500 West Big Beaver
Troy, MI 48084
troymi.gov

CITY COUNCIL AGENDA ITEM

Date: July 3, 2024

To: Robert J. Bruner, Acting City Manager

From: Megan E. Schubert, Assistant City Manager
G. Scott Finlay, City Engineer/Traffic Engineer

Subject: Traffic Committee Recommendations and Minutes – June 19, 2024

At the Traffic Committee meeting of June 19, 2024 the following recommendations were made for City Council approval:

4. Request for Traffic Control – Northfield Parkway - Troy High School

RESOLVED, that a School Zone be established on Northfield Parkway at Troy High School, between Long Lake Road and Wintergreen Drive for the purpose of reducing the speed limit in accordance with the Michigan Vehicle Code.

Minutes of the meeting are attached.

GSF/G:\Traffic\aaa Traffic Committee\2024\06_June 19\City Council\20240619 Traffic Committee Recommendation and Minutes.docx

A regular meeting of the Troy Traffic Committee was held Wednesday, June 19, 2024 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: Dale Christiansen
Shama Kenkre
Cindy Nurak
Al Petrulis
Justin Rose
Abi Swaminathan
Pete Ziegenfelder

Absent: Deputy Fire Chief, Michael Koehler
Angela Zhou, Student Representative

Also present: G. Scott Finlay, City Engineer
Lori Bluhm, City Attorney
Merissa Clark, Administrative Assistant
Sgt. Brian Warzecha, Police Department

2. Minutes – April 17, 2024 Traffic Committee

Resolution # 2024-06-11
Moved by Petrulis
Seconded by Swaminathan

RESOLVED, that the Traffic Committee approve the April 17, 2024 minutes as presented.

Yes: Christiansen, Kenkre, Nurak, Petrulis, Rose, Swaminathan, Ziegenfelder
No: None
Absent: None

MOTION CARRIED

PUBLIC HEARINGS

3. No Public Hearing

REGULAR BUSINESS

4. Request for Traffic Control – Northfield Parkway – Troy High School

There were two vehicle/pedestrian accidents this year on Northfield Parkway at Troy High School. Troy Police Department asked if a School Zone could be established to lower the speed limit during school arrival and departure, similar to Hamilton Elementary north of Troy High School on Northfield Parkway. A sign and pavement marking review of all schools in

done was completed in February 2022, establishing a school zone was a recommendation.

Principal Remo Roncome stated that he has worked there for 20 years and the traffic is excessive in the morning with 2100 kids/parents coming and going each morning and with 2 elementary school close by. They've had 2 serious accidents recently and he just wants it to be safer for walkers and bikers.

Todd Gilevich works at the school in security and works a lot with Troy P.D. and they are just looking to get the area safer for the kids.

Julie Mills has children that attend Troy High and she said she witnesses how awful it is and agrees with the previous statements made by Todd and Remo.

Sgt. Warzecha stated the he spoke with Scott Finlay about getting this taken to the Traffic Committee.

Scott Finlay mentioned that at the request of the Troy School District, a review of signs and pavement markings was completed at all schools in Troy, in February of 2022.

Justin Rose asked what the current speed limit is, he was informed that it is 35 MPH right now. He asked if we've considered crossing beacons & explained what that entails.

Scott Finlay stated that we do have those in place.

Pete asked if the resolution would be just the school area? Or if it would be Long Lake to Wintergreen;

Al thinks that would be logical.

Dale asked what the time restrictions would be.

Scott explained that we do not determine the time restrictions, DPW would get in contact the school district/administration for time frames on the signs.

Resolution # 2024-06-12
Moved by Rose
Seconded by Petrulis

> RESOLVED, that a School Zone be established on Northfield Parkway at Troy High School, between Long Lake Road and Wintergreen Drive for the purpose of reducing the speed limit in accordance with the Michigan Vehicle Code.

Yes: Christiansen, Kenkre, Nurak, Petrulis, Rose, Swaminathan, Ziegenfelder
No: None
Absent: None

MOTION CARRIED

5. Request for Traffic Control – Connolly Drive & Corbin Drive

Kalpit Kadia of 1984 Connolly Drive requested that the intersection of Connolly Drive and Corbin Drive be reviewed for purposes of traffic control at the uncontrolled intersection. He believed the existing uncontrolled intersection was dangerous and that a stop sign was needed on Connolly. The study indicated that a stop sign was warranted for Corbin, not Connolly. Mr. Kadia indicated that his concern was to control speed on Connolly, a stop sign on Corbin would not help.

This traffic study was requested by the resident, Scott Finlay decided to send the results forward because the study indicated that a stop sign was warranted for Corbin.

Justin stated that this seems to be more speed mediation and there isn't a high accident rate, so to go along with what Scott said he thinks P.D. may be able to assist, but would support no change at the intersection.

Abi asked if there was a stop sign at the entrance off of Coolidge, we checked GIS, it is a yield sign.

Resolution # 2024-06-13
Moved by Rose
Seconded by Christiansen

RESOLVED, that **NO CHANGE** be made to the Connolly Drive & Corbin Drive intersection.

Yes: Christiansen, Kenkre, Nurak, Petrulis, Rose, Swaminathan, Ziegenfelder
No: None
Absent: None

MOTION CARRIED

6. Request for Traffic Control – Troyvally Drive & Herbmoor Street

Jyh-Shin Chen of 6275 Riverton requested that the intersection of Troyvally Drive and Herbmoor Street be reviewed for purposes of changing the stop control on Troyvally at Herbmoor to uncontrolled. He states Herbmoor faces a dead end and Troyvally has more traffic. The stop sign should face Herbmoor instead of Troyvally to reduce vehicle stops and reduce greenhouse gases.

