

The New Mix:
Project Advisory Committee (PAC) Meeting #4B
September 28, 2022



HNTB



Agenda

- **Welcome Back!**
- **PAC Milestones Review**
- **Proposed Early-Action Projects**
- **Question & Answer Session**
- **Next Steps**



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:



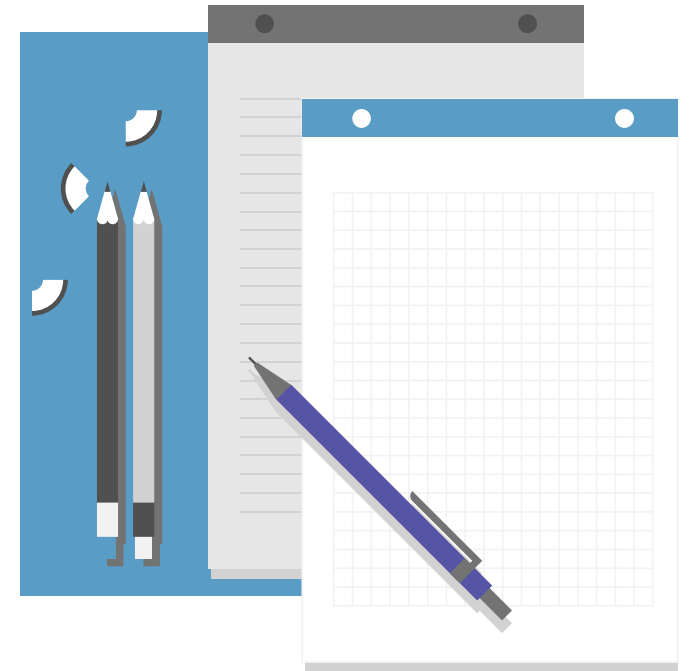
Obtaining Input from PAC members, stakeholders, and the public.



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



Refining the Level 2 Evaluation Criteria.



The I-84 *New Mix* PEL Study

CTDOT desires to establish a vision, or master plan, for the interchange that addresses and balances the regional importance of the Mixmaster for commuter traffic and motor freight users, while also improving multi-modal services, local connections and livability within the city of Waterbury to enhance and support social equity and economic vitality.



High Level Overview of This Process

PEL Study

- Links transportation planning and environmental / community concerns
- Will identify a Range of Reasonable Alternatives

Today through 2023

National Environmental Policy Act (NEPA) Process

- The Environmental Review Process for compliance with environmental laws
- Will identify a Preferred Alternative

2-4 years

Design and Permitting

- Advanced design of the *Preferred Alternative* and associated break out projects
- State and Federal Permit Procurement

4-6 years

Construction

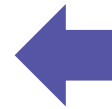
- Includes the Early-Action, Near-term, and Long-term breakout projects
- Anticipated completion in 2045

Initiating early 2030s



Proposed Early Action Projects Overview

General Nature of Anticipated Projects

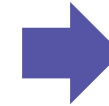


Early Action Projects

Standalone improvements to the highway and local roadway network

Near-Term Projects

Improvements to highway approaching Mixmaster compatible with Long-Term Projects



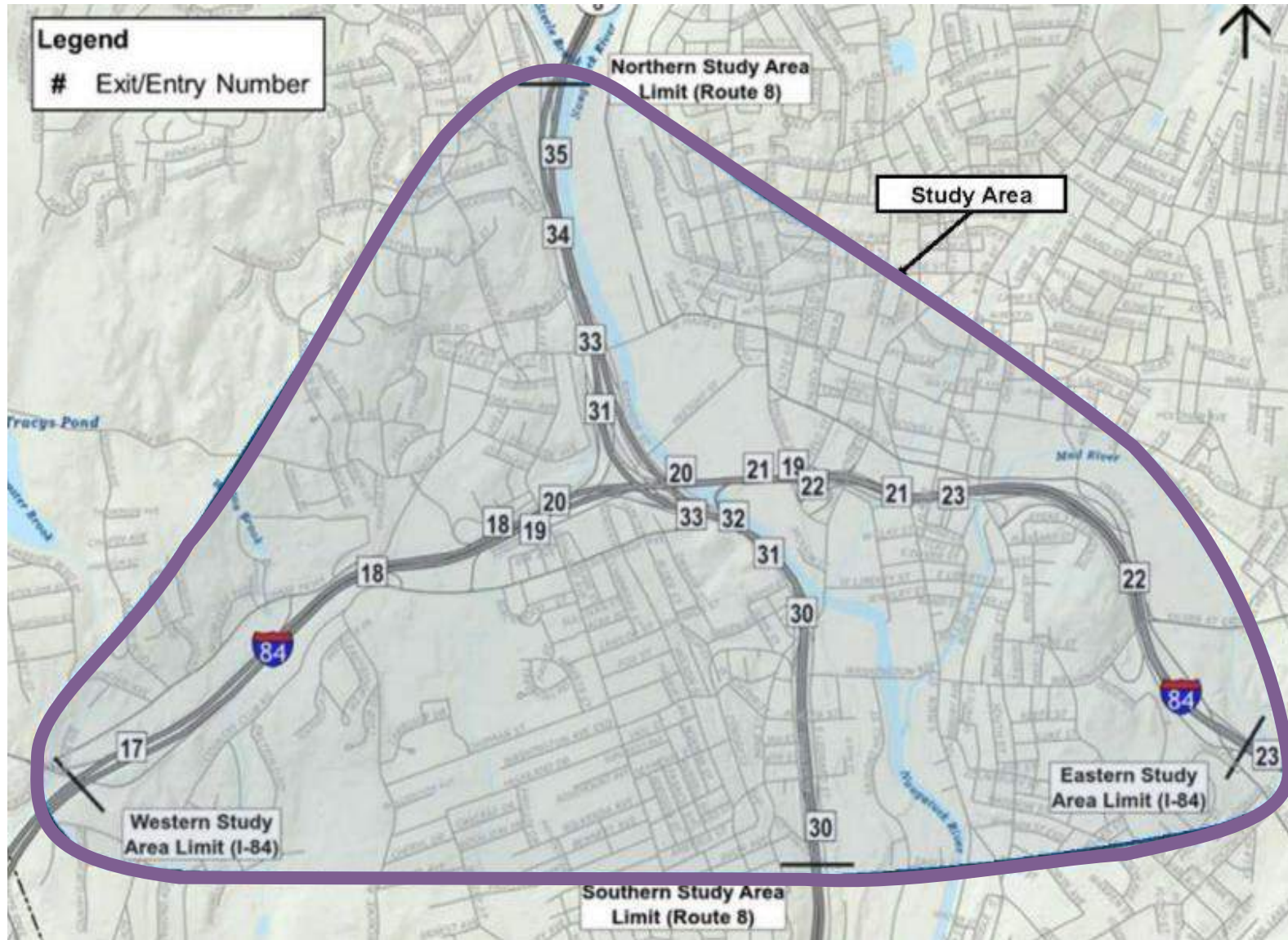
Long-Term Projects

Reconstruction of core interchange structures

84new
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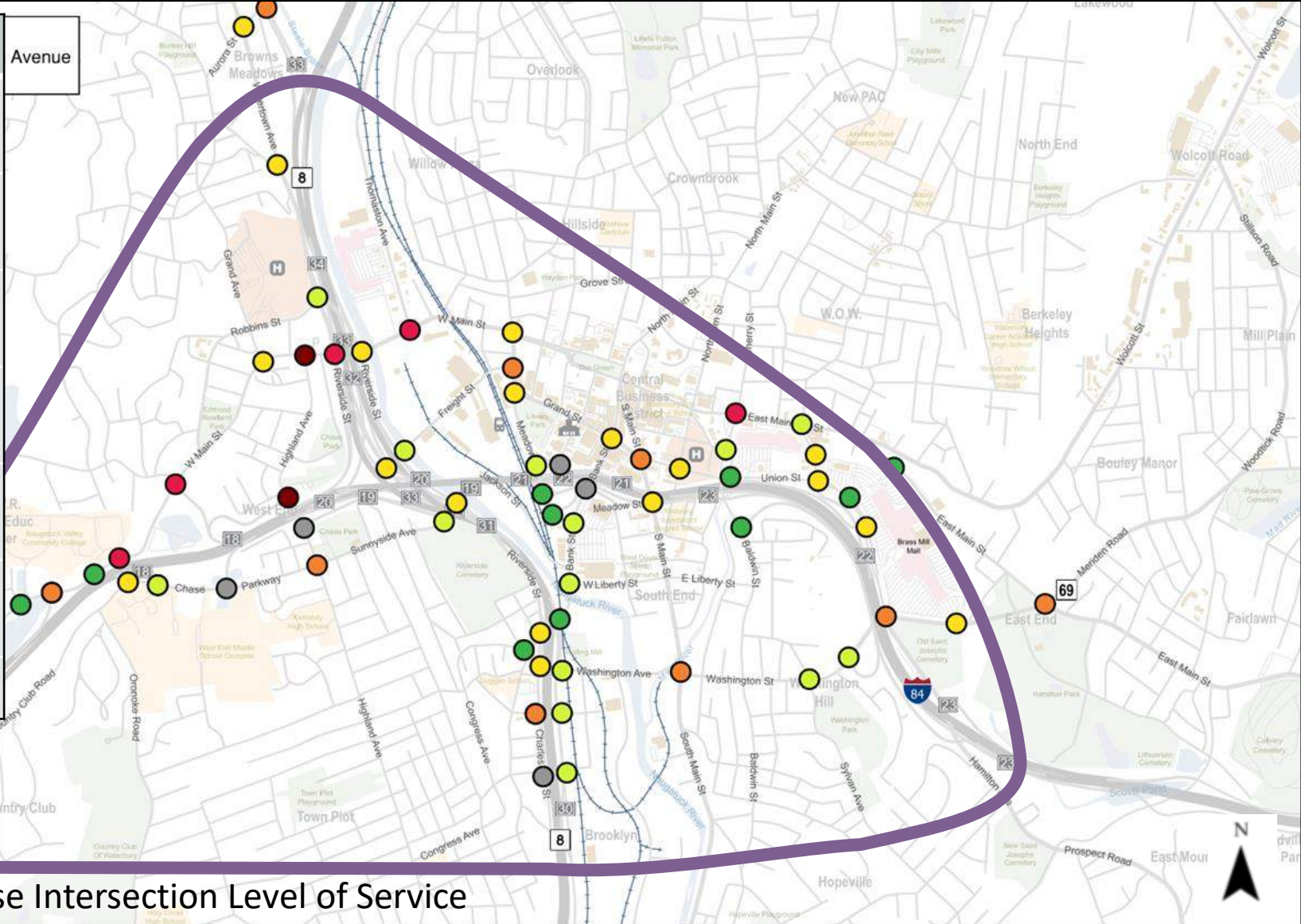


The *New Mix* Study Area



Analyzed Intersections: Level of Service (LOS)

Level of Service Ratings	
A	Free Flow Traffic No Delays
B	Light/ Moderate Traffic No Delays
C	Steady Traffic Minimal Delays
D	Speeds Begin to Decline Minimal Delays
E	Traffic at Capacity Significant Delays
F	Heaviest Congestion Forced Flow
N/A	Not Applicable



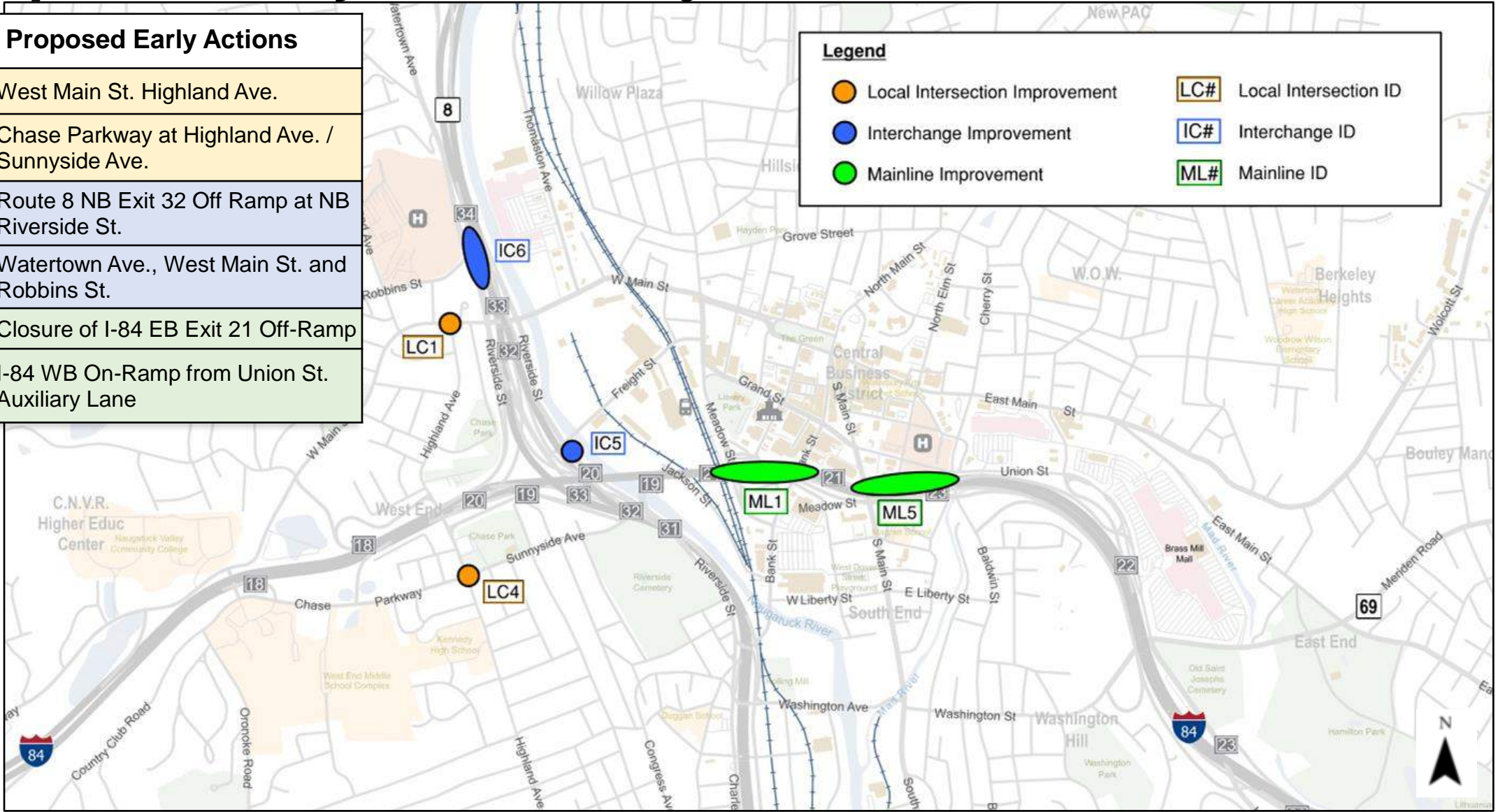
Existing (2017) Worst Case Intersection Level of Service

