



I-84 Danbury  
Project



# I-84 Danbury Project

## Project Advisory Committee (PAC) Meeting No. 5

November 16, 2020





# Welcome / Providing Feedback



## Presenters (in order)



**Yolanda Antoniak**  
**CTDOT**  
Project Engineer



**Sharat K. Kalluri**  
**CDM Smith**  
Project Manager



**Jeanine Armstrong Gouin**  
**Milone and MacBroom**  
Environmental Documentation



**Andy Fesenmeyer**  
**CTDOT**  
Project Manager

## Moderator



**Marcy Miller, AICP (FHI)**



# Housekeeping Items

- Meeting is live and recorded
- Meeting presentation is posted to the project website at [http://www.i84danbury.com/course\\_cat/public-advisory-committee/](http://www.i84danbury.com/course_cat/public-advisory-committee/)
- Participants can video conference in or call in via phone and follow along to presentation posted on web
- Participants should mute themselves when not speaking
- At select times during meeting, moderator will read questions / comments out loud for speaker to answer or will ask interested participants to unmute and provide comments
- Meeting recording will be posted to project website after meeting



07:47

Request control



I-84 Danbury Project

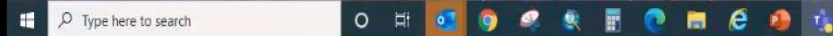
Project Advisory Committee Meeting No. 5

**I-84 Danbury Project**

Project Advisory Committee Meeting No. 5

**Locations of these controls may be different depending on the device and screen you are using**

Patrick Gallagher



9:13 AM 10/22/2020

PG

TG

TD

MM

LM

DS

AF

JG

SK

MC

Doyle, Thomas H

McMillan, Mark J

Murphy, Lynn D

Sousa, David

Fesenmeyer, Andy A

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



Video on / off

Mic on / off

The screenshot shows a Zoom meeting interface. At the top, there is a toolbar with several icons: a person icon, a chat icon, a hand icon, a three-dot menu icon, a video off icon (highlighted with a green box), a microphone off icon (highlighted with a blue box), a share screen icon, and a red 'Leave' button. Above the video off icon is a green callout box with the text 'Video on / off'. Above the microphone off icon is a blue callout box with the text 'Mic on / off'. Below the toolbar is a browser window displaying a slide titled 'I-84 Danbury Project'. The slide has a dark background with a landscape image and the text 'I-84 Danbury Project' in large white letters. A green callout box is overlaid on the slide with the text 'Locations of these controls may be different depending on the device and screen you are using'. The browser window also shows a 'Request control' button, an 'Edit story' button, and a 'Paused' button.

Locations of these controls may be different depending on the device and screen you are using

# I-84 Danbury Project



07:47

Request control



Leave

storymaps.arcgis.com/stories/c22a1bac516448288922ced055cbd0d2

I-84 Danbury Project

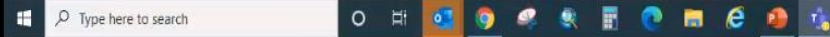
## I-84 Danbury Project

Project Advisory Committee Meeting No. 5

Turn on participant list

Locations of these controls may be different depending on the device and screen you are using

Patrick Gallagher



PG

TG

TD

MM

LM

DS

AF

JG

SK

MC

Doyle, Thomas H

McMillan, Mark J

Murphy, Lynn D

Sousa, David

Fesenmeyer, Andy A

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



08:39

Request control

Turn on participant list

Participants

Invite someone or dial a number

In this meeting (11) Mute all

- Marcy Miller
- Calabrese, Michael N. Outside your organization
- Doyle, Thomas H. Outside your organization
- Fesenmeyer, Andy A. Outside your organization
- Gaffey, Timothy J. Outside your organization
- Jeanine Gouin Outside your organization
- Kalluri, Sharat K. Organizer Outside your organization
- McMillan, Mark J. Outside your organization
- Murphy, Lynn D. Outside your organization
- Patrick Gallagher Outside your organization
- Sousa, David Outside your organization

I-84 Danbury Project

Project Advisory Committee Meeting No. 5

November 16, 2020

Patrick Gallagher

Type here to search

9:14 AM 10/22/2020

PG TG TD MM LM DS AF JG SK MC

Murphy, Lynn D. Sousa, David Fesenmeyer, Andy A. Jeanine Gouin Kalluri, Sharat K. Calabrese, Michael N.

Type here to search

9:08 AM 10/22/2020





07:47

Request control



Leave

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I-84 Danbury Project

## I-84 Danbury Project

Project Advisory Committee Meeting No. 5

Turn on chat pane

Locations of these controls may be different depending on the device and screen you are using

Patrick Gallagher

Type here to search

9:13 AM  
10/22/2020

PG

TG

TD

MM

LM

DS

AF

JG

SK

MC

Doyle, Thomas H

McMillan, Mark J

Murphy, Lynn D

Sousa, David

Fesenmeyer, Andy A

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



07:47 Request control [Chat icon] [Microphone icon] [Screen share icon] [Leave button]

storymaps.arcgis.com/stories/c22a1bac516448288922ced055cbd0d2

## I-84 Danbury Project

Project Advisory Committee Meeting No. 5

November 16, 2020

Patrick Gallagher

Type here to search

That's a really great comment!

10/22/2020

Turn on chat pane

Type your question/comment here

Submit here

PG

TG

TD

MM

LM

DS

AF

JG

SK

MC

Doyle, Thomas H

McMillan, Mark J.

Murphy, Lynn D.

Sousa, David

Fesenmeyer, Andy A.

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



07:47

Request control



Leave

storymaps.arcgis.com/stories/c22a1bac516448288922ced055cbd0d2

I-84 Danbury Project

## I-84 Danbury Project

Project Advisory Committee Meeting No. 5

Patrick Gallagher

Type here to search

9:13 AM 10/22/2020

**Raise your hand**

**Locations of these controls may be different depending on the device and screen you are using**

- PG Doyle, Thomas H
- TG
- TD
- MM McMillan, Mark J
- LM Murphy, Lynn D
- DS Sousa, David
- AF Fesenmeyer, Andy A
- JG Jeanine Gouin
- SK Kalluri, Sharat K
- MC Calabrese, Michael N



# I-84 Danbury Project

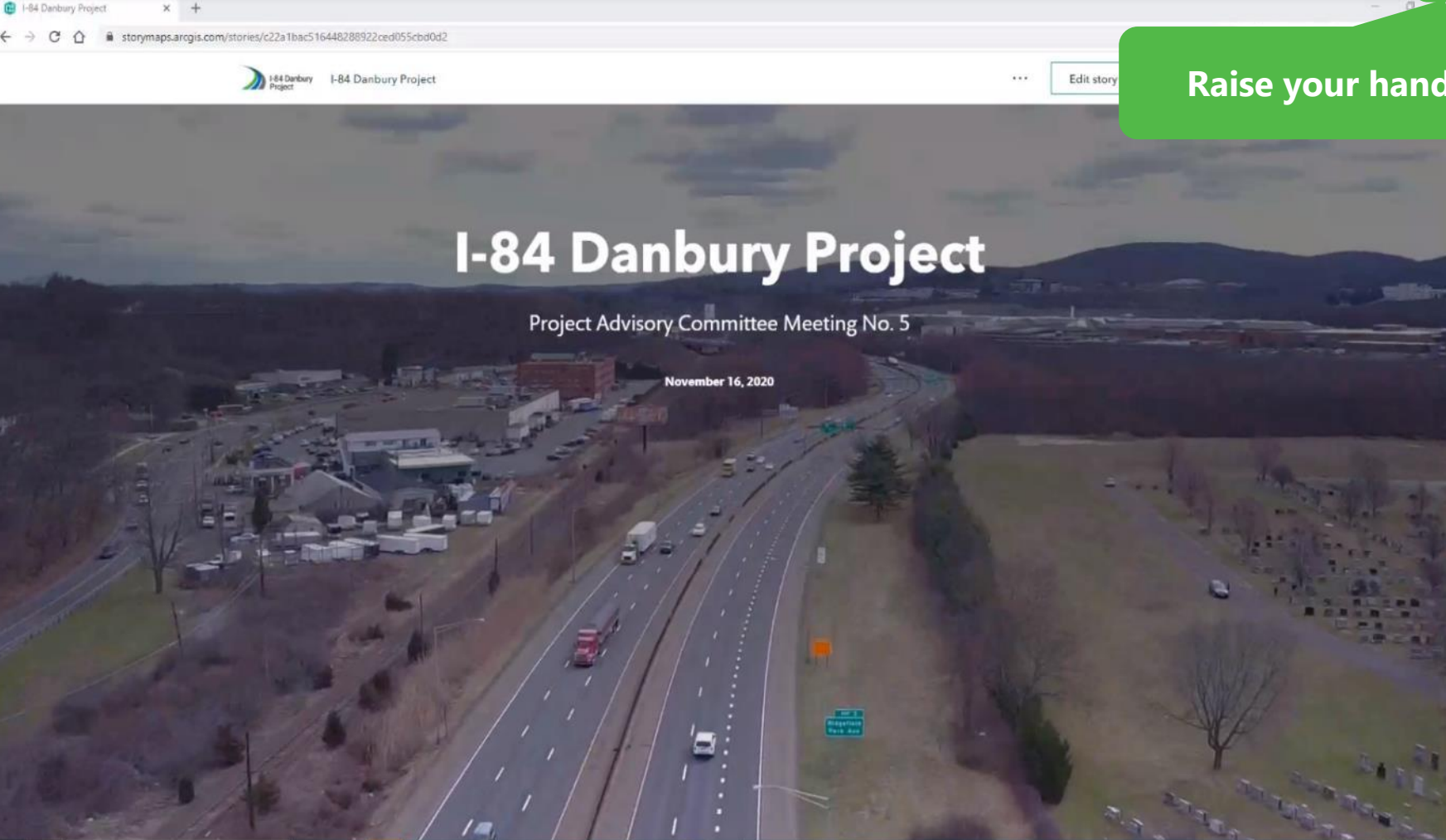


10:24

Request control



Raise your hand



## Participants

Invite someone or dial a number

In this meeting (11)

Mute all

- Marcy Miller
- Calabrese, Michael N  
Outside your organization
- Doyle, Thomas H  
Outside your organization
- Fesenmeyer, Andy A.  
Outside your organization
- Gaffey, Timothy J.  
Outside your organization
- Jeanine Gouin  
Outside your organization
- Kalluri, Sharat K  
Organizer  
Outside your organization
- McMillan, Mark J.  
Outside your organization
- Murphy, Lynn D.  
Outside your organization
- Patrick Gallagher  
Outside your organization
- Sousa, David  
Outside your organization

Patrick Gallagher



9:15 AM  
10/22/2020



Murphy, Lynn D.

