

Testimony of Dr. David Ellis
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before the
Senate Select Committee on Transportation Funding, Expenditures and Finance

June 24, 2014

**Estimate of Additional New Construction and Associated Maintenance Needed
per Year Between Now and 2030: Two Scenarios**

A report published in 2011 by the Texas 2030 Committee, *It's About Time: Investing in Transportation to Keep Texas Economically Competitive*, provided an assessment of the state's infrastructure and mobility needs. The Texas A&M Transportation Institute (TTI) has developed the following two sample funding scenarios in order to meet the needs identified in the report. The scenarios below consider a number of different assumptions about the future such as:

- Desired system performance
- Desired system pavement condition
- Population growth
- Vehicle miles traveled
- Fuel efficiency
- Construction cost inflation
- System efficiencies
- Passage of Proposition 1
- Amount of construction financed via tolls and/or public-private partnerships
- Amount of state vs. local effort
- New debt

Estimate of Additional Annual Construction and Maintenance Dollars Needed – Scenario 1

Scenario 1 is the baseline scenario and, as such, represents the most likely estimated need in order to maintain mobility levels experienced in 2010. This scenario yields an estimate of approximately \$4.0 billion in new construction and maintenance dollars, using the following assumptions:

- Desired system performance – 2010 mobility levels
- Desired system pavement condition – maintain current system pavement condition

- Population growth – State Data Center 1.0 migration scenario (assumes net migration rates experienced in Texas from 2000-2010)
- Vehicle Miles Traveled – average change over past 10 years in per capita VMT is maintained
- Fuel efficiency – average rate of increase over the past 10 years is maintained
- Construction cost inflation – 5% increase per year (average annual change from 1998-2013)
- System efficiencies – 15% of mobility needs can be met through increased system efficiencies and transit
- Passage of Proposition 1 – assumes passage
- Amount of construction financed via tolls and/or public-private partnerships – 10 percent of construction will be met through state-constructed toll roads, 10 percent will be met through public private partnerships
- Amount of state vs. local effort – 40 percent of mobility needs will be met by local governments, RMAs, and toll authorities
- New debt – no new Proposition 12 or Proposition 14 debt is issued

Estimate of Additional Annual Construction and Maintenance Dollars Needed – Scenario 2

Scenario 2 considers the same variables **with the exceptions** that it assumes Proposition 1 does not pass and assumes there are no new toll roads constructed, no new public-private partnership construction and that no mobility value is achieved through demand management and other techniques. The effect of these assumptions is that an estimated \$7.4 billion in new construction and maintenance expenditures is required to maintain 2010 mobility levels.

Variables

- Desired system performance – same as above
- Desired system pavement condition – same as above
- Population growth – same as above
- Vehicle Miles Traveled – same as above
- Fuel efficiency – same as above
- Construction cost inflation – same as above
- System efficiencies – no mobility gain through system efficiencies and transit
- Passage of Proposition 1 – assumes Proposition 1 does not pass
- Amount of construction financed via tolls and/or public-private partnerships – assumes no tolls, no public-private partnerships
- Amount of state vs. local effort – same as above
- New debt – same as above

