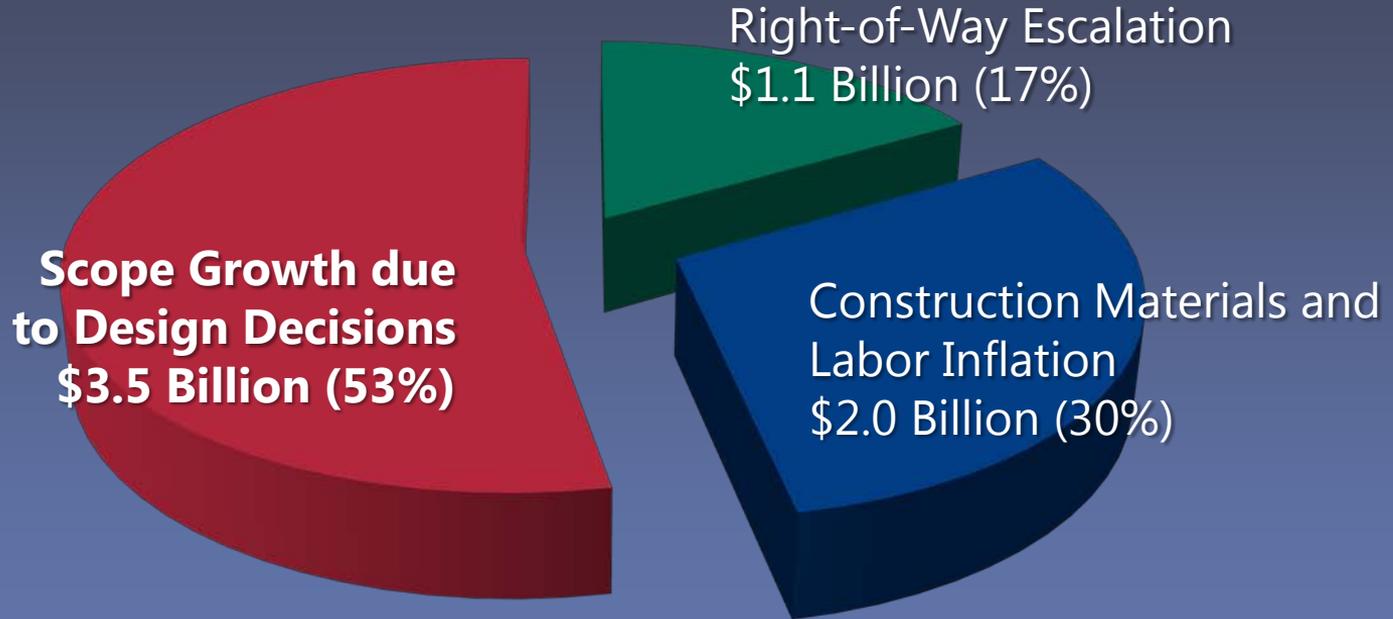




# SR-202L/SOUTH MOUNTAIN FREEWAY DESIGN REVIEW SUMMARY

Transportation Policy Committee  
March 21, 2012

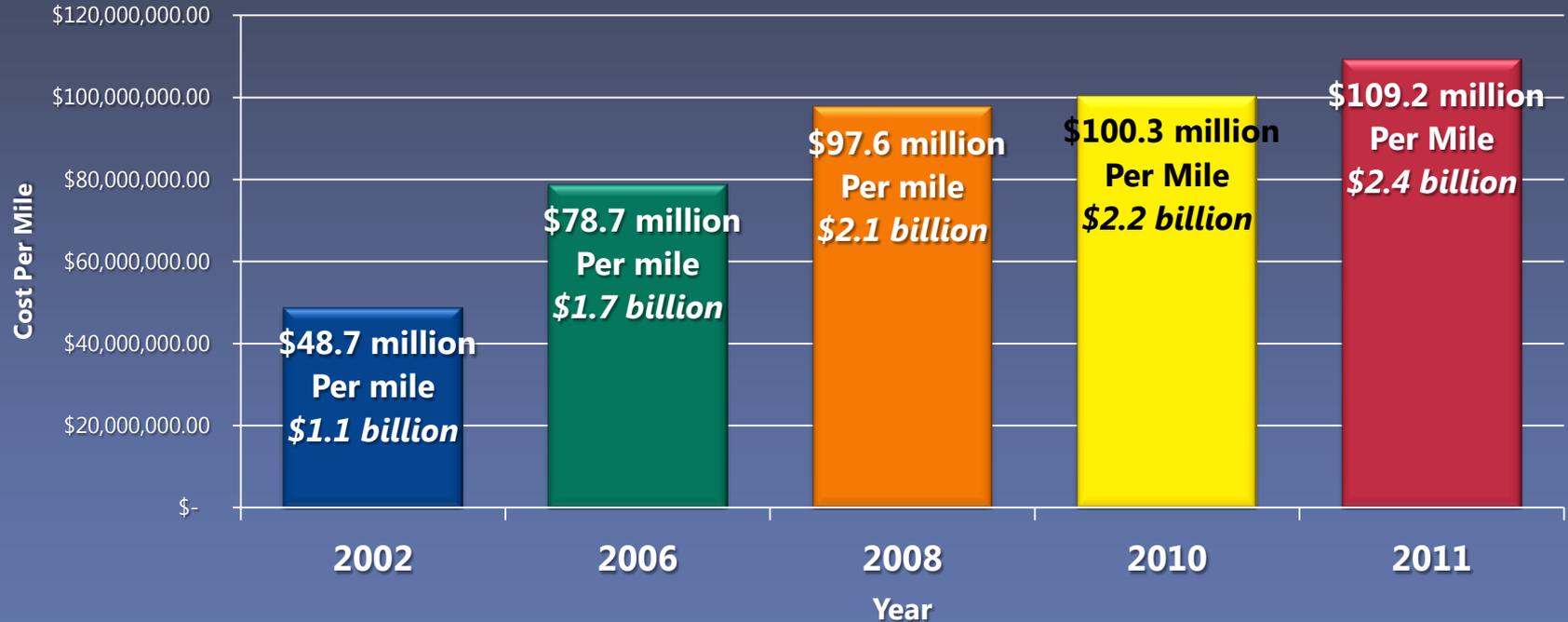
# 2009 Freeway Program Balancing



**Total Cost Overruns - \$6.6 Billion**

# Corridor Cost Estimates

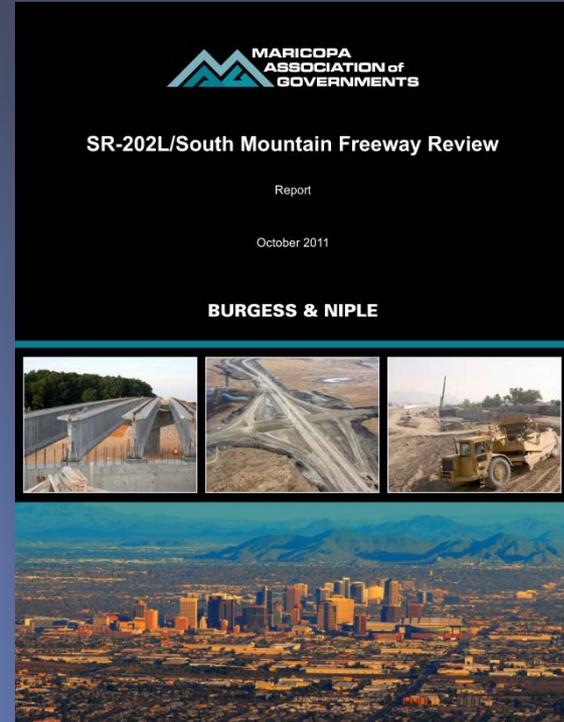
## 21.9 Mile Corridor Length



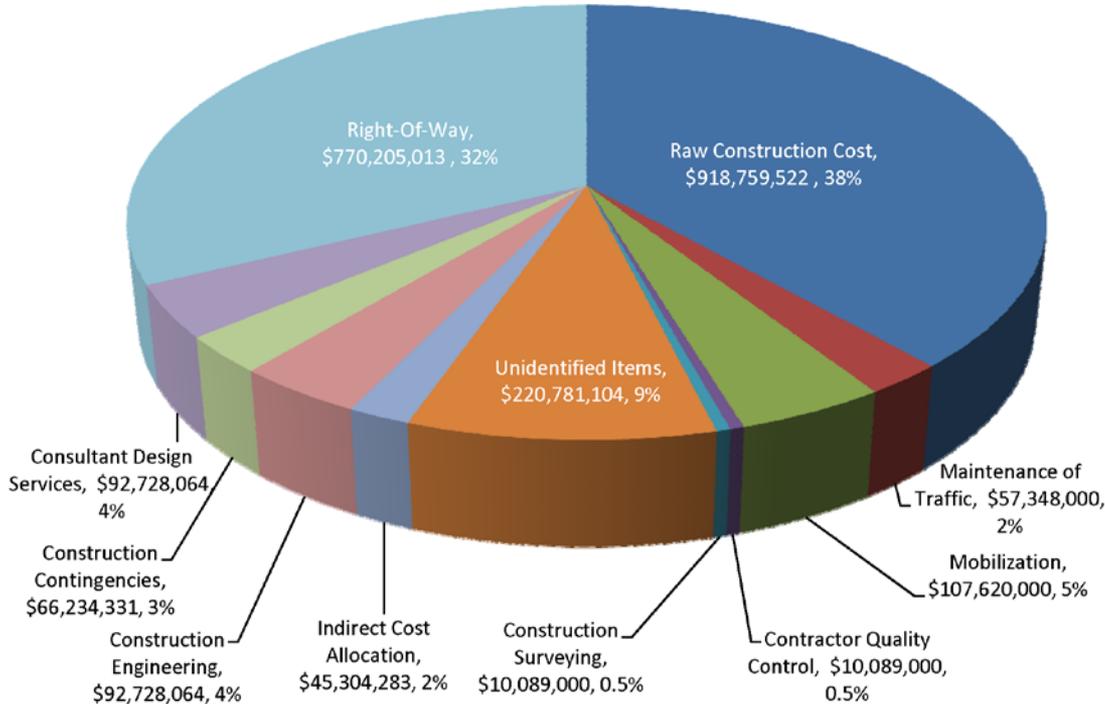
# Consultant Team

## Conducted September 2011

- Expertise from
  - California DOT (CALTRANS)
  - Florida DOT (FDOT)
  - Ohio DOT (ODOT)
  - Texas DOT (TexDOT)



# Budget Analysis



Raw Construction Costs	Cost	%
