



The Toll Road Not Taken

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Tom Maze Transportation Seminar Series
May 2, 2014

Some background about myself

- In transportation engineering since 1990
- Licensed professional engineer
- Licensed attorney
- Used to pay \$2.00 in tolls every weekday to cross the Delaware River (now \$5.00)



Differing Perceptions of Toll Roads

- Raise your hand if you love toll roads



Outline

Today, we will examine ...

Reasons behind toll road attitudes

- Crisis!
- Modern history of roads
 - 34th President, Ike
- Trade-offs of toll financing
- Future of road financing



TRANSPORTATION FINANCING CRISIS?

Crisis! Equation

increasing transportation demand
+
increasing construction costs
+
decreasing funding
=
infrastructure crisis!

Crisis! Equation Illustrated



+



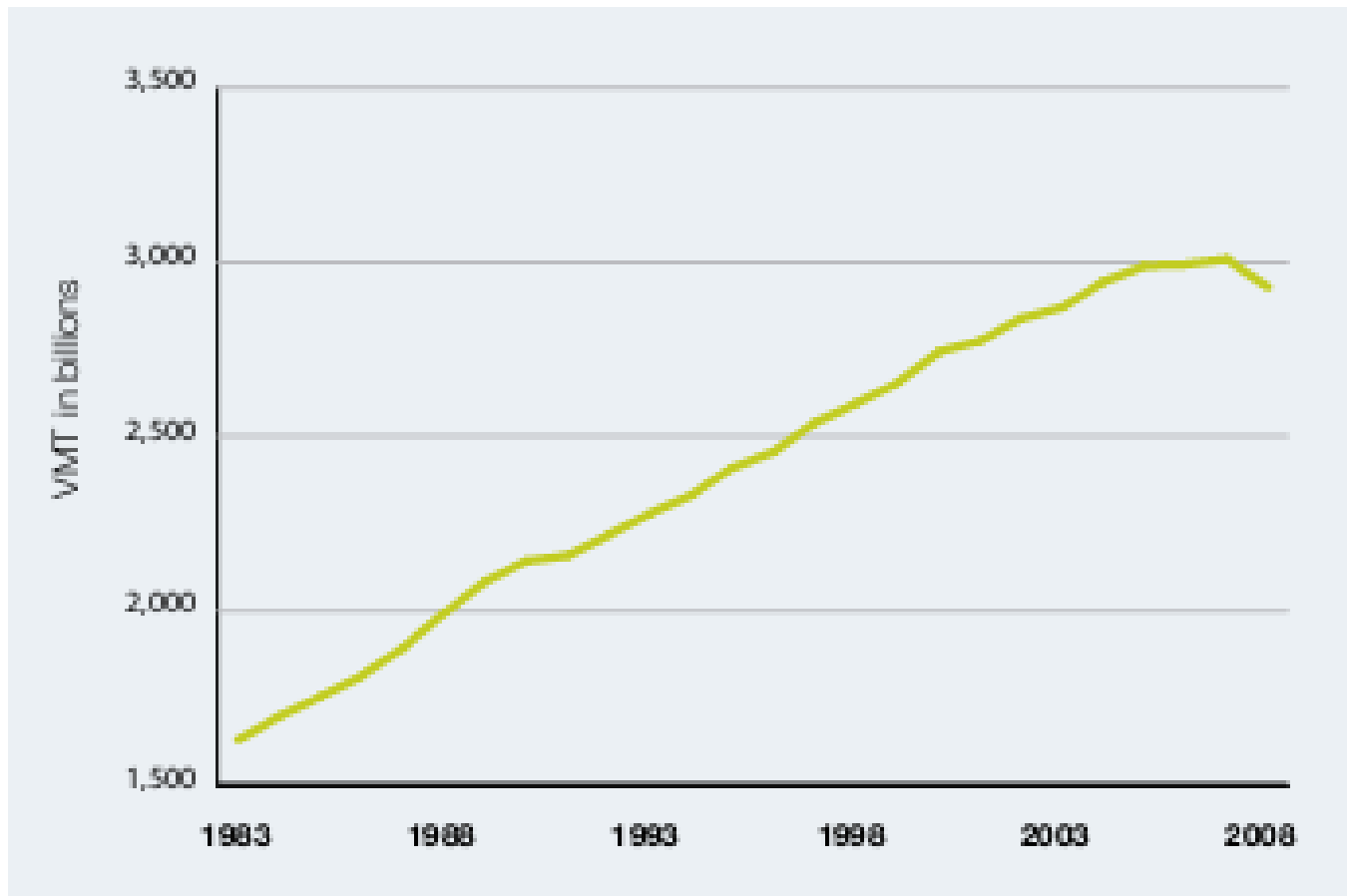
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Increasing Transportation Demand

