Horseshoe Project
Dallas, TX

Dallas Horseshoe Project Update
S.A.M.E Infrastructure Forum

December 4th, 2014

Pegasus Link Constructors

Purpose and Need

Commuters / Congestion

Nation's 10 worst commuting trouble spots

Here are the worst commuting "choke points" in the USA, according to the American Automobile Association:

▸ **Boston.** Interstate 93 north and south. Boston's central artery cuts an elevated pass through downtown. It was built in the 1950s to carry 90,000 cars daily, but it now overflows with 190,000 cars each day. The 6-8 hours of stop-and-go traffic each day is expected to stretch to 14-16 hours by 2010.

▸ **Chicago.** Interstate 88 at the Eisenhower Expressway. Traffic from western suburbs comes to a halt as 34,000 cars from I-88 merge with 43,000 cars from the Eisenhower Expressway (Interstate 290) every day. The road goes down to a single lane for 1½ blocks before opening to multiple lanes. What should be a 20-minute trip to the city can take more than an hour.

▸ **Dallas.** Interstate 35 at Interstate 30. Known as the "Mix Master" by local motorists, these two highways merge and struggle to carry more than 200,000 vehicles a day from downtown through the steep hills of "The Canyon."

▸ **Houston.** U.S. 59 at the 610 loop. Only one lane exits on U.S. 59 to the 610 loop, causing delays in all directions at an intersection that handles more than 330,000 vehicles a day. Stop-and-go conditions can occur for five-six hours.

▸ **Los Angeles.** Interstates 5, 10, 60 and 101. About 566,000 vehicles travel through this intersection daily, overwhelming the capacity of these major commuter highways. Motorists changing lanes as they approach create a traffic bottleneck that extends for miles.

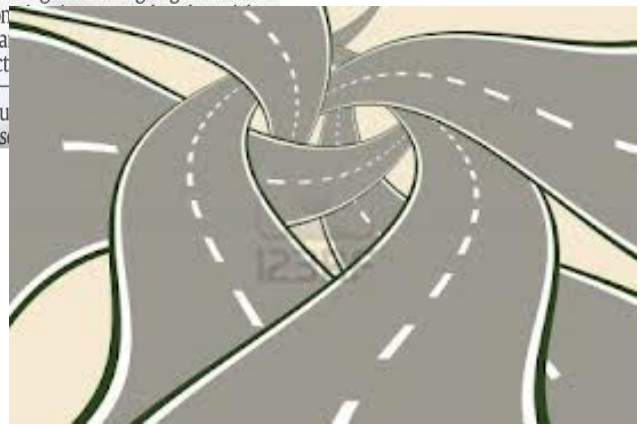
▸ **Minneapolis.** Interstate 35W and the southern portion of the Minnesota Trunk Highway 62. This section has a traffic volume of 169,979 vehicles a day, and delays are estimated at 7.4 million hours per year.

▸ **New Orleans.** Interstates 10 and 610, eastbound. Traffic routinely backs up at this interchange every morning. Although it has recently undergone construction to ease the problem, a bottleneck still occurs at the I-10/I-610 split as New Orleans-bound traffic is squeezed into two lanes before opening up.

▸ **New York City.** Gowanis Expressway. The expressway (Interstate 278) is a major route connecting Brooklyn, Queens, Long Island and Manhattan. The primary congestion point is a 3.8-mile segment between the Brooklyn Battery tunnel and the Belt Parkway that carries 175,000 vehicles a day. Delays can occur for six or more hours.

▸ **Seattle.** Interstate 5 and Interstate 90 interchange. This area has an average daily volume for both directions of 260,000 vehicles, with an average accident rate of 5.6 accidents per 1 million vehicles. However, this section typically operates below capacity for 10 hours per day. There is lots of weaving and merging through the collector-distributor lanes.

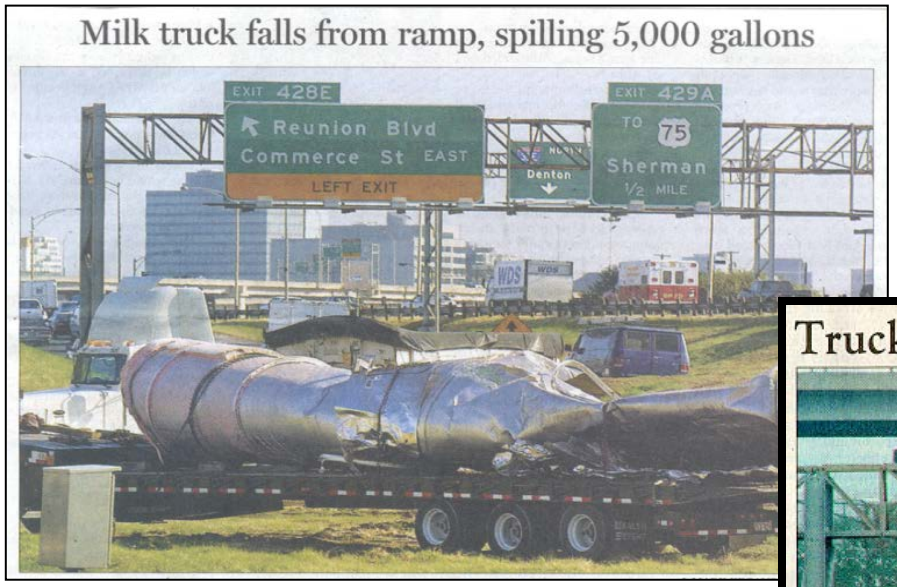
▸ **Washington, D.C., area.** Springfield, Va., Interstates 495, 395 and 95. "The Mixing Bowl" is where the major interstates of the D.C. metro area converge, resulting in a volume of 400,000 vehicles daily and 179 reported crashes during a two-year period. The interchange is undergoing construction