Earthwork (200)	\$154,812,507	16.9%
Pavement (300/400)	\$101,399,673	11.0%
Drainage (500)	\$103,045,095	11.2%
Structures (600)	\$234,949,257	25.6%
Traffic Engineering (700)*	\$42,332,080	4.6%
Roadside Development (800)	\$125,488,350	13.7%
Incidentals (900)**	\$156,732,560	17.1%
<b>Estimated Raw Construction Cost</b>	<b>\$918,759,522</b>	<b>100.0%</b>
Maintenance of Traffic	\$57,348,000	6.24% of Raw Const
Mobilization	\$107,620,000	11.71% of Raw Const
Contractor Quality Control	\$10,089,000	1.10% of Raw Const
Construction Surveying	\$10,089,000	1.10% of Raw Const
<b>Total Other Construction Costs</b>	<b>\$185,146,000</b>	<b>20.15% of Raw Const</b>
<b>Estimated Construction Cost - Subtotal A</b>	<b>\$1,103,905,522</b>	
Unidentified Items	\$220,781,104	20% of Subtotal A
<b>Subtotal B</b>	<b>\$1,324,686,626</b>	
Indirect Cost Allocation	\$45,304,283	3.42% of Subtotal B
Construction Engineering	\$92,728,064	7.00% of Subtotal B
Construction Contingencies	\$66,234,331	5.00% of Subtotal B
<b>Total Estimated Construction Cost</b>	<b>\$1,528,953,304</b>	
Consultant Design Services	\$92,728,064	7.00% of Subtotal B
<b>Estimated Project Cost Without Right-Of-Way</b>	<b>\$1,621,681,368</b>	
Right-Of-Way	\$770,205,013	
<b>Total Estimated Project Cost</b>	<b>\$2,391,886,381</b>	

