

I-84 Danbury Project

Project Advisory Committee (PAC) Meeting No. 8

May 25, 2022



Welcome / Providing Feedback

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/
- 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



Video on / off

Mic on / off

Request control

055cbd0d2

Project

Edit story

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

I-84 Danbury Project



I-84 Danbury
Project

Providing Feedback



08:39

request controls

Turn on participant list

I-84 Danbury Project
Project Advisory Committee Meeting No. 5
November 16, 2020

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

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

80

Leave

Turn on chat pane

I-84 Danbury Project

Project Advisory Committee Meeting No. 5

November 16, 2020

Type your question/comment here

Submit here

That's a really great comment!

Patrick Gallagher

Type here to search

PG TG TD MM LM DS AF JG SK MC

Doyle, Thomas H. J.

McMillan, Mark J.

Murphy, Lynn D.

Sousa, David

Fesenmeyer, Andy A.

Jeanine Gouin

Kalluri, Sharat K.

Calabrese, Michael N.



I-84 Danbury
Project

Providing Feedback



10:24

Request control

Other functions

I-84 Danbury Project

Project Advisory Committee Meeting No. 5

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Patrick Gallagher

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.

9:15 AM 10/22/2020

- 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



I-84 Danbury
Project

Providing Feedback



10:24

Request control

...

Leave

storymaps.arcgis.com/stories/c22a1ba5164482881922c9d055c9d0d2

I-84 Danbury Project

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Edit story

I-84 Danbury Project

Project Advisory Committee Meeting No. 5

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Patrick Gallagher

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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.

Raise your hand



Questions

Presenters



Krishalyn Macrohon
CTDOT
Project Engineer



Jeanine Armstrong Gouin
SLR Consulting
Environmental Documentation



Sharat K. Kalluri
CDM Smith
Project Manager



Rick Black
SLR Consulting
Environmental
Documentation



Andy Fesenmeyer
CTDOT
Project Manager

Moderator



Marcy Miller, AICP (FHI)



Nilesh Patel
CTDOT
Principal Engineer

Agenda

- PAC Update
- Concept Evaluation
 - Concept #24 – Starr Avenue – Interchange 5
 - Transportation Systems Management and Operations Strategies
 - Concept #14 – CD Road Eastbound - East
- Concept Screening Process
- Next Steps
- Discussion / Questions



PAC Update

Since Our Last Meeting

- Attended meeting with New York towns
- New PAC member
- Published Spring 2022 newsletter
- Added more concepts to website
- Attended pop-up events in Danbury
- Continue to create social media content



www.i84danbury.com



I-84 Danbury Project



@i84danbury

PAC Membership

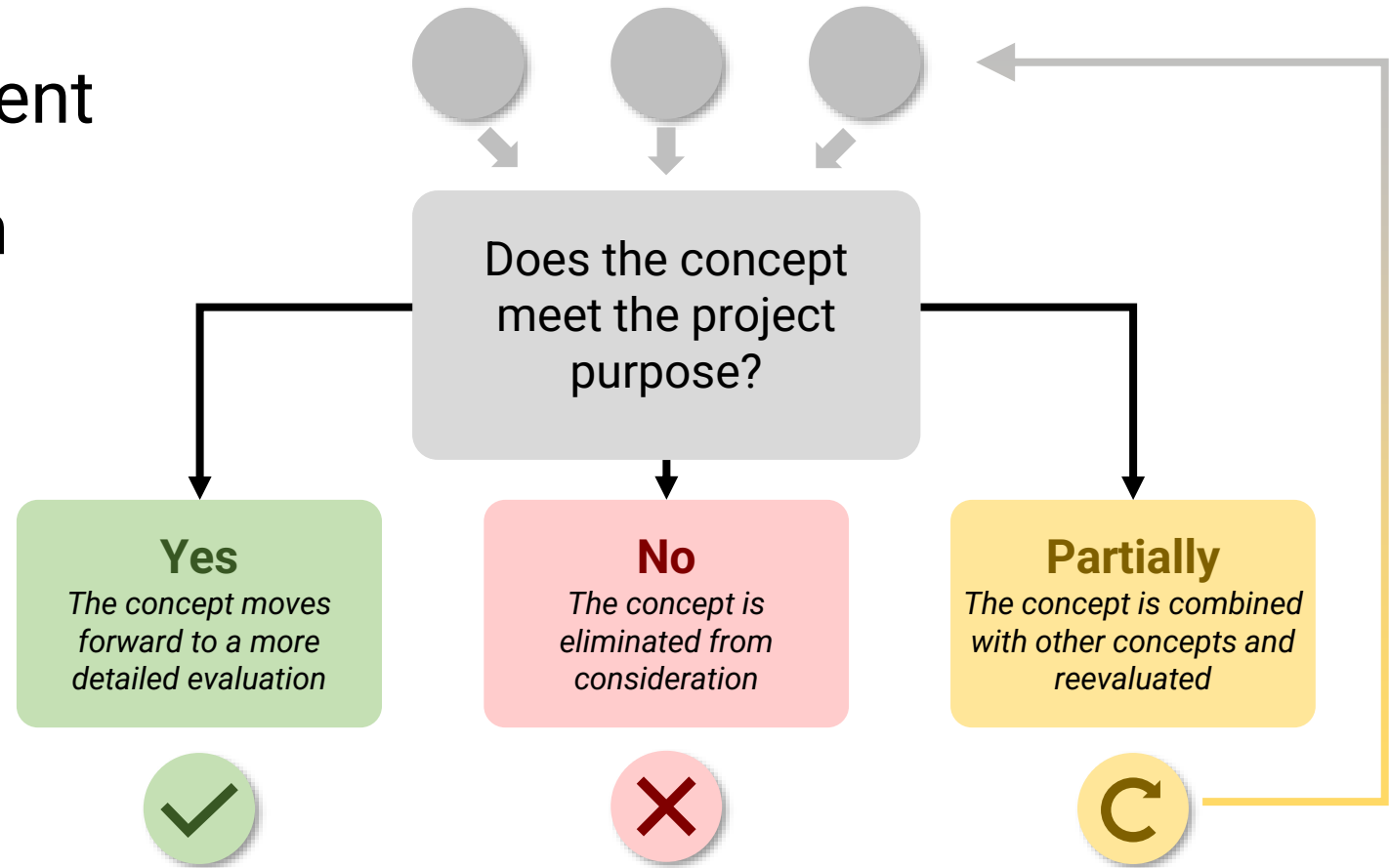
AAA	Danbury Housing Authority	New York Metropolitan Transportation Council	Western Connecticut Council of Governments (WestCOG)
Boehringer-Ingelheim	Danbury Public Schools	Putnam County, New York	Western Connecticut State University
Cartus	Danbury Museum & Historical Society	Sierra Club	West Side District
City of Danbury: Business Advocacy, Engineering, Health & Human Services, Library, Planning, Public Works, & Traffic	Get Downtown Danbury	Spring Street Neighborhood	Wooster Cemetery
CityCenter Danbury	Greater Danbury Chamber of Commerce	Sterling Woods Association	
Ctrides	Housatonic Area Regional Transit (HART)	Town of Bethel	
CT Weather	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		Town of Redding	
		Town of Ridgefield	
		West Terrace Neighborhood	

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 Statement be used?

1. Concept development
2. Concept evaluation





Concepts Location Map



Concept #24 – Starr Avenue – Interchange 5
Dynamic Lane Use Median – TSMO Strategies
Concept #14 – CD Road Eastbound - East





