Presentation

State Project No. 135-301

Reconstruction of Atlantic Street and Replacement of Metro-North Railroad Bridge No. 08012R

City of Stamford

Design Team

- ConnDOT
  - Timothy Fields- Principal Engineer
  - Robert Brown- Project Manager
  - Michelle Lynch- Project Engineer (Bridge)
  - Brett Stark (BL Companies)- Project Engineer
- URS Corporation
  - Donald Costello- Project Manager
  - Stephen Mitchell- Project Engineer (Highway)
  - Jeffrey Keefe
  - Herbert May

History

- Two phase feasibility study completed in 2011.
- Included replacing 5 MetroNorth bridges in Stamford- over Greenwich Avenue, Atlantic Street, Canal Street, Elm Street, and East Main Street.

Bridge Locations

Project included 5 locations: MetroNorth Railroad over Greenwich Avenue, Atlantic Street, Canal Street, Elm Street, and East Main Street.

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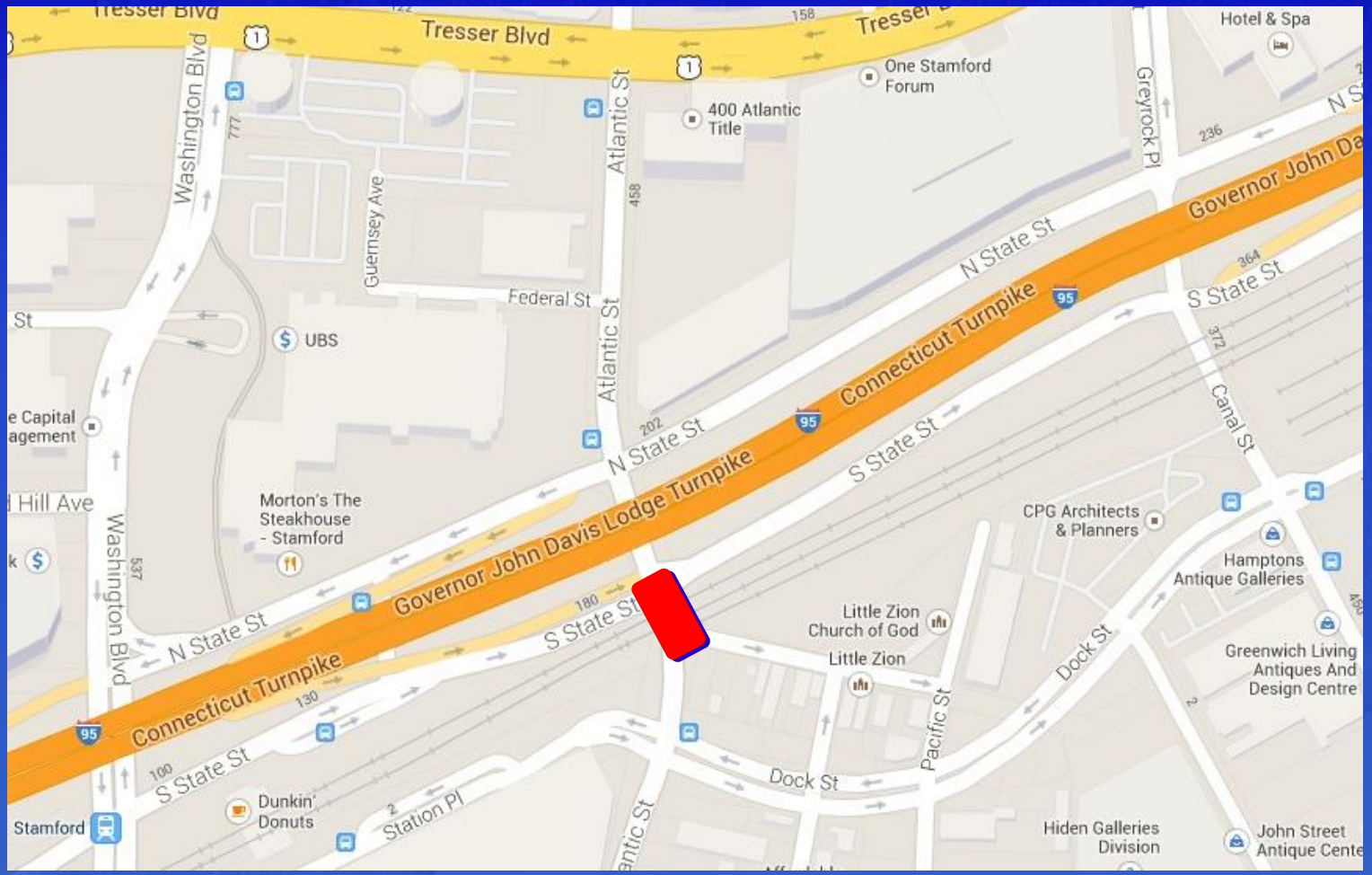
History continued

