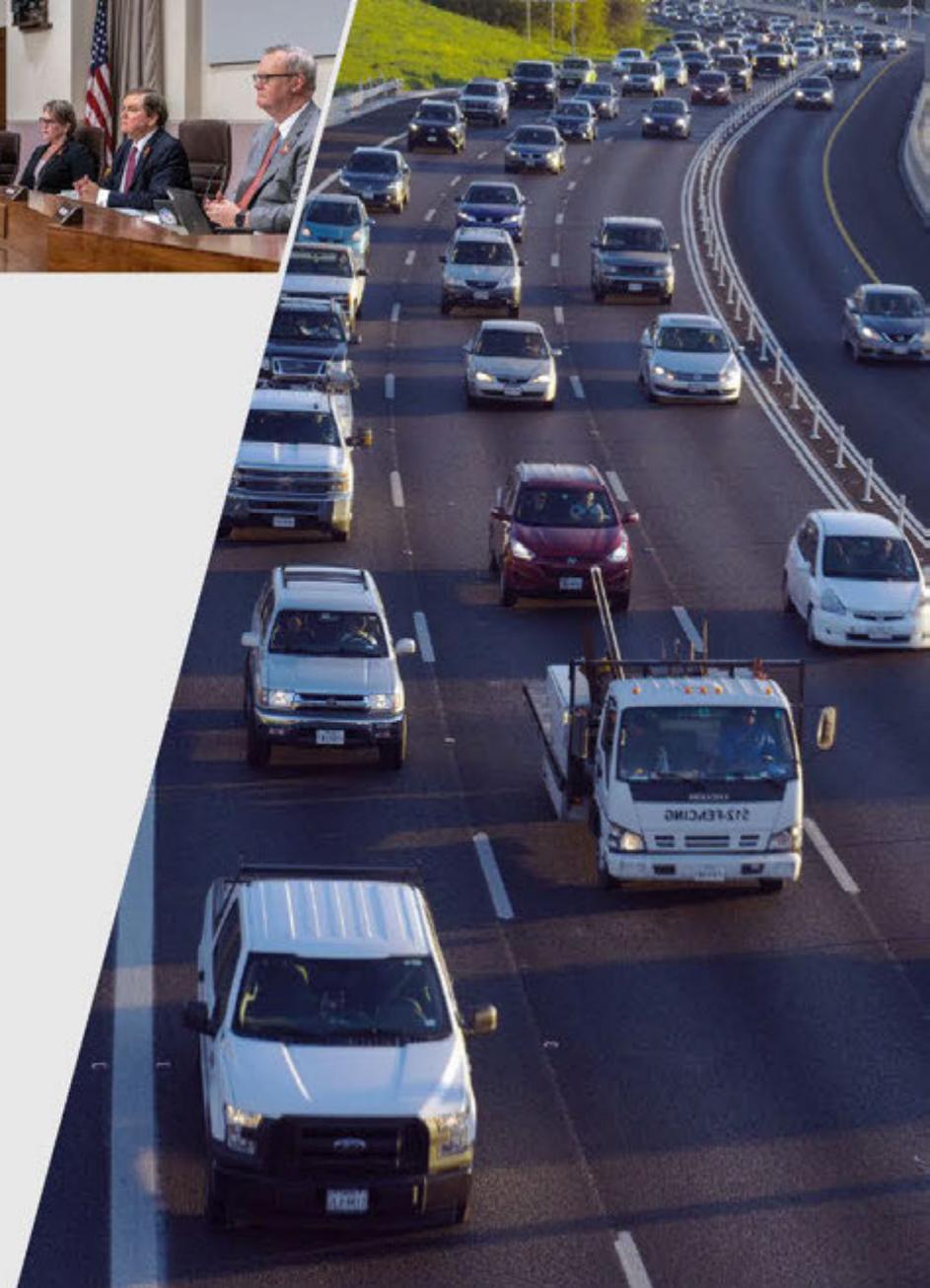




I-610 WEST LOOP AT I-69 SOUTHWEST INTERCHANGE RECONSTRUCTION



Construction Project Overview

- I-610 West Loop is ranked #1 on Top 100 Most Congested Roadway Segments in Texas
- I-69 is ranked #5 on Top 100 Most Congested Roadway Segments in Texas
- Project Scope:
 - Reconstruct I-610 West Loop main lanes
 - Reconstruct all 8 Direct Connectors between I-69 and I-610 West Loop
 - Add new detention ponds and pump stations
- Project Cost: \$259 million, \$87.5 million is Texas Clear Lanes Funding
- Length of Project: 10.862 Miles (Roadway = 6.165 Mi.; Bridge = 4.697 Mi.)
- Construction Start: Early 2018
- Construction Completion: Fall 2024
- Seven-day work week
- 24 Milestones
- Phased lane closures
- Smart Work Zones
- Nighttime and weekend freeway closures



Needs and Purpose

Project Need:

- Safety: Minimal shoulder width, low vertical clearances, minimum sight distances, and short merging distances
- One-lane direct connectors are over capacity
- Projected growth/increasing demand would degrade interchange operations

Project Purpose:

- Upgrade to current design standards to improve safety:
 - add shoulders, increase vertical clearances and sight distances, and improve weaving conditions
- Reconstruct one-lane connectors to two lane connectors
- Improve travel time reliability
- Add 6 detention ponds and 3 pump station to improve drainage



Project Details

Eliminate Bottlenecks:

- Shifted exit gores upstream to separate movements and reduce weaving
 - I-610 NB to I-69 SB DC (Connector B) – Moved approx. 1300 ft upstream
 - I-610 SB to I-69 NB DC (Connector A) – Moved approx. 950 ft upstream
 - I-69 SB Chimney Rock Exit – Moved approx. 4300 ft upstream (prior to DC merge)
 - Another separate exit from I-610 NB to I-69 SB DC to Chimney Rock, further reducing weaving

