



Appendix A

Second Public Information and Outreach Meeting

- Meeting Flyer and Display Boards
- PowerPoint Presentation





Meeting Flyer and Display Boards





NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

Grand Avenue Complete Streets Traffic Study

2nd Public Information Meeting



November 18, 2015 from 7:00 to 9:00 p.m.

Baldwin Senior High School,
841 Ethel T. Kloberg Drive, Baldwin, NY

Nassau County is undertaking a Grand Avenue Complete Streets Traffic Study to identify feasible measures that will provide a safer environment for the users and improve circulation along the approximately 1.4 mile stretch of Grand Avenue from Merrick Road to Stanton Avenue.

The County will be sharing potential improvements and findings from the Study. You are encouraged to attend and provide feedback and thoughts to help bring safe and convenient access and mobility for all roadway users of all ages and abilities.

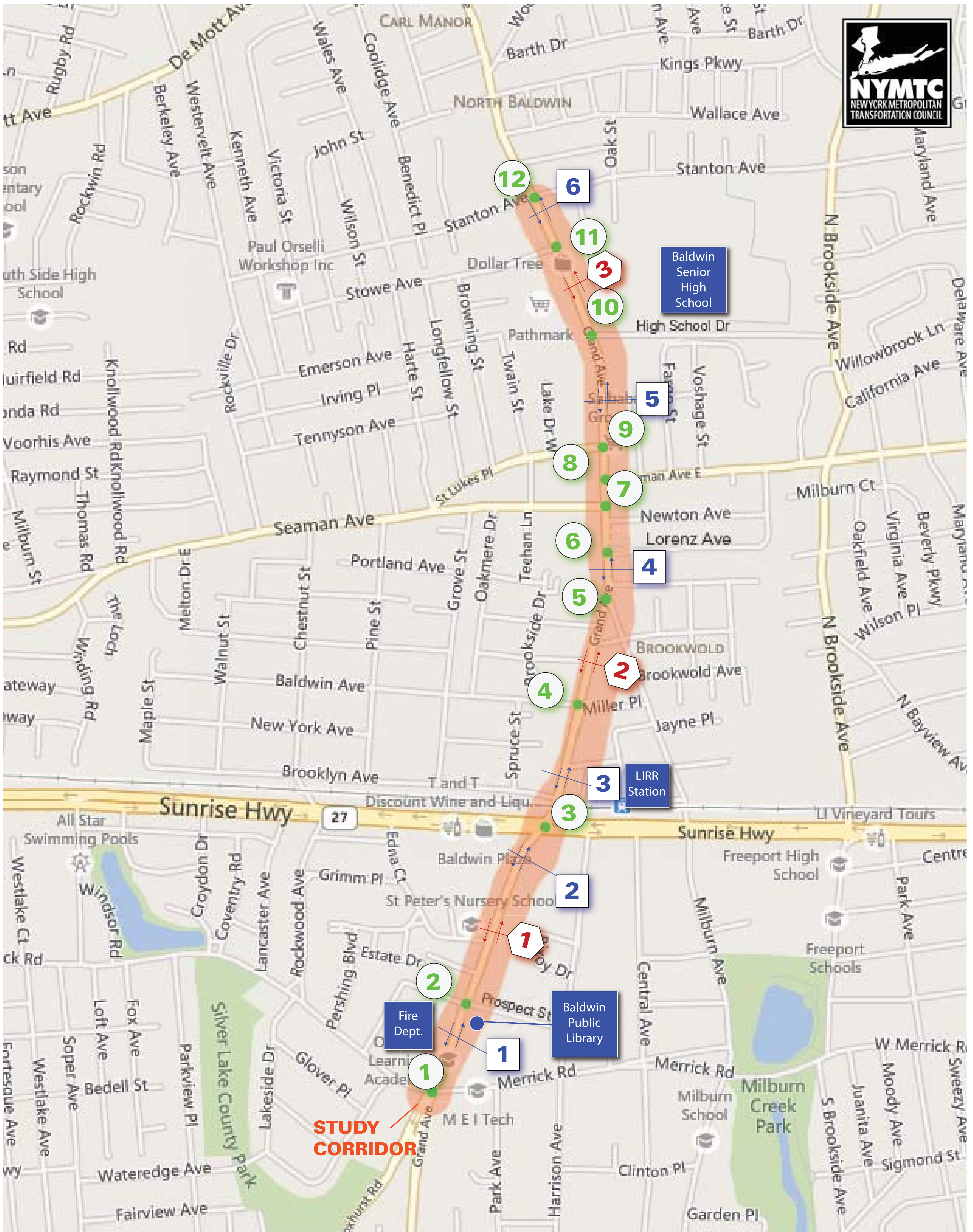


For more information, please contact
Sean Sallie, NCDPW, at
ssallie@nassaucountyny.gov

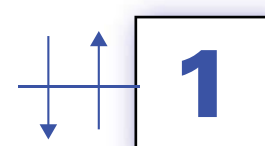




GRAND AVENUE COMPLETE STREETS TRAFFIC STUDY

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS



LEGENDS:

-  1 Automatic Traffic Recorder (ATR) Count Location
-  1 Key Signalized Intersection - Manual Turning Movement Count Location
-  1 Spot Speed Data Location



PROJECT LOCATION MAP

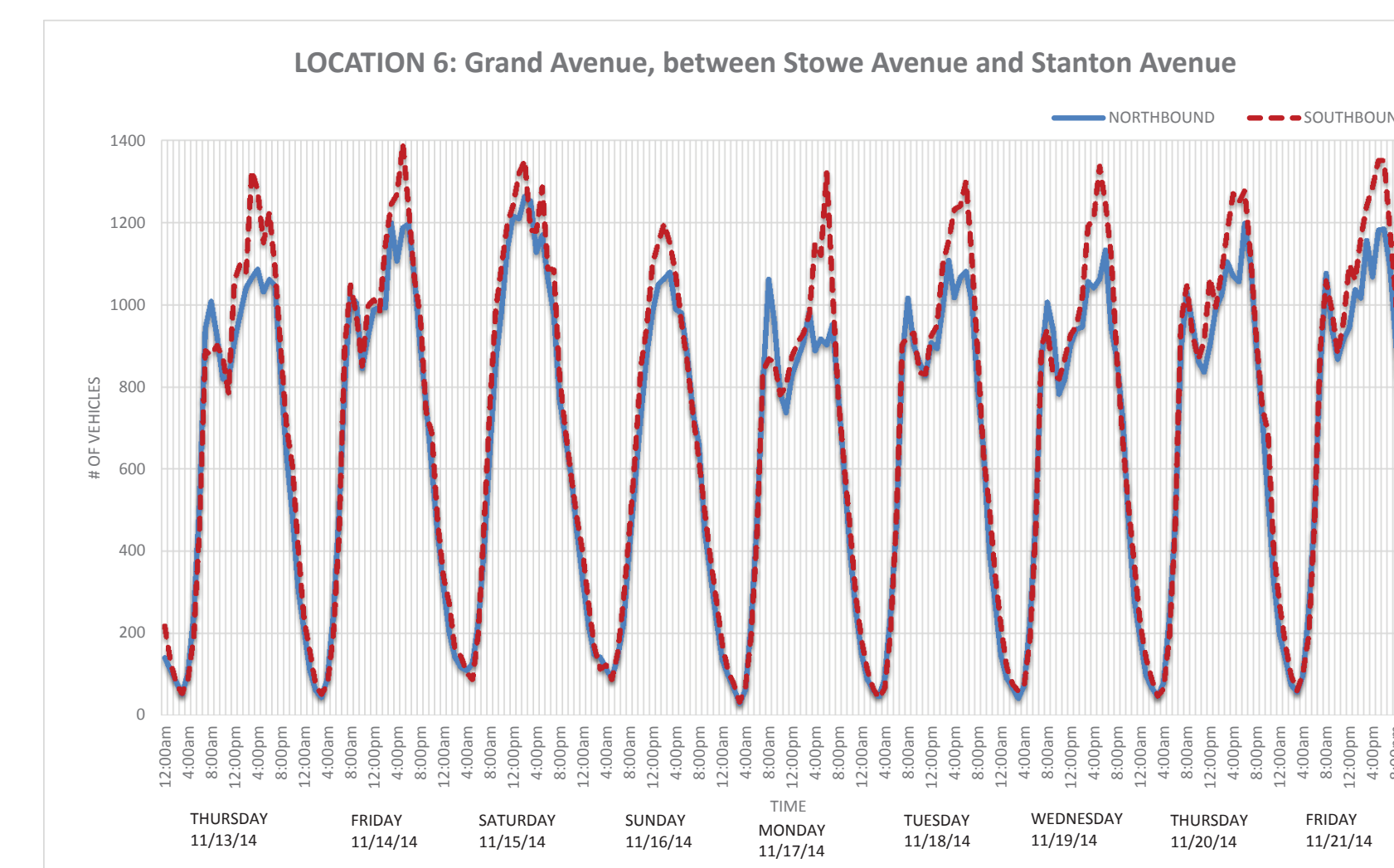
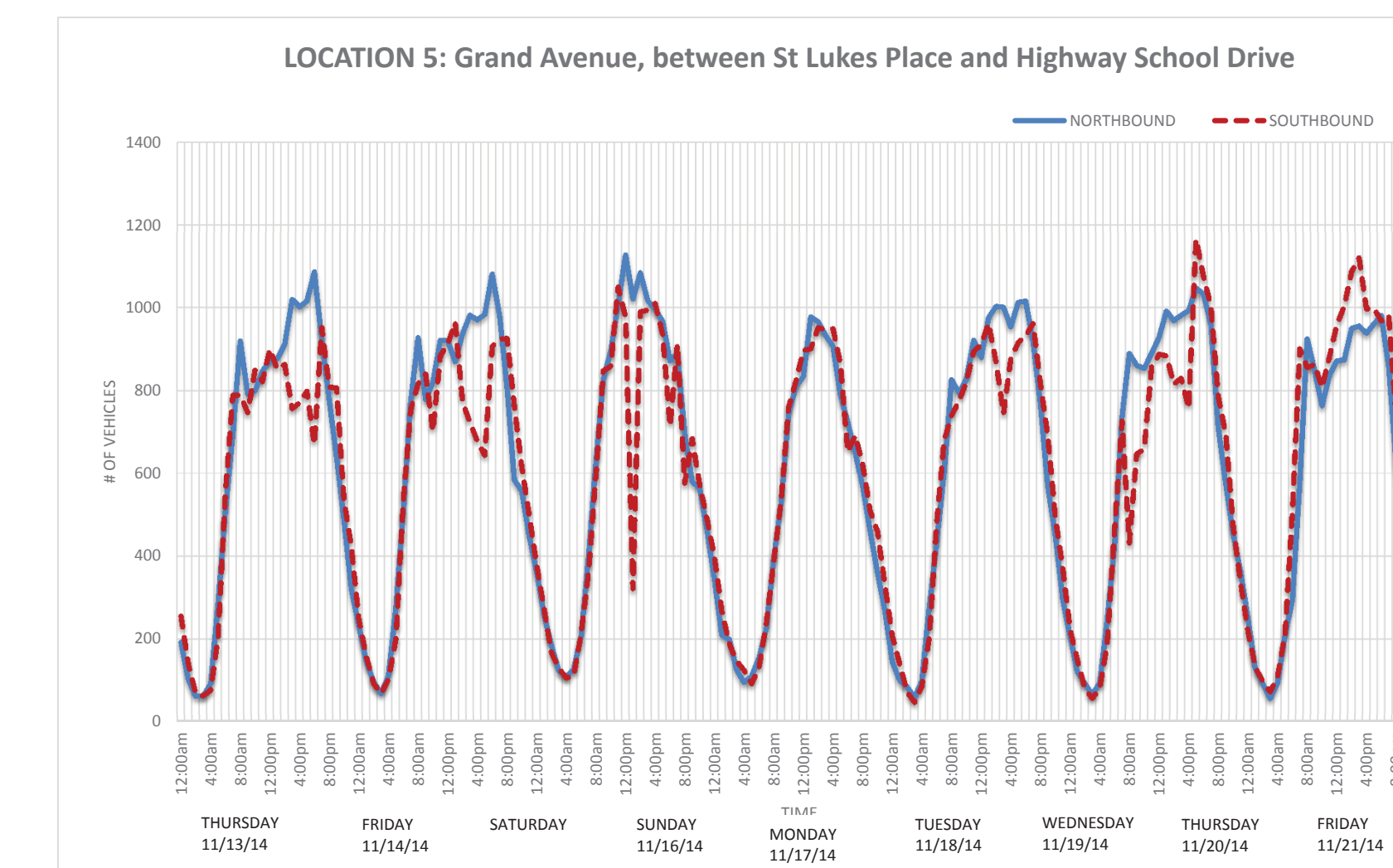
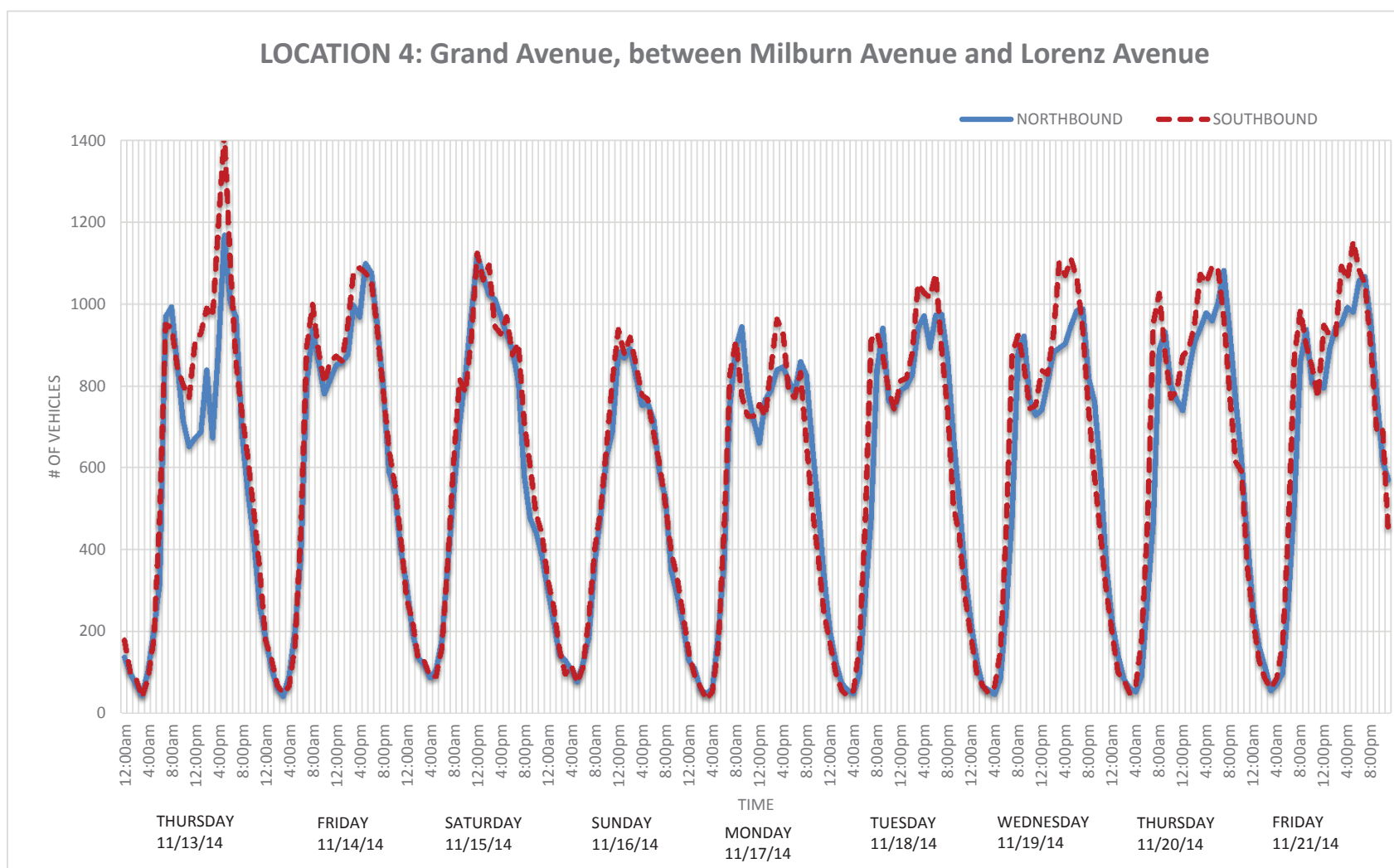
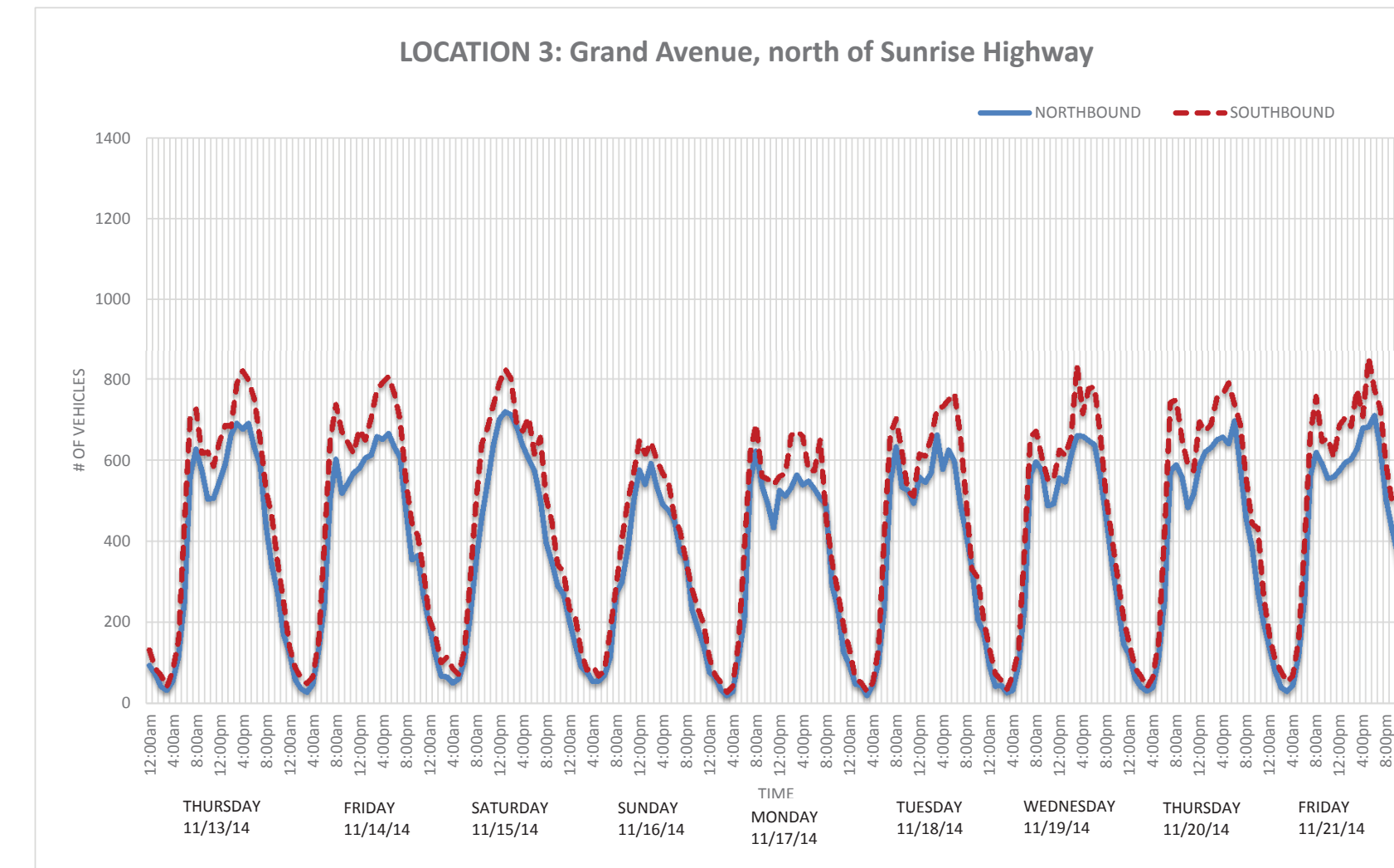
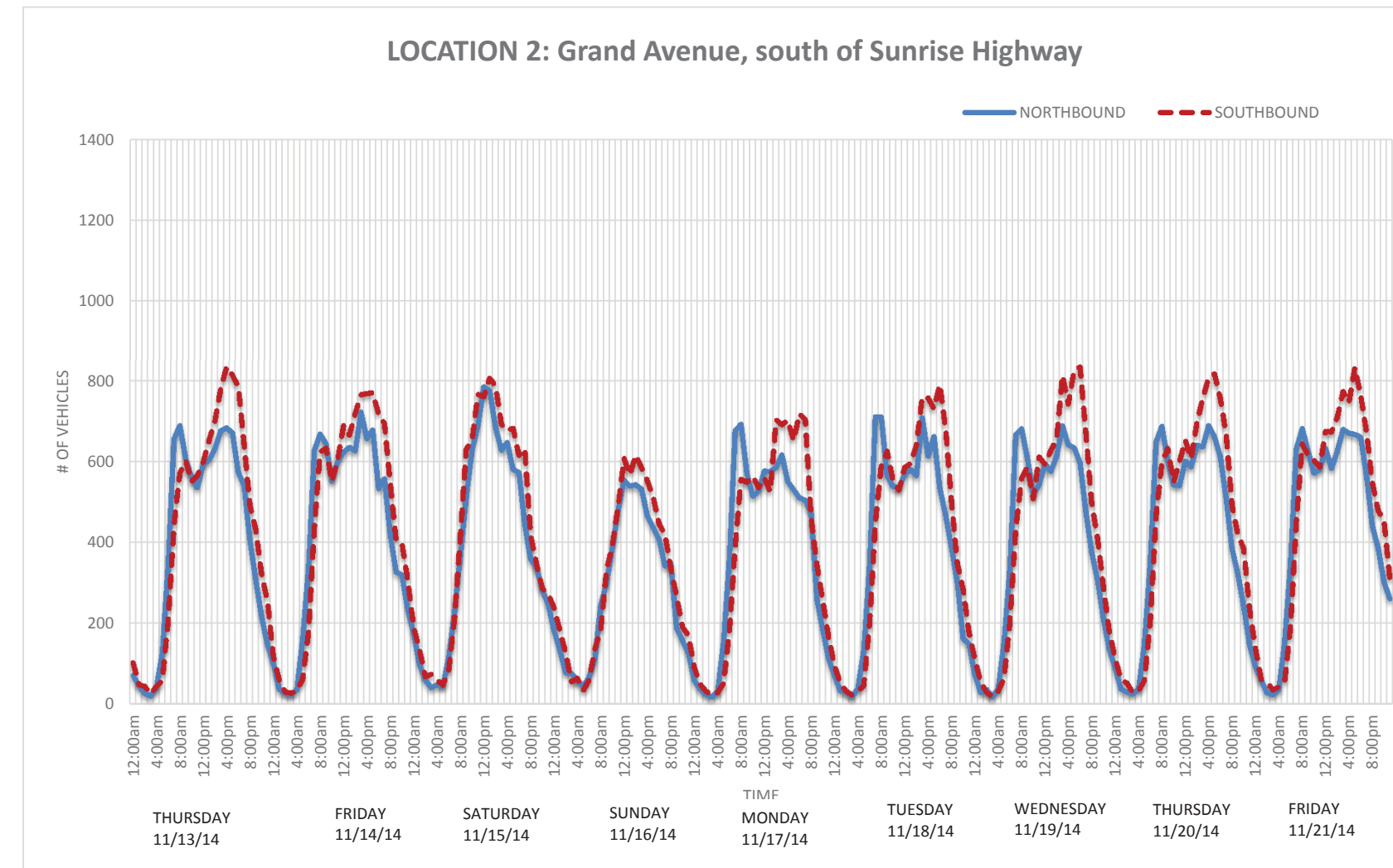
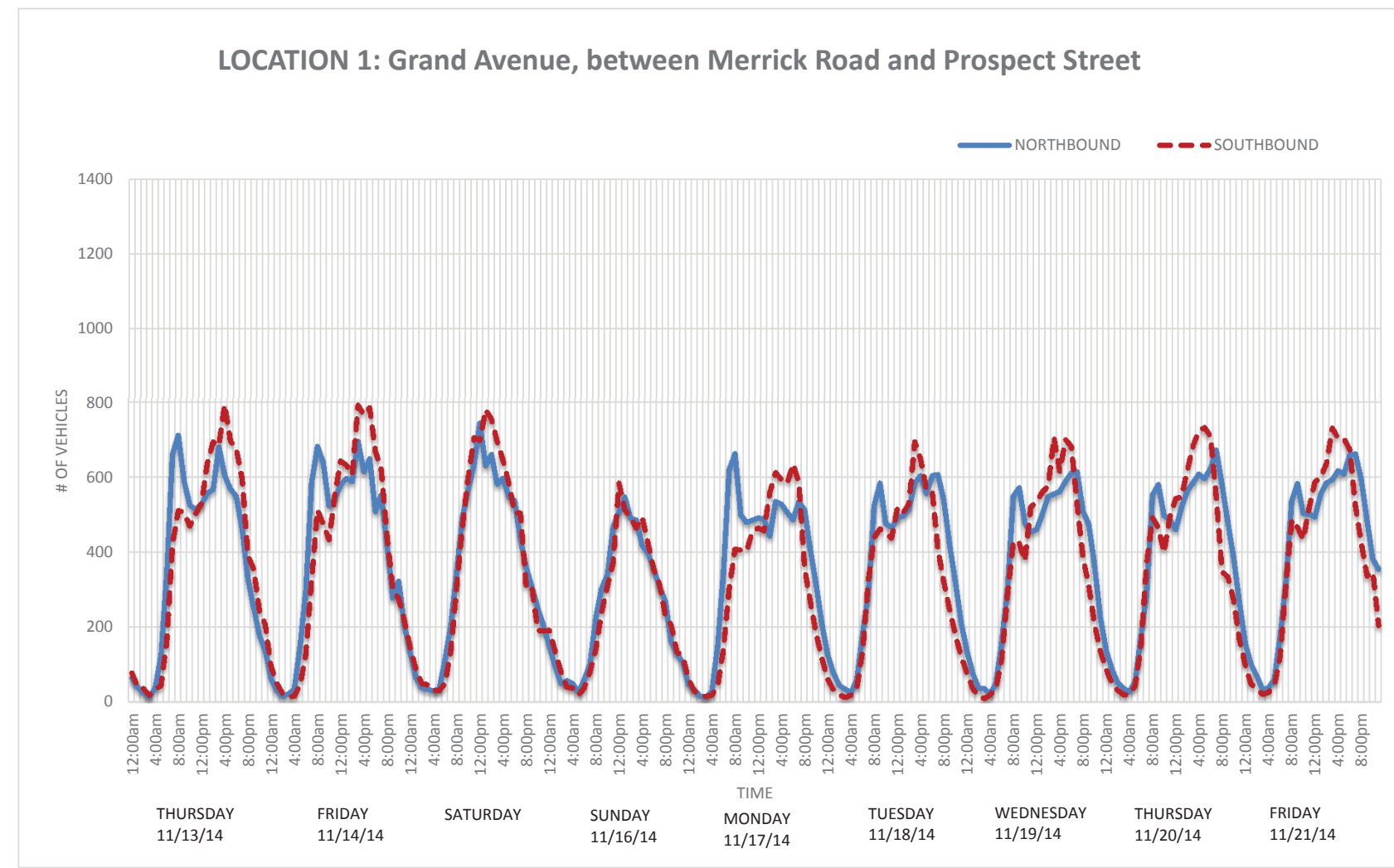