Proposed Early Action Projects

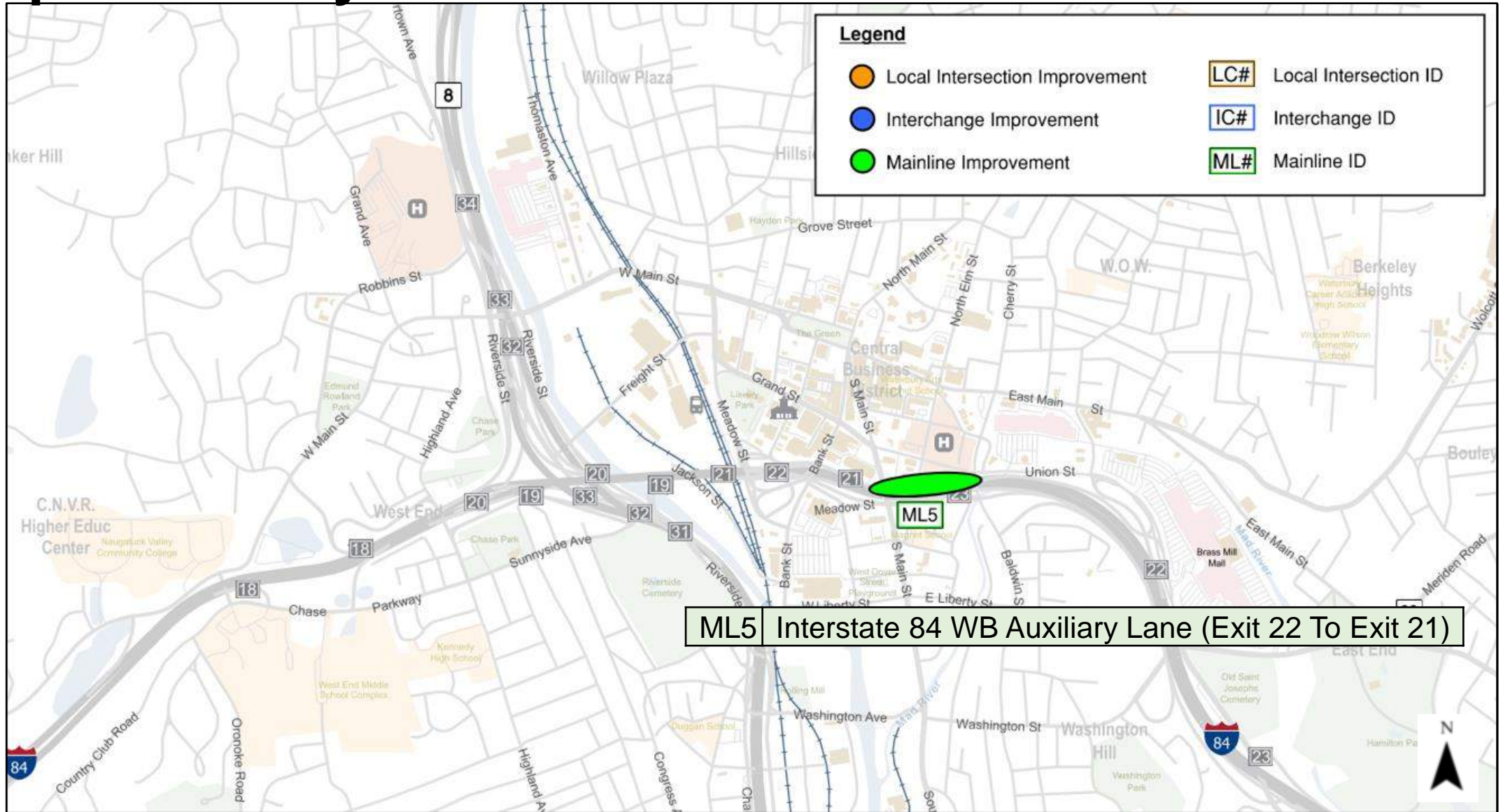
Proposed Early Actions	
LC1	West Main St. Highland Ave.
LC4	Chase Parkway at Highland Ave. / Sunnyside Ave.
IC5	Route 8 NB Exit 32 Off Ramp at NB Riverside St.
IC6	Watertown Ave., West Main St. and Robbins St.
ML1	Closure of I-84 EB Exit 21 Off-Ramp
ML5	I-84 WB On-Ramp from Union St. Auxiliary Lane

Legend

- Local Intersection Improvement
- Interchange Improvement
- Mainline Improvement
- LC# Local Intersection ID
- IC# Interchange ID
- ML# Mainline ID



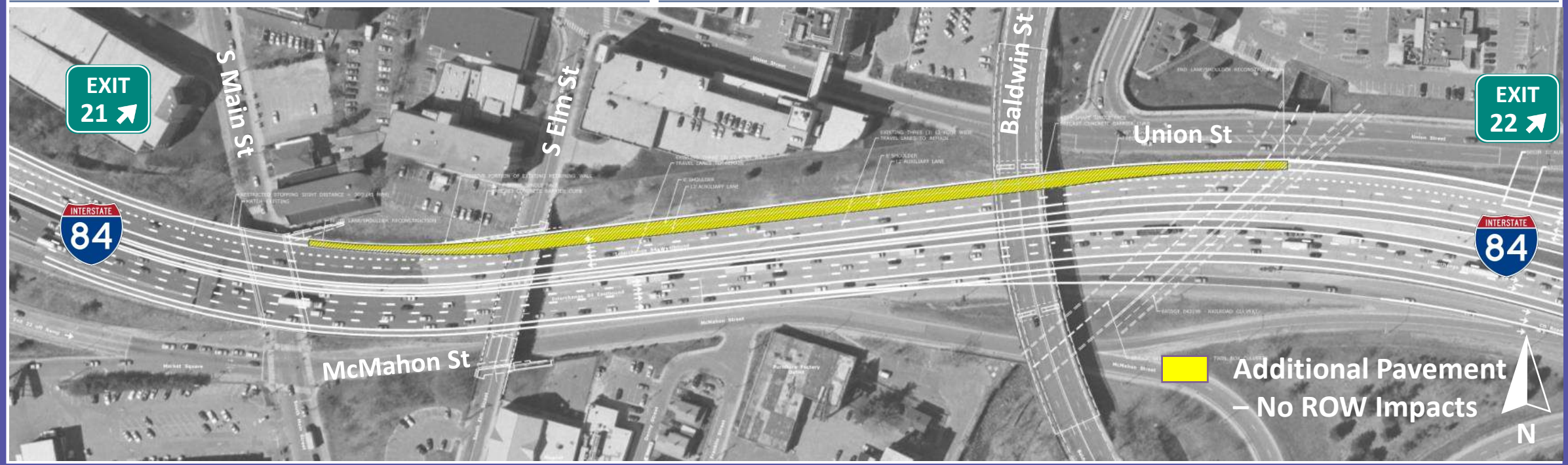
Proposed Early Actions – ML5



Proposed Early Actions – ML5

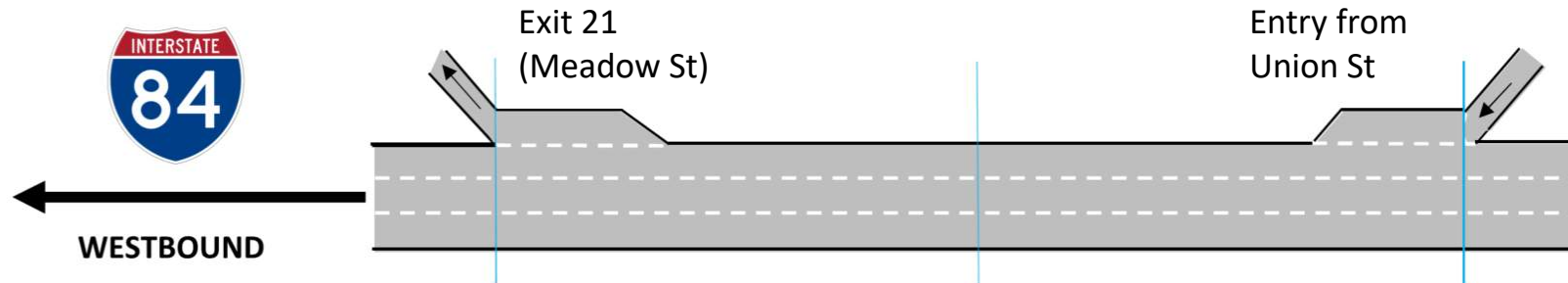
Interstate 84 Westbound Between Exit 22 On Ramp and Exit 21 Off Ramp

Deficiencies	Solutions	Intended Outcomes	
Substandard distances for Ramp Merges/ Weaves/ Diverges	Construct auxiliary lane	<ul style="list-style-type: none">• Improve traffic operations• Reduce congestion (improve air quality)• Reduce crash rate (improve safety)	<ul style="list-style-type: none">• Low impact solution• Included in rehabilitation project (reduces rework)



