

# **WASHINGTON STREET CORRIDOR IMPROVEMENTS**

Holliston, MA

# Overview

- **Existing conditions**
- **Alternatives considered**
- **Preferred alternatives**
- **Future operations**

# **Review Team**

**The proposed alternatives have been reviewed by:**

- **Paul LeBeau, Town Administrator**
- **Karen Sherman, Town Planner**
- **Matt Waugh, Police Department**
- **Michael Cassidy, Fire Department**
- **Tom Smith, Highway Department**

# Existing Conditions

## Data Collection:

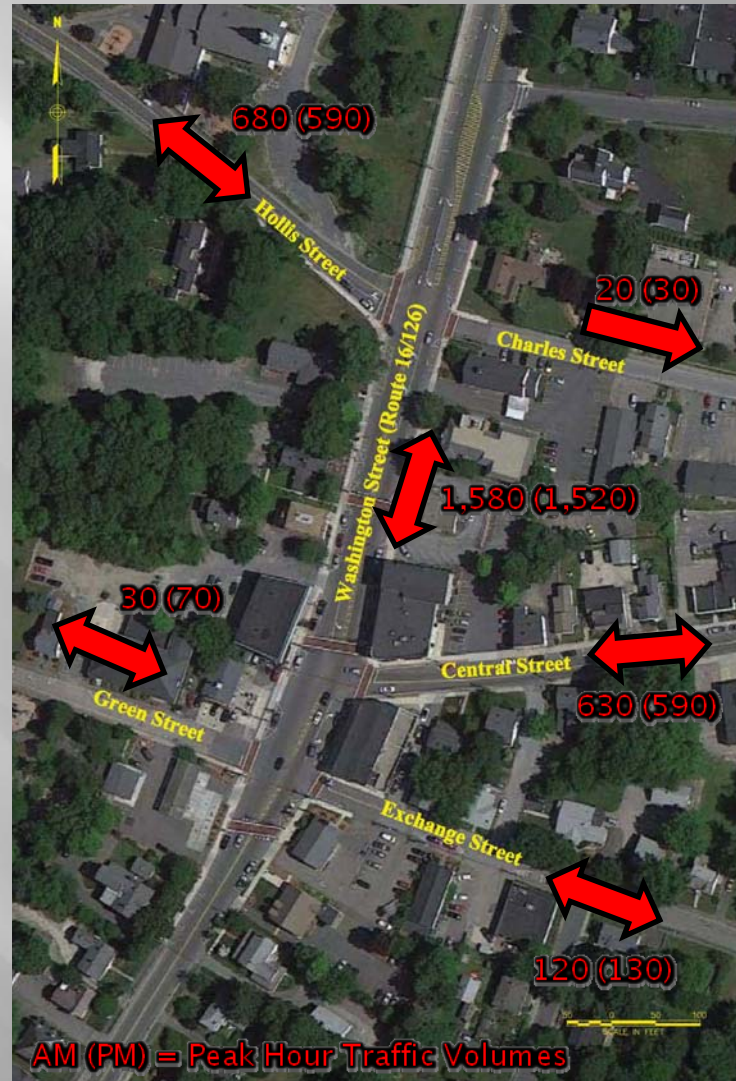
- Turning movement counts
- Automatic traffic recorder counts
- Parking utilization counts

## Field Inventory:

- Roadway characteristics
- Pedestrian amenities
- Parking spaces



# Existing Conditions

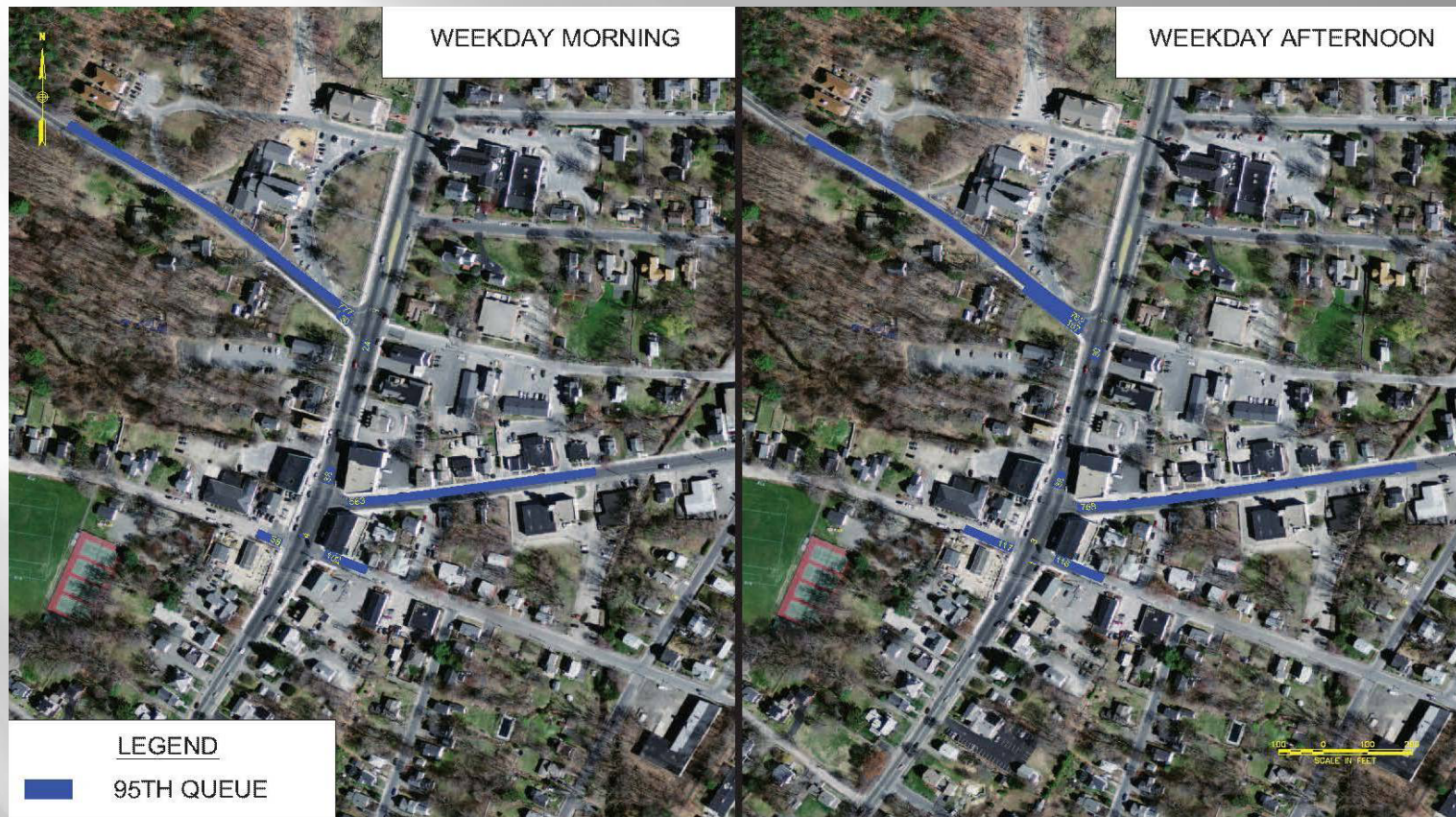


# Existing Operations





# Existing Operations



# Traffic Signal Warrant Analysis

Intersection	Warrant 1 (8-Hour Traffic Volumes)	Warrant 2 (4-Hour Traffic Volumes)	Warrant 3 (Peak Hour Traffic Volumes)
Washington Street at Hollis Street	✓	✓	✓
Washington Street at Central Street	✓	✓	✓
Washington Street at Green Street/Exchange Street	X	✓	X

- **Warrants 1, 2, and 3 are met for Washington Street at Hollis Street and Washington Street at Central Street**
- **Warrant 2 is met for Washington Street at Exchange Street/Green Street**

# Previous Studies

- **Route 126 Corridor: Transportation Improvement Study (Boston Region MPO)**
- **Traffic Signal Warrants Analysis (Vanasse Hangen Brustlin, Inc)**
- **Road Safety Audit – Washington Street (Howard/Stein-Hudson Associates)**

**Previous studies support signalization of the Washington Street corridor**

# Concept Design Goals

- **Balance transportation modes**
- **Limit property acquisition**
- **Minimize parking impacts**
- **Improve safety, efficiency and operations**



