

LAURA CURRAN
NASSAU COUNTY EXECUTIVE



KENNETH G. ARNOLD, P.E.
COMMISSIONER

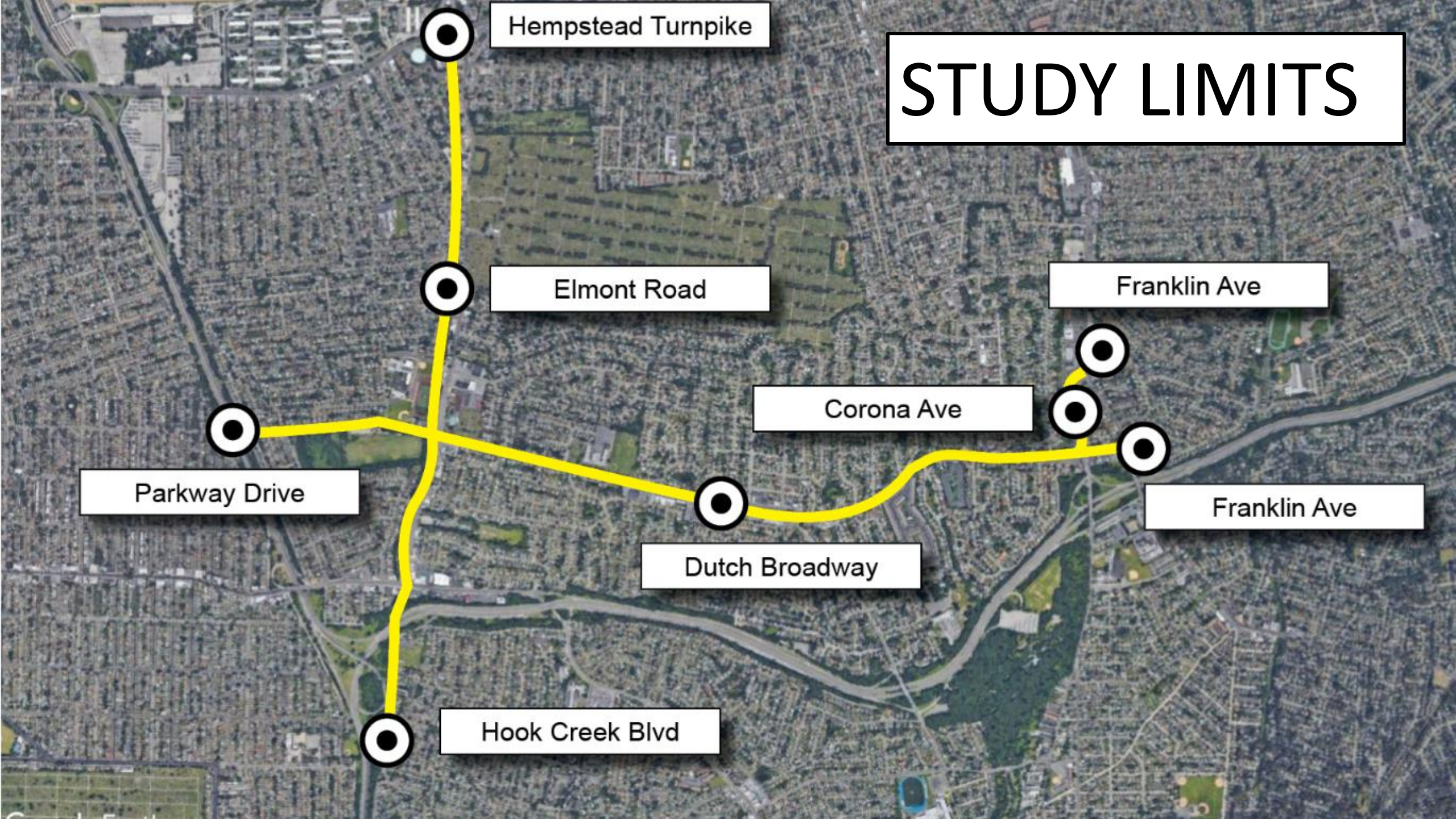
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS **ELMONT TRAFFIC SAFETY EVALUATION**



AGENDA

- INTRODUCTION
- DATA COLLECTION AND ANALYSIS
- FIELD OBSERVATIONS
- POTENTIAL IMPROVEMENTS
- NEXT STEPS
- QUESTIONS

STUDY LIMITS



Hempstead Turnpike

Elmont Road

Parkway Drive

Hook Creek Blvd

Corona Ave

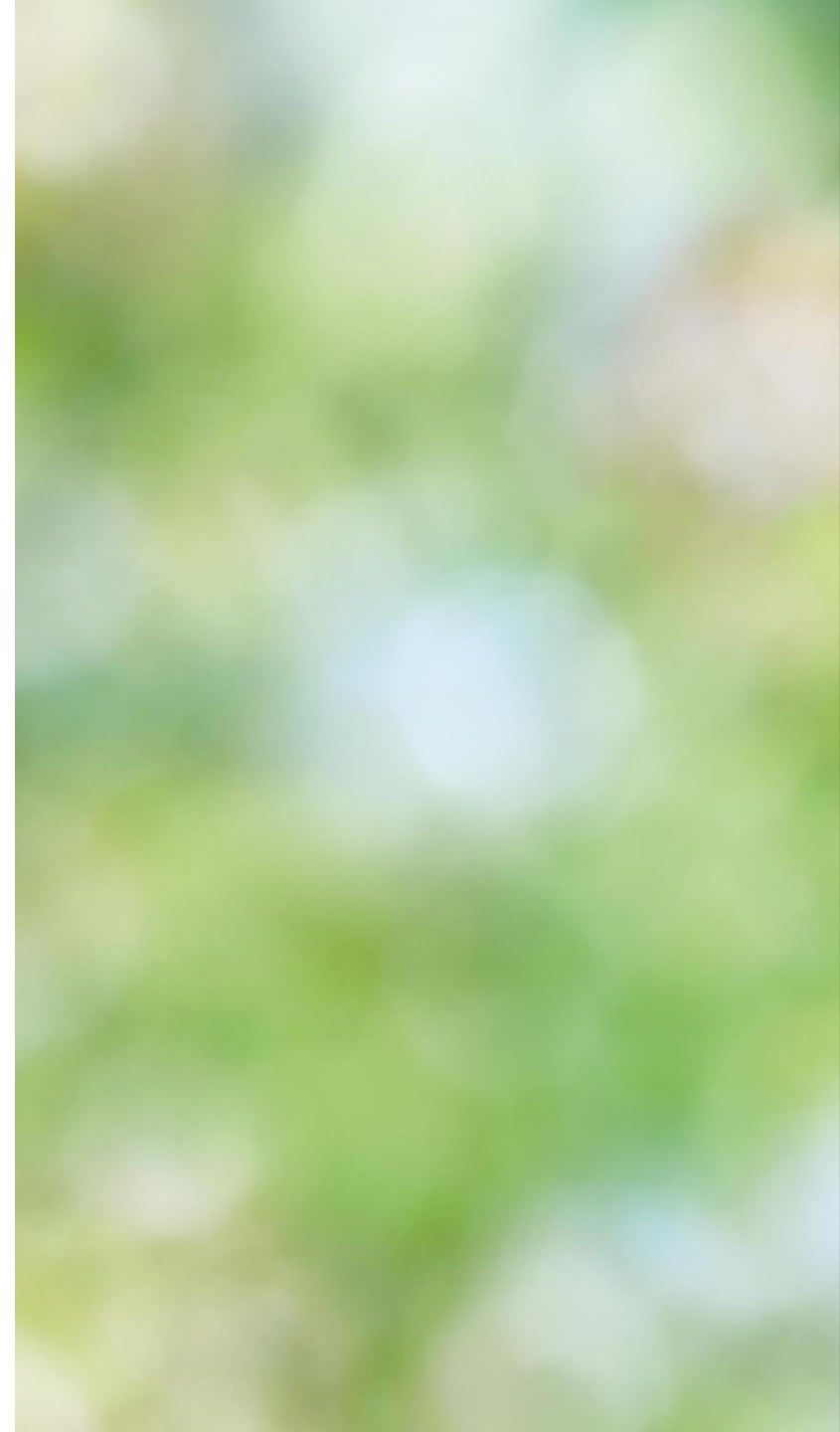
Dutch Broadway

Franklin Ave

Franklin Ave

DATA COLLECTION AND ANALYSIS

- **AUTOMATED TRAFFIC RECORDER COUNTS (ATR)**
- **TURNING MOVEMENT COUNTS**
- **FIELD OBSERVATIONS**
- **SPOT SPEED STUDIES**
- **CRASH ANALYSIS**
- **TRAFFIC CAPACITY ANALYSIS**



AUTOMATED TRAFFIC RECORDER COUNTS

Elmont Road:

1. Oliver Avenue and Stuart Avenue
2. Freeman Avenue and Dutch Broadway
3. Post Office @ 260 Elmont Road

Dutch Broadway:

4. 238th Street and Astor Street
5. Diamond Street and Keegan Street
6. Connie Lane and Lawrence Street

