



TRAFFIC COMMITTEE AGENDA

April 20, 2022 – 7:30 P.M.

Council Boardroom – Troy City Hall – 500 West Big Beaver

1. Roll Call
2. Approval of Minutes – March 16, 2022 Traffic Committee

PUBLIC HEARINGS

3. No Public Hearings

REGULAR BUSINESS

4. Request for Signage – Wattles Elementary School
5. Request for Traffic Control – Avalon Drive at Cedar Crest Drive
6. Public Comment
7. Other Business
8. Adjourn

Copy to:

Item 4: Properties within 300'

Item 5: Hafsa Usman (via email); Properties within 300'

Traffic Committee Members; Sgt. Brian Warzecha, Police Department; Lt. Chuck Roberts, 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 – March 16, 2022 Traffic Committee

PUBLIC HEARING

3. No Public Hearings

REGULAR BUSINESS

4. Request for Signage – Wattles Elementary School

At the October 20, 2021, the Traffic Committee recommended and City Council ultimately approved that a NO PARKING ZONE be posted for the west side of Ellenboro Avenue, between Trombley and Colebrook Avenue, from 8AM – 9AM and 3PM – 4PM, school days only.

Since that time, Troy Police have continued to patrol and look for ways to improve the situation around Wattles Elementary.

Troy Police Officer G. Parra was assigned to assess traffic issues around Wattles Elementary School. Officer Parra has identified two internal processes Troy Police Department can continue to provide to help mitigate the issue:

- Traffic Safety Unit to provide intermittent enforcement.
- SROs/ School employees occasionally sending out reminders to parents/ families of Crossing Guard etiquette. Mary does an excellent job and tries her hardest, although 10% of the drivers do not listen or aren't paying attention to her.

Officer Parra has also identified and documented three signage and lane marking suggestions to implement:

1. Crosswalks and stop bars need to be repainted for the safety of pedestrians and so drivers can clearly see where their vehicles should or shouldn't be stopping/ standing/ parking.
2. Place a "DO NOT BLOCK DRIVEWAY" sign at 525 Colebrook and 554 Ellenboro. While at the school I was made aware of this consistent issue from these residents.
3. Add a sign stating "NO STOPPING/STANDING/PARKING FROM HERE TO CORNER" on the existing NO PARKING sign post on the east side of Ellenboro, north of Colebrook. A major problem and concern of the Wattles Crossing Guard is that she has parents blocking this corner while they are waiting (standing) to pick their children up from school. It also poses a problem for buses trying to turn left (south to east) coming from the school.

Item #1 is a maintenance item and will be addressed by DPW as weather allows.

Item #2 and Item #3 require review by the Traffic Committee.

As noted by Officer Parra, the street was never designed for the amount of traffic now caused by the elementary school. This is not unlike similar traffic issues that we have seen pop up around schools built within dense residential areas in our city and others around us. It is unlikely we will be able to completely solve these traffic issues through any amount of enforcement or signage but we can, and should, ensure we are doing our part to mitigate them as best as possible, which we will continue to do.

SUGGESTED RESOLUTIONS:

- a. RESOLVED, that a “DO NOT BLOCK DRIVEWAY” sign be placed at 525 Colebrook and 554 Ellenboro and a “NO STOPPING/STANDING/PARKING HERE TO CORNER” sign be placed on the existing NO PARKING sign post on the east side of Ellenboro, north of Colebrook.
- b. RESOLVED, that **NO CHANGE** be made near the Wattles Elementary School.

5. Request for Traffic Control – Avalon Drive at Cedar Crest Drive

Hafsa Usman requests that the intersection of Avalon Drive at Cedar Crest Drive be reviewed for purposes of traffic control at the intersection. He stated that the lack of traffic control signage creates a hazardous situation for drivers and pedestrians.

SUGGESTED RESOLUTIONS:

- a. RESOLVED, that the intersection of Avalon Drive at Cedar Crest Drive be **MODIFIED** from NO traffic control to a YIELD sign on the Cedar Crest Drive approach to the intersection.
- b. RESOLVED, that **NO CHANGE** be made at the intersection of Avalon Drive at Cedar Crest Drive.

