



I-84 HARTFORD PROJECT

Public Meeting Presentation

Manchester, CT

October 20, 2015



Presentation Overview

1. Project background
2. Alternatives overview
3. Alternatives screening process
4. Sample traffic analyses
5. Initial alternatives assessment
6. Lowered highway possibilities
7. Next steps



Project Overview



I-84 Project Background

- Rail line built in 1830s
- East-west expressway
- I-84 built in 1960s
 - Designed to avoid impacting rail
 - Prior to NEPA
- Soon after, many realized that its effect on Hartford was not all positive
- Now, have opportunity to rethink the previous design



“The impact of the I-84 freeway upon the physical environments into which it was introduced has been both dramatic and overwhelming.” - 1970 CTDOT & FHWA



HARTFORD

Where is the Project?

CLAY ARSENAL

ASYLUM HILL



DOWNTOWN



WEST END

CAPITOL AREA

FROG HOLLOW

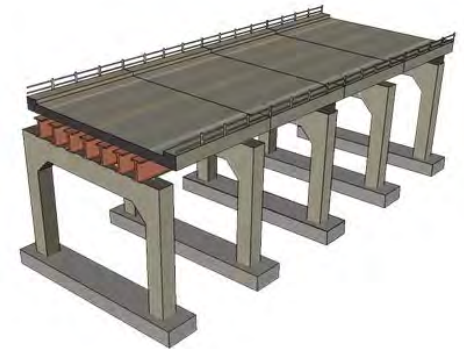
PARKVILLE

BEHIND THE ROCKS



Why is it Needed?

- Bridge structural deficiencies
- Operational and safety deficiencies
- Mobility deficiencies



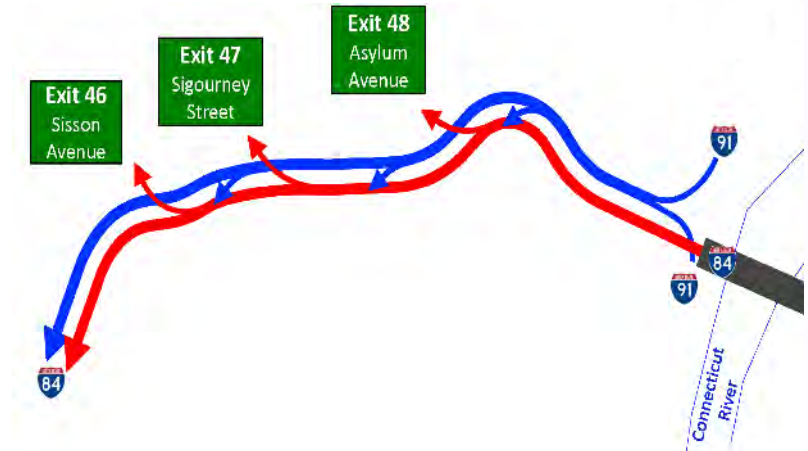
Bridge Structures (Viaduct)

- Reaching end of lifespan
- Cost of repairs = \$60M since 2004
- An additional \$60M over next 5 years
- Bridges are safe; deterioration will continue



Operations and Safety

- Eight full / partial interchanges
- Weaves
- Lane drops
- Sharp curves
- High crash rates



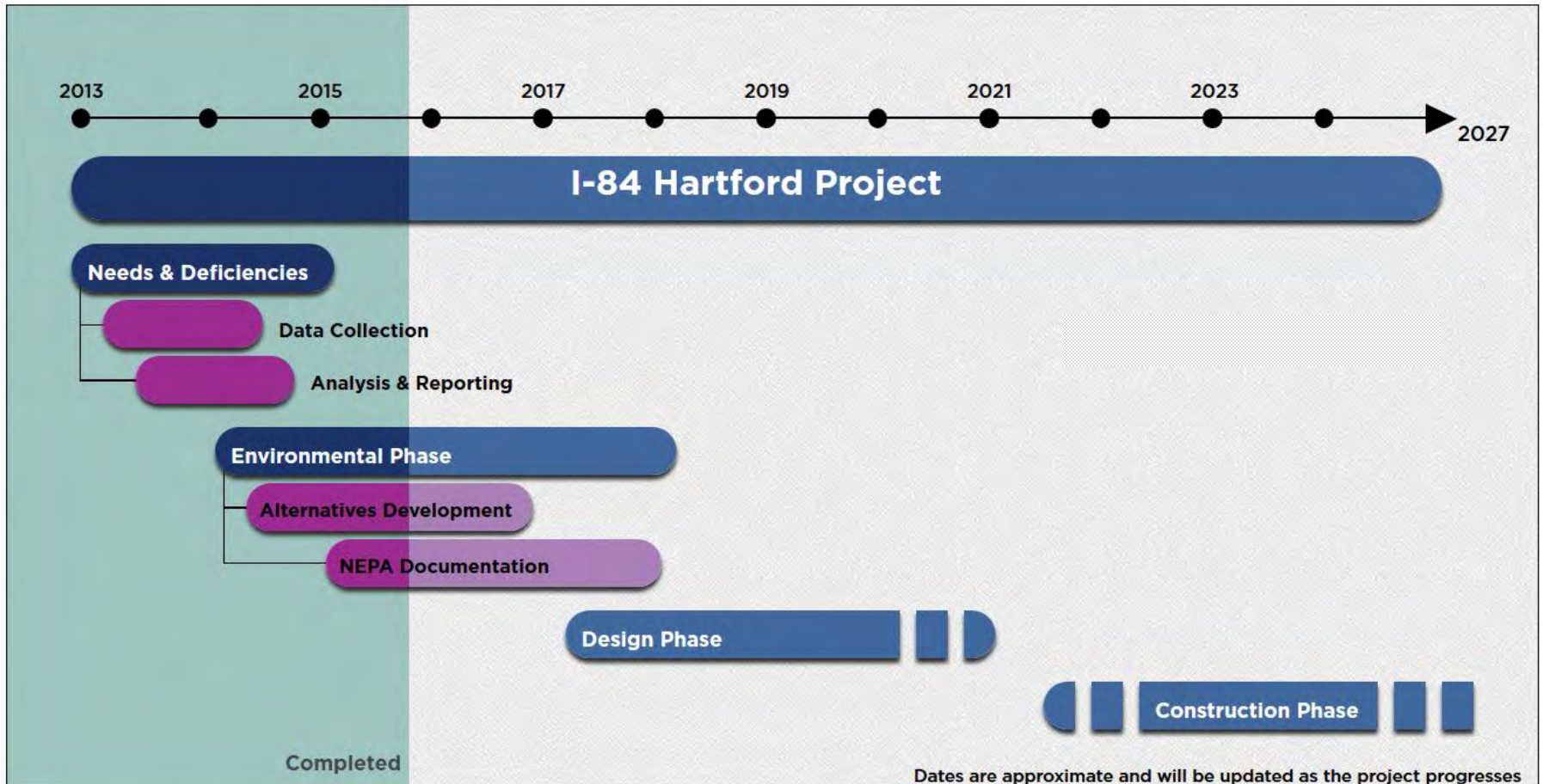
Mobility: Moving People and Goods

- Designed for 55,000 vehicles per day
- Carries 175,000 vehicles per day
- Freight volumes are above national average
- Need for improved pedestrian and bicyclist connections
- Transit, parking are also considerations





Project Schedule

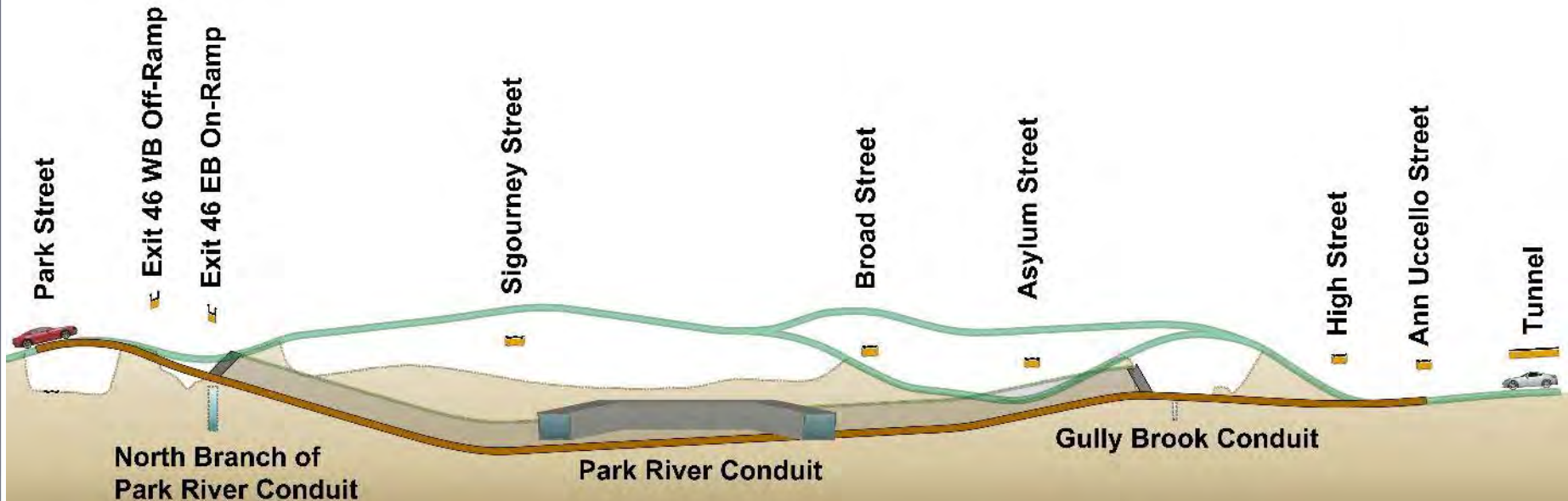




Alternatives Overview

Mainline Alternatives

- Alternative 1: No-Build Green
- Alternative 2 (elevated) Blue
- Alternative 3 (lowered) Yellow
- Alternative 4 (tunnel) Brown





