The Gas Tax: A System at Risk

• Without major changes, the motor fuel tax will not be able generate the revenue needed to maintain and expand our nation’s transportation infrastructure in the future

• 3 general fund infusions to the HTF in the last 3 years alone

• An ominous trend
  - Political reluctance to raise tax rates
  - Federal Policy to significantly increase fuel efficiency
  - Search for alternative fuels

• Major inconsistency in national policy
  - The backbone of all transportation finance is dependent on the taxation of a commodity we seek to discourage the use of!!
Gas Tax Purchasing Power

**Rate Per Gallon**

- **1963**
  - **Federal Gas Tax**: 11.5¢
  - **Average State Gas Tax**: 5.6¢
  - 1963 **Average Rate**: 39.0¢

**Per Mile Equivalent**

- **1963**
  - **Actual**: 0.92¢
  - **Inflation Adj.**: 0.26¢
The Gas Tax: Unsustainable Revenue Source

- Gas tax indexed for inflation
- No gas tax increase

Tax Revenue Per Mile (2010 $)

- 1.86¢ (2010)
- 0.93¢ (2020)
- 0.38¢ (2030)
Users Fees May Provide the Solution

• In the near term (2015-2025):
  - Increased use of tolling and pricing
  - To supplement the gas tax
  - Emergence of a “National Toll Pricing System”

• In the long term (2030 and beyond)
  - A shift from “per gallon” to “per mile” basis of taxation
    – to replace the gas tax
  - Emergence of a “National Road Pricing System”

• Today our Focus is on the Near Term:
  - Re-emergence of tolling and pricing
Presentation Overview

• Rebuilding Our Interstates
  – Paying for the next 50 years?

• “Cashless” All-Electronic Tolling
  – No more toll booths

• Express Toll Lanes
  – HOT new movement in tolling

• Tolling Perspectives from Florida
  – $1.2 billion in transportation revenue

• A bit on new paradigms in toll finance, P3’s and public acceptability
  – Innovative uses of tolling
The US Interstate Highway System

- 47,000 miles of mobility, connectivity and economic vitality
- Most important transportation investment in history
  - But its over 50 years old!
- The Interstate system was originally conceived as a toll system
  - Franklin Roosevelt envisioned a system which would be “self liquidating” thru tolls and sale of property rights
- About 3000 miles of the system had already been built (or financed) as toll roads thru the 1950’s
  - Including CT Turnpike
The 1956 Program: No Tolls

- Ultimately built without tolls; funded largely through the Federal gas tax
- Cost $132 billion to build; $119 billion in Federal funds
- The Federal government conceived it, largely funded it, but owns virtually none of it
  - The states are left holding the bag
- Key question: who pays for the next 50 years, and how do we fund the rebuilding of this great national asset?
Lead Argument Against Tolling our Interstates: “The Roads are Already Paid for...”

Case Study: Connecticut Turnpike

- Originally a toll road; **Opened in 1958**
- 129 miles through southern Connecticut
- Total cost: $465 million
- Designated as part of I-95 soon after completion
- Mianis River Bridge Collapse in 1983
  - When Turnpike was 25 years old
- Tolls removed in 1985
New Haven Area Project

• 13 miles of improvements
  – Widening
  – Major bridge replacement
  – Interchange reconstruction

• Total cost: $2.2 billion

• Reconstruction of 10% of the Turnpike cost *almost five times* the original cost of the entire Turnpike
“They’re Already Paid For???”

• The Connecticut examples show:
  – Roads (and bridges) don’t last forever; and
  – It will cost 10-20 times more to rebuild the system than it did to build it in the first place

• More proof:
  – The states are spending over $25 billion per year on Interstate system maintenance, expansion and reconstruction
  – That means we are spending more every five years than the original cost of the entire 47,000 mile system!