6. Public Comment

7. Other Business

8. Adjourn

A regular meeting of the Troy Traffic Committee was held Wednesday, March 16, 2022 in the Council Boardroom at Troy City Hall. Pete Ziegenfelder called the meeting to order at 7:30 p.m.

1. Roll Call

Present: Richard Kilmer
Cindy Nurak
Abi Swaminathan
Cynthia Wilsher
Pete Ziegenfelder
Tyler Koralewski, Student Representative

Absent: Al Petrulis
Sunil Sivaraman

Also present: Sgt. Brian Warzecha, Police Department
Lt. Chuck Roberts, Fire Department
Austin Cheek, 5389 Rangemore
Satish Palla, 5341 Rangemore
Bill Huotari, City Engineer/Traffic Engineer

2. Minutes – February 16, 2022

Resolution # 2022-03-03
Moved by Kilmer
Seconded by Wilsher

To approve the February 16, 2022 minutes as printed.

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

MOTION CARRIED**PUBLIC HEARINGS****3. No Public Hearings****REGULAR BUSINESS****4. Request for Traffic Control – Ellery Drive at Rangemore Drive**

Traffic Committee members requested to address Item #4 and Item #5 together as they are very similar if not identical in their nature and subsequent recommendation.

Austin Cheek of 5389 Rangemore, representing the Whispering Park Condominium

Association, requests that the intersection of Ellery Drive at Rangemore Drive be reviewed for purposes of traffic control at the intersection. He stated that the lack of traffic control signage creates a hazardous situation.

Mr. Cheek was present at the meeting and discussed that Whispering Park is a newer subdivision consisting of one-loop of 50 homes. He represents the HOA as a board member in addition to representing himself as a resident of the same area. There are no Stop signs as you enter the subdivision. There are Stop signs as you leave the subdivision. Mr. Cheek reports that there are a lot of children at the elementary school bus stop and a lot of pedestrians who walk in or cross the roads in this area. He has counted up to 25 children at the bus stop. Mr. Cheek feels that a Yield sign might help but believes that a Stop sign would be more appropriate and would do a better job of addressing resident concerns.

Troy Police typically recommend Stop signs over Yield signs to remove any ambiguity at the intersection.

Mr. Kilmer stated his support for Stop signs at intersections rather than Yield signs.

Ms. Wilsher observed the area in the AM and PM hours (around 10AM and 5:30PM) and did not observe heavy traffic or pedestrian use. It was discussed that she most likely was in the area after the morning bus pickup and after the evening bus drop-off. She also recommended that the HOA discuss traffic issues with the residents in the subdivision as the concerns they have are directly attributable to the people that live in Whispering Park.

The subdivision is isolated and not a cut-through location, so speeding, lack of stopping at an intersection, etc. are issues/concerns created by the same residents who live in the Whispering Park subdivision.

Ms. Nurak observed the area on the weekend and did find many children in the area.

Ms. Swaminathan noted that as the weather gets warmer, more residents will be outside and use the roads and sidewalks to walk, play, etc.

Mr. Ziegenfelder stated his continued support for traffic control at all intersections and specifically the use of Stop signs when traffic control is recommended.

Resolution # 2022-03-04

Moved by Kilmer

Seconded by Petrulis

RESOLVED, that the intersection of Ellery Drive at Rangemore Drive be **MODIFIED** from NO traffic control to a STOP sign on the Ellery Drive approach to the intersection.

Yes: Kilmer, Nurak, Swaminathan, Wilsher, Ziegenfelder

No: None

Absent: Sivaraman, Petrulis

MOTION CARRIED

5. Request for Traffic Control – Midvale Drive at Ludstone Drive

Traffic Committee members requested to address Item #4 and Item #5 together as they are very similar if not identical in their nature and subsequent recommendation.

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Ms. Nurak observed the area on the weekend and did find many children in the area.

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Mr. Ziegenfelder stated his continued support for traffic control at all intersections and specifically the use of Stop signs when traffic control is recommended.

Resolution # 2022-03-05
Moved by Kilmer
Seconded by Wilsher

RESOLVED, that the intersection of Midvale Drive at Ludstone Drive be **MODIFIED** from NO traffic control to a STOP sign on the Midvale Drive approach to the intersection.

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

MOTION CARRIED

6. Public Comment

There was no further public comment at the meeting.

