



City of Takoma Park

# TAKOMA JUNCTION REDEVELOPMENT PROJECT



Carroll Avenue (MD 195)



Ethan Allen Avenue (MD 410)



A. MORTON THOMAS AND ASSOCIATES, INC.  
Consulting Engineers

TRAFFIC ANALYSIS  
PRESENTATION



# Project Overview

- Traffic Study for the Takoma Junction Redevelopment Project
- Six (6) Tasks for Evaluation
  - Task #1 – Level of Cut-Through Traffic Determination (8 Intersections)
  - Task #2 – Intersection Capacity Analyses (4 Intersections)
  - Task #3 – Review Previous Intersection Design Concept Options Prepared by AMT
  - Task #4 – Intersection Reconfiguration Concept Designs
    - MD 195 and Ethan Allen Avenue (MD 410)
    - MD 195 and Grant Avenue
  - Task #5 – Preliminary Design Concepts for Bicycle and Pedestrian Safety Improvements
    - MD 410 between Jackson Avenue and Sycamore Avenue
    - MD 195 between MD 410 (Ethan Allen Avenue) and Columbia Avenue
  - Task #6 – Feasibility Study of Semi-Tractor Trailer Access along Sycamore Avenue and/or Columbia Avenue



# Task #1

## Residential Cut-Through Traffic

Defined as “vehicular traffic passing through a residential area without stopping or without at least an origin or destination within the area.”

-Code of Virginia (2012) by The State of Virginia





# Task #1

| TIME (Hourly) | EB        | WB       |
|---------------|-----------|----------|
| 6:00AM        | 0         | 1        |
| 7:00AM        | 0         | 0        |
| 8:00AM        | 0         | 1        |
| 9:00AM        | 0         | 0        |
| 10:00AM       | 0         | 0        |
| 11:00AM       | 0         | 0        |
| 12:00 Noon    | 1         | 0        |
| 1:00PM        | 1         | 1        |
| 2:00PM        | 0         | 0        |
| 3:00PM        | 1         | 0        |
| 4:00PM        | 1         | 0        |
| 5:00PM        | 5         | 0        |
| 6:00PM        | 1         | 1        |
| <b>Total</b>  | <b>10</b> | <b>4</b> |

