



Why is Access Management Important ?

Can Improve Safety by
Reducing Conflicts

Fewer conflicts means fewer crashes

"Driving Down Fatalities Through Knowledge Sharing"



FDOT References

Access Management/ Systems Planning Office

- FAC 14-96, State Highway System Connection Permit
- FAC 14-97, State Highway System Access Control
- Class. System and Access Management Standards
- The Median Handbook (2014)
- Driveway Information Guide (2008)

<http://www.dot.state.fl.us/planning/systems/programs/sm/acman/default.shtm>

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Access Management

About

One of the most important responsibilities of the Florida Department of Transportation is to ensure that the design of each state road **properly balances access and mobility**. Access management is used to provide this very important balance by the careful planning of the location, design and operation of driveways, median openings, interchanges and street connections. The **purpose** of access management is to provide access to land development in a manner that preserves the safety and efficiency of the transportation system.

Access Management Information

The Median Handbook (Updated September 2014)

- Guides the professional through existing rules, standards and procedures as well as provides national guidance on the best ways to plan for medians and median openings.

Driveway Information Guide 2008

- Guides the professional through existing rules, standards and current accepted practice to assist in making better decisions for driveway placement and design.

Access Management Brochure

- Answering your questions about access management: balancing access and mobility.

Driveway Permits

- Chapter 14-96. Information on State Highway Systems Connection Permits (Updated 1/23/2003)

Driveway Application Form

- Driveway/Connection Application for all categories

Access Management Standards

- Chapter 14-97. Information on State Highway Systems Access Management Classification System and Standards (Updated 10/5/2010)

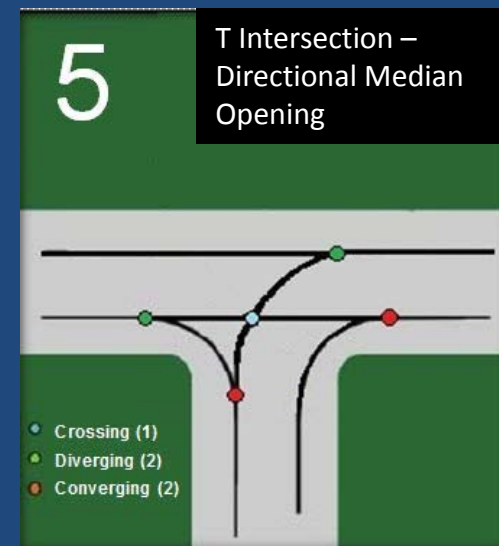
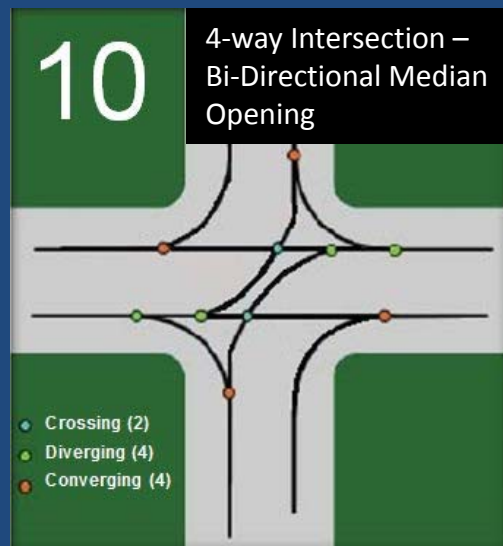
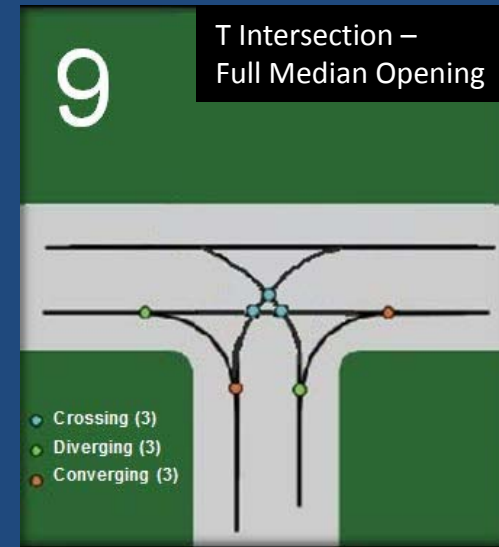
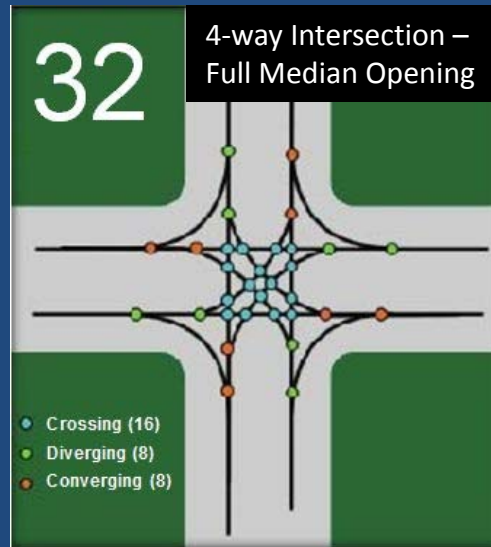
Trip Generation Spreadsheet

- A spreadsheet for calculating trip generation for the most common uses using the 8th Edition ITE Rates. Calculates daily and PM Peak hour directional trips.

"Driving Down Fatalities Through Knowledge Sharing"



Fewer conflicts means fewer crashes



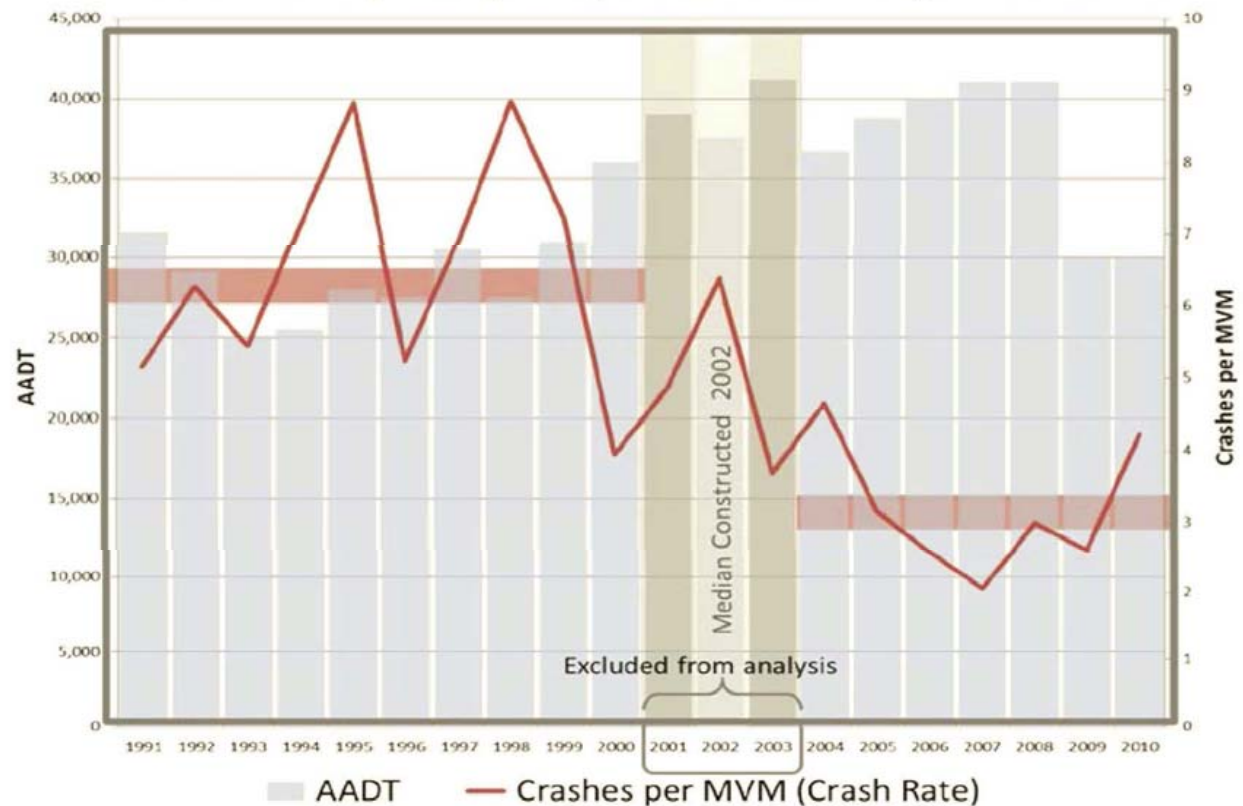
“Driving Down Fatalities Through Knowledge Sharing”



Medians Improve Safety

- *Fewer conflicts*
- *Simplifies driving tasks*
- *Pedestrian refuge*

Before and After Safety Study of Apalachee Parkway Tallahassee Florida



"Driving Down Fatalities Through Knowledge Sharing"