Concept Evaluation

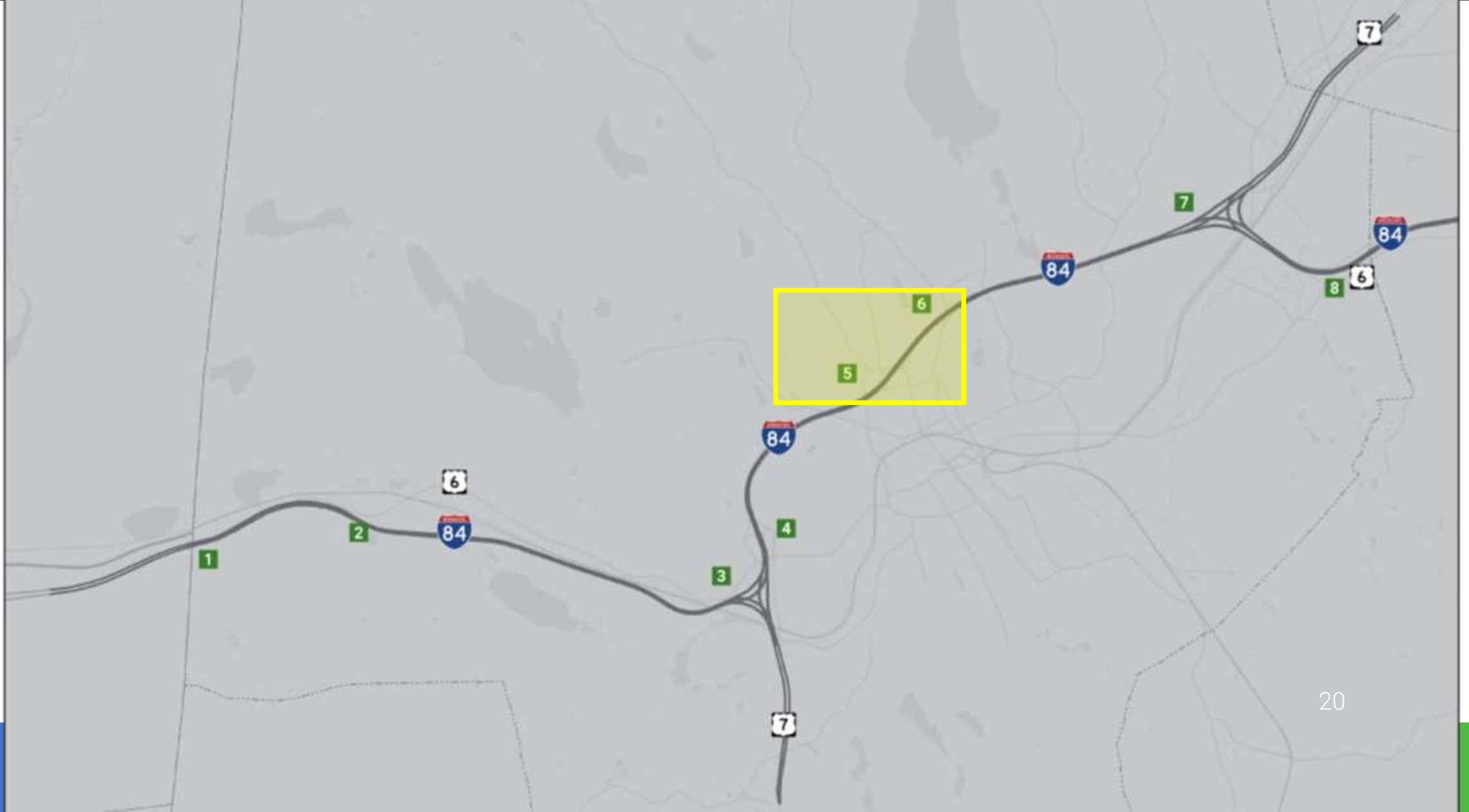
Evaluating the Concept

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

Concept 24: Starr Avenue – Interchange 5

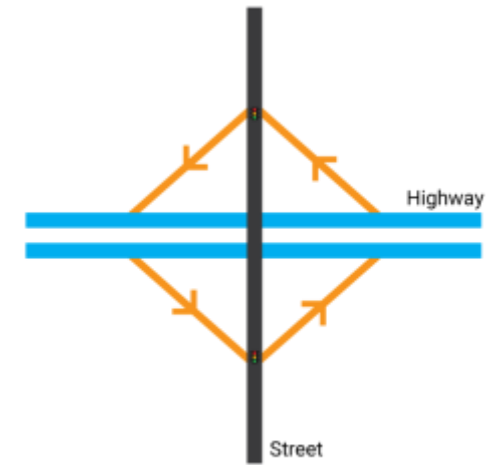


Concept Location Map

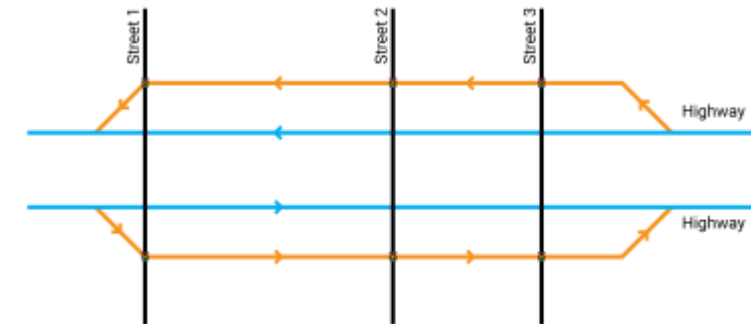


Concept 24 Overview

- New interchange on Starr Avenue
- CD Road in the eastbound direction
- Full access to/from I-84 at North Street
- Access to businesses on North Street
- Access to downtown points
- Opportunities to enhance pedestrian and bicycle use



New Interchange



Collector Distributor Road

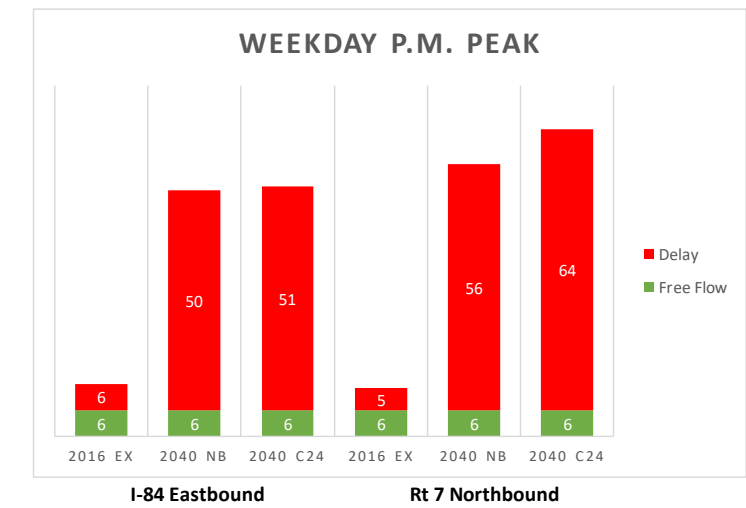
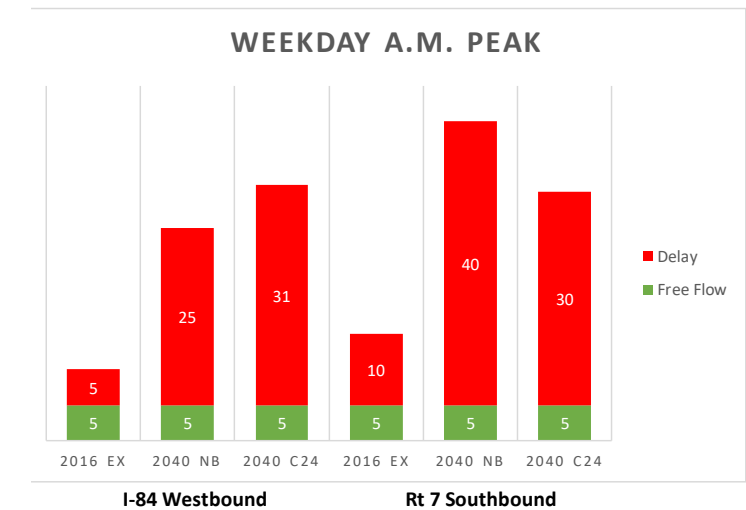


Overall Concept



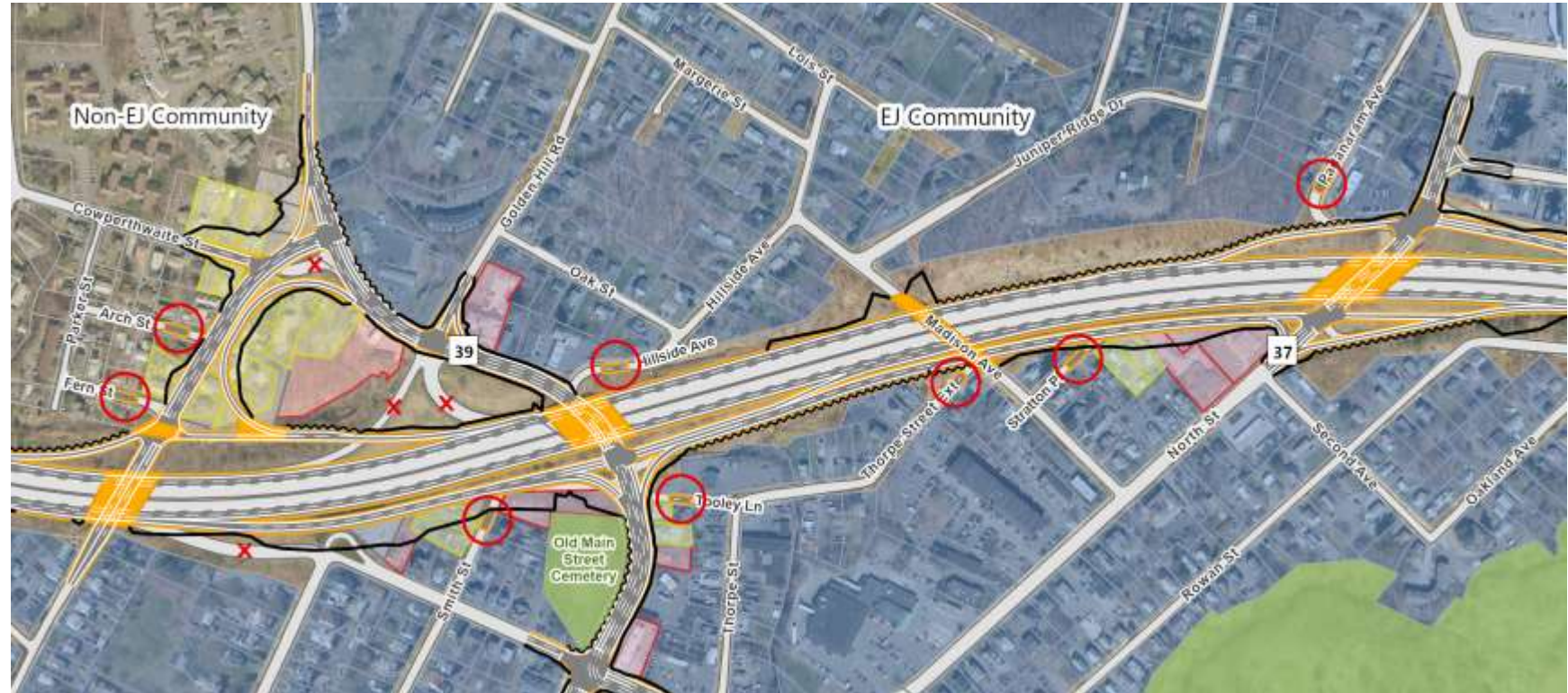
Traffic Analysis Summary

- Increases congestion on I-84 outside of concept limits.
- Experiences congestion on local street intersections at Main St., North St., and Starr Avenue.
- Experiences congestion on CD Road during the P.M. peak periods.
- Requires widening at local street intersections.