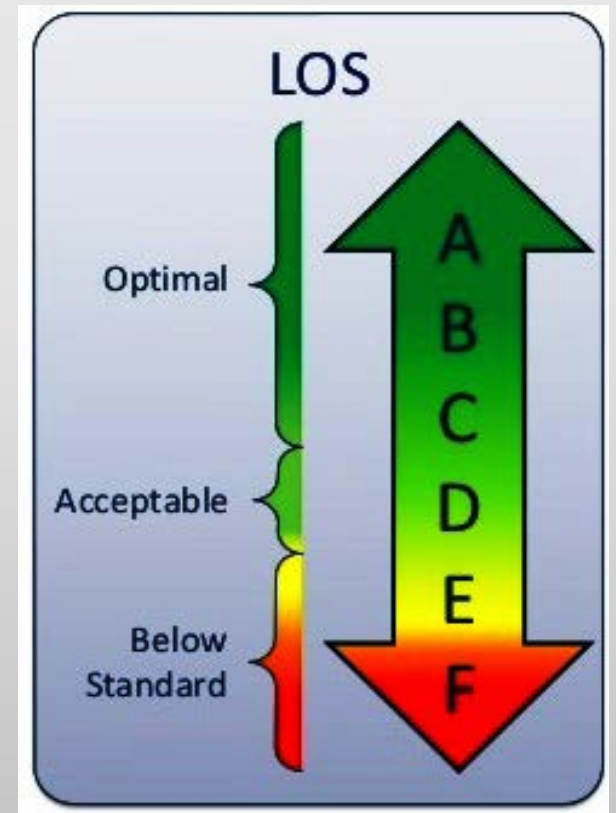




# Task #2

## Critical Lane Volume Methodology

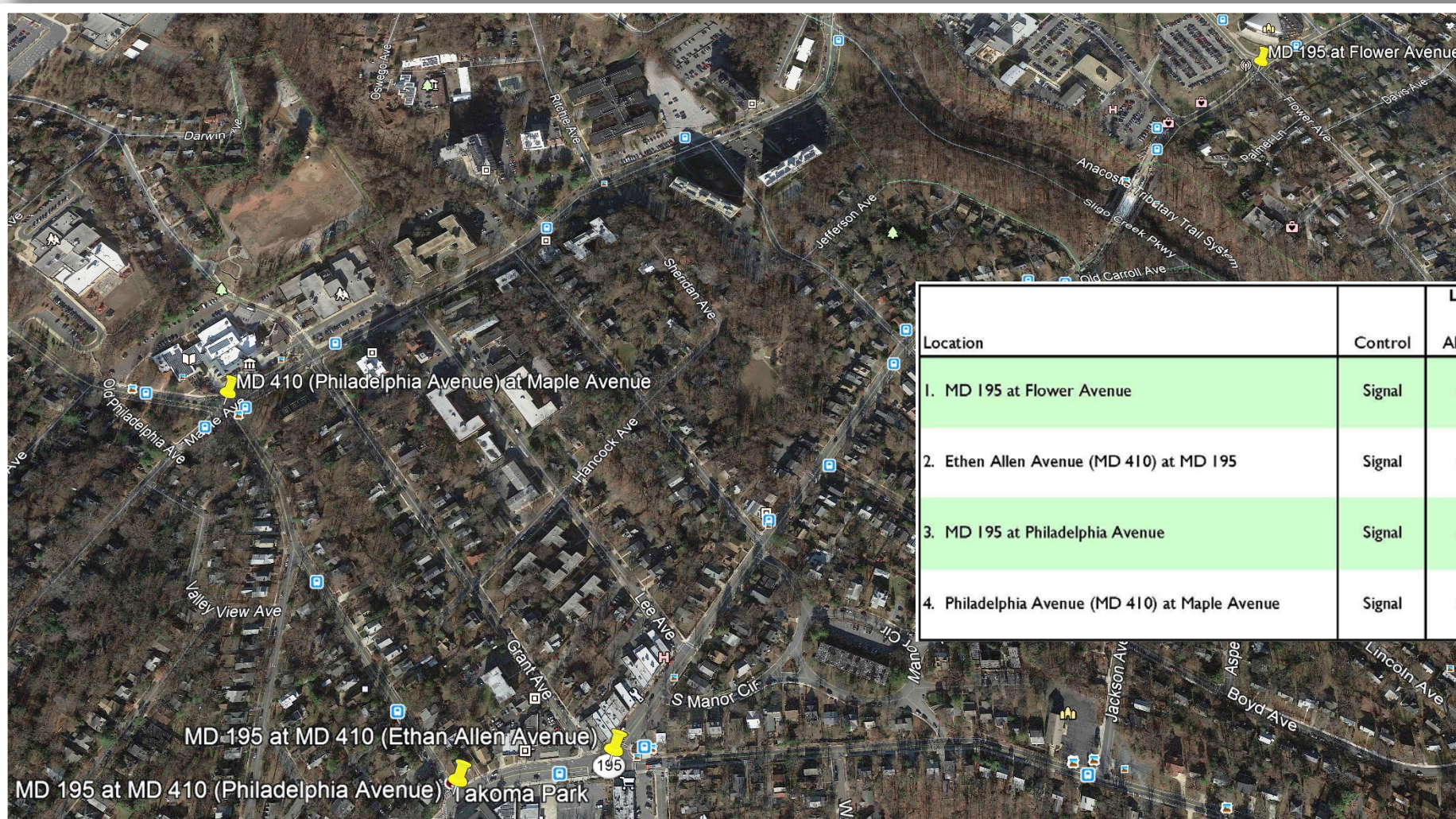
- Sketch Level Planning Tool Utilized by MDOT SHA and Planning Agencies
- Dependent Upon the Number of Approach Lanes and Opposing Left Turns
- Used for Level of Service Calculations on Isolated Intersections
- Based Upon a Volume to Capacity Ratio of
- 1,600 Vehicles/Hour
- Urban Areas: Level of Service D is **Acceptable**







# Task #2



| Location  | Control | LOS/Critical Volume/v/c ratio |              |
|---|---------|-------------------------------|--------------|
|   |         | AM Peak Hour                  | PM Peak Hour |
| 1. MD 195 at Flower Avenue                      | Signal  | A/825/0.52                    | B/1071/0.67  |
| 2. Ethen Allen Avenue (MD 410) at MD 195        | Signal  | A/837/0.52                    | C/1270/0.79  |
| 3. MD 195 at Philadelphia Avenue                | Signal  | A/791/0.49                    | B/1115/0.70  |
| 4. Philadelphia Avenue (MD 410) at Maple Avenue | Signal  | A/911/0.57                    | C/1155/0.72  |





# Task #3

## Review Previous Intersection Design Concepts

- Eight (8) concepts studied as part of SHA D-3 traffic report submitted August, 2015, two (2) options were recommended:
  - If MD 195 is not re-aligned, close Sycamore Avenue to traffic.
  - If MD 195 is re-aligned, close Sycamore Avenue and Grant Avenue to traffic
  
- Four (4) concepts studied as part of SHA D-3 traffic report submitted November, 2016, two (2) options were recommended:
  - If MD 195 is not re-aligned, close Sycamore Avenue to traffic.
  - If MD 195 is re-aligned, close Sycamore Avenue to traffic



