



Highway Factors Factual Attachment:

FDOT Correspondence

Delray Beach, Florida

HWY19FH008

(14 pages)



National Transportation Safety Board

Washington, DC 20594

Office of Highway Safety

June 23, 2019

Ms. Maria E Anaya de Yeats, E.I.
District IV Traffic Operations
Florida Department of Transportation

Dear Ms. Anaya de Yeats,

The National Transportation Safety Board is requesting the Florida Department of Transportation (FDOT) conduct the following 2 studies as it relates to State Highway 441 (US 441), also known as State Road 7, between State Road 804 (SR-804) to the north, and State Road 806 (SR-806) to the south. There are several large agricultural facilities, housing developments, recreational areas and a cemetery located within this five-mile stretch of US 441. The traffic generated from these land uses and a recent NTSB crash investigation in the 14000 block of US 441 are germane to the reason why we are making this request.

- Traffic signal warrant study that complies with the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition.
- 85th percentile speed study (the speed at which 85% of the vehicle traffic is traveling either at or below that speed or, 15% of the vehicle traffic is traveling above that speed).

The NTSB realizes that this request may take some time for FDOT to program and conduct with either internal forces or through an outside consultant. Please let us know whether FDOT can conduct the 2 studies and a time frame to complete the studies. The studies are very important to understand the safety of turning movements and through movements in this five-mile stretch of US 441. The NTSB has a strong working relationship with FDOT, and we look forward to working with you as this investigation proceeds. Thank you.

Sheryl Harley
Investigator-in-Charge
Office of Highway Safety
NTSB
490 L'Enfant Plaza S.W.
Washington, D.C. 20594
Office: [REDACTED]
Cell: [REDACTED]
Email: [REDACTED]

From: Harley Sheryl
To: Anaya de Yeats, Maria
Subject: FDOT Traffic studies request
Date: Monday, June 24, 2019 11:08:00 AM
Attachments: FDOT Traffic Study Request.docx

Good Morning,

First, I would like to thank you for your response to my inquiry regarding traffic studies conducted on US 441. The NTSB is looking into the various safety issues surrounding the crash that occurred in the 14000 block of US 441 on March 1, 2019. Attached is a request for additional information regarding the five mile stretch of US 441 between SR-806 and SR-804. As always, we look forward to working closely with your agency. Please feel free to contact me if you have any further questions.

Sheryl Harley
Investigator-in-Charge
Office of Highway Safety
NTSB
490 L'Enfant Plaza S.W.
Washington, D.C. 20594
Office: [REDACTED]
Cell: [REDACTED]
Email: [REDACTED]

From: [Rodrigues, Nadir](#)
To: [Harley Sheryl](#)
Cc: [Anaya de Yeats, Maria](#)
Subject: RE: FDOT Traffic studies request
Date: Tuesday, June 25, 2019 1:19:04 PM
Attachments: [FDOT Traffic Study Request.docx](#)
[SR 7 \(US 441\) from South of SR 806 \(Atlantic Ave\) to SR 804 \(Bovnton Beach Blvd\) 3R Safety Review.pdf](#)

Hello Sheryl;

We are trying to address your request, here attached, but have a few concerns.

1. The request does not specify which intersection (s) you wish to have studied.
2. The location of the crash that is being investigated (14000) is not at an intersection.
3. This 5 mile Section does not have any locations that will meet Signal Warrants as they are all very low volume locations, as follows:
 - Tivoli Isles Blvd (small private residential)
 - Pero Farms (full median opening)
 - Recycling Center
 - Bob West Farm Road
 - Floral Acres (full median opening)
 - Lee Road (farm road)
 - Lake Royal Road (SB directional opening)
4. This roadway segment is under construction (Resurfacing 437836-1/June 2019 to October 2020).
5. Our Safety Office here in Traffic Operations performed a Safety Review (also attached) in 2016 for the resurfacing project which included an examination of crash history. No recommendation related to installation of a Signal (s) was noted.

Please let us know how we can further assist in your investigation.