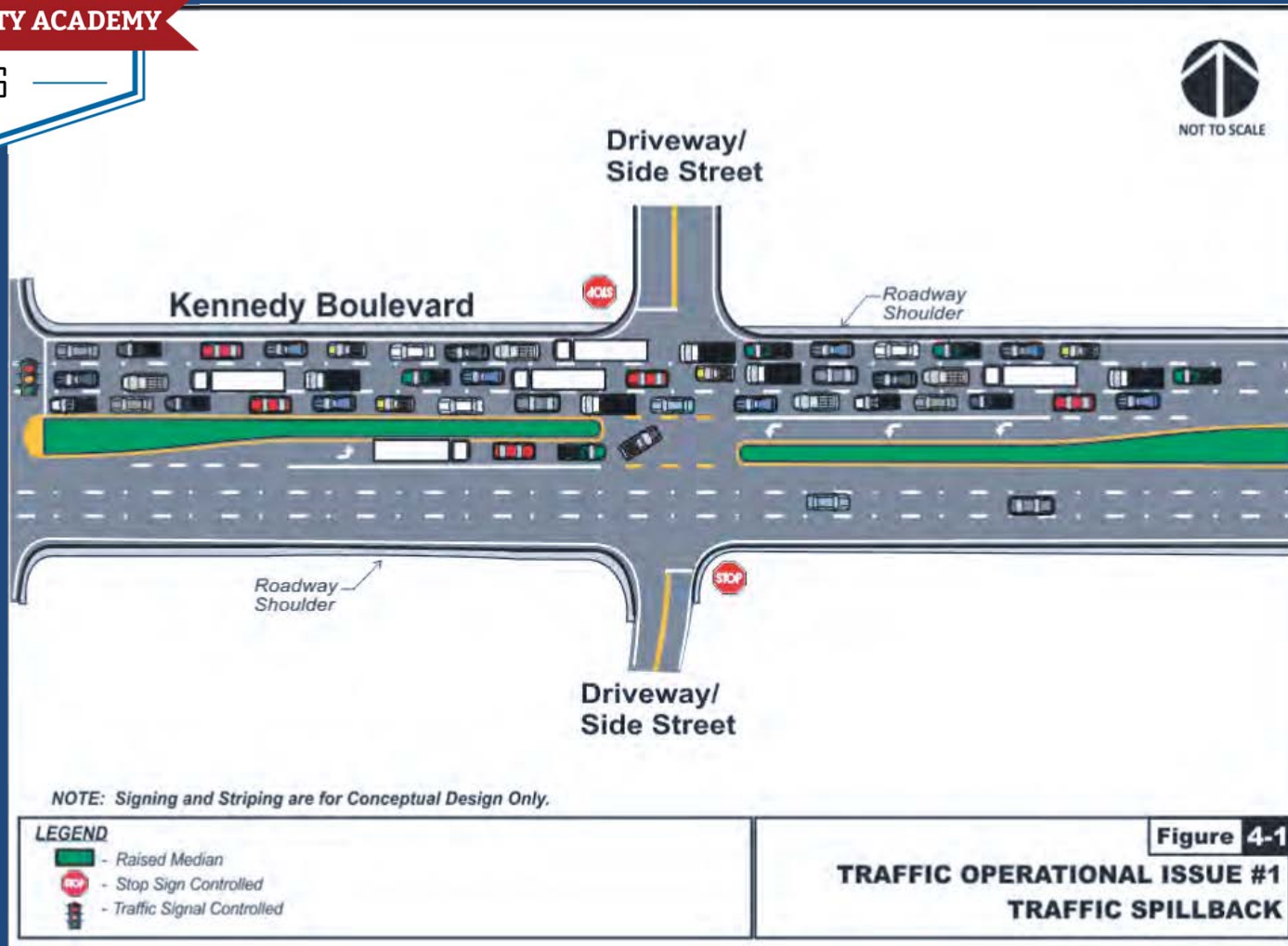


D7 LOCAL AGENCY

TRAFFIC SAFETY ACADEMY

2016

Traffic Spillback



"Driving Down Fatalities Through Knowledge Sharing"

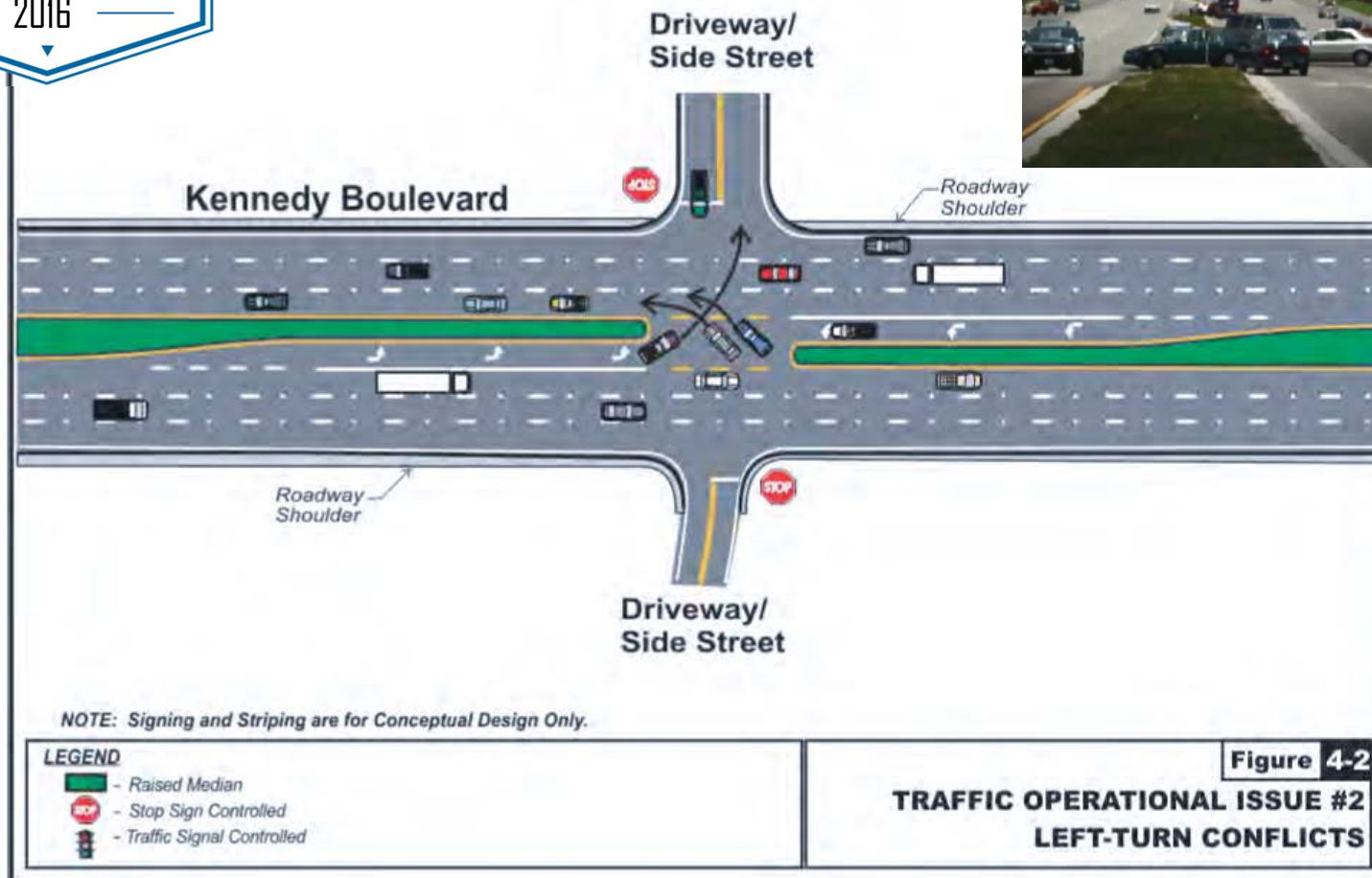


D7 LOCAL AGENCY

TRAFFIC SAFETY ACADEMY

2016

Crowded Opening



"Driving Down Fatalities Through Knowledge Sharing"

