

# TRAFFIC IMPACT STUDY

## Variety Retail Store

### St. Augustine, Florida

February 5, 2020

*prepared for:*

ST. AUGUSTINE PUBLIC WORKS  
& FDOT-D2 TRAFFIC OPERATIONS

*submitted on behalf of:*

Concept Development, Inc.

*prepared by:*

MPH Transportation Planning, Inc. & Pennoni Inc.

QA/QC Engineer:

*Angela Garland*

Angela Garland, P.E., P.T.O.E.

FLA License # 55387

Signature of Preparer:

*Michael Hemmen*

Michael Hemmen, AICP

Certificate # 012190

**PROFESSIONAL ENGINEER ENDORSEMENT**

I hereby certify that I am a Registered Professional Engineer in the State of Florida and practicing with Pennoni. Pennoni is authorized via Registry No: 7819 to operate as an Engineering Business by the Florida State Board of Professional Engineers, State of Florida Department of Professional Regulation. I have prepared or supervised the preparation of the evaluation, findings, conclusions, recommendations, or professional opinions/advice contained in this document. My endorsement constitutes my approval of these items.

**PROJECT:** SR 16 Variety Retail Store

**LOCATION:** St Augustine, Florida

**CLIENT:** Concept Development, Inc

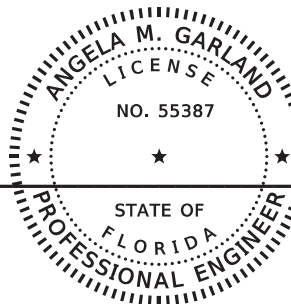
The results contained in this report were developed using procedures and references standard to the transportation engineering practice. These references and procedures were applied using professional judgment and experience.

**Name:** Angela M Garland, P.E., PTOE, RSP

**P.E. No.:** 55387

**Date:** February 6, 2020

Signature \_\_\_\_\_



Angela M Garland  
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## EXECUTIVE SUMMARY

The results of the Traffic Impact Study conducted for the SR 16 Discount Variety Retail Store in St. Augustine, Florida provides the following conclusions. The actual net new trip assessment for the proposed new 9,187 sq. ft. variety store is **484 daily trips** and **52 p.m. peak hour trips**. The traffic generated by this proposed project will be dispersed on the area roadway network so that the maximum peak hour directional volume on any roadway segment of **SR 16** will be **30 trips**. The project is a new commercial development on a vacant parcel on the south side of SR 16. The site plan indicates only one driveway located on SR 16 aligned with an existing median opening.

The project is located within unincorporated St. Johns County, Florida on SR 16 under the jurisdiction of FDOT-D2 and St. Augustine. This study utilized data collected on site at the SR 16 median opening and from the FDOT traffic database. A traffic study methodology was discussed and approved by FDOT-D2 Traffic Operations. A critical component of the study is intersection and turn lane evaluations on SR 16. FDOT-D2 has stipulated that the existing full median opening must be modified to a directional opening with left turn lanes provided.

The existing SR 16 roadway segment is operating below the current level of service (LOS) standards. This is a result of the current roadway functional classification as a transitioning area with a LOS C standard. The other SR 16 roadway segments between Interstate 95 and US 1 are all classified as urbanized with a LOS D standard. The adjacent segment has less development (commercial and residential) than the first segment east of I-95 but a higher classification. When this segment is re-classified the change in LOS standard to D will adjust the LOS maximum service volume (capacity) such that this roadway segment will operate within LOS standards.

FDOT has mandated that the SR 16 full median opening opposite the proposed project driveway be converted to a directional opening. This would bring the median spacing on SR 16 between Inman and Four Mile Roads closer to current spacing standards.



## INTRODUCTION

MPH Transportation Planning, Inc. (MPH) is assisting Concept Development, Inc. with transportation impacts for the proposed new 9,187 sq. ft. discount variety store on SR 16 in St. John County, Florida. This site occupies a vacant parcel on the south side of SR 16. Normally this project review is Class B connection permit and does not require a formal traffic study. However, since FDOT-D2 has stipulated that a median modification is required for approval a full traffic was stipulated as a condition of approval. The study methodology was discussed with FDOT-D2 Traffic Operations staff to determine the acceptable trip generation, distribution and analysis procedures for this project. It was determined that the p.m. peak hour trip impacts were the determining criteria for assessing driveway and median opening impacts.

**Figure 1 - Project Location Map with Existing Daily Traffic** provides location information. Available traffic data from FDOT was reviewed. MPH staff collected PM peak hour traffic data at the SR 16 median opening. This data was used to establish directional traffic volumes for the project and used in turn lane analysis. Access to the project site will be one new driveway connection to SR 16.

This study contains an assessment of the proposed development utilizing trip rates from the Institute of Transportation Engineers (ITE) Trip Generation 10<sup>th</sup> Edition to determine daily and p.m. peak hour project traffic for the new land use. Trip generation gross volumes will be reduced by the applicable pass-by rates per the ITE Handbook. Project trip distributions are based on data collected for adjacent street traffic and locations of interacting land uses within the project's impact area. Utilizing this information, an assignment of p.m. peak hour project trips onto the local area roadway network are made to the adjacent SR 16 roadway segment.

Gross project trip volumes will be used in assessing driveway/intersection traffic operations. Pass-by reductions are used primarily when determining transportation concurrency assessments while the gross driveway trip impacts are used for analyzing intersection level of service and turn lane requirements.