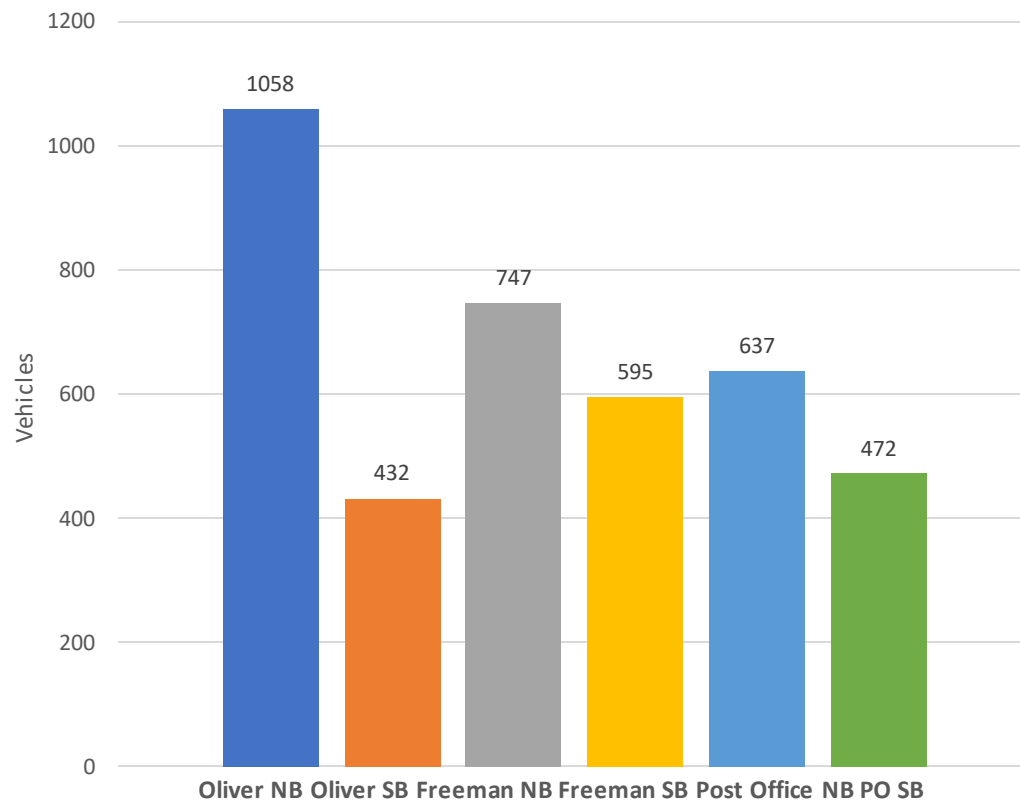
Corona Avenue:

7. Agnes Court and Woodcliff Drive

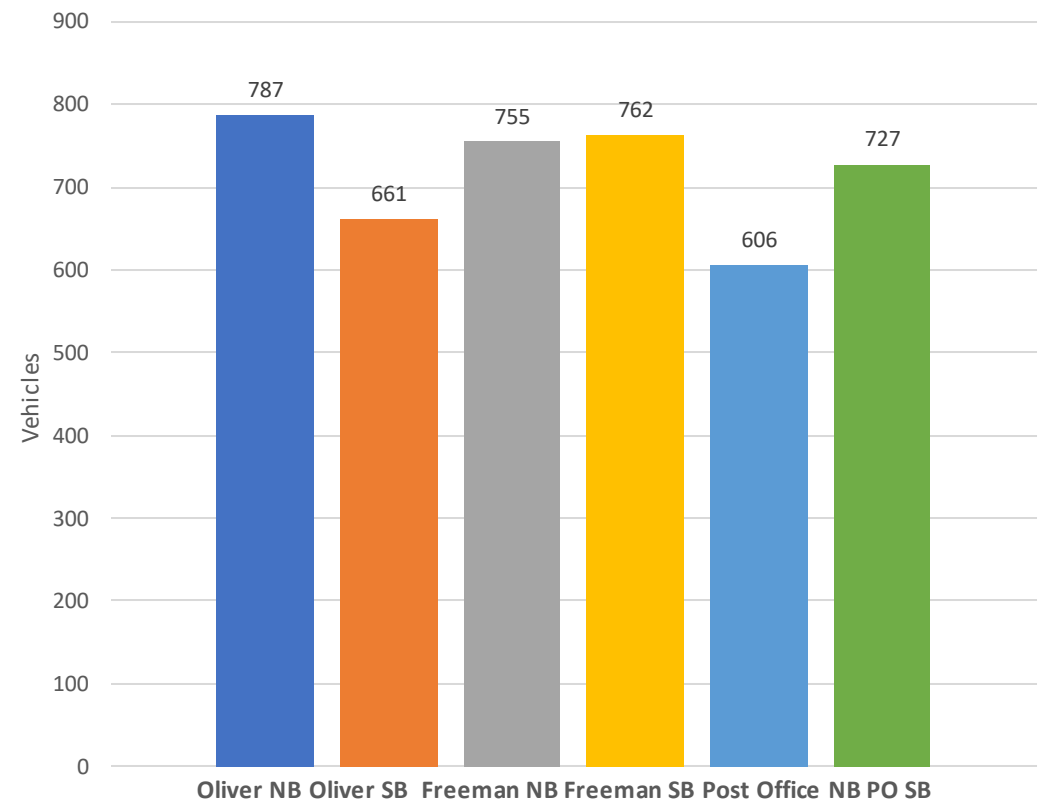


AM AND PM PEAK HOUR VOLUMES ELMONT ROAD

AM Peak Hour 7:15 - 8:15 Elmont Road

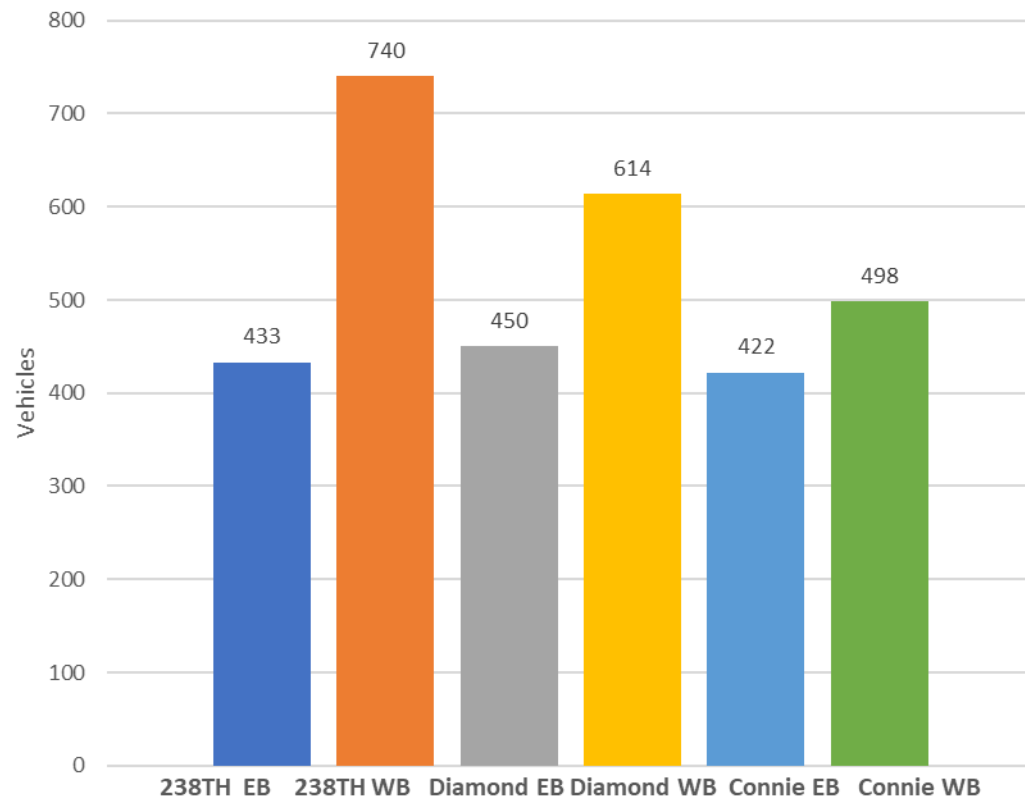


PM Peak Hour 4:45 - 5:45 Elmont Road

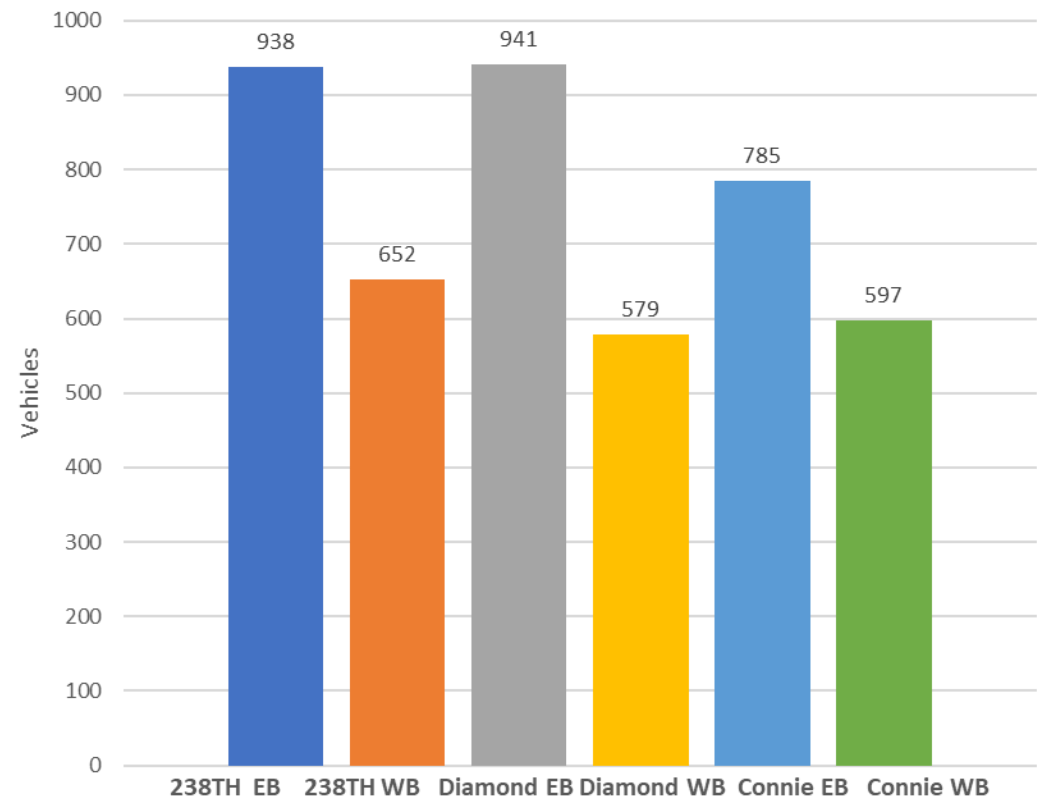


AM AND PM PEAK HOUR VOLUMES DUTCH BROADWAY

AM Peak Hour 7:15 - 8:15 Dutch Broadway



PM Peak Hour 4:45 - 5:45 Dutch Broadway



TURNING MOVEMENT COUNTS

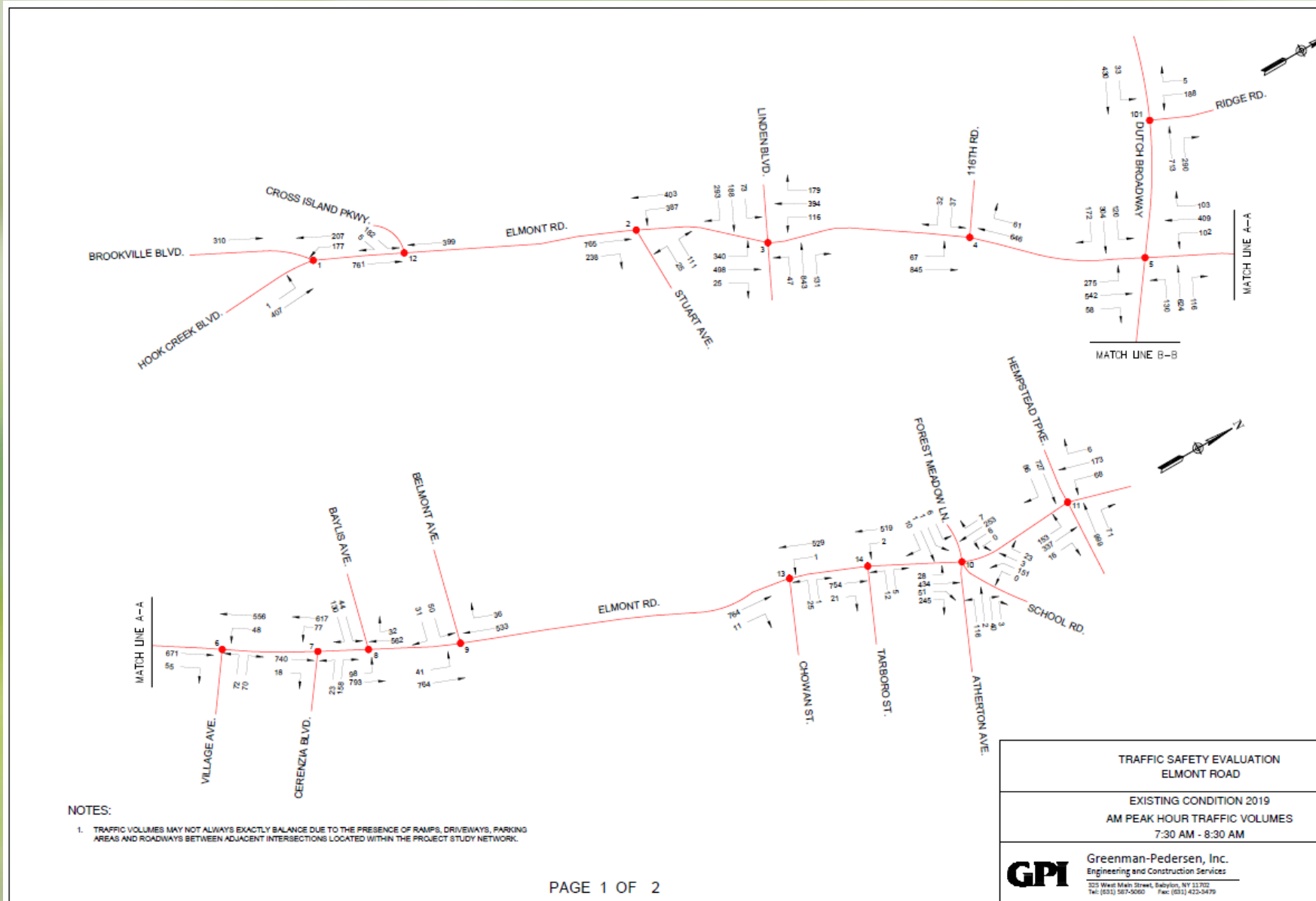


- MIOVISION CAMERAS UTILIZED FOR TRAFFIC COUNTS
- DUTCH BROADWAY 14 SIGNALIZED INTERSECTIONS
3 UNSIGNALIZED
- ELMONT ROAD 11 SIGNALIZED INTERSECTIONS
3 UNSIGNALIZED
- CORONA AVENUE 1 SIGNALIZED INTERSECTION
- TOTAL OF 32 INTERSECTIONS COUNTED

PEAK HOUR COUNTS
WEEKDAYS 7 – 9 AM and 2 – 6 PM
SATURDAY 12 – 2 PM
SUNDAY FOR CHURCH
FRIDAY FOR MOSQUE



TRAFFIC FLOW MAPS



NOTES:
 1. TRAFFIC VOLUMES MAY NOT ALWAYS EXACTLY BALANCE DUE TO THE PRESENCE OF RAMPS, DRIVEWAYS, PARKING AREAS AND ROADWAYS BETWEEN ADJACENT INTERSECTIONS LOCATED WITHIN THE PROJECT STUDY NETWORK.


TRAFFIC SAFETY EVALUATION ELMONT ROAD
EXISTING CONDITION 2019 AM PEAK HOUR TRAFFIC VOLUMES 7:30 AM - 8:30 AM
GPI Greenman-Pedersen, Inc. Engineering and Construction Services 323 West Main Street, Babylon, NY 11702 Tel: (516) 587-5060 Fax: (516) 422-3479

TRAFFIC FLOW MAPS



NOTES:

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EXISTING CONDITION 2019 AM PEAK HOUR TRAFFIC VOLUMES 7:30 AM - 8:30 AM
 Greenman-Pedersen, Inc. Engineering and Construction Services <small>333 West Main Street, Shelton, CT 06484 Tel: (833) 567-5000 Fax: (833) 422-3479</small>

FIELD OBSERVATION

SKETCHES

PHOTOS

NOTES

SIGN INVENTORY

PAVEMENT MARKING INVENTORY

SIGHT DISTANCE



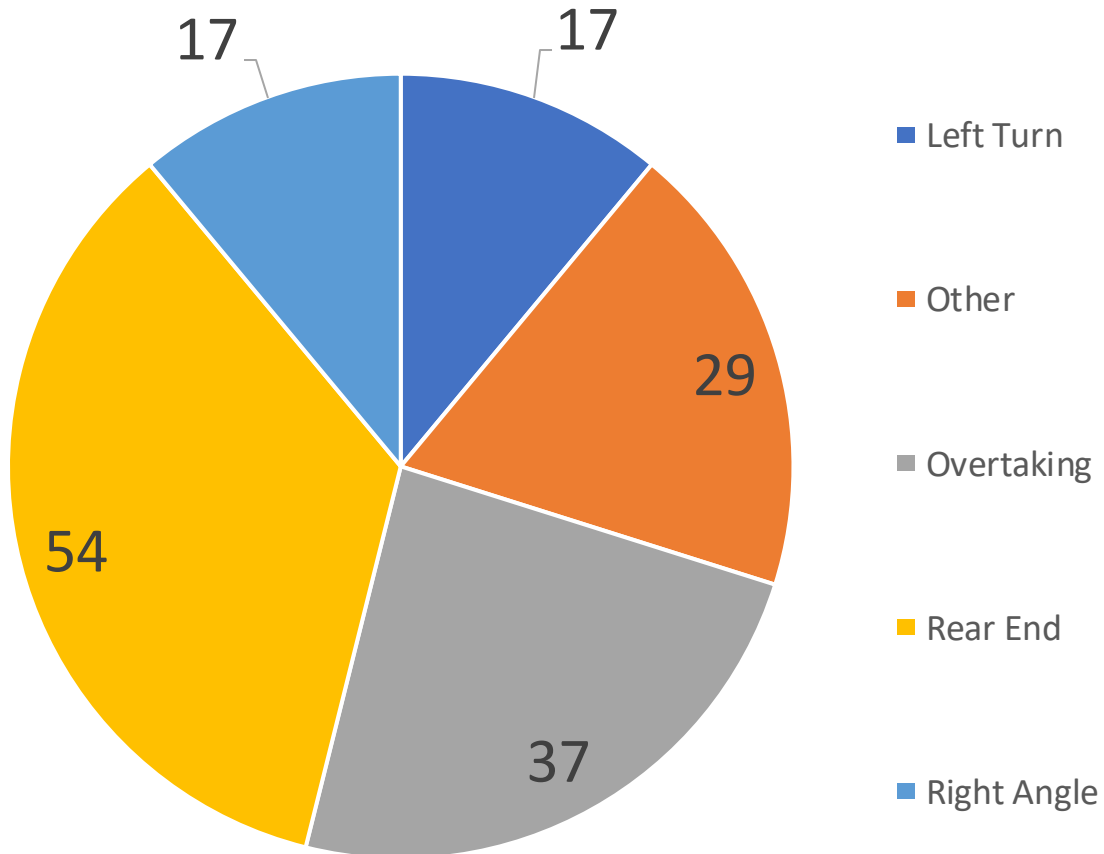
SPEED STUDIES

Speed Data	
Dutch Broadway	Between 238th Street and Aster Street
Existing Speed Limit	30 mph (EB, WB)
85 th Percentile Operating Speed	41.9 mph EB / 42.6 mph WB Radar Spot Speed Study Method*
Dutch Broadway	Between Connie Lane and Lawrence Street
Existing Speed Limit	30 mph (EB, WB)
85 th Percentile Operating Speed	41.0 mph EB / 39.7 mph WB Radar Spot Speed Study Method*
Dutch Broadway	Between Diamond Street and Keegan Street
Existing Speed Limit	30 mph (EB, WB)
85 th Percentile Operating Speed	43.6 mph EB / 42.5 mph WB Radar Spot Speed Study Method*
Dutch Broadway	Between Kallas Court and Warner Road
Existing Speed Limit	30 mph (EB, WB)
85 th Percentile Operating Speed	43.6 mph EB / 41.2 mph WB Radar Spot Speed Study Method*

