Accommodating ROW issues on Bridge Projects

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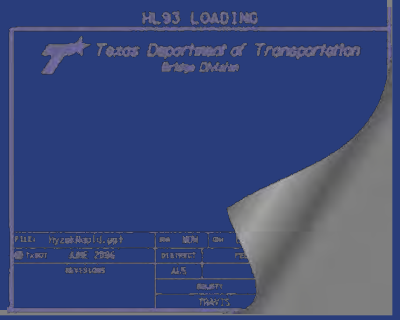
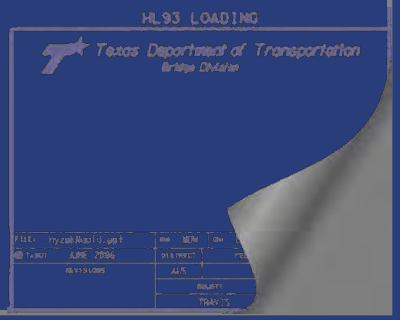
TxDOT Bridge Division



save
money

Presentation Outline

- Reasons to reduce ROW
- Areas with minimal ROW
- Options to control ROW
  - Control superstructure depth
  - Retaining Walls
  - Short spans, Bridge-Culverts
- Tx-Girders vs Slab Beams
- Conclusion



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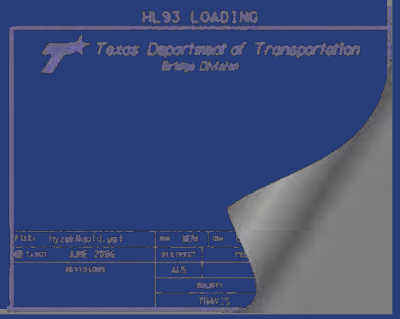
Why reduce ROW?

- Minimize planning time
- Save project costs
- Reduce environmental impact
- Reduce construction time



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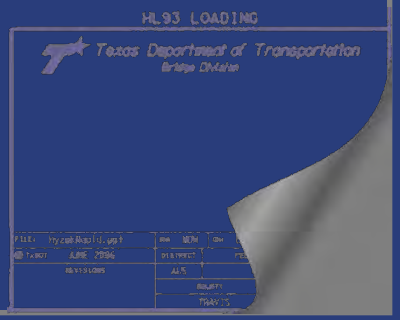
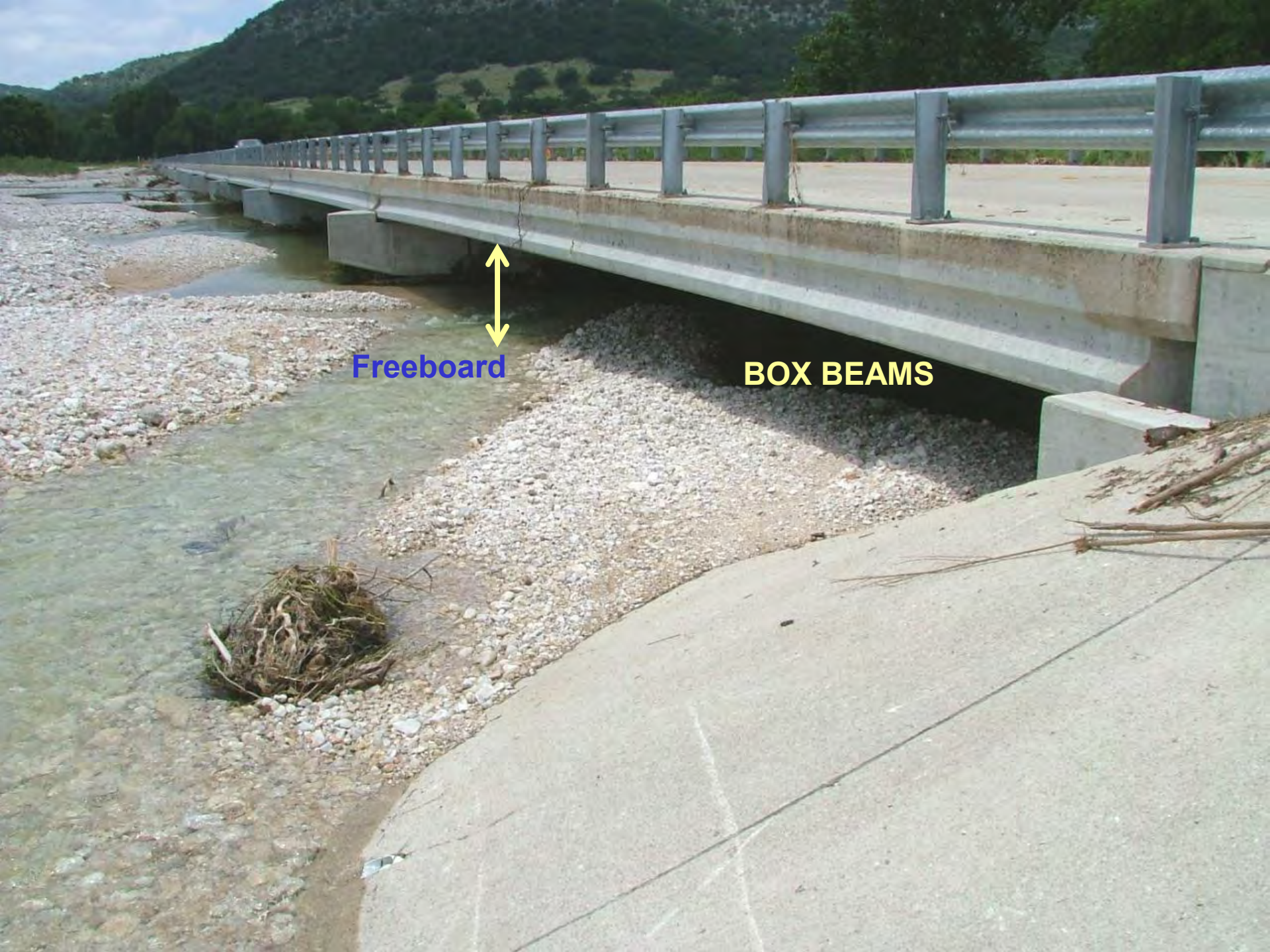
Bridge Types that Minimize ROW Requirements



