

CTDOT Design-Build Bridge Bundle Rehabilitation East Hartford and Willington Project No. 171-431

East Hartford Town Council Meeting

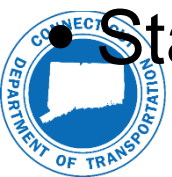
March 6, 2018



LOCHNER

Agenda

- Welcome and Introductions
- Project Overview
 - Project Areas
 - Purpose
 - Schedule
- Bridge Specifics
 - 1: Potter School Rd over I-84 in Willington (00847)
 - 2: Rt 2 EB over I-84 (02369)
 - 3: Rt 2 WB & Governor St to Founders Bridge over I-84 EB(02366)
 - 4: I-84 WB Exit 54 over I-84 EB (02367)



Stay Informed

CTDOT Design-Build Bridge Bundle
East Hartford & Willington | Project No. 171-431

February 22, 2018

Project Team

Middlesex Corporation, Lochner

Responsible for Design and Construction

CTDOT's Highway Division

*Responsible for administering the Design Process
and providing Resident Engineer Services*



Design-Build Approach

An innovative approach to project delivery

- Engineer works directly for and with the Contractor to design the project
- Partnership between designer/contractor promotes innovation and reduces project costs and schedule
- Design-Builder is selected on best value (cost and qualifications)
- CTDOT defines project requirements and oversees Design-Builder
- This is the second Design-Build project in CT



Project Areas



Willington

1. Potter School Road over I-84 - ***a separate meeting will be held in Willington regarding this bridge (May)***



East Hartford

2. Route 2 EB (towards Norwich and New London)
3. Route 2 WB & Governor Street (to downtown Hartford via Founders Bridge)
4. I-84 WB (Exit 54 to downtown Hartford)

Tonight's Meeting



Bridge Components

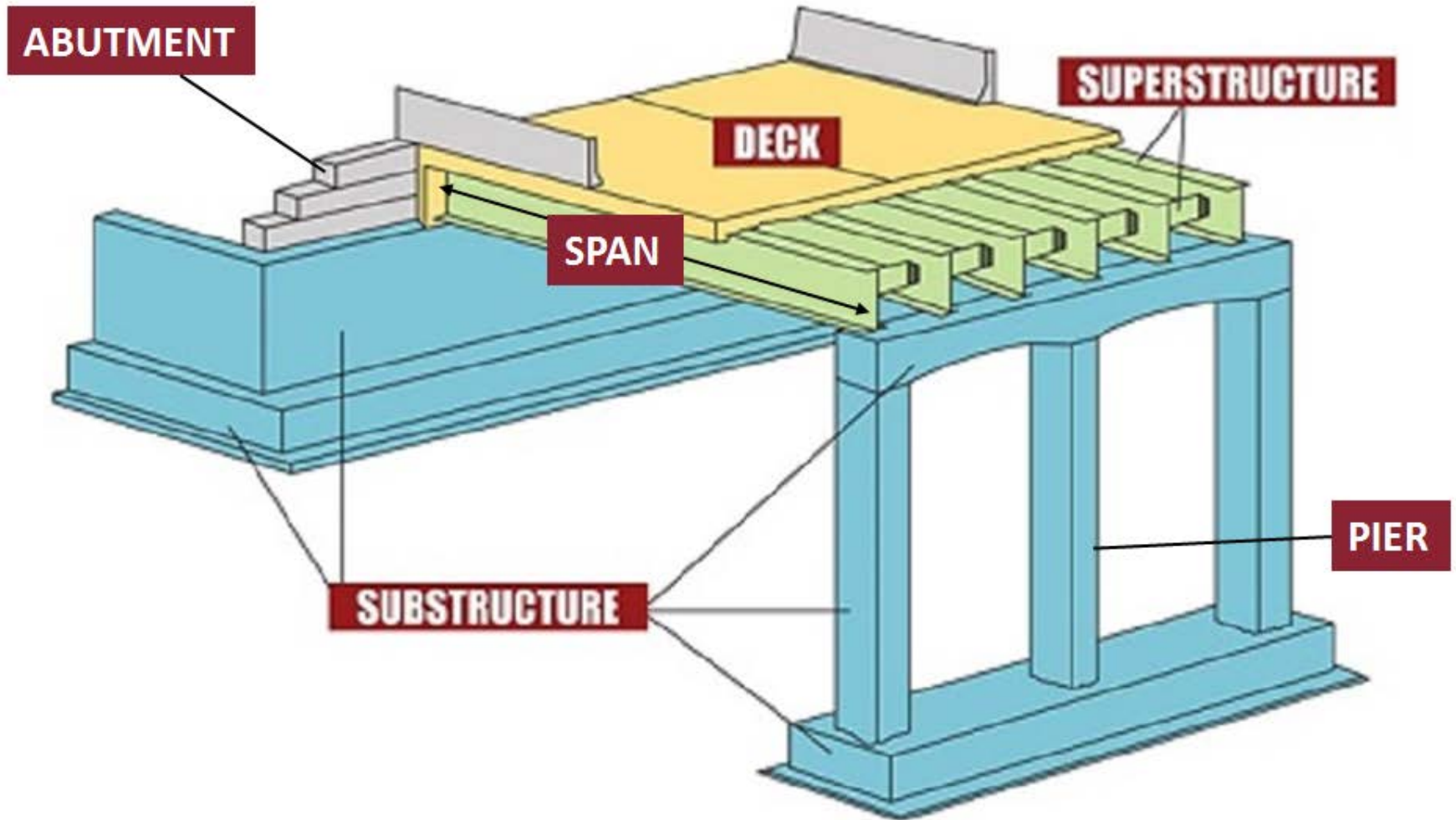


Image: dailycivil.com



Existing Conditions

- All four bridges were constructed in the 1960's
 - Cast in place concrete decks
 - Supports consist of simple span steel beams on concrete abutments and piers
- Superstructures exhibit deterioration, but remain safe to drive on and are regularly inspected



Project Purpose

- Repair and replace three bridges in East Hartford and one in Willington
- Replace the deteriorated superstructures of all four bridges
- Repair and strengthen the substructures of bridges:
 - 1: Potter School Rd over I-84 (00847)
 - 2: Rt 2 EB over I-84 (02369)
- Replace the substructures of bridges:
 - 3: Rt 2 WB & Governor St to Founders Bridge over I-84 EB(02366)
 - 4: I-84 WB Exit 54 over I-84 EB (02367)