7. Other Business

Mr. Kilmer discussed concerns about the mid-block crossing on Wattles, east of Livernois. He has seen and has received concerns about the lack of reflection of the sign poles and signs. He would like to see solar powered type signs that have blinking lights to make the crossing stand out during evening and/or nights. Traffic Engineering will forward to the Streets Department for further review and investigation.

8. Adjourn

The meeting adjourned at 7:49 PM.

Pete Ziegenfelder, Chairperson

William J. Huotari, City Engineer/Traffic Engineer

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TRAFFIC COMMITTEE REPORT

April 4, 2022

TO: Traffic Committee

FROM: Bill Huotari, City Engineer/Traffic Engineer

SUBJECT: Request for Signage – Wattles Elementary School

Background:

At the October 20, 2021, the Traffic Committee recommended and City Council ultimately approved that a NO PARKING ZONE be posted for the west side of Ellenboro Avenue, between Trombley and Colebrook Avenue, from 8AM – 9AM and 3PM – 4PM, school days only.

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Officer Parra has also identified and documented three signage and lane marking suggestions to implement:

1. Crosswalks and stop bars need to be repainted for the safety of pedestrians and so drivers can clearly see where their vehicles should or shouldn't be stopping/ standing/ parking.
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Item #1 is a maintenance item and will be addressed by DPW as weather allows.

Item #2 and Item #3 require review by the Traffic Committee.

ITEM #4

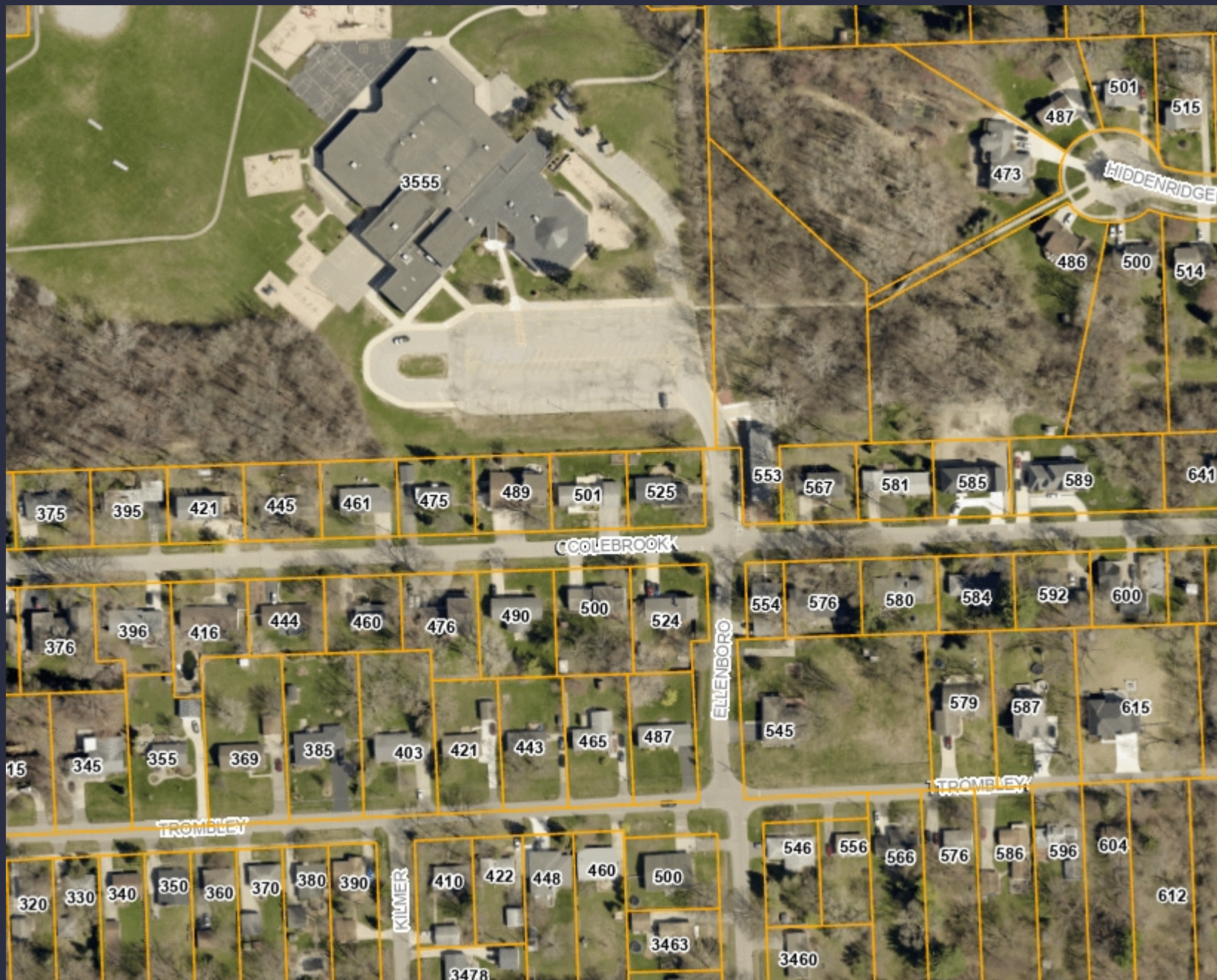
As noted by Officer Parra, the street was never designed for the amount of traffic now caused by the elementary school. This is not unlike similar traffic issues that we have seen popup around schools built within dense residential areas in our city and others around us. It is unlikely we will be able to completely solve these traffic issues through any amount of enforcement or signage but we can, and should, ensure we are doing our part to mitigate them as best as possible, which we will continue to do.