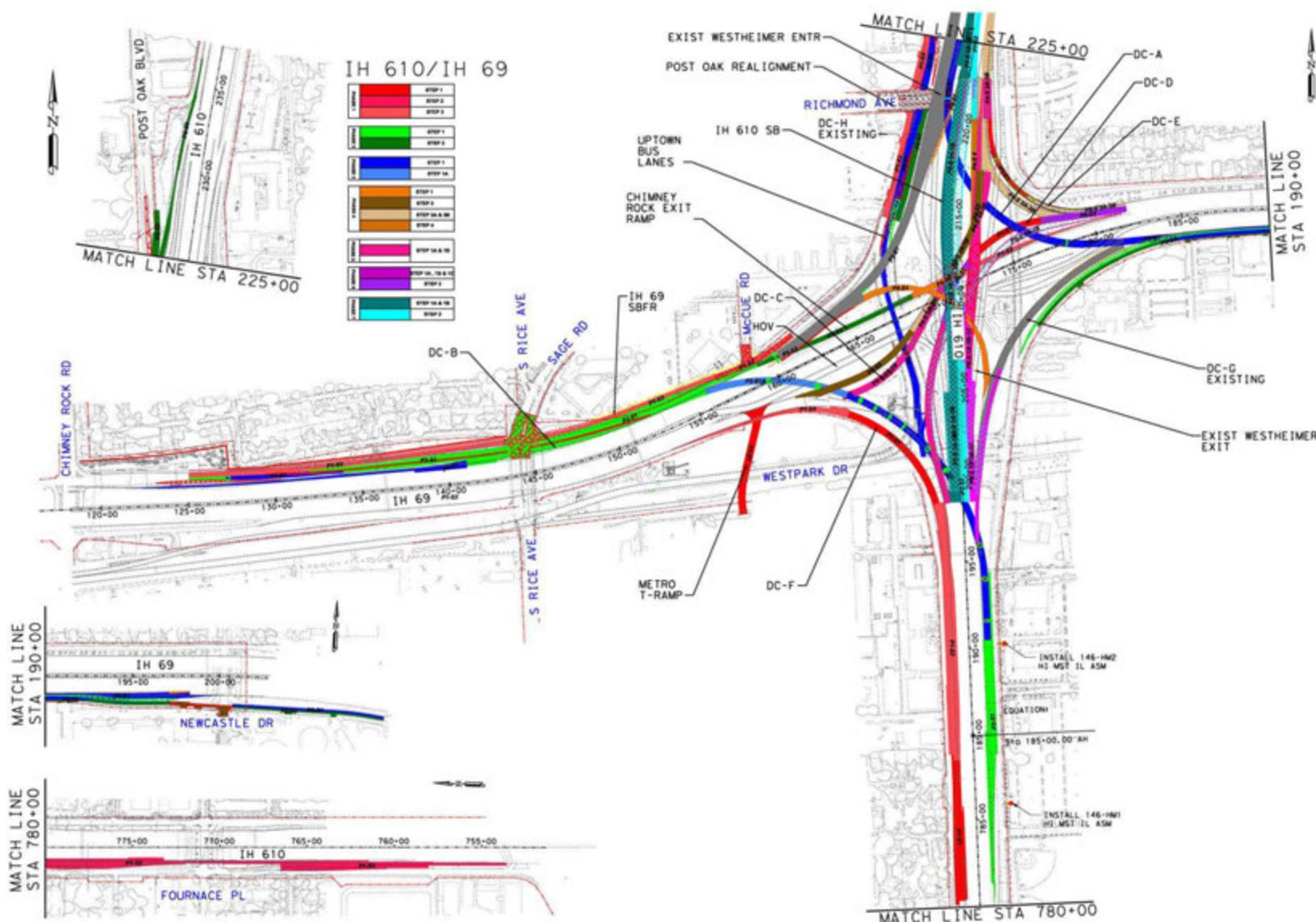
Increase Capacity:

- Increasing from 1-lane to 2-lanes on 4 direct connector ramps
 - Connectors B, F, G, and H
- Widen approaches to direct connector ramps

Upgrade to Current Design Standards

- Combined shoulder width (left + right shoulder) increased
 - 4 direct connector ramps increased from 6-8 feet to 12 feet
 - All direct connector ramps have at least 12 feet of combined shoulder width
 - I-610 main lanes (NB and SB) over I-69 increased from 6 feet to 22 feet

Overall Project Schematic



Phase 7

Construction:

Fall 2022 – Fall 2024:

- Open I-610 NB & SB Main Lanes & SB Westheimer Bridges
- Construct I-610 NB & SB Main Lanes median bridges
- Construct Connector G (I-610 NB to I-69 NB)
- Demolish temporary I-610 widened bridges
- Open 2nd lane on Connectors C (I-69 NB to I-610 NB) & H (I-610 SB to I-69 SB)
- Detention Ponds & Pump Sta. 5

Phase 7

Construction:

Fall 2024:

- Final Stripe all roadways & bridges
- Overhead & Small Signs
- Punchlist Items
- Project Completion
- Project Close Out

* Process and timeline subject to change

Completed Work



METRO T-Ramp to I-69 HOV – March 2020



METRO Dedicated Bus Lane – March 2020

Completed Work



Connector F (I-69 NB to I-610 SB) – April 2020

- 1 lane to 2 lanes
- Maintained shoulders



I-69 SB Entrance Ramp from Westheimer Rd – November 2020



Connector A (I-610 SB to I-69 NB) – November 2020

- Added shoulders
- Existing 14'-6" vertical clearance under I-610 to bridge above I-610

Completed Work



I-69 SB Exit Ramp to Chimney Rock Rd – January 2021

- Exit ramp relocated east to improve weaving



Connector H (I-610 SB to I-69 SB) – August 2021

- 1 lane to 2 lanes
- Added shoulders

Completed Work



Connector B (I-610 NB to I-69 SB) – March 2021

- 1 lane to 2 lanes
- Added shoulders
- Longest connector constructed (3857' and 28 bents)



