



NORTH CAROLINA

**Turnpike Authority**

# *The Business of Tolling*

Cary Chamber of Commerce  
November 29, 2006

# **Tolling is a Business...**

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- **Markets must be measured**
- **Revenues must be effectively estimated**
- **Costs must be accurately anticipated**
- **Debts must be retired on schedule**

# First, a word about the Turnpike Authority

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## *Our Charge*

- To provide alternative financing for critical transportation projects
- To streamline project delivery

# A word about the Turnpike Authority

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- **Created by General Assembly in 2002**
- **Authorized to develop, construct, operate and maintain 9 toll projects**
- **Governed by nine-member board of directors**
  - **Chaired by Secretary Tippet**

# A word about the Turnpike Authority

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## *Key Limitations*

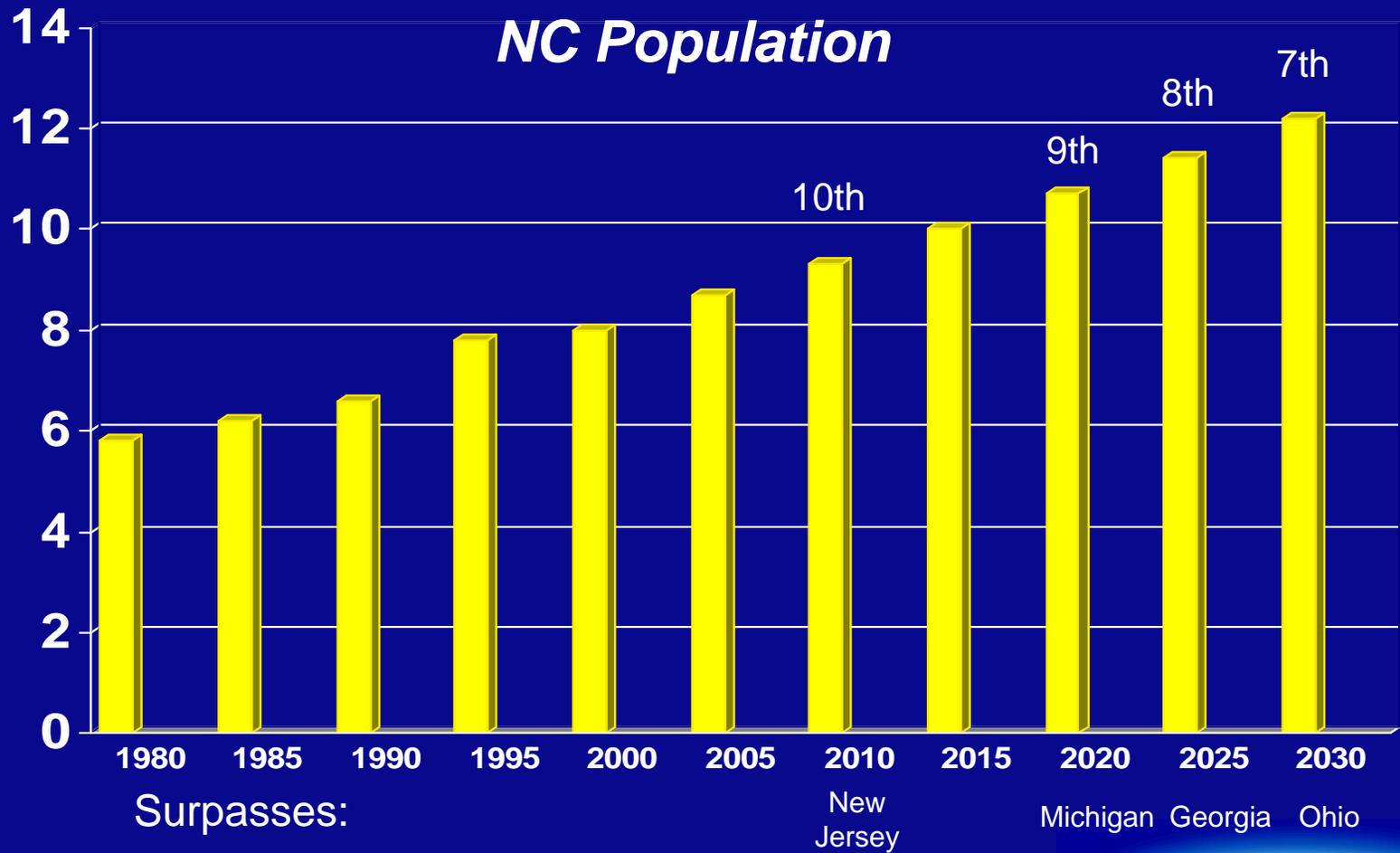
- **No tolls allowed on existing roads**
- **Every toll road must have free alternate route**
- **Projects must be requested by local entities**
- **Tolls must be removed when bonds are paid**

