

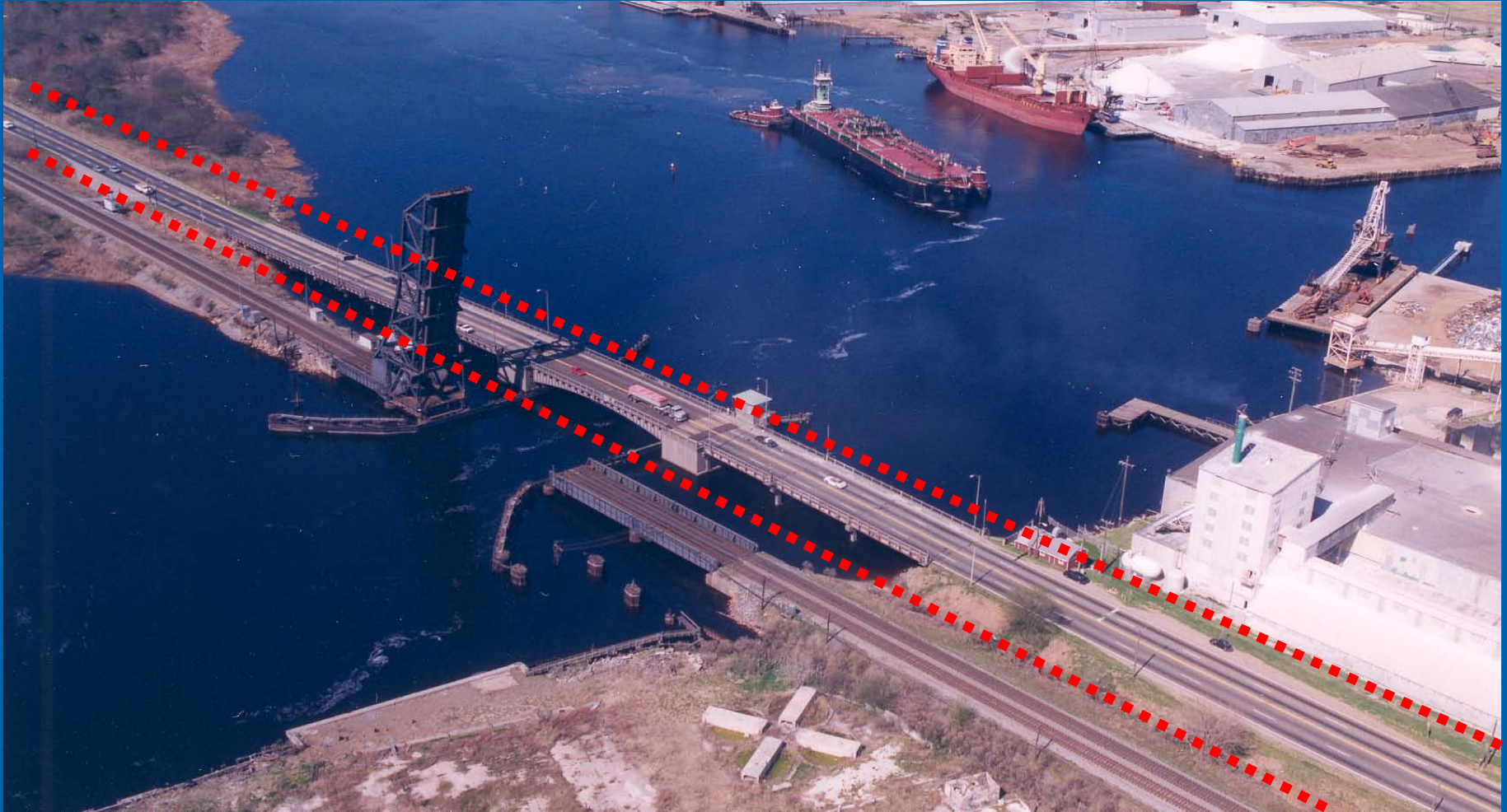
Gilmerton Bridge Replacement

Effects of Schedule on