## EXISTING CONDITIONS

Roadway traffic volumes and peak hour directional traffic data were reviewed for this project at locations indicated on **Figure 1 – Project Location and Existing Traffic Data**. Roadway segment daily volumes on SR 16 are 36,500 vehicles. The immediate roadway network, as depicted in Figure 1, consists of SR 16 to the north and Inman Road a half mile to the west of the project parcel.

SR 16 is a four-lane divided rural principal arterial roadway with a posted speed of 55 mph in the area of the project. It has no sidewalks or bike lanes on either side of the highway. There is no regularly scheduled transit service in the area. Traffic signal control on SR 16 is at Inman Road, about 0.6 miles to the west; and Four Mile Rd., 1.2 miles to the east.

**Figure 1** also displays the critical directional traffic volumes during the p.m. peak hour at the existing median opening. These volumes are used later with new project traffic to analyze intersection impacts and turn lane requirements at the project driveway.

The SR 16 existing full median opening has minimal use as there are no direct commercial driveways aligned with it. It also does not have any existing turn lanes for deceleration prior to entering the median opening. FDOT has requested a median opening analysis on this SR 16 roadway segment between the two traffic signal controlled intersections as it does not meet current roadway median access standards.

## TRIP GENERATION

The Institute of Transportation Engineers (ITE) Trip Generation 10<sup>th</sup> Edition was used to calculate project trip estimates for the new land use for Daily & PM peak hours. Trip information is summarized in **Table 1 –Trip Generation** below.

**TABLE 1: Trip Generation**  
**Variety Retail\_9,187 SF Store**  
**St. Augustine, Florida**

Land Use						Distribution %		Trips		0%	17%	
Description	ITE	Period	ITE rate	Unit*	Trips	Enter	Exit	In	Out	Int. Cap.	Pass By	Net Trips
Variety Store	814	Daily	(T) = 63.47 (X)	9.187	583	50%	50%	292	292	0	99	484
Variety Store	814	AM	(T) = 3.18 (X)	9.187	29	57%	43%	17	12	0	5	24
Variety Store	814	PM	(T) = 6.84 (X)	9.187	63	52%	48%	33	30	0	11	52

*Source: ITE 10th Edition of Trip Generation; Units: ksf = 1,000 square feet; Pass-by Rate from ITE Handbook*

This data is used to develop external distribution of project trips onto the adjacent roadway network from the project site as discussed in the next section of this report.

## TRIP DISTRIBUTION

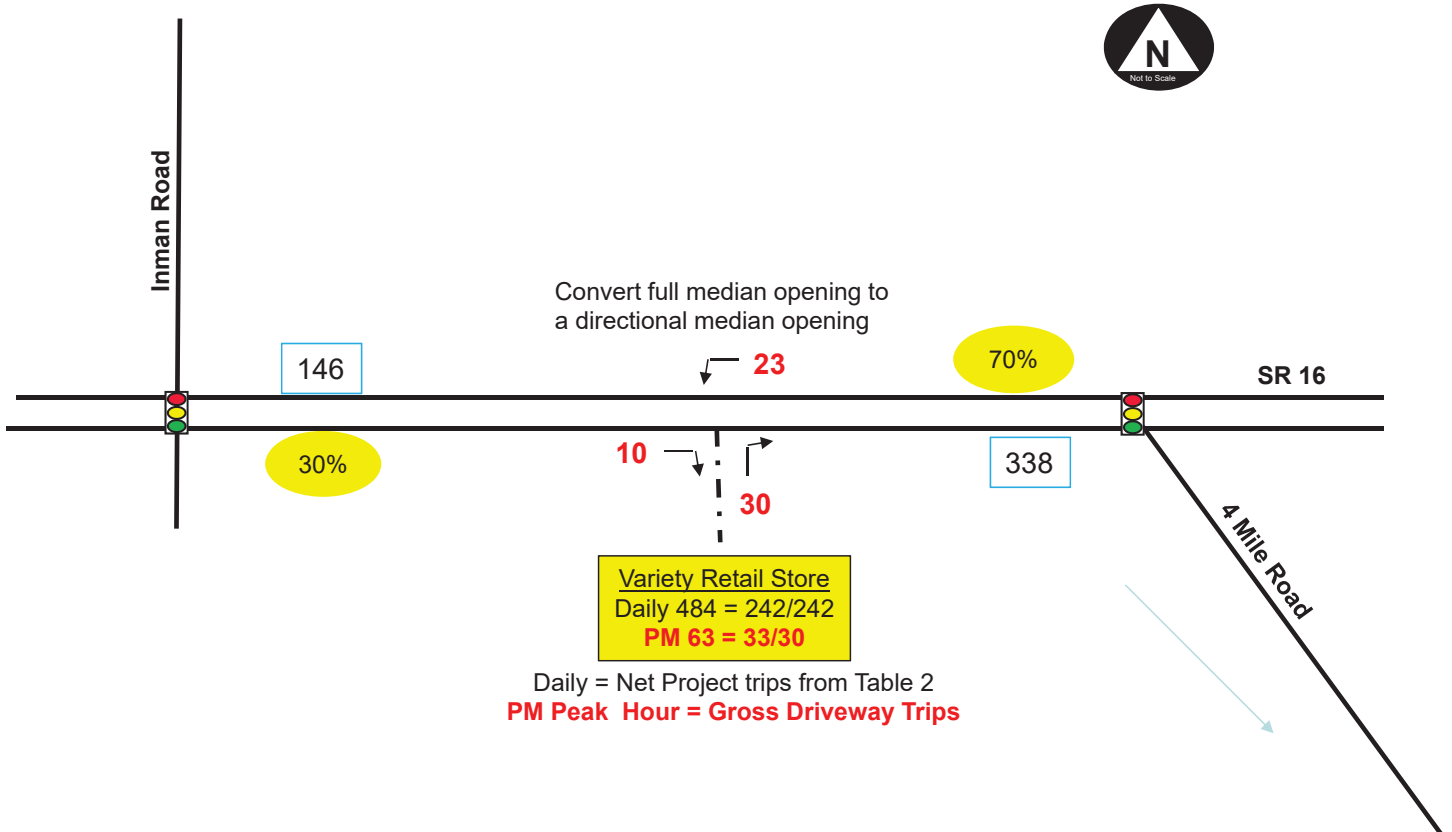
The distribution of project trips on the roadway is a manual assignment derived from the PM Peak period traffic data collected on the adjacent roadways and review of existing locations of interacting land-uses. Trip generation numbers from Table 1 are factored by these nominal distribution criteria to develop trip impact estimates for the adjacent roadway segments to the project site. The results of these calculations are displayed in **Figure 2–Project Traffic Impacts** and in **Table 2 – Project Trip Distribution** below.