GIS Online

Legend:

Road Centerline Text



Notes:

Map Scale: 1=252

Created: April 4, 2022



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.



TRAFFIC COMMITTEE REPORT

April 5, 2022

TO: Traffic Committee

FROM: Bill Huotari, City Engineer/Traffic Engineer

SUBJECT: Request for Traffic Control – Avalon Drive at Cedar Crest Drive

Background:

Hafsa Usman requests that the intersection of Avalon Drive at Cedar Crest Drive be reviewed for purposes of traffic control at the intersection. He stated that the lack of traffic control signage creates a hazardous situation for drivers and pedestrians.

The posted speed limit on both streets is 25 mph.

The intersection is currently uncontrolled.

Avalon Drive is presumed to be the major road, while Cedar Crest Drive is considered the minor road. Both Avalon Drive and Cedar Crest Drive serve as local routes throughout the neighborhood.

There were two (2) crashes recorded in the past full five (5) years within a 250' radius of the intersection.

Traffic counts were not collected as part of the intersection study.

The major potential sight distance obstruction at the intersection for a motorist traveling northbound on Cedar Crest Drive would be the house corners on the southeast and southwest quadrants of the intersection.

The safe approach speed for westbound vehicles on Cedar Crest Drive is 19.7 mph due to the permanent sight distance obstruction from the house corners on the southeast quadrant.

OHM recommends implementing a YIELD sign on the Cedar Crest Drive approach to the intersection.

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

April 5, 2022

Mr. William Huotari, PE
City Engineer
City of Troy
500 W. Big Beaver Rd
Troy, MI 48084

RE: Traffic Control Recommendation for
Avalon Drive at Cedar Crest Drive

Dear Mr. Huotari:

As requested, we have reviewed the intersection of Avalon Drive at Cedar Crest Drive to determine the proper traffic control. Avalon Drive at Cedar Crest 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 is currently uncontrolled, with no STOP or YIELD signs. Attached are aerial and intersection photos.

Types of Roadways

Both Avalon Drive and Cedar Crest Drive are considered local streets. Avalon Drive runs east to west offering indirect access to the neighborhood via other local streets from Big Beaver Road, Dequindre Road and John R Road. Cedar Crest Drive is a cul-de-sac street that runs towards the north providing indirect access from John R Road via Orpington Drive.

The surrounding land use is entirely single-family residential. On-street parking is permitted on the north and south sides of Avalon Drive and on the east and west sides of Cedar Crest Drive. There is no clear major versus minor street. However, for the purpose of analysis Avalon Drive is presumed to be the major road, while Cedar Crest Drive is considered the minor road. Both Avalon Drive and Cedar Crest Drive serve as local 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 two crashes recorded in the past full five (5) years within a 250' radius of the intersection. The first crash was a side swipe crash between a parked car and a vehicle travelling southbound on Cedar Crest Drive. The second crash was an angle crash between a vehicle traveling northbound on Cedar Crest Drive making a left turn onto Avalon Drive and a vehicle traveling westbound on Avalon Drive. The northbound vehicle



was cited for failing to yield. None of the crashes resulted in injuries. The crash history does not constitute a compelling case for modifying the existing controls.