Sousa, David

Fesenmeyer, Andy A.

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



07:47

Request control



Leave

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I-84 Danbury Project

## I-84 Danbury Project

Project Advisory Committee Meeting No. 5

**Other functions**

**Locations of these controls may be different depending on the device and screen you are using**

Patrick Gallagher

Type here to search

9:13 AM  
10/22/2020

PG

TG

TD

MM

LM

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MC

Doyle, Thomas H

McMillan, Mark J

Murphy, Lynn D

Sousa, David

Fesenmeyer, Andy A

Jeanine Gouin

Kalluri, Sharat K

Calabrese, Michael N



# I-84 Danbury Project



10:24

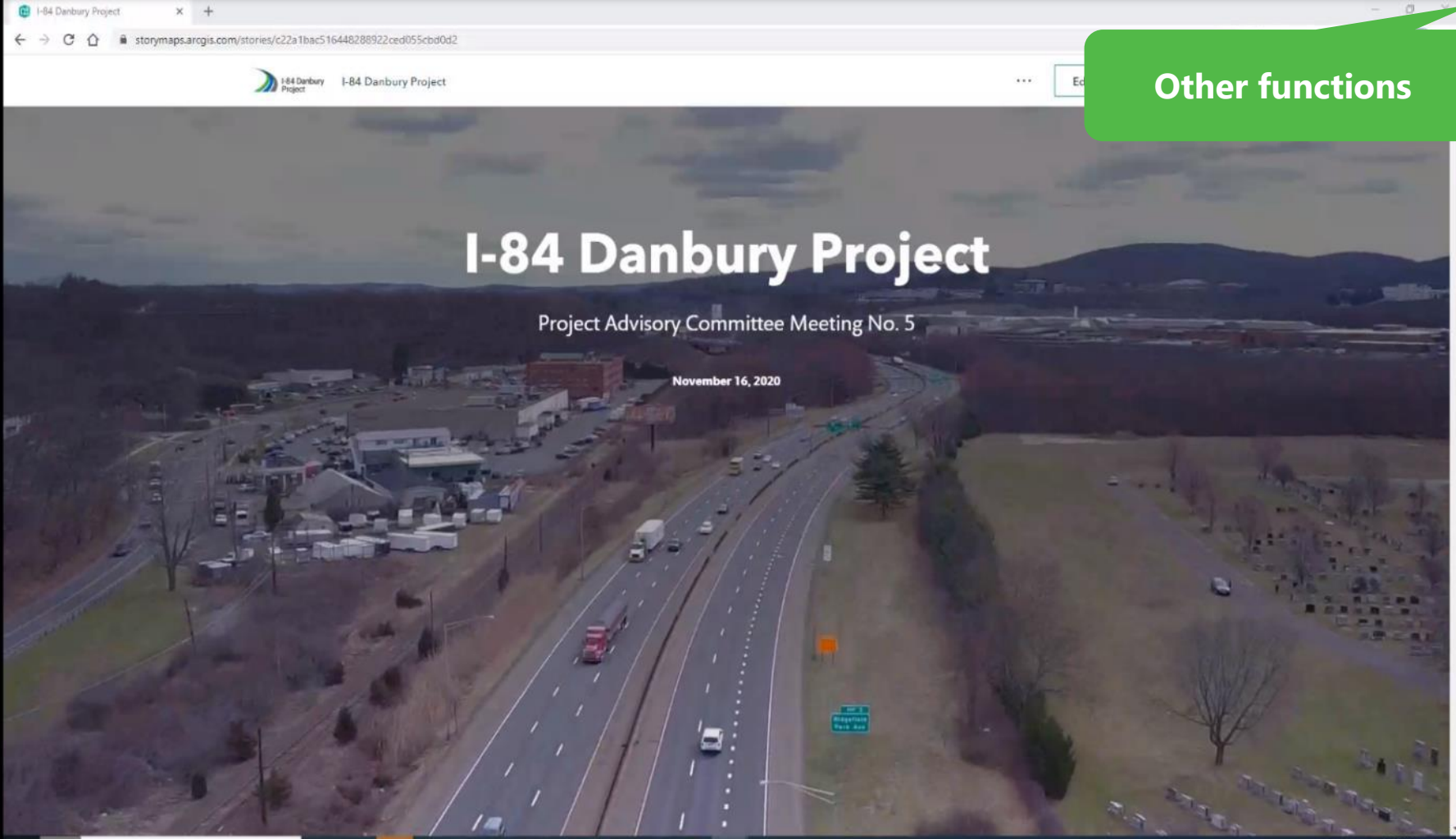
Request control



Leave

Other functions

- Device settings
- Meeting details
- Gallery
- Large gallery (Preview)
- Together mode (Preview)
- Focus
- Full screen
- Call me
- Apply background effects
- Turn on live captions
- Start recording
- Dial pad
- Turn off incoming video



Patrick Gallagher



9:15 AM 10/22/2020

Participant avatars and names: PG, TG, TD, MM, LM (Murphy, Lynn D.), DS (Sousa, David), AF (Fesenmeyer, Andy A.), JG (Jeanine Gouin), SK (Kalluri, Sharat K.), MC (Calabrese, Michael N.)



# Questions



# Agenda

- PAC Recap
- Concept # 1 - Lane Add – Mainline
- Discussion/Questions
- Concept Evaluation
- Discussion/Questions
- Upcoming Concepts
- Next Steps
- Discussion/Questions





# PAC Recap



# PAC Membership

AAA	Danbury Public Schools	Putnam County, New York	Western Connecticut State University
Boehringer-Ingelheim	Danbury Museum & Historical Society	Sierra Club	West Side District
Cartus	Get Downtown Danbury	Spring Street Neighborhood	<b>Wooster Cemetery</b>
City of Danbury: Business Advocacy, Engineering, Health & Human Services, Library, Planning, Public Works, & Traffic	Greater Danbury Chamber of Commerce	Sterling Woods Association	
CityCenter Danbury	Housatonic Area Regional Transit (HART)	Town of Bethel	
CTrides	Housatonic Railroad	Town of Brookfield	
Connecticut State Police	Juniper Ridge Tax District	Town of New Fairfield	
Danbury Airport	League of Women Voters of Northern Fairfield County	Town of New Milford	
Danbury Commission for Persons with Disabilities	Motor Transport Association of CT (MTAC)	Town of Newtown	
Danbury Hospital	New York Metropolitan Transportation Council	Town of Redding	
Danbury Housing Authority		Town of Ridgefield	
		West Terrace Neighborhood	
		Western Connecticut Council of Governments (WestCOG)	



## Draft Purpose Statement:

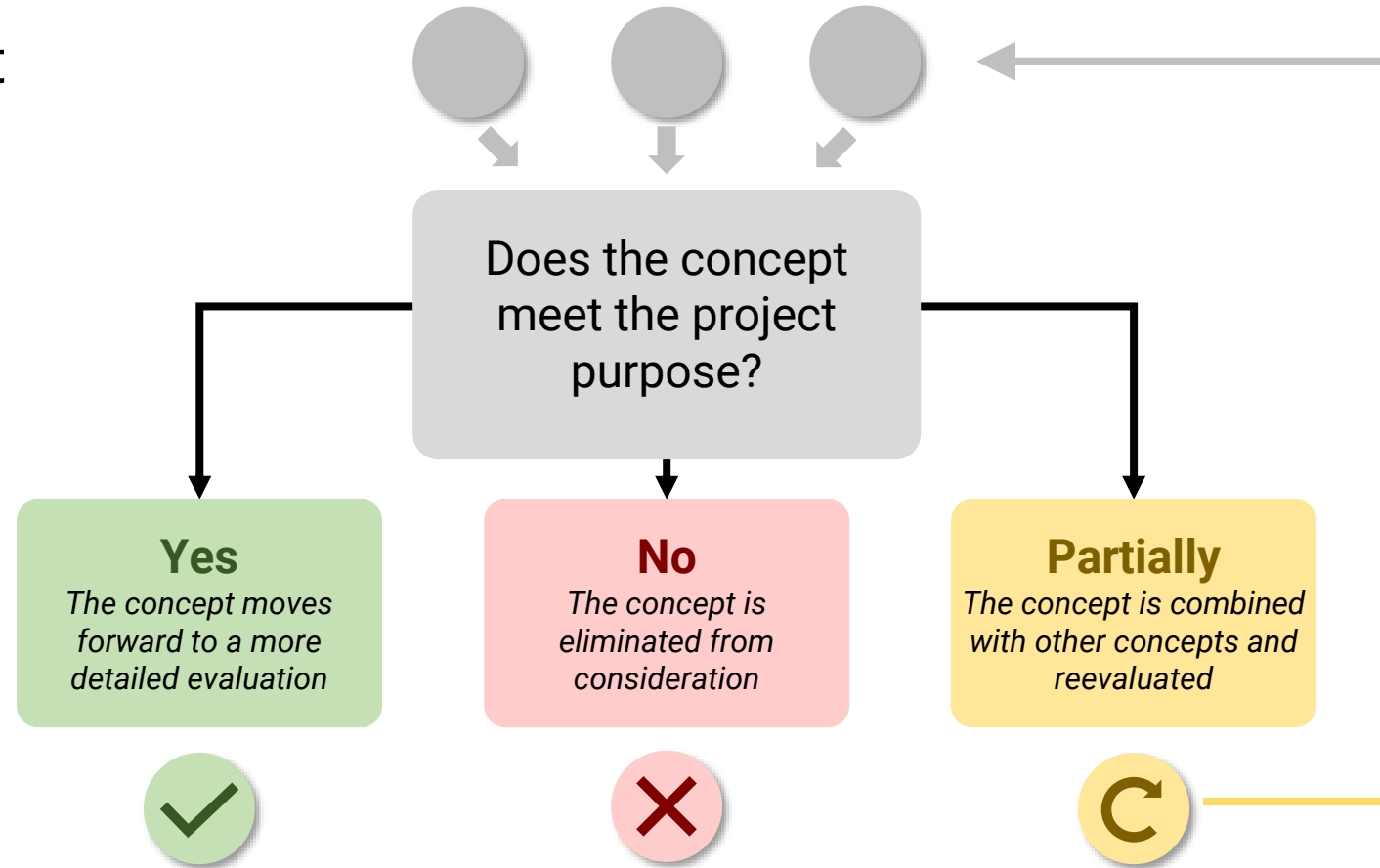
The purpose of the I-84 Danbury Project is to reduce **congestion** and improve the **mobility** of people and goods in the I-84 corridor in greater Danbury.