**TABLE 2: Project Trip Distribution**  
**Variety Retail\_9,187 SF Store**  
**St. Augustine, Florida**

Net New Daily Project Trips		Enter	242	Exit	242	2-Way
Roadway	Segment	%	Trips	%	Trips	Total
SR 16	East of Project	70%	169	70%	169	338
	West of Project	30%	73	30%	73	146
	Total	100%	242	100%	242	484
AM Peak Project Trip Assignment		Enter	17	Exit	12	2-Way
Roadway	Segment	%	Trips	%	Trips	Total
SR 16	East of Project	70%	9	70%	9	18
	West of Project	30%	5	30%	4	9
	Total	100%	14	100%	13	27
PM Peak Project Trip Assignment		Enter	33	Exit	30	2-Way
Roadway	Segment	%	Trips	%	Trips	Total
SR 16	East of Project	70%	23	70%	21	44
	West of Project	30%	10	30%	9	19
	Total	100%	33	100%	30	63

Notes: Project Distributions are estimated from adjacent street traffic & interacting land uses  
 Daily Project Trips represent the Net New Trip Impacts from Table 1 .  
 AM/PM Peak Trips are the gross trip estimates used for driveway & turn lane analysis.

Peak-hour trip impacts provide driveway detail for intersection and turn lane analysis for site plan review. Driveway evaluation consists of the gross trips entering or exiting the site. The highest directional new project traffic impact during the peak hour would be: **30** vehicles eastbound on SR 16 exiting the project site in the PM peak hour. This assignment assumes that the existing SR 16 full median opening opposite the project driveway will be modified to prohibit left turns from the project onto SR 16.



**Variety Retail – St. Augustine, FL  
 PM Peak Hour Impacts**



## ROADWAY LEVEL OF SERVICE (LOS) ANALYSIS

Data for St. John County roadway level of service (LOS) for SR 16 was extracted from the FDOT-D2 LOS Report and used FDOT Quality/Level of Service (Q/LOS) tables for roadway segments within transitioning urban areas. The FDOT 2018 traffic count on SR 16 had a p.m. peak hour volume of 3,285 vehicles. The data collected by MPH staff on January 29, 2020 had a p.m. peak hour volume of 3,177 vehicles. The FDOT count location is closer to I-95. The higher of the two volumes is used in the LOS analysis below. **Table 3: Roadway Level of Service** provides the most recent available data for roadway segments adjacent to the project site.

**TABLE 3: Roadway Level of Service (LOS)**  
**Variety Retail\_9,187 SF Store**

St. Augustine, Florida

Roadway	Segment #/Description	Period	Capacity	Traffic	Res'vd.	Project	V/C	LOS
SR 16	I-95 to Four Mile Rd.	PM Peak	3,060	3,285	-	44	1.09	F

Source:

FDOT-D2 LOS Report Capacity = peak hour two-way Capacity = LOS C Std.

Existing Traffic Volumes = PM peak volume from FDOT Count Station 780006 (2018).

Project trips represent PM Peak Hour traffic from Figure 2

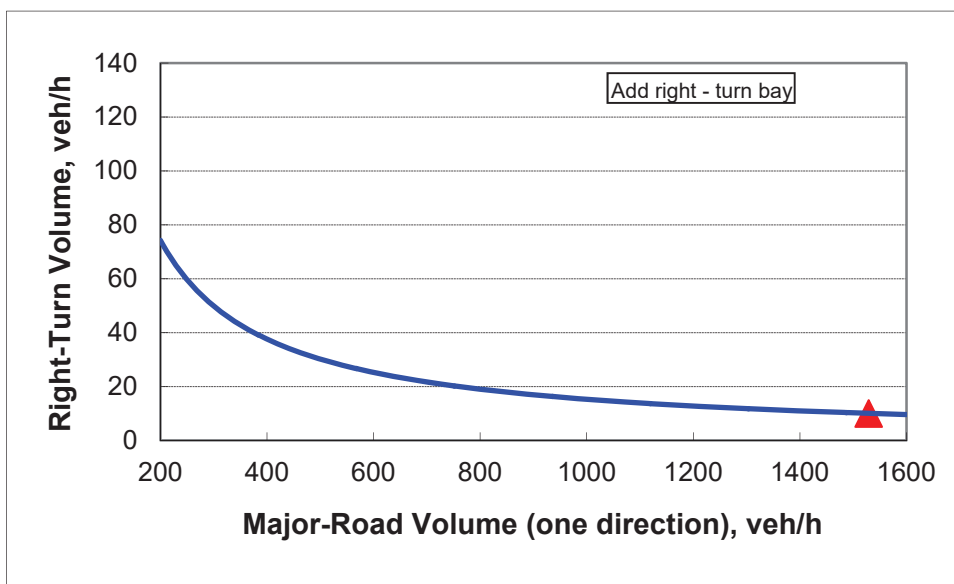
As indicated in the table above, no reserved trips are recorded for this SR 16 roadway segment. There are no known development projects that would increase traffic on the roadway segments adjacent to the project site within the next year. This analysis uses the two-way p.m. peak hour traffic count collected in October 2018. The resulting LOS standard is currently above the capacity associated with this roadway. The explanation for this assessment is based on the functional classification of roadway segments on SR 16 between Interstate 95 and US 1. This five (5) mile stretch of SR 16 connects Interstate 95 traffic with the central business district of historical St. Augustine. The first segment is classified as transitioning while the other 3 segments are classified as urbanized. The urbanized classification carries a higher LOS D threshold of 3,580 peak hour trips while the transitioning classification assigns a LOS C threshold of 3,060 peak hour volumes for the same 4-lane divided facility. Functional classifications are reviewed every 5 years. This segment should be reclassified on the next review cycle as it has more adjacent roadway development (commercial & residential) than the adjacent segment to the east.