GRAND AVENUE COMPLETE STREETS TRAFFIC STUDY

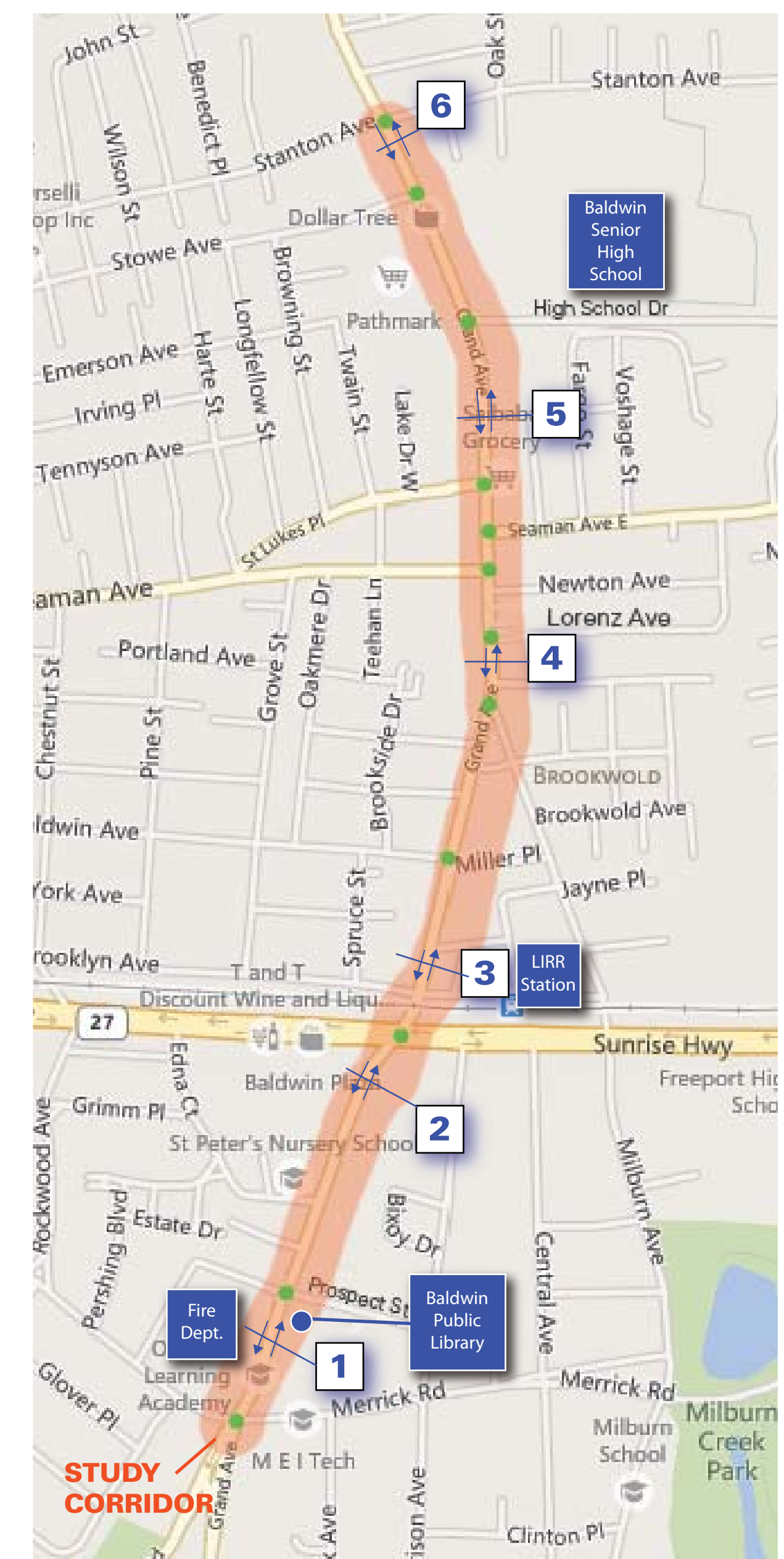
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS



Hourly Traffic Volume Data



Automatic Traffic Recorder (ATR) Count Location





GRAND AVENUE COMPLETE STREETS TRAFFIC STUDY

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

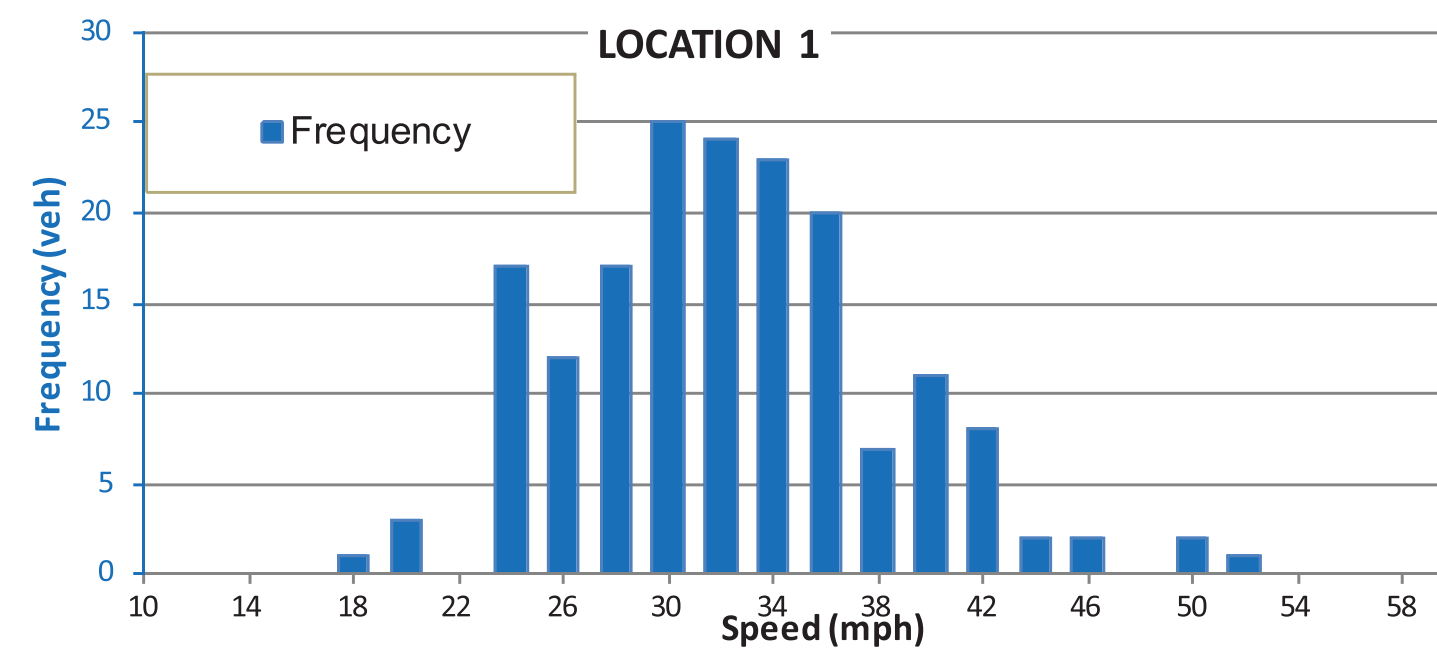


Spot Speed Data Summary

GRAND AVENUE NORTHBOUND

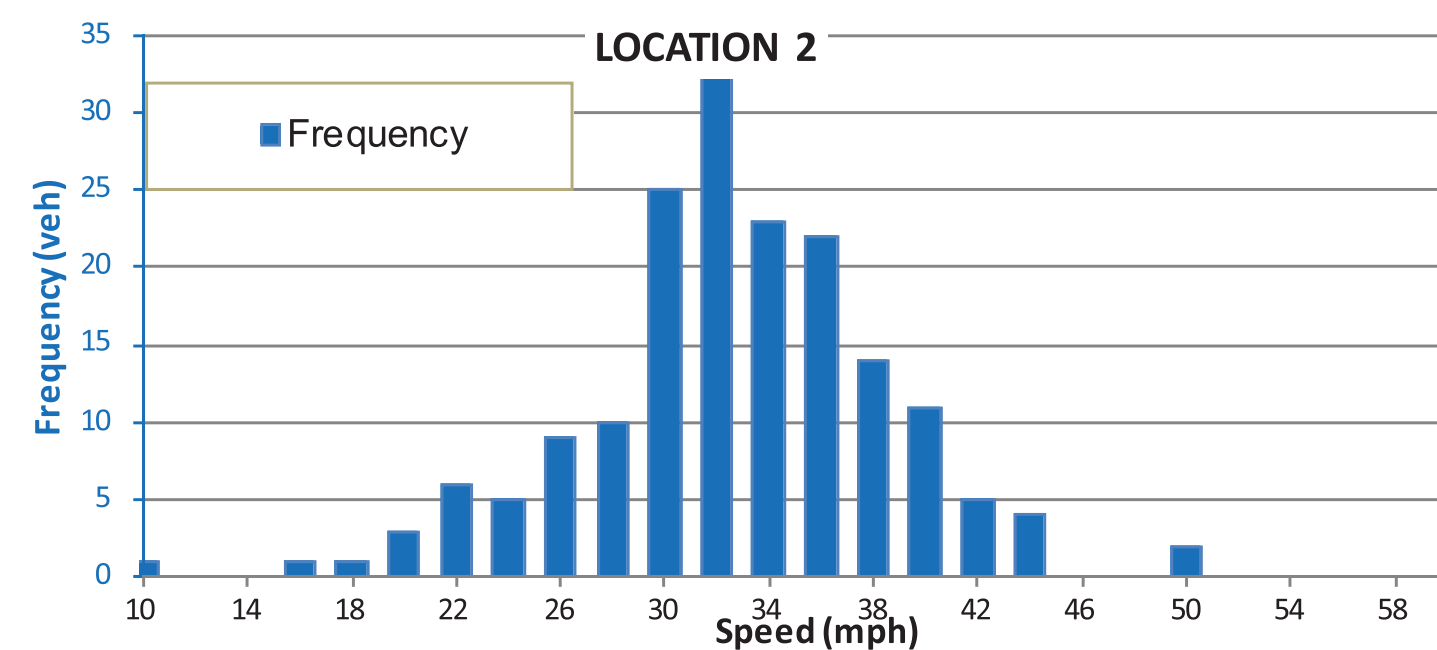
Location 1: Between Prospect Street and Sunrise Highway

Average Speed: 33 mph
85th Percentile: 39 mph
Maximum Speed: 52 mph
Above Speed Limit: 64%



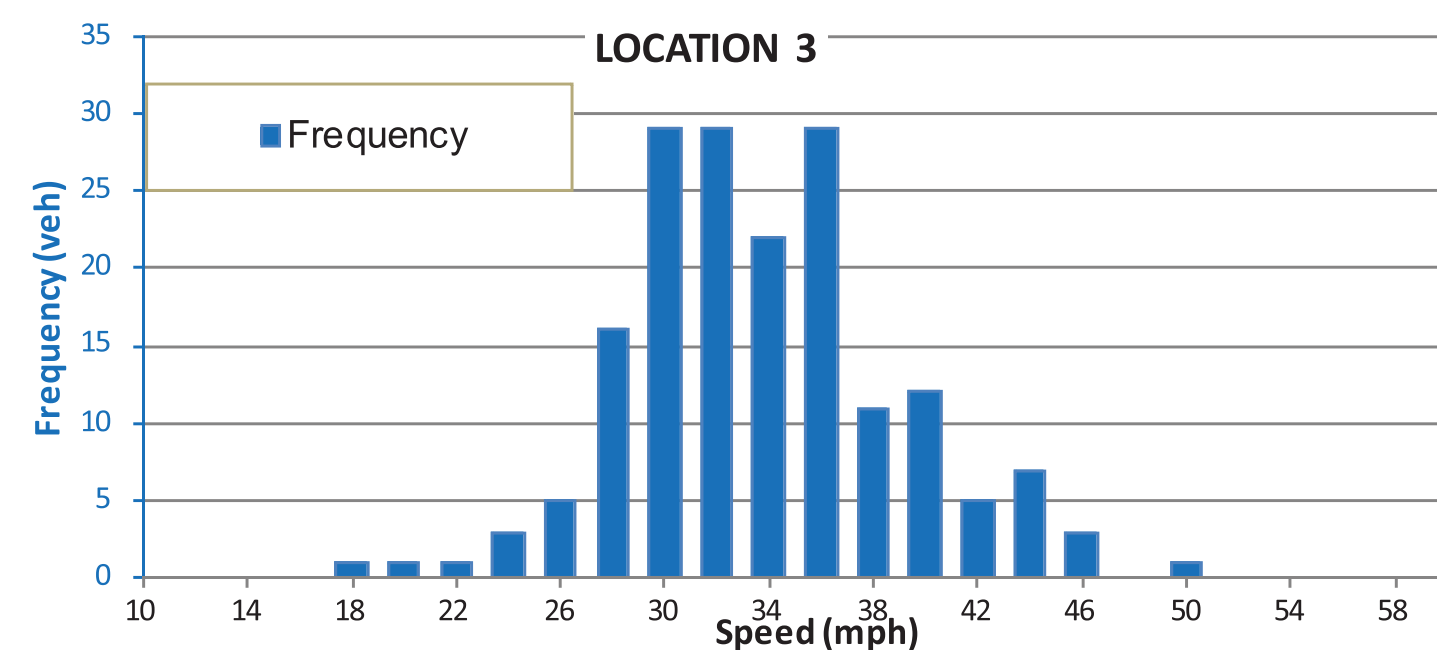
Location 2: Between Miller Place and Milburn Avenue

Average Speed: 33 mph
85th Percentile: 39 mph
Maximum Speed: 51 mph
Above Speed Limit: 74%



Location 3: Between Baldwin Senior High School Driveway and Stowe Avenue

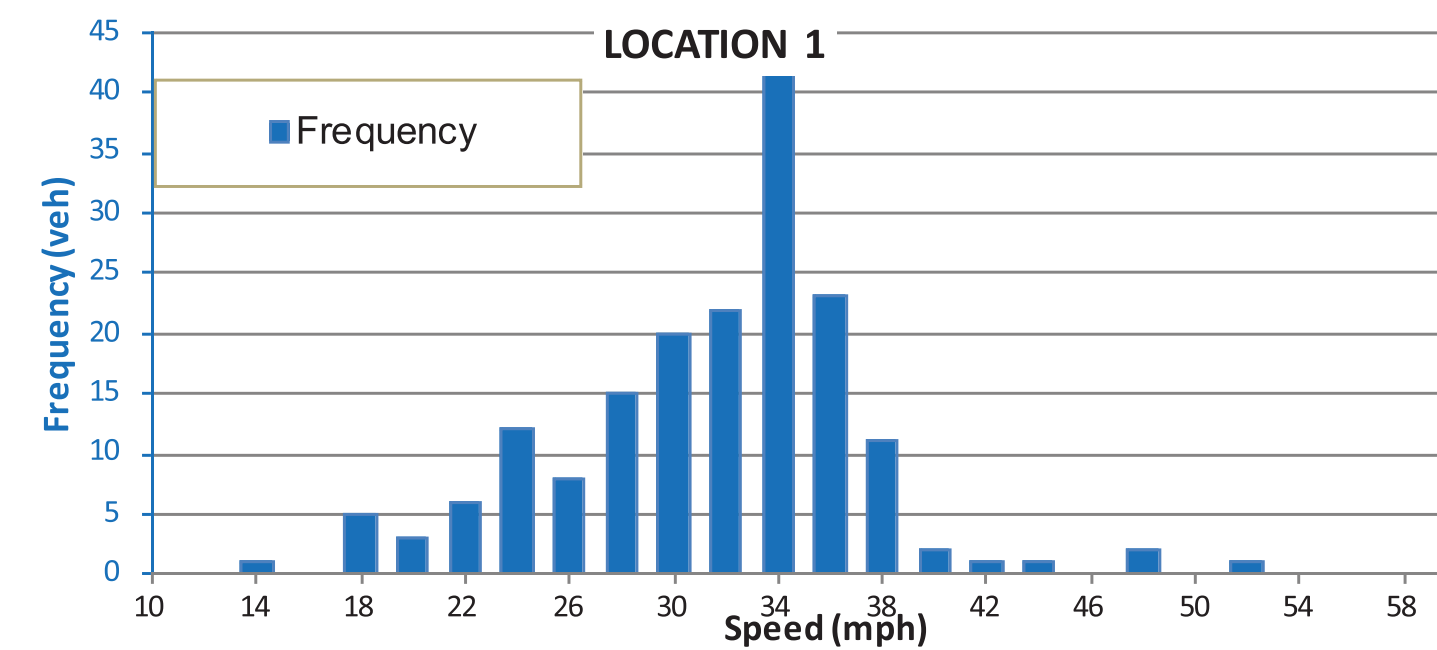
Average Speed: 34 mph
85th Percentile: 40 mph
Maximum Speed: 51 mph
Above Speed Limit: 77%



