TRAFFIC COMMITTEE AGENDA

March 15, 2023 – 7:30 P.M.

Lower Level Conference Room – Troy City Hall – 500 West Big Beaver

1. Roll Call
2. Approval of Minutes – January 18, 2023 Traffic Committee

PUBLIC HEARINGS

3. No Public Hearings

REGULAR BUSINESS

4. Request for Traffic Control – Elm at Forest Park Drive
5. Election of Officers
6. Public Comment
7. Other Business
8. Adjourn

Copy to:

Item 4: Caitlin Murphy, 6746 Forest Park Drive; Properties within 300'

Traffic Committee Members; Sgt. Brian Warzecha, Police Department; Lt. Charles Noonan, Fire Department

TRAFFIC COMMITTEE

MESSAGE TO VISITORS, DELEGATIONS AND CITIZENS

The Traffic Committee is composed of seven Troy citizens who have volunteered their time to the City to be involved in traffic and safety concerns. The stated role of this Committee is:

a. To give first hearing to citizens' requests and obtain their input.

b. To make recommendations to the City Council based on technical considerations, traffic surveys, established standards, and evaluation of citizen input.

c. To identify hazardous locations and recommend improvements to reduce the potential for traffic crashes.

Final decisions on sidewalk waivers will be made by the Committee at this meeting.

The recommendations and conclusions arrived at on regular items this evening will be forwarded to the City Council for their final action. Any citizen can discuss these recommendations before City Council. The items discussed at the Traffic Committee meeting will be placed on the City Council Agenda by the City Manager. The earliest date these items might be considered by City Council would normally be 10 days to 2 weeks from the Traffic Committee meeting. If you are interested, you may wish to contact the City Manager's Office in order to determine when a particular item is on the Agenda.

Persons wishing to speak before this Committee should attempt to hold their remarks to no more than 5 minutes. Please try to keep your remarks relevant to the subject at hand. Please speak only when recognized by the Chair. These comments are made to keep this meeting moving along. Anyone wishing to be heard will be heard; we are here to listen and help in solving or resolving your particular concerns.

2. Approval of Minutes – January 18, 2023 Traffic Committee

PUBLIC HEARING

3. No Public Hearings

REGULAR BUSINESS

4. Request for Traffic Control – Elm at Forest Park Drive

Caitlin Murphy of 6746 Forest Park Drive requests that the intersection of Elm at Forest Park Drive be reviewed for purposes of traffic control at the uncontrolled intersection. She stated that the existing uncontrolled intersection is dangerous, cars turning off Elm turn without looking and the view is partially blocked. This creates a hazardous situation for drivers.

SUGGESTED RESOLUTIONS:

a. RESOLVED, that the intersection of Elm and Forest Park Drive be **MODIFIED** from UNCONTROLLED on the Elm approach to YEILD control on the Elm approach to the intersection.

b. RESOLVED, that the intersection of Elm and Forest Park Drive be **MODIFIED** from UNCONTROLLED on the Elm approach to STOP control on the Elm approach to the intersection.

c. RESOLVED, that **NO CHANGE** be made at the intersection of Elm and Forest Park Drive.

5. Election of Officers

In accordance with the By-Laws of the City of Troy Traffic Committee, Article III, nomination of officers shall be made from the floor on the third Wednesday of February of each year for the purpose of electing a Chairperson and a Vice-Chairperson. There was no Traffic Committee meeting held in February so this item was moved to the March 17, 2021 meeting.

A candidate receiving a majority vote of the members present at the meeting shall be declared elected and shall serve for one year or until his or her successor shall take office. Vacancies in offices shall be filled immediately by regular election procedure.

Article II of the By-Laws speaks to the Officers and Their Duties, which states:

Section 1 - The officers of the Traffic Committee shall consist of a Chairperson and a Vice-Chairperson.

Section 2 - The Chairperson shall preside at all meetings of the Traffic Committee and shall have the duties normally conferred by parliamentary usage on such officers.

Section 3 - The Chairperson shall be one of the citizen members of the Committee and shall have the privilege of discussing all matters before the Committee and voting thereon.

Section 4 - The Vice-Chairperson shall act for the Chairperson in his or her absence. The Vice-Chairperson shall be a citizen member of the Committee, with the rights and privileges of the Chairperson.

