Stamford
East Main Street Transit Station Alternatives Evaluation

Presented to:

General Public of Stamford

Presented by:

PARSONS BRINCKERHOFF

Overview of Presentation

- Introduction
  - Project Goals
  - Drivers of Change
- Purpose & Process of this Study
  - Purpose of Our Study
  - Transit Node Requirements and Alternatives
  - Evaluation Process
- Feasibility Analysis
  - Rail Station Location Alternatives
  - Feasibility Analysis by Location
  - Rail Station Design Alternatives
  - Bus Option Alternatives
- Evaluation of Alternatives
- Phased Implementation Strategy

Project Context

- HUD Sustainable Communities Initiative
  - Promotes livable communities within the region

Project Goals: Three Main Drivers

- Access and Connectivity
- Economic Development
- Quality of Life / Livability

Drivers of Change

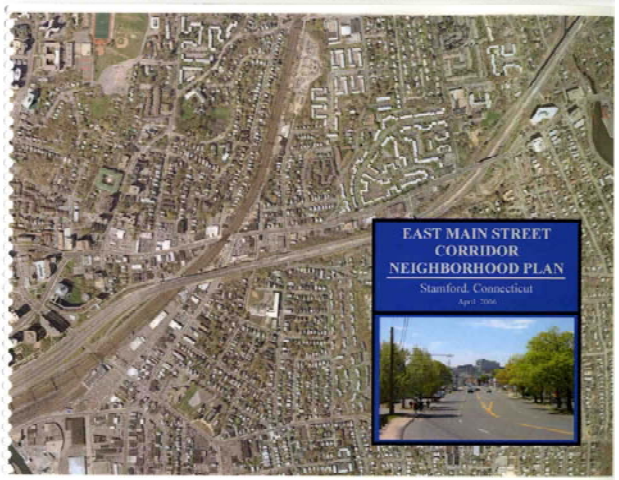
Plans and Studies

Current & Ongoing Capital Projects

Recent Development

Related Prior Efforts and Studies

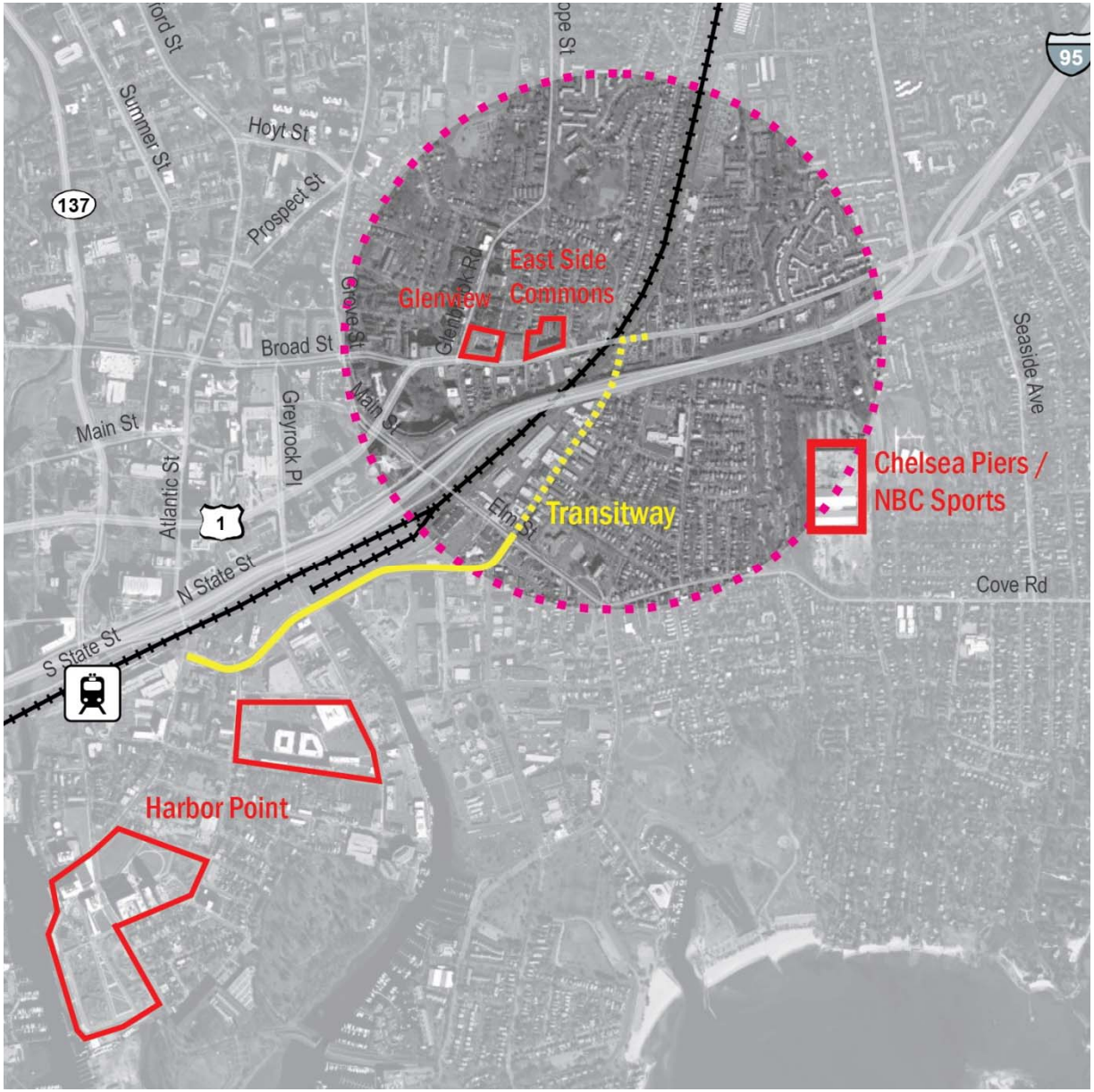
- Stamford Master Plan (2002)
- Vision for East Main Street (2006)
- Coastal Corridor Bus Study (2012)
- Stamford Transportation Center Master Plan (2010)
- New Canaan Branch Line Study (2009)
- North East Corridor (ongoing)



Current & Ongoing Capital Projects

- Stamford Urban Transitway
  - Connects Transit Center to East Side and South End
- Stamford Transportation Center Improvements
  - Promote Transit-Oriented Development
  - Improved parking strategy
- Atlantic Street Overpass Reconstruction
  - Improved flow at Stamford Station
- Potential Improvements for East Main Street Bridge

Recent Developments



Our Study

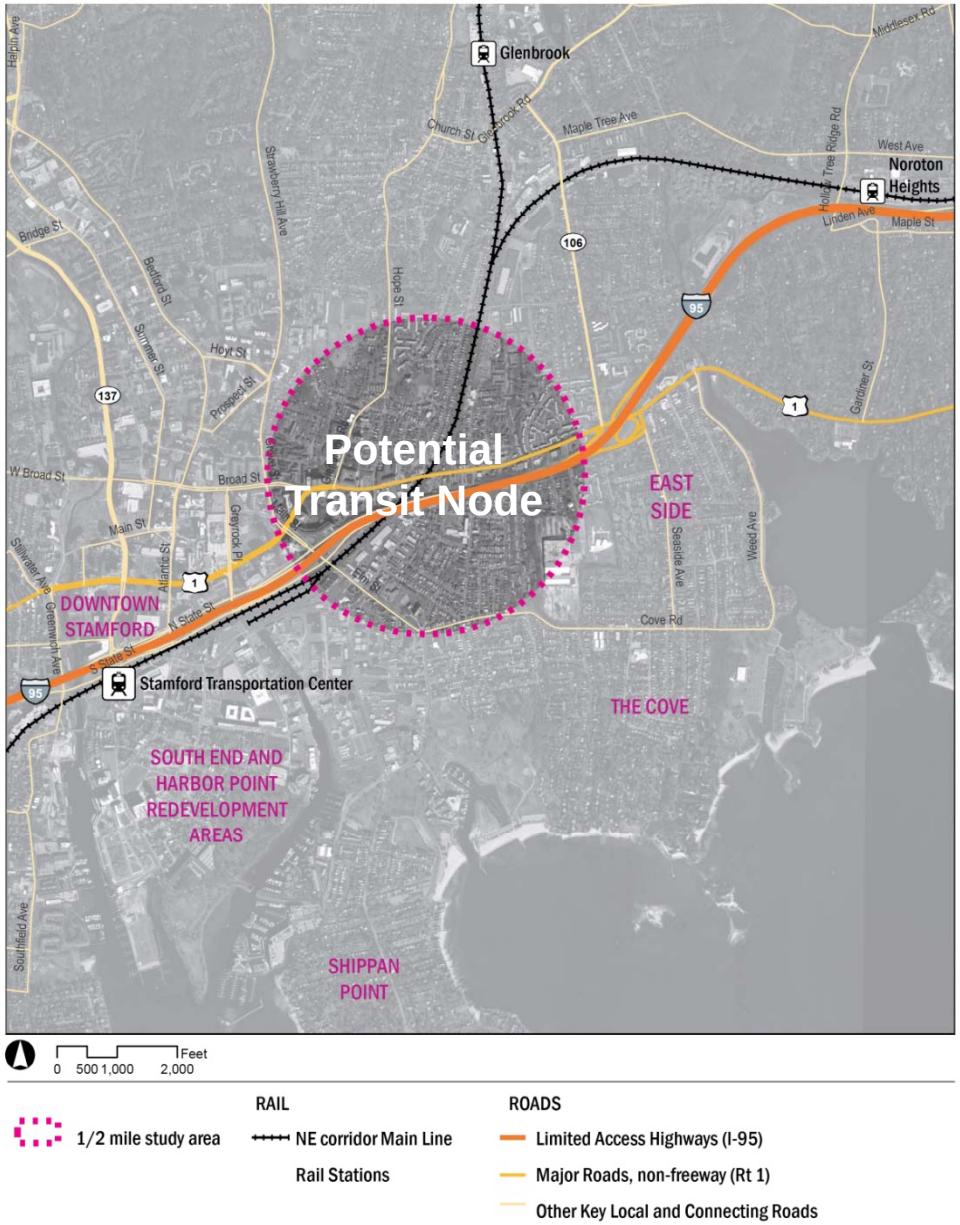
Project Background

What This Study Accomplishes

What We Heard from You

Transit Node Feasibility Assessment

About Our Study



Analyze the feasibility of transit options within our study area

Where we are in the Study

- Task 1 – Public Involvement
  - Open House in May 2012
  - Stakeholder and Technical Advisory Committees Established
- Task 2 – Existing Conditions
  - Draft report released in August 2012
- Task 3 – Alternatives Screening
  - Initial alternatives
  - Meetings with stakeholders and decision makers
  - **Presentation to public**
  - Revised alternatives
- Task 4 – Build Out Analysis – Spring 2013

Stamford East Main Street Transit Node Feasibility Study

Draft Existing Conditions Report

September 2012

Submitted to

South Western Regional Planning Agency

Submitted by

PARSONS BRINCKERHOFF

What We Heard from You

- Desire for a train station at E. Main Street
- Desire for development in the community
  - Development should be scaled appropriately given the community environment
- Better Connectivity to and through neighborhood
  - Not just to and from Transit Center
- Desire for an improved quality of life
- Improvements to Main Street – Focused town center

Transit Node Feasibility Assessment

- Assess Feasibility of a Full Range of Transit Options
  - Main Line Station
  - Branch Line Station
  - Bus Hub
- Identify requirements for various transit stations
- Identify agency concerns, issues, and requirements
  - CTDOT
  - CT Transit
  - FRA
  - Other relevant agencies

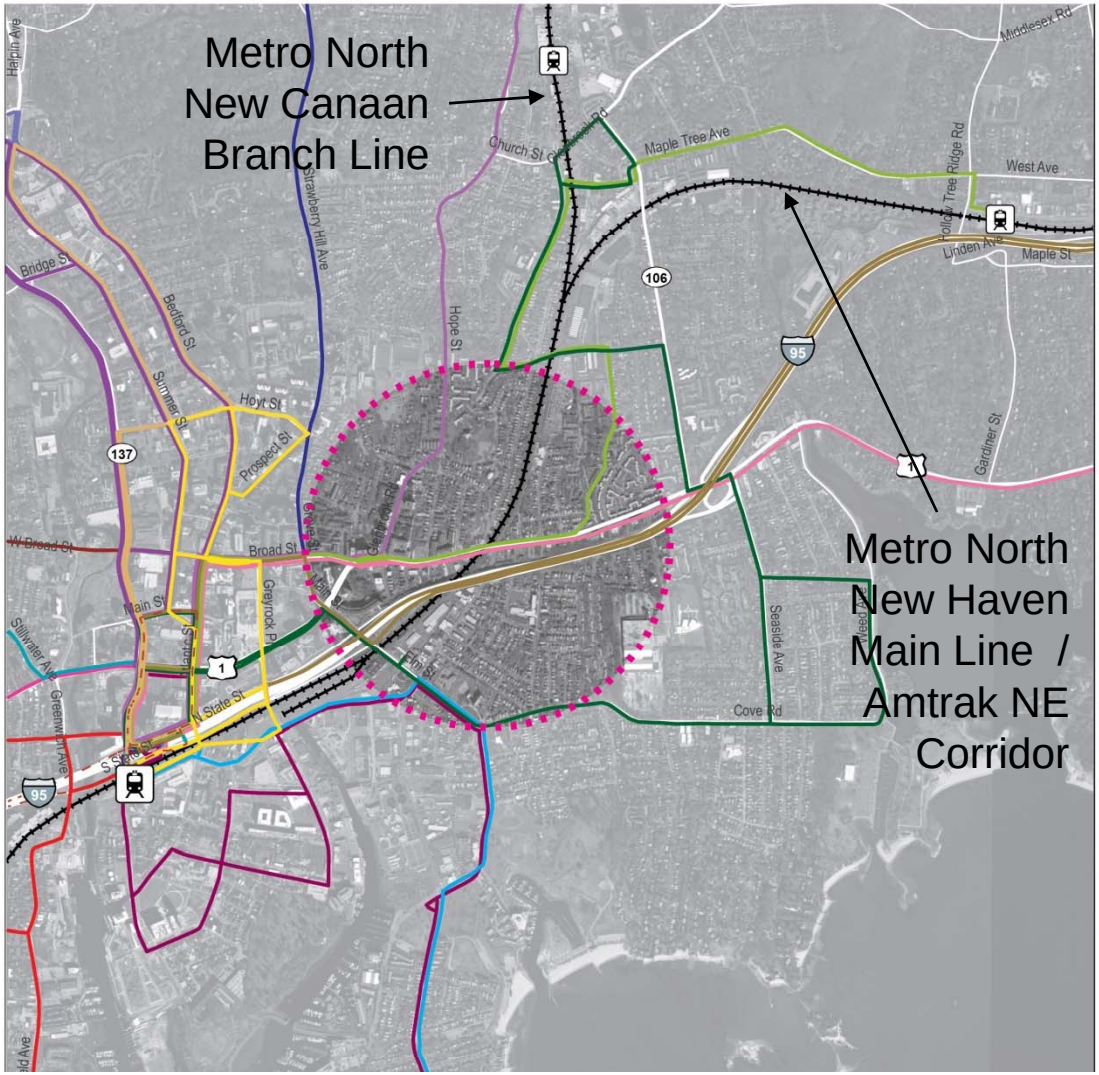
Transit Node Alternatives: Types Considered