GRAND AVENUE SOUTHBOUND

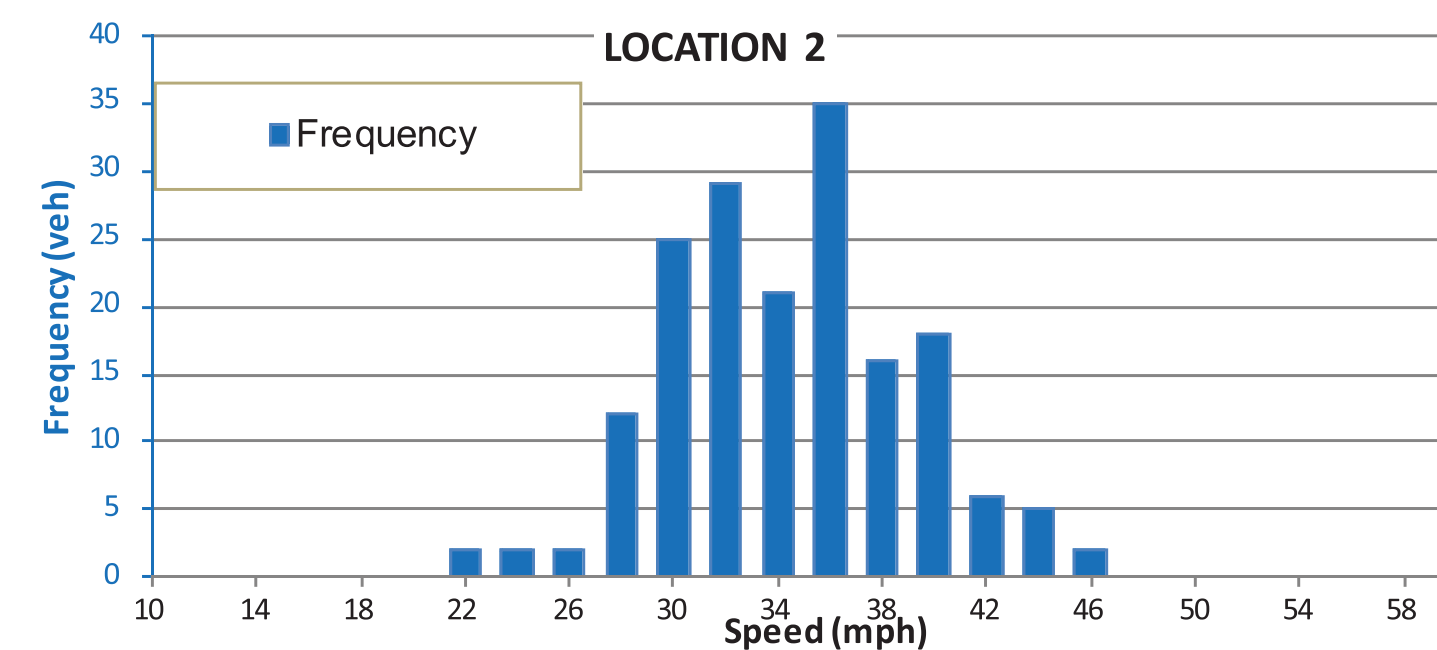
Location 1: Between Prospect Street and Sunrise Highway

Average Speed: 32 mph
85th Percentile: 37 mph
Maximum Speed: 52 mph
Above Speed Limit: 65%



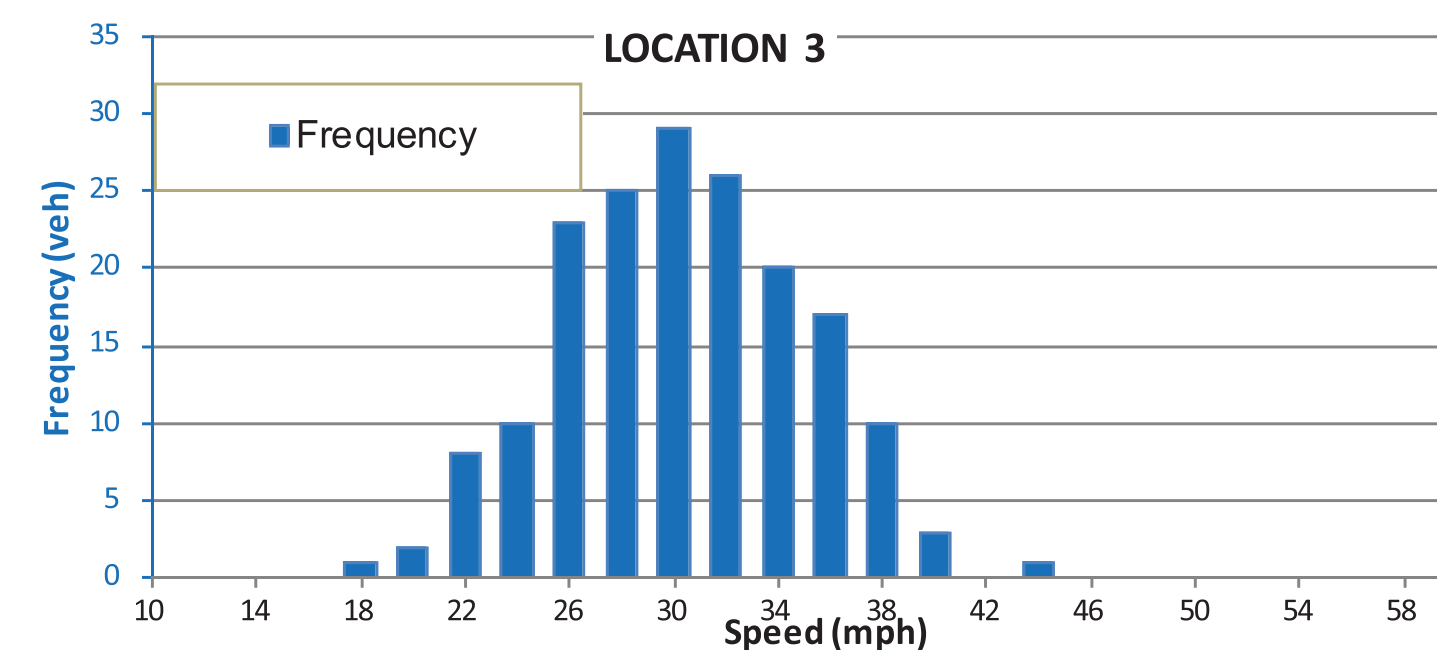
Location 2: Between Miller Place and Milburn Avenue

Average Speed: 35 mph
85th Percentile: 40 mph
Maximum Speed: 47 mph
Above Speed Limit: 82%

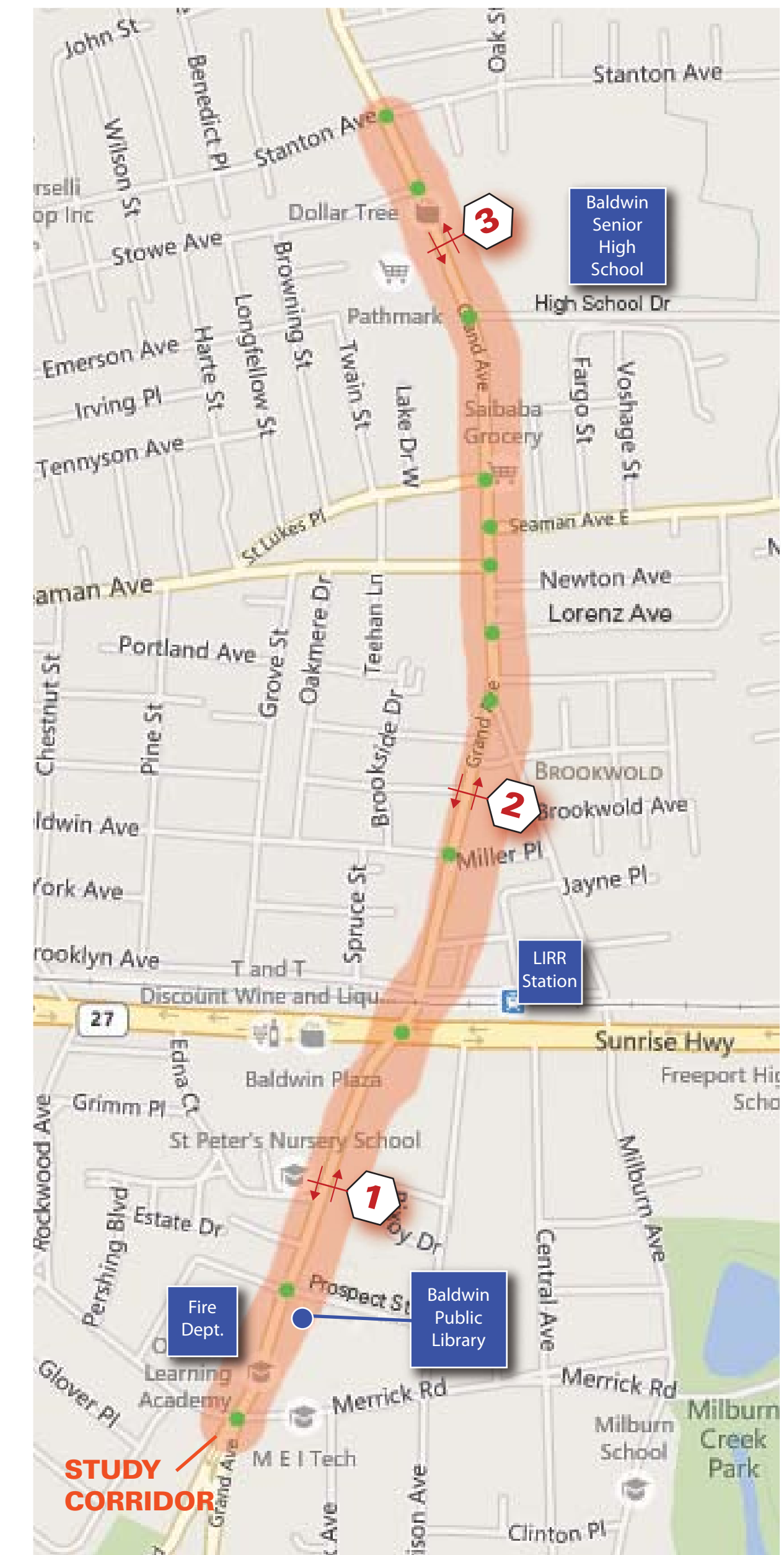


Location 3: Between Baldwin Senior High School Driveway and Stowe Avenue

Average Speed: 31 mph
85th Percentile: 36 mph
Maximum Speed: 44 mph
Above Speed Limit: 51%



Spot Speed Data Location



Speed Limit: 30 MPH
 Survey Day(Date): Thursday (11/20/2014)
 Survey Time: 9:00 AM to 1:00 PM
 Sample Size (each location and direction): 175



GRAND AVENUE COMPLETE STREETS TRAFFIC STUDY

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS



ACCIDENT DATA SUMMARY ENTIRE PROJECT CORRIDOR

MAY 1, 2011 TO APRIL 30, 2014

THREE (3) YEARS

SOURCE: NYSDOT

Table 1: Accident Summary by Severity

Year	Accident Severity			Total
	Fatality	Injury	Property Damage	
5/1/2011 - 12/31/2011	0	54	124	178
1/1/2012 - 12/31/2012	0	56	174	230
1/1/2013 - 12/31/2013	1	49	200	250
1/1/2014 - 4/30/2014	0	25	53	78
Total	1	184	551	736
	0%	25%	75%	100%

Table 2: Accident Summary by Type of Collision

Year	Accident Type									Total
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/Bicycle	Overtake	Other/Unknown	
5/1/2011 - 12/31/2011	20	53	2	19	4	0	5	41	34	178
1/1/2012 - 12/31/2012	32	73	1	15	6	2	9	54	38	230
1/1/2013 - 12/31/2013	29	71	2	26	3	7	8	69	35	250
1/1/2014 - 4/30/2014	6	26	0	3	4	3	2	19	15	78
Total	87	223	5	63	17	12	24	183	122	736
	12%	30%	1%	9%	2%	2%	3%	25%	17%	100%



MERRICK ROAD



Recommendations:

- ① Eliminate right turn ramp
- ② Pedestrian/green space
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ④ Extend curb, improve pedestrian space
- ⑤ Extend curb, improve bus stop shelter/seating

PROSPECT STREET



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements

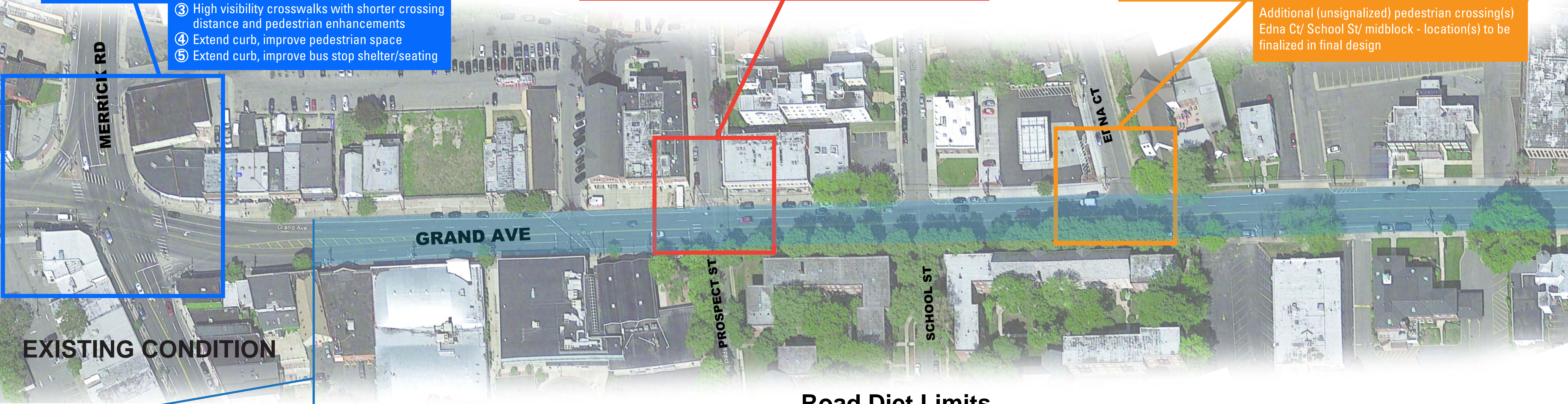
EDNA COURT



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ③ Appropriate signs and flashing beacons

Additional (unsignalized) pedestrian crossing(s) Edna Ct/ School St/ midblock - location(s) to be finalized in final design



EXISTING CONDITION

Road Diet Limits

Recommendations: ROAD DIET

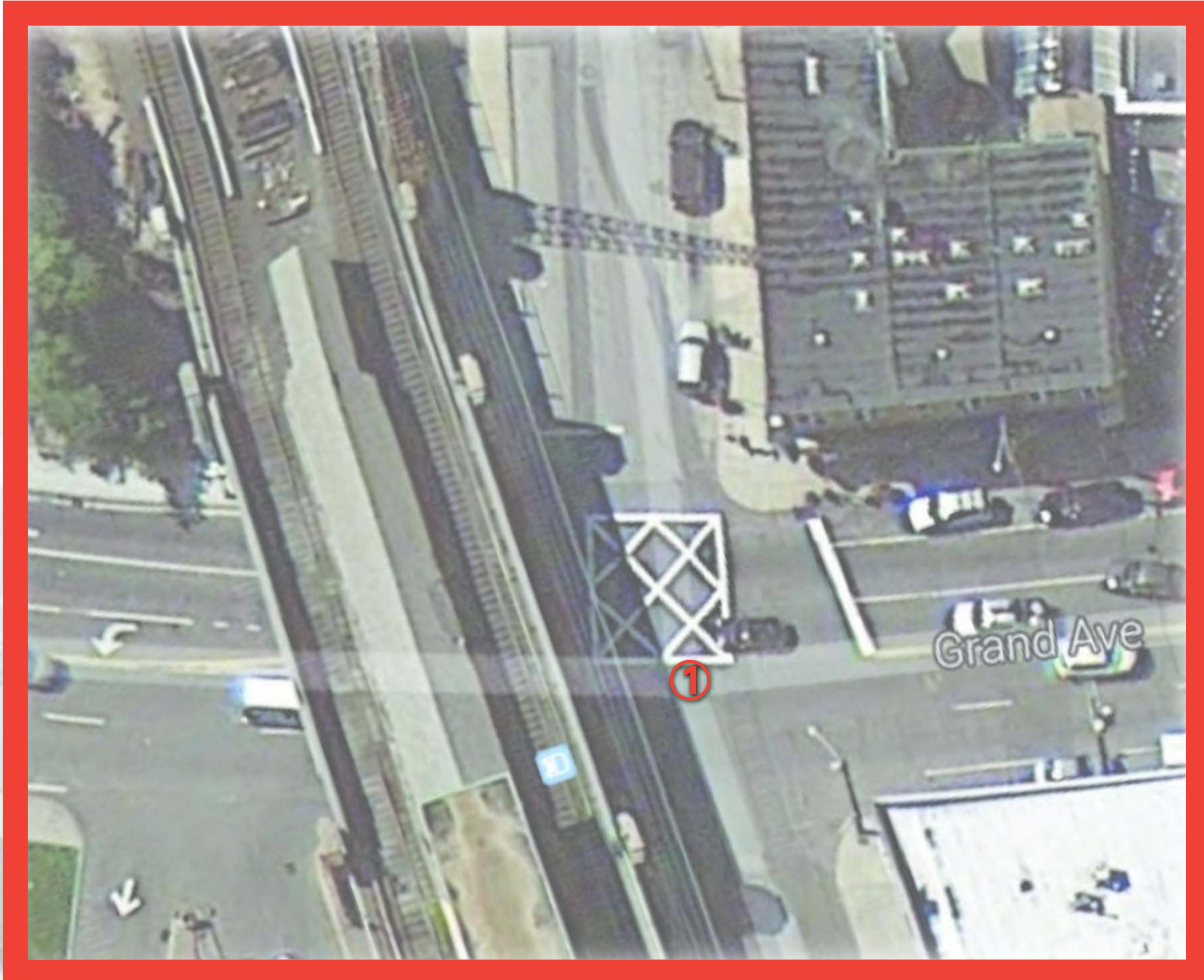
OPTION 1: Reduce 4 Lanes To 3 Lanes, with added Bike Lanes



OPTION 2: Reduce 4 Lanes To 3 Lanes, with wider shared Bike/Parking Lanes



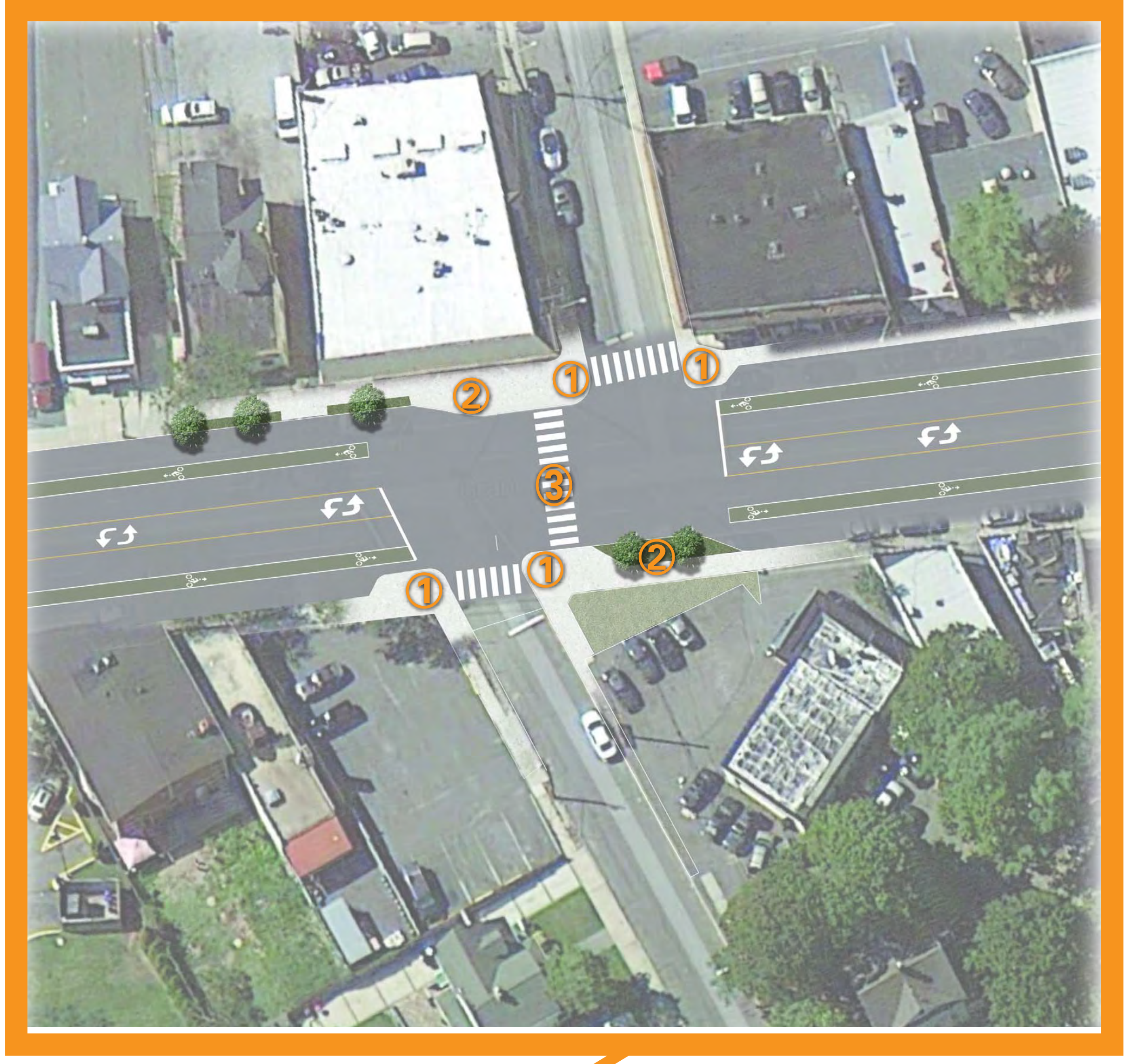
BROOKLYN AVENUE



Recommendations:

- ① Further study for a potential traffic signal synchronized with the signal at Sunrise Highway

MILLER PLACE



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② Improve bus stop shelter/seating
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements



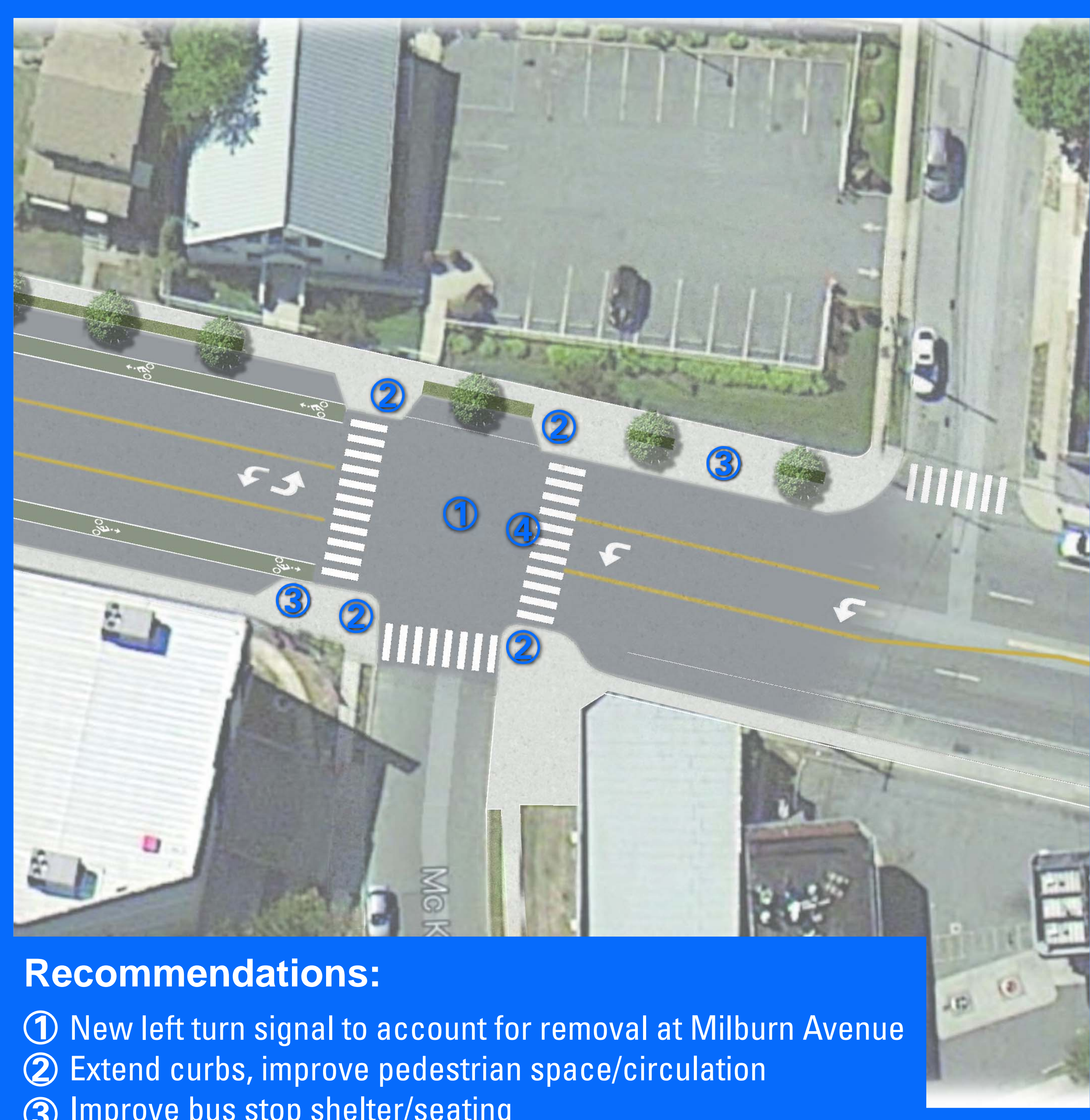
EXISTING CONDITION

Recommendations: ROAD DIET

OPTION 1: Reduce 4 Lanes To 3 Lanes, with added Bike Lanes

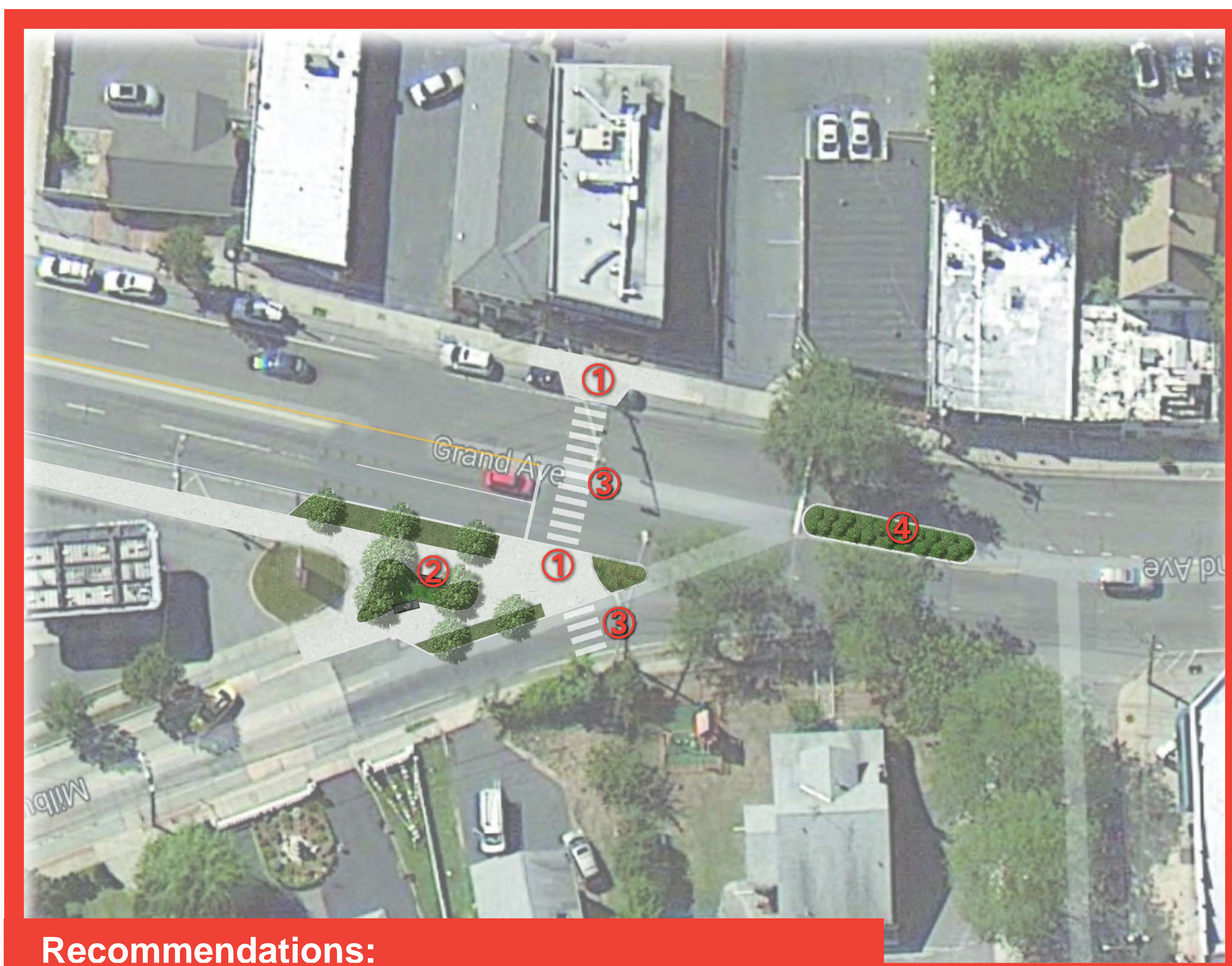
OPTION 2: Reduce 4 Lanes To 3 Lanes, with wider shared Bike/Parking Lanes





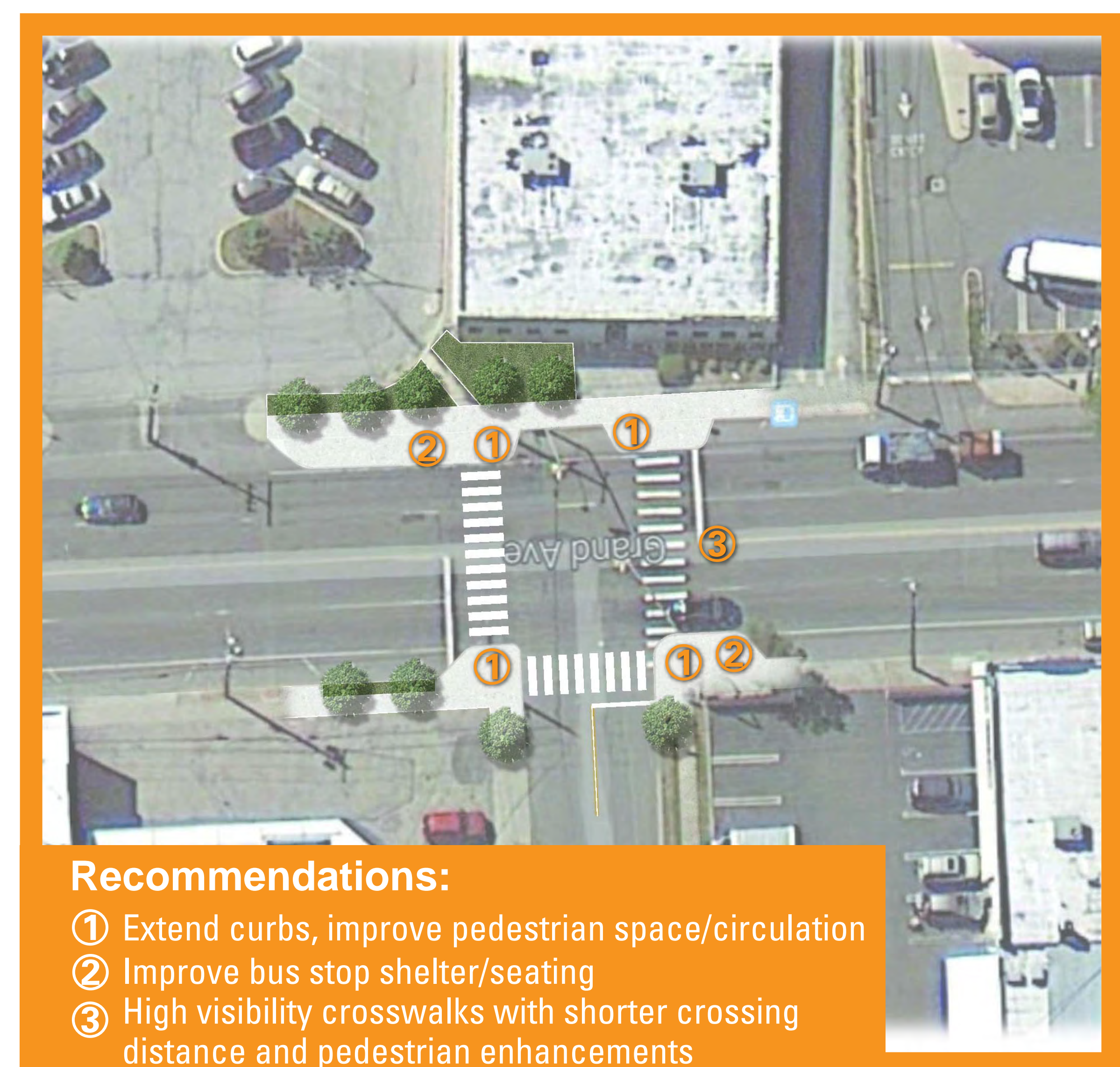
- Recommendations:**
- ① New left turn signal to account for removal at Milburn Avenue
 - ② Extend curbs, improve pedestrian space/circulation
 - ③ Improve bus stop shelter/seating
 - ④ High visibility crosswalks with shorter crossing distance and pedestrian enhancements

MCKENNA PLACE



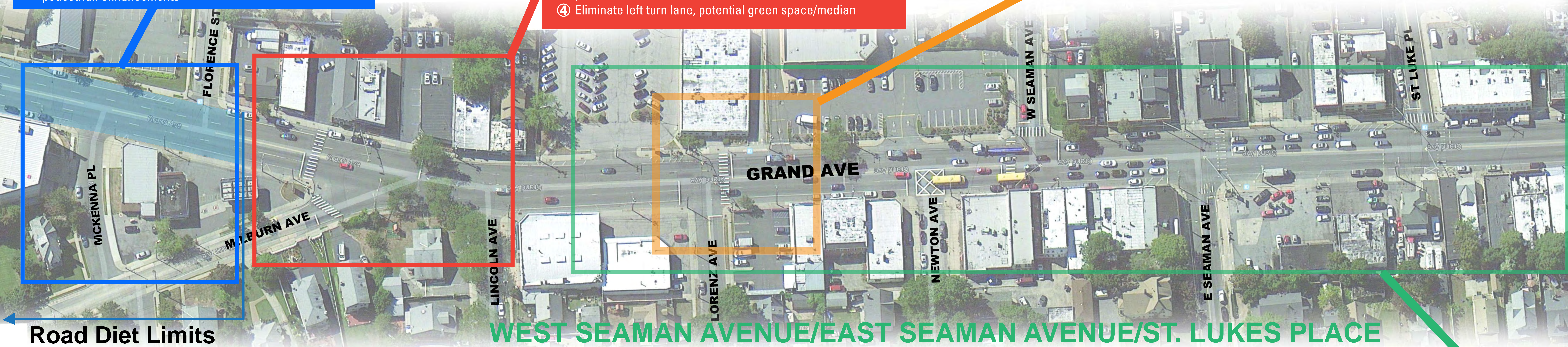
- Recommendations:**
- ① Extend curbs, improve pedestrian space/circulation
 - ② Pedestrian/green space
 - ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
 - ④ Eliminate left turn lane, potential green space/median

MILBURN AVENUE



- Recommendations:**
- ① Extend curbs, improve pedestrian space/circulation
 - ② Improve bus stop shelter/seating
 - ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements

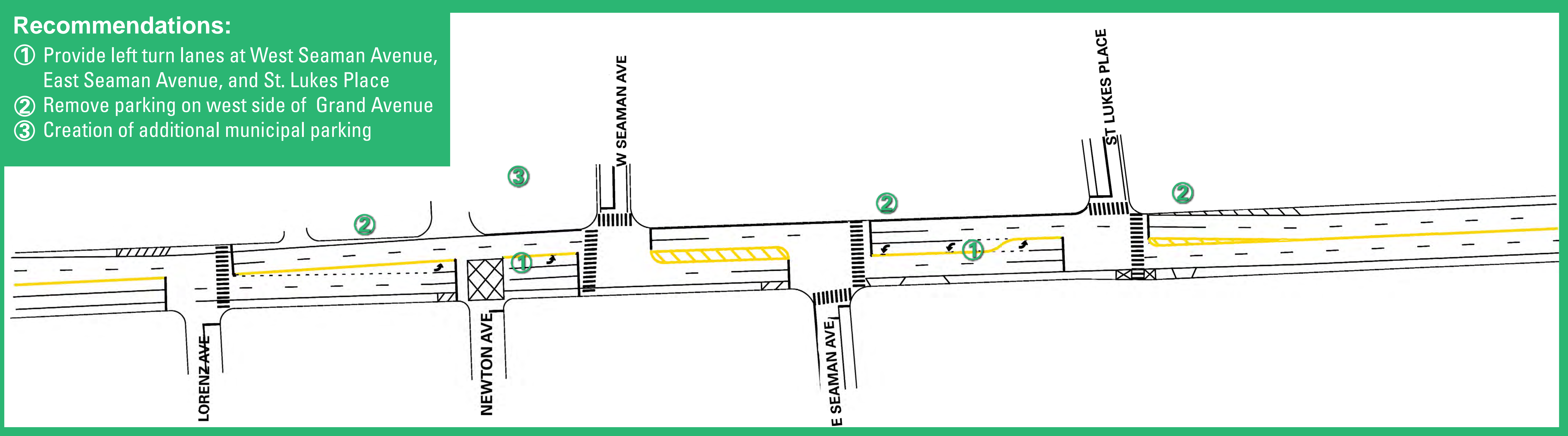
LORENZ AVENUE



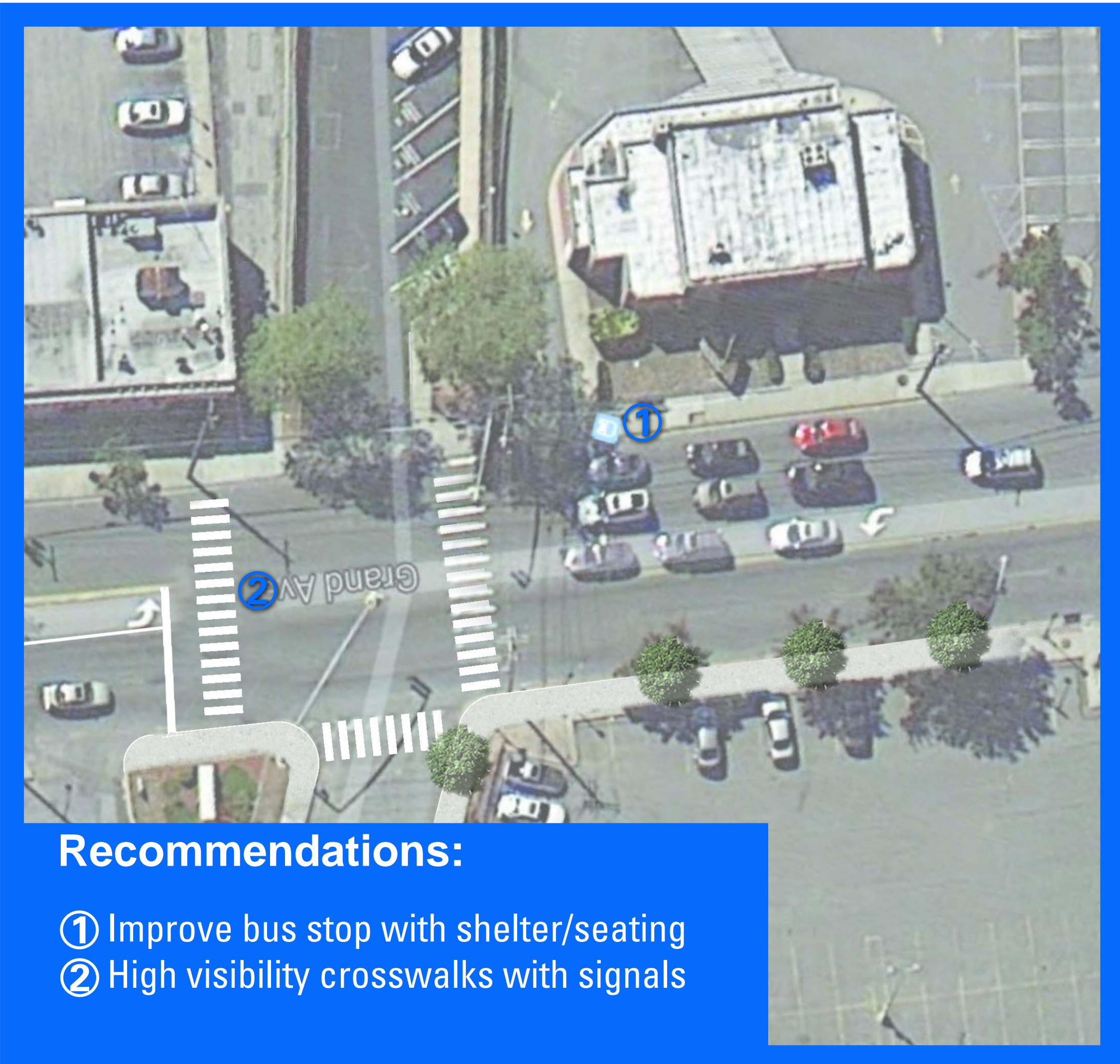
Road Diet Limits

WEST SEAMAN AVENUE/EAST SEAMAN AVENUE/ST. LUKES PLACE

- Recommendations:**
- ① Provide left turn lanes at West Seaman Avenue, East Seaman Avenue, and St. Lukes Place
 - ② Remove parking on west side of Grand Avenue
 - ③ Creation of additional municipal parking



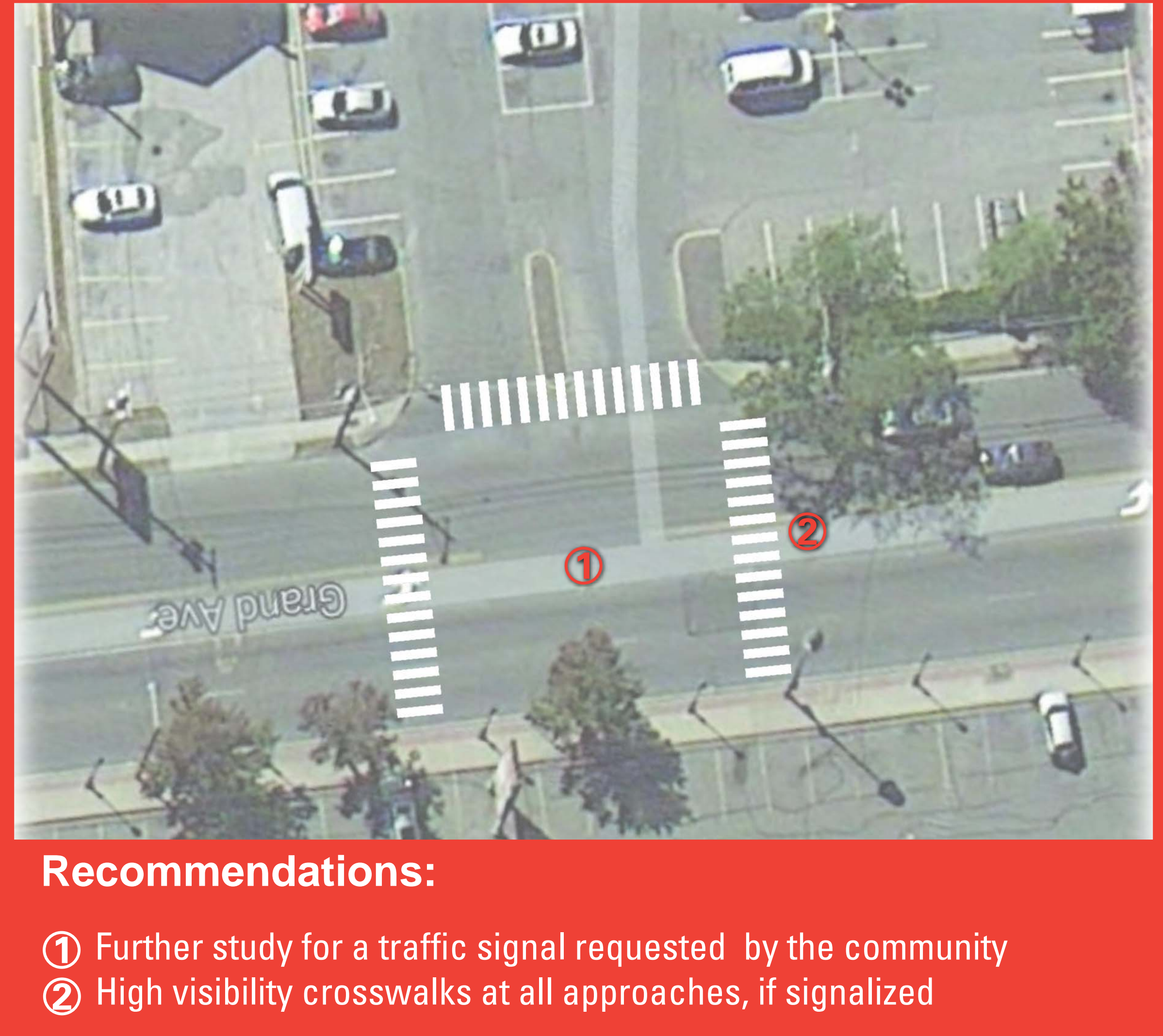
HIGH SCHOOL DRIVE



Recommendations:

- ① Improve bus stop with shelter/seating
- ② High visibility crosswalks with signals