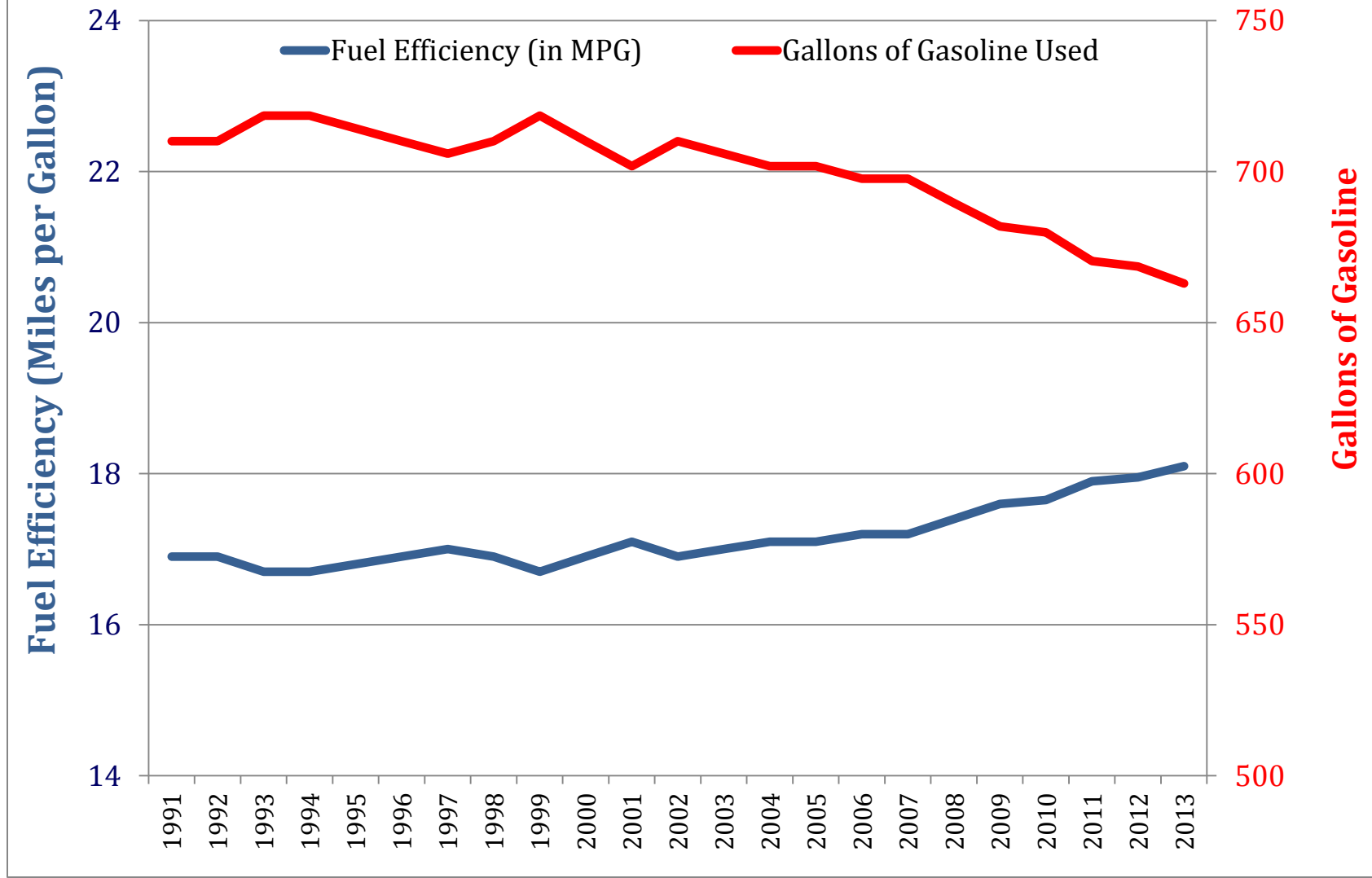
Major Factors in Variability of the Estimates

- Construction cost inflation – variability can be significant; primary cost inputs are commoditized
- Fuel efficiency – deterioration in purchasing power of the fuel tax has been significant