# Alternatives Considered

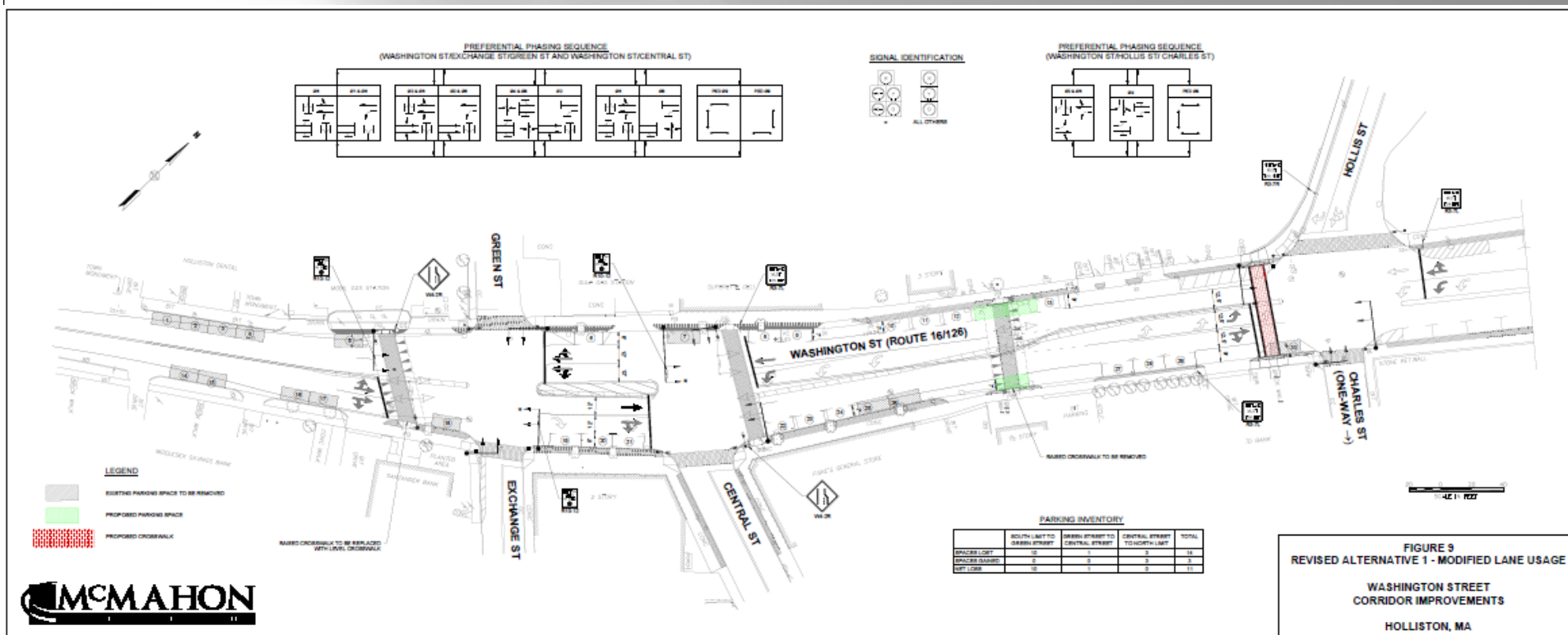
## **Unsignalized Concepts:**

- **Added capacity**
- **Roundabouts**

## **Signalized Concepts:**

- **Existing geometry**
- **Added capacity**
- **Protected left-turn phases**
- **Pedestrians phases - Exclusive and concurrent**
- **Mix of signalized and unsignalized intersections**

# Alternative 1

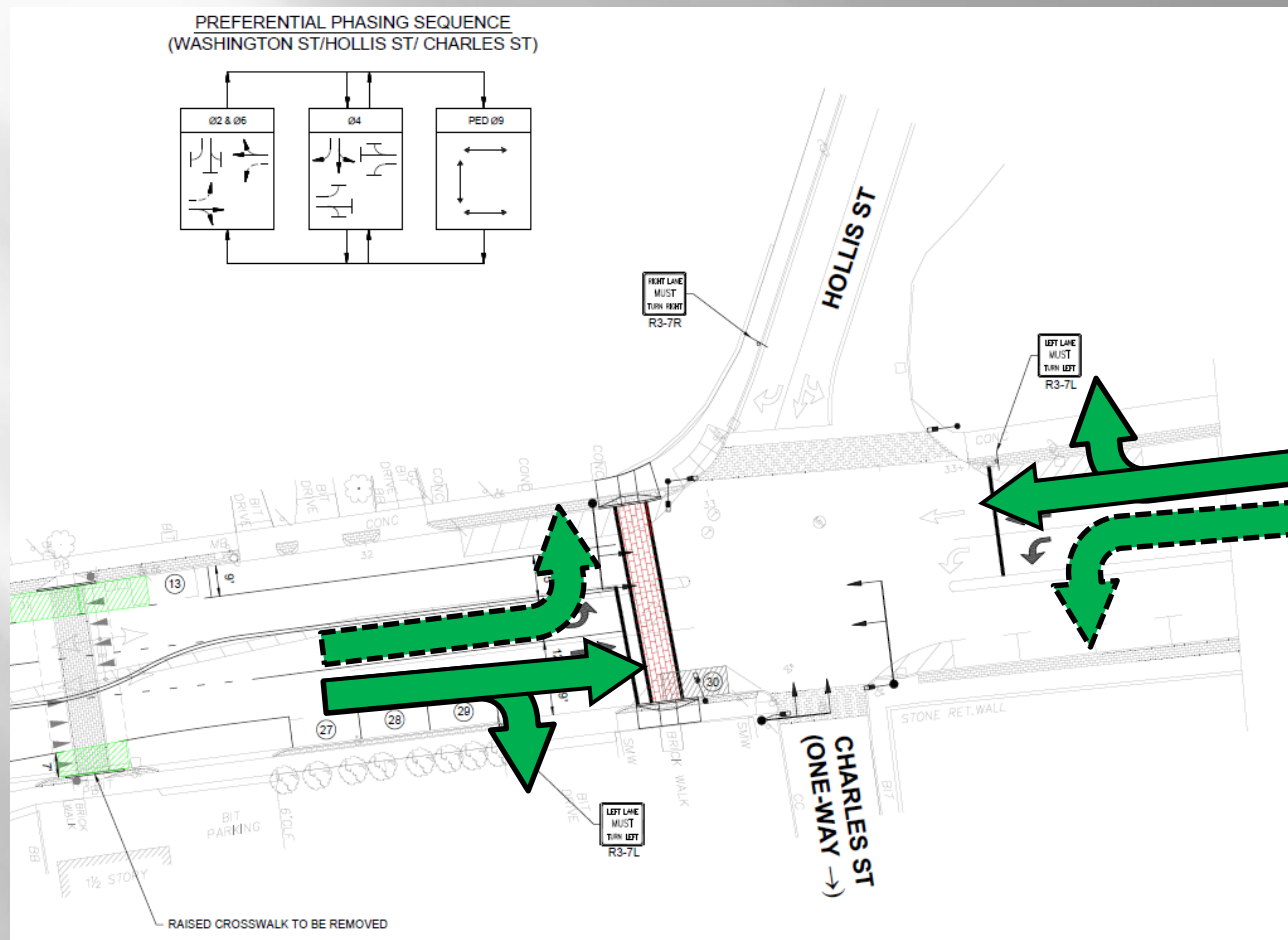


## Alternative 1:

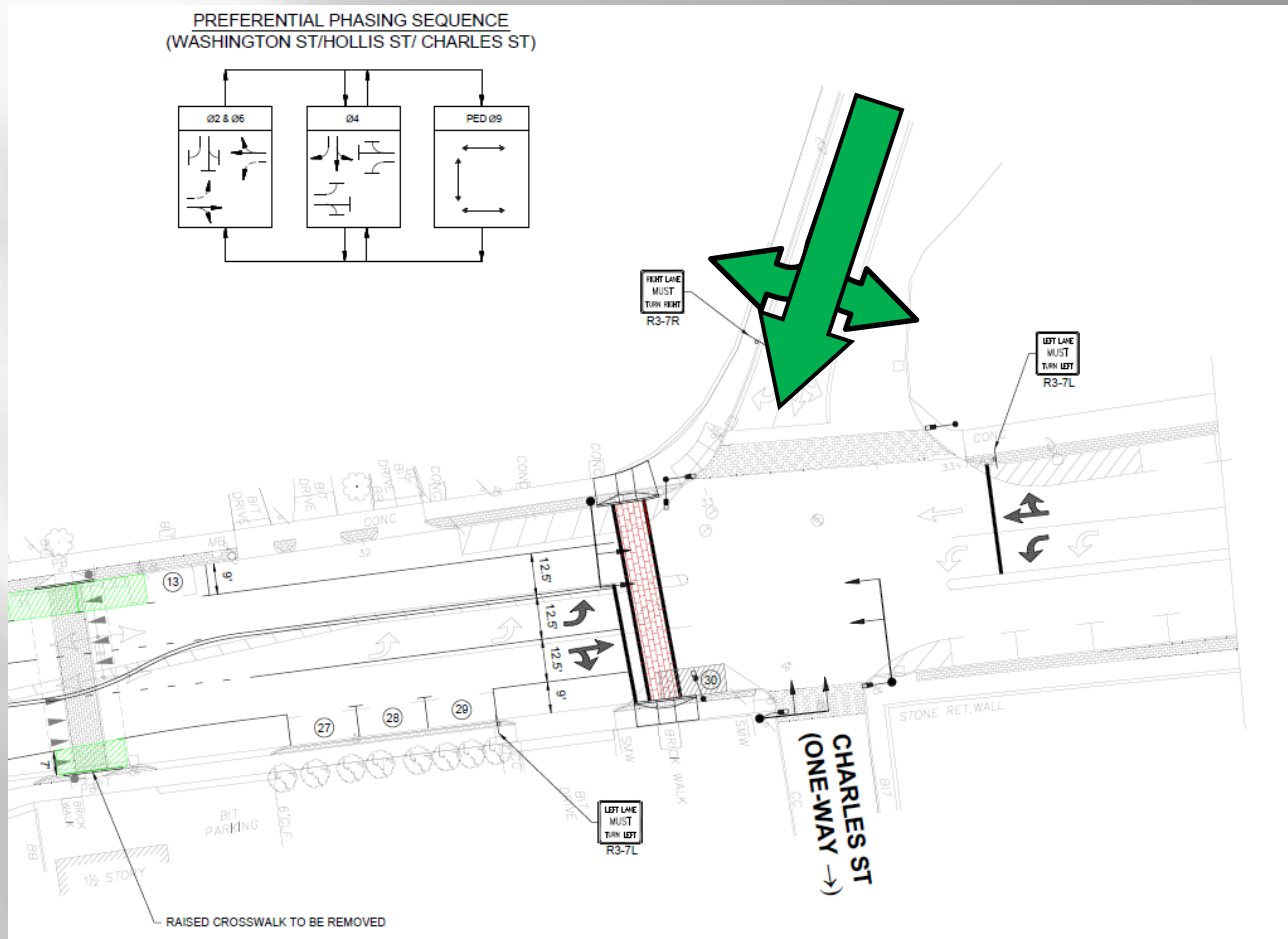
- Signalization of 3 study area intersections
- Coordinated signal phasing
- Addition of northbound thru lane at Exchange Street/Green Street and Central Street for added capacity
- Relocation of mid-block crosswalk to Hollis Street
- No curblane modifications