1.765 Loading Factor without R/W

\*Maintenance of Traffic has been removed from this item and shown below the Estimated Raw Construction Cost  
 \*\*Mobilization, Contractor Quality Control, and Construction Surveying have been removed from this item and shown below the Estimated Raw Construction Cost

# Major Finding from Workshop

*"... due to the extent of the funding gap, reducing or eliminating minor components at select locations is not going to sufficiently address the cost differential.*

***A philosophical change to the design approach is recommended, in which it is optimized for functionality, safety, and cost.*** Optimization includes taking a practical design approach and maximizing the return on infrastructure investment, rather than adhering to current project design standards ..."



# Optimize the Alignment

- Use broader horizontal and vertical geometric standards
- Coordinate with other disciplines, such as drainage, utilities, and ROW

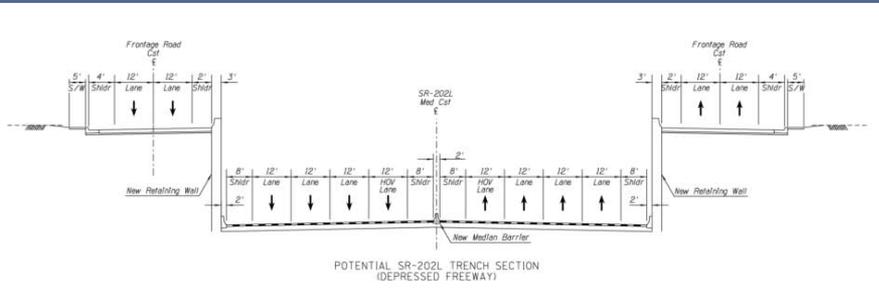


# Design Standards

- Design Speeds on Directional Ramps
- Profile Gradient/ Earthwork Balance
- Flood Control/ Storage