Main Line Rail Station

Branch Line Rail Station

Bus hub connecting to Transitway

Existing Transit Connections



1/2 - mile study area

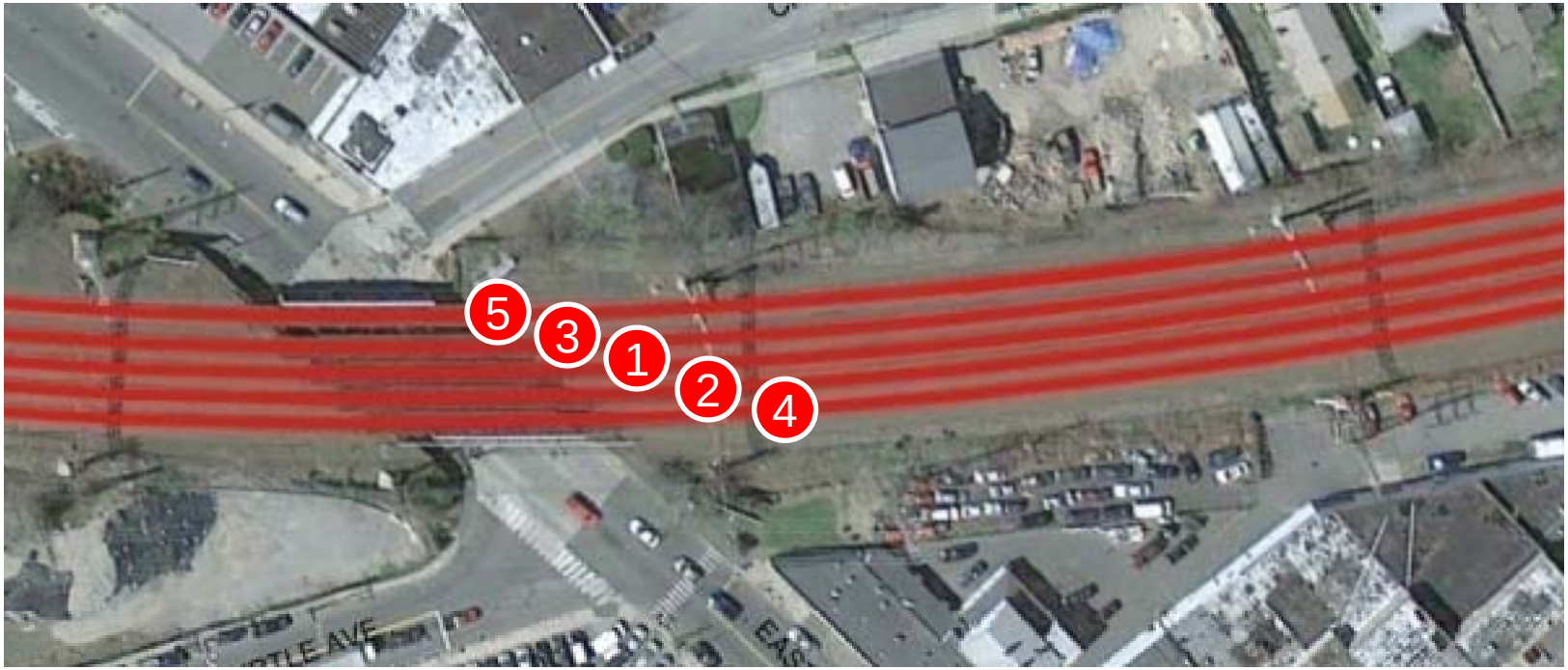
Rail lines

Rail Stations

TRANSIT ROUTES (BUS)

- 11 - PORT CHESTER
- 13 - WEST BROAD STREET
- 21 - WEST AVENUE
- 22/24 - GREENWICH & FAIRFIELD AVENUES
- 26 - PACIFIC STREET
- 27 - SHIPPAN AVENUE
- 31 - HIGH RIDGE ROAD
- 32 - LONG RIDGE ROAD
- 33 - STRAWBERRY HILL AVENUE
- 34 - HOPE STREET
- 41 - NORWALK
- 42- DARIEN
- 43 - COVE ROAD
- 45 - NCC FLYER
- COMMUTER CONNECTION - BULLS HEAD
- COMMUTER CONNECTION - CENTRAL
- STAMFORD/WHITE PLAINS EXPRESS

Track Alignments at East Main Street



Track 5: New Canaan Branch Line – inbound & outbound

Track 3: MetroNorth Local Inbound

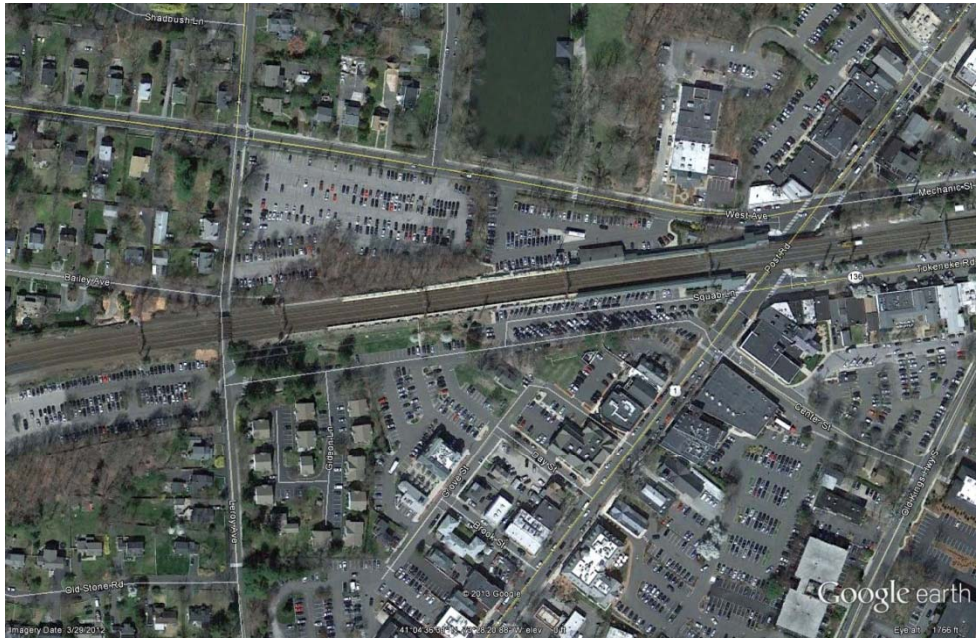
Track 1: Amtrak + MetroNorth Express

Track 2: Amtrak + MetroNorth Express

Track 4: MetroNorth Local Outbound

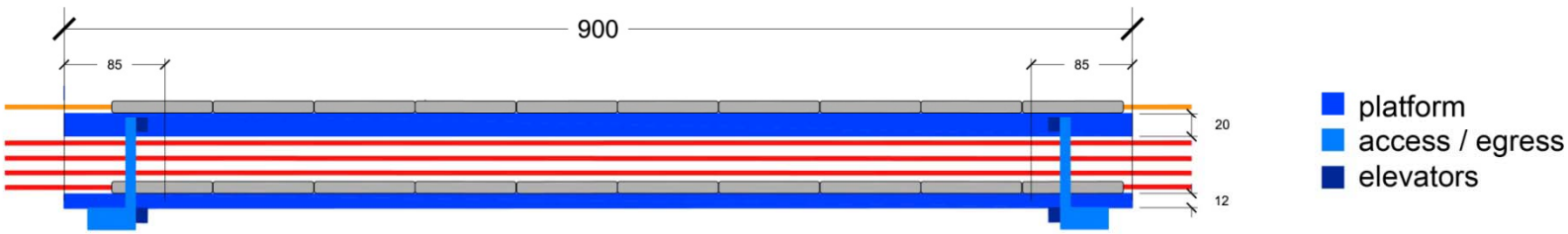
Main Line Example: Noroton Heights Station

- Noroton Heights Station, Darien, CT
  - Limited train frequency

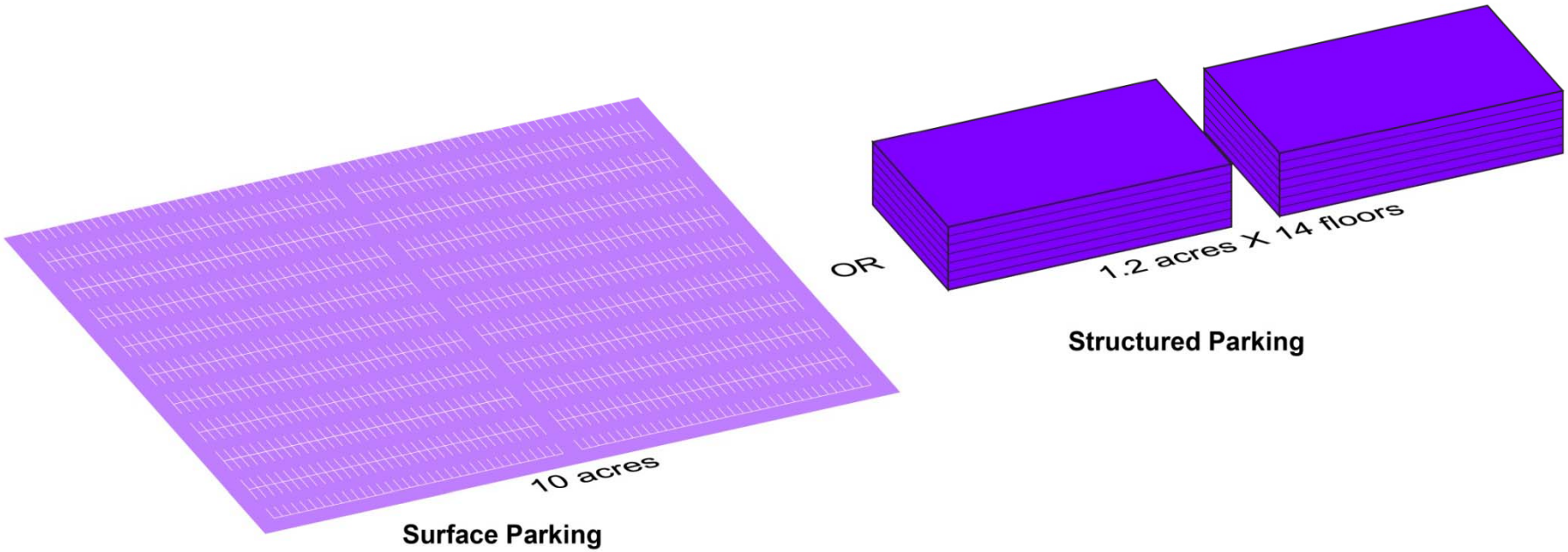


Design Requirements for a Main Line Station

Platform & Access Requirements



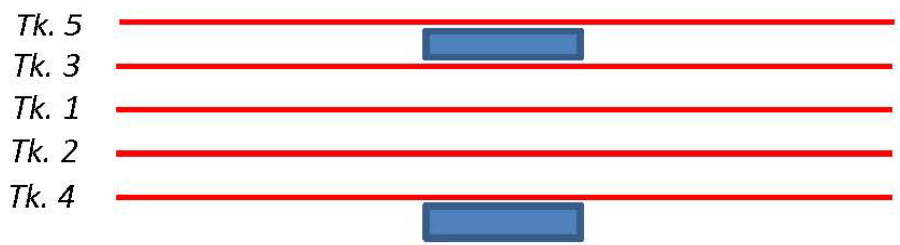
Parking Requirements **1,400 Spaces**



Service Expectations for a Main Line Station

	# of Revenue Trains with E. Side stop			
Station Type	**AM Trains**		**PM Trains**	
Main Line Station	*Outbound*	*Inbound*	*Outbound*	*Inbound*
	6	10	11	7

MAIN LINE Station: Side platform for track 4; center island platform serving track 3 and track 5

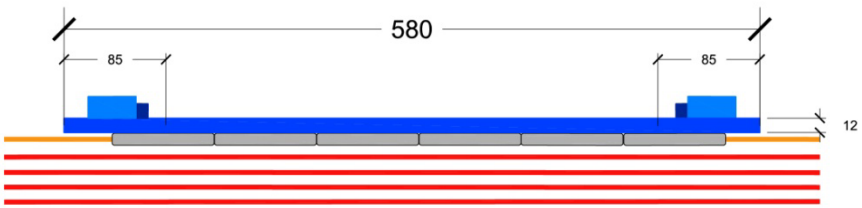


Branch Example: Glenbrook Station

- Glenbrook
  - More limited level of service than a main line

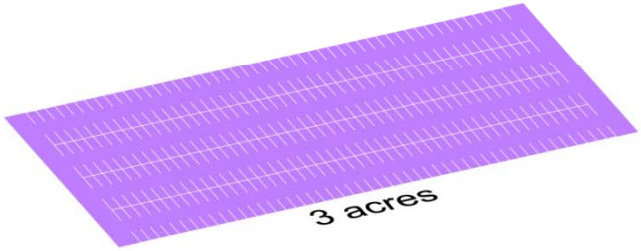
Design Requirements for a Branch Line Station

Platform & Access Requirements



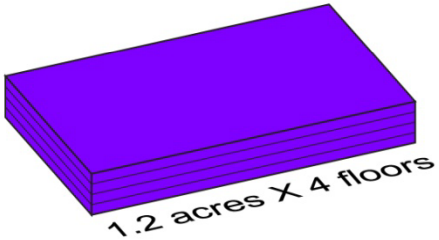
platform
access / egress
elevators

Parking Requirements **400 Spaces**



Surface Parking

OR

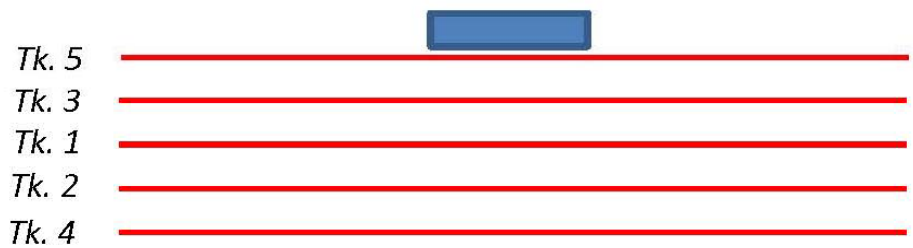


Structured Parking

Service Expectations for a Branch Line Station

	# of Revenue Trains with E. Side Stop			
Station Type	**AM Trains**		**PM Trains**	
Branch Line Station	*Outbound*	*Inbound*	*Outbound*	*Inbound*
	3	6	7	5

BRANCH LINE Station: Side platform serving track 5 only



Necessary Bus Station Characteristics

- Flexible, integrated, high performance system with a quality image and a strong brand identity
- Essential Elements:
  - Speed
  - Reliability
  - Attractiveness/Customer Convenience
- Package of improvements must be robust enough to create a meaningful improvement in travel experience

Eugene, Oregon

Example: Boston's Silver Line

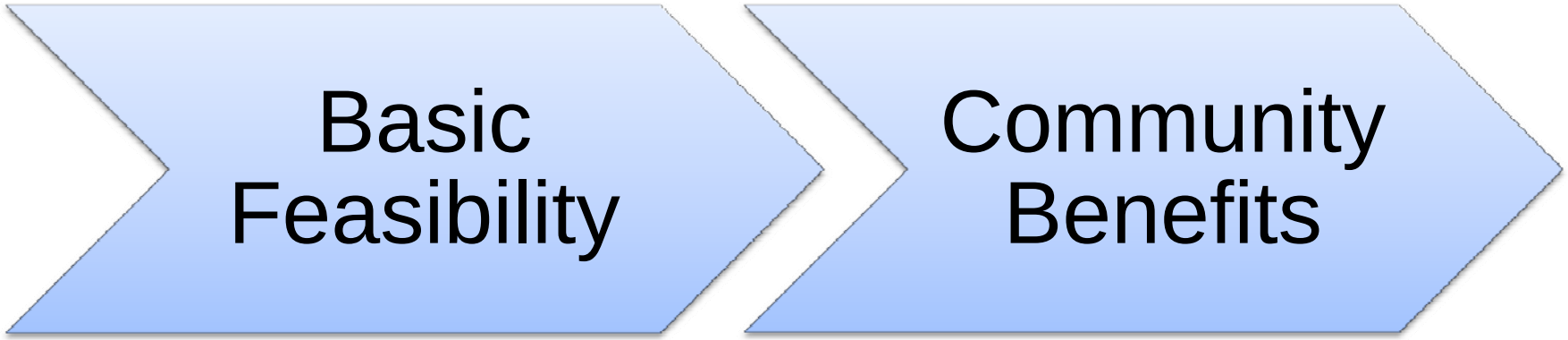
- Signal priority
- Enhanced stations
- Branding
- Enhanced service plan
- Improved vehicles
- Real-time information

Evaluation Process

Feasibility Criteria

Quality of Life Criteria

Evaluation Process



- Where is a station feasible?
- What are the constraints to feasibility?