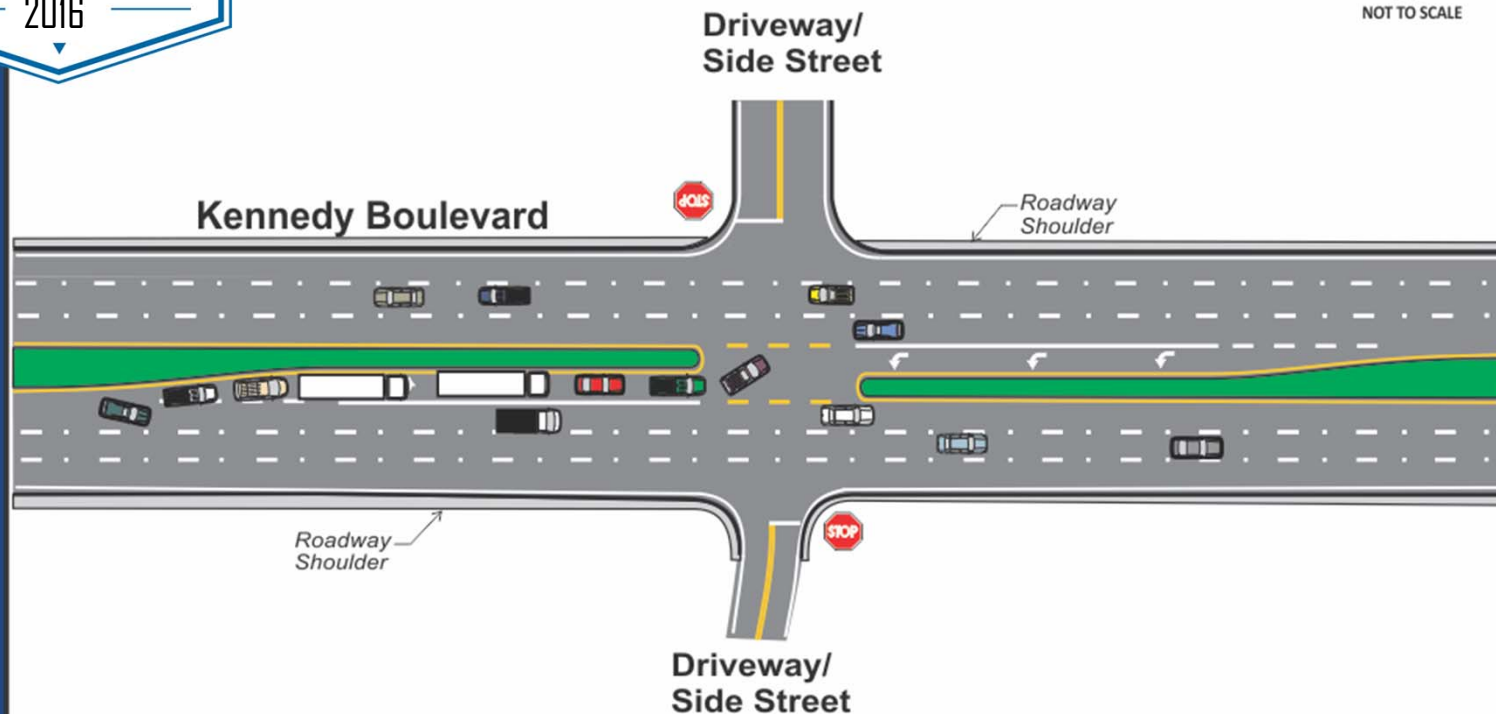


D7 LOCAL AGENCY

TRAFFIC SAFETY ACADEMY

2016

Lack of Storage



NOTE: Signing and Striping are for Conceptual Design Only.

LEGEND

- Raised Median
- Stop Sign Controlled
- Traffic Signal Controlled

Figure 4-3

**TRAFFIC OPERATIONAL ISSUE #3
INSUFFICIENT LEFT-TURN STORAGE**

"Driving Down Fatalities Through Knowledge Sharing"

**STATE ROAD 60
(KENNEDY BOULEVARD)
ACCESS MANAGEMENT SAFETY STUDY**

From Westshore Boulevard to N. Brevard Avenue
Hillsborough County, Florida

SUBMITTED TO



**FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 7**

Contract Number C-9A41
Financial Project Number: 433390-1-32-01
Task Work Order 3

FINAL REPORT
August 2015

City of Tampa



SEGMENT ONE MEDIAN OPENING LEGEND

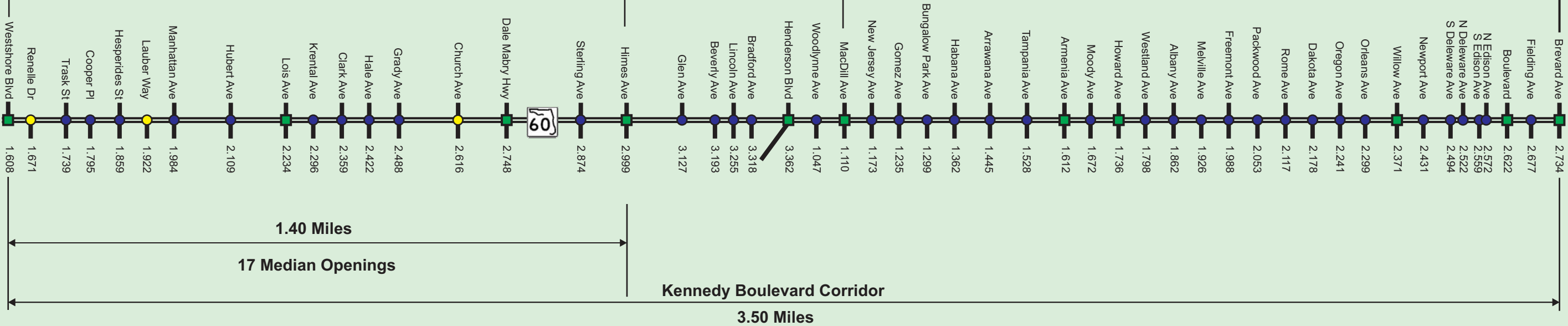
- Signalized Intersection - 6 (25%)
- Unsignalized Full Median Opening - 15 (63%)
- Unsignalized Directional Median Opening - 3 (12%)

SEGMENT TWO MEDIAN OPENING LEGEND

- Signalized Intersection - 5 (19%)
- Unsignalized Full Median Opening - 22 (81%)
- Unsignalized Directional Median Opening - 0 (0%)

Segment One 1.88 MILES

Segment Two 1.62 MILES



KENNEDY BOULEVARD CORRIDOR LEGEND

- Signalized Intersection - 11 Total (22%)
- Unsignalized Full Median Opening - 37 Total (73%)
- Unsignalized Directional Median Opening - 3 Total (6%)

Figure 2-1
KENNEDY BOULEVARD
STUDY AREA

Westshore - Himes 2010 - 2013

Travel Mode	Crash Summary / Injury Severity					
	Fatal	Incapacitating Injury	Non-Incapacitating Injury	Possible Injury	No Injury	TOTAL
Pedestrian	1	3	4	0	0	8
Bicycle	0	1	2	0	0	3
TOTAL	1	4	6	0	0	11

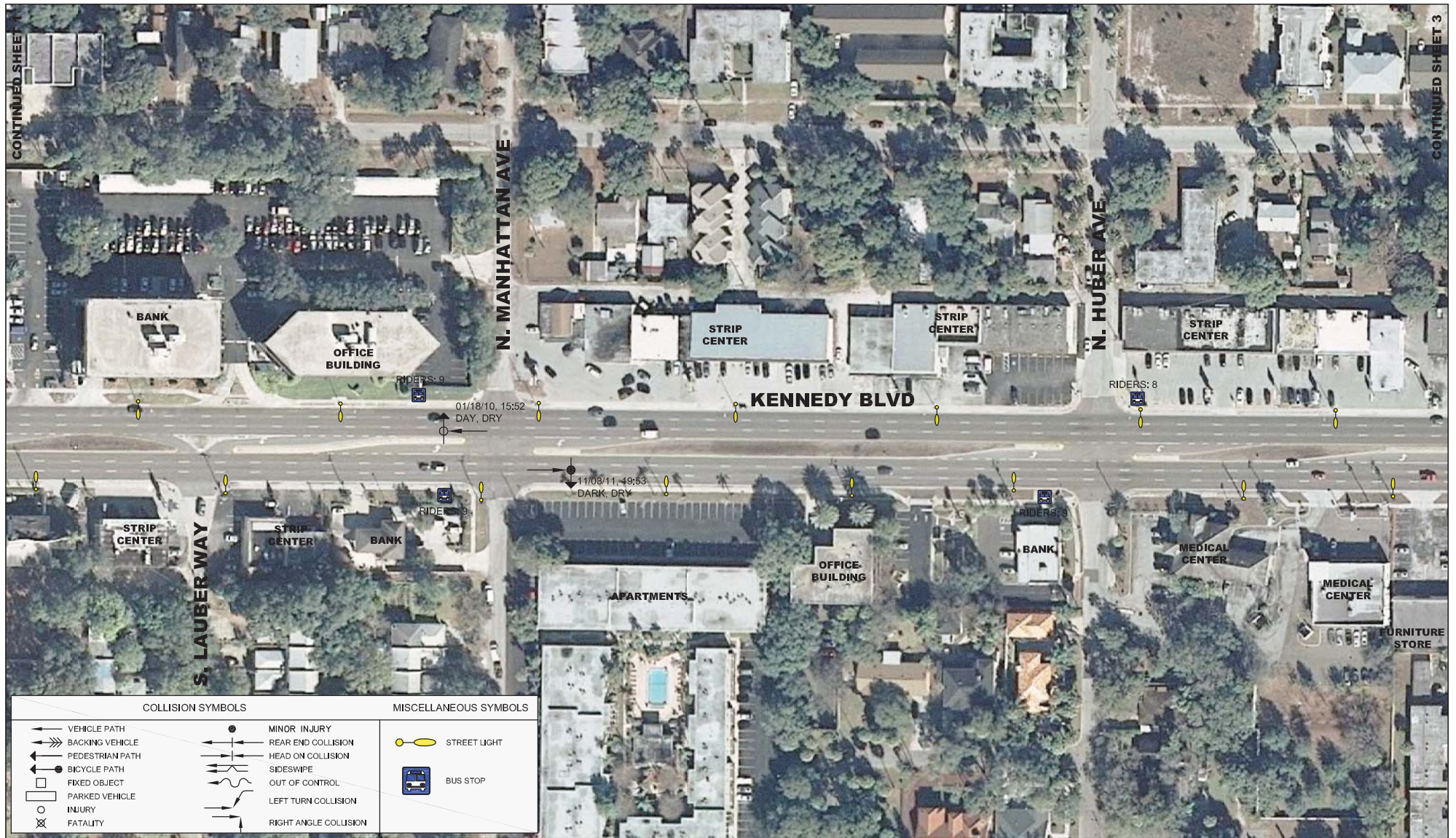
Table 3-7: Pedestrian / Bicycle 4-Year Crash Summary / Injury Severity

