

The *New Mix*: Project Advisory Committee (PAC) Meeting #3A March 28, 2022

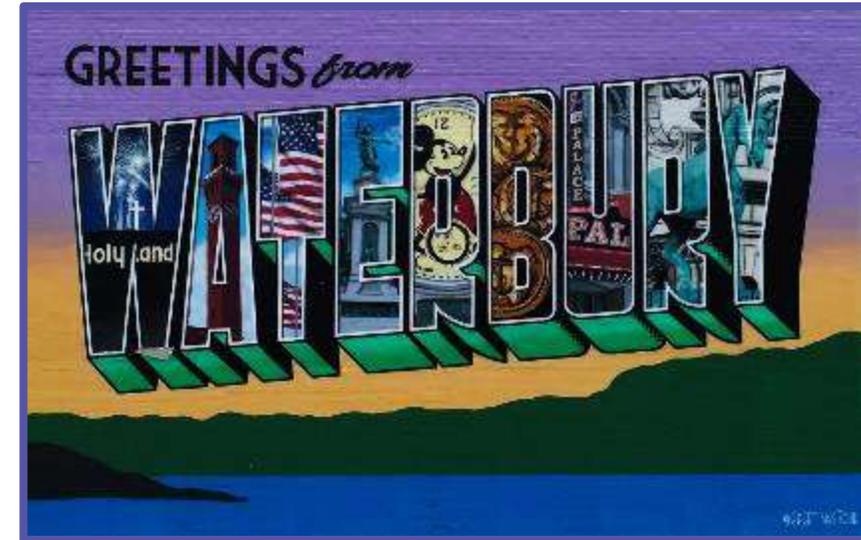


HNTB



Agenda

- **PAC Meeting #2C Review**
 - **Review Poll Questions and Comment Exercise Card Results**
- **Introduction to the Universe of Alternatives**
 - **Visualization of Existing Conditions**
 - **Present No-Build, Travel Modes, and Rehabilitation Alternatives**
- **Open Discussion**
- **Concluding Slides**



Since Our Last Meeting...

You have been:



Providing input for the New Mix Program's PEL Study



Checking email for information about the New Mix Program.

We have been:



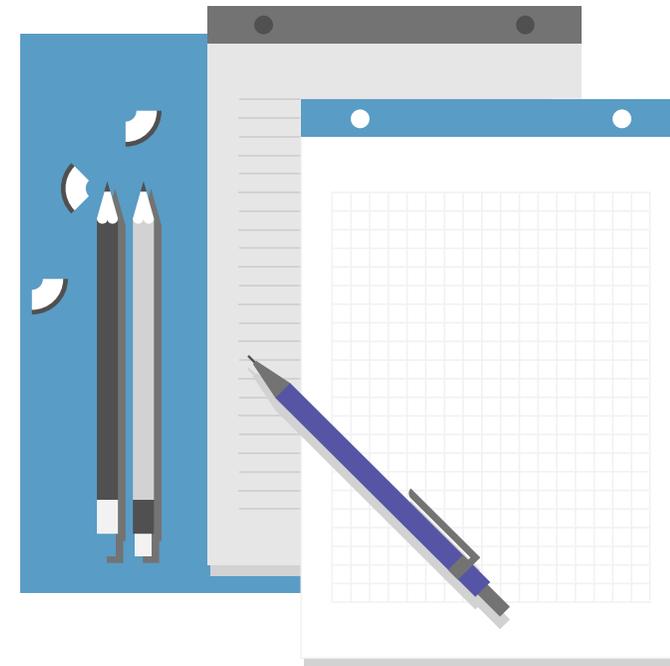
Obtaining Input from Agencies, PAC members, stakeholders, and the public.



Refining the Preliminary Purpose & Need Statement and other Transportation-Related Goals & Objectives.



Developing the Universe of Alternatives and Screening Criteria.



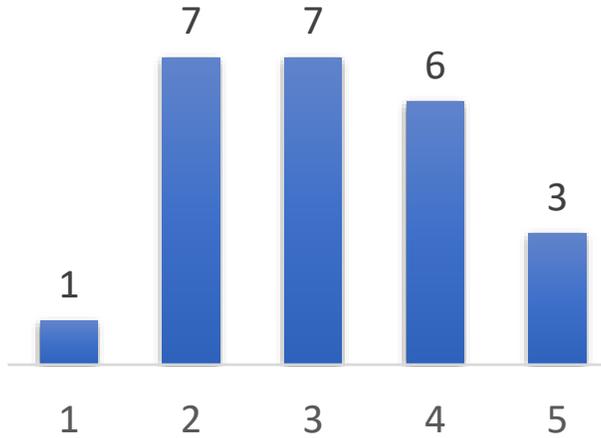
84new
mix



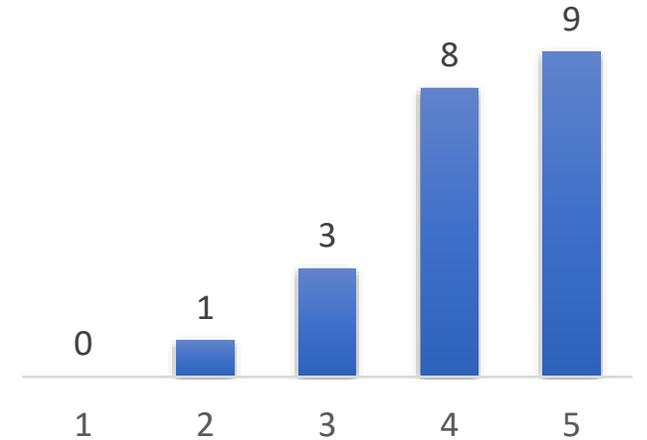
The *New Mix* PAC Identified Needs Perspective

Each of the following statements were rated on a scale of 1-5,

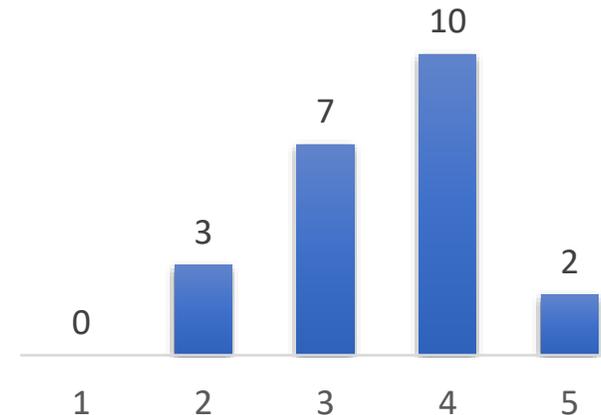
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree



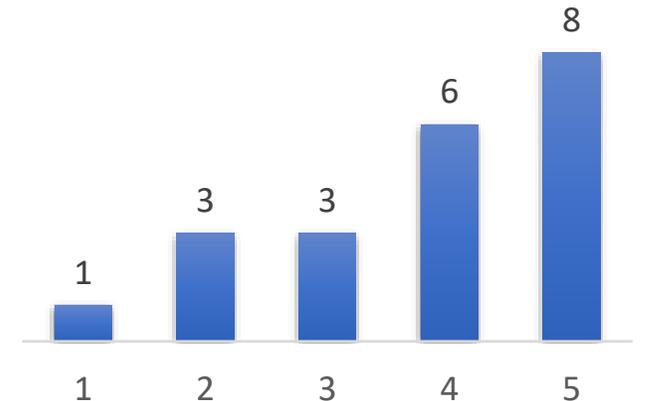
I routinely change my travel patterns/commuting behavior in order to avoid traffic congestion on the Mixmaster.



I routinely use the Mixmaster to travel across Waterbury.



I believe the local roadway network of Waterbury is difficult to navigate and prefer to use the Mixmaster to travel between destinations.

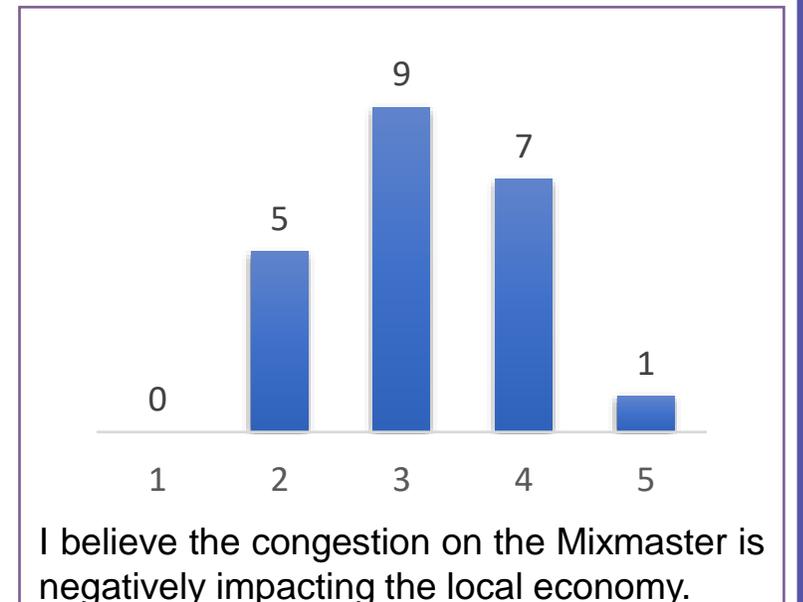
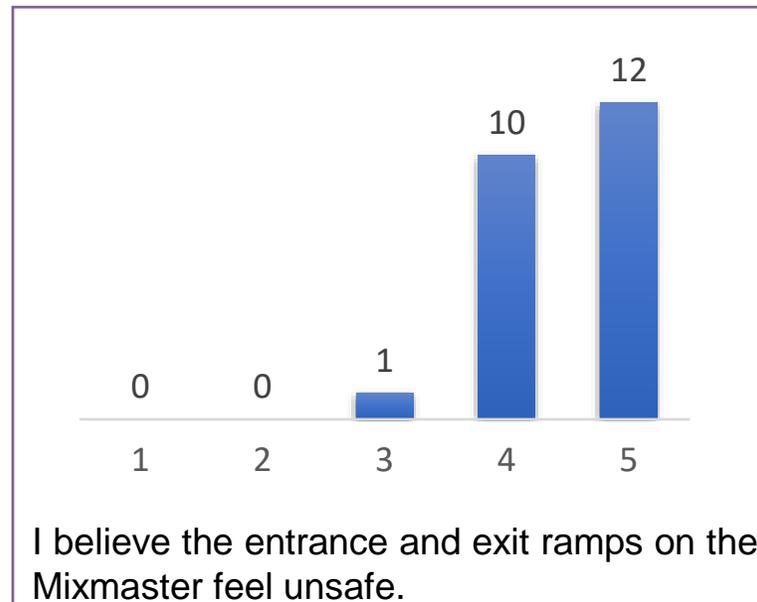
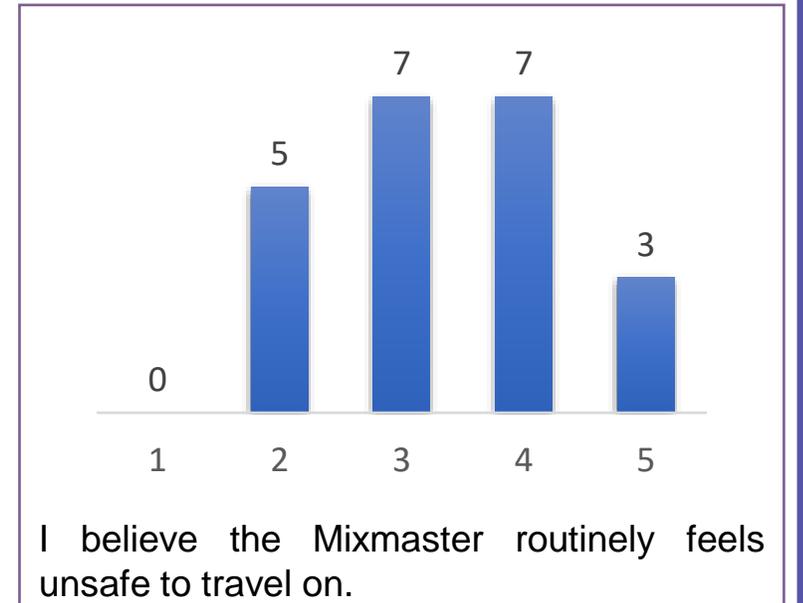