- Will it improve access and connectivity to/from East Stamford?
- Will it catalyze economic development?
- Will it enhance quality of life/livability for residents?

Evaluation Process

- Which alternatives achieve both goals?
- Which alternatives should be considered for further analysis?

Feasibility Criteria

- **Construction Feasibility**
  - Is the construction of the alternative feasible?
  - What are the major impediments to construction?
- **Agency Acceptance**
  - Which agencies require to approve/accept the alternative?
  - Would the required agencies accept the alternative?
- **Property Takings**
  - Does the alternative minimize property takings?
  - Does the alternative avoid residential property takings?
- **Schedule Reliability**
  - Can a realistic timeframe for construction be projected?
  - Number of milestones?
  - Impact of impediments to schedule?
- **Cost**
  - Is the cost prohibitive?
  - Do the costs outweigh the value of the alternative?

Quality of Life Criteria

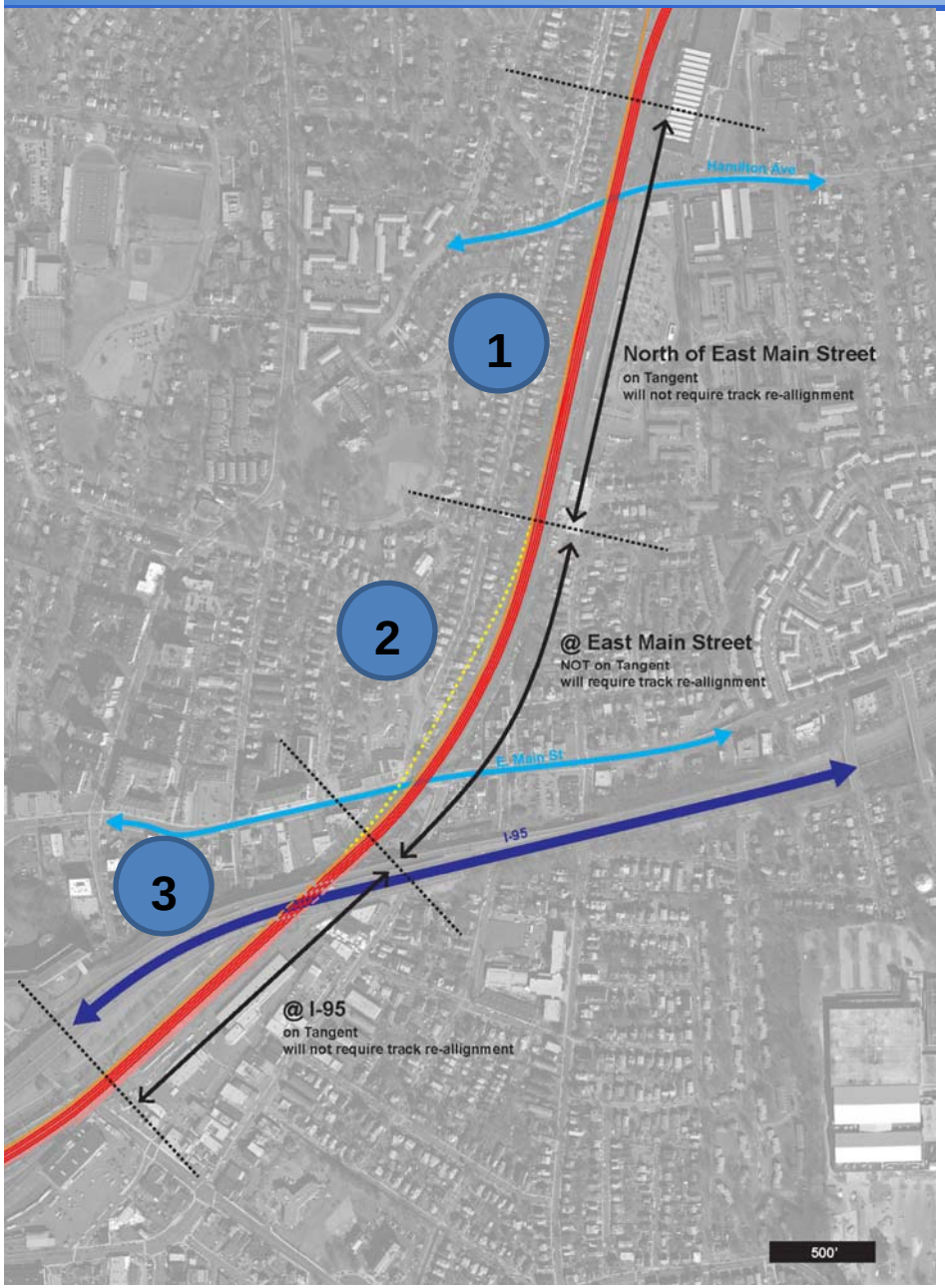
- **Redevelopment Opportunity**
  - Does alternative catalyze development?
  - How does development opportunity compare with costs?
  - Is there opportunity for public-private partnerships?
- **Accessibility**
  - How accessible is station for **all** potential modes?
- **Station Environment**
  - What are negative/positive aspects to station environment?
- **Train Frequency**
  - How often will station be served? NYC and outbound service?
- **Ridership Opportunity**
  - What is the anticipated level of ridership?
  - Does usage match the characteristics of the site?

Rail Station Location Alternatives

Summary of Location Alternatives

Feasibility Analysis by Location

Summary of Location Alternatives



1. North (Hamilton Ave)
   - on tangent
2. Center (E. Main Street)
   - Not on tangent
3. South (Under I-95)
   - on tangent

Feasibility Analysis by Location

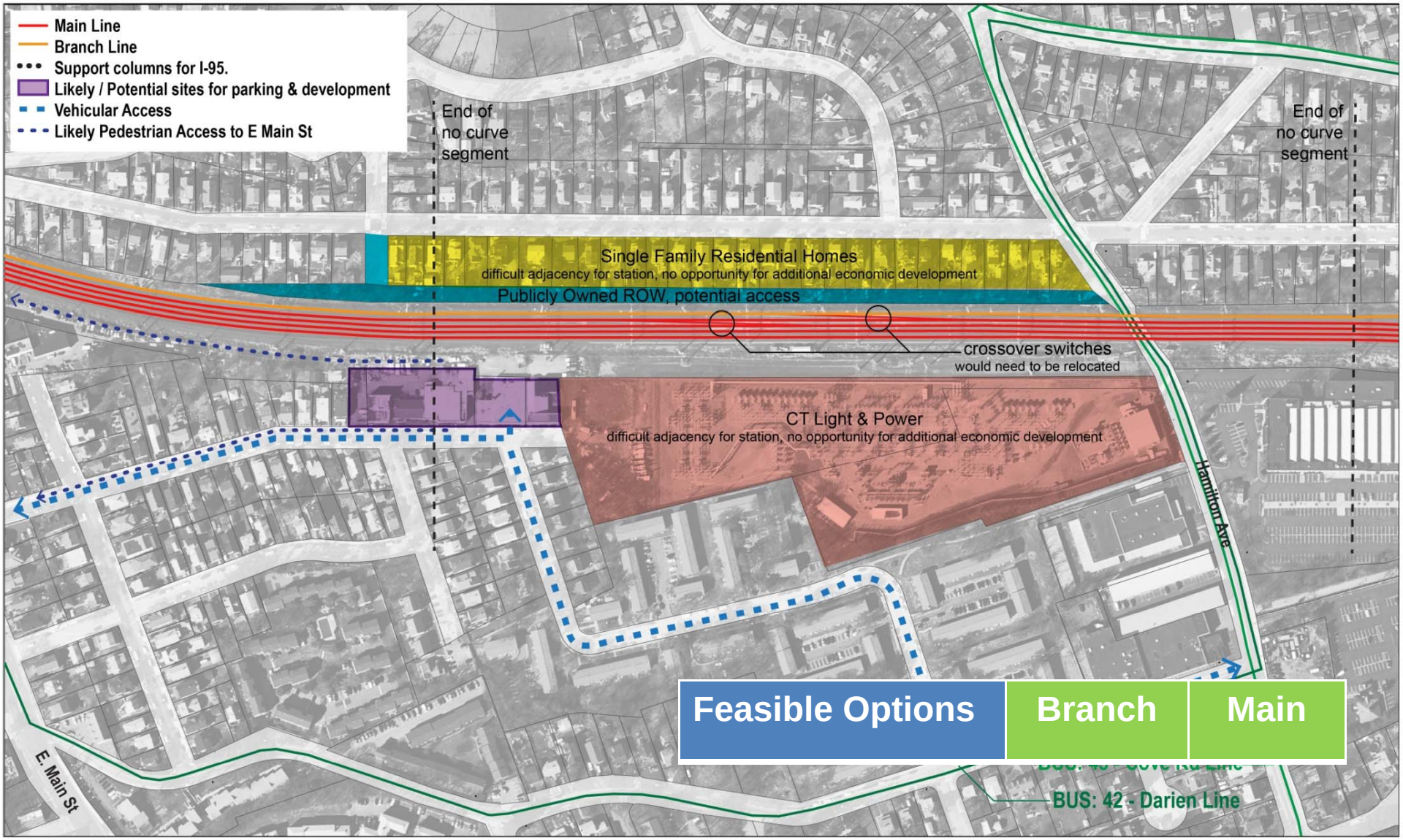
Location	Is a branch station feasible?	Is a main line station feasible?
North	Yes	Yes
Center	No	No
South	Yes	No

North Location

Issues / Constraints

- Catenary would need to be replaced
- Crossover switches will need to be relocated (1 for branch, both for main)
- Might require reconstruction of rail Bridge at Hamilton Ave
- No direct access to Main Street from station
- Would require vehicular access through residential neighborhoods
- Limited potential sites for parking

North Location



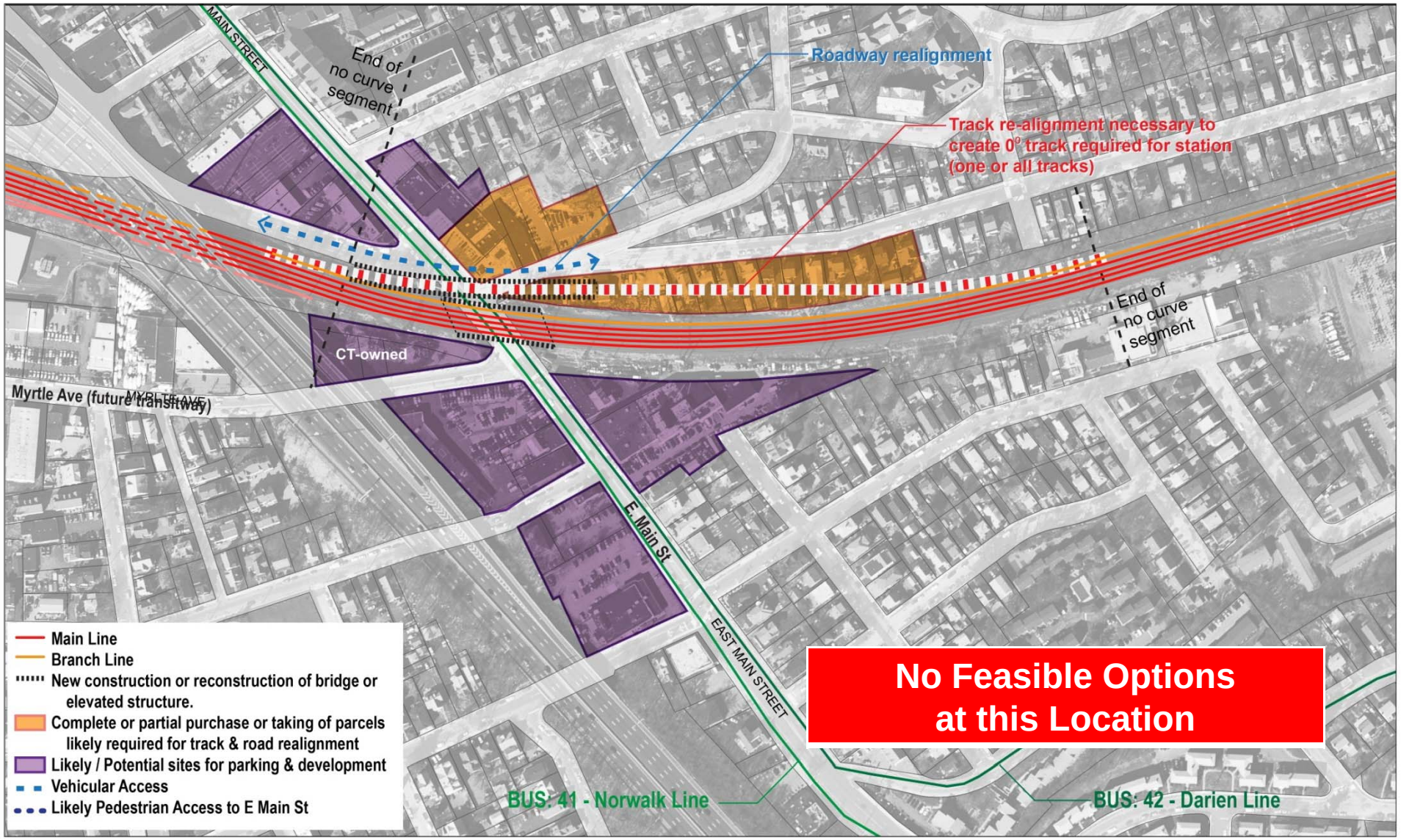
Feasible Options	Branch	Main

Center (East Main Street) Location

Issues / Constraints

- **Requires track realignment ($8M for Branch, $45M for Main)**
- Requires reconstruction of rail bridge at East Main Street
- Requires road realignment
- Catenary would need to be replaced for re-aligned segment
- At least part of track realignment would need to be built on structure spanning East Main Street
- **Track and road realignments would require purchase or taking of residential homes as well as commercial parcels**
- A site / multiple sites would need to be acquired for parking