Superstructure Replacement

Accelerated Bridge Construction Techniques

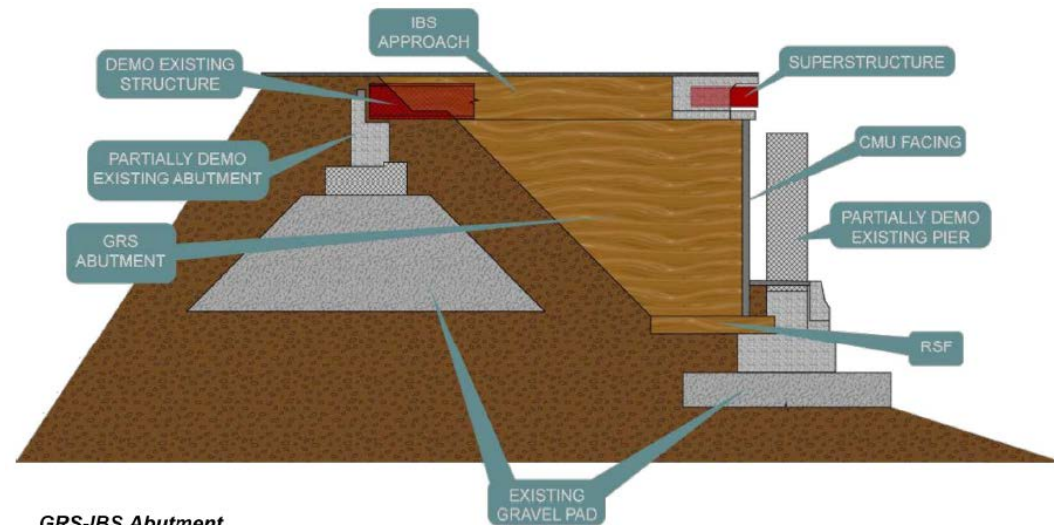
- Minimizes construction timeline and traffic impacts
- Prefabricated Bridge Units
 - Fabricated off-site, then installed at project site



Substructure Replacement

GRS-IBS Abutments

- Middlesex-Lochner proposed this method for bridges 02366 and 02367
- Increases longevity of the bridges (75 years)
- Improves safety for drivers
- Reduces maintenance



GRS-IBS Abutment



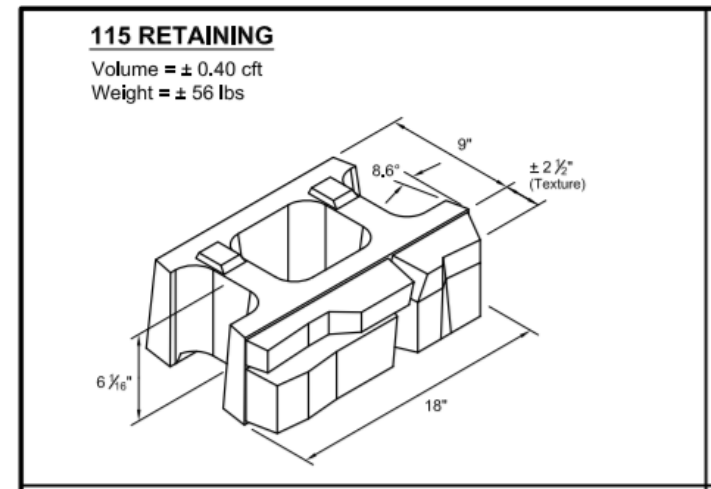
GRS-IBS Abutments

Example: Killington, CT (constructed by others)



GRS-IBS Abutments

Example: Killington, CT (constructed by others)



Project Schedule

2018

- 1: Potter School Rd over I-84 (00847)
June through October
(closed for 2 months during school vacation)
- 2: Rt 2 EB over I-84 (02369)
March through November
(closure must be completed before the Hartford Marathon)

2019

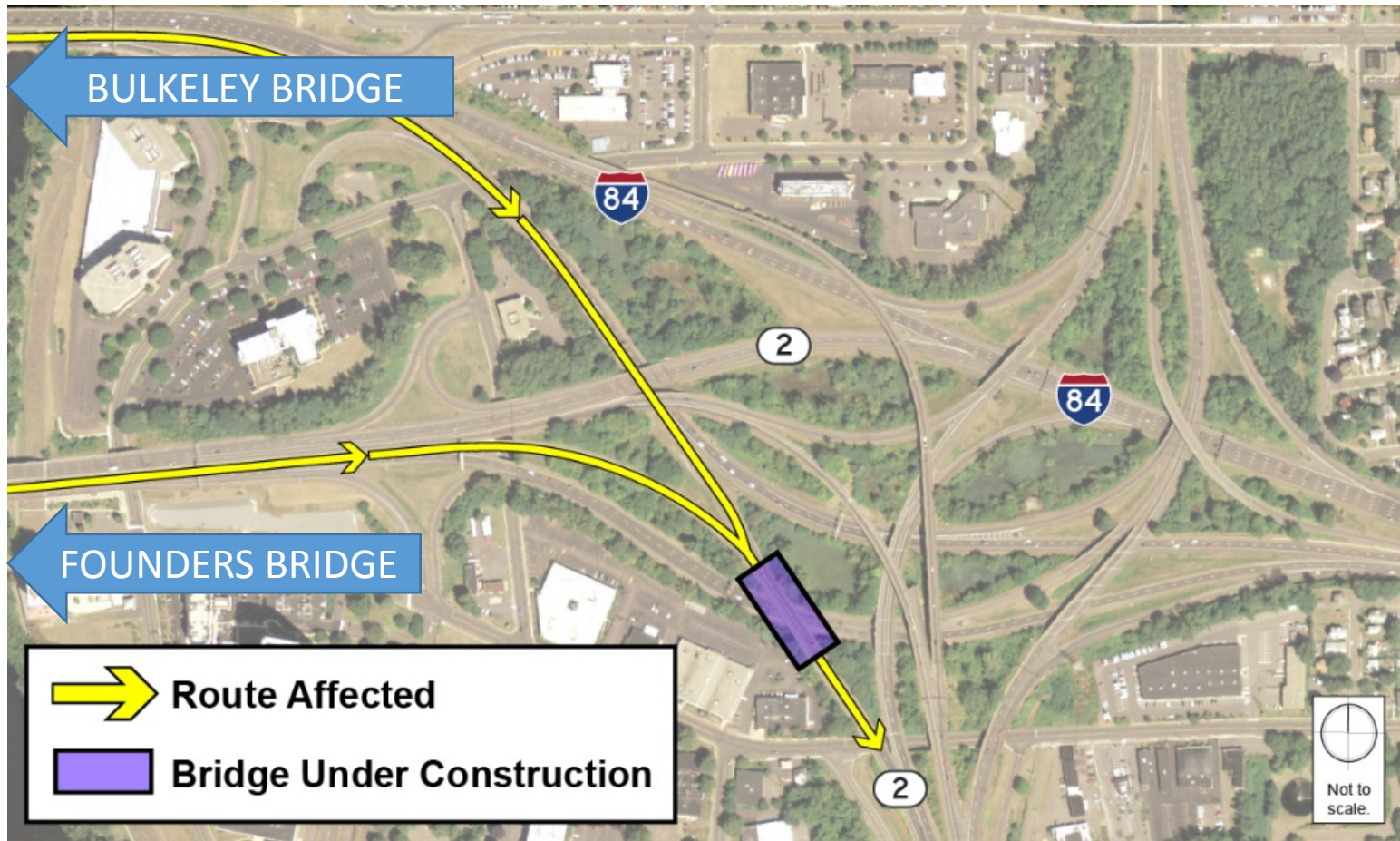
- 3: Rt 2 WB & Governor St to Founders Bridge over I-84 EB (02366)
March through September
- 4: I-84 WB Exit 54 over I-84 EB (02367)
March through November