William Willams – "As a resident of Herbmoor south of Troyvally, I am in favor of Herbmoor gaining stop control. While the north spur of Herbmoor is a dead end, I regularly see traffic from the north traveling well in excess of the 25 MPH speed limit from my office window. I hope that this change will reduce the average speeds of the handful of repeat offenders residing on the north section of Herbmoor.
I am not, however, in favor of Troyvally LOSING stop control, for three resons.
First and foremost, Troyvally is a relatively steep downhill grade from Riverton to Vernmoor (east to west). If the stop control is removed from Herbmoor, there will be no traffic control from Canmoor to the terminus at Vernmoor. I would expect this removal to result in significantly increased speeds further down the hill, decreasing the safety of any non-vehicular

users in the neighborhood. This increased speed would particularly be an issue in the winter – I would expect to see an increase of cars in ditches along, and at the end of, Troyvally.
Second, the eastern corners of Herbmoor and Troyvally are the site of bus stops for all levels of the Troy School District – the northeast corner of Troy High, and the southeast corner for Smith and Martell. Removing stop control from Troyvally would make this crossing more dangerous for students.
Finally, the assessment of this proposed changes notes that there is limited visibility to the east, from cars approaching the intersection on Herbmoor from the south due to "the hill on the southeast corner of the intersection." The opposite is then necessarily true – that there is a sight distance obstruction traveling west on Troyvally approaching Herbmoor, and the same safe approach speed should apply. There is also a hill – permanent sight distance obstruction, though somewhat less impactful, on the southwest corner, as evidenced from Photograph #6 in the agenda. While the study notes that there were no accidents at this intersection in the last 5 years, the combination of sight distance obstruction, downhill grade, and, in the mornings, direct sunlight in the drivers' faces, would dramatically increase the chances of an eastbound vehicle turning south at Herbmoor colliding with a vehicle approaching Troyvally on Herbmoor from the south. I would be interested to know if the Committee has any statistics on accidents for Troyvally at Elmoor, which would closely resemble what is proposed for Troyvally at Herbmoor.
As a result of all of this, I would be in favor of not only retaining the stop control on Troyvally at Herbmoor, but adding it at Elmoor as well – or, if the Traffic Committee approves this request to remove stop control on Troyvally, at the very minimum adding other kinds of speed-limiting devices such as speed humps at strategic locations east of Canmoor along Troyvally.
Thank you for your consideration."

Julie Mills lives at 500 Troyvally explained that she thinks the stop sign is needed, and agreed with Mr. Williams. She wanted to make sure the Traffic Committee is aware they do not have sidewalks in the subdivision and believes it would be very unsafe for the children and walkers. She also brought up that every winter, cars are getting stuck in the ditch and changing it would not help. She believes a 4-way stop would be more beneficial or no change. She also pointed out that the requestor does not live near this intersection and is most likely asking for this because they don't want to slow down at the stop sign.

Dale Christiansen asked if any kind of change like this has caused confusion & was wondering what happens if the City were to flip the signs.

Scott Finlay explained it has not happened recently.

Justin Rose explained that his concern would be that people not used to the change may not pay attention and the Troyvally drivers may be expecting them to stop & they may not.

Sgt. Warzecha stated that he does not think anything should be removed.

Pete Ziegenfelder stated he is in favor of Traffic Control at all intersections.

Just Rose stated that it seems like it is okay the way it is now – doesn't think that the sight distance would cause an issue unless speeding.

Dale Christiansen stated that no sidewalks, speeding, winters, and kids being out at the bus stops does raise a red flag. He mentioned that Elmoor came up with virtually the same thing and asked if it's a disservice to not do the same thing there, or at every intersection.

Al Petrulis explained that excessive stop signs can cause more speeding, or rolling stops. He agrees that Herbmoor is a good point to break up traffic.

Justin Rose added that the stop signs give other drivers a false sense of security.

Pete Ziegenfelder also added, that the drivers may think it's unwarranted and ignore it all together.

Justin Rose asked Scott Finlay if we looked at all 3 intersections in the area since they are similar.

Scott Finlay stated that the requestor wanted to remove signage, so that was what the study reflects. Went on to explain how we have traffic studies done when subdivisions are built and that they have check with the Troy Police Department on accidents in the area.

Justin Rose understands that we can't study all intersections and that it was studied previously.

Abi Swaminathan motioned for No Change.

Justin Rose seconded it.

Dale Christiansen added that he thinks a sign should be placed because of the lack of sidewalks and amount of bus stops/children in the area.

Al Petrulis pointed out that we received the request for a swap not to add a 4-way stop. Could this be an issue since this is not what was requested?

Dale Christiansen pointed out that some of the emails the TC received were in favor of a 4-way stop.

Julie Mills & William Williams stated that they believe everyone in the area would be okay with that outcome.

Justin Rose is not in favor of a swap and doesn't believe we have a reason to change it right now.

Lori Bluhm added that we have the option to postpone this item and give residents proper notification about a 4-way stop option.

Julie Mills asked if it was possible to make no change and bring back to the board at a later date.

Pete Ziegenfelder explain the different options.

Dale Christiansen added that if the residents want to come back for a 4-way stop sign they can bring it back to the board and maybe we can make the changes then.

Al Petrulis asked if the intersection would need to be restudied?

Scott Finlay stated it would not be restudied.

Resolution # 2024-06-14
Moved by Swaminathan
Seconded by Rose

RESOLVED, that **NO CHANGE** be made to the Troyvally Drive Approach at Herbmoor Street.

Yes: Christiansen, Kenkre, Nurak, Petrulis, Rose, Swaminathan, Ziegenfelder
No: None
Absent: None

MOTION CARRIED

7. Public Comment

No public comment.

