## Director's Report

Project Name: 9101 Highland
Description: Rezoning Request
Date on Agenda this packet pertains to: May $16^{\text {th }}, 2024$
$\boxtimes$ Public Hearing
$\square$ Initial Submittal
$\boxtimes$ Revised PlansPreliminary Approval$\square$ Final Approval

| Contact | Consultants <br>  <br> Departments | Approval | Denial | Approved <br> w/Conditions | Other | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sean <br> O'NeilCommunity <br> Development <br> Director | $\square$ | $\square$ | $\square$ | $\boxtimes$ | Based on comments from the Staff <br> Planner |  |
| Justin <br> Quagliata | Staff Planner | $\boxtimes$ | $\square$ | $\square$ | $\square$ | See letter dated <br> $05 / 16 / 2024$ |

# WHITE LAKE TOWNSHIP PLANNING COMMISSION 

## REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Planning Commission
FROM: Sean O'Neil, AICP, Community Development Director
Justin Quagliata, Staff Planner
DATE: May 6, 2024
RE: $\quad 9101$ Highland Road (Parcel Number 12-23-227-003)
Rezoning - Review \#2

Affinity 10 Investments, LLC (Tom Hannawa) has requested the rezoning of approximately five acres located at 9101 Highland Road from R1-C (Single-Family Residential) to RB (Restricted Business). The site is located on the south side of Highland Road, west of Sunnybeach Boulevard and contains approximately 458.4 feet of frontage on Highland Road.

At its meeting on March 7, 2024 the Planning Commission recommended denial of a request by the Applicant to rezone the property from R1-C to GB (General Business). The Applicant has submitted a new rezoning application in response to Planning Commissioner and resident feedback received both at the previous public hearing, and at a community meeting the Applicant and development team held with residents last month.

The Future Land Use Map from the 2024 Master Plan designates the subject site in the Commercial Corridor category, which is intended to provide regional goods and services (such as large box-stores and drive-thrus) to residents and non-residents.


## Zoning

The subject site is currently zoned R1-C, which requires a minimum of 100 feet of lot width and 16,000 square feet of lot area. The requested RB zoning district requires a minimum of 120 feet of lot width and one (1) acre of lot area. With approximately 458.4 feet of lot width on Highland Road and five acres of lot area, the site meets the minimum standards for both lot area and lot width of the existing and proposed zoning districts. The following table illustrates the lot width and lot area standards for the existing R1-C and proposed RB zoning districts:

| ZONING DISTRICT | LOT WIDTH | LOT AREA |
| :---: | :---: | :---: |
| R1-C | 100 feet | 16,000 square feet |
| RB | 120 feet | 1 acre |

## ZONING MAP



## Physical Features

The former Calvary Lutheran Church building and its associated parking lot occupy the property, as well as a community garden. Topography of the site is generally level. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site.

## Access

The site fronts on Highland Road, which along the property is a five-lane road (two lanes in each direction and a center turn lane).

## Utilities

Municipal water and sanitary sewer are available to serve the site. The location and capacity of utilities for any proposed development will be reviewed in detail by the Township Engineering Consultant at the time of a development submittal.

## Staff Analysis

In considering any petition for an amendment to the zoning map, the Planning Commission and Township Board must consider the following criteria from Article 7, Section 13 of the Zoning Ordinance in making its findings, recommendations, and decision:
A. Consistency with the goals, policies and future land use map of the White Lake Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area. The Future Land Use Map from the 2024 Master Plan designates the subject site in the Commercial Corridor category, which aligns with the proposed RB zoning district.
B. Compatibility of the site's physical, geological, hydrological and other environmental features with the host of uses permitted in the proposed zoning district. If the property is rezoned to RB , it would not directly or indirectly have a substantial adverse impact on the natural resources of the Township.
C. Evidence the Applicant cannot receive a reasonable return on investment through developing the property with one (1) of the uses permitted under the current zoning. While no such evidence has been submitted, the property is five acres in size and located in a commercial corridor on Highland Road (M-59) with access to municipal water and sanitary sewer. It is reasonable to request commercial zoning on this type of property.
D. The compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential influence on property values. The majority of the permitted and special land uses in the RB district are compatible with the surrounding uses and the nature of the uses anticipated in the Township Master Plan. Only the Township Assessor may provide comment on property values.
E. The capacity of Township utilities and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township. The site is in an area intended to be serviced by public water and sanitary sewer. The Community Development Department defers to the Director of Public Services and Township Engineering Consultant on this matter.
F. The capability of the street system to safely and efficiently accommodate the expected traffic generated by uses permitted in the requested zoning district. Per staff comments on the previous rezoning application, a revised traffic impact study (TIS) has been submitted and now includes Sunnybeach Boulevard in the evaluation. For the purpose of this rezoning application, the information provided is sufficient. The TIS describes existing traffic conditions and compares the potential trip generation of the site's use under the existing and proposed zoning classifications.
G. The apparent demand for the types of uses permitted in the requested zoning district in relation to the amount of land in the Township currently zoned and available to accommodate the demand. Evidence of the demand in the Township for additional retail commercial uses has not been submitted. However, the location is appropriate for property zoned RB, given the traffic, residential units, and general density in the area.
H. The boundaries of the requested rezoning district are reasonable in relationship to its surroundings, and construction on the site will be able to meet the dimensional regulations for the zoning district listed in the Schedule of Regulations. The subject site is located in a commercial corridor on Highland Road (M-59). The Applicant provided a revised concept plan showing two multi-tenant buildings on the site: the west building is 7,201 square feet in size and the east building is 6,409 square feet in size. The easterly unit in each building contains a drive-thru restaurant and each building has a patio in front; drive-thru restaurants and outdoor dining require special land use approval from the Planning Commission. Parking is shown on all sides of the buildings, with one driveway accessing Highland Road near the center of the site. The Applicant did not volunteer conditions on the rezoning related to the concept plan. Site plan review and approval would be required from the Planning Commission and Township Board to construct the buildings. The concept plan is not under consideration by the Township, and it has not been reviewed for compliance with applicable Zoning Ordinance requirements. Other factors that may impact future development of the site, such as, but not limited to, soils, topography, site layout, landscape and screening, stormwater/drainage, and utilities would be considered at the time of a development proposal. Note the revised concept plan shows a 30 -foot greenbelt (previously 20 feet) along the east property line. Also, the proposed fence height along the east property line is now eight feet (previously six feet).
I. The requested zoning district is considered to be more appropriate from the Township's perspective than another zoning district. The uses allowed in the RB district are appropriate for the site.
J. If the request is for a specific use, is rezoning the land more appropriate than amending the list of permitted or special land uses in the current zoning district to allow the use? Rezoning would be the most appropriate way to allow for the proposed use. Amending the R1-C zoning district to allow retail commercial uses and drive-thru restaurants would not be advised.
K. The requested rezoning will not create an isolated and unplanned spot zone. The site is surrounded by R1-C (Single-Family Residential) zoning to the east and south, LB (Local Business) zoning to the west, and PB (Planned Business) zoning to the north.
L. The request has not previously been submitted within the past one (1) year, unless conditions have changed or new information has been provided. This request (to rezone the property to RB ) is a new application.
M. An offer of conditions submitted as part of a conditional rezoning request shall bear a reasonable and rational relationship to the property for which rezoning is requested. This standard is not applicable.
N. Other factors deemed appropriate by the Planning Commission and Township Board. The Planning Commission and Township Board could also consider other factors which may be relevant to the rezoning request.