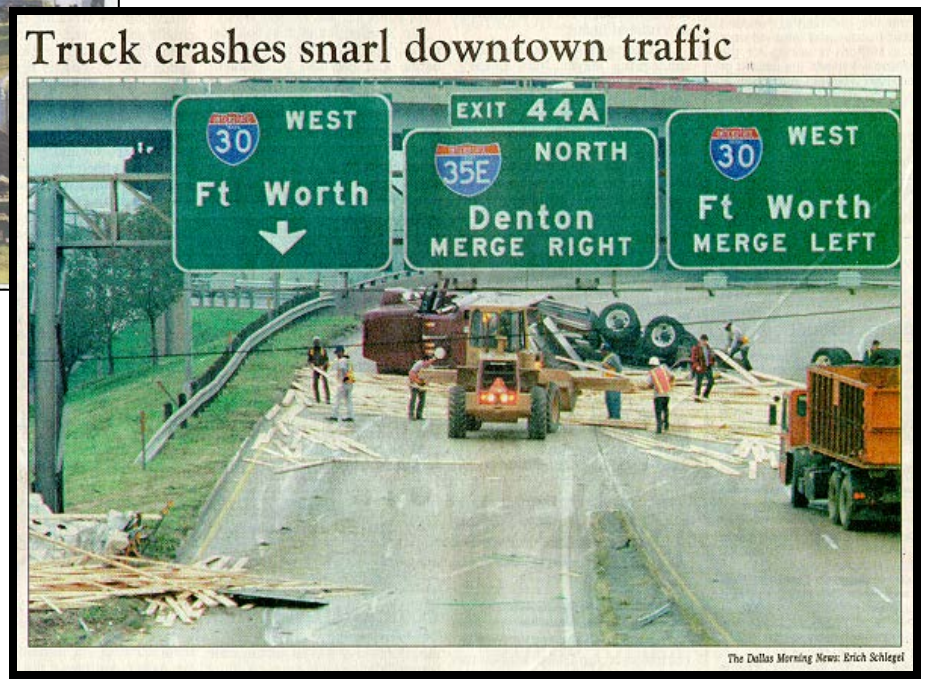


Commuters / Congestion

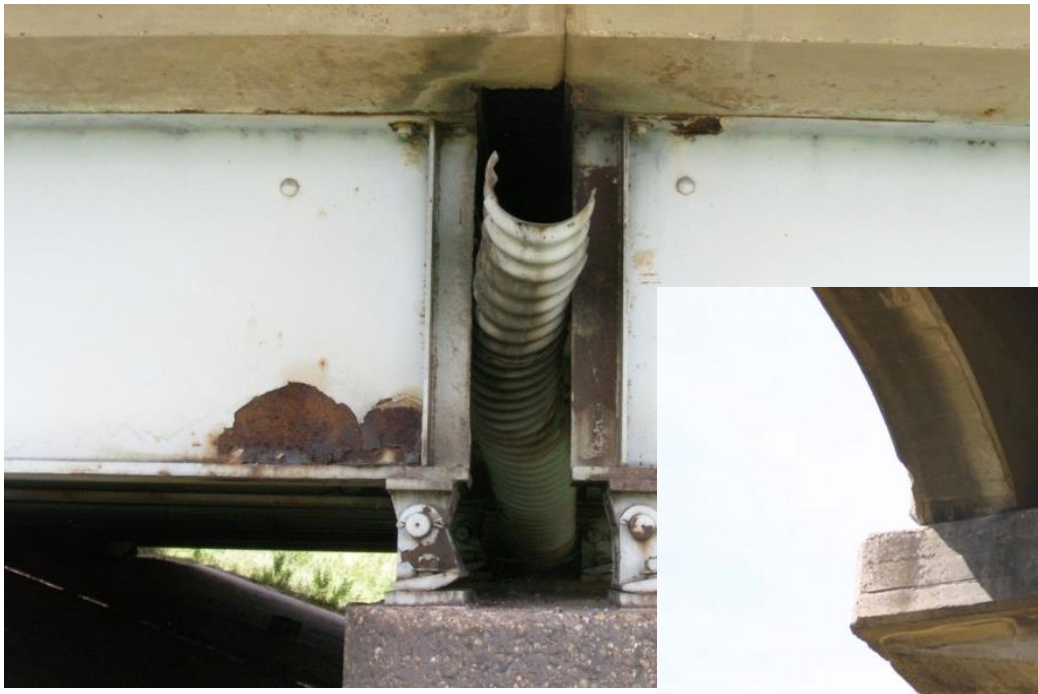
- Approximately 400,000 Vehicles/Day

Traffic Management





Aging System / Deterioration



Accessibility/Mobility Issues

- No Direct Connector from IH30EB to IH35SB
- No Direct Connector from IH35NB to IH30WB
- Left Hand Exit from IH35SB to IH30WB

Horseshoe Project Team

Texas Department of Transportation

Pegasus Link Constructors

FLUOR®

Balfour Beatty

Horseshoe Project - Scope

- $798M Design-Build Contract for TxDOT Dallas District
- Reconstruct IH30/IH35E Intersection in Downtown
- 1st Design-Build Project Managed by Dallas District
- TxDOT Retains Ownership
- Capital Maintenance Option

Horseshoe Project - Scope

Design

Design

- Lead Designer: Parsons Brinkeroff
- Sub Designers:
  - AECOM
  - Aquirre Fields
  - IEA
  - MBITS

Design

- Design Complete in roughly 12 months
- Over 120 design packages
- 3 submittal and Review Periods per package
  (Interim, Final, Released for Construction)
- Success Contributed to
  - Open Communication
  - Timely TxDot Review
  - Weekly “Task Work Group” (TWG) meetings per discipline
  - TWG Made up of TxDot, Designers, PLC Construction Personnel

Utility Relocations

Utility Relocations

- AMEC – Utility Coordinator
  - SUE
  - Coordination and Design
  - Utility Owner Agreements
- 151 Total Relocations – (10 months)
  - 8 Gas
  - 33 Wet Utilities
  - 49 Electrical
  - 61 Telecom

Construction Elements

Bridge Substructure - Drilled Shafts

- 97,723 LF of Drilled Shafts - 18” to 84” in Diameter
  - Over three times the height of Mount Everest
  - Equates to 65,766 CY of drilled shaft concrete.

Bridge Substructure - Columns & Caps

- 913 Columns on the Job
  - 27,697 CY of Column Concrete
- 457 Caps on the Job
  - 35,333 CY of Cap Concrete

Bridge Superstructure - Beams

- 340,032 LF of Precast Concrete Beams
  - 64.4 Miles of Concrete Beams
  - Stretches from West of Fort Worth to East of Dallas

Bridge Superstructure - Decks

- 3,026,059 SF of Bridge Deck
  - Equivalent to the Area of 52.5 Football Fields
- 82,103 CY of Bridge Deck Concrete
  - Equivalent to roughly 16.75 Olympic-Sized Swimming Pools

Earthwork / Roadway

- Embankment – 731,509 CY
- Excavation – 622,009 CY
- Lime Treated Subgrade – 327,439 SY (8,252 TN)
- Cement Treated Base – 334,741 SY (117,159 TN)

Drainage

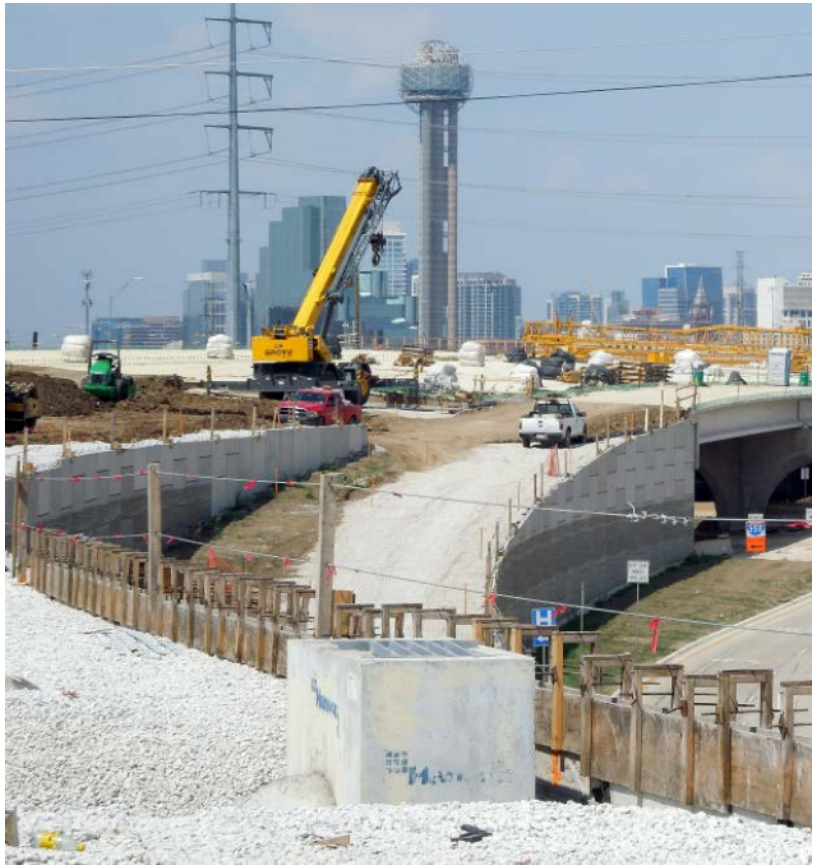
- Pipe – 47,706 LF ranging in size from 24” to 72”
- Box Culverts – 3,949 LF From 9’x5’ to 10’x10’

Concrete Paving

- Continuously Reinforced Concrete Paving (CRCP)
  - 312,740 SY - 48 lane miles of paving
  - 101,210 CY - Fill a football field 47.5 feet high

Retaining Walls

- Mech. Stabilized Earth (MSE) Walls – 320,098 SF



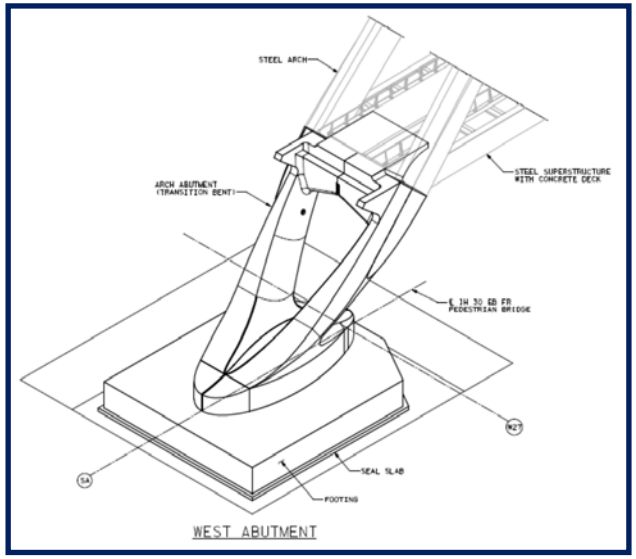
Margaret McDermott (MMD) Bridge

- City of Dallas Signature Pedestrian Bridges
- Designed by Santiago Calatrava & Huitt-Zollars
- Single span of 1,125’ w/Arch Height of 334’
- 31’ Wide Superstructure w/over 21,000’ of Wire Rope