8. Other Business

Troy Traffic Committee Training – Presentation – Slides – 1-29 Attached - Presented by Lori Bluhm, City Attorney

9. Adjourn

The meeting adjourned at 9:20 PM.

Pete Ziegenfelder -Chairperson

G. Scott Finlay, City Engineer/Traffic Engineer

Troy Traffic Committee Training

TROY CITY ATTORNEY'S OFFICE, JUNE 2024

CREATION OF TRAFFIC COMMITTEE

- The makeup, authority, and standards of Troy's Traffic Committee are found in Chapter 35 of the City's Code.
- The Traffic Committee has 7 citizens who serve three year terms.
- The Traffic Engineer, Fire Chief and Police Chief or designee(s) are ex-officio members (non-voting)
- A student representative may be appointed as an ex-officio member for a one year term (non-voting)

DUTIES OF THE TROY TRAFFIC COMMITTEE

- Advisory powers with respect to proposed traffic regulations and traffic safety issues
- Final authority for sidewalk variances after public hearing

BYLAWS OF THE TROY TRAFFIC COMMITTEE

- Chair is a voting member
- Election of the Chair and Vice Chair happens at February annual meeting
- Regular Meetings held 3rd Wednesday each month
- Special meetings are permitted
- Traffic Engineer prepares agendas and keeps minutes, provides meeting notices, and other correspondence
- "Committee shall use its best efforts to make decisions and/or recommendations within 3 consecutive official meetings." Article IV, Section 7

ORDER OF BUSINESS- ARTICLE V

- A. Roll Call
- B. Approval of Minutes of Previous Meeting
- C. Public Hearings
- D. Tabled Items
- E. Regular Business
- F. Public Comment
- G. Member Comment
- H. Adjournment

- Message To Visitors, Delegations and Citizens

SITE VISITS

- If possible, Committee members should view the property before the meeting.
- Avoid discussion with applicant or any other person while visiting the site.
- The site should be visited independently - not with other Committee members (and NOT a quorum).
- Committee members should wear Identification Badge from City.

SIDEWALK WAIVERS/ VARIANCES

- A variance excuses someone from complying with the law.
- Variances should be sparingly granted- after consistent application of the standards. Otherwise, it undermines the City's Ordinance and the ability to enforce it.
- Sidewalk variance request is initially filed with Director of Public Works. The requestor should specify why the variance is necessary (leads to no where, landmark trees, ditches, etc.)
- Upon filing of application, property owner is temporarily relieved of the obligation to install the sidewalk, unless the Director of Public Works determines that it would cause imminent peril of life or property.
- Requires public hearing; Notice sent to property owners within 300 feet.

Traffic Safety Recommendations

- The Traffic Committee is vested with advisory powers with respect to proposed traffic regulations and traffic safety issues. Traffic Committee facilitates public input and makes a recommendation to the Troy City Council.
- State Statute- Michigan Vehicle Code- Act 300 of 1949, MCL 257.606
  - (1) This chapter does not prevent a local authority… with respect to streets or highways under the jurisdiction of the local authority and within the reasonable exercise of the police power from doing:
    - Regulating the standing or parking of vehicles…
    - Regulating traffic by means of police officers or traffic control signals…
    - Designating any intersection as a stop intersection and requiring all vehicles to stop at 1 or more entrances to the intersection; or designating any intersection as a yield intersection….

Michigan Vehicle Code- Act 300 of 1949

- Michigan Vehicle Code- Act 300 of 1949, MCL 257.606
  - (2) All traffic regulations described in subsection (1) SHALL be based on standard and accepted engineering practices as specified in the Michigan Manual On Uniform Traffic Control Devices (MMUTCD)

Michigan Vehicle Code- Act 300 of 1949

- Michigan Vehicle Code- Act 300 of 1949, MCL 257.610
  - (1) Local authorities.. Shall place and maintain the traffic control devices upon highways under their jurisdiction that they consider necessary to indicate and to carry out the provisions of this chapter or local traffic ordinances or to regulate, warn, or guide traffic. All traffic control devices SHALL conform to the Michigan manual on uniform traffic control devices.
  - (2) The state transportation department SHALL withhold from any City that fails to comply with the statute the share of fuel and vehicle tax revenue that would otherwise be due to the City. Notice of failure to comply, and 1 year's time to comply after notice, shall first be given.

Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

- Generally, the starting premises is an uncontrolled intersection
- STOP Signs
  - 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
  - STOP signs are NOT to be used for speed control (Section 2B.04)

Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

- All Way STOP sign warrants
  - Five or more reported crashes within a 12 month period that are susceptible to correction by a multi-way stop installation
  - Minimum volumes*
    - At least 300 vehicles per hour average from the major street for any eight hours of an average day (total of both approaches)
    - Combined vehicular, pedestrian, and bicycle volume entering from the minor street averaging 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 during the highest hour; BUT

* If the 85th percentile approach speed of the major street traffic EXCEEDS 40 mph, the minimum volume standards are reduced to 70%

* Can be combination of crashes and 80% of minimum volumes

Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

More from the Reference Guide on Traffic Control Determination in the State of Michigan (provided in your agenda materials)

- "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.
  - Explicit restriction- STOP signs are not to be used for speed control

DECISION

- A variance may only be granted if supported by evidence.
- A resolution to approve or deny a sidewalk waiver/ variance can be based on information or material provided by the applicant, City staff, or members of the public.
- The Committee may consider public comment as relevant evidence, but unsubstantiated or speculative public comment does not provide competent evidence to grant or deny a variance.
- A variance should not be granted solely because nobody from the public objected.
- A variance should not be denied solely because several members of the public objected.
- Committee may grant, deny, partially grant a variance or postpone.
- If granted, any condition required by the Committee shall be incorporated into the sidewalk and driveway approach permit.