Tx-Girders

STEEL GIRDERS

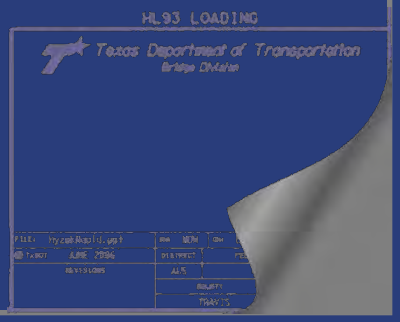

Freeboard
BOX BEAMS

SLAB BEAMS

DECKED-SLAB BEAMS

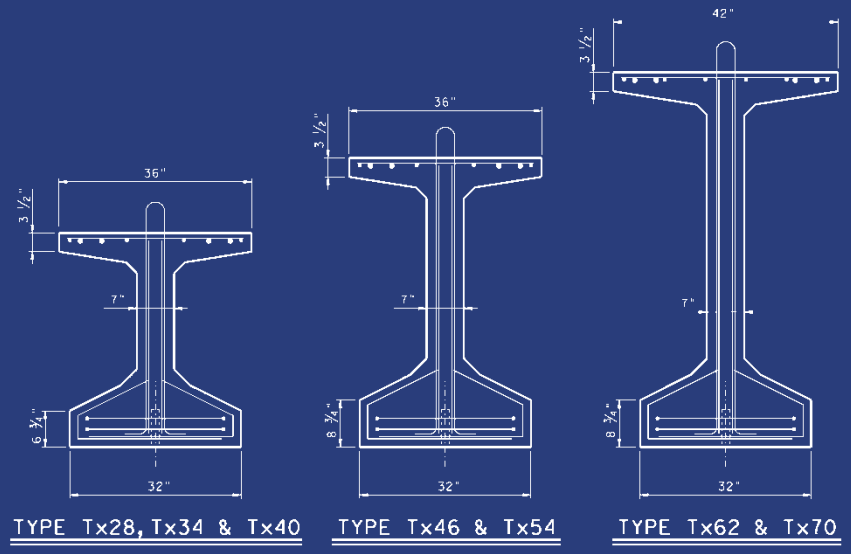
CULVERTS
SEP 8 2004

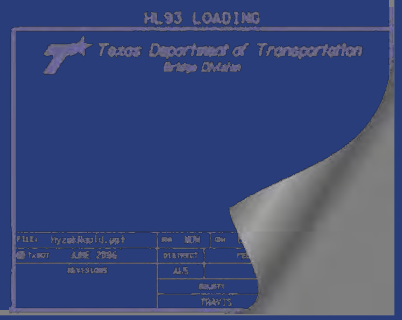
Options to reduce ROW



Control Superstructure depth

- ROW determined by slope
- Advantage of shallow beam
- Short Columns
- Less fill/cuts in soil