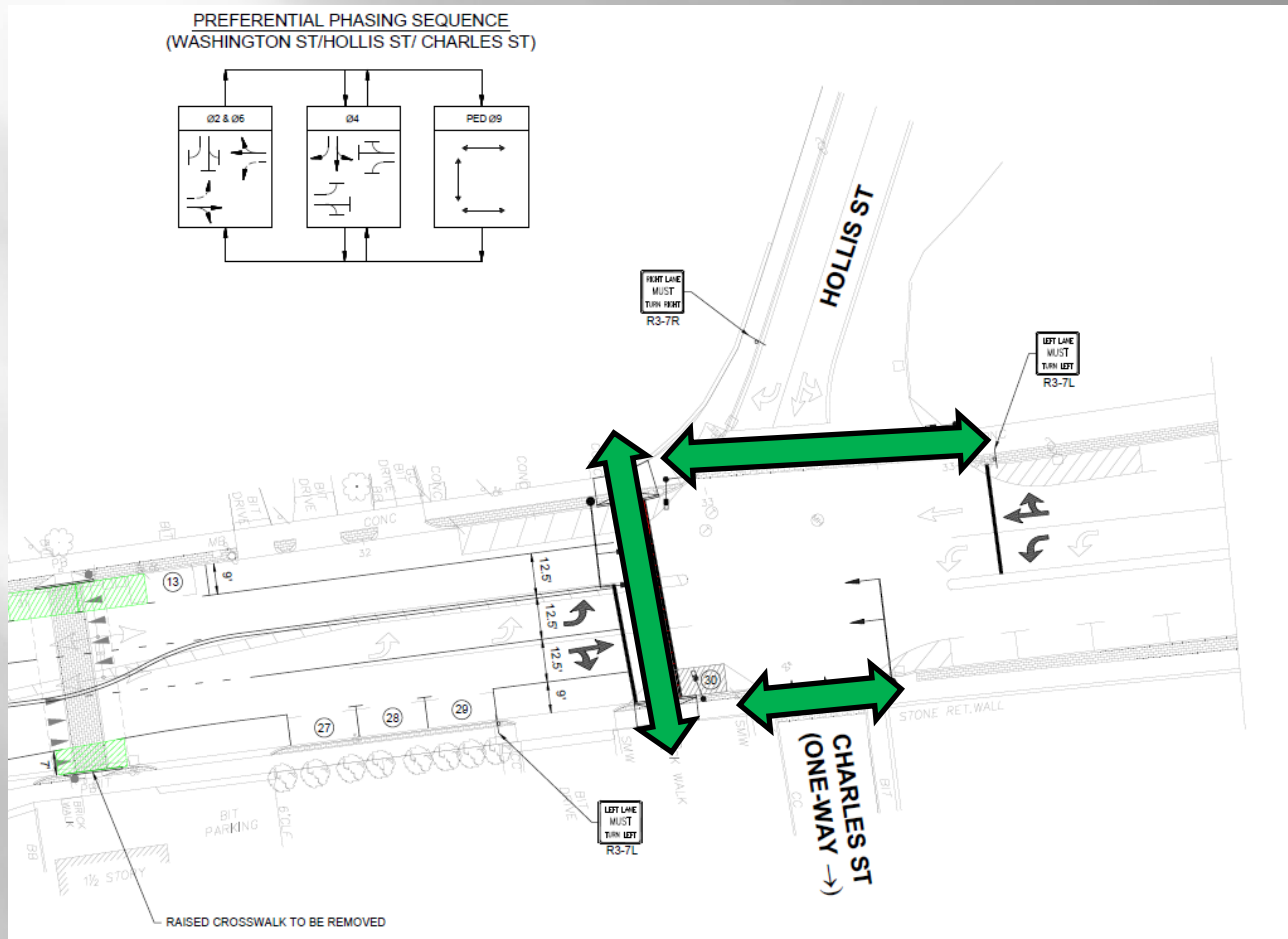
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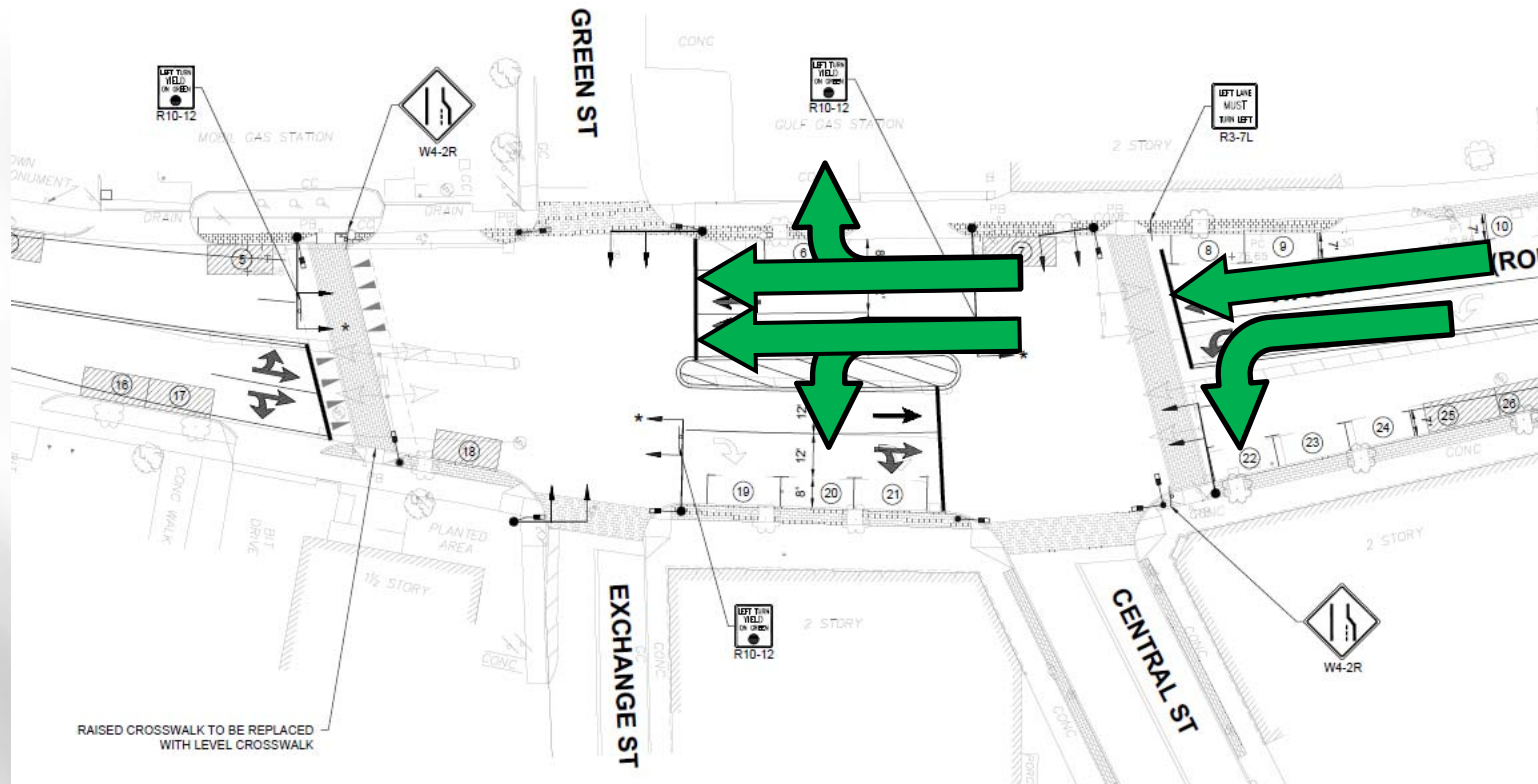
# Alternative 1



