

What's New With Tolling

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February 22, 2013

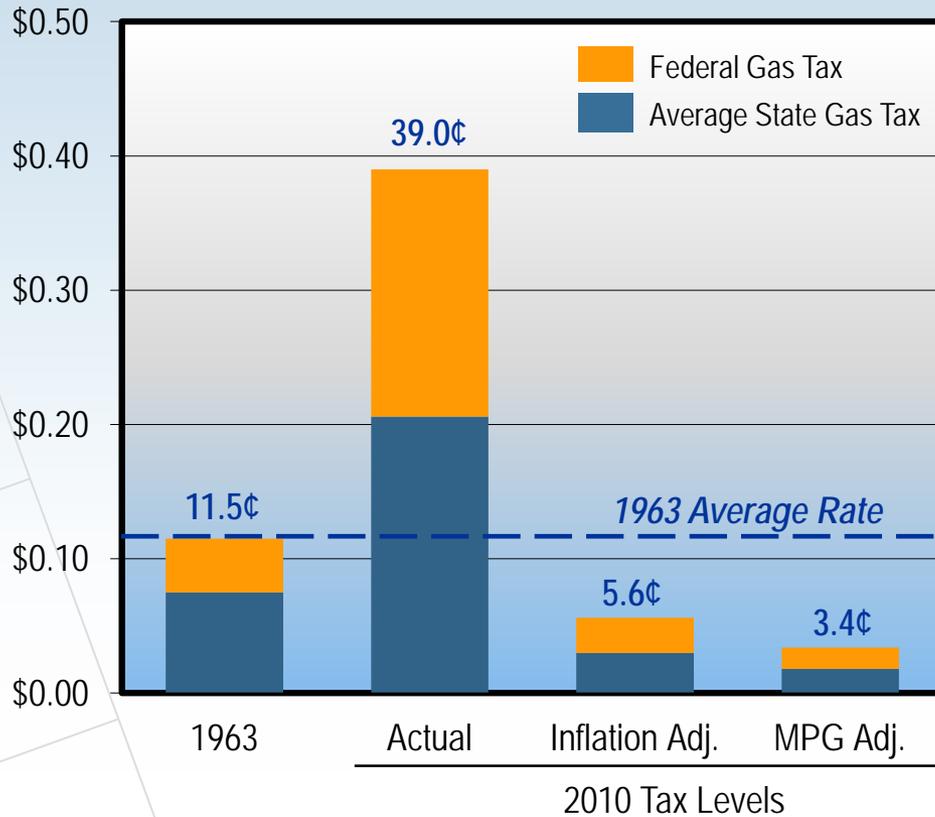
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Smith**

The Gas Tax: A System at Risk

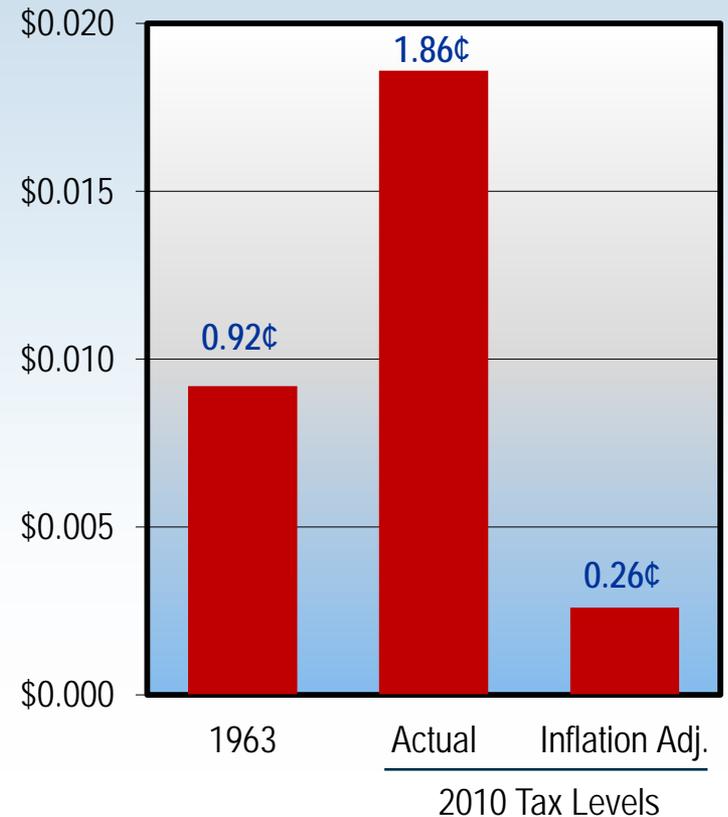
- Without major changes, the motor fuel tax will not be able generate the revenue needed to maintain and expand our nation's transportation infrastructure in the future
- 3 general fund infusions to the HTF in the last 3 years alone
- An ominous trend
 - Political reluctance to raise tax rates
 - Federal 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