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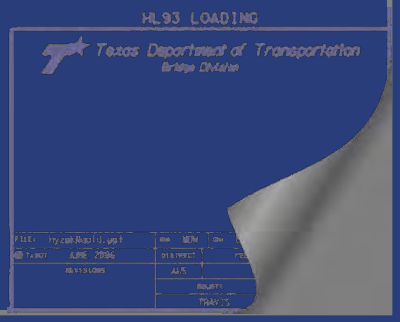
Retaining Walls

- Retaining wall abutments
- Flared/Parallel Wings
- Advantages
  - Allow vertical cuts
  - Superstructure depth no longer critical
- Disadvantages
  - Construction time
  - Additional Bridge Item



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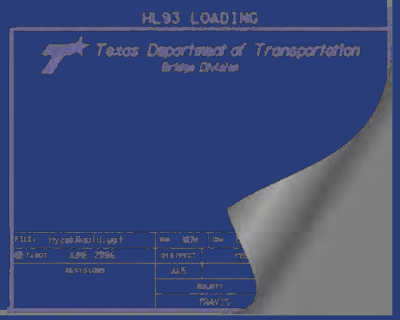
Retaining Wall

Culvert with Wing

Traffic Considerations

Link-Belt
2257
CAT
320C

Tx Girders vs. Slab Beams in Off-System Environment



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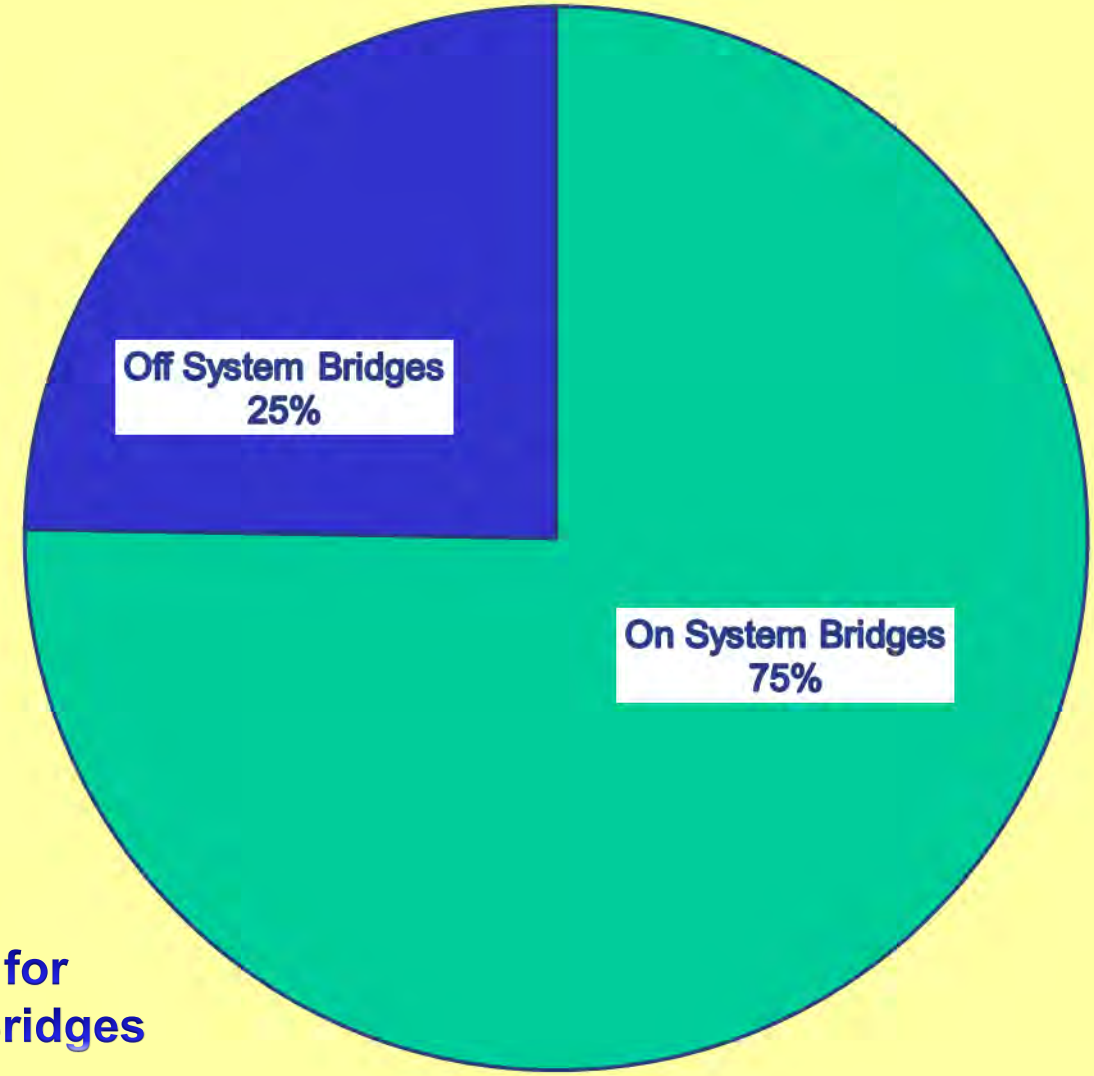
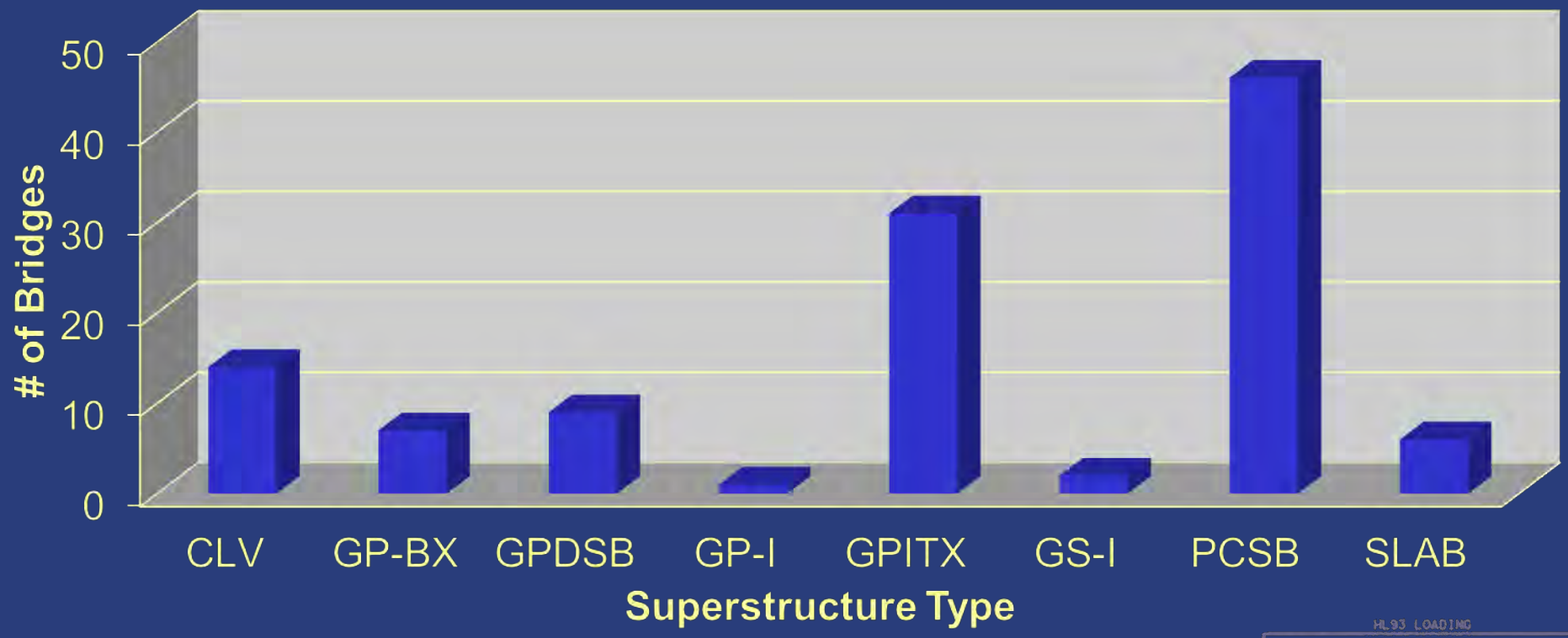
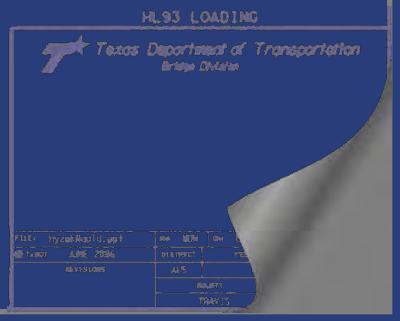
Off System vs. On System
2011