I-610 SB Entrance Ramp at Fournace PI – May 2021

- Enhanced merger with I-610 SBML

Completed Work



Connector E (I-69 SB to I-610 NB) – August 2021

- Improved sight distance
- Added shoulders

Connector C (I-69 NB to I-610 NB) – October 2021 & March 2024

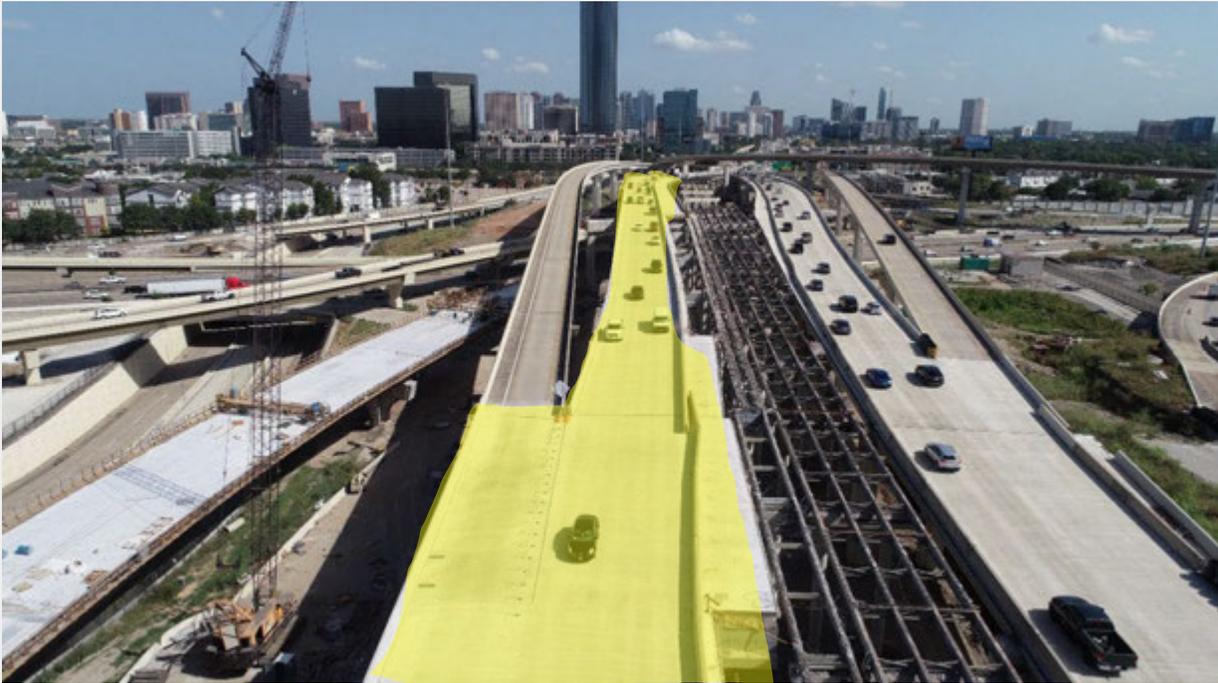
- Added shoulders
- Increased vertical clearance from 14'-4" to 23'-4"

Completed Work



I-610 NB Bridge – August 2022

- Added Shoulders



I-610 SB Bridge – July 2023

- Added Shoulders

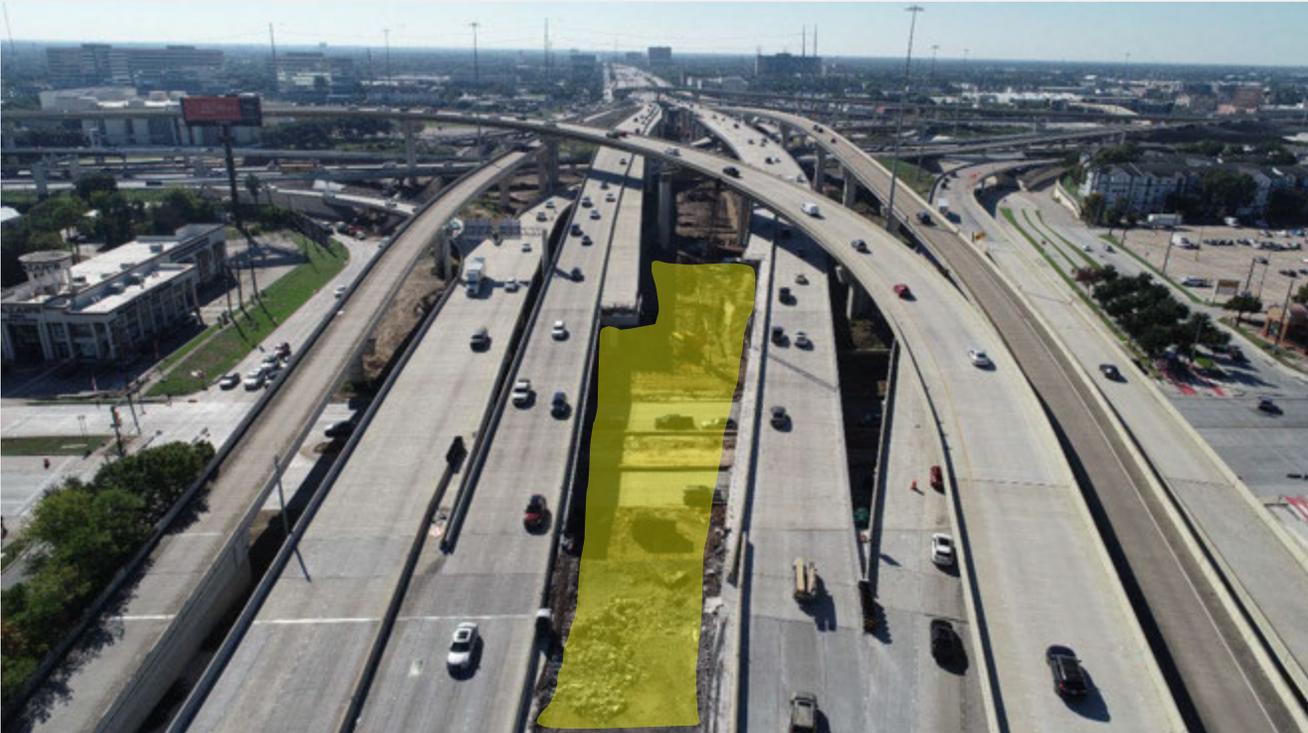
Completed Work



Connector D (I-69 SB to I-610 SB) – October 2023

- Increased vertical clearance from 14'-0" to 18'-10"