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## Planning Commission Options

The Planning Commission may recommend approval or denial of the rezoning request, or it may recommend a different zoning designation than proposed by the Applicant to the Township Board. The proposed rezoning is compatible with the 2024 Master Plan and surrounding land uses. Staff recommends approval of the rezoning from R1-C to RB.

## APPLICATION TO REZONE PROPERTY

Dat:: 04/22/2024
Applicant:Affinity 10 Investment LLC
Address: 4512 South Shore Street, Waterford MI 48328
Phone No. 248-361-1666 Fax No.: N/A
E-mai: Thomashannawa@gmail.com
Applicants Interest in Property: Owner
Property owner: Affinity 10 Investment LLC
Owner's Address
4512 South Shore Street, Waterford MI 48328
Phone No.:
248-361-1666 Fax No. N/A

Location of Property: 9101 Highland Road
Sidwell No(s): $12-23-227-003$
Total area of change:
5.02

I, the undersigned (owner, attorney, or option holder) hereby request that this property now classified as R1-C (Single Family Residential) District, be reclassified as RB (Restricted Business) District.

Applicant's Signature: $\qquad$
(If owner does not sign application, attach letter signed by owner, requesting zoning change.)
Please Print Name: Tom Hannawa
Required Attachments:

| $X$ | 1. | Legal description of the property proposed to be rezoned. |
| :--- | :--- | :--- |
| $X$ | 2. | Location map |
| $X$ | 3. | Rezoning sign location map |

FLEIS\&VANDENBRINK
DESIGN. BUILD. OPERATE.

VIA EMAIL: ewilliams@stonefieldeng.com


#### Abstract

To: Stonefield Engineering

Jacob Swanson, PE, PTOE From: Paul Bonner, EIT Fleis \& VandenBrink Date: March 22, 2024

Re: White Lake Township, Michigan Traffic Impact Study

\section*{1 INTRODUCTION}

This memorandum presents the results of the Traffic Impact Study (JIS) for the proposed commercial development in White Lake Township, Michigan. The project site is generally located on the south side of Highland Road (M-59), approximately 1,000-feet east of Fisk Road, as shown on the attached Figure 1. The proposed commercial development includes the construction of retail and restaurant land uses. The project site is currently vacant and was previously occupied by the Calvary Lutheran Church, which will be razed with the construction of the proposed development. Site access is proposed via one (1) full access driveway on Highland Road (M-59). The study section of Highland Road (M-59) is under the jurisdiction of the Michigan Department of Transportation (MDOT). The purpose of this TIS is to evaluate the impact of the proposed development on the adjacent roadway network, as part of the site plan approval and driveway permitting processes. Scope of work for this study was developed based on Fleis \& VandenBrink's (F\&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practices, and information published by the Institute of Transportation Engineers (ITE). Study analyses were completed using Synchro/SimTraffic (Version 11) traffic analysis software. Sources of data for this study include F\&V subconsultant Quality Counts (QC), MDOT, the Road Commission for Oakland County (RCOC), White Lake Township, the Southeast Michigan Council of Governments (SEMCOG), and ITE.


## 2 BACkground

2.1 Existing Road Network

Lane use and traffic control at the study intersections are shown on the attached Figure $\mathbf{2}$ and study roadways are further described below. For purposes of this study, all minor streets and driveways were assumed to have an operating speed of 25 miles per hour ( mph ), unless otherwise noted.