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# *Why Tolls?*

# Why Tolls?

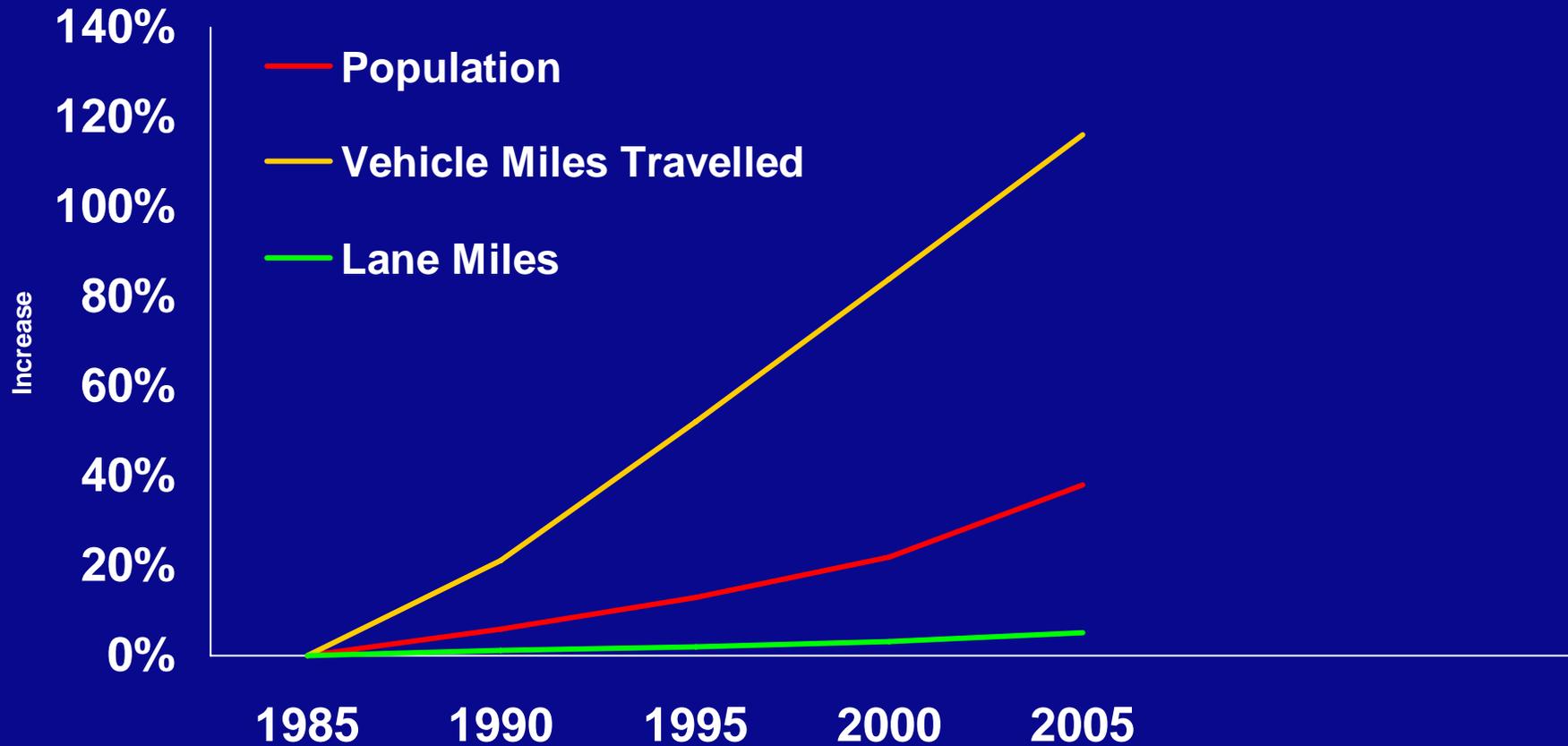
## Rapid Growth - Statewide



Source: US Census Bureau

# Why Tolls?

## Rapid Growth - Statewide



# Why Tolls?

## Rapid Growth – Triangle Region

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### *Population*

**2002**                      **1.2 million**

**2030**                      **2.3 million**

**Increase**                      **92%**

Source: Wilbur Smith Associates  
(MPO TRM)

# Why Tolls?

## Rapid Growth – Triangle Region

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### *Employment*

<b>2002</b>	<b>700,000</b>
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<b>2030</b>	<b>1,300,000</b>
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<b>Increase</b>	<b>86%</b>
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Source: Wilbur Smith Associates  
(MPO TRM)

# Why Tolls?

## Rapid Growth – Triangle Region

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- Research Triangle had nation's 2nd largest increase in commuter time over past decade.
- Triangle's population is expected to increase by 1.1 million over next 20 years.

# Why Tolls?

## Dwindling State Resources

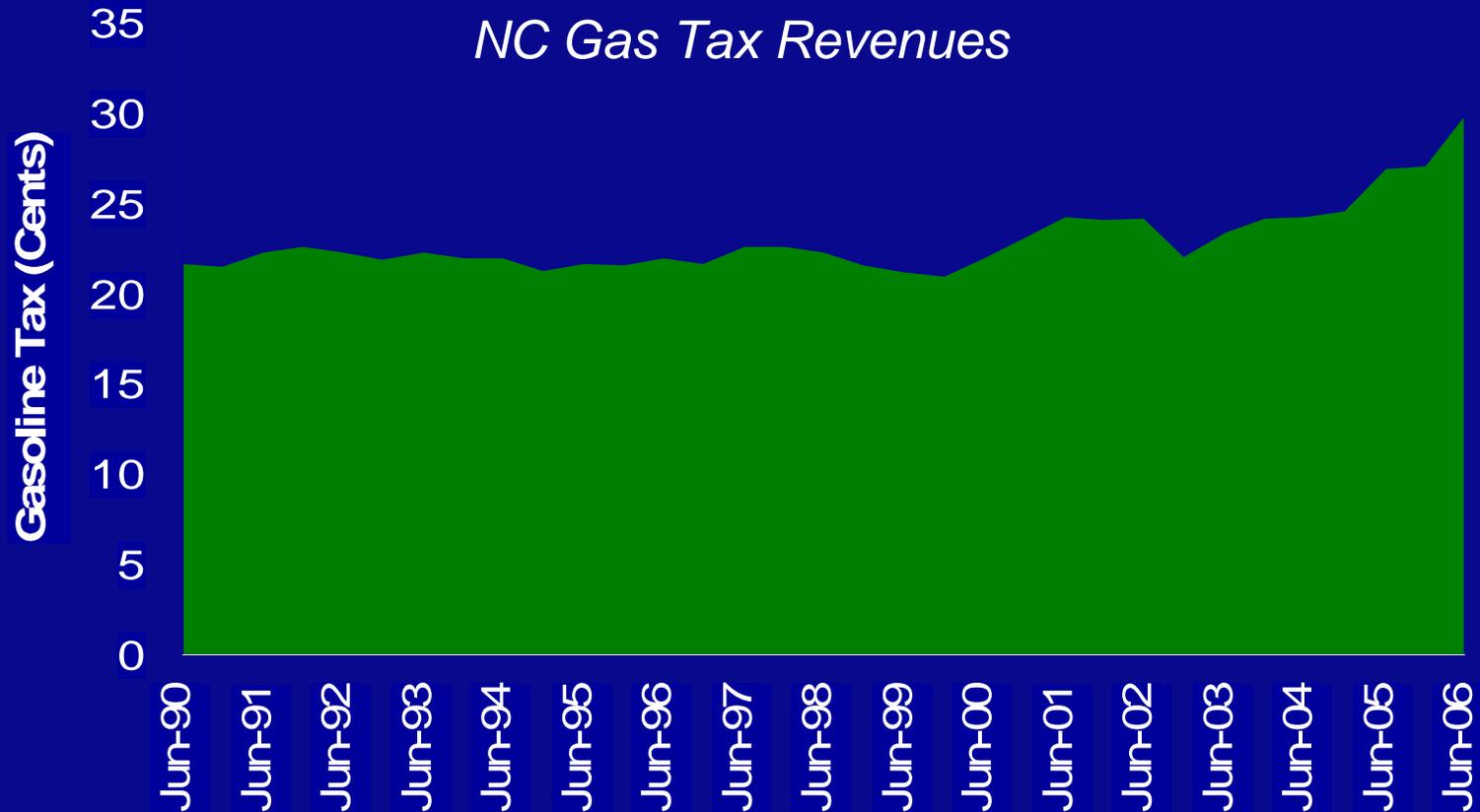
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*NC Gas Tax = 30 cents per gallon*

- Wholesale index increased 2.5 cents in January
- Created political firestorm
- Capped by General Assembly in July

