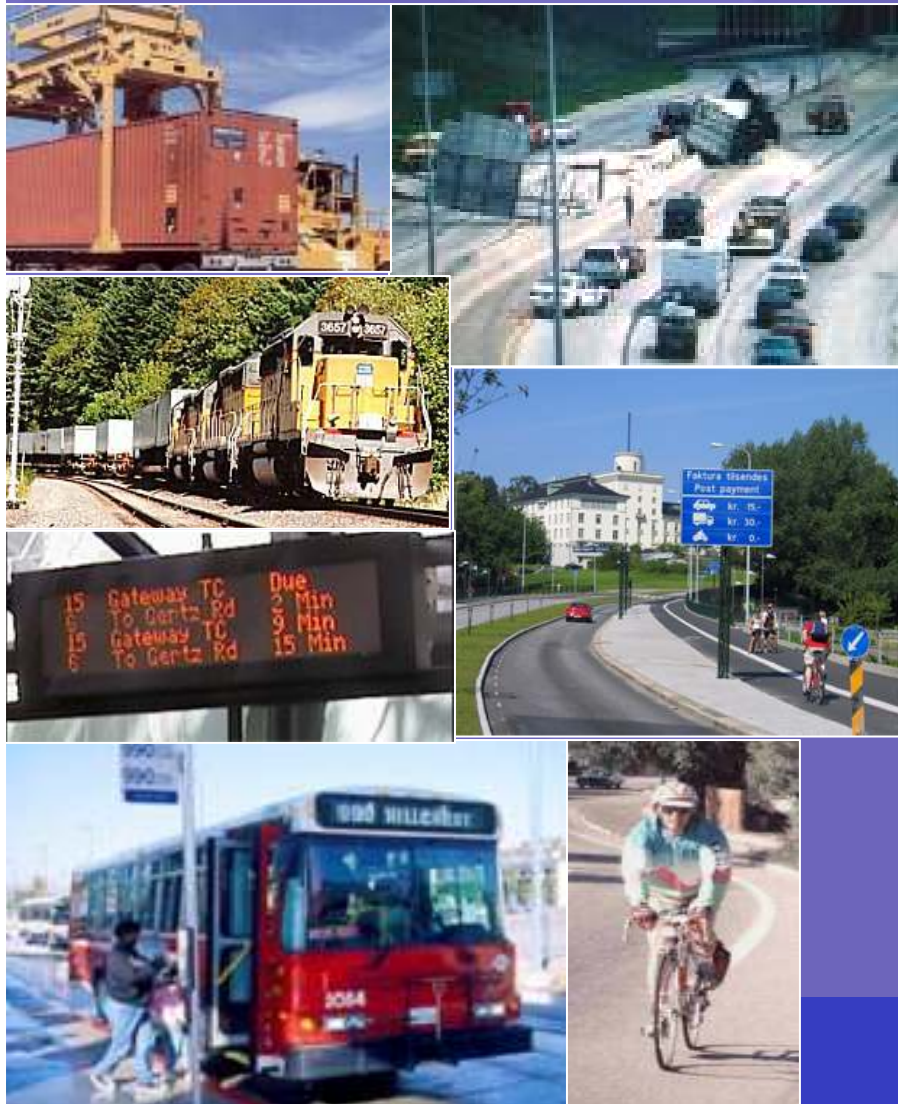
New duty for state and metropolitan transportation plans to achieve all the planning objectives in U.S. federal SAFETEA-LU law adopted in 2005:

- Serve mobility needs
- Foster economic development
- While minimizing fuel use and
- While minimizing air pollution

This is a major new system asset management challenge for states and Metro Planning Organizations

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# Planning Strategies Likely Capable of Achieving All Objectives Include



- Real time traffic operations management and monitoring, ramp metering, incident clearance
- Bus Rapid Transit (BRT)
- Improved rail, coastal shipping, truck lanes & intermodal freight
- Safe routes to schools & transit, complete streets for walk/bike
- Dynamic ridesharing, PAYD insurance, parking cash-out
- Smart growth transportation
- Tolls for congestion management on existing and new lanes
- Contracting for performance

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# 40+ Scenario Studies Show VMT, Fuel Use Can Be Cut By 20+% With Combined Strategies