# How will the Project Purpose be used?

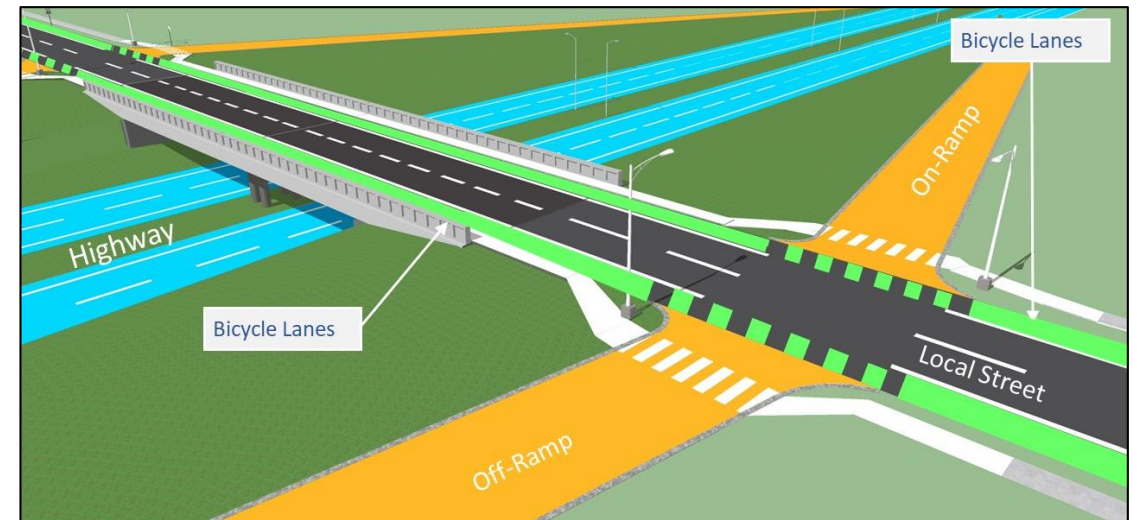
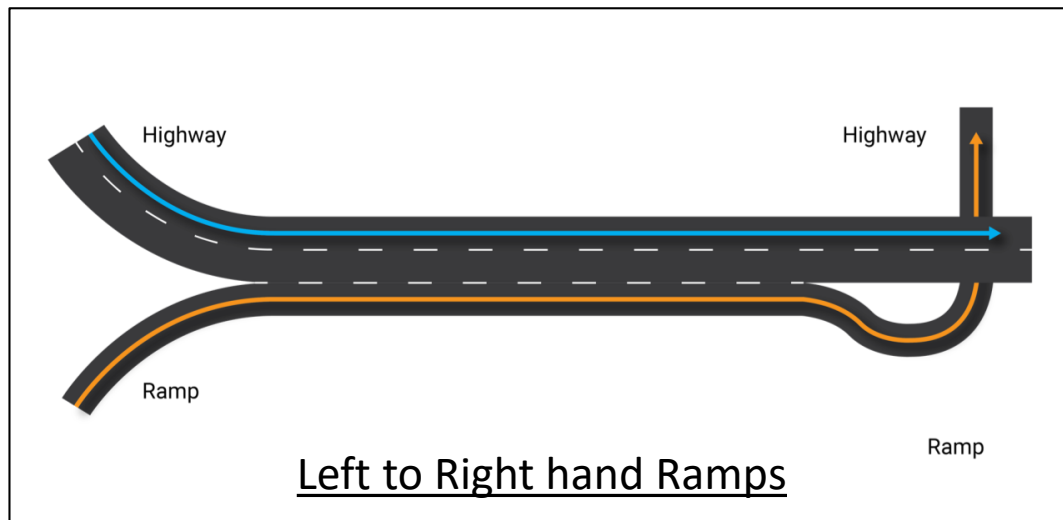
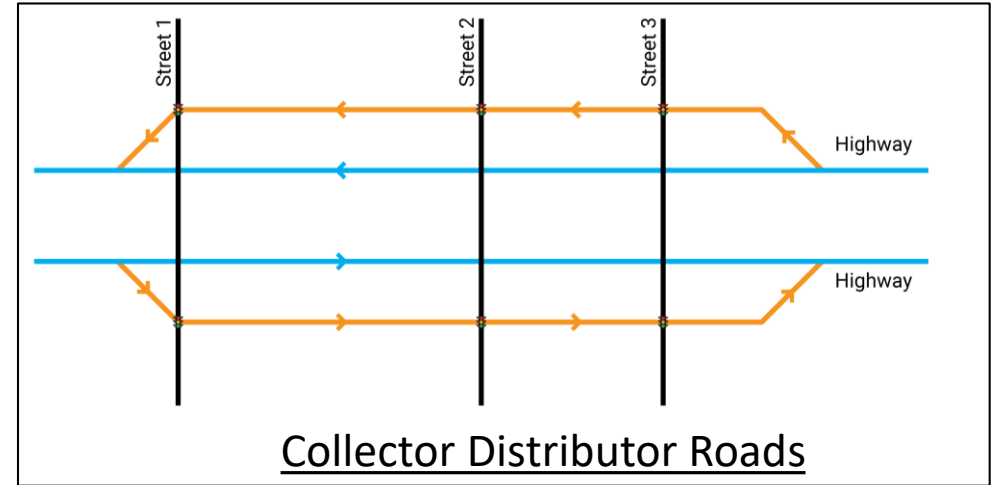
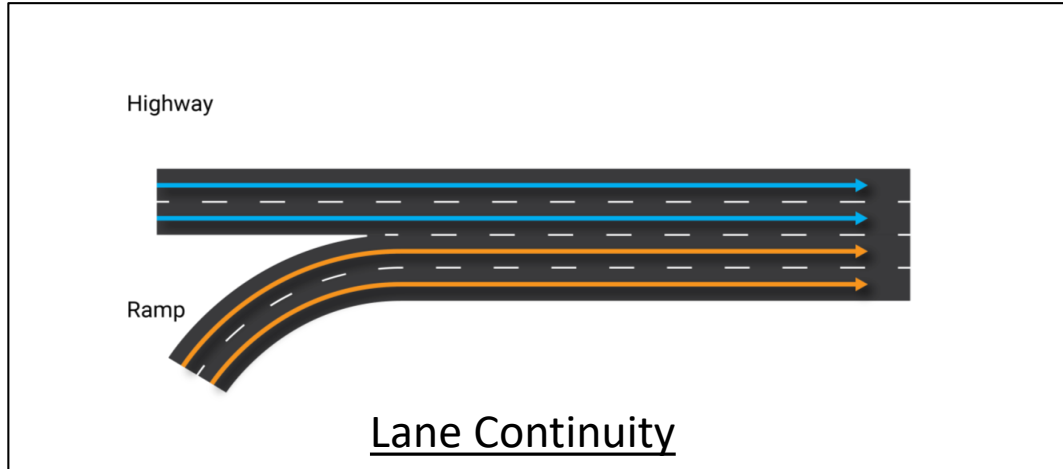
1. Concept Development

2. Concept Evaluation





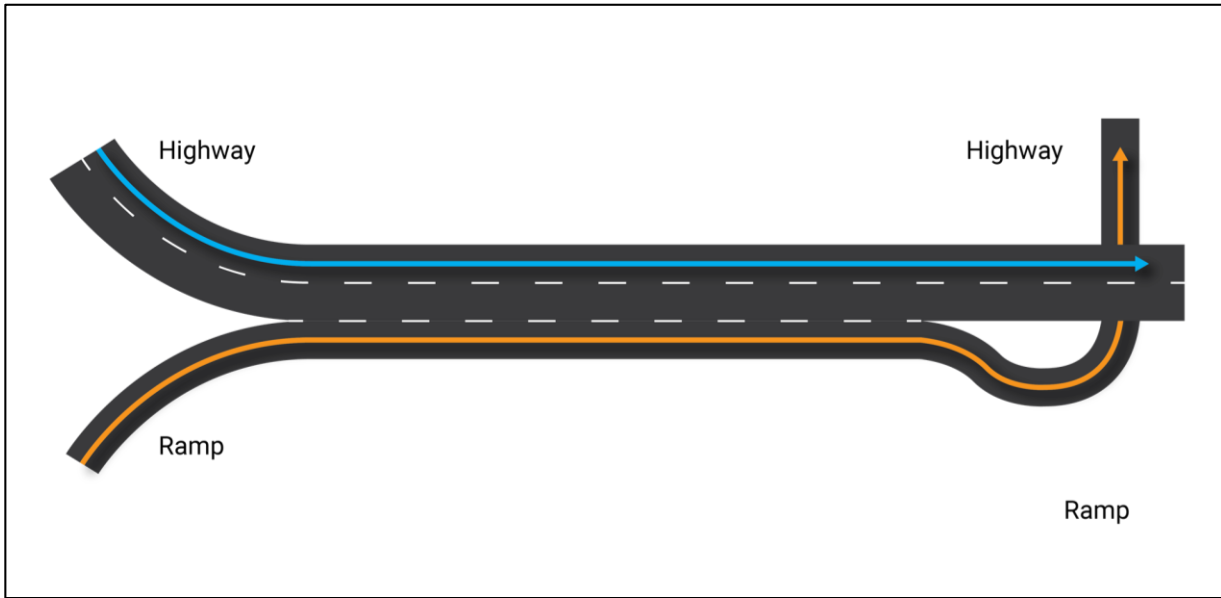
# Toolbox for Concept Development Process