Mainline Alternatives

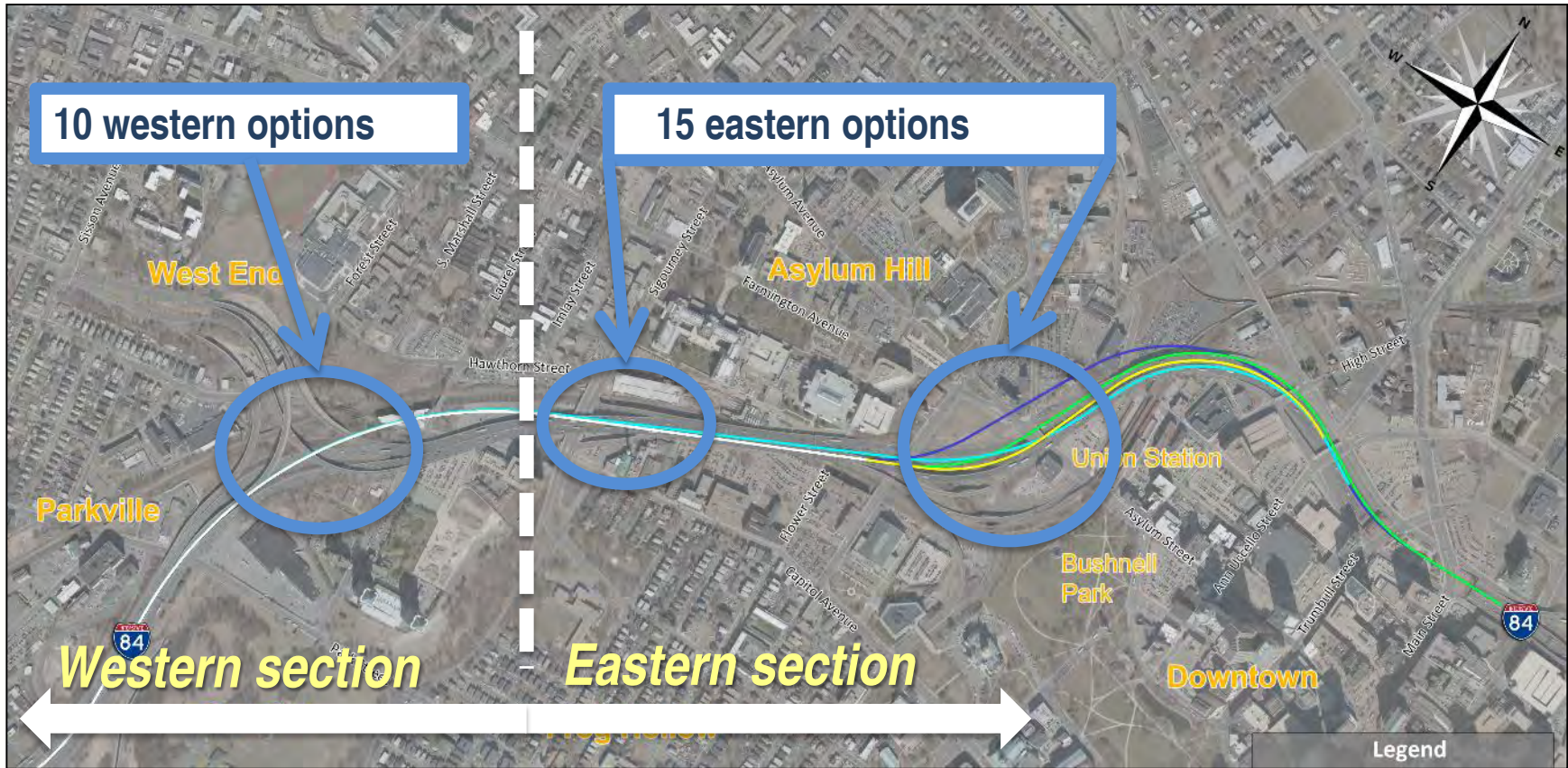
Legend

- Alternatives 2A/3A
- Alternative 3B
- Alternative 3C
- Alternative 4C



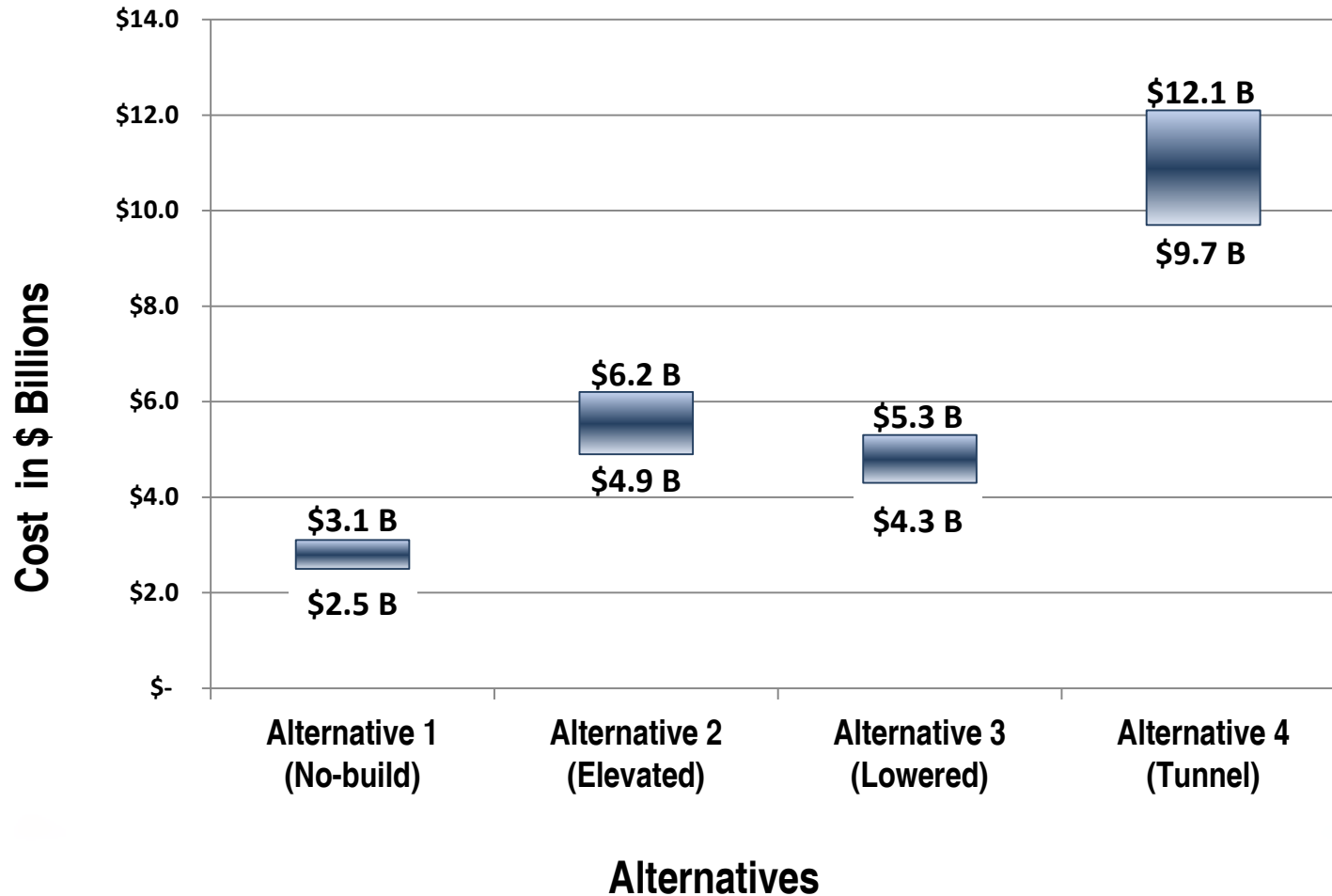


Various Interchange Options





Cost Estimates



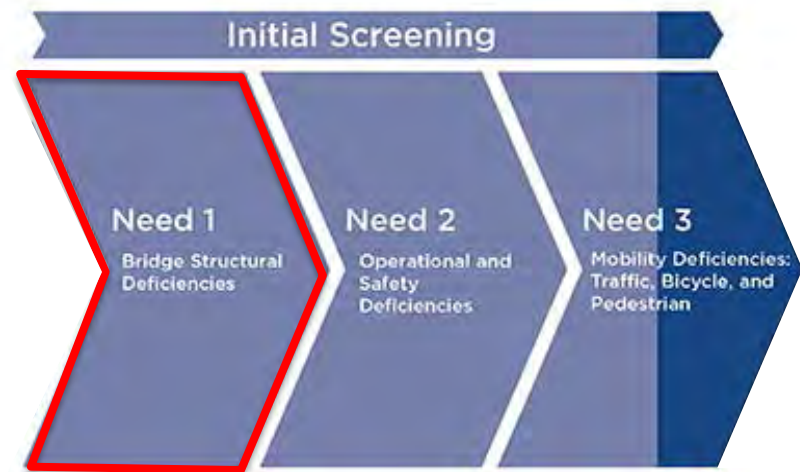


84 Alternatives Screening Process

Initial Screening

Purpose and Need Criterion

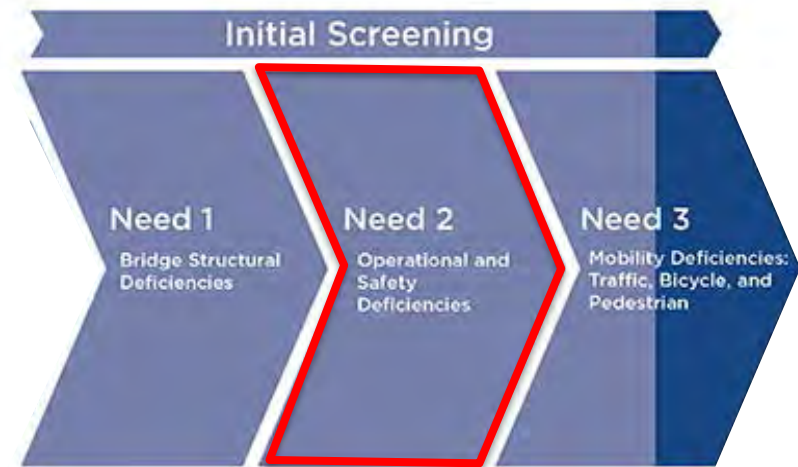
1. Does the option address **bridge structure deficiencies**?



Initial Screening

Purpose and Need Criterion

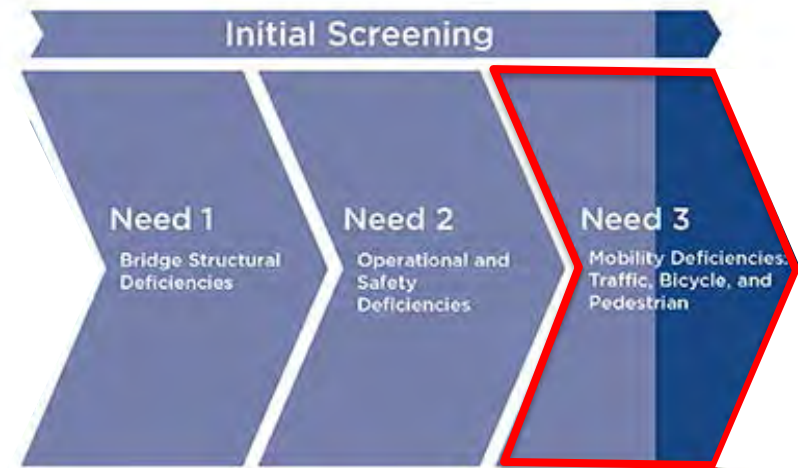
- Does the option address **operational and safety deficiencies?**



Initial Screening

Purpose and Need Criterion

- Does the option address **mobility deficiencies**, including **traffic performance and bicycle and pedestrian accommodations**?





Mobility: Traffic Performance

- Perform I-84 mainline analysis
- Analyze local road intersections



Mobility: Bicycle / Pedestrian

- Collecting information/usage patterns
- Meeting with stakeholders/users
- Incorporating data into the traffic model
- Balancing lanes with walkability / bikeability