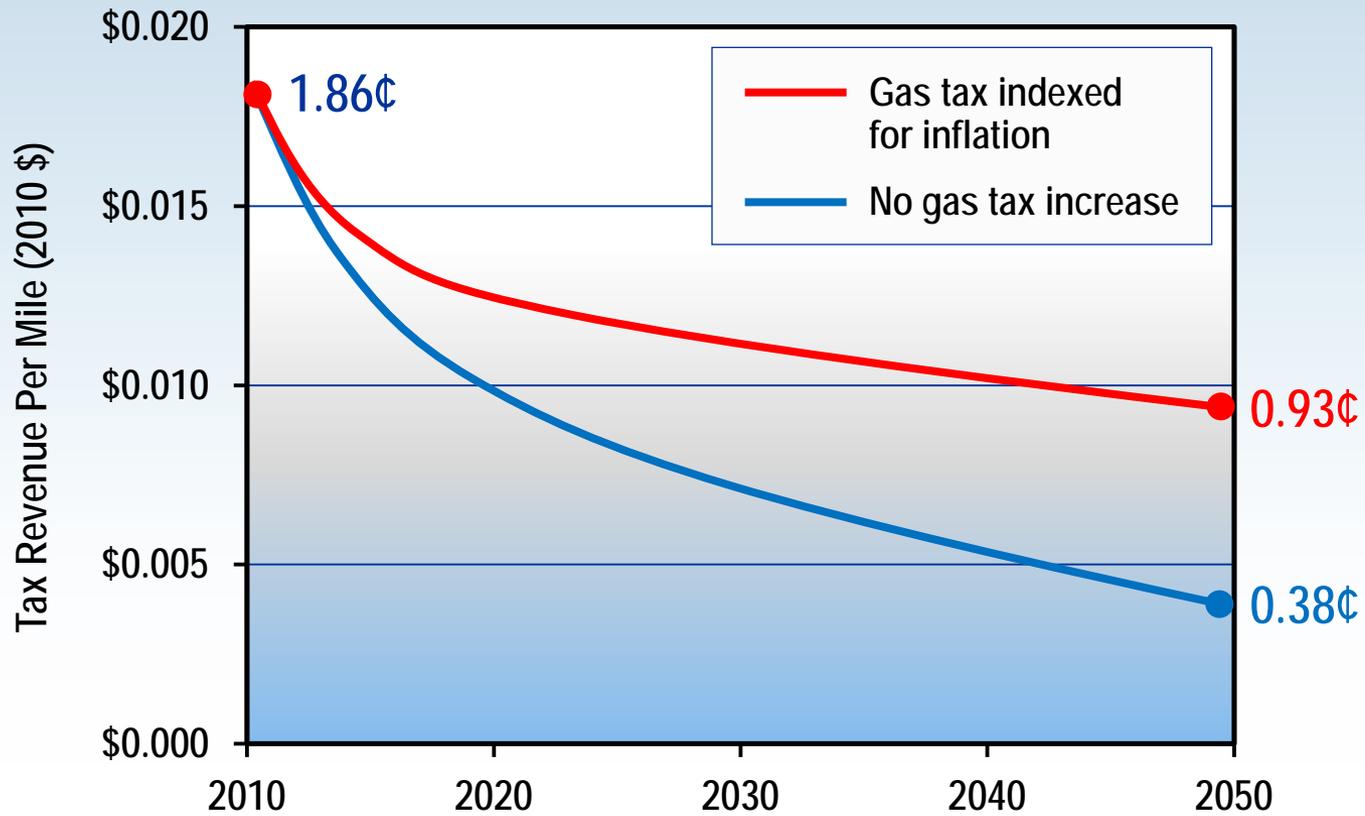
Rate Per Gallon



Per Mile Equivalent



The Gas Tax: Unsustainable Revenue Source



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



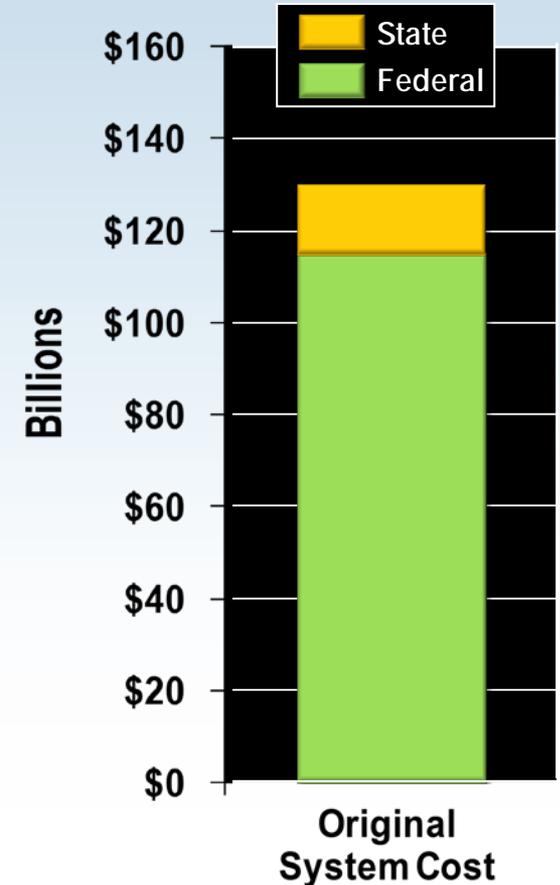
The US Interstate Highway System

- 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



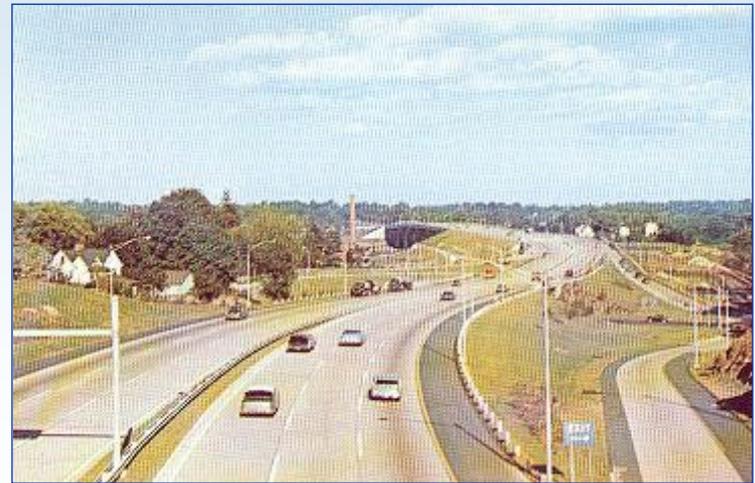
