SAFETY PROJECT
FM 425271-1-52-01
SR 922/ NW 125 St from NE 5TH Avenue to NE 7TH Avenue

SAFETY STUDY INVESTIGATION PROCESS

PRESENTED BY
MISLEIDYS LEON

OUTLINE

- Project Background
- Safety Study Investigation Process
- Crash Analysis Findings
- Collision Diagrams
- Possible Contributing Factors of Crashes
- Initial Recommendations
- Evaluation of Initial Improvements
- Recommended Safety Improvements
- Operational Analysis Findings
- Project Cost
- Benefits to the Community

PROJECT BACKGROUND

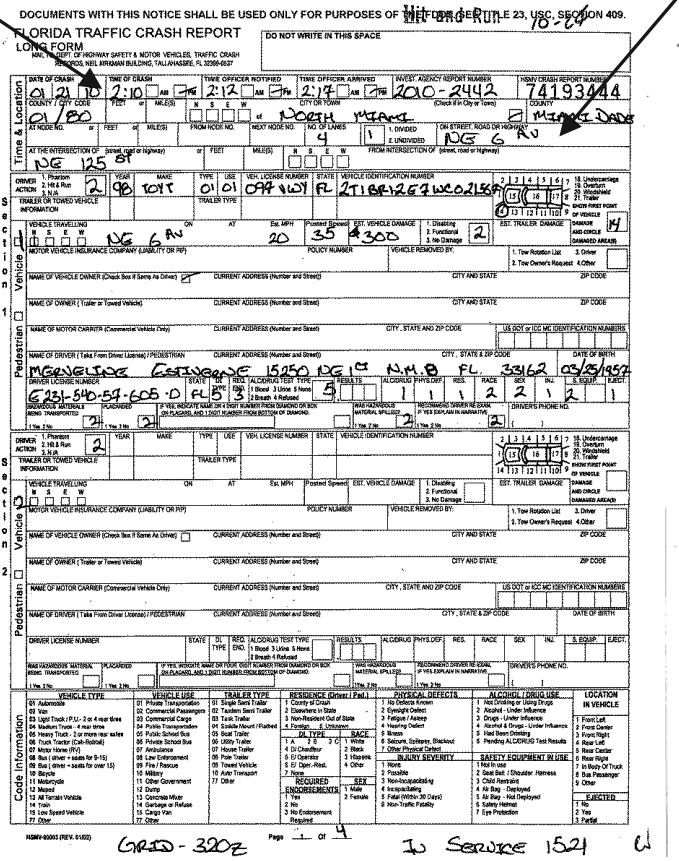
- Segment of NW 125 St from NE 5 St to NE 7 St has been identified as a high crash segment since 2007
- Ranked 36 on 2011 High Crash Segment List out of 537 segments on the list
- Segment is within the top 5 % segments in Miami Dade County with the highest crash frequency and severity of crashes
- Held 3 public meetings, 11 briefings with elected officials and city staff, 3 presentations to Council and Committees, and 8 community meetings
- Investigated 7 citizen requests within the last five years

SAFETY STUDY INVESTIGATION PROCESS

- Study Initiated from High Crash Report Listing
- Extract Crash Data for the Last Three Years
- Review Police Reports
- Develop Collision Diagrams to Identify Clusters
- Conduct Statistical Analyses
- Determine Possible Contributing Factors of Crashes
- Conduct Field Reviews to Confirm/ Identify Possible Factors
- Develop Countermeasures/ Improvements
- Assess Operational Impacts
- Adjust Concept Based on Impacts to Businesses and the Public
- Develop Cost Estimate
- Estimate Safety Benefits