Travel Mode	Crash Summary / Lighting Condition			
	Daytime	Night with Street Lights	Night W/O Street Lights	TOTAL
Pedestrian	5	3	0	8
Bicycle	2	1	0	3
TOTAL	7	4	0	11

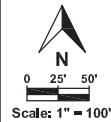
Table 3-8: Pedestrian / Bicycle 4-Year Crash Summary / Lighting Condition

Travel Mode	Crash Summary / Crosswalk			
	In X-Walk Signalized	In X-Walk Unsignalized	Not in X-walk	TOTAL
Pedestrian	2	3	3	8
Bicycle	1	2	0	3
TOTAL	3	5	3	11

Table 3-9: Pedestrian / Bicycle 4-Year Crash Summary / Crosswalk Related



**Pedestrian and Bike Collision Diagram
for SR-60 (Kennedy Boulevard)
From Westshore Boulevard to Brevard Street
(Not For Construction)**



Kennedy Boulevard (SR-60) Access Management Safety Study

Sheet

C-2

Four-Year Crash Experience (2010-2013)

Median ID	Intersection	Median Opening Type (Full, Directional, Signal)	M.P.	Four-Year Crash Criterion (2010 - 2013)						
				Total Collisions	Total Ped/Bike Collisions	Total Collisions With Injury	Total Collisions With Fatal	Total Correctable Collisions (Left-Turn / Right-Angle)	Total Correctable Collisions With Injury	Total Correctable Collisions With Fatal
1-A	Westshore Boulevard	Signalized	1.608	36	2	19	0	10	6	0
1-B	S Renelle Drive	Full	1.671	8	0	5	0	2	2	0
1-C	Trask Street	Full	1.739	1	0	0	0	0	0	0
1-D	Cooper Place	Full	1.795	1	0	1	0	1	1	0
1-E	Hesperides Street	Full	1.859	8	0	5	0	6	4	0
1-F	Lauber Way	W/B In - E/B Out	1.922	1	0	0	0	1	0	0
1-G	Manhattan Avenue	Full	1.984	4	2	4	0	2	2	0
1-H	Hubert Avenue	Full	2.109	6	0	4	0	3	2	0
1-I	Lois Avenue	Signalized	2.234	23	1	12	0	8	5	0
1-J	Krental Avenue	Full	2.296	2	0	2	0	1	1	0
1-K	Clark Avenue	Full	2.359	20	0	12	1	12	8	1
1-L	Hale Avenue	Full	2.422	11	0	6	0	8	4	0
1-M	Grady Avenue	Full	2.488	10	0	5	0	3	2	0
1-N	Church Avenue	E/B Directional	2.616	15	1	11	0	1	0	0
1-O	Dale Mabry Highway	Signalized	2.748	41	3	14	0	8	4	0
1-P	Sterling Avenue	Full	2.874	11	2	9	0	3	3	0
1-Q	Himes Avenue	Signalized	2.999	23	1	17	1	5	4	0
1-R	Glen Avenue	Full	3.127	4	0	4	0	0	0	0
1-S	Beverly Avenue	Full	3.193	1	0	0	0	0	0	0
1-T	Lincoln Avenue	Full	3.255	6	0	4	0	2	2	0
1-U	Bradford Avenue	Full	3.318	3	0	1	0	1	0	0
1-V	Henderson Boulevard	Signalized	3.362	4	0	4	0	0	0	0
1-W	Woodlynne Avenue	Full	1.047	3	0	2	0	1	1	0
1-X	MacDill Avenue	Signalized	1.110	30	2	13	0	13	10	0

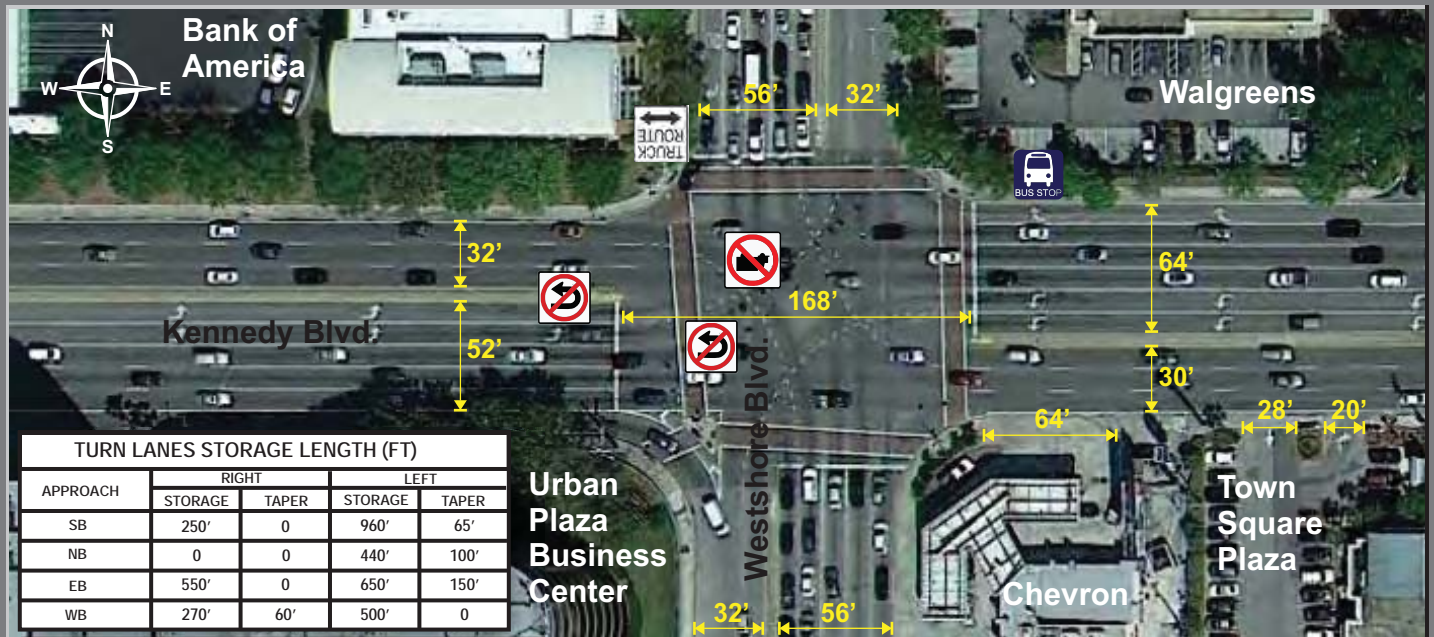
Kennedy Boulevard (SR 60) Access Management Safety Study Hillsborough County, Florida