MMD Bridge - Foundation

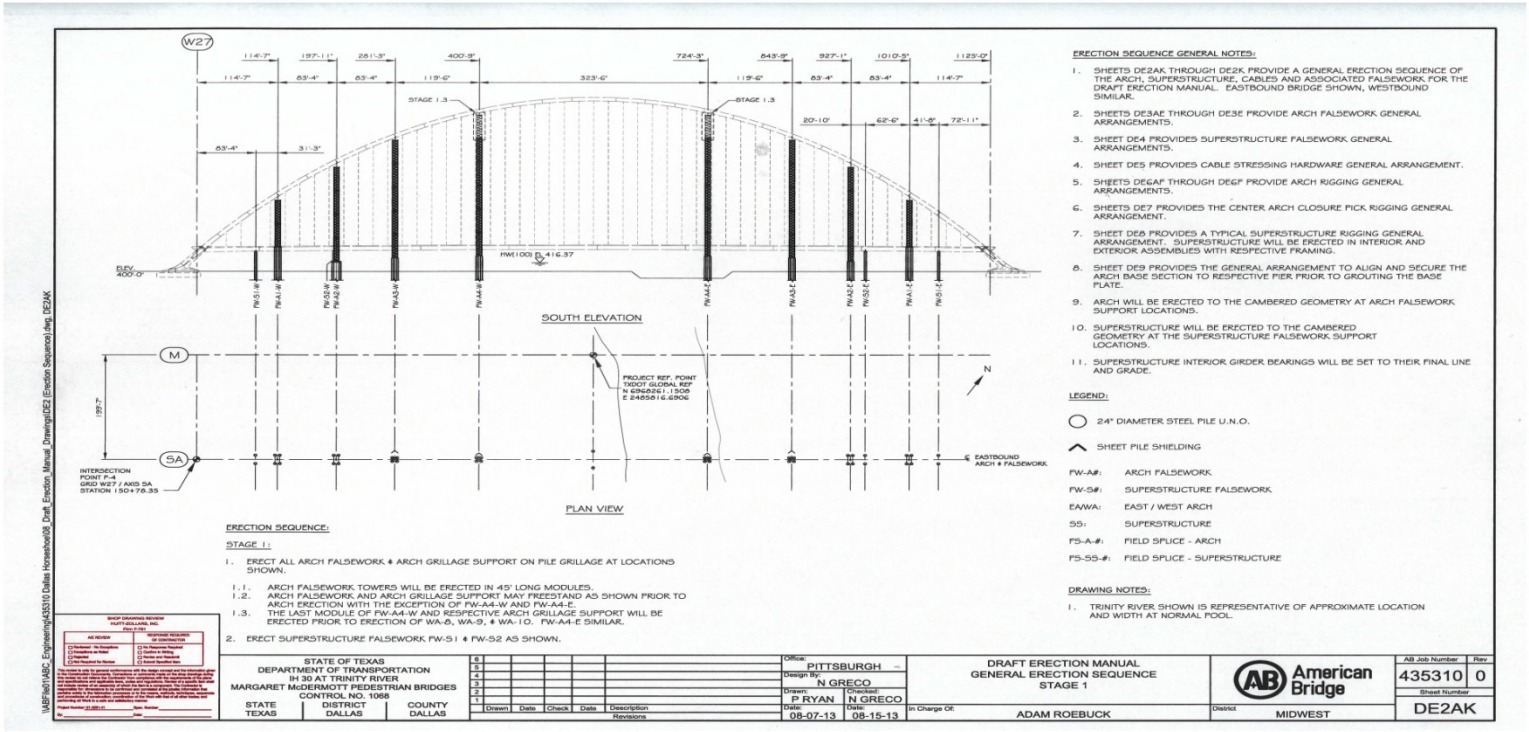
- 4 Footings w/12 Battered Drilled Shafts & 4 Vertical Shafts
- Each Footing has 200,000lbs of Rebar and 900cy of Concrete

MMD Bridge - Pedestal and Cap



- Transition bent is built in three phases with the next phase of forms attached to the previous phase.

MMD Bridge - Arch and Superstructure



Stage 1 – Install shoring pile and towers.

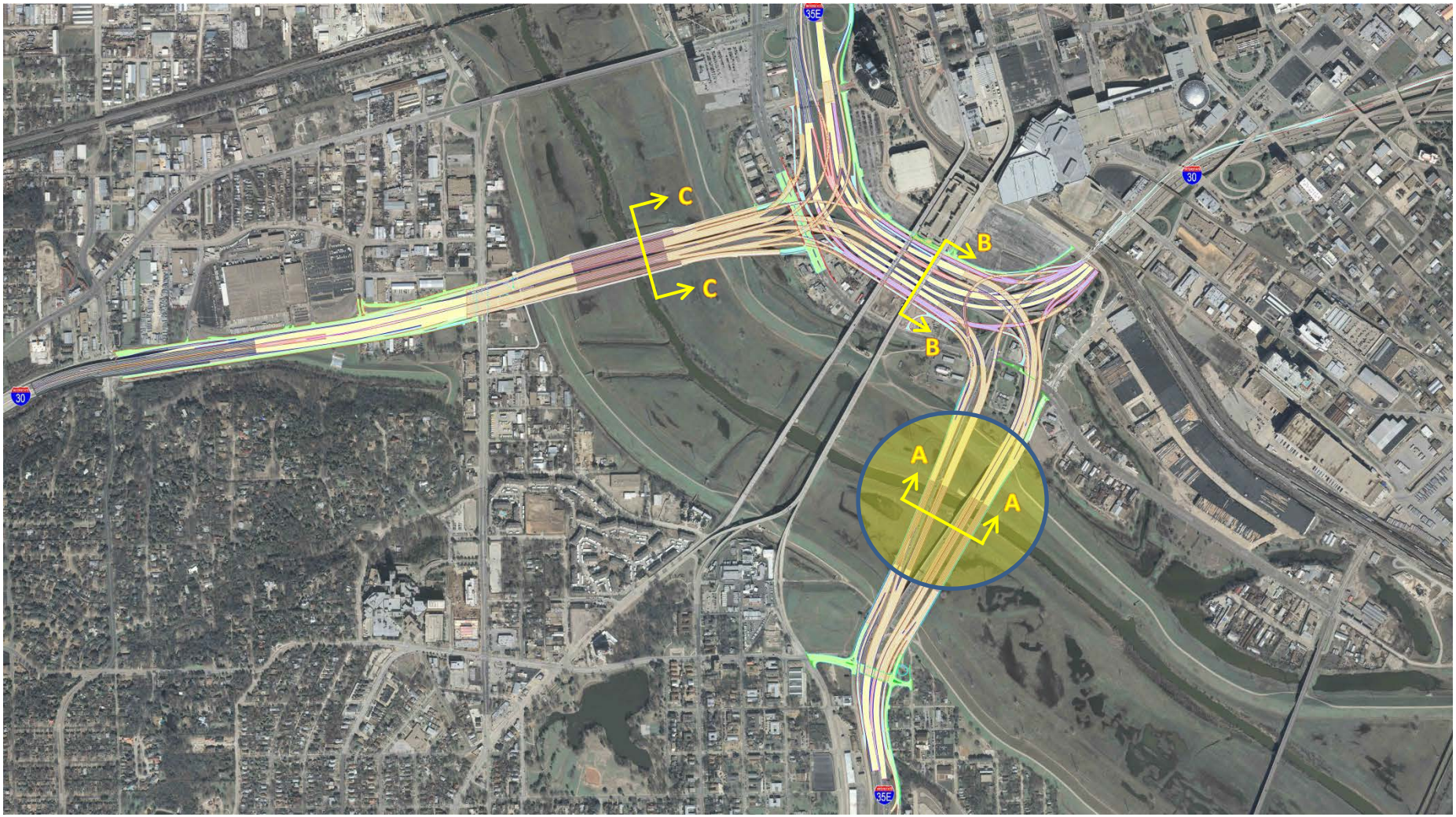
Stage 2 – Install superstructure and arch sections from both ends to center supports

Stage 3 – Install Center arch section with strand Jacks.

Stage 4 – Remove shoring from center to ends.

Stage 5 – Place bridge deck in required sequence.