I believe the Mixmaster acts as a barrier to bicycle and pedestrian travel across Waterbury.

The *New Mix* PAC Identified Needs Perspective

Each of the following statements were rated on a scale of 1-5,

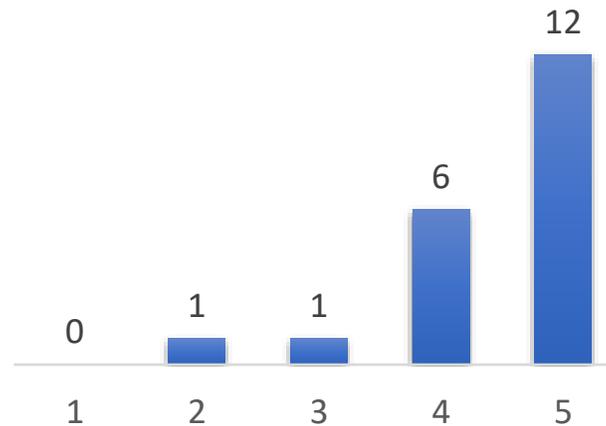
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree



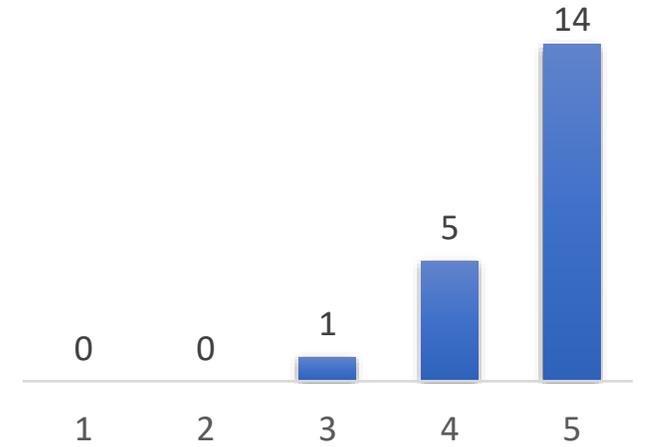
The *New Mix* PAC Identified Goals & Objectives Perspective

Each of the following statements were rated on a scale of 1-5,

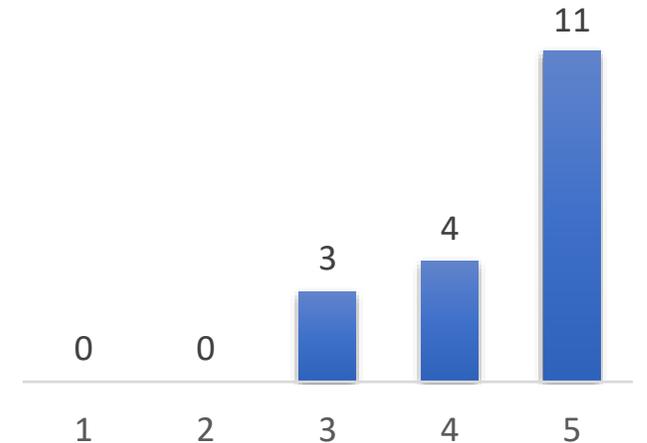
1. Not Important
2. Somewhat Not Important
3. Neutral
4. Somewhat Important
5. Very Important



How important is it that the *New Mix Program* improves the associated local roadway network?



How important is it that the *New Mix Program* reduces congestion on the highway (I-84 and Route 8)?

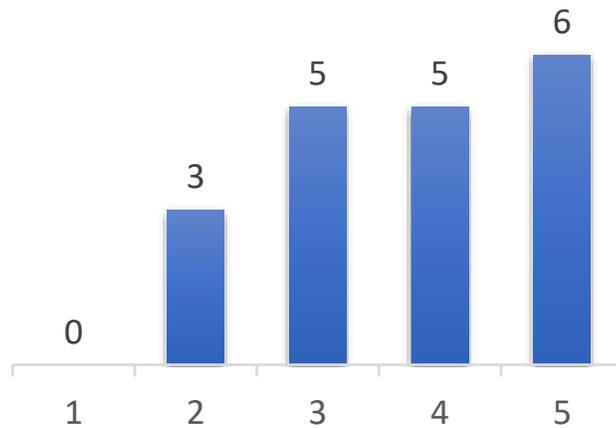


How important is it that the *New Mix Program* improves connections between the highway and businesses and employers?

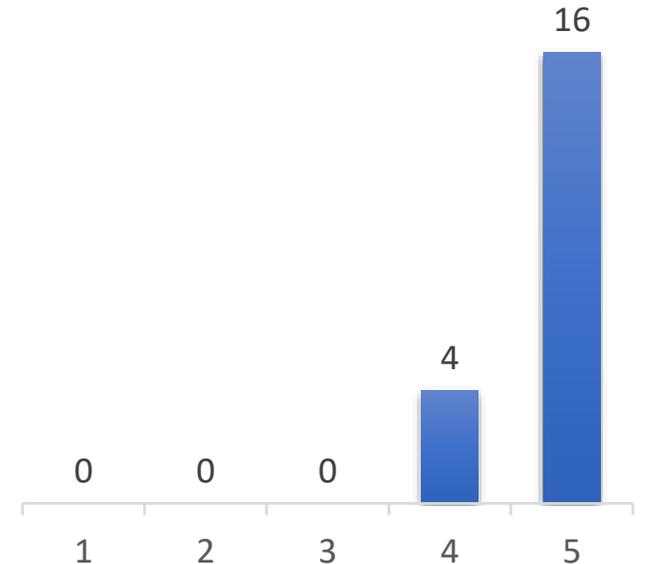
The *New Mix* PAC Identified Goals & Objectives Perspective

Each of the following statements were rated on a scale of 1-5,

1. Not Important
2. Somewhat Not Important
3. Neutral
4. Somewhat Important
5. Very Important



How important is it that the *New Mix Program* improves neighborhood connectivity through improvements to the bicycle or pedestrian connections near the highway?

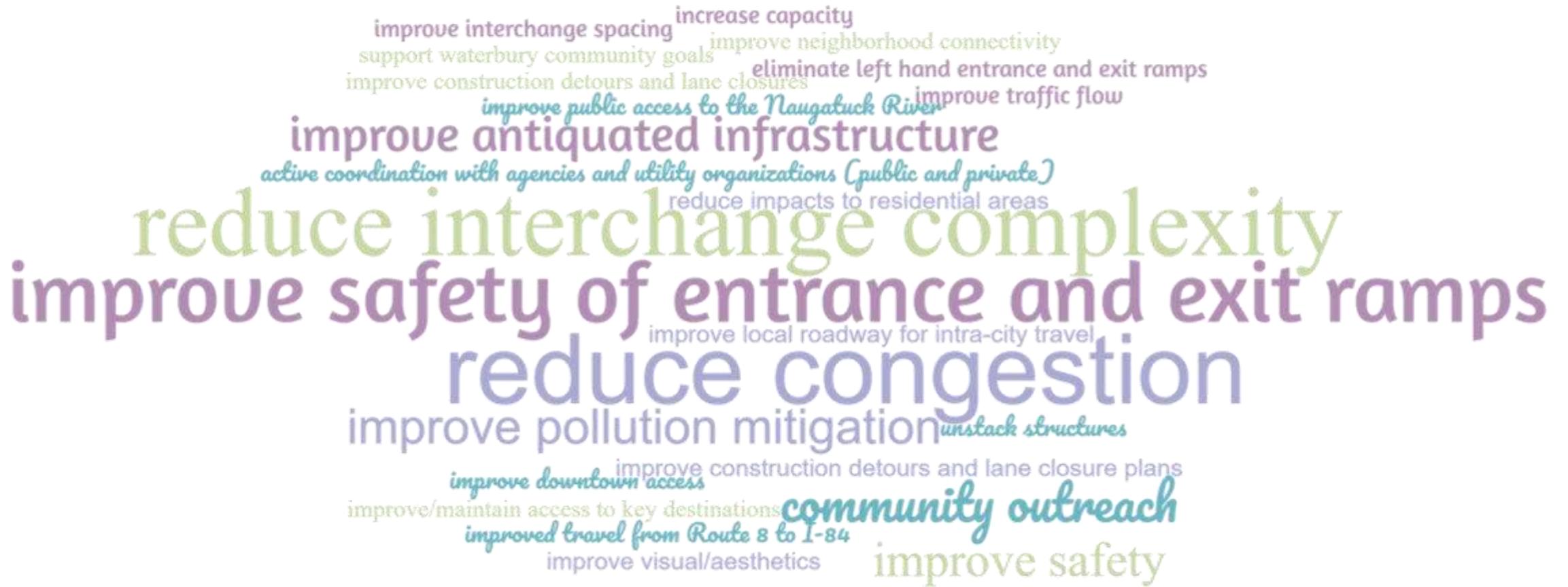


How important is it that the *New Mix Program* reduces the potential for crashes?