Center (East Main Street) Location



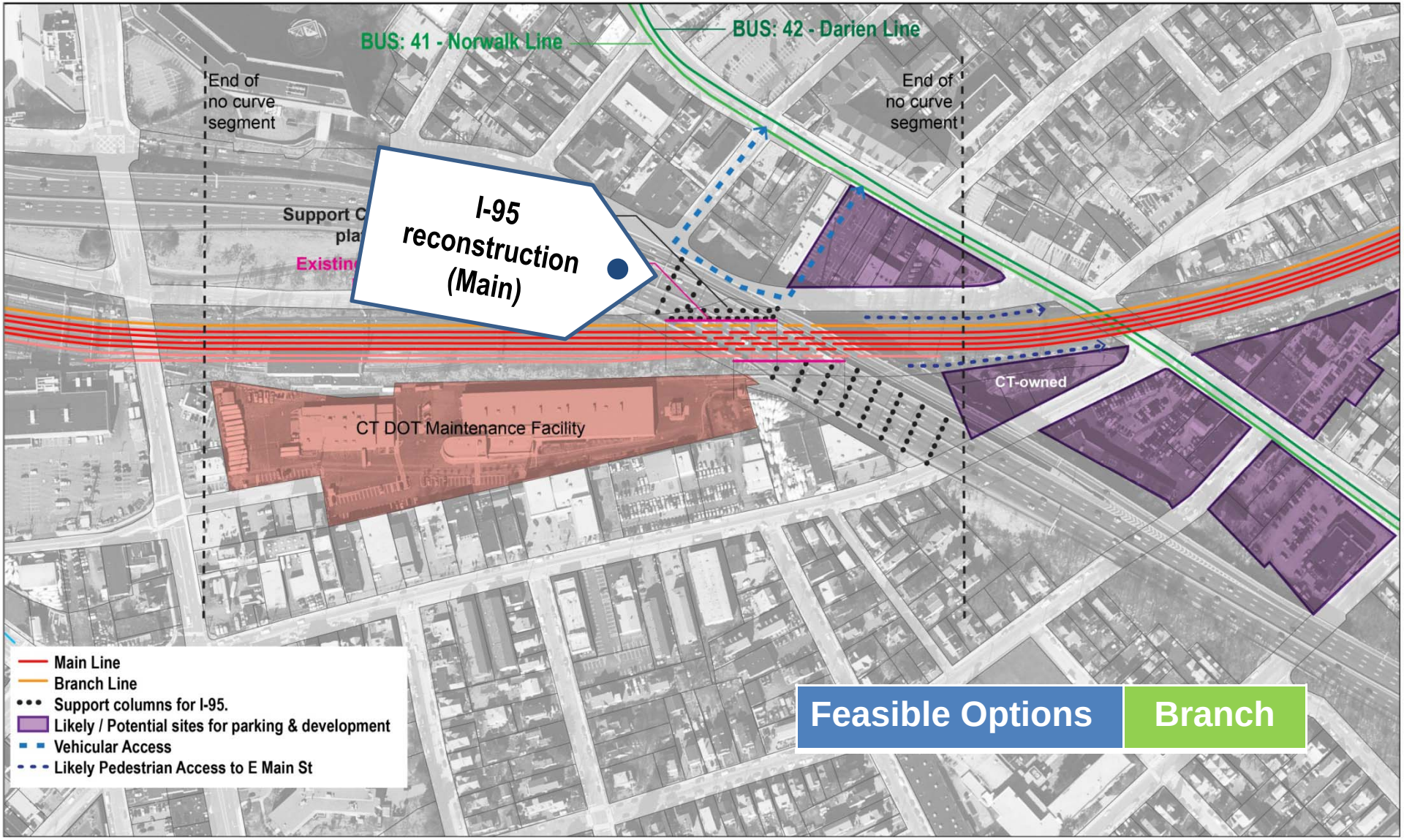
No Feasible Options at this Location

South (Under I-95) Location

Issues / Constraints

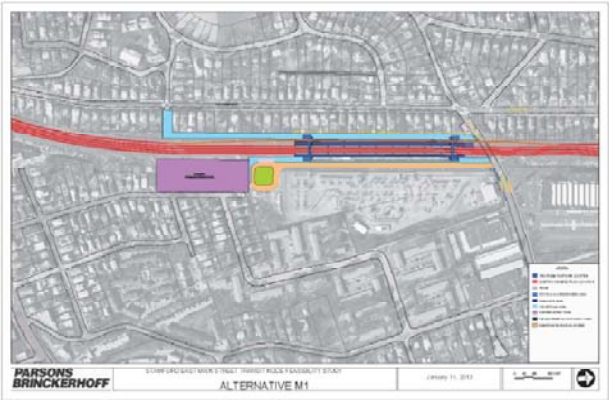
- Highly constrained platform location; platform would need to be built around support columns of I-95
- Main line station would require reconstruction of section of I-95
- **Would require reconstruction of crash walls and support columns under I-95**
- A site / multiple sites would need to be acquired for parking

South (Under I-95) Location



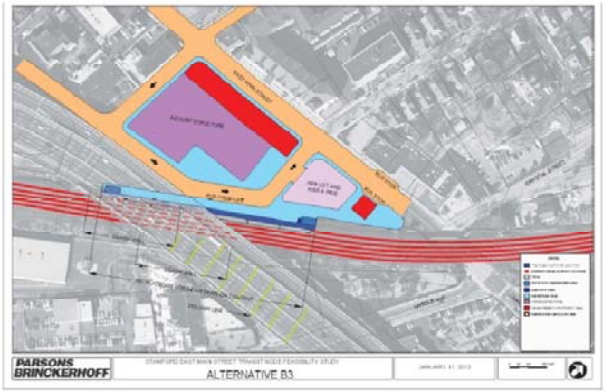
Station Alternatives

- M1 – Mainline Station North
- B1 – Branch line Station North
- B3 – Branch line Station South



Main Line Station North

Branch Line Station North



Branch Line Station South

Evaluation of Alternatives

Station Alternatives Evaluation Summary

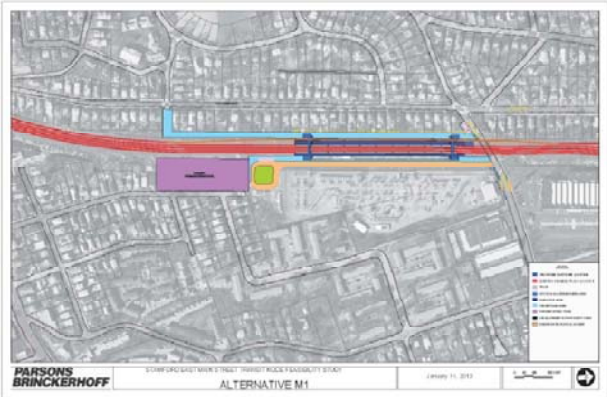
Station Alternatives Review

Review of Feasibility Criteria Review

Review of Quality of Life Criteria Review

Summary of Station Alternative Analysis

Main Line Station North

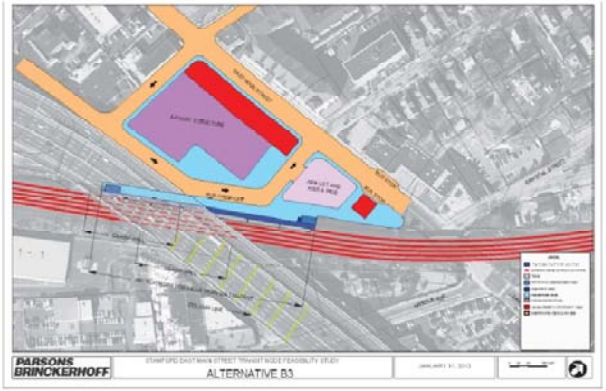


M1

Branch Line Station North

B1

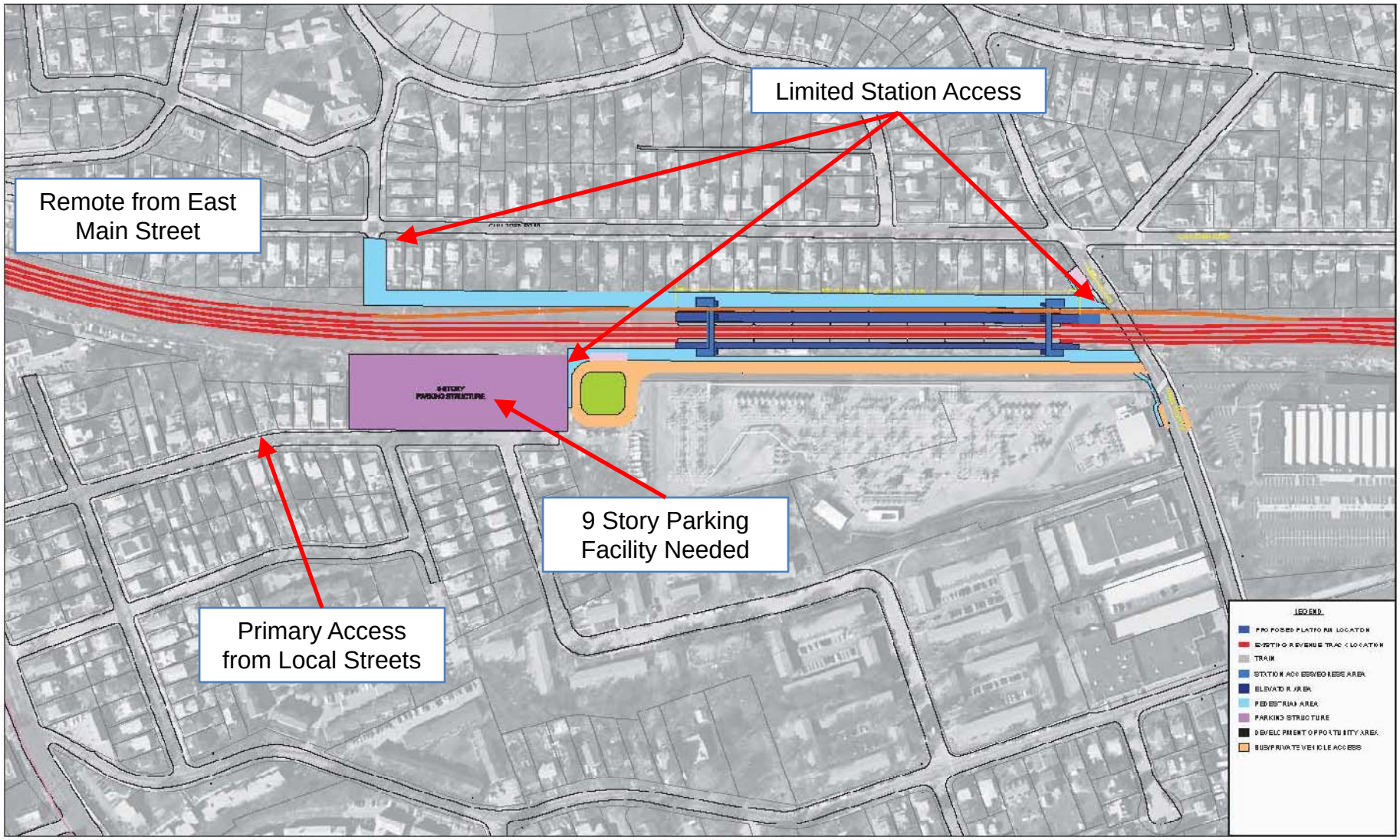
Branch Line Station South



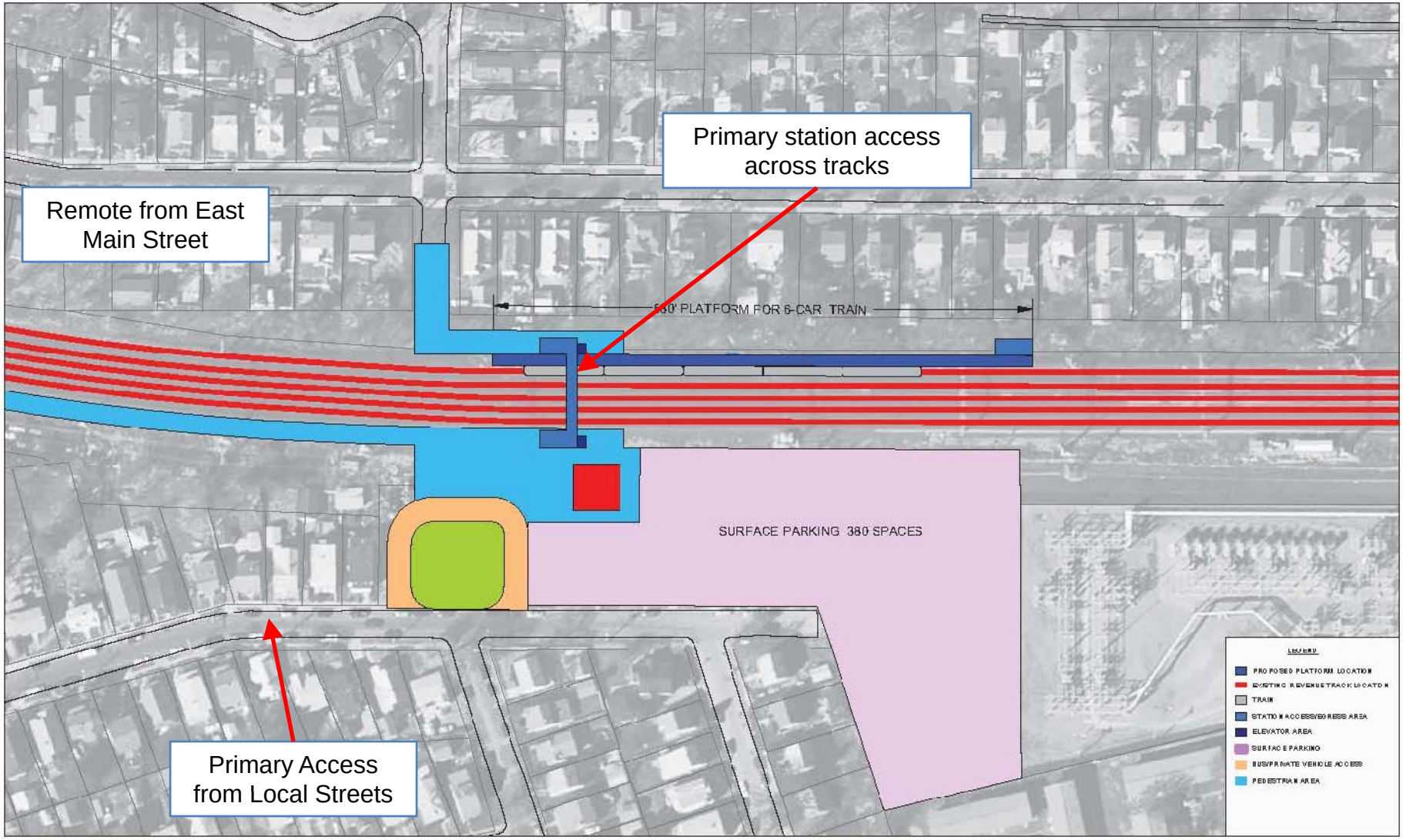
B3

	M1	B1	B3
Feasibility	poor	good	fair
Quality of Life	poor	poor	Fair
Overall	POOR	FAIR	FAIR