The 1956 Program: No Tolls

- 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

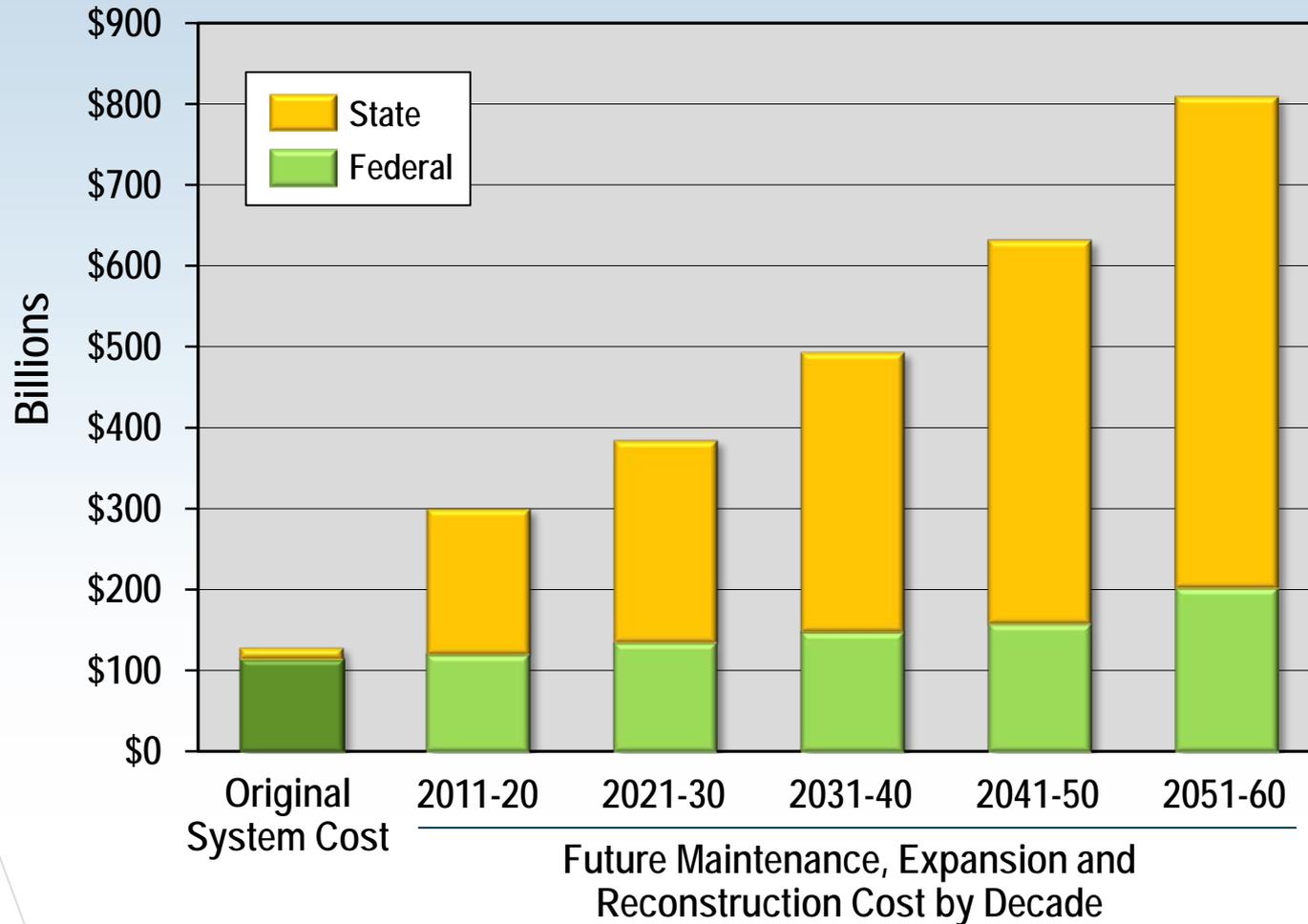
- 13 miles of improvements
 - Widening
 - Major bridge replacement
 - Interchange reconstruction
- Total cost: \$2.2 billion
- Reconstruction of 10% of the Turnpike cost almost five times the original cost of the entire Turnpike