# Why Tolls?

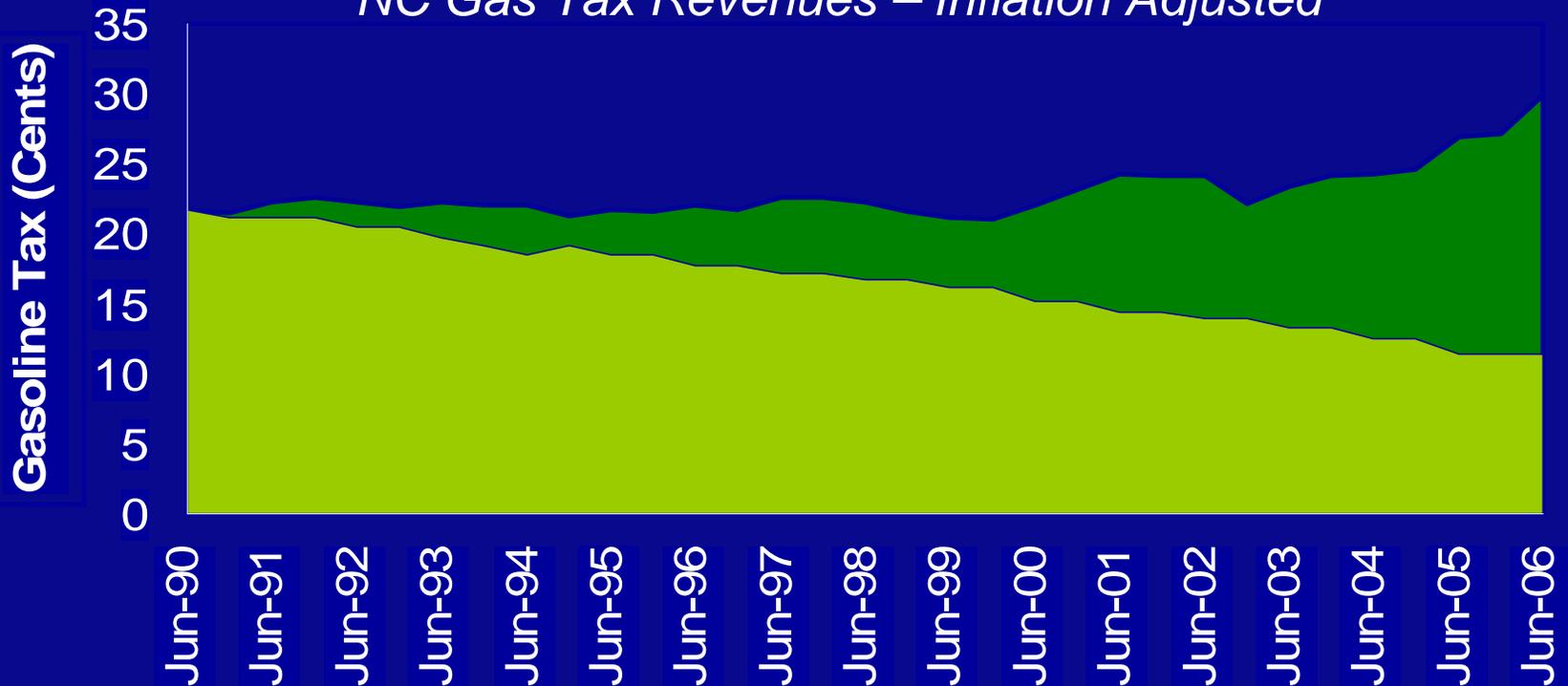
## Dwindling State Resources



# Why Tolls?

## Dwindling State Resources

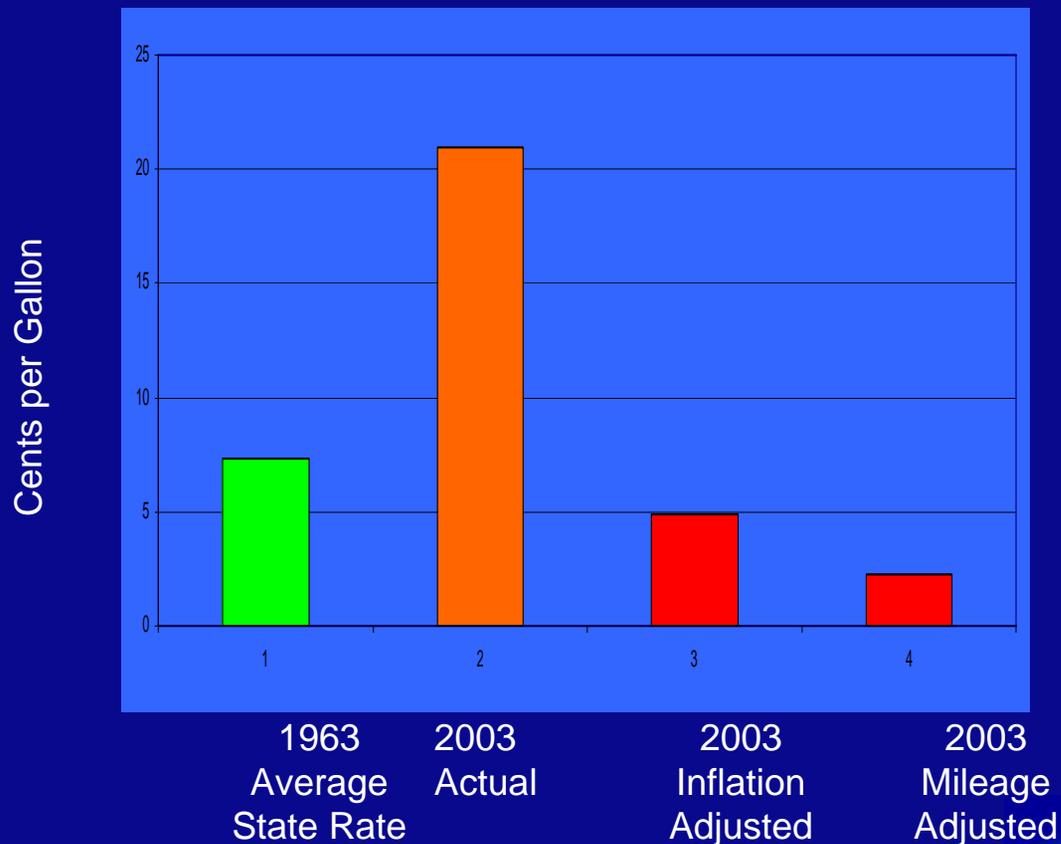
*NC Gas Tax Revenues – Inflation Adjusted*



# Why Tolls?

## Dwindling State Resources

### *Gas Tax - Nationally*



# Why Tolls?

## Dwindling Federal Resources

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*Federal Gas Tax = \$.18*

- **Unchanged since 1993**
- **Increase not considered under SAFETEA-LU in 2005**

# Why Tolls?

## Dwindling Federal Resources

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*In April, Federal Highway Administration rescinded funding growth promised to states under Highway Reauthorization Act*

- **We were promised:**
  - \$.92 on the dollar
- **But we are getting:**
  - \$.88 on the dollar actual

