



Memorandum

Memorandum No: 14-33

Date: May 19, 2014

To: Lee Feldman, City Manager

From: Alia Awwad, PE, Transportation Planner

Re: Crashes at Major Intersections and Interstate Ramps, Traffic Congestion, and Distracted Driving

CC: Susanne M. Torriente, Assistant City Manager
Diana Alarcon, Director of Transportation and Mobility
Julie Leonard, Deputy Director of Transportation and Mobility
Debora Griner, Transportation Manager
Elizabeth Van Zandt, Mobility Manager

Traffic related crashes and fatalities and severe injuries are a major concern in the City of Fort Lauderdale. Memorandum 14-02, dated January 9, 2014, *Impacts of Street Solicitation on Public Safety and Traffic Operations*¹, discussed City-wide crash statistics and the impacts of panhandling on traffic incidents and congestion. This memorandum expands upon public safety issues in the City, specifically crashes at major intersections and interchange ramps and the correlation between crashes, congestion, and distracted driving.

Roadway intersections constitute a diverging point for road users that requires making multiple decisions to be able to proceed safely. These conflicts occur at all types of intersections, including major and minor crossings and intersections with interstate ramps. Crash statistics² at major intersections in the City were analyzed for the years 2011-2013. During that period, a total of approximately 3,275 crashes occurred at these intersections. Table 1 illustrates the top 10 major intersection crash locations. As shown, the intersection of NW 19th St at NW 31st Ave had the highest number of crashes during the 3-year period. There were three high crash intersections off of Sunrise Blvd: at NE 15th Ave, NE 3rd Ave, and Bayview Dr. NW 62nd St/Cypress Creek Rd also had three high crash locations: at N Andrews Ave, NW 31st Ave, and Powerline Rd. Additionally, US1/Federal Highway at Commercial Blvd, SE 17th St, and SR 84/SE 24th St exhibited a relatively high number of crashes as well.

¹ A copy of Memorandum 14-02 is included in Appendix A.

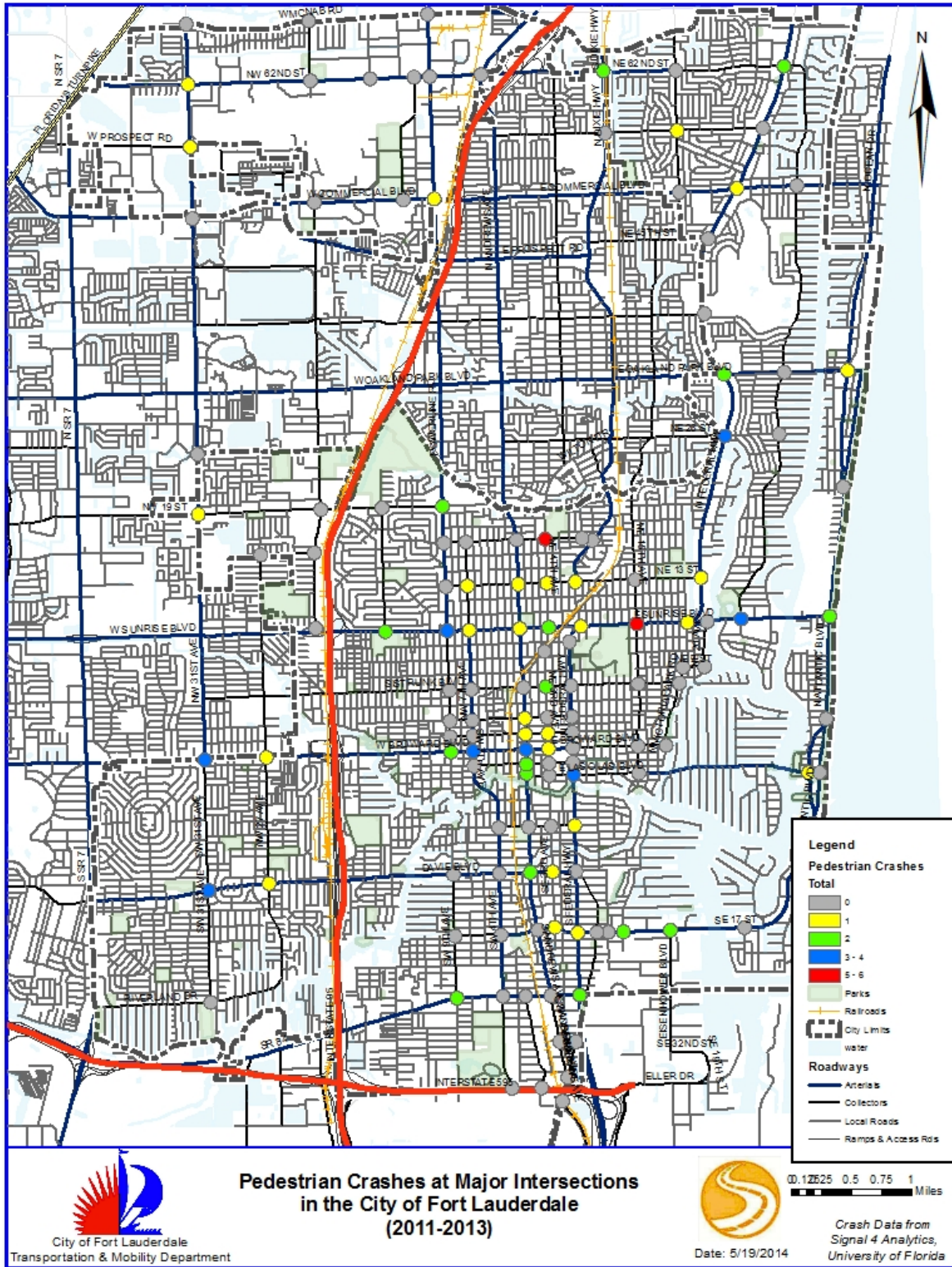
² Crash data was obtained from Signal 4 Analytics, maintained and operated by the University of Florida. (<http://s4.geoplan.ufl.edu/>)