- Bridges built in 1896.
- Inadequate width for current traffic volumes
- Inadequate vertical clearance
- Marginal to poor condition, considered "structurally deficient".

Project Location



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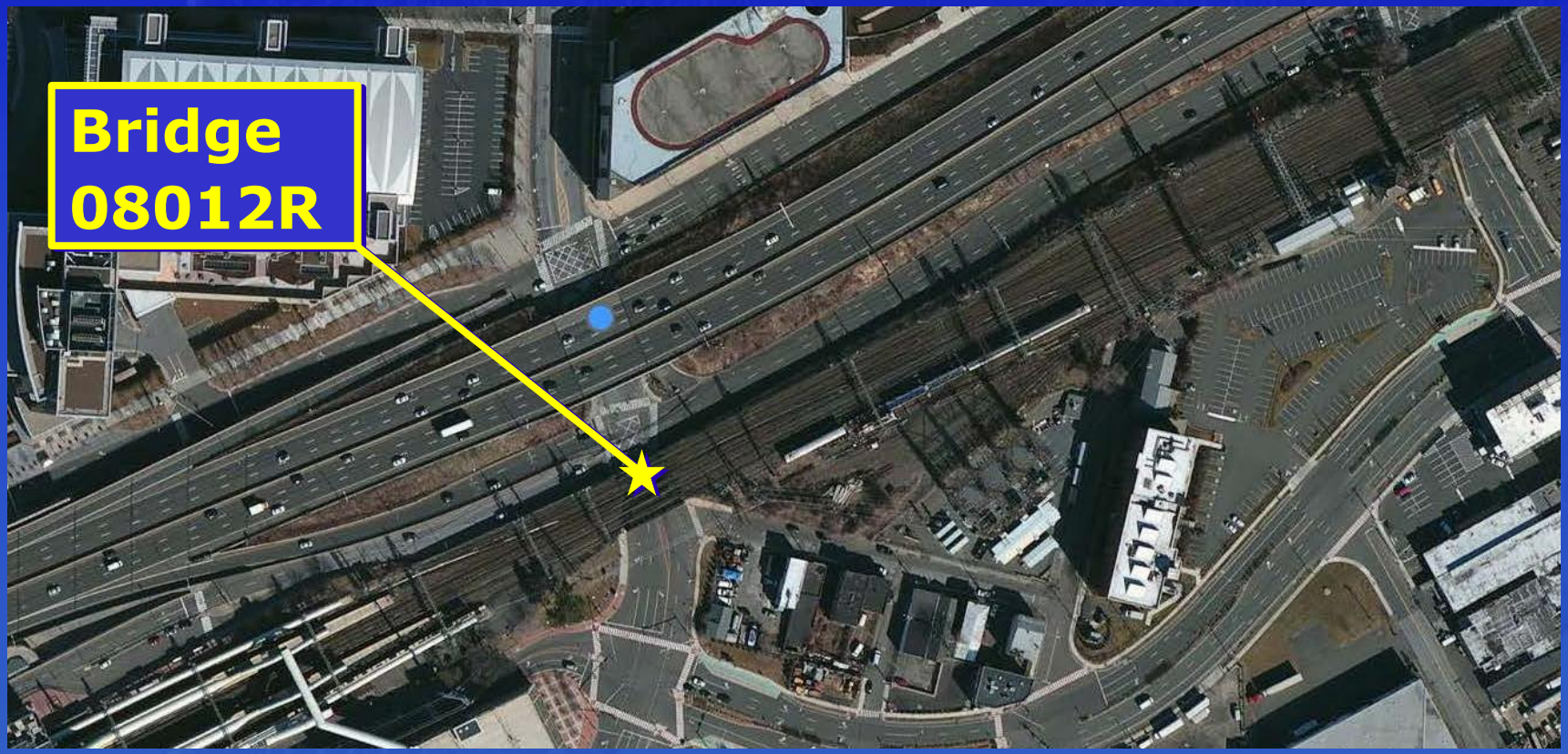
Aerial View of Bridge No. 08012R