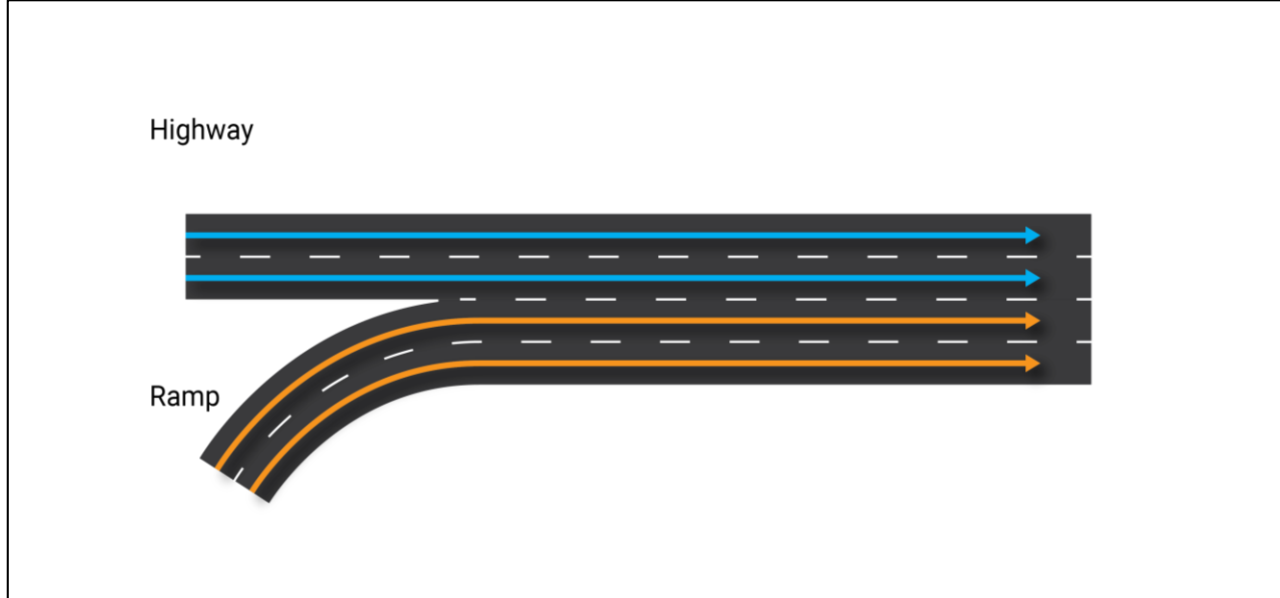
Pedestrian and Bicycle Improvements



# Toolbox for Concept Development Process



Left to Right hand ramps



Lane Continuity



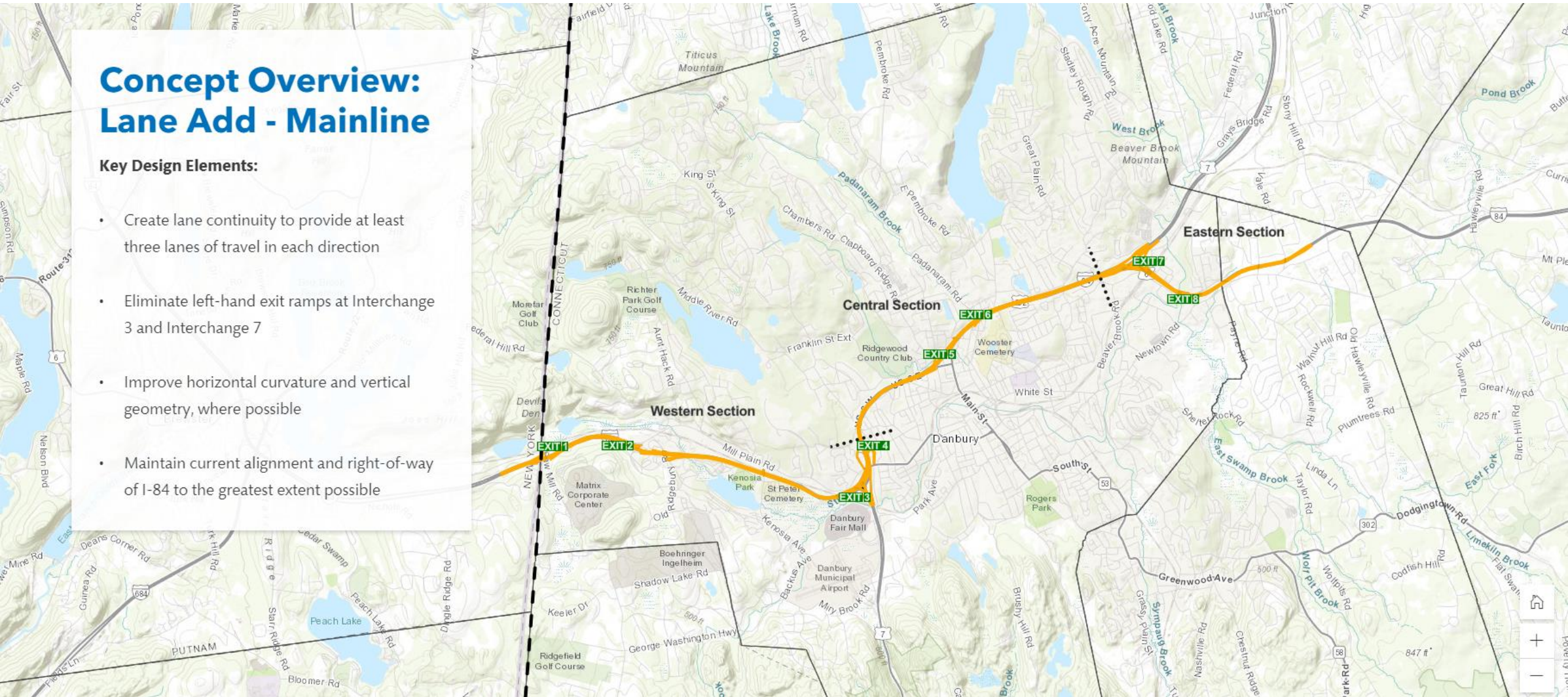
# Concept 1 Lane Add - Mainline



## Concept Overview: Lane Add - Mainline

### Key Design Elements:

- Create lane continuity to provide at least three lanes of travel in each direction
- Eliminate left-hand exit ramps at Interchange 3 and Interchange 7
- Improve horizontal curvature and vertical geometry, where possible
- Maintain current alignment and right-of-way of I-84 to the greatest extent possible





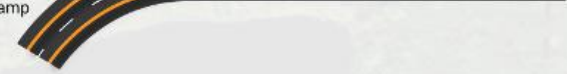
# Interchange 1 & Interchange 2 Area

- Widening of the mainline to provide a consistent three travel lanes in each direction
- No interchange improvements are proposed

