The MilCor Group Inc.

Traffic Impact Analysis

Engineering a Value-Driver Sustainable Environment

Hope Center for Autism

Prepared for: Hope Center for Autism, Inc.

For Review By: City of Stuart

September 2019

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Trip Generation

Introduction:

The MilCor Group, Inc. has been retained to conduct a traffic analysis for the proposed Charter school named Hope Center for Autism. It is located on a 1.22-acre lot, located within the City of Stuart, Florida. The lot parcel number is 16-38-41-012-000-00070-0. The purpose of this study is to determine which roadway links are impacted by the proposed development and what, if any, improvements will be required to meet the adopted Level of Service standards based on the requirements for the City of Stuart.

Site Data:

The site is located within the Willoughby Business Park, on SE Poma Way, which is a private road with its only access via Willoughby Blvd. as shown in Exhibit 1, location map. Access is to be provided SE Poma Way via two access points, one existing and one proposed, and access to Willoughby Blvd. is via an existing full ingress/egress opening divided by landscape island. Currently, Willoughby Blvd. is a paved four-lane divided roadway with sidewalks provided on both sides of the roadway, but does not provide a marked bike lane.

Project Traffic:

Trip Generation:

Daily, AM, and PM peak hour trip generation rates for both existing and proposed uses were calculated based on the ITE Trip Generation Manual, 10^{th} Edition, (Exhibit 2A - 2D) for the following sections:

Existing:

Section 110: General Light Industrial Section 712: Small Office Building

Proposed:

Section 537: Charter Elementary School

The AM Peak had the highest increased generation, with an additional 35 trips/hour on county roadways.

Trip Distribution and Assignment:

A directional distribution was developed based on a review of land use patterns and existing travel patterns, and existing peak hour directional volumes and growth rates, as provided in the Martin County 2018 Roadway Level of Service Inventory Report. 100% of the trips generated from the Hope Center for Autism will access Willoughby Blvd. in the link between Indian St. and SR-714. After subtracting the existing approved use from the proposed use, the net increase in trips is 35. This equates to a peak hour increase of 1.75% of the level of service capacity of this link. However, the PM peak hours results in a reduction to the peak hourly trip rates, as well as a decrease in the overall daily trips.

The calculations are shown in Exhibit 3 and illustrated in Exhibit 4.

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Conclusion:

While the AM peak hour rates do demonstrate an increase in trips, the impact is less than 2.00% and should be considered de minimus. Considering the PM peak hour and overall daily trips are lowered when considering the proposed use, the total impact is even less significant than the AM increase would suggest. Therefore, no concurrency issues are anticipated.

Scheduled Roadway Improvements:

To the best of our knowledge, there are no scheduled improvements on any links on which the project has significant impact.

Required Improvements:

None.

Project Phasing:

There is no phasing proposed. Construction of the infrastructure for this project will begin in 2020, and will be complete within 1 year, therefore buildout is anticipated in 2021.

Attachments:

Exhibit 1 – Location Map Exhibit 2A&2B – Traffic Projections

Exhibit 3 — Peak Hour Directional Volume Calculations Exhibit 4 — Peak Hour Directional Volume Distribution Map