Proposed Configuration



IH35E Typical Configuration A-A

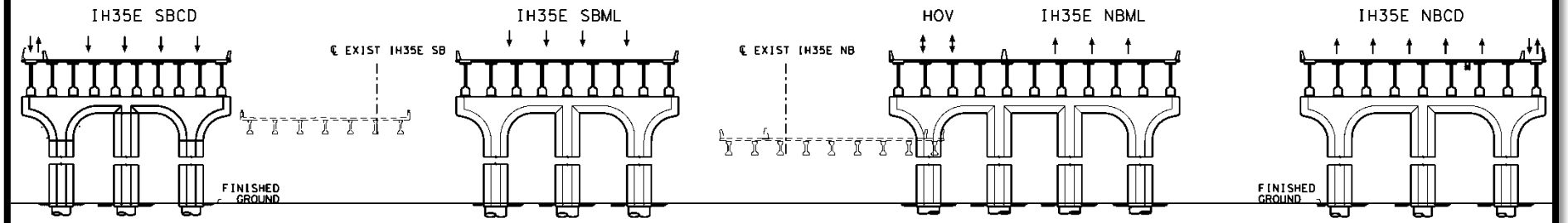
HORSESHOE PROJECT

EXISTING IH35E

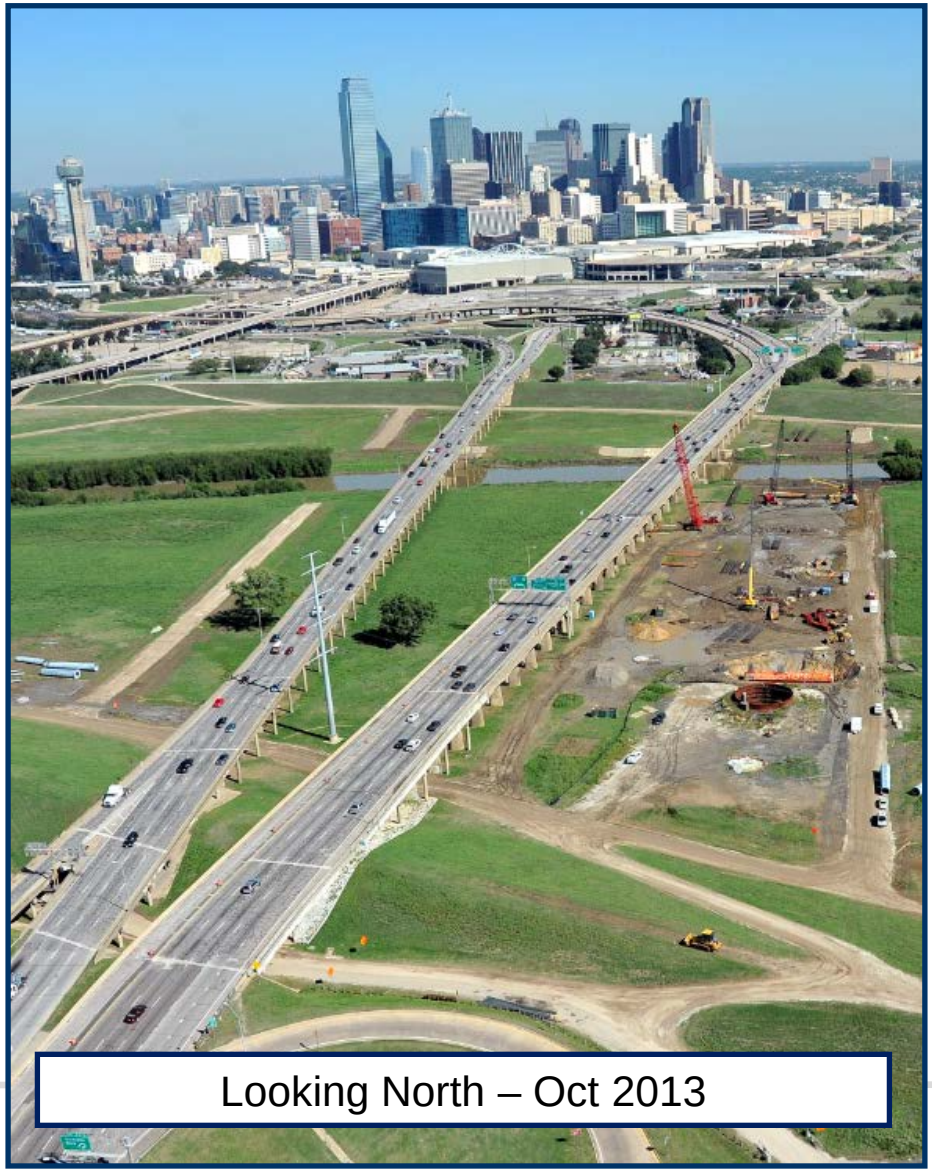
8 – General Purpose lanes
1 – Directional HOV lane

PROPOSED - IH35E AT TRINITY RIVER

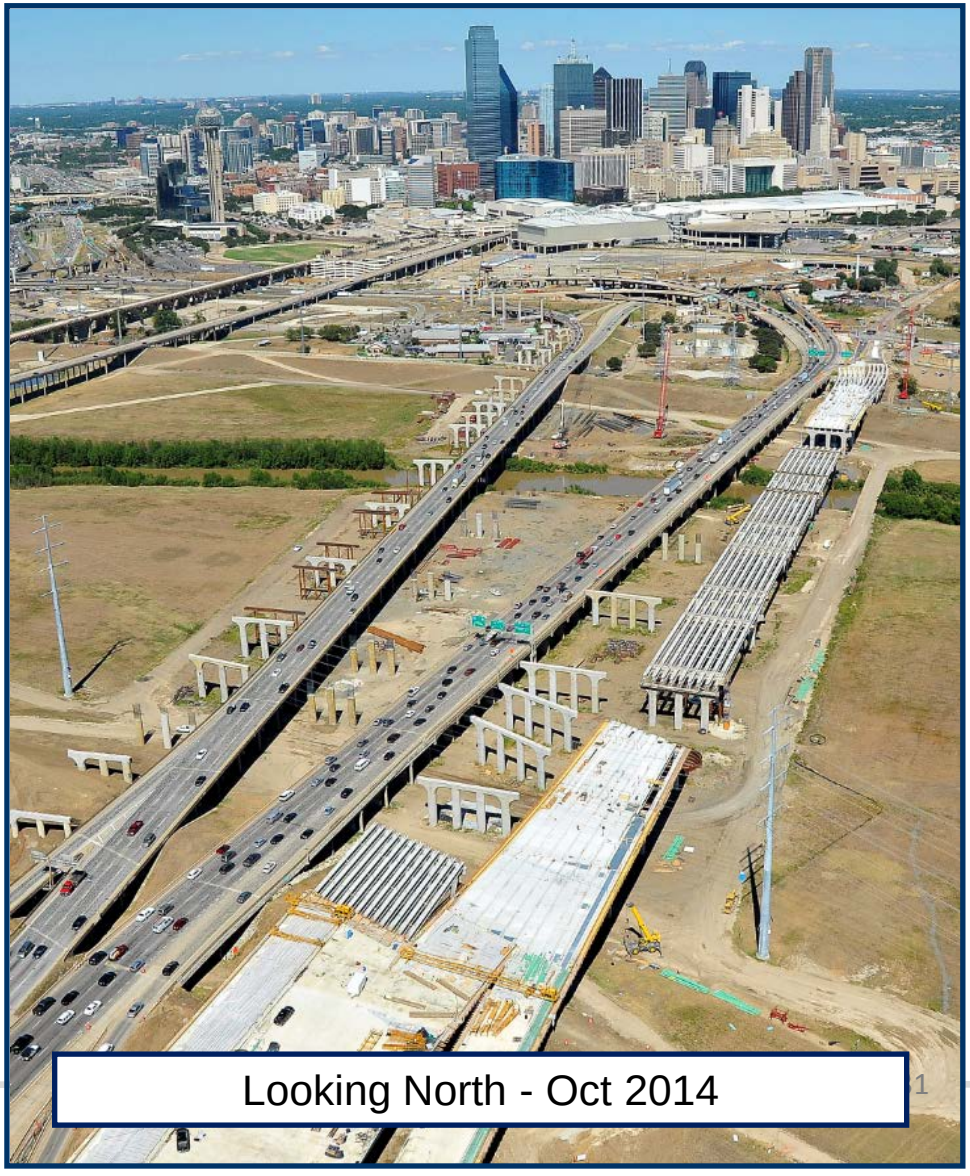
16 – General Purpose lanes
2 – Directional HOV lane
2 – Pedestrian Lanes