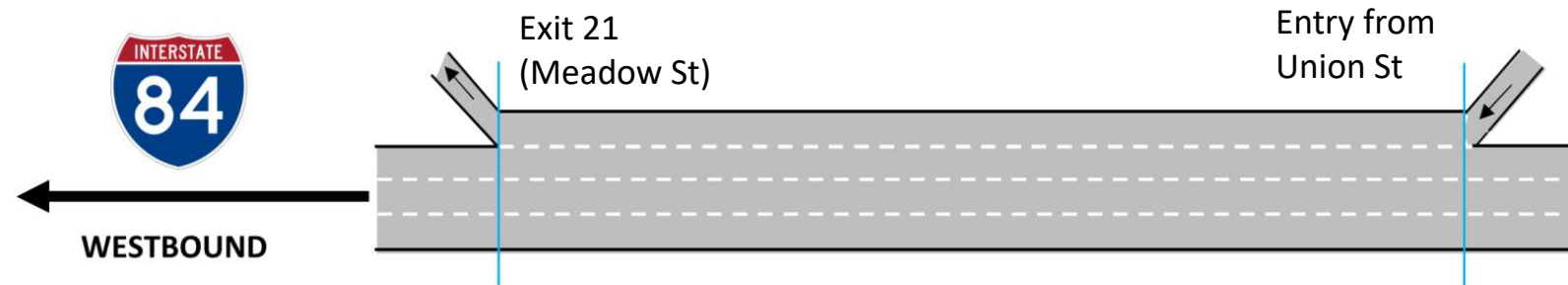
Proposed Early Actions – ML5

Existing
2017



Speed	59	47
Density	32.3	38.8
LOS	D	E

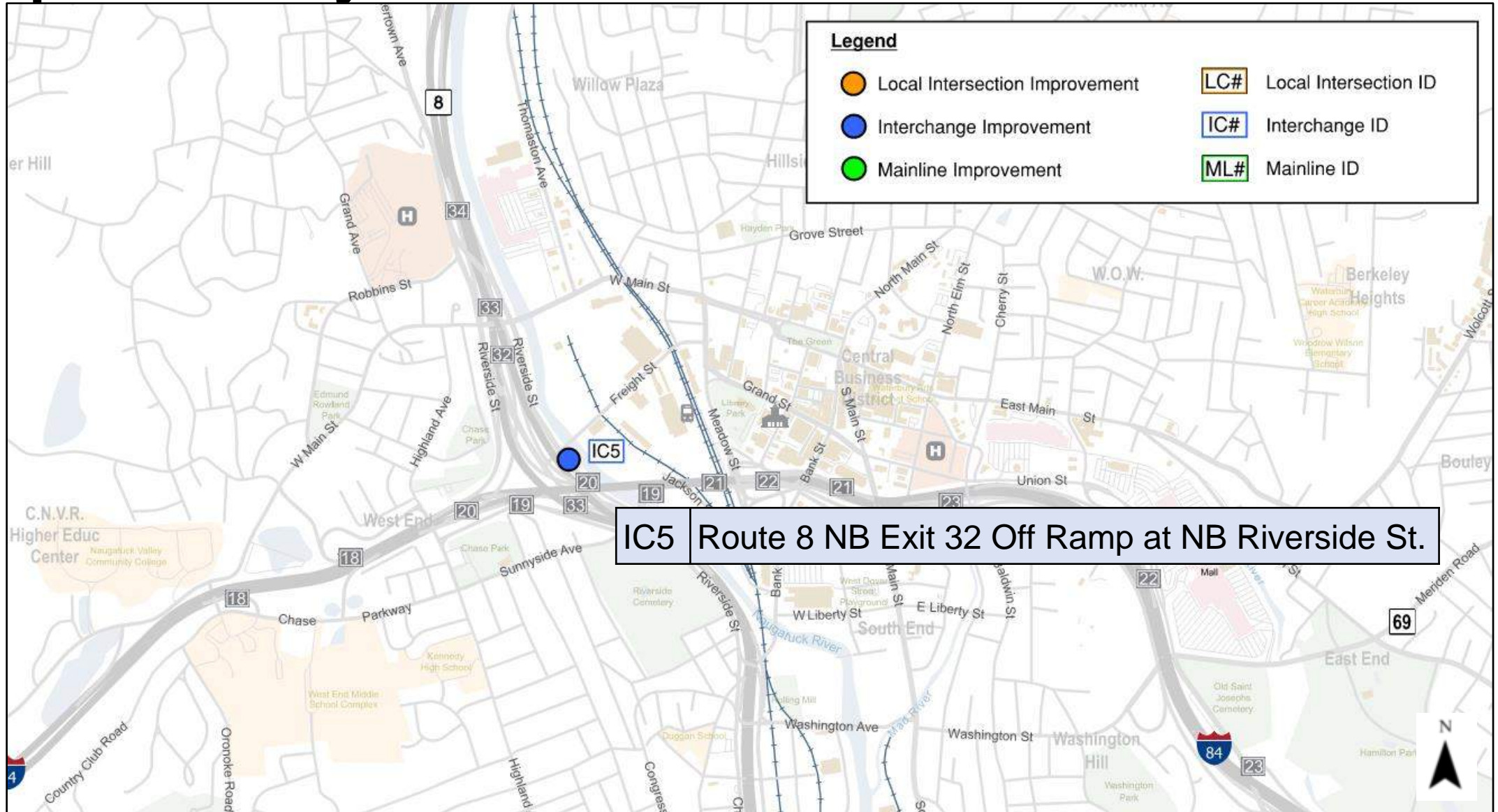
2017 WB
Auxiliary Lane



Speed	61
Density	25.8
LOS	C

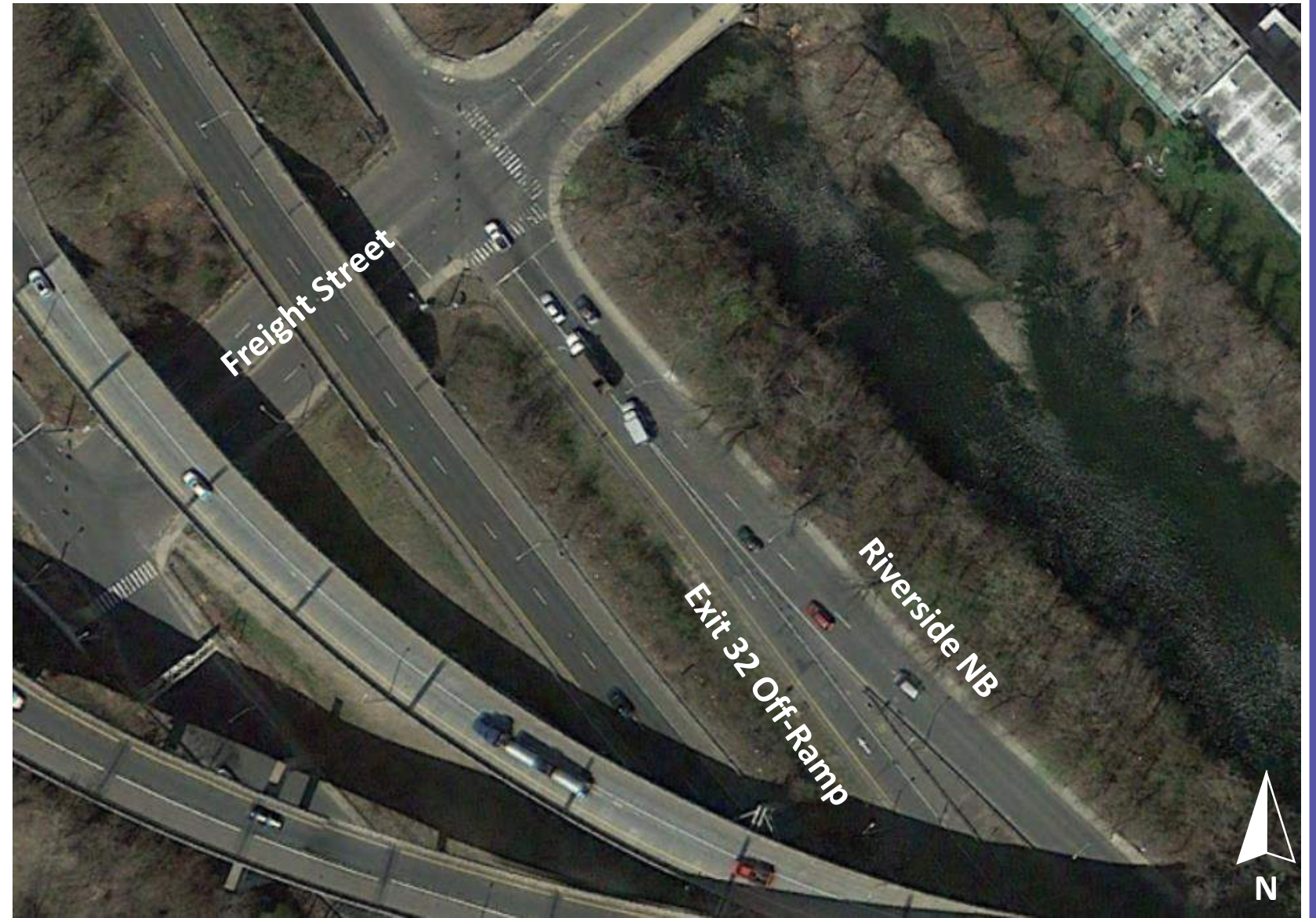
LOS A/B/C
LOS D
LOS E
LOS F

Proposed Early Actions – IC5



Proposed Early Actions – IC5

Route 8 NB Exit 32 at Freight Street/Riverside Street NB



Proposed Early Actions – IC5

Route 8 NB Exit 32 at Freight Street/Riverside Street NB

Deficiencies

- High Crash Location
- Deficient Traffic Operations at West Main Street

Solutions



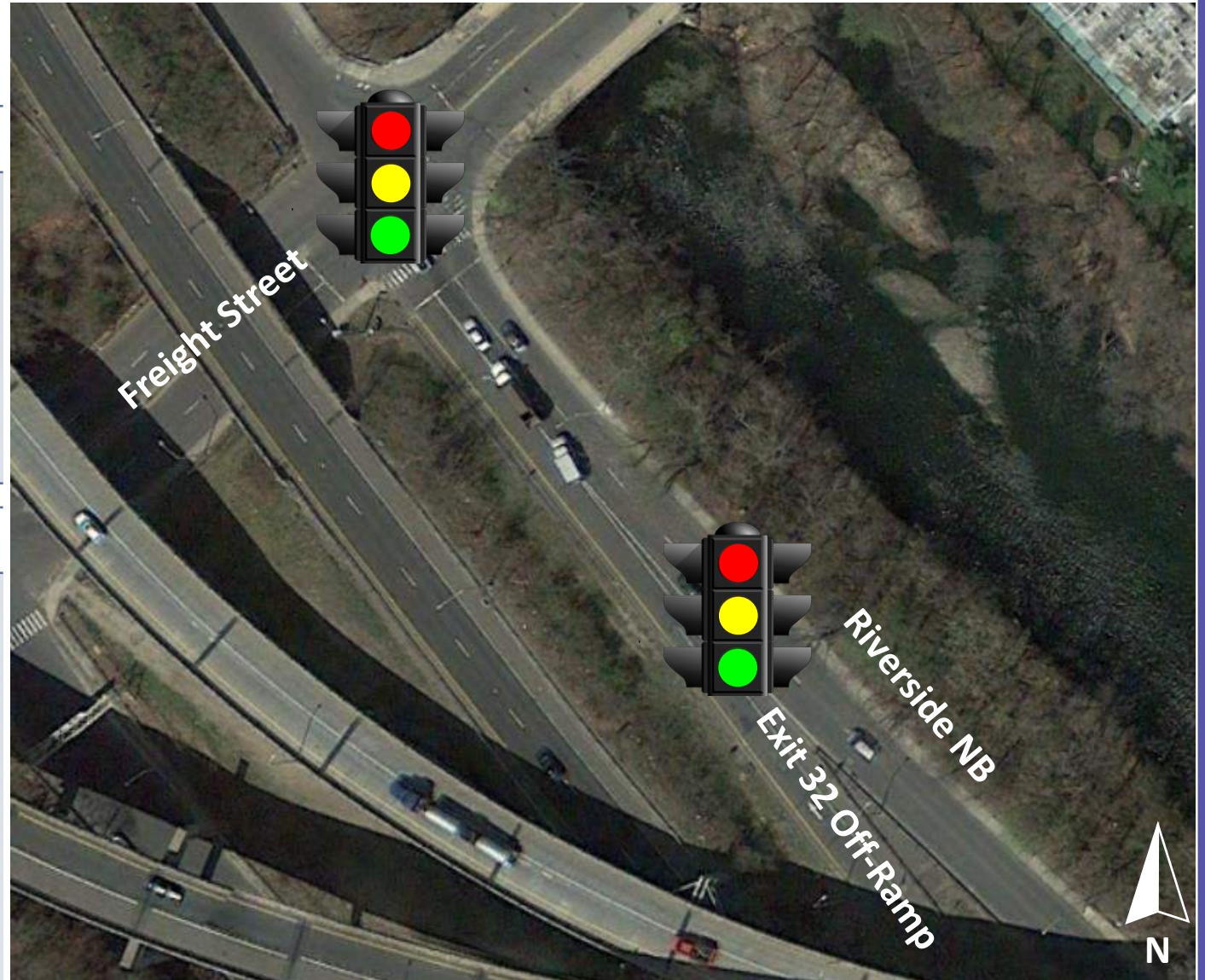
Proposed Early Actions – IC5

Route 8 NB Exit 32 at Freight Street/Riverside Street NB

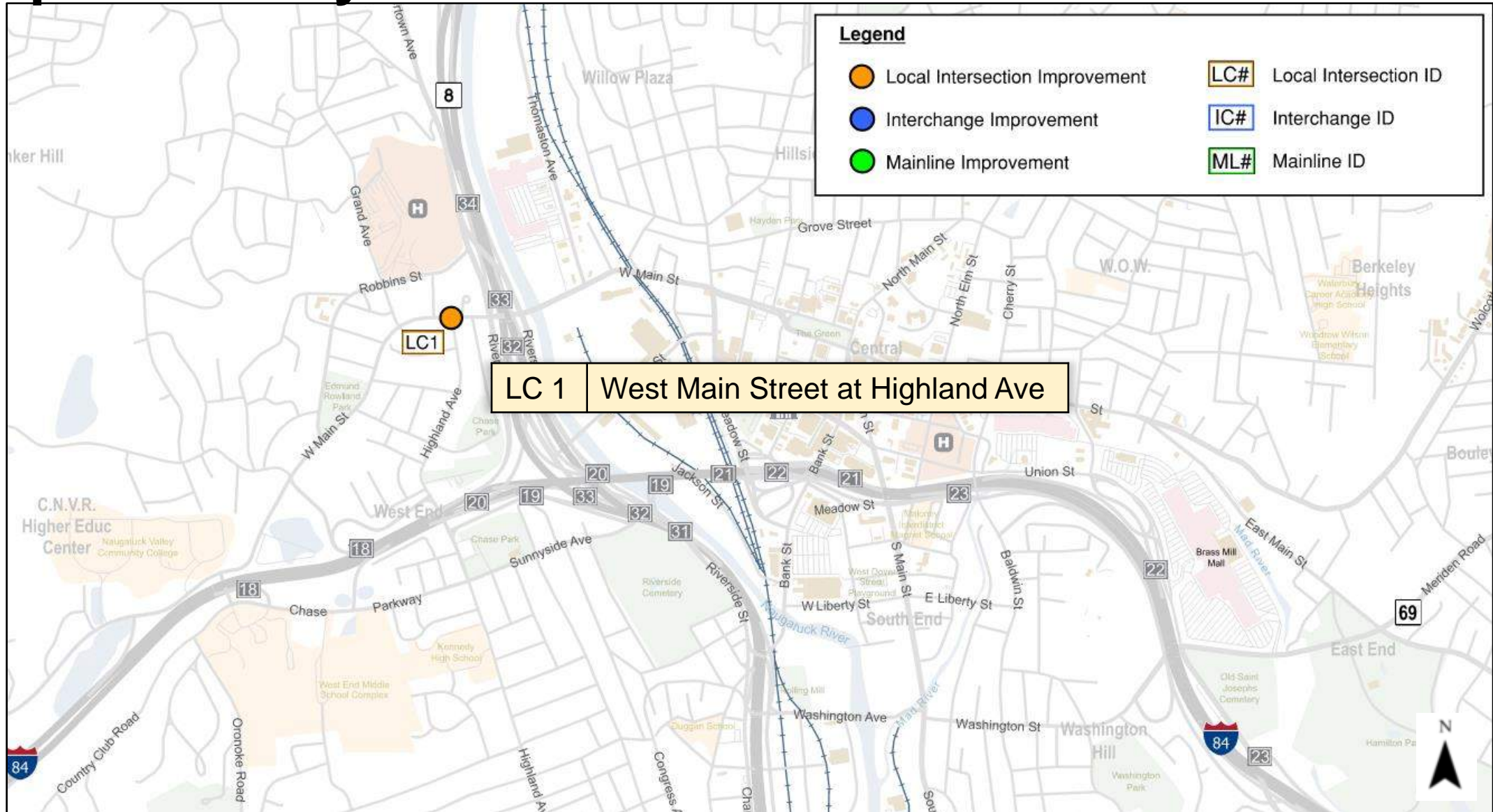
Deficiencies	Solutions
<ul style="list-style-type: none">• High Crash Location• Deficient Traffic Operations at West Main Street	<ul style="list-style-type: none">• Install offset traffic signal• Clustered Control• Optimize signal timing• Modify approach alignments

Intended Outcomes

- Relieve pressure from West Main Street signal
- Improve traffic operations
- Reduce congestion (improve air quality)
- Reduce crash rate (improve safety)
- Low impact solution
- Included in rehabilitation project (reduces rework)



Proposed Early Actions – LC1



Proposed Early Actions – LC1

West Main Street at Highland Avenue

Deficiencies

Solutions

- Congestion
- High Crash Location
- Poor intersection sight distance



Proposed Early Actions – LC1

West Main Street at Highland Avenue

Deficiencies

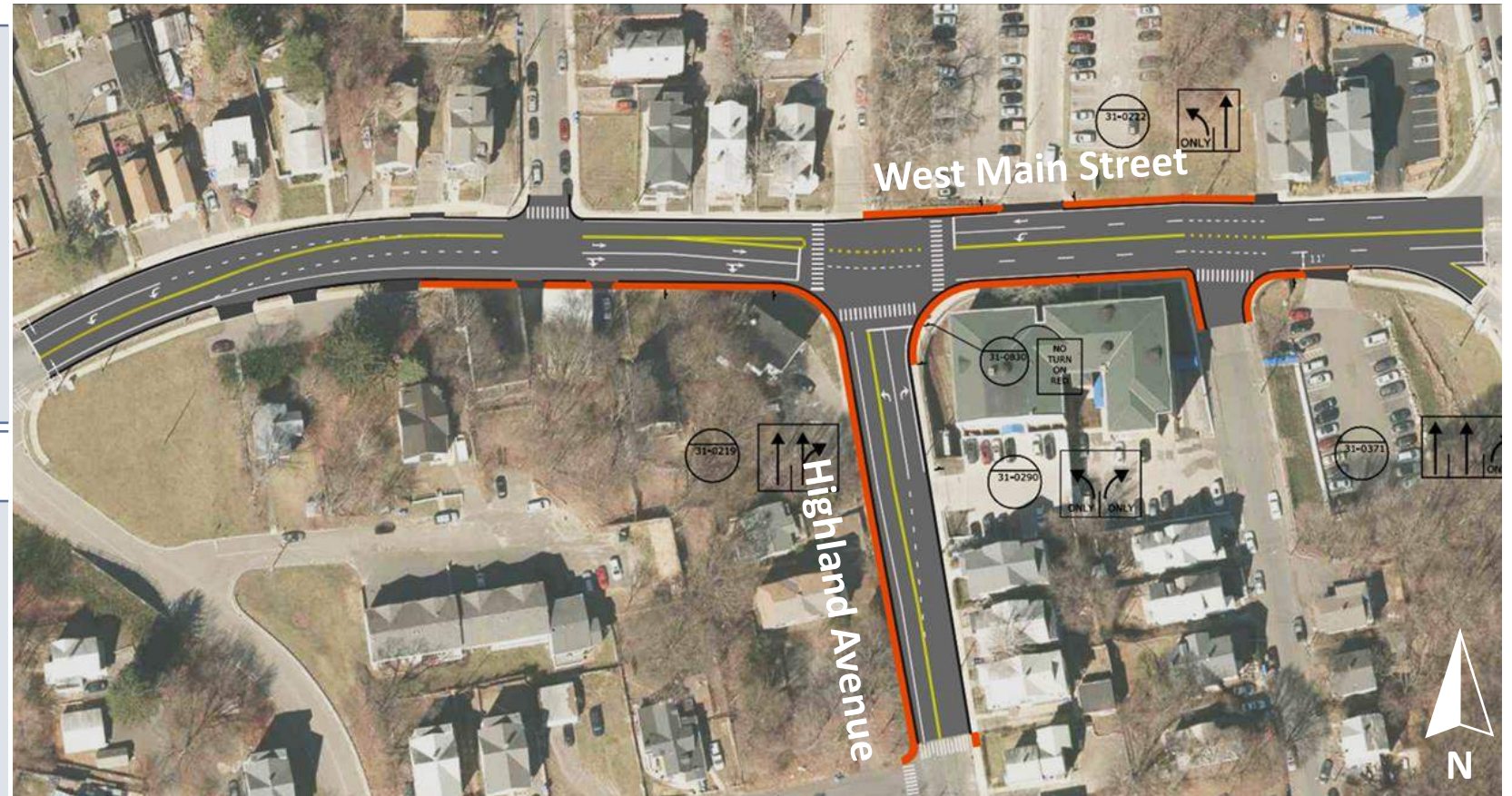
- Congestion
- High Crash Location
- Poor intersection sight distance