Best Regards,

Nadir Rodrigues, P.E., CPM | Florida Department of Transportation
District 4 Traffic Operations | Traffic Services Engineer

☎: [REDACTED] | ✉: [REDACTED]

From: Harley Sheryl [REDACTED]
Sent: Monday, June 24, 2019 11:08 AM
To: Anaya de Yeats, Maria <[REDACTED]>
Subject: FDOT Traffic studies request

EXTERNAL SENDER: Use caution with links and attachments.

Good Morning,

First, I would like to thank you for your response to my inquiry regarding traffic studies conducted on US 441. The NTSB is looking into the various safety issues surrounding the crash that occurred in the 14000 block of US 441 on March 1, 2019. Attached is a request for additional information regarding the five mile stretch of US 441 between SR-806 and SR-804. As always, we look forward to working closely with your agency. Please feel free to contact me if you have any further questions.

Sheryl Harley
Investigator-in-Charge
Office of Highway Safety
NTSB
490 L'Enfant Plaza S.W.
Washington, D.C. 20594
Office: [REDACTED]
Cell: [REDACTED]
Email: [REDACTED]

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Harley Sheryl

From: Rodrigues, Nadir <[REDACTED]>
Sent: Wednesday, June 26, 2019 1:23 PM
To: Harley Sheryl
Cc: Anaya de Yeats, Maria
Subject: RE: FDOT Traffic studies request

You are very welcome!

Let us know how we can further assist.

Nadir Rodrigues, P.E., CPM | Florida Department of Transportation
District 4 Traffic Operations | Traffic Services Engineer

📞: [REDACTED] ✉: [REDACTED]

From: Harley Sheryl [REDACTED]
Sent: Wednesday, June 26, 2019 12:14 PM
To: Rodrigues, Nadir <[REDACTED]>
Cc: Anaya de Yeats, Maria <[REDACTED]>
Subject: RE: FDOT Traffic studies request

Good Afternoon,

Thank you for getting back to me so quickly. As part of our investigation into the fatal crash that occurred at the entrance to Pero Farms; we received information about requests for additional traffic control devices (traffic signals) for that location, especially to mitigate safety issues caused by large trucks turning into or crossing the highway. During our on-scene investigation, we went out to the location and observed the traffic flow. We observed a significant volume of vehicle traffic in and out of the Pero Farms agricultural facility to include trucks, automobiles, and larger carpool type vans bringing workers into and out of the facility.

I appreciate you providing the 3R Safety Review and it has been forwarded to our Highway Engineer for review. If we have any other questions, I will reach out to you. Thank you again for all your help.

Best Regards,

Sheryl

From: Rodrigues, Nadir <[REDACTED]>
Sent: Tuesday, June 25, 2019 1:17 PM
To: Harley Sheryl <[REDACTED]>
Cc: Anaya de Yeats, Maria <[REDACTED]>
Subject: RE: FDOT Traffic studies request

Hello Sheryl;

We are trying to address your request, here attached, but have a few concerns.

- 1) The request does not specify which intersection (s) you wish to have studied.
- 2) The location of the crash that is being investigated (14000) is not at an intersection.

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Harley Sheryl

From: Rodrigues, Nadir <[REDACTED]>
Sent: Thursday, September 19, 2019 9:39 AM
To: Harley Sheryl
Subject: RE: Delray Beach Highway Factual Report

Hello Sheryl!

The Florida Department of Transportation District 4 Traffic Operations office would like to review the report, as offered, under the conditions as explained in your email.

Thank you,

Nadir Rodrigues, P.E., CPM | Florida Department of Transportation
District 4 Traffic Operations | Traffic Services Engineer

: [REDACTED] : [REDACTED]

From: Harley Sheryl [mailto:[REDACTED]]
Sent: Thursday, September 19, 2019 9:19 AM
To: Rodrigues, Nadir <[REDACTED]>
Subject: Delray Beach Highway Factual Report

EXTERNAL SENDER: Use caution with links and attachments.

