



South Frontage Road Safety Improvements

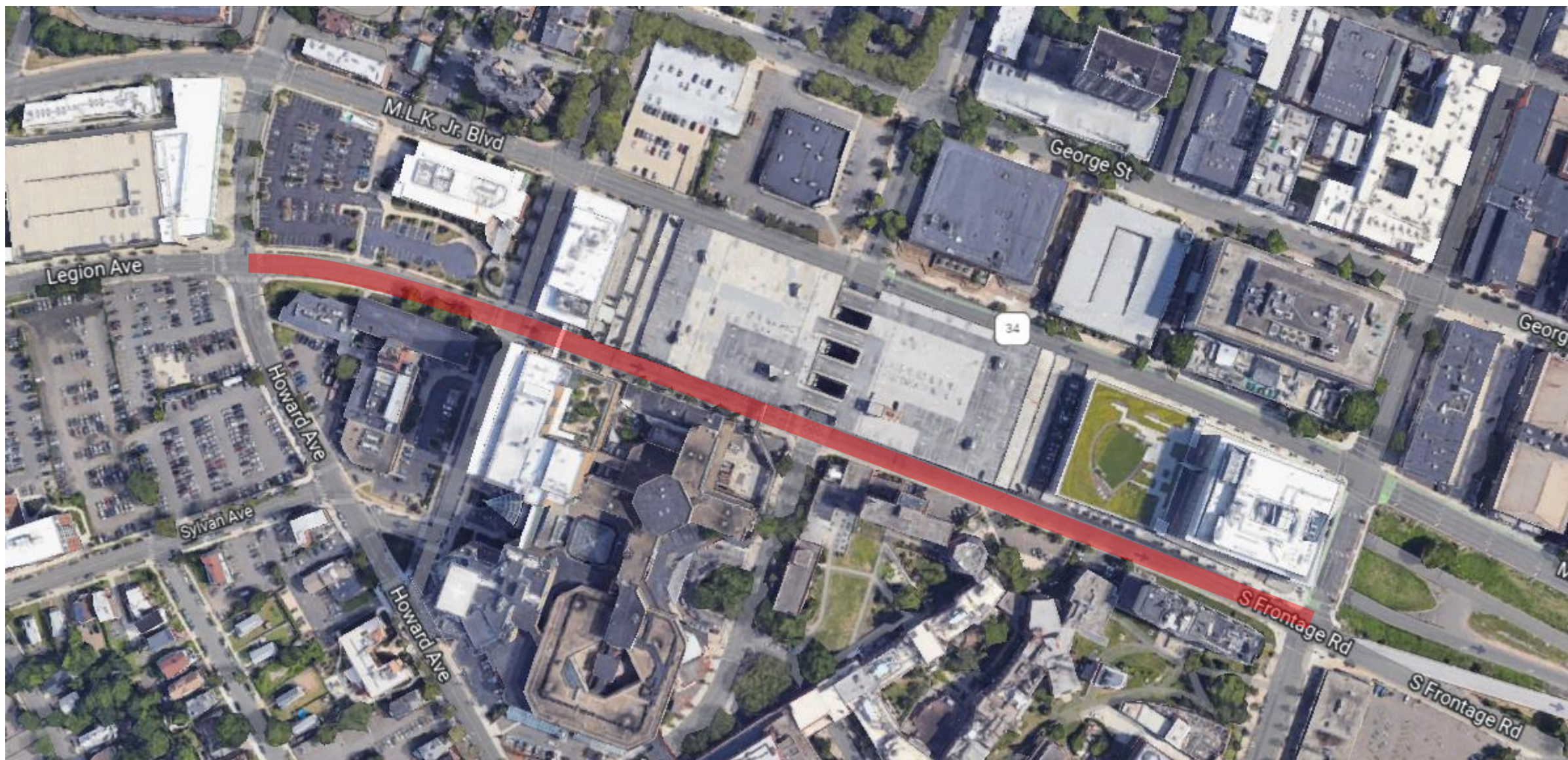
City of New Haven
January 11, 2023

Agenda

- Existing Conditions
- Crash History
- Traffic Analysis
- Proposed Improvements
- Budget/Timeline
- Discussion