Existing Atlantic Street Bridge Looking North

- **Lane Arrangement:**
  - **5 Lanes North of the Bridge**
  - **5 Lanes South of the Bridge**
  - **2 Lanes at the Bridge**

Existing Bridge Underpass

- **Vertical Clearance Restriction**
  - **Posted:** 12′ - 4″
  - **Measured:** 12′-7″
  - **Legal Truck height :** 13′-6″

Project Goals

- Improve highway capacity
- Improve vertical underclearance
- Complete construction using accelerated methods (2-1/2 years)
- Minimize disturbance to traveling public
- Incorporate "context sensitive" design features

Constraints

- Fixed profile for railroad
- High water table
- Utilities- electric, telephone, water, and gas
- I-95 exit ramp

Utilities

Utilities at the bridge site consist of:

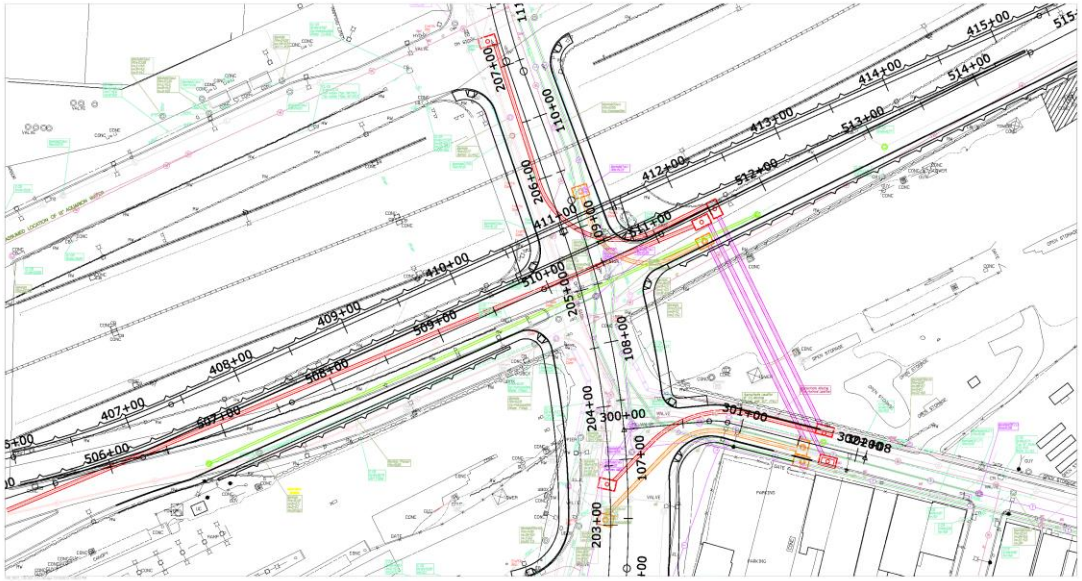
- **Water -** in Atlantic St., So. State St. & Manhattan St. roadways
- **Telecommunications -** in Atlantic St. & Manhattan St. roadways
- **Electric Distribution -** in Atlantic St, So. State St. and Manhattan St. roadways
- **Electric Transmission -** overhead along south fascia of the bridge
- **Gas -** in Atlantic St. & Manhattan St. roadways
- **Sanitary Sewer -** in So. State Street roadway

CTDOT is currently coordinating with the appropriate utility owners.