LOCATION ID: Median Opening 1-A

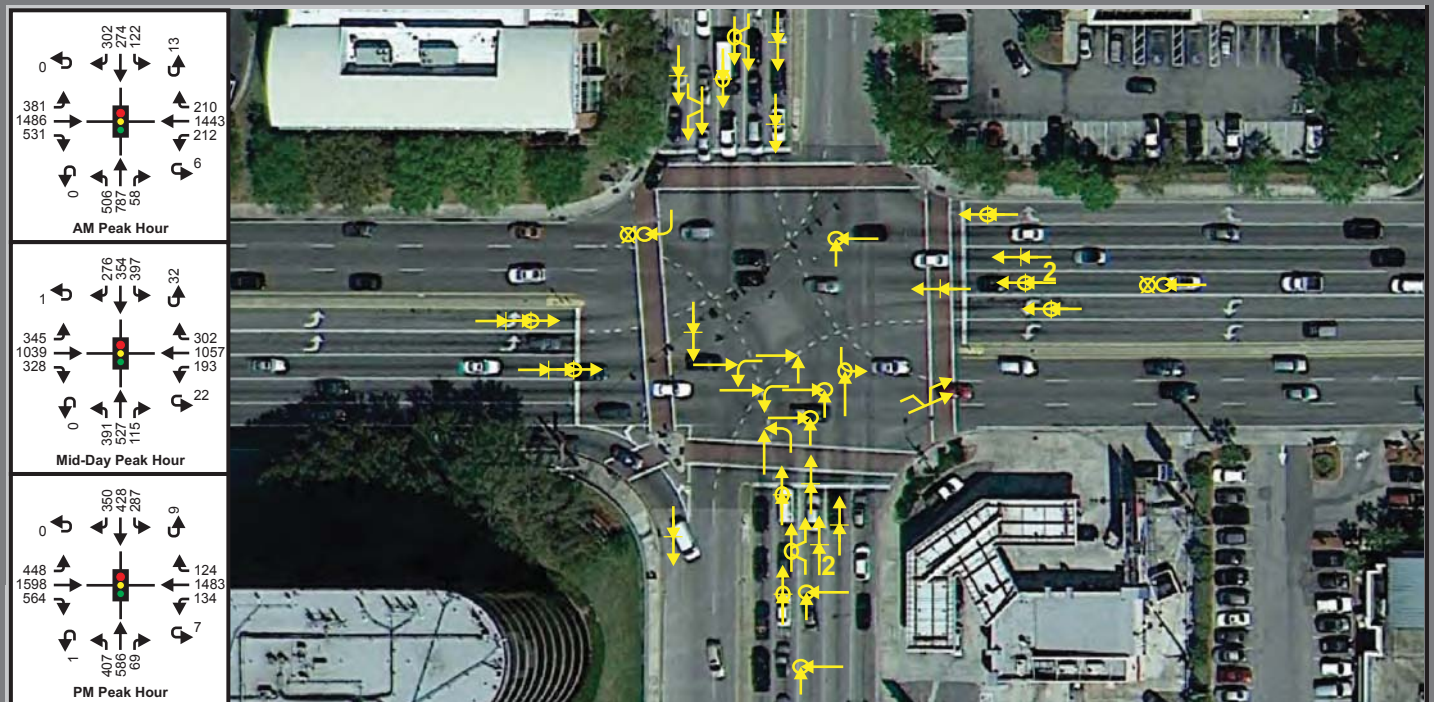
MILEPOST: 1.608

CROSS STREET: Westshore Blvd.

CONDITION DIAGRAM



COLLISION DIAGRAM



COLLISION SYMBOLS

- RIGHT ANGLE COLLISION
- LEFT TURN COLLISION
- OUT OF CONTROL
- SIDE SWIPE
- HEAD-ON COLLISION
- REAR END COLLISION
- FATAL CRASH
- INJURY CRASH
- BIKE
- PEDESTRIAN

COLLISION TYPE	NUMBER OF COLLISIONS				COLLISION TOTALS	COLLISION SEVERITY TOTALS			LEFT-TURN / ANGLE SUMMARY		
	2010	2011	2012	2013		PDO	INJURY	FATALITY	4-YR TOTAL	AVG / YEAR	INJ / FATAL
LEFT-TURN	1	1	1	0	3	2	1	0	10	2.50	6
ANGLE	2	1	2	2	7	2	5	0			
PEDESTRIAN / BICYCLE	1	0	1	0	2	0	2	0			
OTHER	7	6	5	6	24	13	11	0			
COLLISION TOTALS	11	8	9	8	36	17	19	0			

Kennedy Boulevard (SR 60) Access Management Safety Study Hillsborough County, Florida

LOCATION ID: Median Opening 1-K

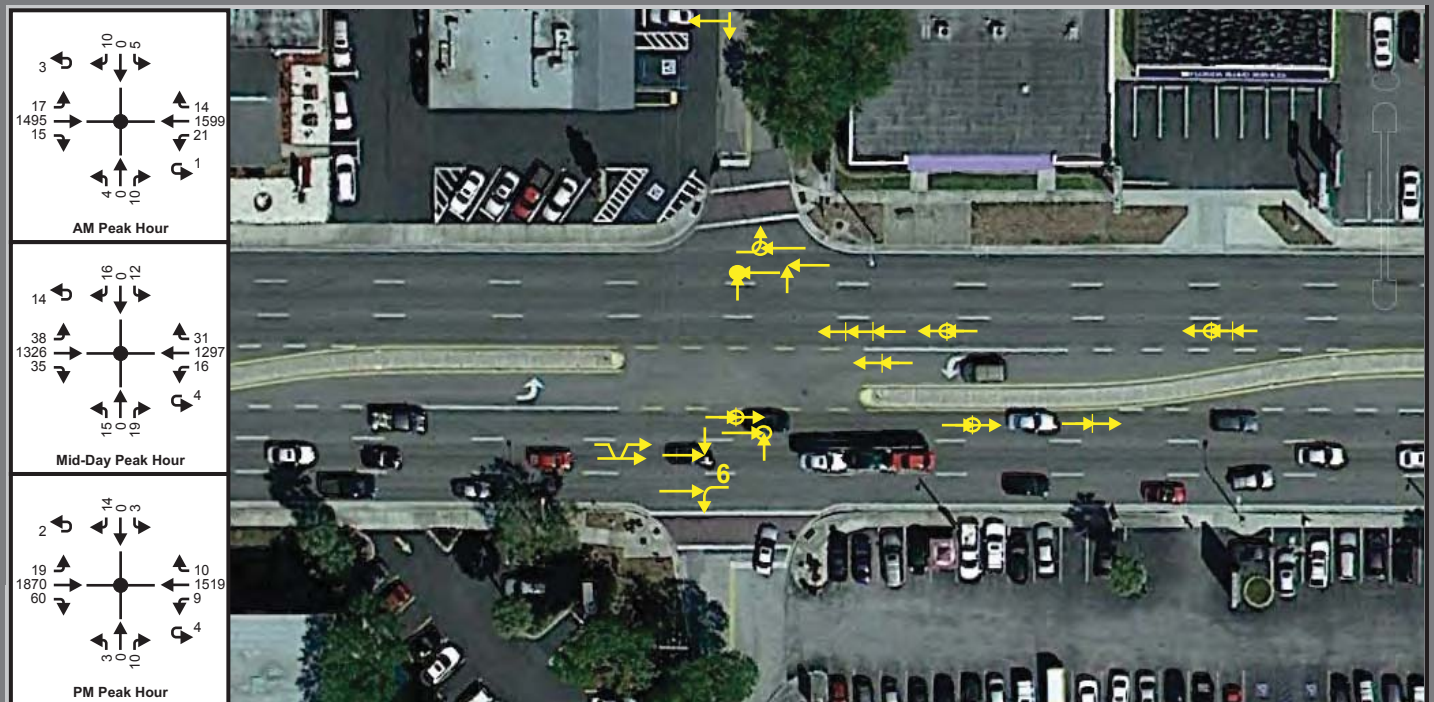
MILEPOST: 2.359

CROSS STREET: Clark Ave.

CONDITION DIAGRAM



COLLISION DIAGRAM



COLLISION SYMBOLS

- RIGHT ANGLE COLLISION
- LEFT TURN COLLISION
- OUT OF CONTROL
- SIDE SWIPE
- HEAD-ON COLLISION
- REAR END COLLISION
- FATAL CRASH
- INJURY CRASH
- BIKE
- PEDESTRIAN

COLLISION TYPE	NUMBER OF COLLISIONS				COLLISION TOTALS	COLLISION SEVERITY TOTALS			LEFT-TURN / ANGLE SUMMARY		
	2010	2011	2012	2013		PDO	INJURY	FATALITY	4-YR TOTAL	AVG / YEAR	INJ / FATAL
LEFT-TURN	1	1	2	3	7	2	5	0	12	3.00	9
ANGLE	2	2	1	0	5	1	3	1			
PEDESTRIAN / BICYCLE	0	0	0	0	0	0	0	0			
OTHER	2	2	3	1	8	4	4	0			
COLLISION TOTALS	5	5	6	4	20	7	12	1			