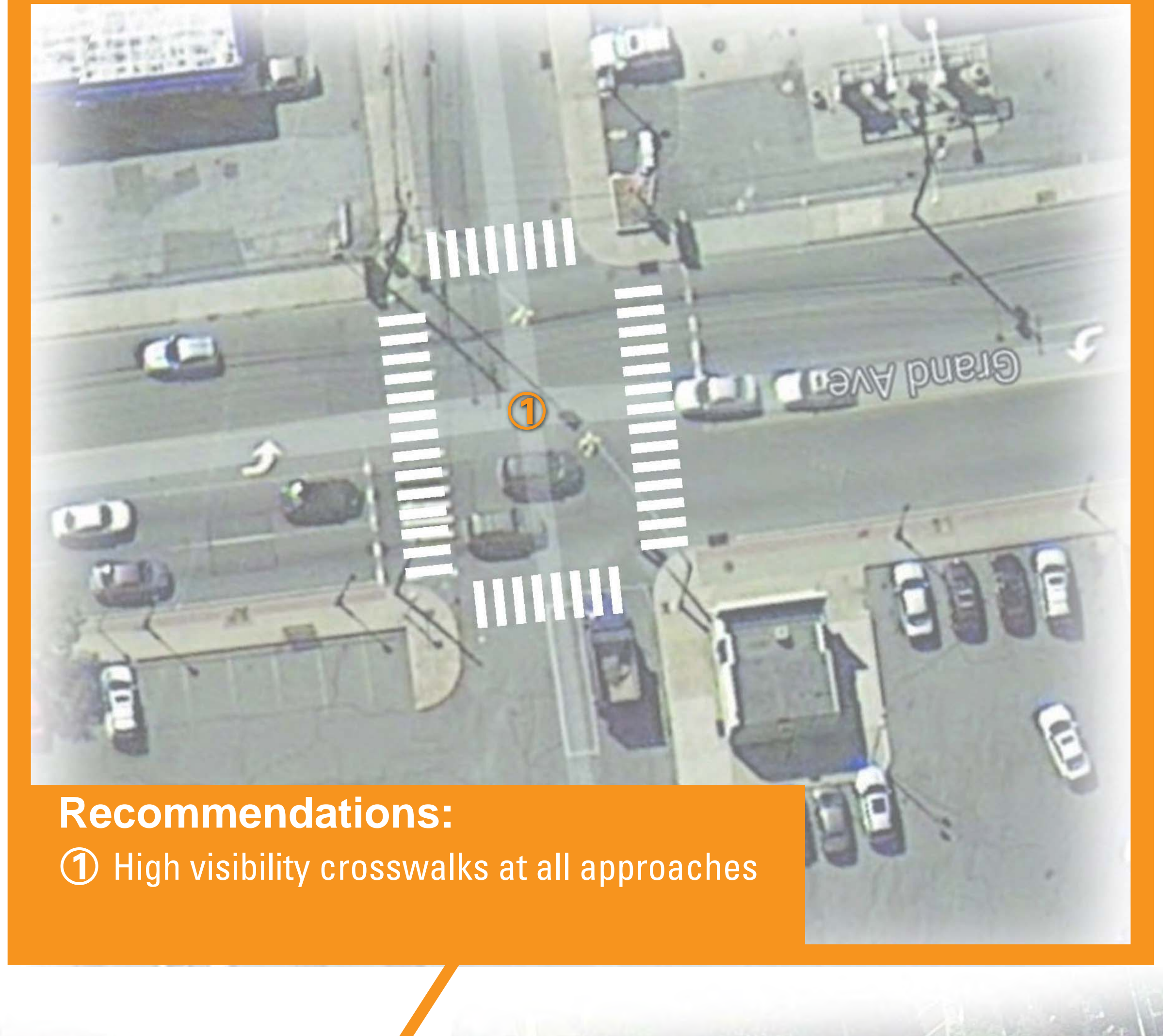
PATHMARK DRIVEWAY



Recommendations:

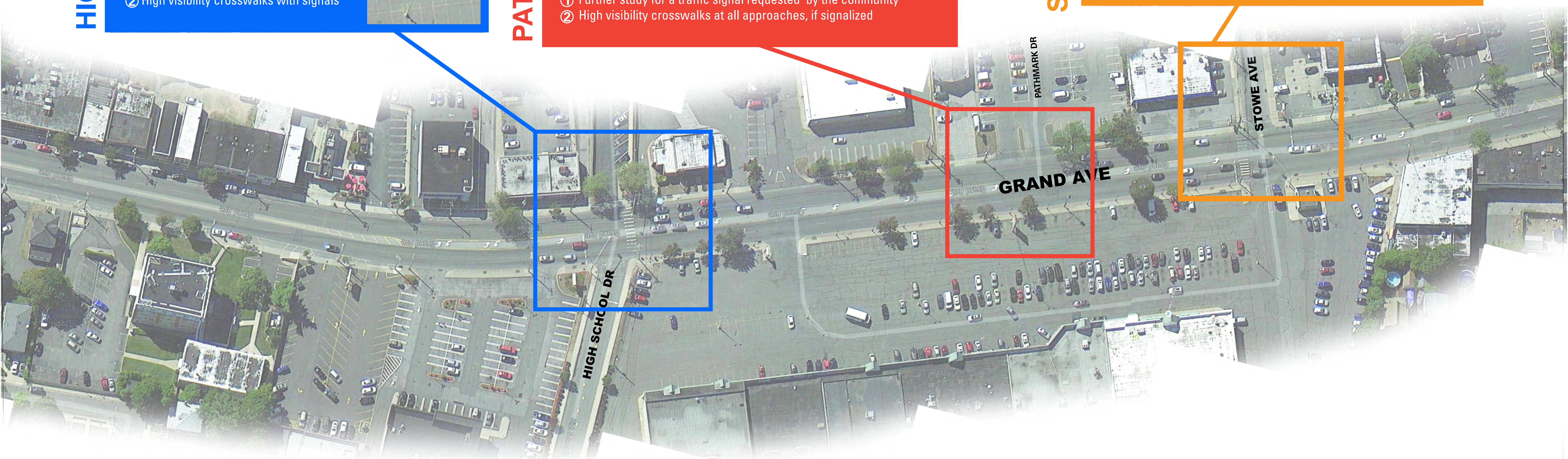
- ① Further study for a traffic signal requested by the community
- ② High visibility crosswalks at all approaches, if signalized

STOWE AVENUE



Recommendations:

- ① High visibility crosswalks at all approaches





EXISTING CONDITION



STANTON AVENUE

- Recommendations:**
- ① Extend curbs, improve pedestrian space/circulation
 - ② Improve bus stop with shelter/seating
 - ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements



PowerPoint Presentation





Edward P. Mangano, County Executive

Grand Avenue Complete Streets Traffic Study

Between Merrick Road and Stanton Avenue Baldwin, Town of Hempstead, New York



Presented by:

- Hon. Laura Curran, Nassau County Legislator, 5th District
- Karen Montalbano, Baldwin Civic Association
- Aryeh Lemberger, Nassau County Department of Public Works
- Sean Sallie, AICP, Nassau County Department of Public Works
- Abid Ansari, PE, PTOE, LiRo Engineers, Inc.

2ND PUBLIC INFORMATION MEETING

Baldwin Senior High School

November 18, 2015





Introduction

LiRo has been retained by NCDPW to provide engineering services for the Grand Avenue Complete Streets Traffic Study



Introduction

Study Team

- NCDPW Officials
- Nassau County Legislator – 5th District
- LiRo Engineers, Inc. – Consultant

Representatives of:

- Town of Hempstead, Councilwoman Sweeney's Office
- Baldwin Civic Association
- Baldwin Chamber of Commerce
- Vision Long Island



Objectives of this Study

Identify improvement measures that provide:

- Accessibility for all modes of transportation "*COMPLETE STREETS*"
- Traffic calming
- Safer pedestrian environment
- Improved circulation
- Catalyst for economic development and revitalization in downtown Baldwin



Background

Baldwin Station • Town of Hempstead

Unincorporated. Babylon Branch.

The hamlet of Baldwin has one LIRR station, which is located within the Hamlet's primary commercial district. LIRR 2006 ridership statistics denote that the station averaged 2,744 passengers traveling westbound in the morning (peak AM hours). The station itself is situated just north of Sunrise Highway, which creates the need for pedestrian safety improvements and traffic calming along this busy corridor.



Pedestrian safety improvements are needed along Grand Avenue.

In its 2010 report, Places to Grow, the Long Island Index identified Baldwin as a downtown station area with high potential for growth and development. Some examples of TSD currently exist south of the station area along Grand Avenue, creating a need to connect that successful development with more activity within the station area itself, possibly through complete streets improvements. The high number of vacant parcels within Baldwin's downtown area presents a number of specific sites for mixed-use development, lessening the automobile-dependency that has come to define both the residential and commercial design of the hamlet. While current zoning and site assemblages could prove challenging, they are by no means insurmountable, particularly given that there is a Transit-Oriented Development overlay district in the Town of Hempstead zoning code. Baldwin is ready for TSD. Coupled with both the civics' and municipality's out-spoken desire for Baldwin's downtown to become a true local destination, a successful TSD project within this station

area could serve as a catalyst for further investment and development throughout the rest of the Baldwin commercial district, making Baldwin a strong candidate for selection given the purposes of this study.

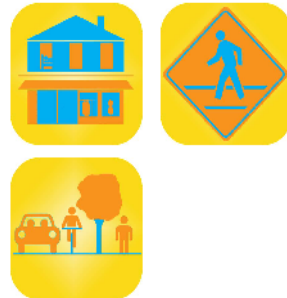
Recent/ongoing plans & studies

- Large Scale Redevelopment Plan for Downtown Baldwin, Town of Hempstead, 2010
- Grand Avenue Urban Renewal Plan, Town of Hempstead, 2007
- Inclusion in the Town of Hempstead Visioning Community, Town of Hempstead/Nassau County Visioning IMA, 2012
- Baldwin Needs Revitalization, Baldwin Civics Association, www.facebook.com/baldwin-needsrevitalization, ongoing

	POOR	FAIR	GOOD	GREAT
community desire	[Progress bar]			
physical suitability	[Progress bar]			
public sector readiness	[Progress bar]			
developer interest	[Progress bar]			
leadership in place	[Progress bar]			
overall	[Progress bar]			

- Empty Storefronts Committee, Baldwin Chamber of Commerce, ongoing

Potential projects



Baldwin Station Town of Hempstead

- Transit Station (train)
- 1/4 mile radius from station
- Crossing
- Transit Routes (train)
- Transit Routes (bus)
- Bicycle Facilities
- Wide Roads / Dangerous Crossings
- Limited Access Highway
- Parcels
- Government/Public Buildings
- Community Centers
- Religious Institutions
- Schools, Colleges & Universities
- Arts, Culture & Entertainment
- Recent New Development
- Other Identified Destinations
- Parks & Open Space
- Surface Parking Lots & Parking Structures
- Vacant Land
- Vacant/Unused Buildings and Soft Sites
- Brownfields/Contaminated Sites
- Planned/Proposed Future Development
- Plans / Project Areas
- Potential Development Sites

Nassau County Infill Redevelopment Feasibility Study, 2014





Flip Chart from Infill Study

Baldwin Public Workshop
The Economic Benefits of Complete Streets along Grand Avenue
October 29, 2013

<p>Do you see Grand Avenue becoming a denser place?</p> <p>What types of density would you like to see?</p> <p>3 STORES IDEAL COMMITMENT IN DESIGN - NOT SO DISJOINTED GROUND FLOOR RETAIL GET RID OF VACANCIES Focus on South of Sunrise - lot w/ parking <u>PARKING SPACES</u> : Lots Continue BUSINESSES PLAYGROUND (near historical society)</p> <p>10 MINS</p>	<p>Is walkability to the LIRR station important?</p> <p>How could the Sunrise Highway crossing be improved?</p> <p>High for most people PRIORITY: GET GRAND AVE. HOBBING : ENHANCE ATTRACTIVENESS BAN THE TRUCKS</p> <p>15 MINS</p>
<p>Are financing strategies available to implement this project?</p> <p>Which should be pursued?</p> <p>ALREADY AWARDED \$ TO 100 STREET IMPROVEMENTS USE THE NCRIPS REPORT</p> <p>10 MINS</p>	<p>What are other critical next steps?</p> <p>MANAGE TRAFFIC → TO GET SMALLER VEHICLES IN THE INTERSECTIONS Keep momentum Focus on DESTABILIZATION TO GET EXISTING STARTER GET TOWN OF HEMPSTAD TO HELP CREATE A PLAN TO HELP GET FINANCING</p> <p>10 MINS</p>



Case Study: Village of Hamburg, NY

“Complete streets” as a growth driver during an economic slowdown



Location

Village central core
(Rte. 62 & Main St)

Scale

1.8 miles

Timeline

Proposed in 2006
Completed in 2009



PARSONS
BRINCKERHOFF

HR&A
Analyze. Advise. Act.



CAMERON ENGINEERING
& ASSOCIATES, LLP

Case Study : Village of Hamburg, NY

“Complete streets” as a growth driver during an economic slowdown

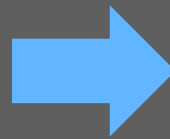
Investment

Public investment
of **\$20 million**

Narrowed lanes

Four new
roundabouts

Increased street
parking



Outcome

Revitalization
of the town center

33 development
projects

3% vacancy rate
versus 10% village
average



PARSONS
BRINCKERHOFF

HR&A
Analyze. Advise. Act.



CAMERON ENGINEERING
& ASSOCIATES, LLP



What are Complete Streets?

Complete Streets

Are planned, designed, maintained and operated for all users, not just automobiles.

Enable safe and efficient access and mobility for:

- **All Users**

Pedestrians, bicyclists,
public transportation
riders, motorists

Irrespective of age and
ability – children, elderly,
persons with disabilities

- **All Modes**

Walking, bicycles, buses,
trains, trucks,
automobiles



NATIONAL COMPLETE STREETS COALITION



Complete Streets

- Benefit all roadway users
- Support livable and sustainable communities
- Promote local businesses
- Leverage economic growth and vitality



<http://completestreetsprince.org/safety-by-design/complete-streets-introduction/>



Study Methodology

Tasks

- Background Data Review
- Field Observations and Inventories
- Extensive Data Collection
- Data Analysis
- Public Information and Outreach
- Key Stakeholders Meetings
NYS DOT, Town of Hempstead, Baldwin Chamber of Commerce
- Identify Opportunities and Needs
- Develop Improvement Measures
- Identify funding sources and implementation schedule



Background Data Review

Key Studies

- Revitalizing Sunrise Highway, conducted by Walkable and Livable Communities Institute sponsored by Vision Long Island/AARP (June 2014)
- Nassau County Infill Redevelopment Feasibility Study (March 2014)
- Baldwin NY Rising Community Reconstruction Plan (March 2014)
- Grand Avenue Urban Renewal Plan, Baldwin, New York (July 2007)
- Baldwin, New York: Strategic Downtown Improvement Plan, prepared for the Baldwin Chamber of Commerce (April 2000)



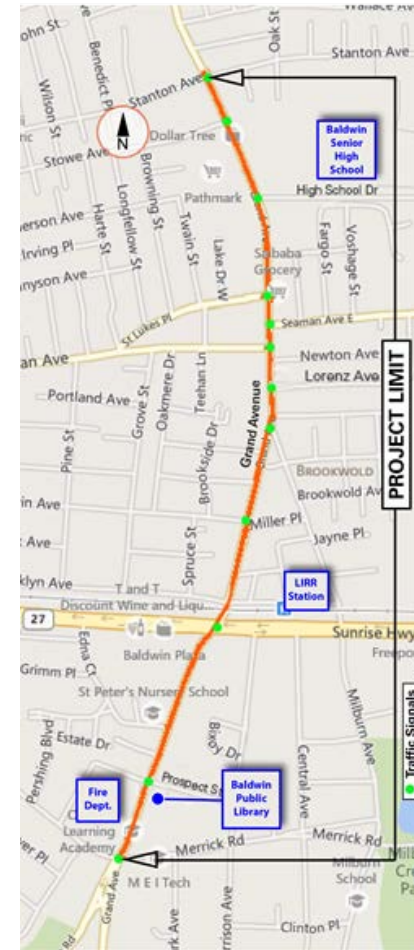
Field Observations and Inventories

Study Area Limits

- Grand Avenue between Stanton Avenue and Merrick Road
- Approximately 1.4 miles

Roadway Network

- 12 Signalized intersections
- Several unsignalized intersections/driveways
- 2 Major intersections: Sunrise and Merrick





Field Observations and Inventories

- Conducted several site visits - peak and off-peak
- Gathered and reviewed
 - Roadway, intersection and traffic signal plans
 - Aerial photographs
 - GIS data files



Nassau County Department of Public Works
 District Engineer, Traffic Division

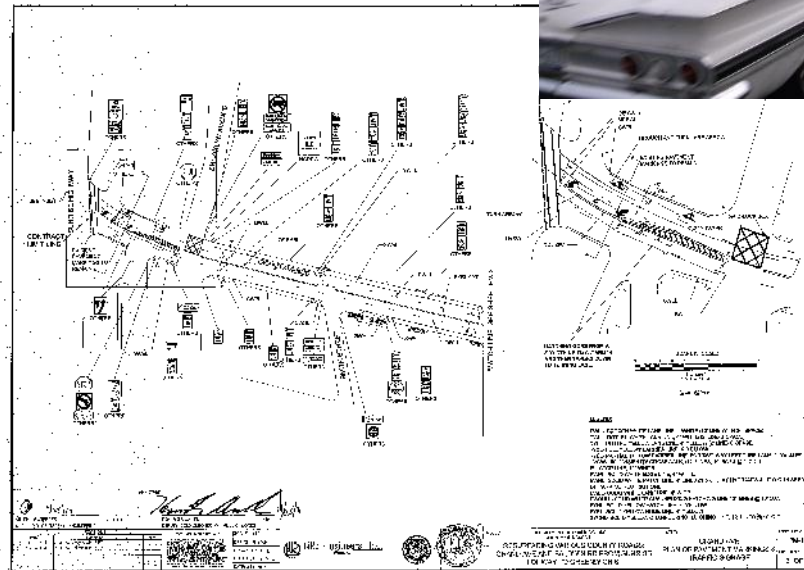
Project Name: Grand Avenue
 Date: 10/15/14

Scale: 1" = 100'

Sheet No. 1 of 1

Station	From	To	Notes
1+00	1+00	1+00	Start of study area
1+10	1+10	1+10	...
1+20	1+20	1+20	...
1+30	1+30	1+30	...
1+40	1+40	1+40	...
1+50	1+50	1+50	...
1+60	1+60	1+60	...
1+70	1+70	1+70	...
1+80	1+80	1+80	...
1+90	1+90	1+90	...
2+00	2+00	2+00	End of study area

Grand Avenue
 10/15/14





Field Observations and Inventories

Roadway Features

- 4 travel lanes (2 each direction)
- Additional turn lanes at some intersections





Field Observations and Inventories

Roadway Features

- Posted speed limit is 30 mph





Field Observations and Inventories

Roadway Features

- Hurricane Evacuation Route (Northbound – North of Sunrise Highway)





Field Observations and Inventories

Roadway Features

- **On-street parking** on both sides – most of the corridor





Field Observations and Inventories

Pedestrian Facilities

- Sidewalks on both sides





Field Observations and Inventories

Pedestrian Facilities

- **Streetscape** treatments intermittent throughout the corridor (decorative pavers, lighting, trash receptacles, benches)





Field Observations and Inventories

Pedestrian Facilities

- Marked **crosswalks** at traffic signals





Field Observations and Inventories

Pedestrian Facilities

- Pedestrian / countdown signals at some intersections





Field Observations and Inventories

Public Transportation

- **LIRR Baldwin Station** – north of Sunrise Highway
- **Bus Stops** on both sides of Grand Avenue
- **Bus Routes**
 - N37 – along Grand Avenue
 - N16 – along Foxhurst Road
 - N4 – along Merrick Road



N37, N16, N4 connect to LIRR Baldwin, Rockville Center and Freeport stations



Field Observations and Inventories

Land Use

Mixed, including:

- Retail
 - Commercial
 - Big-box stores
 - Residential (single family, apartment/condominium)
 - Institutional
 - Municipal parking
 - Places of worship
-
- Combination of uses varies along the corridor
 - Baldwin Public Library, Fire House, and High School



Vacant and underutilized properties – opportunity for strategic infill redevelopment



Data Collection

Manual Turning Movement Counts

- At 12 signalized intersections, including:
 - Vehicles
 - Bicycles
 - Pedestrian
 - Vehicle classification counts at 4 intersections
 - (auto, bus, school bus, light truck, heavy truck)
- Peak Periods
 - Weekday morning (7AM – 9 AM)
 - Weekday midday (11AM – 1PM)
 - Weekday evening (2PM – 6PM)
 - Saturday midday (11AM – 2PM)
- Collected On
 - Thursday, November 13, 2014
 - Saturday, November 15, 2014

Key Signalized Intersection - Manual Turning Movement Count Location





Data Collection

Automatic Traffic Recorder (ATR) Machine Counts

- 24-hour continuous counts for 10 consecutive days
 - Starting: Wednesday, November 12, 2014
 - Ending: Friday, November, 21, 2014
- At 6 locations along Grand Avenue
 - In both directions
- Additional field observations throughout the past year by project team

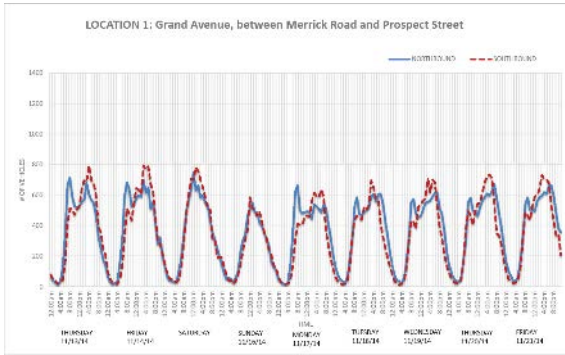
Automatic Traffic Recorder (ATR) Count Location



