

State Transportation Commission

August 21, 2008

**Kirk T. Steudle, Director
Michigan Department of Transportation**

Overview

- Transportation Funding Task Force Update
- Design/Build Update
- Highway & Multimodal Needs
- Construction Quality Partnership (CQP)

Transportation Funding Task Force (TF2)

TF2 Update

- Only four scheduled meetings left
 - Needs were reported by Citizens Advisory Committee in July
- TF2 has received public comments during every meeting
- Ready tackle revenue alternatives

TF2 Update

- August 11 Meeting
 - TF2 received ‘benefits from investments’ information
 - Heard from FHWA on Public Private Partnerships
 - CAC asked to provide additional information:
 - Methodology for needs analysis
 - Reforms, efficiencies and best practices

What's Next?

Over their remaining meetings:

- TF2 Will Consider
 - Aviation revenue alternatives
 - Local revenue alternatives
 - Other revenue options grouped by type
- TF2 will receive additional information requested from CAC
- TF2 will make recommendations

TF2 Remaining Meetings

- September 8, Lansing
 - LCC West Campus
 - 5708 Cornerstone Drive
 - Lansing, Michigan 48917
- September 29, Marquette
- October 13, Alpena
- October 27, Lansing

Design Build Finance

Design Build Finance Project Update

- I-69 DBF Project Costs
- Project Comparisons
- Lessons Learned
- Comparison of DBF Pilot Projects (I-69 and M-21)
- Criteria for Success

I-69 DBF Costs

	Estimated as Design-Bid-Build (DBB) in 2008 Dollars	Estimated as DBB inflated to 2012 Dollars at 4% per Year	Estimate of Design-Build-Finance Project	As Let – Design-Build- Finance Without Lane Rental Cost
Preliminary Engineering	\$2,434,000	\$2,848,000	\$950,000	\$950,000
Construction Cost	\$31,229,000	\$36,398,000	\$43,940,000	\$35,941,000
Construction Engineering	\$4,564,000	\$5,339,000	\$5,440,000	\$5,440,000
Total Costs	\$38,227,000	\$44,585,000	\$50,330,000	\$42,331,000

Each Construction Cost includes \$800,000 of Maximum Lane Rental Incentive that can be achieved that has not been inflated to 2012 dollars.

Comparison of I-69 DBF Project to Equivalent Construction Projects

Letting	Description	As-Let Costs w/o Lane Rental	2008 Construction Costs
March 2008 Item # 1 and Sept 2007 Item# 88 (X-Overs for Project)	JN 76906A: 6.15 Miles of freeway reconstruction on I-94. Includes work at an Interchange and rehabilitation of 5 Bridges	\$29,025,000	\$29,025,000
July 2008 Item # 601 and May 2008 Item# 24 (X-Overs for Project)	JN 100701A: 6.21 Miles of freeway reconstruction on I-94	\$25,571,000	\$25,571,000
August 2008	JN 74766A: 6.01 Miles of freeway reconstruction on I-69. Includes work at an Interchange and rehabilitation of 5 Bridges	\$35,941,000	*\$26,703,000

* Cost reduced by removing Preliminary Engineering, estimated finance costs, and rest area work construction costs.

Financing Lessons Learned

- Local bankers reluctant to extend credit
- Overall tight credit market in the country
- Size of the DBF project
- Outreach to bankers needed

Design Lessons Learned

- Contractors would prefer more time during advertisement
- Designers and Contractors prefer a stipend larger than provided
- MDOT gained experience on contracting DBF projects using non-traditional methods
- Contractors were able to successfully retrieve project information from a File Transfer Protocol (FTP) Web site
- Contractor Innovations can be captured in this process through the submission of Alternate Technical Concepts (ATC)
- Traditional construction management software (Field Manager) can be used on Design Build projects

Comparison of MDOT's 2 DBF Pilot Projects

- The M-21 DBF Project is Bridge Replacement Project. The I-69 DBF Project is primarily a freeway Reconstruction Project.
- Project Selection Methods
 - I-69 used a modified low bid process.
 - M-21 used a 2 step process to short list teams based on qualifications, and final selection will be a best value selection process.
- Stipends are provided to unsuccessful bidders on the M-21 DBF Project.

DBF Project Complexity

- M-21 is a more complex design project
- Traffic Impacts
 - M-21 impacts significant amounts of traffic on M-21 & I-75
 - I-69 has a much lower traffic volume
- M-21 has a significant amount of environmental work not present on I-69

Project Success

- I-69 Project Costs are below the Engineers Estimate
- Developed Contract Language for future Design Build and Design Build Finance Projects
- Gained staff experience in Design-Build-Finance Contracting

Highway & Multimodal Needs



Introduction

- Summary of information submitted to the Citizens Advisory Council (CAVC) for the Transportation Funding Task Force (TF2)
- Discusses the needs of MDOT's all modes including Highway, Intermodal Passenger, Freight and Aviation

Passenger Transportation

Sharon Edgar

Local Transit

- Service in all 83 counties
- Over 80% of population have access
- Local transit is evolving in Michigan
 - Current system
 - Community and county level bus systems
 - Fixed route bus and demand response
 - Soon to include rapid bus, light rail, commuter rail

Intercity Passenger Services

INTERCITY BUS

Private sector carriers: Indian Trails, Greyhound Lines, Megabus

120 Michigan communities

Connections to national network

Northern Michigan/Upper Peninsula: MDOT contracts

PASSENGER RAIL

Amtrak

22 Michigan communities

Connections to national network

Wolverine: Amtrak

Pere Marquette and Blue Water: MDOT contract

Role of State Funding

The Comprehensive Transportation Fund

- Local Transit
 - CTF shares in local operating costs and is used to match federal grants - mandated under Act 51 of 1951
 - 79 transit authorities and 40 specialized service agencies receive CTF funding
- Intercity Bus and Passenger Rail
 - CTF purchases service and funds infrastructure improvements
 - CTF contracts for service

Investment Benefits

CURRENT BENEFITS

- Mobility Yields Economic Returns
- Enhances Community and Personal Health
- Reduced Fuel Consumption
- Enhanced National Security
- Reduced Highway and Airway congestion
- Improved Air Quality

ADDITIONAL BENEFITS WITH RAIL

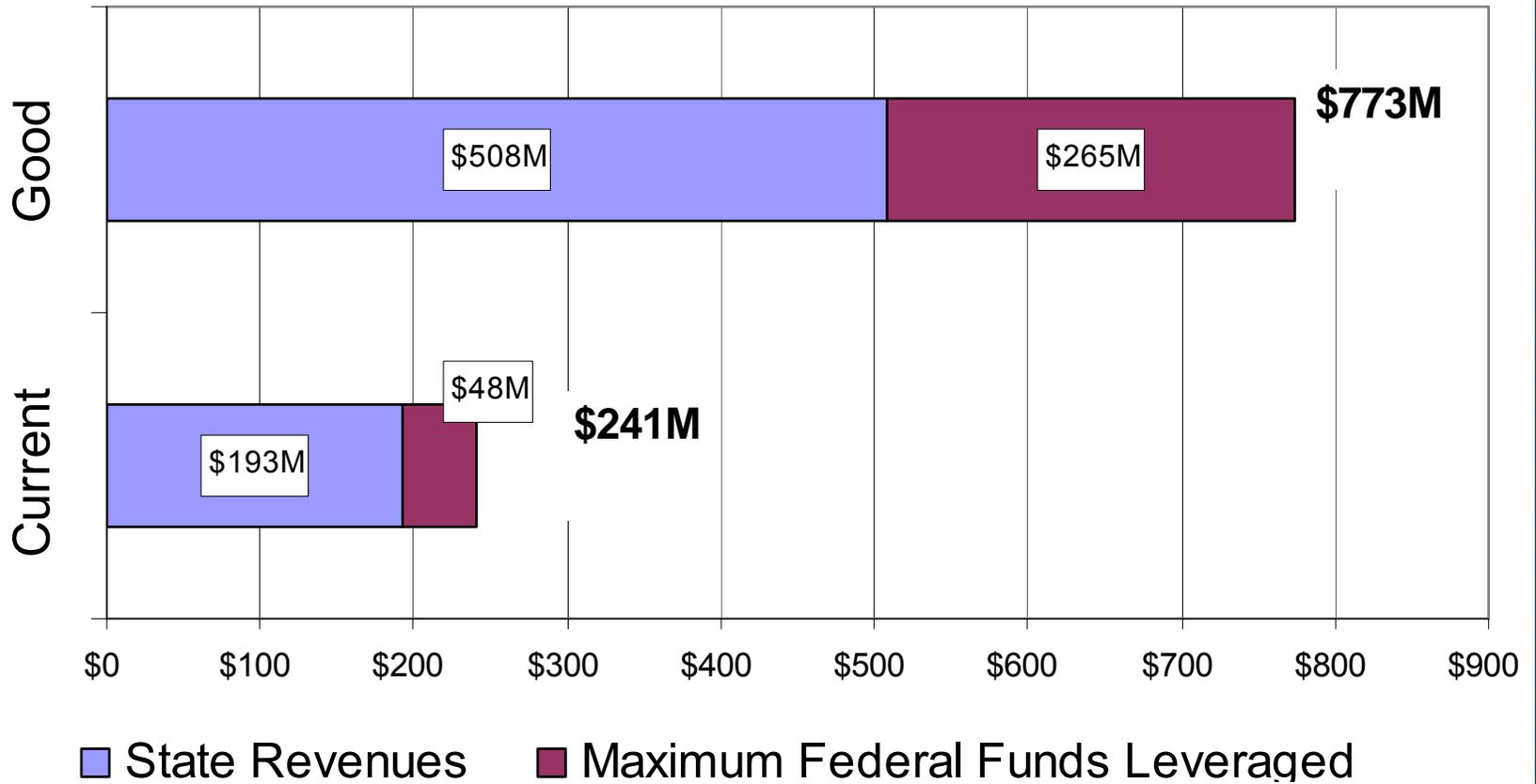
- Benefit to cost ratios for specific rail transit projects as high as 9:1
- Increased Property Values
- Increased Economic Development
- Access to Additional Federal Funds