# TASK#4

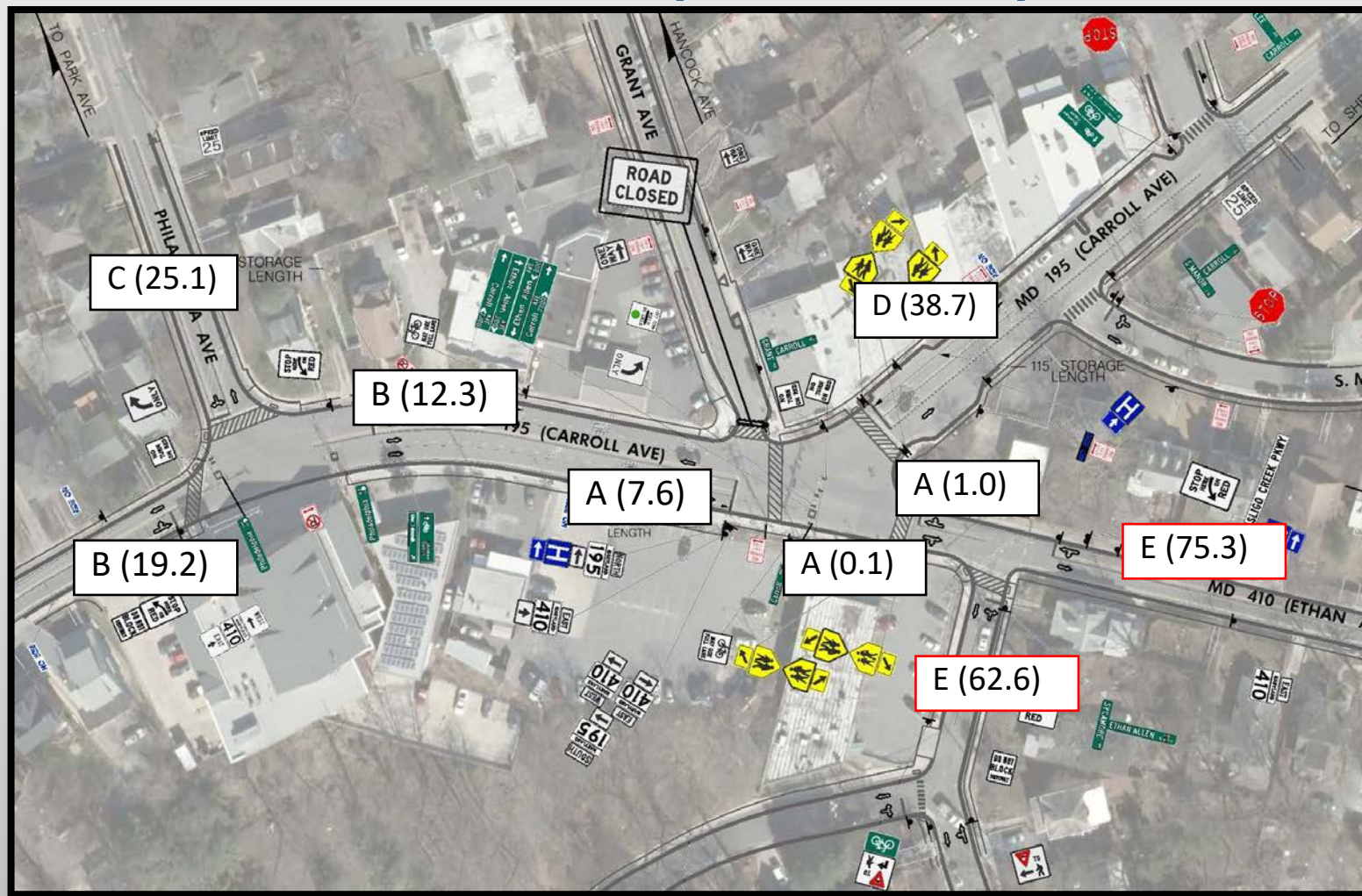
- ***Task #4 – Intersection Reconfiguration Concept Designs***
  - ***MD 195 and Ethan Allen Avenue (MD 410)***
  - ***MD 195 and Grant Avenue***
- **Option 1: Grant Avenue closed to traffic**
- **Option 2a: Re-align MD 195 opposite to Sycamore Avenue with Grant Avenue open to traffic**
- **Option 2b: Re-align MD 195 opposite to Sycamore Avenue with Grant Avenue closed to traffic**
- **Option 3: Re-align MD 195 opposite to Sycamore Avenue with no left turns into Grant Avenue and Sycamore Avenue and no exit from Sycamore Avenue**





# TASK#4

## Option 1: Grant Avenue closed to traffic (AM Peak Hour)

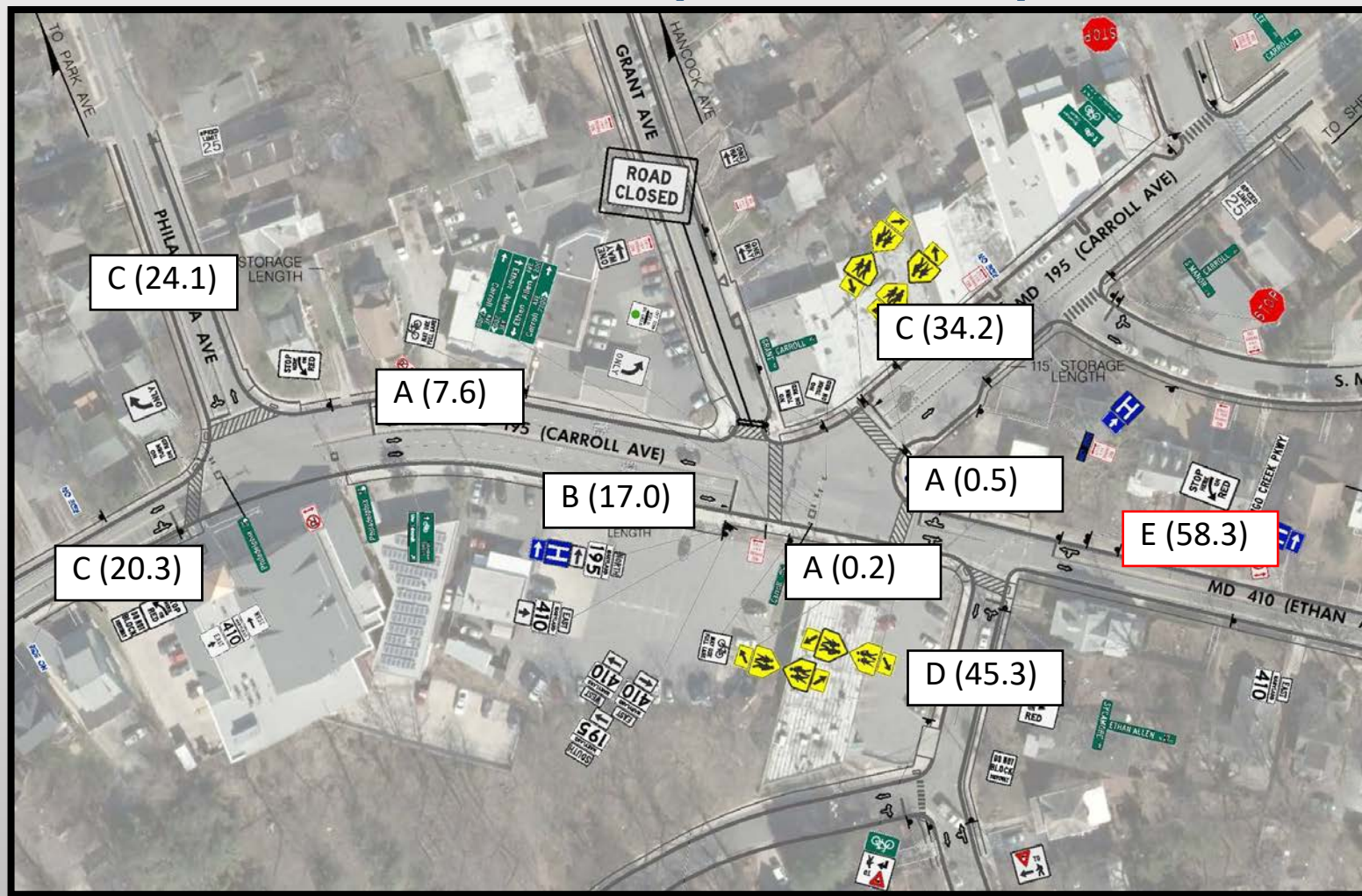


LOS (Delay)