POLICE REPORTS REVIEW PROCESS

TIME

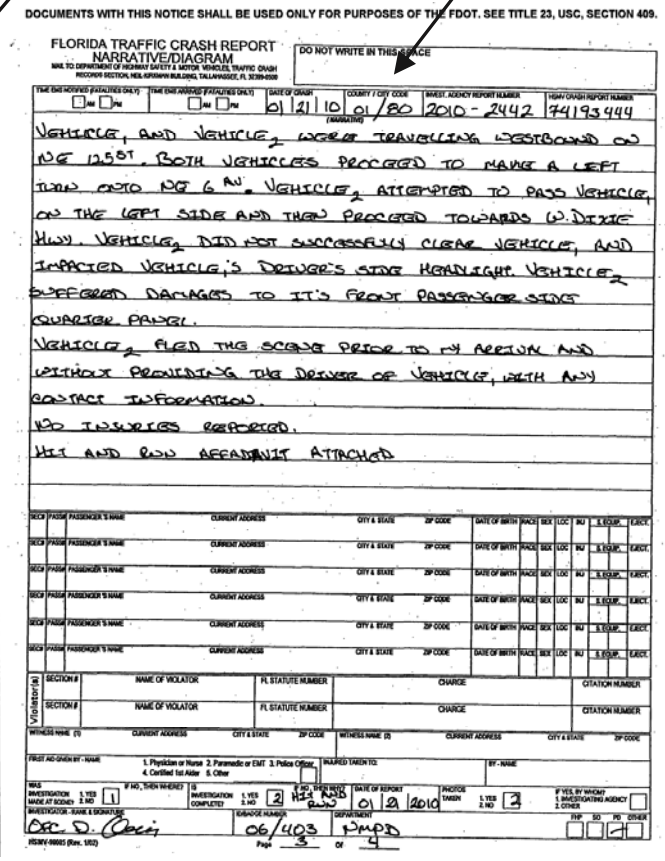

DOCUMENTS WITH THIS NOTICE SHALL BE USED ONLY FOR PURPOSES OF THE FDOT. SEE TITLE 23, USC, SECTION 409.

FLORIDA TRAFFIC CRASH REPORT
LONG FORM

DO NOT WRITE IN THIS SPACE

DATE OF CRASH	TIME OF CRASH	TIME OFFICER NOTIFIED	TIME OFFICER ARRIVED	INVEST. AGENCY REPORT NUMBER	HSMV CRASH REPORT NUMBER
01/21/10	2:10 AM PM	2:12 AM PM	2:17 AM PM	2010-2442	74193444

LOCATION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FLORIDA TRAFFIC CRASH REPORT
NARRATIVE/DIAGRAM

DO NOT WRITE IN THIS SPACE

DATE OF CRASH	COUNTY / CITY CODE	INVEST. AGENCY REPORT NUMBER	HSMV CRASH REPORT NUMBER
01/21/10	01/80	2010-2442	74193444

CRASH NARRATIVE

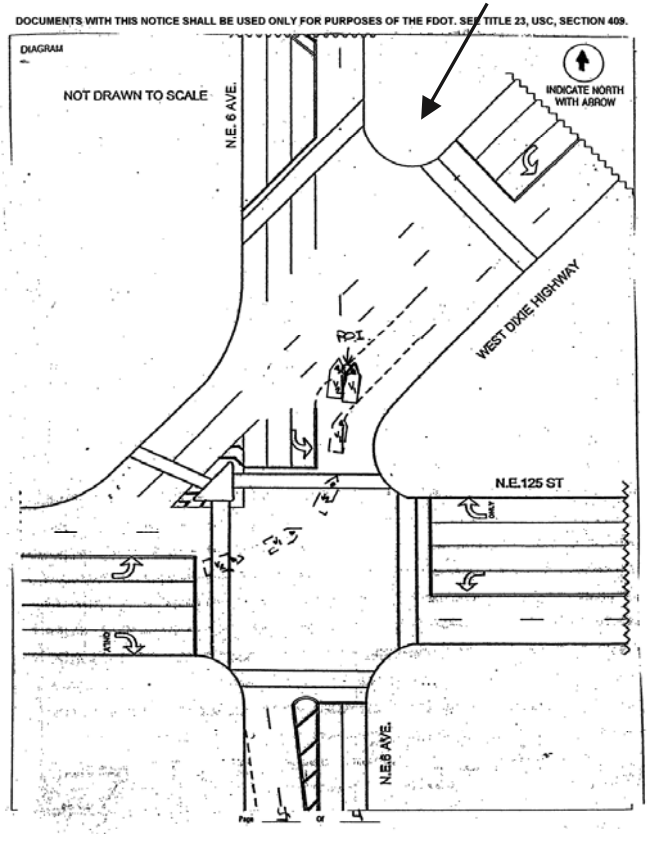
VEHICLE, AND VEHICLE, WERE TRAVELLING WESTBOUND ON NE 125ST. BOTH VEHICLES PROCEED TO MAKE A LEFT TURN ONTO NE 6 AV. VEHICLE, ATTEMPTED TO PASS VEHICLE, ON THE LEFT SIDE AND THEN PROCEED TOWARDS W. DIXIE HWY. VEHICLE, DID NOT SUCCESSFULLY CLEAR VEHICLE, AND IMPACTED VEHICLE,'S DRIVER'S SIDE HEADLIGHT. VEHICLE, SUFFERED DAMAGES TO IT'S FRONT PASSENGER SIDE QUARTER PANEL.

VEHICLE, FLED THE SCENE PRIOR TO MY ARRIVAL AND WITHOUT PROVIDING THE DRIVER OF VEHICLE, WITH ANY CONTACT INFORMATION.

NO INJURIES REPORTED.