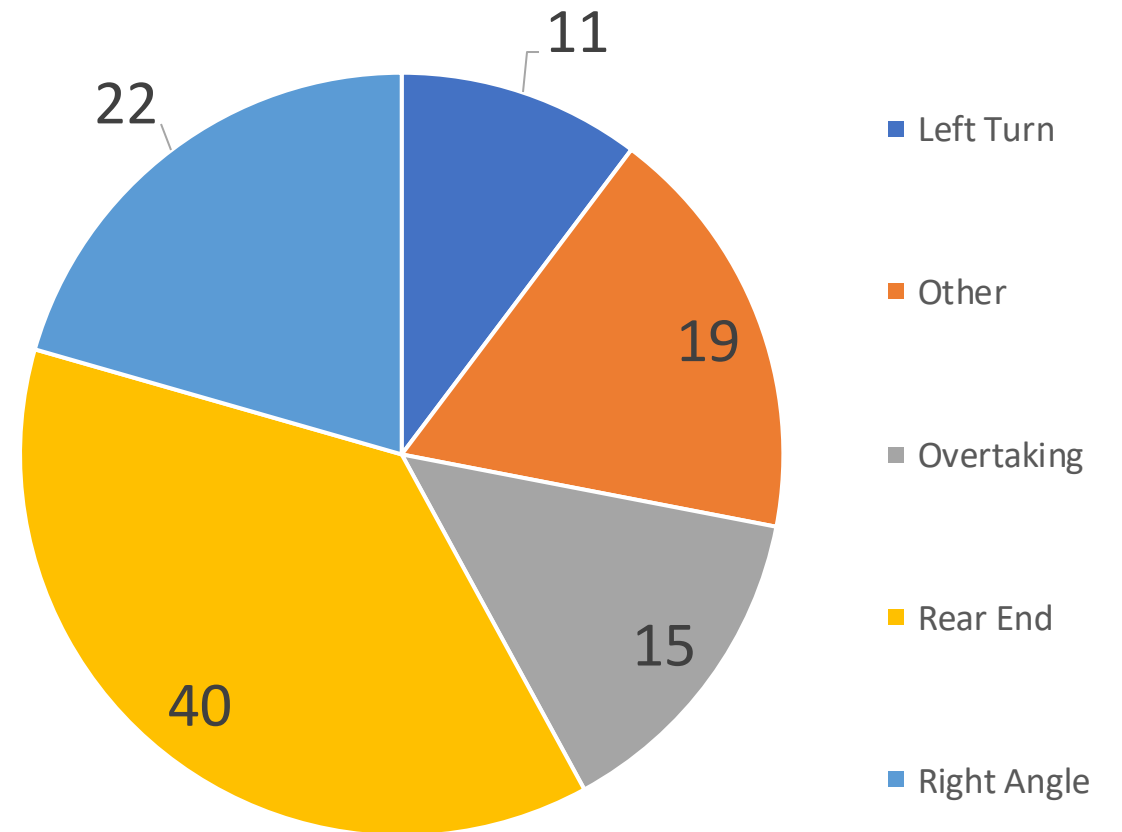
Speed Data	
Corona Avenue	Between Dutch Broadway and Franklin Ave
Existing Speed Limit	30 mph (NB, SB)
85 th Percentile Operating Speed	37.2 mph NB / 39.8 mph SB Radar Spot Speed Study Method*
Elmont Road	Elmont Road at Post Office
Existing Speed Limit	30 mph (NB, SB)
85 th Percentile Operating Speed	39.1 mph NB / 39.4 mph SB Radar Spot Speed Study Method*
Elmont Road	Between Dutch Broadway and Village Avenue
Existing Speed Limit	30 mph (NB, SB)
85 th Percentile Operating Speed	38.7 mph NB / 39.4 mph SB Radar Spot Speed Study Method*
Elmont Road	Between Oliver and Stuart Avenues
Existing Speed Limit	30 mph (EB, WB)
85 th Percentile Operating Speed	42.4 mph NB / 40.6 mph SB Radar Spot Speed Study Method*