### Key Lessons from Synthesis of Regional Studies:

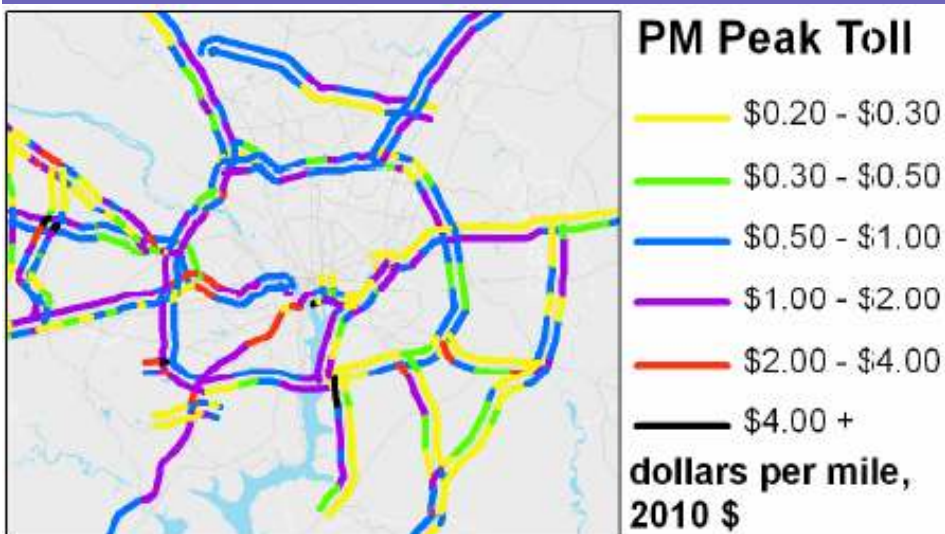
- Highest performance from combination of Transit Oriented Development (TOD) with expanded public transport and no expansion of roads
- Expanding road & transit capacity without pricing for efficient use of existing roads and parking yields costly transit systems with low ridership
- High fuel taxes, work trip parking charges, all-day tolls boosts transport system effectiveness
- Peak-period tolls by themselves spur more travel

Source: Robert A. Johnston, Review of U.S. and European Regional Modeling Studies of Policies Intended to Reduce Motorized Travel, Fuel Use, and Emissions, Environmental Defense, August 2006.

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## More Toll Lanes vs. Road Pricing for Traffic Management and Better Transit?

- If no existing lanes are tolled, tolls must be set very high on costly added HOT lanes to keep them congestion free, with little revenue left over for transit improvements
- Congestion charges on entire motorway system could eliminate congestion with lower tolls; tolls could pay for high performance transit and traffic management



### Metro Washington, DC

Metro Washington Transportation Planning Board, Starting Point Tolls Needed to Keep Toll Lanes Congestion Free (Sept 2006)

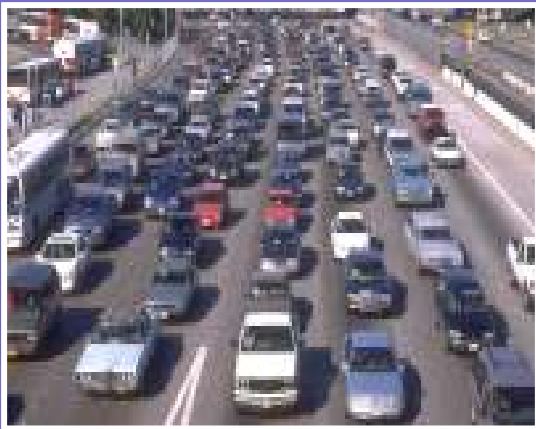
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# HOT Lanes on Virginia's Capital Beltway: Higher Performance vs. Just More Lanes

10-lane Beltway (add-one HOT lane and convert one HOT lane in each direction) VS.