The project contract includes a \$10,000 per day fine for the Design-Builder for exceeding the project schedule.



Bridge 2: 02369 (Route 2 Eastbound)

Duration: March 2018 - November 2018



Bridge 2: 02369 Existing Conditions

LIDAR image



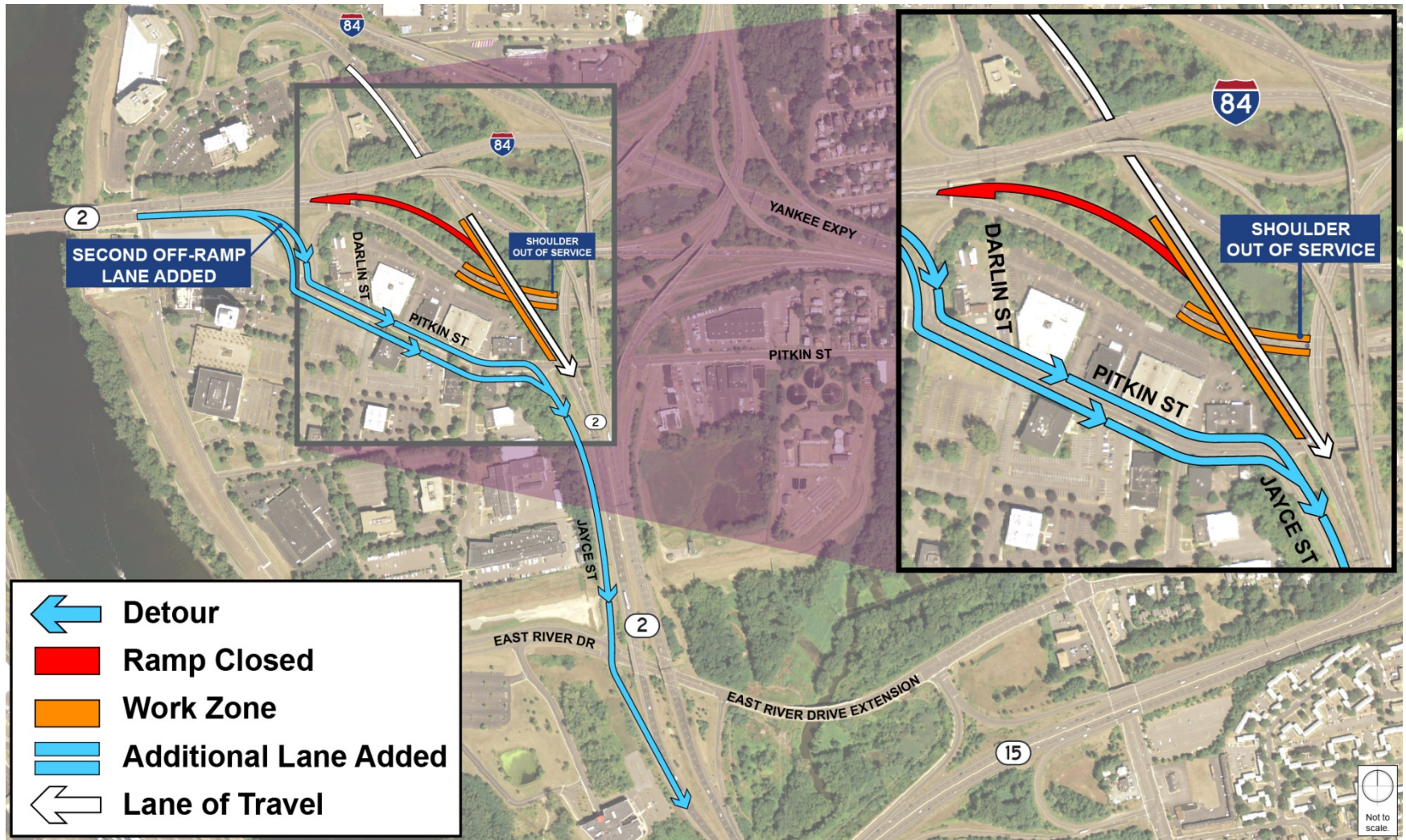
CTDOT Design-Build Bridge Bundle
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Bridge 2: 02369