Good Morning,

As you know, the National Transportation Safety Board conducted an investigation into the crash that occurred on Friday, March 1, 2019 in the 14,000 block of US 441 (SR 7) in Delray Beach, Palm Beach County, Florida involving a truck tractor in combination with a semitrailer and a electric-powered vehicle (Tesla Model 3). As part of the investigation, we examined the roadway in terms of the appropriateness of the use of the autopilot feature on the vehicle and in terms of the roadway environment. Usually, we invite various agencies to be a party to the investigation which allows them access to the information gathered during the investigation and to view all factual reports. The Florida Department of Transportation is not a party to this investigation, though your agency has cooperated fully with us. We have drafted a Highway Factual Report of the investigation and would like to invite FDOT, as the roadway expert, to review the document for accuracy and provide comments or potential revisions to the text. Since the investigation is still ongoing and this document is only a draft and has not been finalized, it is not available for dissemination outside of the parties directly involved or for public release. If FDOT is willing to review the document under these conditions, we would certainly welcome a chance to have your agency review the report. Please feel free to contact me if you have any further questions. Thank you.

Sheryl Harley
Investigator-in-Charge
Office of Highway Safety
NTSB
490 L'Enfant Plaza S.W.
Washington, D.C. 20594
Office: [REDACTED]

Harley Sheryl

From: Rodrigues, Nadir <[REDACTED]>
Sent: Monday, October 7, 2019 4:22 PM
To: Anaya de Yeats, Maria
Cc: Harley Sheryl
Subject: FW: US 441 Corridor Crash Reports
Attachments: US 441 non-intersection crash data page 2.docx; US 441 non-intersection crash data page 1.docx

Maria Elena,

Can you please obtain these crash reports and share with Sheryl?

Thank you,

Nadir Rodrigues, P.E., CPM | Florida Department of Transportation
District 4 Traffic Operations | Traffic Services Engineer

: [REDACTED] | : [REDACTED]

From: Harley Sheryl [mailto:[REDACTED]]
Sent: Monday, October 7, 2019 12:16 PM
To: Rodrigues, Nadir <[REDACTED]>
Subject: US 441 Corridor Crash Reports

EXTERNAL SENDER: Use caution with links and attachments.

Good Afternoon,

To complete our investigation into the crash that occurred on March 1, 2019 in front of 14095 US 441 in Delray Beach, Florida; I am trying to obtain a copy of the crash reports listed in FDOT's 3R Safety Review Report, dated August 2016. Specifically, I am looking for the reports of the 34 crashes that occurred **within the corridor** and **not those crashes that occurred at the intersections**. Attached is copy of the Crash Data from the Safety Review Report, Appendix B. The intersection collisions have been redacted out. We are only interested in the 34 remaining crash reports. Thank you.

Sheryl

Sheryl Harley
Investigator-in-Charge
Office of Highway Safety
NTSB
490 L'Enfant Plaza S.W.
Washington, D.C. 20594
Office: [REDACTED]
Cell: [REDACTED]
Email: [REDACTED]