Critical Challenges

- Demand/Need for Transit Increasing
 - By 2030, the senior population will have doubled
 - 10% to 20% ridership increases
 - MI Transportation Plan – public wants more transit/more travel options
- Cost of Providing Service Increasing
- State Transit Funding Decreasing
 - Cannot maintain the existing system
 - Cannot leverage available federal funds
 - Cannot provide for system growth and modernization



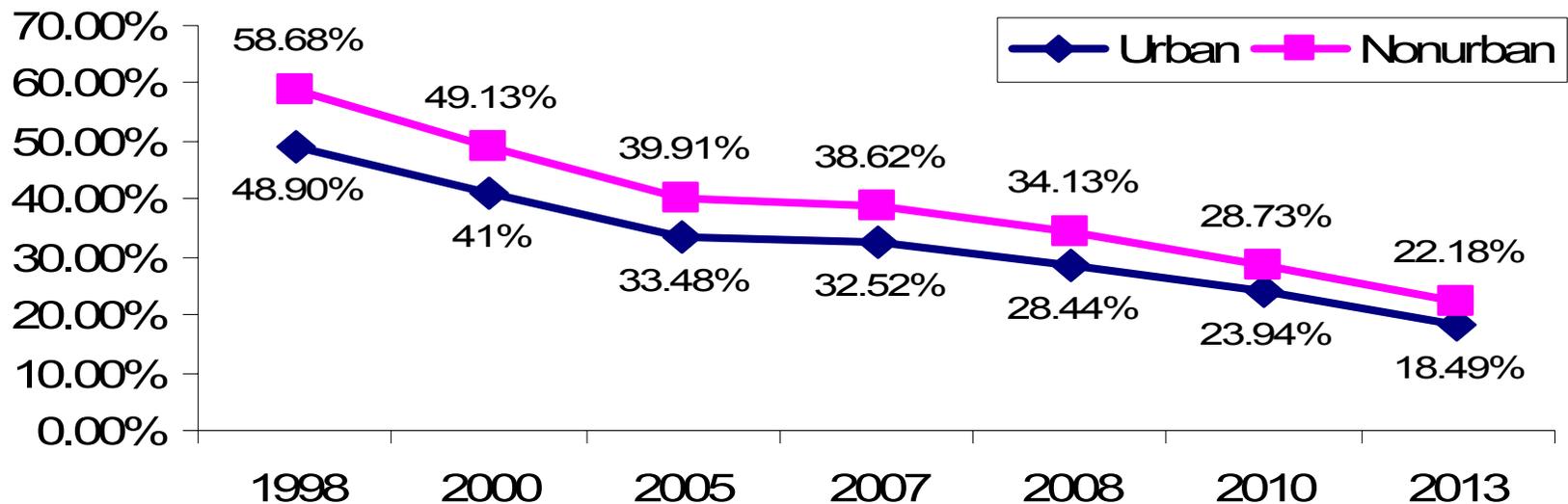
Average Annual Program - Local Bus, Intercity Bus, Passenger Rail (in millions)



Results of Continuing Current Investment

\$192.9 million in state revenues leveraging \$47.9 million in federal funds

CURRENT AND PROJECTED STATE SHARE



1998 - 2007 actual; 2008 - 2013 projected

Results of “Good” Investment

\$507.6 million in state revenues; leveraging up to \$265.1 million in federal funds

- Four rapid and/or regional transit projects are able to proceed
- Potential to double intercity passenger rail frequency over ten years
- Intercity bus service contracts maintained
- Improved intercity passenger facilities

Results of “Good” Investment

\$507.6 million in state revenues; leveraging up to \$265.1 million in federal funds

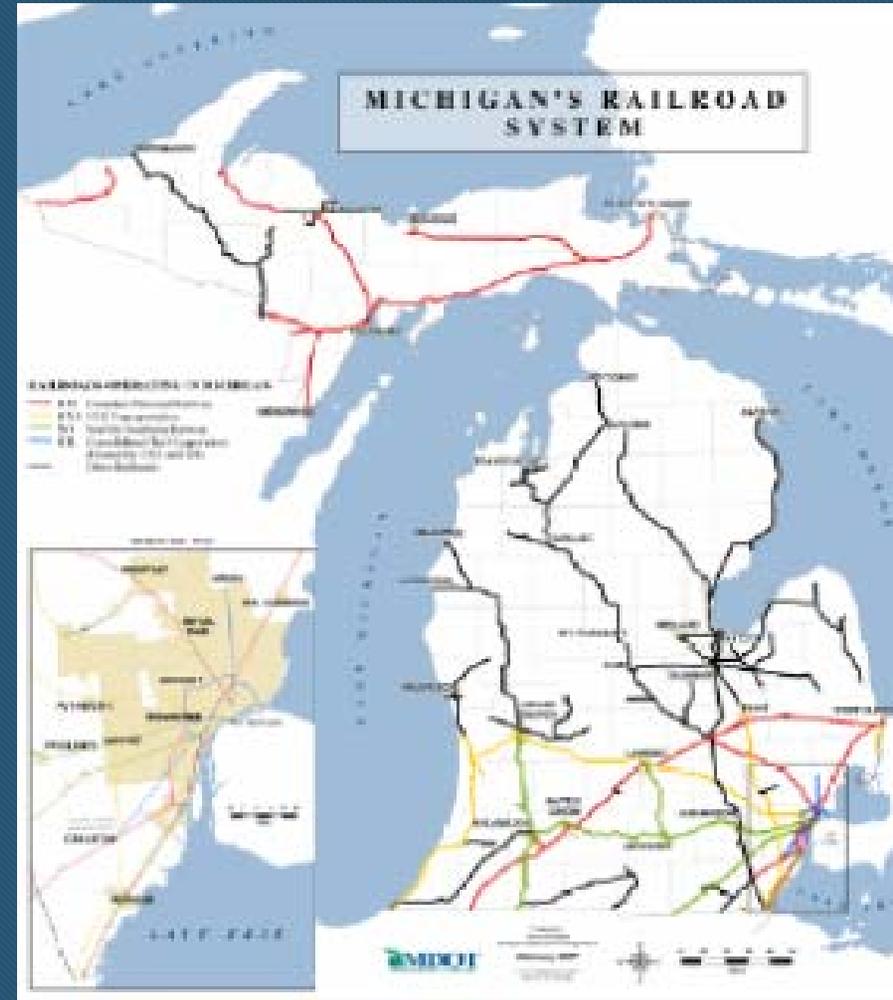
- Expanded transportation services targeted to Michigan’s senior population
- Expanded programs that provide alternatives to single car commuting (carpooling/vanpooling)
- Local bus agencies able to maintain and expand/enhance services as needed

Freight Services and Safety Needs

Nikkie Johnson

MDOT Rail Freight Program Needs System Snapshot

- 3600 miles of track
- 26 Operators
- Carried 120M tons, exceeding \$162B
- 18% of MI's commodity movements