Community Cohesion

- Substantial community cohesion impacts, dead-ending 8 streets
- Changes to local roads would alter existing traffic flow and circulation
- Street connectivity, pedestrian and bicycle movements is disrupted



Residential
Commercial
Other

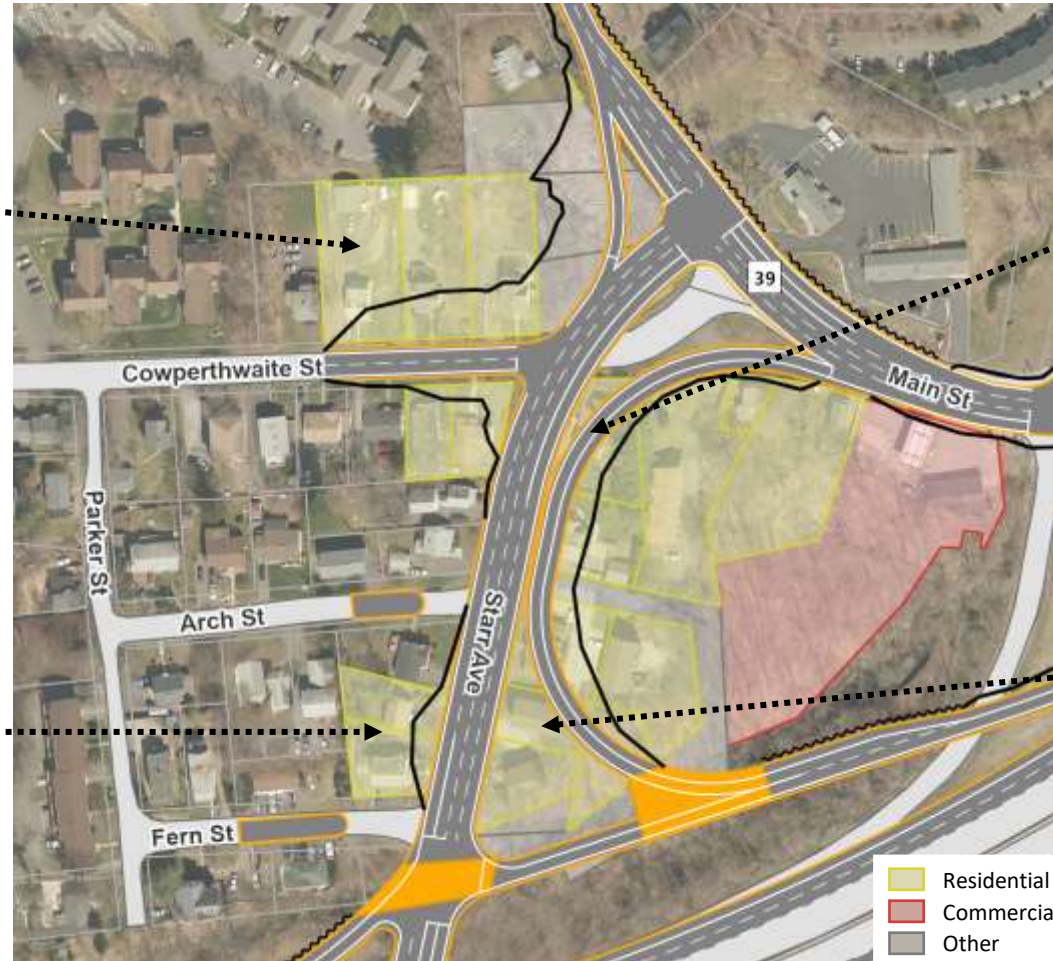
- Substantial impacts to the Starr Avenue neighborhood, would permanently transform, altering character, size of neighborhood, and quality of life



Cowperthwaite Street



Starr Avenue/Fern Street



Starr Avenue/Cowperthwaite Street



Starr Avenue

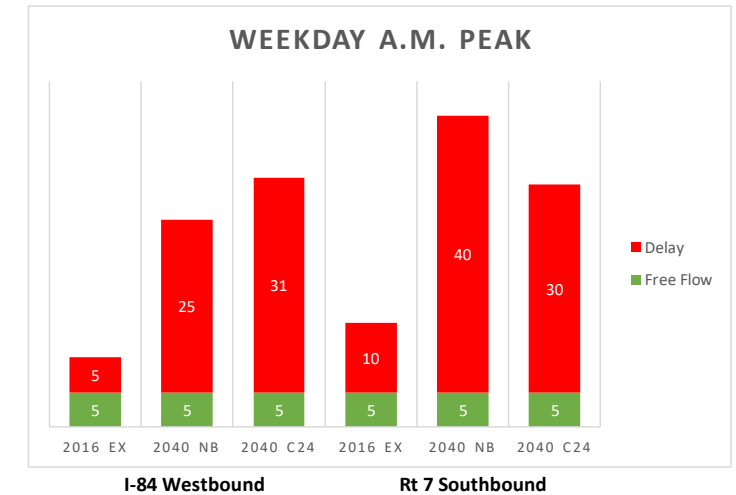
PROS

- + Improves connection to the Danbury Hospital.
- + Improves connection to the downtown.
- + North Street has full access to I-84.
- + Typical construction methods.
- + Opportunities to enhance pedestrian and bicycle use.



CONS

- Does not reduce congestion and highway mobility
- CD Road will experience some congestion and delay.
- Steep grade on Main Street at Starr Avenue.
- Wide intersections.
- Substantial impacts to community cohesion.
- Substantial impacts to human environment.





Construction Cost Estimate

Cost Range	Rating
Less than \$0.5 billion	\$
\$0.5 billion to \$1 billion	\$\$
\$1 billion to \$3 billion	\$\$\$
\$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.

Recommendation:

This concept would likely result in moderate impacts to the human environment, some of which would be difficult to mitigate. In order to move forward, this concept would need to demonstrate that potential benefits outweigh the level of environmental impact.



Discussion/Questions

Transportation Systems Management and Operations (TSMO)

What is “TSMO”?

“A set of multimodal strategies which can help maximize the use of the existing and planned transportation infrastructure.”*



Source*: Federal Highway Administration



Why “TSMO”?