#	HSNY Report Number	Crash Date	Crash Time	Crash Type	Fatalities	Injuries	Light Condition	Road Surf Cond	Crashes By Location
77	81368701	6/23/2013	1:40 PM	Angle	0	0	Daylight	Dry	10.0 to 10.5
78	81368777	6/27/2013	11:45 AM	Angle	0	3	Daylight	Wet	8.0 to 8.5
81	81369647	7/16/2013	4:14 PM	Backing	0	0	Daylight	Dry	12.0 to 12.5
89	81372863	9/3/2013	10:28 AM	Angle	0	1	Daylight	Dry	11.5 to 12.0
90	81373052	9/3/2013	7:30 AM	Sideswipe, same direction	0	0	Daylight	Dry	11.0 to 11.5
92	81374304	9/24/2013	8:57 AM	Front to Rear (Rear End)	0	0	Daylight	Wet	10.5 to 11.0
93	81374297	9/25/2013	11:48 AM	Front to Rear (Rear End)	0	0	Daylight	Dry	13.0 to 13.5
94	81364871	10/7/2013	2:41 AM	Bicycle	0	1	Dark - Not Lighted	Dry	12.0 to 12.5
96	81375347	10/8/2013	4:00 PM	Other	0	0	Daylight	Dry	10.5 to 11.0
110	82008304	1/29/2014	7:00 AM	Front to Rear (Rear End)	0	1	Daylight	Dry	10.5 to 11.0
117	81387381	5/22/2014	6:20 PM	Sideswipe, same direction	0	4	Daylight	Dry	12.0 to 12.5
120	81394506	6/19/2014	2:32 PM	Front to Rear (Rear End)	0	2	Daylight	Wet	11.5 to 12.0
122	81391371	6/25/2014	11:30 PM	Fixed Object	0	0	Unknown	Unknown	11.0 to 11.5
123	81394613	6/28/2014	1:50 PM	Backing	0	0	Dark - Lighted	Dry	10.5 to 11.0
128	81396303	8/2/2014	1:30 PM	Other	0	0	Daylight	Wet	10.0 to 10.5
131	81398334	9/1/2014	1:55 PM	Fixed Object	0	0	Daylight	Dry	10.5 to 11.0
133	81396740	9/24/2014	10:59 AM	Front to Rear (Rear End)	0	0	Daylight	Dry	12.0 to 12.5
146	8139781	12/26/2014	12:17 PM	Front to Rear (Rear End)	0	0	Daylight	Dry	9.5 to 10.0

From: [Plass, Mark](#)
To: [Harley Sheryl](#)
Subject: FW: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information - Additional Information on Maintenance and Minor Roadway Work in Last Five Years
Date: Thursday, March 7, 2019 11:39:32 AM
Attachments: [93004000-93030000-93200000_PB-14-06-NR.PDF](#)
[93210000_RP_MCM_15_73.pdf](#)
[93210000_RP_MCM_15_79.pdf](#)

Please see attachments.

From: Rodrigues, Nadir
Sent: Wednesday, March 6, 2019 8:03 AM
To: Plass, Mark <[REDACTED]>
Subject: FW: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information

Mark,

These are all maintenance and push button projects we have found, for the last 5 years. Mainly for an addition of a WBRTL on Boynton Beach Blvd (SR-804) at intersection with SR-7. The Work Document attached was for refurbishing of Bike Lanes.

There is an upcoming resurfacing project along SR-7 from Atlantic Ave (SR-806) to Boynton Beach Blvd (SR-804) that was just let in February 2019 – FM 437836-1

Thank you,

Nadir Rodrigues, P.E., CPM | Florida Department of Transportation
District 4 Traffic Operations | Traffic Services Engineer

: [REDACTED] | : [REDACTED]

Mark Plass, P.E.
District 4 (Ft. Lauderdale) Traffic Operations Engineer
Florida Department of Transportation

[REDACTED]
[REDACTED]

From: [Plass, Mark](#)
To: [Harley, Shari](#)
Cc: [Rodrigues, Nadir](#)
Subject: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information - Maintenance and Roadway Improvements Made in Last 5 Years
Date: Thursday, March 7, 2019 11:32:07 AM

Please see emails below. Roadway plans for the milling and resurfacing project are forthcoming.

Mark Plass, P.E.
District 4 (Fl. Lauderdale) Traffic Operations Engineer
Florida Department of Transportation
[REDACTED]

From: Straub, Melanie
Sent: Wednesday, March 6, 2019 4:14 PM
To: Plass, Mark <[REDACTED]>
Subject: RE: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information

It was primarily a milling and resurfacing project. We also added the green bike lanes at the conflict points.

