



# Practical Design

Meeting Our Customers' Needs

## AASHTO Subcommittee On Design Presentation

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June 2005



# Practical Design

Meeting Our Customers' Needs

- Concept: Meeting our customers' needs through sound engineering judgment.
- We'll be building the most efficient solutions to problems.
- Will allow us to spread our resources to more projects.



# Practical Design

Meeting Our Customers' Needs

- Will help us deliver tangible results:
  - 1) Best value for every dollar spent.
  - 2) Innovative transportation solutions.
  - 3) Safe transportation system.
  - 4) Fast projects that are of great value.

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- Want good, not great projects.
- Have been too rigid in designing to standards for standards' sake - created a “more is better” mentality.
- Five percent of standards drive 80 percent of costs.

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- Need to be flexible – design only what's needed to solve a problem.
- Must use sound engineering judgment.
- Won't compromise safety.
- Will collaborate on solutions.



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- Example:

Designing for the  
100-year flood.

# Practical Design

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- Concept has already proved successful:
  - Have saved about \$400 million.
  - Trimmed STIP by 14 percent.
  - Shaved 12 percent off *Smoother, Safer, Sooner* major construction projects.



# Practical Design

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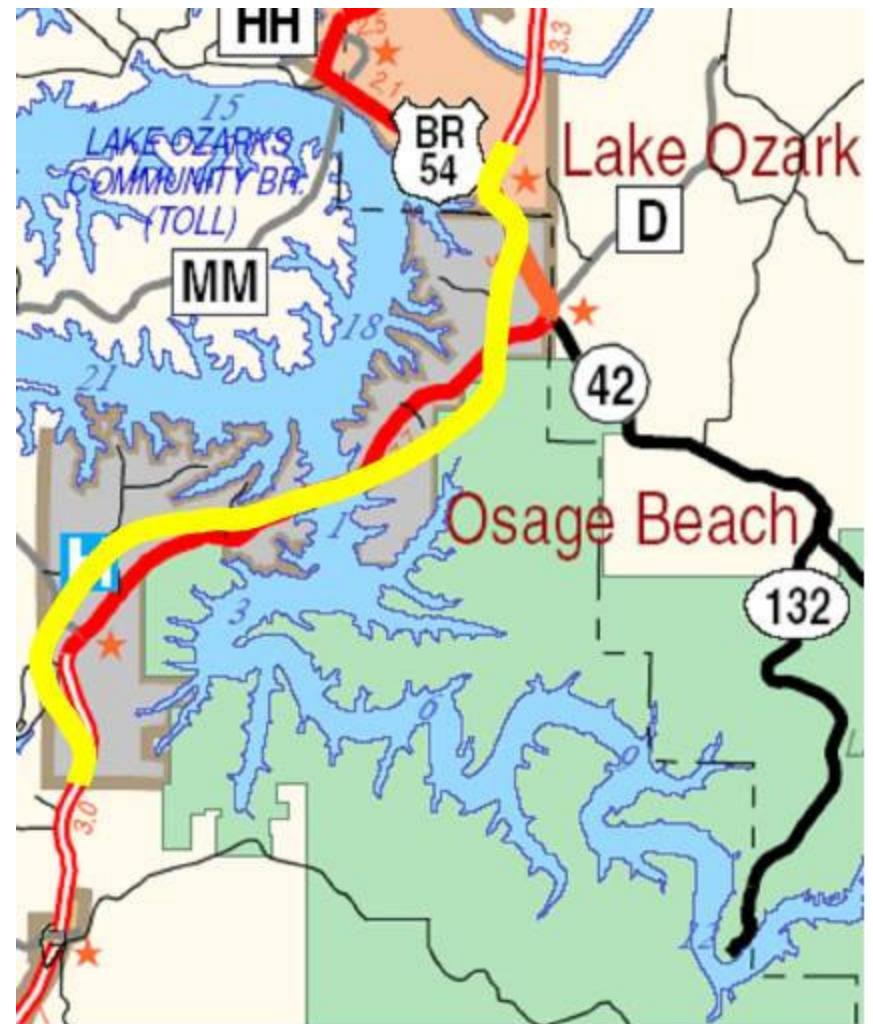
- Project examples



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- Route 54 in Camden County will be realigned around Osage Beach.
- Original scope: four lanes, divided highway, retaining walls.



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- Revised scope: narrower median widths, concrete barriers
- Minimized grading and right of way costs.



- Original estimate: \$136.5 million
- Redesign: \$ 99.0 million
- Savings: \$ 37.5 million

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- Deteriorating box culvert on Route F in Jasper County needs to be replaced.
- Original scope called for a bridge and 1,500 feet of road reconstruction.