# Why Tolls?

## Dwindling Federal Resources

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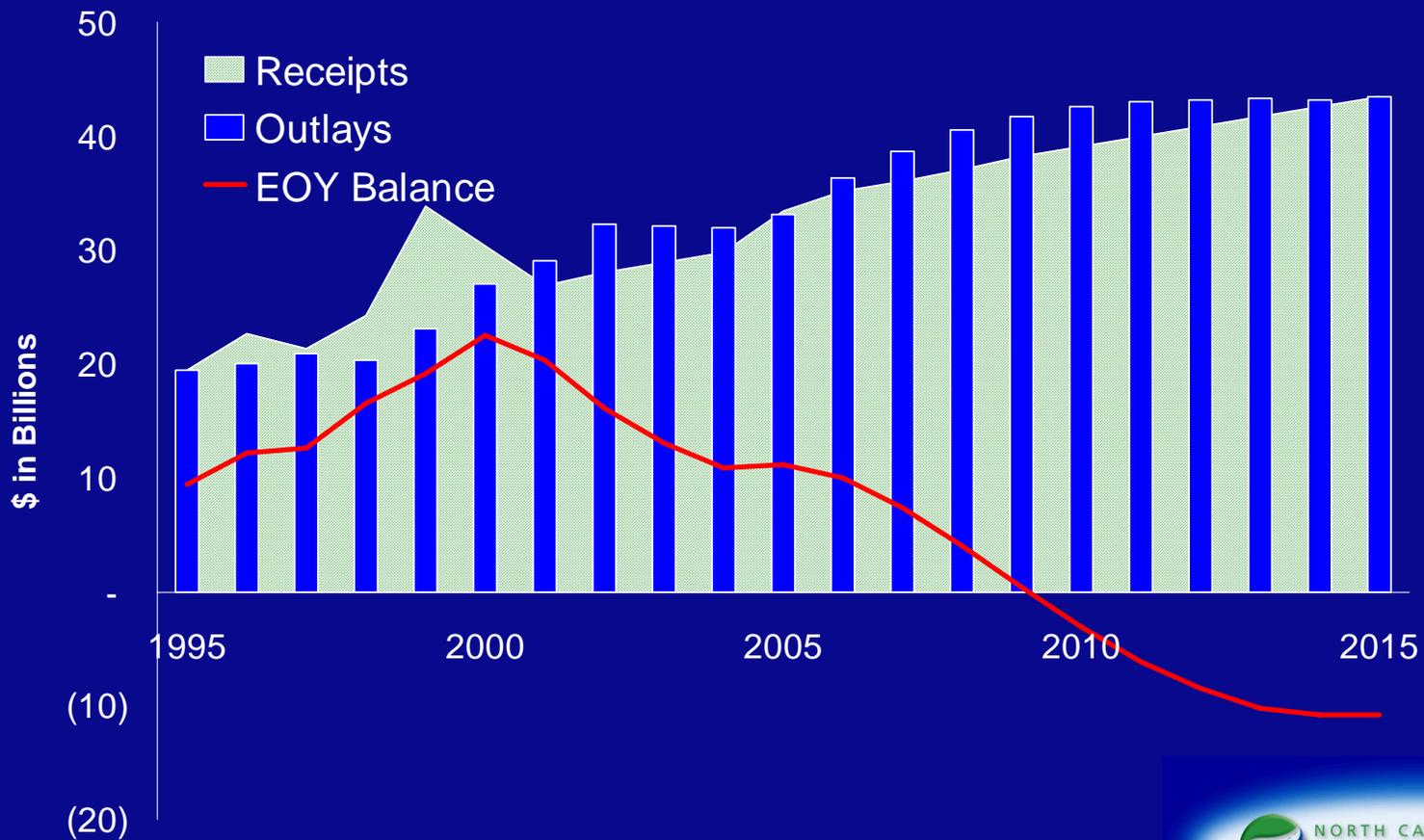
*As a result...*

- **NC losing \$900 million over next 3 years**
- **All projects delayed for 4+ months**
- **Federal Highway Trust Fund broke by 2009**

# Why Tolls?

## Dwindling Federal Resources

### Federal Highway Trust Fund Outlook



# Why Tolls?

## Dwindling Total Resources

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***NCDOT 2007 Budget = \$ 3.6 billion***

- **\$ 839 million in state funds for new construction**
- **\$ 401 million in Federal match**

***That equals:***

**25 miles of turnpike-grade construction  
(\$50 million per mile)**

**FLU SEASON IS COMING:  
WHAT YOU SHOULD KNOW**

CITY & STATE



**WHY WHERE YOU GET  
YOUR FOOD MATTERS**

LIFE, ETC.

# THE NEWS & OBSERVER

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THURSDAY, OCTOBER 5, 2006

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## State \$65 billion short on road needs

Just two years ago, the gap between North Carolina's long-range transportation needs and the money to pay for them was pegged at \$29 billion. The new estimate, delivered Wednesday, is \$65 billion.

North Carolina is expected to swell from 8.7 million residents to 12 million by 2030, with traffic flows growing two or three times as fast. That could mean more rush-hour jams for commuters and more demand for bus service among the poor and elderly.

"We need to review options for how we are going to address this \$65 billion gap," Susan Coward, a deputy transportation secretary, told the state Board of Transportation. "We all know it affects our mobility, economic development and

the quality of life."

North Carolina can count on \$57 billion in gas taxes and other state and federal transportation revenues over the next 25 years — but it will take more than

twice that to pay for transportation needs now pegged at \$122 billion, she said.

As the state tries to build roads and keep old ones in shape, the cost of each mile is rising faster than inflation. The price of a new bridge has risen 44 percent in five years.

Taxes on car sales are increasing only slightly. As cars go farther on each gallon, gas-tax collections rise more slowly than traffic.

Lanny Wilson of Wilmington, a board member, said local governments must take a bigger role for the state to work its way out of congestion.

— Bruce Siceloff



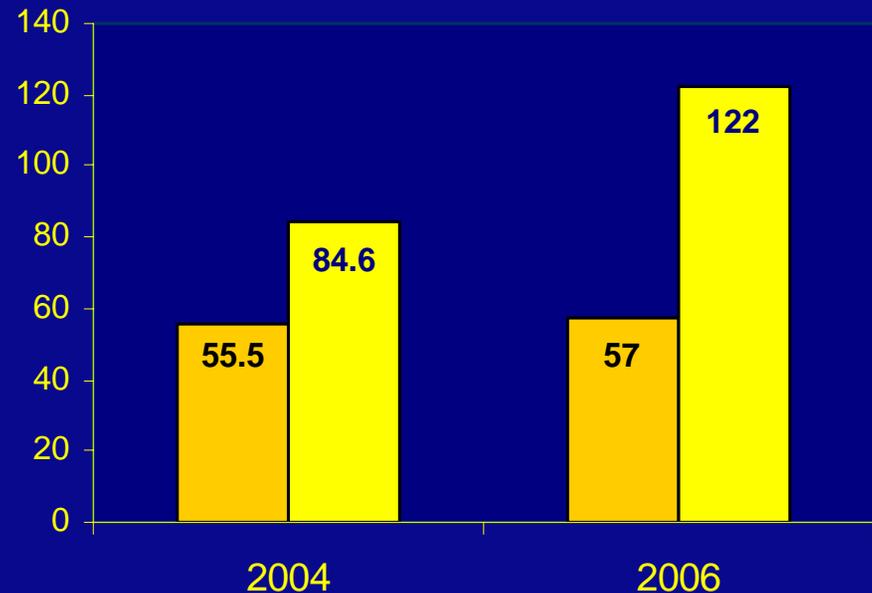
DOT's work-zone mascots might not be smiling for long.