Solutions

- Restripe approaches
- Dedicated turn lanes
- New coordinated signals

Intended Outcomes

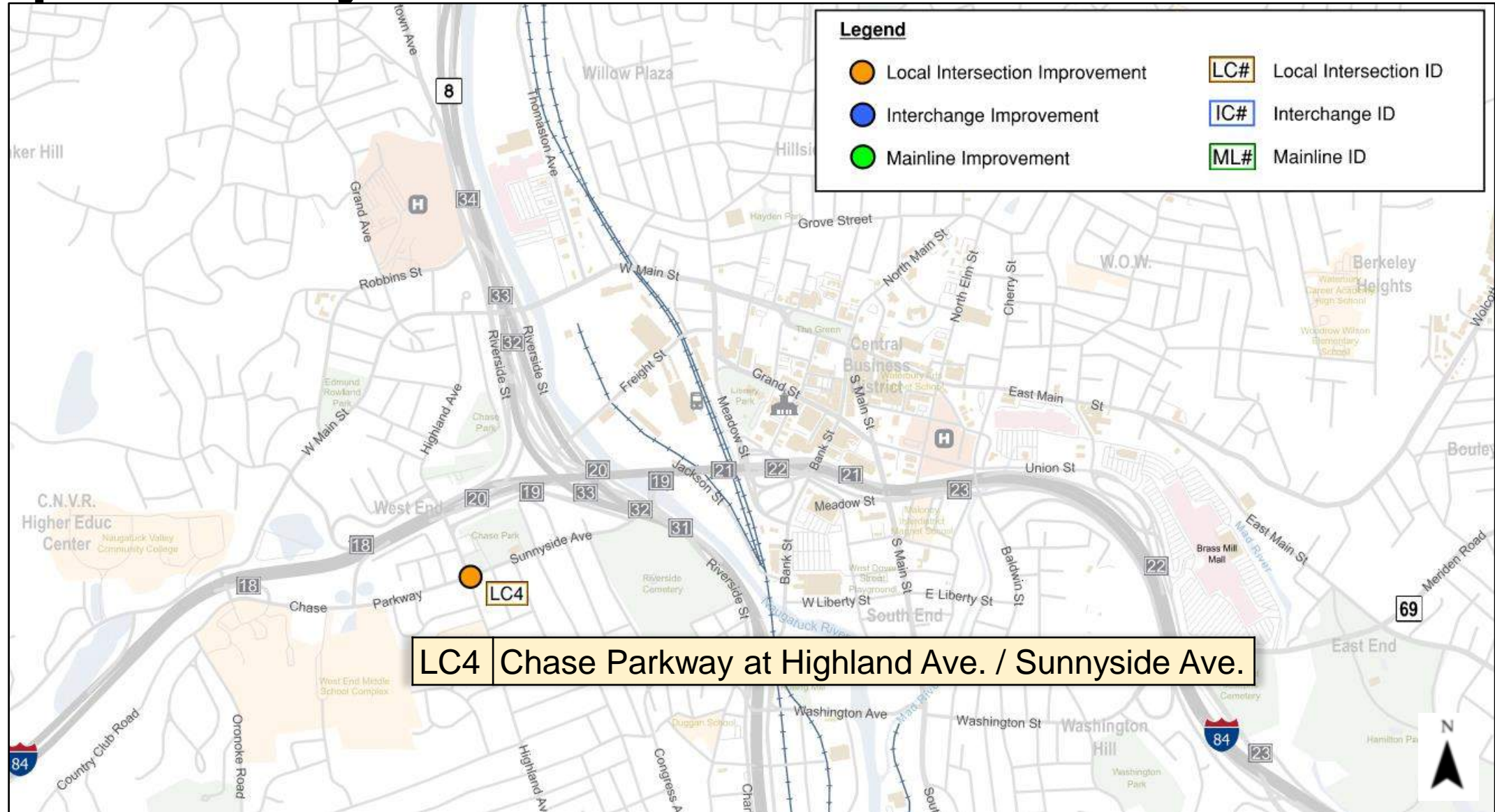
- Improve traffic operations
- Reduce congestion (improve air quality)
- Reduce crash rate (improve safety)
- Improve connectivity/non motorized mobility
- Low impact solution



■ Roadway Reconstruction

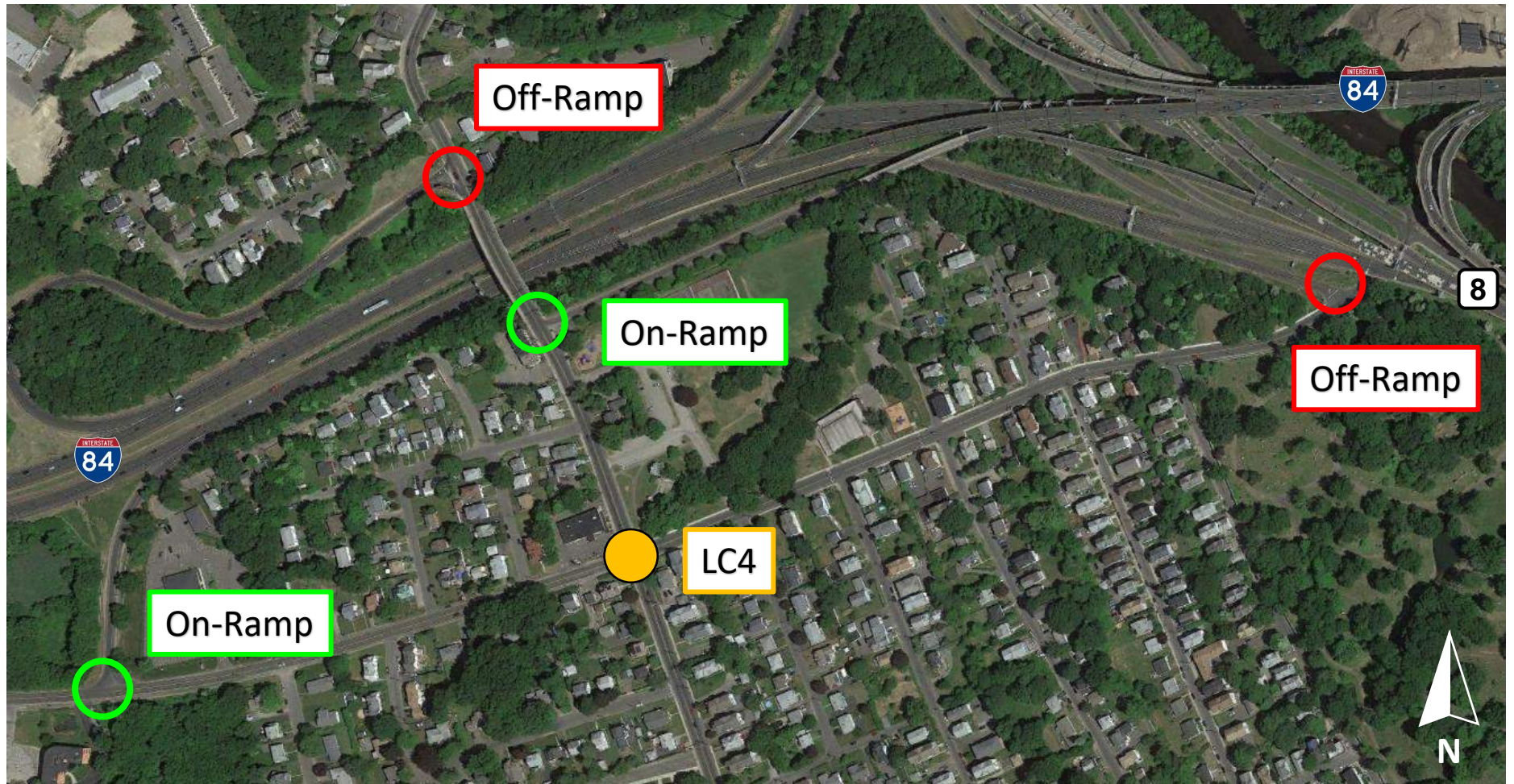
■ Sidewalk Reconstruction

Proposed Early Actions – LC4



Proposed Early Actions – LC4

Highland Avenue at Sunnyside Avenue & Chase Parkway

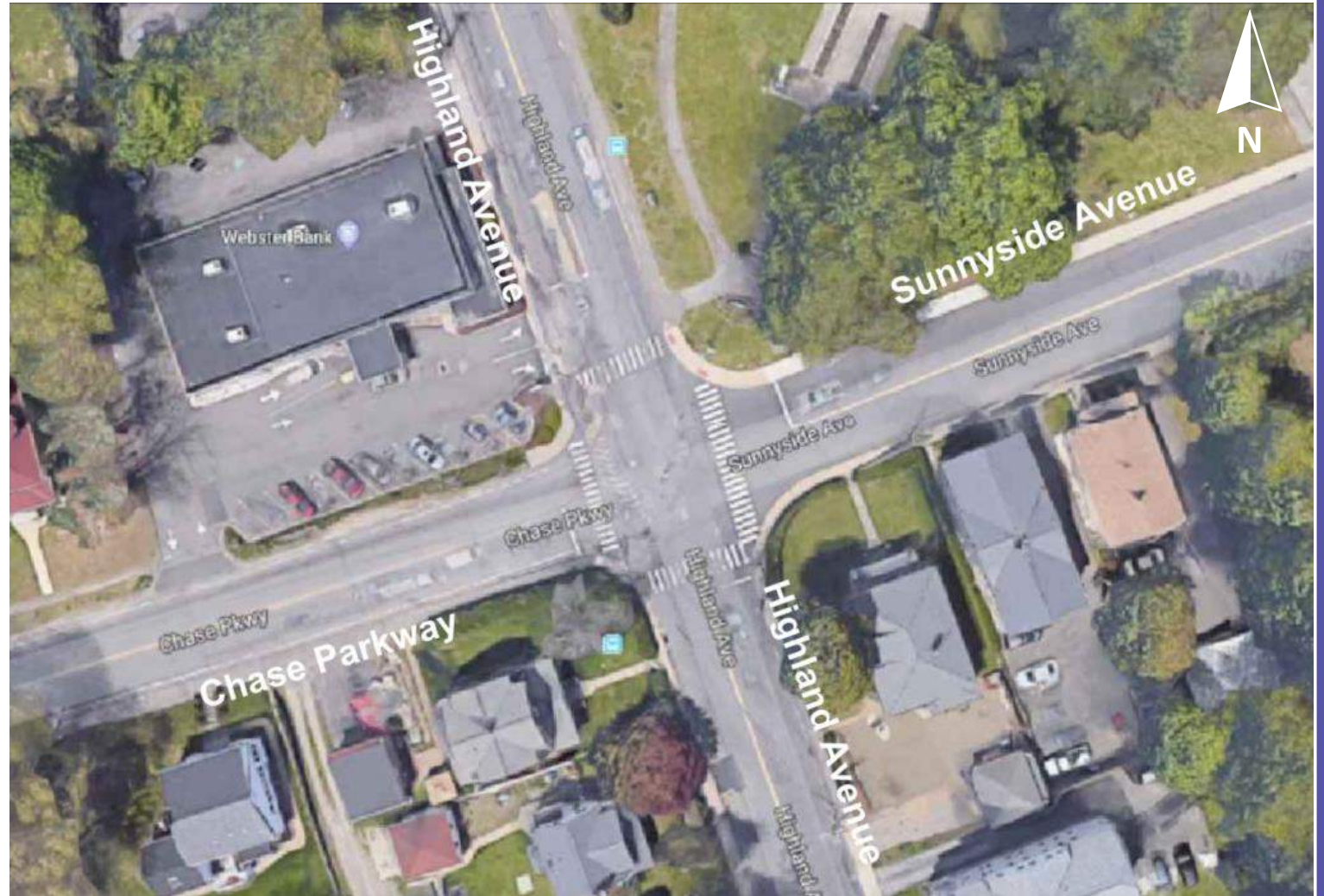


Proposed Early Actions – LC4

Highland Avenue at Sunnyside Avenue & Chase Parkway

Deficiencies	Solutions
--------------	-----------

- | | |
|---|--|
| <ul style="list-style-type: none">• Moderate Congestion• High Crash Location | |
|---|--|