84 Sample Traffic Analyses

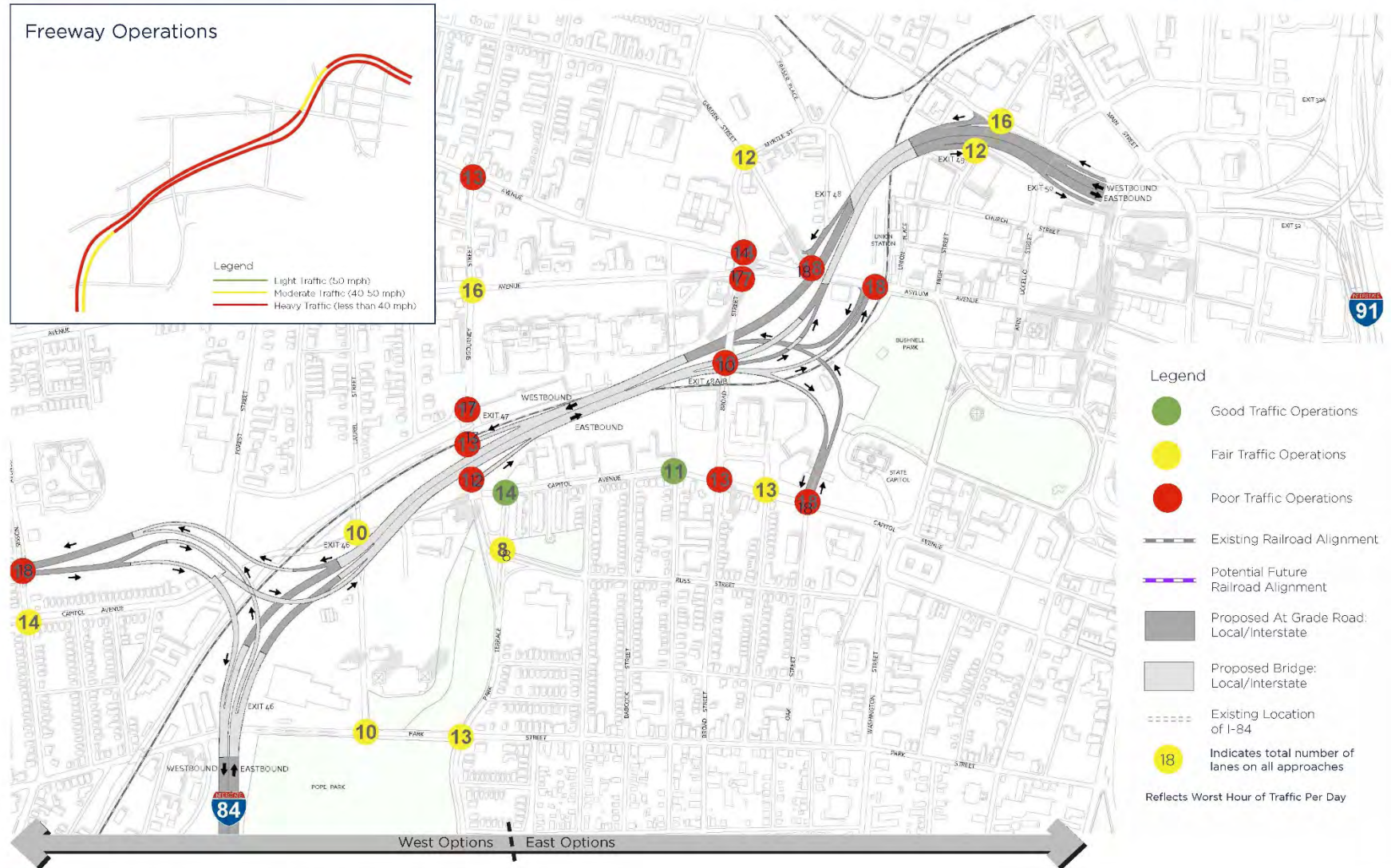


PRELIMINARY TRAFFIC ANALYSIS

EXISTING CONDITIONS

Intersection Operation

Freeway Operations





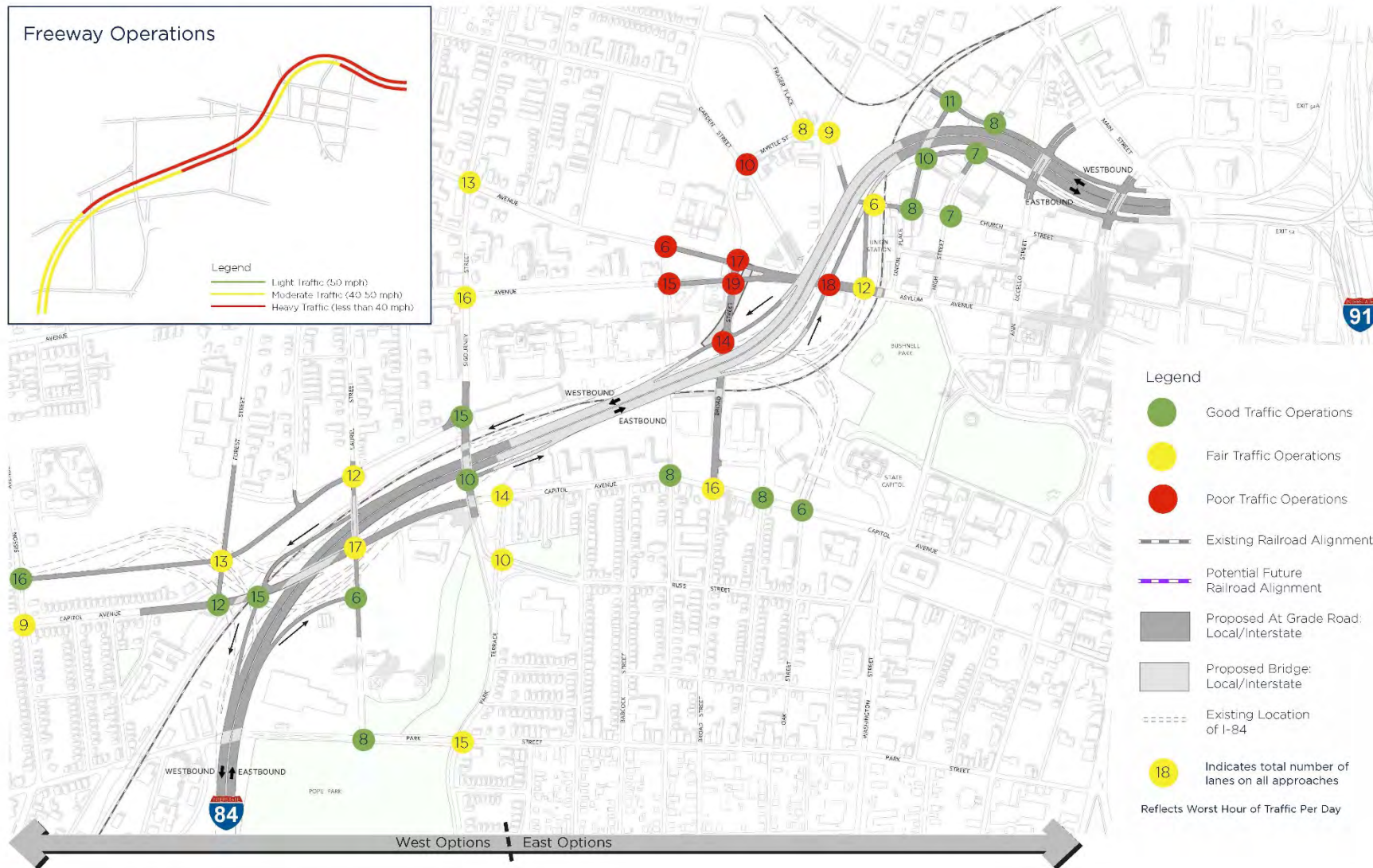
PRELIMINARY TRAFFIC ANALYSIS

ALTERNATIVE 2A: W3-2/E3

Elevated

Intersection Operation

Freeway Operations



West Options | East Options

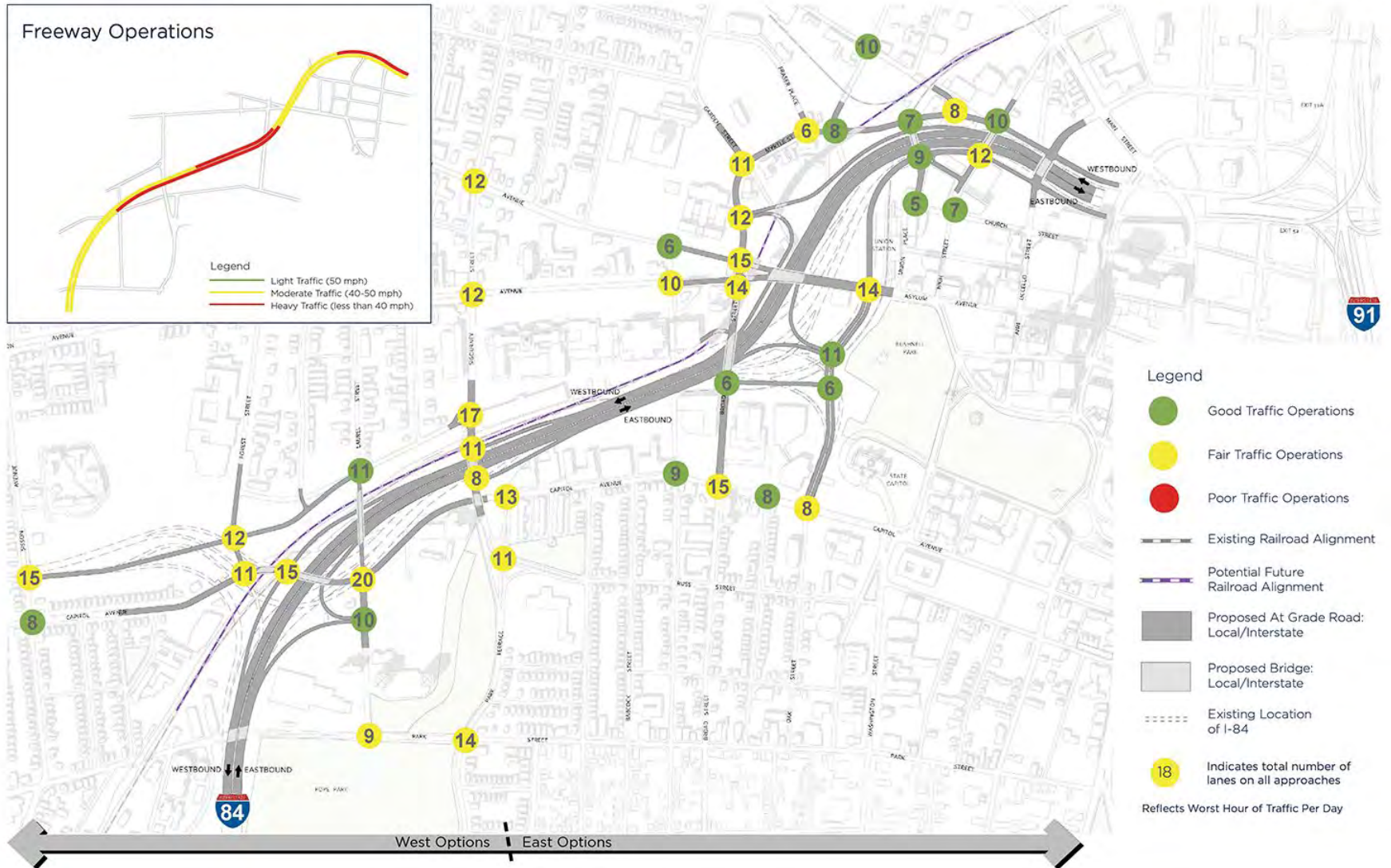


PRELIMINARY TRAFFIC ANALYSIS

ALTERNATIVE 3B: W3-3/E2 (S) Lowered

Intersection Operation

Freeway Operations



Legend

- Good Traffic Operations
 - Fair Traffic Operations
 - Poor Traffic Operations
 - Existing Railroad Alignment
 - - - Potential Future Railroad Alignment
 - Proposed At Grade Road: Local/Interstate
 - Proposed Bridge: Local/Interstate
 - ⋯ Existing Location of I-84
 - 18 Indicates total number of lanes on all approaches
- Reflects Worst Hour of Traffic Per Day