Project Area

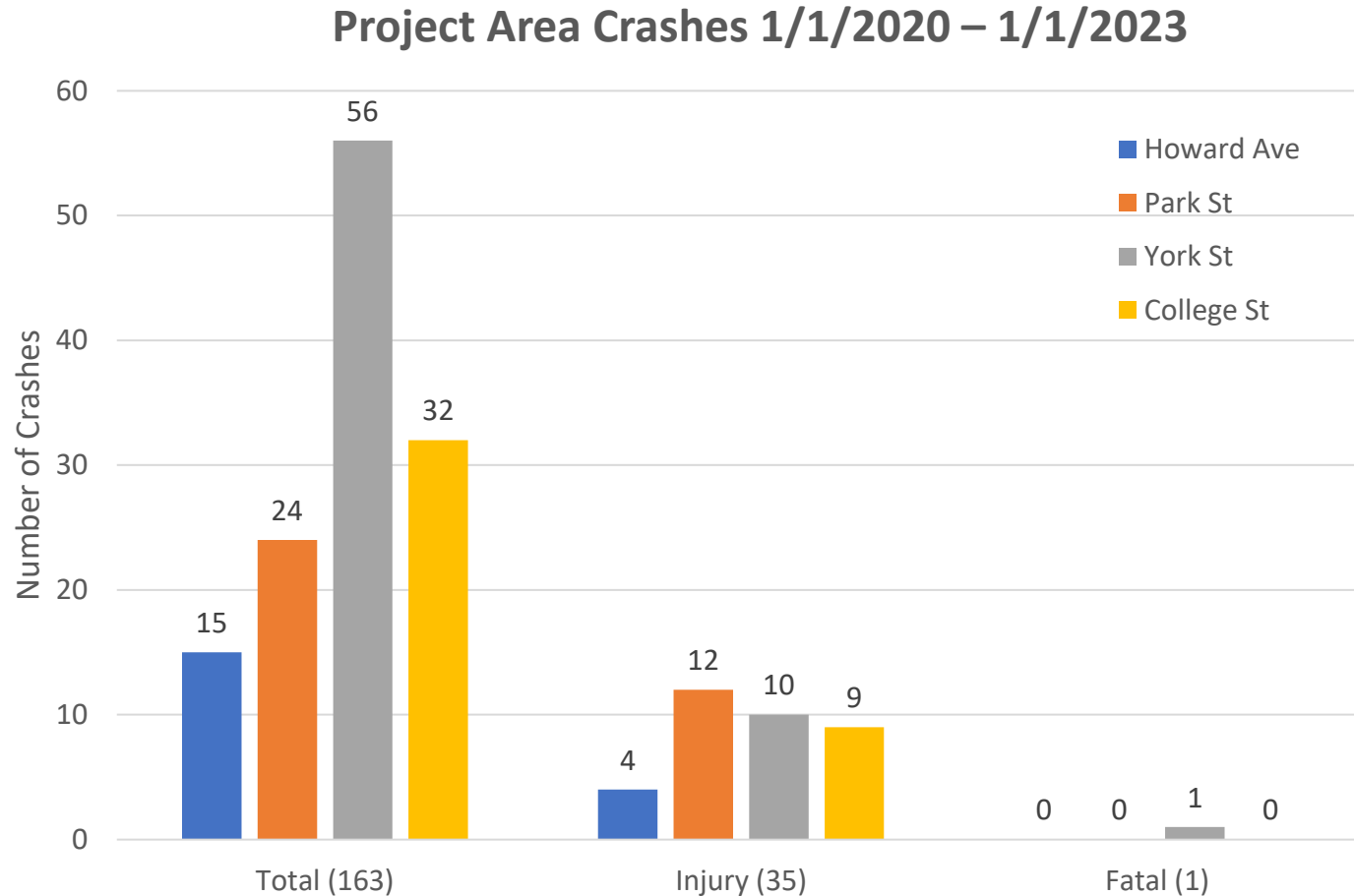


Existing Conditions

- Heavily traveled roadway
- High pedestrian volumes
- History of fatal crashes
- Wide, straight roadway
- No bicycle infrastructure
- Gap in pedestrian infrastructure
- Average Daily Traffic Volumes
~17K - 20K vehicles per day
(vpd)