TSMO Strategies – I-84 Corridor

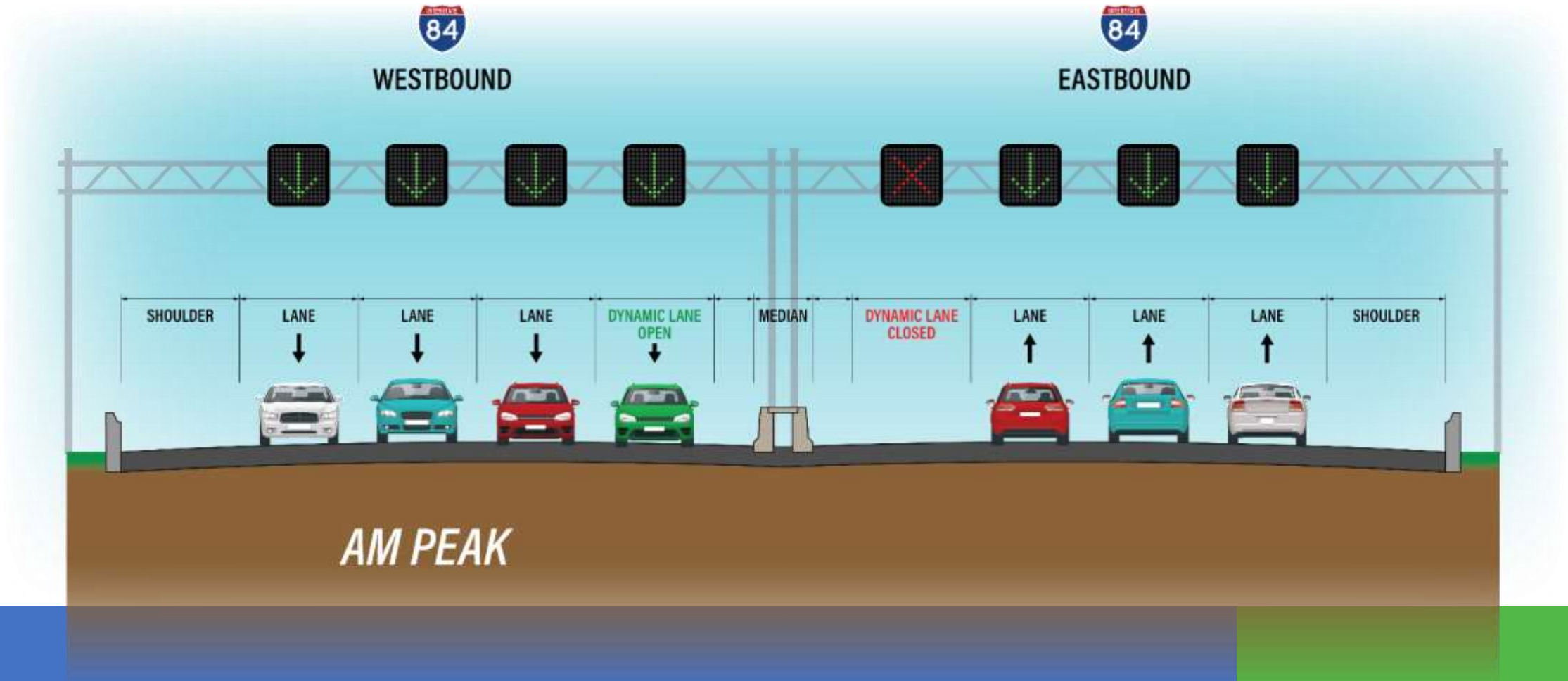
- ☐ Dynamic Lane Use
- ☐ Temporary or Hard Shoulder Running
- ☐ Freeway Ramp Metering
- ☐ Traffic Incident Management
- ☐ Arterial Management
- ☐ Travel Demand Management
- ☐ Public Transportation Management
- ☐ Corridor Management
- ☐ Connected and Automated Vehicle Deployment

What is “Dynamic Lane Use”?

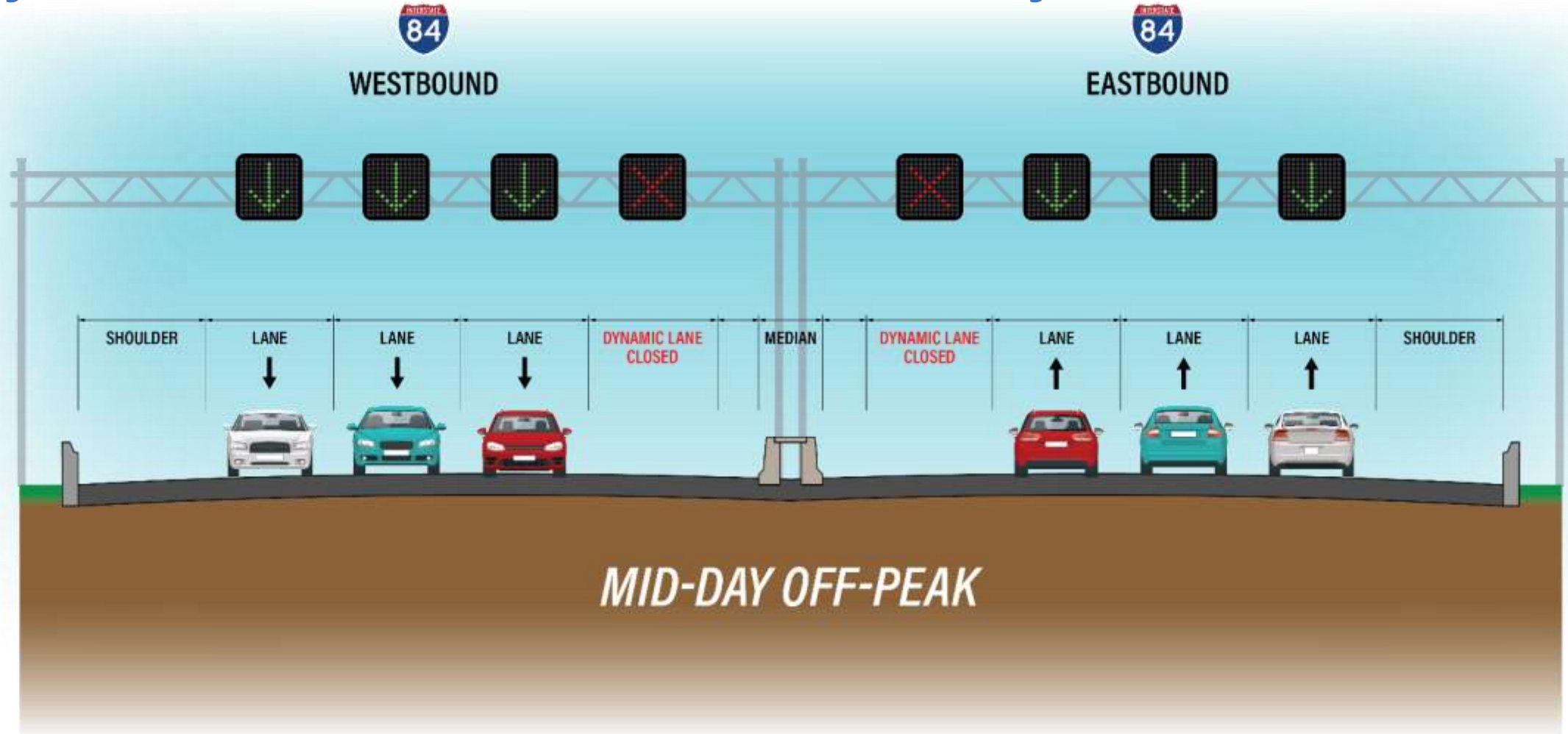
“A strategy which opens or closes a travel lane based on the time of day”.

“Dynamic Lane Use” – I-84 Danbury

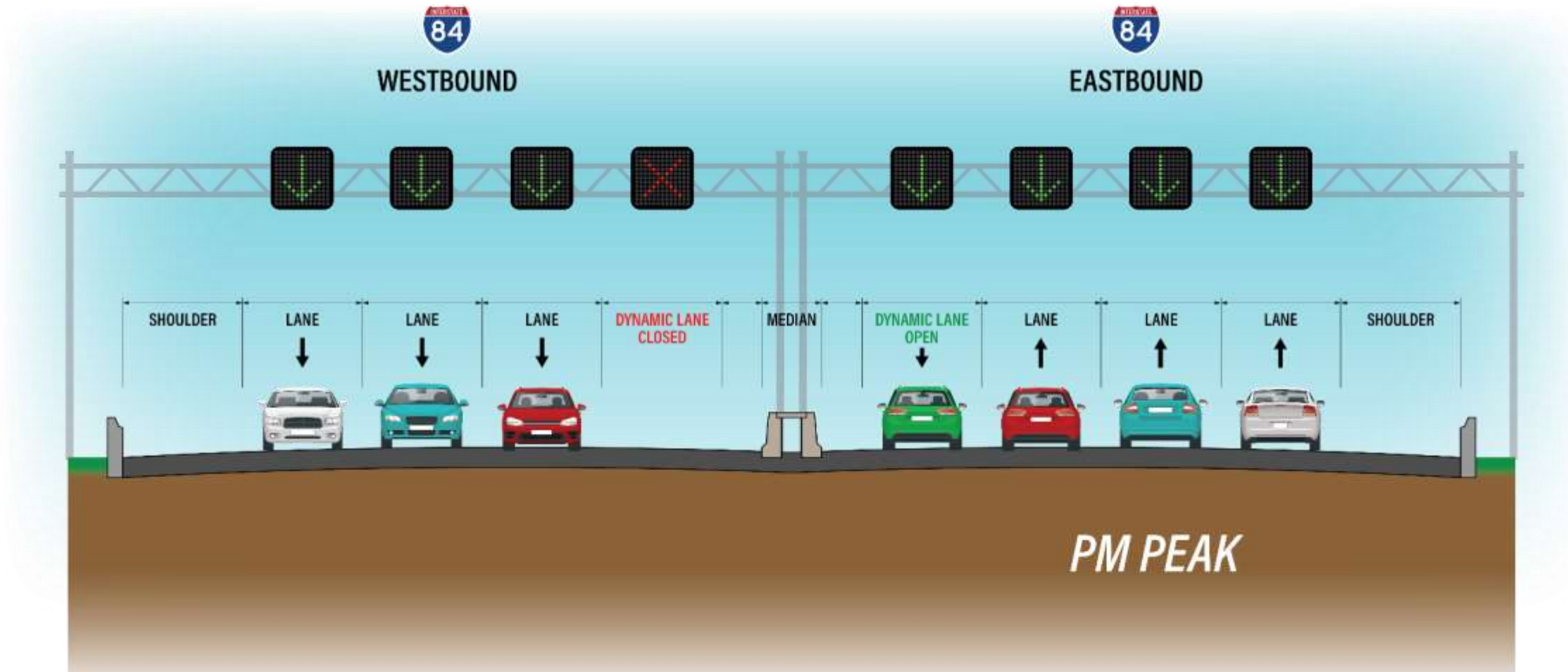
The *dynamic lane use* strategy will be applied in the median.