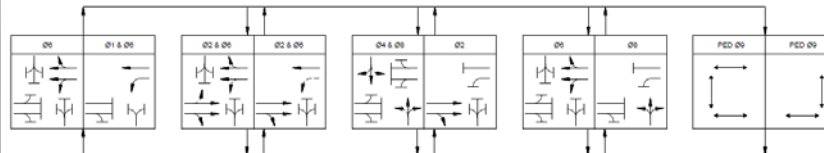
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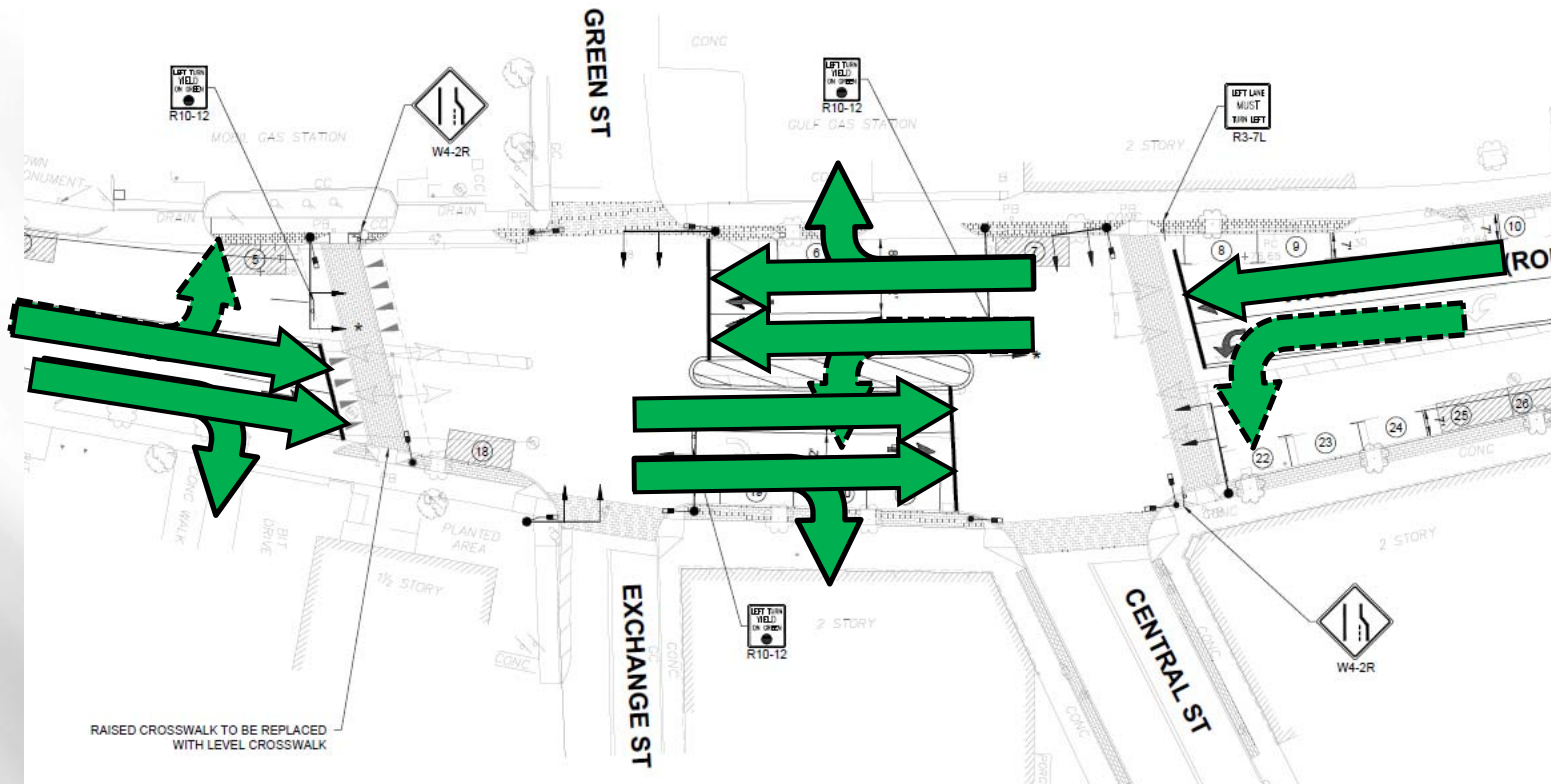
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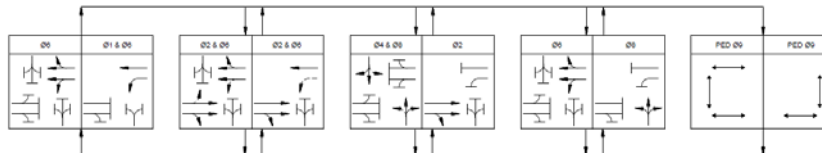
PREFERENTIAL PHASING SEQUENCE  
(WASHINGTON ST/EXCHANGE ST/GREEN ST AND WASHINGTON ST/CENTRAL ST)



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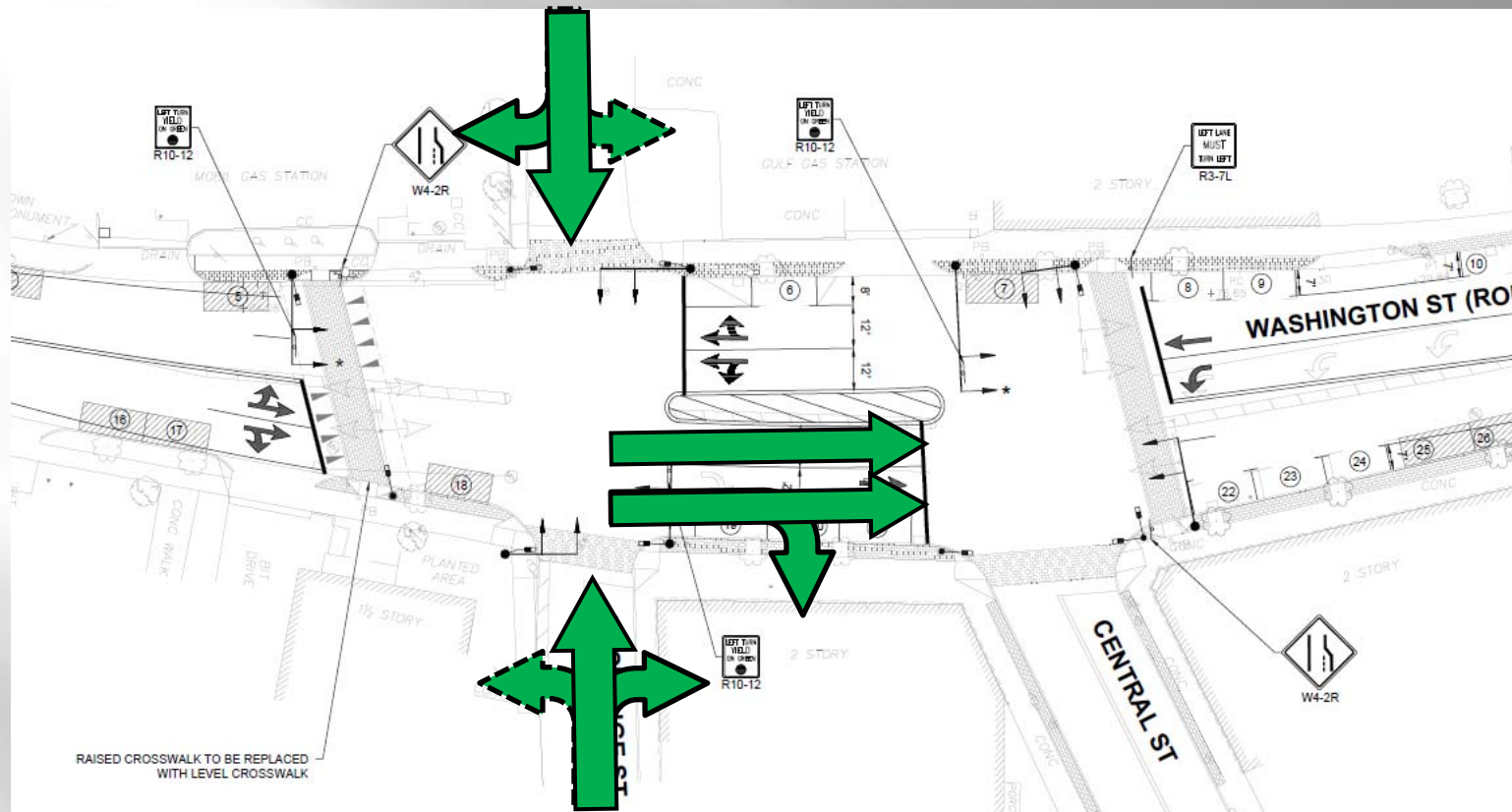