“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

The Next 50 Years



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



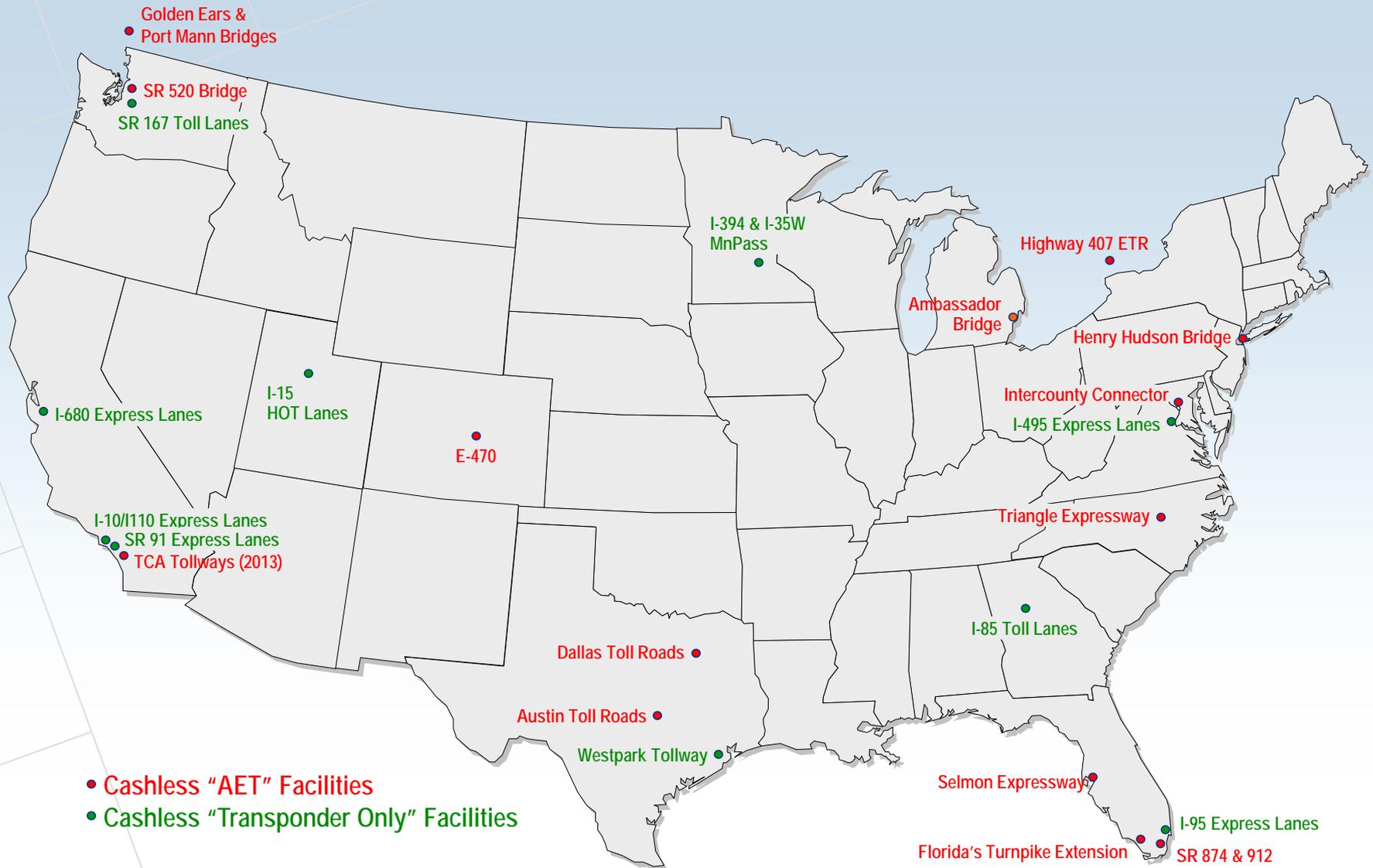
Highway 407 – Toronto – world's first AET facility