Table 1: Top 10 High-Crash Major Intersections within the City of Fort Lauderdale

Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
NW 19TH ST / NW 31ST AVE	90	30
E SUNRISE BLVD / NE 15TH AVE	85	28
E SUNRISE BLVD / BAYVIEW DR	80	27
NW 62NDST / N ANDREWS AVE	70	23
NW 62NDST / NW 31ST AVE	66	22
W COMMERCIAL BLVD / FEDERAL HWY	64	21
NW 62NDST / POWERLINE RD	62	21
SE 17TH ST / FEDERAL HWY	60	20
W SUNRISE BLVD / NE 3RD AVE	57	19
SR 84 / FEDERAL HWY	56	19

Appendix B includes the full list of the major intersections in the City with the three-year total and average crashes. Appendix C includes maps illustrating major intersection crashes in the City, categorized by total and average crashes.

Street solicitation exposes street vendors to potential crashes. For this reason, pedestrian crashes at major intersections were also analyzed. The following map illustrates pedestrian crashes throughout the City at major intersections between 2011 and 2013. The analysis shows that the intersection of NE 16th St at NE 3rd Ave had the highest number of pedestrian crashes (6), followed by the intersection of E Sunrise Blvd at NE 15th Ave (5). The intersections of E Las Olas Blvd at Federal Hwy, NE 26th St at Federal Hwy, and W Broward Blvd at SW 7th Ave had at least 4 pedestrian crashes during the analysis period. The analysis also shows that more than 25 percent of pedestrian crashes occurred in the Downtown area.



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A closer examination of pedestrian fatalities³ within the City revealed that between 2011 and 2013, there were a total of 24 pedestrian fatalities. Approximately half of these fatalities occurred at intersections. The following table illustrates the corridors with the highest number of pedestrian fatalities, where Sunrise Blvd ranked at the top of the list. Fatalities on Sunrise Blvd occurred both west and east of Andrews Ave. In contrast, most pedestrian fatalities on Broward Blvd occurred on the west side of I-95.

Table 2: Corridors with the highest pedestrian fatalities within the City of Fort Lauderdale

Roadway	Pedestrian Fatalities
Sunrise Blvd	8
Broward Blvd	6
A1A	6
Federal Highway	5
Davie Blvd	2
Las Olas Blvd	2
Commercial Blvd	1
SE 17th St	1
NE/NW 62nd St	1

Similar to major intersections, interchange ramps pose conflict points and experience relatively high traffic volumes and crashes. Therefore, I-95 interchange ramps within the City limits were analyzed to examine high crash locations. Table 3 shows the top 10 interstate ramps within the City limits with the highest number of crashes. As shown, the I-595 ramps intersecting with I-95 had the highest number of crashes. Interchange ramps intersecting with Broward Blvd and Sunrise Blvd had the next highest number of crashes. Out of these ramps, the southbound Sunrise Blvd off-ramp included a pedestrian fatality crash. Appendix D includes the full list of interchange ramp crashes.

Table 3: Top 10 High-Crash Interstate Ramps within the City of Fort Lauderdale

Interstate Ramp	Total Crashes
I-95 RAMP W OF I-95 TO I-595	42
I-595 WB E OF I-95 TO I-95 NB	20
I-595 WB W OF I-95 FROM I-95 NB	12
I-95 S BROWARD BLVD E/W ON	10
I-95 S BROWARD BLVD E/W OFF	9

³ Pedestrian Fatality data was obtained from the City of Fort Lauderdale Police Department.

Interstate Ramp	Total Crashes
I-95 N BROWAD BLVD E/W OFF	8
I-595 EB W OF I-95 TO I-95 NB	6
I-95 S SUNRISE BLVD E/W OFF	5
I-95 S SUNRISE BLVD E/W ON	5
I-595 EB E OF I-95 FROM I-95 SB	5

The relationship between congestion levels and crash rates is well documented in research. Generally, congestion levels on major arterials and freeways tend to increase crash frequencies, which in turn leads to worse congestion, commonly referred to as non-recurring congestion⁴. According to the Federal Highway Administration (FHWA)⁵, about half of all traffic congestion is caused by non-recurring congestion, which is primarily caused by traffic incidents, work zones, and weather. As demonstrated in the analysis, intersections with the highest number of crashes occurred along heavily traveled corridors including Federal Highway, Sunrise Blvd, Commercial Blvd, NE 62nd St, and Broward Blvd.

Level of Service (LOS) is typically used as the standard measure of traffic congestion that ranks roadway facilities as A through F. As described in the City's Comprehensive Plan⁶:

- LOS A denotes free flow conditions with low traffic volumes.
- LOS B represents reasonable and stable traffic flow.
- LOS C describes restricted traffic conditions, where “small increases in flow will result in a substantial deterioration in service”.
- LOS D represents high traffic volumes, where delays may occur, and incremental increases in traffic would cause traffic operational issues.
- LOS E represents a roadway that is operating at or near full capacity. Disturbance in flow due to incidents or volume increase would cause the corridor's traffic conditions to break down.
- LOS F describes an over-capacity roadway, where stop and go conditions are experienced and delays are frequent.

The following table includes major corridors in the City with current and future Peak⁷ LOS conditions between D and F and the associated crashes per mile⁸. The statistics

⁴ “The Relationship between Congestion Levels and Accidents”, Maryland DOT, 2003.

⁵ FHWA, Office of Operations, Reducing Non-Recurring Congestion.