Status Photos – IH35 @ Trinity River



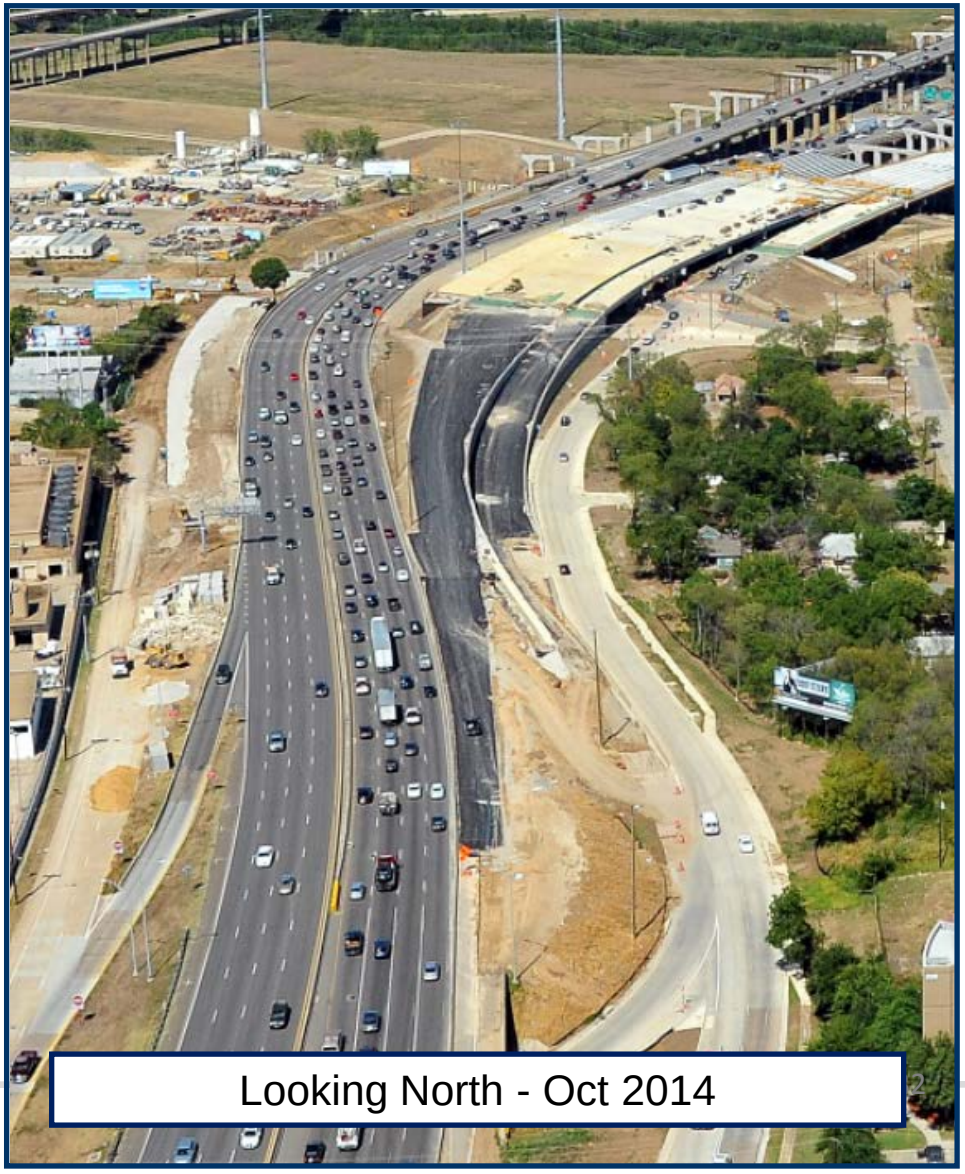
Looking North – Oct 2013



Looking North - Oct 2014

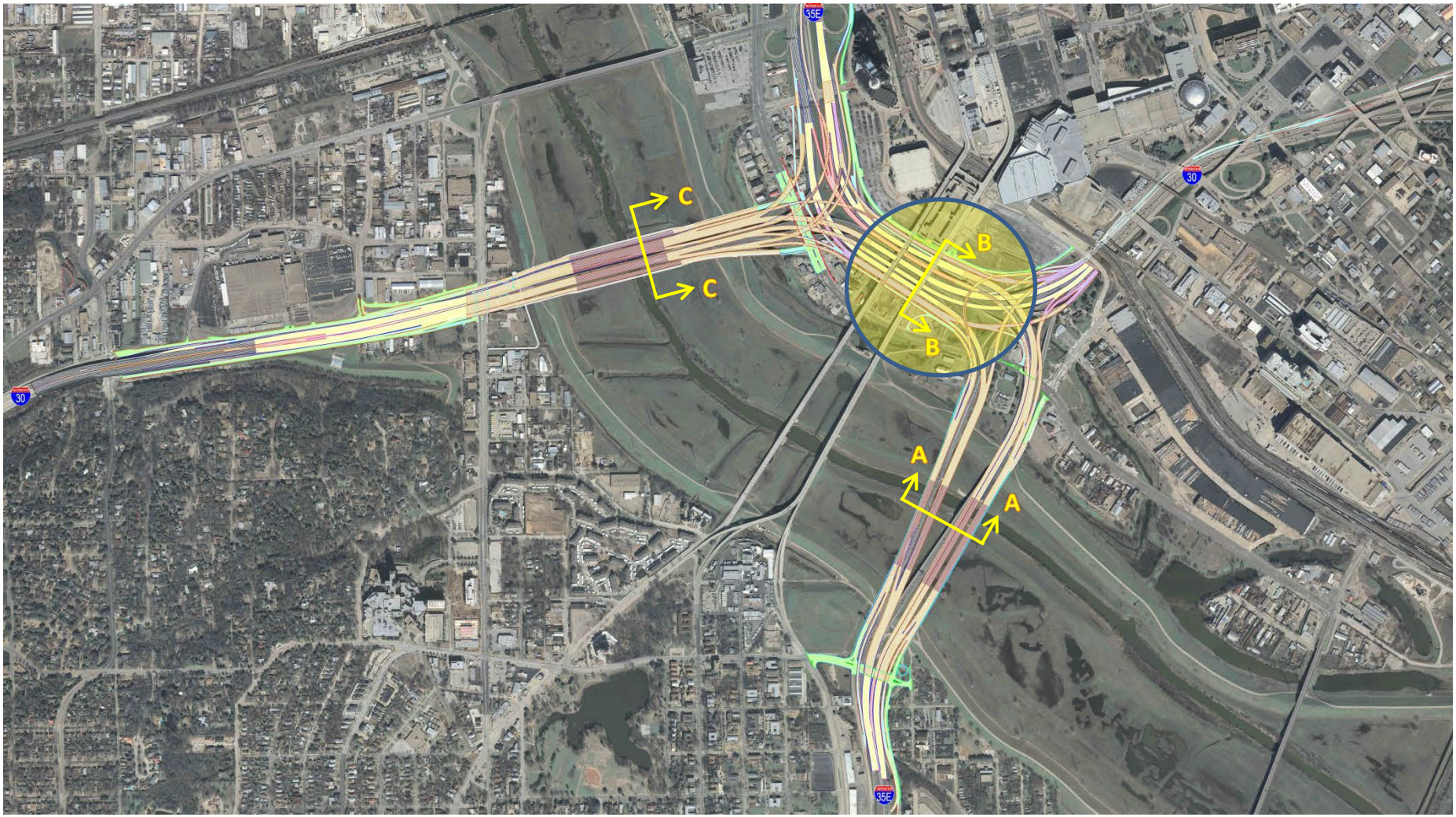
Status Photos – IH35 @ Colorado

Looking North – Oct 2013



Looking North - Oct 2014

Proposed Configuration

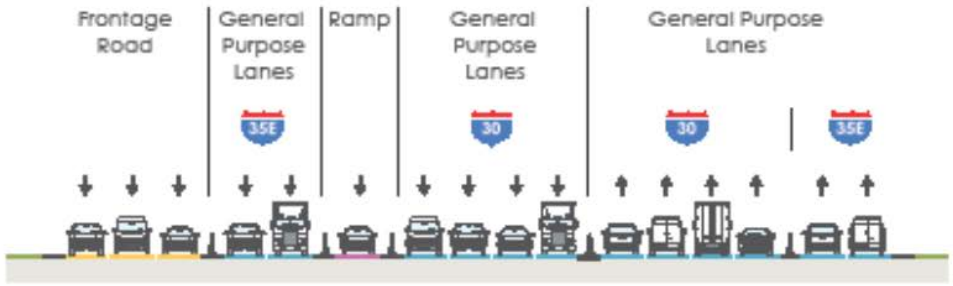


Mixmaster Typical Configuration B-B

HORSESHOE PROJECT

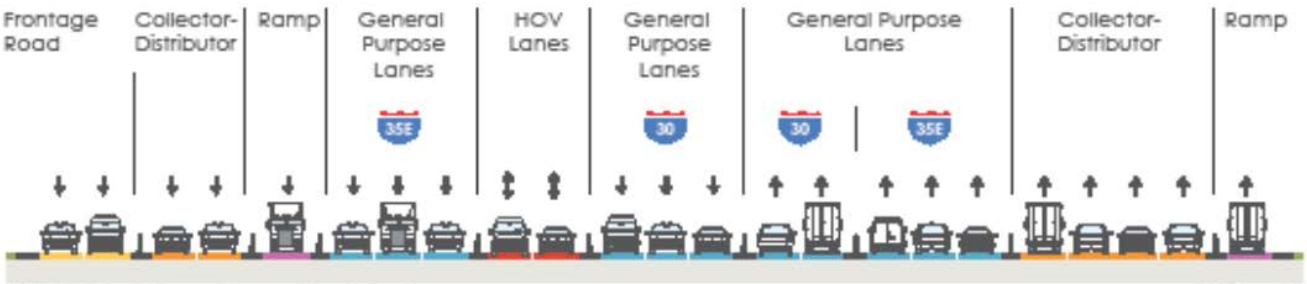
16 –Lanes

EXISTING



23 – Lanes

PROPOSED - EASTBOUND AT JEFFERSON BOULEVARD



NOTE: Illustration depicts example managed lane design only.