PAC Member Comment Exercise Results: Identified Needs or Deficiencies



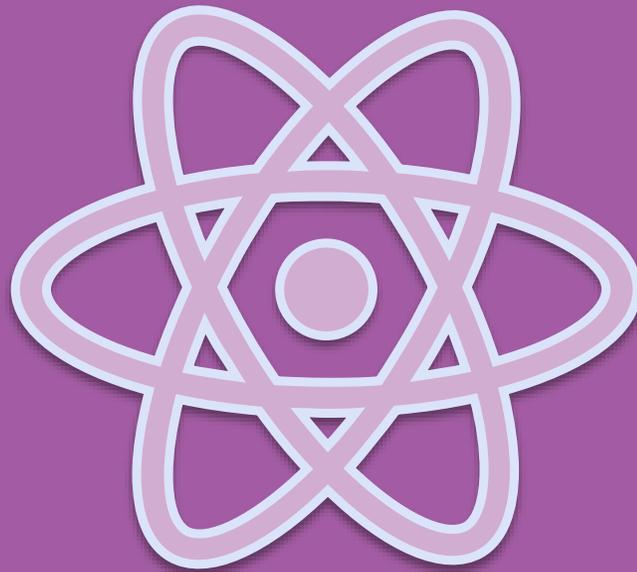
PAC Member Comment Exercise Results: Identified Goals & Objectives



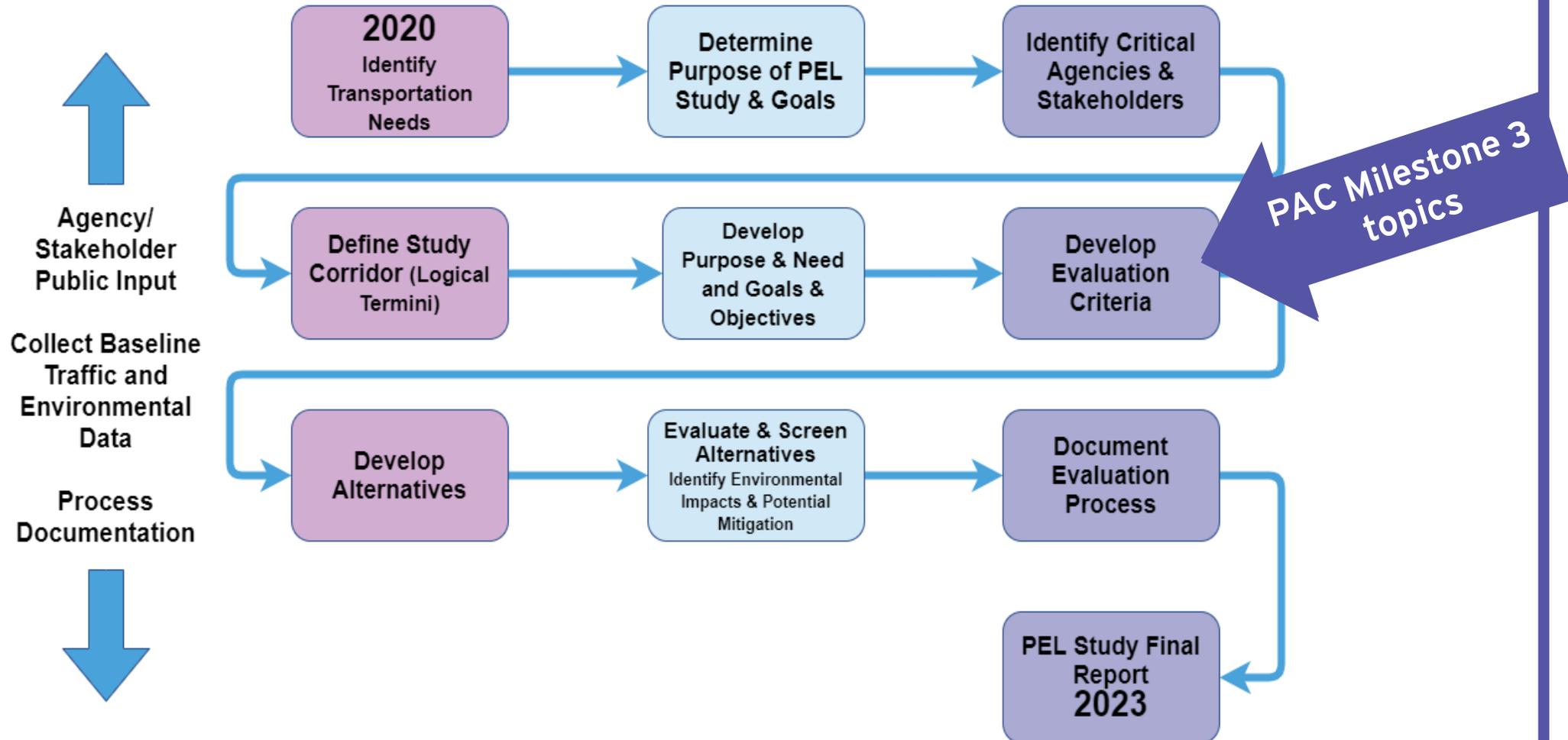
PAC Member Comment Exercise Results: Identified Key Context Features



Developing the Evaluation Criteria and Universe of Alternatives



New Mix PEL Study Steps



Draft PEL Documents

- Living documents will be made available on the program website for public review and comment.
- PAC members are encouraged to provide their input on these documents via email or through the website for documentation and inclusion in the PEL Study.

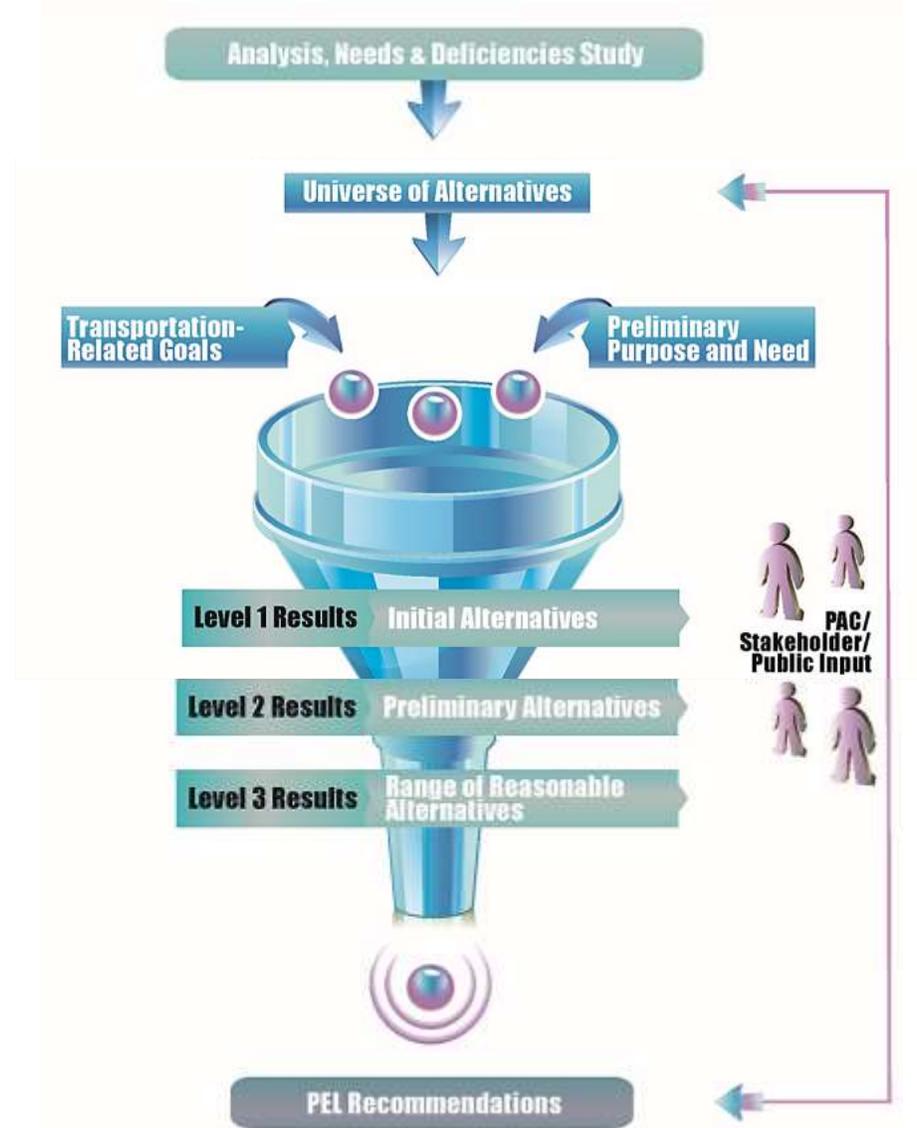
Details the New Mix Program's PEL Study Process.

Details the draft preliminary purpose, needs, and goal/objective statements with supporting data.

Contains identification of constraints including natural and built conditions, planning projects/ studies, and additional considerations.