# Why Tolls?

## Dwindling State Resources

- **\$ 65 billion over next 25 years**
- **Shortfall more than doubled in two years**
- ***To fund projects, need to raise gas tax from \$ .30 > \$ .75***

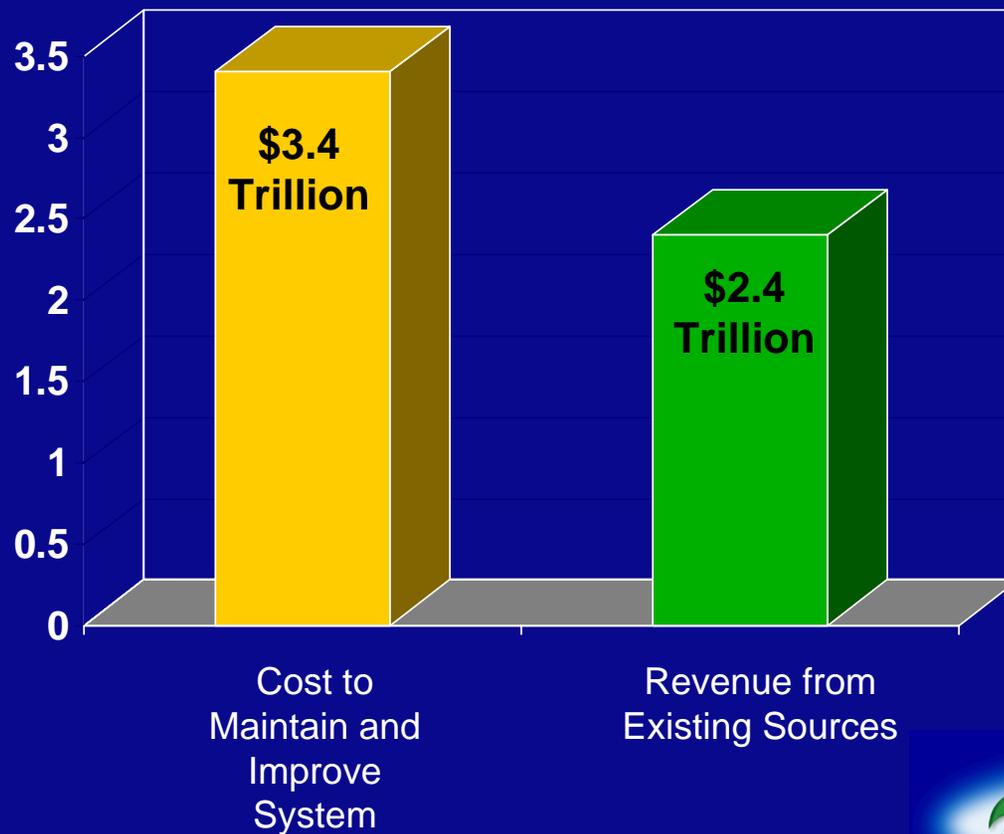
*NC DOT Budget Shortfall*



Source: NCDOT Long Range Statewide Plan,  
October 2006

# Why Tolls? And It's Not Just NC

## *Shortfall for All States*



# Why Tolls?

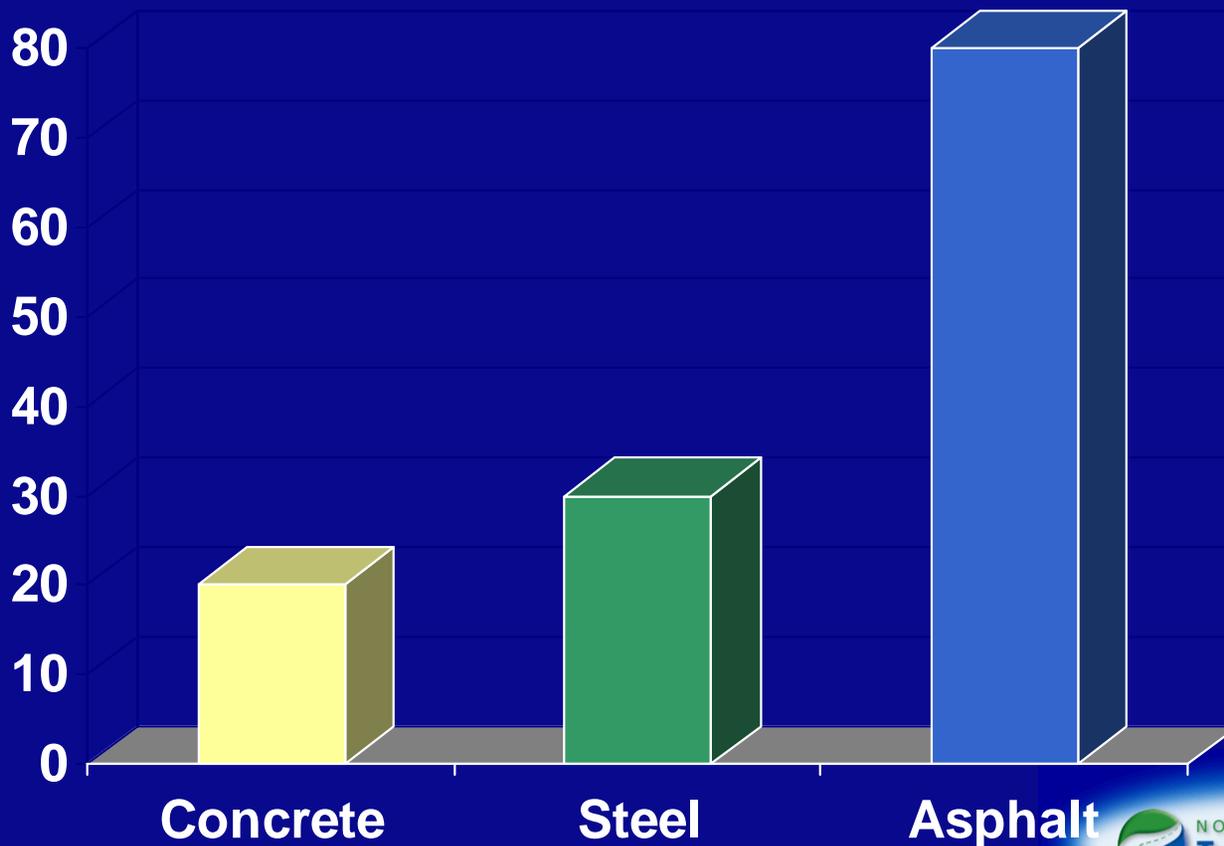
## Skyrocketing Costs

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- **45% increase in construction costs over the past three years**
- **Creates huge strain on delivery of new infrastructure**

# Why Tolls? Skyrocketing Costs

*Material Costs  
Percent Increase 2001-2005*



Source: NCDOT

# Why Tolls?

## Bottom Line

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- **Growth is Exploding**
- **Resources are Dwindling**
- **Costs are Skyrocketing**

# What's the Solution?

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Not toll roads alone...