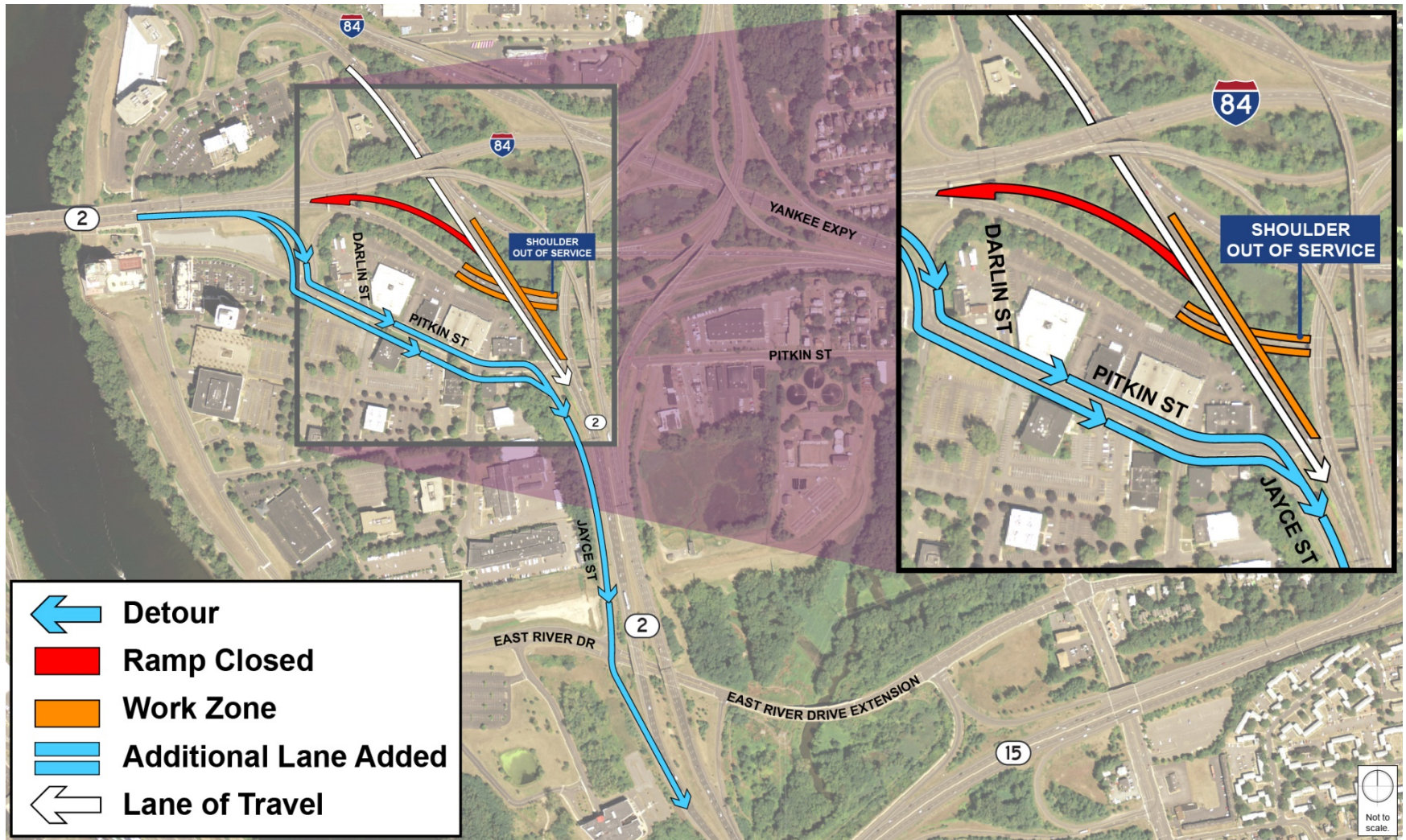
- March to November 2018
- During reconstruction, only 1 ramp can travel over the bridge, requiring closure of the ramp from the Founders Bridge/downtown Hartford
- Traffic mitigation will include
 - Exit 3 off-ramp to be widened to 2 lanes (left, left plus right turn lanes)
 - Pitkin Street EB widened to 2 lanes
 - Pitkin Street right turn only lane onto Jayce Street