(http://ops.fhwa.dot.gov/program_areas/reduce-non-cong.htm)

⁶ City of Fort Lauderdale Comprehensive Plan, 2008, Transportation Element

(http://www.fortlauderdale.gov/documents/compplan/compplan_vol2_transportation.pdf).

⁷ Peak travel is typically measured during the afternoon hours of 4:00-6:00 pm and commonly referred to as the PM Peak.

⁸ 2011-2013 Crash data was obtained from Signal 4 Analytics, maintained and operated by the University of Florida. (<http://s4.geoplan.ufl.edu/>). 2012-2035 LOS information was obtained from Broward MPO, Data & Maps, <http://www.browardmpo.org/documents-publications/data-maps>

illustrate the relationship between LOS conditions and crashes. As shown, the corridors with the highest number of crashes exhibited unacceptable⁹ LOS conditions, which will mostly worsen in the future. While the relationship is not perfectly linear, the data does show that with higher exposure to vehicular traffic, the probability of crashes increases. Appendix E includes a list of the major corridors in the City with 2012 and 2035 daily and peak LOS conditions between C and F. It is worth noting that all of the major corridors within the City limits that were reported by the MPO had LOS C or worse.

Table 4: Corridor LOS and Crashes Per Mile on Major Corridors in the City of Fort Lauderdale

Roadway	Segment	2012 Peak LOS	2035 Peak LOS	Crashes Per Mile
Sunrise Blvd	E of I-95	F	F	92
NW 21 Ave	N of NW 19 St	F	F	91
NW 19 St	E of NW 31 Ave	D	F	86
Broward Blvd	E of I-95	F	F	83
SE 17 St	E of S Andrews Ave	F	D	83
US 1	N of SR 84	F	F	81
Andrews Ave	N of SR 84	D	E	75
Oakland Park Blvd	E of US 1	D	D	65
Commercial Blvd	E of Dixie Hwy	F	F	39
Cypress Rd /NE 18 Av	N of NE 48 Ct	F	F	39
NW 7 Ave	N of Broward Blvd-CBD	D	D	39
SR A1A	N of SE 17 St	E	F	34
SW 31 Ave	N of Davie Blvd	D	F	30
NE 3 Ave	N of Broward Blvd-CBD	D	D	29
NW 15 Ave	N of Sunrise Blvd	D	D	22
NE 15 Ave	N of Broward Blvd	D	E	19
Bayview Dr	N of Sunrise Blvd	D	F	18
Riverland Rd/SW 27 Ave	E of SR 7/S of Broward Blvd	D	F	18
NW 23 Ave	N of Sunrise Blvd	D	F	11

While there are multiple reasons for traffic crashes, human behavior contributes to the majority of these incidents. Of these human factors, distracted driving is a prominent, yet avoidable, cause of crashes. Distracted driving is characterized as either visual, manual, or cognitive; involving eyes off the road, hands off the wheel, or mind off

⁹ Generally, LOS E or lower is considered to represent unacceptable LOS conditions⁹.

driving, respectively. In the US, one in five traffic crashes are attributed to distracted driving. These crashes often cause severe injuries and fatalities. Every day, approximately nine people are killed in the US and another 1,000 are injured due to crashes involving distracted driving¹⁰.

In 2011, 165 drivers in the State of Florida were involved in fatal crashes due to distracted driving¹¹. Between 2011 and 2013, almost 10 percent¹² of all crashes in the City of Fort Lauderdale were attributed to distracted driving as reported by law enforcement agencies. Out of these crashes, one was fatal, and 500 caused injuries. Roughly 30 percent of these crashes occurred at intersections. It is important to note that distracted driving is typically underreported due to the difficulty in documenting these types of crashes. As indicated in the previous memo, street vendor solicitation, which prompts unpredictable pedestrian behavior, contributes to distracted driving and leads to traffic crashes, especially in high-conflict points such as major intersections and interchange ramps.

The traffic crash statistics presented in this memo illustrate the magnitude and gravity of traffic crashes, congestion, and distracted driving in the City of Fort Lauderdale. Proactive countermeasures, including enforcement, education, and other policies need to be implemented to alleviate the issues and reduce these largely preventable crashes.

Please let me know if you have any questions or concerns.

¹⁰ Center for Disease Control and Prevention, Injury Prevention & Control: Motor Vehicle Safety, Distracted Driving (http://www.cdc.gov/motorvehiclesafety/distracted_driving/).

¹¹ National Highway Traffic Safety Administration (NHTSA) (<http://www-fars.nhtsa.dot.gov/People/PeopleDrivers.aspx>)

¹² Signal 4 Analytics, maintained and operated by the University of Florida. (<http://s4.geoplan.ufl.edu/>).

Appendix A



Memorandum #14-02

DATE: January 8, 2014

TO: Lee Feldman, City Manager

FROM: Alia Awwad, PE, Transportation Planner

SUBJECT: Impacts of Street Solicitation on Public Safety and Traffic Operations

This memorandum addresses the potential impacts of street vendor solicitation on traffic safety and operations. Street solicitation in this memo refers to the sales, donation requests, and the exhibition and storage of merchandise within the public right-of-way. The assessment is solely based on the review of public safety and traffic flow conditions within the City of Fort Lauderdale and on my background in transportation planning and engineering.

The main purpose of a public thoroughfare, which includes the travelway, median, and sidewalks, is to facilitate the mobility of road users, including cars, transit users, pedestrians, and bicyclists. Traffic rules and regulations apply to all of these users and are in place to ensure roadway conflicts are minimized. Street solicitation prompts unpredictable pedestrian behavior that impacts the health and welfare of the general public. As street vendors dart into traffic, stand in medians, cross at non-controlled locations, walk along travel lanes, and solicit driver attention from sidewalks, they are exposed to hazardous traffic conditions and also cause driver distraction, leading to an increased rate of traffic crashes.