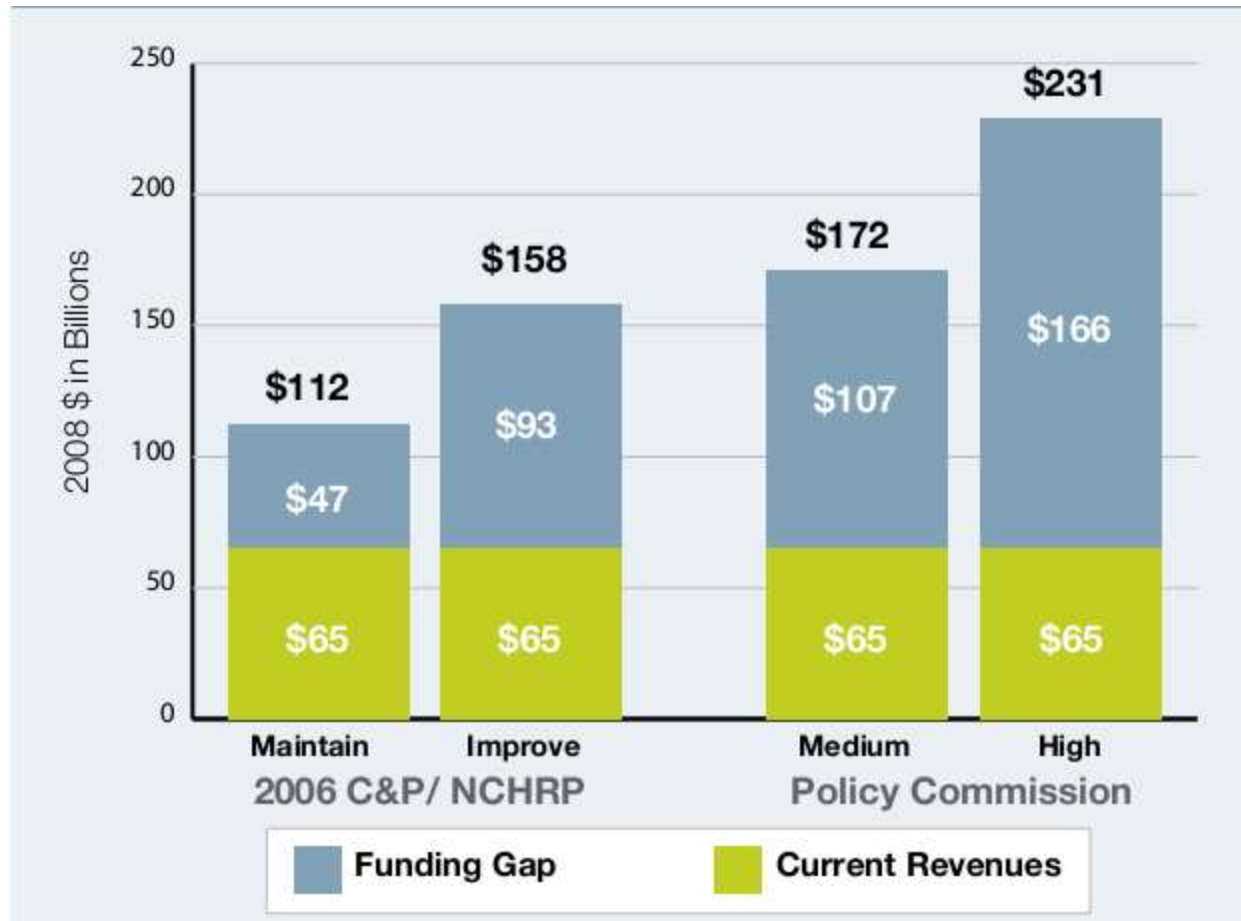


FHWA, 2008

Construction Cost Index (ENR)