Typical ROW for Off-System Bridges Is 60' overall

Off-System Bridges in 2011





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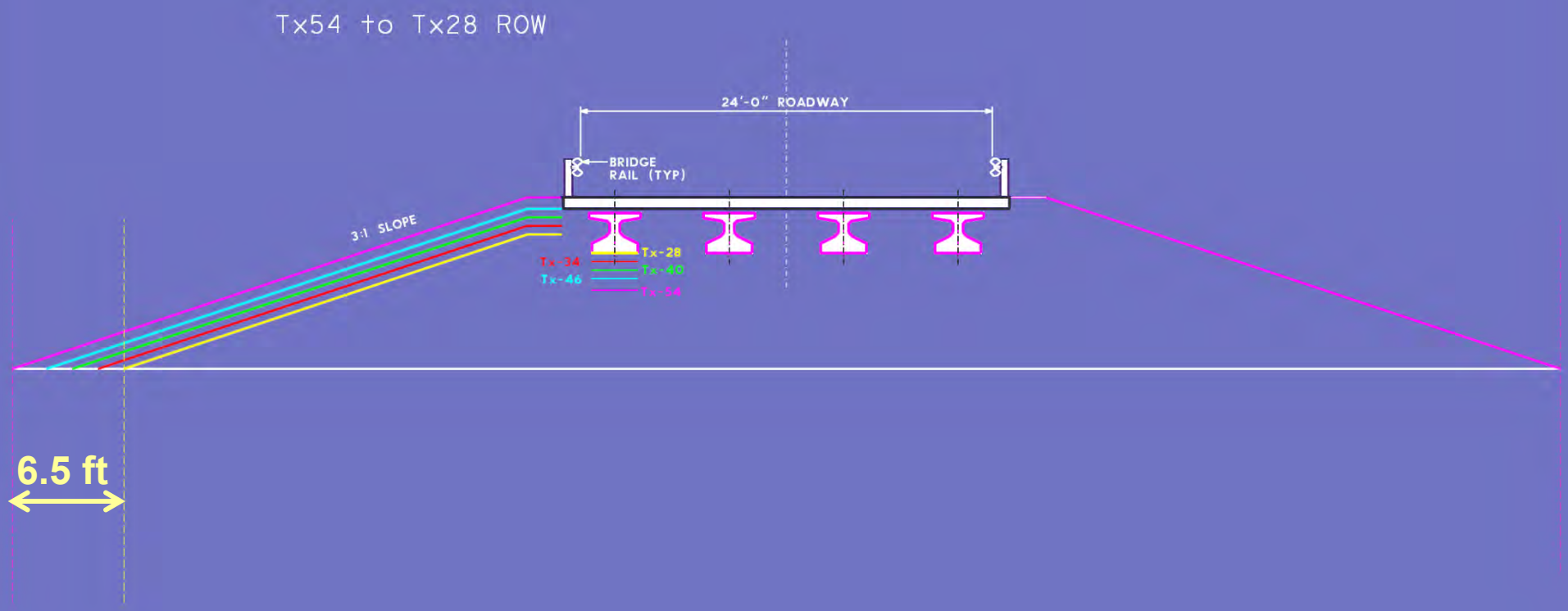
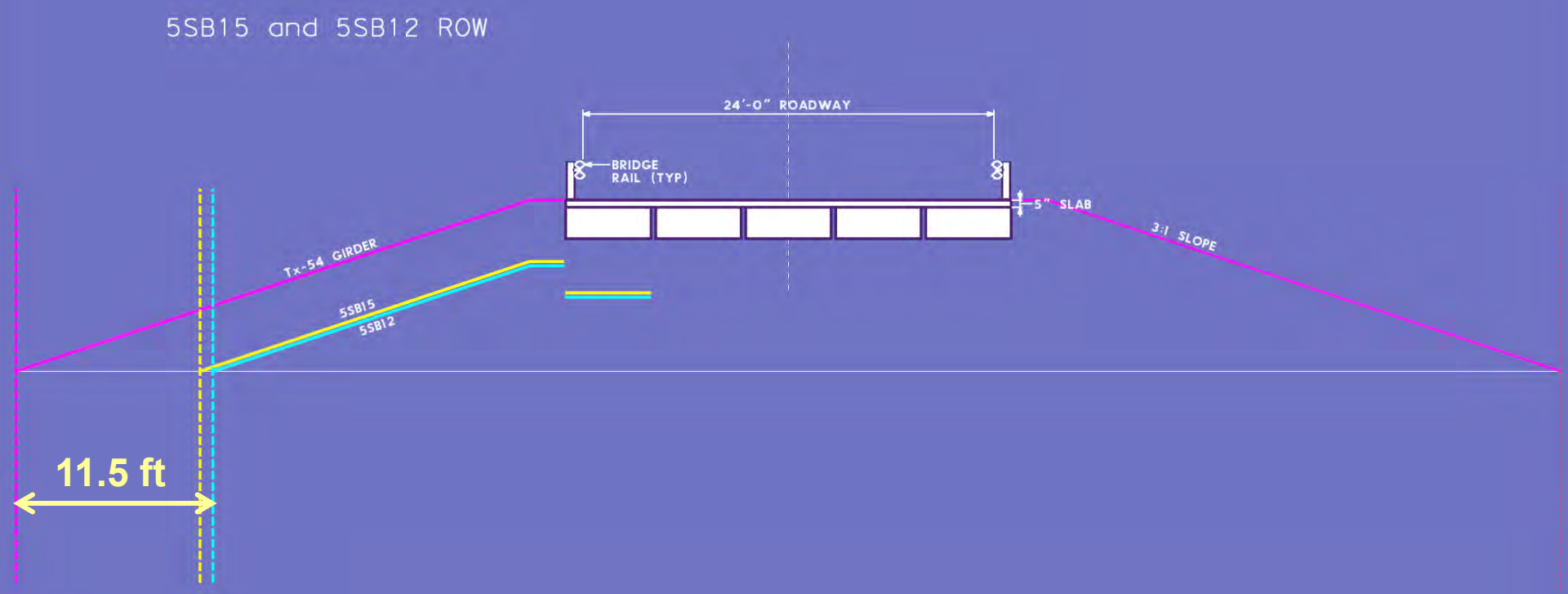
How do they compare?