All-Electronic Tolling

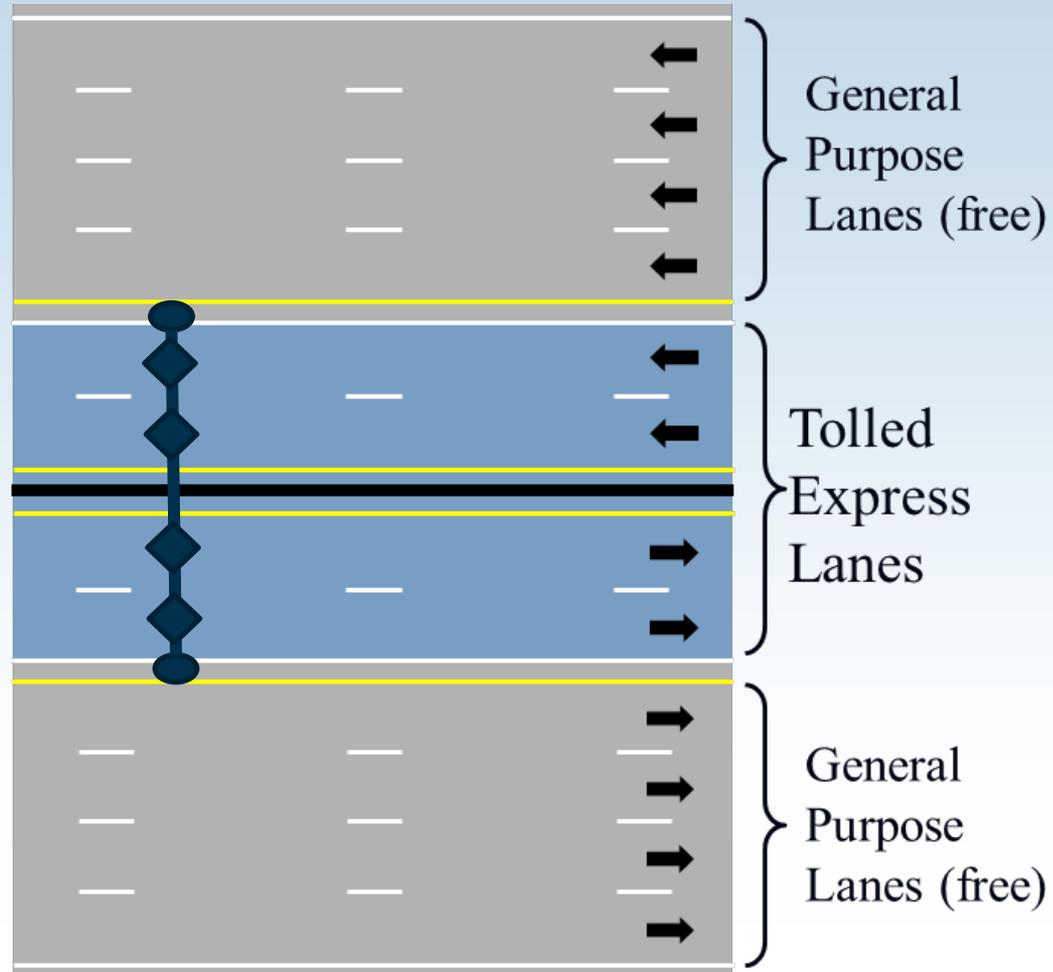


Sam Rayburn Tollway – Dallas, TX

Cashless Collection in the US and Canada



Express Toll Lanes



“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

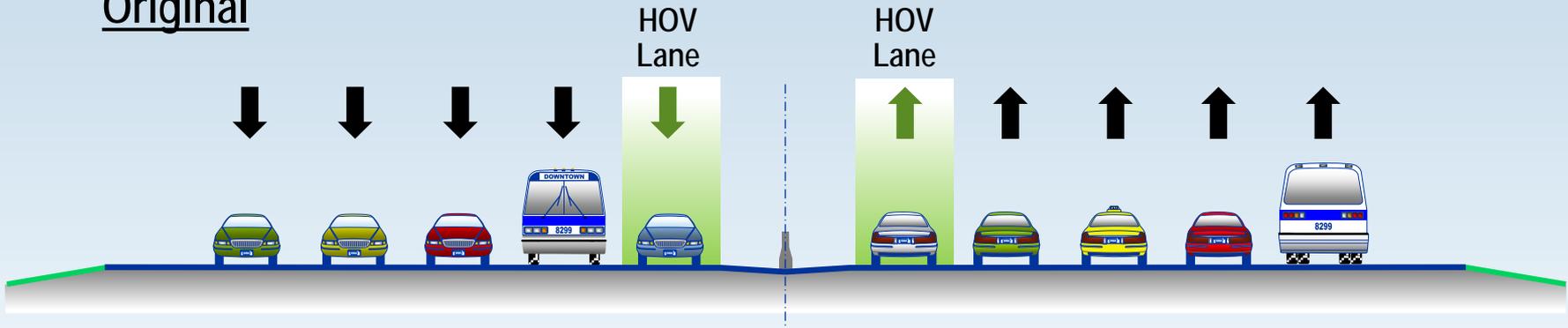


Katy Freeway Express Lanes (Houston)