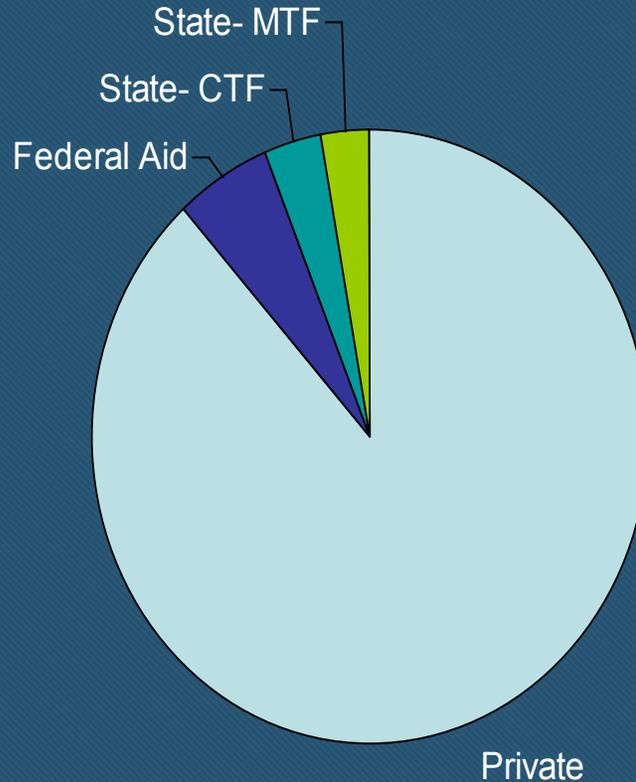


MDOT Rail Freight Program Needs Trends

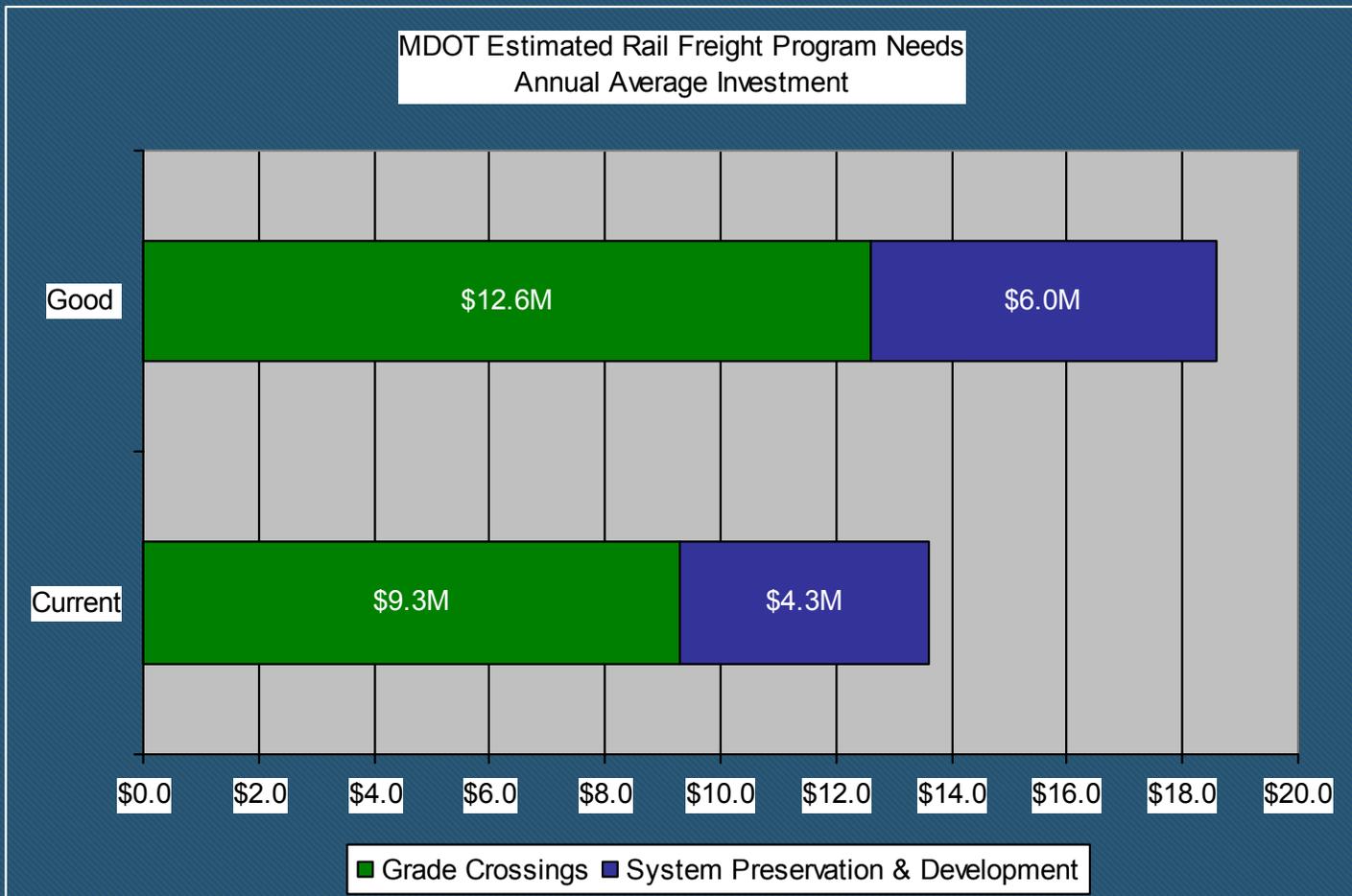
- Infrastructure increasingly owned by short-line railroads
- Saves \$266M annual roadway investment

MDOT Rail Freight Program Needs: Funding Snapshot

(doesn't include any local or passenger-specific funding)



MDOT Rail Freight Program Needs: Investment Strategies



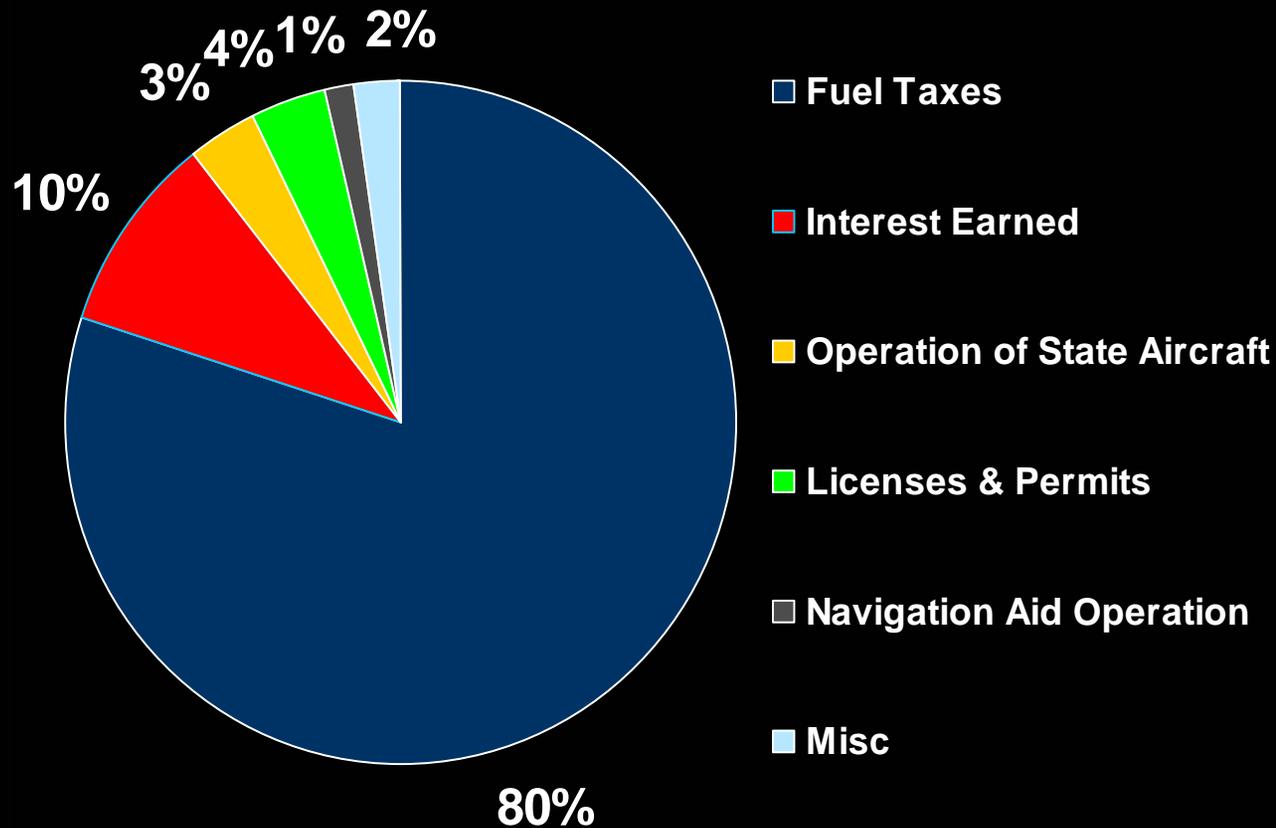
MDOT Rail Freight Program Needs: Return on Investment (annual average)

Strategy	Description	Outcomes
Current \$13.6M	<ul style="list-style-type: none">• Reduced allocations• Rise in project costs	<ul style="list-style-type: none">• Reduce motorist risk at up to 43% fewer grade crossings annually• System condition declining
Good \$18.6M	<ul style="list-style-type: none">• Return to historical funding levels	<ul style="list-style-type: none">• Restores grade crossing safety efforts• Limited track rehabilitation and economic development efforts