Proposed Early Actions – LC4

Highland Avenue at Sunnyside Avenue & Chase Parkway

Deficiencies

- Moderate Congestion
- High Crash Location

Solutions

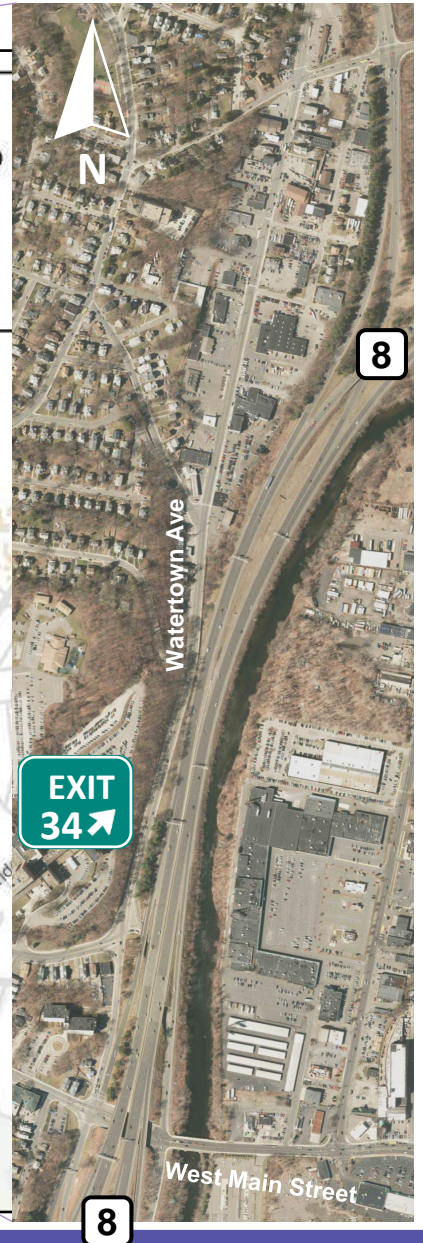
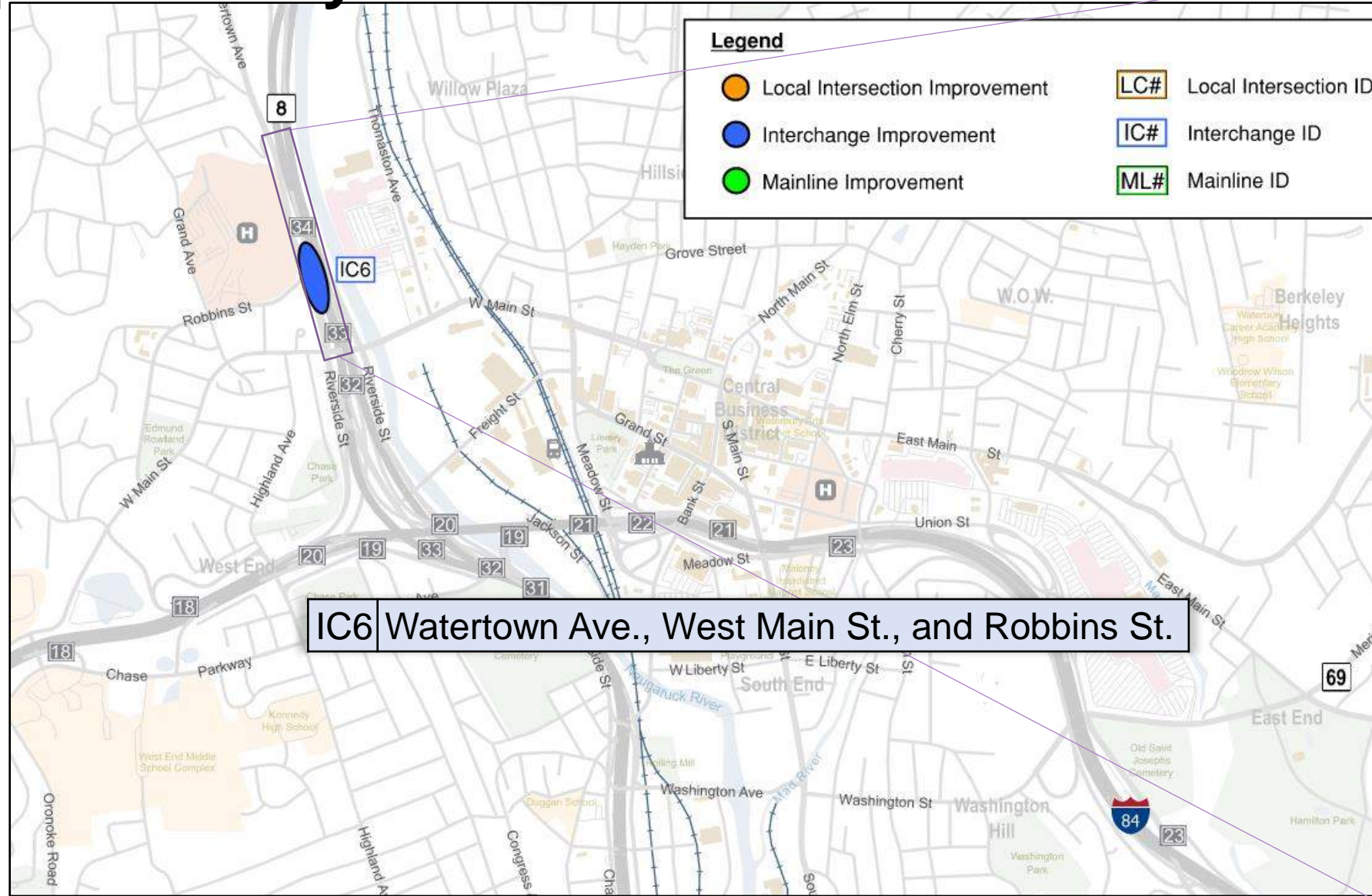
- Restripe approaches
- Exclusive left turn lanes
- Optimize signal timing
- Minor widening

Intended Outcomes

- Improve traffic operations
- Reduce congestion (improve air quality)
- Reduce crash rate (improve safety)
- Improve connectivity/ non motorized mobility



Proposed Early Actions – IC6



Proposed Early Actions – IC6 Location: Existing Conditions



- Existing Exit 34 -----
- Watertown Ave (Northbound) -----
- Watertown Ave (Southbound) -----

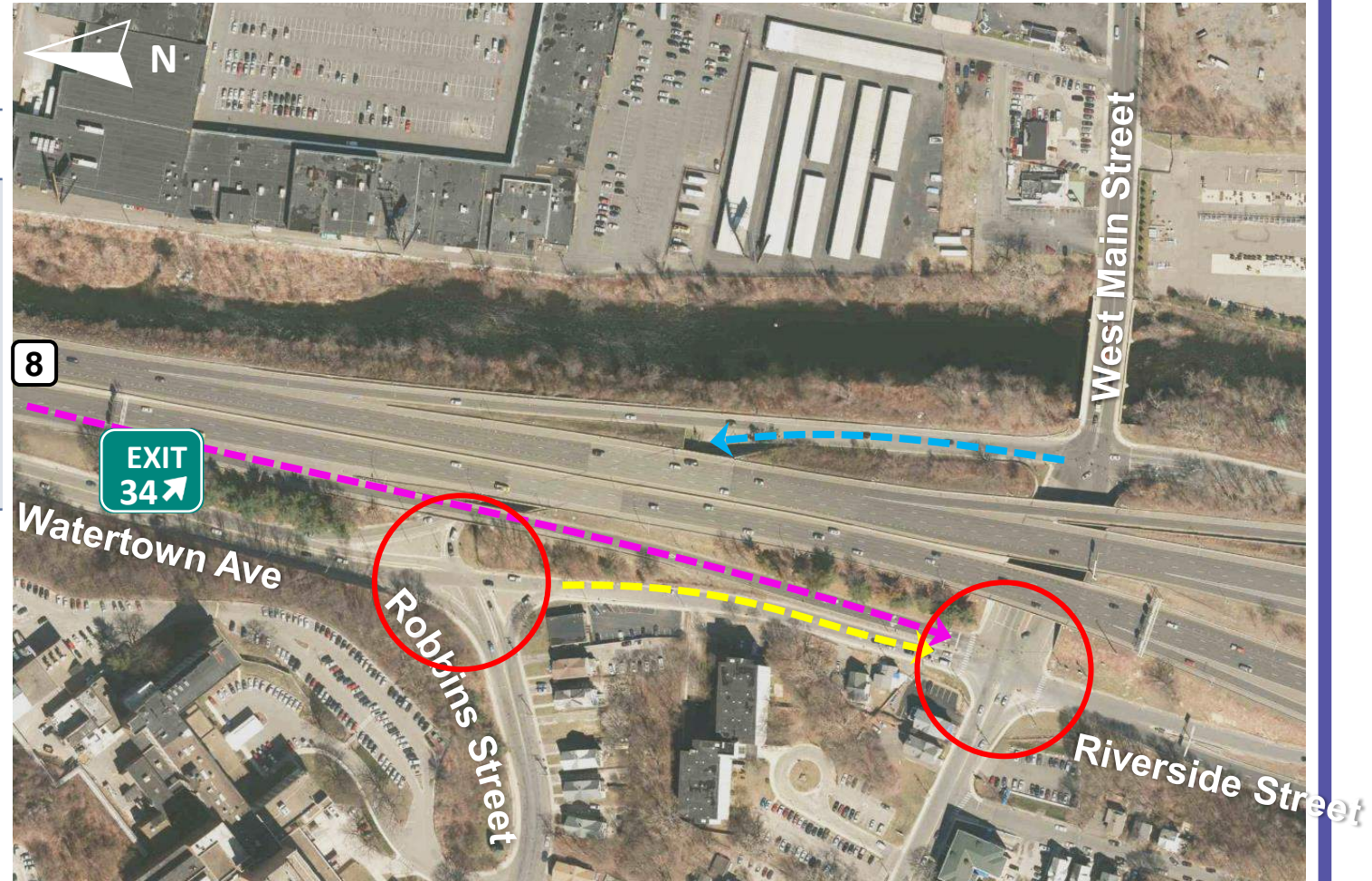
Proposed Early Actions – IC6

Route 8 SB Exit 34 at Watertown Avenue / Robbins Street

Deficiencies

- High Crash Locations
- Deficient Traffic Operations at West Main Street

Solutions



Area of concern ○

Existing Exit 34 - - - - -

Watertown Ave (Northbound) - - - - -

Watertown Ave (Southbound) - - - - -

Proposed Early Actions – IC6

Route 8 SB Exit 34 at Watertown Avenue / Robbins Street

Deficiencies

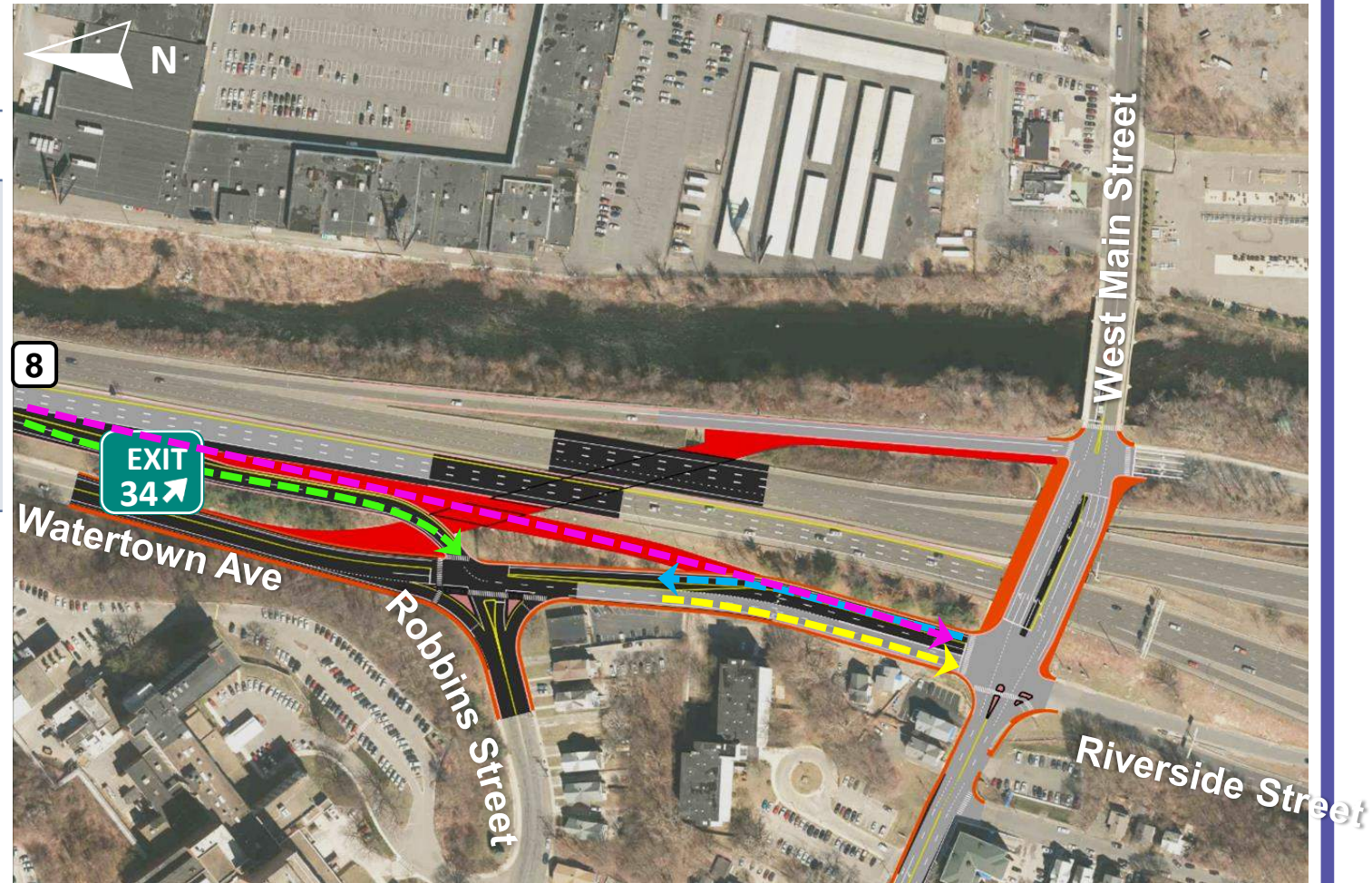
- High Crash Locations
- Deficient Traffic Operations at West Main Street

Solutions

- Two-Way Watertown Avenue
- Roadway realignment
- New coordinated signals

Intended Outcomes

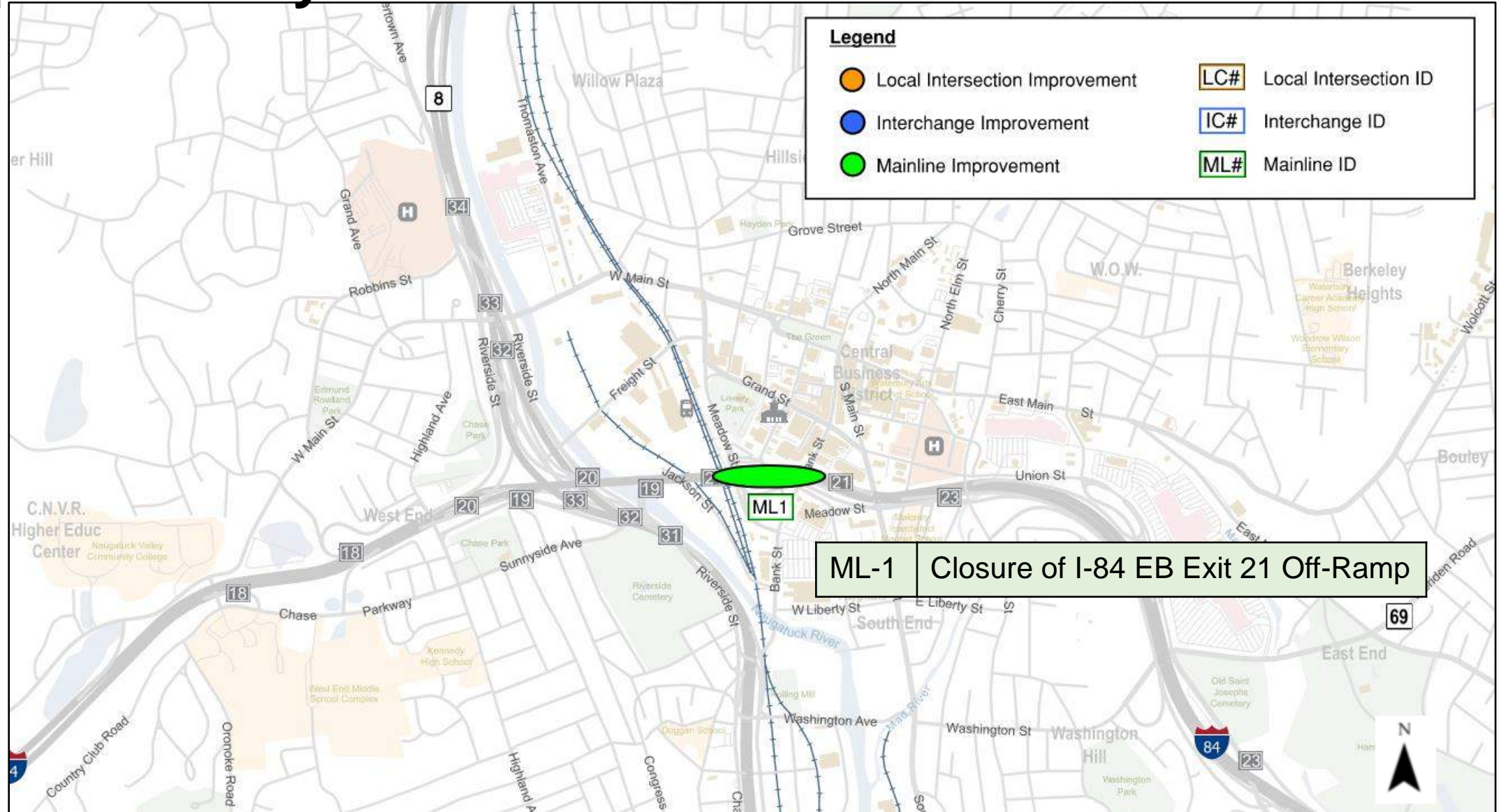
- Improve traffic operations
- Reduce congestion (improves air quality)
- Reduce crash rate (improves safety)
- Improve connectivity and mobility