DELIBERATION AND RESOLUTIONS

- Avoid discussions, debates, or negotiations with applicant during the meeting.
- Avoid redesigning the project or trying to convince applicant of alternatives.
- If presented with new information or material at the meeting, it is acceptable to postpone to another meeting to have time to review new information.
- Not necessary to read verbatim agenda item description – may state “as printed in the agenda,” as long as you specify grant or deny.
- Be clear and concise as possible.
- It is acceptable to ask person making the resolution to provide clarification.
- It is acceptable to state reasons why you will approve or deny request.
- Be aware of body language – avoid frowns, gestures, head hanging, dozing off.

TROY BOARD AND COMMITTEE APPOINTEE ETHICS

- Council adopted Chapter 14A in 2021,which is an ordinance that governs elected and appointed officials.
- Respect the confidentiality of privileged information;
- Recognize that an individual board or committee member has no authority to speak or act for the Troy City Council, the City of Troy, or their respective Committee;
- Work with other appointees to further the board or committee goals;
- Encourage the free expression of opinion by all committee members;
- Communicate to City Council and staff as to issues of concern or requiring study or action;

TROY BOARD AND COMMITTEE APPOINTEE ETHICS

- Render all decisions based on the available facts and independent judgment;
- Make every effort to attend all meetings and prepare;
- Become informed concerning the issues to be considered at each meeting;
- Avoid conflicts of interest or the appearance thereof;
- Refrain from using position for personal benefit, or for the benefit of family members or business associates;
- Avoid use of derogatory language;
- Treat all people fairly and with dignity and respect.
- Abstain from harassing or discriminatory behavior.

TROY BOARD AND COMMITTEE APPOINTEE ETHICS

- *Freed v. Lindke* was decided by the United States Supreme Court in 2024.
  - A public official's social-media activity constitutes state action under §1983 only if the official (1) possessed actual authority to speak on the State's behalf, and (2) purported to exercise that authority when he spoke on social media.
- What this means for Committee members:
  - Posting about what happens at a meeting is discouraged, since the board member's interpretation may be challenged, but board members are able to share a link so that persons can view the agenda materials.
  - Disclaimers expressly indicating that the views expressed are the board member's alone is encouraged.

CONFLICTS OF INTEREST

- Officials should avoid participating in any matter where he or she has a conflict of interest.
- Conflict of interest is generally described as having a financial interest- but it may be a personal interest too. This could include those officials who have real property in close proximity to the applicant- where the property value could be impacted.
- Minor relationship with applicant is not a conflict unless it impacts ability to be fair and impartial.
- When in doubt- disclosure is critical. After such disclosure, the decision can be left to the Board.
- If the Committee votes that there is a conflict, the individual member should NOT be in the room when the matter is discussed, and should not participate in the discussions or deliberations.

OPEN MEETINGS ACT AND FREEDOM OF INFORMATION ACT

- Michigan adopted the current versions of the Open Meetings Act (OMA) and the Freedom of Information Act (FOIA) after Watergate (effective March 31, 1977). The core purpose of OMA and FOIA is best served through information about the workings of government or information concerning whether a public body is performing its core function.
- OMA and FOIA are applicable to the Traffic Committee, since it is a "public body," empowered by State Statute and City Charter and City Ordinance to exercise governmental authority.

OPEN MEETINGS ACT

- **“All meetings of a public body shall be open to the public and shall be held in a place available to the public.” MCL 15.263**
- This includes virtual meetings.
- The following may constitute a meeting under OMA:
  - E-mail chain of discussion using “reply to all” feature
  - Social gathering or educational session w/ quorum and discussion or deliberation
  - Site visit w/quorum and discussion or deliberation
  - Sub-committee meeting w/quorum and discussion or deliberation
  - Round robin telephonic or e-mail discussion

OPEN MEETINGS ACT

- Open to the public means that all persons are entitled to record, televise, videotape, or broadcast a public meeting.
- Meetings shall be in open facilities and preferably easy for the public to access.
- If there is an unexpected crowd, the public body must try to accommodate if possible.
- All persons shall be permitted to attend- and address the public body on any item.
  - Can't restrict to residents only
  - Can't limit subject matter without good justification and written rules
  - Can have time limits imposed uniformly- and at the beginning of a meeting- do not restrict based on subject matter or opinion
  - May ask the speaker to voluntarily disclose their address when speaking, since it goes to the weight of the comments, but cannot deny a speaker if they refuse

OPEN MEETINGS ACT

- Reasonable rules can be enacted to minimize the possibility of disruption- but should be written and uniformly applied.
  - Public comment can be limited to a specific time on the agenda- and should be prohibited during deliberations.
  - Time limits- per speaker or per item or per meeting- must be reasonable and not based on the subject matter.
- In the event that a speaker becomes unruly, the chair should provide a warning if possible before taking any adverse action.
- Recess requests may assist with an orderly meeting. During a recess, do not discuss any matters with other Committee members to avoid appearance of OMA violation.
- Purpose of public meeting- discuss public business- not deal with individual personalities. However, comments pertaining to job performance cannot be prohibited.

Open Meetings Act – Remote Attendance by Member of Committee

- During Covid Pandemic there were OMA amendments allowing for remote participation by board members and the public.
- Many of the Covid provisions were temporary and have now expired.
- The OMA now requires all board members to be physically present except a member on military duty.
- A board must have a procedure to allow a board member on military duty to participate remotely by an electronic procedure that allows two-way communication,
- A board member participating in a meeting remotely because of military duty must disclose at the onset of the meeting that he or she is attending remotely but the member is not required to specifically identify their physical location.