## TURN LANE ANALYSIS

FDOT required that the existing SR 16 full median opening be modified to a directional median opening with left turn lanes provided for both the eastbound and westbound approaches. These modifications have been included in the revised site plan. FDOT also required that the driveway approach be analyzed for a right turn using the criteria in the National Cooperative Highway Research Program (NCHRP) Report 457: Evaluating Intersection Improvements.

The highest peak hour traffic volumes from the field data collection in January 2020 were analyzed using this criteria with the entering right turn volumes. The existing peak hour movements in **Figure 1 – Existing Traffic Data** were added to the peak hour project estimates displayed in **Figure 2 – Project Traffic Impacts** to establish future existing plus project conditions (E+P).

Input Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	1529
Right-turn volume, veh/h:	10
Output Variable	Value
Limiting right-turn volume, veh/h:	10
<b>Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	





## MEDIAN SPACING ANALYSIS

FDOT-D2 requested that a median spacing analysis be provided for this segment of SR 16. The roadway was constructed long before the current access management criteria was adopted in 1988. It is always a function of transportation roadway design to improve safety and traffic operations when possible. **Figure 3 – Median Openings** provides the location and distance between median openings on SR 16 between the two traffic signal controlled intersections at Inman Road and Four Mile Road.

This SR 16 roadway segment is 1.8 miles in length and has eight (8) full median openings between the two signalized intersections. As illustrated on Figure 3 the spacing between these median openings varies from 1,505 feet to 655 feet. All but one is opposite an existing intersecting roadway. That one median opening is where the proposed project driveway is aligned.

FDOT Rule 14-97 provides the criteria for Access Management Standards. Access Class 5 roadways have restrictive medians, defined as grass or raised pavement separators between directional traffic lanes, with moderate to extensive development adjacent to the roadway. With a posted speed of 55 mph full medians should be located 2,640 feet apart with directional median openings at 660 foot intervals. As illustrated on Figure 3, the existing median opening spacing falls far short of this criteria.

It is stipulated within the standards under 14-97.003 (3) (b) “Existing Lawful connections, median openings, and signals are not required to meet the access management standards....will generally be allowed to remain in place, but shall be brought into conformance when significant change occurs or changes to the roadway design allow.”

Modifying the existing full median opening in front of the project site to a directional opening would bring this portion of the roadway segment closer to compliance with the current spacing standards. The developer has agreed to make this median modification as required by the Department for driveway connection approval.



## **CONCLUSIONS and RECOMMENDATIONS**

Based on the data and analysis provided in the previous sections of this report the following conclusions on traffic operations and recommendations are provided below.

### **Conclusions:**

1. The proposed SR 16 discount variety store within St. Johns County is estimated to generate 484 new daily trip impacts. The PM Peak hour will have approximately 63 trips (52 net new) impacting SR 16.
2. This segment of SR 16 currently fails to meet LOS standards (LOS C) as it is classified as transitioning opposed to the adjacent segments that are classified as urban. When this roadway classification is updated consistent with recent development patterns and extension of the urban boundary to Interstate 95 the new classification will have a higher LOS D threshold with a significant increase to its service volume that will bring it back to acceptable levels.
3. The proposed project driveway is located on SR 16 opposite an existing full median opening. This median will be modified to a restrictive median opening at developer expense as directed by FDOT.
4. Turn lane analysis indicates that a right turn lane into the project is NOT required due to the low entry volume during the peak hour. FDOT has suggested a 50 foot radii turning into the site.

### **Recommendations:**

1. Approve the project driveway connection as provided in the project site plan submitted by Concept Development, Inc. with the modifications to the median opening.