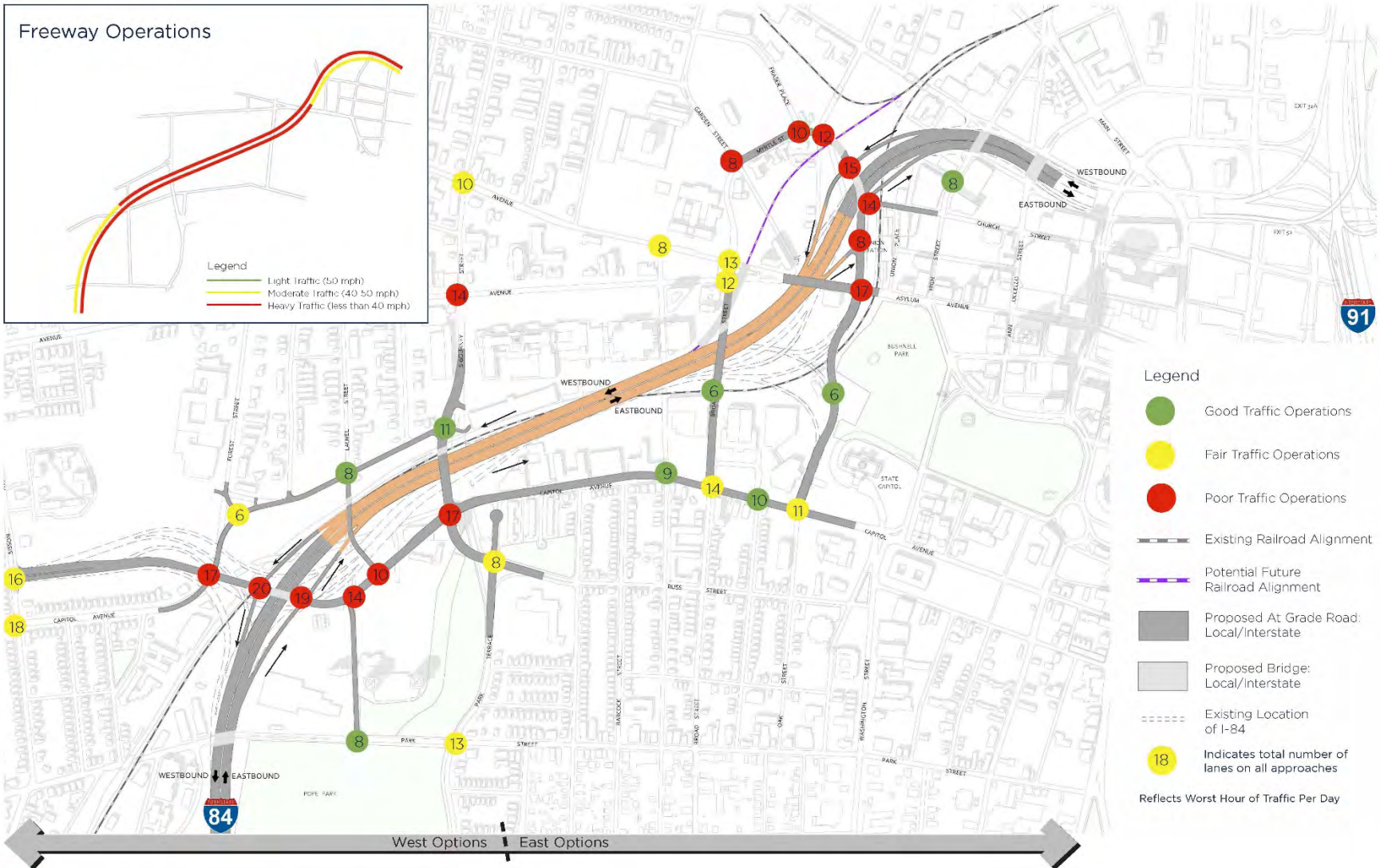
West Options | East Options



PRELIMINARY TRAFFIC ANALYSIS

ALTERNATIVE 4C Tunnel

Intersection Operation





Traffic: What We've Learned



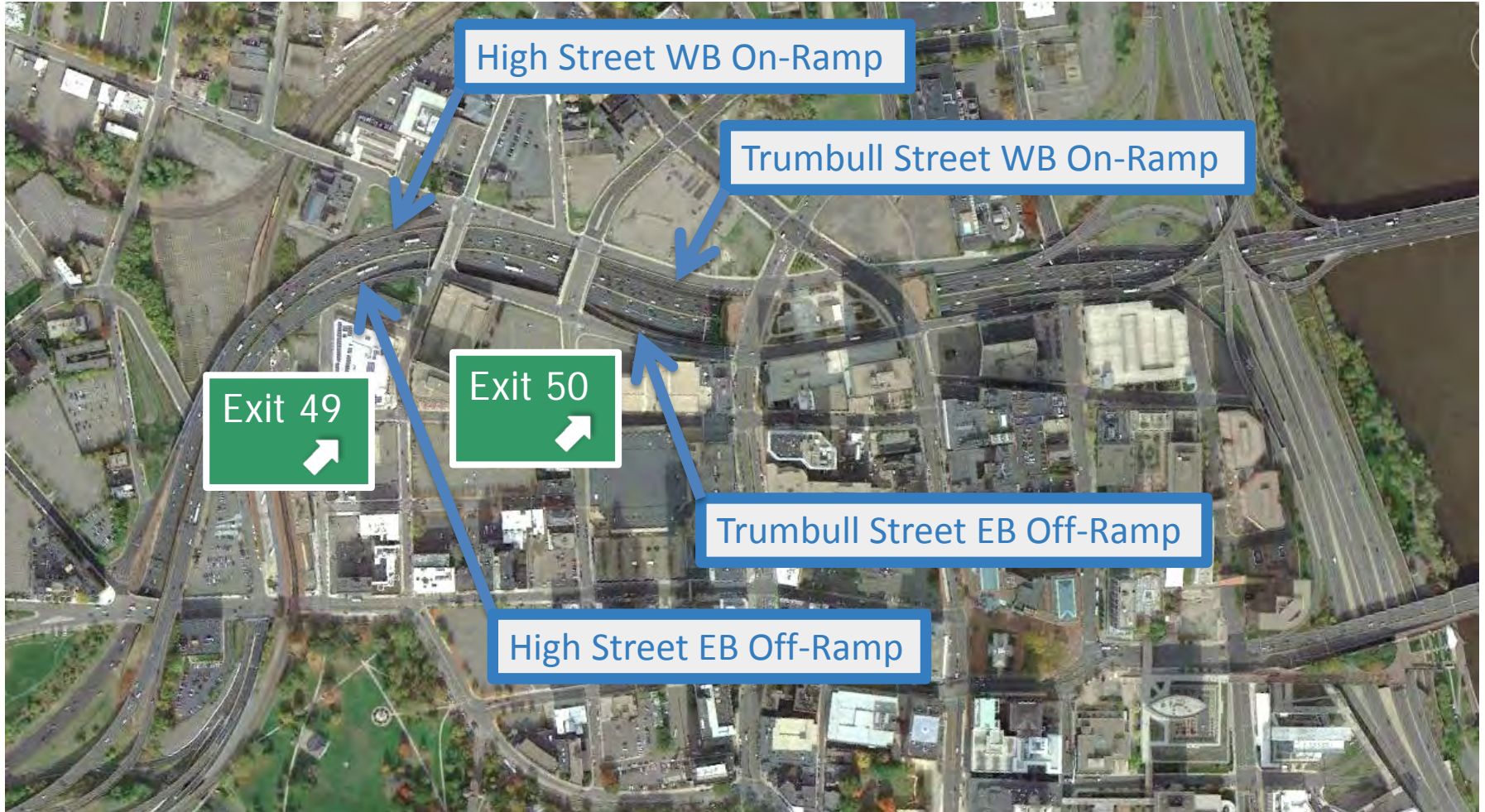
Analysis of Existing Mainline

- Corridor has too many ramps
- Left-hand on-ramp and left-hand off-ramp
- Multi-lane weaves
- Poor intersections affect mainline





Proposed Ramp Closures



Intersection analysis tells us...

- Sigourney St ramps are needed
- Create new roads to add redundancy
- Remove ramps from Broad St and Asylum St
- Improved mainline = improved intersections





Initial Alternatives Assessment

How do the alternatives and interchange options address...

- **Structure** deficiencies?
- **Safety** and **operational** deficiencies?
- **Mobility** deficiencies?

Ability to Meet Purpose and Need	
Meets P&N	
Moderately Meets P&N	
Does Not meet P&N	
Critical Flaw	
More Analysis Needed	



Elevated Highway

Criteria	ELEVATED HWY		
	ALT 2A		
	E1	E2(S)	E3
Purpose & Need			
Bridge Structure Deficiencies	Green	Green	Green
Mainline Traffic Performance	Black	Black	Black
Safety Considerations	Yellow	Yellow	Yellow
Local Road Traffic Performance	Black	Black	Black
Bike/Ped Accommodations			
Goals & Objectives			
Rail Accommodations			
Multi-Modal Connectivity			
Cost Effectiveness			
Neighborhood Connections			
Viewsheds			
Opportunities for Land Development			
Other Considerations			
Changes to Travel Patterns			
Permit Feasibility			
Impacted Buildings	Green	Green	Green
Construction Costs	Yellow	Yellow	Yellow

Ability to Meet Purpose and Need	
Meets P&N	Green
Moderately Meets P&N	Yellow
Does Not meet P&N	Red
Critical Flaw	Black
More Analysis Needed	

Other Considerations	
Good	Green
Fair	Yellow
Poor	Red
Critical Flaw	Black
More Analysis Needed	



Tunneled Highway

Criteria	TUNNELED HIGHWAY			
	ALT 4			
	4A	4B	4C-1	4C-2
Purpose & Need				
Bridge Structure Deficiencies	Green	Green	Green	Green
Mainline Traffic Performance	Black	Black	Black	Yellow
Safety Considerations	Yellow	Yellow	Yellow	Green
Local Road Traffic Performance	Black	Black	Black	Yellow
Bike/Ped Accommodations				
Goals & Objectives				
Rail Accommodations				
Multi-Modal Connectivity				
Cost Effectiveness				
Neighborhood Connections				
Viewsheds				
Opportunities for Land Development				
Other Considerations				
Changes to Travel Patterns				
Permit Feasibility				
Impacted Buildings	Black	Black	Yellow	Black
Construction Costs	Red	Red	Red	Red

Ability to Meet Purpose and Need	
Meets P&N	Green
Moderately Meets P&N	Yellow
Does Not meet P&N	Red
Critical Flaw	Black
More Analysis Needed	

Other Considerations	
Good	Green
Fair	Yellow
Poor	Red
Critical Flaw	Black
More Analysis Needed	



Lowered Highway

LOWERED HIGHWAY							
Criteria	E5(S)	E2(S)	E3(S)	E4(S)	W3-1	W3-2	W3-3
Purpose & Need							
Bridge Structure Deficiencies	Green	Green	Green	Green	Green	Green	Green
Mainline Traffic Performance	Yellow	Yellow	Yellow	Yellow	Green	Green	Yellow
Safety Considerations	Yellow	Green	Green	Green	Green	Green	Green
Local Road Traffic Performance	Green	Green	Yellow	Yellow	Yellow	Green	Green
Bike/Ped Accommodations							
Goals & Objectives							
Rail Accommodations							
Multi-Modal Connectivity							
Cost Effectiveness							
Neighborhood Connections							
Viewsheds							
Opportunities for Land Development							
Other Considerations							
Changes to Travel Patterns							
Permit Feasibility							
Impacted Buildings	Yellow	Red	Red	Red	Yellow	Yellow	Yellow
Construction Costs	Green	Green	Green	Green	Green	Green	Green

Ability to Meet Purpose and Need	
Meets P&N	Green
Moderately Meets P&N	Yellow
Does Not meet P&N	Red
Critical Flaw	Black
More Analysis Needed	White

Other Considerations	
Good	Green
Fair	Yellow
Poor	Red
Critical Flaw	Black
More Analysis Needed	White



We need your help!

Review the preliminary analysis and give us your feedback.

What are *your* thoughts?





Lowered Highway Possibilities - West



Existing Conditions





Existing Mainline



Existing I-84
Mainline



Existing Ramps



Exit 46: Sisson Ave.

Exit 47: Sigourney St.

Existing I-84
Mainline



Option W3-3

Proposed Mainline



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Ramp Closures



Sisson Avenue Ramps Closed

Sigourney Street Ramps Reconfigured

Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Capitol Ave. Realignment



**Realigned
Capitol Avenue**

Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Proposed Ramps



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Proposed New Local Roads



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Summary of Improvements



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3



New and Reconstructed Roads



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3



Potentially Impacted Buildings



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Potentially Available Land



Preliminary

Subject to changed based upon ongoing analysis and design. Actual location and limits may vary.



Option W3-3

Current Bike Routes



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3



Proposed Complete Streets

Existing or Proposed
Bike Lane

Complete
Streets Improvements



Preliminary

Subject to changed based upon ongoing analysis and design



Option W3-3

Greenway & Streetscapes



CONCEPTUAL - FOR ILLUSTRATIVE PURPOSES ONLY

Subject to changed based upon ongoing analysis and design. Streetscapes restricted to actual limits of necessary roadway infrastructure improvements.



