Presentation Overview

• GDB Program and Background
• Clearing a path – MOT Detours
• Triple Left for Port Truck Traffic
• Port Access Undercrossing
• CIDH Piles and Tip Grouting
• Moveable Scaffolding System
• Cable stay bridge construction
• Questions, Answers and Follow-up
BIG SHIP READY
14,000-TEU vessels began calling in Long Beach in 2012.

USS Nimitz
(1,092 ft.)

Empire State Building
(1,454 ft.)

7,100
TEU Ship
(965 ft.)

Boeing
(1,250 ft.)

14,000
TEU Ship
(1,205 ft.)

PROJECT SOURCE FUNDING ($ MILLIONS)

State/HBP, 211.8
State/SHOPP, 79.5
State/TCIF, 326.1
State/CMIA, 153.7
LA Metro, 17.3

POLB Committed, 272.8

POLB/TIFIA

SAFEEA-LU, 100

TIFIA – Transportation Infrastructure Finance and Innovation Act
TCIF – Trade Corridor Improvement Fund
SHOPP – State Highway Operation and Protection Program
SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
TCIF – Trade Corridor Improvement Fund
CMIA – Corridor Mobility Improvement Account
HBP – Highway Bridge Program

KEY FEATURE
Bridge Clearance

Program Delivery Timeline

GDB Replacement Team
Funding Partners

Bridge Contractor
PMCM Team

4/8/2019
WHERE TO START: COMPLEXITY OF CLEARING THE PATH

By the NUMBERS

- 23 Lane closures during construction
- 18 Total lane closures during construction
- 10 BMW construction crews
- 6 Construction Corps
- 1.5 Km Total construction zone
- 30 Months under construction

CLEARING THE PATH

Ramp demolition over roadway & railroad

Triple Left Turn

- SB 710 Traffic to San Pedro on SB Pico
- NB 710 Traffic up out of the Port on NB Pico
- WB Ocean Boulevard Thru Traffic Merges w/ SB 710 at Pico

CLEARING THE PATH

Triple Left Turn – A picture of Chaos?

Existing Bridge
Access Ramps

Port Access Undercrossing (PAUC)

New Port Access
Undercrossing

Existing Bridge
Access Ramps
Port Access Undercrossing (PAUC)

- Free-flowing left turn lanes skip the traffic light at SR 47
- SB I-710 Freeway traffic entering Pier T
- Pier T exiting traffic entering NB I-710 Freeway

PAUC Phase 2 Deck Concrete

PAUC Phase 3

Horseshoe Off-ramp

Horseshoe Off-ramp Demolition
Pile Cap Rebar Placement & Shoring

Cooling tube manifold for mass concrete

CIDH Piles for Tower Foundation

View From 515 FT TOWERS

Three methods of construction:
1) CIP concrete post-tensioned box girder on conventional falsework
2) CIP concrete on Moveable Scaffolding System
3) Cable-stayed structural steel box girder and beam construction
EAST APPROACH CONSTRUCTION
- Frames C-1, C-2, C-3, C-4, C-5, and N-1 completed (East Approach westbound lanes)
- Frame S-1, B-3, and B-6 under construction

MSS WEST
- First stem & soffit span placed in January 2016
- Fourteenth Span for Westbound Lanes completed in June 2017
- Contractor currently working on last 2 spans of Eastbound lanes

CABLE STAYED MAIN SPAN
- Towers are about 99% complete
- Fabrication of structural steel started in April 2017
- Erection started in March 2018
- Casting of pre-cast panels completed in June 2018
- Pier Tables complete in July 2018

MSS EAST
- MSS-A launched into concreting position in February 2017
- MSS-A Westbound Lanes completed in December 2017
- Completed final span of Eastbound lanes in September 2018

MAIN SPAN PRECAST DECK REBAR
- Stainless steel reinforcement
MAIN SPAN PRECAST DECK PANEL

- 30-feet long
- 16-feet wide

MAIN SPAN – STRUCTURAL STEEL

- 140 FT FLOOR BEAMS (33 TONS)
- 58 FT EDGE GIRDERS (55 TONS)
- FLOOR BEAM SPICE PLATE LOCATION

MAIN SPAN – PIER TABLE AROUND TOWER

- 140 FT FLOOR BEAMS (33 TONS)
- 58 FT EDGE GIRDERS (55 TONS)

MAIN SPAN – Cable Stays & Tower View

- STAY CABLE GUIDE PIPE
- 140 FT FLOOR BEAMS (33 TONS)
PROJECT BUDGET STATUS

- Current Program budget is $1.467 billion, as approved by the Board of Harbor Commissioners in July 2015.
- Current Contract value for the Bridge Construction Project is $809.8 million including all Approved Change Orders to date.

SCHEDULE – CURRENT STATUS

- Completion of Main Span Towers – December 2017
- Start of Main Span Superstructure – Early 2018
- East & West Approach, Westbound Lanes – 2019
- Open Bridge to Traffic – Early 2020
- Demolition of Existing Bridge – Late 2020

CHALLENGES & LESSONS LEARNED

- Oil well and advanced utility relocation – do it early
- Interagency coordination/meetings (Port, Caltrans, etc.)
- CIDH Piles Load Test & Tip Grouting – A first in CA
- Tower Design
- MSS – is it a crane or scaffolding? Another CA first
- Lightweight cellular concrete retaining walls
- First cable-stayed vehicle bridge in California
- Complex maintenance of traffic

Staying Connected

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Questions?