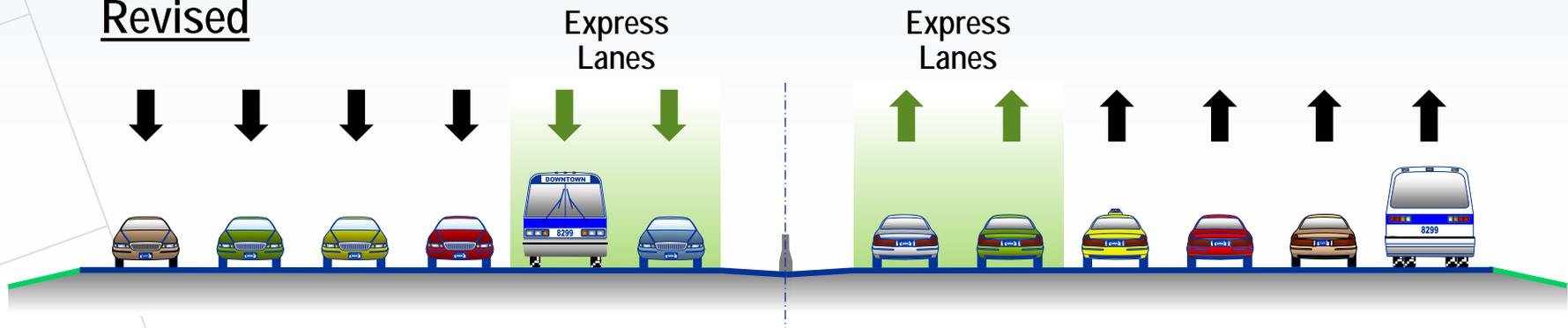


I-95 (Miami) Lane Configurations

Original

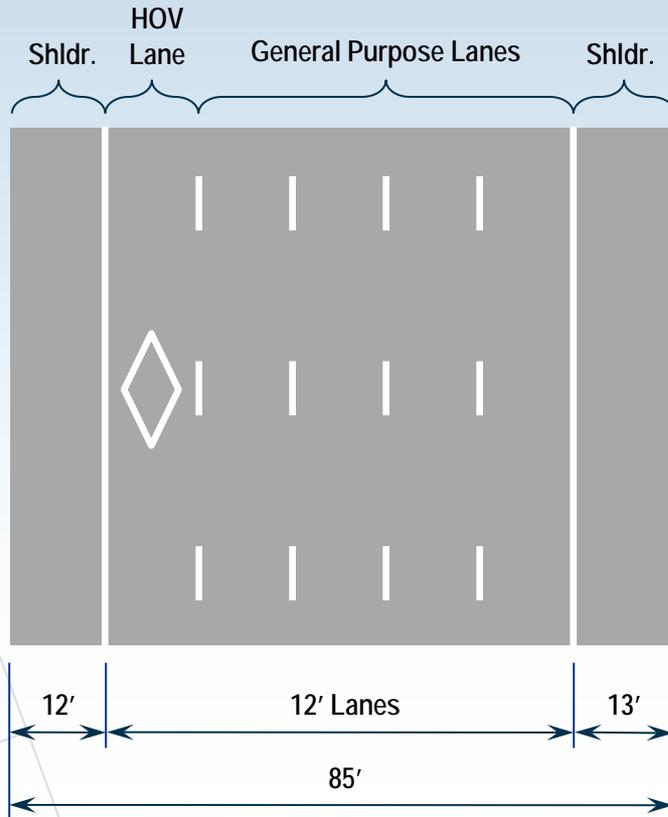


Revised

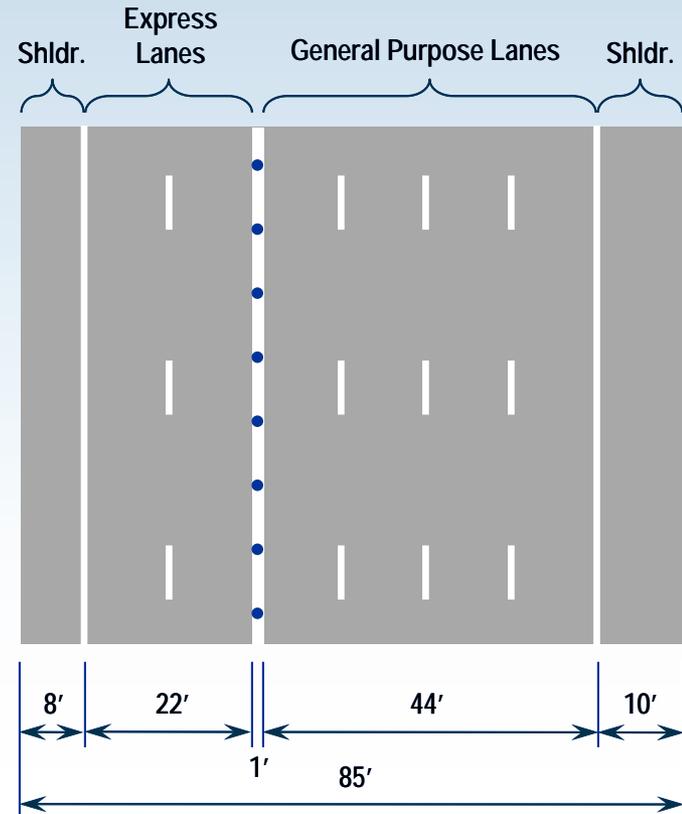