Traffic related fatalities and severe injuries are already a major issue in the state of Florida and in the City of Fort Lauderdale in particular. In 2012, Florida had the third highest number of total fatalities behind Texas and California¹³. When observing pedestrian related crashes, Florida had the highest per capita pedestrian fatalities in the country¹⁴. Furthermore, the City of Fort Lauderdale was identified by FHWA as a pedestrian focus city for having a pedestrian fatality rate that is above the national

13 National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts, DOT HS 811 856, "2012 Motor Vehicle Crashes: Overview", November 2013.

14 NHTSA, Traffic Safety Facts, 2011 Data, DOT HS 811 748, "Pedestrians", August 2013.

average. The City is one of only 22 cities in the country to qualify as a focus city¹⁵.

Studies have shown that jaywalking increases the potential for pedestrian crashes. Research conducted in 2007 revealed that the majority of pedestrian crashes (60 percent) occur at non-intersection locations¹⁶. More specifically, a recent study conducted in Florida revealed that 80 percent of pedestrian crashes were due to pedestrian behavior¹⁷.

Street solicitation also leads to distracted driving, which in turn can cause serious traffic crashes, including pedestrian, rear-end, and roadway departure collisions. The FDOT defines distracted driving as “typified by any mental or physical activity that takes the driver’s focus off the task of driving... by electronic communication devices ... other distraction inside the vehicle, external distraction (outside the vehicle), texting or general inattentiveness”¹⁸. As such, street solicitation falls within the FDOT definition of potentially causing distracted driving. In 2009, 5,474 people were killed and another 448,000 were injured across the U.S. due to distracted driving¹⁹. A traffic survey conducted by the Florida Department of Transportation (FDOT) in 2010 revealed that 64 percent of respondents believe that distracted and inattentive driving is a major traffic safety problem. These statistics emphasize the hazards of distracted driving that endanger road users on all public roadways within the City of Fort Lauderdale.

Street solicitation can cause potential hazards on any public road. However, a recent analysis by the City of Fort Lauderdale highlighted the corridors within the City limits with the highest pedestrian crash rates. These corridors are:

- Federal Highway/US1,
- Old Dixie Highway,
- Sunrise Boulevard,
- Broward Boulevard,
- Las Olas Boulevard,
- Cypress Creek Road,
- SE 17th Street, and
- N Ocean Blvd/N Atlantic Blvd/SR A1A.

The combination of high pedestrian and vehicular traffic on these corridors contributes to the high concentration of pedestrian-related incidents. Continuing to allow street solicitation would further exasperate the issue.

15 FHWA, “Pedestrian Focus States and Cities”, http://safety.fhwa.dot.gov/ped_bike/ped_focus/.

16 Problem-Oriented Guides for Police Problem-Specific Guides Series, Guide No. 51, “Pedestrian Injuries and Fatalities”, Heinonen & Eck, October 2007.

17 Lee, C., and M. Abdel-Aty (2005). “Comprehensive Analysis of Vehicle-Pedestrian Crashes at Intersections in Florida.” *Accident Analysis and Prevention* 37(4):775–786.

18 FDOT, State Safety Office, “Distracted Driving”, <http://www.dot.state.fl.us/safety/SHSP2012/SHSP-DistractedDriving.shtm>

19 NHTSA, Traffic Safety Facts, DOT HS 811 379, “Distracted Driving 2009”, September 2009.

Improving highway safety has become a national priority in recent years. The Federal Highway Administration (FHWA) launched a number of efforts that are aimed at aggressively reducing the number of traffic crashes, fatalities, and severe injuries. Of these initiatives is the Focused Approach to Safety²⁰, where FHWA provides technical assistance and action plan implementation to eligible states in three focus areas: intersection, pedestrian, and roadway departure crashes. To be eligible, the state's total crashes in that category generally have to be above the national average. The state of Florida has been identified as a Focus State in all of these focus areas, making it one of only five states in the country to qualify for all categories. This status emphasizes the seriousness of severe traffic crashes in the state. Street solicitation can contribute to increasing these crash types.

Additionally, street solicitation increases traffic congestion. Traffic crashes alone are the major cause of non-recurring congestion. Combined with distractions and stop-and-go conditions, traffic congestion can significantly worsen due to street solicitation. Federal Highway/US 1, the major arterial that runs parallel to Interstate 95, experiences very heavy daily traffic volumes. Most major east-west corridors within the City of Fort Lauderdale are also already congested. While street solicitation would potentially increase traffic congestion on any roadway, traffic operations on full capacity roadways would be particularly impacted by street vendor activities.

To illustrate traffic congestion within the City of Fort Lauderdale, Annual Average Daily Traffic (AADT) and Level of Service (LOS) data for the year 2011 were obtained²¹. The AADT provides daily volume traffic data on a transportation corridor, taking into consideration the number of lanes. LOS provides an indication of the level of service quality on a particular corridor. LOS thresholds range from A through F, where LOS A represents free flow conditions and LOS F denoting the slowest, most congested conditions. Generally, LOS E or lower is considered to represent unacceptable LOS conditions²².

The following table provides a summary of the AADT and LOS data obtained for corridors within the City of Fort Lauderdale, ranked by worst LOS conditions and average AADT, respectively²³. As shown, most major corridors within the City limits have LOS E or F. US 1/Federal Highway, throughout its entire section within the City, carries significant volumes of traffic and operates for the most part at LOS F. Most major east-west corridors that traverse the City also carry high daily volumes at an unacceptable LOS. Consequently, street solicitation would further hinder traffic flow on these corridors, worsening already undesirable LOS conditions.