6. Public Comment

7. Other Business

8. Adjourn

A regular meeting of the Troy Traffic Committee was held Wednesday, January 18, 2023 in the Lower Level Conference Room at Troy City Hall. Pete Ziegenfelder called the meeting to order at 7:30 p.m.

1. Roll Call

Present: Shama Kenkre
Cindy Nurak
Cynthia Wilsher
Pete Ziegenfelder
Abi Swaminathan
Tyler Koralewski, Student Representative

Absent: Richard Kilmer
Al Petrulis

Also present: G. Scott Finlay, City Engineer
Lt. Chuck Roberts, Fire Department
Lt. Charlie Noonan, Fire Department

2. Minutes – November 16, 2022

Resolution # 2023-01-01
Moved by Wilsher
Seconded by Nurak

To approve the November 16, 2022 minutes as printed.

Yes: Kenkre, Nurak, Swaminathan, Wilsher, Ziegenfelder, Koralewski
No: None
Absent: Kilmer, Petrulis

MOTION CARRIED

PUBLIC HEARINGS

3. No Public Hearings

REGULAR BUSINESS

4. Request for Traffic Control – Cidermill Drive at Country Ridge Drive

Lawrence Younan of 6219 Carriage Trail requests that the intersection of Cidermill Drive at Country Ridge Drive be reviewed for purposes of traffic control at the uncontrolled intersection. He stated that the existing uncontrolled intersection is dangerous, cars turning off Cidermill, turn without looking and the view is partially blocked. This creates a hazardous situation for

drivers.

Traffic Engineering received one (1) email in opposition of changing the Traffic Control, as follows:

Hi Mr. Finlay,

My residence is 6169 Country Ridge DR. I won't be able to attend the meeting on the 18th. Regarding adding a traffic control sign at Cidermill and Country Ridge Dr, I am against it. It is a ridiculous idea to have a traffic control sign there. The traffic is very minimum, hardly any traffic. And it is a common driving knowledge that any vehicle turns yields. There is absolutely no need to have a sign there. It would be a waste of tax payers' money.

Thank you!

Yifan Ji

Cindy Nurak, stated that Cidermill was a very short street and was not sure any control was needed. She wished the requester was present so she could asked specifically what the concern was. She also stated she was no opposed to providing traffic control at the intersection.

Cynthia Wilshire concurred with Cindy Nurak's comments.

Pete Ziegenfelder stated he prefers stops signs at all intersection to control traffic

Resolution # 2023-01-02
Moved by Ziegenfelder
Seconded by Wilsher

> RESOLVED, that the intersection of Cidermill Drive at Country Ridge Drive be **MODIFIED** from UNCONTROLLED on the Cidermill Drive approach to STOP control on the Cidermill Drive approach to the intersection.

Yes: Kenkre, Nurak, Swanimathan, Wilsher, Ziegenfelder
No: Koralewski
Absent: Kilmer, Petrulis

MOTION CARRIED

5. Public Comment

There was no further public comment at the meeting.

8. Other Business

Lt. Charlie Noonan was introduced as the new Fire Department representative to the Traffic Committee. Lt. Chuck Roberts is retiring next week.

Several members inquired about the left turn signals at intersections in Troy. Why they were different, some with the protected left turn first and some with the protected left turn last and some lefts turns stayed red, while others went to flashing red or yellow. The general though was they should be consistent and the lefts that stayed red should turn to flashing yellow.

City Engineer/Traffic Engineer will contact RCOC and report back at the next meeting.

9. Adjourn

The meeting adjourned at 7:48 PM.

Pete Ziegenfelder, Chairperson

G. Scott Finlay, City Engineer/Traffic Engineer

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TRAFFIC COMMITTEE REPORT

March 2, 2023

TO: Traffic Committee

FROM: G. Scott Finlay, City Engineer/Traffic Engineer

SUBJECT: Request for Traffic Control – Elm at Forest Park Drive

Background:

Caitlin Murphy of 6746 Forest Park Drive requests that the intersection of Elm at Forest Park Drive be reviewed for purposes of traffic control at the uncontrolled intersection. She stated that the existing uncontrolled intersection is dangerous, cars turning off Elm turn without looking and the view is partially blocked. This creates a hazardous situation for drivers.

The posted speed limit on both streets is 25 mph.

There are no signs at this tee intersection.

Forest Park Drive is presumed to be the major road, as it continues through the intersection, while Elm is considered the minor road as it terminates there.

There were no crashes recorded in the past full five (5) years within a 250' radius of the intersection.