Pending Work



I-610 NB & SB Median Bridges – Fall 2024

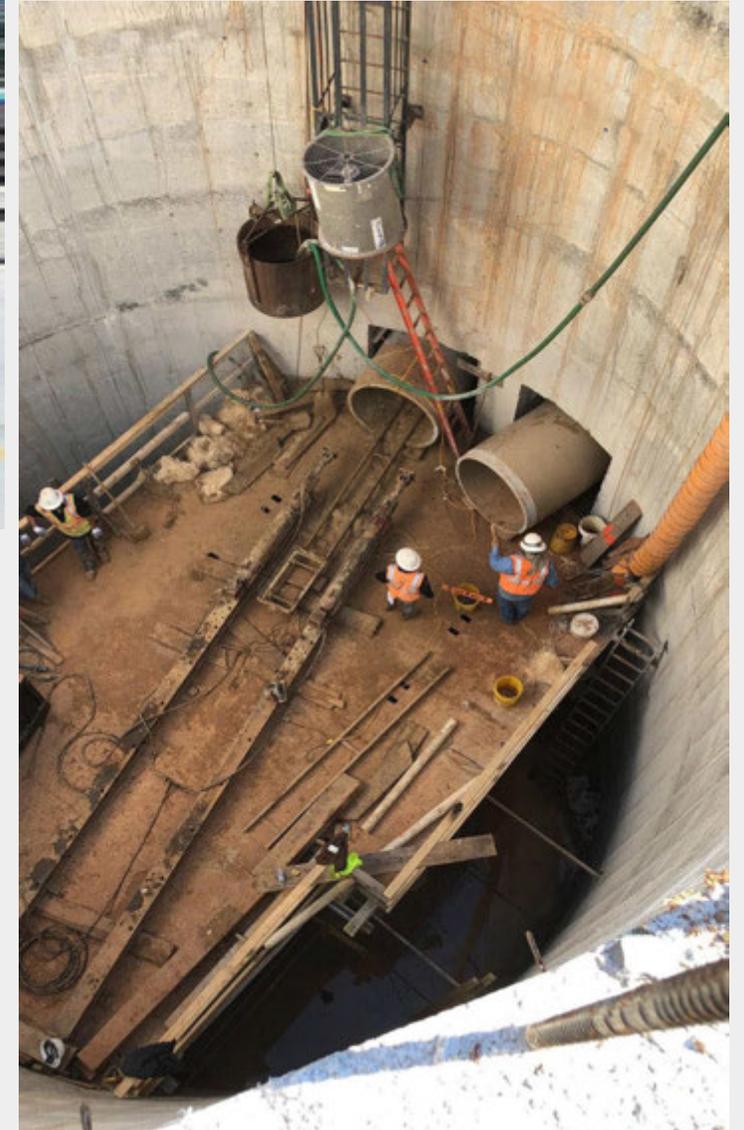
Connector G (I-610 NB to I-69 NB) – Fall 2024

Build Within Footprint



Detention Ponds/Pump Stations

- Pump Station 2 – 3 pumps at 8,000 GPM each
- Pump Station 4 – 3 pumps at 7,500 GPM each and 2 pumps at 11,000 GPM each
- Pump Station 5 – 2 pumps at 7,500 GPM each and 4 pumps at 11,000 GPM each



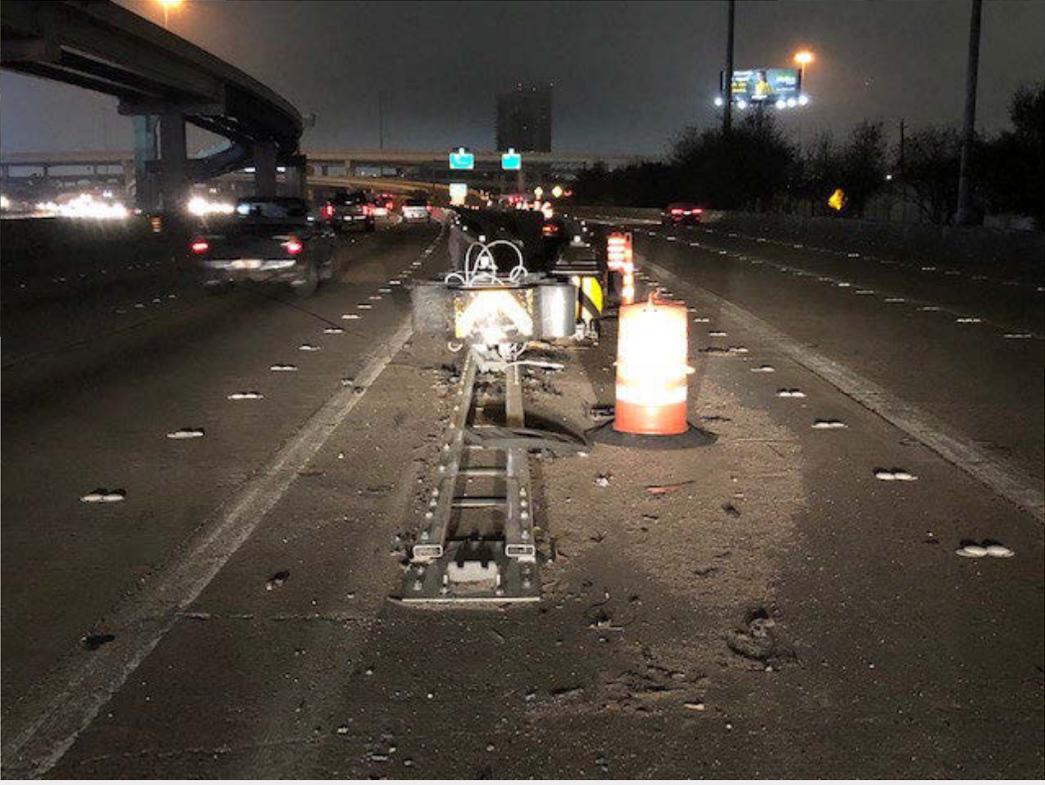
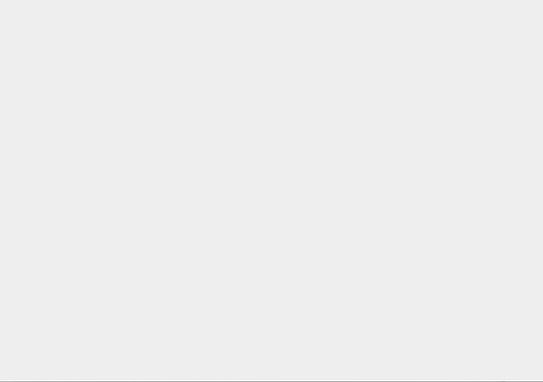
METRO T-Ramp/Dedicated Bus Lane