CRASH DATA

Elmont at Linden 154 Crashes

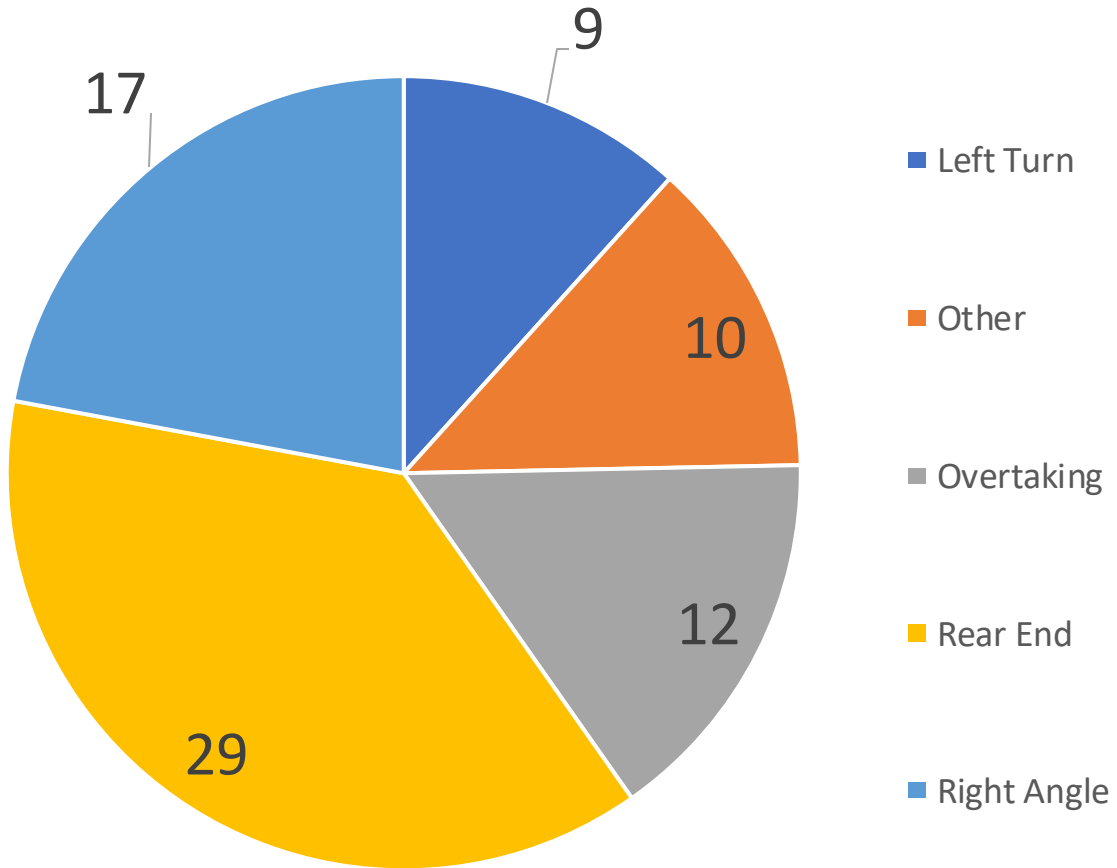


Elmont at Dutch Broadway 107 Crashes

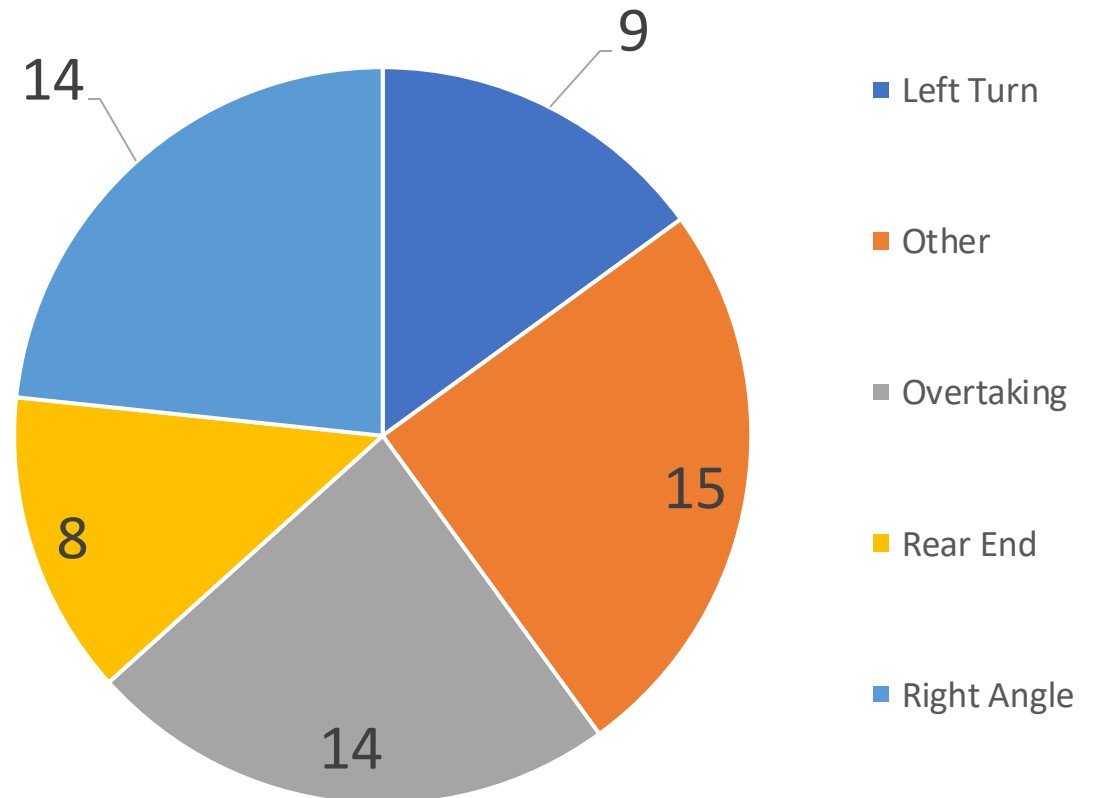


CRASH DATA

Dutch Broadway at Corona 77 Crashes

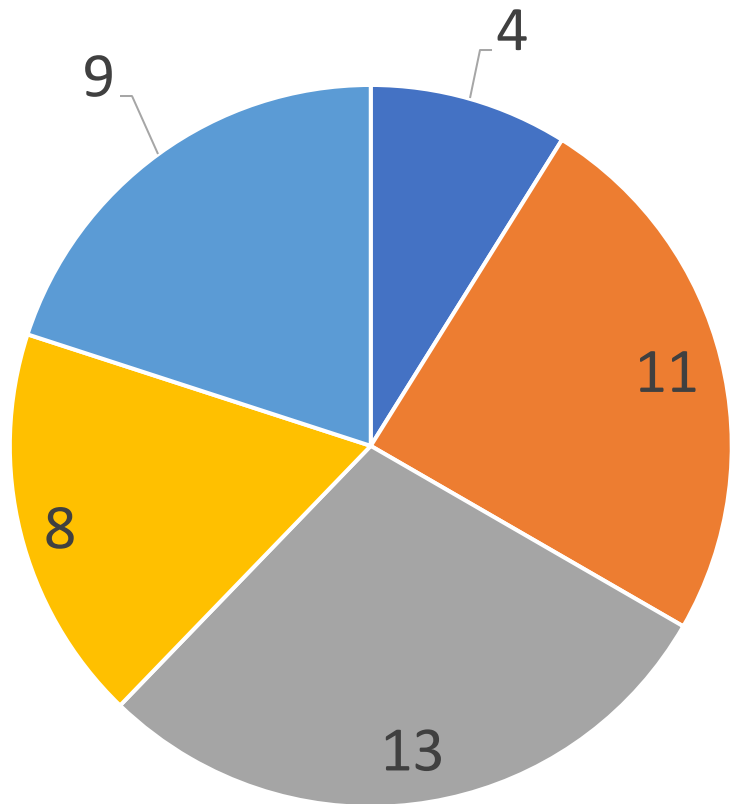


Dutch Broadway - Dauntless/Fletcher 60 Crashes



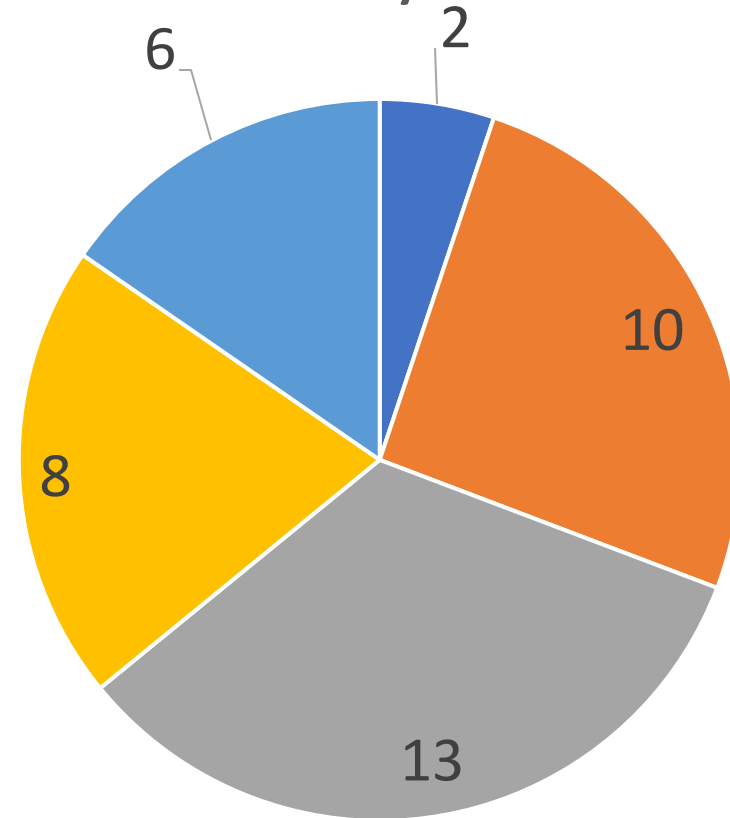
CRASH DATA

Franklin at Corona 45 Crashes



- Left Turn
- Other
- Overtaking
- Rear End
- Right Angle

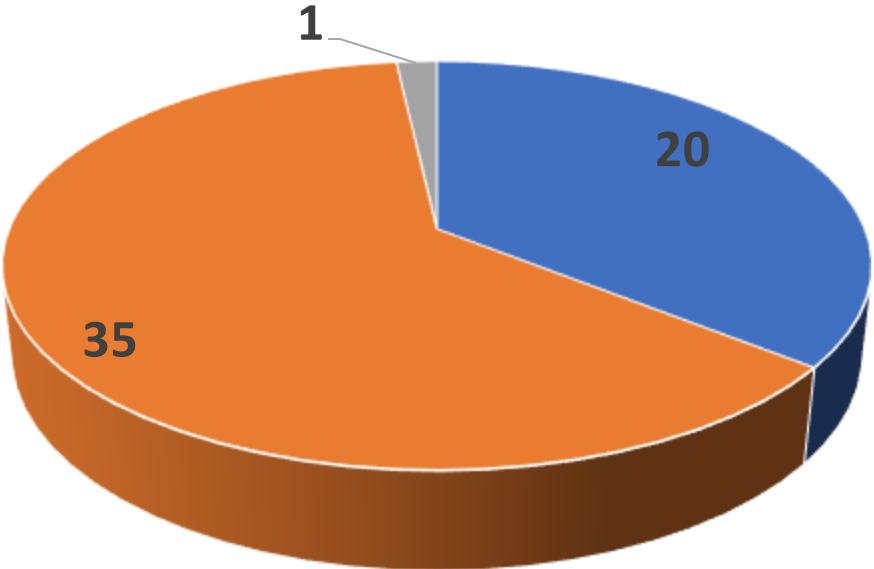
Dutch Broadway at Meacham 39 Crashes



- Left Turn
- Other
- Overtaking
- Rear End
- Right Angle

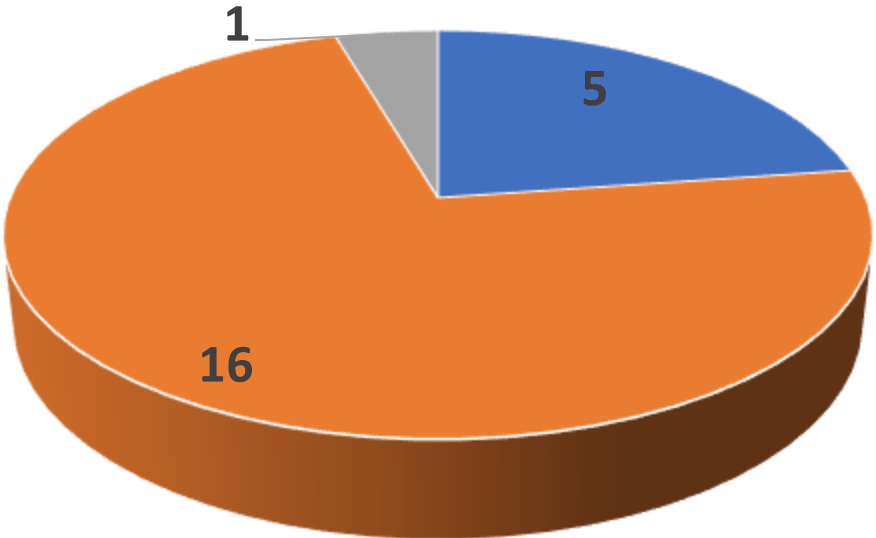
PEDESTRIAN AND BICYCLE CRASHES LIGHT CONDITION

Pedestrian Crash Light Condition
56 Total



■ night ■ day ■ dawn/dusk

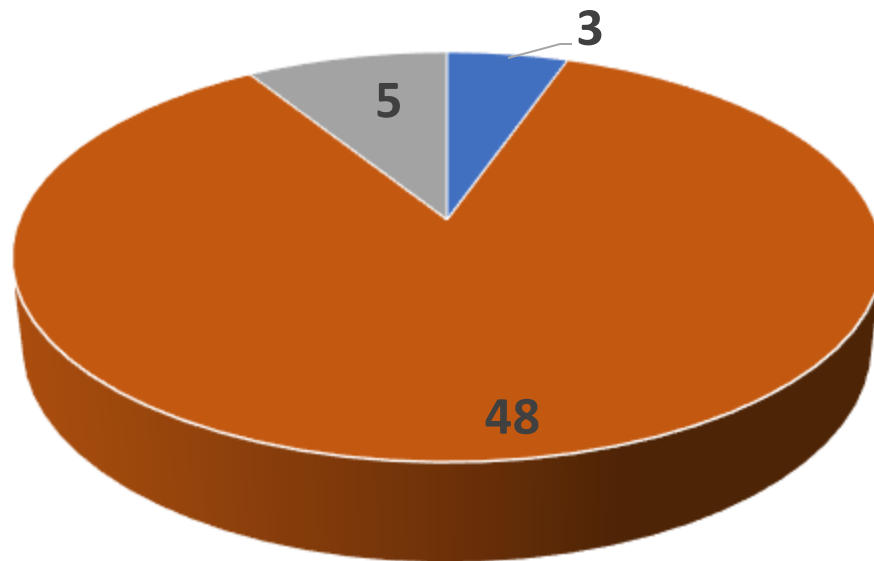
Bicycle Crash Light Condition
22 Total



■ night ■ day ■ dawn/dusk

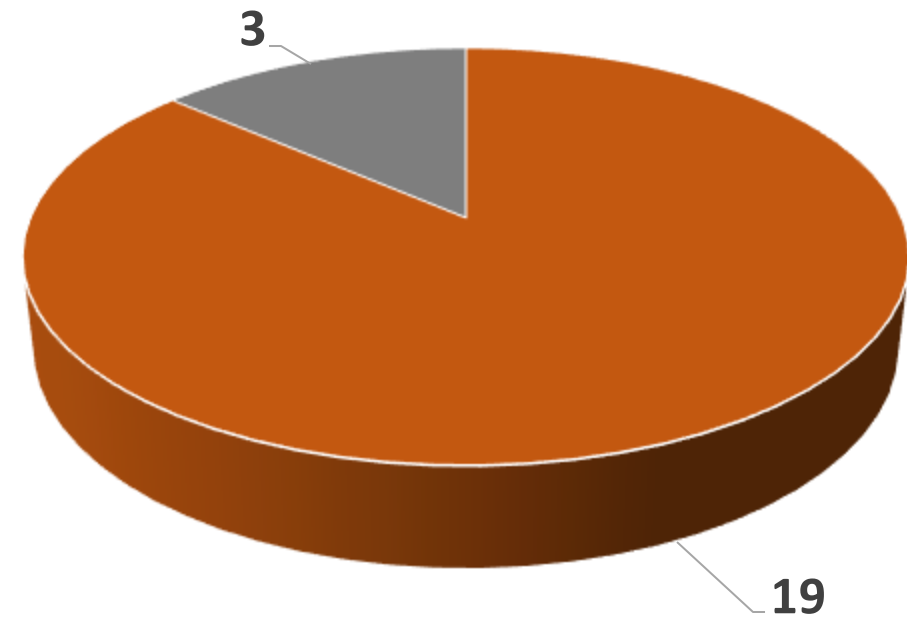
PEDESTRIAN AND BICYCLE CRASHES SEVERITY

Pedestrian Crash Severity
56 Total



■ fatal ■ injury ■ pdo

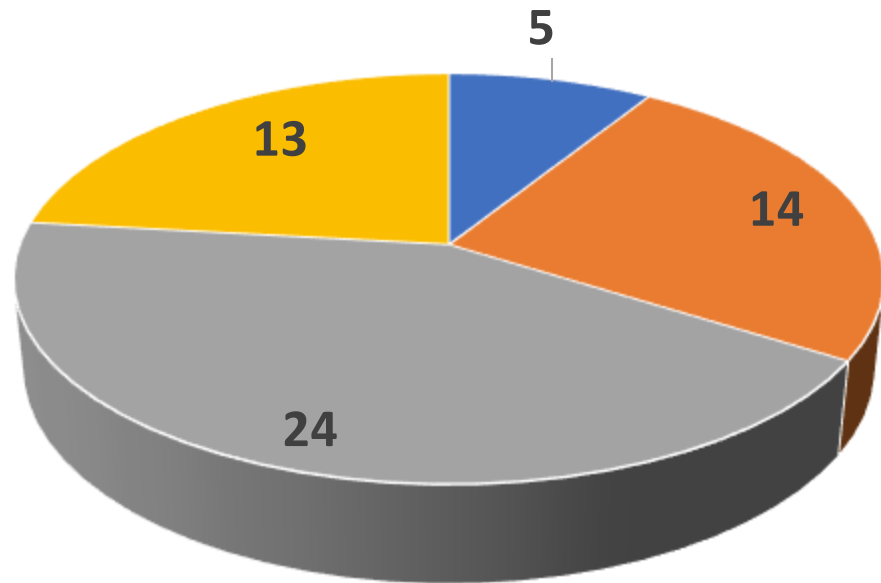
Bicycle Crash Severity
22 Total



■ injury ■ pdo

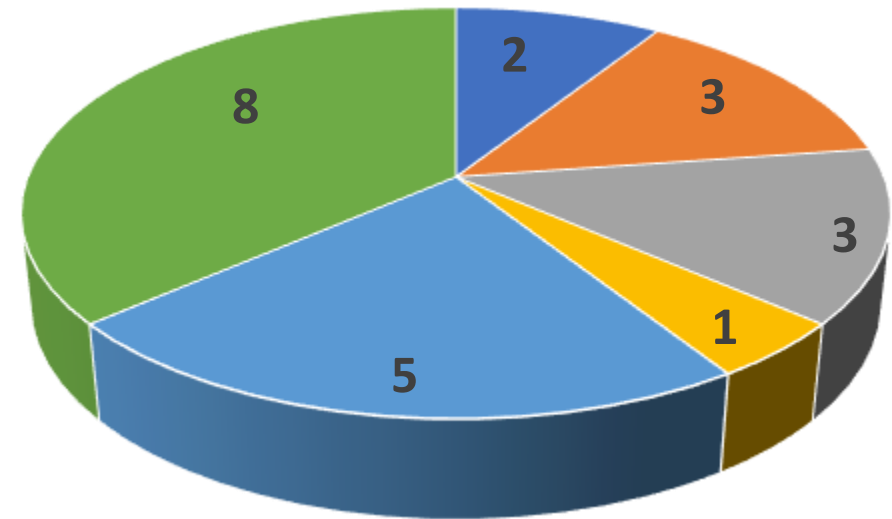
PEDESTRIAN/BICYCLE CRASHES PRE-ACTION

Pedestrian Crash Pre-Action



■ against TS ■ with TS ■ No TS ■ other

Bicycle Crash Pre-Action



■ against TS ■ with TS ■ No TS ■ other ■ wrong way ■ with traffic

ADA RAMPS AND SIDEWALKS



TRAFFIC ANALYSIS

Synchro 10 - O:\2016\B...ations\Design\Traffic\Synchro\Balanced\1 PH\Elmont Road_PMRoadDietOptETC+10NoLH\Harriet.syn

File Home Options Transfer Optimize Reports Help

Map View Select Background Mapping View Ports Select Int. View Options Lane Settings Templates Merge Template Volume Settings TIA Timing Settings Ring & Barrier Cluster Editor Signal Timing Template Phasing Settings TSD Detection Settings Detector Template HCM 6th Ed Int. Results Mvmt Results Reset Warnings HCM 2010 Int. Results Mvmt Results Reset Warnings Simulation Simulation Settings SimTraffic Link LOS Node Ln/Mvt Display Results

5 Elmont Rd & Dutch Broadway

NODE SETTINGS		TIMING SETTINGS													
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	PED	HOLD
Node #	5														
ATMS.now Controller ID	0														
Import from ATMS.now	Import														
Export to ATMS.now	Export														
Zone	F														
X East (ft)	35														
Y North (ft)	-126														
Z Elevation (ft)	0														
Description															
Control Type	Actd-Coord														
Cycle Length (s)	105.0														
Lock Timings	<input type="checkbox"/>														
Optimize Cycle Length	Optimize														
Optimize Splits	Optimize														
Actuated Cycle(s)	105.0														
Natural Cycle(s)	90.0														
Max v/c Ratio	0.92														
Intersection Delay (s)	41.4														
Intersection LOS	D														