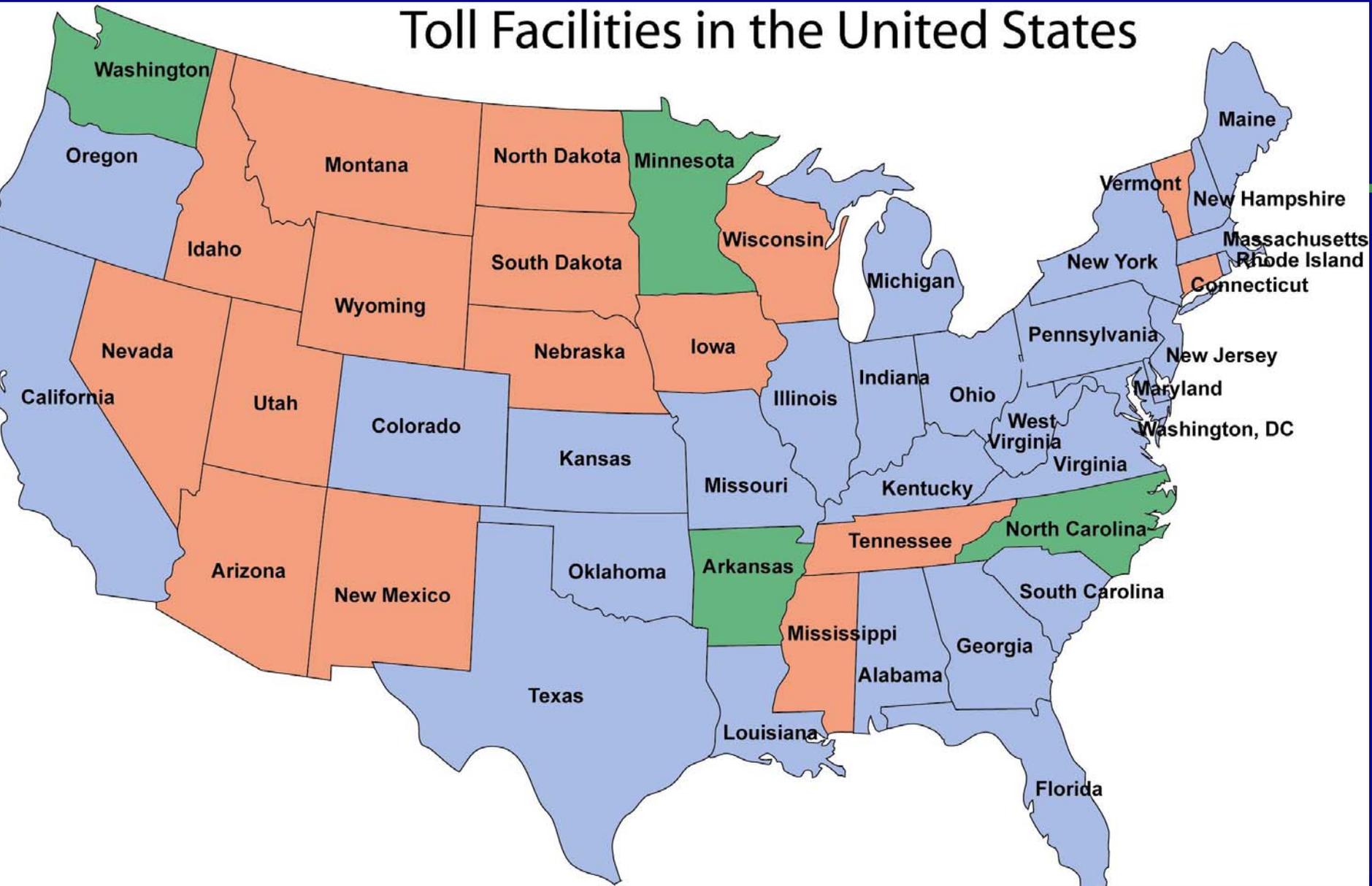
*But tolling can help*

# Other States

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*What are other states doing?*

# Toll Facilities in the United States



# Other States

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- **33 states operate more than 5,000 miles of toll roads.**
- **Every state on East Coast, except NC and Connecticut, operate toll facilities.**
- **Today, every project in the U.S. over \$500 million is being built as a toll road.**

# Benefits of Tolling

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*What can tolling do for us?*

# Benefits of Tolling

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## *Accelerated Project Delivery*

- **No waiting for 7-year TIP cycles**
- **Can fund projects in single offering**
- **Potential saving of decades in delivery**

# Benefits of Tolling

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## *Traditional Project Delivery*

### Assume:

- Project cost of \$800 million
- Annual inflation of 4.26%
- TIP contribution of \$50 million/year

**Completion Date: Never!**

# Benefits of Tolling

## *Inflation Impacts*

Period	Project Cost	Inflation Loss	Net Gain	Balance Needed
Year 1	\$800	\$0	\$50	\$750
Year 2	\$834	\$34	\$16	\$734
Year 4	\$907	\$37	\$13	\$707
Year 8	\$1,071	\$44	\$6	\$667
Year 12	N/A	\$52	\$2	\$666

Dollars in millions

Assumes \$50 million per year from TIP

# Benefits of Tolling

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## *Ripple Effect*

- Returns \$800 million to TIP
- Allows these funds to be used for other critical projects

# Benefits of Tolling

## Time Savings

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### Triangle Expressway Example

Savings of 40 minutes for round-trip commute

= 833 minutes per month

**= 7 full days per year**

# Benefits of Tolling

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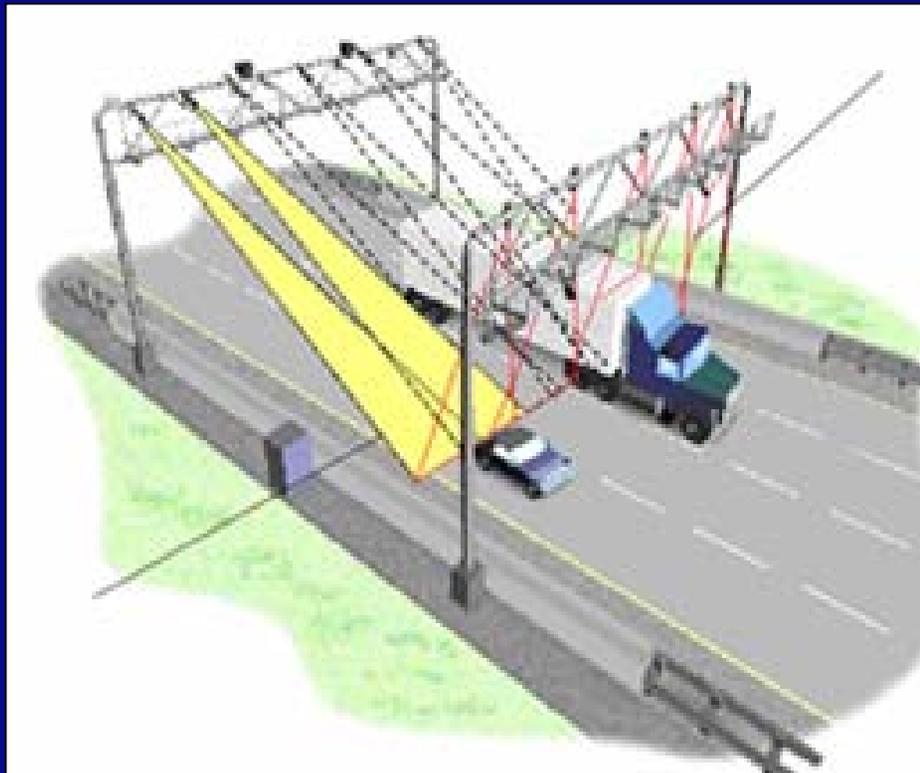
*Time is a finite commodity*

- Reducing time in travel is one of the only ways to add time back into your life
- How much are 833 extra minutes per month worth?