Highland Road (M-59) generally runs in the east / west directions, adjacent to the north side of the project site. The study section of roadway is classified as an Other Principal Arterial, is under the jurisdiction of MDOT, has a posted speed limit of $50-\mathrm{mph}$, and has an Average Annual Daily Traffic (AADT) volume of approximately 33,400 (MDOT 2022) vehicles per day (vpd). The study section of roadway provides a typical five-lane crosssection, with two (2) lanes of travel in each direction and a center two-way left-turn lane (TWLTL). At the signalized intersection with Fisk Road, Highland Road (M-59) widens to provide an exclusive eastbound rightturn lane. Additionally, Highland Road (M-59) widens to provide an exclusive westbound right-turn lane at the intersection with the JOANN Fabric driveway.

Fisk Road generally runs in the north / south directions, west of the project site, terminating at Highland Road (M-59). The study section of roadway is classified as a Local Road, is under the jurisdiction of RCOC, has an assumed prima facie speed limit of $55-\mathrm{mph}$, and has an AADT volume of approximately $1,256 \mathrm{vpd}$ (MDOT 2022). The study section of Fisk Road provides typical three-lane cross-section, with one (1) lane of travel in each direction and a center TWLTL.

Sunny Beach Boulevard generally runs in the north / south directions, east of the project site. The study section of roadway is classified as a Local Road, is under the jurisdiction of RCOC, has an assumed residential prima facie speed limit of $25-\mathrm{mph}$, and has an AADT volume of approximately 1,840 vpd (MDOT 2012). The study section of Sunny Beach Boulevard services a residential neighborhood to the south of Highland Road (M-59) and services commercial uses to the north of Highland Road (M-59).

### 2.2 EXISTING TRAFFIC VOLUMES

F\&V subconsultant QC collected existing Turning Movement Count (TMC) data on Wednesday, December 13, 2023, during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods at the following study intersections:

- Highland Road (M-59) \& Fisk Road
- Highland Road (M-59) \& JOANN Fabric Driveway

Additional TMC data was collected on Wednesday, March 13, 2024, at the following study intersection:

- Highland Road (M-59) \& Sunny Beach Boulevard

During collection of the turning movement counts, Peak Hour Factors (PHFs), pedestrian and bicycle volumes, and commercial truck percentages were recorded and used in the traffic analysis. The peak hours of each of the study intersections were utilized and the through volumes were carried through the roadway network and balanced upwards at the proposed site driveways. Therefore, traffic volumes used in the analysis and shown on the attached traffic volume figures may not match the raw traffic volumes shown in the data collection.

The weekday AM and PM peak hours for the adjacent roadway network were observed to generally occur between 7:30 AM to 8:30 AM and 4:15 PM to 5:15 PM, respectively. F\&V collected an inventory of existing lane use and traffic controls, as shown on the attached Figure 2. F\&V also obtained the current signal timing permit for the study intersection of Highland Road (M-59) \& Fisk Road from MDOT. The existing 2023 peak hour traffic volumes used in the analysis are shown on the attached Figure 3. All applicable background data referenced in this memorandum are attached.

## 3 EXISTING CONDITIONS

Existing peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersections using Synchro/SimTraffic (Version 11) traffic analysis software. This analysis was based on the existing lane use and traffic control shown on the attached Figure 2, the exiting peak hour traffic volumes shown on the attached Figure 3, and methodologies presented in the Highway Capacity Manual, $6^{\text {th }}$ Edition (HCM6).
Descriptions of LOS "A" through "F" as defined in the HCM6, are attached. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. Additionally, SimTraffic network simulations were reviewed to evaluate network operations and vehicle queues. The results for the exiting conditions analysis are attached and shown in Table 1.

| Intersection | Control | Approach | Existing Conditions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | AM Peak |  | PM Peak |  |
|  |  |  | Delay (s/veh) | LOS | Delay (s/veh) | LOS |
| Highland Road (M-59) \& Fisk Road | Signalized | EBL | 14.0 | B | 53.1 | D |
|  |  | EBT | 27.7 | C | 18.2 | B |
|  |  | EBR | 14.7 | B | 11.0 | B |
|  |  | WBL | 15.9 | C | 11.6 | B |
|  |  | WBTR | 22.7 | C | 25.3 | C |
|  |  | NBL | 25.1 | C | 47.9 | D |
|  |  | NBTR | 22.3 | C | 38.0 | D |
|  |  | SBL | 27.3 | C | 67.0 | E |
|  |  | SBTR | 24.7 | C | 47.1 | D |
|  |  | Overall | 25.3 | C | 28.6 | C |


|  | Intersection | Control | Approach | Existing Conditions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | AM Peak |  | PM Peak |  |
|  |  |  |  | Delay (s/veh) | LOS | Delay (s/veh) | LOS |
| 2 | Highland Road (M-59) \& JOANN Fabric Drive | $\begin{aligned} & \text { Stop } \\ & \text { (Minor) } \end{aligned}$ | EBL | 11.1 | B | 17.2 | c |
|  |  |  | WB | Free |  |  |  |
|  |  |  | SB | 12.2 | B | 40,6 | E |
| 3 | Highland Road (M-59)$\&$Sunny Beach Boulevard | Stop (Minor) | EBL | 10.8 | B | 17.0 | C |
|  |  |  | WBL | 9.5 | A | 15.8 | C |
|  |  |  | NBL | 75.9 | F | \$ | F |
|  |  |  | NBTR | 12.1 | B | 17.6 | C |
|  |  |  | SB | 50.3 | F | \$ | F |

Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.
The results of the existing conditions analysis indicates that all approaches and movements at the study intersections are currently operating acceptably, at LOS D or better during both the AM and PM peak hours, with the following exceptions:

## Highland Road (M-59) \& Fisk Road

- During the PM peak hour: the southbound left-turn movement currently operates at LOS E.

Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed for this movement; however, the majority of vehicle queues were observed to be processed within each cycle length, leaving minimal residual vehicle queueing. Additionally, any remaining vehicle queues were observed to dissipate and were not present throughout the PM peak hour.

Highland Road (M-59) \& JOANN Fabric Drive

- During the PM peak hour: the southbound approach currently operates at LOS E.

The southbound approach was designed to prohibit egress left-turns; however, the left-turn traffic from this approach is causing the reported delay. The total volume of southbound egress traffic during the PM peak hour is very low (3 vehicles), which includes two (2) vehicles making an egress left-turn movement. Additionally, although the delay experienced by these vehicles causes the approach to operate at LOS E, review of SimTraffic microsimulations indicates acceptable operations; the $95^{\text {th }}$ percentile queue length reported for this approach was approximately 11 -feet ( $\sim 1$ vehicle), which is not significant.
Highland Road (M-59) \& Sunny Beach Boulevard
During both the AM and PM peak periods: The northbound left-turn movement and the southbound approach are both currently operate at LOS F.
Review of SimTraffic network simulations indicates generally acceptable operations during the AM peak hour. Occasional periods of vehicle queues were observed along the stop-controlled minor-street approaches; however, these queues were able to find adequate gaps within the through traffic along Highland Road (M-59), without experiencing significant delays or excessive queueing. Review of SimTraffic microsimulations during the PM peak hour indicates that vehicles along Sunny Beach Boulevard experience difficulty in finding gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues along the minor street; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.

## 4 Background Conditions (2025)

Historical population and economic profile data was obtained for White Lake Township from the Southeast Michigan Council of Governments (SEMCOG) database, in order to calculate a background growth rate to project the existing 2023 peak hour traffic volumes to the site buildout year of 2025. Population and employment projections from 2020 to 2050 were reviewed and show average annual growth rates of $0.41 \%$ and $0.28 \%$, respectively. Therefore, a conservative background growth rate of $\mathbf{0 . 5 \%}$ per year was applied to the existing peak hour traffic volumes to forecast the background 2025 peak hour traffic volume without the proposed development, as shown on the attached Figure 4.

In addition to background growth, it is important to account for traffic that will be generated by approved developments within the study area that have yet to be constructed or are currently under construction. At the time of this study, no background developments were identified within the vicinity of the project site.

Background peak hour vehicle delays and LOS without the proposed development were calculated at the study intersections based on the existing lane use and traffic control shown on the attached Figure 2, the background peak hour traffic volumes shown on the attached Figure 4, and methodologies presented in the HCM6. The results of the background conditions analysis are attached and summarized in Table 2.

Table 2: Background Intersection Operations

|  | Intersection | Control | Approach | Existing Conditions |  |  |  | Background Conditions |  |  |  | Difference |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | AM Peak |  | PM Peak |  | AM Peak |  | PM Peak |  | AM Peak |  | PM Peak |  |
|  |  |  |  | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS |
|  | Highland Road <br> (M-59) <br>  <br> Fisk Road | Signal | EBL | 14.0 | B | 53.1 | D | 14.1 | B | 56.4 | E | 0.1 | - | 3.3 | $D \rightarrow E$ |
|  |  |  | EBT | 27.7 | C | 18.2 | B | 28.1 | C | 18.3 | B | 0.4 | - | 0.1 | - |
|  |  |  | EBR | 14.7 | B | 11.0 | B | 14.7 | B | 11.0 | B | 0.0 | - | 0.0 | - |
|  |  |  | WBL | 15.9 | C | 11.6 | B | 16.0 | C | 11.8 | B | 0.1 | - | 0.2 | - |
|  |  |  | WBTR | 22.7 | C | 25.3 | C | 22.9 | C | 25.6 | C | 0.2 | - | 0.3 | - |
|  |  |  | NBL | 25.1 | C | 47.9 | D | 25.2 | C | 48.1 | D | 0.1 | - | 0.2 | - |
|  |  |  | NBTR | 22.3 | C | 38.0 | D | 23.3 | C | 38.0 | D | 0.0 | - | 0.0 | - |
|  |  |  | SBL | 27.3 | C | 67.0 | E | 27.3 | C | 67.6 | E | 0.0 | - | 0.6 | - |
|  |  |  | SBTR | 24.7 | C | 47.1 | D | 24.7 | C | 47.4 | D | 0.0 | - | 0.3 | - |
|  |  |  | Overall | 25.3 | C | 28.6 | C | 25.6 | C | 29.0 | C | 0.3 | - | 0.4 | - |
| 2 | Highland Road (M-59) \& JOANN Fabric Dr. | Stop (Minor) | EBL | 11.1 | B | 17.2 | C | 11.2 | B | 17.4 | C | 0.1 | - | 0.2 | - |
|  |  |  | WB | Free |  |  |  | Free |  |  |  | N/A |  |  |  |
|  |  |  | SB | 12.5 | B | 40.6 | E | 12.6 | B | 41.7 | E | 0.1 | - | 1.1 | - |
| 3 | Highland Road <br> (M-59) <br>  <br> Sunny Beach Boulevard | Stop (Minor) | EBL | 10.8 | B | 17.0 | C | 10.9 | B | 17.2 | C | 0.1 | - | 0.2 | - |
|  |  |  | WBL | 9.5 | A | 15.8 | C | 9.5 | A | 16.0 | C | 0.0 | - | 0.2 | - |
|  |  |  | NBL | 75.9 | F | \$ | F | 84.6 | F | \$ | F | 8.7 | - | - | - |
|  |  |  | NBTR | 12.1 | B | 17.6 | C | 12.2 | B | 17.8 | C | 0.1 | - | 0.2 | - |
|  |  |  | SB | 50.3 | F | \$ | F | 52.7 | F | \$ | F | 2.4 | - | - | - |

Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.
The results of the background conditions analysis indicates that all approaches and movements at the study intersections are expected to continue operating in a manner similar to the existing conditions analysis, with minor increases in delays and the following additional impacts to LOS:

## Highland Road (M-59) \& Fisk Road

- During the PM peak hour: The eastbound left-turn movement is expected to operate at LOS E.

Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed for the eastbound and southbound left-turn movements during the PM peak hour; however, the majority of vehicle queues were observed to be processed within 1-2 cycle length, leaving minimal residual vehicle queueing. Additionally, any remaining vehicle queues were observed to dissipate and were not present throughout the peak hour.

## 5 SITE TRIP GENERATION

The number of weekday peak hour (AM and PM) and daily vehicle trips that would be generated by the proposed development were calculated using the rates and equations published by the Institute of Transportation Engineers (ITE) in Trip Generation, 11th Edition. For purposes of this study the following land uses were assumed in the analysis: a coffee shop with drive-through, a fast-casual restaurant, a fast-food restaurant with drive-through, and retail space. Additionally, the proposed restaurants will not have breakfast service; however, in order to provide a conservative analysis, the AM peak hour trip generation was included for these land uses. The site trip generation forecast utilized for this study is summarized in Table 3.

Table 3: Site Trip Generation Summary

| Land Use | $\begin{aligned} & \text { ITE } \\ & \text { Code } \end{aligned}$ | Amount | Units | Average Daily Traffic (ypd) | AM Peak Hour (vph) |  |  | PM Peak Hour (vph) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | In | Out | Total | In | Out | Total |
| Strip Retail Plaza (<40k SF) | 822 | 6,184 | SF | 491 | 9 | 6 | 15 | 28 | 27 | 55 |
| Pass-By (0\% AM, 40\% PM) |  |  |  | 98 | 0 | 0 | 0 | 11 | 11 | 22 |
| New Trips |  |  |  | 393 | 9 | 6 | 15 | 17 | 15 | 33 |
| Fast Casual Restaurant | 930 | 2,502 | SF | 243 | 9 | 5 | 14 | 17 | 14 | 31 |
| Pass-By (0\% AM, 43\% PM) |  |  |  | 104 | 0 | 0 | 0 | 6 | 6 | 12 |
| New Trips |  |  |  | 139 | 9 | 5 | 14 | 11 | 8 | 19 |
| Fast Food Restaurant w/ Drive Through | 934 | 2,402 | SF | 1,123 | 55 | 52 | 107 | 41 | 38 | 79 |
| Pass-By (50\%AM, 55\% PM) |  |  |  | 590 | 27 | 27 | 54 | 21 | 21 | 42 |
| New Trips |  |  |  | 533 | 28 | 25 | 53 | 20 | 17 | 37 |
| Coffee Shop with Drive-Through | 937 | 2,522 | SF | 1,346 | 111 | 106 | 217 | 49 | 49 | 98 |
| Pass-By (50\% AM, 55\% PM) |  |  |  | 707 | 54 | 54 | 108 | 27 | 27 | 54 |
| New Trips |  |  |  | 639 | 57 | 52 | 109 | 22 | 22 | 44 |
| Total Trips |  |  |  | 3,203 | 184 | 169 | 353 | 135 | 128 | 263 |
| Total Pass-By |  |  |  | 1,499 | 81 | 81 | 162 | 65 | 65 | 130 |
| Total New Trips |  |  |  | 1,704 | 103 | 88 | 191 | 70 | 63 | 133 |

As is typical of commercial developments, a portion of the trips generated by the proposed development are from vehicles already on the adjacent roadway network that will pass the site on their way from an origin to their ultimate destination. Therefore, not all traffic at the site driveway is necessarily new traffic added to the street system. These trips are therefore reduced from the total external trips generated by a study site. This percentage of the trips generated by the development are considered "pass-by", which are already present of the adjacent roadway network. The percentage of pass-by used in this analysis was determined based on the rates published by ITE in the Trip Generation Manual, $11^{\text {th }}$ Edition.

## 6 Site Trip Distribution

The vehicular trips that would be generated by the proposed development were assigned to the study roadway network based on the proposed stie access plan and driveway configurations, the existing peak hour traffic patterns in the adjacent roadway network, and methodologies published by ITE. The ITE trip distribution methodology assumes that new trips will enter the network and access the development, then leave the development and return to their direction of origin, whereas pass-by trips will enter and exit the development in their original direction of travel. The stie trip distributions utilized in the analysis are summarized in Table 4.

Table 4: Site Trip Distribution

| New Trips |  |  |  |  | Pass-By Trips |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AM | PM | To/From | Via | Direction | AM | PM |  |
| $7 \%$ | $12 \%$ | North | Fisk Road |  |  |  |  |
| $40 \%$ | $52 \%$ | East | Highland Road (M-59) | Westbound | $42 \%$ | $56 \%$ |  |
| $53 \%$ | $36 \%$ | West | Highland Road (M-59) | Eastbound | $58 \%$ | $44 \%$ |  |
| $100 \%$ | $100 \%$ | Total |  |  |  | $100 \%$ |  |

The vehicular traffic volumes shown in Table 3 were distributed to the study roadway network according to the distribution shown in Table 4. Therefore, the site generated trips shown on the attached Figure 5 were added to the background peak hour traffic volumes shown on the attached Figure 4, in order to calculate the future peak hour traffic volumes, with the addition of the proposed development. Future peak hour traffic volumes are shown on the attached Figure 6.