# TASK#4

## Option 1: Grant Avenue closed to traffic (PM Peak Hour)



LOS (Delay)

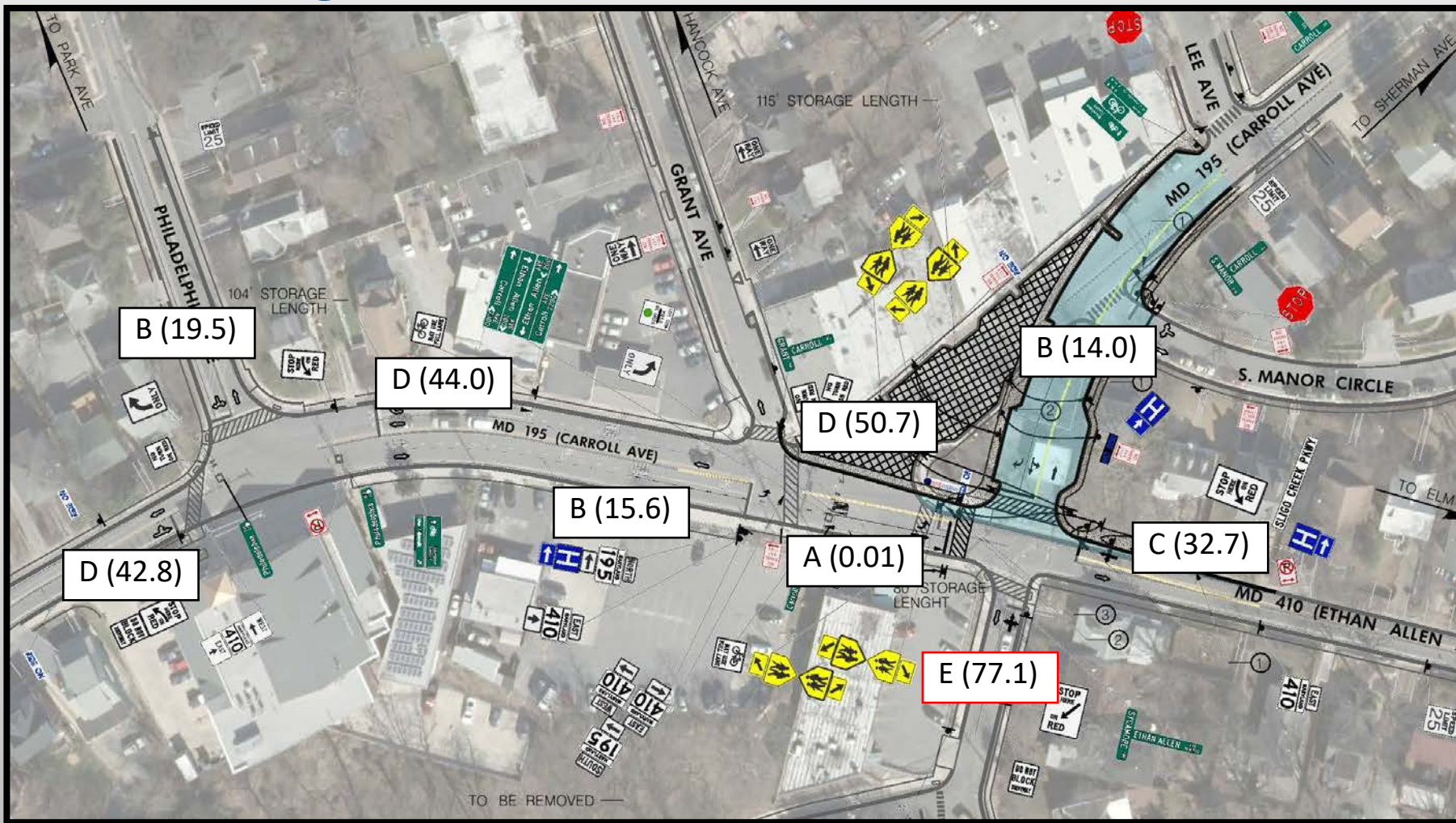




# TASK#4

## Option 2a: Realign MD 195(AM Peak Hour)

LOS (Delay)