20 FHWA, "Focused Approach to Safety", <http://safety.fhwa.dot.gov/fas/>

21 Broward MPO, Data & Maps, <http://www.browardmpo.org/documents-publications/data-maps>

22 City of Fort Lauderdale Comprehensive Plan, Volume 2, Transportation Element.

23 In some cases, the corridor segment shown in the table represents the Average of several segments on the corridor as extracted from the Broward MPO data.

Corridor	Segment ²⁴	LOS	Average AADT
Broward Blvd	E of I-95	F	62,833
US 1	N of SR 84	F	61,000
Oakland Park Blvd	E of I-95	F	60,500
Commercial Blvd	E of Florida's Turnpike	F	55,167
Sunrise Blvd	E of Florida's Turnpike	F	54,000
SR 84	E of University Dr	F	49,000
Davie Blvd	E of I-95	F	35,500
NE 62 nd St/Cypress Creek Rd	E of Dixie Hwy	F	18,250
SR A1A	N of Commercial Blvd	F	17,800
McNab Rd/SE 15 th St	E of NW 18 th Ave	F	15,000
NW 19 th St	E of NW 49 th Ave	F	14,500
Commercial Blvd	E of SR 7	E	52,500
SR 7	N of SR 84	E	51,000
Bayview Dr	N of Oakland Park Blvd	E	10,000
SE 17 St	E of US 1	D	48,500
NE 3 Ave	N of Broward Blvd-CBD	D	23,000
Andrews Ave	N of Davie Blvd	D	17,400

In conclusion, from a traffic safety and operations perspective, street solicitation adversely impacts transportation activities within the public rights-of-way. Based on the above statistics and analysis, my opinion is that street solicitation poses a public safety hazard, endangering vendors and all road users. Traffic flow is also impeded by street solicitation, particularly in congested and peak travel conditions.

Please let me know if you have any questions or concerns regarding this assessment.

c: Susanne Torriente, Assistant City Manager
Diana Alarcon, Director, Transportation and Mobility
Elizabeth Van Zandt, Mobility Manager

24 "E" or "N" refers to "East" or "North", respectively.

Appendix B

Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
NW 19TH ST / NW 31ST AVE	90	30
E SUNRISE BLVD / NE 15TH AVE	85	28
E SUNRISE BLVD / BAYVIEW DR	80	27
NW 62NDST / N ANDREWS AVE	70	23
NW 62NDST / NW31ST AVE	66	22
W COMMERCIAL BLVD / FEDERAL HWY	64	21
NW 62NDST / POWERLINE RD	62	21
SE 17TH ST / FEDERAL HWY	60	20
W SUNRISE BLVD / NE 3RD AVE	57	19
SR 84 / FEDERAL HWY	56	19
NE 26TH ST / FEDERAL HWY	55	18
W COMMERCIAL BLVD / POWERLINE RD	54	18
OAKLAND PARK BLVD / FEDERAL HWY	53	18
W SUNRISE BLVD / POWERLINE RD	52	17
E LAS OLAS BLVD / SE 15TH AVE	51	17
W BROWARD BLVD / NW 31ST AVE	51	17
E LAS OLAS BLVD / SEABREEZE BLVD	50	17
NW 19TH ST / POWERLINE RD	50	17
E BROWARD BLVD / ANDREWS AVE	48	16
W SUNRISE BLVD / N ANDREWS AVE	47	16

Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
W SUNRISE BLVD / NW 15TH AVE	47	16
NW 62NDST / NE 18TH ST	46	15
W BROWARD BLVD / SW 7TH AVE	45	15
E LAS OLAS BLVD / SE 3RD AVE	44	15
SR 84 / SW 4TH AVE	44	15
DAVIE BLVD / NW 27TH AVE	41	14
NE 13TH ST / NE 3RD AVE	41	14
W PROSPECT RD / NW 31ST AVE	41	14
SR 84 / S ANDREWS AVE	40	13
SR 84 / SW 9TH AVE	40	13
SE 17TH / CORDOVA	39	13
W COMMERCIAL BLVD / BAYVIEW DR	39	13
E BROWARD BLVD / SE 3RD AVE	37	12
W SUNRISE BLVD / FEDERAL HWY	37	12
DAVIE BLVD / SE 31ST AVE	36	12
NW 19TH ST / NW 15TH AVE	36	12
OAKLAND PARK BLVD / BAYVIEW DR	36	12
SE 17TH / SE 23RD ST	36	12
NW 62NDST / FEDERAL HWY	35	12
E SUNRISE BLVD / FEDERAL HWY	34	11
NW 16TH ST / NE 3RD AVE		

Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
	34	11
NW 62NDST / N DIXIE HWY	34	11
E LAS OLAS BLVD / S ANDREWS AVE	32	11
SE 17TH ST / EISENHOWER BLVD	32	11
E BROWARD BLVD / FEDERAL HWY	31	10
E LAS OLAS BLVD / FEDERAL HWY	31	10
SW 34TH ST / SW 4TH AVE	31	10
W COMMERCIAL BLVD / NE 18TH ST	31	10
DAVIE BLVD / FEDERAL HWY	30	10
SE 17TH / SE 10TH AVE	29	10
SE 30TH ST / SE 8TH AVE	27	9
NW 19TH ST / NW 21ST AVE	26	9
W BROWARD BLVD / POWERLINE RD	26	9
DAVIE BLVD / SW 4TH AVE	25	8
NW 62 NDST / NW 21ST AVE	25	8
DAVIE BLVD / S ANDREWS AVE	23	8
NE 13TH ST / NE `15TH AVE	23	8
E SUNRISE BLVD / NE 20TH AVE	22	7
NE 13TH ST / FEDERAL HWY	22	7
SE 17TH ST / S ANDREWS AVE	22	7
SW 2ND ST / S ANDREWS AVE	22	7