## **APPENDICES: Correspondence and Documentation**

A: Correspondence

B: Traffic Count Summaries

***Appendix A: Correspondence***

Al Tilly <[atilly@conceptcompanies.net](mailto:atilly@conceptcompanies.net)>

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**RE: Concept Companies / 1935 SR 16 Pre-App: Follow Up**

1 message

**Cavin, Tom** <[Tom.Cavin@dot.state.fl.us](mailto:Tom.Cavin@dot.state.fl.us)>

Tue, Jul 16, 2019 at 10:46 AM

To: Michael Hoffman <[michael@conceptcompanies.net](mailto:michael@conceptcompanies.net)>Cc: "Fisher, Duane" <[Duane.Fisher@dot.state.fl.us](mailto:Duane.Fisher@dot.state.fl.us)>, "Senter, Chris" <[Chris.Senter@dot.state.fl.us](mailto:Chris.Senter@dot.state.fl.us)>, "Williams Jr, Charles" <[Charles.WilliamsJr@dot.state.fl.us](mailto:Charles.WilliamsJr@dot.state.fl.us)>, "Dycus, Douglas" <[Douglas.Dycus@dot.state.fl.us](mailto:Douglas.Dycus@dot.state.fl.us)>, "Pogue, Christopher" <[Christopher.Pogue@dot.state.fl.us](mailto:Christopher.Pogue@dot.state.fl.us)>, "Devenny, Donald" <[Donald.Devenny@dot.state.fl.us](mailto:Donald.Devenny@dot.state.fl.us)>, "ddsouza@sjcfl.us" <[ddsouza@sjcfl.us](mailto:ddsouza@sjcfl.us)>, Matt Cason <[matt@conceptcompanies.net](mailto:matt@conceptcompanies.net)>, Al Tilly <[atilly@conceptcompanies.net](mailto:atilly@conceptcompanies.net)>, "McCraw, Clint" <[Clint.McCraw@dot.state.fl.us](mailto:Clint.McCraw@dot.state.fl.us)>

Mike,

Yes, the proposed design from this email is what will be required to meet FAC spacing requirements. In the past, public hearings have been held for median modification changes. There is not much difference between the 2.

As far as the truck turning path, Please show a way (radii/taper/drive/ parking lot setback/etc) to keep from having the east bound truck from swinging wide into the adjacent lane.

Tom Cavin, P.E.

Jacksonville Studies Engineer

Florida Department of Transportation  
2198 Edison Avenue, MS2815[Tom.cavin@dot.state.fl.us](mailto:Tom.cavin@dot.state.fl.us)

904-360-5641

**From:** Michael Hoffman <[michael@conceptcompanies.net](mailto:michael@conceptcompanies.net)>**Sent:** Tuesday, July 16, 2019 10:00 AM**To:** Cavin, Tom <[Tom.Cavin@dot.state.fl.us](mailto:Tom.Cavin@dot.state.fl.us)>**Cc:** Fisher, Duane <[Duane.Fisher@dot.state.fl.us](mailto:Duane.Fisher@dot.state.fl.us)>; Senter, Chris <[Chris.Senter@dot.state.fl.us](mailto:Chris.Senter@dot.state.fl.us)>; Williams Jr, Charles <[Charles.WilliamsJr@dot.state.fl.us](mailto:Charles.WilliamsJr@dot.state.fl.us)>; Dycus, Douglas <[Douglas.Dycus@dot.state.fl.us](mailto:Douglas.Dycus@dot.state.fl.us)>; Pogue, Christopher <[Christopher.Pogue@dot.state.fl.us](mailto:Christopher.Pogue@dot.state.fl.us)>; Devenny, Donald <[Donald.Devenny@dot.state.fl.us](mailto:Donald.Devenny@dot.state.fl.us)>; ddsouza@sjcfl.us; Matt Cason <[matt@conceptcompanies.net](mailto:matt@conceptcompanies.net)>; Al Tilly <[atilly@conceptcompanies.net](mailto:atilly@conceptcompanies.net)>; McCraw, Clint <[Clint.McCraw@dot.state.fl.us](mailto:Clint.McCraw@dot.state.fl.us)>**Subject:** Re: Concept Companies / 1935 SR 16 Pre-App: Follow Up

Good morning all!



Tom, thank you so much for your input. I apologize that I continue to ask for further clarification but I just want to ensure that I understand correctly so permitting may go smoothly for all of us.

Here are my follow up questions:

1. See attached layouts. Is this a correct representation of what FDOT will require of us? (The turn lanes are 400' in length and 12' in width. The median restriction is 4' at its narrowest which is at the NE and SW corners.)
2. The truck does not require the taper to access the site (see attached). Is this path acceptable? If so, the end result of the St. Johns County and FDOT coordination will be no taper required?
3. We are proposing a shift of 16' to the east of the center of the median cross over. Is this acceptable without a public hearing?
4. My coworker Matt who attended the Pre-App told me it was a public notice not a public hearing, is that right?

Again, thank you all for your patience and your input before we begin the engineering for this site. We appreciate your public service.

Sincerely,

**MICHAEL HOFFMAN, E.I.**

Civil CAD Designer



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Find Out  
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On Mon, Jul 15, 2019 at 10:07 AM Cavin, Tom <[Tom.Cavin@dot.state.fl.us](mailto:Tom.Cavin@dot.state.fl.us)> wrote:

To all,

I was not at the pre-app so I hope I don't say anything contrary to what was said there. Let me try to answer the questions listed below. See in yellow.

Tom Cavin, P.E.