HIT AND RUN AFFIDAVIT ATTACHED

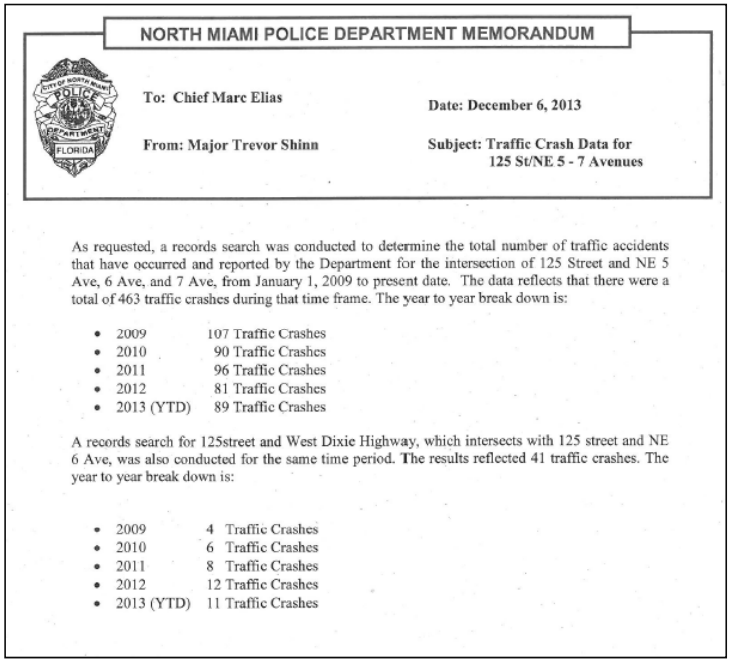
CRASH DIAGRAM



CRASH ANALYSIS FINDINGS

- Review of the latest three years of crash data (2009, 2010, 2011)
- Review police reports to locate crashes and understand roadway conditions at the time of each crash
- 340 crashes were reported for the study segment
- 29 crashes occurred outside the study limits
- 43 crashes involved residents of the area

YEAR	FDOT (CARS Database)	City of North Miami
2009	121	107
2010	92	90
2011	98	96
2012	99	81
2013	85	89
TOTAL	495	463



NORTH MIAMI POLICE DEPARTMENT MEMORANDUM

To: Chief Marc Elias

Date: December 6, 2013

From: Major Trevor Shinn

Subject: Traffic Crash Data for 125 St/NE 5 - 7 Avenues

As requested, a records search was conducted to determine the total number of traffic accidents that have occurred and reported by the Department for the intersection of 125 Street and NE 5 Ave, 6 Ave, and 7 Ave, from January 1, 2009 to present date. The data reflects that there were a total of 463 traffic crashes during that time frame. The year to year break down is:

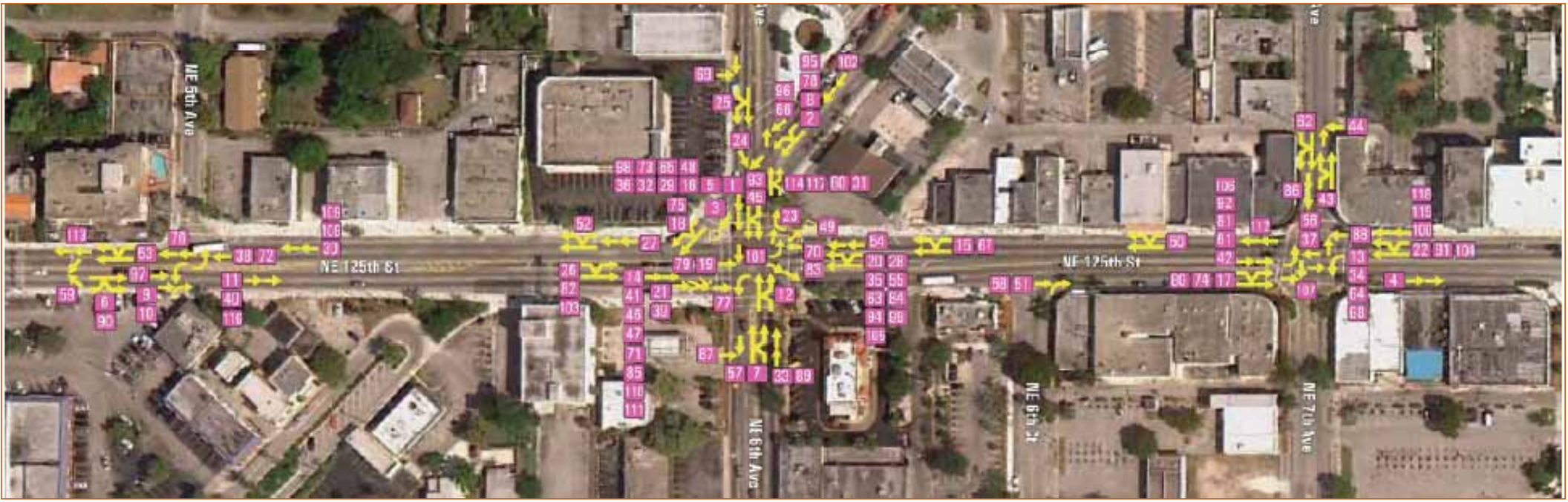
- 2009 107 Traffic Crashes
- 2010 90 Traffic Crashes
- 2011 96 Traffic Crashes
- 2012 81 Traffic Crashes
- 2013 (YTD) 89 Traffic Crashes