# Practical Design

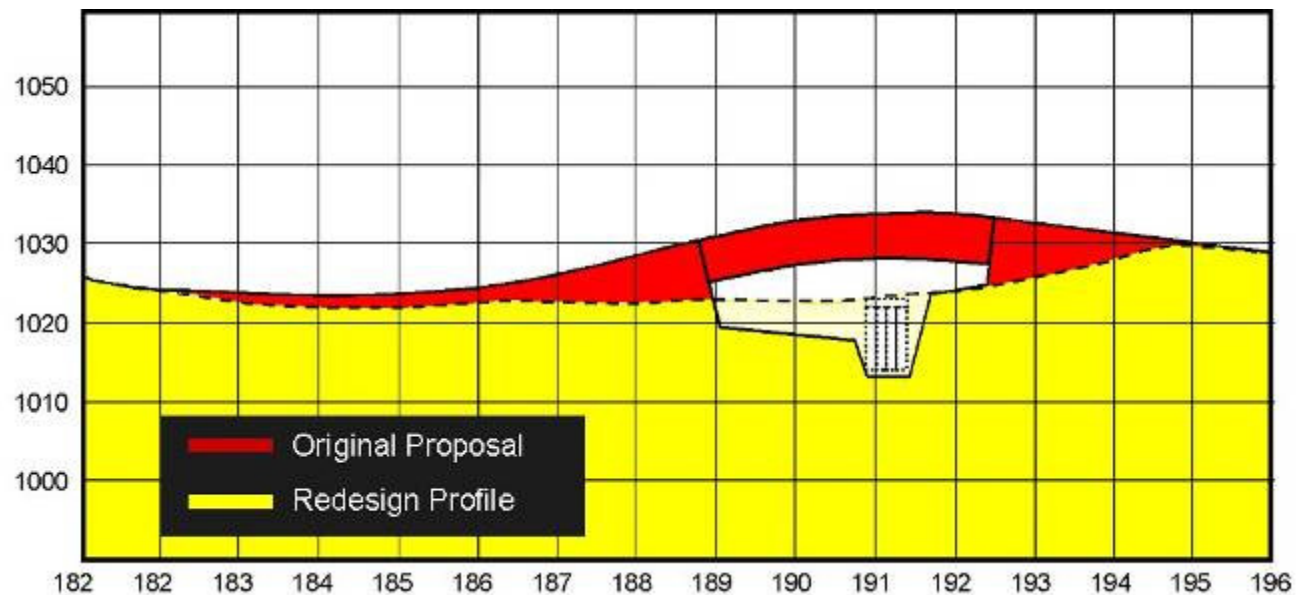
Meeting Our Customers' Needs

- Revised scope calls for wider culvert.
- Reduces roadway improvements, right of way.

Original estimate:  
\$1.35 million

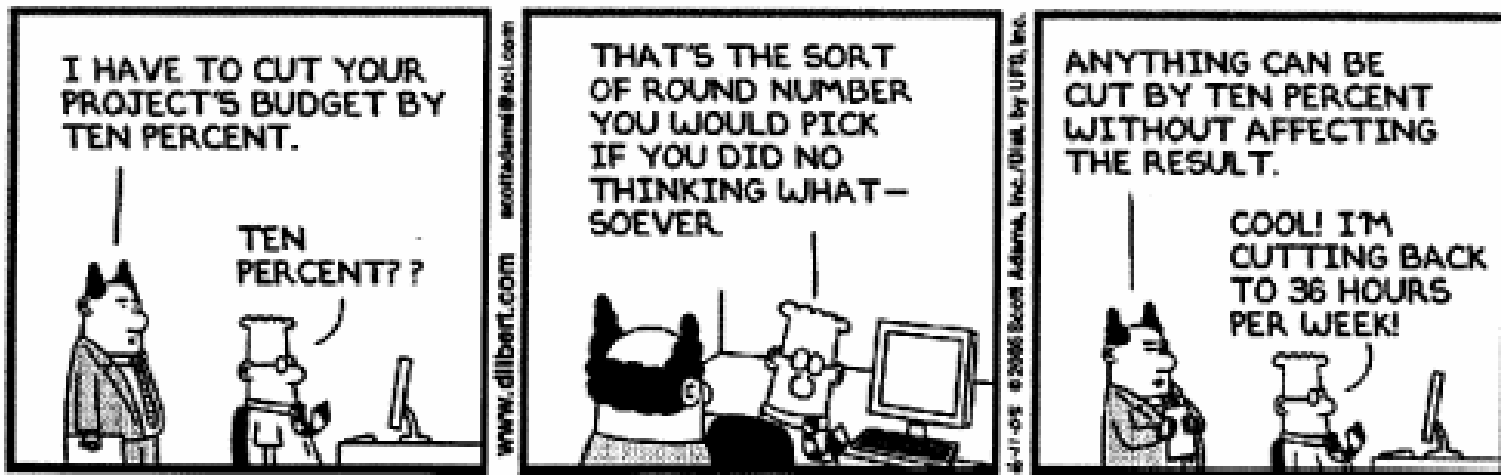
Redesign:  
\$284,000

Savings:  
\$1.06 million



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**MoDOT engineers challenged to cut costs by 10 percent**

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