Traffic Impacts – Stage 1

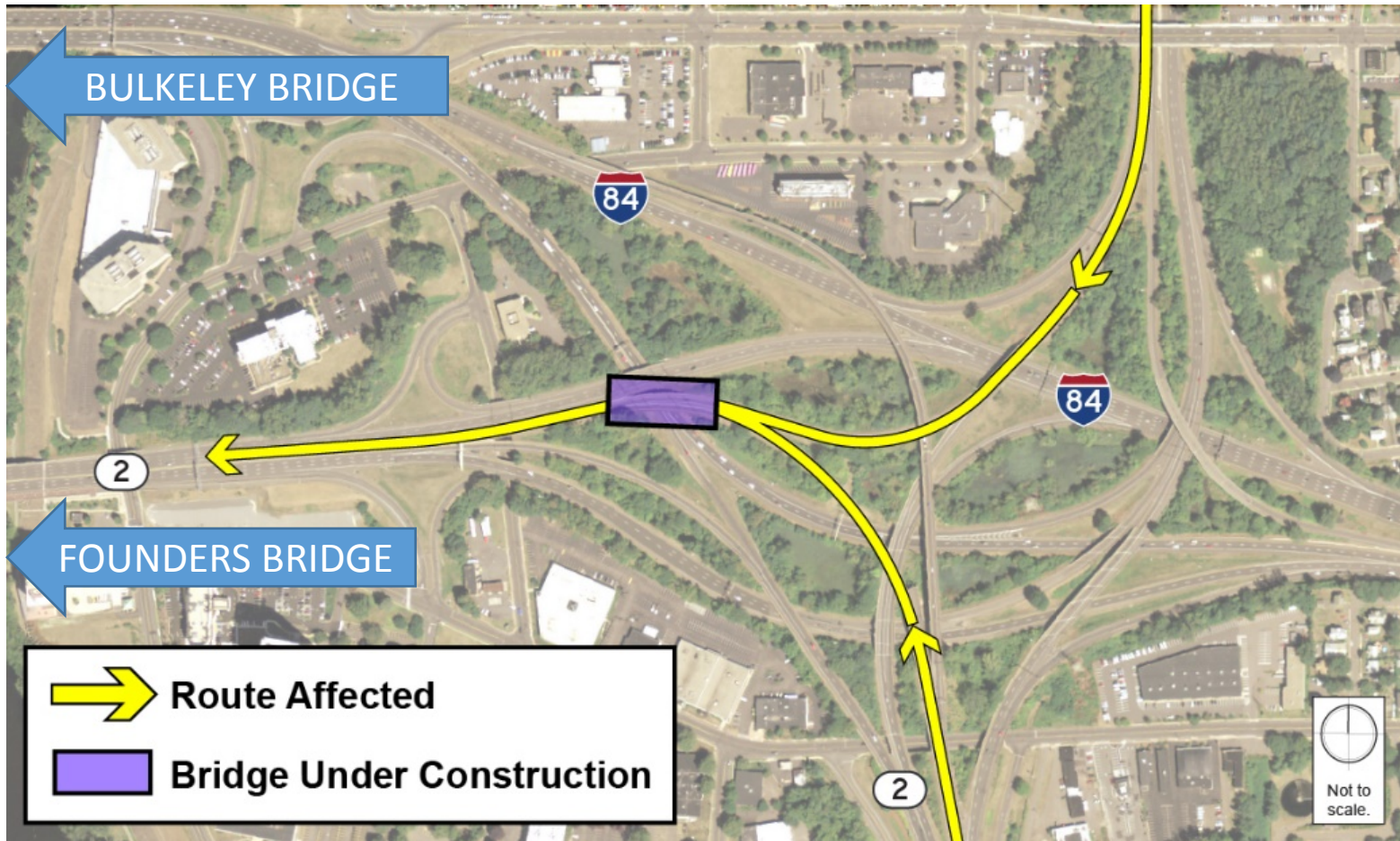


Traffic Impacts – Stage 2



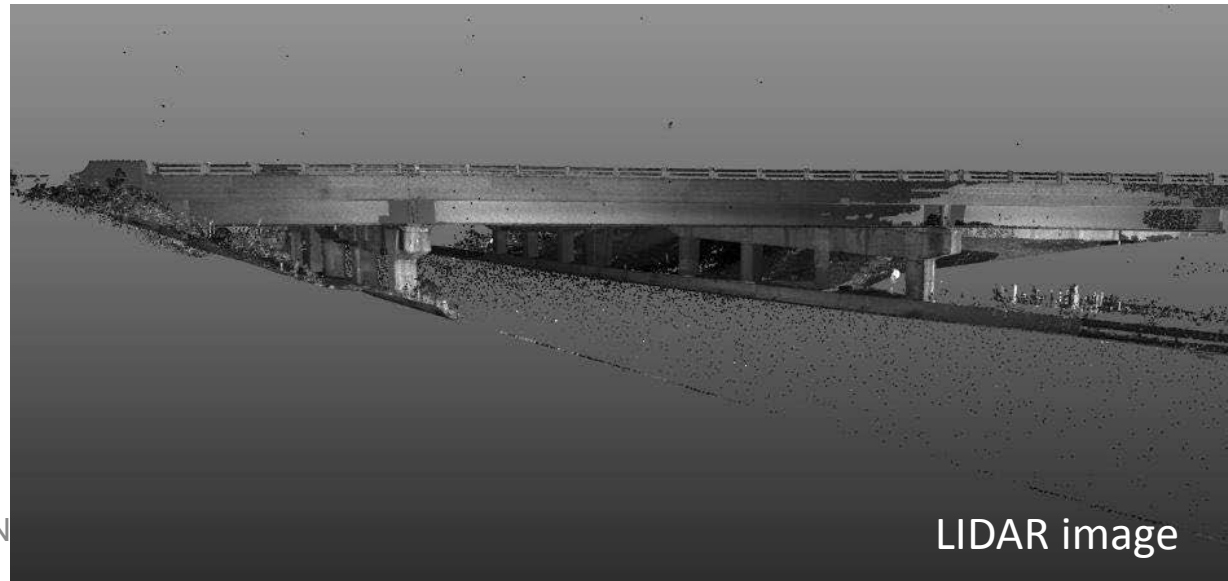
Bridge 3: 02366 (Route 2 Westbound)

Duration: March 2019 - September 2019



Bridge 3: 02366

- The existing bridge is a 3-span, 2-pier bridge
- The new bridge will be single-span with no piers (GRS-IBS abutments will replace piers)