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 Avalon 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 Cedar Crest 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 Avalon Drive and Cedar Crest Drive for a motorist traveling northbound on Cedar Crest Drive would be the house corners on the southeast and southwest 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 more than 10 mph, a YIELD sign is recommended. In this case, the safe approach speed for northbound vehicles on Cedar Crest Drive is 19.7 mph due to the permanent sight distance obstruction from the house corner on the southeast quadrants. Thus, based on the safe approach speed calculations, YIELD-control is the computed right-of-way control for Cedar Crest 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 (Cedar Crest Drive) approach.

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



Sincerely,
OHM Advisors

Ife Ogundeji
Traffic Engineer

Attachments:

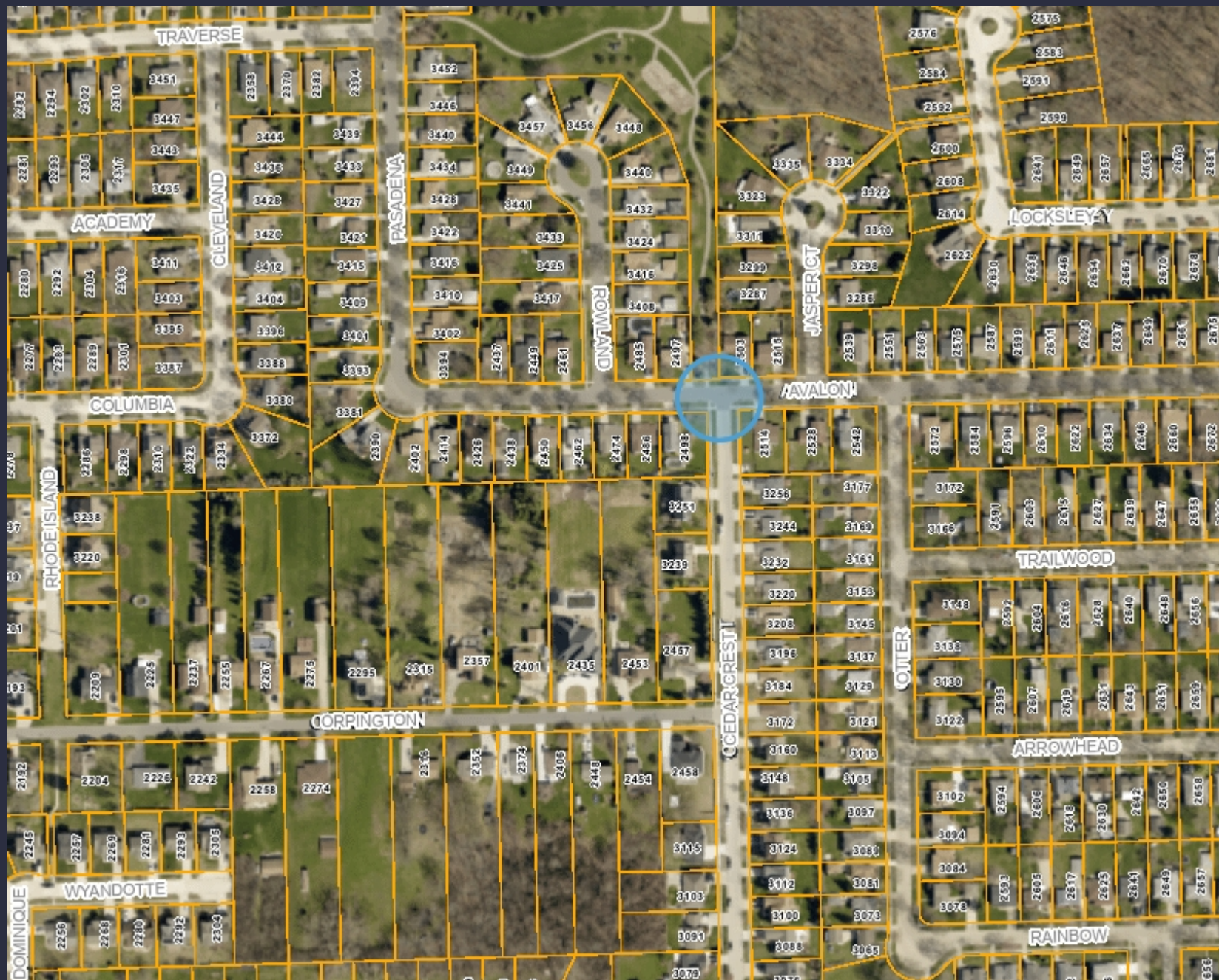
- Aerial Photo
- Safe Approach Speed Calculation Spreadsheet
- Intersection Photos
- Traffic Control Determination Reference Guide