A records search for 125street and West Dixie Highway, which intersects with 125 street and NE 6 Ave, was also conducted for the same time period. The results reflected 41 traffic crashes. The year to year break down is:

- 2009 4 Traffic Crashes
- 2010 6 Traffic Crashes
- 2011 8 Traffic Crashes
- 2012 12 Traffic Crashes
- 2013 (YTD) 11 Traffic Crashes

COLLISION DIAGRAMS

2009

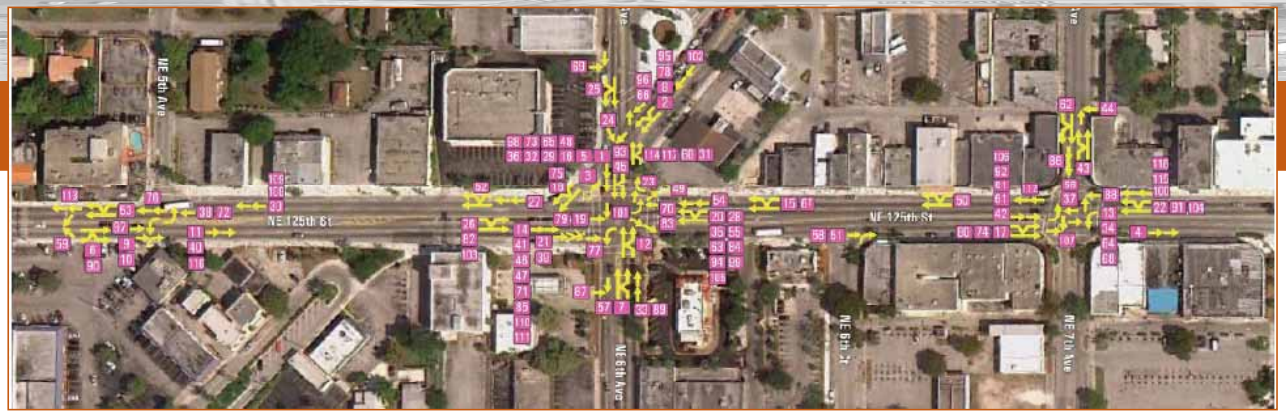


COLLISION DIAGRAMS

LEADING CRASH TYPES

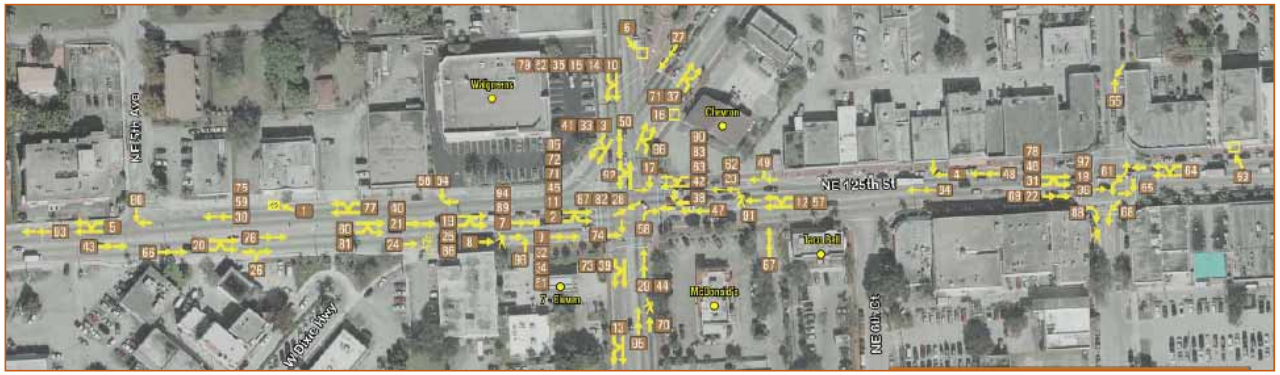
- SIDESWIPE
- REAR END
- ANGLE
- LEFT TURN

2009



2010

2011



STUDY FINDINGS – POSSIBLE CONTRIBUTING FACTORS OF CRASHES

Sideswipe (84)