Highway



Ramp

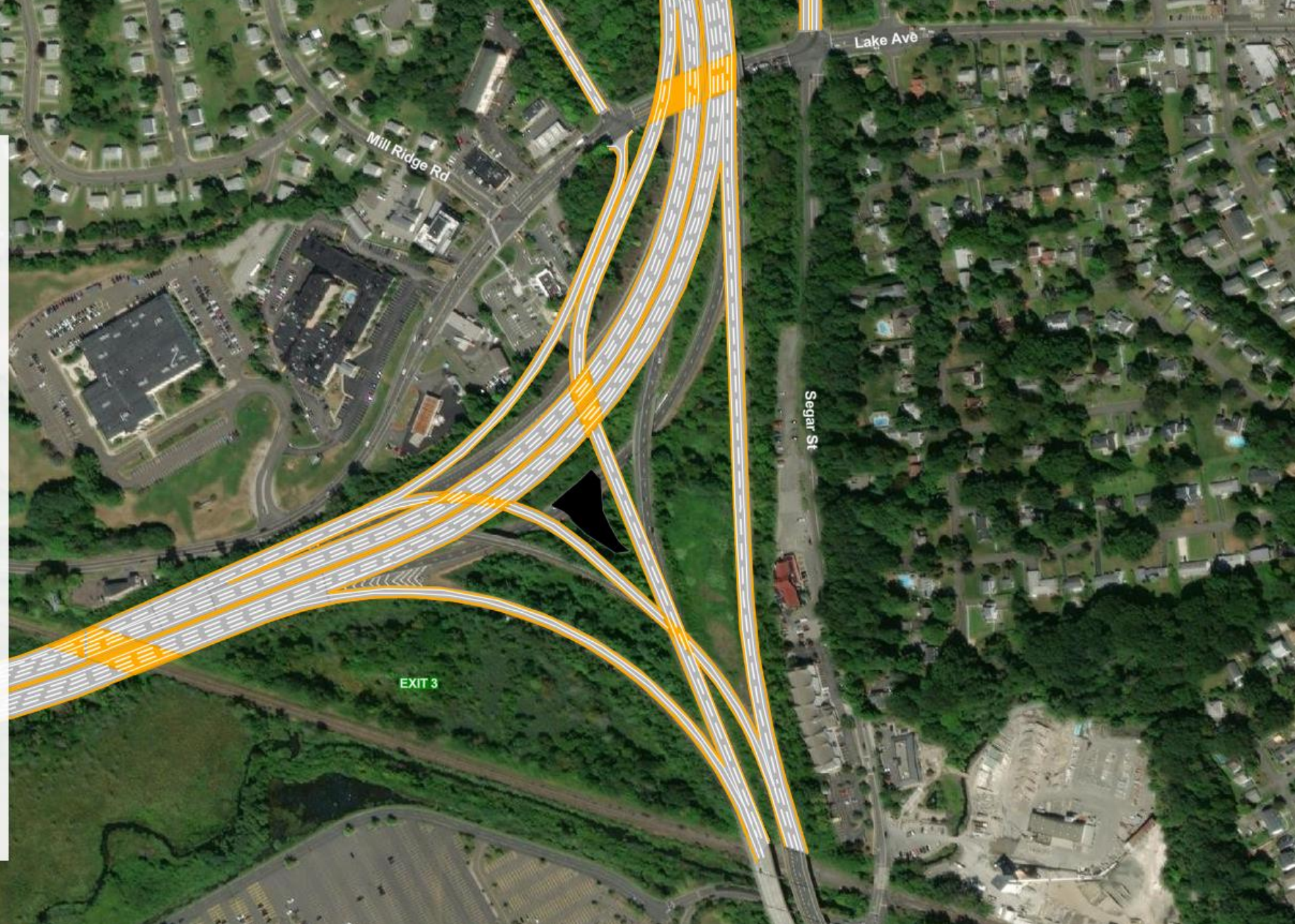


EXIT 1

EXIT 2

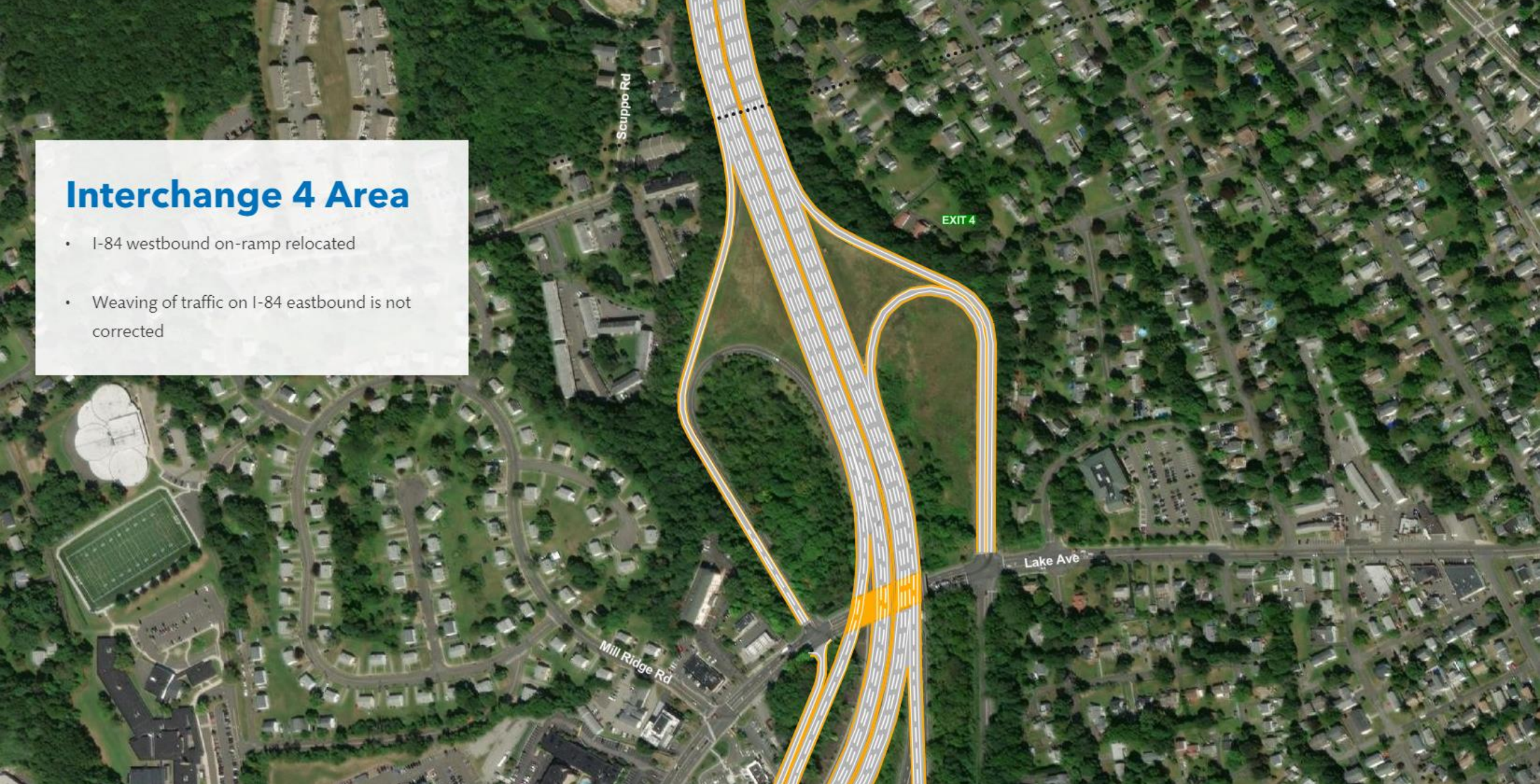
## Interchange 3 Area

- Lane continuity between Interchanges 3 and 4 in the eastbound direction
- Left-hand ramps replaced by right-hand ramps at Interchange 3
- Sharp curve on mainline reduced, allowing design speeds to meet design standards
- Addition of a fourth travel lane in each direction east of Interchange 3



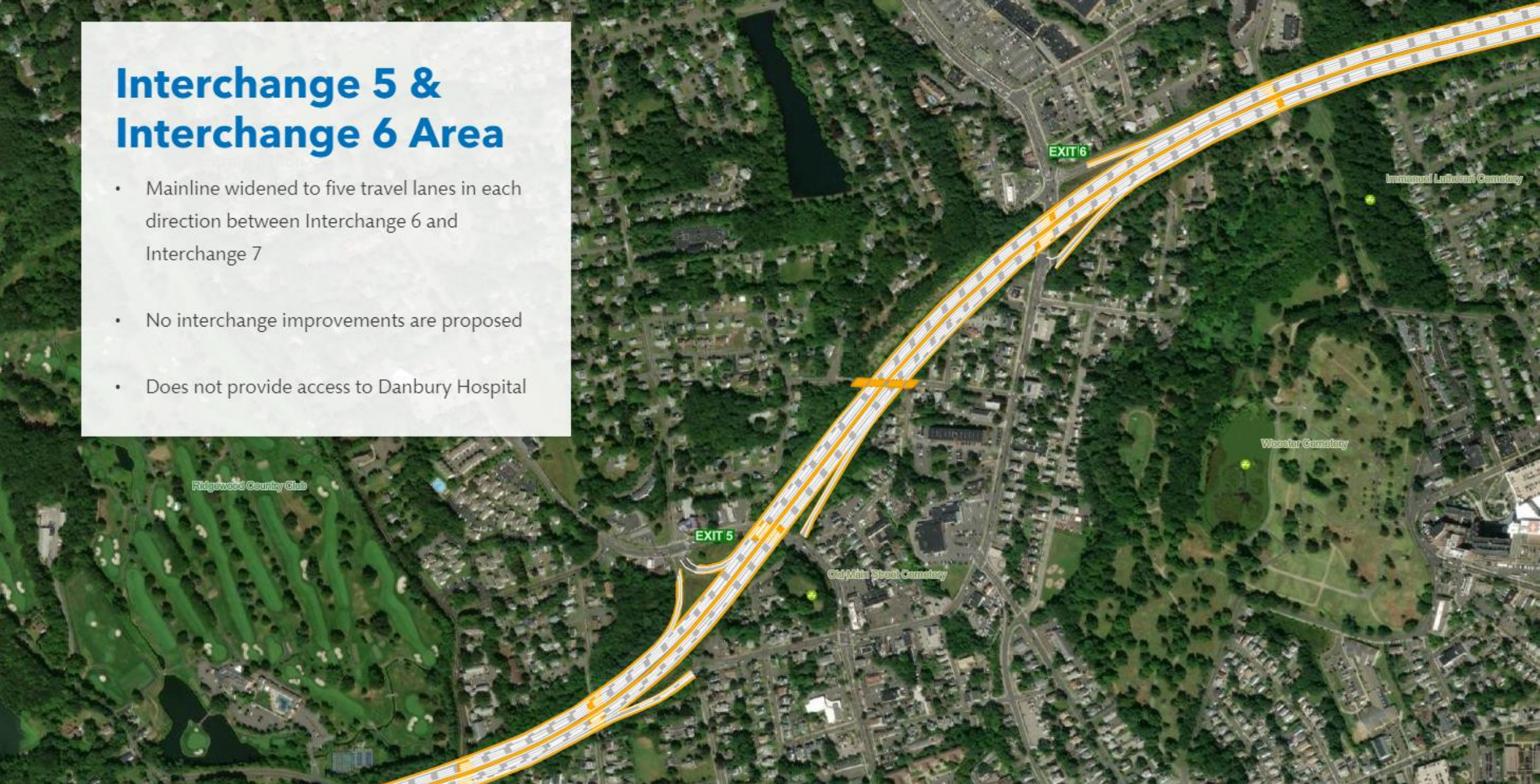
## Interchange 4 Area

- I-84 westbound on-ramp relocated
- Weaving of traffic on I-84 eastbound is not corrected