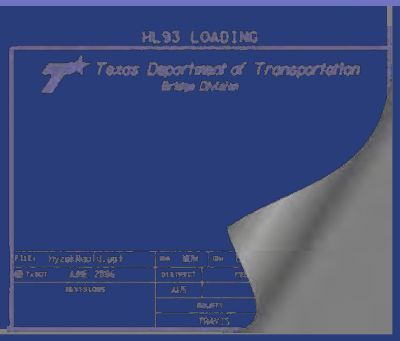


HL93 LOADING

Texas Department of Transportation
Bridge Division

BRIDGE DIVISION





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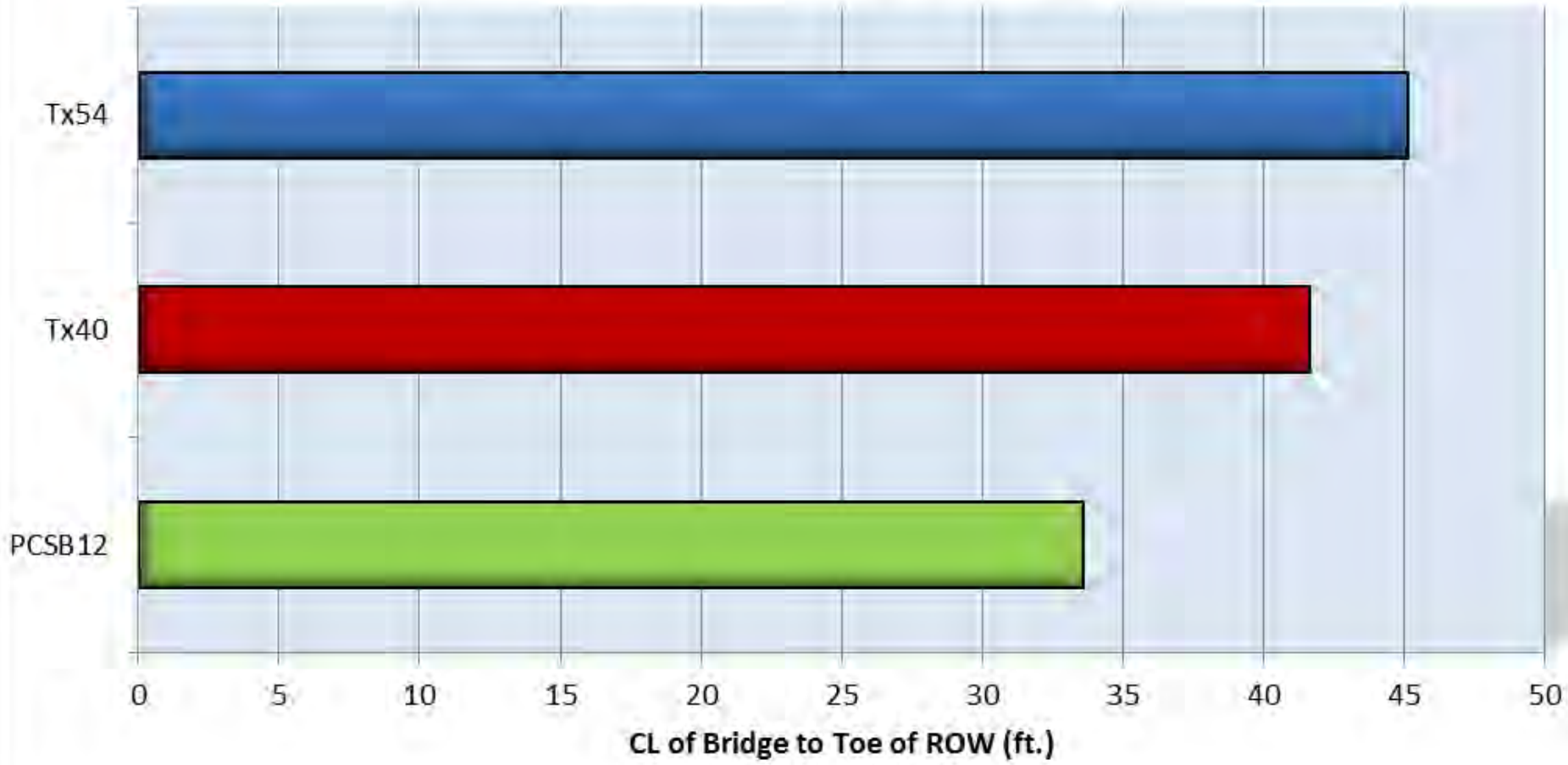
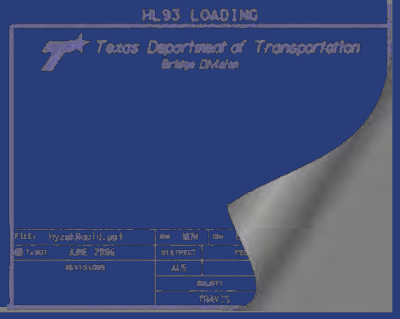
ROW Comparison for 10' Fill





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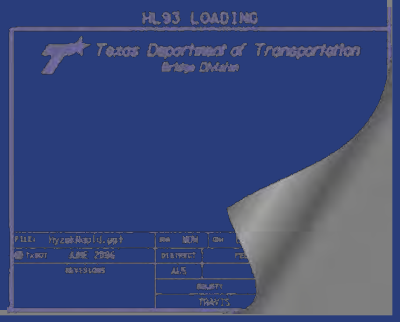
Weighing the Options

Tx-54 Girder

- Max Span 115-125 ft.
- Shallowest beam 28 inches
- Unit Cost
  - $61.78 in 2009
  - $38.69 in 2010
- PGL alignment