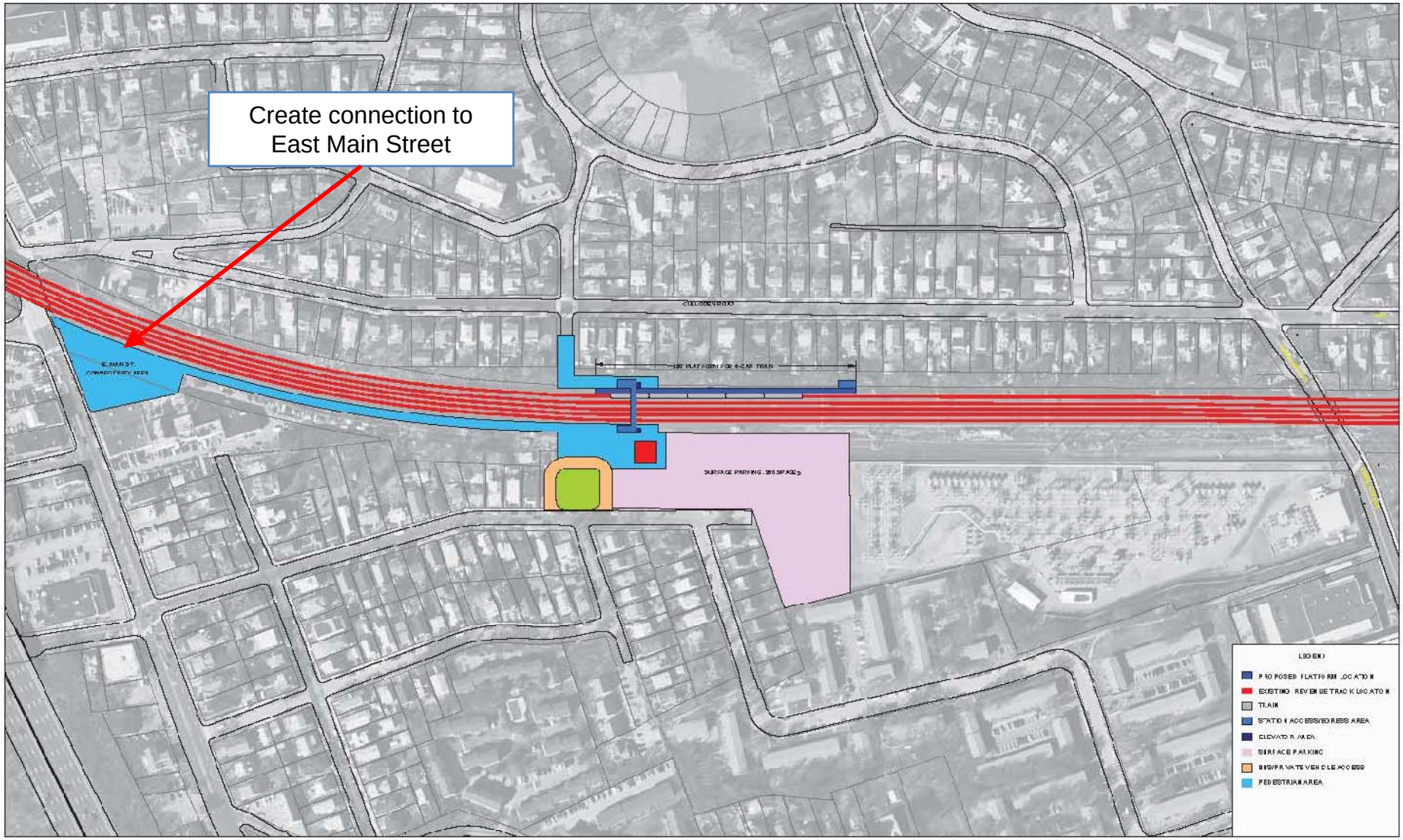
Alternative Main North (M1)



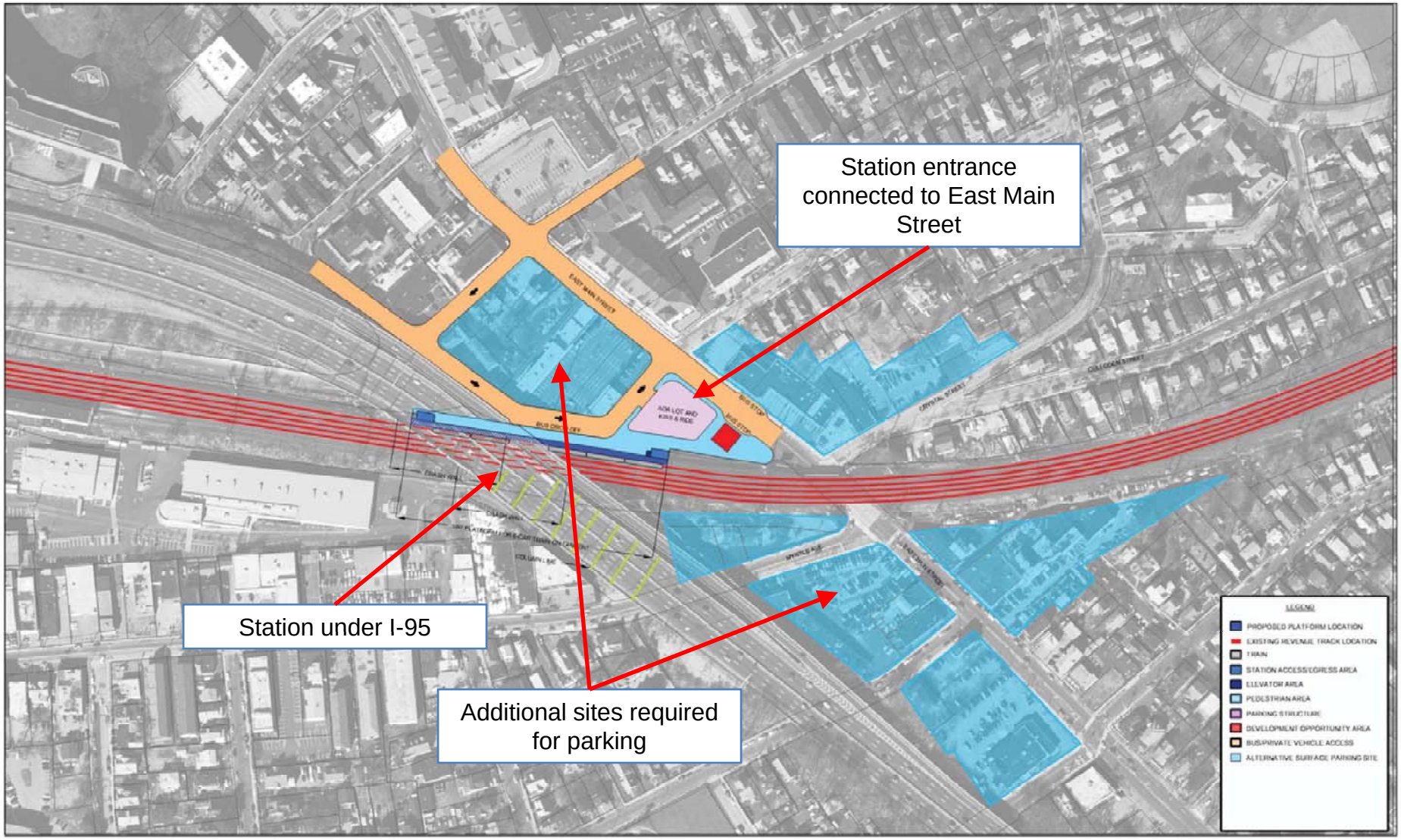
Alternative Branch North (B1)



Alternative Branch North – connection to Main Street

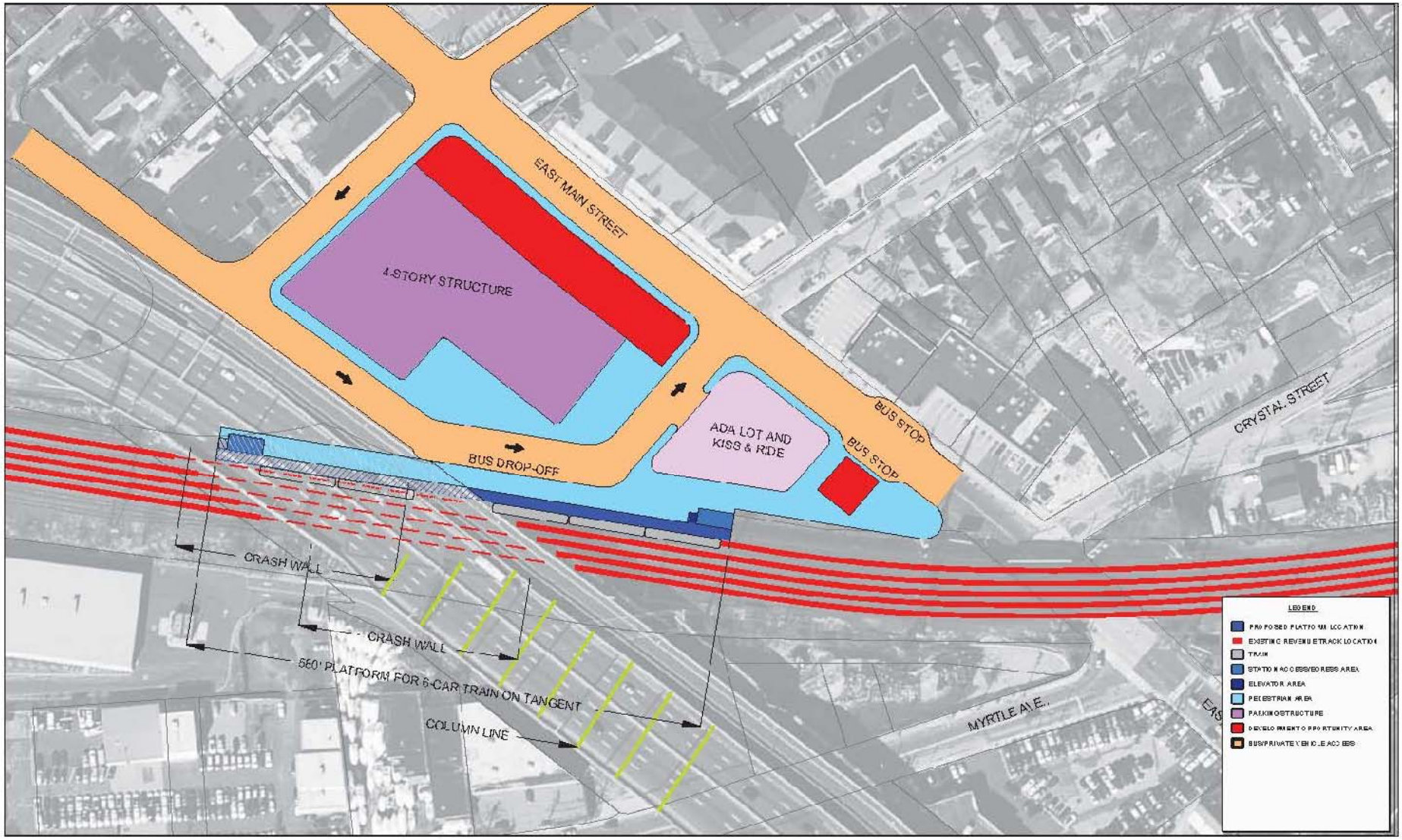


Alternative Branch South (B3) – Potential Development Sites



Alternative Branch South (B3) – Potential Development Sites

Alternative Branch South (B3) TOD Opportunity



Review of Feasibility Criteria

poor	fair	good

	M1	B1	B3
Construction Feasibility			
Agency Acceptance			
Property Takings			
Schedule Reliability			
Cost			
OVERALL	poor	good	fair

Review of Quality of Life Criteria

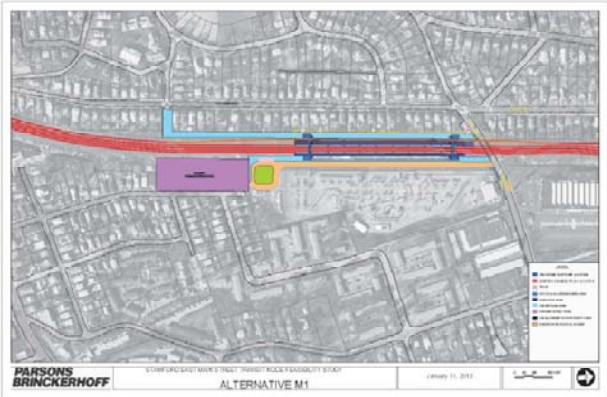
poor	fair	good

	M1	B1	B3
Redevelopment Opportunity			
Accessibility			
Station Environment			
Train Frequency			
Ridership Opportunity		★	★
OVERALL	poor	poor	fair