Construction Cost

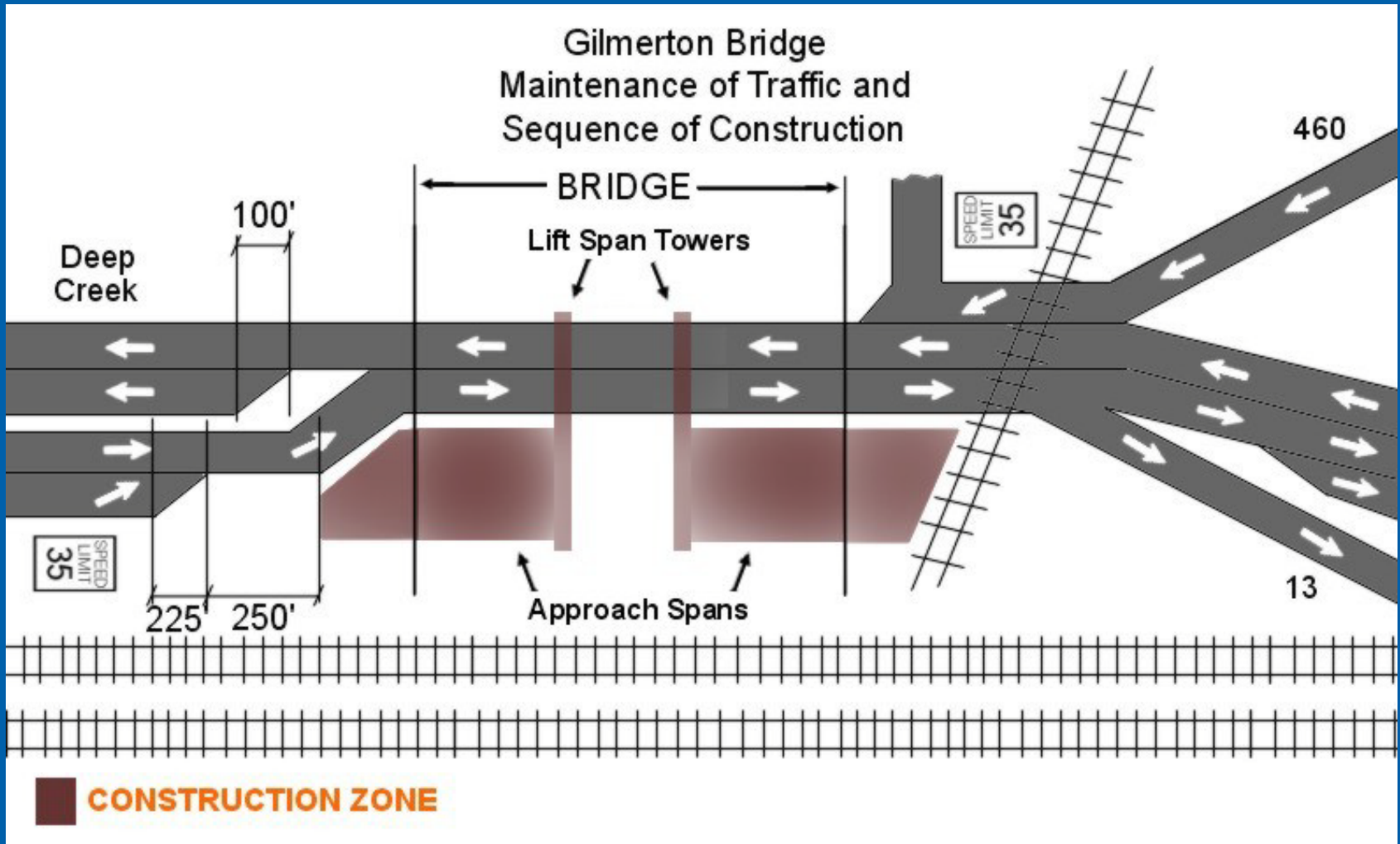
Adam J. Jack, P.E.
Hampton Roads District