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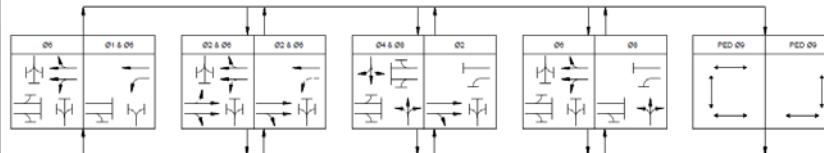




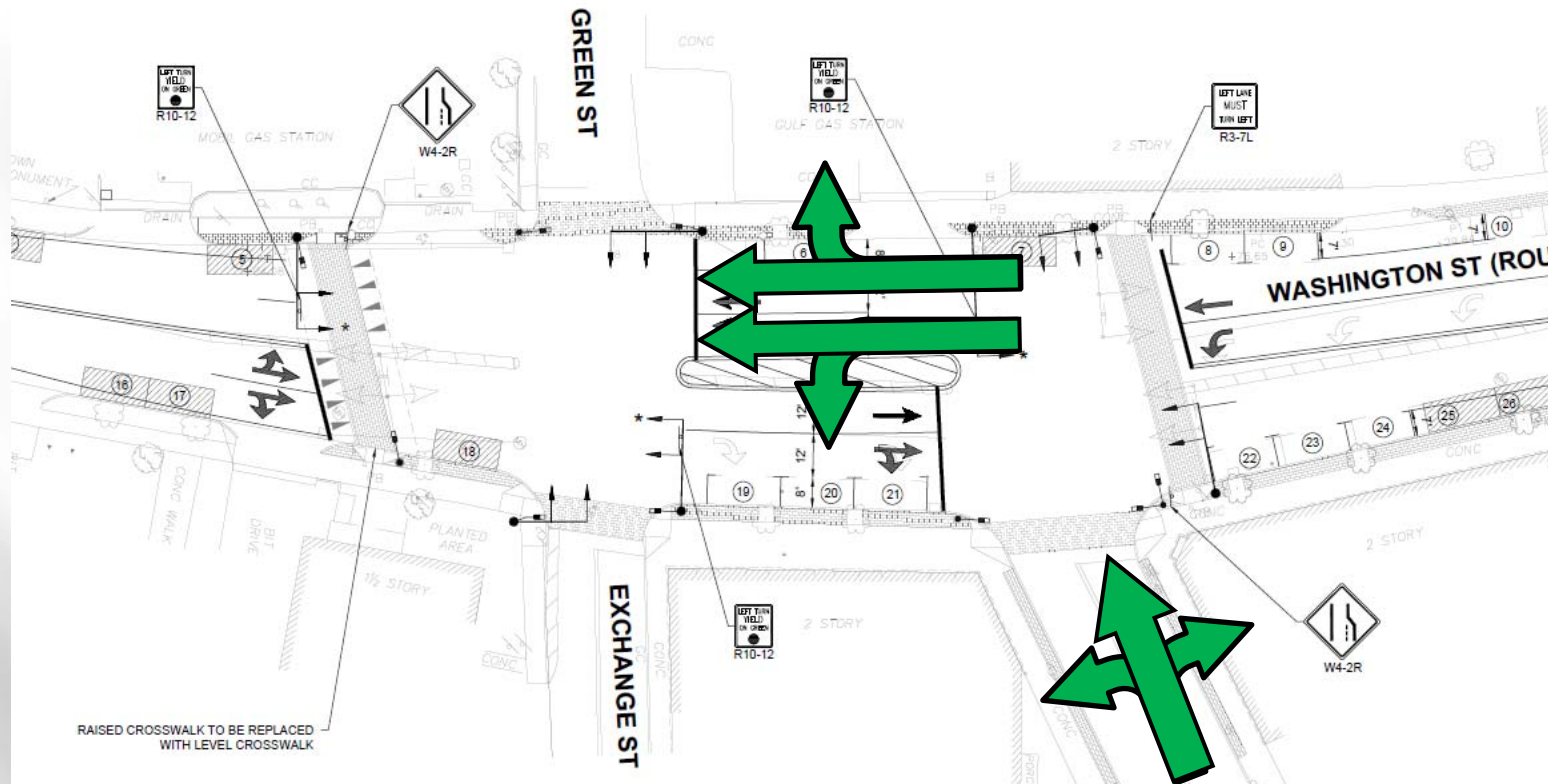
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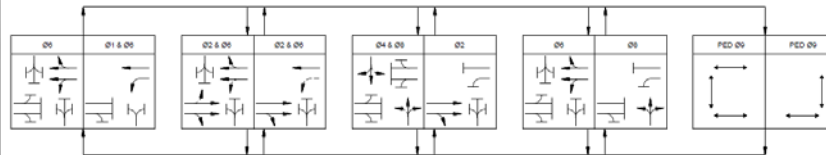
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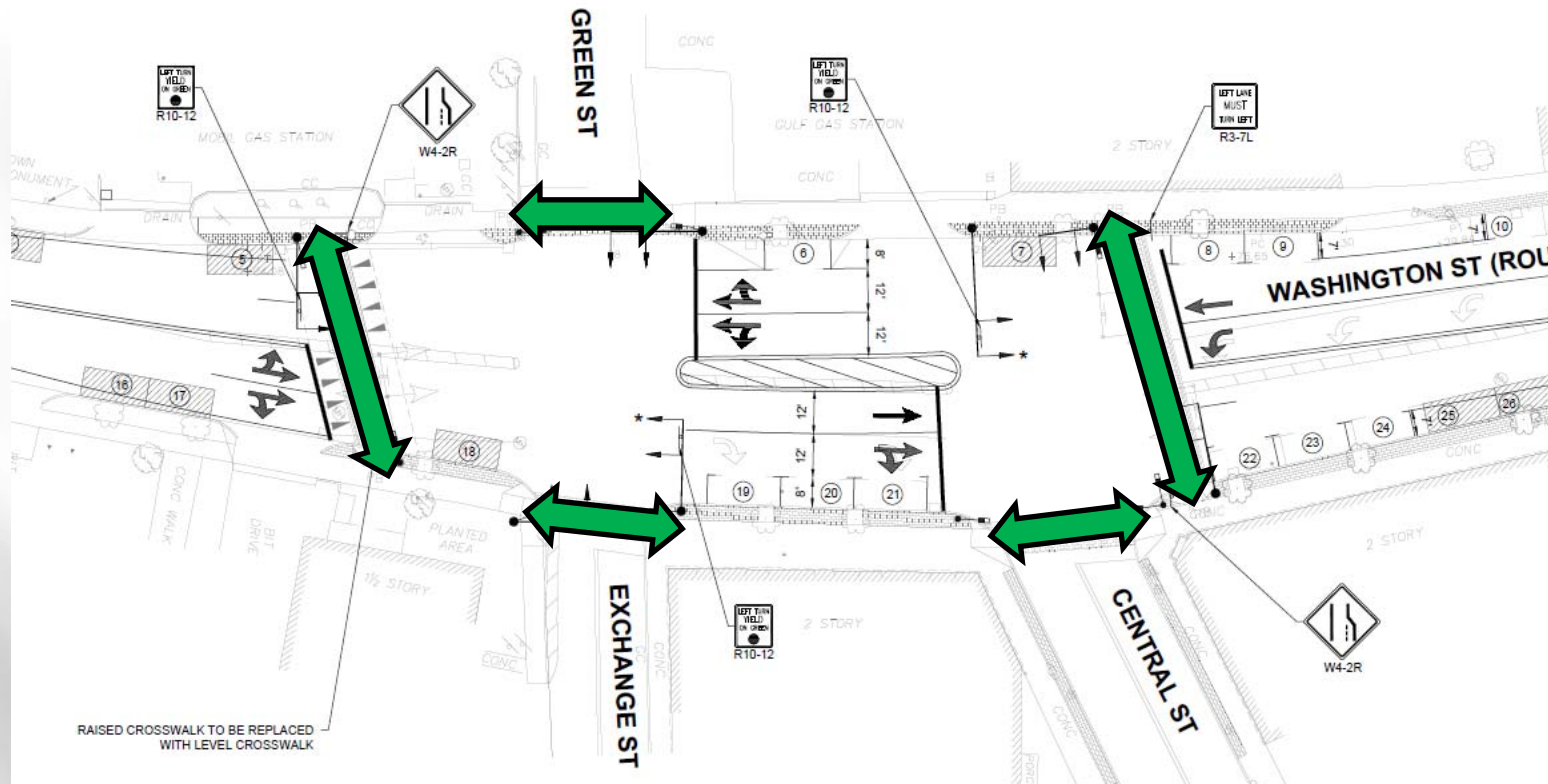
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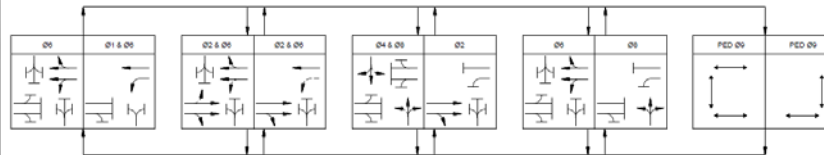
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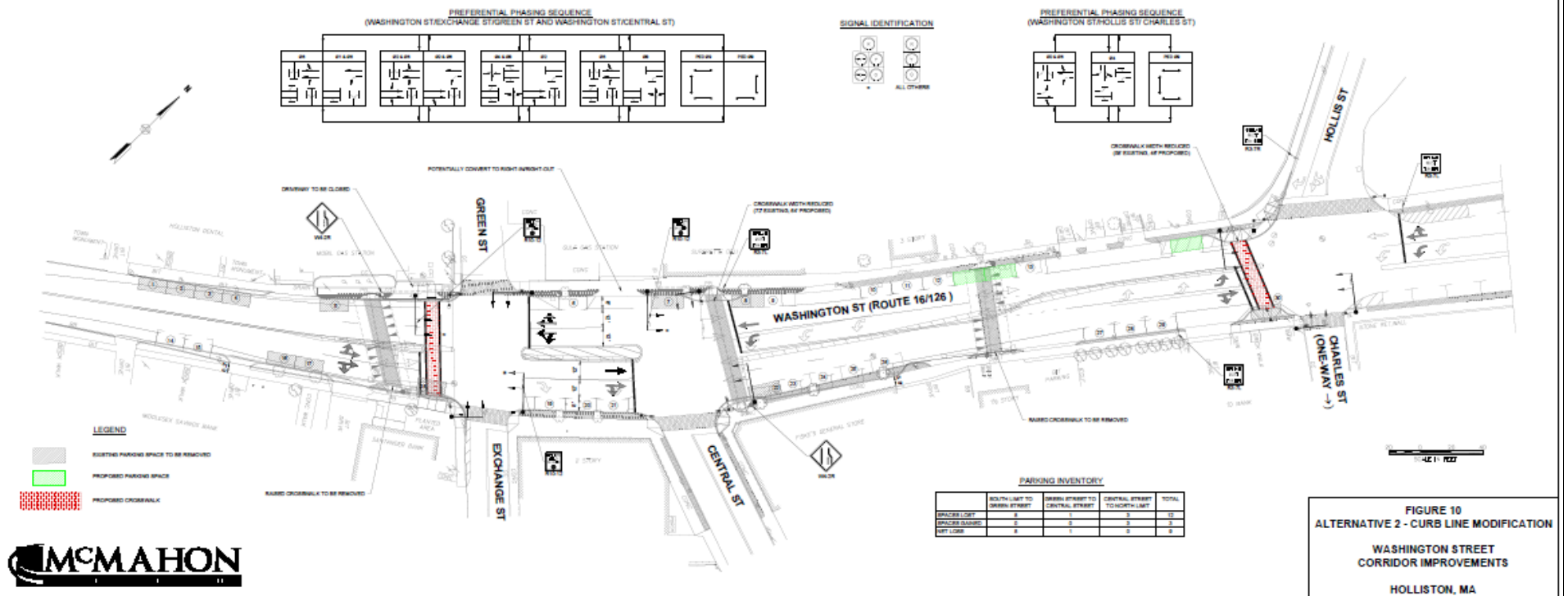