New Mix PEL Process Preview: Screening of Alternatives



Universe of Alternatives



Transportation-Related Goals

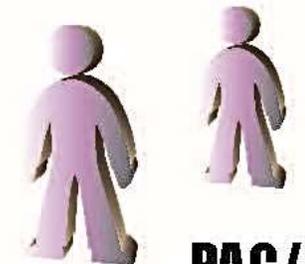


Preliminary Purpose and Need



Level 1 Results

Initial Alternatives



**PAC/
Stakeholder/
Public Input**

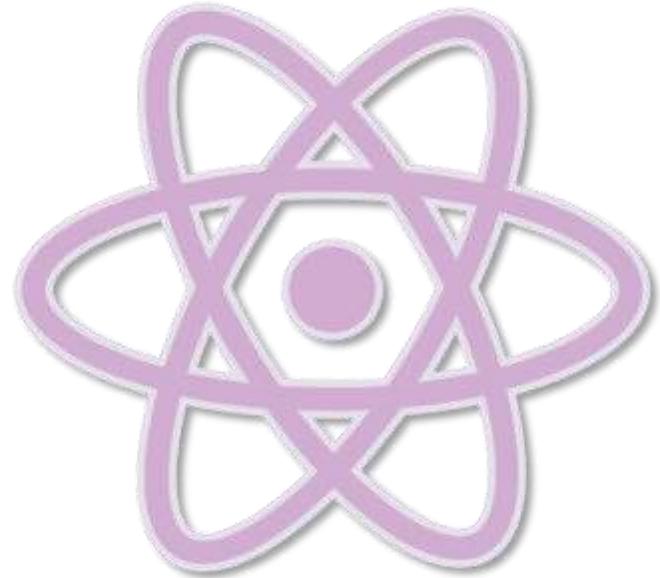


The Universe of Alternatives

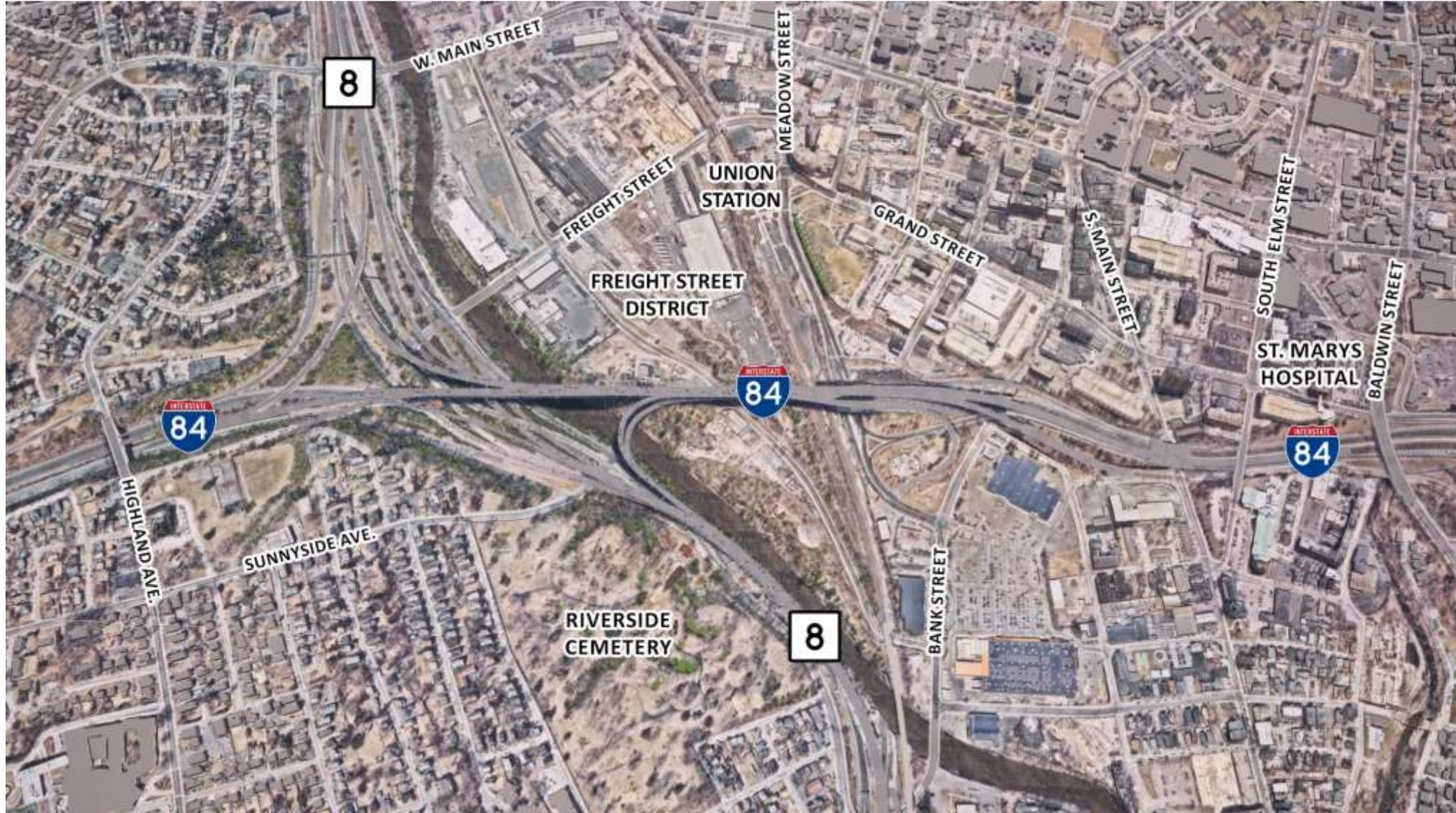
Conceptual level of engineering was performed to put ideas to paper. As the PEL Study progresses, these alternatives will become more defined.

Concepts are flexible! Favorable aspects could be added and unfavorable aspects could be subtracted.

Developed during workshops and charettes based on: identification of constraints and challenges, State and Federal design standards, understanding program needs, input from a diverse team of experts, and determining evaluation criteria.



Existing Conditions Review

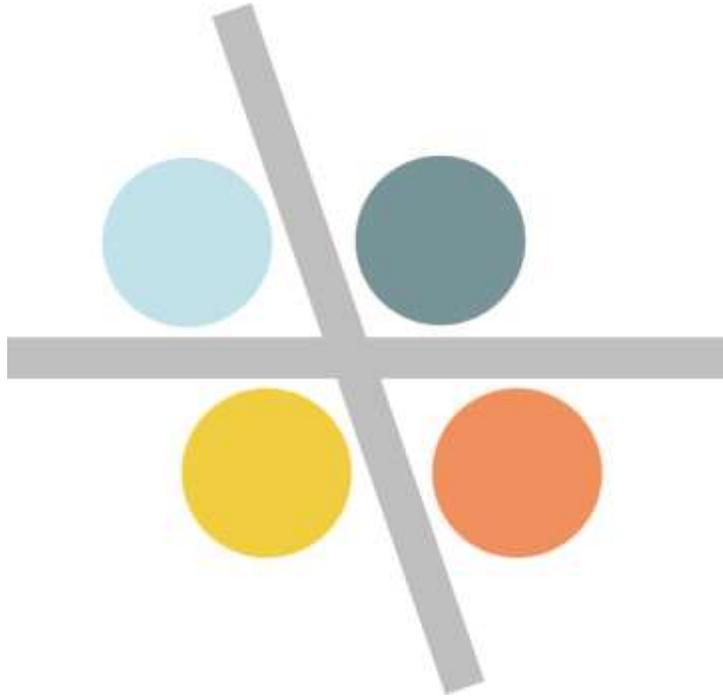


Constraints, Considerations, and Challenges

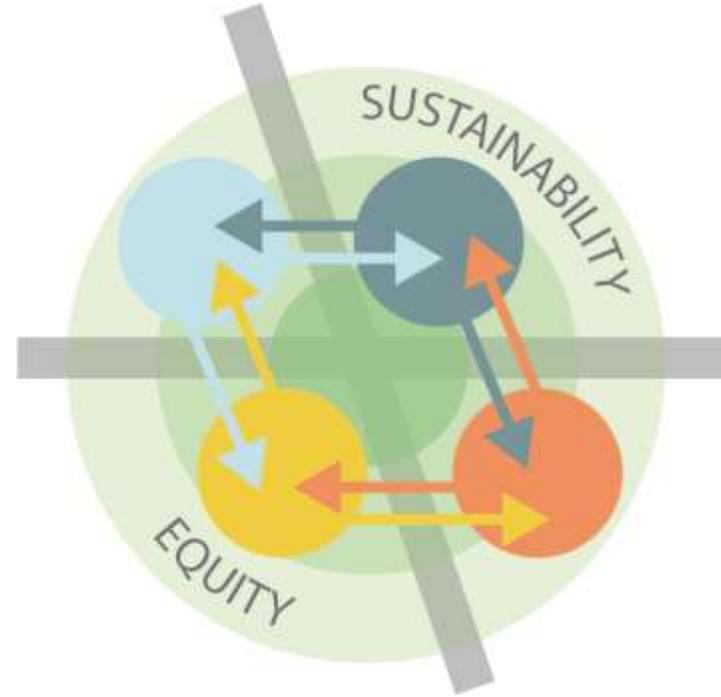
- **Natural Conditions**
 - Geography/Topography
 - Naugatuck River, Mad River, and other watercourses
- **Built/Human Conditions**
 - Downtown Waterbury
 - Industry
 - Railroad
 - Local Roadway
 - Neighborhoods
 - Environmental Justice Populations
 - Historic/Significant Landmarks (parks, public facilities)
 - Hazardous material sites
- **Previous, ongoing and planned projects/studies**
 - State
 - Regional
 - Local
- **Funding**
 - State / Federal grants



New Mix Vision



The I-84 and Route 8 interchange is both a **regional connector** and a **community divider**



Today we envision the New Mix serving as both a **community connector** and a **regional transportation resource**