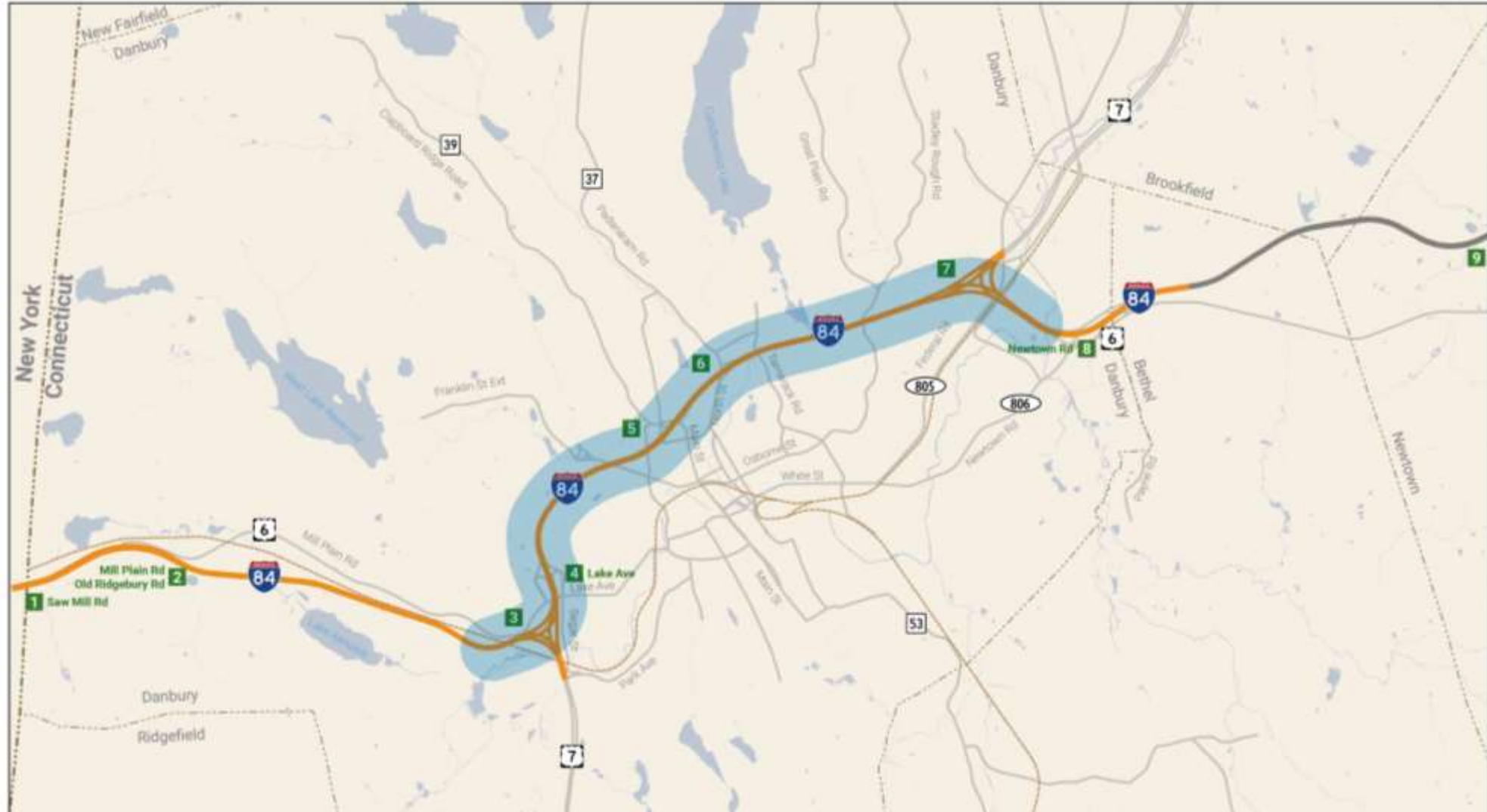
“Dynamic Lane Use” – I-84 Danbury



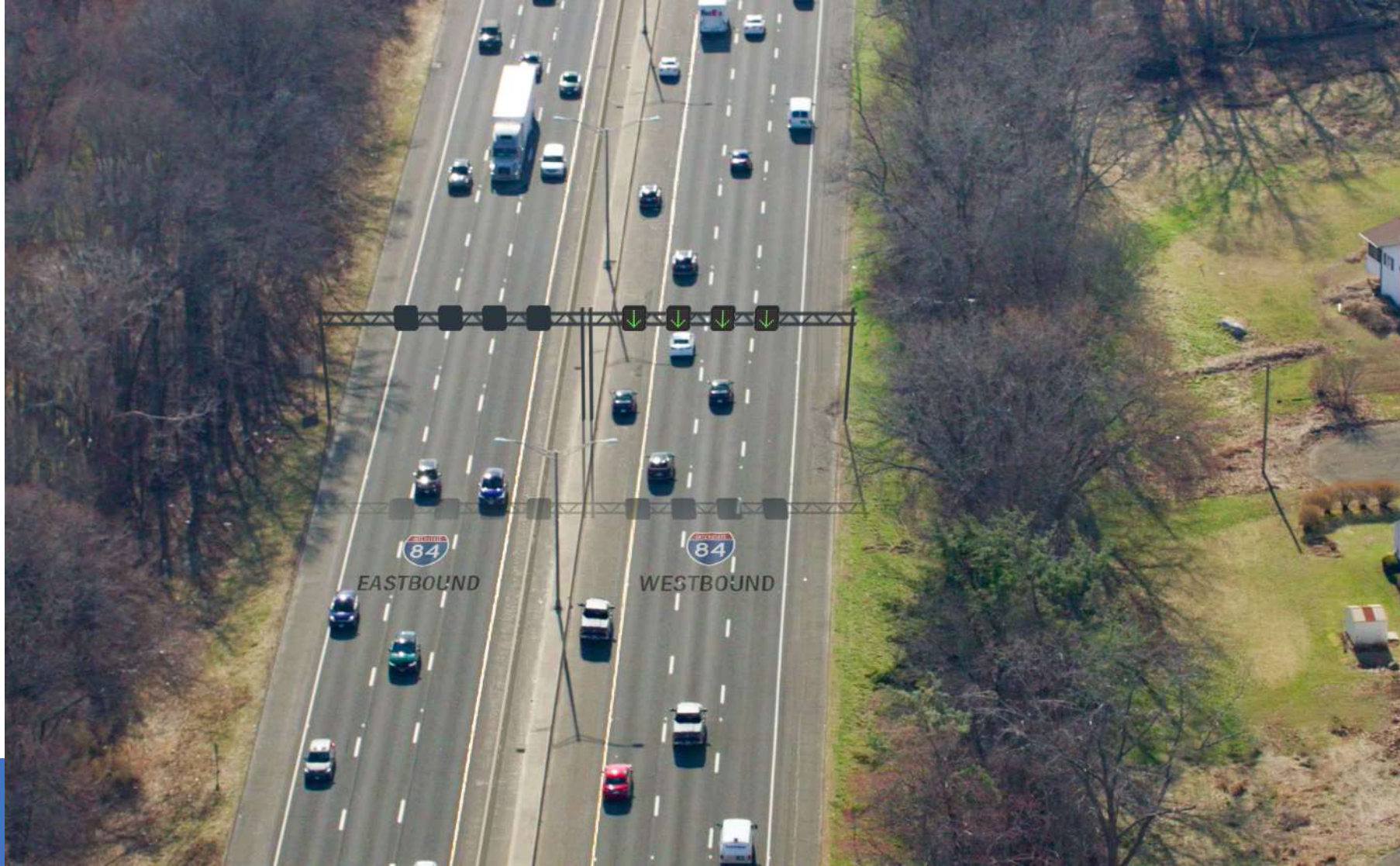
“Dynamic Lane Use” – I-84 Danbury



“Dynamic Lane Use” – Concept Limits



“Dynamic Lane Use” – Aerial View



“Dynamic Lane Use” – Driver’s Perspective



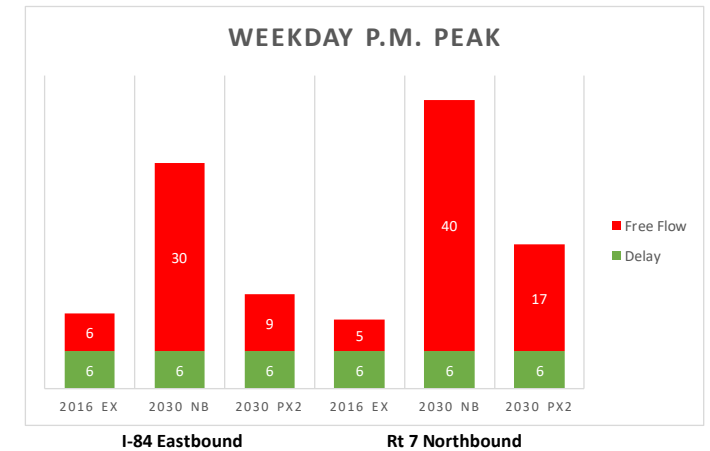
Example Projects in the U.S.