* Potential for future frequency improvements

Summary of Station Alternative Analysis

Main Line Station North

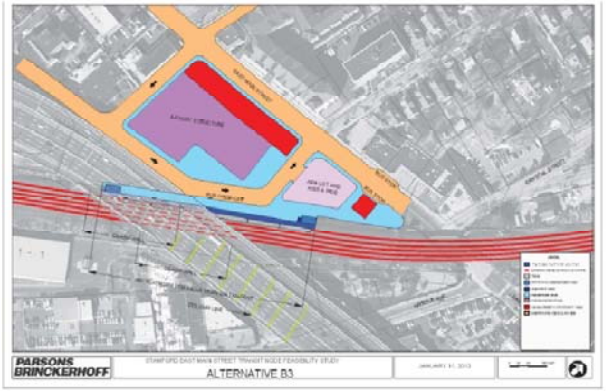


M1

Branch Line Station North

B1

Branch Line Station South



B3

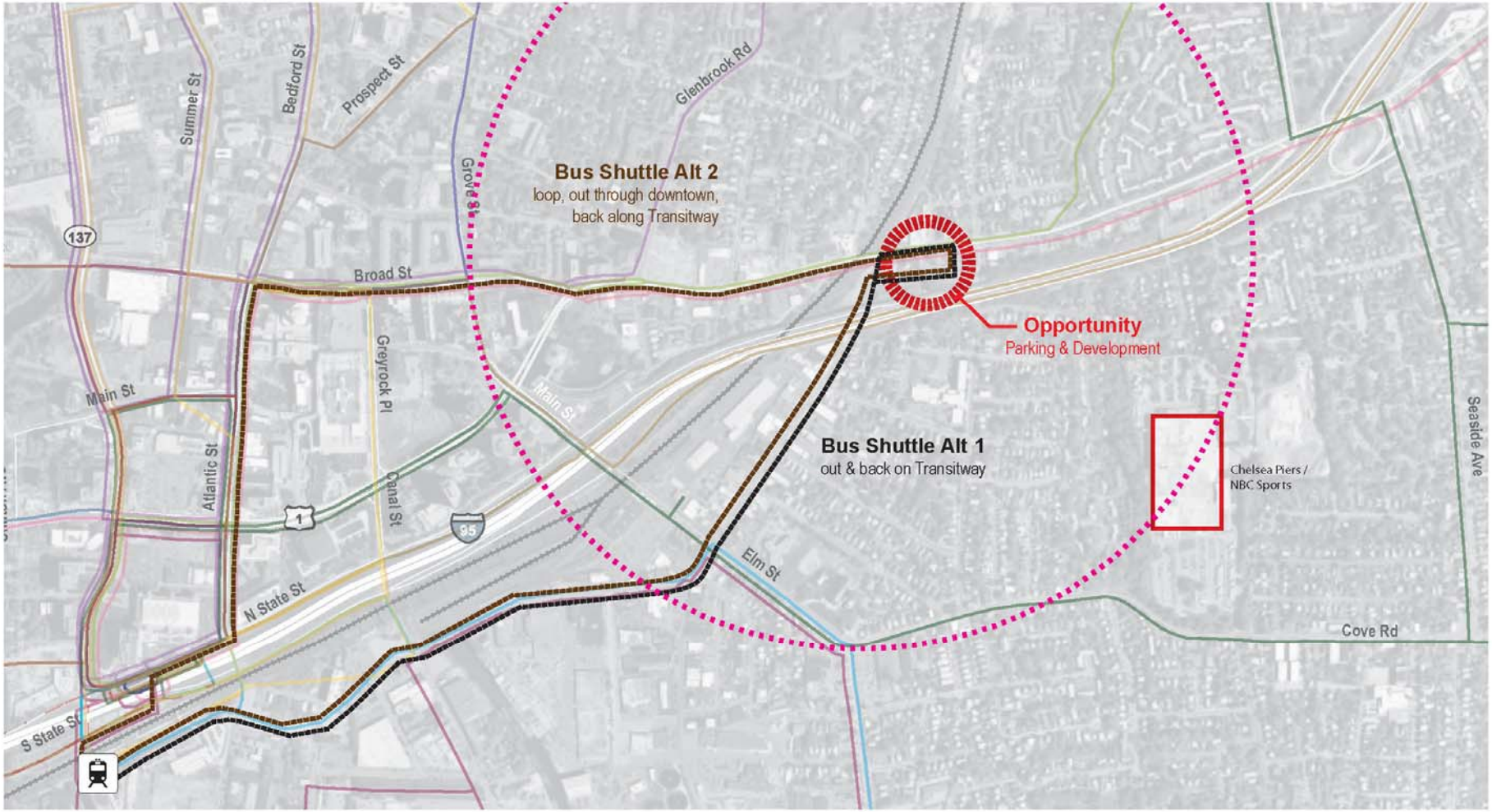
poor	fair	good

	M1	B1	B3
Feasibility			
Quality of Life			
OVERALL	POOR	FAIR	FAIR

Bus Option Alternatives

Interim bus node with parking & development

Route Alternatives



0 500 1,000 2,000 Feet

1/2 mile study area

NE corridor Main Line

Stamford Train Station

TRANSIT ROUTES (BUS)

- 11 - PORT CHESTER
- 13 - WEST BROAD STREET
- 21 - WEST AVENUE
- 22/24 - GREENWICH & FAIRFIELD AVENUES
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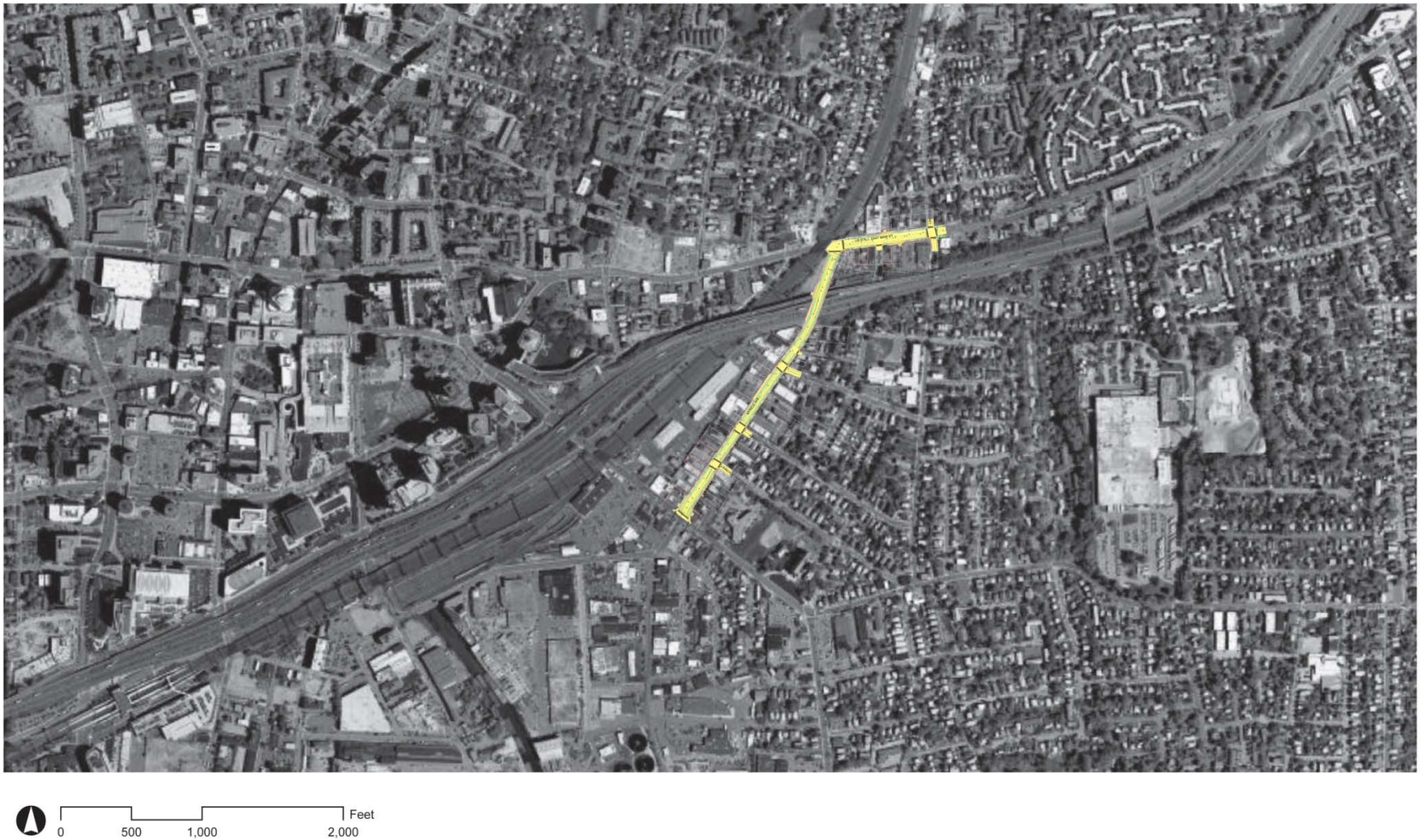
- 43- COVE ROAD
- 45 - NCC FLYER
- COMMUTER CONNECTION - BULLS HEAD
- COMMUTER CONNECTION - CENTRAL
- STAMFORD/WHITE PLAINS EXPRESS

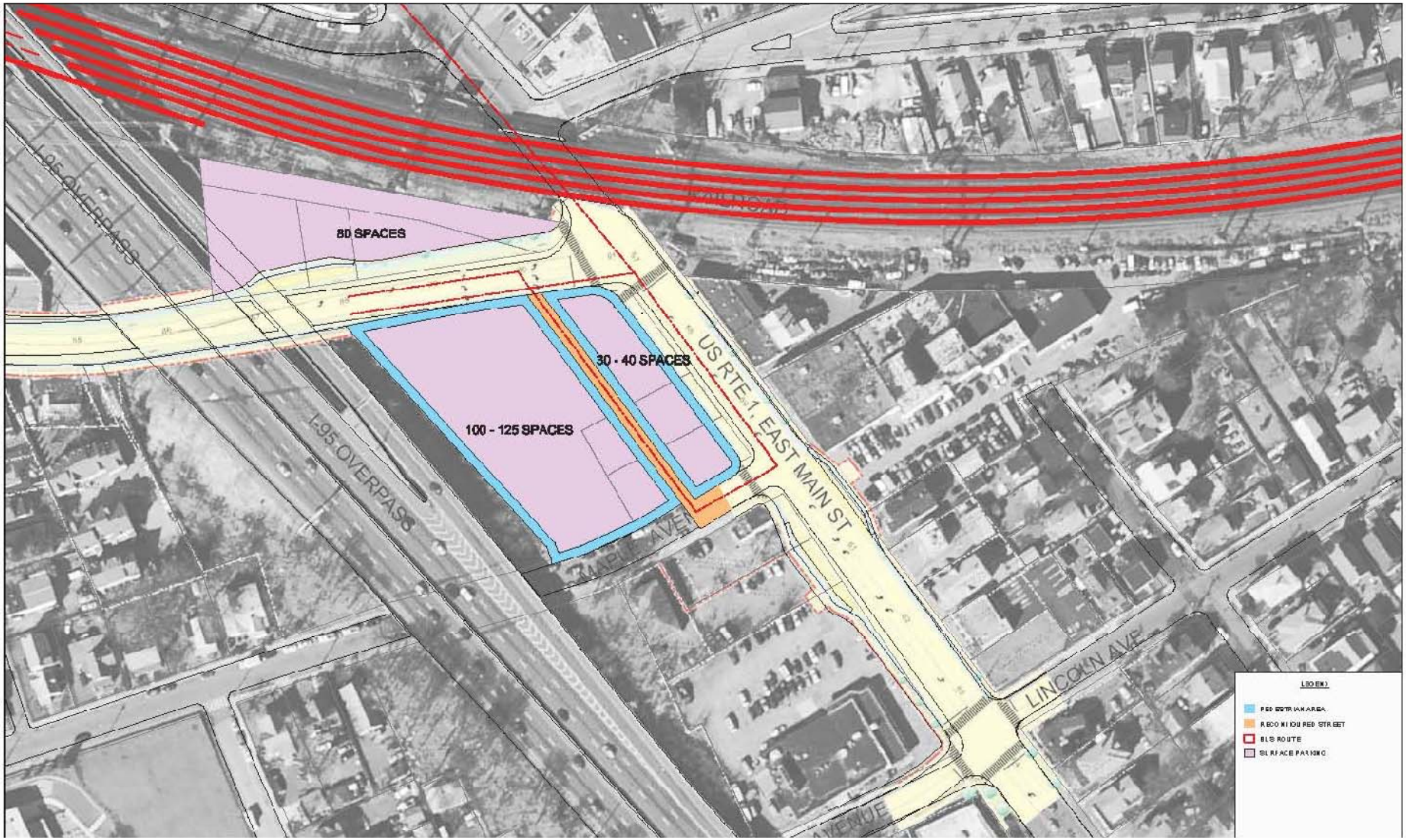
Integration with the Urban Transitway



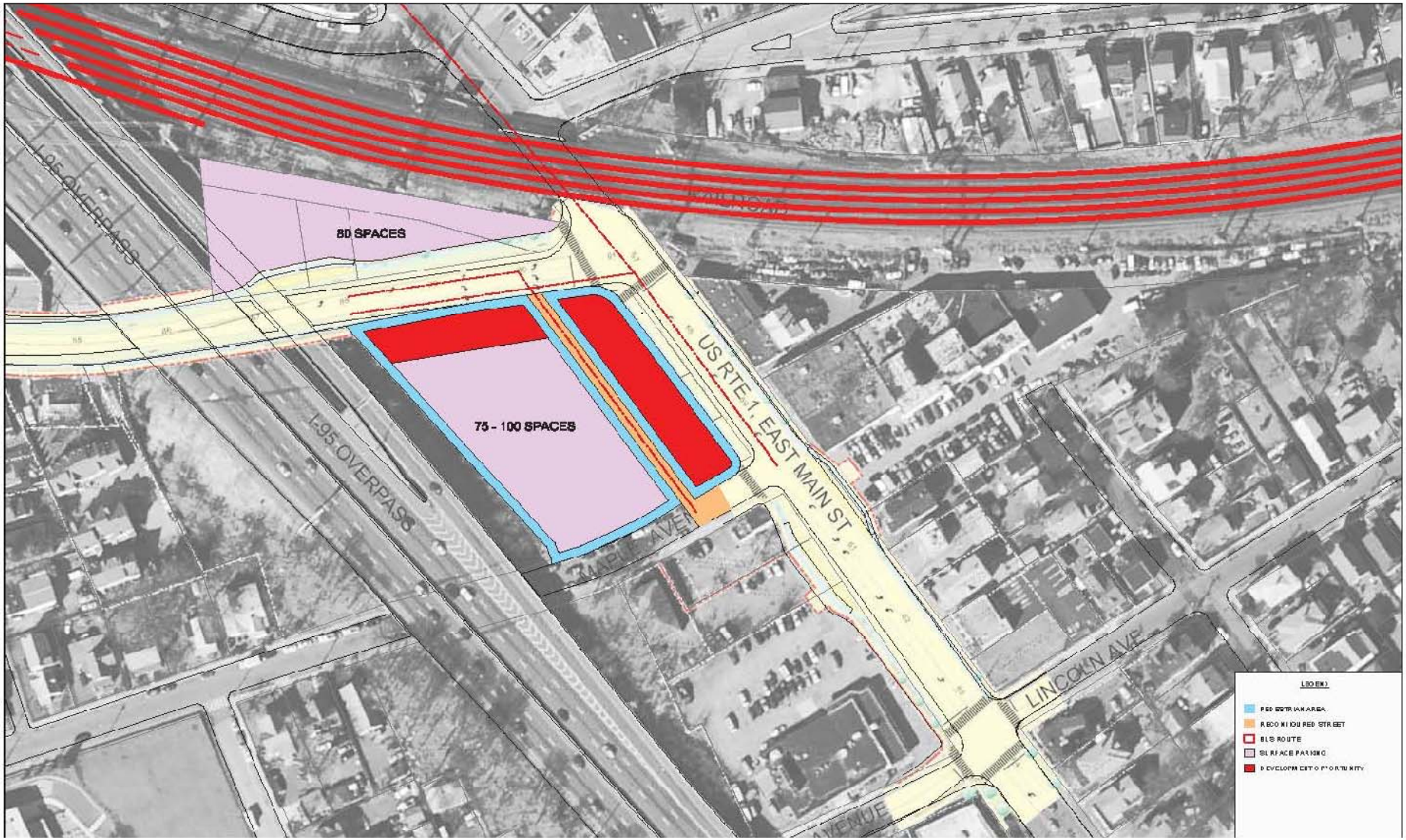
Bus Route Alternatives

- Bus Alternative 1
  - Short Term Design
    - Surface Parking
  - Mid Term Design
    - Surface Parking with Development
  - Long Term Design
    - Structured Parking with Development
- Bus Alternative 2
  - Structured Parking with Development