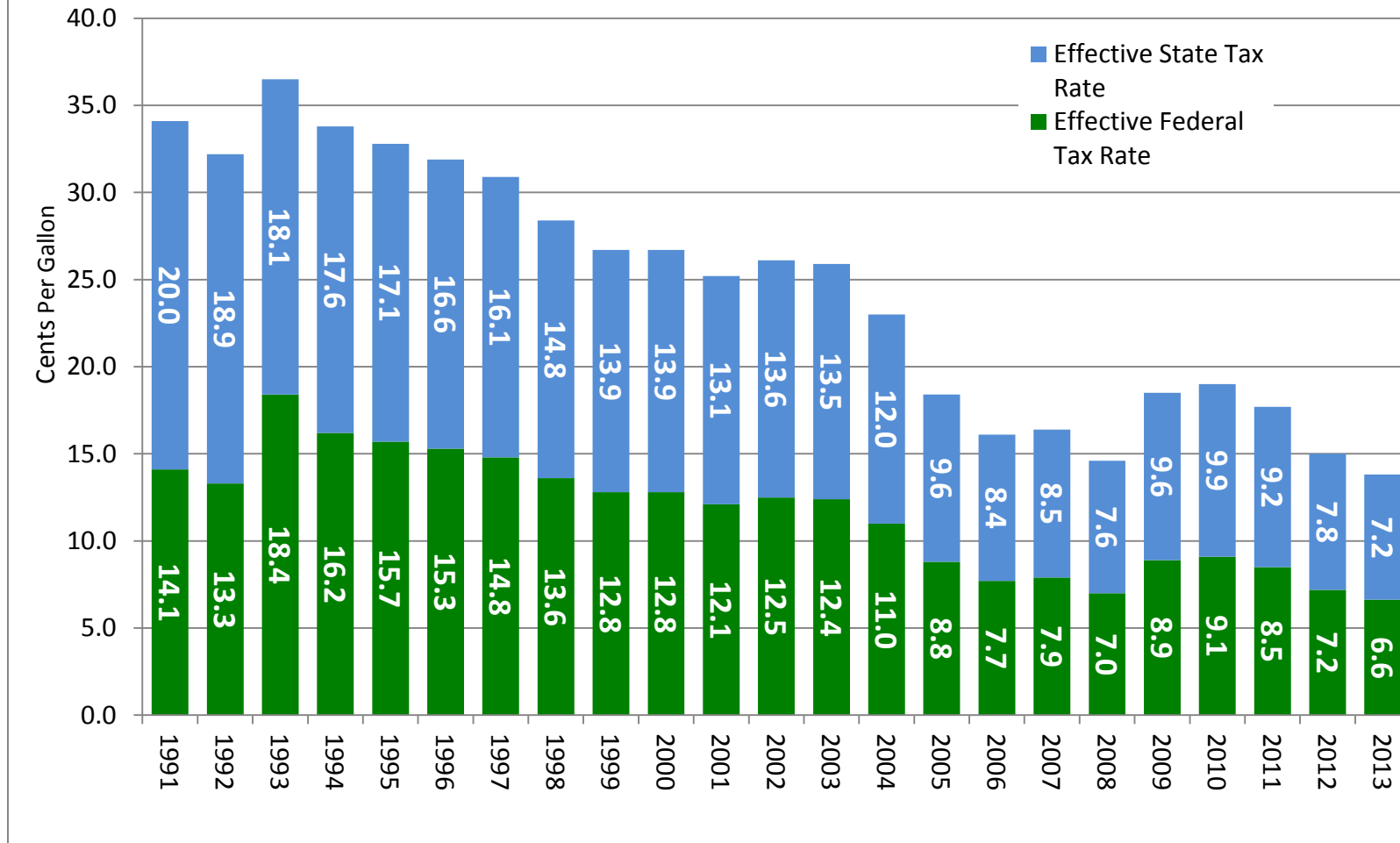
- Vehicle Miles Traveled and System Efficiency – technology trends can have significant positive effects
- Passage of Proposition 1 – helps meet funding needs

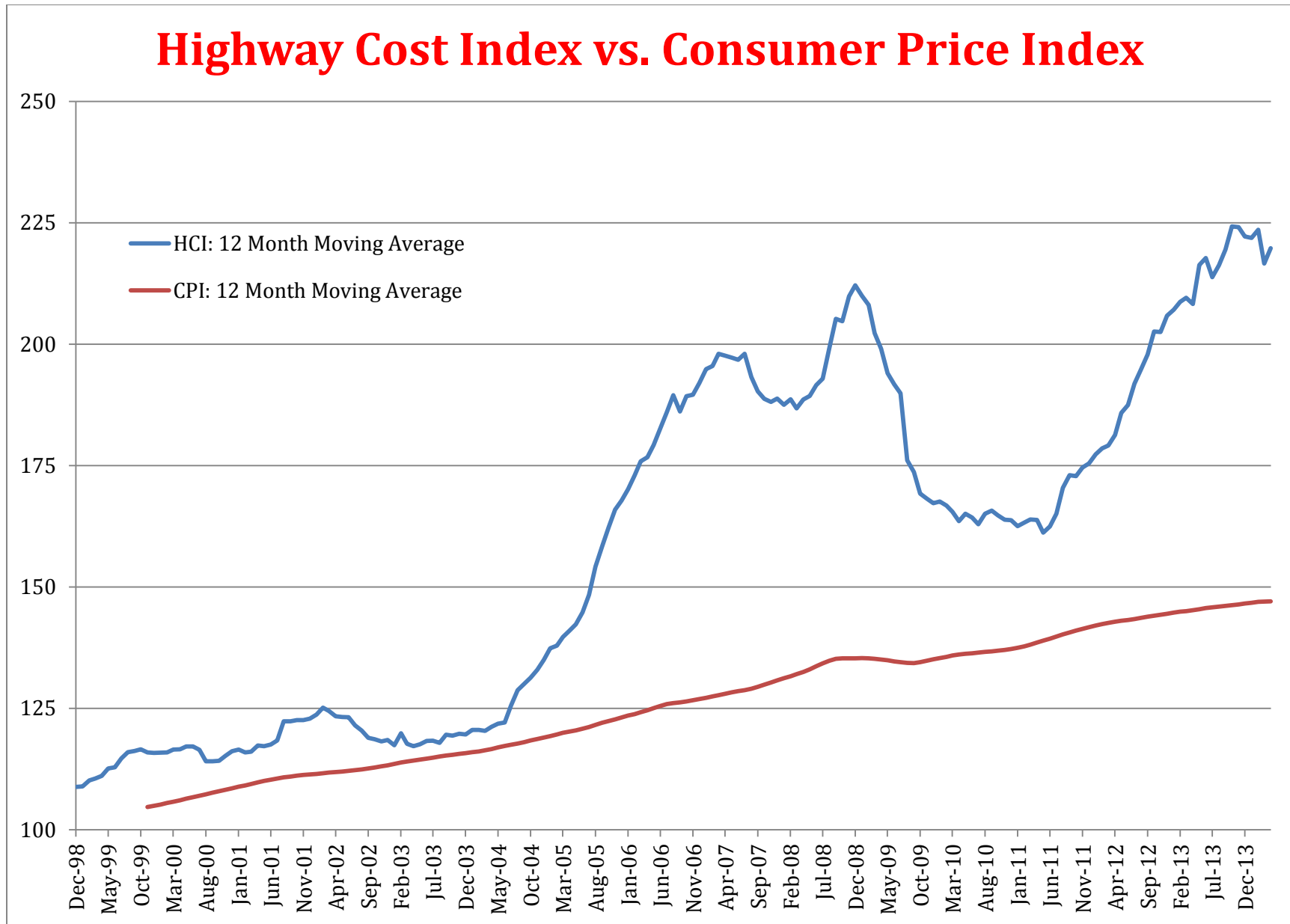
Note: Pages 4 through 7 show the effect of increased fuel efficiency and inflation on the cost of roadway construction.