- U.S. 23 Flex Lanes in Michigan (in operation)
- I-96 Flex Lanes in Michigan
- U.S. 12 Beltline in Wisconsin



PROS

- + Peak hour delay is reduced.
- + Can be implemented in a short timeframe.
- + Does not require additional right of way.
- + Typical construction methods.



CONS

- Unfamiliar to drivers and may create confusion.
- Left shoulder cannot be used as a breakdown area.
- Does not provide lane continuity on I-84.
- Left hand ramps are not eliminated
- Requires special signage.





Construction Cost Estimate

Cost Range	Rating
Less than \$0.5 billion	\$
\$0.5 billion to \$1 billion	\$\$
\$1 billion to \$3 billion	\$\$\$
\$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.

Recommendation:

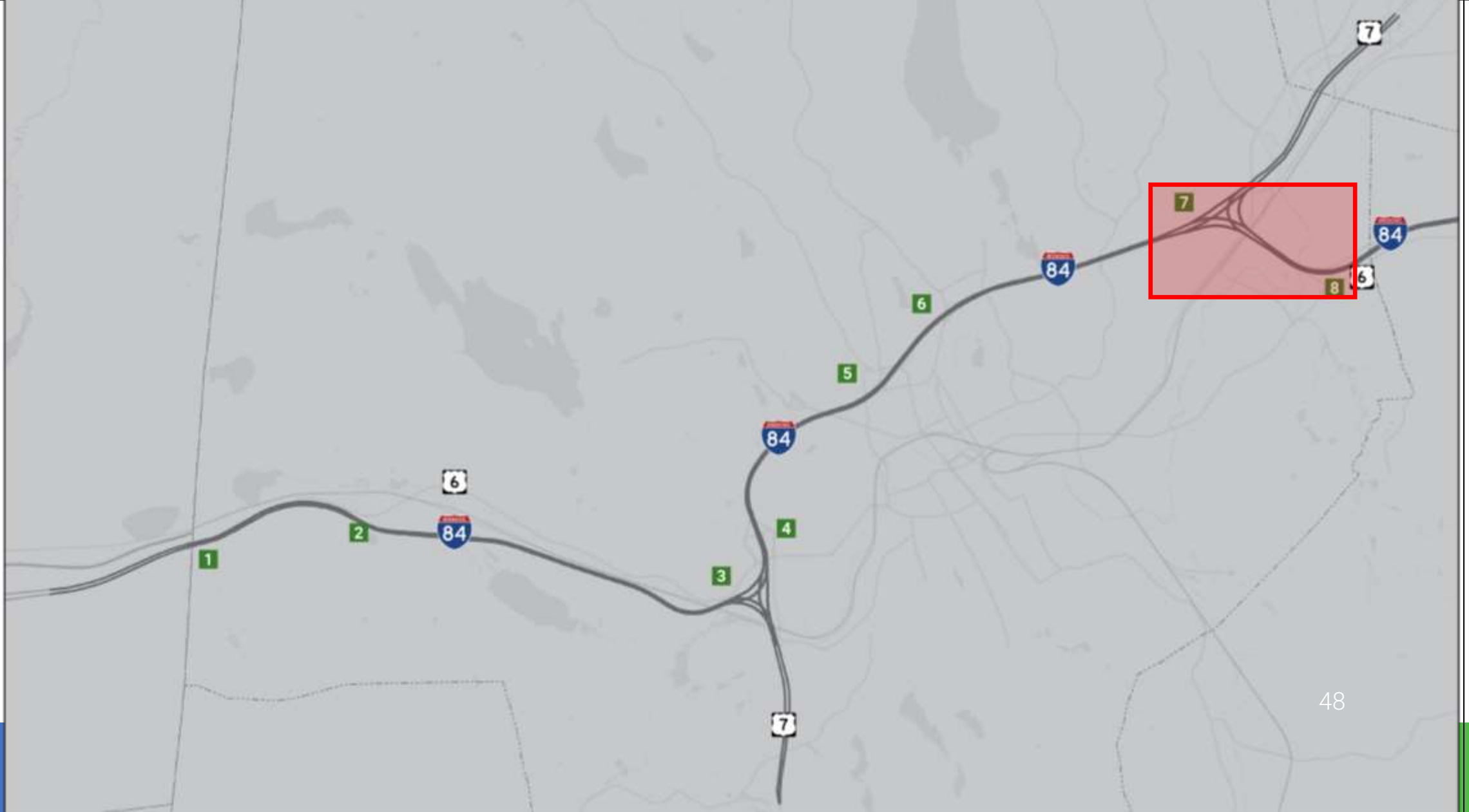
This concept has merit to reduce congestion and improve mobility on the highway within the concept limits and should be further evaluated on its feasibility and implementation.



Concept 14: CD Road Eastbound - East

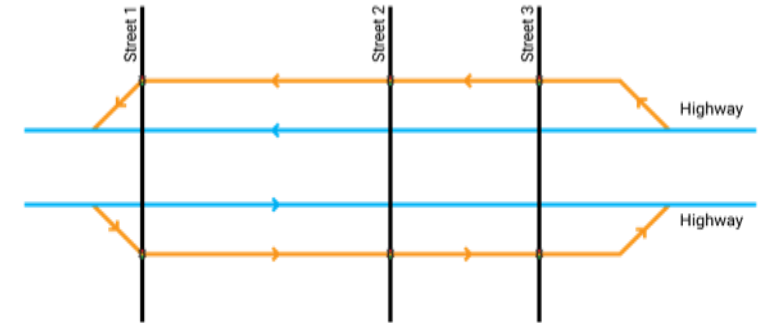


Concept Location



Concept 14 Overview

- CD Road is provided in the eastbound direction
- Left hand ramps are eliminated
- Weaving between Interchanges 7 and 8 in the eastbound direction is eliminated
- Newtown Road and U.S. Route 6 at Interchange 8 are reconfigured



Collector Distributor Road



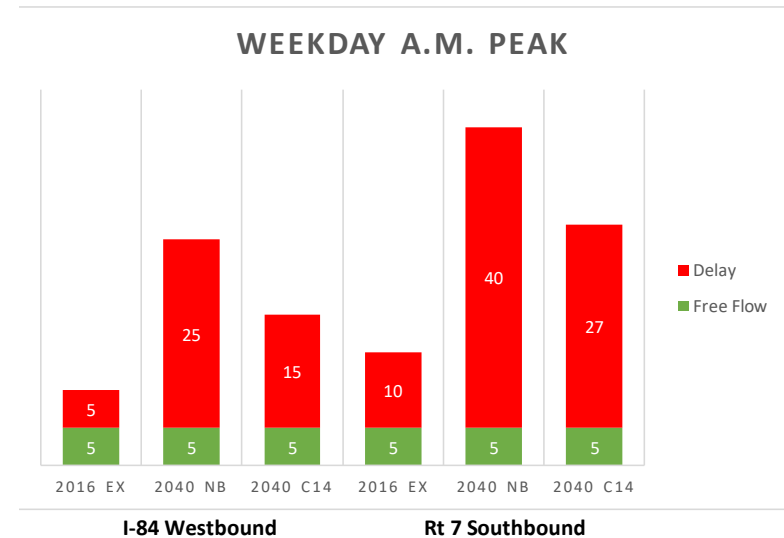
Weaving





PROS

- + Left hand ramps are eliminated.
- + Peak hour delay is reduced.
- + Eliminates weaving of Route 7 traffic in the eastbound direction.
- + Occurs mostly within existing CTDOT right-of-way.
- + Requires typical construction methods.





Construction Cost Estimate*

Cost Range	Rating
Less than \$0.5 billion	\$
\$0.5 billion to \$1 billion	\$\$
\$1 billion to \$3 billion	\$\$\$
\$3 billion to \$5 billion	\$\$\$\$
Greater than \$5 billion	\$\$\$\$\$

*Inflated to mid-point of construction, not including right-of-way and engineering costs



Recommendation

This concept be advanced further and be combined with a concept that addresses mobility adjacent to the highway.