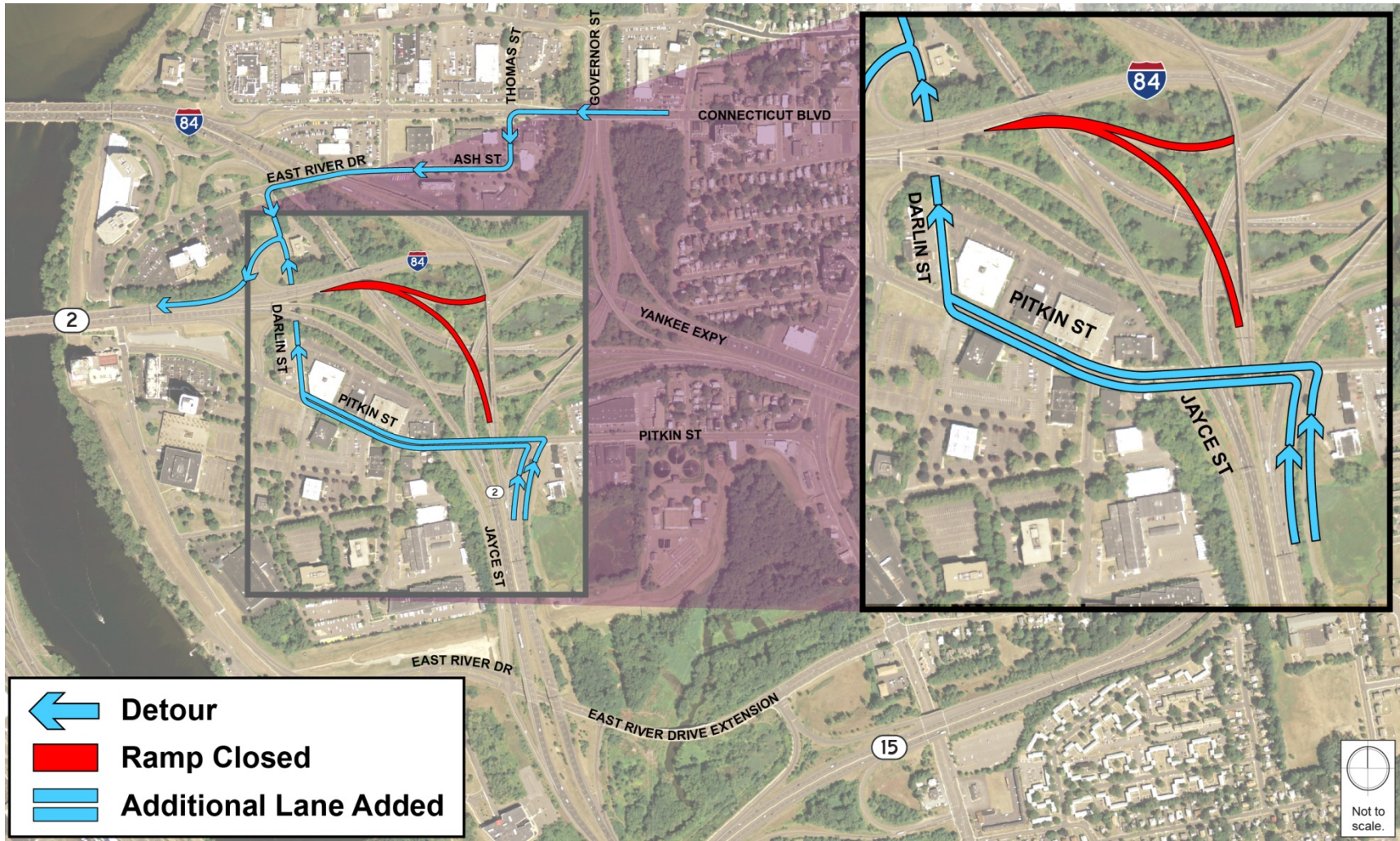


Bridge 3

- March to September 2019
- Bridge (and 2 associated ramps) will be closed during stage 3
 - No more than 91 days
- Traffic Mitigation will include:
 - Pitkin St. off-ramp will provide a left and left-plus-right turn lane
 - Westbound Pitkin Street will be restriped to provide 2 lanes of travel from the ramp
 - Darlin Street intersection will include a right only lane for detoured traffic

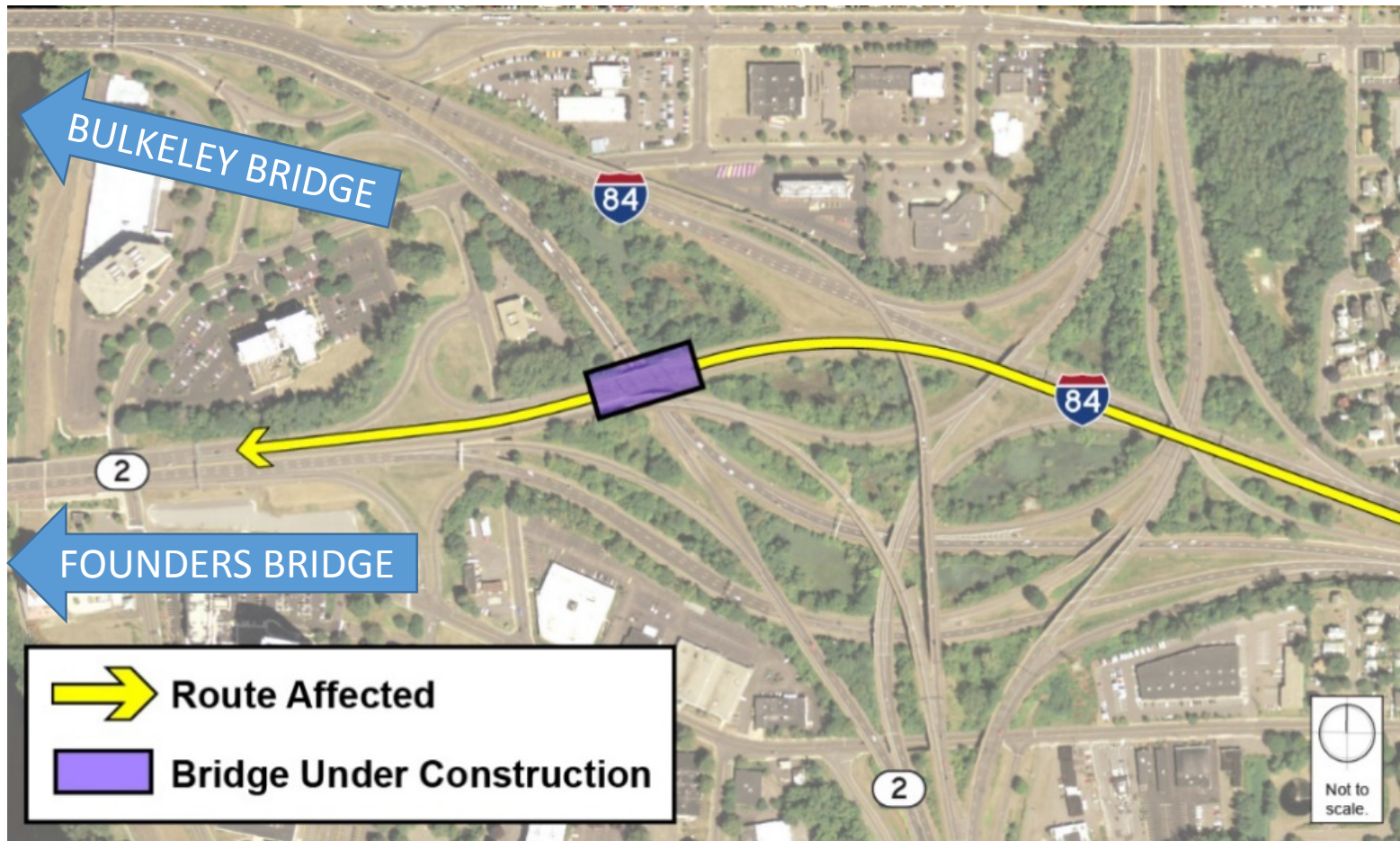


Traffic Impacts – Stage 3



Bridge 4: 02367 (I-84 WB Exit 54)