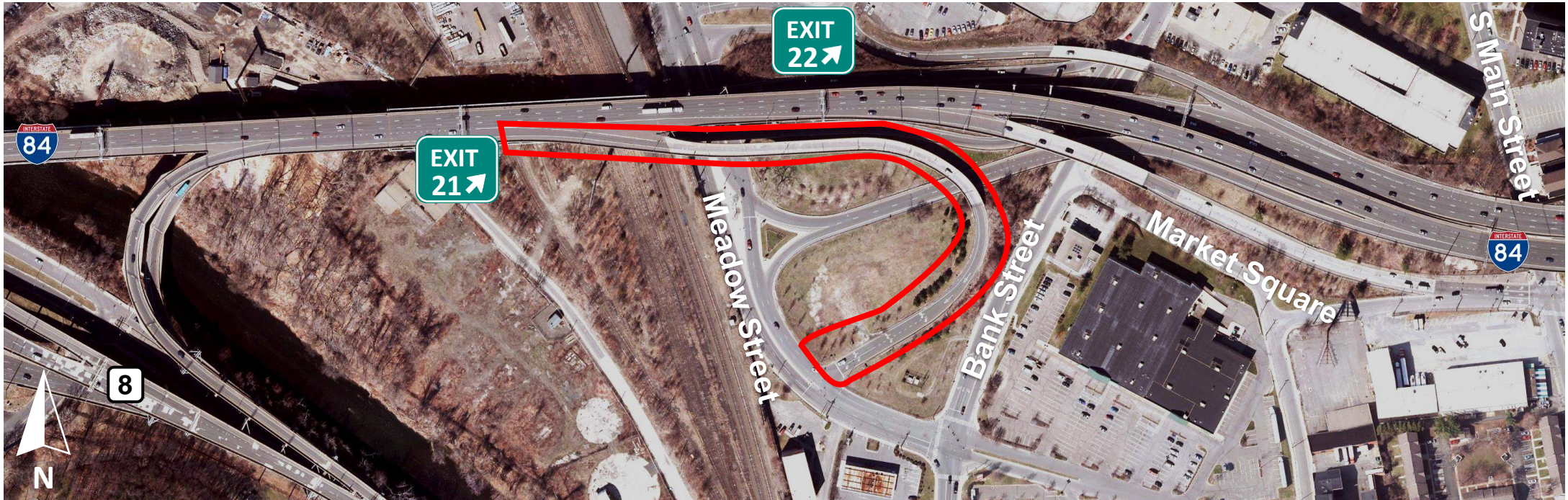
- Roadway Reconstruction
- Pavement to be Removed
- Sidewalk Reconstruction

- Existing Exit 34 ———— IC-6 Exit 34 ————
- Watertown Ave (Northbound) ————
- Watertown Ave (Southbound) ————

Proposed Early Actions – ML1



Proposed Early Actions – ML1 Closure of I-84 EB Exit 21 Off-Ramp



Deficiencies

- Bridge in poor condition
- Substandard distances for Ramp Merges/ Weaves/ Diverges
- Deficient Traffic Operations
- High Crash Location
- Recurring congestion



2031 No Build Weekday PM Peak Hour Animation



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No Build VS Proposed Access and Travel Times