PREFERENTIAL PHASING SEQUENCE  
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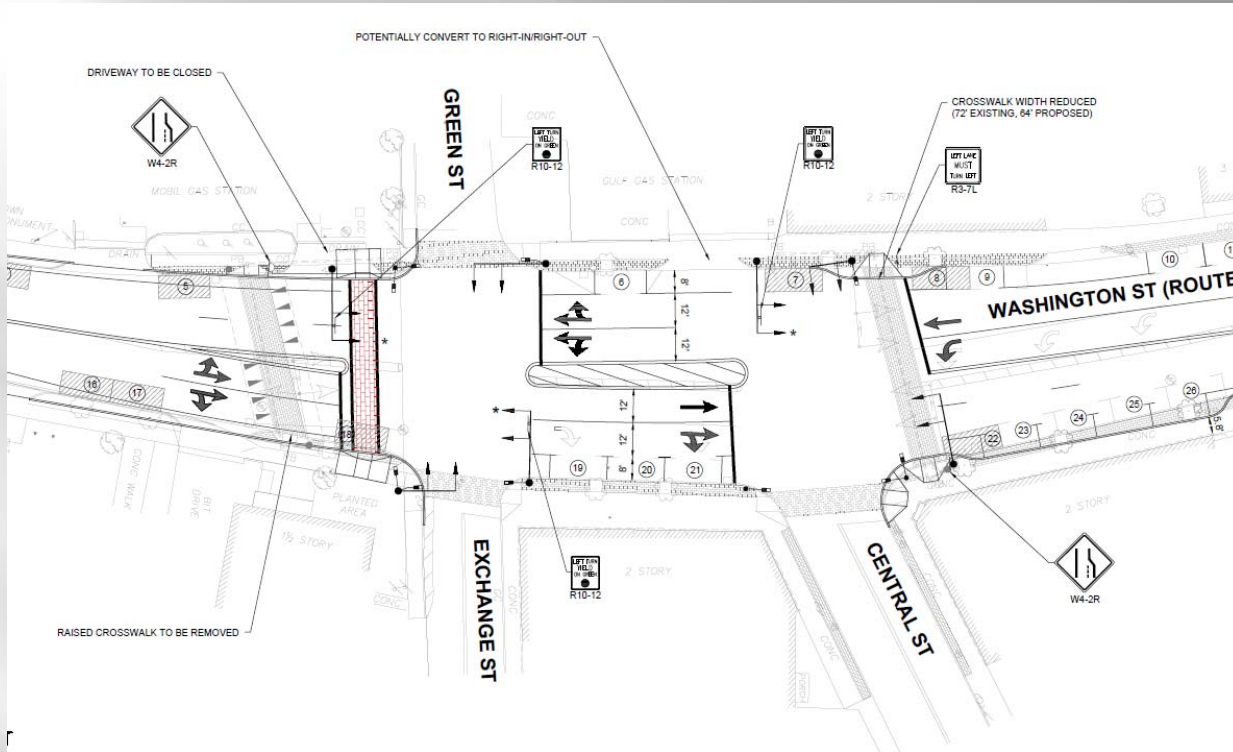
# Alternative 2



## Alternative 2:

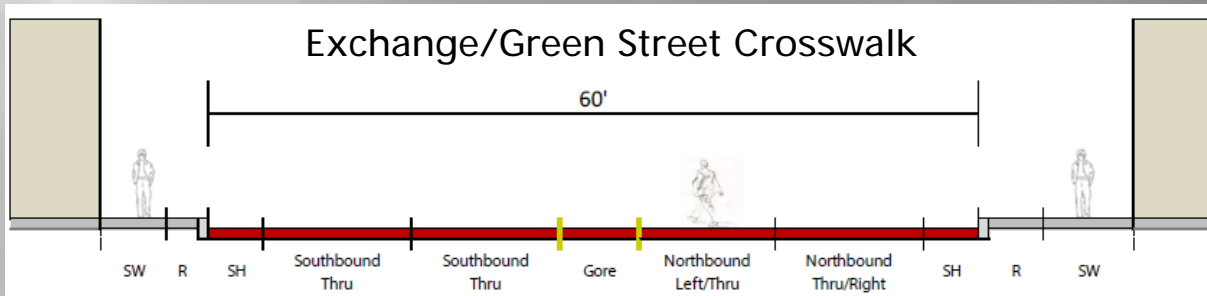
- Same signalization and coordination as Alternative 1
- Same land configurations as Alternative 1
- Realigned crosswalk south of Exchange Street/Green Street
- Curb extensions at Central Street and Hollis Street crosswalks to minimize crossing distance
- Curblin modifications to maintain additional parking