Project Info (432349-1) (Click to collapse)

Item Segment (Click to collapse)

District: District 4	Version: G1	P&EE Project Manager: Judy Jimenez
--------------------------------	-----------------------	--

Item Segment Description: SR-7/US-441 FROM 0.7 MILE N. OF CLINT MOORE RD TO WEST ATLANTIC AVE

Approved Scope (Click to collapse)

Current Approved Project Scope (Click to collapse)

Scope Definition: Mill and resurface 4-lane divided rural section. Widen paved shoulders to provide buffered bike lanes. Add sidewalk on east side of road

Scope Elements:

ADA	Upgrade curb ramps to current standards. New sidewalk to be constructed on northbound side beginning at Clint Moore Rd (south of project limit)
Drainage	regrading of swales needed for entire project limits due to sidewalk construction
Lighting	Replace light poles impacted due to swale regrading
Signalization	add backplates and upgrade pedestrian signal features
Signage and Marking	Signs to be replaced as needed or justified. Pavement markings to be replaced due to milling and resurfacing and upgraded to current standards.
Typical Section	Four Lane divided section - 4 X 12' travel lanes Mill and Resurface roadway/widen paved portion of outside shoulder to provide 7' paved and 3' unpaved Upgrade guardrail end anchorages and replace guardrail where impacted by regrading

Sincerely,
Melanie A. Straub, P.E.

From: Plass, Mark
Sent: Wednesday, March 6, 2019 4:10 PM
To: Straub, Melanie <[REDACTED]>
Subject: RE: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information

Thank you. Can you provide a description of the work done through the second referenced construction project?

Mark Plass, P.E.
District 4 (Fl. Lauderdale) Traffic Operations Engineer
Florida Department of Transportation
[REDACTED]

From: Straub, Melanie
Sent: Wednesday, March 6, 2019 4:09 PM
To: Plass, Mark <[REDACTED]>; Garcia, Rafael <[REDACTED]>
Cc: Webb, Howard <[REDACTED]>; Xie, Yujing <[REDACTED]>; Rodrigues, Nadir <[REDACTED]>; Allan, Morteza <[REDACTED]>; Caballero, Eduardo <[REDACTED]>; Schwartz, Kara <[REDACTED]>; Marzi, Joseph <[REDACTED]>; Cables, Rob <[REDACTED]>
Subject: RE: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information

Mark: The following response is related to the highlighted bullet below.

Maintenance: The items that Maintenance report are routine maintenance in areas, such as, mowing, litter removal, thermo, RPM's, sweeping, sign repair. These would not be considered roadway improvements.

Construction:

- Push Button work document adding a right turn lane from west bound SR 804 (Boynton Beach Blvd) to northbound SR 7. This was done under Financial Project No. 229833-8-52-01. The work started in September of 2016 and was completed in January of 2017.
- Financial Project No. 432349-1-52-01 /E4R89 was at the southern end of the referenced limits. The project limits were from .7 miles north of Clint Moore Rd., to SR 806 (West Atlantic Ave.). The project limits ended on the north side of the intersection. The work started in October of 2016 and was completed in February of 2018.

Please let me know if there is any additional information that you need from us.

Sincerely,
Melanie A. Straub, P.E.

From: Plass, Mark
Sent: Tuesday, March 5, 2019 1:33 PM
To: Garcia, Rafael <[REDACTED]>
Cc: Webb, Howard <[REDACTED]>; Xie, Yujing <[REDACTED]>; Rodrigues, Nadir <[REDACTED]>; Allan, Morteza <[REDACTED]>; Caballero, Eduardo <[REDACTED]>; Schwartz, Kara <[REDACTED]>; Straub, Melanie <[REDACTED]>
Subject: National Transportation Safety Board (NTSB) Crash Investigation - Request for Information

Importance: High

I just spoke with NTSB Investigator Cheryl Harley and was advised the NTSB is investigating a recent crash on State Road 7 in Palm Beach County involving a Tesla. The NTSB will be formally (via email to me) requesting the following information for the section of **State Road 7 between State Road 804 and State Road 806**:

- Crash history for the most recent 5 year period
- Plans depicting the current roadway design
- **A summary of any maintenance and roadway improvements made during the most recent 5 year period**
- Average daily traffic for each of the most recent 5 years
- Average daily truck traffic for each of the most recent 5 years

CC's: please assemble this information and email it to me. I will forward it to the investigator.

Mark Plass, P.E.
District 4 (Ft. Lauderdale) Traffic Operations Engineer
Florida Department of Transportation
[REDACTED]