The Downside of Fuel Efficiency



Purchasing Power of the Motor Fuels Tax





The Effect of Cost Inflation and the 2030 Report

A \$500 million road construction project:

Built in 2010: \$500 million

Built Now: \$665 million

Built in 2018: \$870 million

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Answers in Response to Committee Inquiries Related Specifically to Toll Facilities

1. How many miles of toll roads have been built and are currently open in Texas? What is the annual debt related to those projects?

There are currently 401.3 centerline miles of toll road open in Texas. Total debt service on existing toll roads (from all tolling authorities) is an estimated \$3.8 billion annually.

2. What is the current statewide toll revenue?

The current statewide toll revenue is \$1.3 billion, a 12 percent increase over 2012.

3. What percentage of vehicles have toll tags (EZ Tag, TxTag, TollTag, etc.)?

Taken as a percentage of all vehicles (personal and commercial vehicles), 25 percent of all vehicles have some form of toll tag. As a percentage of personal vehicles, 34 percent have toll tags. In 2012, the last year for which complete data is available, a total of 5.7 million toll tags had been issued.

Other Information

The Texas A&M Transportation Institute has been directed by members of the Legislature to conduct a study on the history of toll road infrastructure in Texas. This report will be complete by September 1, 2014. The purpose of this report is to provide a historical assessment of toll roads in Texas. Specifically, this report reviews the following:

- a brief legislative history on the development of toll roads in Texas,
- a review of financial and operational characteristics for each facility, and
- a comparison of these facilities with those in other states.

The following authorities have been created or authorized by state or regional governments and will be covered in the report:

- North Texas Tollway Authority (NTTA),
- Harris County Toll Road Authority (HCTRA),
- Texas Department of Transportation Turnpike Authority Division (TxDOT TTA),
- North East Texas Regional Mobility Authority (NET RMA),
- Fort Bend County Toll Road Authority (FBCTRA),
- Cameron County Regional Mobility Authority (CCRMA), and
- Central Texas Regional Mobility Authority (CTRMA).

Toll facilities that will be reviewed for this report include the following:

Toll Facility	Toll Authority/Regional Mobility Authority	Toll Road Length (center lane miles)	Date Facility Opened*
Dallas North Tollway	NTTA	32.0	1968
President George Bush Turnpike		55.0	1977
Sam Rayburn Tollway (SH 121)		26.2	2006
Hardy Toll Road	HCTRA	23.0	1988
Sam Houston Tollway		70.0	1988
Westpark Tollway		19.0	2004
Loop 1 North (Parmer Lane to SH 45 North)	TxDOT	3.0	2006
SH 255		21.5	2000
SH 45 North		13.0	2006
SH 130 (segments 1-4)		49.0	2006
SH 45 Southeast		7.4	2009
Loop 49	NET RMA	26.3	2006
Fort Bend Parkway Toll Road	FBCTRA	8.2	2004
SH 550	CCRMA	14.9	2011
183A	CTRMA	11.6	2007
Manor Expressway (Phase 1)		6.2	2013
SH 99 (segments 1-2)	Grand Parkway Association	15.0	2014