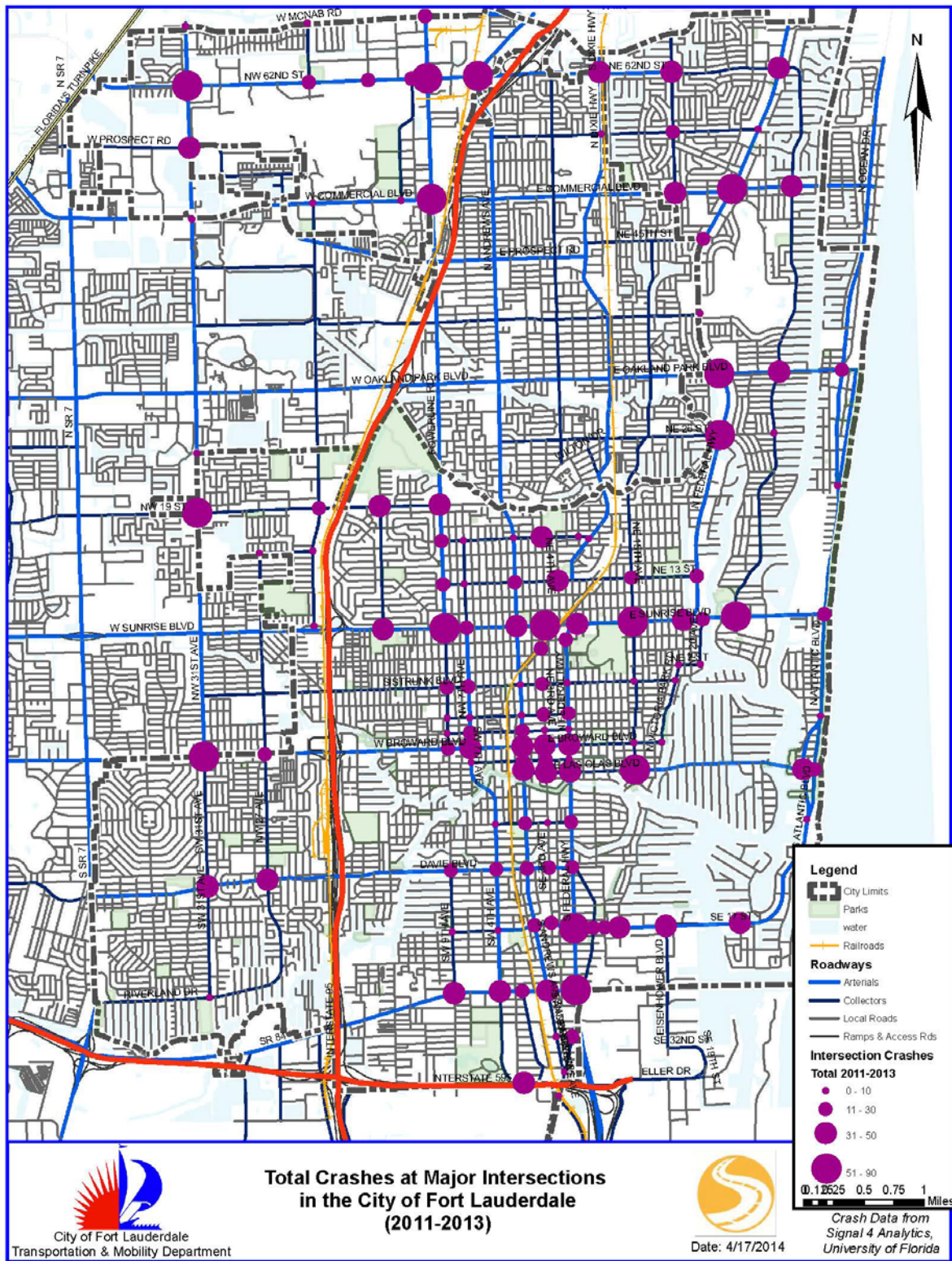
Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
W SUNRISE BLVD / NW 7TH AVE	22	7
SW 4TH ST / FEDERALE HWY	20	7
NE 45TH ST / FEDERAL HWY	19	6
NW 62NDST / NW 10TH TERR	18	6
OAKLAND PARK BLVD / S OCEAN DR	18	6
SE 17TH ST / S MIAMI RD	18	6
SW 7TH ST / FEDERAL HWY	18	6
E SUNRISE BLVD / SR A1A	17	6
NE 13TH ST / POWERLINE RD	17	6
SISTRUNK BLVD / NW 7TH AVE	17	6
NE 9TH ST / FEDERAL HWY	16	5
NW 2ND ST / NW 7TH ST	16	5
SE 17TH ST / SE 13TH AVE	16	5
SW 7TH ST / S ANDREWS AVE	16	5
W BROWARD BLVD / NW 27TH AVE	16	5
SW-SE 2ND ST / NE 3RD AVE	15	5
DAVIE BLVD / SW 9TH AVE	14	5
NE 13TH ST / ANDREWS AVE	14	5
NW 16TH ST / POWERLINE RD	14	5
SISTRUNK BLVD / NE 3RD AVE	14	5
NE FLAGLER DR/ NE 3RD AVE		

Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
	13	4
NW 62ND ST / NW 15TH AVE	13	4
SR 84 / SW 2ND AVE	13	4
NE 56TH ST / NE 18TH ST	12	4
NW 2ND ST / N ANDREWS AVE	12	4
DAVIE BLVD / SE 3RD AVE	11	4
E LAS OLAS BLVD / SR A1A	11	4
SISTRUNK BLVD / POWERLINE RD	11	4
SW 4TH ST / NE 3RD AVE	11	4
W MCNAB RD / POWERLINE DR	11	4
NW 16TH ST / N ANDREWS AVE	10	3
NW 2ND ST / FEDERAL HWY	10	3
RIVERLAND DR / SW 31ST AVE	10	3
SISTRUNK BLVD / FEDERAL HWY	10	3
SW 4TH ST / ANDREWS AVE	10	3
W BROWARD BLVD / SE 15TH AVE	10	3
NE 13TH ST / NW 7TH ST	9	3
SW 2ND ST / NW 7TH AVE	9	3
SW 7TH ST / SE 3RD AVE	9	3
W COMMERCIAL BLVD / NW 12TH AVE	9	3
W COMMERCIAL BLVD / NW 21ST AVE	9	3