## 7 Future Conditions (2025)

Future peak hour vehicle delays and LOS with the addition of the site-generated trips from the proposed development, were calculated based on the proposed lane use and traffic controls shown on the attached Figure 2, the future peak hour traffic volumes shown on the attached Figure 6, and the methodologies presented in the HCM6. Results of the future conditions analysis are attached and summarized in Table 5.

Table 5: Future Intersection Operations


Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.
Results of the future conditions analysis indicate that all approaches and movements at the study intersections are expected to continue operating in a manner similar to the background conditions analysis, with minor increases in delays and no additional impacts to LOS. Additionally, the proposed site driveway is expected to operate acceptably, at LOS D or better, during both peak periods, with the exception of the following:

## Highland Road (M-59) \& Site Drive

- During the PM peak hour: The northbound approach is expected to operate at LOS E.

Review of SimTraffic network simulations indicates that egress vehicles were unable to find adequate gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.

Therefore, the results of the future conditions analysis indicates that the site-generated traffic volumes from the proposed development are expected to have a negligible impact to the delay (LOS) and vehicle queueing observed at the off-site study intersections of Highland Road (M-59) with Fisk Road, JOANN Fabric Drive, and Sunny Beach Boulevard.

## 8 Access Management

### 8.1 Driveway Spacing Evaluation

The MDOT Geometric Design Guidance (Section 1.2.2) criteria were utilized to evaluate the location of the proposed site driveway, in relation to nearby intersections and access points within close proximity to the project site. The intersection corner clearance criteria were evaluated for the $50-\mathrm{mph}$ section of Highland Road (M-59), adjacent to the project site. The distance of the proposed site driveway from nearby intersections and access points, and the warranting criteria are summarized in Table 6 and displayed in Exhibit 1.

Table 6: Desirable Corner Clearance Summary

| Adjacent Driveways \& Intersections |  | Distance | Criteria | Meets |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Site Drive | to | Preschool Drive | 280 feet | 455 feet | NO |
| Site Drive | to | Sunny Beach Boulevard | 400 feet | 170 feet | YES |
| Site Drive | to | JOANN Fabrics Drive | 150 feet | 750 feet | NO |
| Site Drive | to | ROSS Drive | 130 feet | 750 feet | NO |

Exhibit 1: Proposed Driveway Spacing


The results of the driveway spacing analysis indicate that the location of the proposed site driveway on Highland Road (M-59) is not expected to meet the desirable MDOT spacing criteria, in relation to the nearby intersection and driveways. However, there is not sufficient property frontage to meet the recommended spacing criteria. Additionally, the site plan includes proposed future cross access, stubbed at the property line to the west; this would provide improved site access, permitting this cross access between the nearby developments on the south side of Highland Road (M-59), should the adjacent property ever be redeveloped. Furthermore, shared access is not available with the Sunny Beach Boulevard neighborhood to the east.

### 8.2 AUXILIARY TURN LANE EVALUATION

The MDOT auxiliary turn lane criteria were evaluated at the proposed site driveway on Highland Road (M-59). Highland Road (M-59) currently provides an existing center two-way left-turn lane (TWLTL); therefore, the leftturn lane criteria was not evaluated at the proposed site driveway. This analysis was based on the future peak hour traffic volumes shown on the attached Figure 6. The results of the analysis are shown on the attached chart and are summarized in Table 7.

Table 7: Right-turn Treatment Criteria Evaluation Summary

| Intersection | Peak Period |  | Recommendation |
| :---: | :---: | :---: | :---: |
|  | AM Peak Hour | PM Peak Hour |  |
| Highland Road (M-59) at Site Drive | Right-Turn Lane | Right-Turn Lane | Right-Turn Lane |

The result of the auxiliary turn lane evaluation indicates that a right-turn deceleration lane is warranted along eastbound Highland Road (M-59) at the proposed site driveway.

## 9 FUTURE CONDITIONS WITH IMPROVEMENTS ANALYSIS

Mitigation measures were investigated in order to improve the study intersections and mitigate the impact of the proposed development. The mitigation measures that were identified and the impacts to the study intersections are discussed below:

### 9.1 Highland Road (M-59) \& FISK Road

Signal timing optimizations were reviewed at the study intersection of Highland Road (M-59) \& Fisk Road and were determined to adequately improve all approaches and movements to LOS D or better during the PM peak hour. Therefore, the following improvements are recommended:

- Optimize the signal timing splits during the PM peak hour.


### 9.2 Highland Road (M-59) \& Site Drive

The proposed site plan includes shared access to the property to the west of the project site, which would reduce the projected delay for egress traffic; however, the property west would need to be redeveloped to accommodate such a cross access connection. Additionally, providing cross access with the Sunny Beach Boulevard neighborhood to the west would also reduce egress delays; however, this is not feasible. Therefore, the following improvements are recommended:

- Provide exclusive egress left-turn and right-turn lanes at the proposed Site Drive.
- Provide an eastbound right-turn lane along Highland Road (M-59) at the proposed Site Drive.

The results of the future improvements analysis, with the implementation of the recommended mitigation measures, are attached and summarized in Table 8.