GIS Online

Legend:

Road Centerline Text



Notes:

Map Scale: 1=358

Created: March 3, 2022



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

Safe Approach Speed Calculation

Avalon Dr and Cedar Crest Dr
City of Troy

Measured:

Width of Roads

Road 1 = 28 (ft)

Road 2 = 28 (ft)

Distance to Obstruction

a = 70 (ft)

b = 78 (ft)

c = 70 (ft)

d = 44 (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)

V₁ = 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)

Calculated Safe Approach Speed for Vehicle B

Approaching on Road 2

24.3 (mph) [Based on Veh. A]

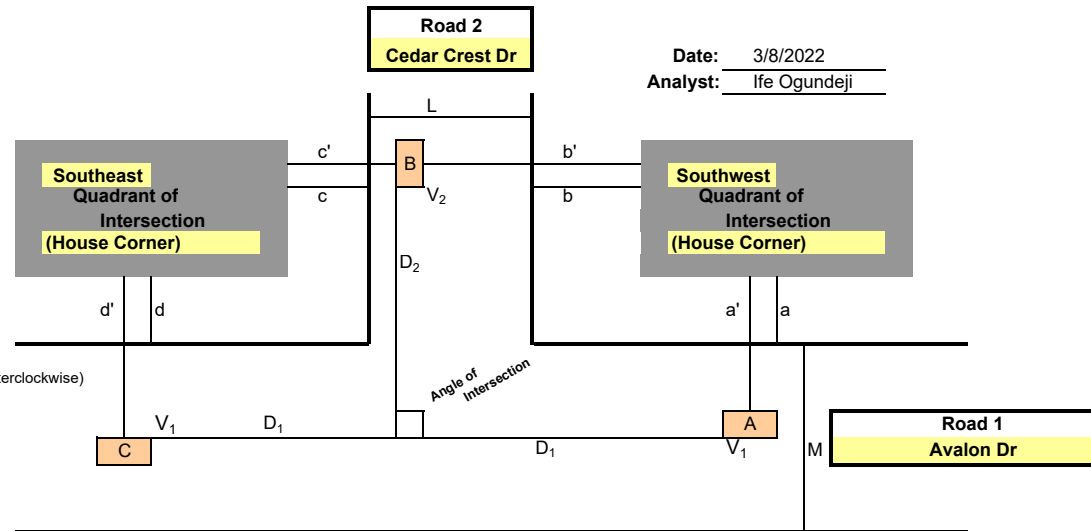
or V₂ = 19.7 (mph) [Based on Veh. C]

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.



Intermediate Calculations:

D₁ = 196

D_{2A} = 146

D_{2C} = 109.4

a' = 76

b' = 94

c' = 76

d' = 60

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

Notes: Enter field measurements in yellow highlighted area.

Blue fields are std. default values; change only for cause.

Calculated by spreadsheet

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



Photograph No. 1: Cedar Crest Drive Drive- Heading North
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 2: Cedar Crest Drive- Heading North looking right
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 3: Cedar Crest Drive- Heading North looking left
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 4: Avalon Drive- Heading West
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 5: Avalon Drive - Heading West and looking left
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 6: Avalon Drive - Heading East
Date: 03/08/2022 **Photographer:** Ife Ogundeji



Photograph No. 7: Avalon Drive - Heading East and looking right
Date: 03/08/2022 **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.*