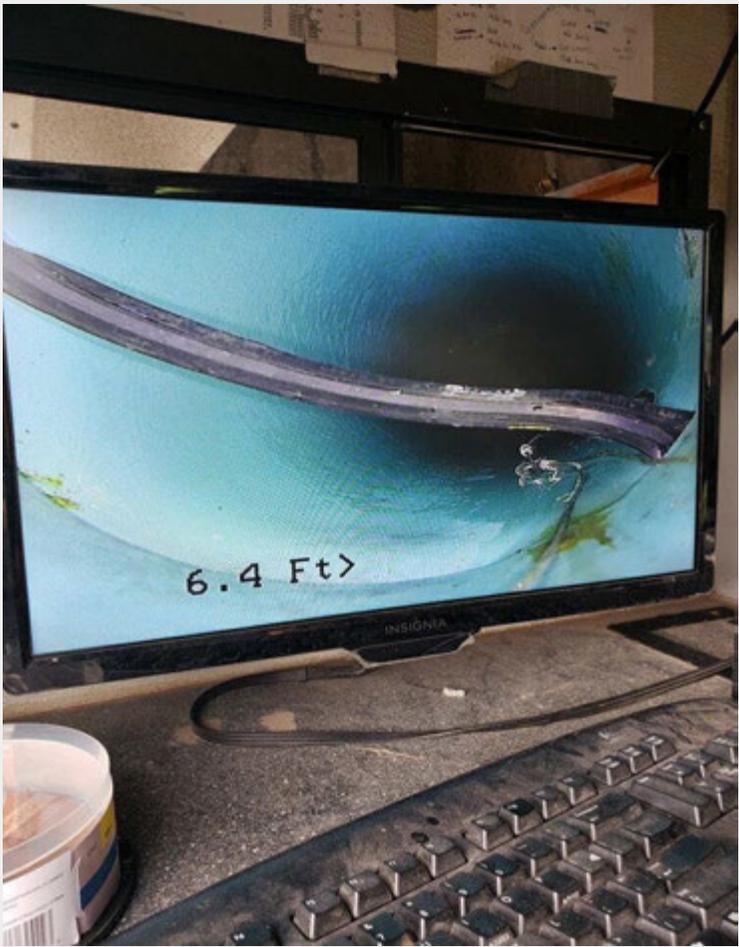
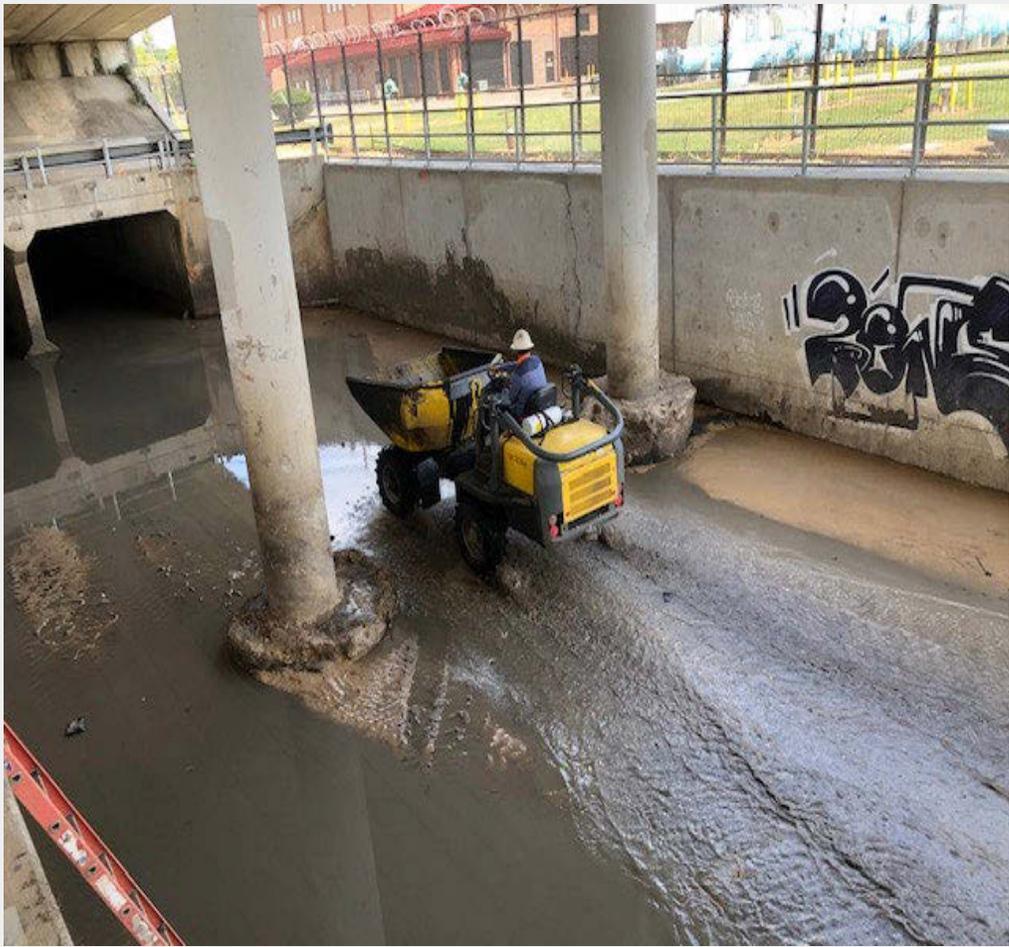
Joint Trench Fiber