ICU	0.87														
ICU LOS	E														
Offset (s)	52.0														
Referenced to	Begin of Yellow														
Reference Phase	2+6 - SBTL NBTL														
Coordination Mode	Fixed														
Master Intersection	<input type="checkbox"/>														
Yield Point	Single														
Mandatory Stop On Yellow	<input type="checkbox"/>														
Lanes and Sharing (#RL)															
Traffic Volume (vph)		141	660	162	192	421	144	223	440	164	215	552	136		
Future Volume (vph)		141	660	162	192	421	144	223	440	164	215	552	136		
Turn Type		pm+pt			pm+pt			pm+pt			pm+pt				
Protected Phases		7	4		3	8		1	6		5	2			
Permitted Phases		4			8			6			2				
Permitted Flashing Yellow		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>				
Detector Phases		7	4		3	8		1	6		5	2			
Switch Phase		0	0		0	0		0	0		0	0			
Leading Detector (ft)		20	100		20	100		20	100		20	100			
Trailing Detector (ft)		0	0		0	0		0	0		0	0			
Minimum Initial (s)		3.0	8.0		3.0	8.0		3.0	20.0		3.0	20.0			
Minimum Split (s)		8.0	14.0		8.0	14.0		8.0	26.0		8.0	26.0			
Total Split (s)		15.0	36.0		17.0	38.0		18.0	36.0		16.0	34.0			
Yellow Time (s)		3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0			
All-Red Time (s)		2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0			
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0			
Lagging Phase?		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Allow Lead/Lag Optimize?		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
Recall Mode		None	None		None	None		None	C-Min		None	C-Min			
Speed limit (mph)			30			30			30			30			
Actuated Effct. Green (s)		40.2	29.6		45.0	32.0		44.4	30.2		40.4	28.2			
Actuated g/C Ratio		0.38	0.28		0.43	0.30		0.42	0.29		0.38	0.27			
Volume to Capacity Ratio		0.53	0.92		0.87	0.61		0.91	0.66		0.84	0.83			
Control Delay (s)		20.8	41.2		51.5	33.6		64.7	32.2		48.5	48.0			
Queue Delay (s)		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0			
Total Delay (s)		20.8	41.2		51.5	33.6		64.7	32.2		48.5	48.0			
Level of Service		C	D		D	C		E	C		D	D			
Approach Delay (s)			38.2			38.1			41.0			48.1			
Approach LOS			D			D			D			D			
Queue Length 50th (ft)		30	308		121	203		127	138		118	226			
Queue Length 95th (ft)		72	#327		#227	263		#272	284		#208	#357			
Stops (vph)		69	907		152	515		189	551		178	647			
Fuel Used (g/hr)		2	17		4	11		6	12		5	15			

Elmont Rd & Dutch Broadway (35 -126) w/c ok Mins ok

RIDGE ROAD

ELMONT ROAD

DUTCH BROADWAY

5
196

302
742

34
447

107
425
106

125
316
179

121
649
135

286
564
60





RIDGE ROAD

ELMONT ROAD

DUTCH BROADWAY

TRAFFIC SIGNAL WARRANT ANALYSIS

- DUTCH BROADWAY AT DIAMOND STREET / GLAFIL STREET
- DUTCH BROADWAT AT CONNIE LANE
- DUTCH BROADWAY AT LAWRENCE STREET/WILLOW LANE
- ELMONT ROAD AT CHOWAN STREET
- ELMONT ROAD AT TARBORO STREET
- ELMONT ROAD AT CROSS ISLAND PARKWAY RAMP