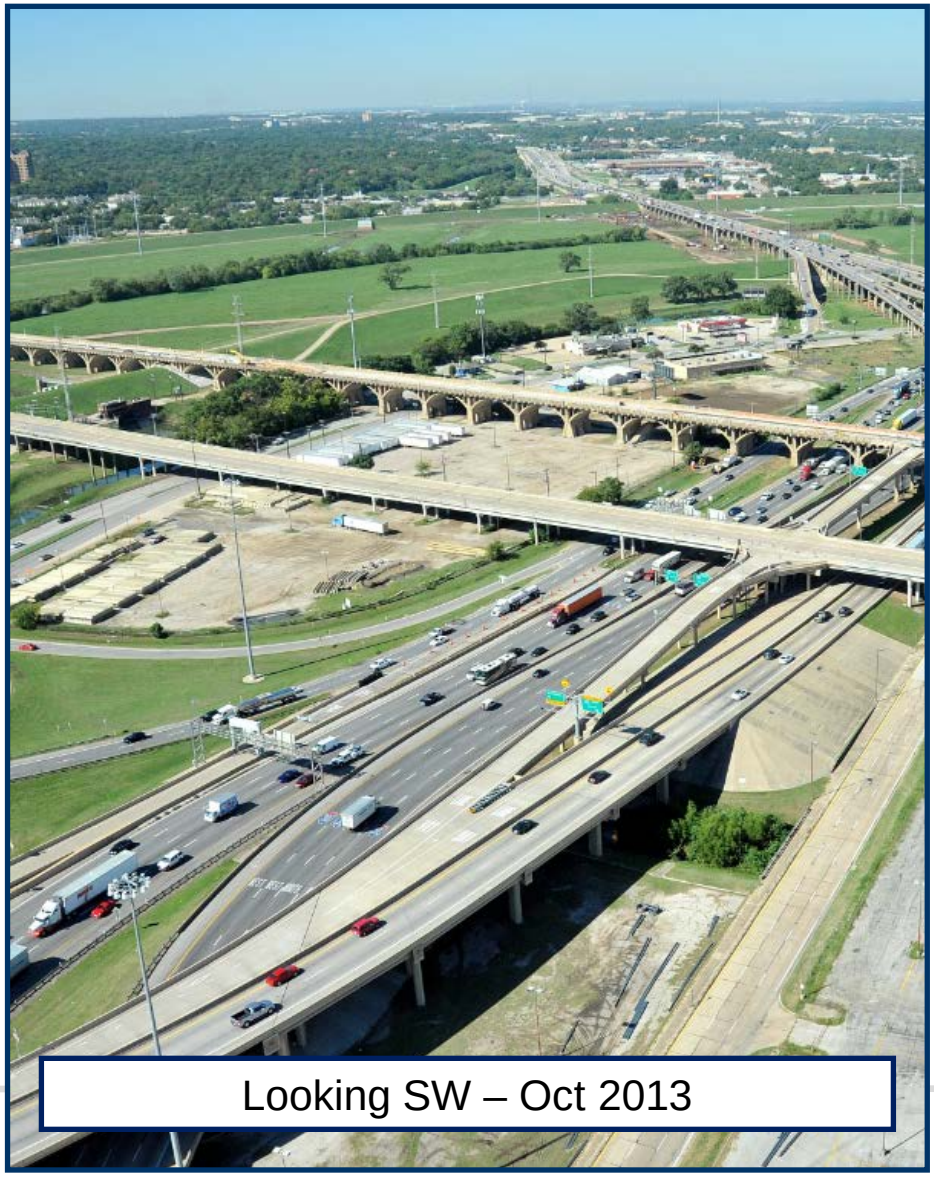
TxDOT graphic

Status Photos – Mix-Master IH30 East End

Looking SW – Conv. Center – Oct 2013

Looking SW – Conv. Center – Oct 2014

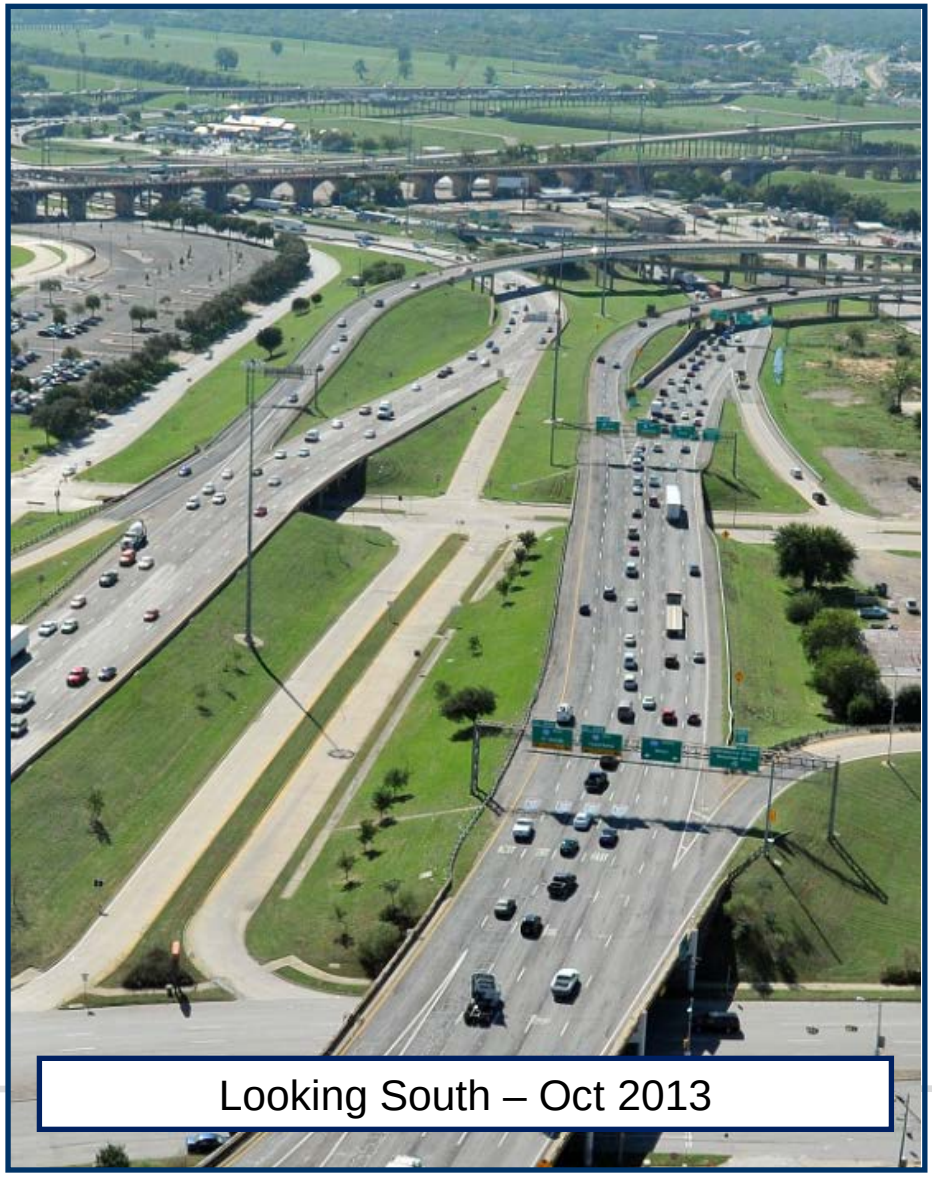
Status Photos – Mix-Master Center



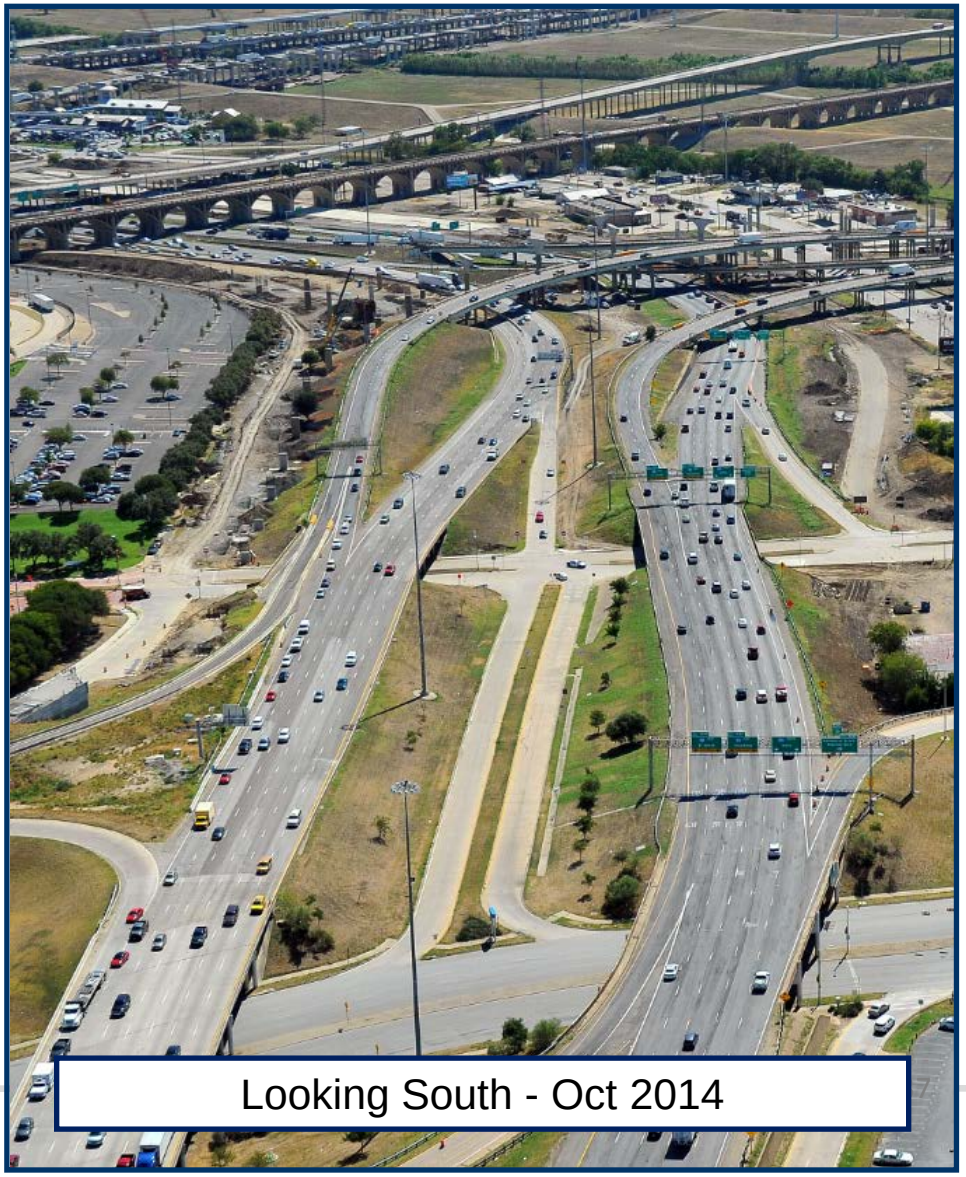
Looking SW – Oct 2013

Looking SW – Oct 2014

Status Photos – Mix-Master IH35 North

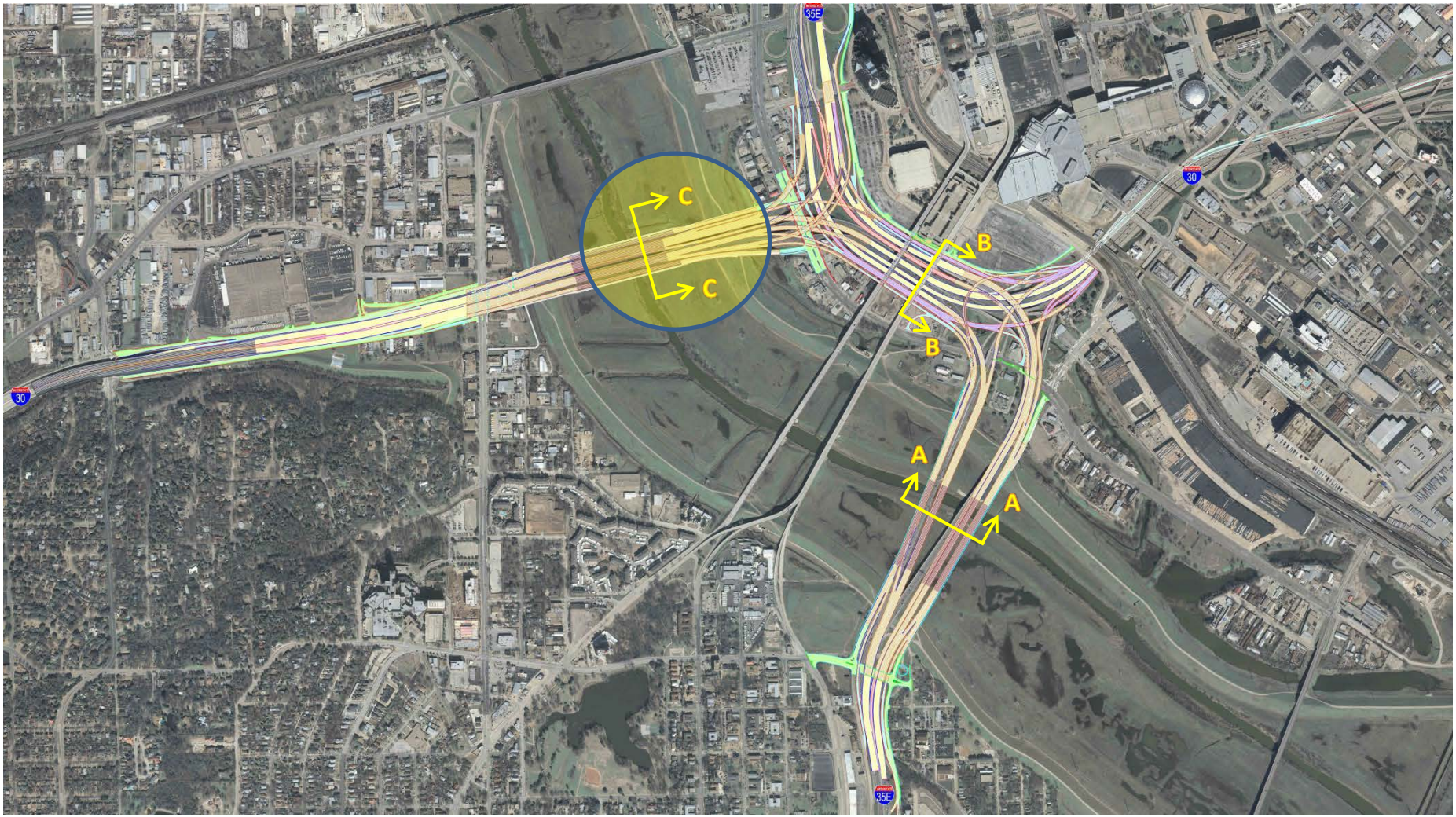


Looking South – Oct 2013



Looking South - Oct 2014

Proposed Configuration

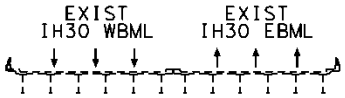


IH30 Typical Configuration C-C

HORSESHOE PROJECT

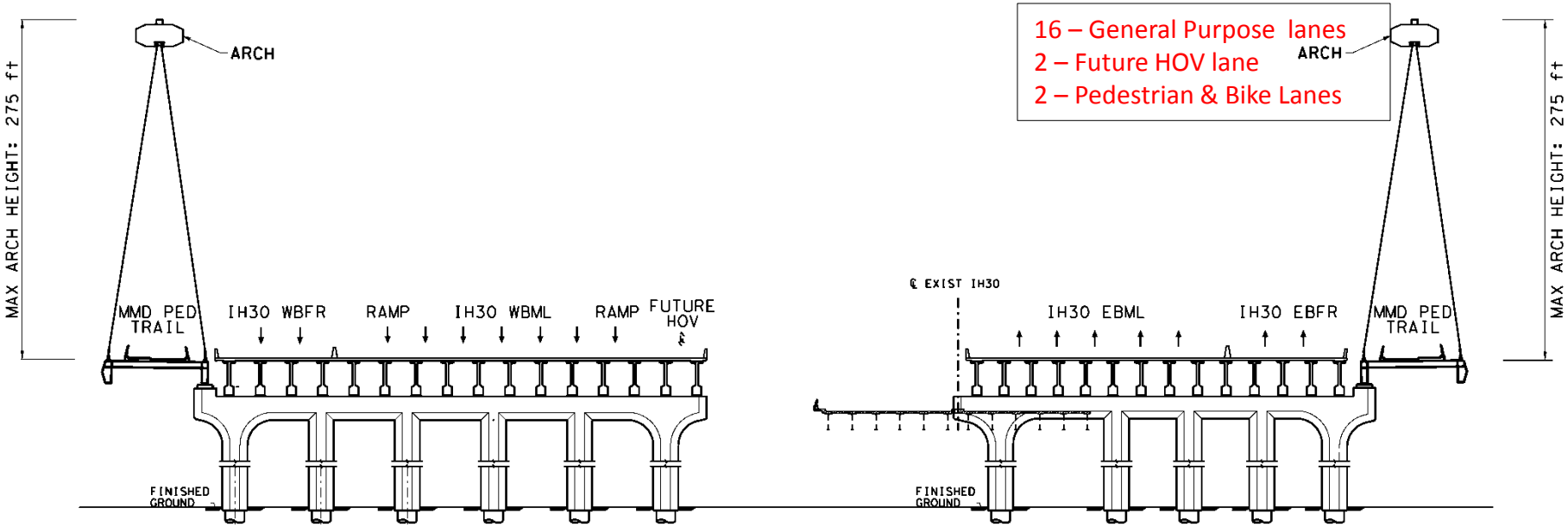
EXISTING IH30

6 – General Purpose lanes



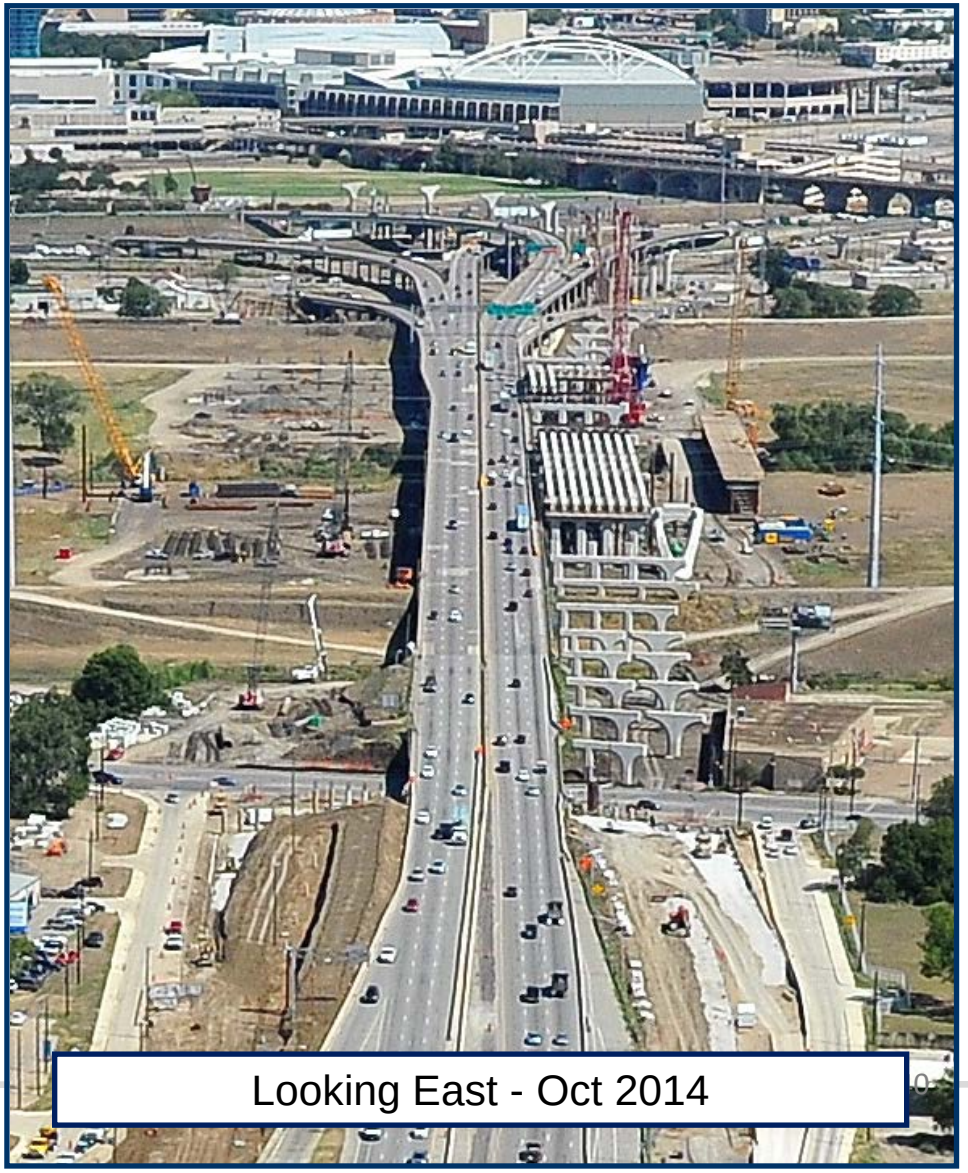
PROPOSED - IH30 AT TRINITY RIVER

16 – General Purpose lanes
2 – Future HOV lane
2 – Pedestrian & Bike Lanes



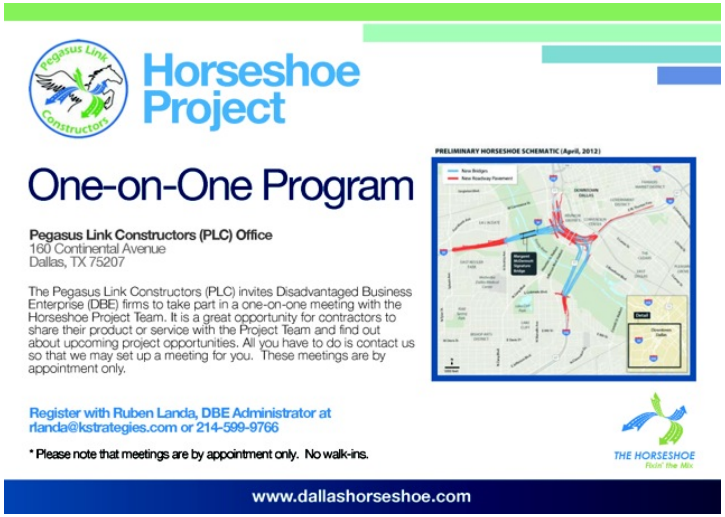
Status Photos – IH30 @ Trinity River

Looking East – Oct 2013



Looking East - Oct 2014

Horseshoe – DBE / Local Participation



Horseshoe Project

One-on-One Program

Pegasus Link Constructors (PLC) Office
160 Continental Avenue
Dallas, TX 75207