# Interchange 5 & Interchange 6 Area

- Mainline widened to five travel lanes in each direction between Interchange 6 and Interchange 7
- No interchange improvements are proposed
- Does not provide access to Danbury Hospital



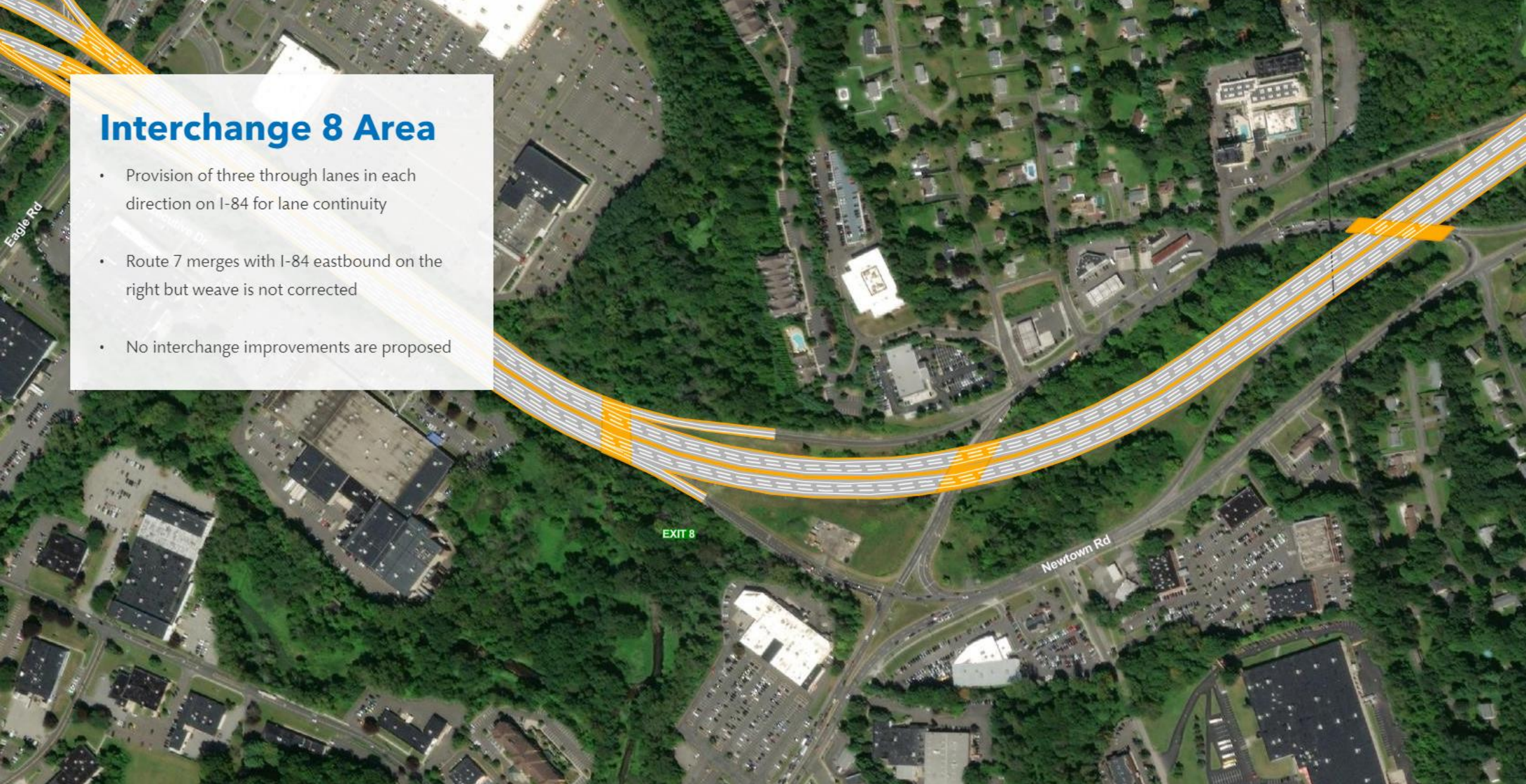
## Interchange 7 Area

- Left-hand ramps replaced by right-hand ramps at Interchange 7
- Provision of three through lanes in each direction on I-84 for lane continuity
- Provision of two lanes on Route 7 southbound at the merge with I-84



## Interchange 8 Area

- Provision of three through lanes in each direction on I-84 for lane continuity
- Route 7 merges with I-84 eastbound on the right but weave is not corrected
- No interchange improvements are proposed





# Discussion/Questions



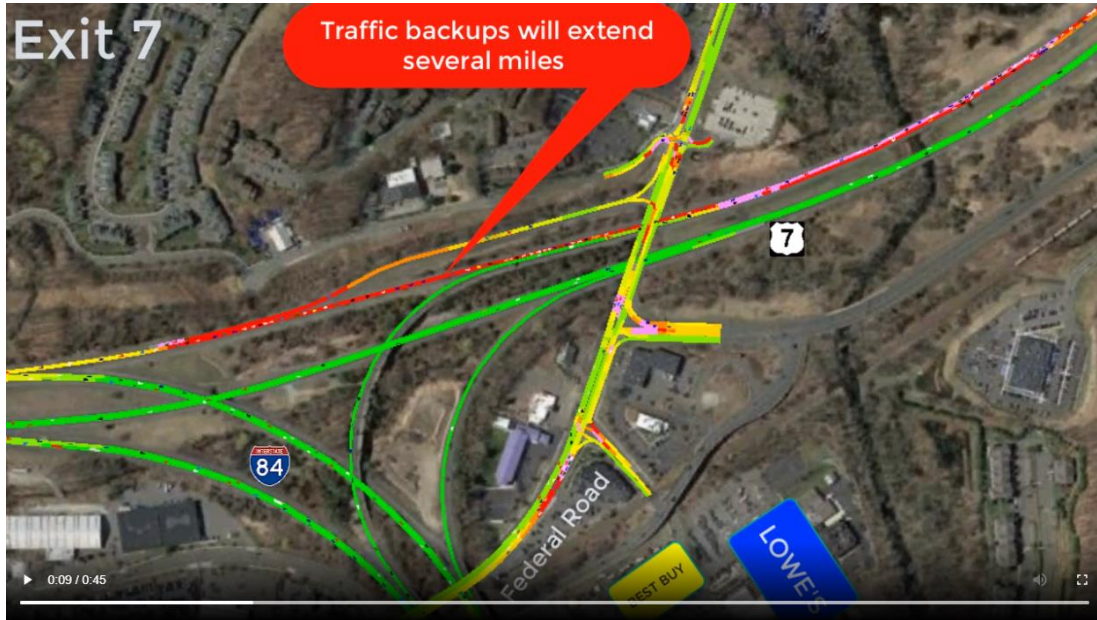
# Concept Evaluation





## Evaluating the Concept

- Traffic operations
- Effects to mainline I-84
- Key constructability elements
- Environmental resource analysis
- Construction cost estimate



## ***2040 No Build***



## ***2040 Lane Add - Mainline***



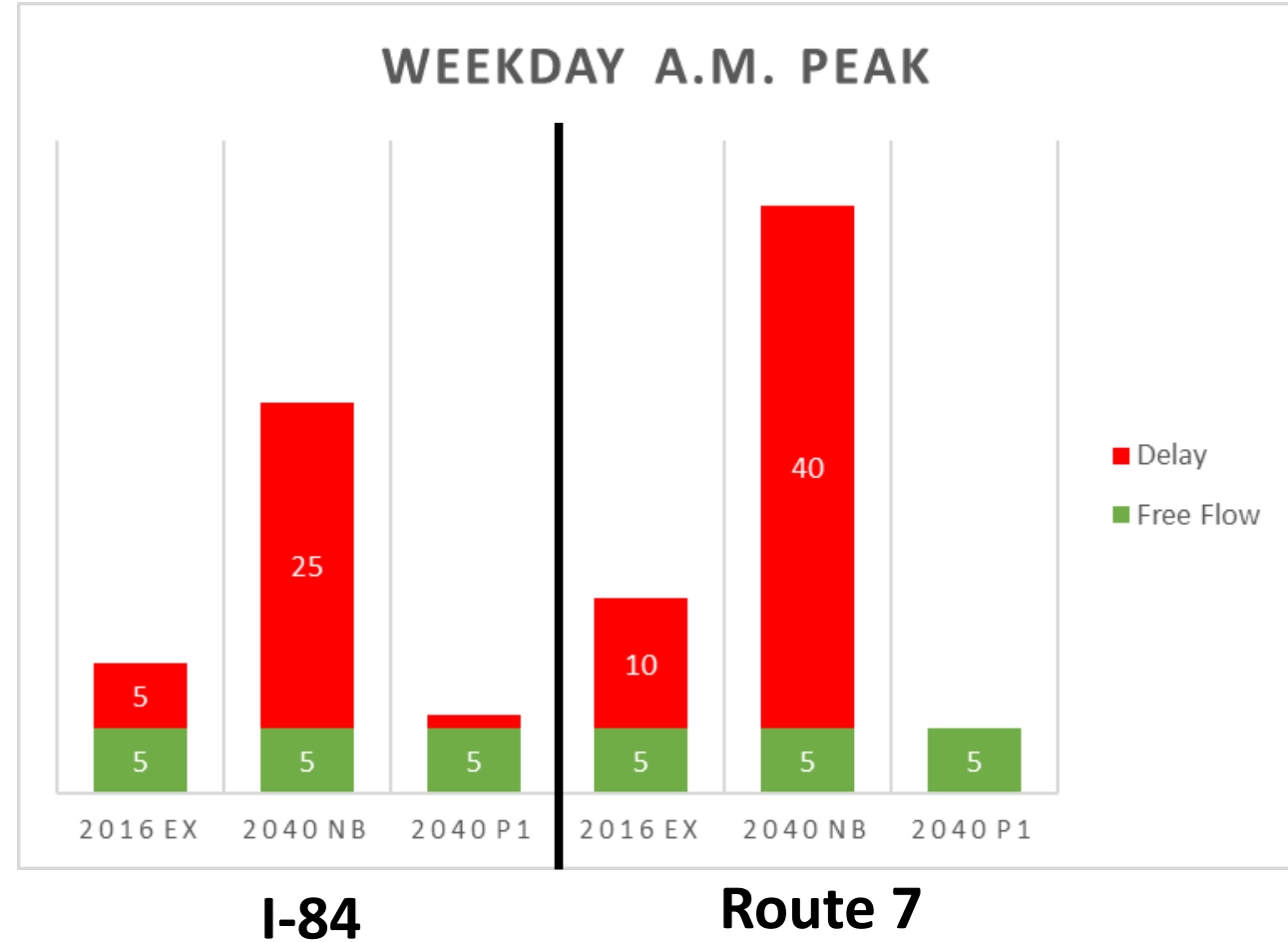
# Travel Times and Delay (Weekday A.M. Peak)