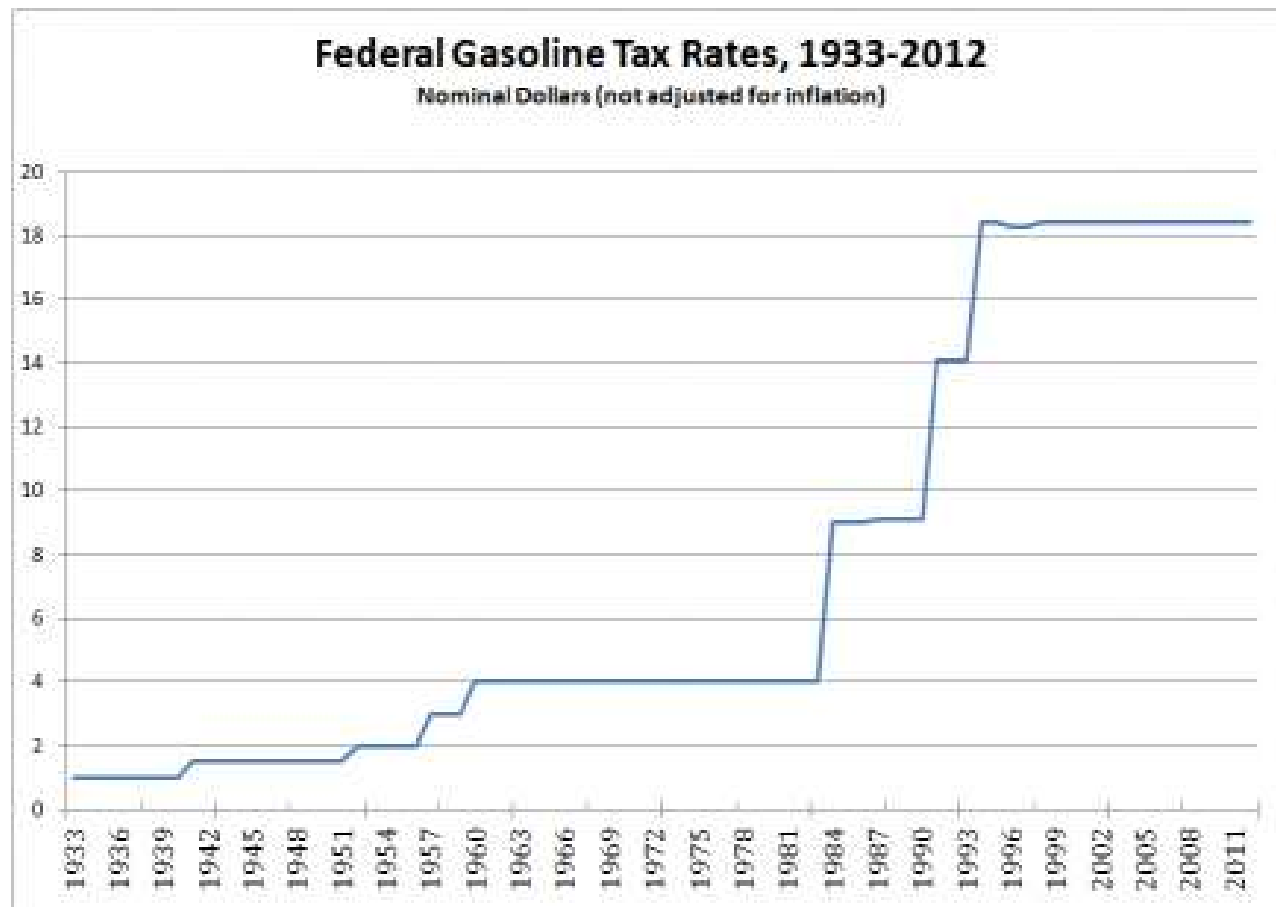


Transportation Financing Levels



NSTIF, 2009

Gas Tax Level



taxfoundation.org

Crisis!





A HISTORICAL JOURNEY

Turnpikes

- What is a turnpike?
- What is the origin of the word?

Turnpikes

- A gate
- What is shunpiking?