Open Meetings – Remote Participation by Member of Public

- A board is not required to provide electronic access to the public or others (attorney, consultant, staff) not a member of the board, but may do so.
- If a board has chosen to provide electronic access to the public and has authorized electronic participation for public comment, members of the public attending a meeting remotely may address the board during a pubic hearing or public comment period.
- The Rules of Procedure do not authorize members of the public to participate remotely, but do allow members of the public to submit written comments that are read or summarized at the meeting.

Freedom of Information Act

- Requires disclosure and access to public records.
- Public records are writings prepared by, owned, used, in the possession of, or retained by a public body in the performance of an official function- from the time it is created.
- Writing is broadly defined to include all types of recordings, letters, words, pictures, sounds, papers, maps, photographic film, prints, punch card, discs… or other means of recording or retaining meaningful content.
- Includes letters, e-mails, text messages in course of performance of duties - even if on private devices (BYOD).
- Public body has 5 business days to respond to a FOIA request unless expressly asking for a 10 day extension due to unusual circumstances.
- The public body has the burden of justifying an exemption

Freedom of Information – Communications Received by Committee Members

- If a Committee member receives a letter or email from applicant or any member of the public, do not respond other than to indicate the communication has been forwarded to City Administration.
- If the communication has relevance, City Administration may provide copy to all Committee members in an agenda packet.
- Committee members should not engage in any communications with applicant or other members of the public concerning a matter that is pending before the Committee outside the meeting.
- Any written communications with applicants or members of the public may be subject to disclosure under FOIA.
- Committee members may want to establish a dedicated email for Traffic Committee matters.

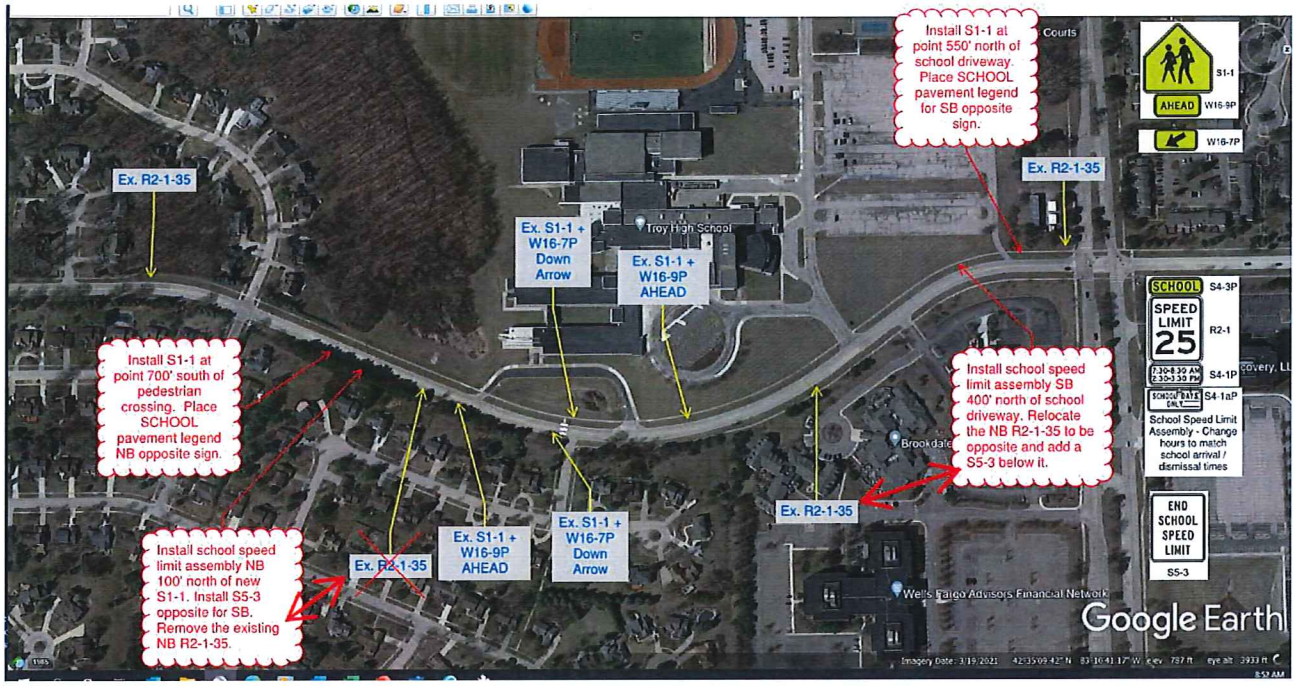
Appeals from Committee Decisions

- For sidewalk variance/ waiver decisions, there is an appeal as of right to circuit court by any person aggrieved by a decision of the Committee.
- The appeal must be filed within 21 days of the date the board certifies the minutes of the meeting at which the decision on the variance was made.
- The circuit court may affirm, reverse, or modify the decision of the board of appeals, or may remand the item to the Committee.

Questions

Troy High School:

Located on Long Lake Rd at Northfield Pkwy. The main recommendations for this school include installing new signs and replacing speed limit signs. There are two locations provided on the plans where new pedestrian signs should be installed. At these locations, the "SCHOOL" pavement marking legend should also be implemented. Additionally, instead of the current speed limit signs, school speed limit assembly signs should be installed. These new assembly locations are shown in the plans. Once these new assemblies have been installed, the existing speed limit signs should be removed/relocated.



ARCHITECTS. ENGINEERS. PLANNERS.

OHM Advancing Communities®

April 24, 2024

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

RE: Traffic Control Recommendation for
Troyvally Drive at Herbmoor Drive

Dear Mr. Finlay:

As requested, we have reviewed the intersection of Troyvally Drive at Herbmoor Drive to determine the proper traffic control. Troyvally Drive at Herbmoor Drive is a 4-legged intersection located in the City of Troy. The speed limit on both streets under investigation is 25 mph. Under existing conditions, both Troyvally Drive approaches are under stop control. Attached are aerial and intersection photos.