# Benefits of Tolling

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**NO STOPPING TO PAY TOLLS!!**





NORTH CAROLINA

# Turnpike Authority



# NCTA Projects

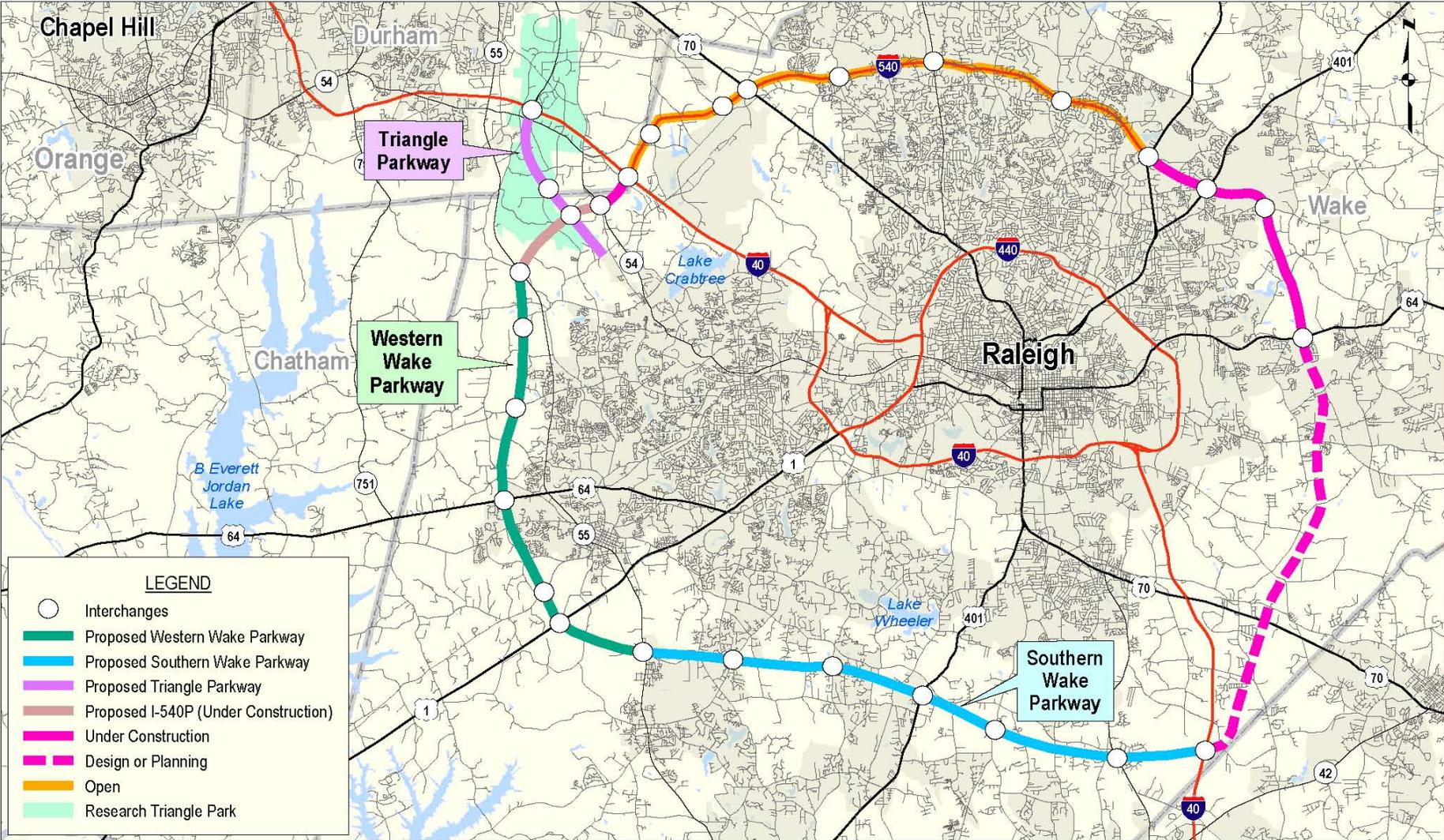
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<u>Project</u>	<u>Length</u>	<u>Total Cost</u>	<u>Award</u>
Triangle Parkway	3.3 miles	\$102-273 M	Late '07
Western Wake	12.4 miles	\$395-710 M	Late '07
Cape Fear Skyway	9.5 miles	\$415-889 M	Fall '09
Mid-Currituck	11 miles	\$120-200 M	Fall '09
Monroe Connector	11.5 miles	\$205-439 M	Late '09
Gaston Connector	21.5-23.7mi.	\$720M-\$1.5 B	Spring '10



Proposed Western and Southern Wake Parkways  
 Preliminary Traffic and Revenue Study

NC 545110 / 02-14-06 / Project Location Map.mxd



PROJECT LOCATION MAP

FIGURE 1-1

# Triangle Expressway - Timeline

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- **Completion of environmental review - July**
- **Gap funds identified - July**
- **Investment-grade T&R study - August**
- **Sale of bonds - November**
- **Let contract - Late 2007 to early 2008**
- **Open to traffic - Late 2010 to early 2011**

# How Does Tolling Work?

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## *The Business of Tolling*

# The Business of Tolling

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## *The Business Model*

- Traffic and revenue must be accurately estimated
- Cost must be carefully calculated
- Financing is based on calculations above
  - Capital markets
  - Public-Private Partnerships

# The Business of Tolling

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## *Factors Affecting the Business*

- Senior and subordinate debt must be repaid on schedule
- Ramp-up takes years while interest accrues
- Few projects are self-sustaining
- Bond ratings dictate cost of capital
- Good project is 70% bondable

# The Business of Tolling Revenue

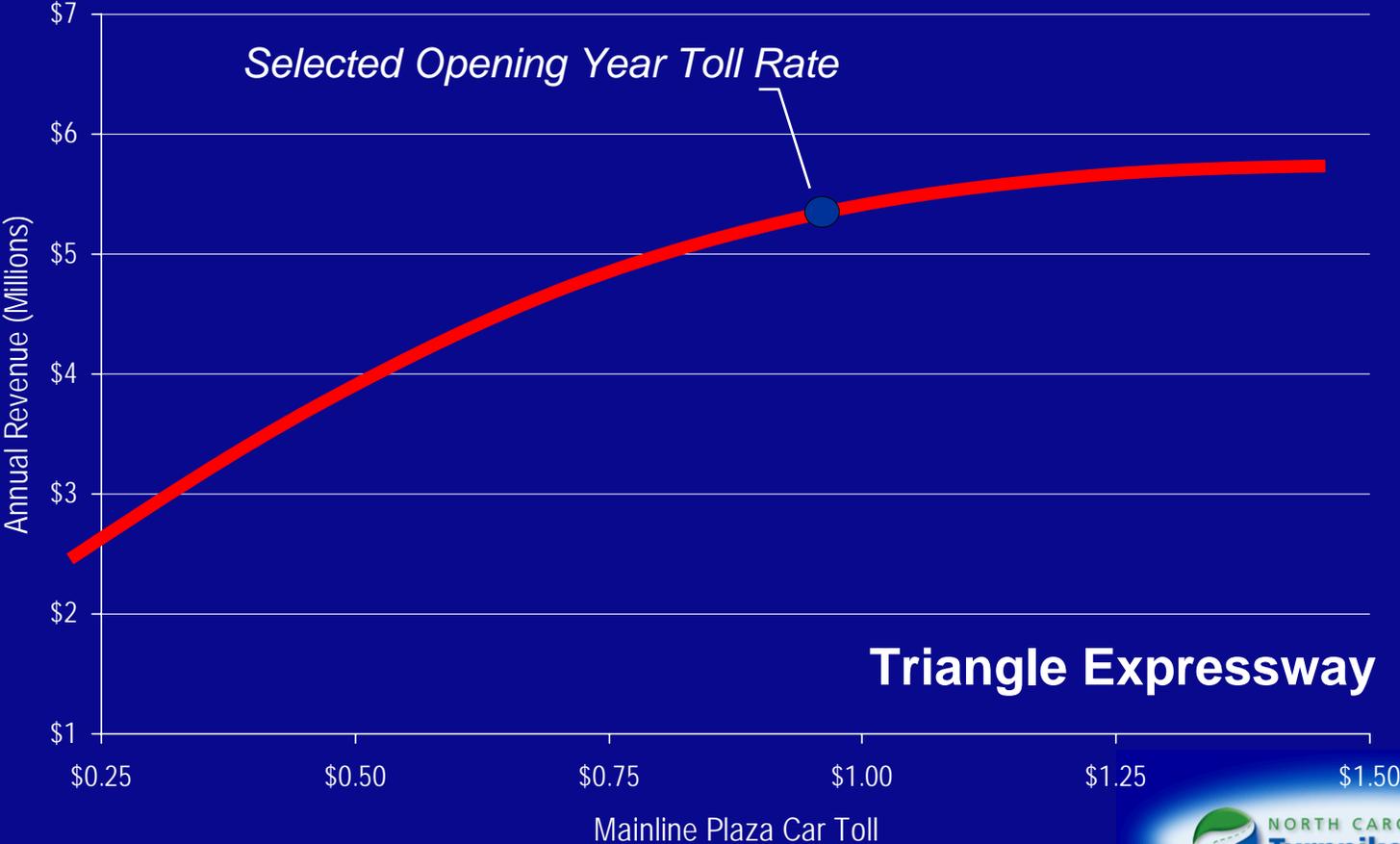
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## *Bond-Grade Traffic and Revenue Study*