Crash History



Vulnerable User Fatalities

Mila Rainof

Melissa Tancredi

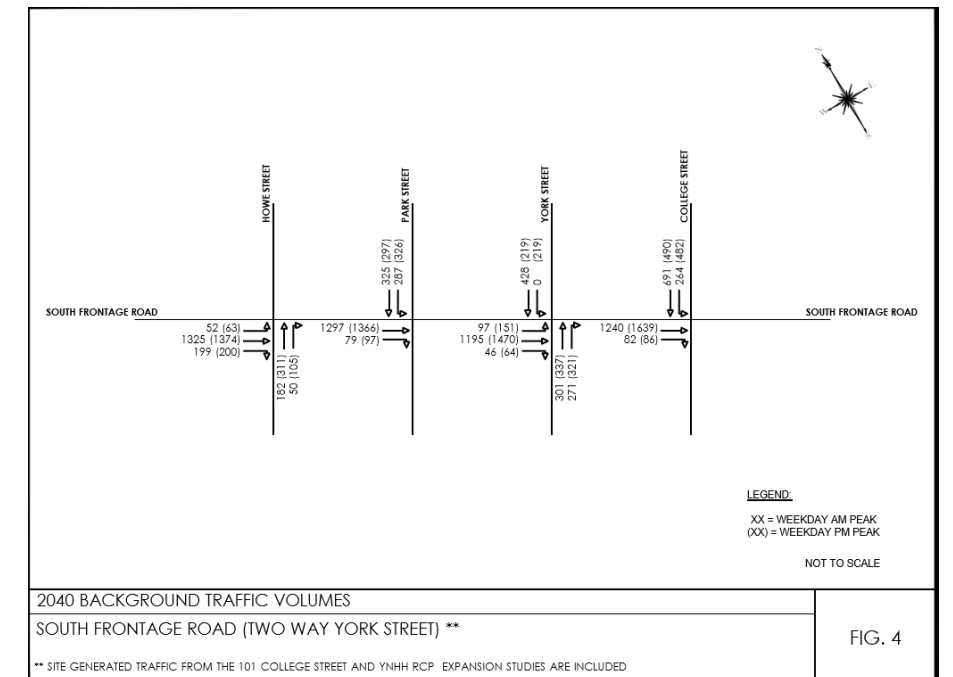
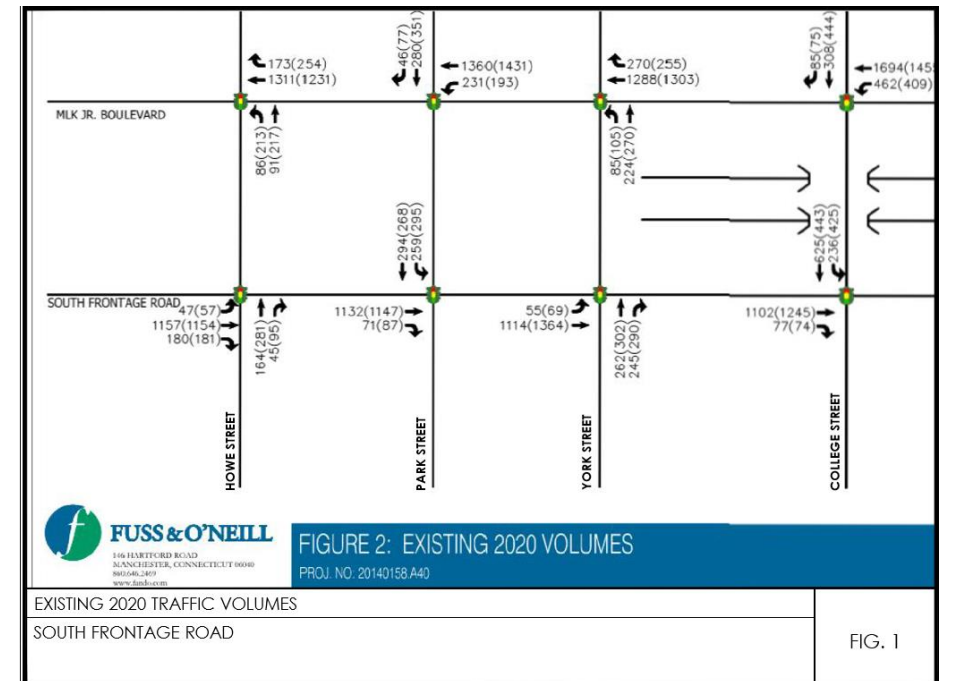
Keon Ho Lim

(since 2008)

Traffic Analysis

Data Collection and Analysis

- Count data utilized from previous studies (DTX/101 College Street) for Base year (2020) analysis
- Collected 2022 data at the York Street intersections.
- Data adjusted to develop network level 2020 Existing volumes.
- Existing & 2040 Future year redistributed volumes were analyzed based on York Street Two-way conversion project and Bike lanes.



Traffic Analysis

Level of Service (LOS)

- Signalized intersection - LOS is indication of average control (due to signal) delay (measured in seconds per vehicle).
 - **LOS A thru C – Favorable Conditions**
 - **LOS D – Tolerable Conditions during Peak Periods**
 - **LOS E or below – Unacceptable Conditions**
- LOS analysis also considers approach (direction) LOS and queue lengths at intersections.