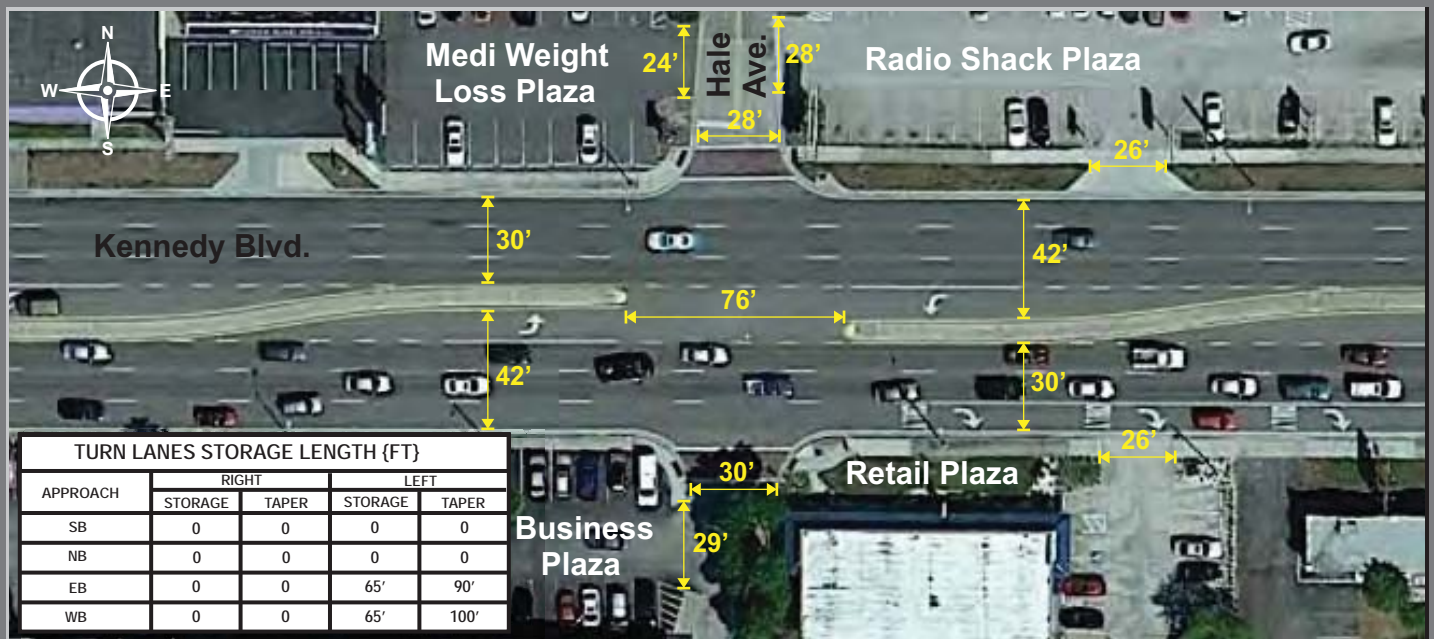
Kennedy Boulevard (SR 60) Access Management Safety Study Hillsborough County, Florida

LOCATION ID: Median Opening 1-L

MILEPOST: 2.422

CROSS STREET: Hale Ave.

CONDITION DIAGRAM



COLLISION DIAGRAM



COLLISION SYMBOLS

- RIGHT ANGLE COLLISION
- LEFT TURN COLLISION
- OUT OF CONTROL
- SIDE SWIPE
- HEAD-ON COLLISION
- REAR END COLLISION
- FATAL CRASH
- INJURY CRASH
- BIKE
- PEDESTRIAN

COLLISION TYPE	NUMBER OF COLLISIONS				COLLISION TOTALS	COLLISION SEVERITY TOTALS			LEFT-TURN / ANGLE SUMMARY		
	2010	2011	2012	2013		PDO	INJURY	FATALITY	4-YR TOTAL	AVG / YEAR	INJ / FATAL
LEFT-TURN	2	1	2	1	6	3	3	0	8	2.00	4
ANGLE	0	0	2	0	2	1	1	0			
PEDESTRIAN / BICYCLE	0	0	0	0	0	0	0	0			
OTHER	1	0	1	1	3	1	2	0			
COLLISION TOTALS	3	1	5	2	11	5	6	0			

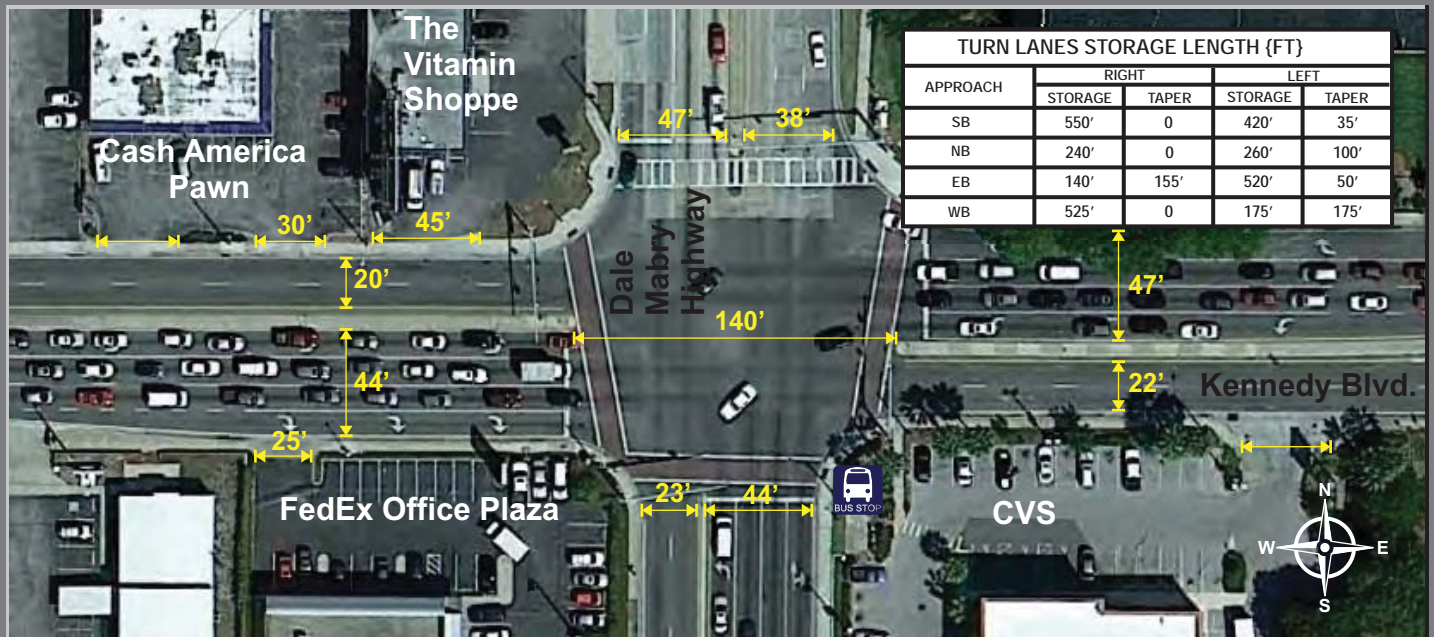
Kennedy Boulevard (SR 60) Access Management Safety Study Hillsborough County, Florida