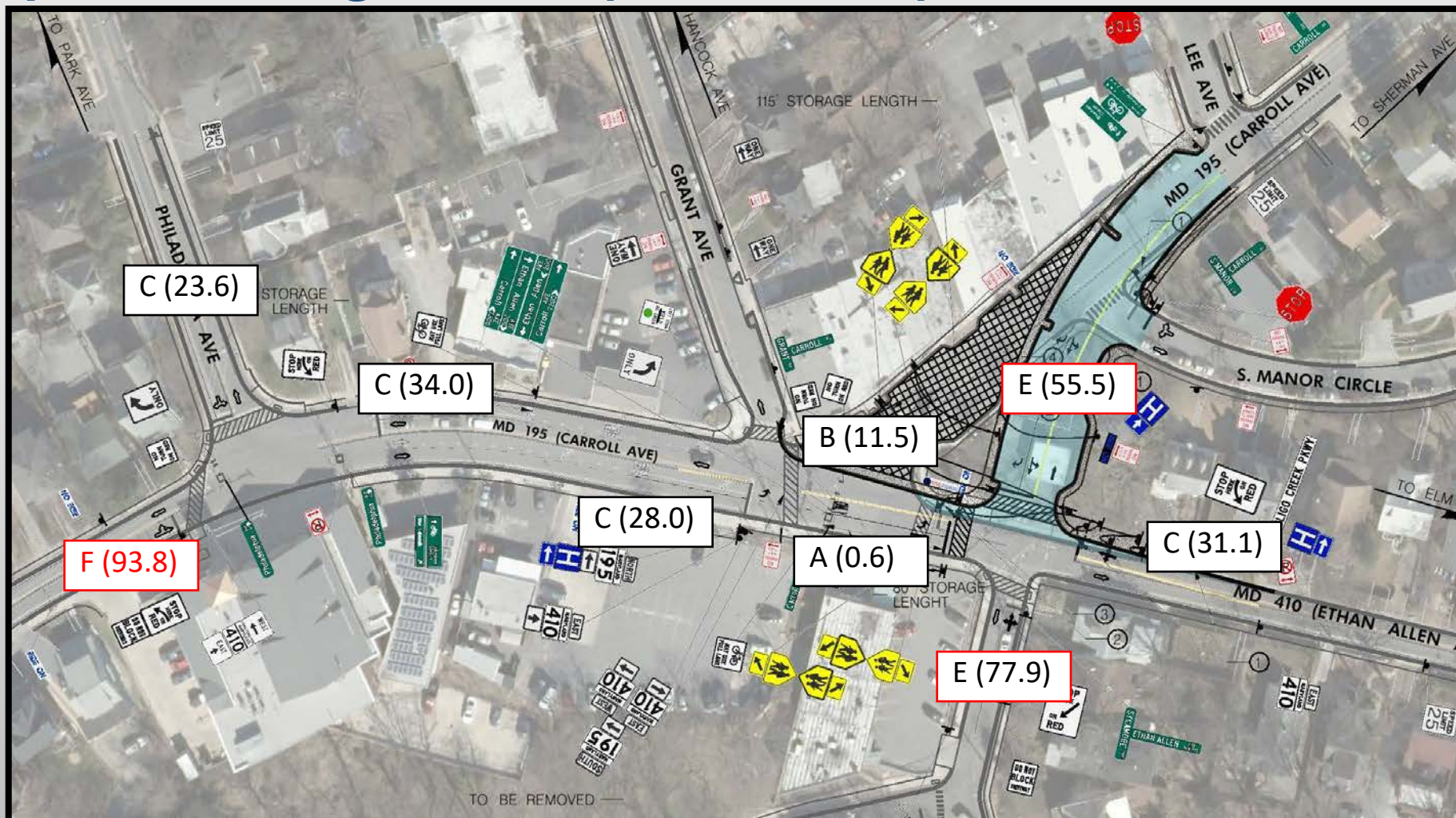






# TASK#4

## Option 2a: Realign MD 195 (PM Peak Hour)



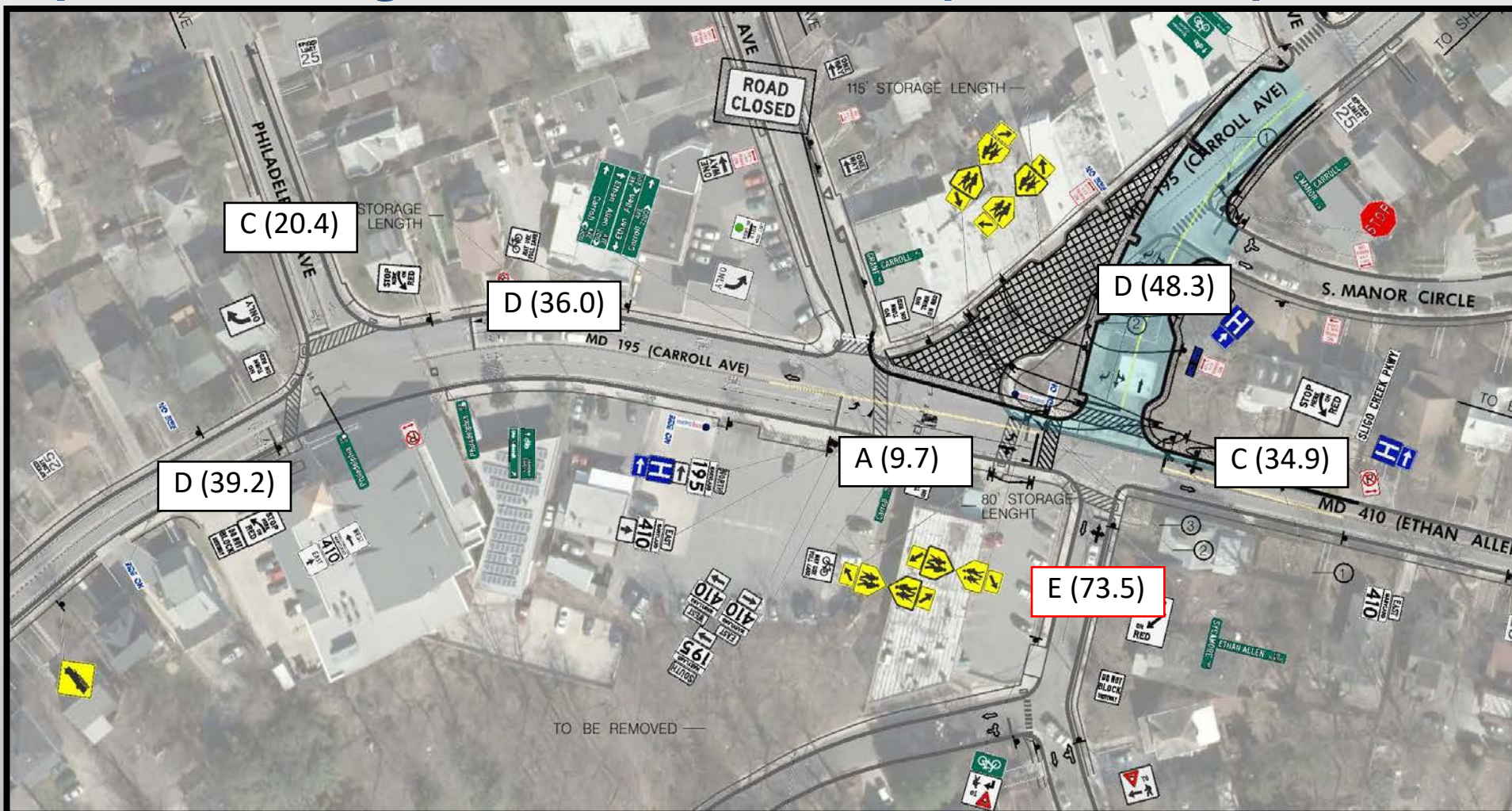
LOS (Delay)