I-95 (Miami) Express Lanes Conversion

Original

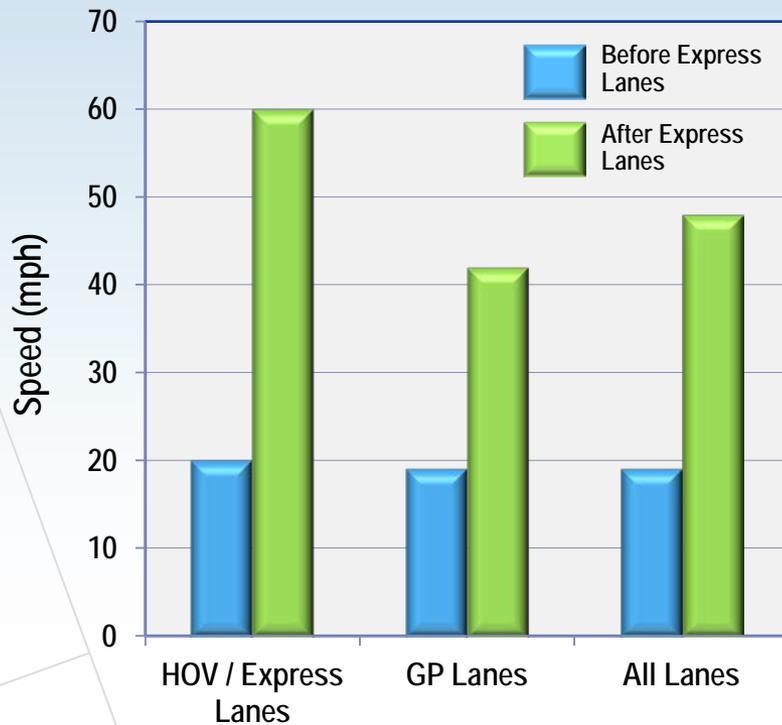


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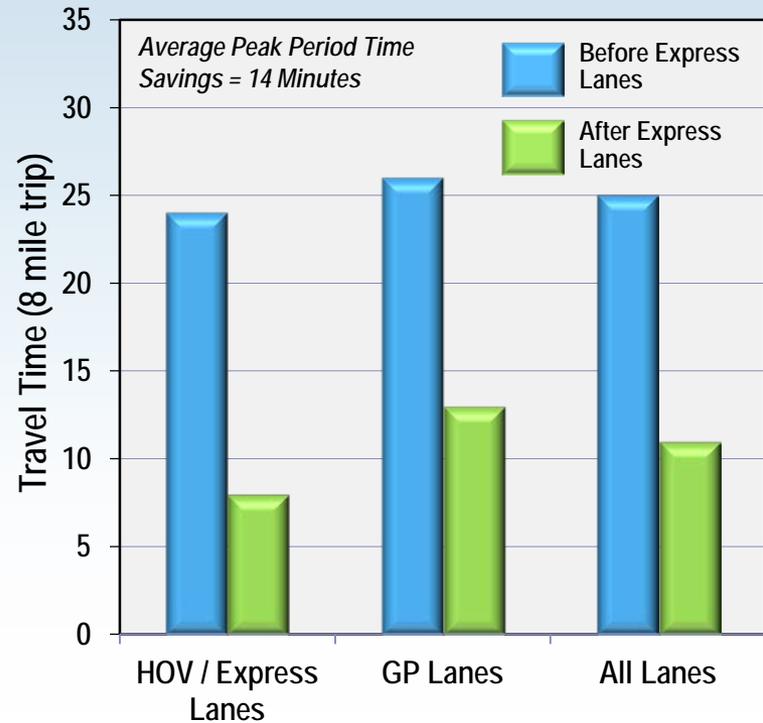