Advanced Utility Relocation

- Utility corridor jacked under railroad embankment
- Added by change order to project currently under construction
- AT&T, CL&P will relocate prior to start of construction

Utility Relocation



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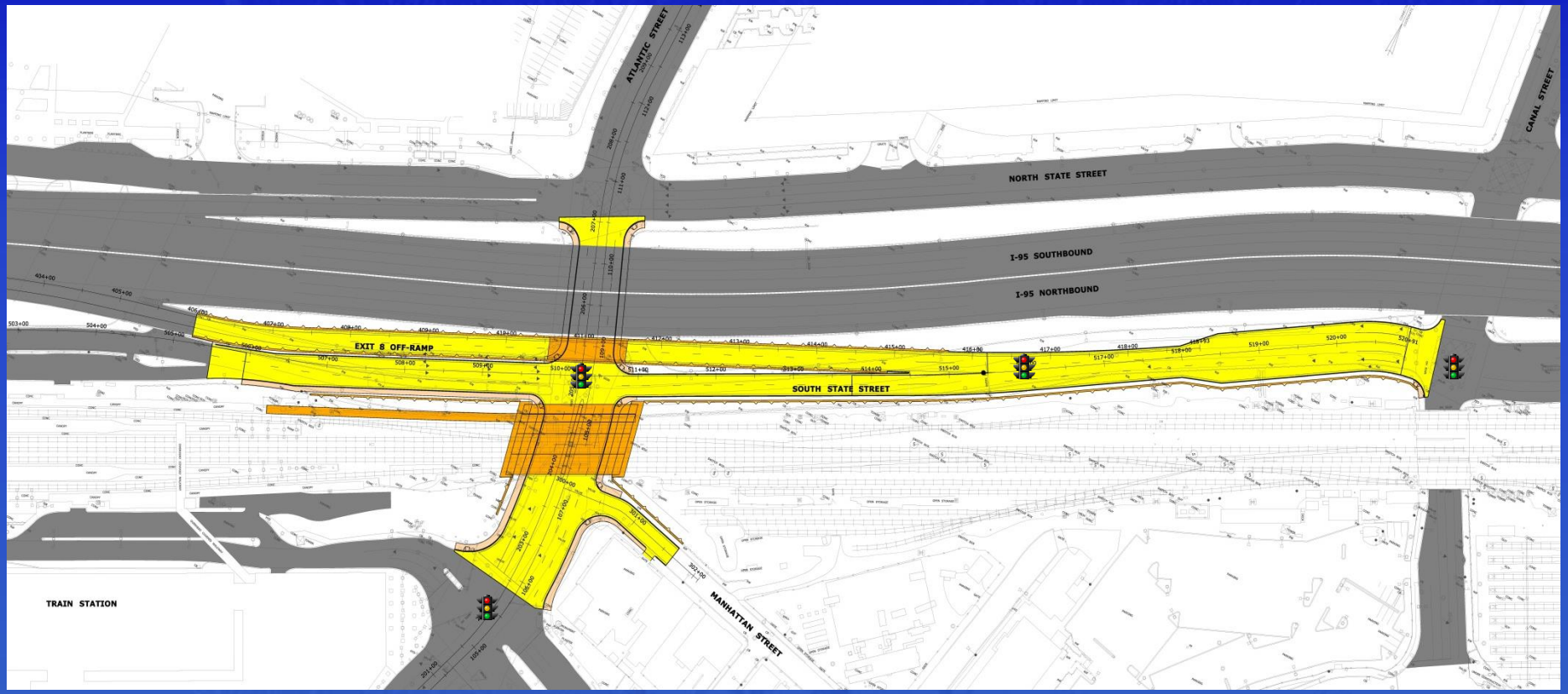
Accelerated Construction

- With conventional construction methods and single track outages, duration would be 4½ years, unacceptable to the city.
- Three day workshop was held in 2012 to investigate accelerating the design, procurement, and construction of the bridge replacements.