- How much travel demand is in the corridor?
  - Passenger vehicles
  - Commercial vehicles
- How much are people willing to pay to use the toll facility?
- How much can people in corridor afford to pay?
- How much growth is anticipated in the corridor?

# The Business of Tolling Revenue

## Setting Toll Rates – Sensitivity Analysis



# The Business of Tolling Costs

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## *Assess All Cost Elements*

- **Right of Way**
- **Capital Cost**
- **Tolling Equipment**
- **Operations and Maintenance**

# The Business of Tolling Triangle Expressway

## *Preliminary Financing Plan*

	Single Gap Payment*	Annual Revenue Supplement*
Current Interest Bonds	\$169.6	\$ 393.1
Capital App. Bonds	139.4	138.6
TIFIA Bonds	285.6	288.4
GAP Funding	<b>\$214.9</b>	
Annual Revenue		<b>\$12 million per year</b>
Total	\$ 809.5	\$ 820.1
Effective Interest Rate	7.05%	5.94%

\* \$ millions

# The Business of Tolling Triangle Expressway

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## *Gap Funds*

- Local funds not available
- NCDOT funds not available
- *General Assembly must act*

*If they don't...*

*We must explore public-private partnership.*

# The Business of Tolling

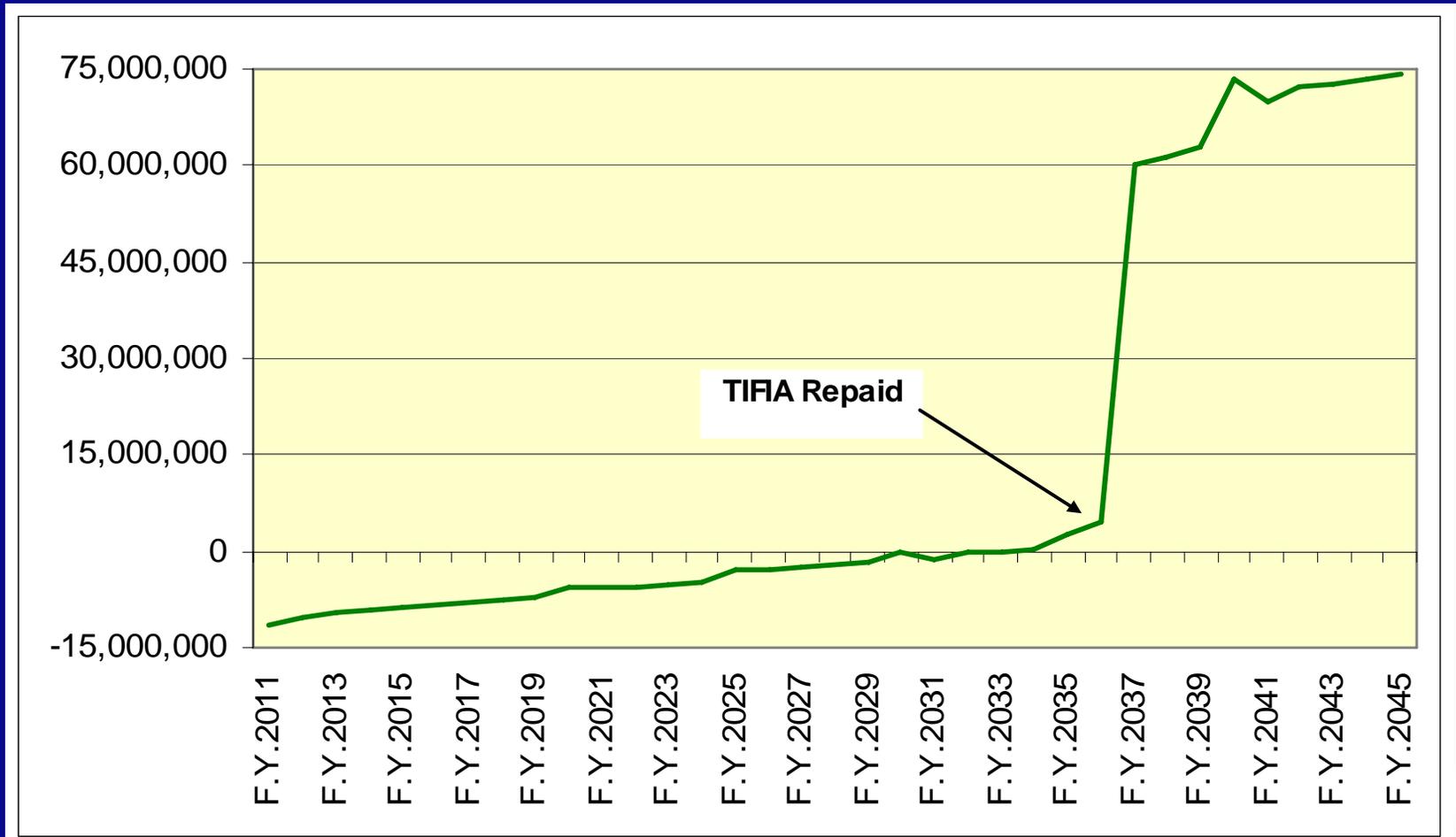
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## *Public-Private Partnership*

- **Viable alternative if state can't fund gap**
- **Risks include diminished control of:**
  - Construction
  - Operations
  - Maintenance

# The Business of Tolling

*Triangle Expressway Cash Flow  
2011-2045*



# The Business of Tolling

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## *Financial Forecast for Triangle Expressway*

- **2030 - Break even**
- **2037 - \$72 million profit**
- **2046 - \$130 million profit**
  - Turn project over to NC DOT

# In Conclusion

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- **Region gets \$800 million project for 25 cents on the dollar.**
- **Each month delay adds \$2.5 million to project costs.**
- **With TIP funding, this project may not be delivered for over 25 years.**

# The Real Question

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It's not “*toll road or free road?*”

It's “*toll road or no road?*”



NORTH CAROLINA

**Turnpike Authority**

***Questions?***