Preliminary Approach

Places and Spaces



Parks, Greenways, and
Open Space



Smart Development

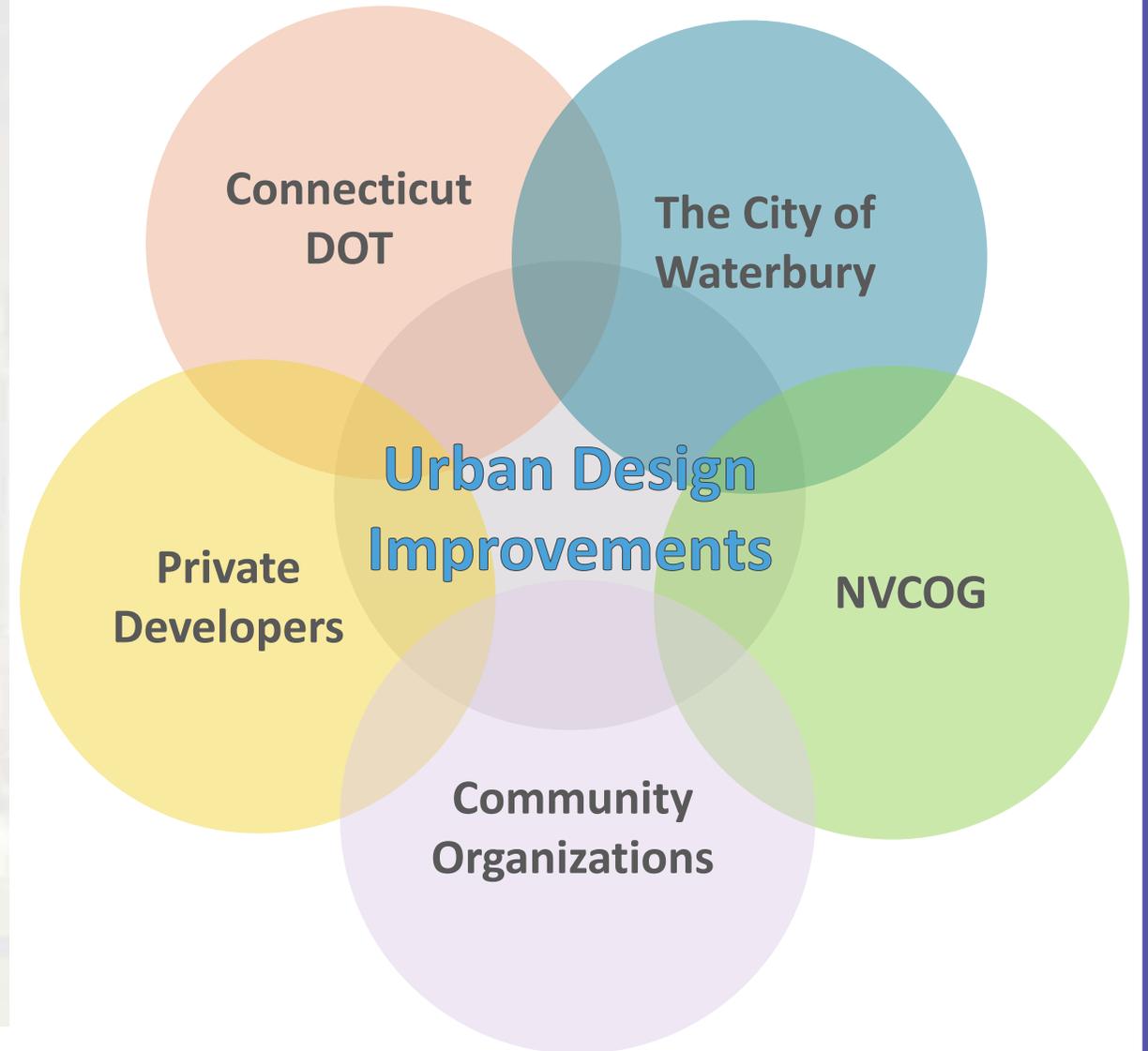
Connecting Corridors



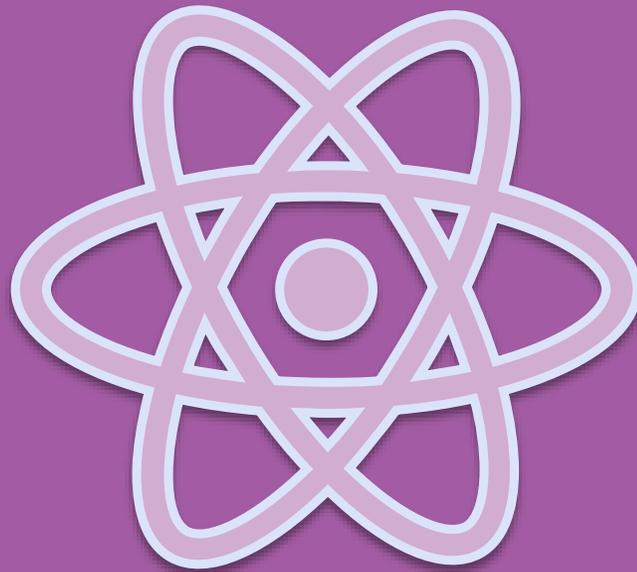
Safe Active Routes



Enlivened Underpasses and
Overpasses



New Mix PEL Study Universe of Alternatives

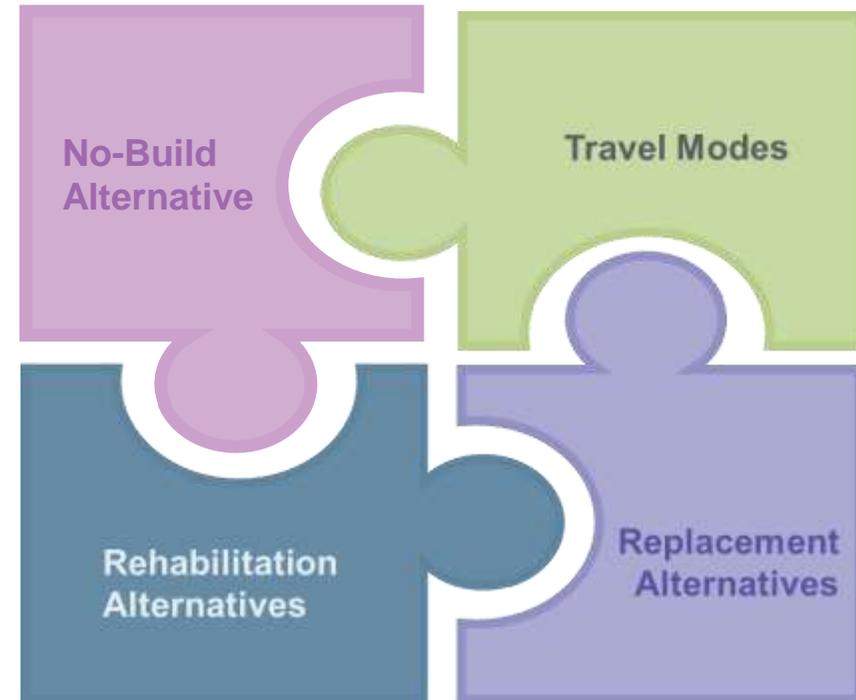


Universe of Alternatives



The Study Team summarized and consolidated similar conceptual alternatives

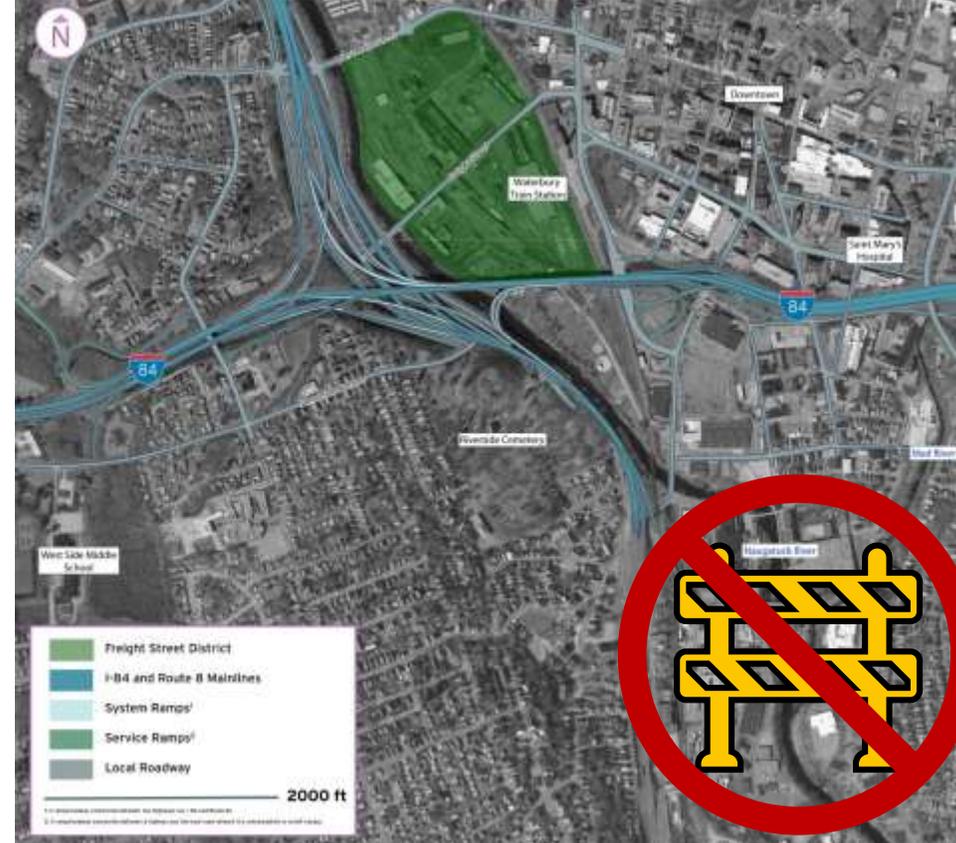
The final Universe defined the following groups of alternatives:



The Universe of Alternatives: The No-Build Alternative

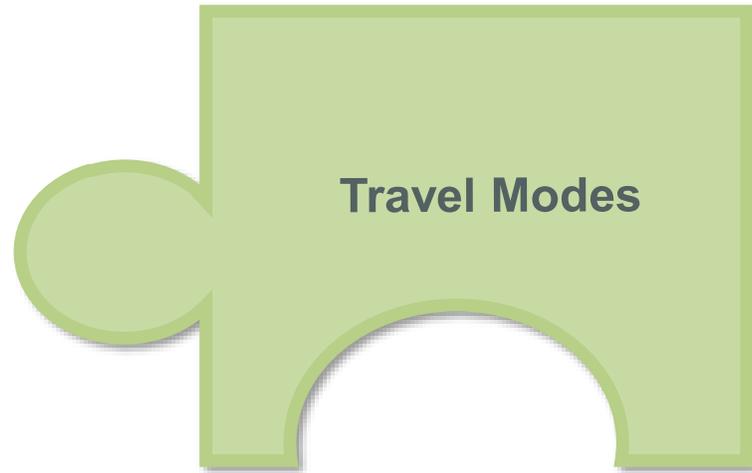


NEEDS	PURPOSE
Structural Deficiencies	Improve bridge conditions.
Geometric Deficiencies	Improve roadway conditions.
Operational Deficiencies	Improve operational conditions.



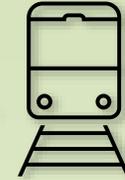
- Baseline condition: no additional improvements implemented other than those identified in Transportation Improvement Plans.
- Includes safety and maintenance activities
 - (pavement resurfacing or reconstruction, signing improvements, and guiderail improvements)

The Universe of Alternatives: Alternative Travel Modes



NEEDS	PURPOSE
Structural Deficiencies	Improve bridge conditions.
Geometric Deficiencies	Improve roadway conditions.
Operational Deficiencies	Improve operational conditions.