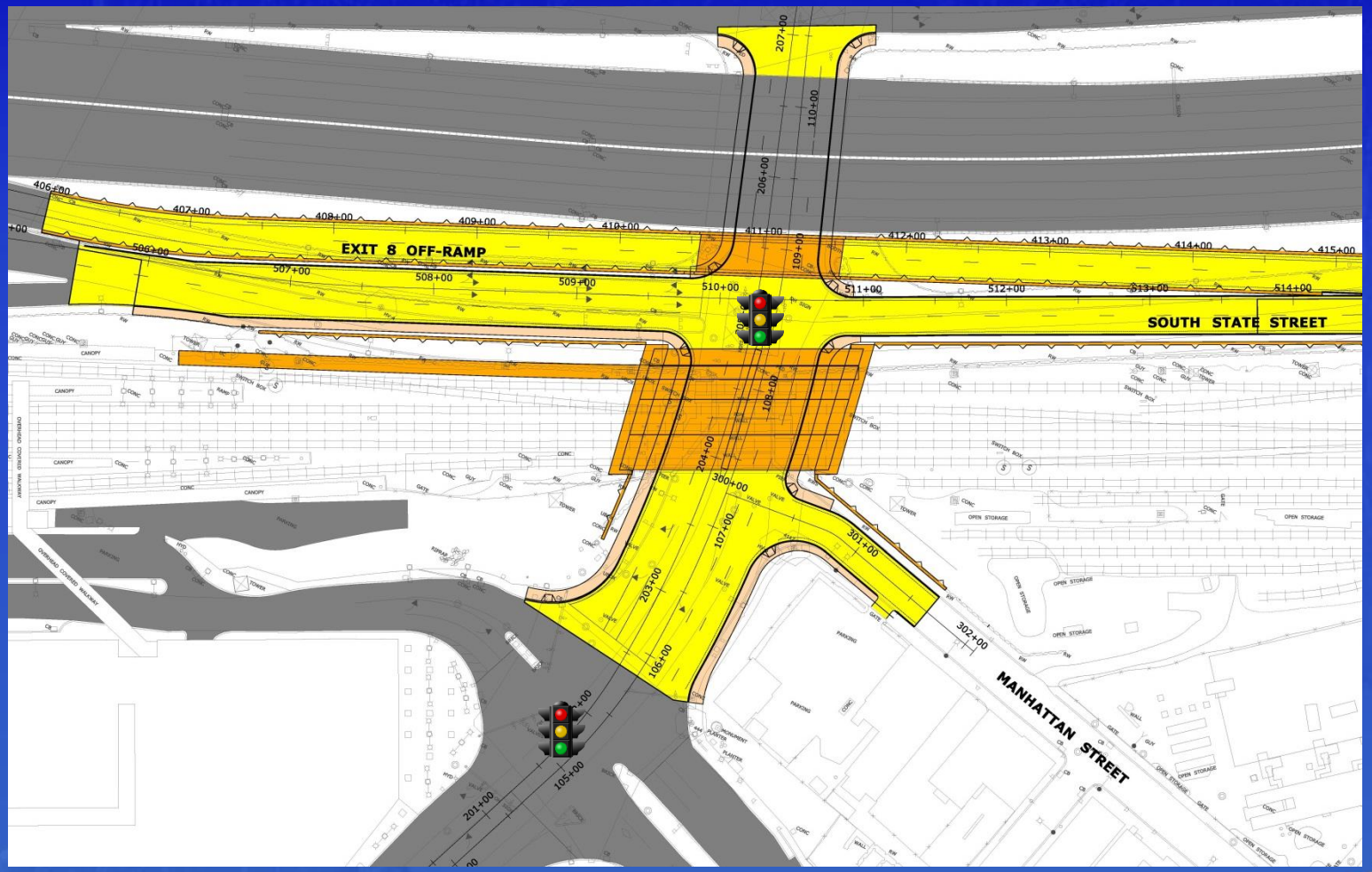
ABC Recommendations

- Construct substructures prior to track outages using jump spans.
- Use SPMT's or lateral slide techniques to replace superstructure using weekend track closures
- Use prefabricated elements wherever possible