Year 2031
PM Peak Hour

LEGEND

● Metro-North Station

No Build

Exiting from I-84
Travel on Exit Ramp
Travel on Local Roads

ML-1

Exiting from I-84
Travel on Exit Ramp
Travel on Local Roads

2031 PM
Peak Hour
Travel
Time

Total

4:46
0:27
1:56

7:09

0:59
0:30
2:52

4:21

START

From I-84
EB Exit 20



Interstate 84

Route 8

Ramp
Closed

Bank
Street

Connector
Street

West Clay
Street

South
Main
Street

West Liberty Street

Meadow Street

Grand
Street

Market
Square



No Build VS Proposed Access and Travel Times

Year 2031
PM Peak Hour

LEGEND

● Metro-North Station

No Build -----

Exiting from I-84
Travel on Exit Ramp
Travel on Local Roads

ML-1 -----

Exiting from I-84
Travel on Exit Ramp
Travel on Local Roads

2031 PM
Peak Hour
Travel
Time

Total

4:46
0:27
1:56

7:09

0:59
0:30
4:29

4:58

START

From I-84
EB Exit 20

Interstate 84

Route 8

Meadow Street

Bank Street

Grand Street

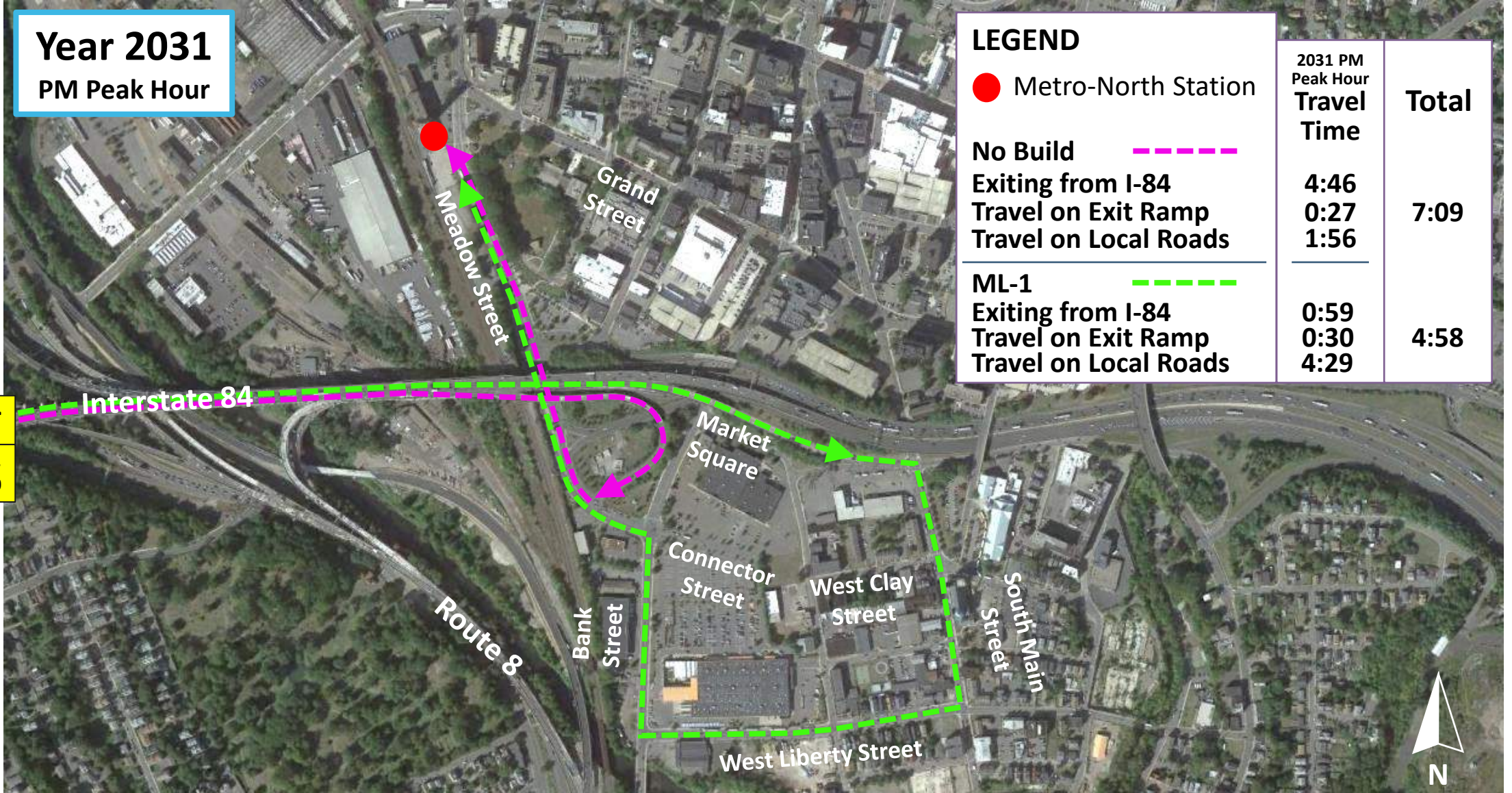
Connector Street

Market Square

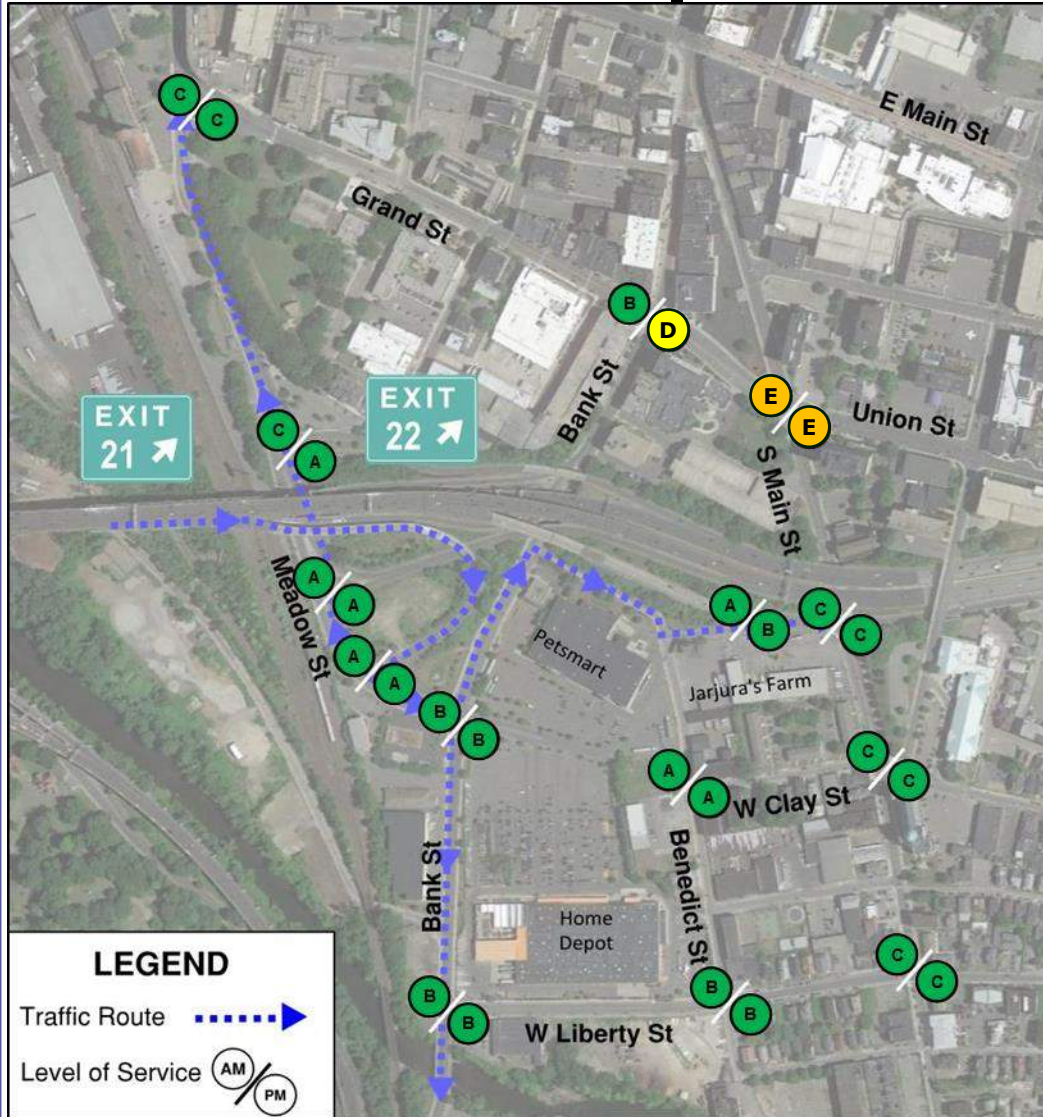
West Clay Street

South Main Street

West Liberty Street

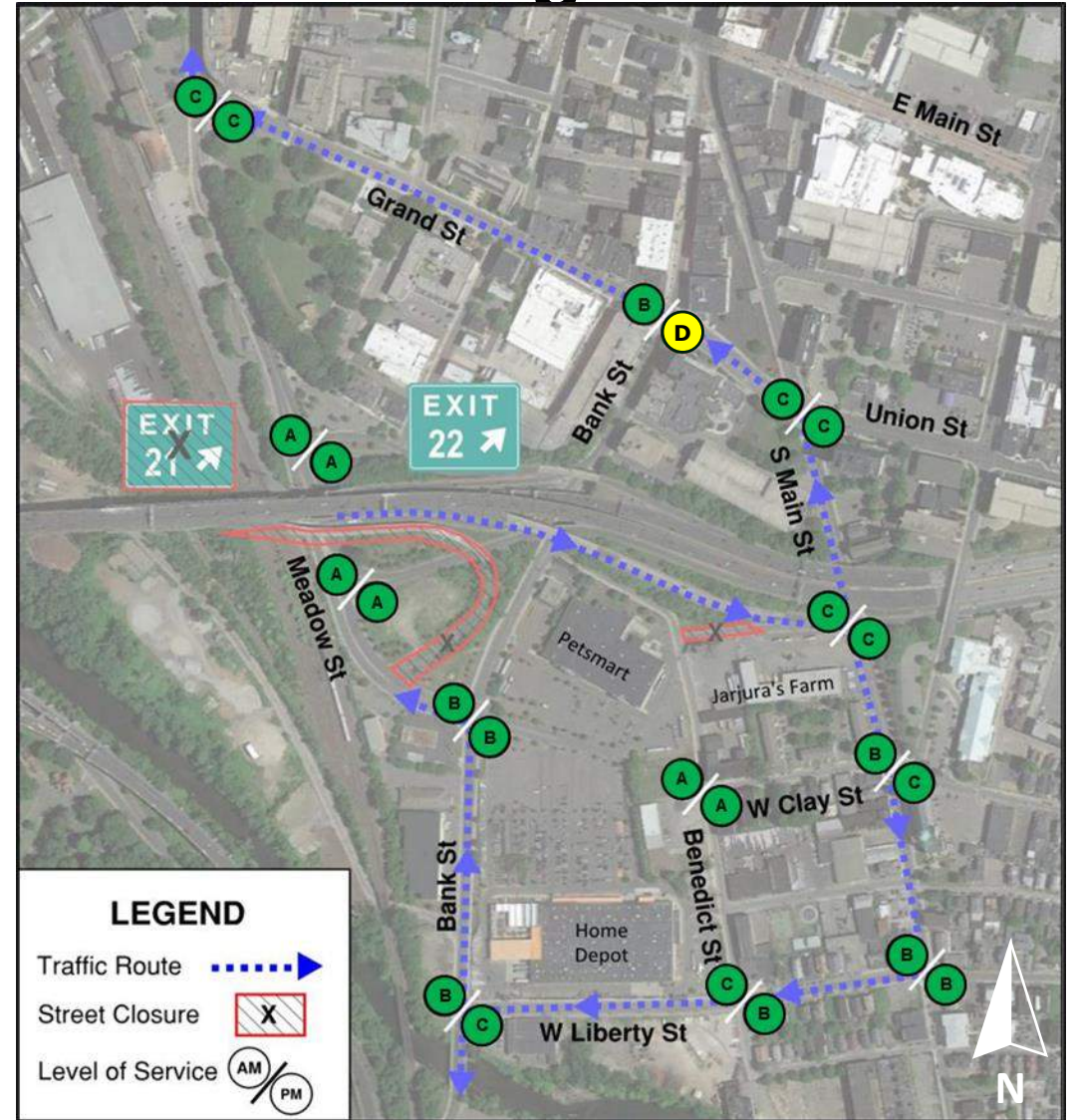


No-Build VS Proposed Conditions LOS Rating



No Build

**2045
LOS**
 A/B/C
 D
 E
 F



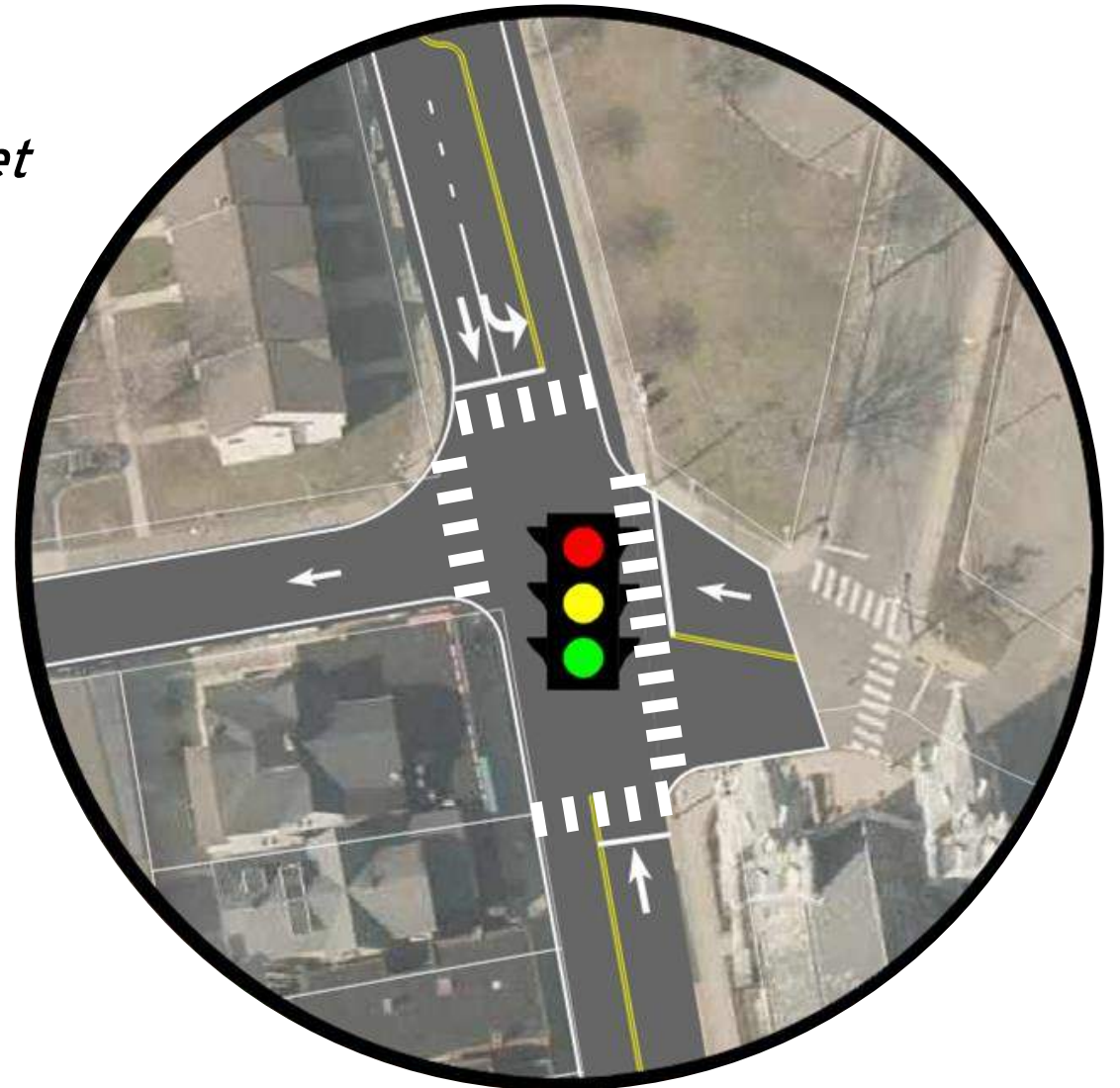
Proposed

ML-1 Improvement Details

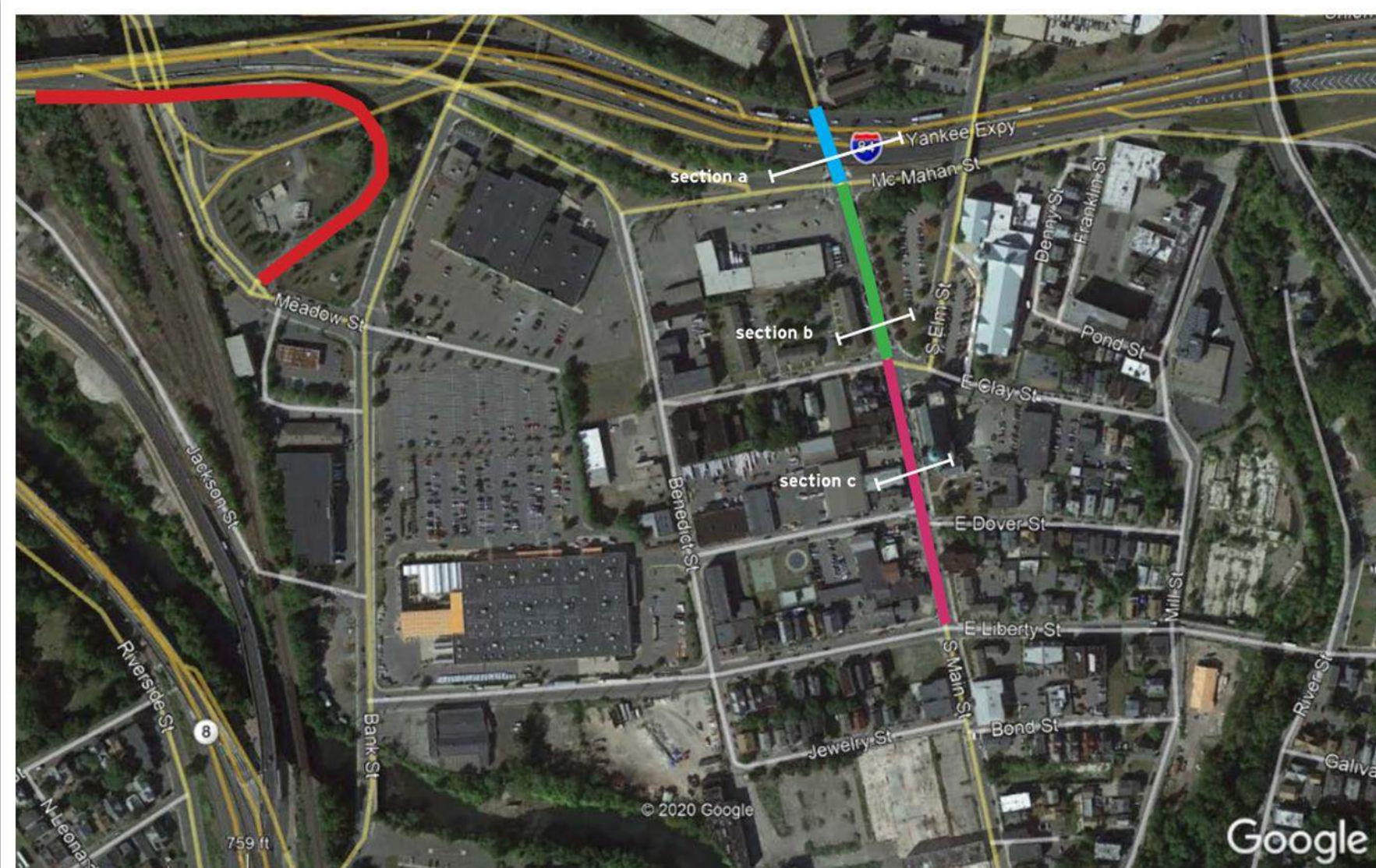
Improvement Details

Example Shown: South Main and West Clay Street

- **New traffic signal controls**
- **Signal phasing and timing improvements**
- **Dedicated southbound left turn lane**
- **Pavement marking repositioning**
- **Pedestrian improvements: Leading Pedestrian Interval (LPI)**



ML-1 Urban Design Opportunities



Road Closure

Underpass Improvements

- Roadway Striping
- Widen Sidewalks
- Install Buffers
- Underpass Art
- Lighting

Roadway Improvements

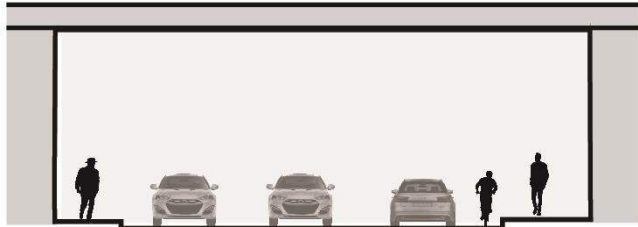
- Modify Lane Arrangements
- Roadway Striping
- Improve Sidewalks/ ADA Improvements
- Install Buffers
- Widen Sidewalks or Formalize Parking

Roadway Improvements

- Decrease Lane Widths
- Roadway Striping
- Improve Sidewalks/ ADA Improvements
- Install Buffers
- Formalize Parking

ML-1 Urban Design Opportunities

Existing South Main St Underpass



Underpass Improvements

- Murals and lighting welcome pedestrians, create visual presence
- Combine with Safe Routes tactics