12-lane Beltway (add two HOT lanes/direction):

- 2% induced traffic growth vs. 12% for 12 lane
- 3 times higher toll revenue with 10 lanes
- More space in right-of-way for transit access stations/access infrastructure with 10 lanes
- Lower capital costs for roadways far more than offset higher transit costs of 10 lane alternative
- Converting existing 8 lanes to priced lanes without adding lanes yields best performance

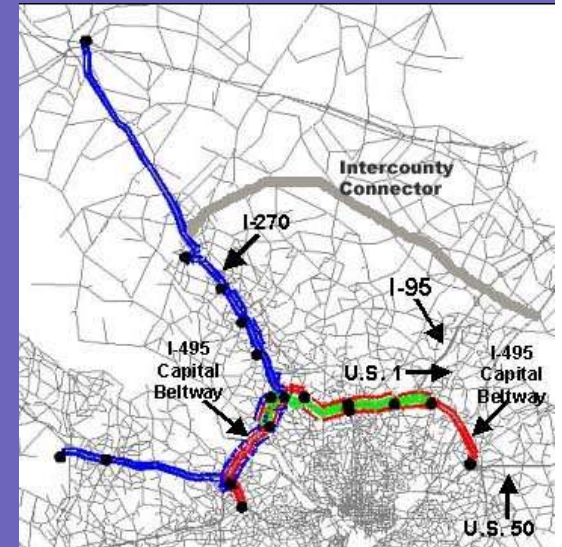


DeCorla-Souza, Patrick (2003) "Evaluation of Toll Options Using Quick-Response Analysis Tools: A Case Study of the Capital Beltway," *Transportation Research Record 1839*. Paper No.03-2946, Transportation Research Board, Washington, DC.



# Construction of Costly New Toll Roads & HOT Lanes Spurs Traffic and Pollution

- Intercounty Connector \$3 b tolled outer beltway north of Washington, DC would boost 2030 transportation GHG emissions 5% for DC metro region compared to do-nothing
- Cheaper transit-oriented investment alternative that tolls existing motorways to fund transit would do more to cut congestion and cut GHG emissions 6% for entire region compared to do-nothing



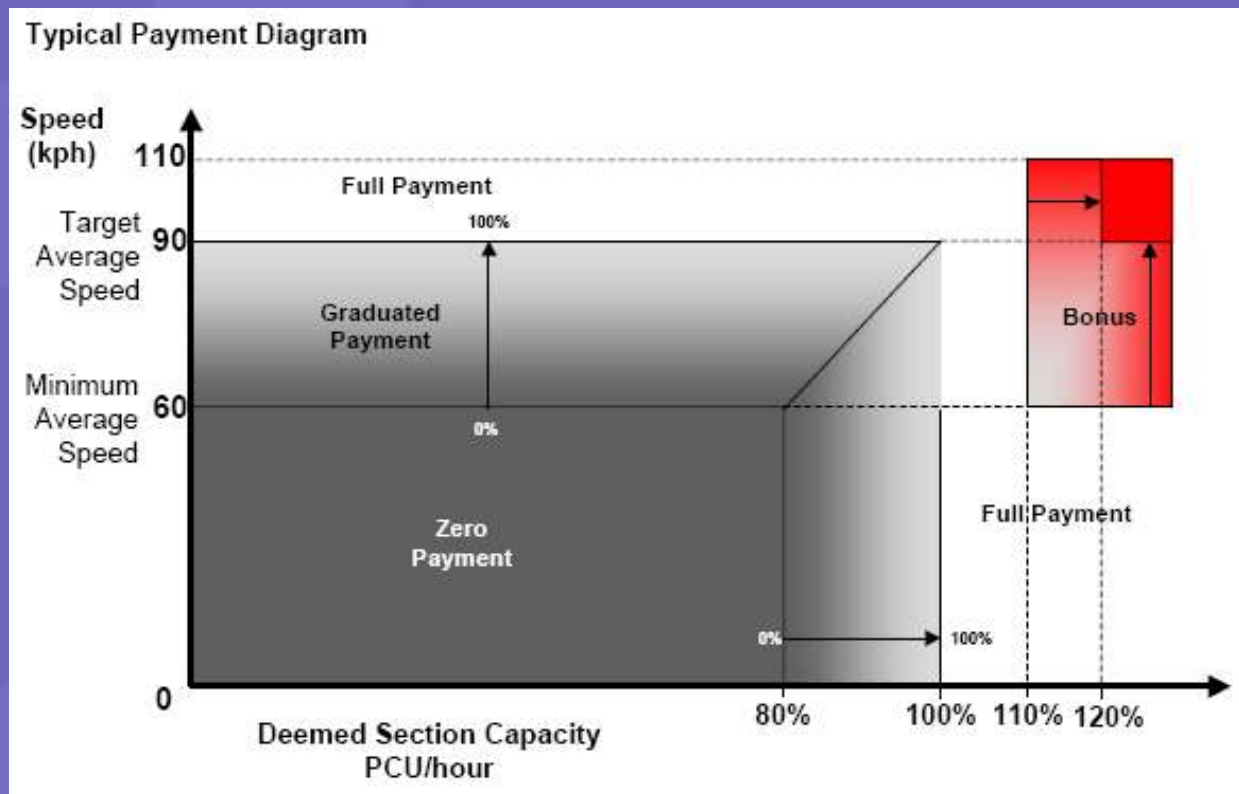
# PPP Concessions: Designed to Boost System Performance and Travel Choice?