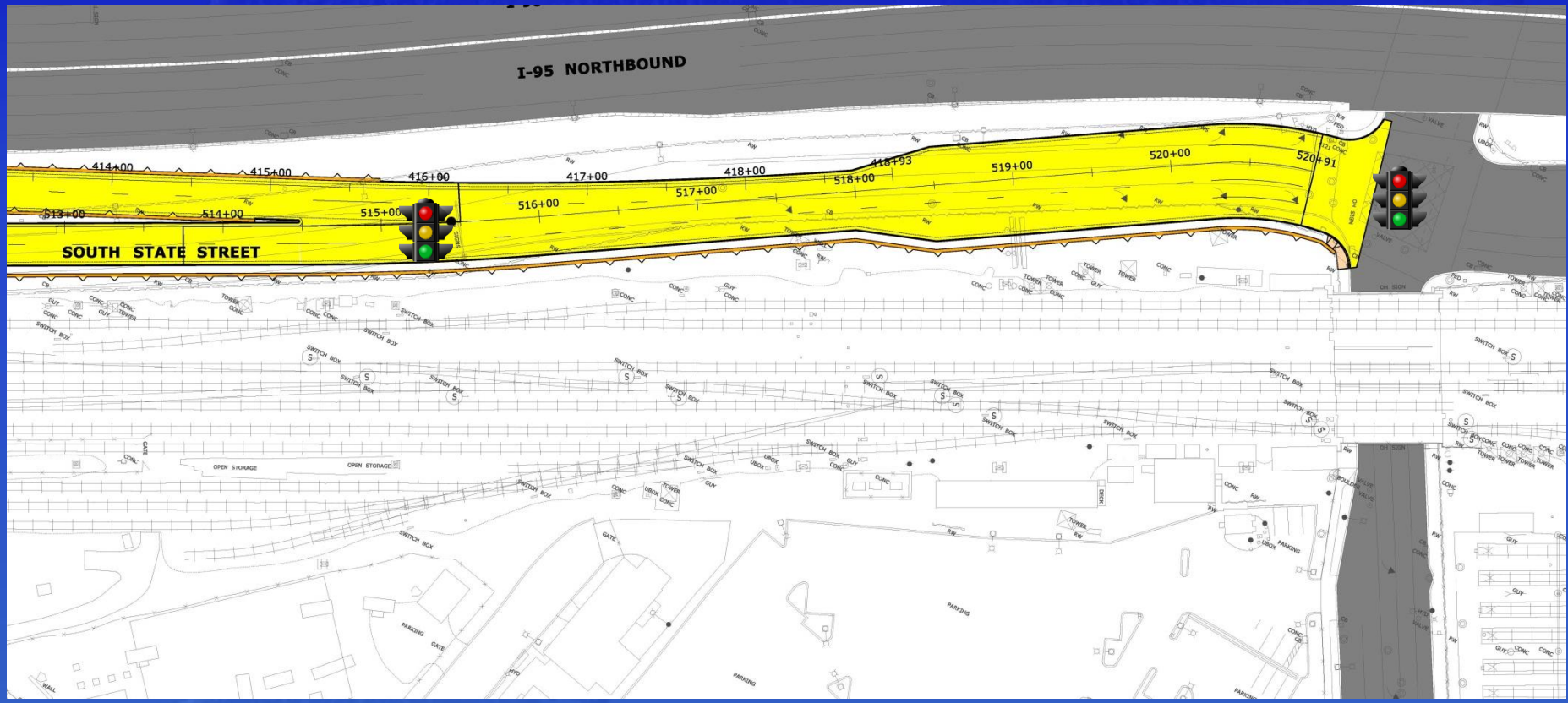
Roadway Plan



Roadway Plan at Atlantic St.