Table 8: Future Intersection Operations with Improvements


|  | Intersection | Control | Approach | Future Conditions |  |  |  | Future w/ IMP |  |  |  | Difference |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | AM Peak |  | PM Peak |  | AM Peak |  | PM Peak |  | AM Peak |  | PM Peak |  |
|  |  |  |  | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS |
|  | Highland Road <br> (M-59) <br>  <br> Site Drive | Stop (Minor) | EB | Free |  |  |  | Free |  |  |  | N/A |  |  |  |
|  |  |  | WBL | 11.1 | B | 10.5 | B | 11.1 | B | 10.5 | B | 0.0 | - | 0.0 | - |
|  |  |  | NBL | 32.0 | D | 42.0 | E | 30.4 | D | 46.8 | E | -1.6 | - | 4.8 | - |
|  |  |  | NBR |  |  |  |  | 12.6 | B | 13.6 | B | -19.4 | D $\rightarrow$ B | -28.4 | $\mathrm{E} \rightarrow \mathrm{B}$ |

The results of the future conditions with improvements analysis indicate that, with the implementation of the recommended improvements, all study intersection approaches and movements are expected to continue to operate acceptably, at LOS D or better during both peak periods, with the following exception:

## Highland Road (M-59) \& Site Drive

- During the PM peak hour: The northbound left-turn movement is expected to operate at LOS E.

Review of SimTraffic microsimulations indicates improved operations and reduced vehicle queueing at the signalized study intersection of Highland Road (M-59) \& Fisk Road and the stop-controlled intersection of Highland Road (M-59) \& Site Drive during the PM peak hour.

## 10 Queueing Analysis

The drive-through vehicle queueing was reviewed to determine if the proposed on-site queue lengths provide adequate storage to accommodate the projected operations. The development plan includes two (2) drivethrough windows.

The coffee-shop is expected to have a peak trip generation of 111 trips during the AM peak hour. Coffee-shops with drive-through typically have an average service rate of approximately 80 vehicles per hour, with $80 \%$ of customers utilizing the drive-through. Therefore, of the total vehicles generated by the proposed coffee-shop during the peak period, it is estimated that approximately 89 vehicles will utilize the drive-through; the remaining vehicles will park and walk-in. The evaluation of the queue length included two criteria:

1. A queueing analysis was performed to determine if the projected demand of the site exceeds the service rate and calculate the projected queueing. The projected demand ( $89 \mathrm{veh} / \mathrm{hr}$ ) is greater than the service rate ( $80 \mathrm{veh} / \mathrm{hr}$ ) of the site; therefore, there is a potential for vehicles to queue past the pickup window, as the demand exceeds the capacity.
2. A Poisson Distribution was performed to determine the probability of random arrivals. The results indicate a maximum potential of five (5) vehicles arriving at any given time.

The results of the queueing analysis for the coffee shop are summarized in Table 9.
Table 9: Coffee Shop Vehicle Queuing Analysis
DRIVE-THROUGH STACKING SPACE CALCULATOR

| Number of Arrivals | 86 |
| :---: | :---: |
| Time per Vehicle (s) | 45 |
| Service Rate (veh/hr) | 80 |
| Drive-Through Queue (veh) | 9 |
| Peak Arrival (veh) | 5 |
| Vehicle Length | 25 |
| TOTAL QUEUE (ft) | $\mathbf{3 5 0}$ |

The fast-food restaurant is expected to have a peak trip generation of 55 trips during the AM peak hour. Fastfood restaurants with drive-through typically have an average service rate of approximately 90 vehicles per hour and $70 \%$ of customers utilizing the drive-through. Therefore, of the total vehicles generated by the proposed fast-food restaurant during the peak period, it is estimated that approximately 39 vehicles will utilize the drivethrough; the remaining vehicles will park and walk-in. The evaluation of the queue length included two criteria:

1. A queueing analysis was performed to determine if the projected demand of the site exceeds the service rate and calculate the projected queueing. The projected demand ( $39 \mathrm{veh} / \mathrm{hr}$ ) is less than the service rate ( $90 \mathrm{veh} / \mathrm{hr}$ ) of the site; therefore, the required queueing for the fast-food restaurant is based on the maximum potential for random arrivals.
2. A Poisson Distribution was performed to determine the probability of random arrivals. The results indicate a maximum potential of four (4) vehicles arriving at any given time.

The results of the queueing analysis for the fast-food restaurant are summarized in Table 10.
Table 10: Fast-Food Restaurant Vehicle Queuing Analysis
DRIVE-THROUGH STACKING SPACE CALCULATOR


The results of the projected vehicle queuing analysis indicates that the maximum anticipated arrivals generated by the proposed coffee-shop with drive-through can be adequately accommodated within the available queue length, without impacting internal site circulation or the operations along Highland Road (M-59).

## 11 Conclusions

The conclusions of this TIS are as follows:

1. Existing Conditions (2023)

- The results of the existing conditions analysis indicates that all approaches and movements at the study intersections are currently operating acceeptably, at LOS D or better, during both the AM and PM peak hours, with the following exceptions:
- Highland Road (M-59) \& Fisk Road: The SB left-turn movement is currently operating at LOS E, during the PM peak hour. Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed; however, the majority were observed to be processed within each cycle length, leaving minimal residual vehicle queueing.
Highland Road (M-59) \& JOANN Fabric Drive: The SB approach is currently operating at LOS E during the PM peak hour. This approach was designed to prohibit egress left-turns; however, this traffic is causing the reported delay. The total volume of southbound egress traffic is very low (3 vehicles), which includes two (2) vehicles making an egress left-turn movement.
- Highland Road (M-59) \& Sunny Beach Boulevard: The NB left-turn movement and the SB approach are both currently operating at LOS F during both peak hours. Review of SimTraffic network simulations indicates generally acceptable operations during the AM peak hour. Occasional periods of vehicle queues were observed along the minor-street approaches; however, these queues were able to find adequate gaps in the through traffic along Highland Road (M-59).
Review of SimTraffic microsimulations during the PM peak hour indicates that vehicles along Sunny Beach Boulevard experience difficulty in finding gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues along the minor street; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.