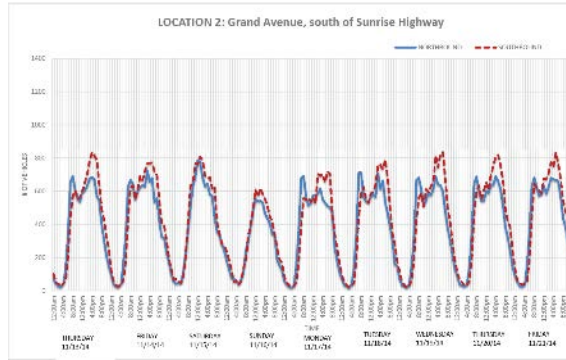


Grand Avenue Complete Streets Traffic Study

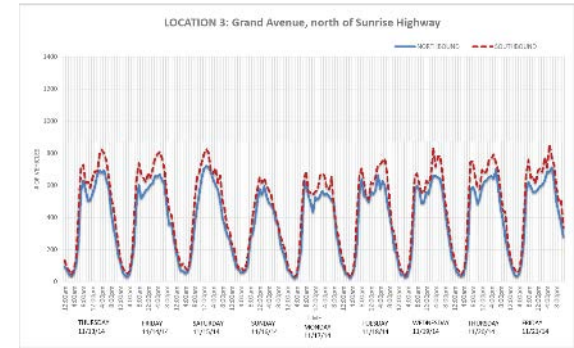
Hourly Traffic Volume Data



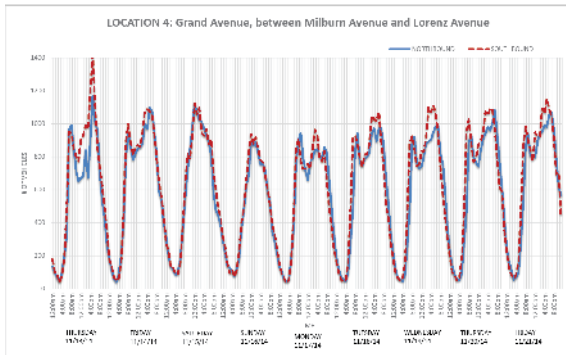
Hourly Traffic Volume Data



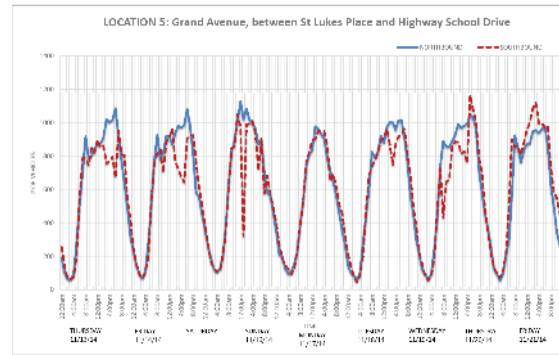
Hourly Traffic Volume Data



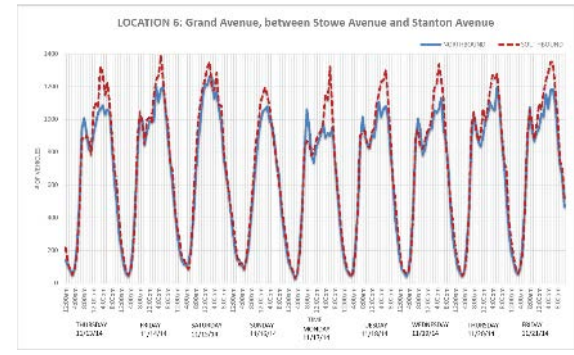
Hourly Traffic Volume Data



Hourly Traffic Volume Data



Hourly Traffic Volume Data





Grand Avenue Complete Streets Traffic Study

DAILY TRAFFIC VOLUME SUMMARY GRAND AVENUE

LOCATION	AVERAGE ANNUAL DAILY TRAFFIC (AADT)		
	NORTHBOUND	SOUTHBOUND	TOTAL
1. between Merrick Road and Prospect Street	8,770	8,401	17,171
2. south of Sunrise Highway	9,386	10,102	19,488
3. north of Sunrise Highway	9,189	10,938	20,127
4. between Milburn Avenue and Lorenz Avenue	13,965	14,837	28,802
5. between St Lukes Place and Baldwin Senior High School Driveway	14,712	14,578	29,290
6. between Stowe Avenue and Stanton Avenue	15,639	16,795	32,434



Data Collection

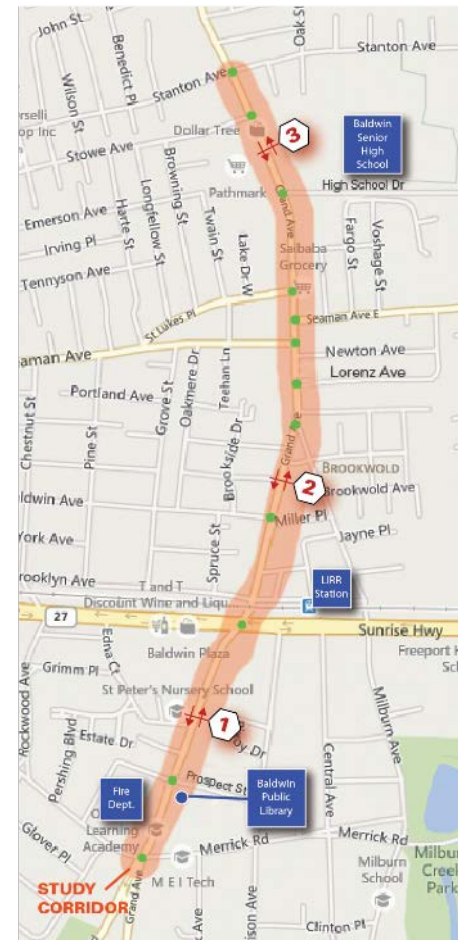
Spot Speed Studies

- Weekday off-peak hours
- At 3 locations along Grand Avenue
 - In both directions
- **Operating speeds are well above posted speed limits**

Travel Time and Delay Runs

- In both direction along Grand Avenue
- During all weekday and Saturday peak periods

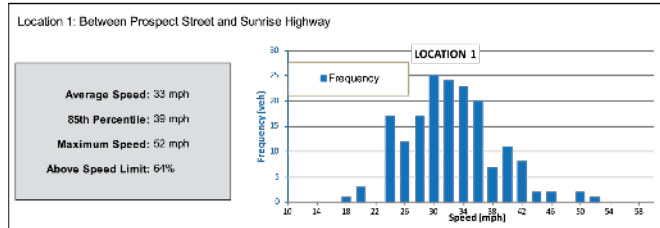
Spot Speed Data Location



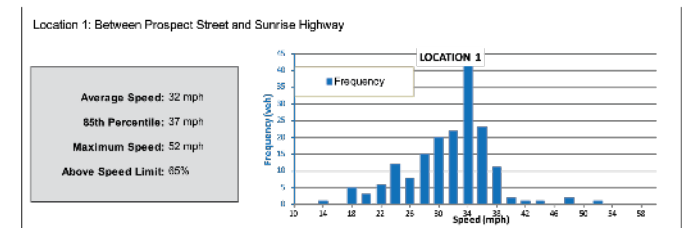


Grand Avenue Complete Streets Traffic Study

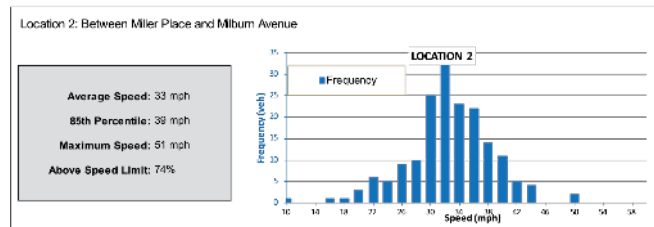
Spot Speed Data Summary
GRAND AVENUE NORTHBOUND



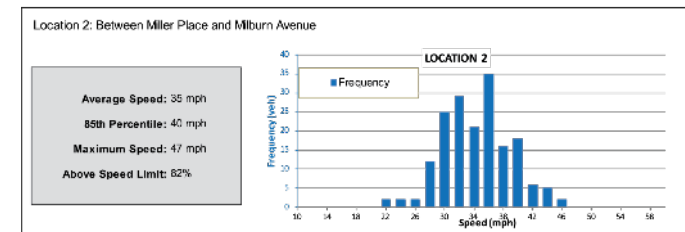
Spot Speed Data Summary
GRAND AVENUE SOUTHBOUND



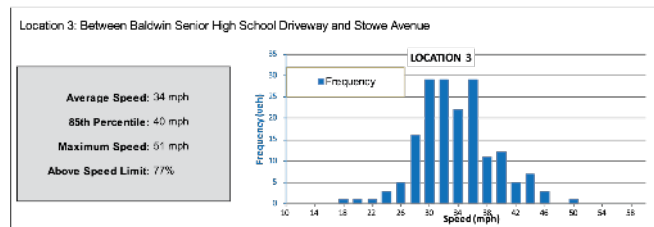
Spot Speed Data Summary
GRAND AVENUE NORTHBOUND



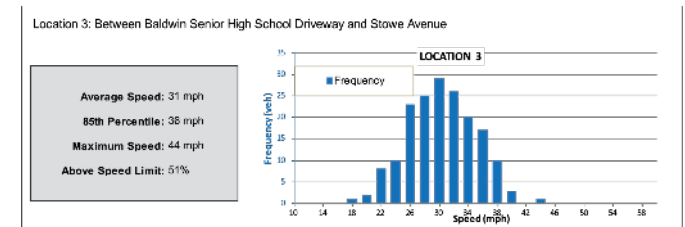
Spot Speed Data Summary
GRAND AVENUE SOUTHBOUND



Spot Speed Data Summary
GRAND AVENUE NORTHBOUND



Spot Speed Data Summary
GRAND AVENUE SOUTHBOUND



Speed Limit: 30 MPH
 Survey Day(Date): Thursday (11/20/2014)
 Survey Time: 9:00 AM to 1:00 PM
 Sample Size (each location and direction): 175





Data Collection

Accident History

- Data collected for a 3-year period
- Nassau County Police Department
- New York State Department of Transportation

ACCIDENT DATA SUMMARY ENTIRE PROJECT CORRIDOR

MAY 1, 2011 TO APRIL 30, 2014
THREE (3) YEARS
SOURCE: NYS DOT

Table 1: Accident Summary by Severity

Year	Accident Severity			Total
	Fatality	Injury	Property Damage	
5/1/2011 - 12/31/2011	0	54	124	178
1/1/2012 - 12/31/2012	0	56	174	230
1/1/2013 - 12/31/2013	1	49	200	250
1/1/2014 - 4/30/2014	0	25	53	78
Total	1	184	551	736
	0%	25%	75%	100%

ACCIDENT DATA SUMMARY ENTIRE PROJECT CORRIDOR

MAY 1, 2011 TO APRIL 30, 2014
THREE (3) YEARS
SOURCE: NYS DOT

Table 2: Accident Summary by Type of Collision

Year	Accident Type									
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/Bicycle	Overtake	Other/Unknown	Total
5/1/2011 - 12/31/2011	20	53	2	19	4	0	5	41	34	178
1/1/2012 - 12/31/2012	32	73	1	15	6	2	9	54	38	230
1/1/2013 - 12/31/2013	29	71	2	26	3	7	8	69	35	250
1/1/2014 - 4/30/2014	6	26	0	3	4	3	2	19	15	78
Total	87	223	5	63	17	12	24	183	122	736
	12%	30%	1%	9%	2%	2%	3%	25%	17%	100%



Data Analysis

Traffic “Synchro” Models

- **Existing** conditions
- **No-Build** conditions projected for 10 year horizon
 - Background growth
 - Vacant properties
- **Build** conditions with improvements



Public Information and Outreach

First Meeting

February 24th, 2015

More than 80 people attended

Written comments from:

38 people at the meeting

8 people via Email

46 people total





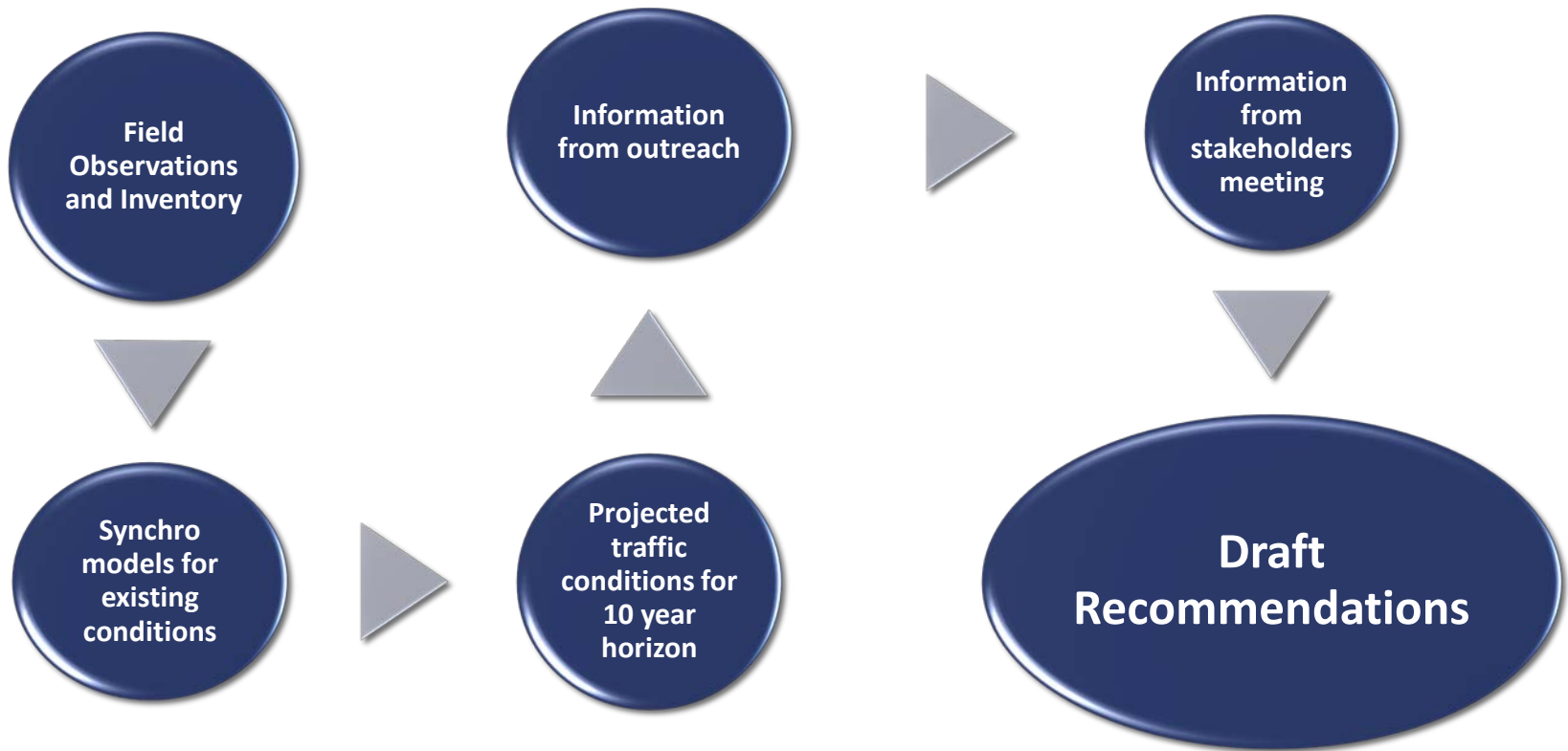
Key Stakeholders Meetings

Key Stakeholders Meetings

- NYSDOT
- Town of Hempstead
- Baldwin Chamber of Commerce



Identify Opportunities and Needs





Develop Improvement Measures

Typical Traffic Calming and Complete Streets Measures

- Sidewalks
- Crosswalks
- Lane striping
- Signage
- Pedestrian signals
- Signal retiming
- Curb extensions / bump-outs
- Bus stop improvements
- Medians / islands / pedestrian refuge areas
- Green space / infrastructure
- Turn lanes
- Additional signals and traffic controls
- Bicycle lanes / wider shared parking lanes
- Road diet – reduction in lanes



Curb extensions / bump-outs



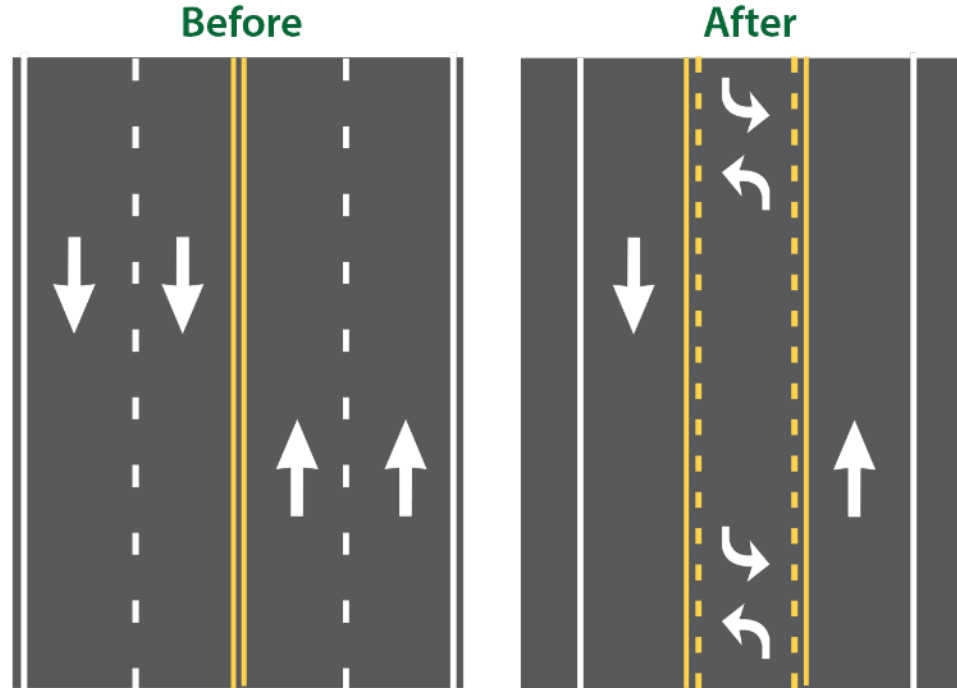
Curb extensions / bump-outs



What is a Road Diet?

It is generally described as:

Removing a travel lane(s) from a roadway and utilizing the space for other uses and travel modes



Typical Road Diet Basic Design



Why Road Diet?

Need

- Other modes





Why Road Diet?

Need

- Other modes





Why Road Diet?

Need

- Other modes





Why Road Diet?

Need

- Limited Right of Way
- Alternative?





Why Road Diet?

Benefits

- Proven Traffic Calming measure
- Improves Safety
- Reduces accidents
- Complement downtown character and implement placemaking

HSIS

HIGHWAY SAFETY INFORMATION SYSTEM

The Highway Safety Information System (HSIS) is a multi-State safety database that contains crash, roadway inventory, and traffic volume data for a select group of States. The participating States—California, Illinois, Maine, Michigan, Minnesota, North Carolina, Ohio, Utah, and Washington—were selected based on the quality of their data, the range of data available, and their ability to merge the data from the various files. The HSIS is used by FHWA staff, contractors, university researchers, and others to study current highway safety issues, direct research efforts, and evaluate the effectiveness of accident countermeasures.



U.S. Department of Transportation
Federal Highway Administration

Research, Development, and Technology
Turner-Fairbank Highway Research Center
6300 Georgetown Pike • McLean, VA 22101-2296

SUMMARY REPORT

Evaluation of Lane Reduction “Road Diet” Measures on Crashes

This Highway Safety Information System (HSIS) summary replaces an earlier one, Evaluation of Lane Reduction “Road Diet” Measures and Their Effects on Crashes and Injuries (FHWA-HRT-04-082), describing an evaluation of “road diet” treatments in Washington and California cities. This summary reexamines those data using more advanced study techniques and adds an analysis of road diet sites in smaller urban communities in Iowa.

A road diet involves narrowing or eliminating travel lanes on a roadway to make more room for pedestrians and bicyclists.⁽¹⁾ While there can be more than four travel lanes before treatment, road diets are often conversions of four-lane, undivided roads into three lanes—two through lanes plus a center turn lane (see figure 1 and figure 2). The fourth lane may be converted to a bicycle lane, sidewalk, and/or on-street parking. In other words, the existing cross section is reallocated. This was the case with the two sets of treatments in the current study. Both involved conversions of four lanes to three at almost all sites.

Road diets can offer benefits to both drivers and pedestrians. On a four-lane street, speeds can vary between lanes, and drivers must slow or change lanes due to slower vehicles (e.g., vehicles stopped in the left lane waiting to make a left turn). In contrast, on streets with two through lanes plus a center turn lane, drivers’ speeds are limited by the speed of the lead vehicle in the through lanes, and through vehicles are separated from left-turning vehicles. Thus, road diets may reduce vehicle speeds and vehicle interactions, which could potentially reduce the number and severity of vehicle-to-vehicle crashes. Road diets can also help pedestrians by creating fewer lanes of traffic to cross and by reducing vehicle speeds. A 2001 study found a reduction in pedestrian crash risk when crossing two- and three-lane roads compared to roads with four or more lanes.⁽²⁾

Under most annual average daily traffic (AADT) conditions tested, road diets appeared to have minimal effects on vehicle capacity because left-turning vehicles were moved into a common two-way left-turn lane (TWLTL).^(3,4) However, for road diets with AADTs above approximately 20,000 vehicles, there is an increased likelihood that traffic congestion will increase to the point of diverting traffic to alternative routes.

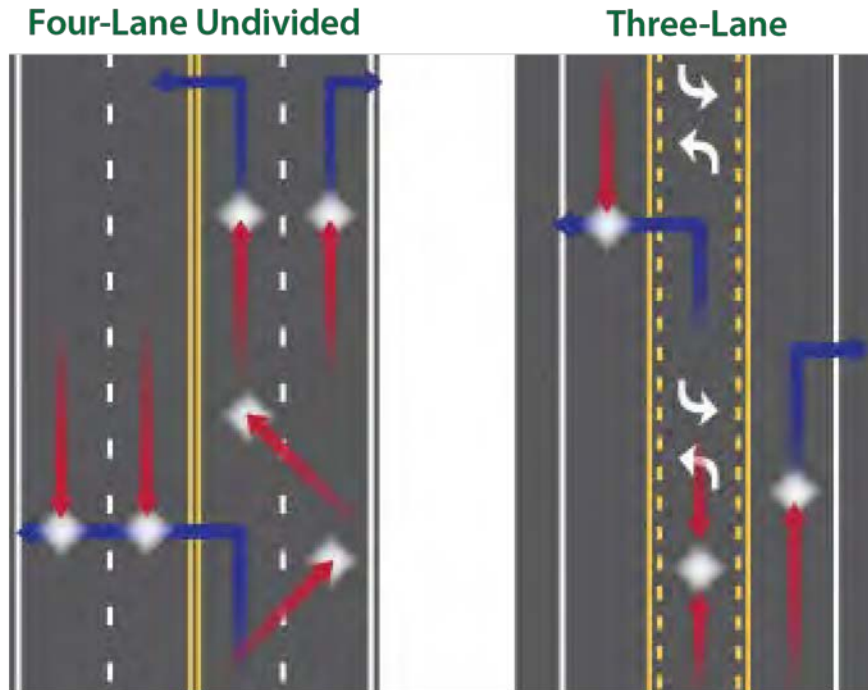
While potential crash-related benefits are cited by road diet advocates, there has been limited research concerning such benefits. Two prior studies were conducted using data from different urbanized areas. The first, conducted by HSIS researchers, used data from treatment sites in eight cities in California and Washington.⁽⁵⁾ The second study analyzed data from treatment sites in relatively small towns in Iowa.⁽⁶⁾ While the nature of the treatment was the same in both studies (four lanes reduced to three), the settings, analysis methodologies, and results of the studies differed. Using a comparison of treated and matched comparison sites before and after treatment and the development of negative binomial regression models, the earlier HSIS study found a 6 percent reduction in crash frequency per mile and no significant change in crash rates at the California and Washington sites. Using a long-term (23-year) crash history for treated and reference sites and the development of a hierarchical Poisson model in a Bayesian approach, the later Iowa study





Why Road Diet?