The major potential sight distance obstruction at the intersection for a motorist traveling eastbound on Elm would be the house corners on the southwest and tall shrubs on the northwest quadrants.

The safe approach speed for eastbound vehicles on Elm is 16.4 mph due to the permanent sight distance obstruction from the corner of the house in the southwest and tall shrubs on the northwest quadrants.

OHM recommends a YIELD sign on the Elm approach to the intersection.

The city requested that OHM review the intersection and provide their findings and recommendations (copy attached).

ARCHITECTS. ENGINEERS. PLANNERS.

OHM Advancing Communities®

Feburary 27, 2023

Mr. Scott G Finlay, PE
City Engineer
City of Troy
500 W. Big Beaver Rd
Troy, MI 48084

RE: Traffic Control Recommendation for
Elm Drive at Forest Park Drive

Dear Mr. Finlay:

As requested, we have reviewed the intersection of Elm Drive at Forest Park Drive to determine the proper traffic control. Elm Drive at Forest Park Drive is a 3-legged intersection located in the City of Troy. The speed limit on both streets under investigation is 25 mph. The intersection does not have any stop controlled approaches. Attached are aerial and intersection photos.

Types of Roadways

Both Elm Drive and Forest Park Drive are considered local streets. Elm Drive runs east to west and Forest Park Drive runs north to south offering access to the neighborhood off of W South Blvd.

The surrounding land use is entirely single-family residential. On-street parking is permitted on the east side of Forest Park Dr and on the north side of Elm Drive. There is no clear major versus minor street. However, for the purpose of analysis Forest Park Drive is presumed to be the major road, while Elm Drive is considered the minor road as it terminates at the intersection. Both Forest Park Drive and Elm Drive serve as key routes throughout the neighborhood.

Traffic Control Analyses

Traffic control analyses described herein adheres to the requirements presented in the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) that are considered mandates of state law. A reference document explaining the background behind the analyses is attached to this memo.

Crash Analysis

Based on information obtained through the Traffic Improvement Association of Michigan, there were no crashes recorded in the past full five (5) years within a 250' radius of the intersection. The crash history does not constitute a compelling case for modifying the existing controls.

OHM Advisors
34000 PLYMOUTH ROAD
LIVONIA, MICHIGAN 48150
T 734.522.6711
F 734.522.6427
OHM-Advisors.com

Traffic Volumes

Traffic counts were not collected in the vicinity of the intersection. Traffic volumes in residential areas are predominantly driven by the number of single-family residential homes in the neighborhood. Based on the residential nature and the number of homes in the surrounding area it is highly improbable that this location would satisfy any of the minimum volume warrants for an all-way STOP (see attached Reference Guide).

It is therefore extremely unlikely that Forest Park Drive meets and sustains the 300 vehicles per hour threshold for a minimum of 8 hours. The combined vehicular, pedestrian, and bicycle volumes entering from Elm Drive is similarly unlikely to average at least 200 units for any 8 hours. Additionally, since the posted speed limit is only 25mph, it is reasonable to assume that the 85th percentile approach speed does not exceed 40mph on either road; thus, the minimum vehicular volume warrants cannot be discounted to 70 percent of the values described previously. Finally, the study intersection is likely to fall significantly shy even of the reduced 80 percent volumes, based on expected trip generation for this neighborhood. Therefore, the minimum volume criteria for an all-way STOP has not likely been met.

Approach Speed Limits

The approach speed limit on all study streets is 25mph. Speed limits alone cannot be used in this case to determine which direction of traffic should be assigned the right-of-way.

Sight Distance

The major potential sight distance obstruction at the intersection of Elm Drive at Forest Park Drive for a motorist traveling eastbound on Elm Drive would be the house corner on the southwest and tall shrubs on the northwest quadrants of the intersection. These obstructions impact the calculated safe approach speeds for the intersection. The safe approach speed is the speed at which a vehicle can approach an intersection and still stop in time to avoid a collision with a vehicle seen on the cross street.

When the safe approach speed is found to be less than 10 mph, a STOP sign is recommended. When the safe approach speed is found to be 10 mph or more, a YIELD sign is recommended. In this case, the safe approach speed for eastbound vehicles on Elm Drive is 16.4 mph due to the permanent sight distance obstruction from the house corner on the southwest and tall shrubs on the northwest quadrants. Thus, based on the safe approach speed calculations, YIELD-control is the computed right-of-way control for Elm Drive approach. The safe approach speed calculation spreadsheet for the intersection is attached for reference.