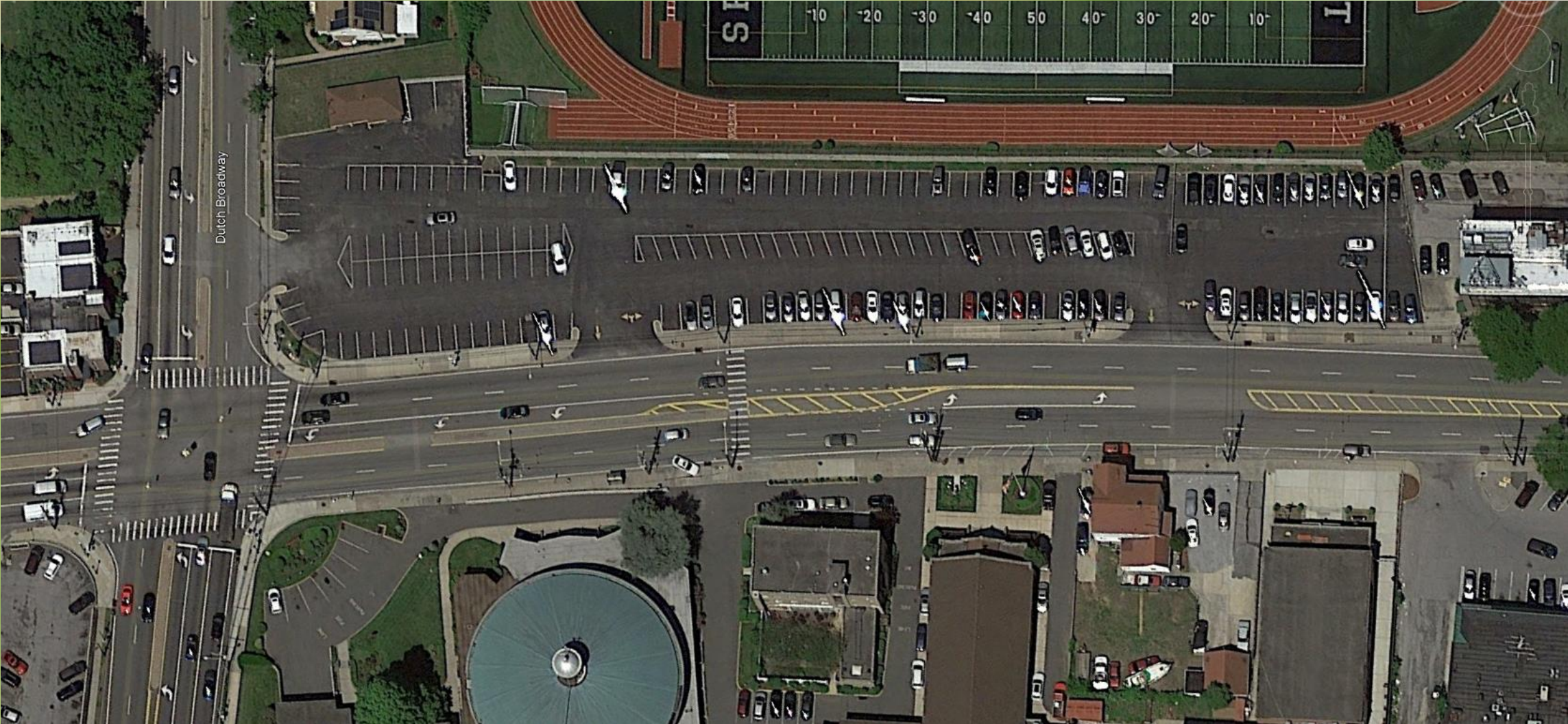
PROPOSED RECOMMENDATIONS

- ROAD DIET
- RECTANGULAR RAPID FLASHING BEACONS
- SIDEWALK RECONSTRUCTION
- FEEDBACK DEVICES
- NEW TRAFFIC SIGNALS
- NEW CROSSWALKS
- TRIM LOW HANGING BRANCHES OBSTRUCTING DIRVERS VIEW ENTERING ROADWAY
- ADDITIONAL SPEED LIMIT SIGNS AND WARNING SIGNS
- TRAFFIC SIGNAL MODIFICATIONS INCLUDING LEFT TURN ARROWS, LEADING PEDESTRIAN INTERVALS
- RETIMING OF THE TRAFFIC SIGNALS ON ELMONT ROAD AND DUTCH BROADWAY
- RAISED MEDIAN

Elmont Road and Saint Boniface RC Church



EXISTING - ELMONT ROAD NORTH OF DUTCH BROADWAY



POTENTIAL OPTION:
CLOSE EXISTING
DRIVEWAYS

POTENTIAL OPTION:
ADD PEDESTRIAN
FENCING

POTENTIAL OPTION:
TRAFFIC SIGNAL

Looking west on Dutch Broadway at 238th Street No Pedestrian Ramp or connection to sidewalk