Types of Roadways

Both Troyvally Drive at Herbmoor Drive are considered local streets. Troyvally Drive runs east to west providing access throughout the neighborhood. Herbmoor Drive runs north to south offering access to the neighborhood off of Square Lake Road.

The surrounding land use is entirely single-family residential. There are no existing parking restrictions on either Troyvally Drive or Herbmoor Drive. There is no clear major versus minor street. However, the placement of the existing controls presupposes that Troyvally Drive is the minor road and Herbmoor Drive is the major. It is not self-evident that this is correct, so for the purpose of our analysis Troyvally Drive is presumed to be the major road, while Herbmoor Drive is considered the minor road. Both Troyvally Drive and Herbmoor 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 Troyvally 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 Herbmoor Drive is similarly unlikely to average at least 200 units for any 8 hours. Additionally, since the posted speed limit is only 25 mph, it is reasonable to assume that the 85th percentile approach speed does not exceed 40 mph 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. However, we note that Herbmoor Drive is a long, uninterrupted straightaway while Troyvally Drive has been stopped at Canmoor Drive, just a short block to the west. This is a factor in determining which set of approaches should be subject to intersection controls for Troyvally Drive at Herbmoor Drive. If any two-way controls are merited, they should be assessed against Herbmoor Drive, not Troyvally Drive.

Sight Distance

The major potential sight distance obstruction at the intersection of Troyvally Drive at Herbmoor Drive for a motorist traveling northbound on Herbmoor Drive would be the hill on the southeast corner of the intersection. This obstruction impacts 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 10 mph or less, 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 Herbmoor Drive is 9.5 mph due to the permanent sight distance obstruction from the hill on the southeast quadrant. Thus, based on the safe approach speed calculations, STOP-control is the computed right-of-way control for Herbmoor 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 STOP-control would be appropriate for the minor street (Herbmoor Drive) approach.

OHM recommends implementing STOP signs on the Herbmoor Drive approaches and removing the STOP signs on the Troyvally Drive approaches. Under existing conditions, drivers are used to the STOP signs on Troyvally Drive and expect to stop. Similarly, drivers on Herbmoor Drive are not used to stopping at this intersection and therefore do not expect to stop. Due to this change in driver expectation, there

could be an increase in crashes at this intersection. To help counteract this change, additional warning signs should be provided including W23-2 "NEW TRAFFIC PATTERN AHEAD" on all four approaches along with W4-4P "CROSS TRAFFIC DOES NOT STOP" on both new STOP signs. Additionally, once the new STOP signs are in place flags should be added to help warn drivers. The W23-2 signs and flags should remain in place for a minimum of 6 months. The intersection should be reevaluated if traffic volumes increase, or crashes begin to occur.

Sincerely,
OHM Advisors

Lauren Hull

Lauren Hull, EIT
Traffic Engineer

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

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Troyvally Dr
Hershberger Dr

Safe Approach Speed Calculation

Troyvally and Herbmoor
City of Troy

Date: 3/20/2024
Analyst: Lauren & Alyssa

Measured:

Width of Roads

Road 1 =	26	(ft)
Road 2 =	26	(ft)

Distance to Obstructions

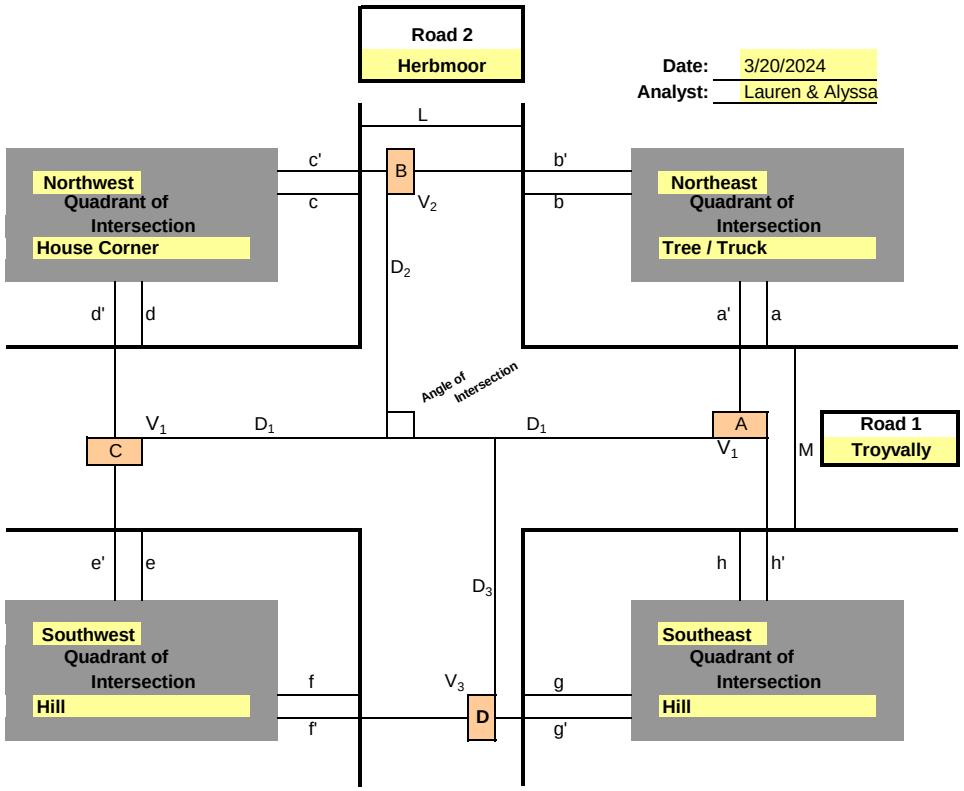
a =	59	(ft)	e=	88	(ft)
b =	15	(ft)	f=	53	(ft)
c =	64	(ft)	g=	30.5	(ft)
d =	43	(ft)	h=	14	(ft)