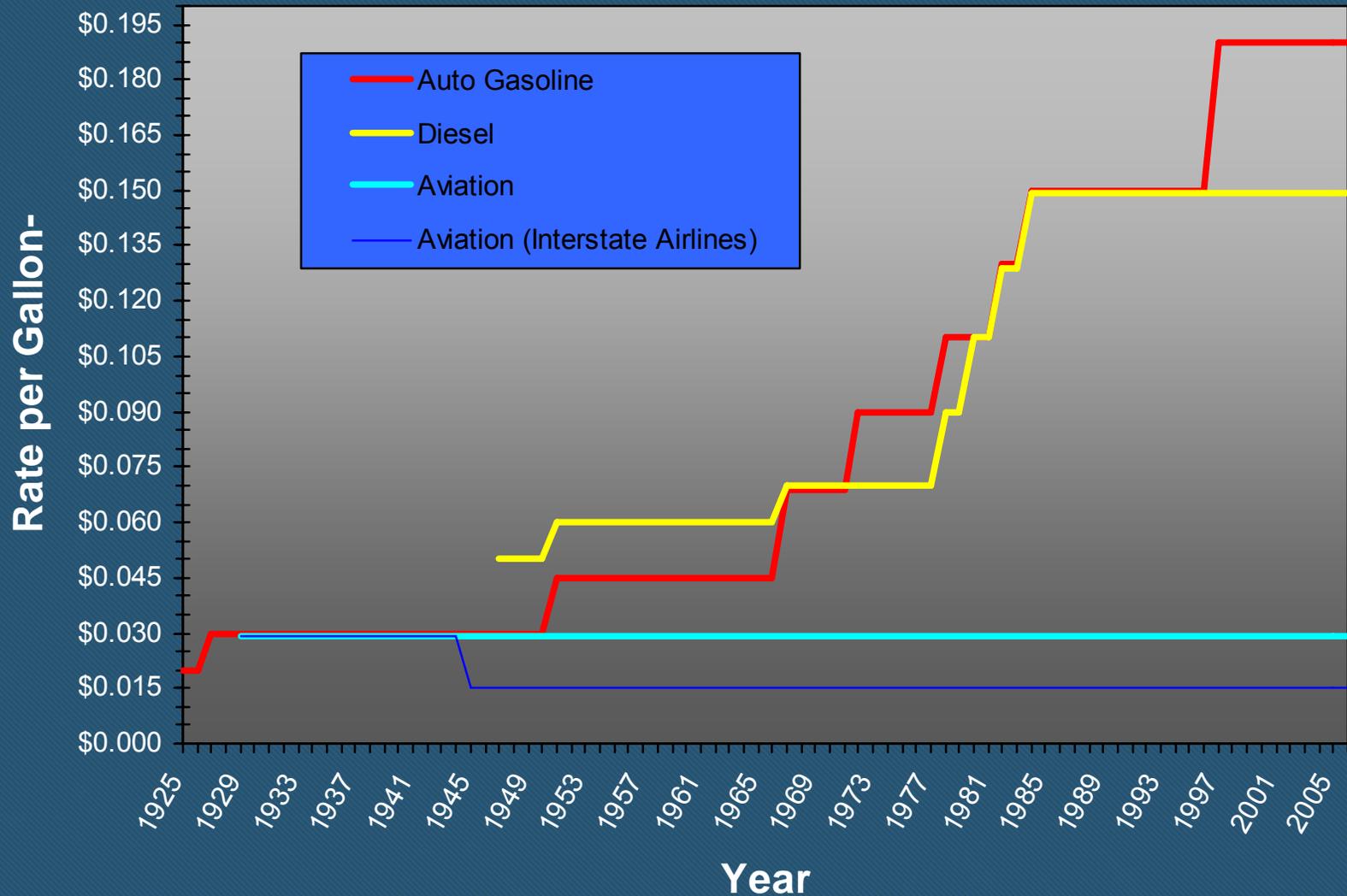
Aviation Needs

Matthew Brinker

State Aviation Funding Sources

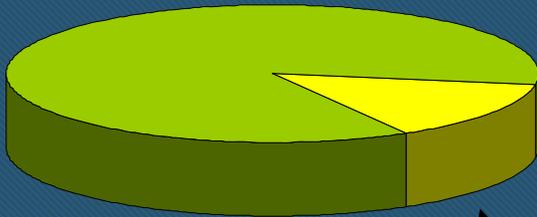


Michigan Fuel Tax Rates



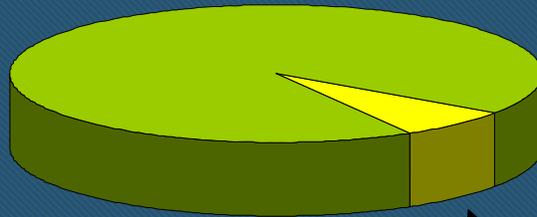
Michigan Aviation Fuel Tax

1929



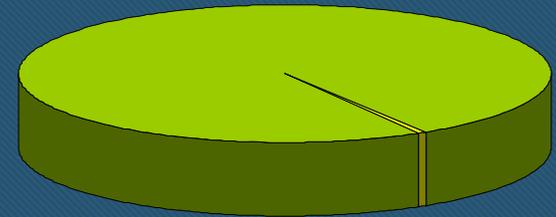
Total Price: 21¢ per gallon
Tax Rate: 3¢ per gallon
Tax: 14% of cost per gallon

1968



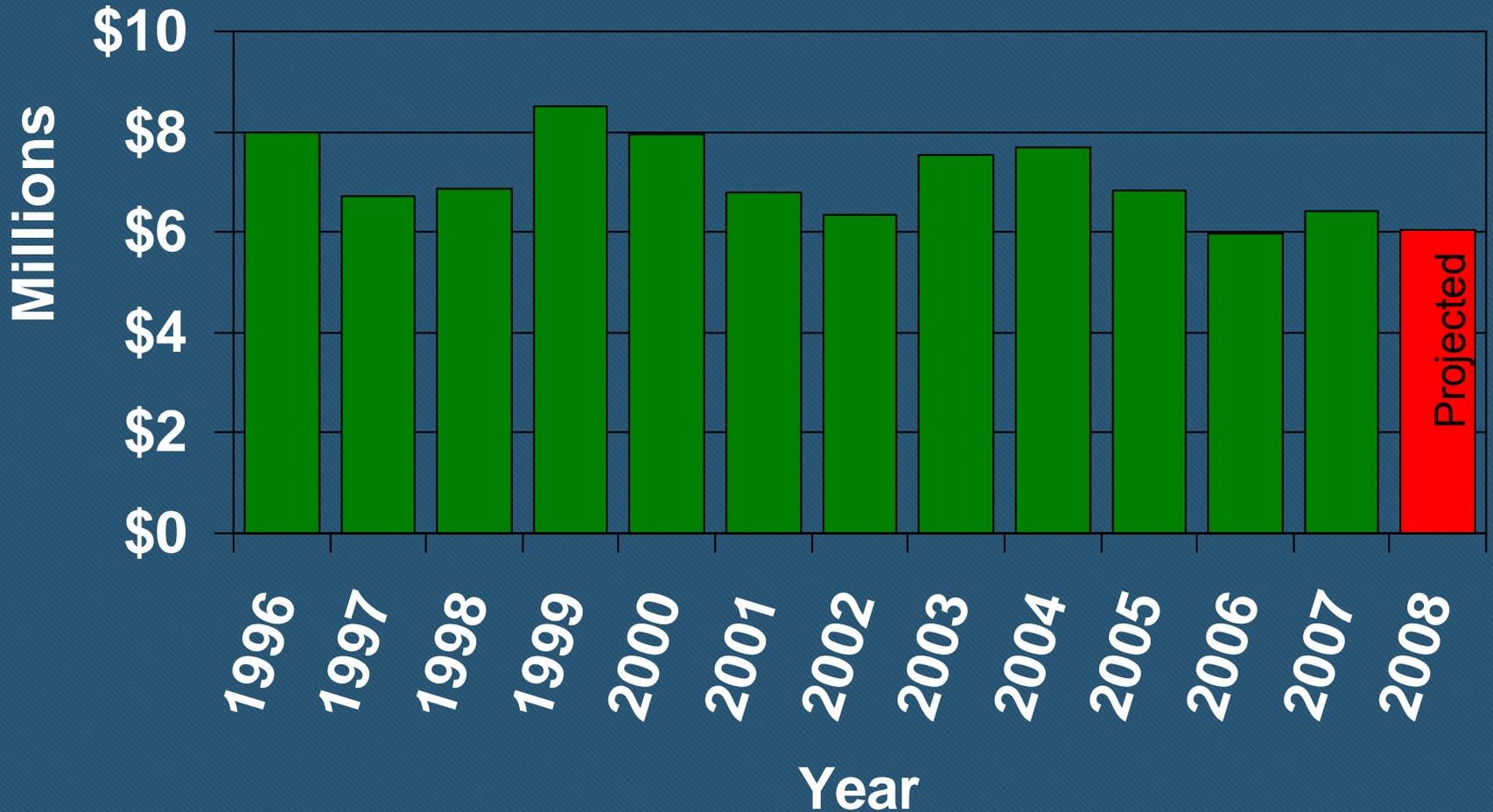
Total Price: 40¢ per gallon
Tax Rate: 3¢ per gallon
Tax: 7.5% of cost per gallon