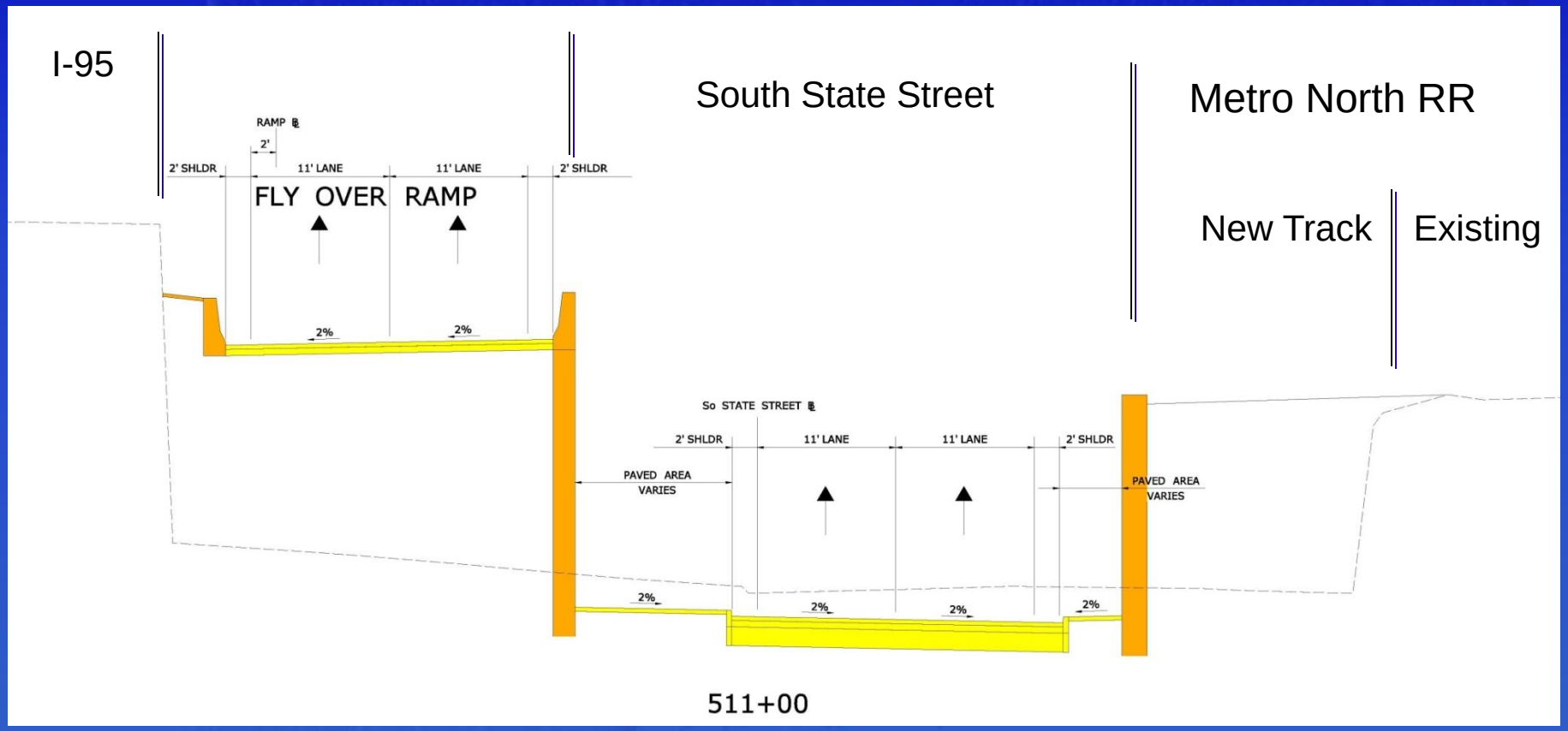
Roadway Plan
South State St. @ Canal St.



Existing South State Street Looking East

Existing I-95 NB Exit 8 Ramp Looking West

Roadway Construction Issues



Context Sensitive Design

- Use of Form Liner on Proposed Structures
- City of Stamford Brownstone Policy

Existing Railroad Bridge

Proposed Railroad Bridge

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Existing Walls – South State St.

Proposed Walls – South State St.

Animated Construction Simulation Features:

- Rail "jumps span" method to allow construction of new bridge abutments under active railroad train traffic.

- Self-Propelled Module Transporters to lift and transport prefabricated bridge spans into final place on newly constructed bridge pier and abutments.

THANK YOU…

Any Questions?

Connecticut Department of Transportation
and
URS Corporation