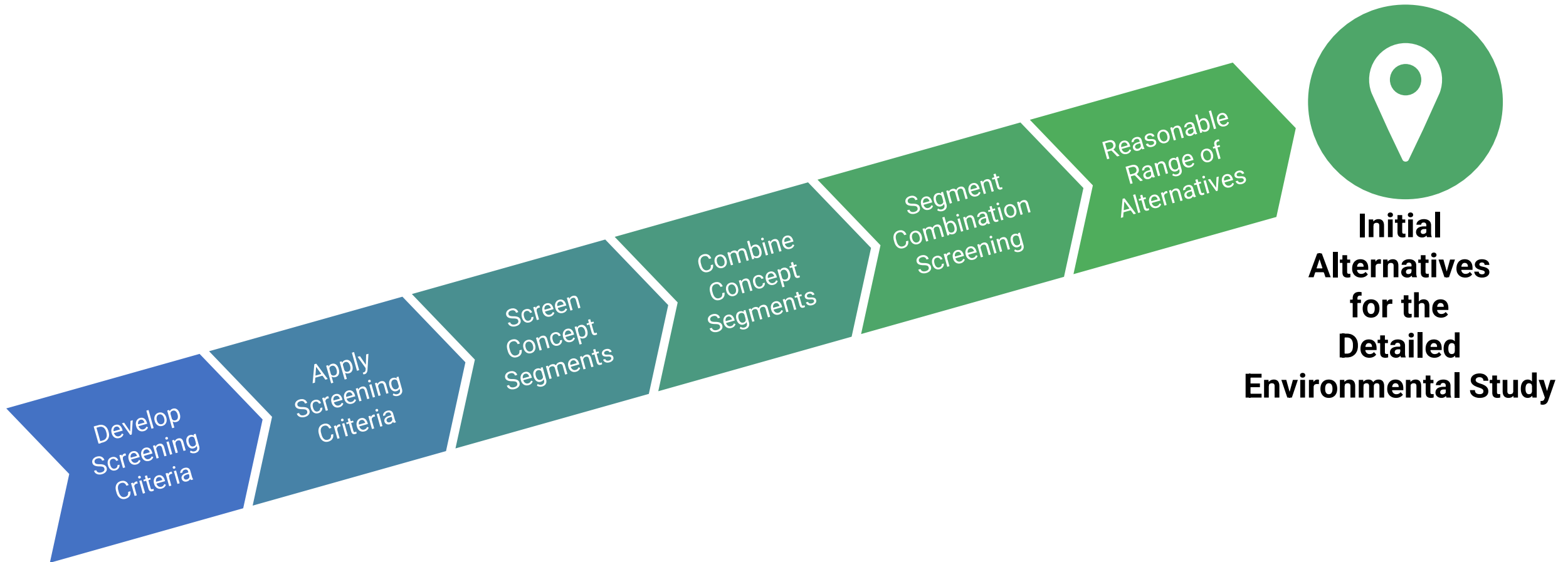
Discussion / Questions



Concept Screening Process



Next Steps





Fatal Flaw Elements

**Traffic Operations
& Travel Time**
Impacts to Local Traffic



Lacks Potential to
Meet Draft Project
Purpose

**Vertical and Horizontal
Geometry**
Constructability & Cost



Numerous
Constructability Issues:
- Technical Feasibility
- Cost Feasibility

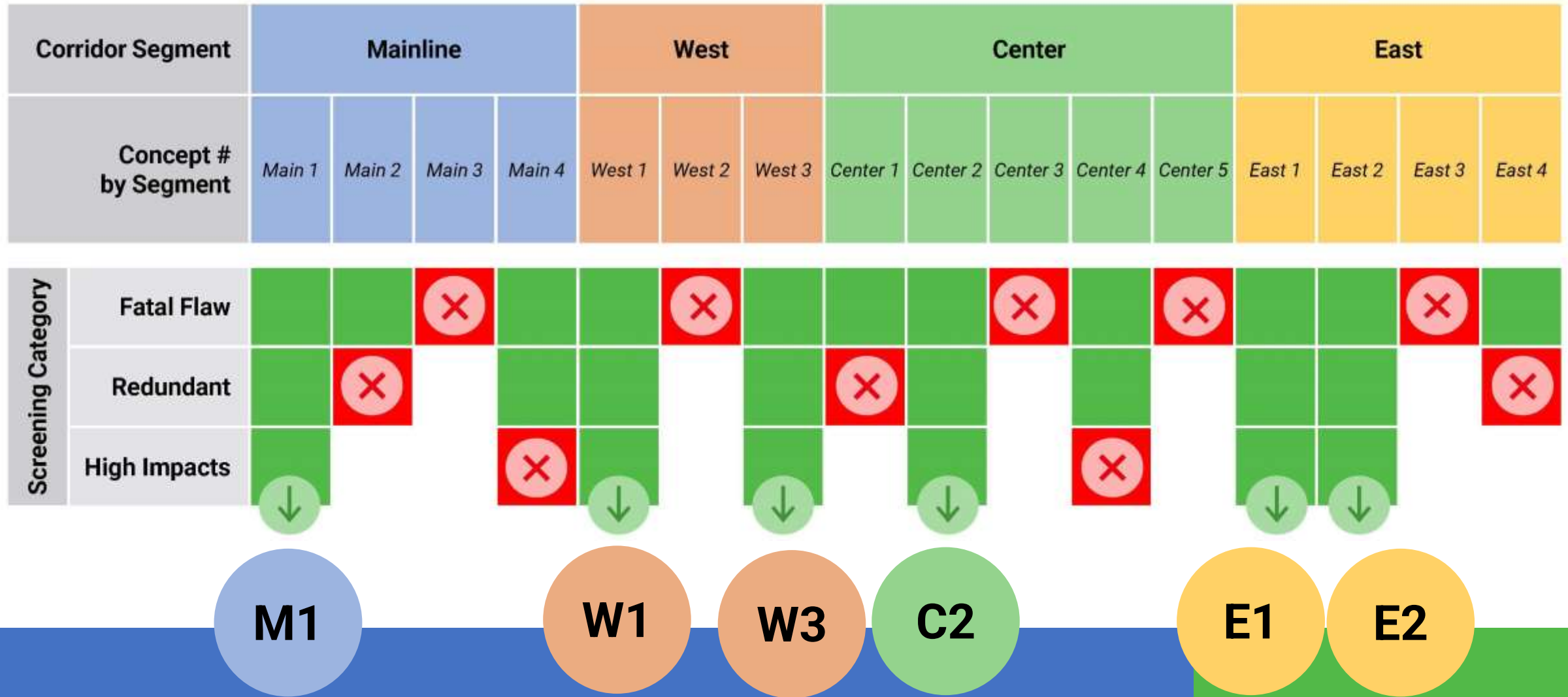
**Land Use and Community
Impacts**
Cultural Resource Impacts
Physical Impacts
**Wetland, Watercourse, and
Floodplain Impacts**
Biological Resource Impacts



Unjustifiable
Environmental Impacts

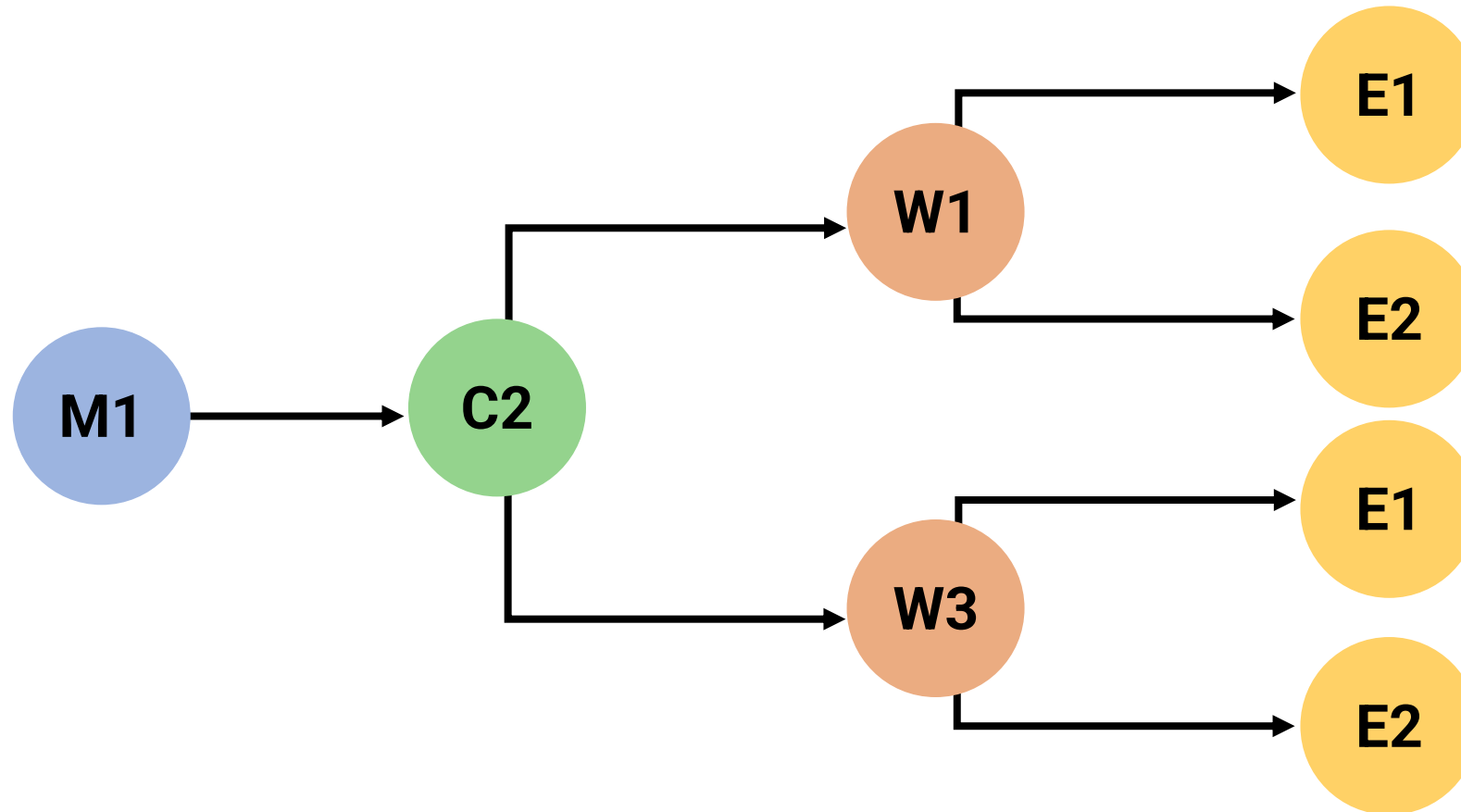


I-84 Concept Screening Process (Example)