Duration: March 2019 – November 2019



Bridge 4: 02367

- As with Bridge 3, the existing bridge is a 3-span, 2-pier bridge
- The new bridge will be single-span with no piers (GRS-IBS abutments will replace piers)



Bridge 4

- March to November 2019
- 2 of the 4 lanes of traffic on the bridge will be maintained during construction
 - HOV lane will allow general purpose traffic
 - Darlin Street deceleration lane shortened, closure under consideration

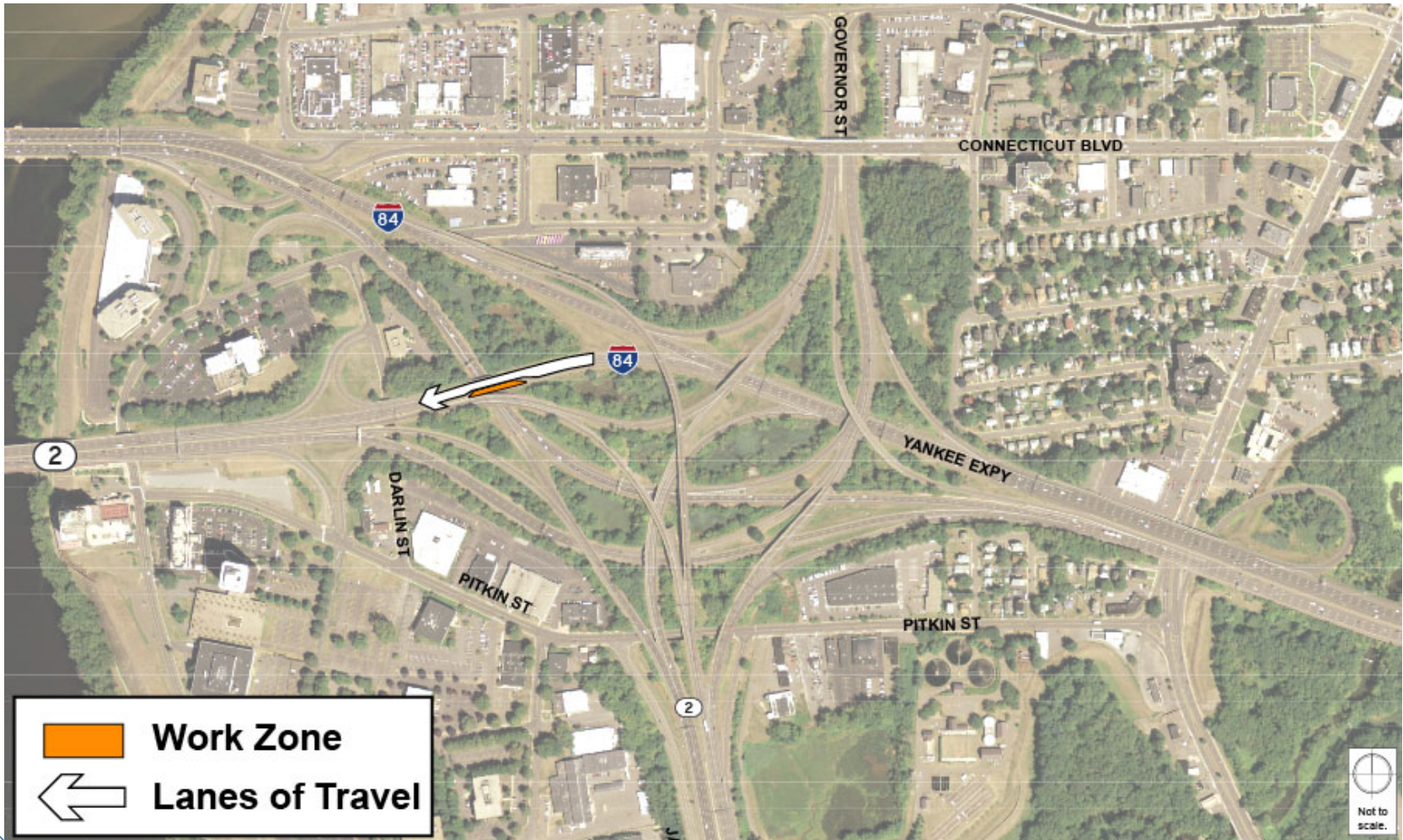


Image: Photogroup, Inc



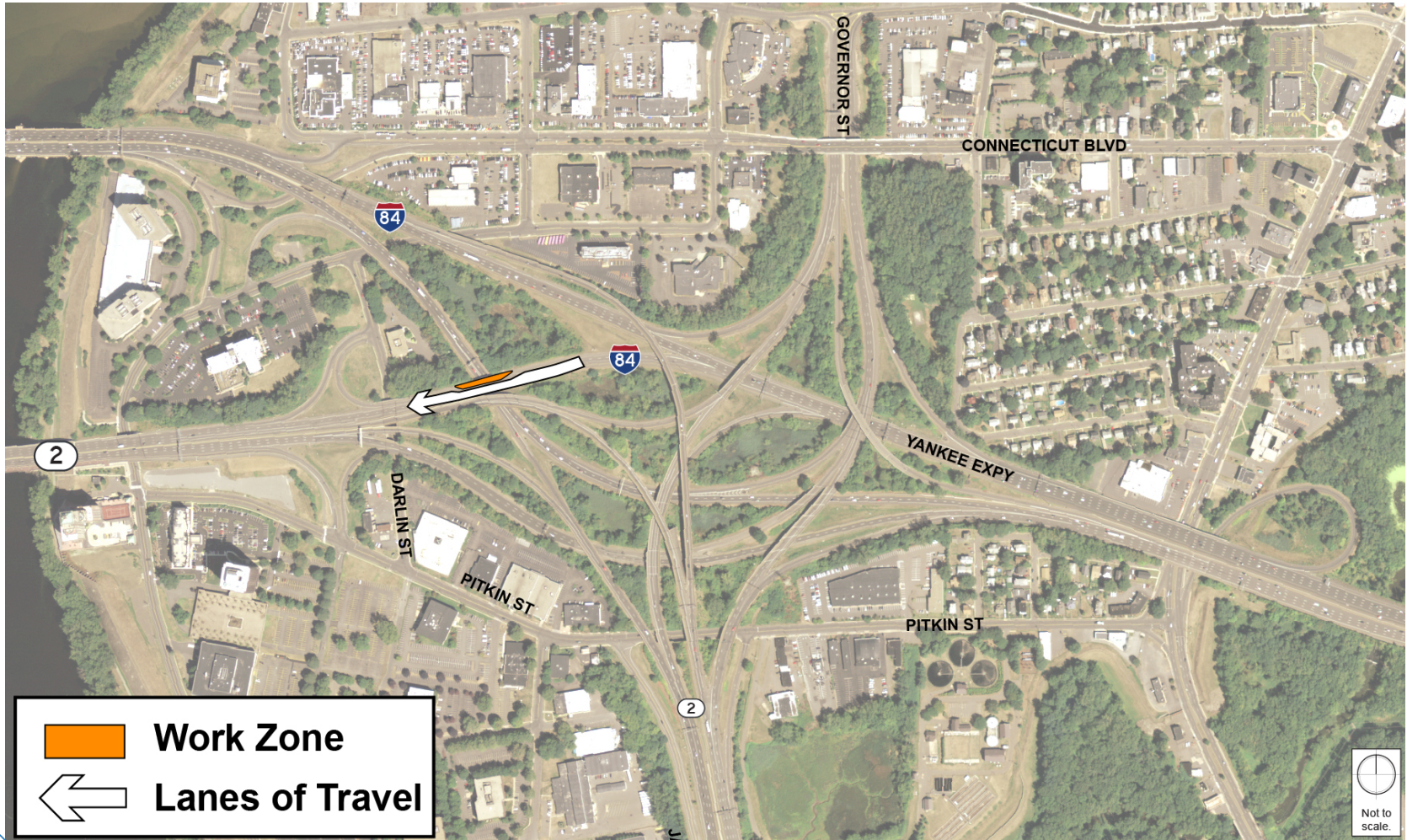
Traffic Impacts – Stage 3

Work on Bridge 3 will take place concurrently with this phase of work on Bridge 4.



Traffic Impacts – Stage 4

After work on the southern half of the bridge is complete, work will switch to the northern half.



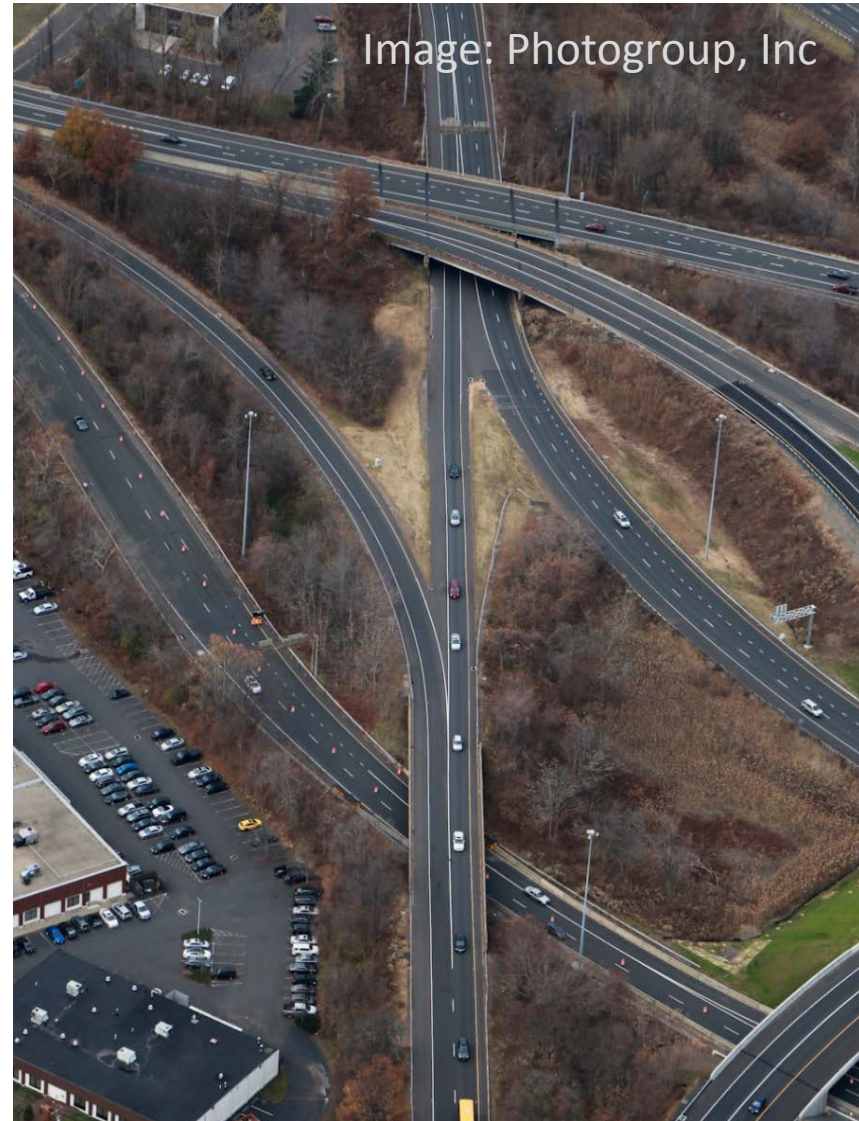
Wrap Up

- Work on Route 2 EB over I-84 is beginning this month
- We understand Pitkin Street will experience some pain during construction
 - Detour sheets will be posted on the website closer to their respective start dates
- Schedule accounts for finishing disruptive work before the Hartford Marathon
- There will be an adjustment period associated with traffic becoming familiar with these detour routes
- We will be monitoring traffic during throughout construction



What to Expect Next

- There is ongoing work in the project area including:
 - Installation of silt fence near the Route 2 EB bridge and the Pitkin St ramp
 - Digging of test pits to collect survey data for all three bridges
- Work on the Pitkin St ramp will begin in the coming weeks



Stay Informed

- Project website in development
- Detour Information, construction look-aheads and a quarterly newsletter to be posted on the website
- Briefings available upon request
- We will work with CTDOT to respond to all questions and comments during construction in a timely manner



CDOT Bridge Rehabilitation Project
East Hartford & Willington
Project No. 170-431

Discussion

Greg Kozma
Connecticut Department of Transportation
Gregory.Kozma@ct.gov
(860)989-8920



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