LOCATION ID: Median Opening 1-O

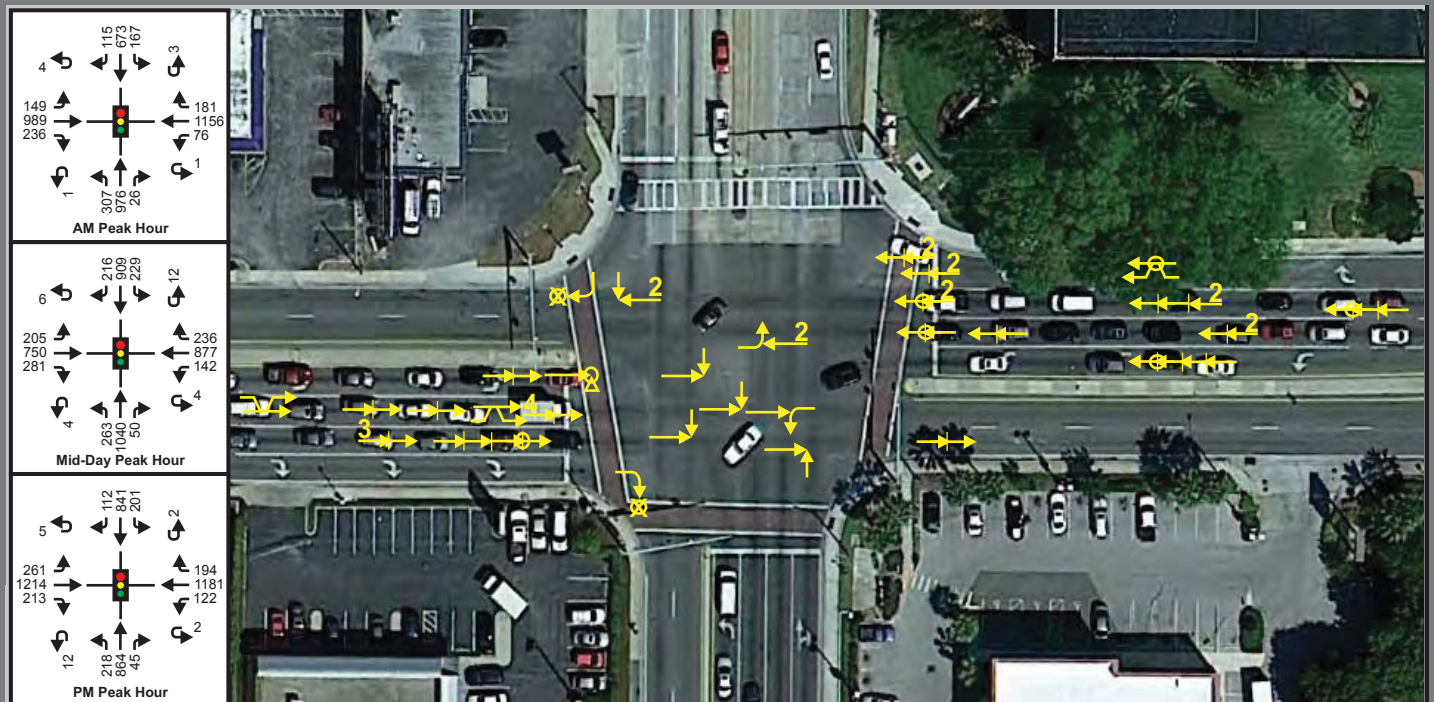
MILEPOST: 2.748

CROSS STREET: Dale Mabry Highway

CONDITION DIAGRAM



COLLISION DIAGRAM



COLLISION SYMBOLS

- RIGHT ANGLE COLLISION
- LEFT TURN COLLISION
- OUT OF CONTROL
- SIDE SWIPE
- HEAD-ON COLLISION
- REAR END COLLISION
- FATAL CRASH
- INJURY CRASH
- BIKE
- PEDESTRIAN

COLLISION TYPE	NUMBER OF COLLISIONS				COLLISION TOTALS	COLLISION SEVERITY TOTALS			LEFT-TURN / ANGLE SUMMARY		
	2010	2011	2012	2013		PDO	INJURY	FATALITY	4-YR TOTAL	AVG / YEAR	INJ / FATAL
LEFT-TURN	1	0	0	2	3	1	2	0	8	2.00	4
ANGLE	0	3	1	1	5	3	2	0			
PEDESTRIAN / BICYCLE	0	2	0	1	3	1	2	0			
OTHER	3	6	10	11	30	22	8	0			
COLLISION TOTALS	4	11	11	15	41	27	14	0			

Kennedy Boulevard – Summary of Recommendations

Bicycle and Pedestrian Safety Improvements

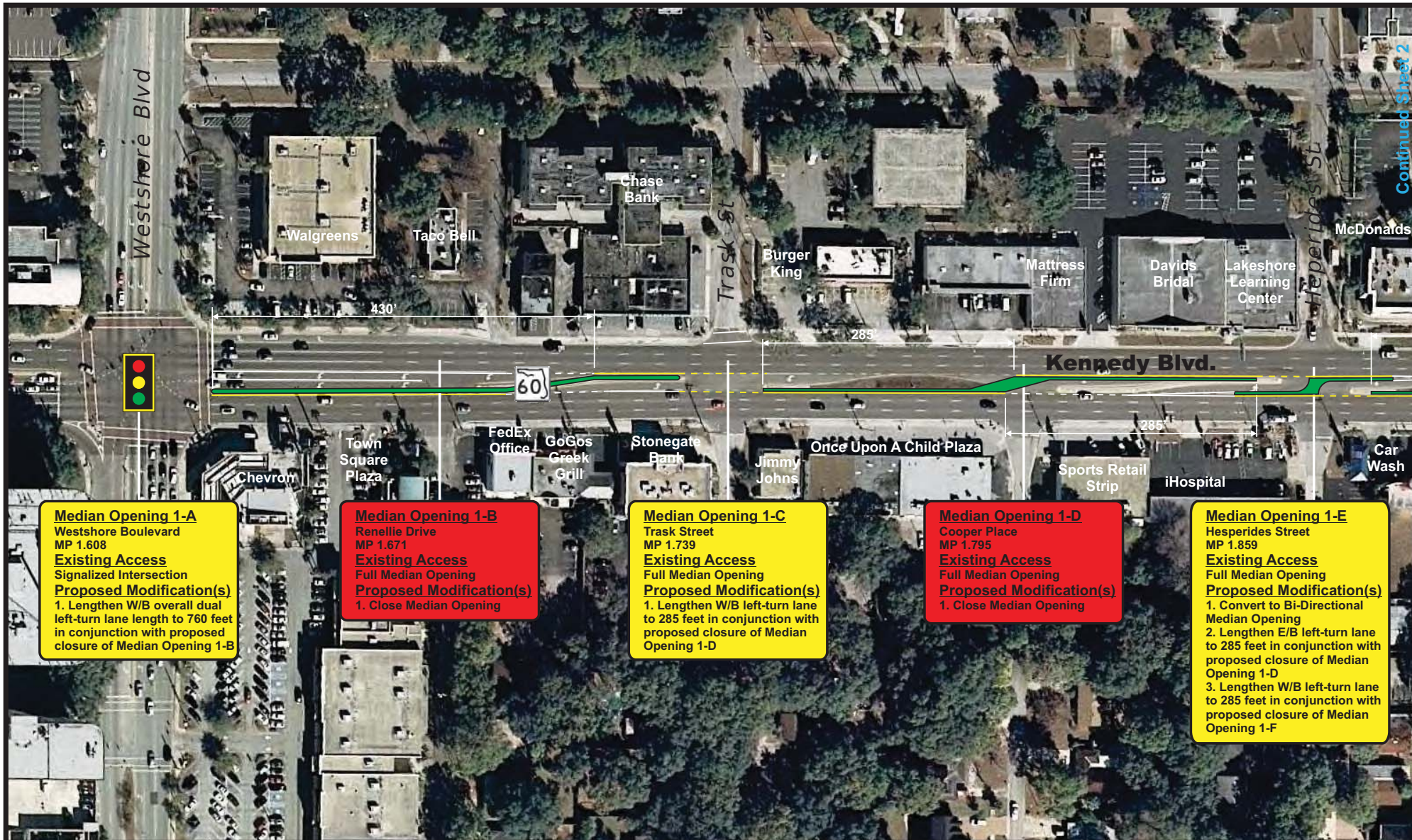
- Upgrade street lighting where needed.
- Provide a pedestrian crossing with raised median and RRFB control near Arawana Avenue.
- Provide high emphasis crosswalks and “Yield to Pedestrians” (R10-15) signs at all signalized intersections.
- At Willow Avenue, provide pedestrian features for the east/west pedestrian crossings.
- Install a new traffic signal at Rome Avenue with pedestrian crossing features.

Access Management Safety Improvements to Reduce Conflicts (Westshore – Himes 17 Median Openings)

- Close 5 existing median openings.
- Convert 3 existing full median openings to directional median openings.
- Lengthen left-turn lanes at 8 locations.

Improvement Benefits

- Safer conditions for pedestrians and bicycles at signalized intersections (with high emphasis pavement markings and signs), Rome Avenue (with new traffic signal) and near Arawana Avenue (with new pedestrian crossing).
- Reduced right angle and left turn crashes along the corridor as a result fewer median openings and greater distance between median openings.
- Reduced rear-end and sideswipe crashes along the corridor as a result of longer storage areas in left turn lanes.
- Improved traffic flow conditions as a result of reduced conflicts and greater spacing between median opening intersections.



Continued Sheet 2

Median Opening 1-A

Westshore Boulevard
MP 1.608

Existing Access

Signalized Intersection

Proposed Modification(s)

1. Lengthen W/B overall dual left-turn lane length to 760 feet in conjunction with proposed closure of Median Opening 1-B

Median Opening 1-B

Renellie Drive
MP 1.671

Existing Access

Full Median Opening

Proposed Modification(s)

1. Close Median Opening

Median Opening 1-C

Trask Street
MP 1.739

Existing Access

Full Median Opening

Proposed Modification(s)

1. Lengthen W/B left-turn lane to 285 feet in conjunction with proposed closure of Median Opening 1-D

Median Opening 1-D

Cooper Place
MP 1.795

Existing Access

Full Median Opening

Proposed Modification(s)

1. Close Median Opening

Median Opening 1-E

Hesperides Street
MP 1.859

Existing Access

Full Median Opening

Proposed Modification(s)

1. Convert to Bi-Directional Median Opening
2. Lengthen E/B left-turn lane to 285 feet in conjunction with proposed closure of Median Opening 1-D
3. Lengthen W/B left-turn lane to 285 feet in conjunction with proposed closure of Median Opening 1-F

Concept Median Opening Plans
for SR 60 (Kennedy Boulevard)
From Westshore Blvd. to Brevard Ave.
(NOT FOR CONSTRUCTION)



Kennedy Boulevard (SR 60) Access Management Safety Study
Median Opening 1-A through 1-E Recommendations