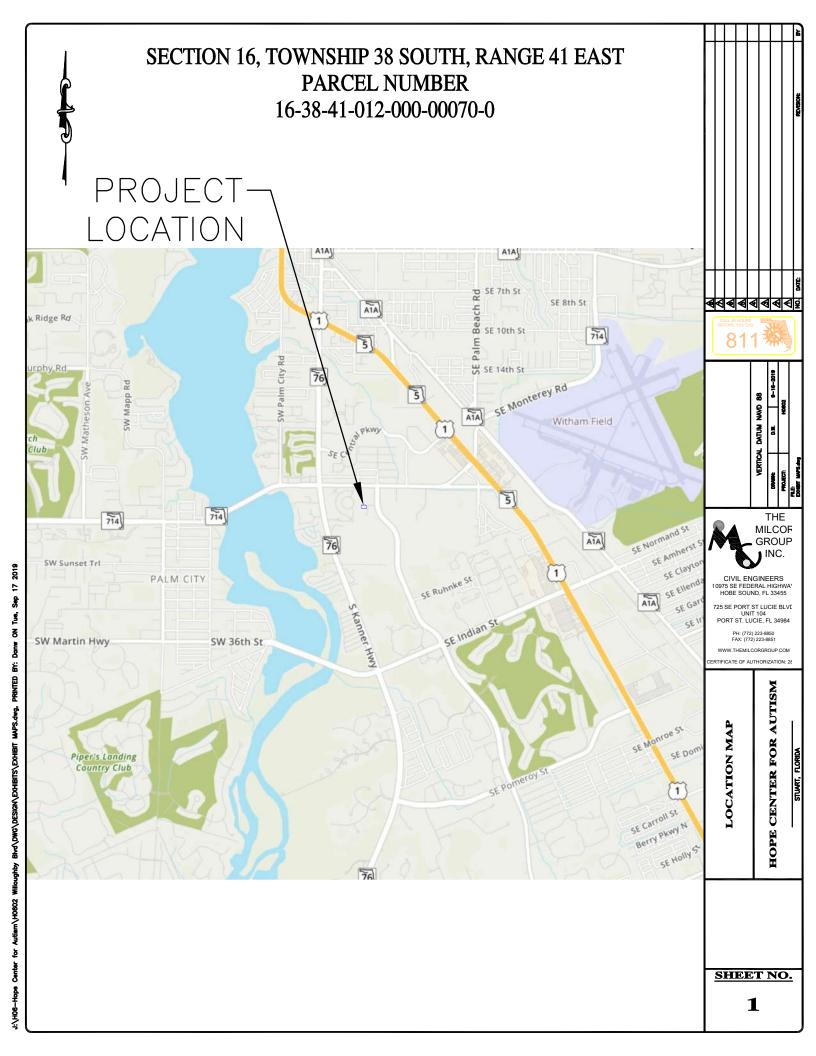


Exhibit 2A Traffic Projections Hope Center for Autism Existing (Industrial)

Land Use: General Light Industrial

ITE Code: 110

Trip Generation per 1,000 Sq Ft GFA

X = 8.434

Daily: T = 3.79(X) + 57.96

T = 90 Total Trips

Peak hour of adjacent Street Traffic, one Hour Between 7 and 9 a.m.

Ln(T) = 0.74Ln(X) + 0.39

Ln(T) = 1.97

T = 7 Total Trips

Directional Distribution: 88% entering & 12% exiting

Entering: 6 Trips Exiting: 1 Trips

Peak hour of adjacent Street Traffic, one Hour Between 4 and 6 p.m.

Ln(T) = 0.69Ln(X) + 0.43

Ln(T) = 1.90

T = 7 Total Trips

Directional Distribution: 13% entering & 87% exiting

Entering: 1 Trips Exiting: 6 Trips

The PM peak generates the highest trip counts.

Exhibit 2B Traffic Projections Hope Center for Autism Existing (Office)

Land Use: Small Office Building

ITE Code: 712

Trip Generation per 1,000 Sq Ft GFA

X = 8.434

Daily: T = 16.19(X)

T = 137 Total Trips

Peak hour of adjacent Street Traffic, one Hour Between 7 and 9 a.m.

T = 1.92(X)

16 Total Trips

Directional Distribution: 83% entering & 18% exiting

Entering: 13 Trips Exiting: 3 Trips

Peak hour of adjacent Street Traffic, one Hour Between 4 and 6 p.m.

T = 2.45(X)

T = 21 Total Trips

Directional Distribution: 32% entering & 68% exiting

Entering: 7 Trips
Exiting: 14 Trips

The PM peak generates the highest trip counts.

Exhibit 2C Traffic Projections Hope Center for Autism Proposed

Land Use: Charter Elementary School

ITE Code: 537
Trip Generation per Student
X = 100.000

Daily: T = 1.85(X)

T = 185 Total Trips

Peak hour of adjacent Street Traffic, one Hour Between 7 and 9 a.m.

T = 1.17(X) - 34.68

82 Total Trips

Directional Distribution: 53% entering & 47% exiting

Entering:Exiting:
44 Trips
39 Trips

Peak hour of adjacent Street Traffic, one Hour Between 4 and 6 p.m.

T = 0.14(X)

T = 14 Total Trips

Directional Distribution: 35% entering & 65% exiting

Entering: 5 Trips Exiting: 9 Trips

The AM peak generates the highest trip counts.

Exhibit 2D Traffic Projections Total Development

| Basis | Existing Industrial | Existing Office | Proposed | Total New Proposed Trips | |
|------------------------------|------------------------|--------------------|----------|-----------------------------|--|
| Weekday Daily | 90 | 137 | 185 | -41 | |
| Weekday AM Peak Hour - Enter | 6 | 13 | 44 | 24 | |
| Weekday AM Peak Hour - Exit | 1 | 3 | 39 | 35 | |
| Weekday PM Peak Hour - Enter | 1 | 7 | 5 | -3 | |
| Weekday PM Peak Hour - Exit | 6 | 14 | 9 | -11 | |

Exhibit 3 Hope Center for Autism Peak Hour Directional Volume Distribution

Project Total Peak Hour Directional Volume =

35 Vehicle Trips

| PM Peak Hour Directional Analysis | | | | | | | | | | |
|-----------------------------------|---------------------|---|-------|----------|--------|----------|---------|--|--|--|
| | | | | Project | | Service | Project | | | |
| Road | Link | | Lanes | % Assign | Volume | Capacity | Impact | | | |
| Willoughby Blvd. | Indian St. to SR-71 | 4 | 4L | 100% | 35 | 2000 | 1.75% | | | |