## 2. Background Conditions (2025 No Build)

- A conservative annual background growth rate of $\mathbf{0 . 5 \%}$ per year was utilized to project the existing peak hour traffic volumes to the buildout year of 2025.
- The results of the background conditions analysis indicates that the study intersections are expected to continue operating in a manner similar to the existing conditions analysis, with minor increases in delays due increases in background traffic volumes and the following additional impacts to LOS:
- Highland Road (M-59) \& Fisk Road: The EB left-turn movement is expected to operate at LOS E, during the PM peak hour.


## 3. Future Conditions (2025 Build)

- With the addition of the site-generated trips, the study intersections are expected to continue operating in a manner similar to the background conditions analysis, with no additional impacts to LOS.
- All approaches and movements at the proposed site driveway intersection with Highland Road (M-59) are expected to operate acceptably, at LOS D or better, during both the AM and PM peak hours, with the following exception:
- Highland Road (M-59) \& Site Drive: The NB approach is expected to operate at LOS E during the PM peak hour. Review of SimTraffic network simulations indicates that egress vehicles were unable to find adequate gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.
- Therefore, the results of the future conditions analysis indicates that the site-generated traffic volumes from the proposed development are expected to have a negligible impact to the delay (LOS) and vehicle queueing observed at the off-site study intersections of Highland Road (M-59) with Fisk Road, JOANN Fabric Drive, and Sunny Beach Boulevard.


## 4. Access Management

- The results of the driveway spacing analysis indicates that the location of the proposed site driveway on Highland Road ( $\mathrm{M}-59$ ) is not expected to meet the desirable MDOT spacing criteria, in relation to the nearby intersection and driveway.
- However, there is not sufficient property frontage to meet the recommended spacing criteria. Additionally, the site plan includes proposed future cross access, stubbed at the property line to the west; this would provide improved site access, permitting this cross access between the nearby developments on the south side of Highland Road (M-59), should the adjacent property ever be redeveloped. Furthermore, shared access is not available with the Sunny Beach Boulevard neighborhood to the east.

The MDOT auxiliary right-turn treatment criteria were evaluated at the proposed site driveway; the result of the analysis indicates that a right-turn lane is recommended along eastbound Highland Road (M-59) at the proposed Site Drive.
5. Future Conditions with Improvements

- Signal timing optimizations were reviewed and were determined to adequately improve the signalized study intersection of Highland Road (M-59) \& Fisk Road to LOS D or better during the PM peak hour. Additionally, the vehicle queues at the signalized study intersection were observed to be reduced, with the implementation of the recommended mitigation measures.
- Mitigation measures were investigated at the intersection of Highland Road (M-59) \& Site Drive. The results of the improvements evaluation indicates that providing exclusive egress left-turn and right-turm lanes would improve the projected operations Additionally, the warranted eastbound right-turn lane along Highland Road ( $\mathrm{M}-59$ ) was included in the improvements analysis. The results indicate that the northbound left-turn movement is still expected to operate at LOS E during the PM peak hour; however, review of SimTraffic network simulations indicates improved operations.


## 6. Drive-Through Queueing Evaluation

- The results of the drive-through queueing evaluation indicates that the proposed site plan can adequately accommodate the projected vehicle queueing associated with the proposed coffee-shop and fast-food restaurants, without impacting internal site circulation or the operations along Highland Road (M-59).


## 12 Recommendations

The recommendation of this TIS are as follows:

- Provide exclusive egress left-turn and right-turn lanes at the proposed Site Drive.
- Provide an eastbound right-turn lane along Highland Road (M-59) at the proposed Site Drive.
- Optimize the PM peak hour signal timing at the Highland Road (M-59) \& Fisk Road intersection.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis \& VandenBrink.










## WHITE LAKE TOWNSHIP NOTICE OF PUBLIC HEARING

Notice is hereby given the Planning Commission of the Charter Township of White Lake will hold a public hearing on Thursday, May 16th, 2024 at 6:30 P.M. at the Township Annex, 7527 Highland Road, White Lake, Michigan 48383, to consider the following changes to the zoning map:
Property described as 9101 Highland Road, identified as parcel number 12-23-227-003, located south of Highland Road, west of Sunnybeach Boulevard, consisting of approximately 5.02 acres.
Applicant requests to rezone the parcel from R1-C (Single Family Residential) to RB (Restricted Business) or any other appropriate zoning district.

The applicant is Affinity 10 Investments, LLC.
Persons interested are requested to be present. Pertinent information relative to this rezoning request is on file at the Community Development Department and may be examined at any time during regular business hours of 8:00 a.m. to 5:00 p.m. Persons interested may visit the Community Development Department, contact the Community Development Department by telephone at 248-698-3300, ext. 5, or attend the Public Hearing on the date specified. Written comments are also welcome at 7525 Highland Road, White Lake, MI 48383. Individuals with disabilities requiring auxiliary aids or services should contact the Clerk's Office at least 5 days before the hearing.

Sean O'Neil, AICP<br>Community Development Director