# TASK#4

## Option 2b: Realign MD 195+Grant Closed (AM Peak Hour)



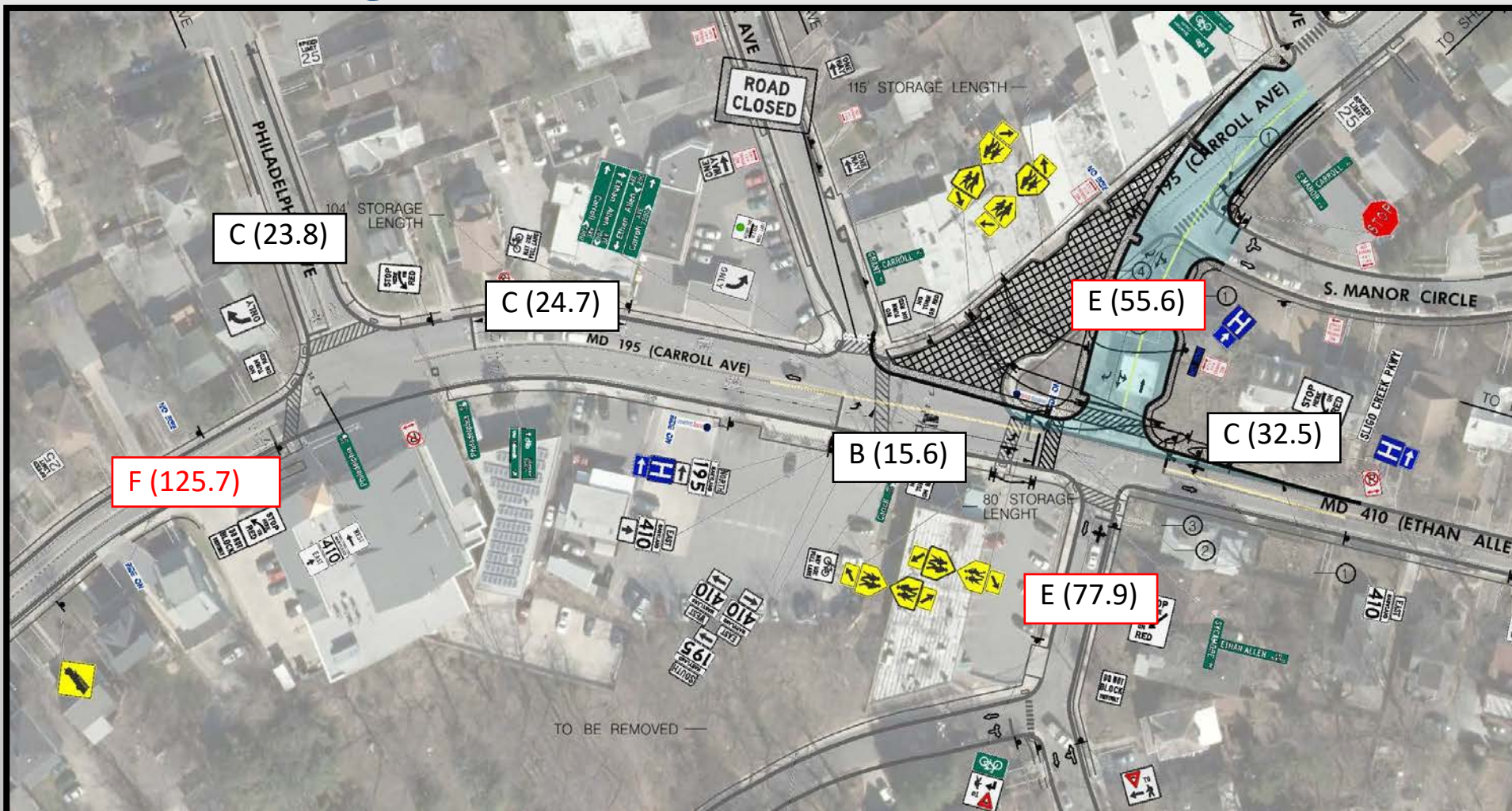
LOS (Delay)





# TASK#4

## Option 2b: Realign MD 195+Grant Closed (PM Peak Hour)



LOS (Delay)