• What’s worse:
  – The Federal share of total interstate funding has declined to less than 45%
  – Given the state of the Highway Trust Fund, the Federal share will likely continue to decline even more
Why Tolling May be a Good Option

• Interstates are limited access and provide a premium level of service
  - Most appropriate for tolling
• Can be added today with minimal impact on traffic thru “all electronic tolling”
• Can provide a sustainable future new source of revenue to help pay for the ongoing cost of repair and expansion
• Assesses cost of rebuilding to road
  Users, including out-of-state drivers “passing through” without buying fuel
  - Contribute to wear and tear and congestion
  - Without paying the gas tax
  - Without user charging the financial burden falls to local motorists, many who don’t even use the road
States are Beginning to Act

• Interstate Reconstruction Pilot Program (3 slots)
  – I-95 in Virginia
  – I-95 in North Carolina
  – I-70 in Missouri (in abeyance)
  – Rhode Island applied for I-95 but did not get the last slot
  – MAP-21 silent on pilot program – remains in effect until 2015, but no slots currently available

• Growing pressure by states to reduce federal restrictions
  – AASHTO now strongly supports “freedom to toll” interstate routes
Where Tolls can Now be Used on Interstate Highways

• Any new capacity
  – Including new interstate routes in their entirety
  – Including new lanes on existing interstate routes (as long as equivalent number of free lanes remain)

• HOV lanes converted to HOT lanes

• Reconstructed bridges or tunnels

• Congestion pricing on urban interstates
  – Under Value Pricing program (CT already in this program)

• Not only permitted, but federal funds can also be used on these toll projects
  – Not “new money”, but above are now eligible for Fed. funds
Where we may be headed

- Gradual continued Congressional relaxation of federal restrictions
  - This may be inevitable—almost no other viable options
  - But it won’t be easy
- Probably initially expand pilot program to 10 or more slots
  - Perhaps in next bill
- Eventually remove current restrictions
  - Will require all-electronic tolling (no toll booths)
  - Will require national interoperability
- If only half the interstate miles in US becomes tolled, it will increase mileage of toll roads five-fold
  - Number of vehicles with ETC increases from 40 million today to more than 100+ million in 10-15 years
Tolling in Connecticut
(Circa 1978)
Tolling Today
(no more need to “stop” and pay toll)

Melbourne City Link - Australia
All-Electronic Tolling (AET)

• No toll booths
• Non-stop, cashless collection
  – EZPass users
  – Video tolling for non-EZPass traffic
    • “pay by mail”
• Can be easily implemented as gantries across existing roads
  – Without major disruptions
  – Without causing congestion, pollution and wasted fuel
• Key challenge: Need for national toll interoperability
  – Interstate enforcement
All-Electronic Tolling

Highway 407 – Toronto – world’s first AET facility
All-Electronic Tolling

Sam Rayburn Tollway – Dallas, TX
Express Toll Lanes

- General Purpose Lanes (free)
- Tolled Express Lanes
- General Purpose Lanes (free)
“Express Toll” Lanes

• Biggest “growth area” in tolling today
  – Now 14 operating HOT, Express or managed lanes projects in US
• Mostly operated by MPO’s or DOT’s
• All cashless, mostly ETC-only -- use variable tolling to manage demand
  – Pre-set
  – Dynamic

• Managed Lane Networks emerging in major urban areas across US
  – Los Angeles – over 250 miles planned
  – San Diego
  – San Francisco/ San Jose
  – Houston – Regional HOV network converted to HOT
  – Dallas-Ft Worth – two huge P3 initiatives part of massive planned network
  – Seattle – first phase of regional freeway tolling plan
  – Atlanta – I-85 toll lanes first of several planned HOV conversions
  – Miami and southeast Florida (over 45 miles planned on I-95 alone)
SR 91 Express Lanes
World’s First Express Lanes Project
Katy Freeway Express Lanes (Houston)
I-95 (Miami) Lane Configurations

Original

- HOV Lane

Revised

- Express Lanes
- HOV Lane
I-95 (Miami) Express Lanes Conversion

Original

Shldr.  HOV Lane  General Purpose Lanes  Shldr.

12'  12' Lanes  13'

85'

Revised

Shldr.  Express Lanes  General Purpose Lanes  Shldr.