Improves Safety

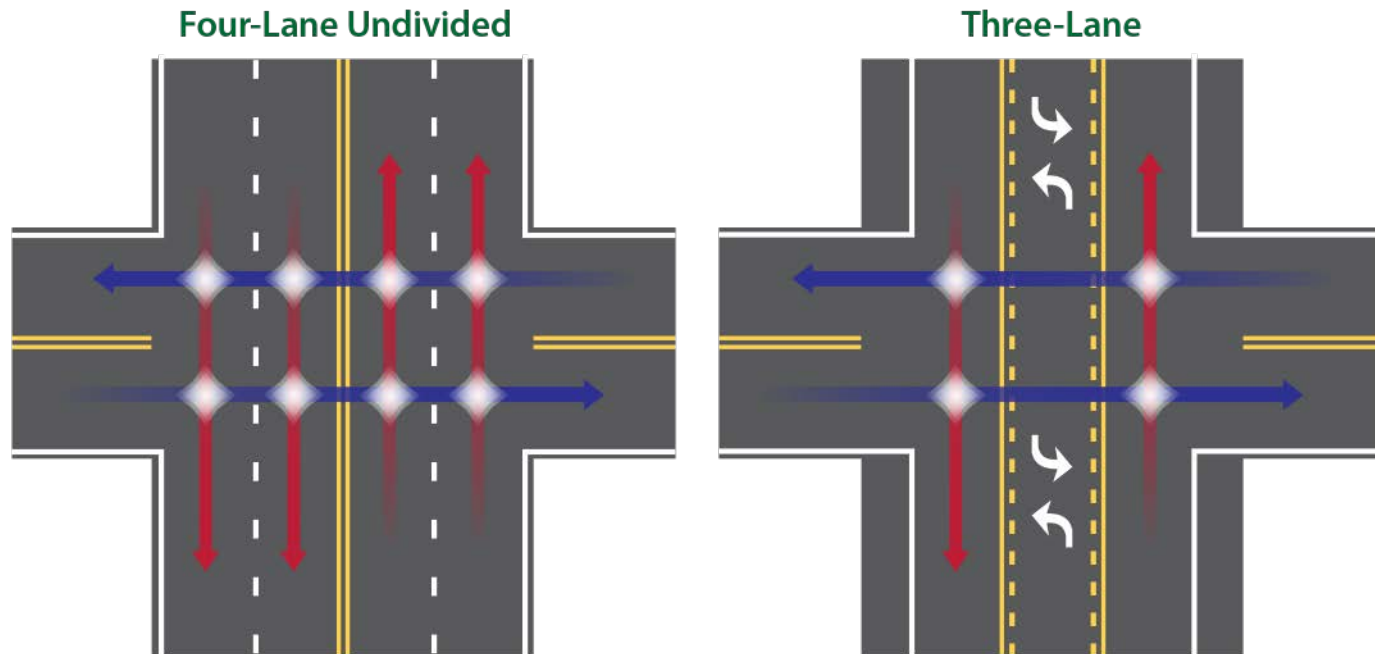


Mid-Block Conflict Points for Four-Lane Undivided Roadway and Three-Lane Cross Section (Adapted from *Welch*, 1999)



Why Road Diet?

Improves Safety



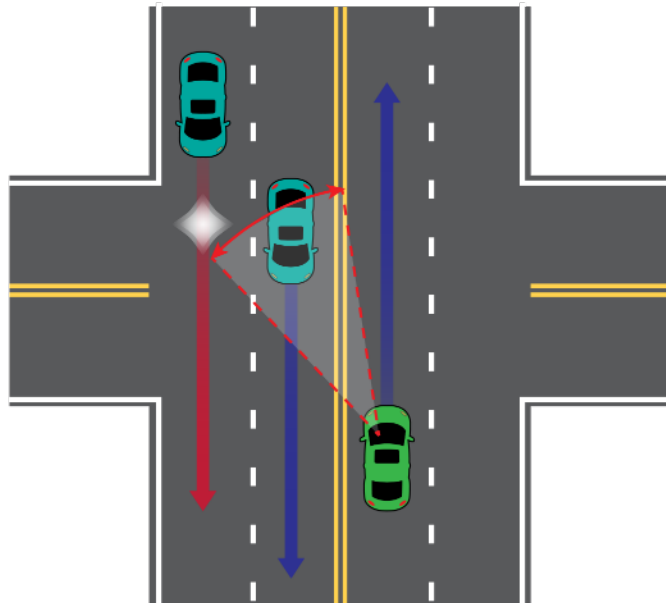
Crossing and Through Traffic Conflict Points at Intersections for a Four-Lane Undivided Roadway and a Three-Lane Cross Section
(Adapted from Welch, 1999)



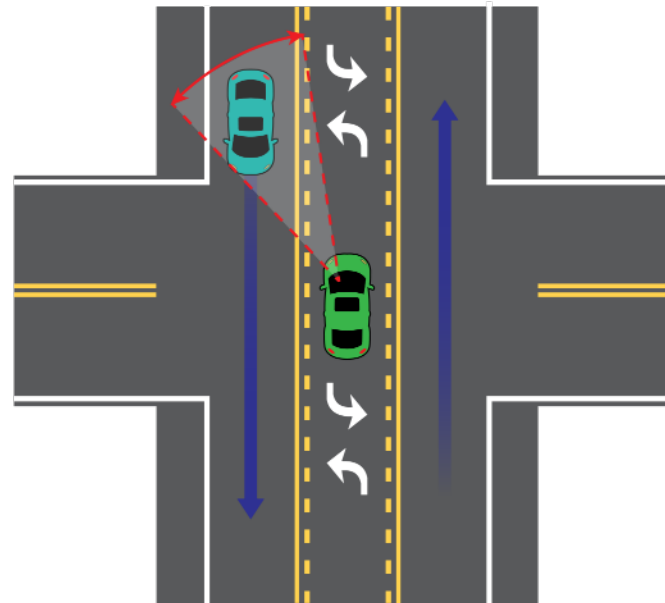
Why Road Diet?

Improves Safety

Four-Lane Undivided
(Outside Lane Traffic Hidden by
Inside Lane Vehicle)



Three-Lane
(No Hidden Vehicles)

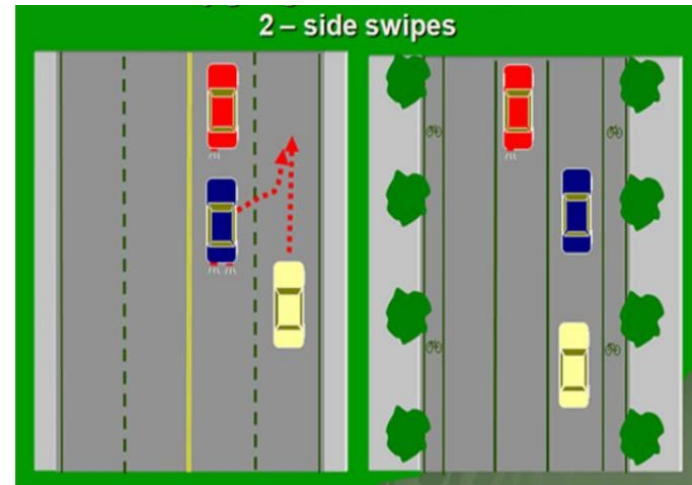
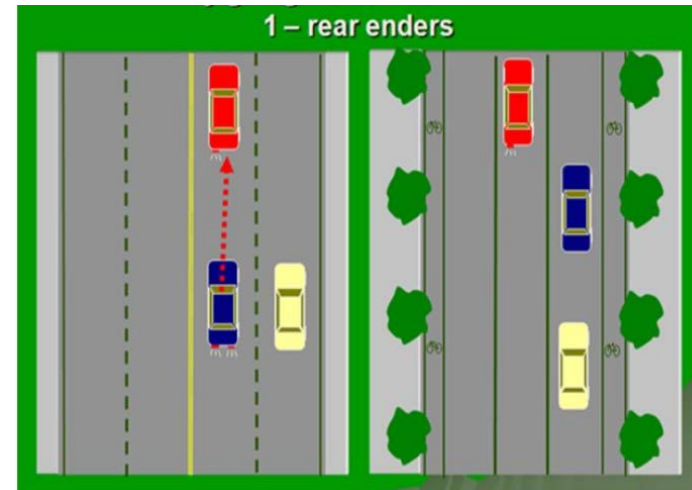
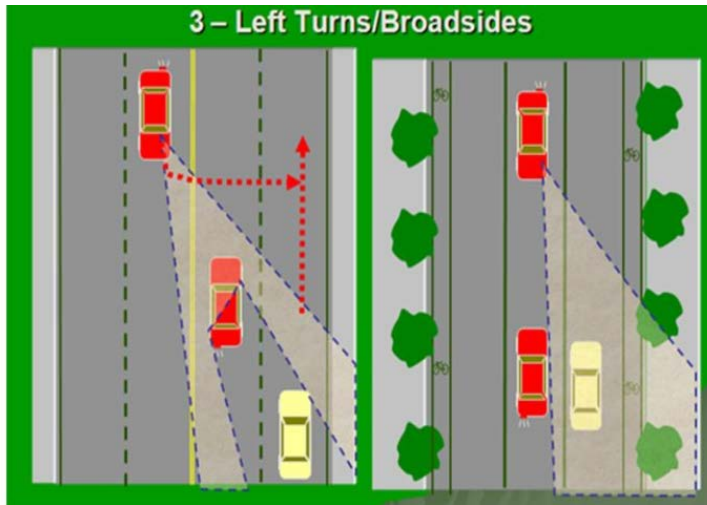


Major-Street Left-Turn Sight Distance for Four-Lane Undivided Roadway and Three-Lane Cross Section
(Adapted from Welch, 1999)



Why Road Diet?

Crash types reduced





Why Road Diet?

Improves Safety and Operation

Road Diet Informational Guide



FHWA Safety Program



U.S. Department of Transportation
Federal Highway Administration

Safe Roads for a Safer Future
Investment in roadway safety saves lives

www.safety.fhwa.dot.gov



Grand Avenue Complete Streets Traffic Study



LiRo Engineers, Inc.
A LiRo Group Company



Post Avenue, Westbury



Post Avenue at Maple Avenue looking north (2015)



Merrick Avenue, Merrick



Merrick Avenue at Benson Lane looking north (2013)



Prospect Avenue, New Cassel



Google earth

© 2015 Google

Prospect Avenue at Urban Avenue looking east (2015)





NYS Route 112, Coram – Port Jefferson



Google earth
© 2015 Google

NYS Route 112 at Pine Road looking north (2015)

MERRICK ROAD



Recommendations:

- ① Eliminate right turn ramp
- ② Pedestrian/green space
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ④ Extend curb, improve pedestrian space
- ⑤ Extend curb, improve bus stop shelter/seating

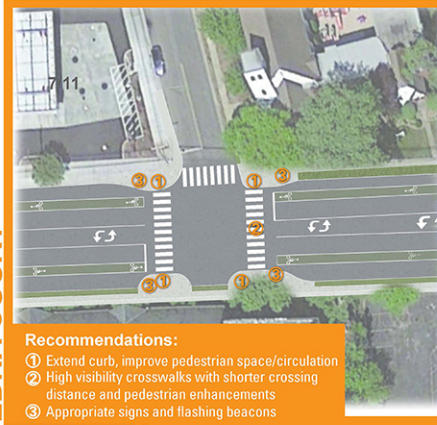
PROSPECT STREET



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements

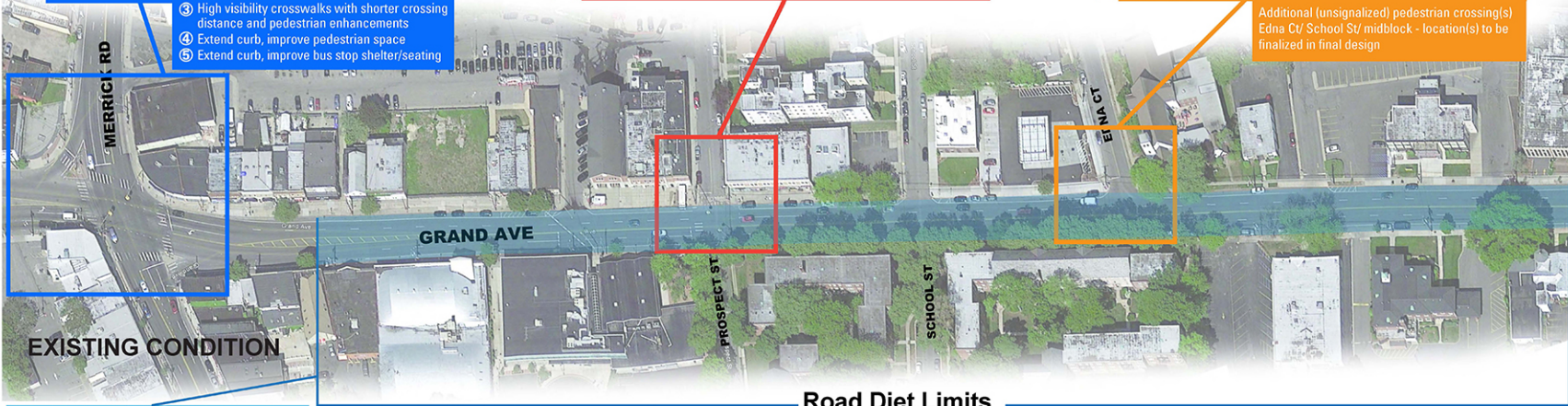
EDNA COURT



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ③ Appropriate signs and flashing beacons

Additional (unsignalized) pedestrian crossing(s) Edna Ct/ School St/ midblock - location(s) to be finalized in final design



EXISTING CONDITION

Recommendations: ROAD DIET

OPTION 1: Reduce 4 Lanes To 3 Lanes, with added Bike Lanes



OPTION 2: Reduce 4 Lanes To 3 Lanes, with wider shared Bike/Parking Lanes





Merrick Road Intersection

Concerns

- Big skewed intersection
- Long crosswalks
- Two stage crossings
- Small Islands
- High speed right turn

- Community comments
 - Dangerous!

Significant pedestrian activity





Merrick Road Intersection

Concerns

Significant pedestrian activity

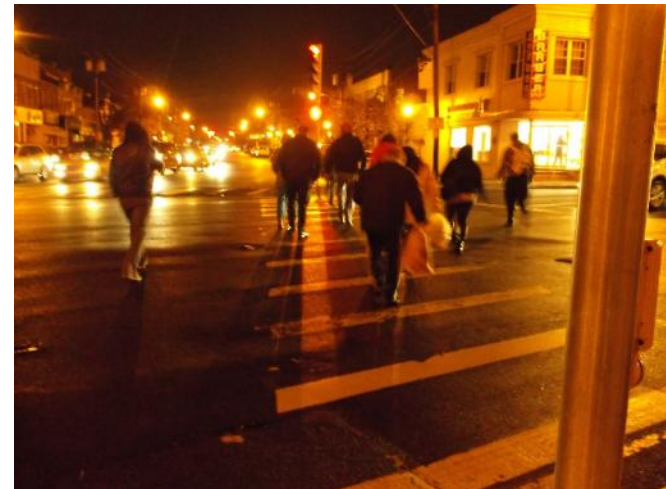




Merrick Road Intersection

Concerns

Bus Stops

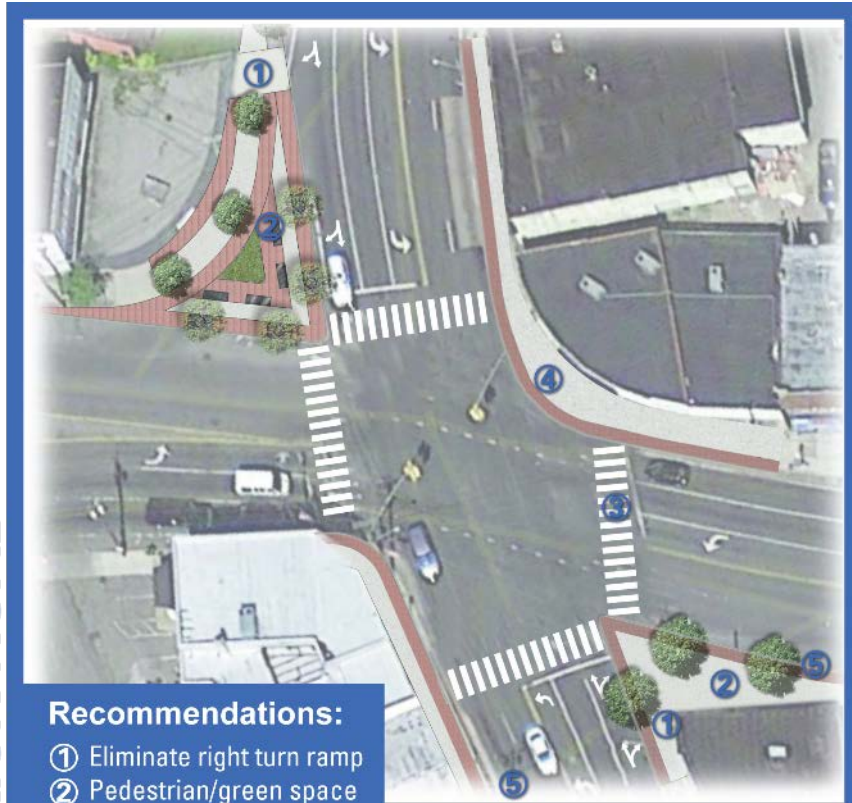




Merrick Road Intersection

Recommendations

MERRICK ROAD



Recommendations:

- ① Eliminate right turn ramp
- ② Pedestrian/green space
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ④ Extend curb, improve pedestrian space
- ⑤ Extend curb, improve bus stop shelter/seating

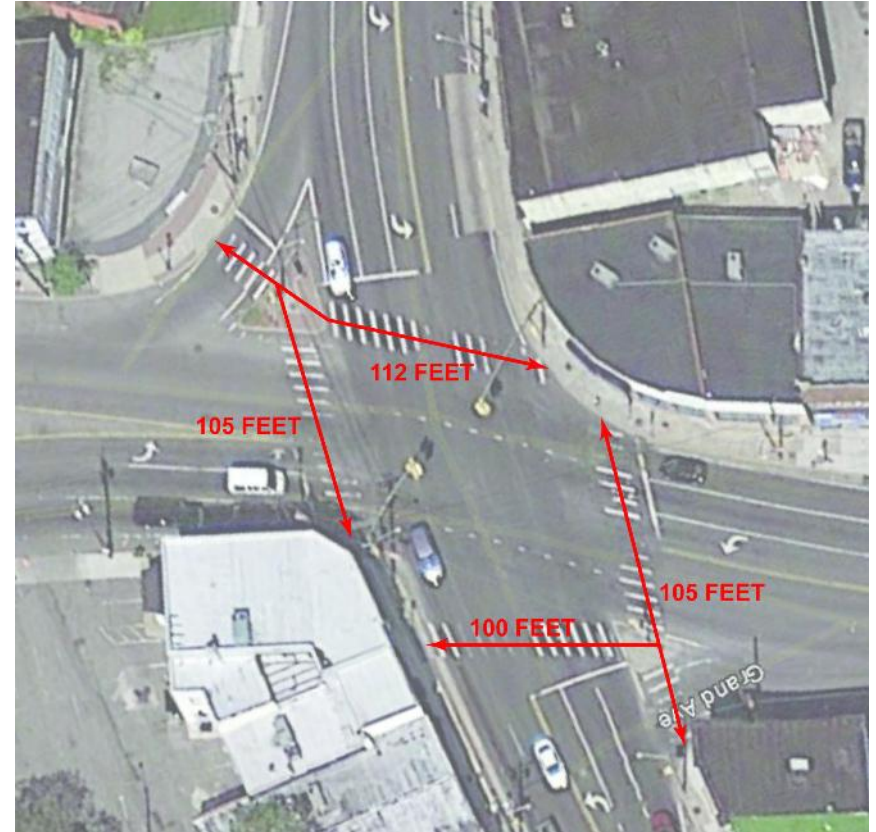
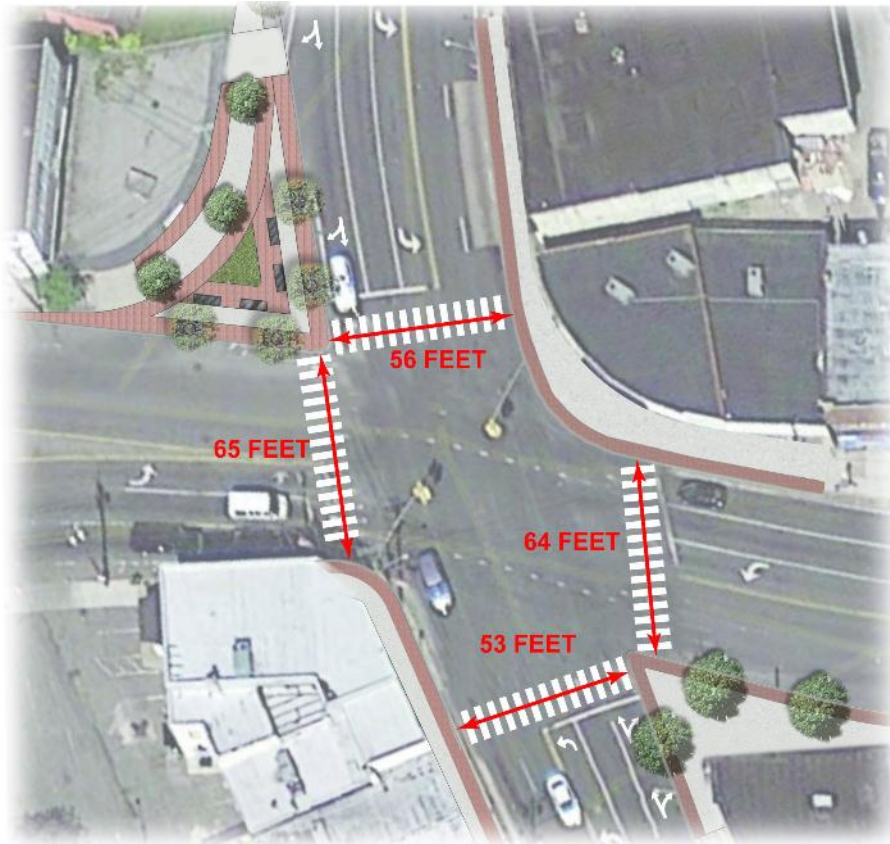


Merrick Road Intersection





Merrick Road Intersection



MERRICK ROAD



Recommendations:

- ① Eliminate right turn ramp
- ② Pedestrian/green space
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ④ Extend curb, improve pedestrian space
- ⑤ Extend curb, improve bus stop shelter/seating

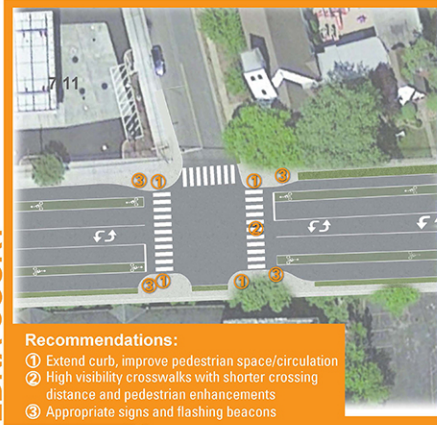
PROSPECT STREET



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements

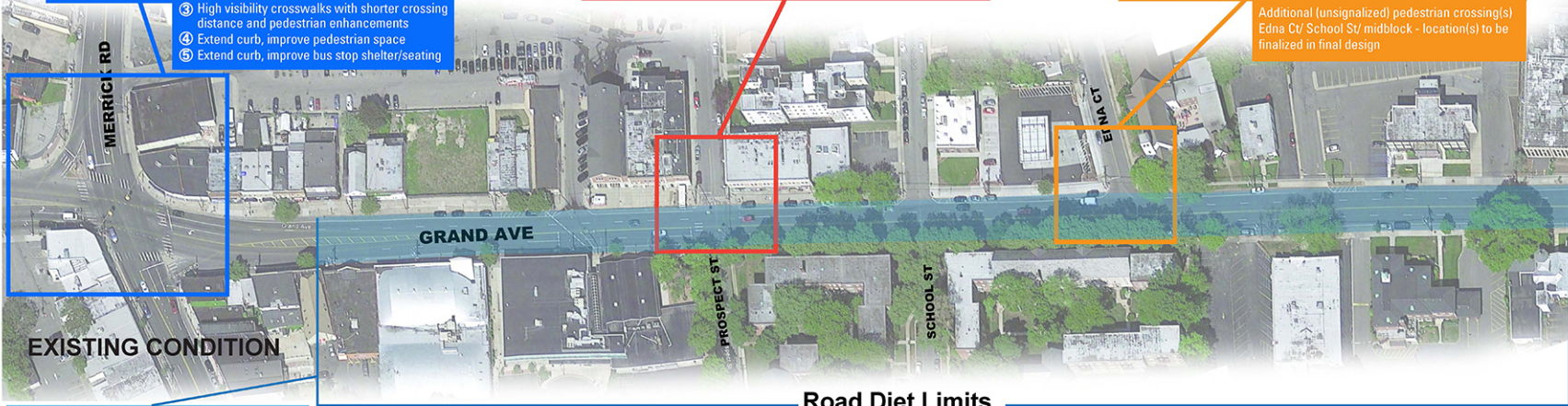
EDNA COURT



Recommendations:

- ① Extend curb, improve pedestrian space/circulation
- ② High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ③ Appropriate signs and flashing beacons

Additional (unsignalized) pedestrian crossing(s) Edna Ct/ School St/ midblock - location(s) to be finalized in final design



Recommendations: ROAD DIET

OPTION 1: Reduce 4 Lanes To 3 Lanes, with added Bike Lanes



OPTION 2: Reduce 4 Lanes To 3 Lanes, with wider shared Bike/Parking Lanes



BROOKLYN AVENUE



Recommendations:

- ① Further study for a potential traffic signal synchronized with the signal at Sunrise Highway

MILLER PLACE



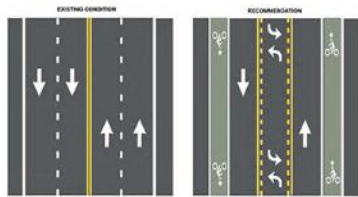
Recommendations:

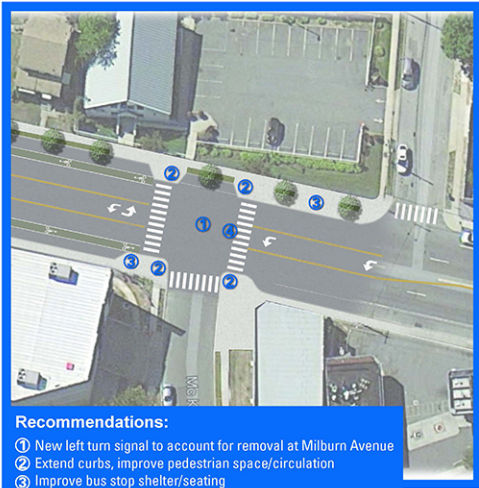
- ① Extend curb, improve pedestrian space/circulation
- ② Improve bus stop shelter/seating
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements



OPTION 1: Reduce 4 Lanes To 3 Lanes, with added Bike Lanes

OPTION 2: Reduce 4 Lanes To 3 Lanes, with wider shared Bike/Parking Lanes

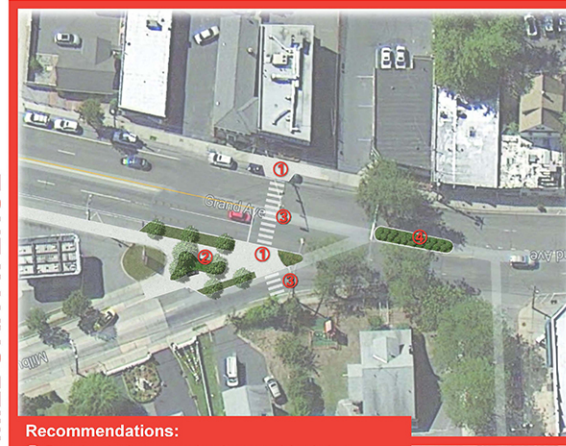




MCKENNA PLACE

Recommendations:

- ① New left turn signal to account for removal at Milburn Avenue
- ② Extend curbs, improve pedestrian space/circulation
- ③ Improve bus stop shelter/seating
- ④ High visibility crosswalks with shorter crossing distance and pedestrian enhancements



MILBURN AVENUE

Recommendations:

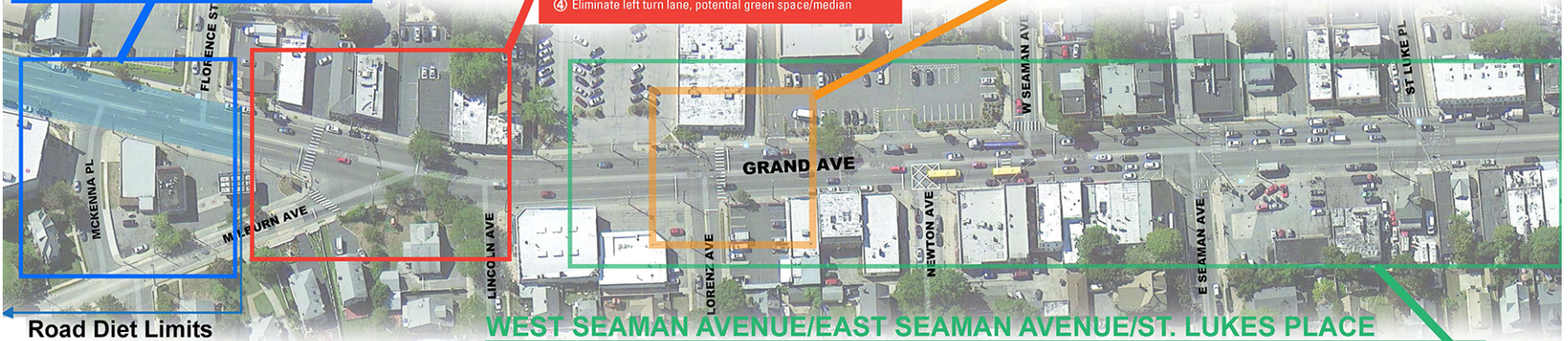
- ① Extend curbs, improve pedestrian space/circulation
- ② Pedestrian/green space
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements
- ④ Eliminate left turn lane, potential green space/median



LORENZ AVENUE

Recommendations:

- ① Extend curbs, improve pedestrian space/circulation
- ② Improve bus stop shelter/seating
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements

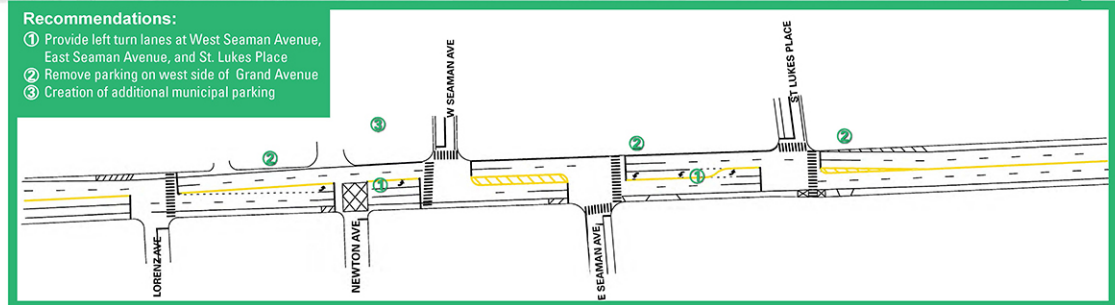


Road Diet Limits

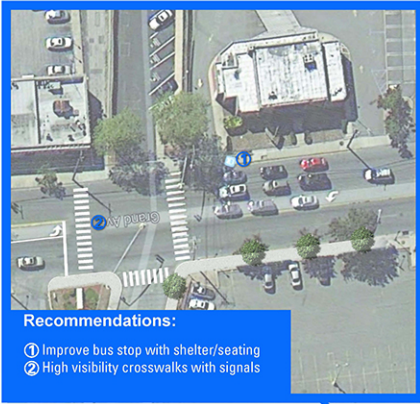
WEST SEAMAN AVENUE/EAST SEAMAN AVENUE/ST. LUKES PLACE

Recommendations:

- ① Provide left turn lanes at West Seaman Avenue, East Seaman Avenue, and St. Lukes Place
- ② Remove parking on west side of Grand Avenue
- ③ Creation of additional municipal parking



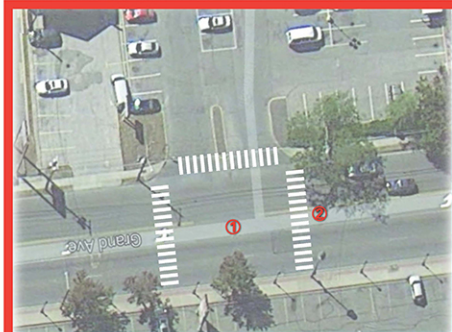
HIGH SCHOOL DRIVE



Recommendations:

- ① Improve bus stop with shelter/seating
- ② High visibility crosswalks with signals

PATHMARK DRIVEWAY



Recommendations:

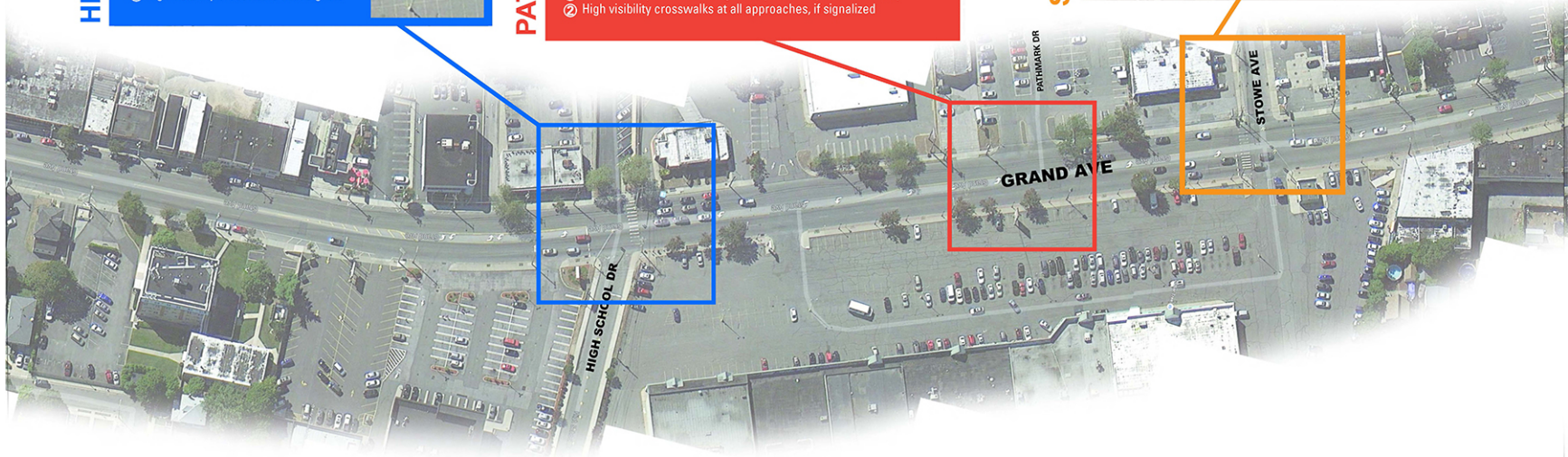
- ① Further study for a traffic signal requested by the community
- ② High visibility crosswalks at all approaches, if signalized

STOWE AVENUE



Recommendations:

- ① High visibility crosswalks at all approaches

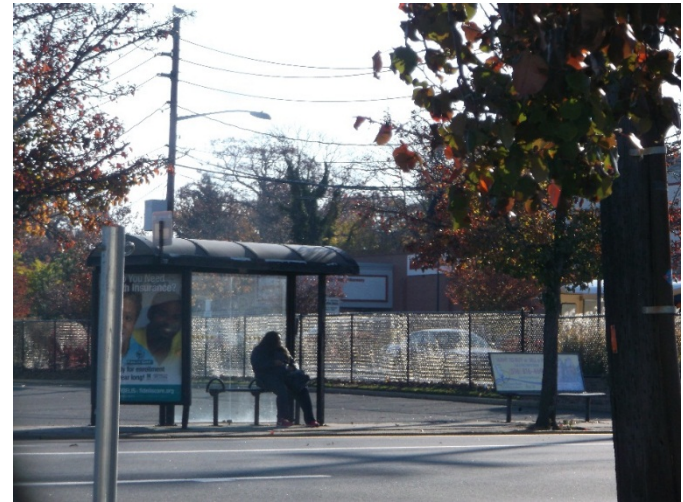




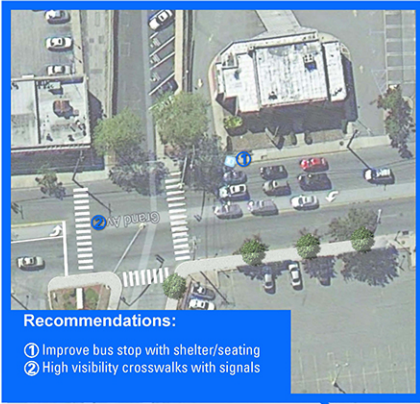
High School Drive Intersection

Concerns

Bus Stops



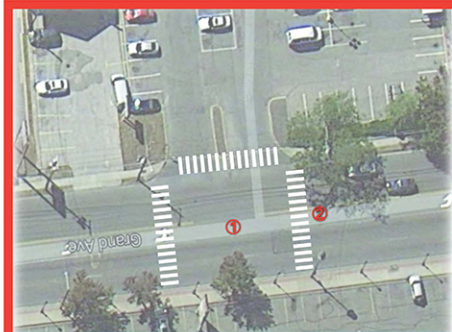
HIGH SCHOOL DRIVE



Recommendations:

- ① Improve bus stop with shelter/seating
- ② High visibility crosswalks with signals

PATHMARK DRIVEWAY



Recommendations:

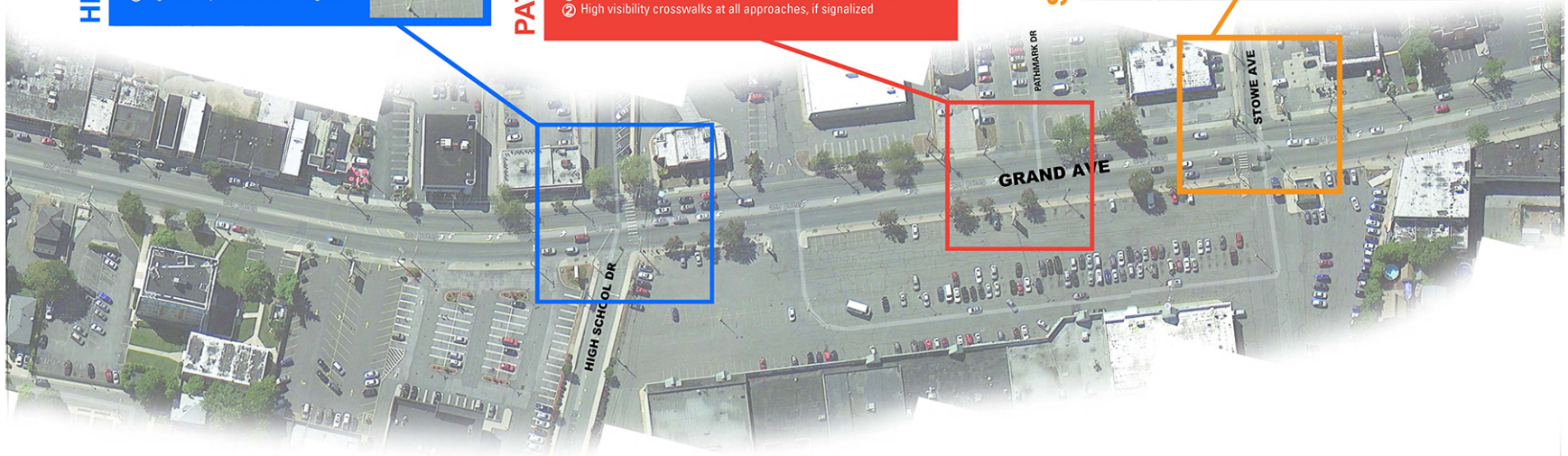
- ① Further study for a traffic signal requested by the community
- ② High visibility crosswalks at all approaches, if signalized

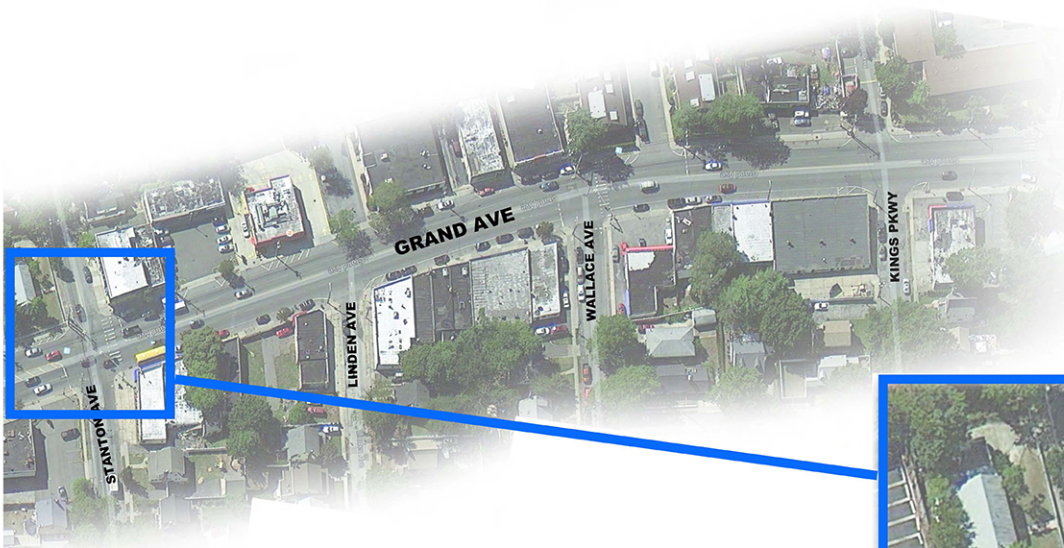
STOWE AVENUE



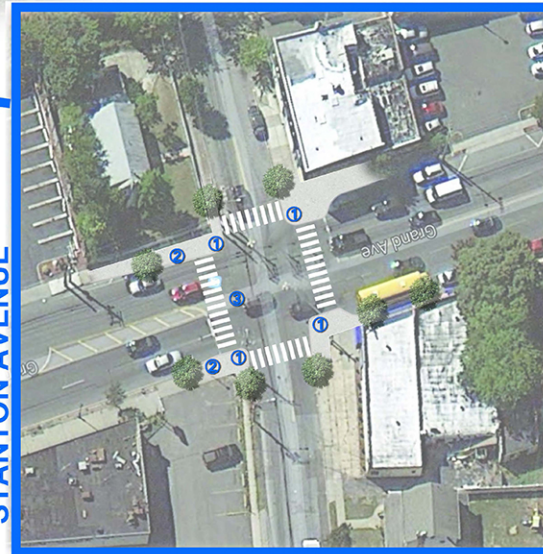
Recommendations:

- ① High visibility crosswalks at all approaches





EXISTING CONDITION



STANTON AVENUE

Recommendations:

- ① Extend curbs, improve pedestrian space/circulation
- ② Improve bus stop with shelter/seating
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements





Stanton Avenue Intersection

Concerns

Bus Stops

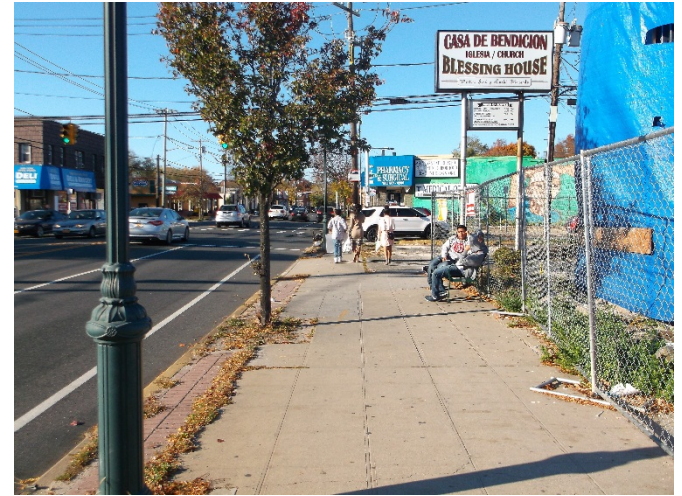




Stanton Avenue Intersection

Concerns

Pedestrians





EXISTING CONDITION



Recommendations:

- ① Extend curbs, improve pedestrian space/circulation
- ② Improve bus stop with shelter/seating
- ③ High visibility crosswalks with shorter crossing distance and pedestrian enhancements





Grand Avenue Complete Streets Traffic Study

Your participation is important





Next Steps

- Final Report – January, 2016
- Engineering/Design Phase



Grand Avenue Complete Streets Traffic Study

Thank You!