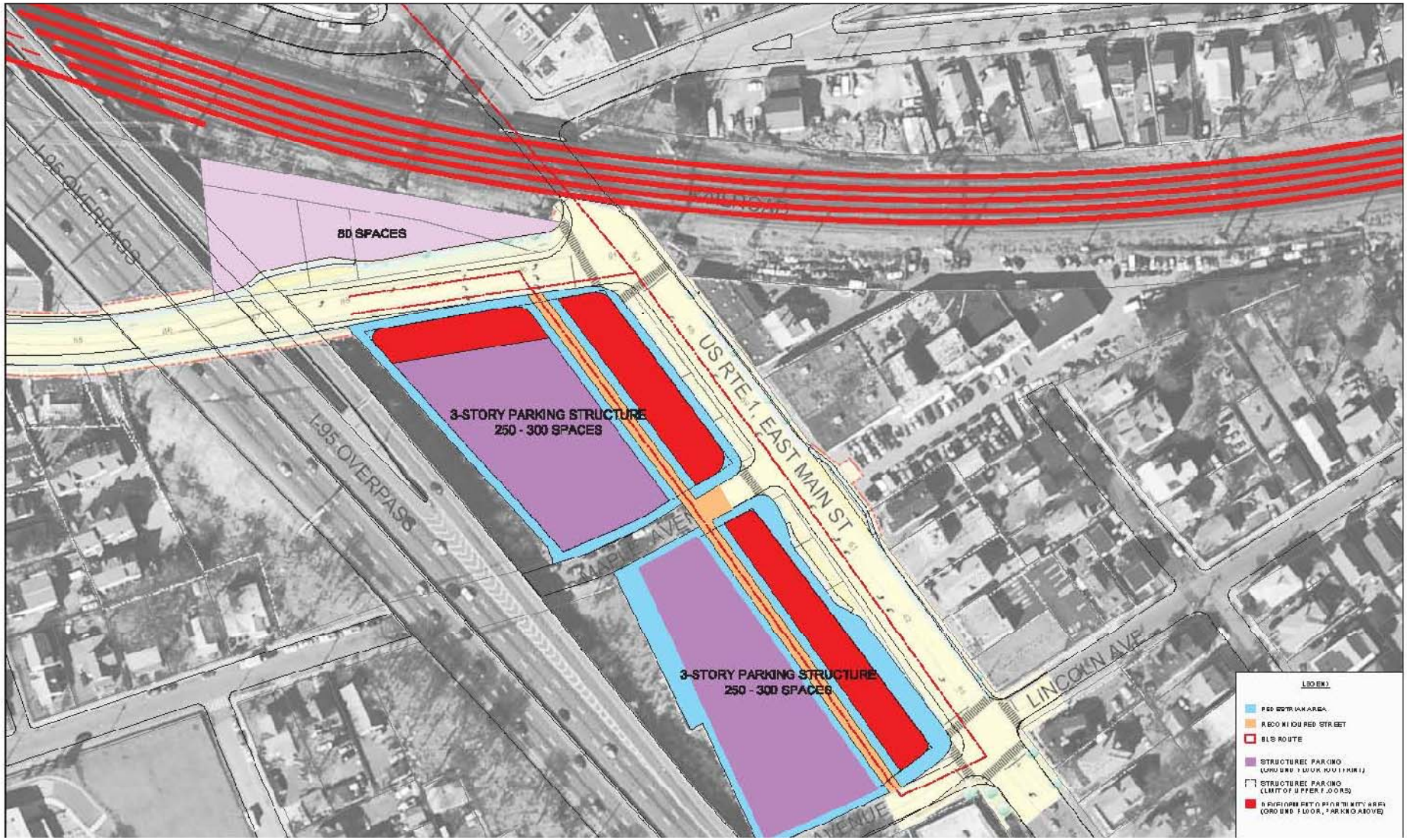
Bus Alternative 1 – Short Term



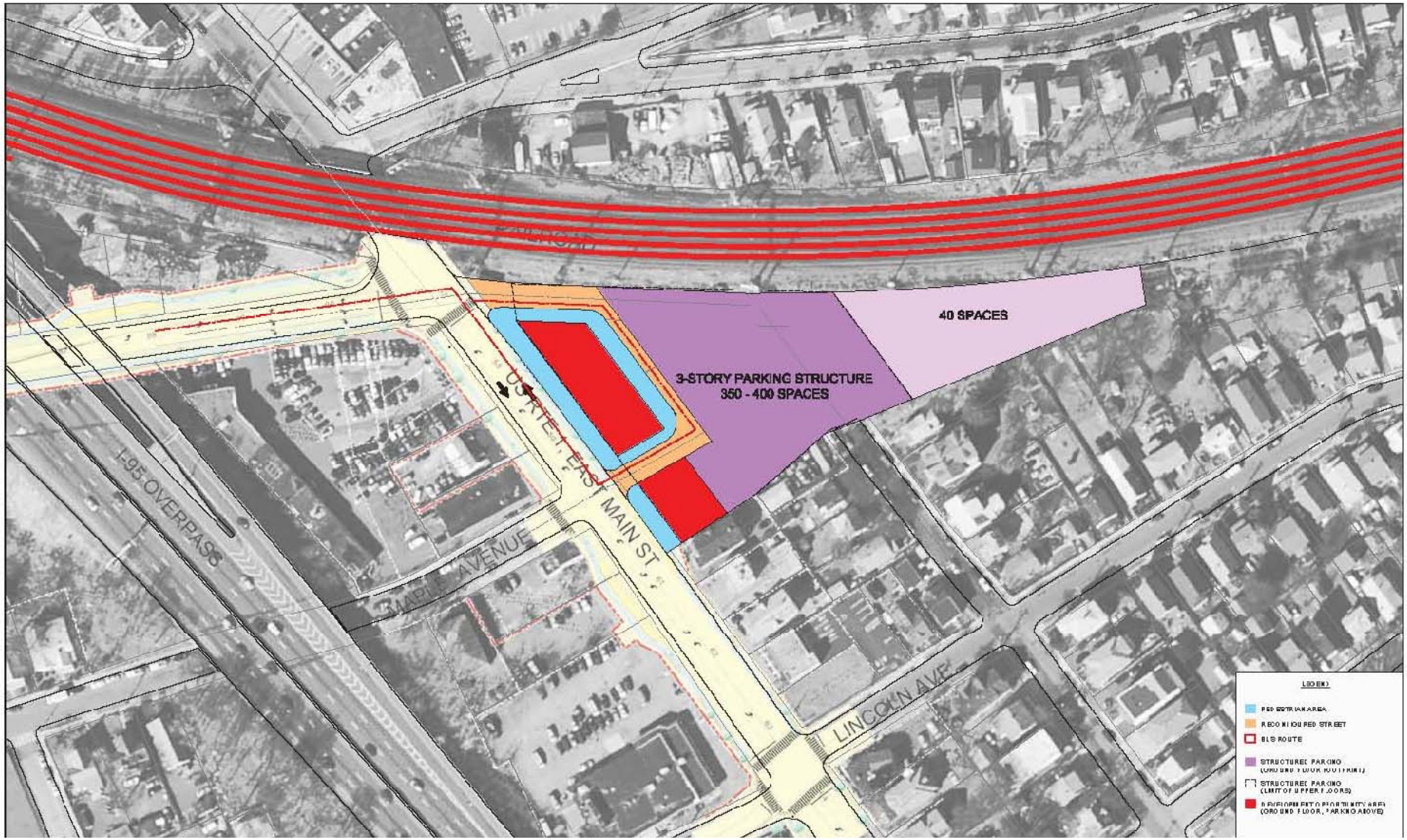
Bus Alternative 1 – Mid-Term



Bus Alternative 1 – Long Term



Bus Alternative 2 – with Transitway



Review of Criteria - Bus

poor	fair	good

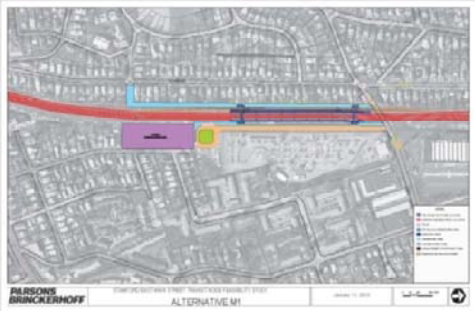
Feasibility	Bus
Construction Feasibility	
Agency Acceptance	
Property Takings	
Schedule Reliability	
Cost	
OVERALL	**GOOD**

Quality-of-Life	Bus
Redevelopment Opportunity	
Accessibility	
Station Environment	
Train Frequency	
Ridership Opportunity	
OVERALL	**FAIR**

* Potential for future frequency improvements

Summary of Station Alternative Analysis

Main Line Station North



M1

Branch Line Station North

B1

Branch Line Station South

B3

Bus

poor	fair	good

	M1	B1	B3	BUS
Feasibility				
Quality of Life				
OVERALL	POOR	FAIR	FAIR	FAIR

Alternatives as Phases

Bus node with branch line station

Potential for bus node with main line station

Plan of Action

- Phased approach
  - Realize desired community benefits sooner and more effectively
  - An interim bus shuttle alternative implemented in the short term can set in place access and parking infrastructure necessary for the rail station
- Branch Line Rail Station (two locations)
  - Parking and increased demand creates the opportunity for a moderate rail investment, which will spur an increase in development
- Main Line Rail Station
  - Further build-out could provide the impetus for a major investment to justify a main line station

Grow as We Go – Alternative 1 (I-95 Location)

Short Term
~5 years

Phase 1:
Bus Station

Mid Term
5 – 15 years

Phase 2:
Branch Line Station w/ Bus

Long Term
20+ years

Phase 3:
Main Line Station w/ Bus

Grow as We Go – Alternative 1 (I-95 Location)

Phase 1

Bus Station

- Short term
- Sets groundwork for future development
- Creates north/south connection
- Provides immediate solution
- Takes advantage of existing infrastructure

Phase 2

Branch Line Station w/ Bus

- Mid term
- Potential for development at E. Main St.
- Joint bus/train ridership and frequency
- Provides framework for main line station

Phase 3

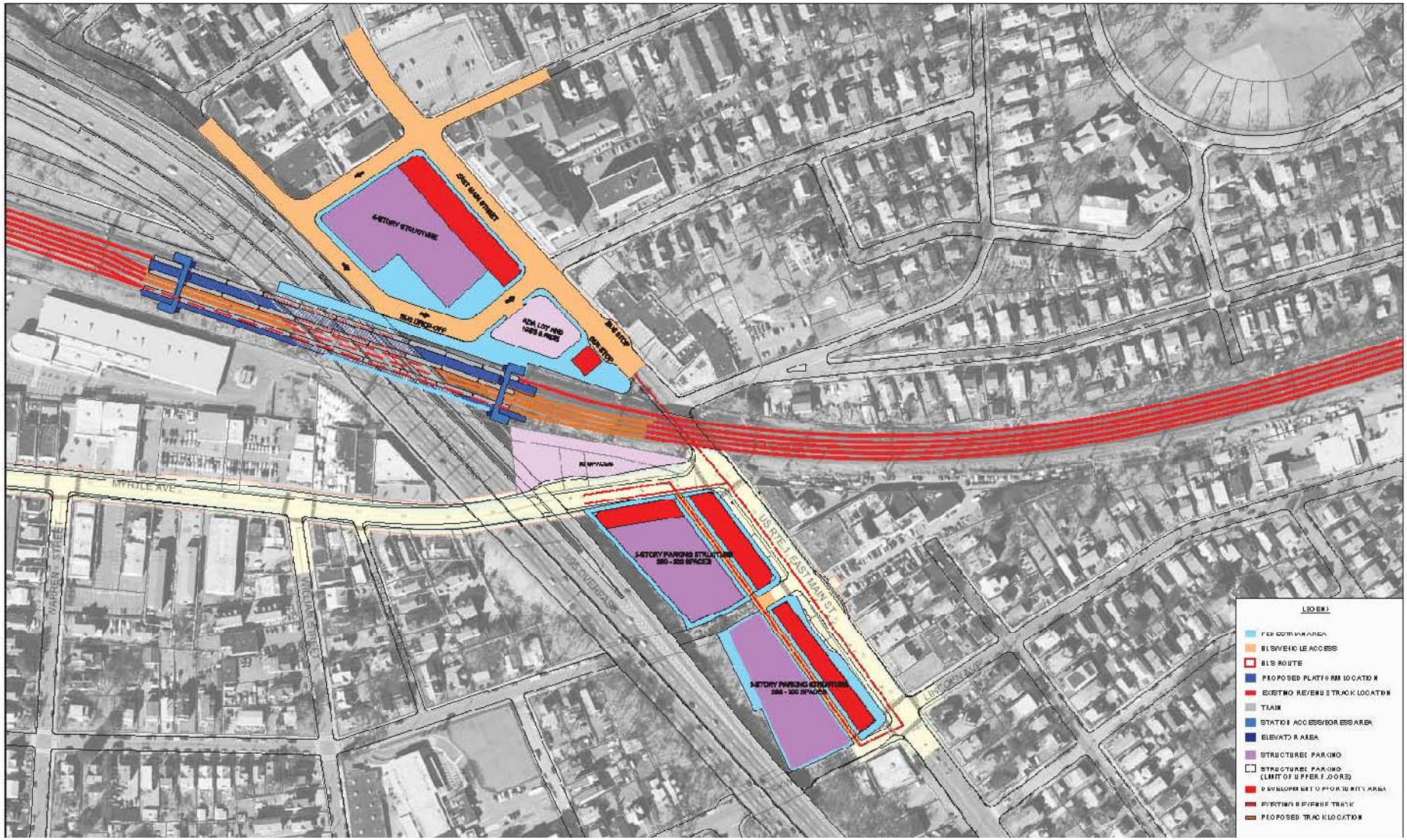
Main Line Station w/ Bus

- Long Term
- Higher potential for development at E. Main St.
- Higher potential for train frequency
- High probable need for public/private partnership