Jacksonville Studies Engineer

Florida Department of Transportation  
2198 Edison Avenue, MS2815

[Tom.cavin@dot.state.fl.us](mailto:Tom.cavin@dot.state.fl.us)

904-360-5641



**From:** Michael Hoffman <[michael@conceptcompanies.net](mailto:michael@conceptcompanies.net)>  
**Sent:** Monday, July 8, 2019 10:48 AM  
**To:** McCraw, Clint <[Clint.McCraw@dot.state.fl.us](mailto:Clint.McCraw@dot.state.fl.us)>  
**Cc:** Fisher, Duane <[Duane.Fisher@dot.state.fl.us](mailto:Duane.Fisher@dot.state.fl.us)>; Cavin, Tom <[Tom.Cavin@dot.state.fl.us](mailto:Tom.Cavin@dot.state.fl.us)>; Senter, Chris <[Chris.Senter@dot.state.fl.us](mailto:Chris.Senter@dot.state.fl.us)>; Williams Jr, Charles <[Charles.WilliamsJr@dot.state.fl.us](mailto:Charles.WilliamsJr@dot.state.fl.us)>; Dycus, Douglas <[Douglas.Dycus@dot.state.fl.us](mailto:Douglas.Dycus@dot.state.fl.us)>; Pogue, Christopher <[Christopher.Pogue@dot.state.fl.us](mailto:Christopher.Pogue@dot.state.fl.us)>; Devenny, Donald <[Donald.Devenny@dot.state.fl.us](mailto:Donald.Devenny@dot.state.fl.us)>; [ddsouza@sjcfl.us](mailto:ddsouza@sjcfl.us); Matt Cason <[matt@conceptcompanies.net](mailto:matt@conceptcompanies.net)>; Al Tilly <[atilly@conceptcompanies.net](mailto:atilly@conceptcompanies.net)>  
**Subject:** Re: Concept Companies / 1935 SR 16 Pre-App: Follow Up

Good morning Clint and District 2 Staff,

I hope you all had a great weekend

Clint, I understand, doing our best to hammer the details out sooner rather than later. Once we have input from Tom Cavin, I believe we can finalize a design.

Dick D'Souza, Chief Engineer, from St. Johns County stated in this case that the County will request a taper, 12' W, 50'L from radial intersection of SR19. I have CC'd him to loop him in.

If a taper is considered an auxiliary lane, the light pole will land within the 14' lateral offset per Table 215.2.2 of FDOT Standard Manual, requiring the light pole to be moved. If the taper is considered a part of our commercial driveway, the light pole will land outside the 3' lateral offset per Figure 215.2.11 of FDOT Standard Manual, not requiring the light pole to be moved.

#### Questions for Tom (And/Or District 2 Staff)

1. Will FDOT support the County's request for a 50' Taper? Will the taper be considered an auxiliary lane or a part of our commercial driveway?

This is only a Category B drive connection with predominately passenger vehicles entering/exiting this connection. Unless the delivery truck turning template shows trucks can't get into/out of drive with an additional taper, I would recommend only 50' (max) radii.

2. Will FDOT allow us to shift the center of the existing median crossing (proposed bidirectional) to the east in an attempt to avoid impacting the light pole?

If the shift is more than slight(?), it will require a public hearing. I would recommend leaving the opening in its current location. See also comment below.

3. Will FDOT require the bidirectional turn lane design to be the same as the one at the intersection of Industry



Center Rd and SR19 except it includes the channelization? (See attached for photo)

The bi-directional turn lane will need to restrict left turn outs (not as shown at Industry Center Road). This modification to the median opening will also require a public hearing. The existing full median opening doesn't meet the FAC minimum spacing requirements for a full opening. This requires the median opening to be modified to directional.

Even though this is a Category B permit, adding auxiliary lanes (turn lanes) will still require a traffic study.

Tom, for your convenience I have attached the relevant documents that were discussed with FDOT, FDOT meeting minutes and FDOT meeting attendance list. I understand that you just got back from vacation and most likely have a pile of emails/documents to go through. I greatly appreciate any advice or recommendations you may provide.

Hope everyone had a great Holiday weekend!

With much appreciation,

**MICHAEL HOFFMAN, E.I.**

Civil CAD Designer



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On Mon, Jul 8, 2019 at 7:39 AM McCraw, Clint <[Clint.McCraw@dot.state.fl.us](mailto:Clint.McCraw@dot.state.fl.us)> wrote:

Michael, before rerunning the photometrics for conflicts and resolution options I need to have the final layout of the driveway and turn lane.

Clint McCraw, P.E.

Project Manager

Florida Department of Transportation

Consultant Project Management – MS 2804

**2198 Edison Ave., Jacksonville, FL 32204**

904-360-5607

**From:** Michael Hoffman [mailto:michael@conceptcompanies.net]

**Sent:** Friday, July 5, 2019 11:26 AM

**To:** Fisher, Duane <Duane.Fisher@dot.state.fl.us>; Cavin, Tom <Tom.Cavin@dot.state.fl.us>; Senter, Chris <Chris.Senter@dot.state.fl.us>; Williams Jr, Charles <Charles.WilliamsJr@dot.state.fl.us>; Dycus, Douglas <Douglas.Dycus@dot.state.fl.us>; Pogue, Christopher <Christopher.Pogue@dot.state.fl.us>; McCraw, Clint <Clint.McCraw@dot.state.fl.us>

**Subject:** Concept Companies / 1935 SR 16 Pre-App: Follow Up

**EXTERNAL SENDER:** Use caution with links and attachments.

Good morning all,

Looping in Clint into this conversation, please loop Donnie Devinny (spelling?) into this email as I do not have his contact information. After talking with Clint and Duane, it appeared the best solution would be to group everyone together on an email

We have learned that there is a planned light pole and foundation that is located within our proposed driveway. I would like Tom and Donnie's input (or anybody else) on the following scenarios in regards to this situation. I understand that Tom is out of the office until next week.

#### Scenario 1

- St Johns County does not require a right turn lane
- The proposed bi-directional turn lanes and driveway is shifted towards the east to provide 3' clear zone between the pole and the driveway.