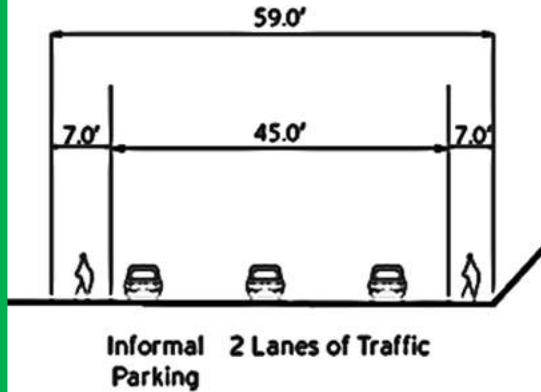
Precedents



ML-1 Urban Design Opportunities

Roadway Improvements

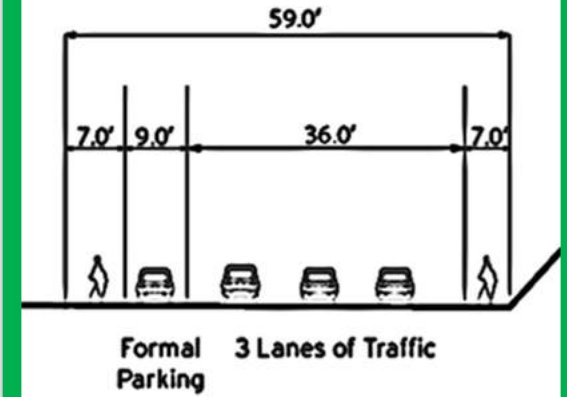
South Main Street Existing



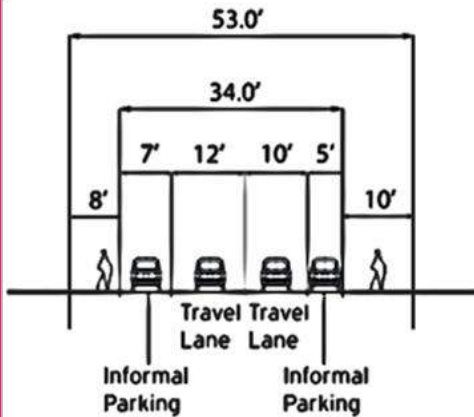
Between Clay and McMahon Streets



South Main Street Proposed



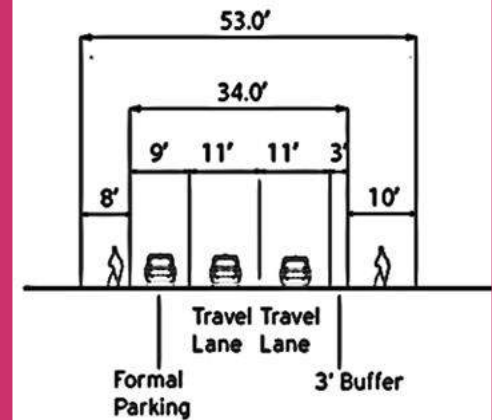
South Main Street Existing



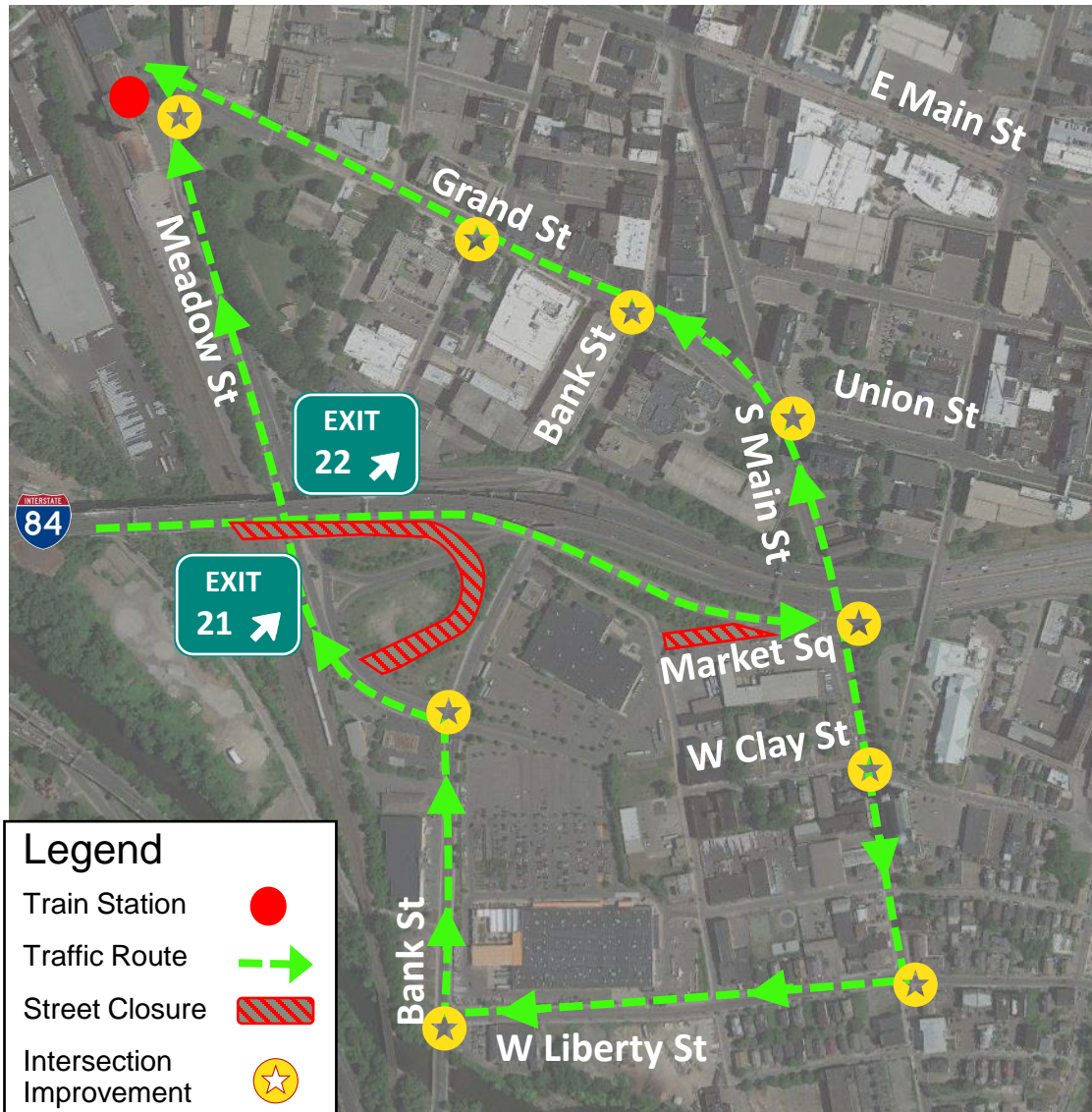
Between Liberty and Clay Streets



South Main Street Proposed



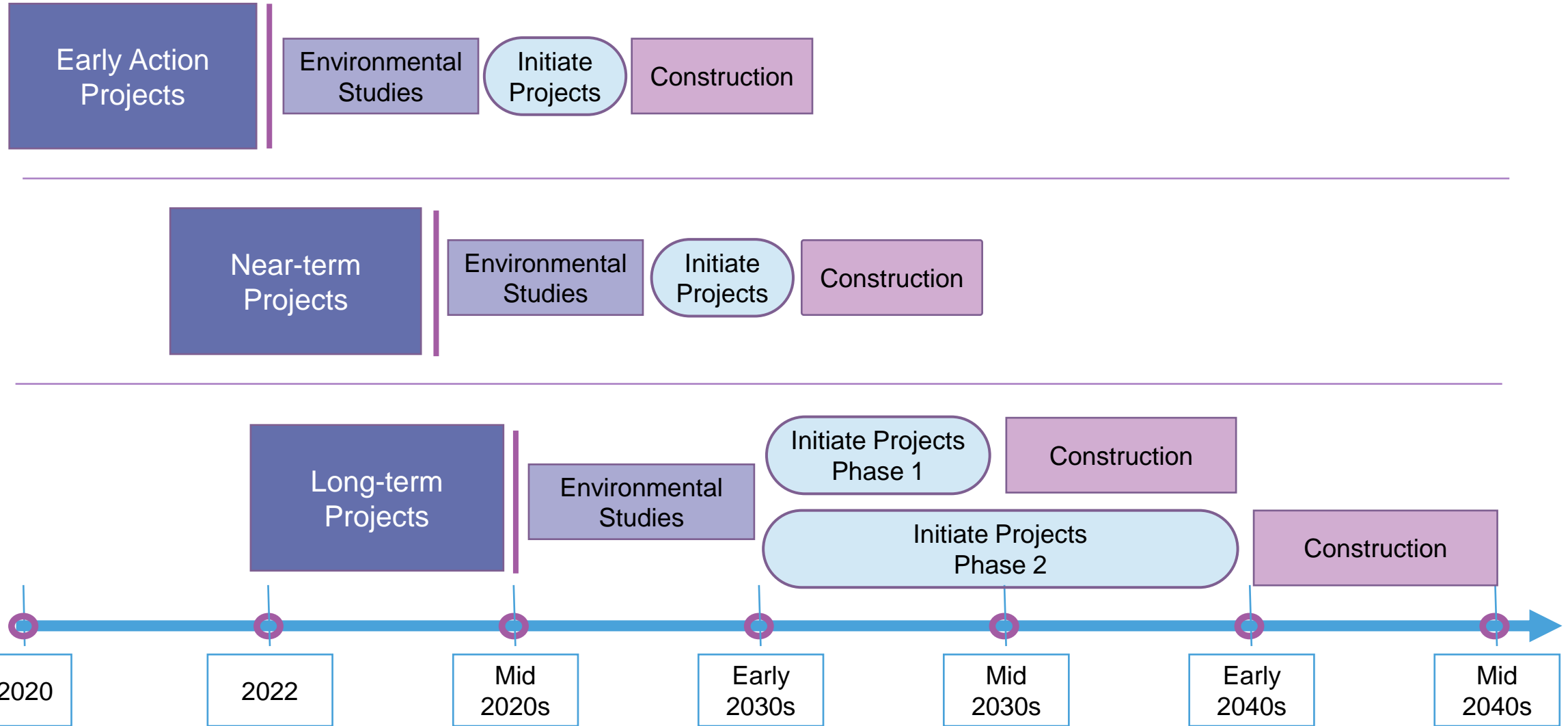
Proposed Early Actions – ML1



Deficiencies	Solutions
<ul style="list-style-type: none"> • Bridge in poor condition • Substandard distances for Ramp Merges/ Weaves/ Diverges • Deficient Traffic Operations • High Crash Location • Recurring congestion 	<ul style="list-style-type: none"> • Demolition of deficient bridge • Permanent closure of Exit 21 • New traffic signal controls • Signal phasing and timing improvements • Local road improvements

Intended Outcomes	
<ul style="list-style-type: none"> • Improve traffic operations • Reduce congestion (improves air quality) • Reduce crash rate (improves safety) 	<ul style="list-style-type: none"> • Improve connectivity/ non motorized mobility • Urban Design opportunities







Potential Timing & Breakout Project Schedule

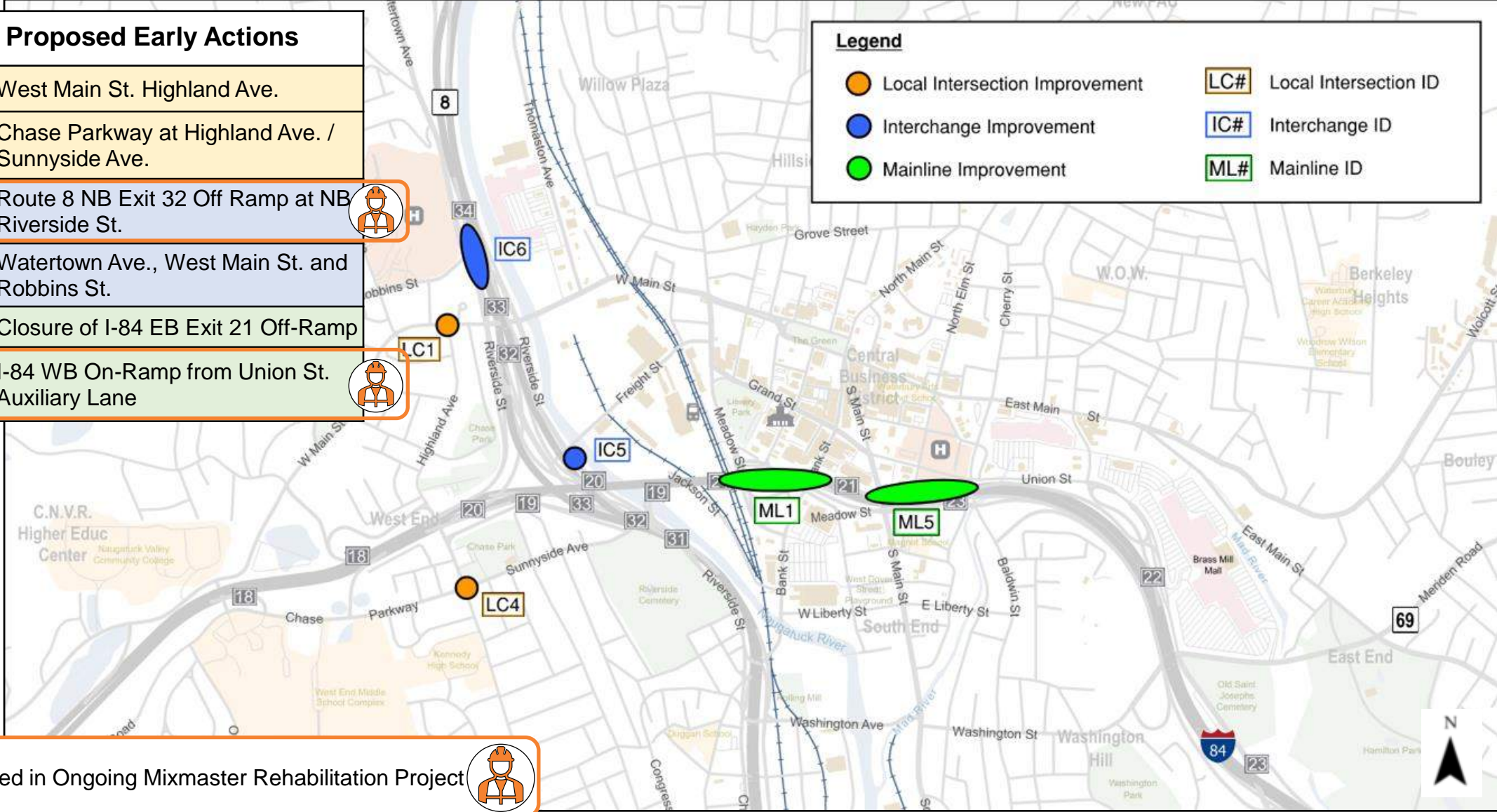


Proposed Early Action Projects

Proposed Early Actions	
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Legend

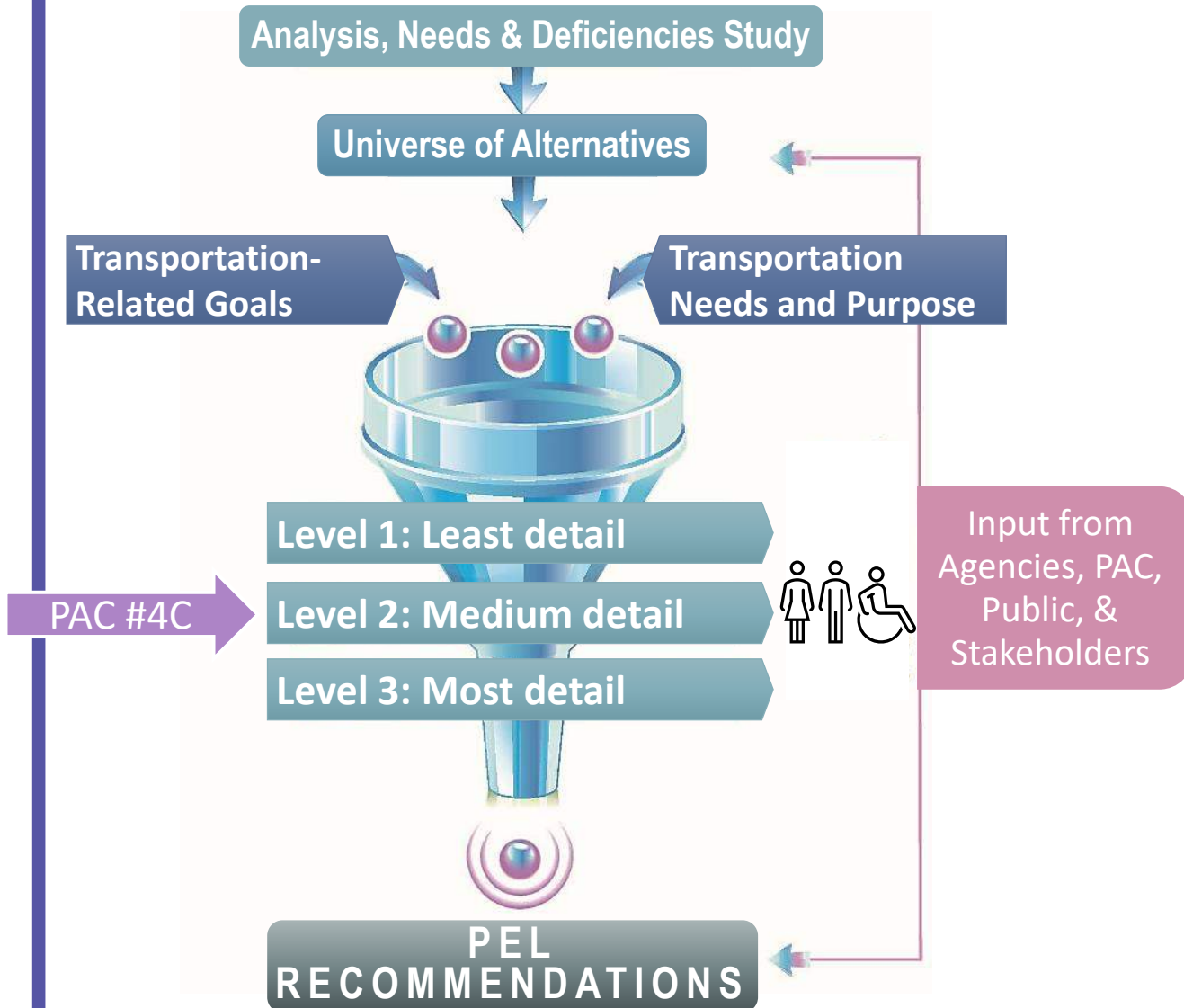
-  Local Intersection Improvement
-  Interchange Improvement
-  Mainline Improvement
-  LC# Local Intersection ID
-  IC# Interchange ID
-  ML# Mainline ID



Included in Ongoing Mixmaster Rehabilitation Project 

Next Steps

New Mix PEL Study Screening Process



✗ Not Advancing



Advancing



Upcoming Meetings and Future PAC Agenda Items

PAC Mtg #4C
Anticipating Late October
Early November 2022

Where:

Virtual via Zoom

Topics:

- Present Level 2 Screening Measures
- Obtain Input from PAC

Public Meeting #3
Anticipating
Early December 2022

Where:

Virtual via Zoom

Topics:

- Present Level 1 Screening Results
- Obtain Input from the Public

PAC Mtg #5A
Anticipating
January 2023

Where:

Virtual via Zoom

Topics:

- Present Level 2 Screening Results
- Obtain Input from PAC



Before the Next Meeting Continue to...



Review PAC Meeting #4A Information Materials.



Explore the Project website: survey and Project Alternatives webpage available.



Check email for information about the next PAC meeting and scheduling.



Remain excited to participate in our next meeting.



Questions & Comments



Thank you.



End of PAC Meeting 4B