Recommendation

The preceding analysis did not determine that any criteria were met for all-way STOP-control. The safe approach speed calculations suggested YIELD-control would be appropriate for the minor street (Elm Drive) approach.

OHM recommends implementing a YIELD sign on the Elm Drive approach. The intersection should be reevaluated if traffic volumes increase, or crashes begin to occur.

Sincerely,
OHM Advisors

Ife Ogundeji
Traffic Engineer

Attachments:
- Aerial Photo
- Safe Approach Speed Calculation Spreadsheet
- Intersection Photos
- Traffic Control Determination Reference Guide

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W South Blvd
W South Blvd
W South Blvd
W South Blvd
Forest Park Dr
Elm Dr
Forest Park Dr
Mountain Dr
Mountain Dr Ct
Forest Park Dr
Locust Dr
Google
Imagery ©2023 Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023
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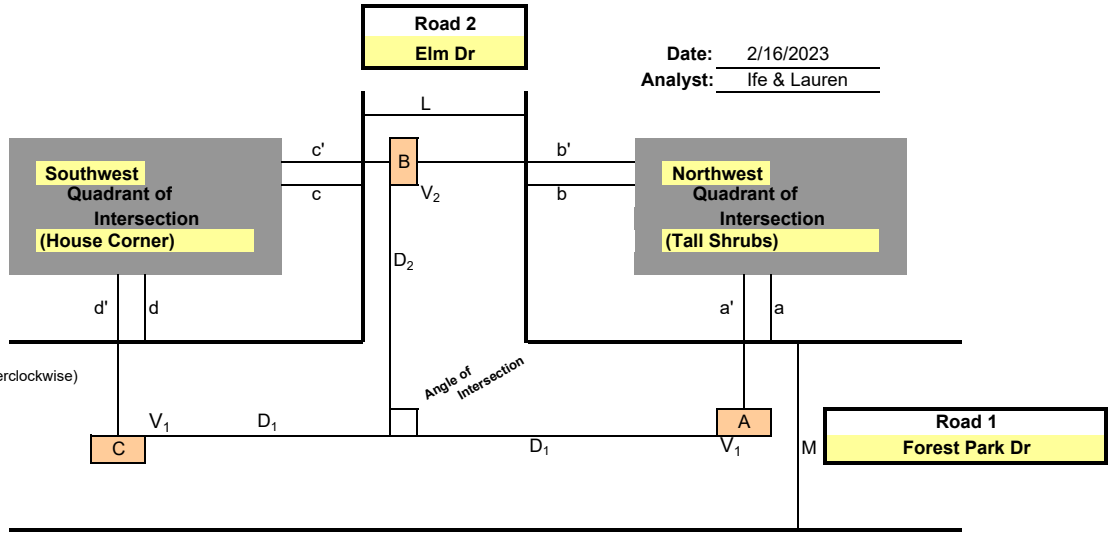
Safe Approach Speed Calculation

Forest Park Dr and Elm Dr
City of Troy

Date: 2/16/2023
Analyst: Ife & Lauren



Measured:

Width of Roads
- Road 1 = 28 (ft)
- Road 2 = 28 (ft)

Distance to Obstruction
- a = 37 (ft)
- b = 82 (ft)
- c = 60 (ft)
- d = 73 (ft)

Angle of Intersection
- Delta = 90 (degrees, measure counterclockwise)

Road 1 Posted
- Speed Limit = 25 (mph)

Assumed:

Speed of Vehicle A = Speed of Vehicle C
= Posted Speed Limit on Road 1
- \+ 5 (mph)
- V_1 = 30 (mph)

Perception / Reaction Time (AASHTO)
- t = 2.5 (sec)

Deceleration rate (AASHTO)
- A = 11.20

Clearance distance in excess of safe stopping distance (AAA)
- EC = 0 (ft)

Intermediate Calculations:

D_1 =	196	a' =	43
D_{2A} =	85.8	b' =	98
D_{2C} =	120.7	c' =	66
		d' =	89

Based On $D_1 = (1.075\ V_1^{\ 2} / A) + 1.4667\ V_1\ t + EC$

$D_{2A} = \frac{a' * D_1}{(D_1 - b')}$ or $D_{2C} = \frac{c' * D_1}{(D_1 - d')}$

Calculated Safe Approach Speed for Vehicle B
Approaching on Road 2
- 16.4 (mph) [Based on Veh. A]
- or V_2 = 21.2 (mph) [Based on Veh. C]

Notes:
- Enter field measurements in yellow highlighted area.
- Blue fields are std. default values; change only for cause.
- Calculated by spreadsheet

Threshold of Safe Approach Speed (AAA, FHWA & NSC)
- to Recommend STOP Control 10.0 (mph)
- to Recommend YIELD Control 25.0 (mph)
- Otherwise Recommends NO CONTROL.