## Alternative 2

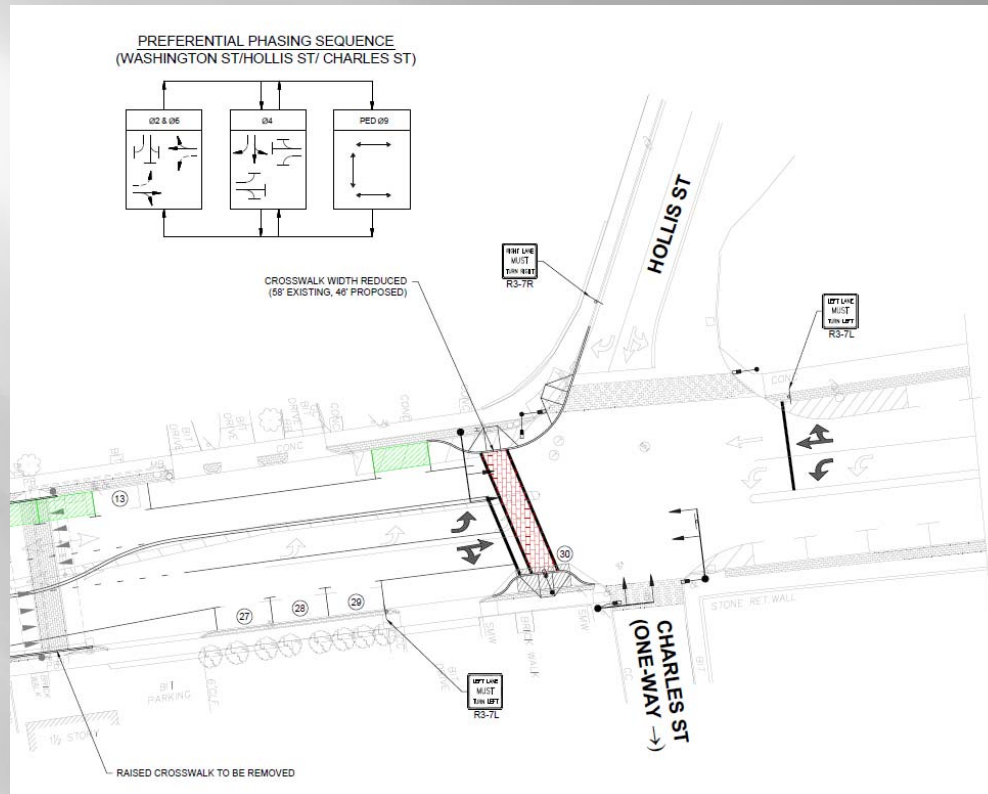


### Legend

B = Buffer  
R = Ramp  
SH = Shoulder  
SW = Sidewalk

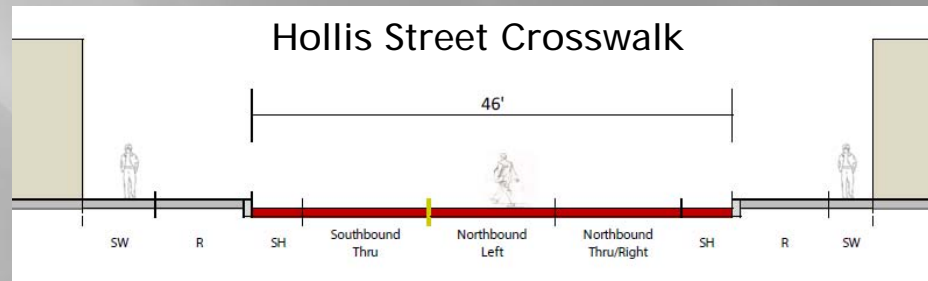


# Alternative 2



## Legend

B = Buffer  
R = Ramp  
SH = Shoulder  
SW = Sidewalk



# On-Street Parking

## Alternative 1

	South Limit to Green Street	Green Street to Central Street	Central Street to North Limit	Total
Existing Conditions	10 Spaces	5 Spaces	15 Spaces	30 Spaces
Poorly Located Spaces	1 Space	1 Space	1 Space	3 Spaces
Additional Spaces Lost	9 Spaces	0 Spaces	2 Spaces	11 Spaces
Spaces Gained	0 Spaces	0 Spaces	3 Spaces	3 Spaces
Net Loss	9 Spaces	0 Space	-1 Space	8 Spaces

## Alternative 2

	South Limit to Green Street	Green Street to Central Street	Central Street to North Limit	Total
Existing Conditions	10 Spaces	5 Spaces	15 Spaces	30 Spaces
Poorly Located Spaces	1 Space	1 Space	1 Space	3 Spaces
Additional Spaces Lost	7 Spaces	0 Spaces	2 Spaces	9 Spaces
Spaces Gained	0 Spaces	0 Spaces	3 Spaces	3 Spaces
Net Loss	7 Spaces	0 Space	-1 Spaces	6 Spaces



# Pedestrian Amenities



## Existing Amenities:

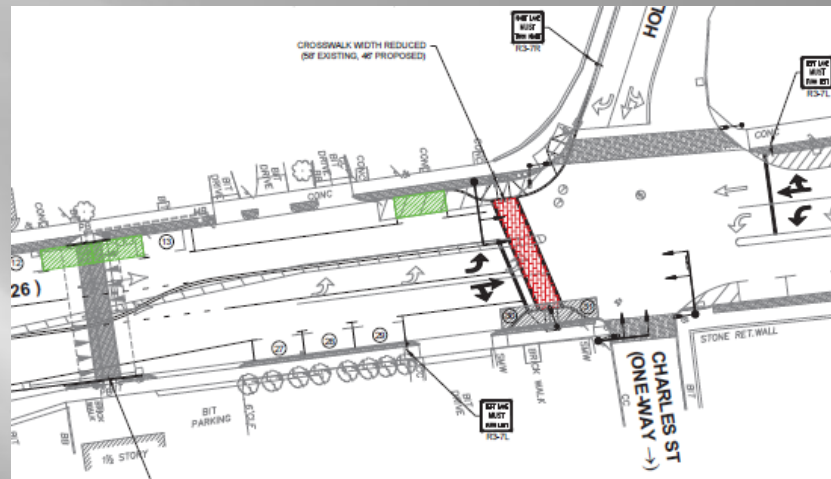
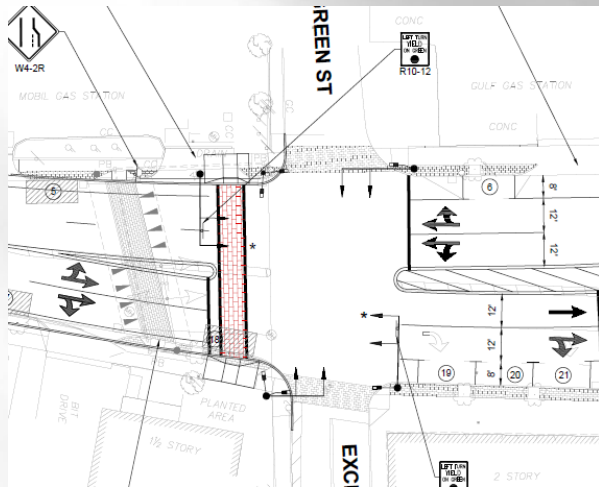
- Three existing marked crosswalks on Washington Street
- Warning signs and push-button activated warning beacons

## Existing Problems:

- Warning beacons not visible to pedestrians
- Crosswalk at an uncontrolled, mid-block location



# Pedestrian Amenities



## Proposed Amenities:

- Exclusive pedestrian phasing at all proposed crossings
- Existing mid-block crossing north of Central Street removed and crosswalk added to northbound approach of Hollis Street intersection
- Realigned crosswalk at Exchange Street/Green Street intersection
- Curb extensions at Hollis Street and Central Street intersections

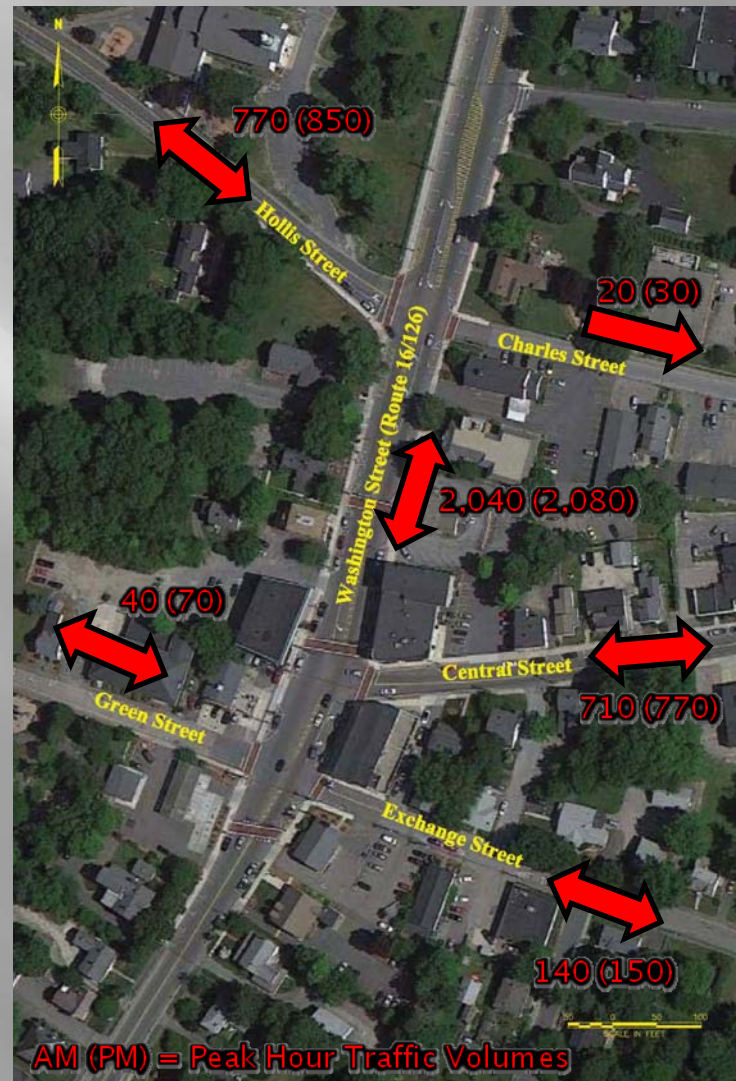
# Cost Estimate

Item	Alternative 1 Cost	Alternative 2 Cost
Cold Plane and Overlay	\$200,000	\$200,000
Signing and Striping	\$10,000	\$10,000
Curb/Sidewalks	\$10,000	\$160,000
Traffic Signals	\$500,000	\$570,000
Stamped Crosswalks	\$25,000	\$25,000
20% Miscellaneous	\$149,000	\$193,000
Subtotal	\$894,000	\$1,158,000
15% Contingency	\$134,100	\$173,700
Total	\$1,028,100	\$1,331,700
Say	\$1,100,000	\$1,400,000