8'  22'  44'  10'

85'
Impacts on Peak Period Speeds and Travel Times

Travel Speeds
(Northbound - PM Peak Period)

Travel Time
(Northbound Peak Period)

Average Peak Period Time Savings = 14 Minutes
Perspectives on Tolling from Florida

- 1950s – Tolling started for Florida’s Turnpike
  - Miami/Ft. Lauderdale
  - Orlando
  - Tampa
- 1980s/1990s/2000s – policy decisions to continue tolls on key areas to fund toll system maintenance and expansion projects
  - Florida’s Turnpike (major expansions)
  - Alligator Alley (I-75)
  - Sunshine Skyway (I-275)
  - Urban Toll Systems (major expansions)
- 2010s - Tolls second largest transportation revenue source
Current Tolling Policies in Florida

- All new lanes, bridge replacements and new bridges strongly considered for Tolling – Section 338.151, Florida Statutes
- Express Lanes in Urban Areas
  - In Operation - 95 Express – Phase 1 (Miami)
  - In Construction
    - 95 Express – Phase 2 (Miami/Ft. Lauderdale)
    - 595 Express (Ft. Lauderdale)
  - Near Term Procurement for Construction
    - 75 Express (Miami/Ft. Lauderdale)
    - I-4 Express (Orlando)
    - Turnpike Extension (Miami)
  - Various others under Study in Miami, Tampa, and Ft. Lauderdale
Combining Innovative Delivery with Tolling

- Public-Private Partnerships – Greenfield Projects
  - Toll Revenue risk
    • 495 Express (Virginia)
    • Downtown/Mid-Town Tunnel (Virginia)
    • North Tarrant Express (Texas)
  - Public Owner Controls Toll Revenues – “Availability Payment”
    • 95 Express Phase 1 – Design-Build-Finance (Florida)
    • 595 Express (Florida)
  - Design-Build – Traditional Toll Entities
    • E-470 (Colorado)
    • Central Texas Turnpike
    • Triangle Expressway (North Carolina)
    • First Coast Outer Beltway (Florida)
New Perspectives in Toll Financing

• Traditional Thinking: a new toll road or bridge must be able to fully pay for itself
  – Including annual M&O
• New Paradigm: Tolls provide a new, sustainable source of revenue – even if they don’t completely pay for a project
  – Most new toll roads use a combination of tolling and traditional state/federal funds
    • Triangle Expressway (NC) – annual subsidies pledged by legislature plus TIFIA subordinated debt
    • Capital Beltway Express Lanes – state subsidy to P3 project
  – States looking to use tolls to leverage traditional funding sources
    • Toll revenue often covers long term M&O – reducing DOT costs in long run
  – Tolling may provide long term solution to pending interstate system reconstruction train wreck
Public-Private Partnerships

• Increasingly viable for “greenfield” projects
• P3 concessions can leverage debt further thru use of equity
  – But many projects still need help
    • North Tarrant Express
    • LBJ Freeway
    • Capital Beltway
• May play a major role in interstate system rebuilding and maintenance
  – Such as 50 year “life cycle” concessions
• “Availability payments” may be a big solution
  – Long term concessions repaid through public “appropriations”: which can be repaid (at least in part) by toll revenue
  – Public agency maintains control of toll rates and toll policies
Public Acceptance

• Typically less public opposition to user fees than perceived by elected officials

• In general, surveys nationally find more support for increased use of tolling than increases in gas and other tax levies
  – Notable exception: trucking industry which favors gas tax increases

• People generally don’t want to “be the only ones” paying tolls
  – Not unlike concerns when tolls were previously in Connecticut

• Considerable public support for tolling “new capacity”
  – Considerable opposition to adding tolls to existing free roads
  – Major issue since biggest funding need in the future will be to “rebuild” existing roads

• Express Toll Lanes have high public and political support nationally
  – They represent new travel choices that drivers can voluntarily choose
  – Less concern today about “Lexus lanes” issue