2007



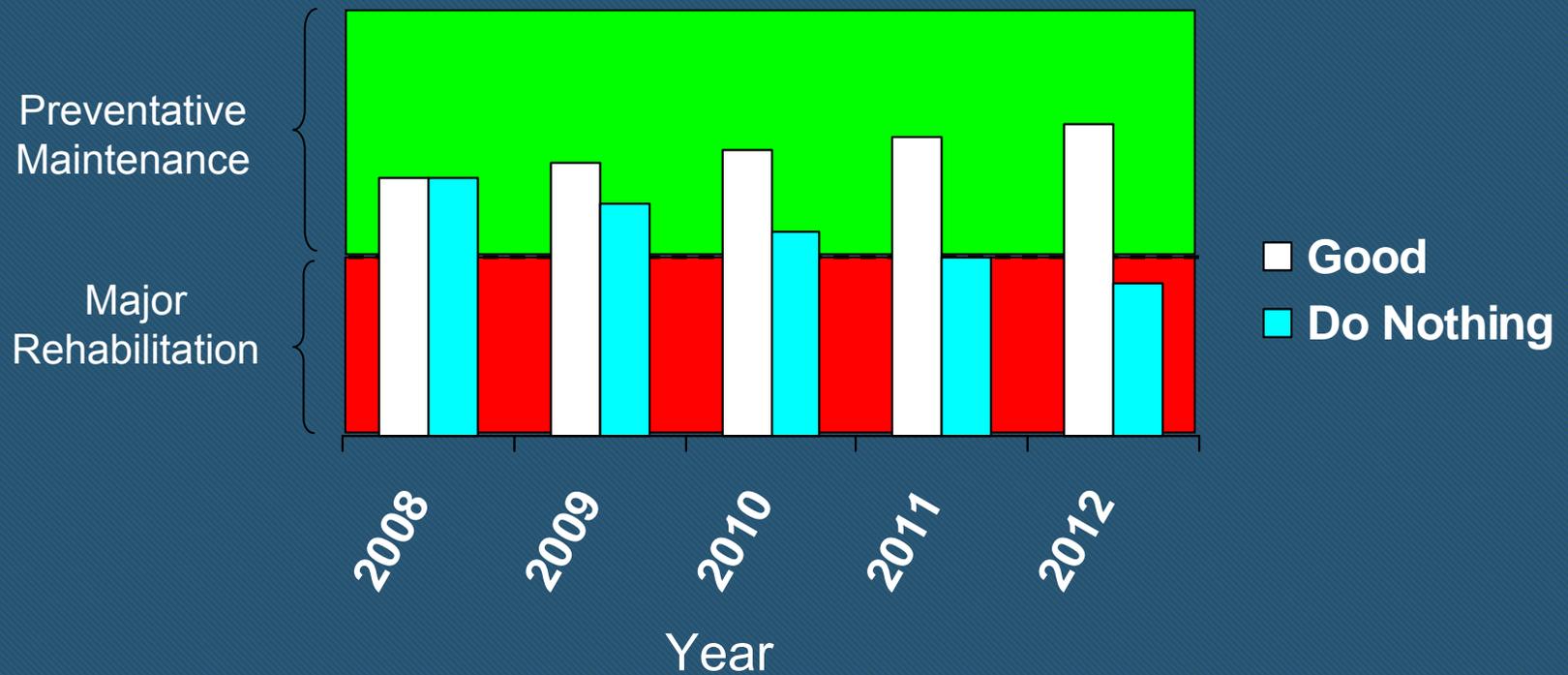
Total Price: \$4.50 per gallon
Tax Rate: 3¢ per gallon
Tax: .7% of cost per gallon

Aviation Fuel Tax Revenue



Airport Pavement Condition

(Average)



Michigan Aviation Funding

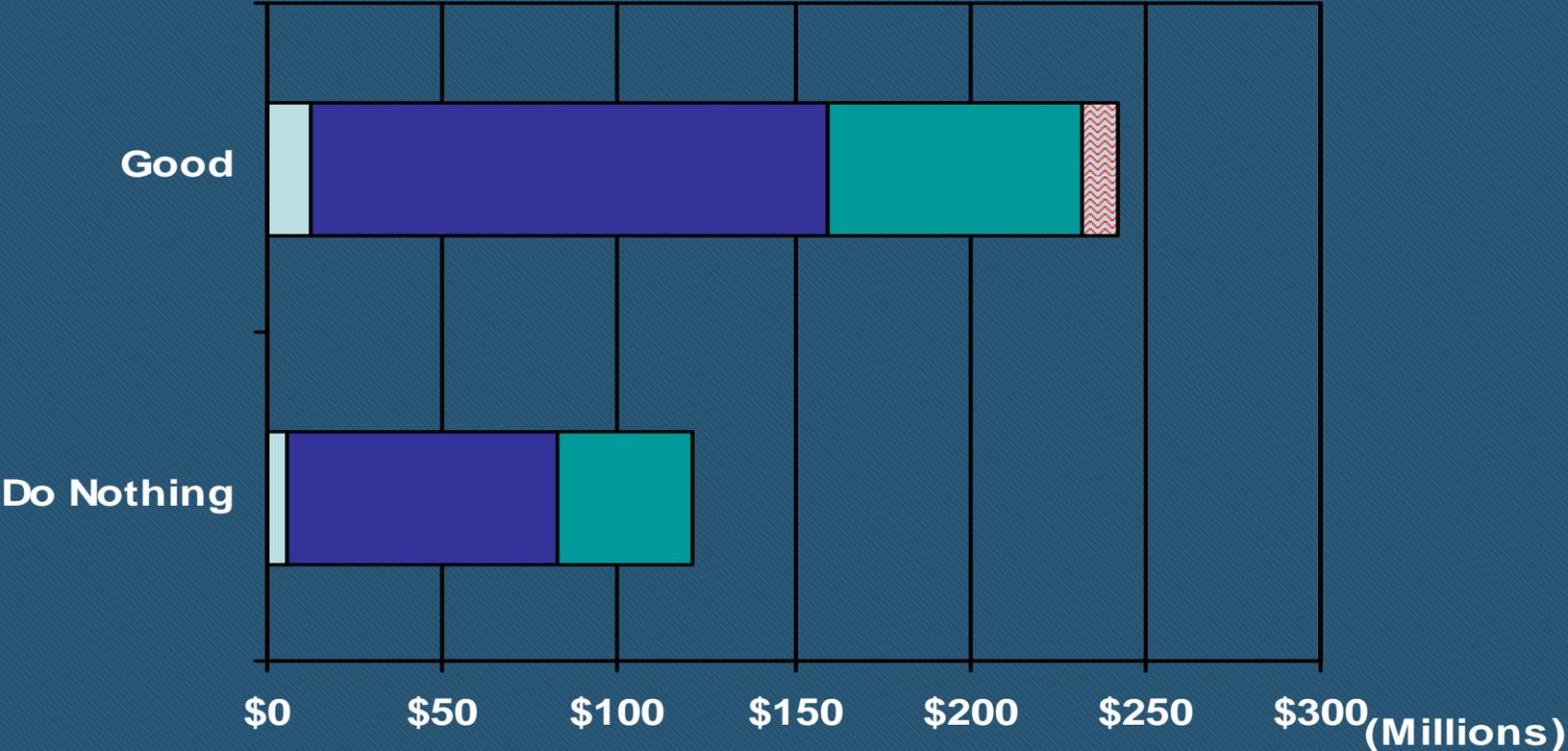
Average Annual and Total Needs (2009-2030)

	<u>Do Nothing</u>	<u>Good</u>
Capital- Preservation of Infrastructure	\$77,050,000	\$147,400,000
Capital- Demand/Capacity	<u>\$37,950,000</u>	<u>\$72,600,000</u>
<i>Total Capital Needs</i>	<i>\$115,000,000</i>	<i>\$220,000,000</i>
Enhanced All Weather Access*	\$0	\$300,000
Enhanced Crack Seal and Pavement Marking*	\$0	\$1,000,000
Airport Rescue and Fire Fighting Training (ARFF)*	\$0	\$100,000
Aviation Economic Development Fund (AEDF)*	\$0	\$6,600,000
Air Service Program*	<u>\$0</u>	<u>\$2,000,000</u>
<i>Sub Total</i>	<i>\$115,000,000</i>	<i>\$230,000,000</i>
Program Administration	<u>\$6,000,000</u>	<u>\$12,000,000</u>
Annual Total:	\$121,000,000	\$242,000,000
Total (2009-2030):	\$2,662,000,000	\$5,324,000,000