# Traffic Projections

- Growth rate = 1% per year
- Included site specific developments





# Future Operations



## Future Traffic Operations:

- Signalization Improves overall operations
- Additional delay on Washington Street to mitigate long delays on side streets



# Future Operations

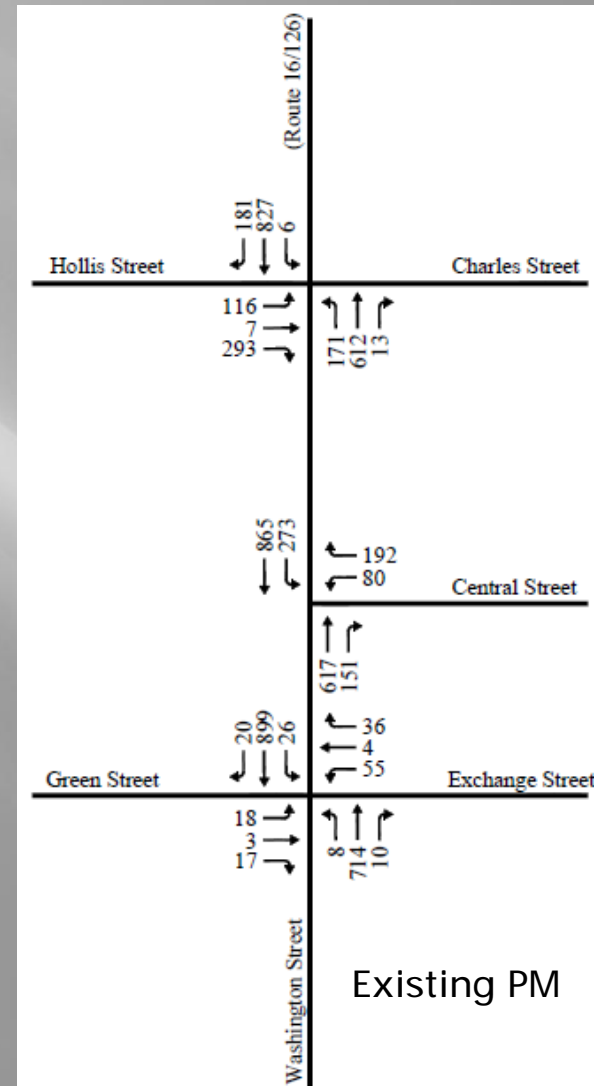
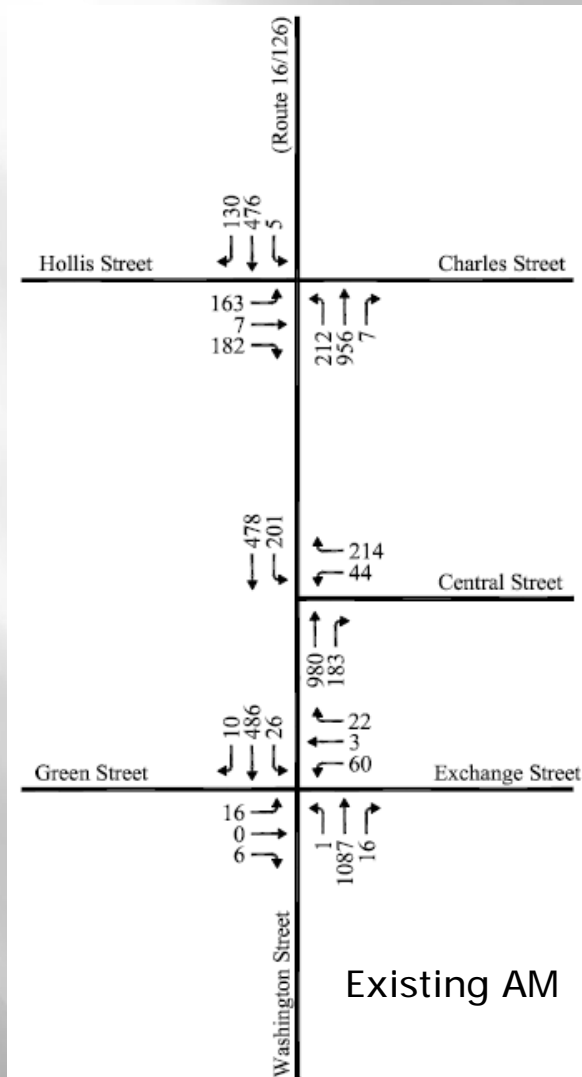


# Summary

- **Coordinated system of traffic signals**
- **Reduced queues and delay from side streets**
- **Increased capacity and minimal delay on Washington Street**
- **Pedestrian amenities including exclusive pedestrian phasing, curb extensions, and optimally located crosswalks**
- **Parking preserved in optimal locations**

# Questions?

# Traffic Volumes

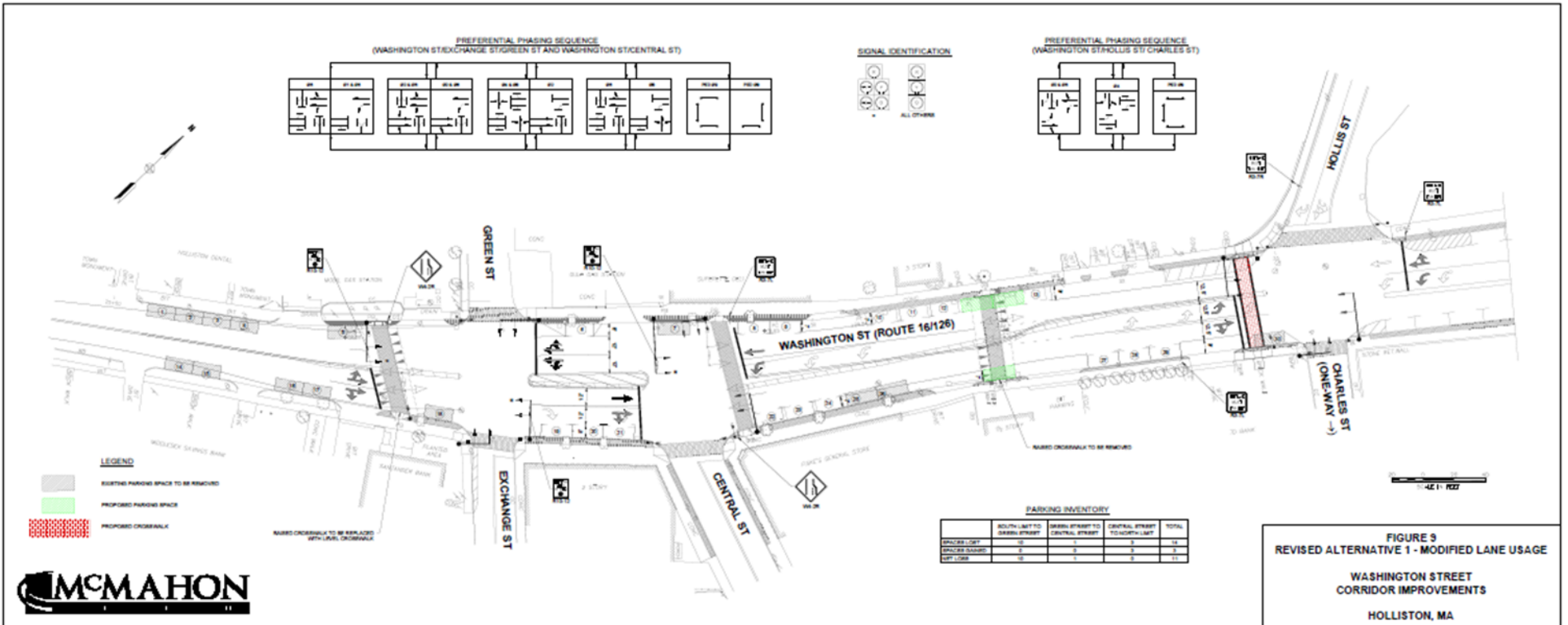




# Aesthetics



# Alternative 1



# Alternative 2