Damaged Crash Cushion Attenuators (CCAs)



Lead Paint Abatement / San Sewer Obstruction / Accumulated Silt



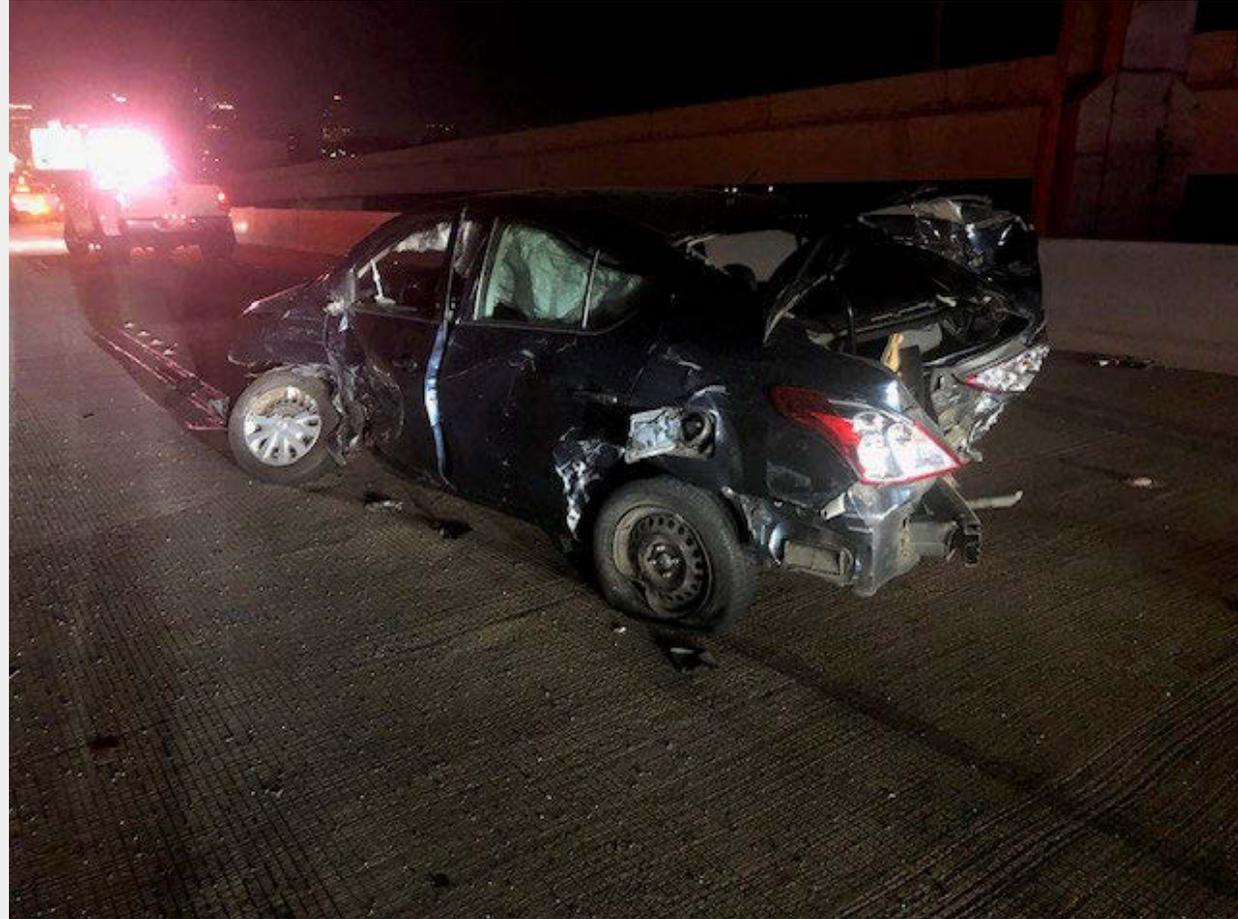
Graffiti