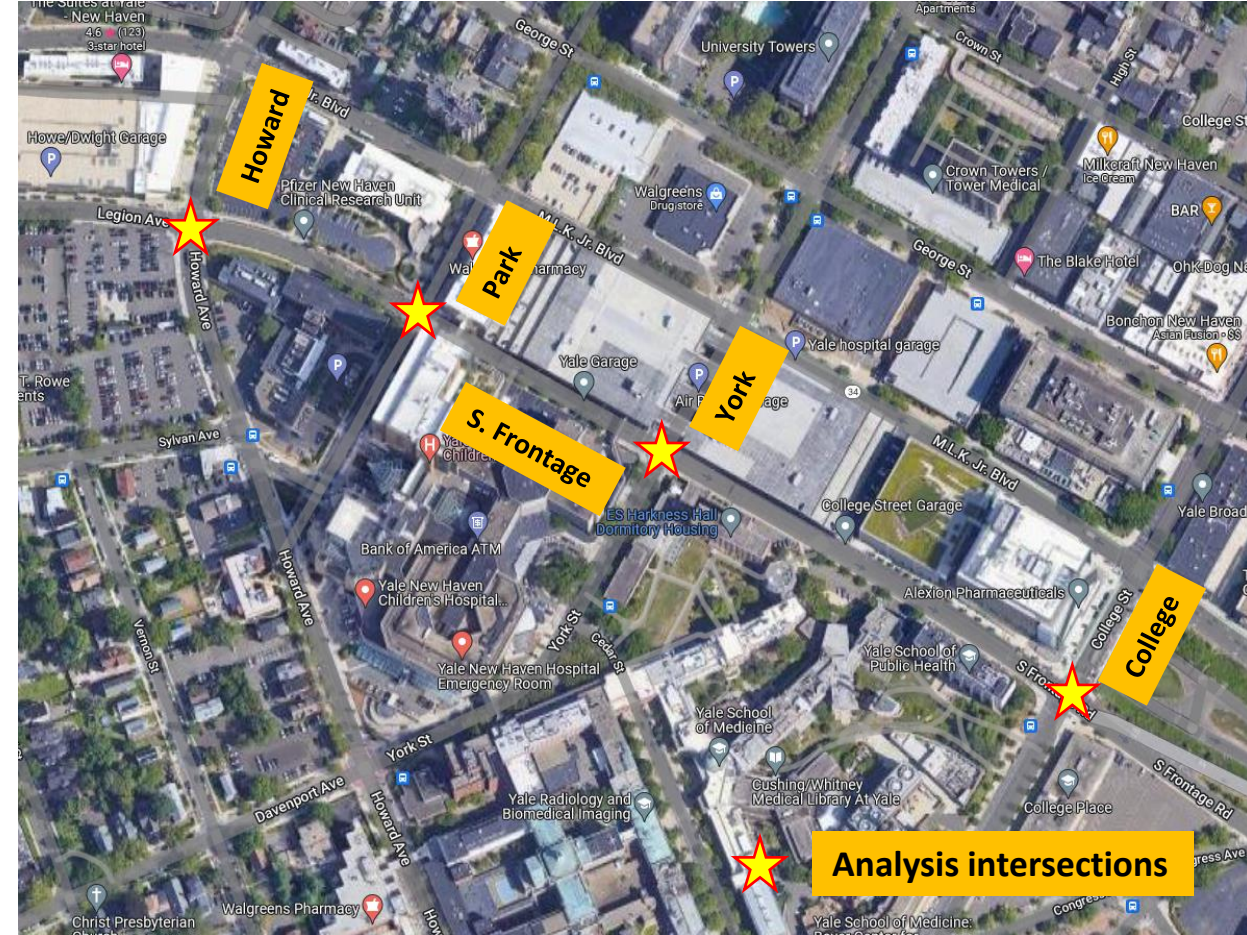
Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F ¹	>80	Forced flow (congested and queues fail to clear)