#### Scenario 2

- St Johns County requires a turn lane and FDOT concurs
- Light Pole will need to be moved to the south to provide 14' clear zone between the turn lane and pole

#### Tom Cavin

1.) Will FDOT support St. John's County if they recommend a right turn lane into this development? According to ITE 10th Edition, 9187 SF Variety Store produces 583 Daily Trips with 68 PM Peak Hour Trips

2.) Is shifting the bidirectional turn lanes and driveway to the east an acceptable solution?

#### Donnie/Clint

1.) If the light pole indeed needs to move <50' from its current location, will it cause photometrics to be insufficient in the area?

With much appreciation,

**MICHAEL HOFFMAN, E.I.**


Civil CAD Designer

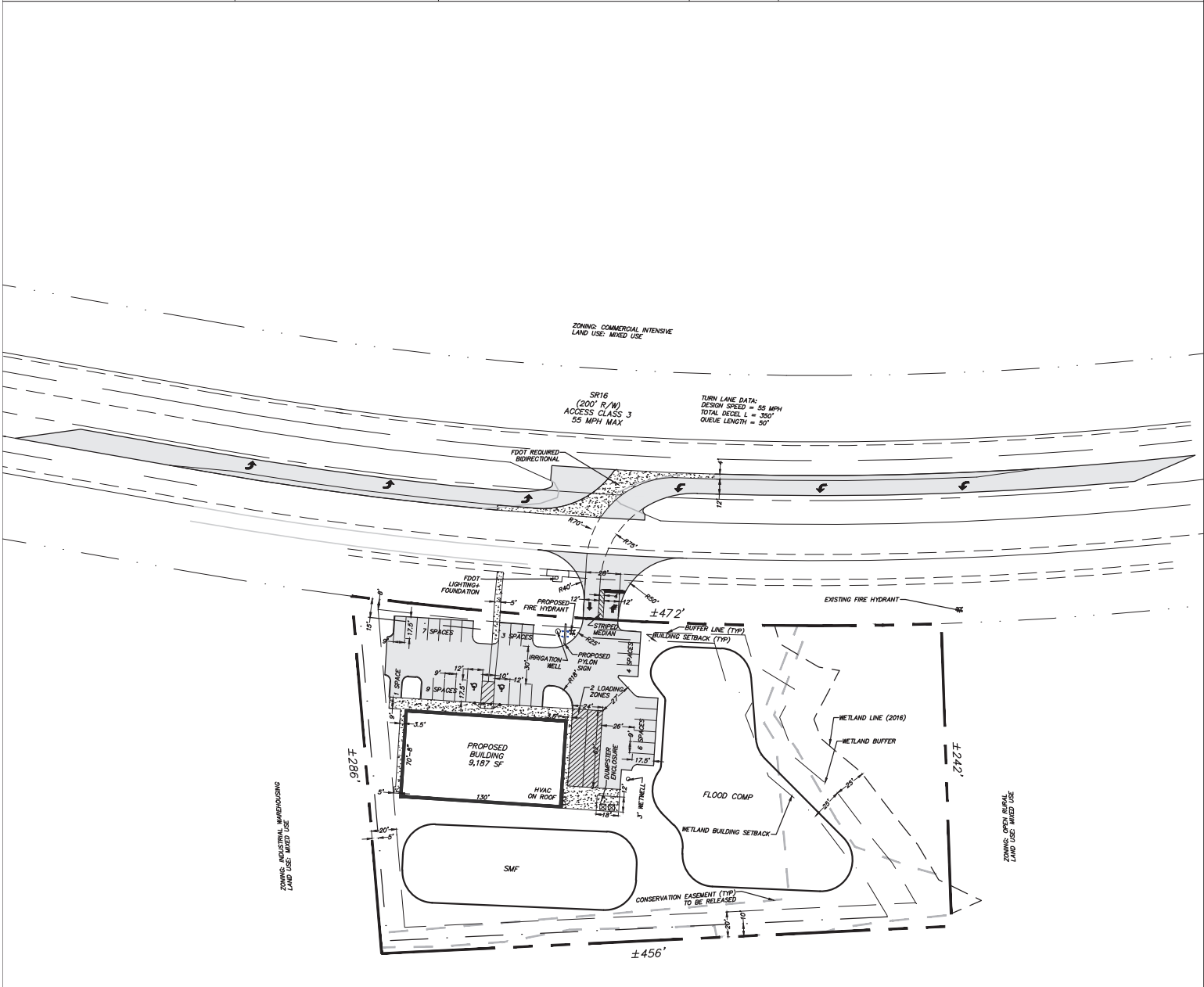


3324 W. University Ave  
PMB #151  
Gainesville, FL 32607  
o: (352) 333-3233 ext. 203  
f: (800) 218-7809

**ConceptCompanies.net**

Find Out  
WHO WE ARE

PRELIMINARY SITE PLAN		CITY, STATE STREET:		ST AUGUSTINE, FL 1935 SR 16		 3917 NW 97TH BOULEVARD / GAINESVILLE, FL 32606 Licence# CGC1515491 / WWW.CONCEPTCOMPANIES.NET
BUILDING: 1-STORY, PEMB	PROPOSED USE:	DEVELOPER:		DATE:		
BLDG/SALES SF: 9,187/7,263	SINGLE TENANT COMMERCIAL RETAIL STORE	NAME:	BRIAN CRAWFORD	7-17-19		
ACREAGE: ±2.73		PHONE #:	(352)333-3233 x203			
PARKING SPACES: 30		DESIGNER:	MICHAEL HOFFMAN			