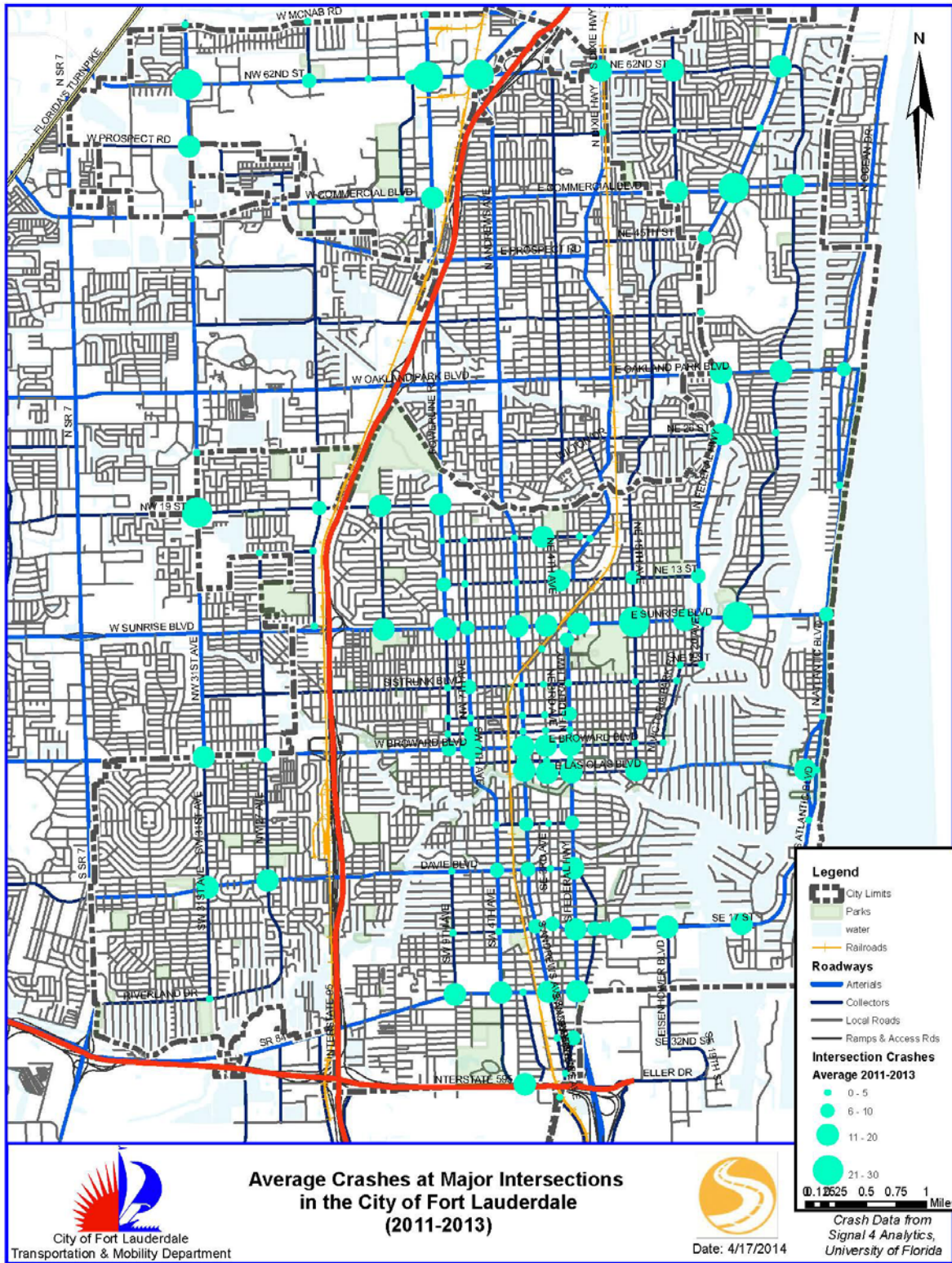
Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
SR A1A / N SEABREEZE BLVD	8	3
NE 38TH ST / FEDERAL HWY	7	2
NE 56TH ST / FEDERAL HWY	7	2
NW 16TH ST / NW 23RD AVE	7	2
SR A1A / S SEABREEZE BLVD	7	2
SW 4TH ST / NW 7TH AVE	7	2
SW 7TH ST / SW 4TH AVE	7	2
W COMMERCIAL BLVD / NW 31ST AVE	7	2
W MCNAB RD / NW 21ST AVE	7	2
W MCNAB RD / NW 31ST AVE	7	2
W SUNRISE BLVD / NW 23RD AVE	7	2
NW 2ND ST / NE 3RD AVE	6	2
SE 17TH ST / SW 4TH AVE	6	2
NW 16TH ST / NW 7TH AVE	5	2
NE 7TH ST / N VICTORIAL PARK RD	4	1
SE 2ND ST / FEDERALE HWY	4	1
SISTRUNK BLVD / ANDREWS AVE	4	1
SISTRUNK BLVD / NE 15TH AVE	4	1
SW 4TH ST / POWERLINE RD	4	1
N OCEAN DR / N ATLANTIC BLVD	3	1
NE 26TH ST / BAYVIEW DR		