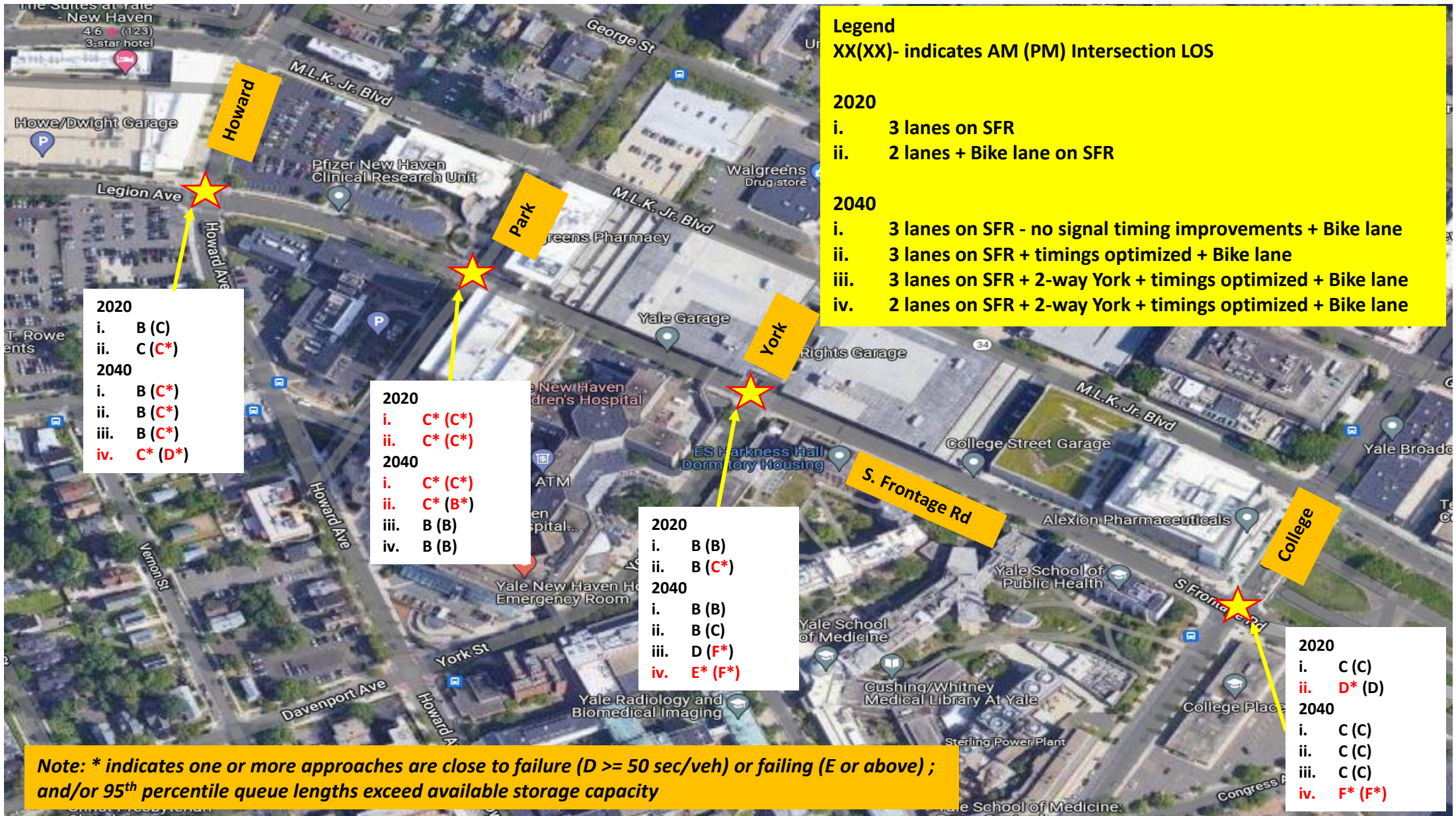
Traffic Analysis

Traffic Modeling

- Performed for AM and PM Peak hours
- 4 Intersections analyzed
- Base year (2020) i.e., Existing Conditions
 - i. Current Geometry (3 lanes SFR)
 - ii. Reduced capacity (2 lanes SFR) with Bike lane
- Future year (2040)
 - i. Current Geometry (3 lanes SFR)- signals not optimized with Bike lane
 - ii. Current Geometry (3 lanes SFR)- signal timing optimized with Bike lane
 - iii. Current Geometry (3 lanes SFR)+ 2-way York Street- signal timings optimized with Bike lane
 - iv. Reduced Capacity (2 lanes SFR) w. Bike lane & 2-way York St Conversion - signal timings optimized