- Concessions: for what, how long?
- Contracts: aligned with planning goals?
- Non-compete agreements? Toll rate caps? Public sector equity stake?
- Environmental performance standards and agreements?
- Use of toll revenues?
- Disclosure, transparency, oversight?

# Congestion Management Payment: Rewarding Traffic Management

Payment to concessionaire based on measured actual hourly traffic speeds and flows by 2km road segment



Congestion Management Payment Contract Darrington to Dishforth A1 Highway in Yorkshire, UK (a non-tolled road)

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# Why Not Link Concessionaire Compensation to System & Environmental Performance?

- Payment to contractor based in part on person-km & ton-km moved at given level of service instead of toll collected
- Payment adjusted for pollution hot spot violations, noise, or community impacts, with incentives to cut GHGs
- Accrual of penalty points for exceeding key thresholds gives rise to default and remedy period
- Failure to remedy means contract termination

Adapt from example of British Columbia's Sea-to-Sky Highway:

PPP deal total payment = *(Availability payment) + (Vehicle usage payment)*  
+/- *(Performance Incentive payments) + (End Payments)*

# OBDO: Performance Incentives Set to Meet Planning Objectives



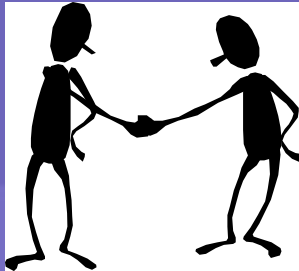
Peak period shoulder lane on Minnesota motorway



1. Add new bus/van services, rush hour shoulder lanes, contract for toll-based road traffic management services in congested corridor
2. Tolls set by concessionaire to manage demand and keep congestion from degrading peak road capacity
3. Tolls revenues dedicated to corridor improvement: road, public transport, walk/bike access, impact mitigation
4. Concurrent Real and Shadow Tolling: private operator fee based on persons moved without congestion, independent of congestion toll revenues

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# Environmental and Community Performance Agreements



COMMUNITY BENEFITS AGREEMENT

LAX MASTER PLAN PROGRAM



- Cut political and regulatory risk & support Corporate Social Responsibility
- Ensure PPP toll roads comply with and exceed state & federal requirements
- Streamline compliance through community and environmental agreements with dedicated funding for monitoring and mitigation

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# Los Angeles Airport CBA: Model for Other Infrastructure Deals?

20+ community groups, environmental organizations, school districts and labor unions signed agreement with city and airport authorities related to expansion of LAX airport in 2004



LAX Community Benefits Agreement includes:

- Sound proofing affected schools and homes
- Retrofitting diesel construction & operations vehicles to cut air pollutants by 90%
- Electrifying airplane gates to eliminate pollution from jet engine idling
- Studying health impacts of airport operations on communities and making studies public
- \$15 million in job training funds, with local hiring and contracting program
- Monitoring LAX, enforcing the agreement's provisions and holding LAX accountable to the community

# Environmental Performance Standards and Agreements



- Environmental reviews: barrier to PPPs or a path to higher performance?
- Consideration of alternatives, secondary, indirect, induced impacts, mitigation, and ideas from all key stakeholders
- Post-concession agreement environmental management plans are weak:
  - incentive is to cut cost of environmental compliance, not boost performance
  - focused on “how” rather than “what”
- Why not design PPPs for performance?



## For More Information



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