### Option 3: AM Peak Hour

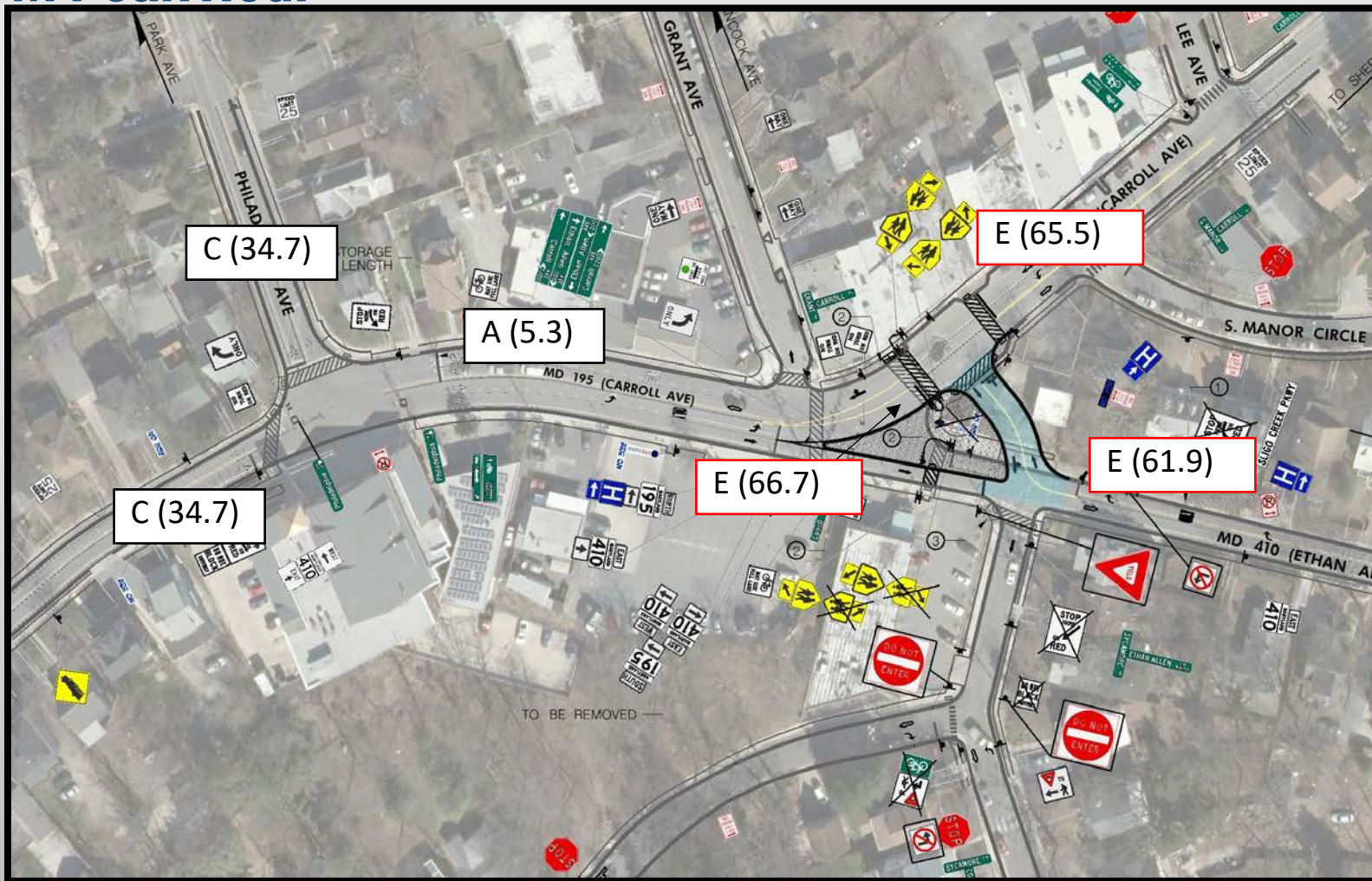






# TASK#4

## Option 3: PM Peak Hour



LOS (Delay)





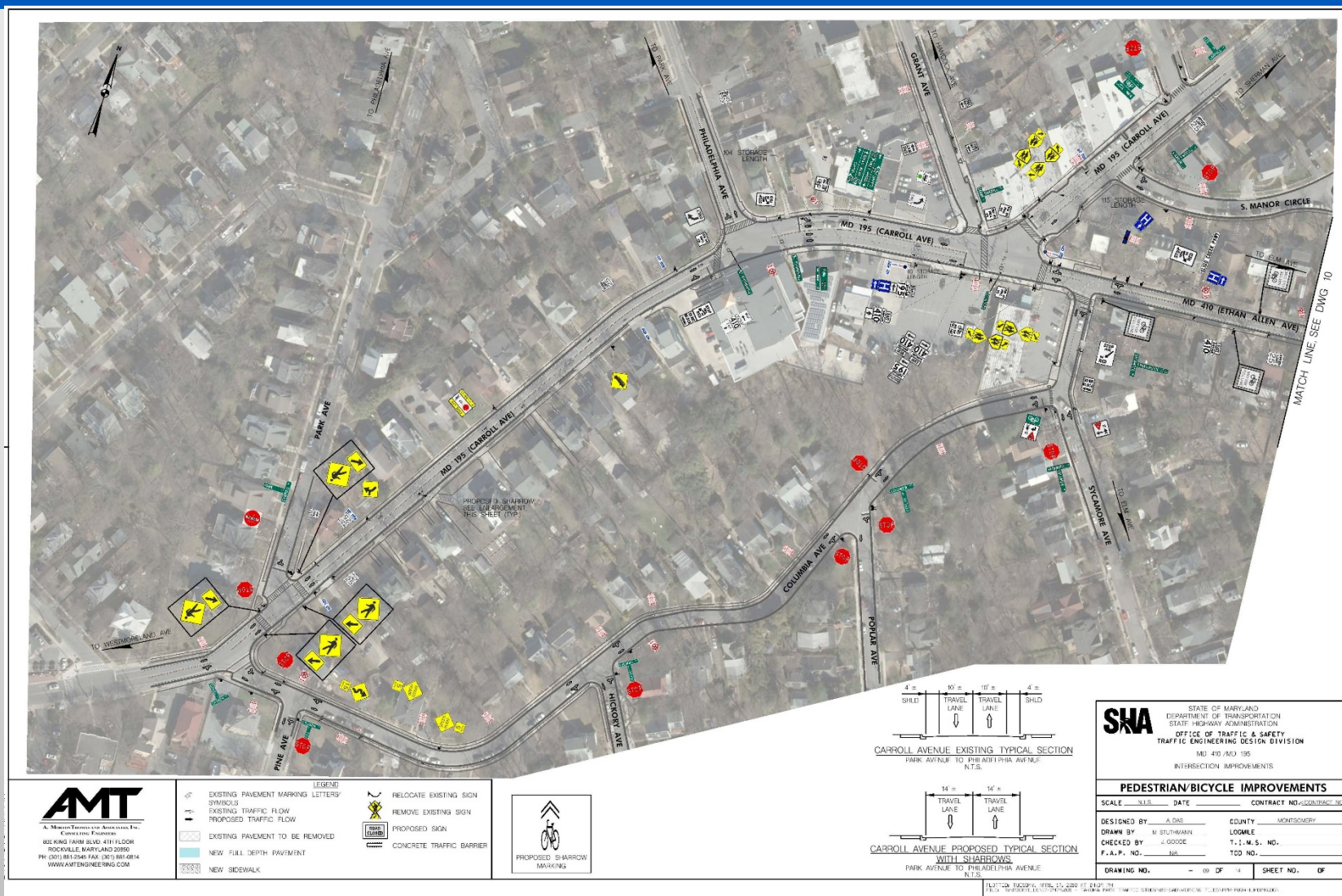
# Task #5:

## **Pedestrian and Bicycle Safety:**

- **Develop design concepts for the incorporation of bicycle and pedestrian safety improvements along Ethan Allen Avenue (MD 410) between Jackson Avenue & Sycamore Avenue and along MD 195 between Ethan Allen Avenue (MD 410) and Columbia Avenue**
- **Identify options for possible relocation of existing bus stops along MD 410 and MD 195**



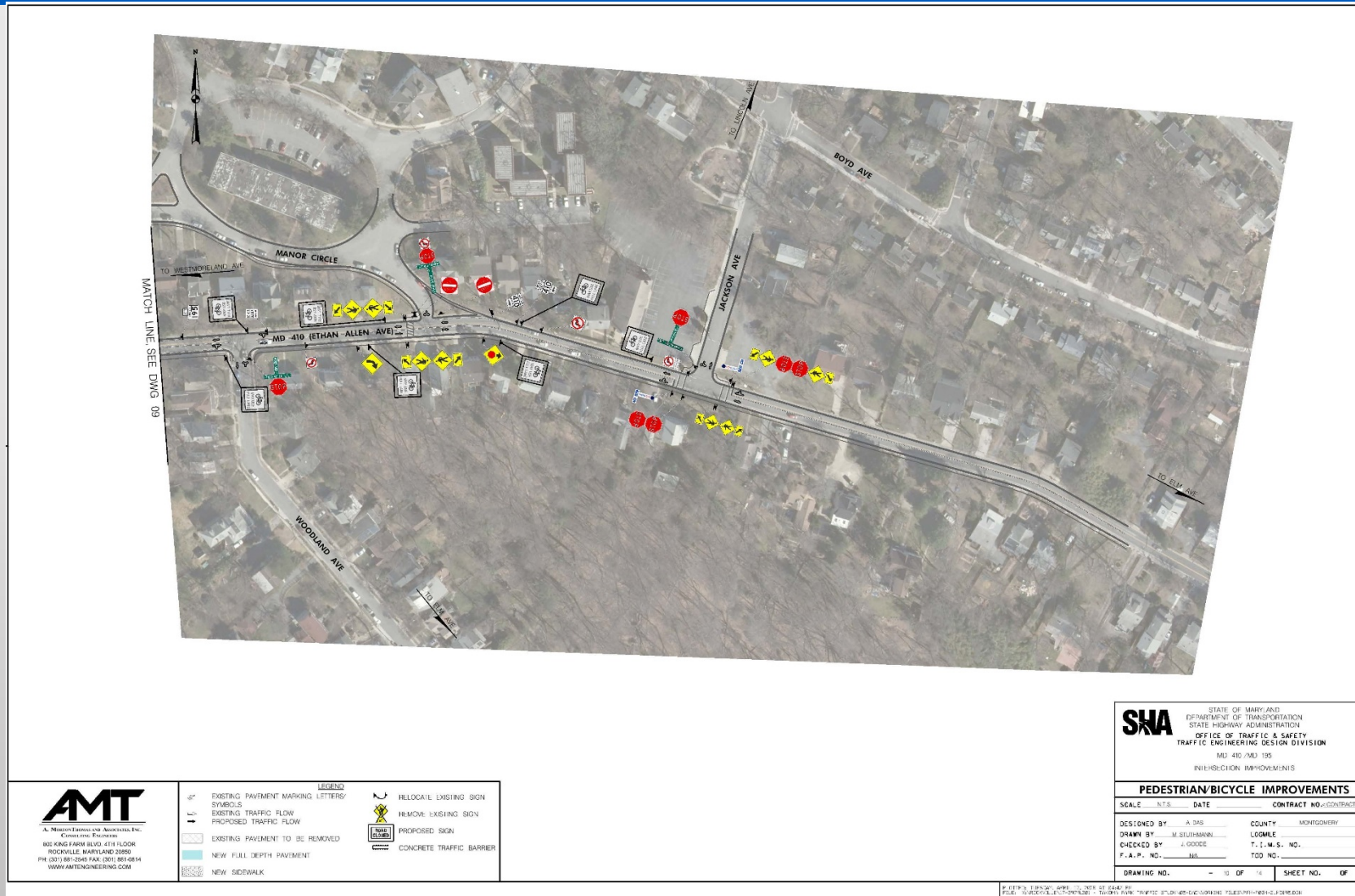
# Task #5:







# Task #5:





# Task #6:

## Evaluate Truck Accessibility:

- Investigate the feasibility of trucks (semi-tractor trailers) to be able to access Sycamore Avenue and/or Columbia Avenue to perform their deliveries for the future Takoma Park Food C-op located along the south side of MD 410 just west of Sycamore Avenue.





# Task #6:





# Task #6:







**NOTE:**  
1. AUTOTURN DEPICTED USES WB-40 DESIGN VEHICLE

PLCTED: TUESDAY, APRIL 17, 2000 AT 04:02 PM



# Task #6:







# Questions?