- Crashes on northbound approach were associated with vehicles intending to access West Dixie Highway from the inside through lane
- Crashes on southbound approach were associated with vehicles intending to make a left from the inside through lane

Rear End (97)

- Mostly concentrated on eastbound approach and were associated with large traffic volumes, stop and go condition, and the lack of left turn lane at NE 7 Ave

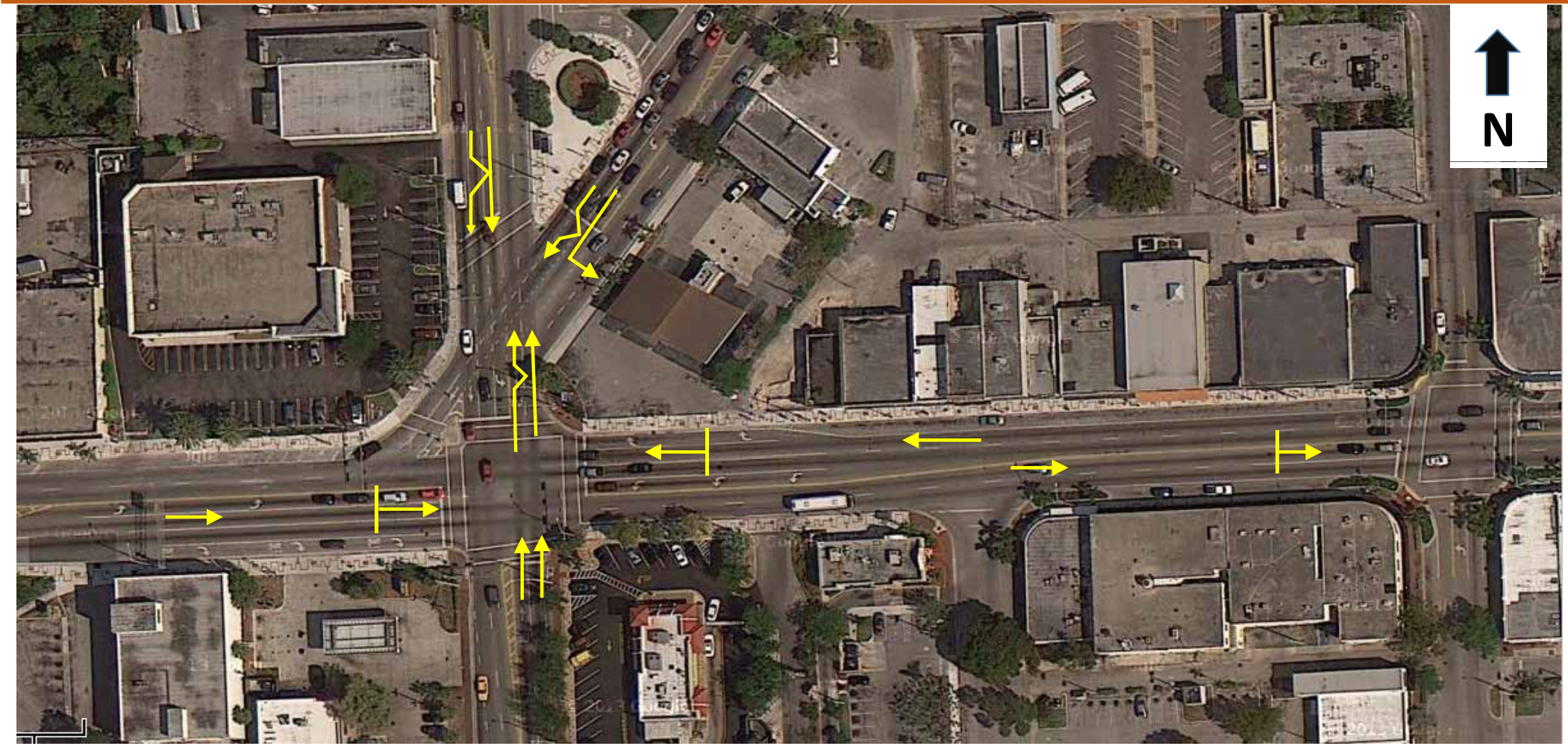
Angle (48)

- Crashes were associated with red light running

Pedestrian and Bicycle (10)

- Crashes were associated with pedestrians crossing midblock

STUDY FINDINGS – POSSIBLE CONTRIBUTING FACTORS OF CRASHES



INITIAL IMPROVEMENTS

NE 125 St and NE 6 Ave

- Close West Dixie Highway and NE 125 St
- Extend eastbound and westbound left turn lanes

NE 125 St and NE 7 Ave

- Provide left turn lanes at NE 7 Ave

*(Initial improvements within FDOT's right of way)