Impacts on Peak Period Speeds and Travel Times

Travel Speeds (Northbound - PM Peak Period)



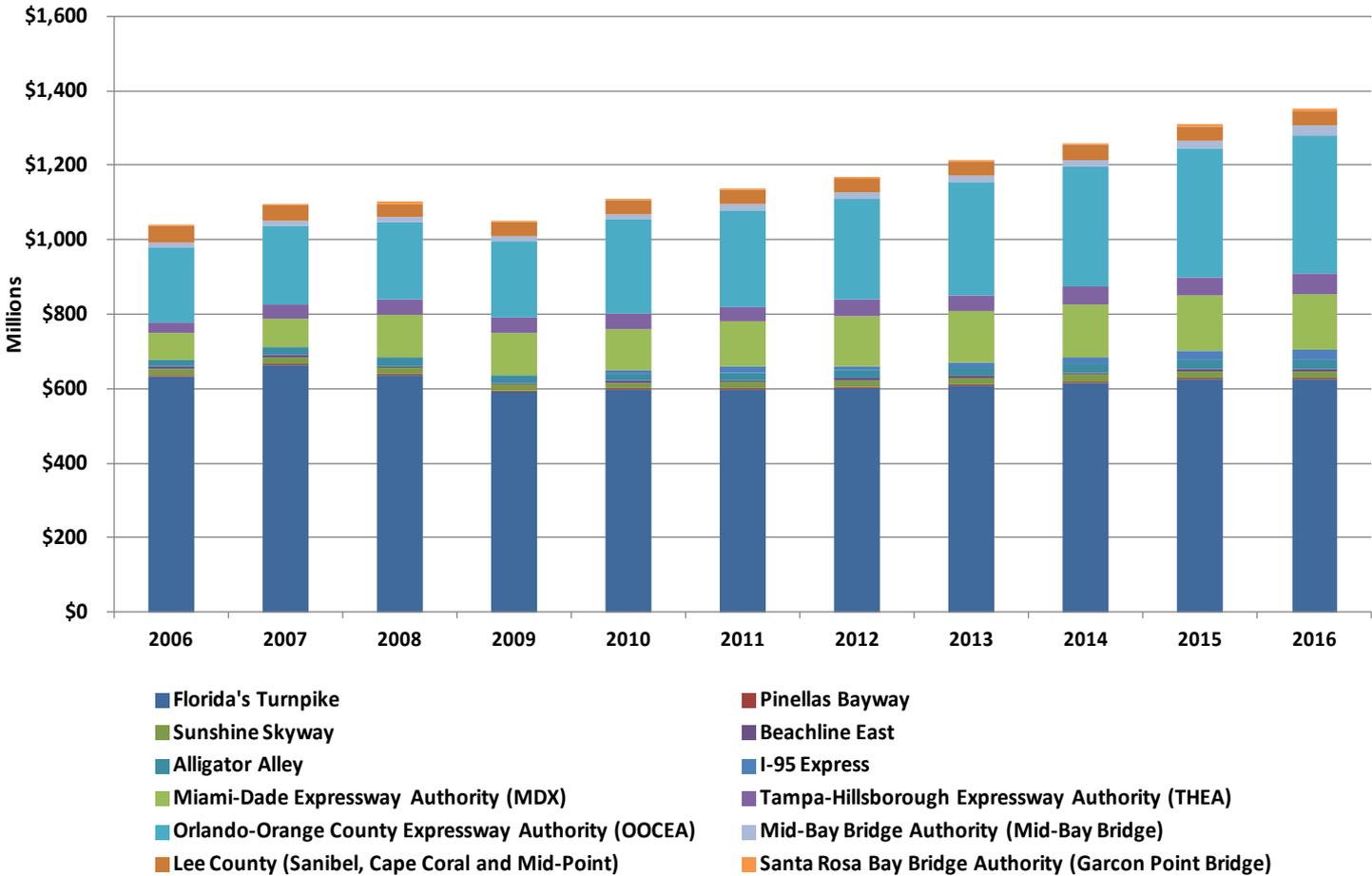
Travel Time (Northbound Peak Period)



Perspectives on Tolling from Florida

- 1950s – Tolling started for Florida’s Turnpike
- 1970s/1980s – Major Urban Toll Systems
 - 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

Florida Toll Systems



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