Concept Feasibility in Segment Combinations

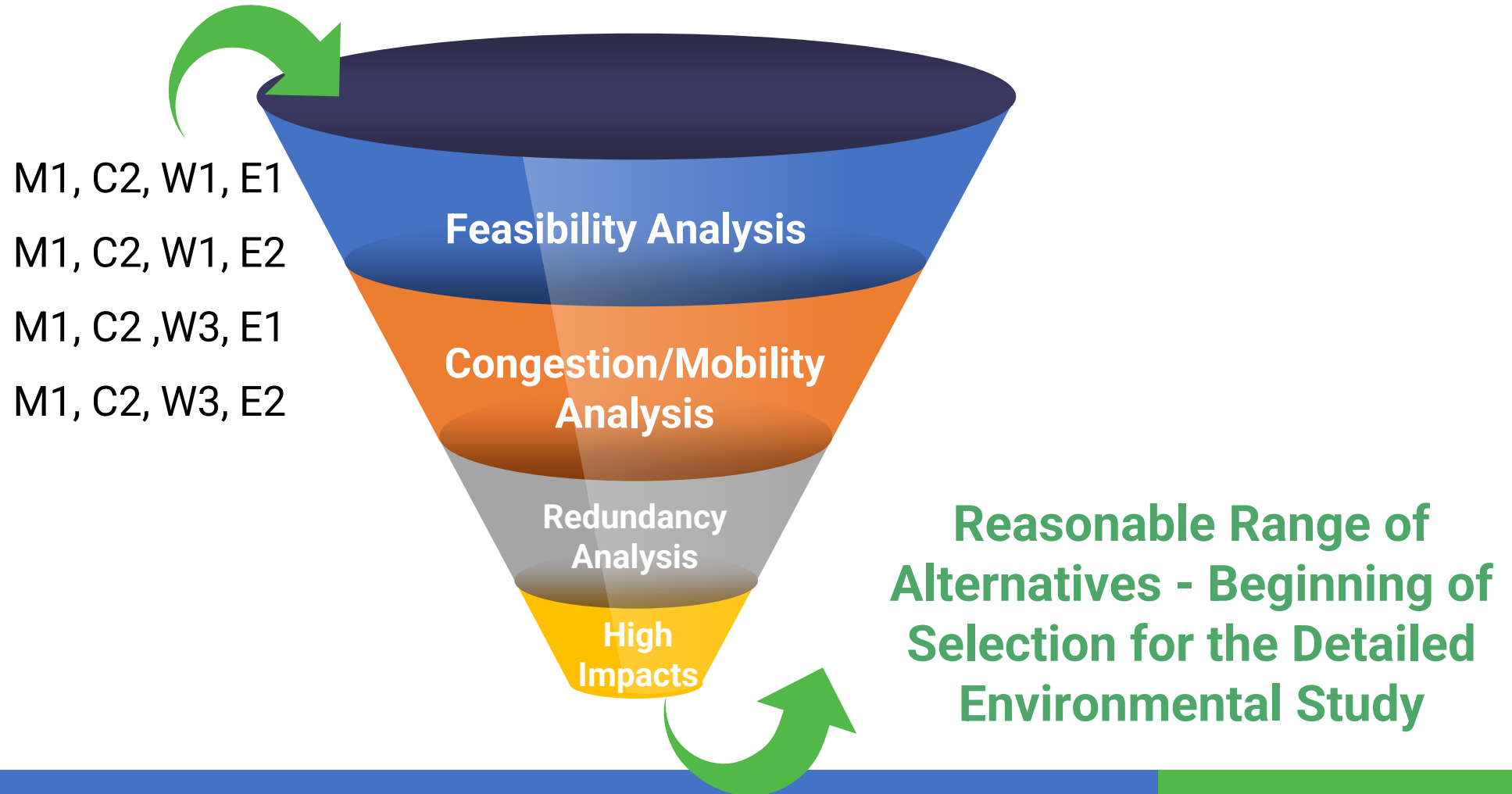


4 segment combinations are left to assess and compare against one another:

- M1, C2, W1, E1
- M1, C2, W1, E2
- M1, C2, W3, E1
- M1, C2, W3, E2



Screening of Concept Combinations





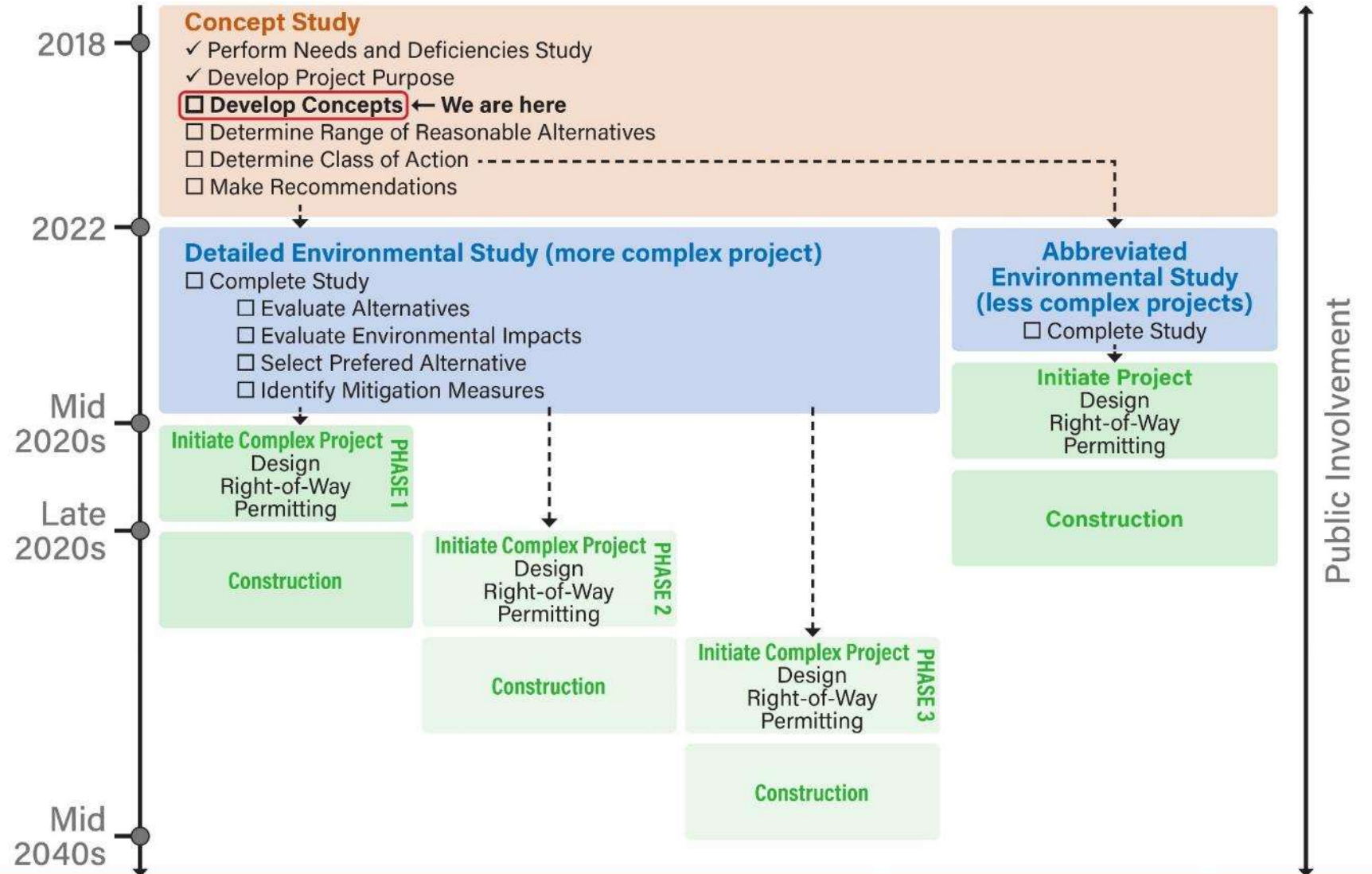
Discussion / Questions



Next Steps



Process and Timeline



Next Steps

- Complete concept development by Spring 2022
- Establish screening criteria
- Screen concept segments
- Begin combining concepts
- Develop a range of reasonable alternatives to move forward into the environmental study phase
- Next PAC Meeting – June 22, 2022
 - Continuation of Concept Screening Process



Discussion / Questions

Project Contacts

Andy Fesenmeyer, P.E.
Project Manager, Consultant Design
Andy.Fesenmeyer@ct.gov

Krishalyn Macrohon, P.E.
Project Engineer, Consultant Design
Krishalyn.Macrohon@ct.gov



Thank You!