* Program implemented exclusively with State/Local funds

Michigan Aviation Funding

Average Annual Needs (2009-2030)



■ Program Administration

■ Capital Needs: Preservation

■ Capital Needs: New Projects

■ State/Local Programs

Return on Aviation Investment

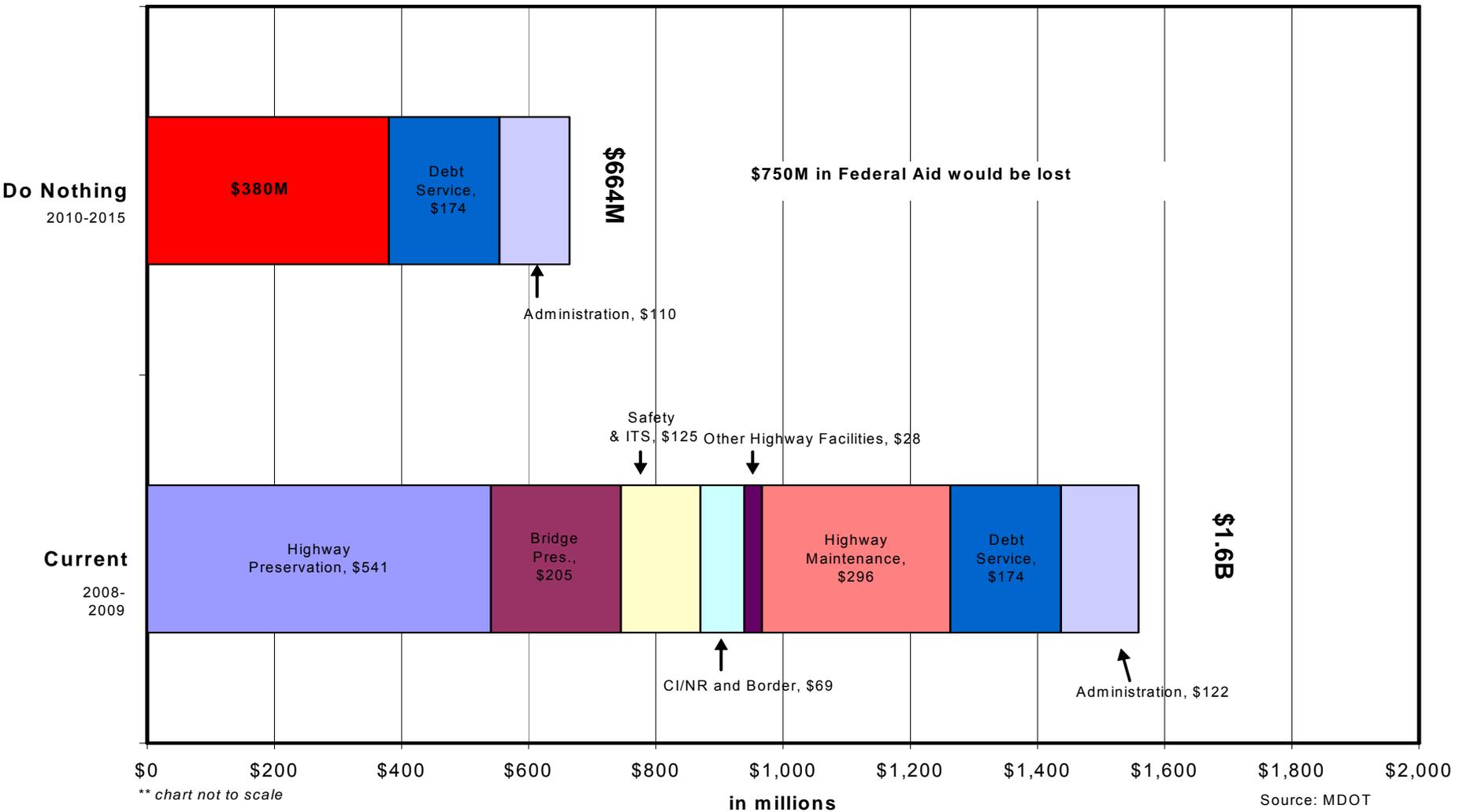
(Annual Average)

Scenario	Jobs	Federal Aid Leveraged	Other Outcomes
Do Nothing (\$121 m)	1,900	\$104 m	Stagnant revenue, \$16 m fed aid @ risk ↓Prevent main leads to ↑rehab Safety & service @ risk
Good (\$242 m)	3,800	\$146 m	Restore curtailed programs Address backlog of needs Aviation Economic Dev Fund

Highway Needs

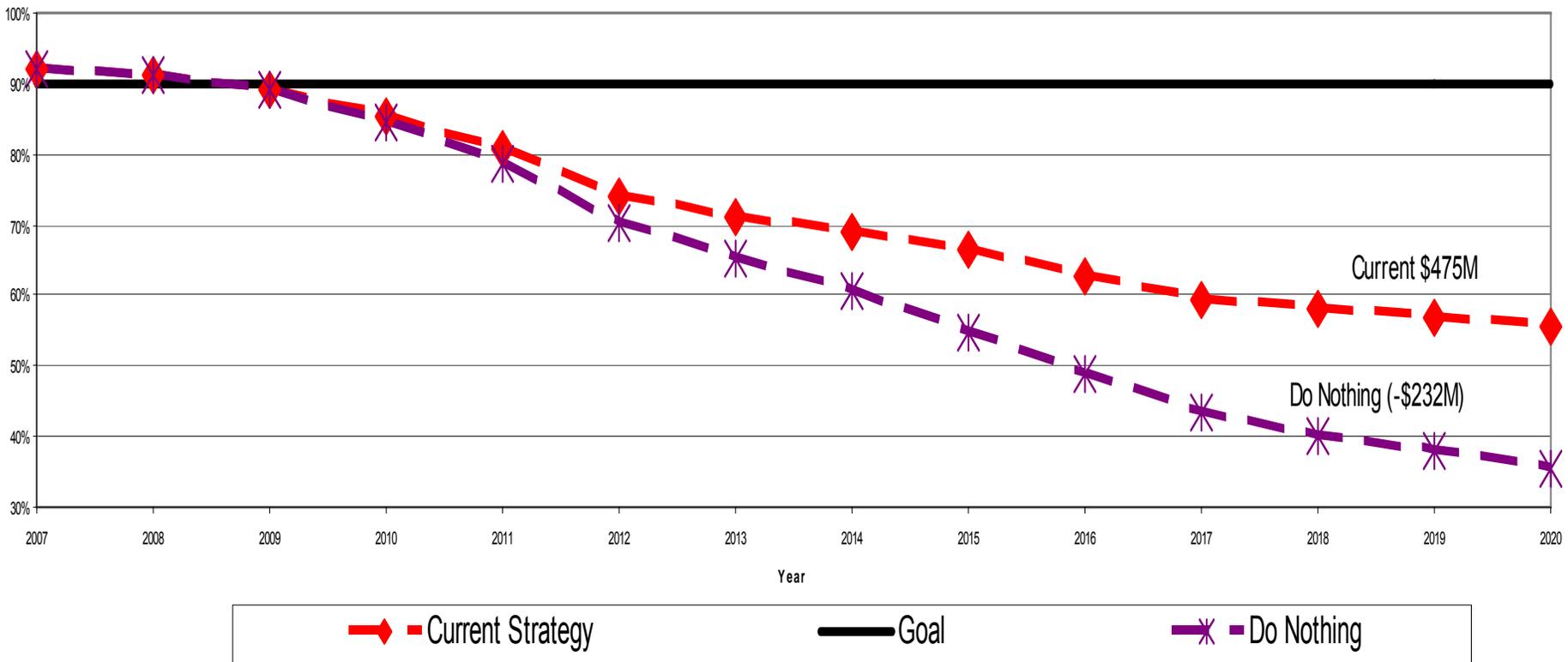
Craig Newell

MDOT Do Nothing Highway Program Estimate (Annual Average)