EVALUATION OF INITIAL IMPROVEMENTS

NE 125 St and NE 6 Ave

- Complete closure of West Dixie Highway and NE 125 St will completely divert traffic to alternate roads

- Extension of eastbound left turn lane will result in closure of the median opening west of the intersection impacting access to businesses on the north side

NE 125 St and NE 7 Ave

- Provide a left turn lane at NE 7 Ave will require removal of 17 parking spaces along both sides of NE 125 St

RECOMMENDED SAFETY IMPROVEMENTS

NE 125 St and NE 6 Ave

- Close southbound approach of West Dixie Highway and NE 125 St
- Reduce the number of receiving lanes to one lane on West Dixie Highway
- Extend westbound left turn lane

NE 125 St and NE 7 Ave

- Modify traffic circulation of NE 7 Ave to southbound only
- Prohibit eastbound and westbound left turn movements at NE 7 Ave

OPERATIONAL ANALYSIS FINDINGS

Delay (seconds) Comparison Between Existing and Recommended Alternative

AM Peak Period		EB Approach	WB Approach	NB Approach	SB Approach	SWB Approach	Total Intersection
NE 125 St & NE 6 Ave	Existing 2013	75.3	79.5	95.8	63.7	78.7	77.6
	Recommended	37.9	54.6	48.5	49.8	--	47.4
NE 125 St & NE 7 Ave	Existing 2013	12.8	4.9	71.8	101.6	--	21.9
	Recommended	11.6	3.7	75.9	60.6	--	19.1
PM Peak Period		**EB Approach**	**WB Approach**	**NB Approach**	**SB Approach**	**SWB Approach**	
NE 125 St & NE 6 Ave	Existing 2013	76.6	111.8	118.1	48.4	112.7	96.2
	Recommended	34.1	40.6	63.2	48.5	--	44.7
NE 125 St & NE 7 Ave	Existing 2013	15.5	5.3	71.8	101.6	--	22.1
	Recommended	9.8	3.6	75.9	60.6	--	17.5

Queue (ft) Comparison Between Existing and Recommended Alternative

AM Peak Period		EB Left	EB Thru	WB Left	WB Thru	SB Left	SW Left
NE 125 St & NE 6 Ave	Existing 2013	#342	#527	#323	424	#254	#636
	Recommended	262	441	248	414	212	--
NE 125 St & NE 7 Ave	Existing 2013		M527				
	Recommended		482				
PM Peak Period		**EB Left**	**EB Thru**	**WB Left**	**WB Thru**	**SB Left**	**SW Left**
NE 125 St & NE 6 Ave	Existing 2013	#397	#558	#288	#600	#156	#577
	Recommended	264	468	212	441	156	--
NE 125 St & NE 7 Ave	Existing 2013		M612				
	Recommended		520				