Lowered Highway Possibilities - West



Existing Conditions - East



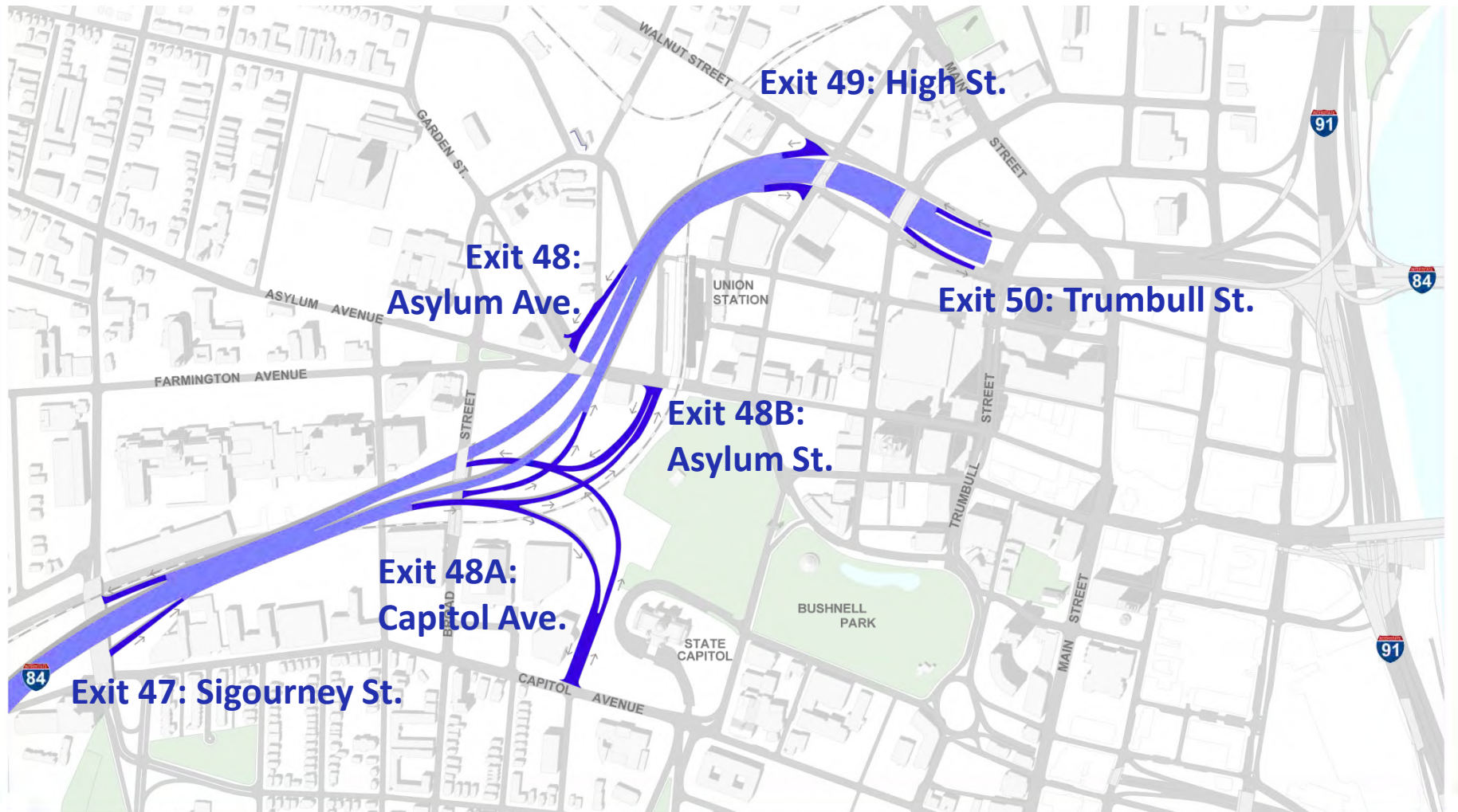


Existing Mainline



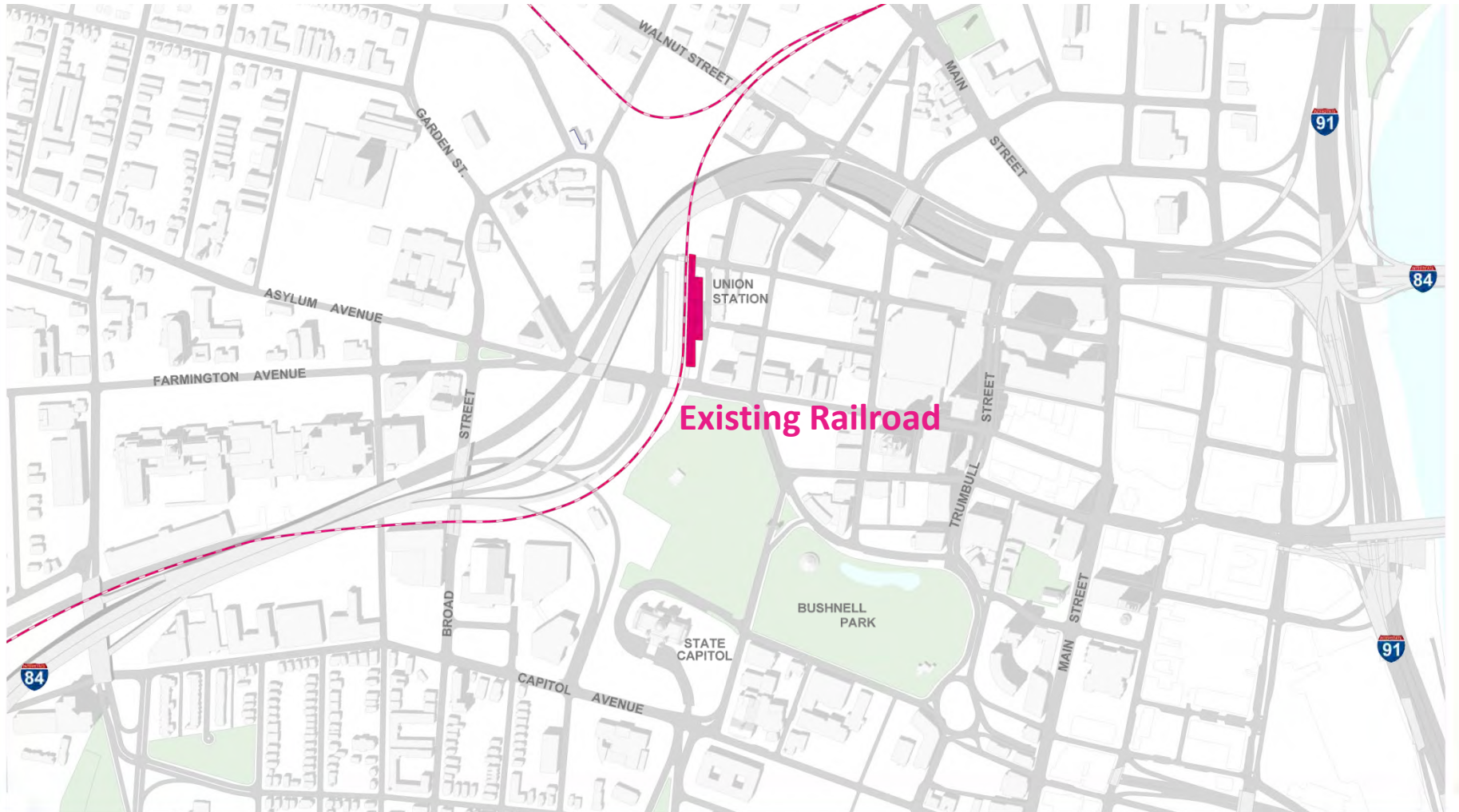


Existing Ramps





Existing Railroad

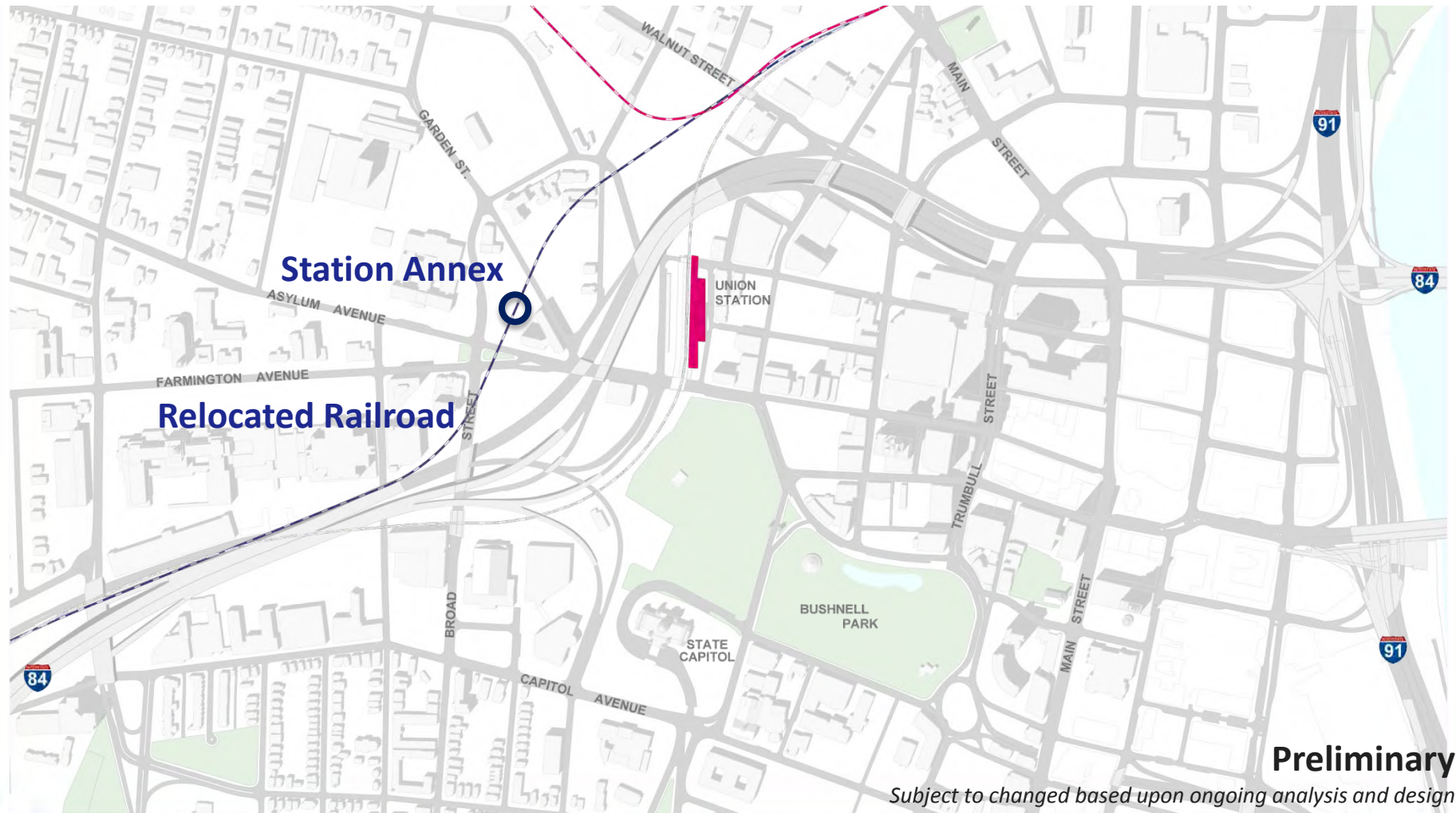




Option 3B E2(S)



Relocated Railroad & New Annex



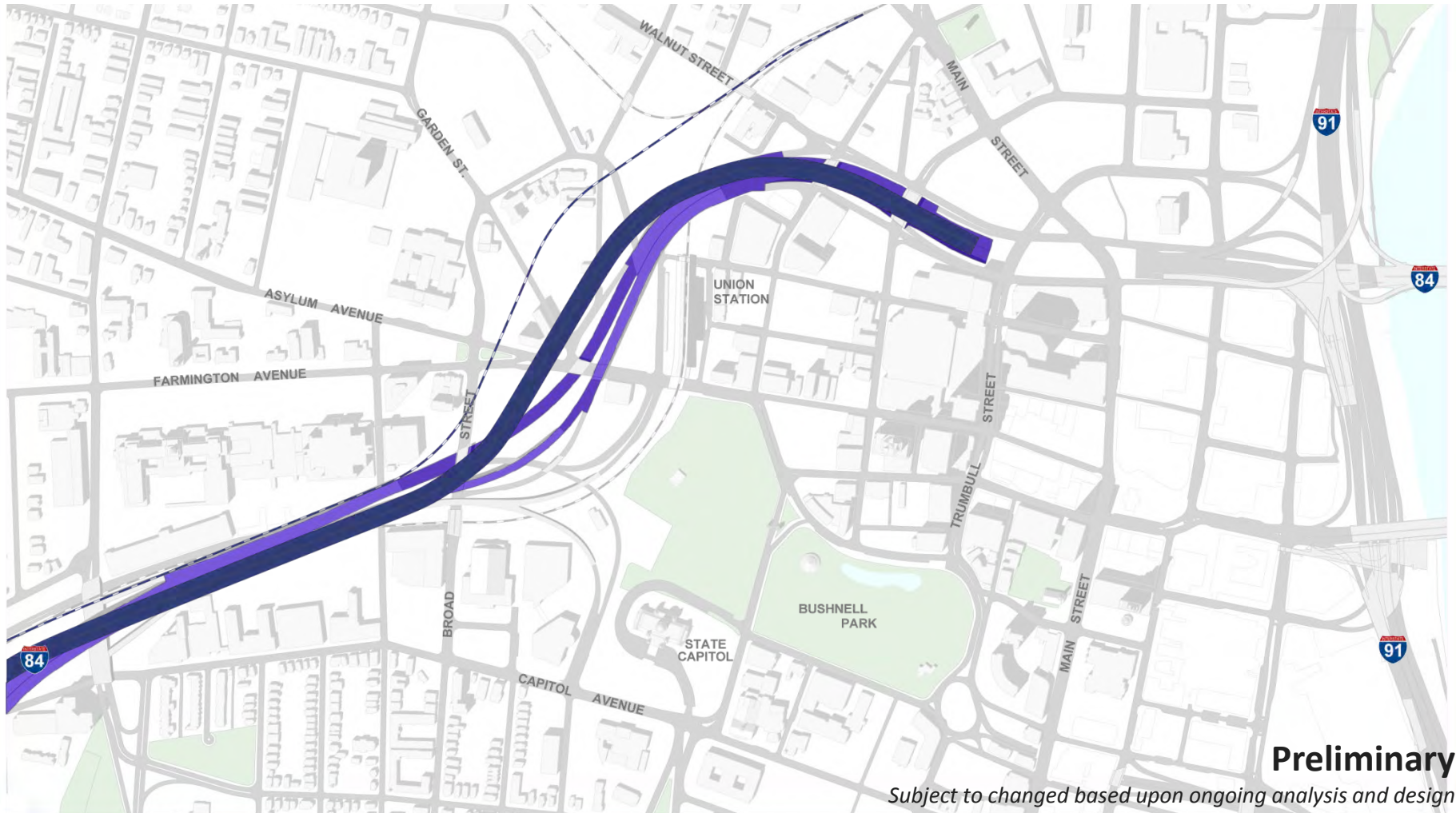
Preliminary

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Option 3B E2(S)