Slab Beam

- Max Span 40-50 ft.
- Shallowest beam 12 inches
- Unit Cost
  - $76.95 in 2009
  - $56.28 in 2010
- PGL alignment



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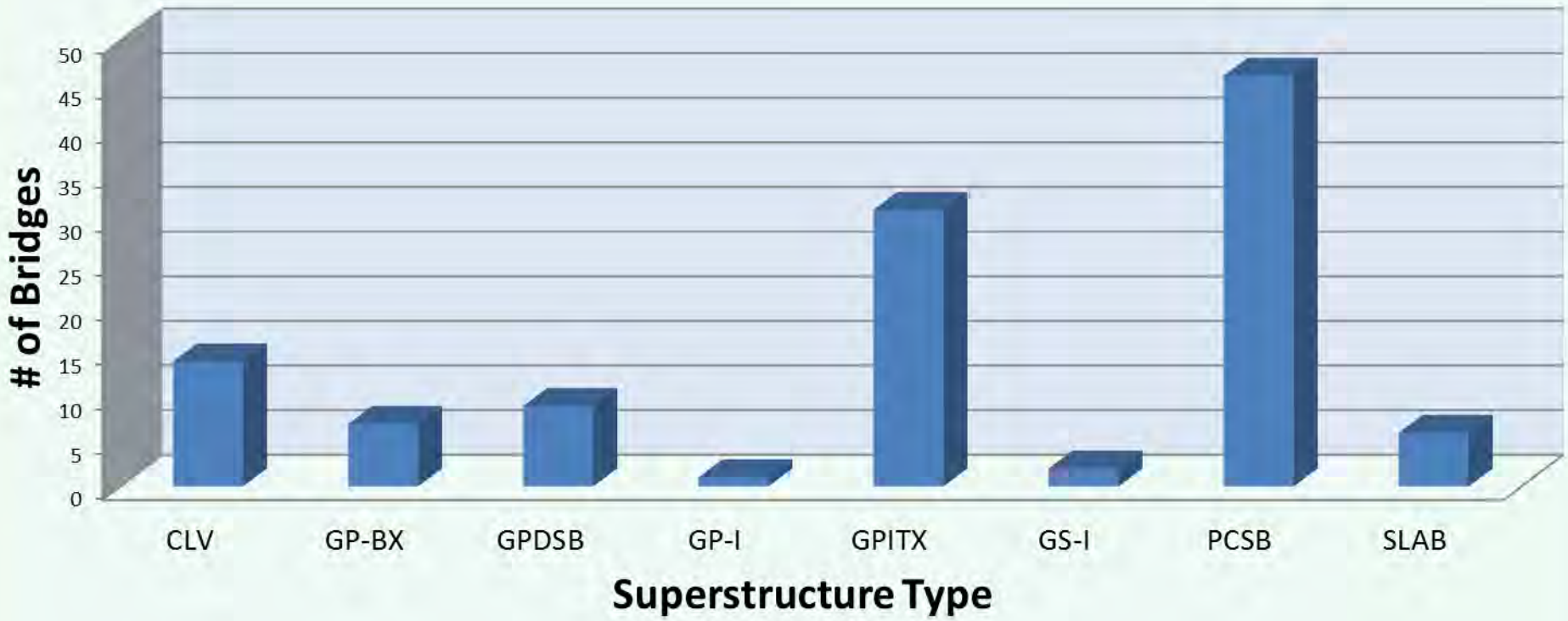
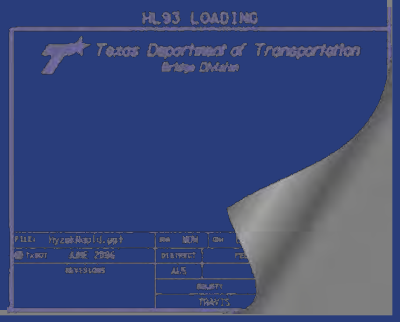
Off-System Bridges Built in 2011



Conclusions



STAY OFF MY PROPERTY!
Sorry, I'll use shallow beams

Thank You

Questions?
Contact: Tommy.Abrego@txdot.gov

Special thanks to Lloyd Wolf ,
Tom Yarbrough and Michael Hyzak

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