KESWICK ROAD

EXISTING

238TH STREET

KESWICK ROAD

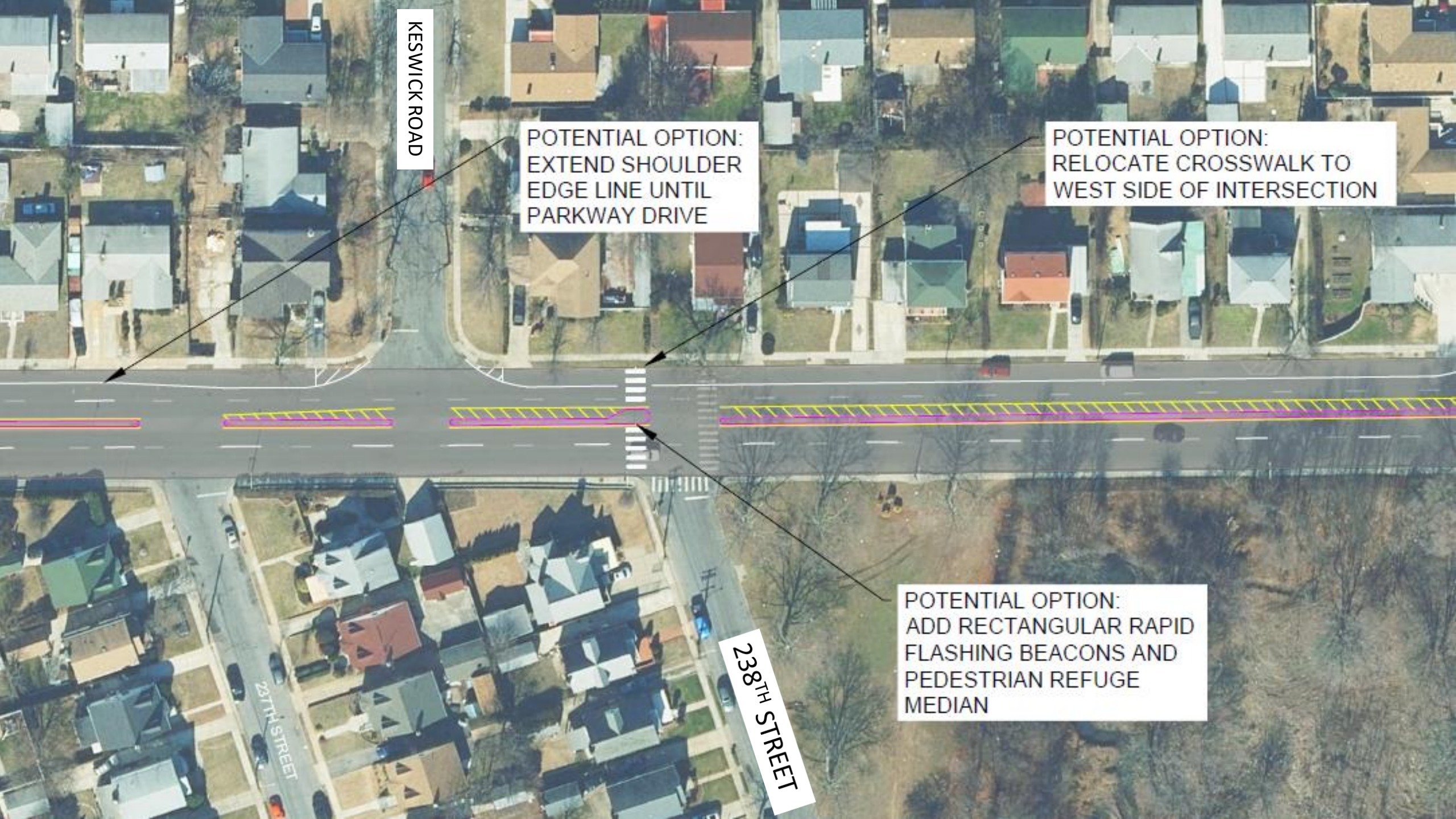
POTENTIAL OPTION:
EXTEND SHOULDER
EDGE LINE UNTIL
PARKWAY DRIVE

POTENTIAL OPTION:
RELOCATE CROSSWALK TO
WEST SIDE OF INTERSECTION

POTENTIAL OPTION:
ADD RECTANGULAR RAPID
FLASHING BEACONS AND
PEDESTRIAN REFUGE
MEDIAN

238TH STREET

23TH STREET



Southbound Elmont Road at Cross Island Parkway Ramp



CROSS ISLAND PKWY RAMP

ELMONT ROAD

Elmont Rd

OLIVER AVE

EXISTING





POTENTIAL OPTION:
TRAFFIC SIGNAL FOR
BELT PARKWAY EXIT

BELT PARKWAY OFF RAMP

OLIVER AVENUE

Westbound Dutch Broadway at Diamond Street and Glafil Street



Google Earth

Google
Google



7.63 ft

EXISTING

DIAMOND STREET

GLAFIL STREET

DUTCH BROADWAY

CIVIL STREET





CRYSTAL STREET

DIAMOND STREET

POTENTIAL OPTION:
TRAFFIC SIGNAL FOR
DIAMOND / GLAFIL

GLAFIL STREET



RIDGE ROAD

ELMONT ROAD

DUTCH BROADWAY

EXISTING



RIDGE ROAD

RIGHT LANE
MUST
TURN RIGHT

SCHOOL
SPEED
LIMIT
20
7:30-8:30 AM
2:30-3:30 PM

POTENTIAL OPTION:
CLOSE MEDIAN
AND DRIVEWAY

ELMONT ROAD

POTENTIAL OPTION:
ADD PEDESTRIAN
FENCING

DUTCH BROADWAY

NO
TURN
ON RED
3:30 PM - 9 PM
SCHOOL DAYS

POTENTIAL OPTION:
ADD LEADING
PEDESTRIAN INTERVAL

UPGRADE ALL
PEDESTRIAN PUSH
BUTTONS

EXISTING

DAUNTLESS PARKWAY

MUSKOGEE AVENUE

DUTCH BROADWAY

FLETCHER AVENUE



DAUNTLESS PARKWAY

Potential Option: Add westbound protected permissive arrow

RUSSELL AVENUE

DUTCH BROADWAY

FLETCHER AVENUE



EXISTING

LAWRENCE STREET

AUDREY AVENUE

WILLOW LANE

WEST GATE





POTENTIAL OPTION:
TRAFFIC SIGNAL FOR
LAWRENCE / WILLOW

LAWRENCE STREET

AUDREY AVENUE

WILLOW LANE

WEST GATE

EXISTING

ELMONT ROAD

SCHOOL ROAD

FOSTER MEADOW RD

ATHERTON AVENUE

POTENTIAL OPTION:
PROTECTED PERMISSIVE
LEFT TURN ARROW
SOUTHBOUND ELMONT ROAD
AT ATHERTON AVENUE

FOSTER MEADOW RD

SCHOOL ROAD

ELMONT ROAD

ATHERTON AVENUE

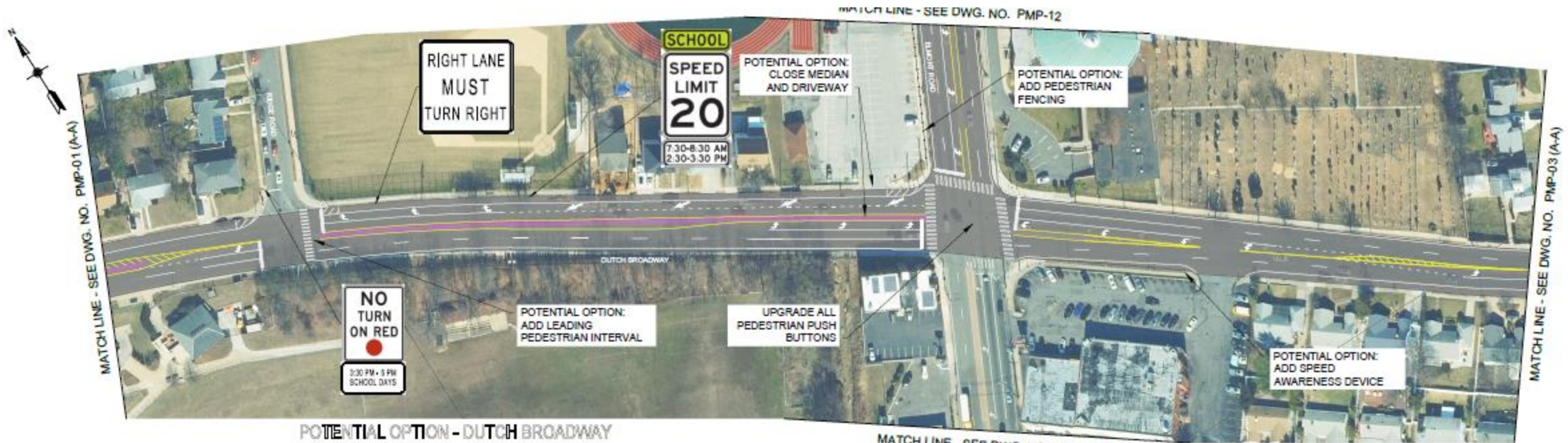
PAVEMENT MARKING PLANS
COMPLETE SET OF POTENTIAL
IMPROVEMENTS



POTENTIAL OPTION - DUTCH BROADWAY



EXISTING CONDITION - DUTCH BROADWAY



POTENTIAL OPTION - DUTCH BROADWAY



EXISTING CONDITION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-02 (A-A)



MATCH LINE - SEE DWG. NO. PMP-04 (A-A)

POTENTIAL OPTION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-02 (B-B)



MATCH LINE - SEE DWG. NO. PMP-04 (B-B)

EXISTING CONDITION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-03 (A-A)



MATCH LINE - SEE DWG. NO. PMP-05 (A-A)

POTENTIAL OPTION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-03 (B-B)



MATCH LINE - SEE DWG. NO. PMP-05 (B-B)

EXISTING CONDITION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-04 (A-A)



MATCH LINE - SEE DWG. NO. PMP-06 (A-A)

POTENTIAL OPTION - DUTCH BROADWAY



MATCH LINE - SEE DWG. NO. PMP-04 (B-B)



MATCH LINE - SEE DWG. NO. PMP-06 (B-B)

EXISTING CONDITION - DUTCH BROADWAY



POTENTIAL OPTION - DUTCH BROADWAY



EXISTING CONDITION - DUTCH BROADWAY





MATCH LINE - SEE DWG. NO. PMP-08





MATCH LINE A-A



MATCH LINE A-A

MATCH LINE - SEE DWG. NO. PMP-11



MATCH LINE - SEE DWG. NO. PMP-10



POTENTIAL OPTION:
ADD PEDESTRIAN
SIGNAL DISPLAYS

SPEED
LIMIT
30

SPEED
LIMIT
30

MATCH LINE - SEE DWG. NO. PMP-02



MATCH LINE - SEE DWG. NO. PMP-02



POTENTIAL OPTION:
CLOSE EXISTING
DRIVEWAY

POTENTIAL OPTION:
ADD PEDESTRIAN
FENCING

POTENTIAL OPTION:
TRAFFIC SIGNAL

POTENTIAL OPTION:
ADD NORTHBOUND
PROTECTED PERMISSIVE
ARROW AT BAYLIS

POTENTIAL OPTION:
ADD PEDESTRIAN CROSSWALK
AND PEDESTRIAN SIGNAL
DISPLAYS

MATCH LINE A-A



MATCH LINE A-A



MATCH LINE - SEE DWG. NO. PMP-13



MATCH LINE - SEE DWG. NO. PMP-12



MATCH LINE A-A

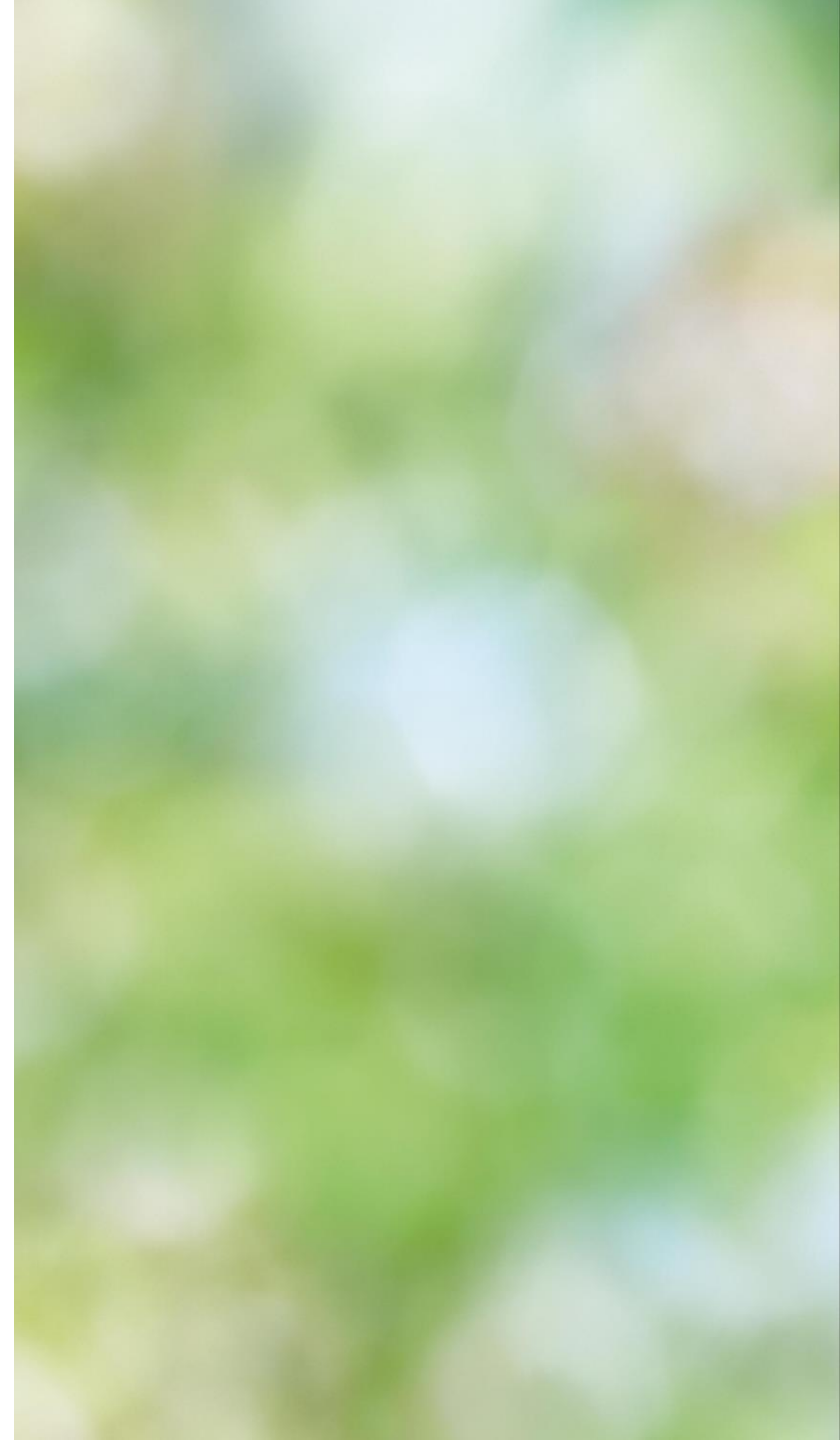


MATCH LINE A-A



Next Steps

- Assess public input
- Prepare final report
- Progress proposals into Design and Construction



QUESTIONS??