Proposed Mainline



Preliminary

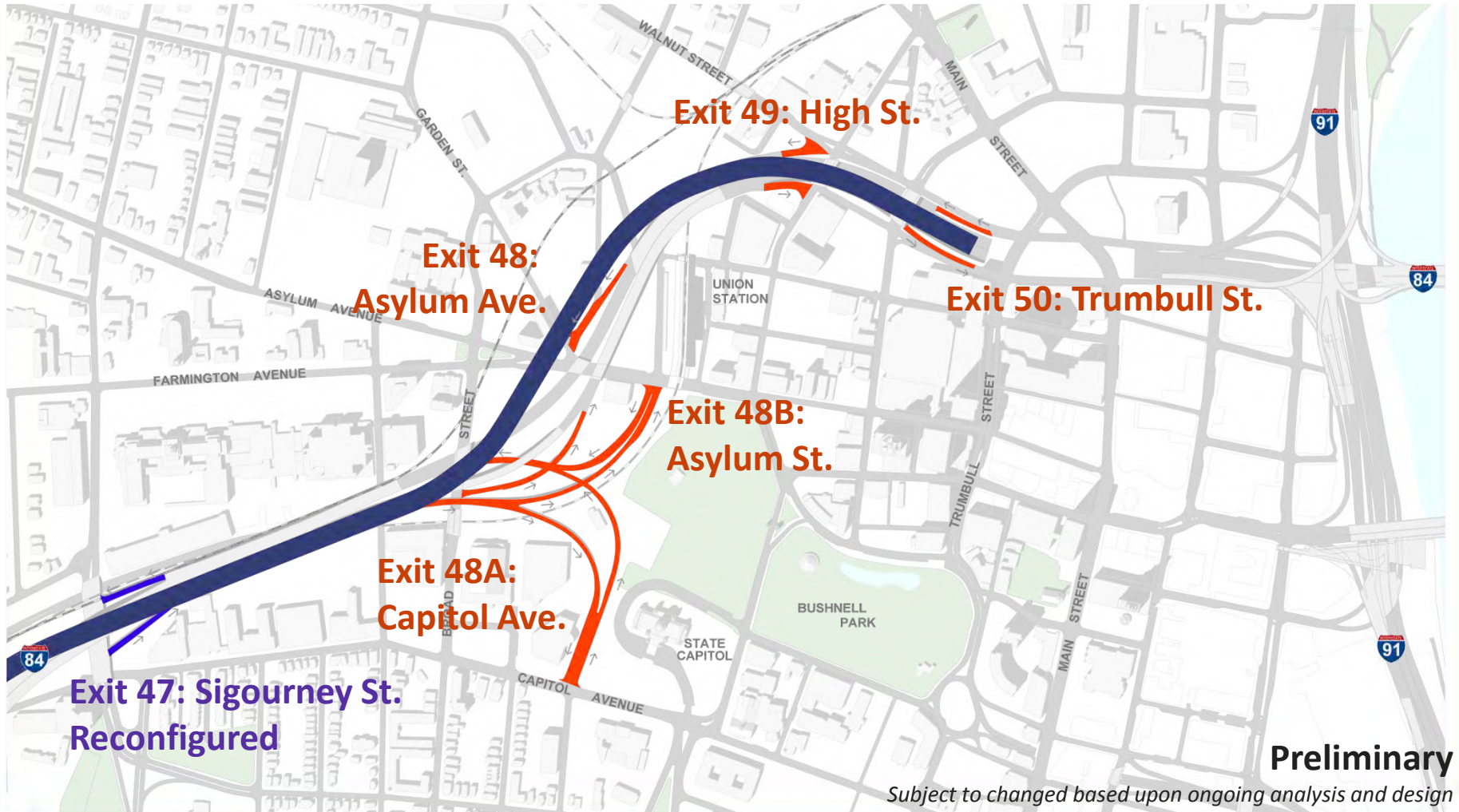
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Option 3B E2(S)



Proposed Ramp Closures

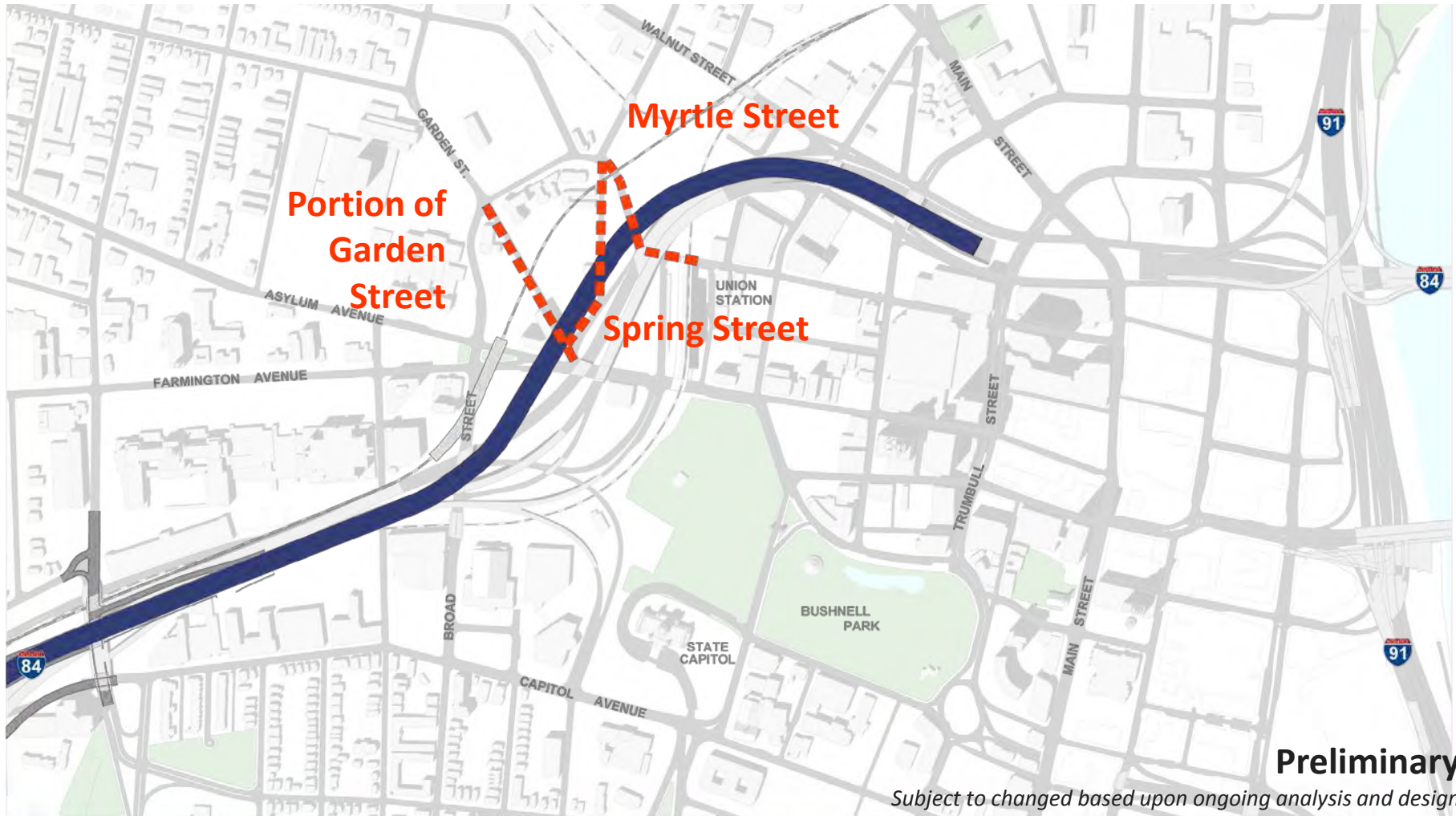




Option 3B E2(S)



Proposed Roads Closed



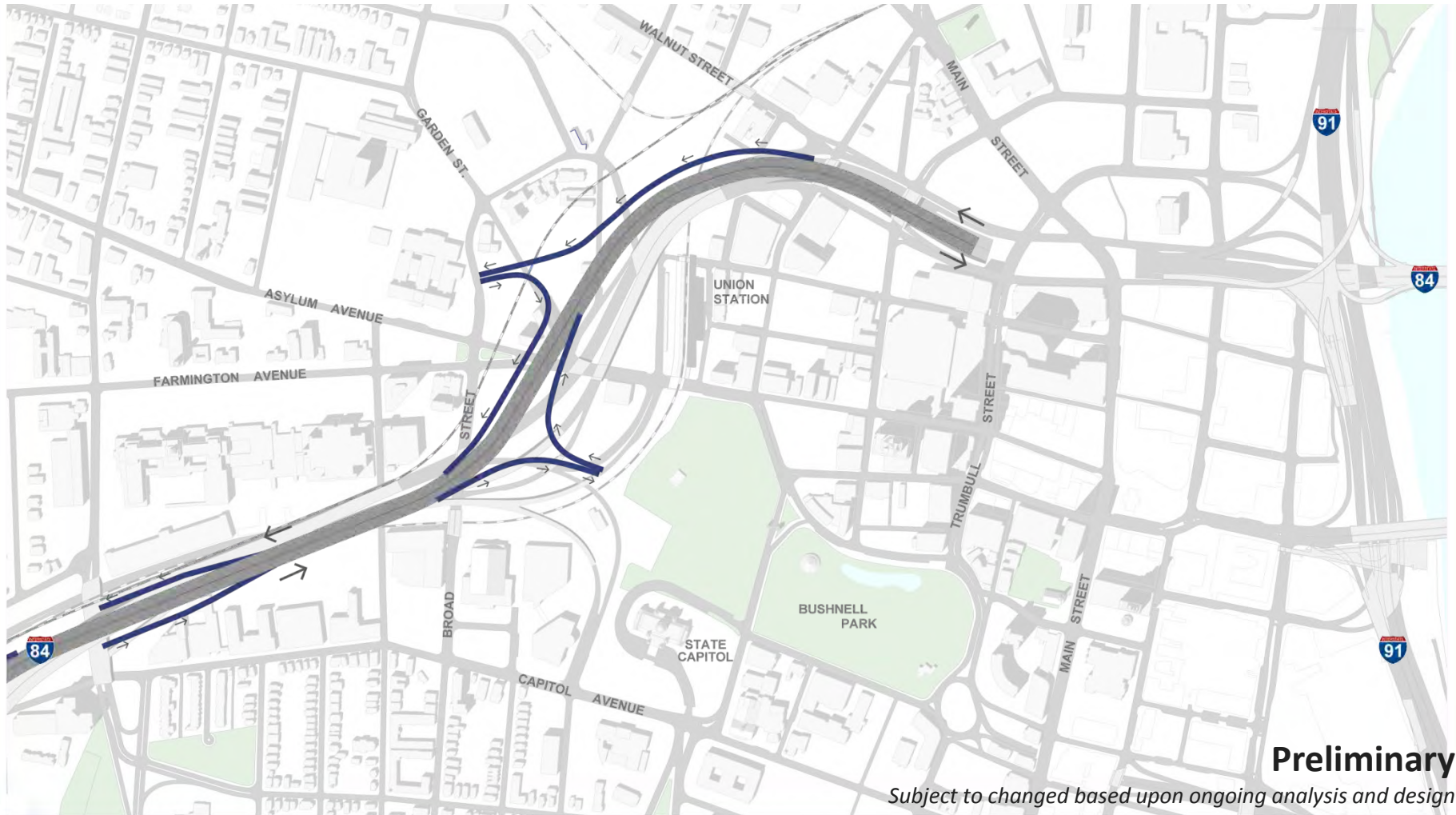
Preliminary

Subject to changed based upon ongoing analysis and design



Option 3B E2(S)