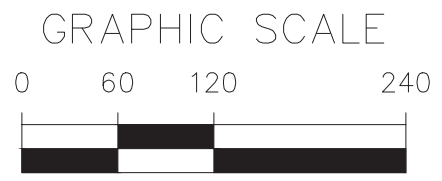


TAX PARCEL NO.  
087920000

ZONING: CG  
LAND USE: MIXED USE

POTABLE WATER REQUIRED  
FORCE MAIN REQUIRED  
IRRIGATION WELL REQUIRED

PAVEMENT IN VEHICULAR USE  
AREAS IS ASPHALT



***Appendix B: Traffic Count Summaries***

MPH Transportation Planning  
Tallahassee, Florida  
850-510-6461

Project No. MPH20-03  
SR 16 Discount Retail Site  
SR 16 at DG Driveway

File Name : sr16  
Site Code : 00000000  
Start Date : 1/29/2020  
Page No : 1

Groups Printed- Vehicles - Buses & Trucks

Start Time	SR16 From East				DG Driveway From South			SR16 From West				Int. Total
	Rt	Th	U-turn	App. Total	Rt	Left	App. Total	Rt	Th	U-turn	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0		
16:00	0	351	0	351	0	0	0	0	357	3	360	711
16:15	0	402	0	402	0	0	0	0	345	0	345	747
16:30	0	354	0	354	0	0	0	0	388	2	390	744
16:45	0	441	0	441	0	0	0	0	343	1	344	785
Total	0	1548	0	1548	0	0	0	0	1433	6	1439	2987
17:00	0	350	0	350	0	0	0	0	375	4	379	729
17:15	0	422	1	423	0	0	0	0	394	2	396	819
17:30	0	444	0	444	0	0	0	0	399	1	400	844
17:45	0	350	0	350	0	0	0	0	358	5	363	713
Total	0	1566	1	1567	0	0	0	0	1526	12	1538	3105
Grand Total	0	3114	1	3115	0	0	0	0	2959	18	2977	6092
Apprch %	0.0	100.0	0.0		0.0	0.0		0.0	99.4	0.6		
Total %	0.0	51.1	0.0	51.1	0.0	0.0	0.0	0.0	48.6	0.3	48.9	

Start Time	SR16 From East				DG Driveway From South			SR16 From West				Int. Total
	Rt	Th	U-turn	App. Total	Rt	Left	App. Total	Rt	Th	U-turn	App. Total	
Peak Hour From 16:00 to 17:45 - Peak 1 of 1												
Intersection	16:45											
Volume	0	1657	1	1658	0	0	0	0	1511	8	1519	3177
Percent	0.0	99.9	0.1		0.0	0.0		0.0	99.5	0.5		
17:30 Volume	0	444	0	444	0	0	0	0	399	1	400	844
Peak Factor												0.941
High Int.	17:30											
Volume	0	444	0	444	3:45:00 PM			0	399	1	400	
Peak Factor												0.949

Peak Hour From 16:00 to 17:45 - Peak 1 of 1												
By Approach	16:45											
Volume	0	1657	1	1658	16:00			0	17:00			1538
Percent	0.0	99.9	0.1		-			0.0	99.2			0.8
High Int.	17:30											
Volume	0	444	0	444	-			0	17:30			400
Peak Factor												0.961

MPH Transportation Planning  
Tallahassee, Florida  
850-510-6461

Project No. MPH20-03  
SR 16 Discount Retail Site  
SR 16 at DG Driveway

File Name : sr16  
Site Code : 00000000  
Start Date : 1/29/2020  
Page No : 1

Groups Printed- Buses & Trucks

Start Time	SR16 From East				DG Driveway From South			SR16 From West				Int. Total
	Rt	Th	U-turn	App. Total	Rt	Left	App. Total	Rt	Th	U-turn	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0		
16:00	0	9	0	9	0	0	0	0	13	0	13	22
16:15	0	14	0	14	0	0	0	0	8	0	8	22
16:30	0	2	0	2	0	0	0	0	3	0	3	5
16:45	0	1	0	1	0	0	0	0	2	0	2	3
Total	0	26	0	26	0	0	0	0	26	0	26	52
17:00	0	2	0	2	0	0	0	0	5	0	5	7
17:15	0	2	0	2	0	0	0	0	2	0	2	4
17:30	0	2	0	2	0	0	0	0	0	0	0	2
17:45	0	2	0	2	0	0	0	0	1	0	1	3
Total	0	8	0	8	0	0	0	0	8	0	8	16
Grand Total	0	34	0	34	0	0	0	0	34	0	34	68
Apprch %	0.0	100.0	0.0		0.0	0.0		0.0	100.0	0.0		
Total %	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	

Start Time	SR16 From East				DG Driveway From South			SR16 From West				Int. Total
	Rt	Th	U-turn	App. Total	Rt	Left	App. Total	Rt	Th	U-turn	App. Total	
Peak Hour From 16:00 to 17:45 - Peak 1 of 1												
Intersection	16:00											
Volume	0	26	0	26	0	0	0	0	26	0	26	52
Percent	0.0	100.0	0.0		0.0	0.0		0.0	100.0	0.0		
16:15 Volume	0	14	0	14	0	0	0	0	8	0	8	22
Peak Factor	0.591											
High Int.	16:15				3:45:00 PM			16:00				
Volume	0	14	0	14	0	0	0	0	13	0	13	
Peak Factor	0.464							0.500				
Peak Hour From 16:00 to 17:45 - Peak 1 of 1												
By Approach	16:00											
Volume	0	26	0	26	0	0	0	0	26	0	26	
Percent	0.0	100.0	0.0		-	-		0.0	100.0	0.0		
High Int.	16:15				-			16:00				
Volume	0	14	0	14	-	-	-	0	13	0	13	
Peak Factor	0.464							0.500				