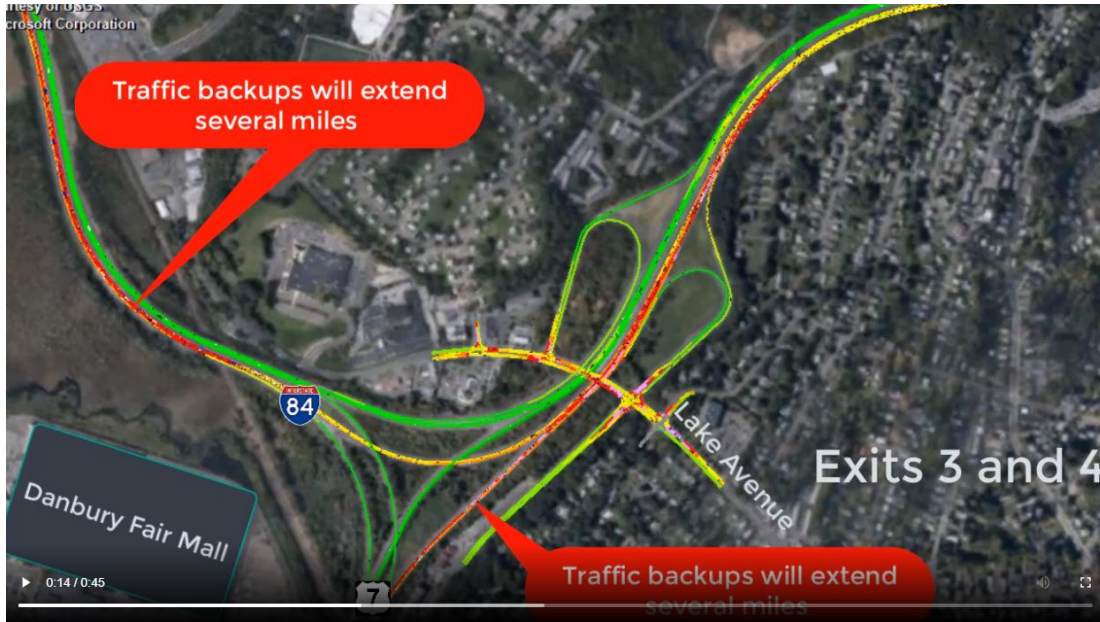
## • I-84 (going west)

- What it should take – 5 minutes
- What it takes today – 10 minutes
- What it will take in 2040 – 30 minutes
- **What it will take with Lane Add option - 6 minutes**

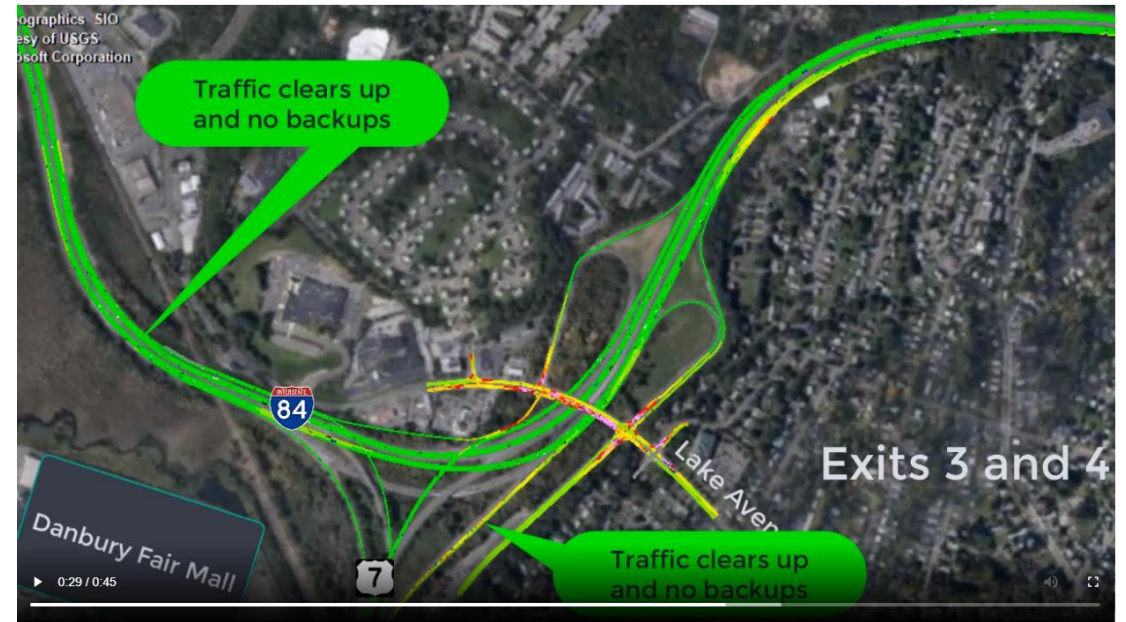
## • Route 7 (going south)

- What it should take – 5 minutes
- What it takes today – 15 minutes
- What it will take in 2040 – 45 minutes
- **What it will take with Lane Add option - 5 minutes**





## 2040 No Build



## 2040 Lane Add - Mainline



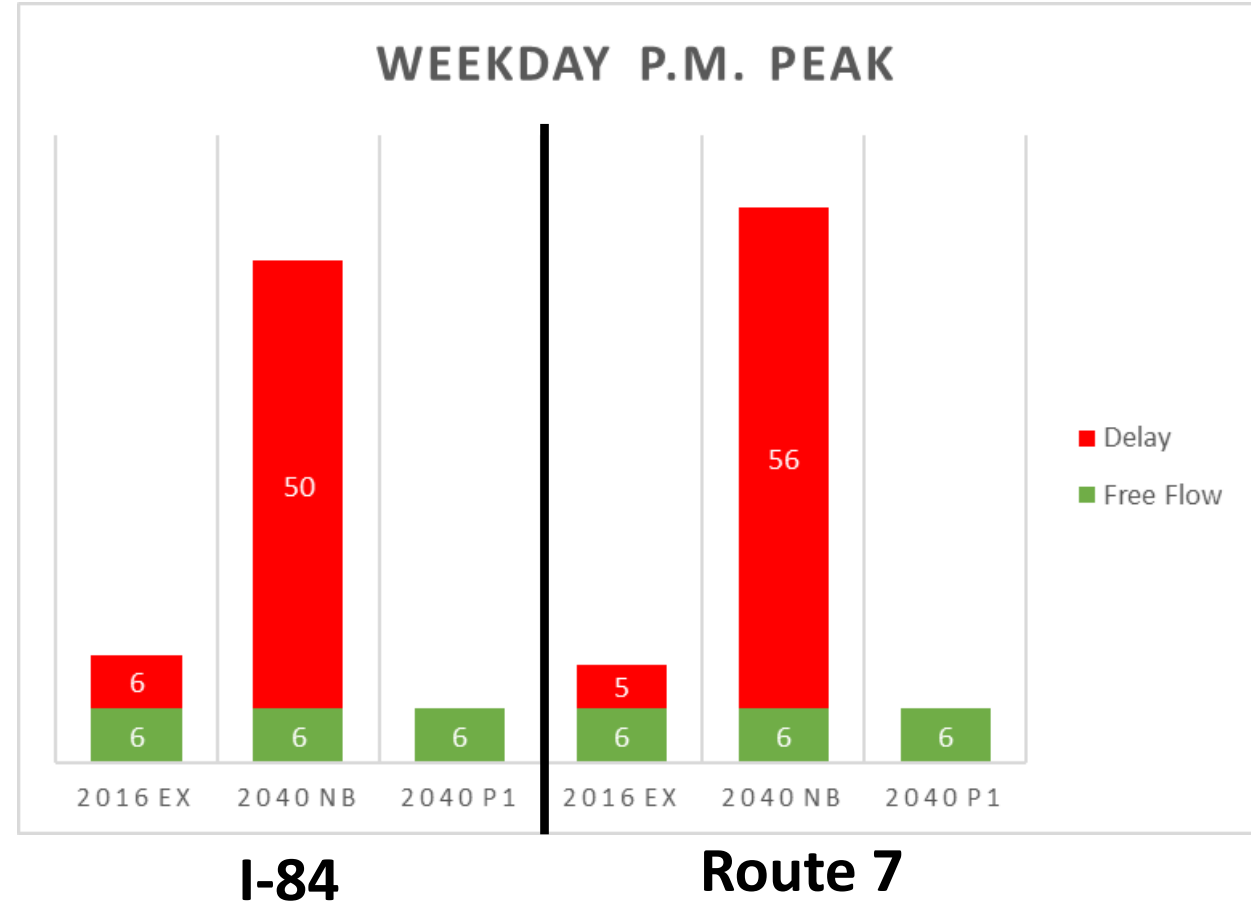
# Travel Times and Delay (Weekday P.M. Peak)