The Pegasus Link Constructors (PLC) invites Disadvantaged Business Enterprise (DBE) firms to take part in a one-on-one meeting with the Horseshoe Project Team. It is a great opportunity for contractors to share their product or service with the Project Team and find out about upcoming project opportunities. All you have to do is contact us so that we may set up a meeting for you. These meetings are by appointment only.

PRELIMINARY HORSESHOE SCHEMATIC (April, 2012)

Register with Ruben Landa, DBE Administrator at rlanda@kstrategies.com or 214-599-9766

* Please note that meetings are by appointment only. No walk-ins.

THE HORSESHOE Fixin' the Mix

www.dallashorseshoe.com

Career Fair

PLC Heavy Highway Training Progam

Kick-Off Meeting and Luncheon

Pegasus Link Constructors (PLC) invites you to the PLC Heavy Highway Training Program Kick-Off Meeting and Luncheon. Learn first-hand about the valuable capacity building workshops that will be available to emerging DBE firms, including:

- How To Do Business on Heavy Highway Projects
- Disadvantaged Business Enterprise (DBE) Programs
- Peer Partnerships: Joint Ventures, Strategic Partnerships & Teaming
- Marketing & Business Development
- Safety & Security
- Effective Project & Construction Management
- Financial & Capital Management
- Effective Business Accounting & Business Management

Kick-Off Meeting & Luncheon

Date
Thursday, December 5, 2013
11 a.m to 1p.m.

Location
Eddie Deen's - Edison's
1724 Cockrell Street
Dallas, Texas 75215

These topics are key to helping DBE Firms grow in their size and capabilities.
Do not miss this very important kick-off event.

RSVP to:
Ruben - rlanda@kstrategies.com
Jocelyn - jrollerson@kstrategies.com

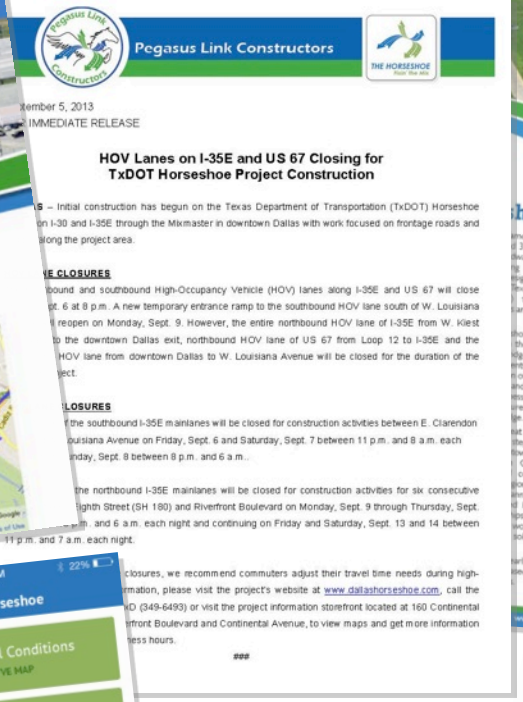
For more information please contact:
Ruben Landa, DBE Administrator
Pegasus Link Constructors
214.599.9766 (office)
rlanda@kstrategies.com

THE HORSESHOE Fixin' the Mix

www.dallashorseshoe.com

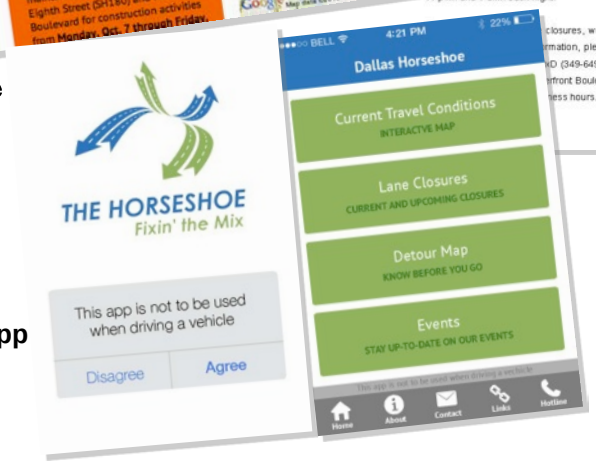
Horseshoe – Public Information

Project Website



Press Releases, English and Spanish Media

English and Spanish Newsletters



Mobile App

Horseshoe – Public Information

www.dallashorseshoe.com

214-Fix-MixD (214-349-6493)

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info@dallashorseshoe.com

Download the “Dallas Horseshoe” Mobile App

- Questions?