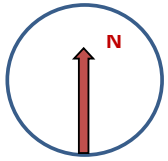
Angle of Intersection

Delta =	80	(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)

Calculated Safe Approach Speed for Vehicle B
Approaching on Road 2

V_2 =	15.2	(mph) [Based on Veh. A]
or V_2 =	18.5	(mph) [Based on Veh. C]

Calculated Safe Approach Speed for Vehicle D
Approaching on Road 2

V_3 =	9.5	(mph) [Based on Veh. A]
or V_3 =	24.3	(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:

D_1=	196	a' =	65	e' =	94
D_{2A}=	77.6	b' =	29	f' =	67
D_{2C}=	100.8	c' =	70	g' =	36.5
D_{3A}=	43.3	d' =	57	h' =	28
D_{3C}=	146				

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 $D_{2C} = \frac{c' * D_1}{(D_1 - d')}$ or $D_{3A} = \frac{g' * D_1}{(D_1 - h')}$ or $D_{3C} = \frac{e' * D_1}{(D_1 - f')}$

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 : **STOP Sign**

Photograph No. 1: Herbmoor Drive - Heading North Looking Left
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 2: Herbmoor Drive - Heading North
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 3: Herbmoor Drive - Heading North Looking Right
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 4: Troyvally Drive – Heading East Looking Left
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 5: Troyvally Drive – Heading East
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 6: Troyvally Drive – Heading East Looking Right
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 7: Hermoor Drive - Heading South Looking Left
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 8: Hermoor Drive - Heading South
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 9: Hermoor Drive - Heading South Looking Right
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 10: Troyvally Drive - Heading West Looking Left
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 11: Troyvally Drive - Heading West
Date: 03/21/2024 **Photographer:** Lauren Hull

Photograph No. 12: Troyvally Drive - Heading West Looking Right
Date: 03/21/2024 **Photographer:** Lauren Hull

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.*

ARCHITECTS. ENGINEERS. PLANNERS.

OHM Advancing Communities®

May 23, 2024

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

RE: Traffic Control Recommendation for
Connolly Dr at Corbin Dr

Dear Mr. Finlay:

As requested, we have reviewed the intersection of Connolly Dr at Corbin Dr to determine the proper traffic control. Connolly Dr at Corbin Dr 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 Connolly Dr and Corbin Dr are considered local streets. Connolly Dr runs north to south providing access to the neighborhood off of Coolidge Hwy. Corbin Dr runs east to west offering access to the neighborhood from Coolidge Hwy as well.

The surrounding land use is entirely single-family residential. On-street parking is permitted on the east side of Connolly Dr and on the north side of Corbin Dr. There is no clear major versus minor street. However, for the purpose of analysis Connolly Dr is presumed to be the major road, while Corbin Dr is considered the minor road. Both Connolly Dr and Corbin Dr 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.

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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 Corbin Dr meets and sustains the 300 vehicles per hour threshold for a minimum of 8 hours. The combined vehicular, pedestrian, and bicycle volumes entering from Connolly Dr 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 have likely not 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 Connolly Dr at Corbin Dr for a motorist traveling westbound on Corbin Dr would be the large tree on the southeast quadrant of the intersection and the trees and brush on the northeast corner 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 10 mph or less, 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 westbound vehicles on Corbin Dr is 7.2 mph due to the permanent sight distance obstruction from the trees and brush on the northeast and southeast quadrants. Thus, based on the safe approach speed calculations, STOP-control is the computed right-of-way control for the Corbin Dr approach. The safe approach speed calculation spreadsheet for the intersection is attached for reference.

Recommendation

The preceding analysis determined that the criteria were met for STOP-control on the minor street (Corbin Dr) approach, based on the safe approach speed calculations.