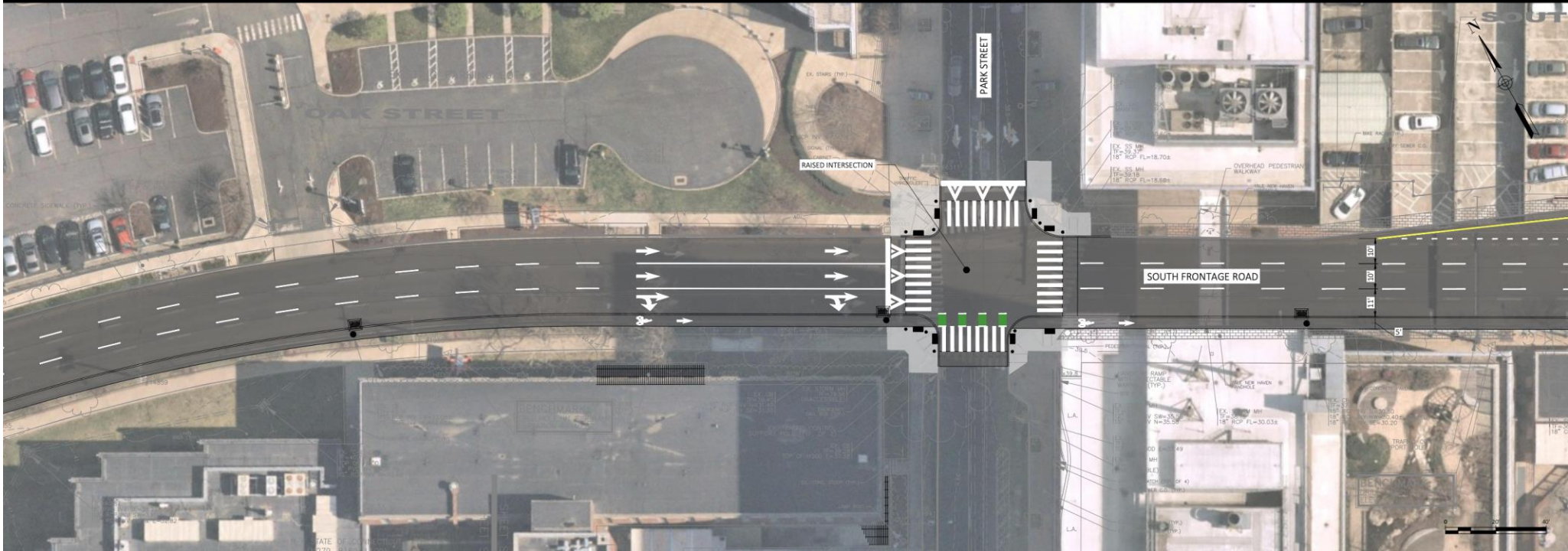
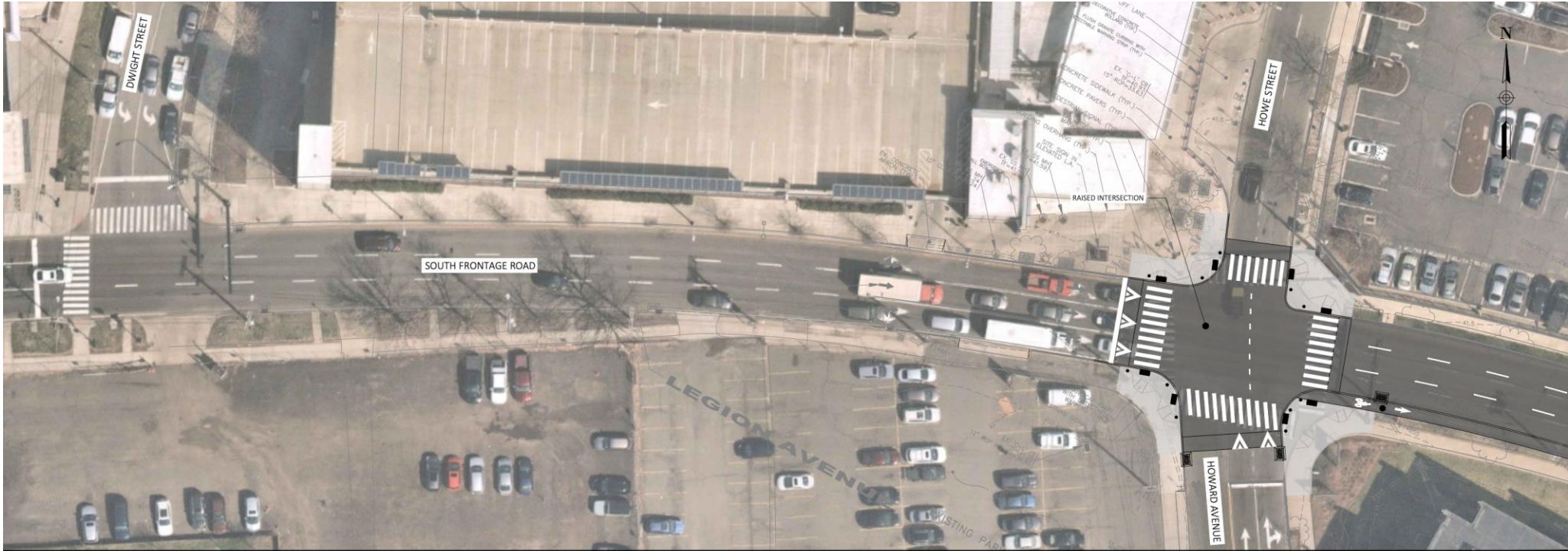
Traffic Analysis – Overall Intersection LOS