Sheet

D-1



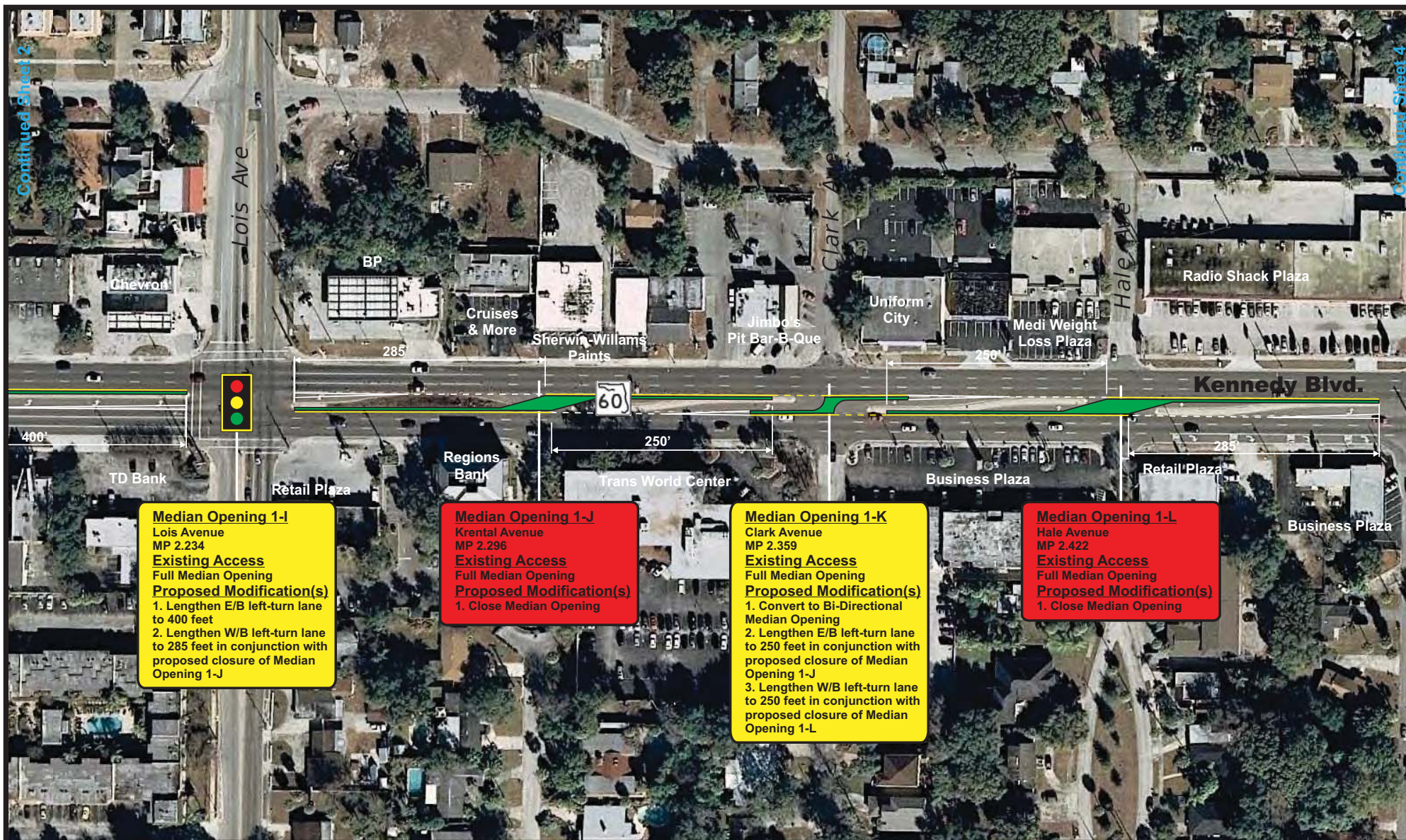
Concept Median Opening Plans
 for SR 60 (Kennedy Boulevard)
 From Westshore Blvd. to Brevard Ave.
 (NOT FOR CONSTRUCTION)



Kennedy Boulevard (SR 60) Access Management Safety Study Median Opening 1-F through 1-H Recommendations

Sheet

D-2

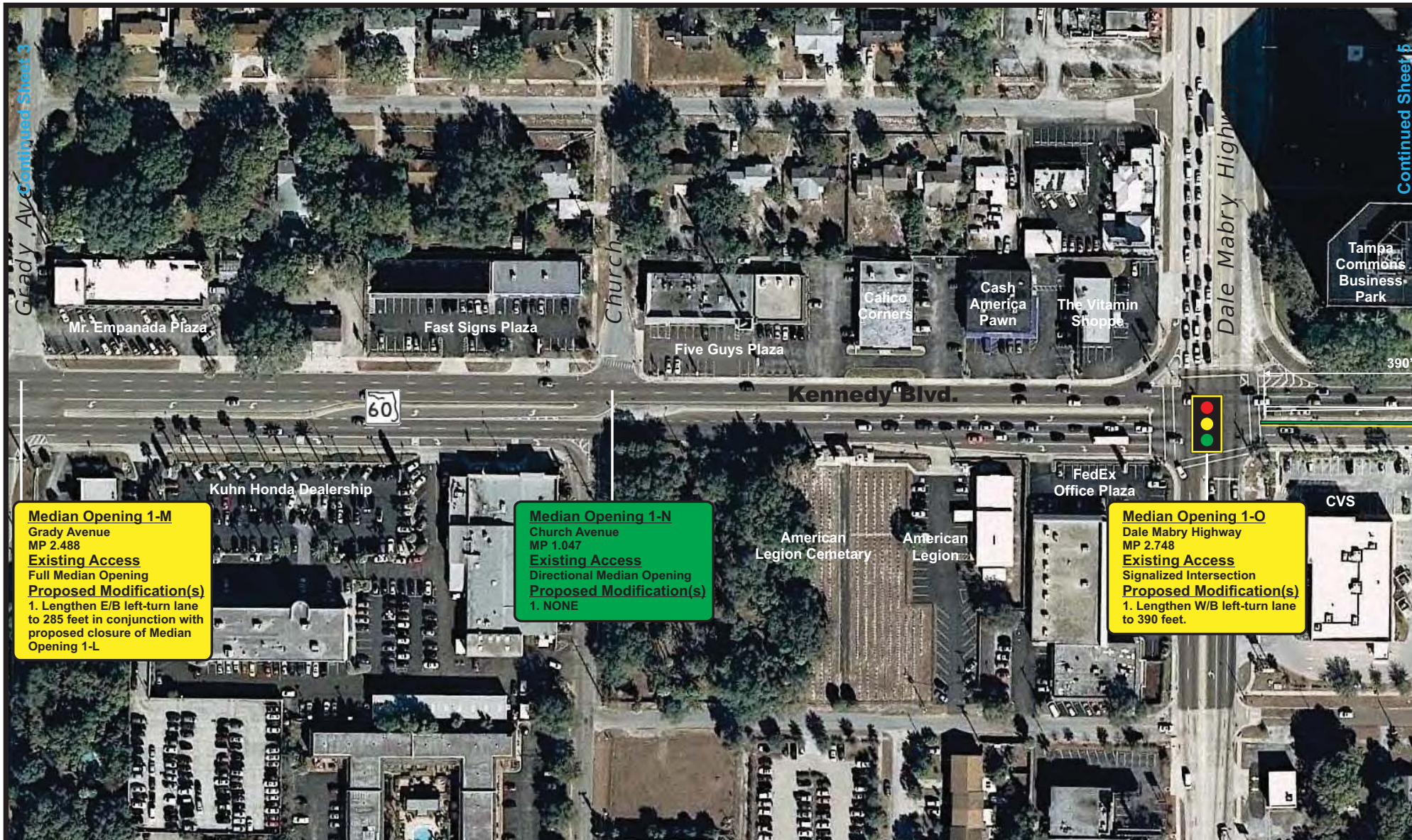


Median Opening 1-I
 Lois Avenue
 MP 2.234
Existing Access
 Full Median Opening
Proposed Modification(s)
 1. Lengthen E/B left-turn lane to 400 feet
 2. Lengthen W/B left-turn lane to 285 feet in conjunction with proposed closure of Median Opening 1-J

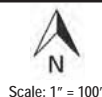
Median Opening 1-J
 Krental Avenue
 MP 2.296
Existing Access
 Full Median Opening
Proposed Modification(s)
 1. Close Median Opening

Median Opening 1-K
 Clark Avenue
 MP 2.359
Existing Access
 Full Median Opening
Proposed Modification(s)
 1. Convert to Bi-Directional Median Opening
 2. Lengthen E/B left-turn lane to 250 feet in conjunction with proposed closure of Median Opening 1-J
 3. Lengthen W/B left-turn lane to 250 feet in conjunction with proposed closure of Median Opening 1-L

Median Opening 1-L
 Hale Avenue
 MP 2.422
Existing Access
 Full Median Opening
Proposed Modification(s)
 1. Close Median Opening



Concept Median Opening Plans
 for SR 60 (Kennedy Boulevard)
 From Westshore Blvd. to Brevard Ave.
 (NOT FOR CONSTRUCTION)



Kennedy Boulevard (SR 60) Access Management Safety Study Median Opening 1-M through 1-O Recommendations

Sheet

D-4