December 17, 2008

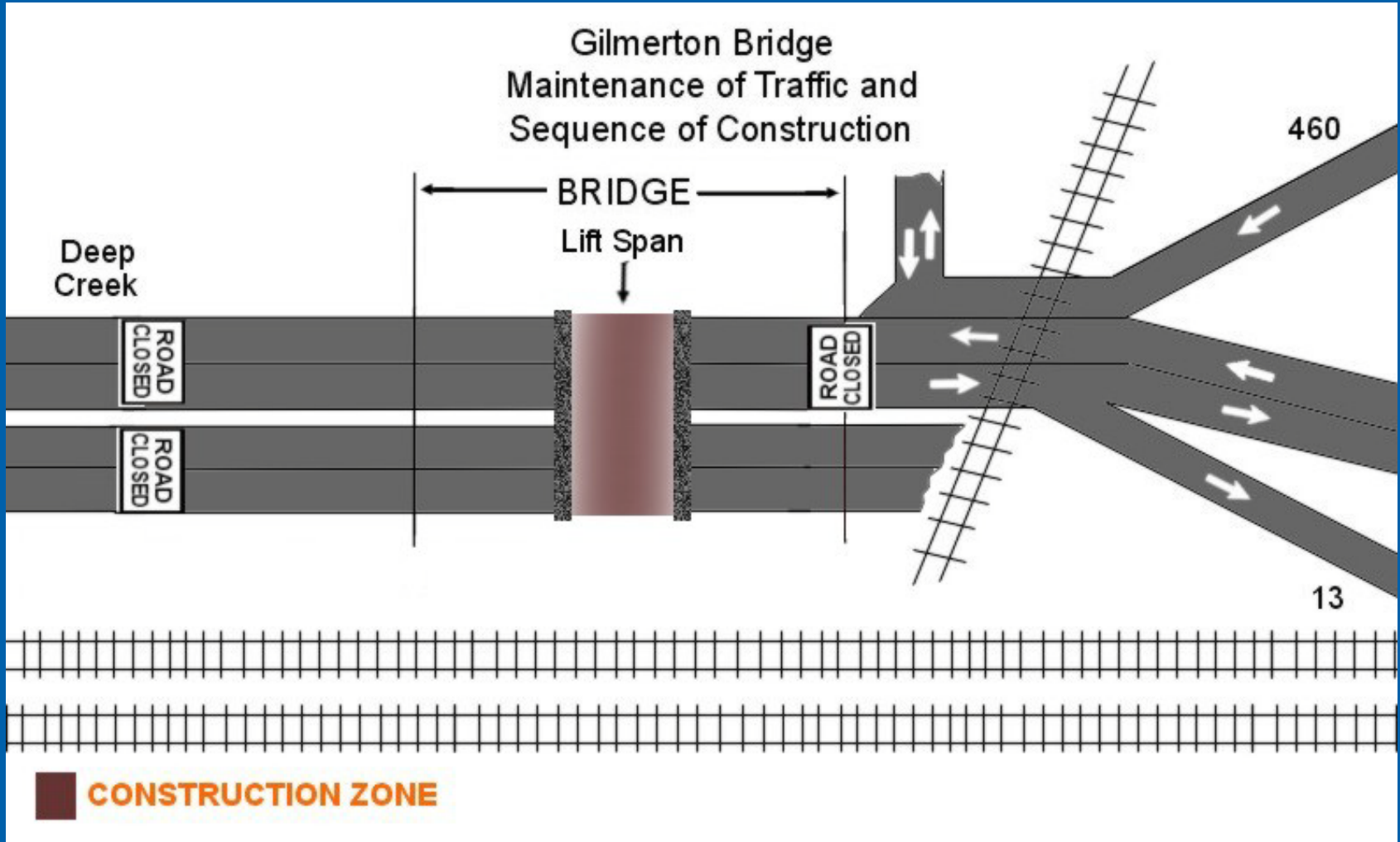
Existing Gilmerton Bridge



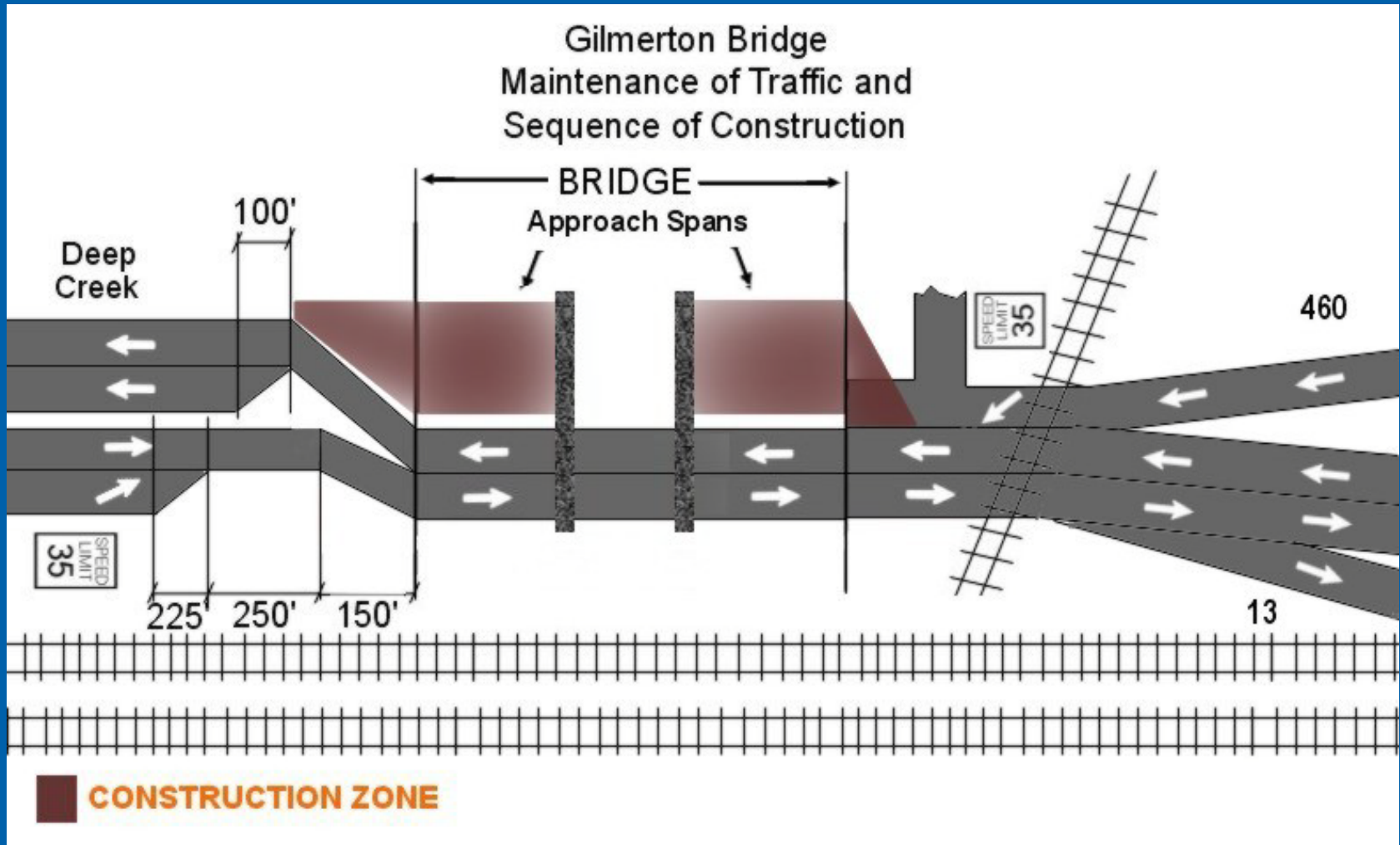
Stage I – 2 Lanes for 24 Months



Stage II – Road Closed For 14 Days



Stage III – 2 Lanes for 11 Months



Overall Project Duration:

Start: July 7, 2009

Finish: June 14, 2013

TOTAL: 47 Months

Traffic is reduced to 2 lanes:

Stage I 24 Months

Stage III 11 Months

TOTAL: 35 Months (75% of Duration)

- Developed by independent external consultant.
 - Maximize use of normal construction personnel and equipment (5-day work week and 1 shift per day)
 - Maintain a minimum of 2 lanes of traffic during construction
 - Provide for adequate material / equipment storage
 - Use marine construction techniques
 - Minimize cost
- Schedule was reviewed, verified, and found acceptable by VDOT and major stakeholders.
- Alternative Schedules Considered:
 - Complete closure of the roadway - save 6-12 months
 - 6-day work week - save 4-8 months

Questions asked at the November 19 MPO meeting:

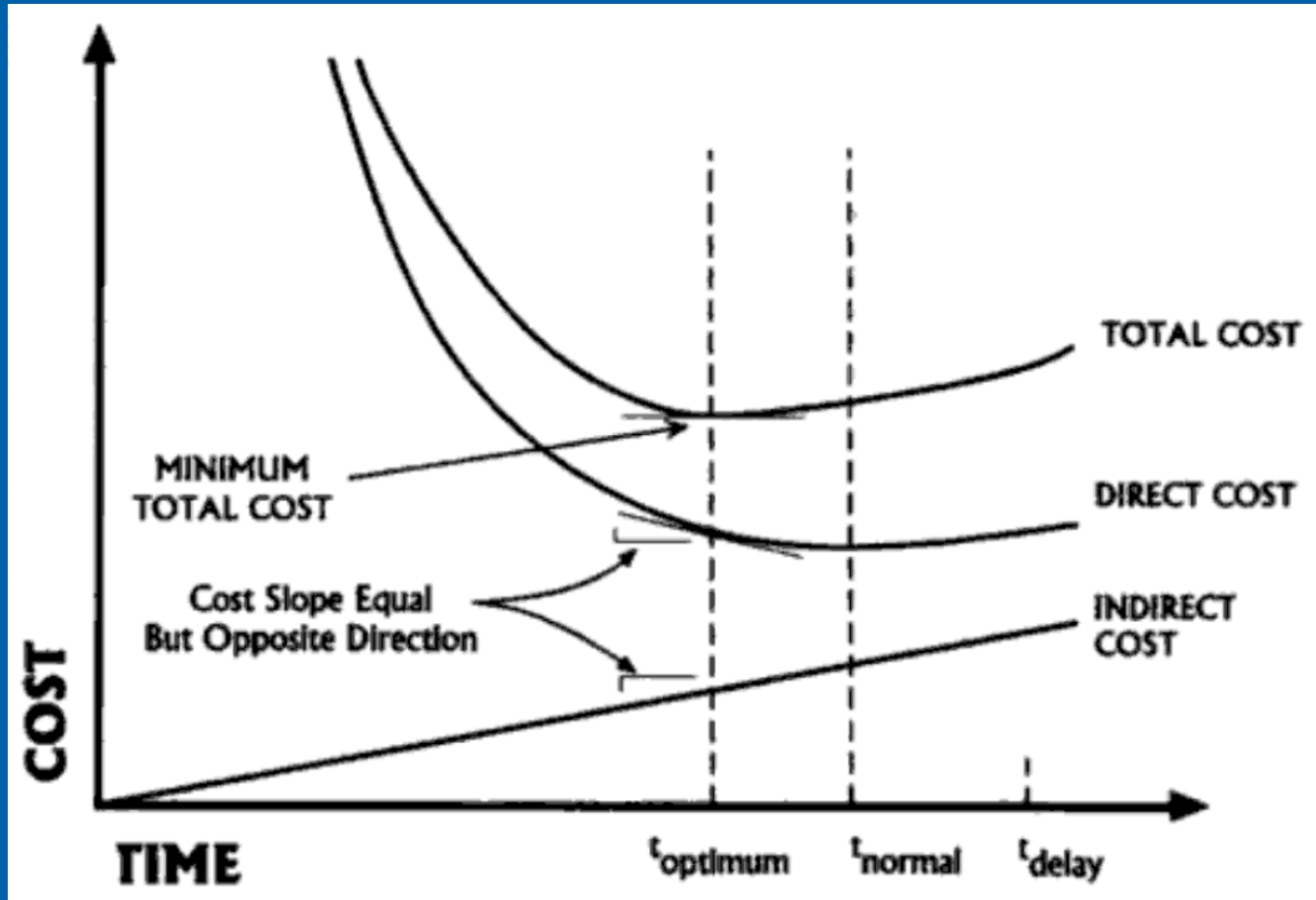
1. Can the construction schedule be reduced to minimize the duration of the 2-lane condition (e.g., working 24 hour days and weekends)?
2. If so, at what cost?

We don't know

yes

- Constants
 - Minimum of 2 lanes of traffic during construction
 - Provide for adequate material / equipment storage
 - Use marine construction techniques
 - February advertisement for \$13 million FHWA Bonus Allocation
 - Limited funding options due to current economic conditions
- Variables
 - Maximize use of normal construction personnel and equipment (5-day work week and 1 shift per day)
 - Agreements between stakeholders
 - Minimize cost

Project Cost vs Schedule:



Source: *How to Get Paid for Construction Changes*; Steven S. Pinnell; McGraw-Hill, 1998.

- Source of Money
- Intense Coordination required
- NEPA Documentation

What has VDOT done to minimize 2-lane duration?

- Contractor incentives/disincentives currently exist in bid package specifications:
 - 14-day closure for float in: **\$56,600/day**
 - Substantial completion (traffic in ultimate configuration - November 2012): **\$24,450/day (up to \$733,500)**
 - Final completion damages (June 2013): **\$14,700/day**
- Contractor will be allowed to present alternate MOT, SOC and/or schedule to VDOT for approval (example: I-64 & Battlefield Blvd)

Questions?