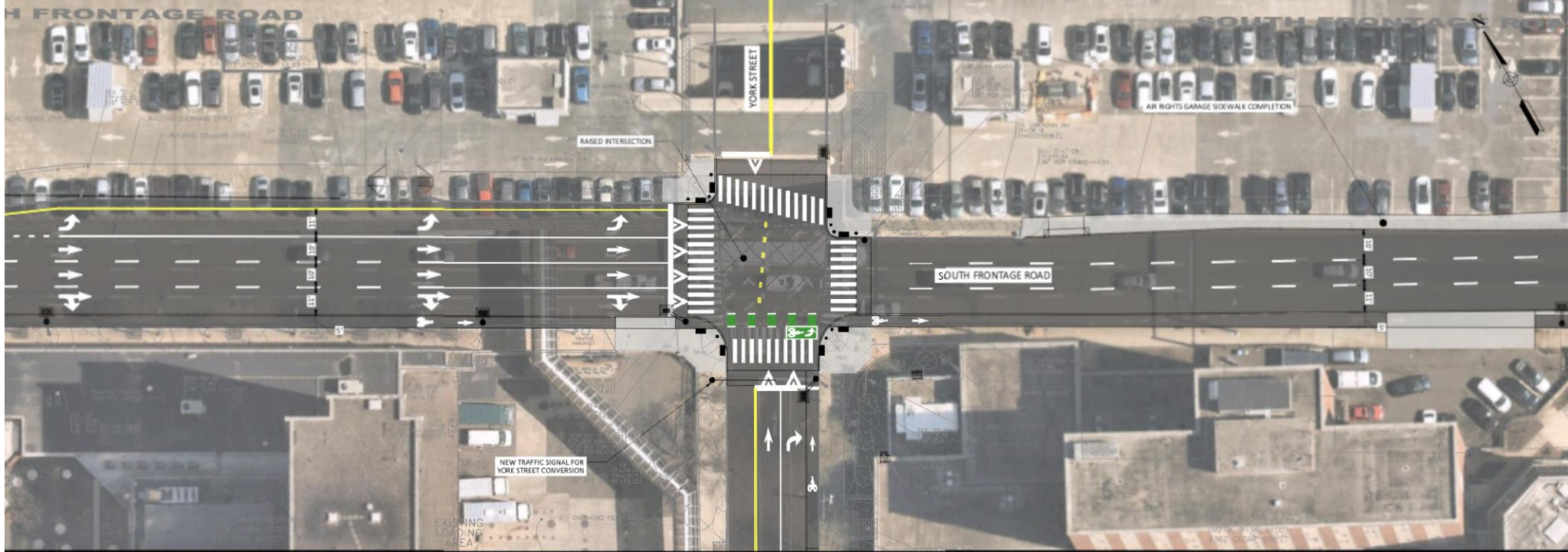


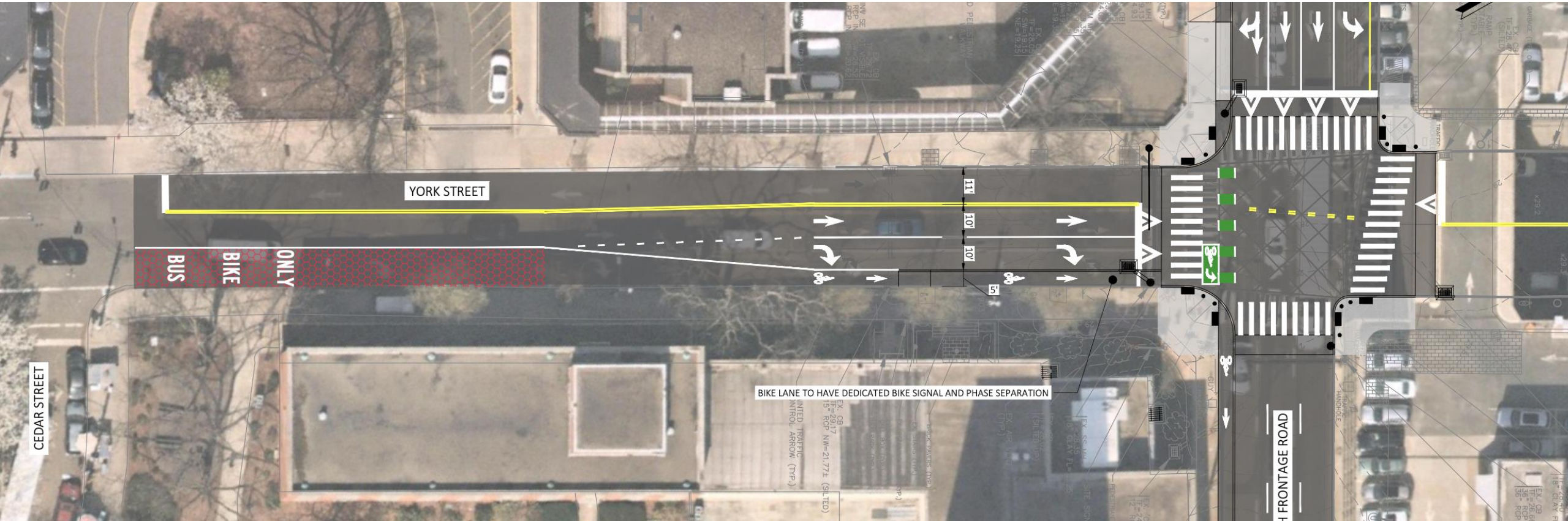
Proposed Improvements

- Raised intersections at Howard, Park, York
- Curb-separated bike lane
- Complete sidewalk along Garage
- Incorporate 2-way York St
- Improve York St bike lane









CEDAR STREET

YORK STREET

FRONTAGE ROAD

ONLY
BIKE
BUS

BIKE LANE TO HAVE DEDICATED BIKE SIGNAL AND PHASE SEPARATION

INT'D TRAFFIC
CNTRL. ARROW (TRP.)