Crashes at Major Intersections within the City of Fort Lauderdale		
Intersection	Total Crashes (2011-2013)	Average Crashes (2011-2013)
	3	1
NE 7TH ST / NE 20TH AVE	3	1
NW 16TH ST / DIXIE HWY	3	1
NW 2ND ST / POWERLINE RD	3	1
E BROWARD BLVD / VOCTORIA PK	2	1
NE 56TH ST / DIXIE HWY	2	1
NW 16TH ST / NW 27TH AVE	2	1
NW 16TH ST / NW 8TH AVE	2	1
OAKLAND PARK BLVD / NW 31ST AVE	2	1
S ANDREWS AVE / SE 6TH AVE	2	1
SE 17TH ST / SW 9TH AVE	1	0
SE 30TH ST / S ANDREWS AVE	1	0
E PERIMETER RD	-	-
SISTRUNK BLVD / VICTORIA PK	-	-

Appendix C



C:\Transportation\mobility\reports\crashes\crashesintheCityofFortLauderdale\CRASH_DATA_040914\crashesintheCityofFortLauderdale_4/17/2014



C:\Transportation\mobility\reports\crashes\crashesinthecityoflaserash_data_040914\regressed\crashes.mxd 4/17/2014

Appendix D

Interchange Ramp Crashes	
Interchange Ramp	Total Crashes (2011-2013)
I95 RAMP W OF I95 TO I595	42
I595WB E OF I95 TO I-95NB	20
I595WB W OF I95 FROM I95NB	12
I 95-S BROWARD BLVD E/W ON	10
I 95-S BROWARD BLVD E/W OFF	9
I 95-N BROWAD BLVD E/W OFF	8
I595EB W OF I95 TO I95NB	6
I 95-S SUNRISE BLVD E/W OFF	5
I 95-S SUNRISE BLVD E/W ON	5
I595EB E OF I95 FROM I95SB	5
I595WB E OF I95 TO I95NB	5
I 95-N SUNRISE BLVD EAST OFF	5
I 95-N SUNRISE BLVD WEST OFF	4
I 95-N DAVIE BLVD E/W OFF	4
I 95-N BROWAD BLVD E/W ON	3
I 95- S DAVIE BLVD E/W OFF	3
I 95-N SUNRISE BLVD E/W ON	2
I595EB W OF I95 TO I95NB	2
I595EB E OF I95 FROM I95NB	1
I 95-N DAVIE BLVD E/W ON	1
FS08 DRIVEWAY	0
FEDERAL HWY S TO 595	0
I 95-S CYPRESS CREEK - ON	0
595 TO FEDERAL HWY S	0
I595WB E OF I95 TO I95SB	0
I595WB E OF I95 TO I95SB	0
I595EB E OF I95 FROM I95NB	0

Appendix E

Roadway	Segment	2012 Daily LOS	2012 Peak LOS	2035 Daily LOS	2035 Peak LOS
Broward Blvd	E of I-95	F	F	F	F
Commercial Blvd	E of Dixie Hwy	F	F	F	F
Sunrise Blvd	E of I-95	F	F	F	F
NW 21 Ave	N of NW 19 St	F	F	F	F
US 1	N of SR 84	F	F	F	F
SE 17 St	E of US 1	F	F	D	D
Cypress Rd /18 Av	N of Floranada Rd	E	F	F	F
SR A1A	N of SE 17 St	D	E	F	F
NW 19 St	E of NW 31 Ave	D	D	F	F
Andrews Ave	N of Oakland Pk Blvd	D	D	F	F
Bayview Dr	N of Sunrise Blvd	D	D	F	F
NW 23 Ave	N of Sunrise Blvd	D	D	F	F
Riverland Rd	E of SR 7	D	D	F	F
SW 31 Ave	N of Davie Blvd	D	D	F	F
Andrews Ave	N of SR 84	D	D	D	E
NE 15 Ave	N of Las Olas Blvd	D	D	D	E
NW 27 Ave	N of Sunrise Blvd	D	D	D	E
SW 30 Ave	N of Griffin Rd	D	D	D	E
Oakland Pk Blvd	E of US 1	D	D	D	D
Dixie Hwy	N of Oakland Pk Blvd	D	D	D	D
NE 3 Ave	N of Broward Blvd-CBD	D	D	D	D
NW 15 Ave	N of Sunrise Blvd	D	D	D	D
NW 31 Ave	N of Broward Blvd	D	D	D	D
NW 7 Ave	N of Broward Blvd-CBD	D	D	D	D
SR 84	E of SR 7	C	D	F	F
NE 26 St	E of US 1	C	D	D	D
Broward Blvd	E of SR 7	C	C	F	F
Cypress Crk Rd/	E of SR 7	C	C	F	F

Roadway	Segment	2012 Daily LOS	2012 Peak LOS	2035 Daily LOS	2035 Peak LOS
SR 7	N of SR 84	C	C	F	F
Eisenhower Blvd	N of Spangler Rd	C	C	D	D
N Dixie Hwy	N of NE 16 St	C	C	D	D
NE 20 Ave/7 St	E of Victoria Pk Rd	C	C	D	D
SE 3 Ave	N of Davie Blvd	C	C	D	D
SW 4 Ave	N of I-595	C	C	D	D
SW 9 Ave	N of SR 84	C	C	D	D
Victoria Pk Rd	N of Broward Blvd	C	C	D	D
Davie Blvd	E of SR 7	C	C	D	C
McNab Rd	E of Powerline Rd	C	C	C	C
NE 62 St	E of I-95	C	C	C	C
Miami Rd	N of SR 84	C	C	C	C
NW 12 Ave	N of Commercial Blvd	C	C	C	C
NW 9 Ave	N of Broward Blvd	C	C	C	C
Powerline Rd	N of Sunrise Blvd	C	C	C	C
SW 2 Ave	N of I-595	C	C	C	C
SW 27 Ave	N of Davie Blvd	C	C	C	C