#:Length of queue exceeds storage M: Queues may be longer

PROJECT COST

COST ESTIMATE

NE 125th Street PD&E

Line Number	Item Number	Item Description	Approximate Quantity	Unit	Unit Price	Extended Amount
		ROADWAY				
1	110-1-1	Clearing & Grubbing	1	AC	$20,200.00	$20,200
2	160-4	Type B Stabilization	443	SY	$3.00	$1,329
3	120-1	Regular excavation	350	CY	$9.00	$3,150
4	120-6	Embankment	350	CY	$12.00	$4,200
5	285-709	Optional Base Group 9	443	SY	$12.00	$5,318
6	327 70 5	Milling Existing Asphalt Pavement (2" Avg. Dep.)	42563	SY	$2.00	$85,126
7	337 7 32	Asphaltic Concrete Friction Course (Traffic C)(FC-9.5, Rubber(110lb/sy))	2366	TN	$110.00	$260,260
8	334 1 13	Superpave Asphaltic Concrete (C)	2414	TN	$100.00	$241,400
9	350-1-4	Plain Cement Conc Pavt 9"	470	SY	$60.00	$28,200
10	522 1	Concrete Sidewalk, 4" Thick	1245	SY	$37.00	$46,065
11	570 1 1	Performance Turf (Turf)	1182	SY	$3.00	$3,546
12	520 1 10	Concrete Curb and Gutter (Type F)	2200	LF	$18.00	$39,600
13	520-2-4	Concrete Curb, Type D	100	LF	$21.00	$2,100
		Drainage				$37,029
		SIGNING AND MARKING				
1	700 20 11	Single Post <12	150	EA	$260.00	$39,000.00
2	700 20 12	Single Post >12	20	EA	$787.00	$15,740.00
3	700-20-60	Single Post Sign, Remove	10	AS	$30.00	$300.00
4	706 3	Reflective Pavement Markers (W/R)	300	EA	$4.00	$1,200.00
5	700-23-123	OHD Truss Cant Sign, F&I, T31-40, S201-300	4	AS	$68,300.00	$273,200.00
6	700-23-124	OHD Truss Cant Sign, F&I, T31-40, >300	1	AS	$100,000.00	$100,000.00
7	705-11-3	Delineator, Flex High Visability Med	50	EA	$120.00	$6,000.00
8	711 16111	5" Solid Traffic Stripe (White)	4.2	NM	$3,717.00	$15,611.40
9	711 11122	8" Solid Traffic Stripe (White)	1510	LF	$1.00	$1,510.00
10	711 11123	12" Solid Traffic Stripe (White)	3200	LF	$2.00	$6,400.00
11	711 11124	18" Solid Traffic Stripe (White)	1230	LF	$3.00	$3,690.00
12	711 11125	24" Solid Traffic Stripe (White)	3250	LF	$4.00	$13,000.00
13	711 16131	5" 10/30 Skip Traffic Stripe (White)	1.2	GM	$1,034.00	$1,240.80
14	711 11151	5" 2/4 Skip Traffic Stripe (White)	100	LF	$1.00	$100.00
15	711 11160	Thermoplastic, STND, white Message	32	EA	$116.00	$3,712.00
16	711 11170	Thermoplastic, STND, white Arrow	61	EA	$54.00	$3,294.00
17	711 16211	5" Solid Traffic Stripe (Yellow)	2.5	NM	$3,739.00	$9,347.50
18	711 11224	18" Solid Traffic Stripe (Yellow)	372	LF	$3.00	$1,116.00
19	711 11251	5" 2/4 Skip Traffic Stripe (Yellow)	600	LF	$1.00	$600.00
		SIGNALIZATION				
1	630-1-13	SIGNAL CONDUIT (UNDERPAVEMENT)	3,000	LF	$15.00	$45,000
2	632-7-11	SIGNAL CABLE	3	PI	$3,695.00	$11,085
3	635-1-11	SIGNAL PULL & JUCTION BOXES (F&I)	60	EA	$441.00	$26,460
4	649-31-101	MAST ARM ASSEMBLY (36' ARM)	7	EA	$25,654.00	$179,578
5	650-1-311	TRAFFIC SIGNAL HEAD (3 SECTION)	21	AS	$811.00	$17,031
6	653-191	PEDESTRIAN SIGNAL (LED COUNTDOWN) (ONE WAY)	17	AS	$719.00	$12,223
7	646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	6	EA	$1,175.00	$7,050
8	665-11	PEDESTRIAN DETECTOR	14	EA	$176.00	$2,464
9	670-51-20	TRAFFIC CONTROLLER, F&I	3	EA	$23,507.00	$70,521
10	690-10	SIGNAL HEAD TRAFFIC ASSEMBLY REMOVAL	12	EA	$52.00	$624
11	690-20	SIGNAL PEDESTRIAN ASSEMBLY, REMOVAL	6	EA	$40.00	$240
12	690-34-1	COMPLETE POLE REMOVAL	240	LF	$2,809.00	$674,160
13	690-50	CONTROLLER ASSEMBLY, REMOVAL	3	EA	$1,146.00	$3,438
		SUB TOTAL				$2,322,452.30
		25% CONTINGENCY (PD&E)				$580,613.08
		1.5% LANDSCAPING				$43,545.98
	101-1	Mobilization (10%)	1	LS	$294,661.14	$294,661
	102-1	Maintenance of Traffic (10%)	1	LS	$294,661.14	$294,661
					TOTAL AMOUNT	**$3,535,934**

Project Cost is $ 3.6 M

BENEFITS TO THE COMMUNITY

Safety Benefits

- It is estimated to reduce 20 crashes per year
- Total annual safety benefit is $ 1, 553,257.00
- Improvements will enhance pedestrian safety
- Benefit (crashes reduced) / Cost is 7.9

Improved Access to Businesses

- Recommended improvements maintain northbound connection to West Dixie in order to provide access to businesses

- A northbound left turn lane at NE 125 St and NE 6 Ave is provided for easy access to I-95 and to businesses on the west side

BENEFIT COST ANALYSIS WORKSHEET

Date	06/20/13
Location	SR 922/NE 125th Street at NE 6th Avenue at W. Dixie Highway
Description of Project	Preferred Alternative

Total 3 Year No of Crashes	Total No of Reducible Crashes in 3 Years	Crashes Reduction Factor	Average Crashes Reduced Per Year
	22	100%	7.33

CRASH INFORMATION FOR FACILITY	
Cost/Crash	$83,359.00
Crash Cleanup	$100.00
Interest	4.0%