EX. 08 17
15' RCP NW-21.77E (SITED)

BRICK WALLS (NP)

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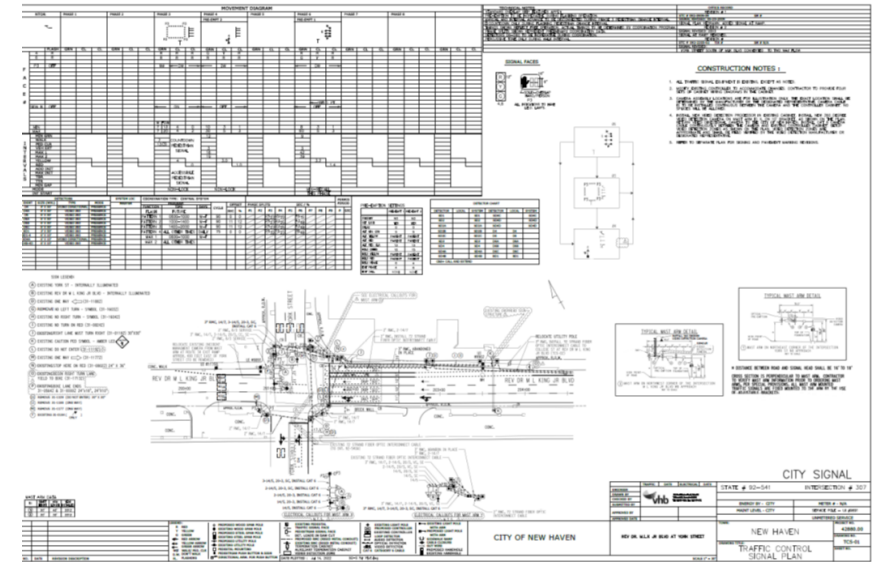
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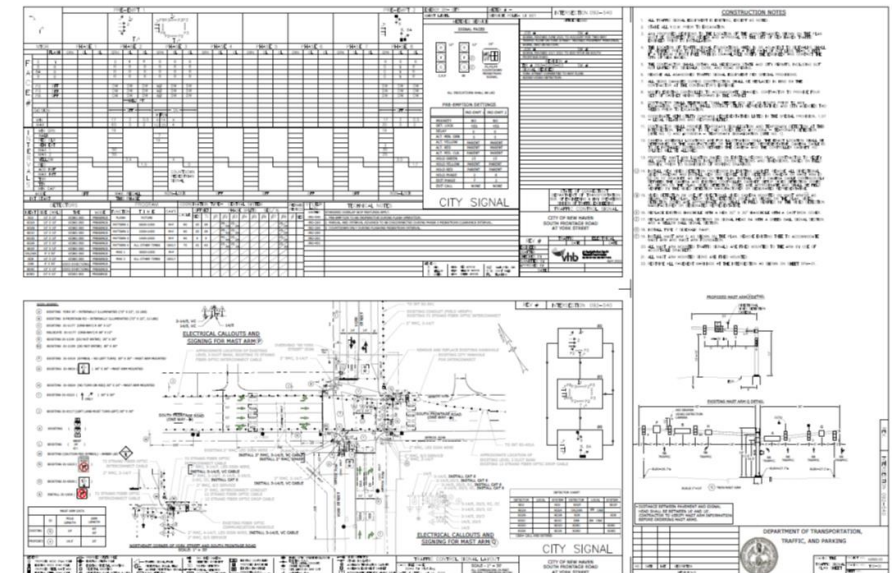
Proposed Improvements York St Two-way Conversion Project

- Convert York St to Two-way traffic between MLK Blvd and SFR
 - MLK at York St signalized intersection
 - SFR at York St signalized intersection
- Project improves safety, mobility, and connectivity for pedestrian and bicyclist
- Project fully designed and going out to bid in February 2023
- Project Construction Costs are estimated at \$250,000
- Project Completion is anticipated by March 2024

MLK @ York Street



SFR @ York Street



Budget/Timeline

- Finish design/approvals 2023
- Construction spring 2024

- Local Transportation Capital Improvement Program
- \$1.5M



Discussion

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