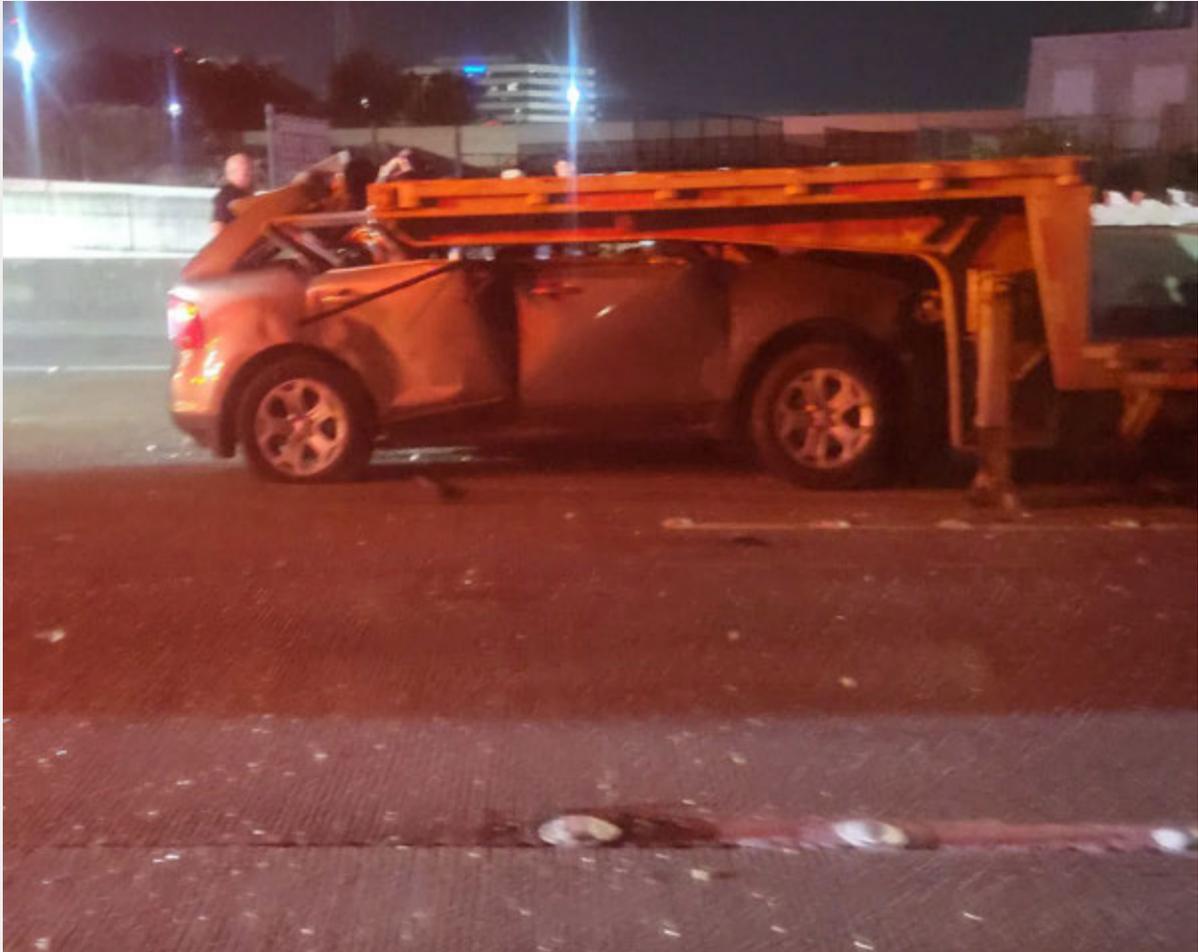
Vehicle Incidents



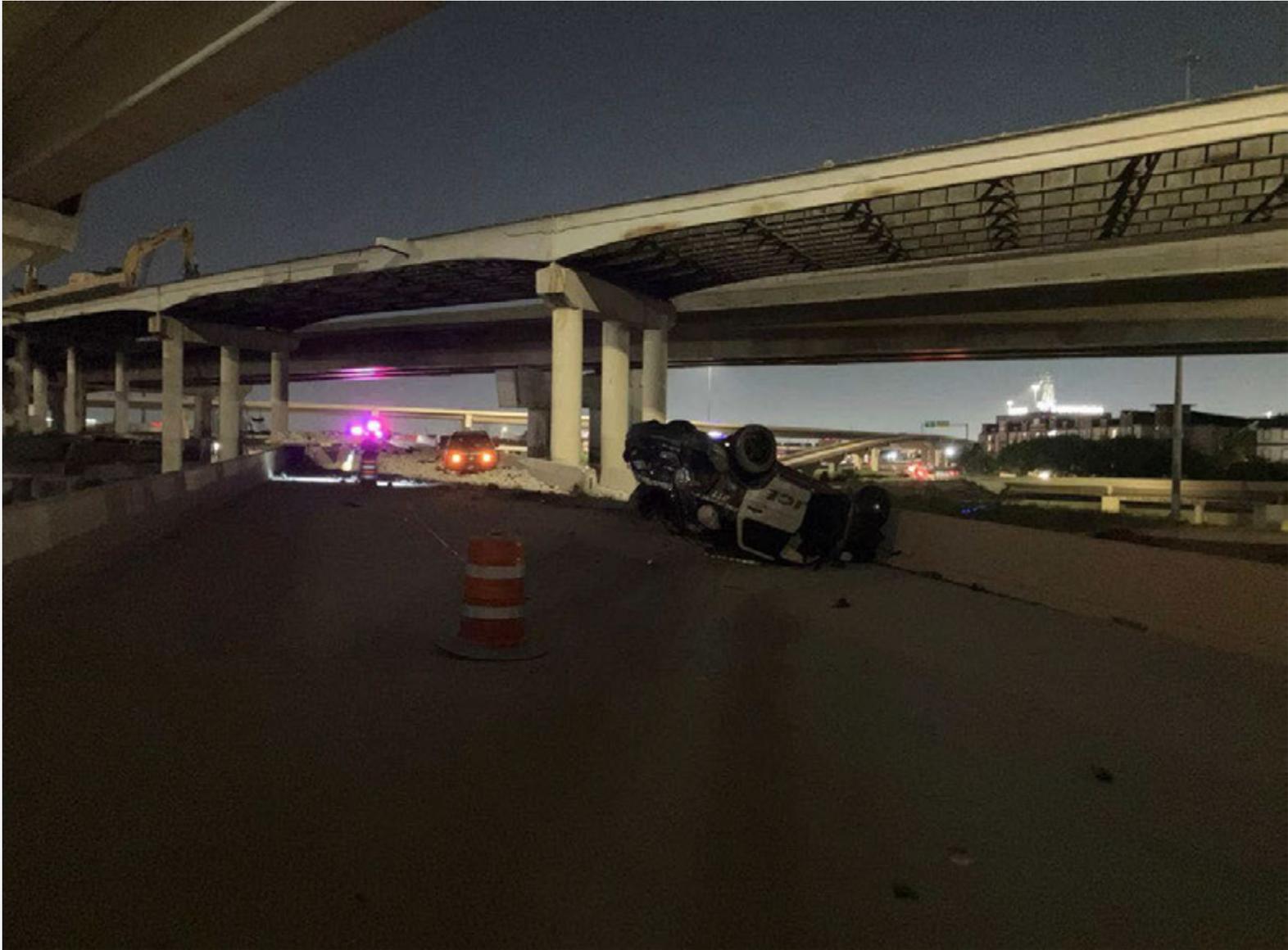
Vehicle Incidents



Vehicle Incidents



Vehicle Incidents



Project Coordination

Designers:

- TxDOT Houston District Bridge Section
- Consor
- CobbFendley
- Aguirre & Fields
- LJA Engineering
- AECOM
- Dannenbaum Engineering
- Parsons Brinkerhoff
- Entech
- Gunda

Agencies:

- City of Houston (COH) (Signals, Sanitary Sewer, Waterlines)
- City of Bellaire (Waterlines and Box Culverts)
- Midtown (CTMS Trench & Public Notices)
- METRO (HOV, T-Ramp, Dedicated Bus Lane)
- Harris County Toll Road Authority (HCTRA) (Westpark Toll & CTMS)
- Harris County (CTMS & Box Culverts)
- Uptown (Post Oak Bus Lane & Signals)
- CenterPoint Electric
- CenterPoint Gas
- Numerous Communication Companies

Asphalt Placements & Demolishes Out by 2:00 PM the day before.

DATE/TIME	AGENCY	LOCATION	FOREMAN/CONTRACTOR	WARRANT/PLANT	SUPERVISOR	STATUS	SAMPLE #
08/10 Saturday 12:30 PM	Static Release	IN 610 NBFR	ARMANDO W.B.	Key C.C. 8 C1	ROONEY	CEI	N/A
08/10 Monday 1:00 PM	48" D.S. Extensions	R/W 610R210	BELO W.B.	Key C.C. 24 C1	HASSAN	CEI	C-495
08/10 Saturday 1:00 PM	48" D.S. Extensions	R/W 610R210	FRISCO W.B.	Key C.C. 24 C1	FERRER ALVAREZ	CEI	C-491
08/10 Saturday 7:00 AM	CAP	CONJ. B BEH 10	ARMANDO W.B.	Key C.C. 49 C1	ROONEY	CEI	C-490
08/10 Saturday 1:00 PM	48" x 56" DRAIN SHAFT	TEMP. BEHOLD #1 BEH 10	JACOBO W.B.	Key C.C. 26 C1	FROBESCH	CEI	SS-826
08/10 Monday 6:30 AM	CONJ. B	CONJ. B BEH 11	ARMANDO W.B.	Key C.C. 127 C1	ROONEY JAMES	CEI	C-492, C-493, C-494
08/10 Monday 1:00 PM	48" x 41" DRAIN SHAFT	TEMP. BEHOLD #1 BEH 7	JACOBO W.B.	Key C.C. 20 C1	HASSAN	CEI	SS-827
08/10 Monday 8:00 AM	CEP TIER 20PS	T-69 NBFR	BRAUNTON B&B CONTS	ARASH C.C. 16 C1	FERRER ALVAREZ	CEI	N/A
08/10 Friday 7:00 AM	CAP	CONJ. B BEH 11	ARMANDO W.B.	Key C.C. 49 C1	ROONEY	CEI	1 SET

- Four design plans combined into 1 major project
- 24 Milestones ~ \$ 9.5 Million Incentive / Disincentive
- Number of Bid Items = 1,362 (nearly 500 closed)
- Concrete for Bridges Poured = 52,561 CY
- Retaining Walls = 123,103 SF
- Drill Shafts poured = 82,963 LF = 15.7 Mi.
- Concrete Beams = 67,464 LF = 12.8 Mi.
- Steel Beams = 27,171 LF = 5.2 Mi.
- Police Officers = \$ 6.0 M +
- Excavation = 310,000 CY
- Graffiti = Over 300 Tags
- Average Weekly Material Deficiency ~ 3 or less

Project Experiences

- Two CSJs – Site Mgr. & Recordkeeping challenges. Backup recordkeeper
- RFI's, Submittals, Change Orders (met regularly) organized with Tracking Log, Material Tests done asap
- Coordinate w/ 811 or other Agencies to locate underground lines. Never assume underground is clear as noted in plans. WB weekly refresher. Utility companies, designers, local governments, WB attended weekly TxDOT meetings
- Coordinate w/ City of Houston for underground Sewer Lines
- Know underground facilities owners (ie HCTRA, METRO, COH, Harris County, Bellaire, Communication Companies ect.). Hydro-Excavate. All invited to Progress meetings
- Coordinate Lane Closure Restrictions for Local Events (Astros, Texans, Rodeo, Marathon, Super Bowl, Final Four ect.) Holidays, President passage
- Trash removal at pump stations (did not anticipate)
- Many damaged CCAs. Have correct CCAs in stock
- Flooding from Natural Events (Tropical Storms & Hurricanes), clean up and delays to resume work
- AFA details with Local Governments
- Combine Bridge and Frontage Rd phases to expedite work
- Have Cold Mix asphalt in stock for potholes
- Many existing storm sewer are silted
- Homeless encampments under bridges
- TxDOT and CEI on the same page from the beginning. Budget/ Monthly Burn Rate
- Material Testing: Who handles fabricate
- Motorists drive through road closures
- Added Safety 6" Chain Link Fence
- Raised drill shafts to minimize excavation
- Long term projects can mean change of personnel
- Coordinate with other TxDOT projects within project limits
- Know who is responsible for (Roadways, Maintenance, Signals, Fiber, etc.) include them to weekly meetings
- Issues were not resolved by themselves
- Partnered with WB & Subs - Weekly meeting with minutes. Follow up often. Have a good working relationship
- Coord. Electrical Services w/ CPE Activated, Addresses
- Track Milestones
- Time Impact Statement – Discuss early

Public Notification & Contact Information

- www.HOU610at69.com
- DriveTexas.org
- Houston TranStar
(<https://traffic.houstontranstar.org>) for real-time closure and detour information
- Follow us on the TxDOT Houston Twitter handles:
 - @TxDOTHouston
 - @HOU610at69



QUESTIONS?