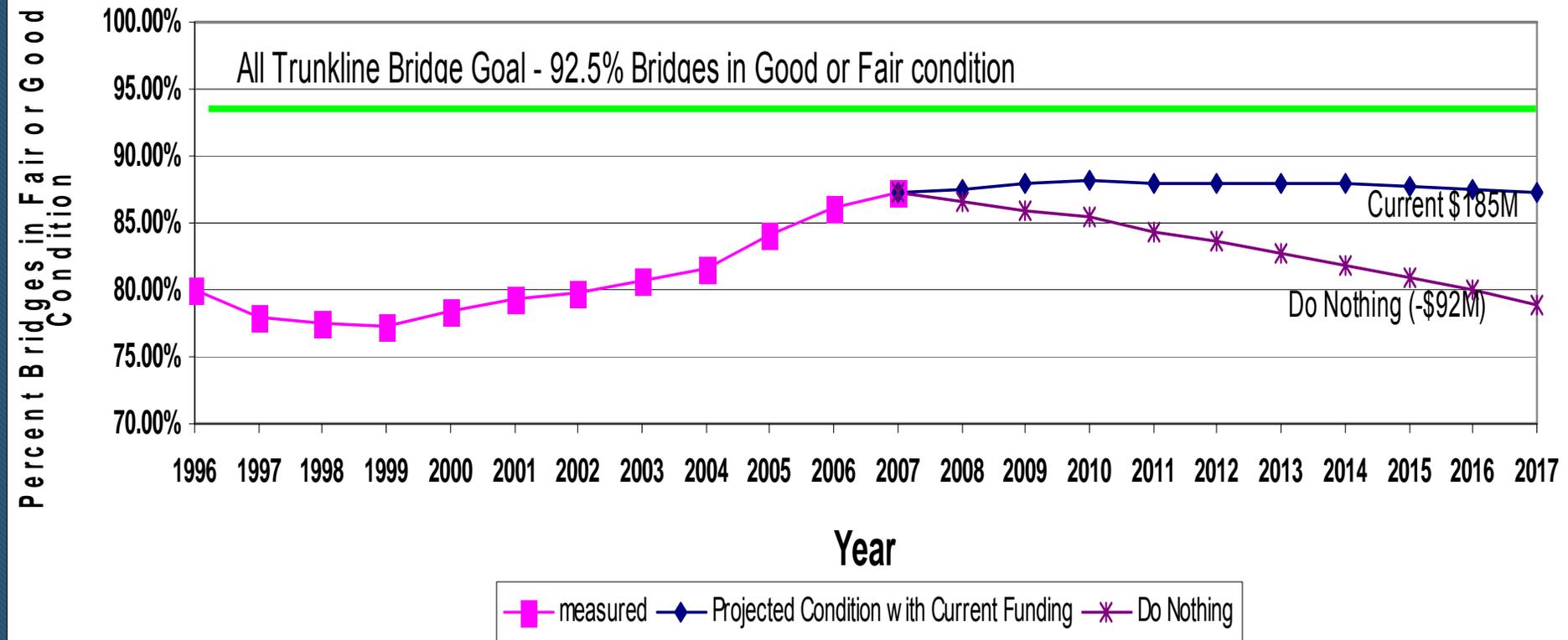
MDOT Trunkline Pavement Condition Forecasts

Current Average Annual Investment = \$475M



MDOT Trunkline Bridge Condition Forecasts

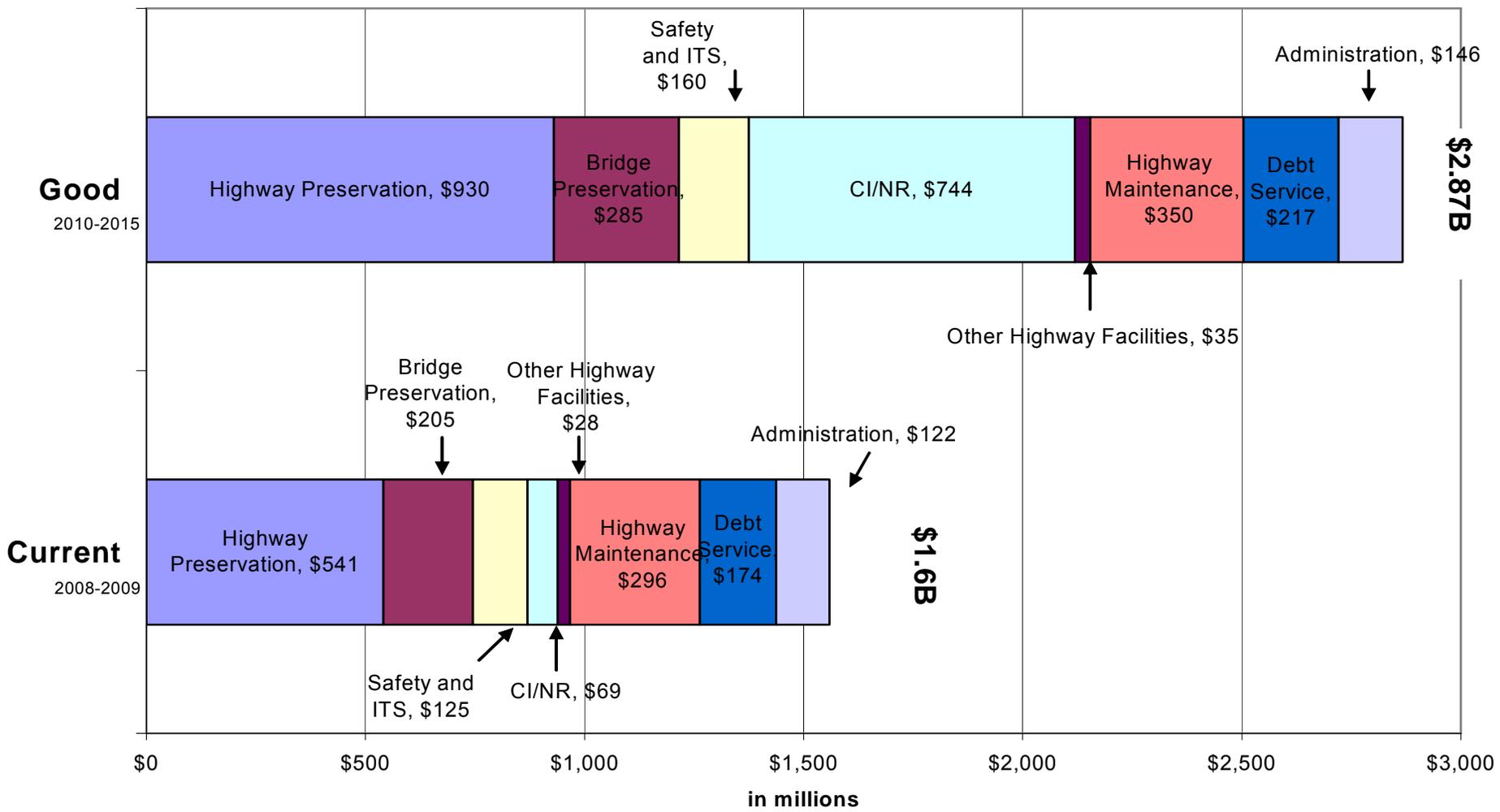
Current Average Annual Investment = \$185M



Impacts of Doing Nothing

- Inability to match federal aid
- Increase in deterioration rate of roads and bridges
- Not able to address capacity improvement needs
- Over 12,000 jobs lost versus current investment level

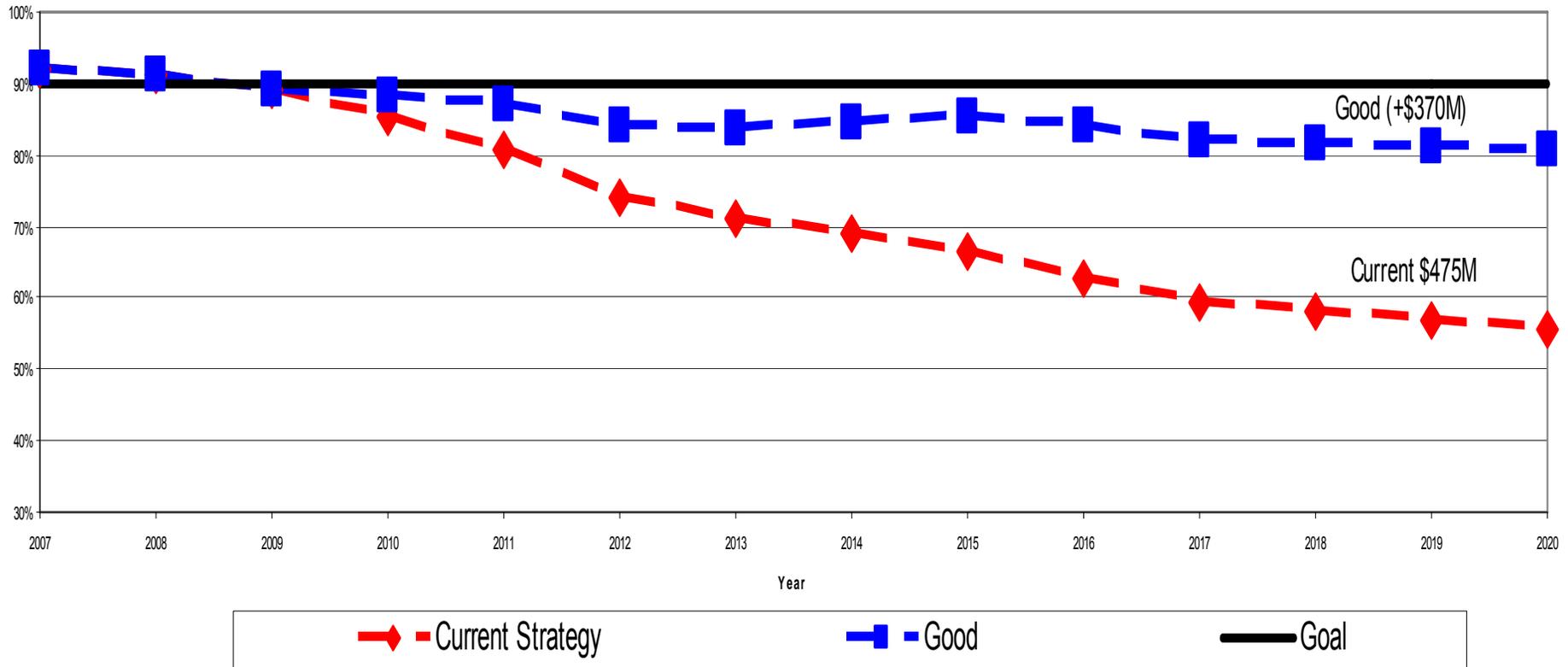
MDOT Good Highway Program Needs (Annual Average)