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

Sincerely,
OHM Advisors

Laure Hull
Traffic Engineer

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

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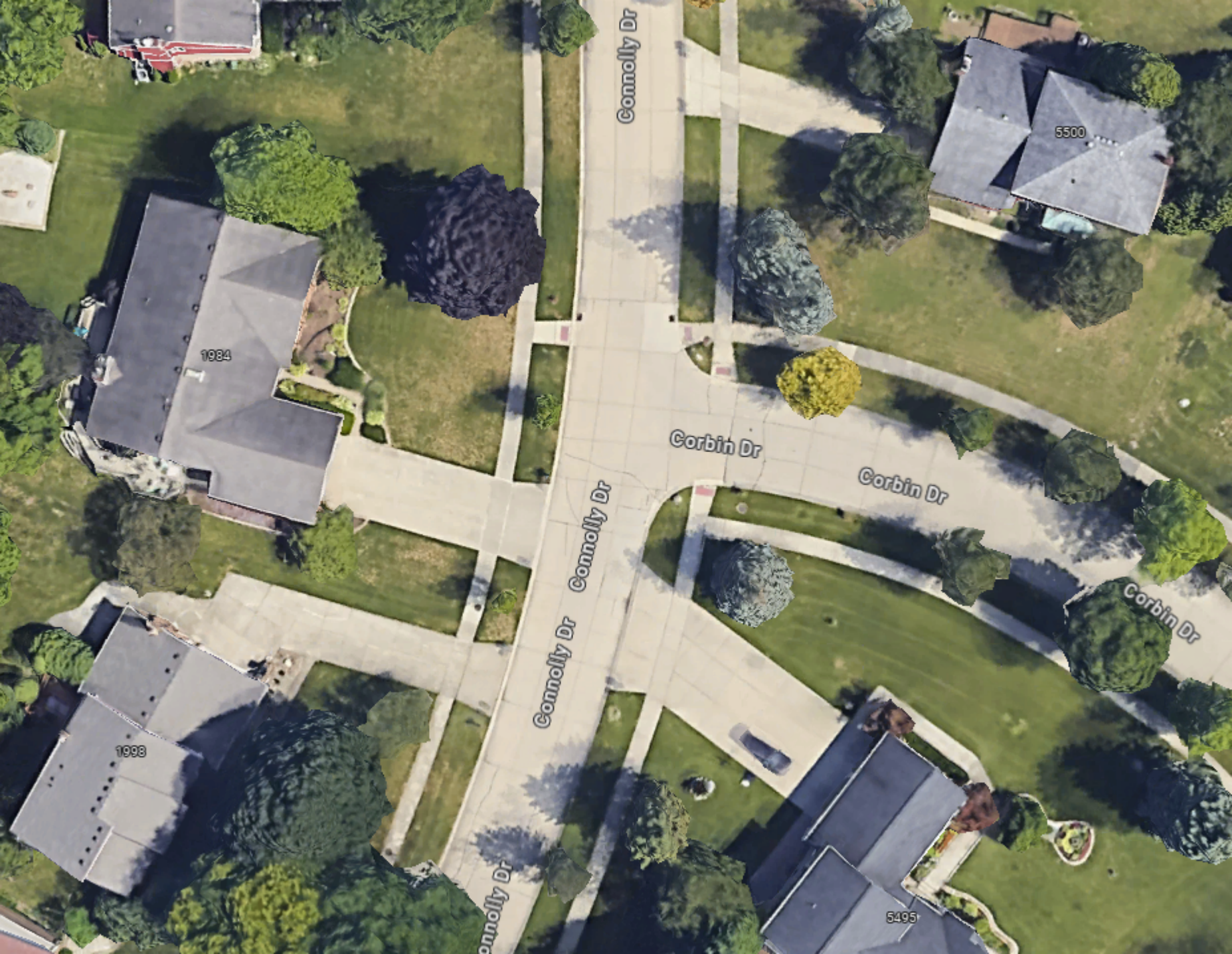
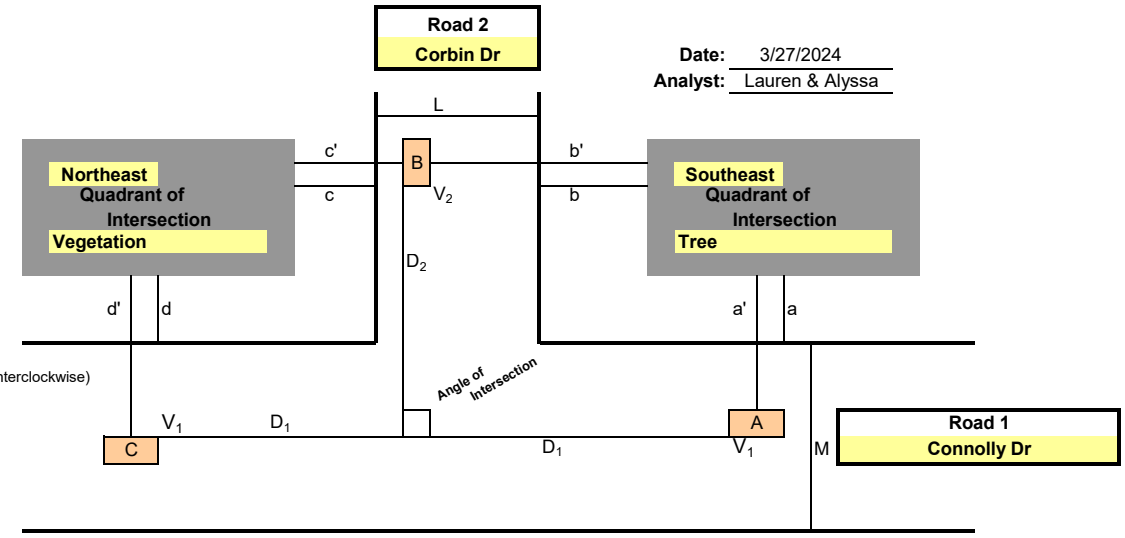
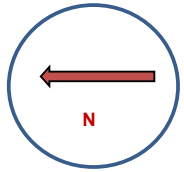

Connolly Dr
5500
1984
Corbin Dr
Corbin Dr
Corbin Dr
Connolly Dr
Connolly Dr
1998
5495

Safe Approach Speed Calculation

Connolly Dr and Corbin Dr
City of Troy

Date: 3/27/2024
Analyst: Lauren & Alyssa





Measured:

Width of Roads
- Road 1 = 26 (ft)
- Road 2 = 26 (ft)

Distance to Obstruction
- a = 21 (ft)
- b = 13.5 (ft)
- c = 16 (ft)
- d = 18 (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' =	27
D_{2A} =	31.4	b' =	27.5
D_{2C} =	26.3	c' =	22
		d' =	32

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

FALSE 7.2 (mph) [Based on Veh. A]
FALSE or V_2 = 6.2 (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 : **STOP Sign**

Photograph No. 1: Connolly Dr -Heading North
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 2: Connolly Dr - Heading North looking left
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 3: Connolly Dr - Heading South
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 4: Connolly Dr - Heading South looking right
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 5: Cordin Dr - Heading West
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 6: Cordin Dr - Heading West looking right
Date: 03/27/2024 **Photographer:** Lauren Hull

Photograph No. 7: Cordin Dr - Heading West looking left
Date: 03/27/2024 **Photographer:** Lauren Hull

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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.*