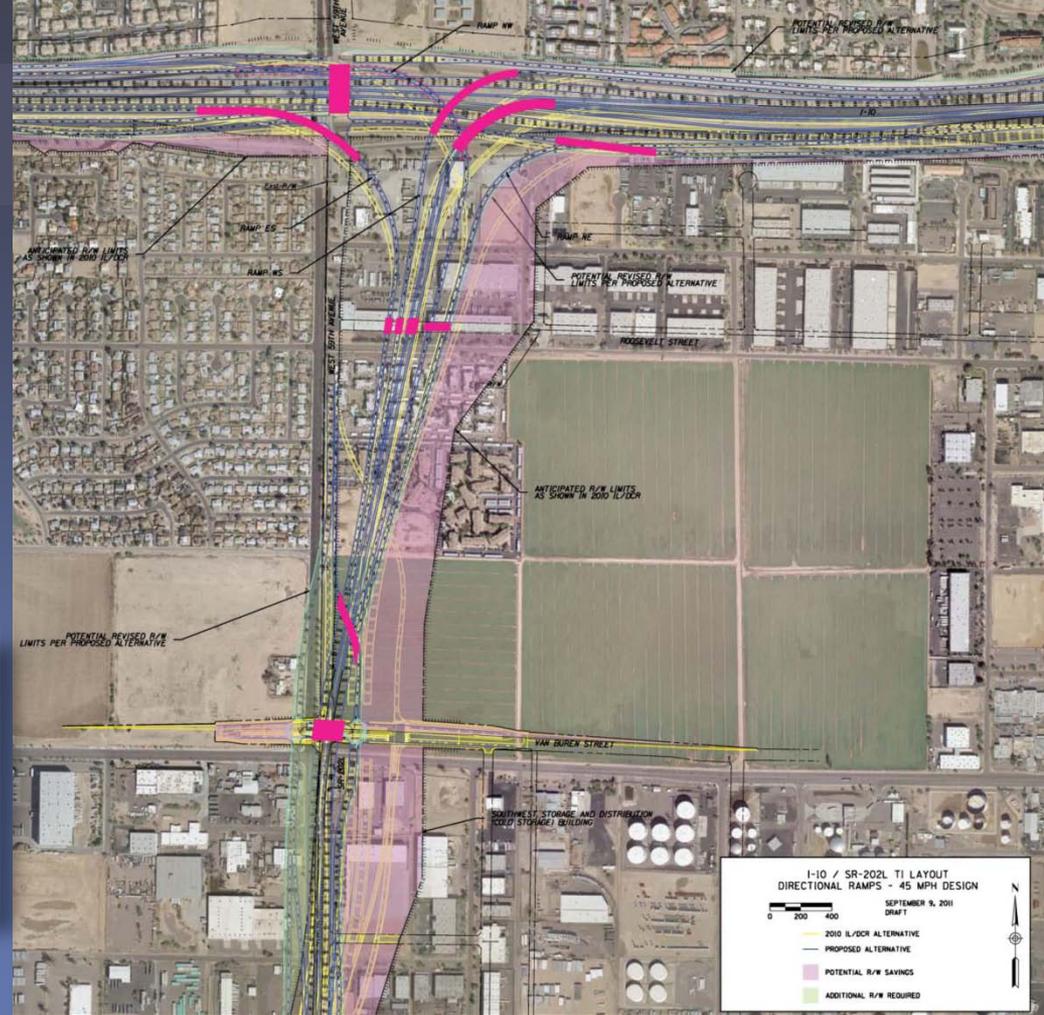


# Interstate 10 at 59th Avenue



POTENTIAL SR-202L TRENCH SECTION (DEPRESSED FREEWAY)

**210-ft Typical Section**



I-10 / SR-202L TI LAYOUT  
DIRECTIONAL RAMPS - 45 MPH DESIGN  
SEPTEMBER 9, 2011  
DRW1

0 200 400

- 2010 IL/DCR ALTERNATIVE
- POTENTIAL R/W SAVINGS
- ADDITIONAL R/W REQUIRED

# Design Alternatives

Description	Savings
Profile Gradient/ Earthwork	To be determined
Bridge Type Selection	\$25-\$30/sf of bridge
<b>Interstate 10/59th Avenue Design</b>	\$10-\$14 million plus ROW savings
<b>Mark-Up/ Contingency</b>	\$120-\$160 million
<b>On-Site Drainage</b>	\$37-\$42 million
<b>Off-Site Drainage</b>	\$90-\$120 million plus ROW savings
Paved Shoulder Width	\$60-\$70 million plus ROW and Earthwork

Description	Savings
Shoulder Pavement Composition	To be determined
Phased Implementation	\$30-\$35 million
Auxiliary Lanes	\$750,000-\$1,250,000
Program Delivery	Variable
Retaining Wall	Variable
<b>Right-of-Way</b>	\$150-\$180 million
Service Interchanges	\$13-\$39 million
South Mountain Tunnel	Needs further evaluation

# Summary

Ultimately, the goal is to balance functionality with project costs, delivery a project that provides the most it can with the available funds.

Identified **\$500-\$660 million** (fully loaded) that could be reduced from the \$2.392 billion estimate in the Initial Location/Design Concept Report.



# Environmental Impact Statement

## Remaining Steps

### Final Reviews

- ADOT
- FHWA
- Cooperating Agencies
- Legal Review

### Draft EIS

- 90-Day  
Public Review

### Final EIS

- 60-Day  
Public Review

### RECORD OF DECISION

2012

2013



# SR-202L/SOUTH MOUNTAIN FREEWAY DESIGN REVIEW SUMMARY

Bob Hazlett, P.E.  
Sr Engineering Manager  
602 254-6300