Transit

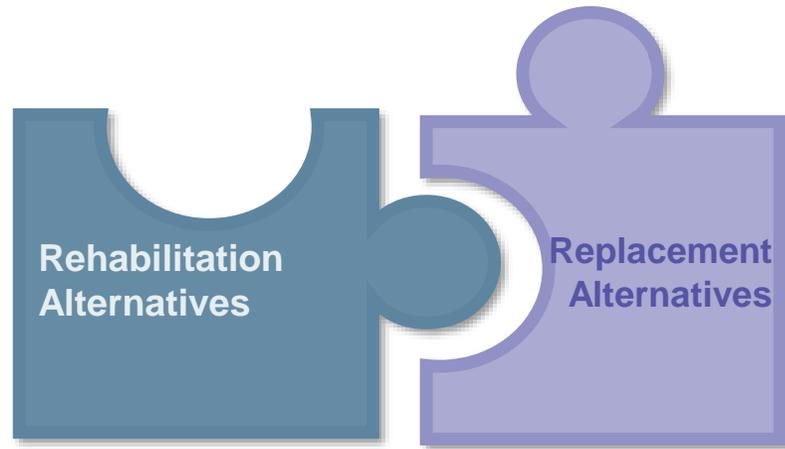


- Arterial Bus Transit
- Arterial Bus Rapid Transit
- Bus Lanes
- Light Rail
- Heavy Rail
- Commuter Rail
- High Speed Rail

Pedestrian/Bicycle



Key Factors for Identifying New Mix Rehabilitation and Replacement Alternatives



NEEDS	PURPOSE
Structural Deficiencies	Improve bridge conditions.
Geometric Deficiencies	Improve roadway conditions.
Operational Deficiencies	Improve operational conditions.

Improve bridge conditions, extending the serviceable life of the I-84 and Route 8 Structures:
new structures or reuse of existing structure(s)

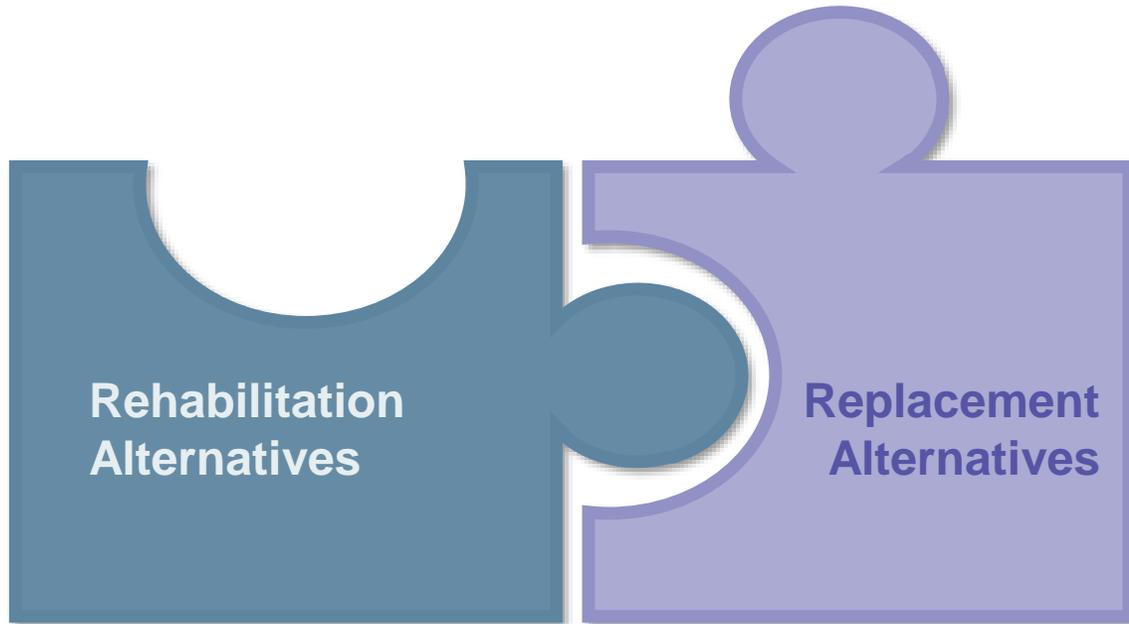
Improve roadway geometry:
 e.g., fewer sharp curves, maintain travel speeds, and improve stopping sight distance, and shoulder widths.

Rehabilitation strategies limit potential improvements

Improve operations:
 e.g., fewer left-hand entrances/exits, improve merging distance, improve interchange spacing, and improve deficient intersections with local roadways.

Rehabilitation strategies limit potential improvements

Key Factors for Identifying New Mix Rehabilitation and Replacement Alternatives



NEEDS	PURPOSE
Structural Deficiencies	Improve bridge conditions.
Geometric Deficiencies	Improve roadway conditions.
Operational Deficiencies	Improve operational conditions.

Rehabilitation

Reuse of existing structures
I-84 and Route 8 Alignments

Replacement

I-84 and Route 8 Alignments
Unconventional Solutions
System Connections (full or partial)
Local Connectivity (service interchanges and frontage road systems, collector/distributor roads, etc.)

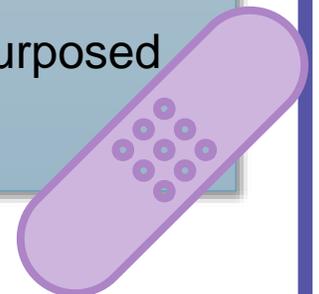
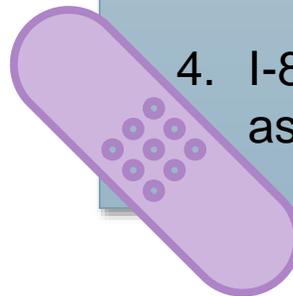
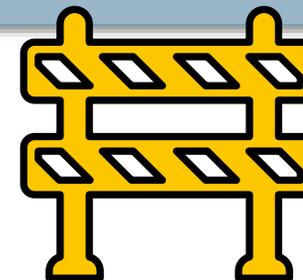
The Universe of Alternatives: Rehabilitation Alternatives

Rehabilitation Alternatives

NEEDS	PURPOSE
Structural Deficiencies	Improve bridge conditions.
Geometric Deficiencies	Improve roadway conditions.
Operational Deficiencies	Improve operational conditions.

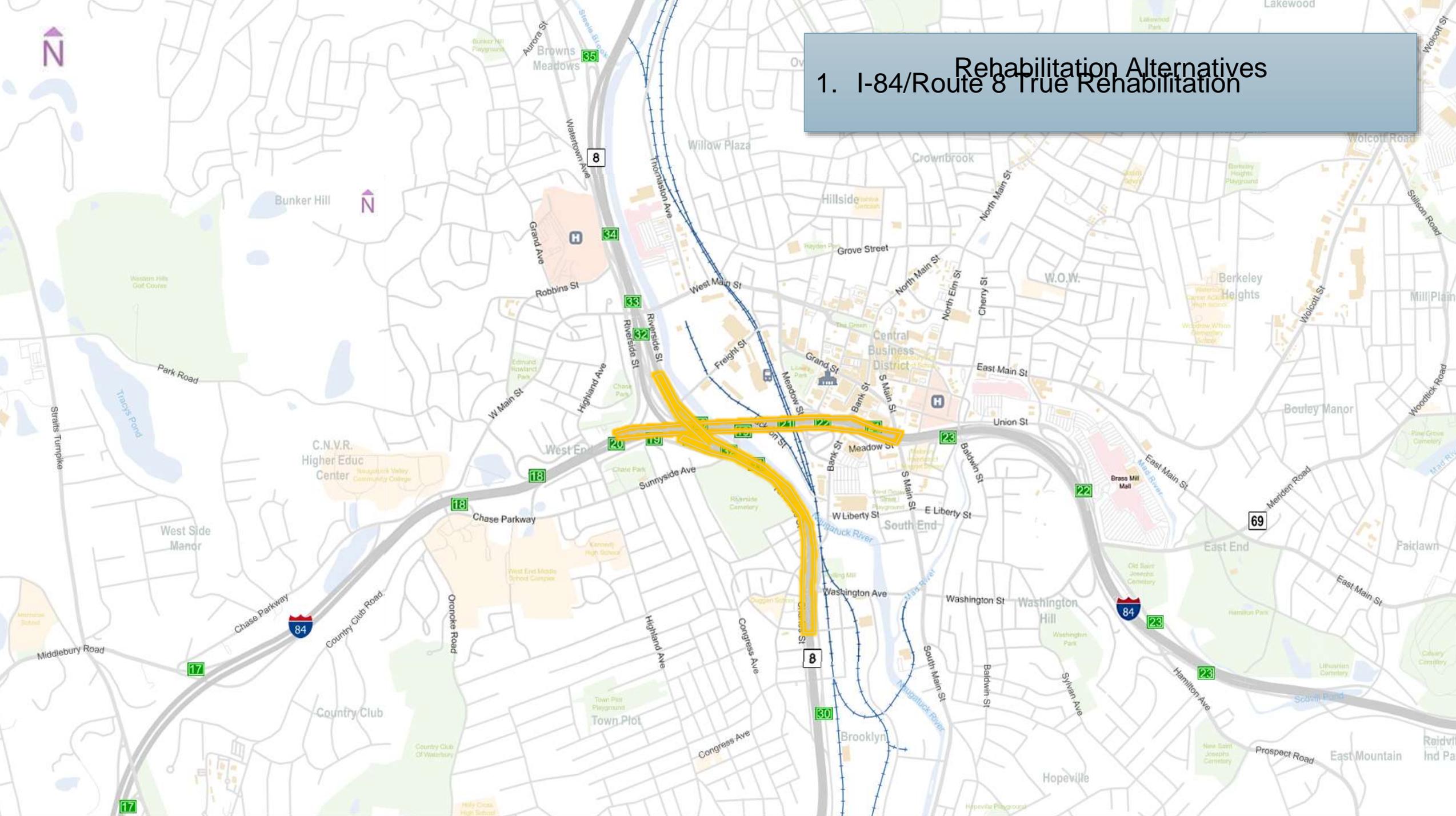
Rely on the major rehabilitation of the existing stacked I-84 structures over the Naugatuck River.