Beekman Turnpike



Nineteenth Century

- Northeast 73% of turnpikes
- Midwest: MO, IL, MI, IA
- 1806-1838 1st federal interstate, tolled
 - Cumberland Rd/National Pike – MD to IL
- Highly regulated
 - Fixed tolls; church & town meeting exemption
- Enormous economic impact

Toll Roads and Free Roads

- Commissioned by Congress in 1938
- Influential in advocating for HTF
- Federal-Aid Highway Act (& Revenue Act)



1939 BPR Report

- How to finance 6 intercontinental highways
 - 3 E-W
 - 3 N-S



1939 Report – Toll Estimates

- 1945-1960: estimated vehicle paying traffic
 - 699 autos and 175 trucks per day
- Average toll rates of 1 cents per vehicle-mille for passenger cars
- Total toll \$72M/year
- Total cost \$184M
- 39.2% solvency ratio

1939 Report – Toll Estimates

- Light transcontinental travel
- Trip lengths < 5 miles 25%-44%
- Median length 6.3 – 8.9 miles
- Distances shorter than toll-highway access points



Hancock Tollbooth, MD National Rd, 2014

Comments on 1939 Report

- BPR's opposition differed from modern
 - Pragmatic approach
- Travel demand post 1960 ↑
 - 1960-1990 commuting increased by 136%
 - Ownership tripled to 153M
- Household income from 1967 to 2008 ↑
- Select data from states
- Capacity: 520 vph vs. >2200 vph

Highway Act of 1956

- Previously
 - federal excise taxes on motor fuel & vehicles into general fund
 - appropriations for federal aid
- Highway Trust Fund model
- 90% federal share / 10% state
- 1st section in ...



Holmes, 2010

Highway Act of 1956

- Post WWII - autobahns
- Establish 42k miles quickly
 - Not long term solution
- Not intended to restrict state flexibility
- National System of Interstate and **Defense** Highways



Highway Act Competing Interests

- Special Assistant for Public Works Planning General Bragdon
- Treasury Secretary George Humphrey
- Truckers
- Al Gore Sr., Fallon, Boggs – Senate & House



U.S. Library of Congress



Dwight Eisenhower Library



1959 Political Climate

- Receipts of trust fund were expected to exceed expenditures by nearly \$7.7 billion
- Optimistic revenue outlook for trust fund as formulated using “free” roads model



1956 Highway Act

Limitations on Federal-Aid Funds

- Beginning of exclusion of new toll facilities on IS
- Turnpikes in existence, include into Interstate System
 - e.g. KS, MA, NJ, PA
- Act meant to promote uniformity
 - bifurcating states into toll and non-toll



TRADE-OFFS OF TOLL FINANCING

Collection Costs

- Gas tax collection – low cost
 - 1% of revenue
- Tolling more costly
 - New tech allows collection at speed
 - 6-15 cent/transaction operational cost



Worrall, 2009

Local Benefit

- Gas tax – in-state fees vs in-state travel
- Tolling – capture out-of-state travelers
 - e.g. I-70
 - But merely shifting and not augmenting?



Link Between Charges and Use

- Gas tax – loosely tied, fuel efficiency differences
 - 18-kip ESALS
- Registration and licensing – not directly tied to miles traveled
- Tolls – direct link



Adam Smith

illinois.edu, 2014

Highway Subsidies

- Revenue generated through fuel taxes not cover full cost of transportation
 - bonding, sales tax, property tax, income tax, incident management, externalities
- Subsidies do not promote economic efficiency (tragedy of the commons)
- Tolling could include more impact
 - congestion pricing

A Double Whammy?

- Tolling amount to paying twice?
 - fees and gas taxes already paid
- Revenues go to finance same benefit?
 - e.g. TCA fuel for maintenance, tolls to fund operating and bond interest



Roads Should be Free

- There ain't no such thing as a free lunch
 - Free roads = misnomer
- Confusion between constitutional right to move freely between states or visit another state



humanresourcelegislation, 2014

Equality

- Affordability?
 - Exclusion of lower income travelers
- Related housing issue
- Hybrid vehicles



Other Alternatives?

VMT Fee System

- Direct user fee based on miles driven
- Best option identified by congressional commission
- User connects cost with service provided
- User miles and locations (jurisdictions) tracked via GPS



Other Alternatives?

- Bonds
- General sales tax, excise tax increase, increase user fees
- Property tax
- Development exactions and impact fees
- Transportation development districts



What is a Good Question

- Are you for toll roads or against them?



More Information on Legal Aspect of Toll Roads

- The Toll Road Not Taken: Could the One Option Less Used Make A Difference?
- Kansas Journal of Law & Public Policy
- 21 Kan. J.L. & Pub. Pol'y 280