TYPE	COST	LIFE	CRF	TOTAL
R.O.W	$0.00	0	-	$0.00
P.E.C.E.I.	$78,944.56	15	0.08994	$7,100.36
STRUCTURE	$0.00	0	-	$0.00
ROADWAY	$533,753.00	15	0.08994	$48,006.33
PAVEMENT	$0.00	0	-	$0.00
SIGNAL/SIGNING & PAV'T	$255,692.63	15	0.08994	$22,997.28
SUB-TOTAL				$78,103.97
CHANGE IN MAINTENANCE				$0.00
CRASH CLEANUP				$733.33
TOTAL (ANNUAL COST)				$77,370.64

BENEFITS

CRASH REDUCTION	$611,299.33
OTHER: OPERATIONAL BENEFITS	$0.00
OTHER	$0.00
TOTAL ANNUAL BENEFIT	$611,299.33

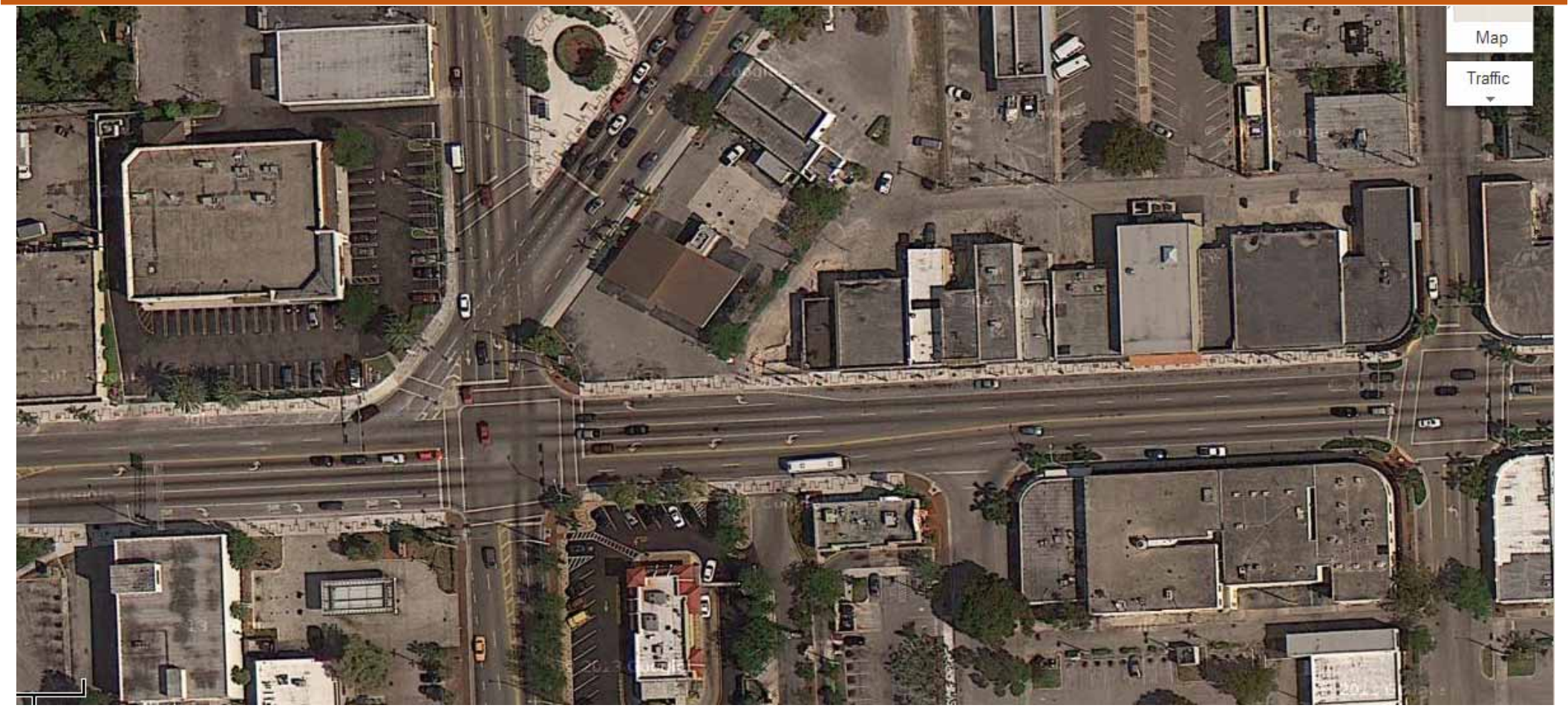
BENEFIT / COST RATIO 7.9

W Dixie Hwy
NE 126th St
NE 7th Ave
NE 5th Ave
909

QUESTIONS ?

NE 125th St
NE 125th St
922
W Dixie Hwy
NE 6th Ct
NE 7th Ave
NE 124th St

EXISTING CONDITION



RECOMMENDED SAFETY IMPROVEMENTS