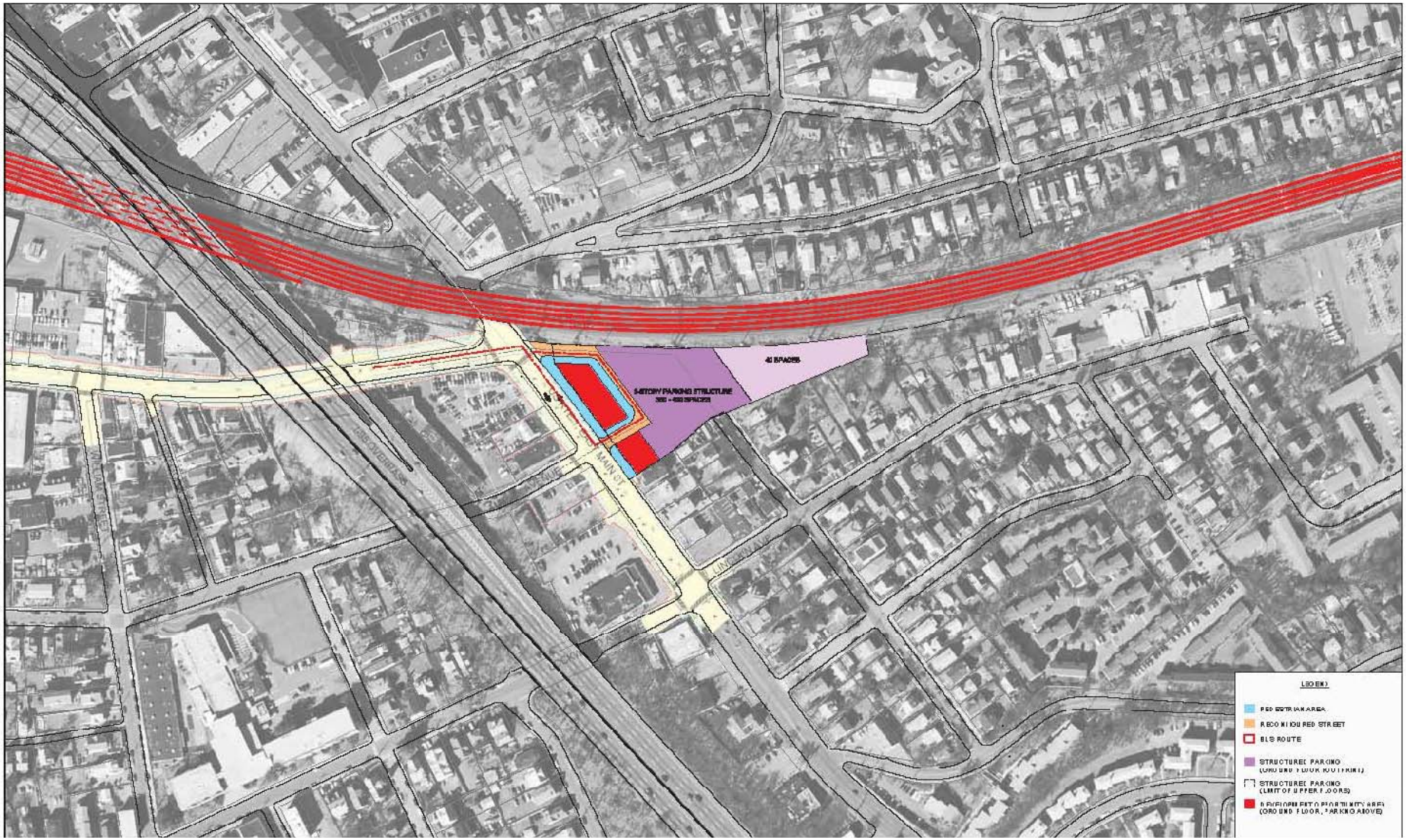
Bus & Rail Alternative 1 - Phase 1

Bus & Rail Alternative 1 - Phase 2

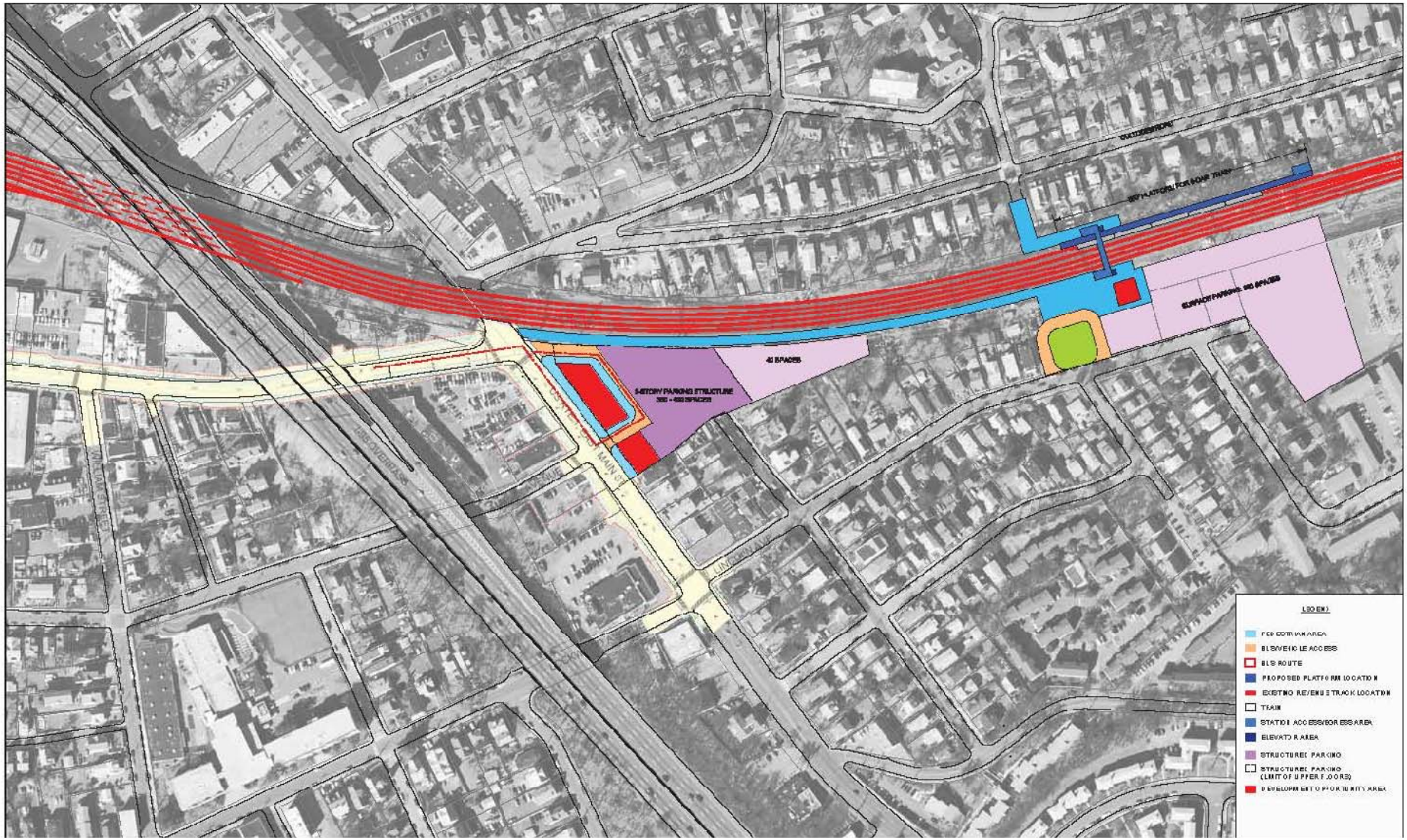
Bus & Rail Alternative 1 - Phase 3



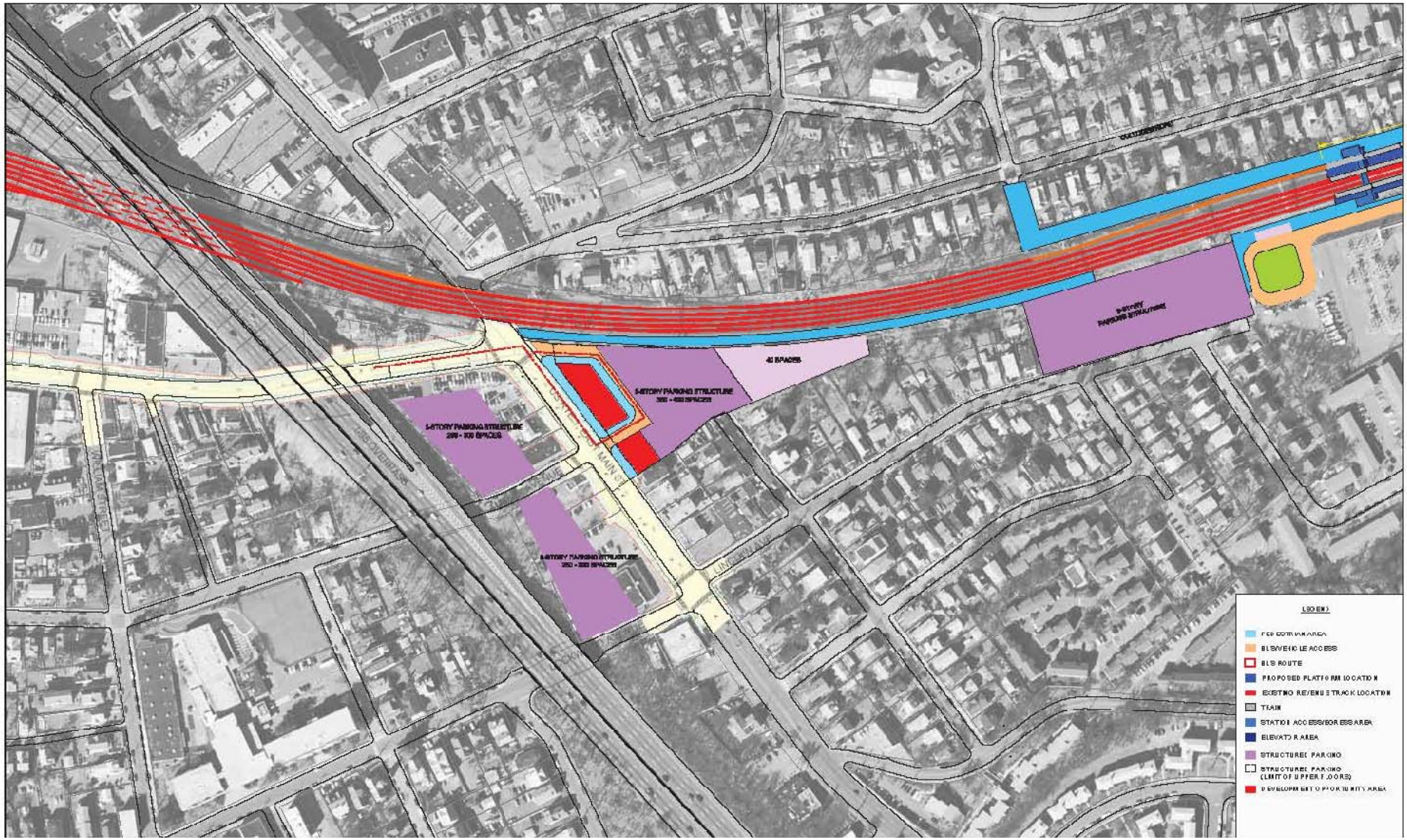
Bus & Rail Alternative 2 - Phase 1



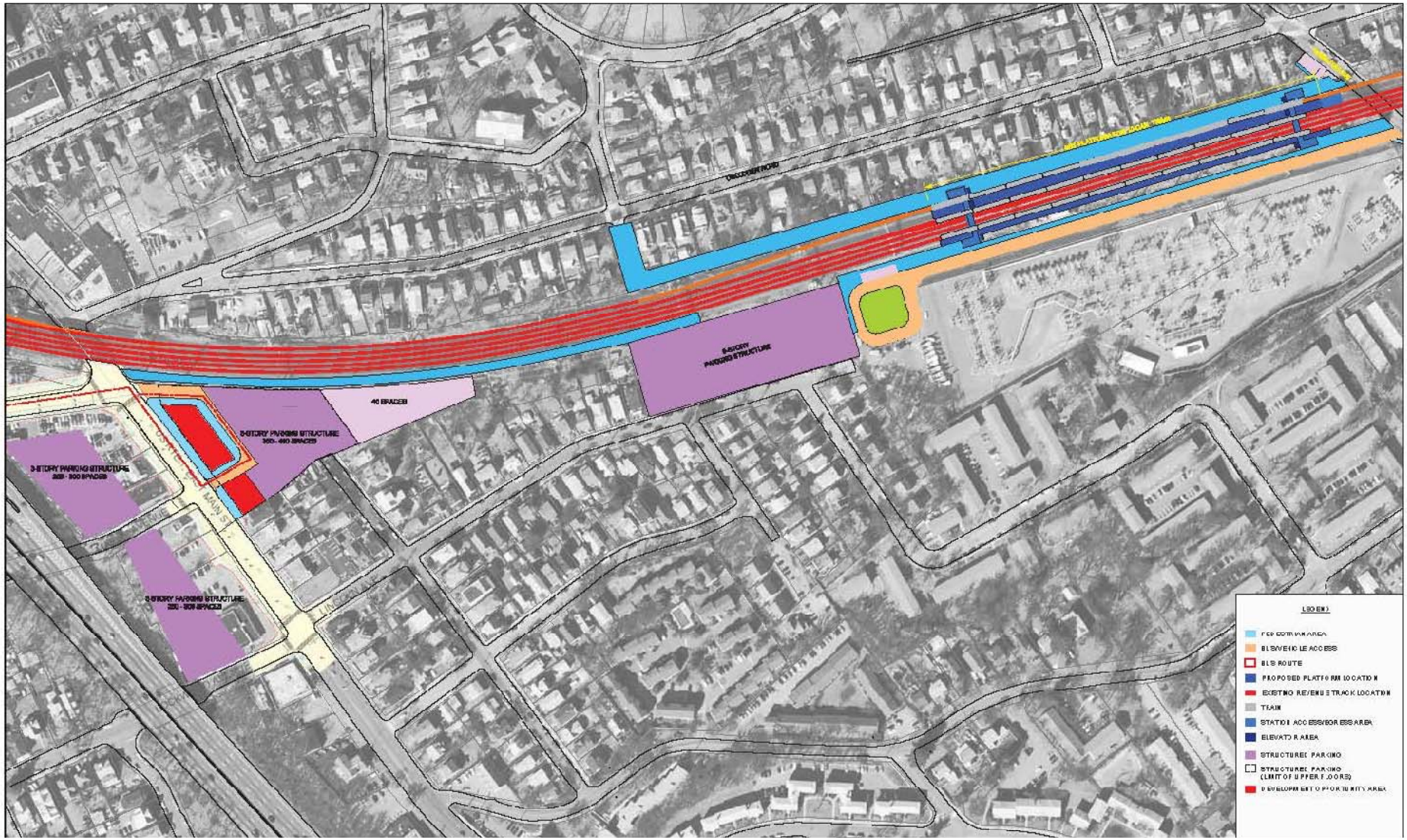
Bus & Rail Alternative 2 - Phase 2



Bus & Rail Alternative 2 - Phase 3



Bus & Rail Alternative 2 - Phase 3



The most feasible path from this…

…to this

THANK YOU

Presented by:

PARSONS BRINCKERHOFF

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