Proposed Ramps



Preliminary

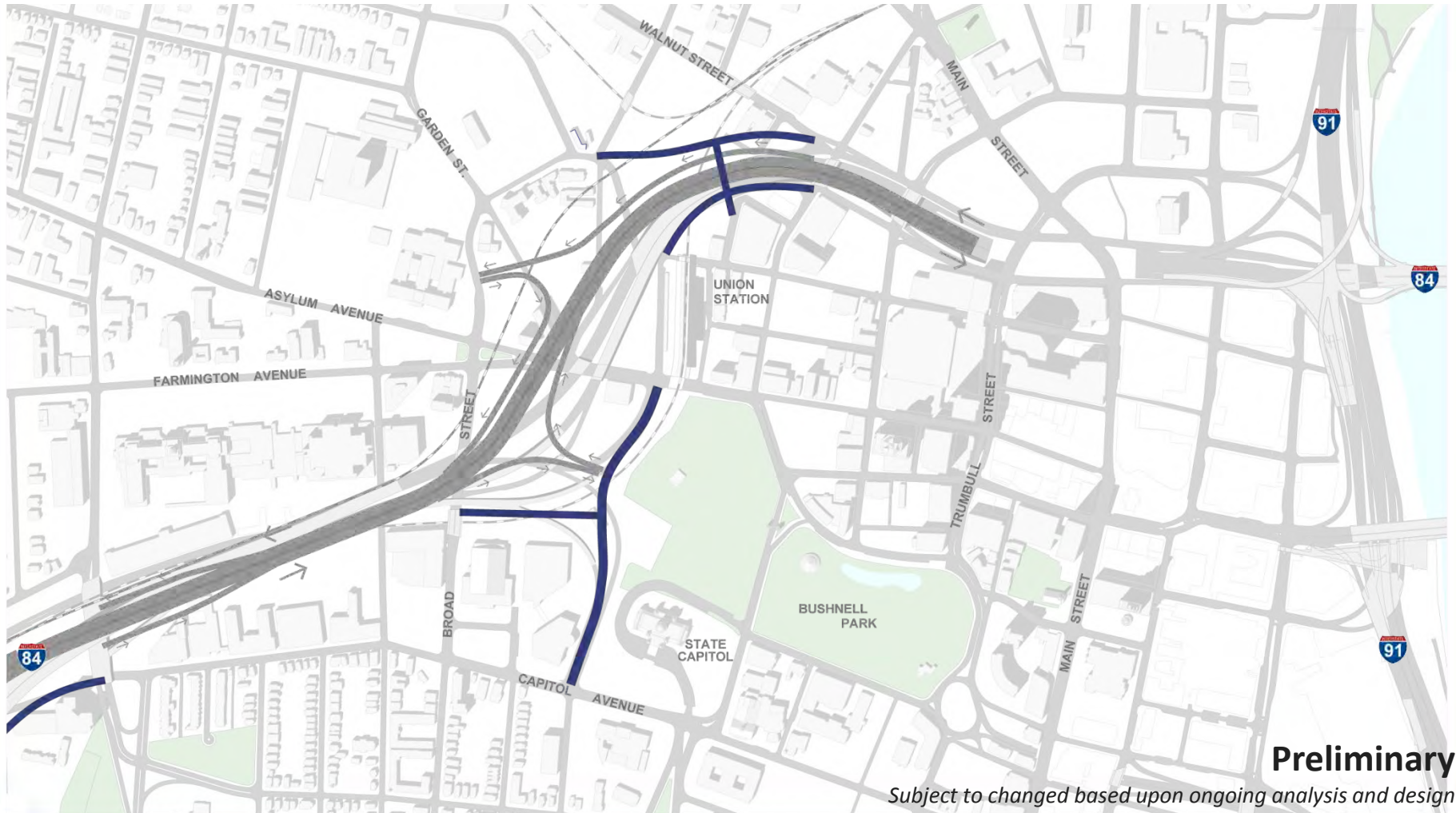
Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



Proposed New Local Roads



Preliminary

Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



Summary of Improvements



Preliminary

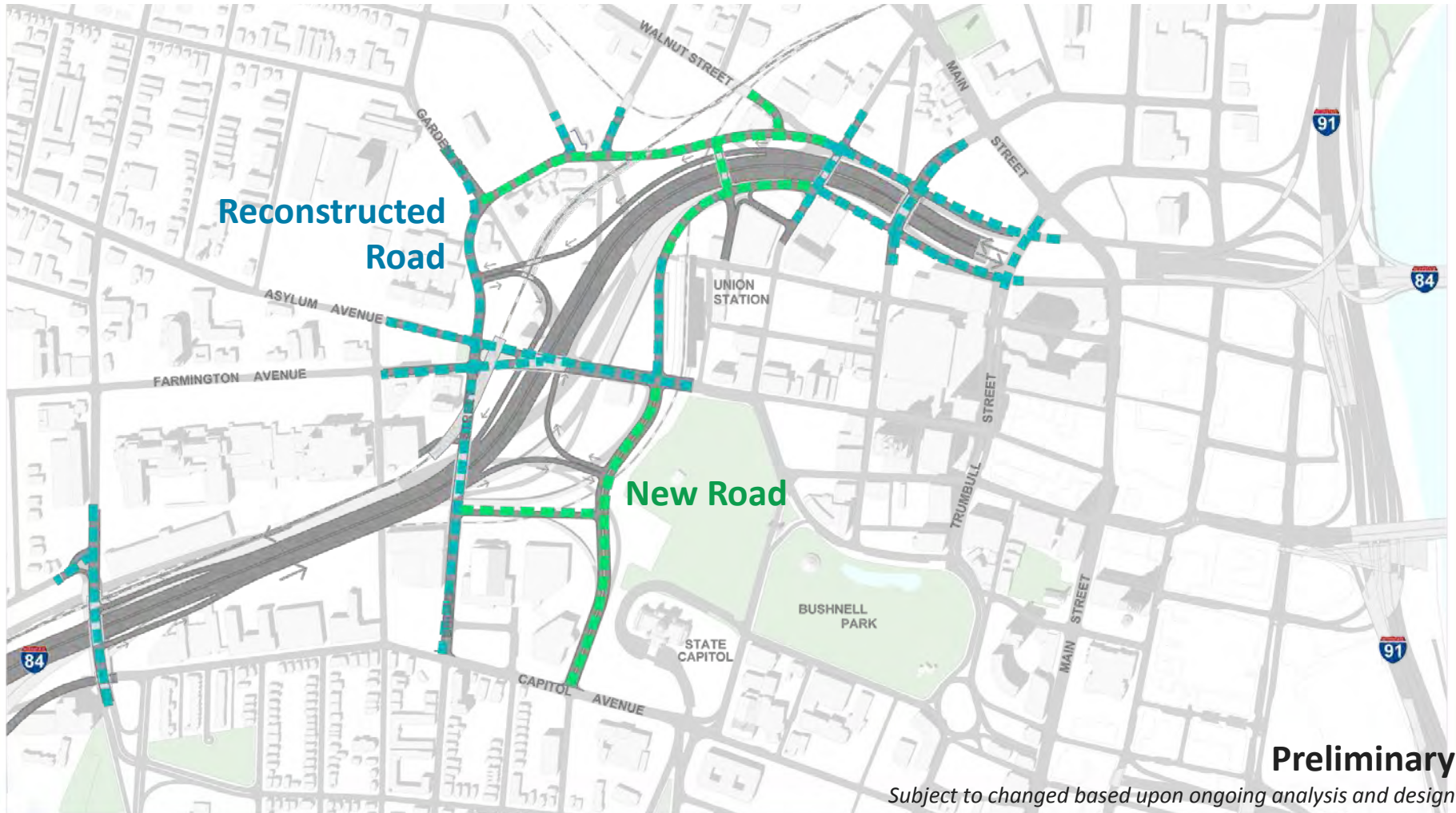
Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