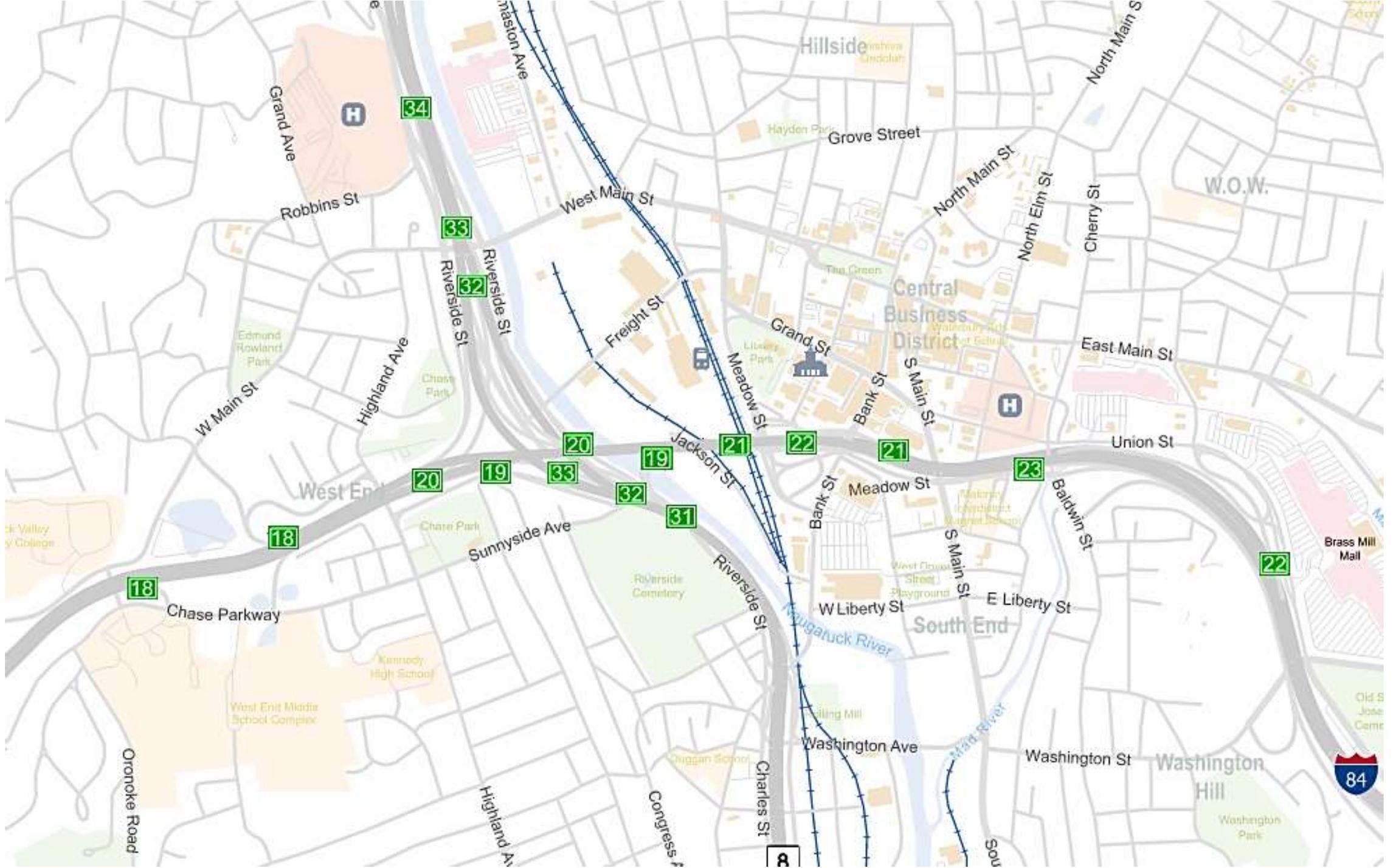
1. I-84/Route 8 True Rehabilitation
2. I-84 WB Bridge Rehabilitation with Construction of New I-84 EB Mainline
3. I-84 Bridge Rehabilitation with Widening to Facilitate Staging
4. I-84 Bridge Rehabilitation with Bypass Repurposed as Frontage Road



Rehabilitation Alternatives

1. I-84/Route 8 True Rehabilitation







8

NAUGATUCK
RIVER

INTERSTATE
84

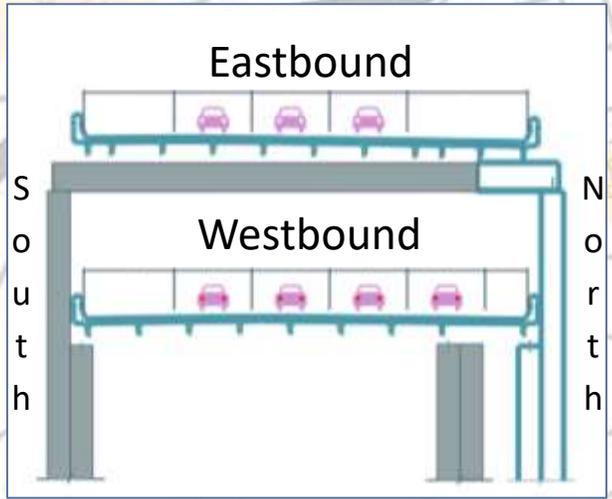
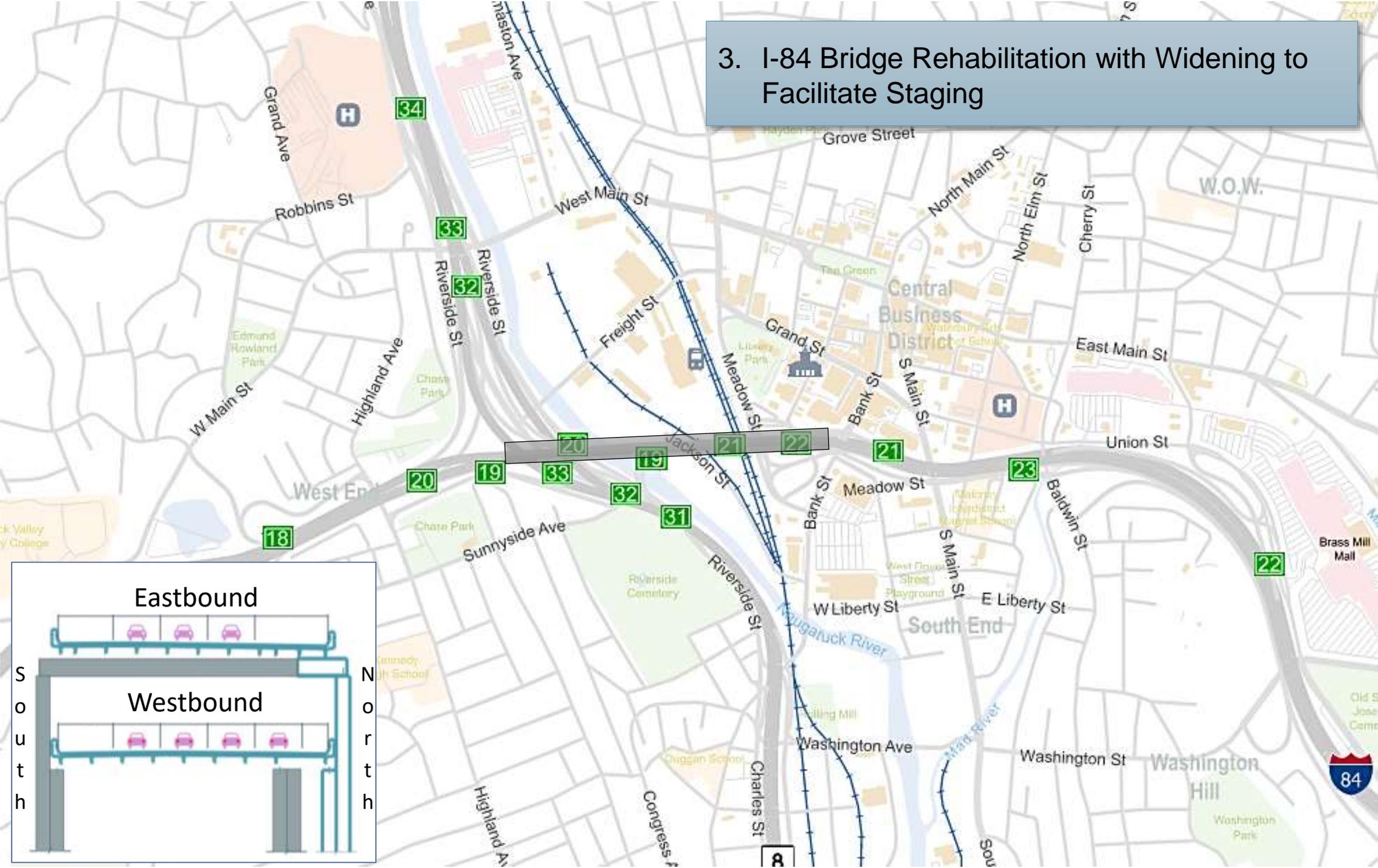
I-84 EB

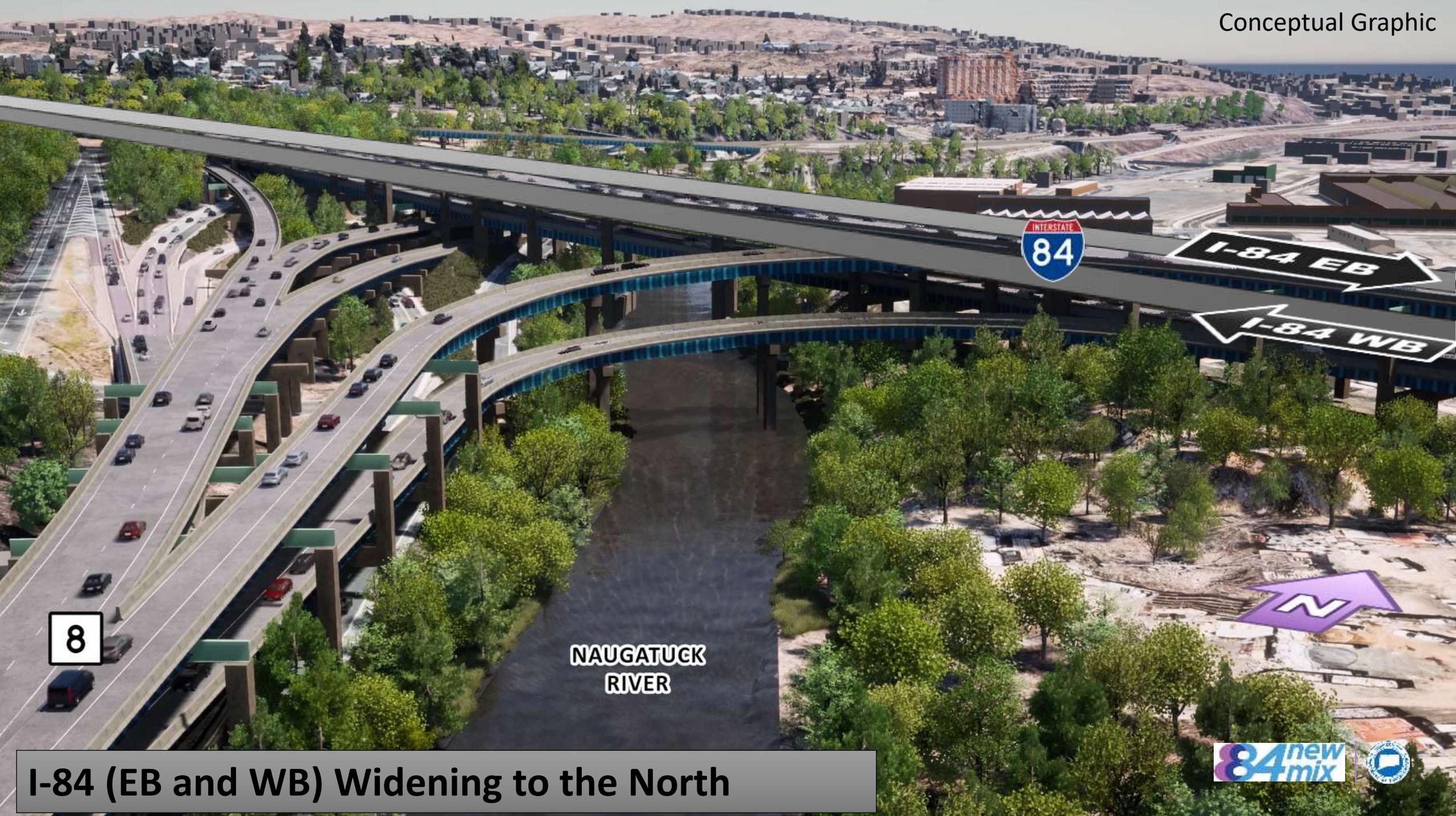
N

I-84 WB Rehabilitated and Remains in Place,
New I-84 EB Structure Built to the South