<u>MDOT Trunkline Needs Summary</u>	Current \$1.26B per year 17,900 jobs	Good \$2.5B per year 35,600 jobs
Highway Preservation Investment/condition	\$541M 65% good/fair in 2015	\$930M 85% good/fair in 2015
Bridge Preservation Investment/condition	\$205M 88% good/fair in 2015	\$285M  Meets goal 90% good/fair in 2015
Safety & ITS	\$125M Signs (19 yrs) Signals (15 yrs)	\$160M Signs (17 yrs) Signals (10 yrs)
CI/NR and Border	\$69M Pre-Construction activities only	\$744M Invests in highest priority commitments
Other Highway Facilities	\$28M Base level of activities	\$35M Allows for one added rest area
Highway Maintenance	\$300M Base level of activities	\$350M Retires some backlog

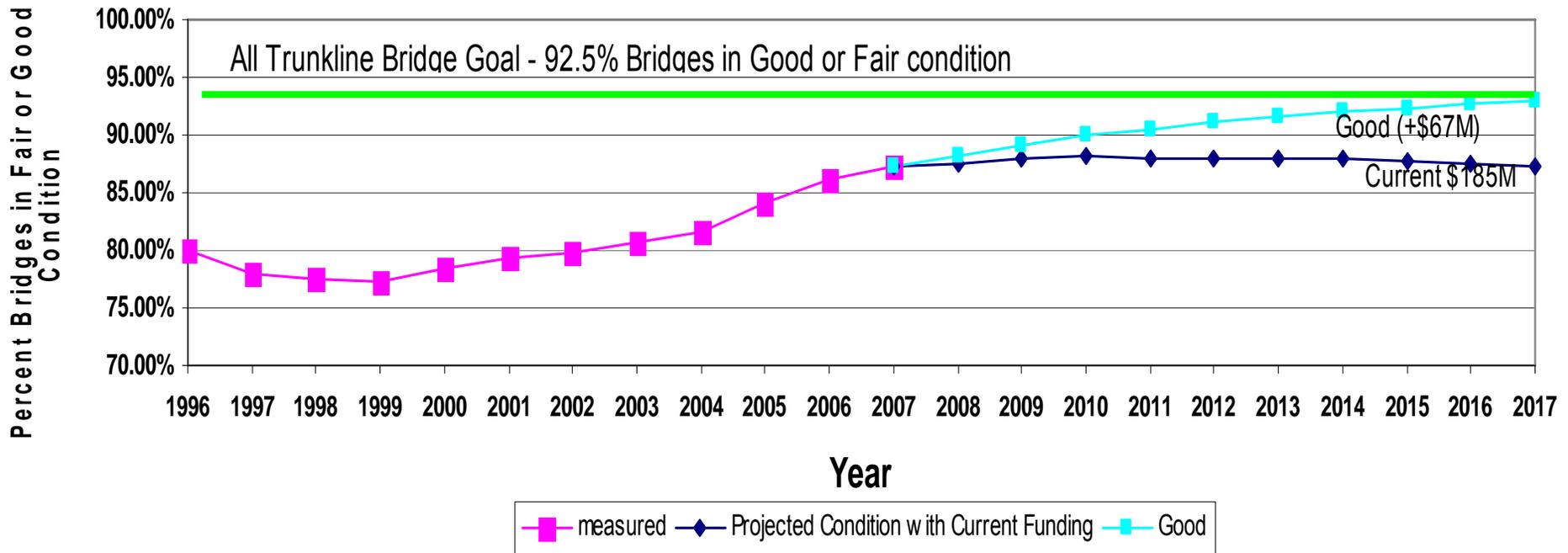
MDOT Trunkline Pavement Condition Forecasts

Statewide Pavement Condition Forecast at Various Funding Levels
Current Average Annual Investment = \$475M



MDOT Trunkline Bridge Condition Forecasts

State wide Bridge Condition Forecast at Various Funding Levels
 Current Average Annual Investment = \$185M



Return on Highway Investments

(Annual Average)

Scenario	Jobs	Federal-Aid Leveraged	Pavement Condition (in 2015)	Economic Benefits
Current (\$1,260 m)	17,900	\$811 m	65%	\$2,066 m
Do Nothing (\$380 m)	5,400	\$90 m	55%	\$623 m
Good (\$2,510 m)	35,600	\$1,620 m	85%	\$4,116 m

Summary

MDOT Average Annual Transportation Needs



Next Steps

- Transportation Funding Task Force (TF2) meets twice in September and twice in October
- TF2 recommendations due October 31

Construction Quality Partnership (CQP)

Larry E. Tibbits

Michigan CQP

- Charter Signed at the April 27, 2006, Commission Meeting

Today

- Progress
- Future Plans
- Project Awards



Design Task Force

- Industry and MDOT Partnership
 - Address concerns of consistency
 - Development of Scoping Manual
 - Constructability reviews
 - Training



Utilities

- Utility partnership - utility organizations, design firms, contractors, and government
- Improve communications and cooperation within this expanded partnership
- Next Step: Conference - January 2009

Training

- CQP Charter
 - Identify training needs
 - Develop and implement training programs
- Training in 2007
- Plans for 2008
- Third Party Administrator



CQP Awards

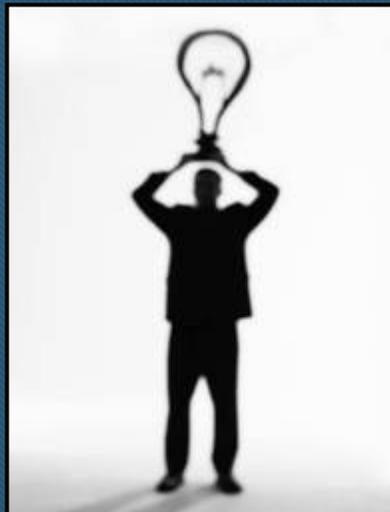
- Using NPHQ categories and quality criteria
- Nominations from designers, contractors, and owners
- Judging of 2008 applications
- CQP winners also nominated for possible national NPHQ recognition

CQP Award

Category:

Breaking the Mold (Innovation)

- US- 24 Corridor Bridge Rehabilitation
Dearborn – Dearborn Heights



Accepting the Awards

- Designer: Wade Trim
- Prime Contractor: Dan's Excavating
- Owner: MDOT





2008

MICHIGAN CONSTRUCTION QUALITY PARTNERSHIP

BREAKING THE MOLD AWARD

US-24 CORRIDOR BRIDGE REHABILITATION

Dearborn & Dearborn Heights, Michigan

WADE TRIM

Presented by Michigan Construction Quality Partnership:
Michigan Department of Transportation
Federal Highway Administration
County Road Association of Michigan
American Council of Engineering Companies
Michigan Infrastructure & Transportation Association
Michigan Concrete Paving Association
Asphalt Pavement Association of Michigan
Michigan Road Preservation Association



CQP Award

Category:
Partnering

- I-94/US-24 Single Point Interchange (Arch Bridge)



Accepting Awards

- Designer: Alfred Benesch
- Prime Contractor: Dan's Excavating
- Owner: MDOT





2008

MICHIGAN CONSTRUCTION QUALITY PARTNERSHIP

PARTNERING AWARD

I-94 & US-24 SINGLE POINT INTERCHANGE PROJECT

Wayne County, Michigan

DAN'S EXCAVATING

Presented by Michigan Construction Quality Partnership:
Michigan Department of Transportation
Federal Highway Administration
County Road Association of Michigan
American Council of Engineering Companies
Michigan Infrastructure & Transportation Association
Michigan Concrete Paving Association
Asphalt Pavement Association of Michigan
Michigan Road Preservation Association



Questions?