New and Reconstructed Roads



Preliminary

Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



Potentially Impacted Buildings



Preliminary

Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



Potential Available Land

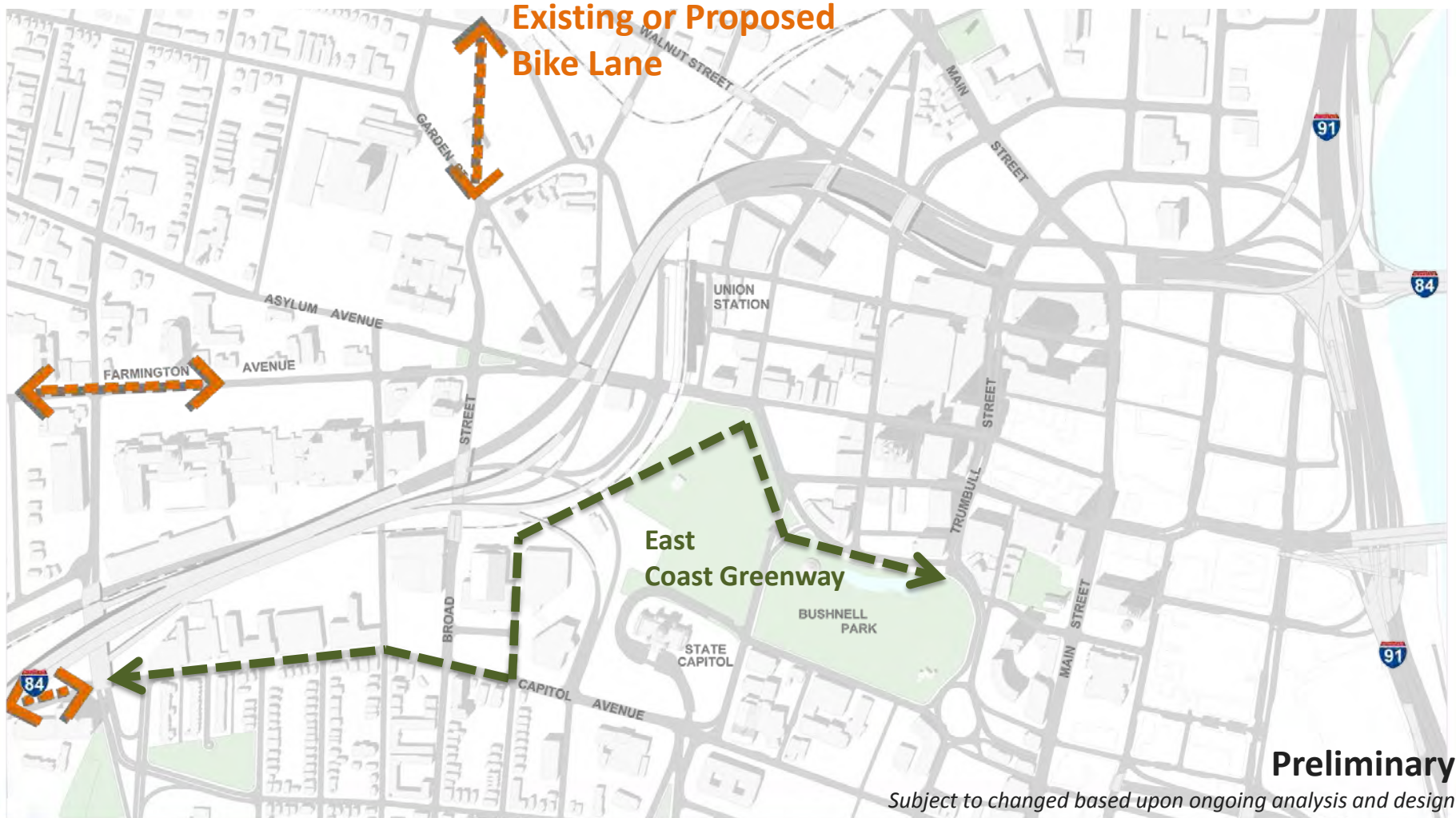


Preliminary

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Current Bike Corridors



Preliminary

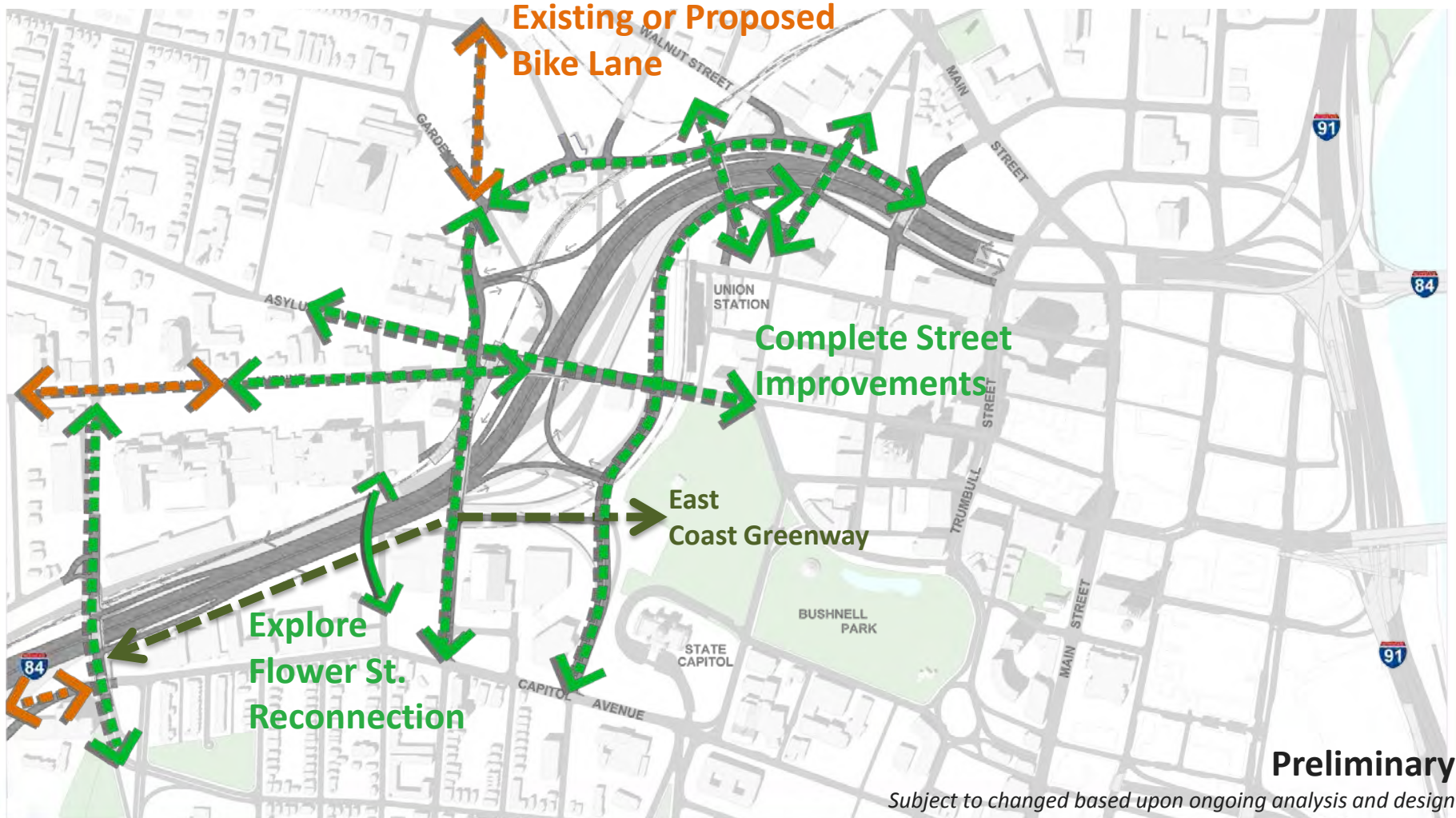
Subject to changed based upon ongoing analysis and design



Option 3B E2(S)



Potential Complete Streets



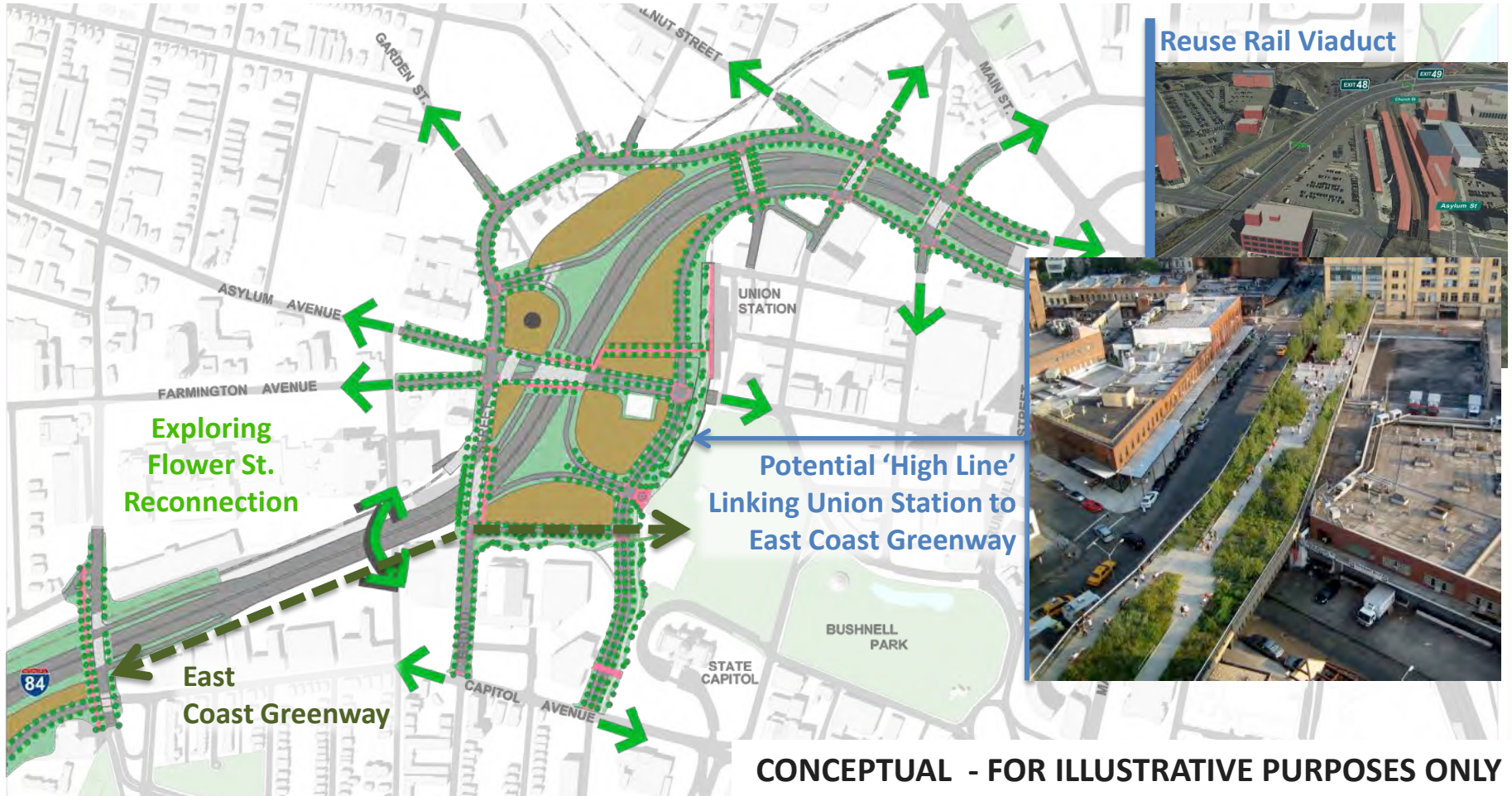
Preliminary

Subject to changed based upon ongoing analysis and design



Option 3B E2(S)

Greenway & Streetscapes



Exploring
Flower St.
Reconnection

Potential 'High Line'
Linking Union Station to
East Coast Greenway

Reuse Rail Viaduct

East
Coast Greenway

CONCEPTUAL - FOR ILLUSTRATIVE PURPOSES ONLY

Subject to changed based upon ongoing analysis and design. Streetscapes restricted to actual limits of necessary roadway infrastructure improvements.



Alternatives 3A and 3B

Intermodal Opportunities



Source of Concepts:

Hartford Rail Alternatives Analysis

State Project No. 170-3196

CONCEPTUAL - FOR ILLUSTRATIVE PURPOSES ONLY

Subject to changed based upon ongoing analysis and design



Next Steps



With your help, we'd like to narrow down the number of options for further consideration.





3-Dimensional Model

- View the alternatives via 3-D flyover
- i84hartford.com





Interactive Alternatives Webpage

- View and assess the alternatives
- Provide feedback, ask questions
- i84hartford.com

The screenshot displays the 'Interactive Alternatives Analysis' webpage. It features several map panels showing different highway alternatives (2/3 W2, 2/3 W3-1, 2/3 W4) and a 3D model of the highway alignment. The 3D model shows the highway crossing over various conduits: North Branch of Park River Conduit, Park River Conduit, and Gully Brook Conduit. Street names like Sigourney Street, Broad Street, Asylum Street, High Street, and Ann Uccello Street are visible. A legend for 'Highway Alignment' includes options for Elevated, Lowered, and Tunnel. Other considerations like 'Avoid property loss', 'Minimize property loss', and 'Maximize safety' are also listed. A search bar and 'View larger' button are present. The page is titled 'Interactive Alternatives Analysis: Evaluating the Alternatives'.

OPEN PLANNING STUDIO
View materials from our August 12th event.

INTERACTIVE ALTERNATIVES ANALYSIS

HARTFORD TIMELINE
Read a brief history of transportation in Hartford.

RELATED PROJECTS
View map and descriptions of other projects related to I-84.

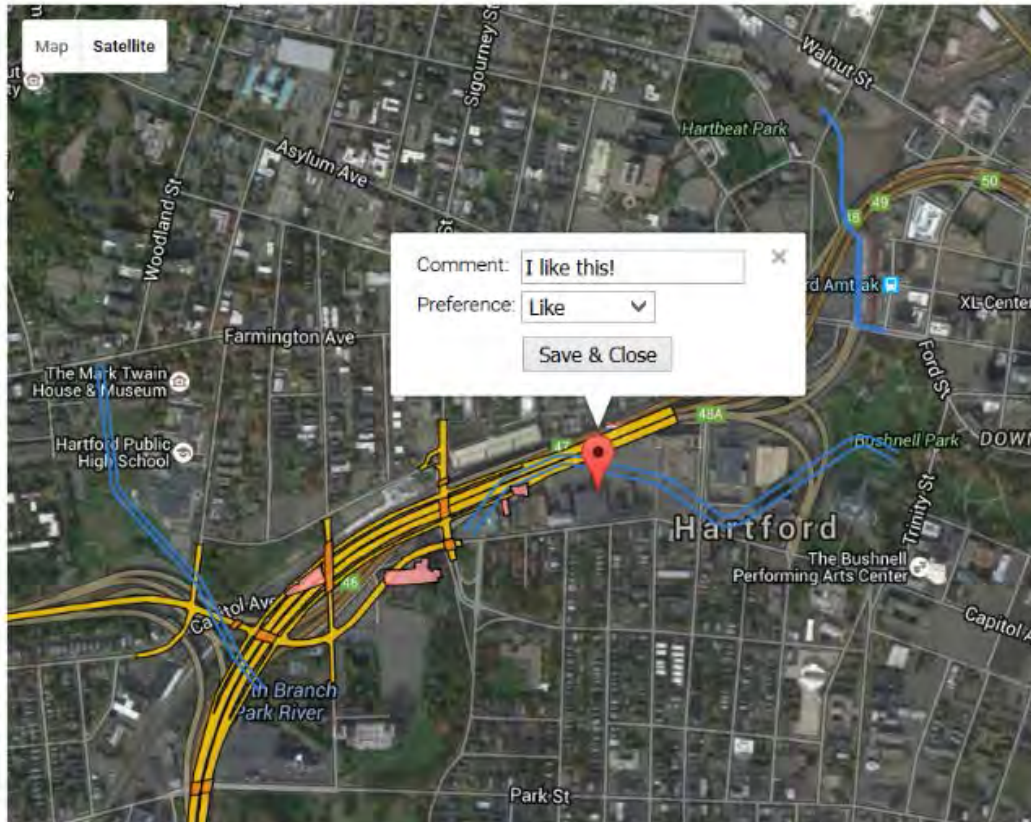
3D INTERACTIVE MODEL
Explore the project area.



Interactive Alternatives Webpage

Alternative 2-3 W2

This interchange option consists of an eastbound off-ramp and a westbound on-ramp located at a new road connecting West Boulevard to Capitol Avenue. One-way frontage roads connect the half diamond Interchange to a half diamond Interchange at Sigourney Street that includes an eastbound on-ramp and a westbound off-ramp. This Interchange option eliminates the existing westbound off-ramp to Sisson Avenue and the eastbound on-ramp from Sisson Avenue. Instead, vehicles would use the proposed Sigourney Street ramps for access to and from Sisson Avenue.



Toggle Map Layers

- Potential I-84 Alignment
- New Rail Alignment
- River Conduits
- Impacted Buildings
- Potential Developable
- Traffic Analysis

Give Us Your feedback:

1. Under the Toggle Map Layers header above, slide the desired buttons to the right to view them on the map
2. Click any point on the map to add a marker
3. Click the marker to add a comment
4. Click the Save & Close button to submit your comment

Open Planning Studios

- Series of day-long, open house events
- Scheduled regularly in various locations
- More info at i84hartford.com





Thank You!

Thank you for your time. We appreciate your time and your commitment to helping us reach the best possible solution for the State of Connecticut, the Capitol Region, and the City of Hartford.

Your I-84 Hartford Project Team