Recommended ROW control for Road 2
based on safe approach speed : YIELD SIGN

Photograph No. 1: Forest Park Dr -Heading North
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 2: Forest Park Dr - Heading North looking left
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 3: Forest Park Dr - Heading South
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 4: Forest Park Dr - Heading South looking right
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 5: Elm Dr - Heading East looking left
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 6: Elm Dr - Heading East
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Photograph No. 7: Elm Dr - Heading East looking right
Date: 02/16/2023 **Photographer:** Ife Ogundeji

Reference Guide on Traffic Control Determination in the State of Michigan

Background

This document is intended to be used as a reference guide for performing intersection traffic control studies of intersections on public roadways in Michigan. The document explains the procedure and requirements necessary to implement traffic control at an intersection as stipulated by the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). Act 300 of Public Acts of 1949 (as amended) requires the adoption of this Manual, and further requires conformance to the manual for all state highways, county roads and local streets open to public travel.

Generally, the starting premise is an uncontrolled intersection. The first step would then be to verify if the intersection should remain uncontrolled or if YIELD or STOP controls on the minor street approach(es) should be provided. For locations with higher traffic volumes and /or crash issues, then an evaluation of the location for all-way STOP warrants would be performed. The appropriate analysis for each level of control described below.

YIELD Traffic Control Guidance

The use of a YIELD sign is intended to assign the right-of-way at intersections where it is not usually necessary to stop before proceeding into the intersection. Conversely, the STOP sign is intended for use where it is usually necessary to stop before proceeding into the intersection.

The following conditions should be fully evaluated to determine how the right-of-way should be assigned:

- Traffic Volumes: Normally, the heavier volume of traffic should be given the right-of-way.
- Approach Speeds: The higher speed traffic should normally be given the right-of-way.
- Types of Highways: When a minor highway intersects a major highway, it is usually desirable to control the minor highway.
- Sight Distance: Sight distance across the corners of the intersection is the most important factor and is critical in determining safe approach speeds.

STOP Traffic Control Guidance

Based on the MMUTCD there are four conditions where STOP signs may be warranted:

- At the intersection of a less important road with a main road where application of the normal right-of-way rule is unduly hazardous.
- On a street entering a through highway or street.
- At an unsignalized intersection in a signalized area.
- At other intersections where a combination of high speed, restricted view, or crash records indicate a need for control by the STOP sign.

In many cases STOP signs are installed where they may not be warranted. Traffic experts agree that unnecessary STOP signs:

- Cause accidents they are designed to prevent.
- Breed contempt for other necessary STOP signs.
- Waste millions of gallons of gasoline annually.
- Create added noise and air pollution.
- Increase, rather than decrease, speeds between intersections.

There is also an explicit restriction in the MMUTCD that STOP signs are not to be used for speed control, in Section 2B.04.

Evaluation of All-Way STOP Traffic Control

Based on the MMUTCD there are four conditions where **all-way** STOP signs may be warranted:

A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
C. *Minimum volumes:*
    1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
    2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
    3. *If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*
D. *Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.*

ITEM #5

TRAFFIC COMMITTEE REPORT

March 15, 2023

TO: Traffic Committee

FROM: G. Scott Finlay, City Engineer/ Traffic Engineer

SUBJECT: Election of Officers

Background:

In accordance with the By-Laws of the City of Troy Traffic Committee, Article III, nomination of officers shall be made from the floor on the third Wednesday of February of each year for the purpose of electing a Chairperson and a Vice-Chairperson. A February meeting was not held, so this action was moved to the March Traffic Committee meeting.

A candidate receiving a majority vote of the members present at the meeting shall be declared elected and shall serve for one year or until his or her successor shall take office. Vacancies in offices shall be filled immediately by regular election procedure.

Article II of the By-Laws speaks to the Officers and Their Duties, which states:

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