3. I-84 Bridge Rehabilitation with Widening to Facilitate Staging





8

NAUGATUCK RIVER

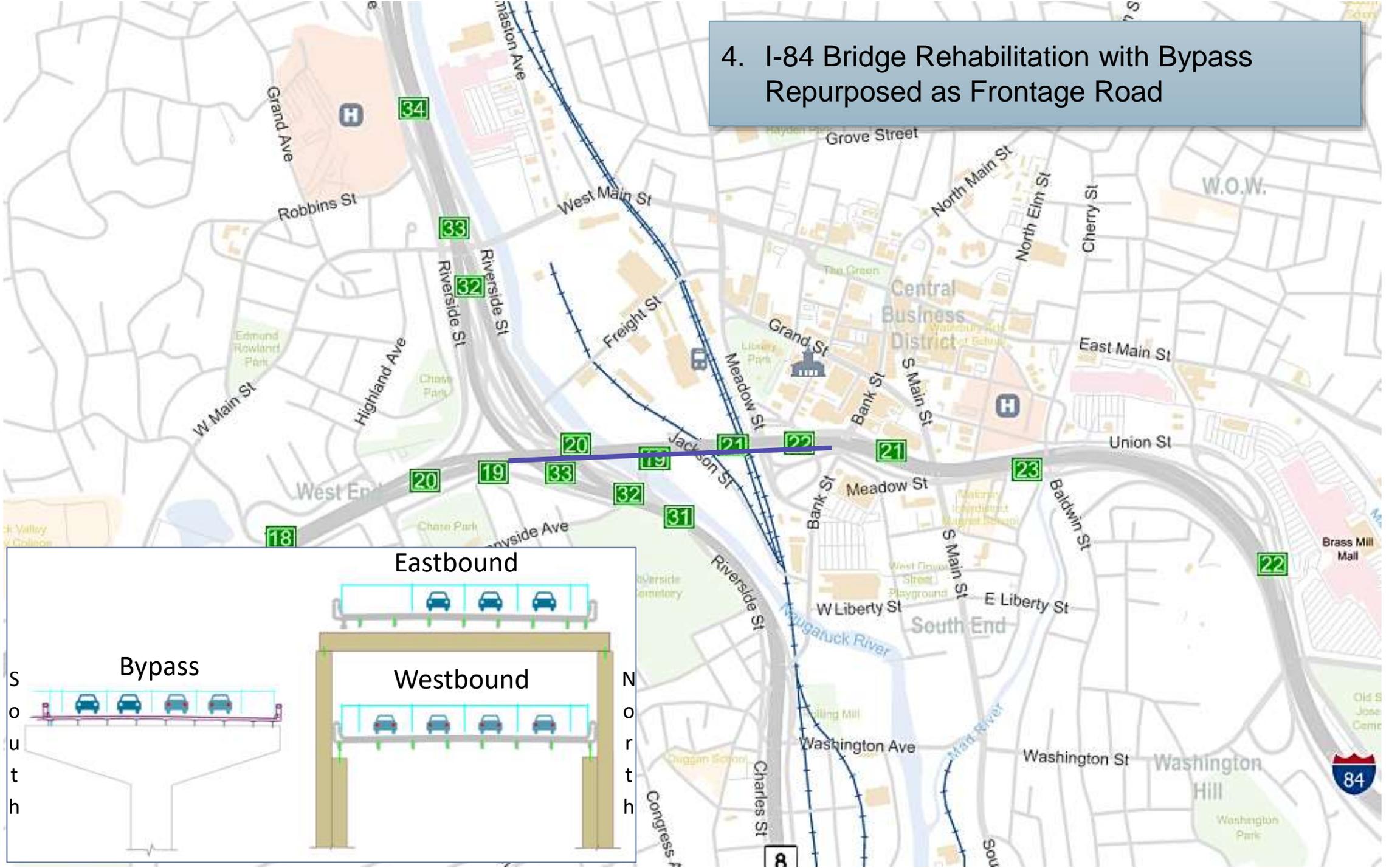
INTERSTATE 84

I-84 EB
I-84 WB

N

I-84 (EB and WB) Widening to the North

4. I-84 Bridge Rehabilitation with Bypass Repurposed as Frontage Road





8

NAUGATUCK RIVER

Frontage Road
(Replaces EB Exits 21 & 22)

INTERSTATE
84

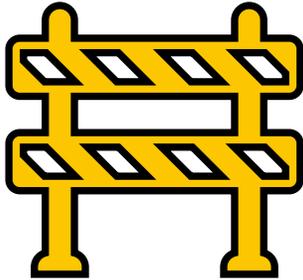


I-84 (EB and WB) Rehabilitated in Place,
Bypass Repurposed as New EB Frontage Road



Rehabilitation Alternatives Recap

Rehabilitation
Alternatives



True for all rehabilitation alternatives:

- ▶ Require 80+ year-old structures to remain.
- ▶ Complex/lengthy construction sequencing is needed.
- ▶ Limited opportunities to improve geometric and operational conditions.
- ▶ Limited opportunities for urban design improvements.
- ▶ Costly process (~\$1B)

Rehabilitation Alternative Summary

1. I-84/Route 8 True Rehabilitation

2. I-84 WB Bridge Rehabilitation with Construction of New I-84 EB

- ▶ EB is elevated and built next to the existing footprint to the south.

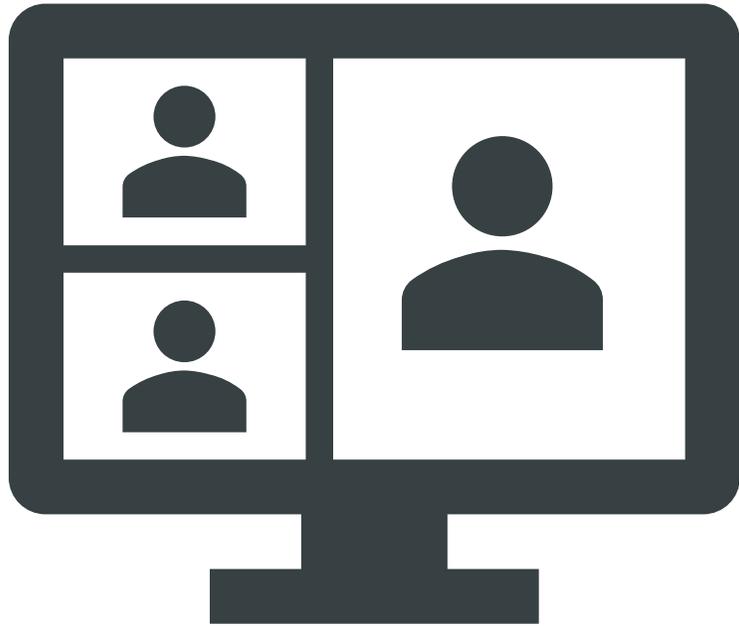
3. I-84 Bridge Rehabilitation with Widening to Facilitate Staging

- ▶ Stacked structures are widened to the north for construction and maintaining traffic.

4. I-84 Bridge Rehabilitation with Bypass Repurposed as Frontage Road

- ▶ Stacked structures are rehabilitated in place with use of a bypass built next to the existing footprint to the south. The bypass would aid in construction/maintain traffic and repurposed as new E frontage road replacing Exits 21 and 22 once I-84 structures are complete

Open Discussion



Ask questions about the slides just reviewed.

Share ideas.

Request additional information.



PAC Input and Comments Due

Comments / Input Due: May 2, 2022
 Email: Nhodges@hntb.com

April

	M	T	W	TH	F	S
	28 <i>TODAY</i>	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27		29 <i>PAC #3B</i>	30
1	2 <i>COMMENTS DUE</i>	3	4	5	6	7

Details the draft preliminary purpose, needs, and goal/objective statements with supporting data.

Contains identification of existing conditions and the forecasted considerations.



Prefer we ask you direct questions?

Opportunities for PAC Members to provide input as a member of the general public will be available!

Sample Questions:

1. Do you feel there is a need for I-84/Route 8 transportation improvements? If so, what are the problems?
2. Do you know of any historical sites, family cemeteries, or archaeological sites in the proposed area?
3. Do you know of any environmental constraints, such as endangered species, hazardous waste sites, existing or former landfills, or parks and public lands in the vicinity of the project?
4. Do you have a suggestion for an improvement to the I-84/Route 8 Interchange that would better serve the needs of the community?
5. Do you feel that improvements to the I-84/Route 8 Interchange will have any impacts (Beneficial or Adverse) on your property and/or community (e.g., economic, environmental, social, etc.)? Please explain.

Another chance for PAC members to provide input on the initial PEL documents before the screening/ decision process begins.

Additional opportunities will be provided for members of the public to provide input as the Study progresses.

Will be Available on website for public input

Upcoming Meetings and Future PAC Agenda Items

PAC Mtg #3A March 28, 2022

Where:

Virtual via Zoom

Topics:

- Present Universe of Alternatives and
- Obtain Input from PAC

PAC Mtg #3B April 29, 2022

Where:

Anticipated
Virtual via Zoom

Topics:

- Present Universe of Alternatives and
- Obtain Input from PAC

PAC Mtg #3C Anticipating May 2022

Where:

Anticipated
Virtual via Zoom

Topics:

- Present Universe of Alternatives and
- Level 1 screening Criteria
- Obtain Input from the PAC



Questions & Comments



Thank you.