- **I-84 (going east)**

- What it should take – 6 minutes
- What it takes today – 12 minutes
- What it will take in 2040 – 56 minutes
- What it will take with Lane Add option - 6 minutes

- **Route 7 (going north)**

- What it should take – 6 minutes
- What it takes today – 11 minutes
- What it will take in 2040– 61 minutes
- What it will take with Lane Add option - 6 minutes





## Effects to Mainline I-84

- Horizontal curves improved at Interchanges 3 and 7 to design standards
- Left-hand ramps changed to right-hand ramps
- Acceleration and deceleration lanes lengthened to design standards
- Weaving of traffic remains between Interchanges 3/4 and 7/8



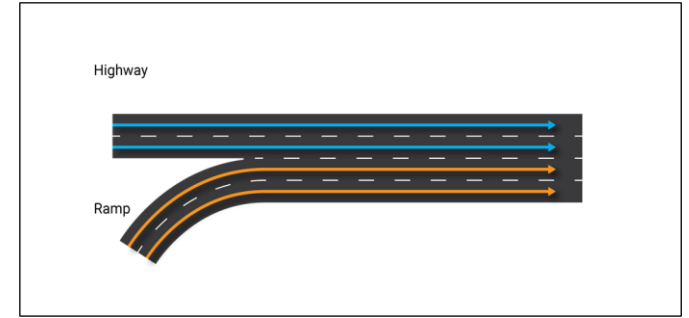
# Key Constructability Elements

- Typical construction methods could be used
  - Temporary travel lanes
  - Multiple stages of construction

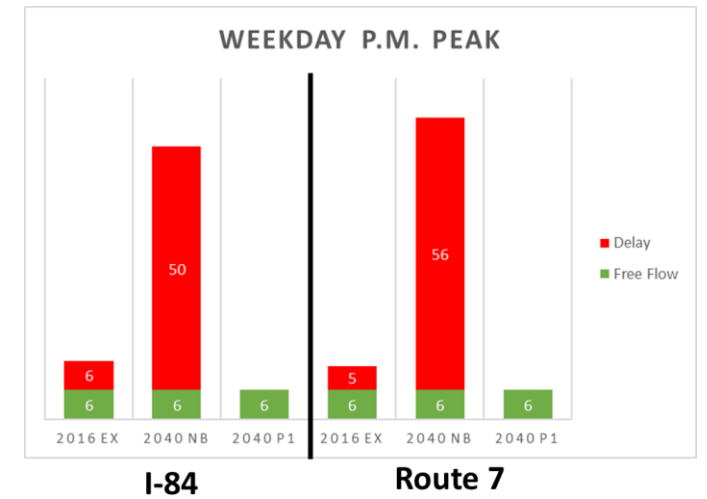


# PROS

- + Lane continuity is maintained
- + Left-hand ramps are replaced with right-hand ramps
- + Peak hour delay is reduced
- + Highway geometry is improved
- + Footprint is largely within existing right-of-way
- + Typical construction methods could be used



Lane Continuity







## CONS

- **Lacks improvements at Interchanges 1, 2, 4, 5, 6, and 8**
- Lacks consistent design speed
- **Does not improve access to the hospital**
- Weaving of traffic remains between Interchange 3/4 and 7/8





# Construction Cost Estimate

Cost Range	Rating
Less than \$0.5 billion	\$
\$0.5 billion to \$1 billion	\$\$
<b>\$1 billion to \$3 billion</b>	<b>\$\$\$</b>
\$3 billion to \$5 billion	\$\$\$\$
Greater than \$5 billion	\$\$\$\$\$

\*Note: The construction cost estimate is inflated to mid-point of construction not including right-of-way and engineering costs.



# Discussion/Questions



# Environmental Resource Analysis

## Resources Evaluated:

- Sensitive Receptors
- Land Use and Community Impacts
- Cultural Resource Impacts
- Physical Impacts
- Wetland, Watercourse, and Floodplain Impacts
- Biological Resource Impacts





# Environmental Resource Analysis:

## PROS

- + **Footprint is largely within existing right-of-way**
- + The size of the impact area is modest and largely occurs within previously disturbed areas
- + No impacts to known historic resources
- + No impacts to known 4(f) properties



# Environmental Resource Analysis:

## CONS

- Near natural gas transmission pipeline between Interchanges 6 and 7
- The highway will be slightly closer to certain residential properties as compared to existing conditions
- Modest increases in noise levels could occur at some properties
- Water resource impacts at stream crossings associated with bridge modifications and replacements



The purpose of the I-84 Danbury Project is to reduce **congestion** and improve the **mobility** of people and goods in the I-84 corridor in greater Danbury.



## Initial Assessment:

- **Reduces congestion**
- Improves mobility on the highway
- Could be constructed with the use of typical methods
- Anticipated impacts are minor, with numerous mitigation alternatives available to offset impacts
- Low probability of causing significant or irreparable harm to the natural or human environment
- **Does not address local connectivity**
- Does not address other modes of travel adjacent to the highway





## Recommendation:

This concept should be considered in combination with one or more other concepts that address mobility adjacent to the highway.



# Discussion/Questions



# Upcoming Concepts

Interchanges 3 and 4  
Segar Street Ramp - Eastbound



EXIT 4

EXIT 4

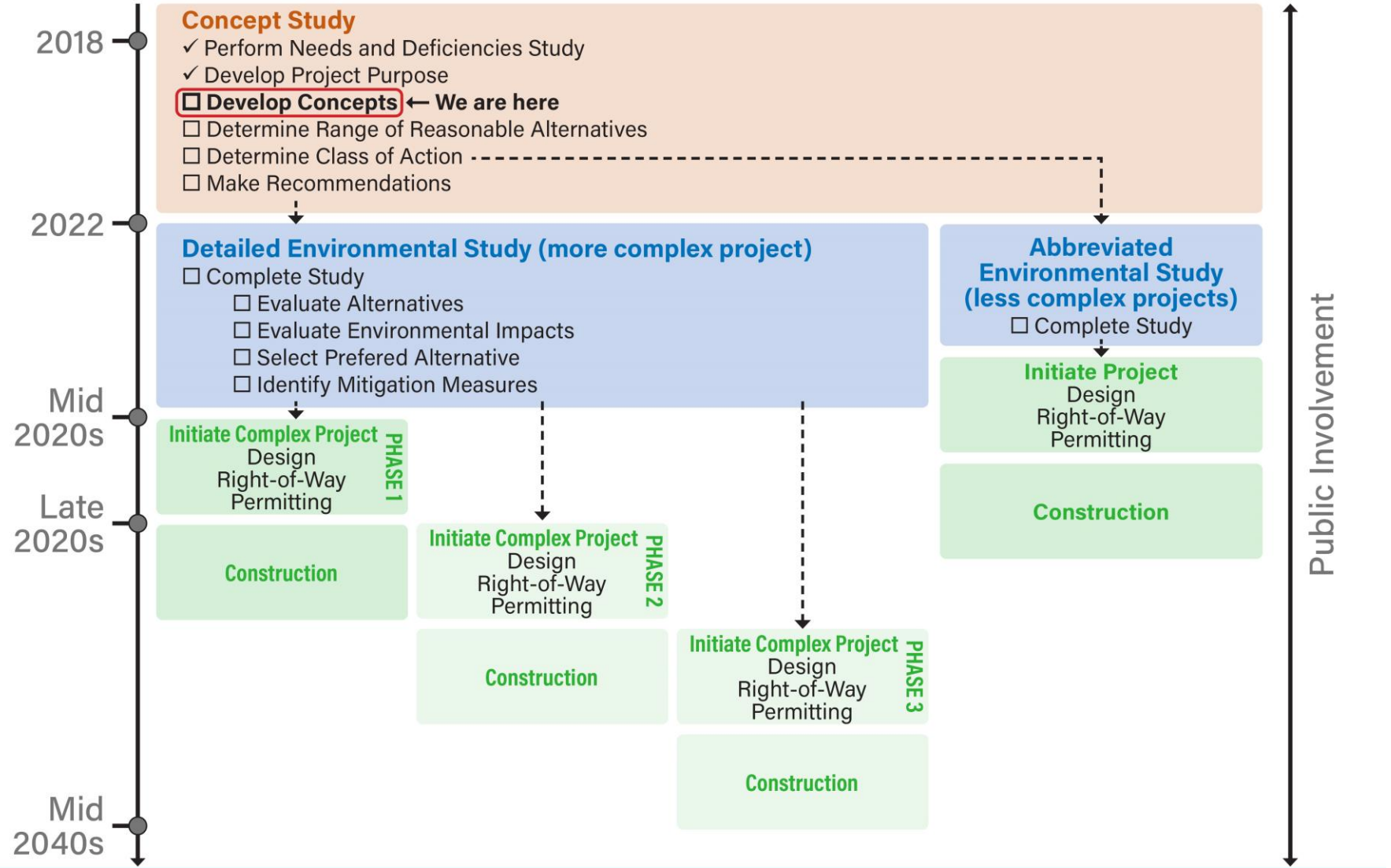
EXIT 3

# CD Road





## Process and Timeline





# Next Steps



## Next Steps

- Refine Concept 1
- Develop new concepts
- Next PAC Meeting – Winter/Spring 2021





## Project Contacts:

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Project Manager, Consultant Design  
[Andy.Fesenmeyer@ct.gov](mailto:Andy.Fesenmeyer@ct.gov)

Yolanda Antoniak, P.E.  
Project Engineer, Consultant Design  
[Yolanda.Antoniak@ct.gov](mailto:Yolanda.Antoniak@ct.gov)



# Thank You!