

MEMORANDUM

TO: Mayor and City Council

FROM: Tom Crawford, City Administrator

- DATE: December 16, 2020
- SUBJECT: Response to Council Resolution R-20-225 Resolution Directing Evaluation of City Pedestrian and Cycling Transportation Environment by a Professional Engineer with Vision Zero Expertise

This memorandum and attached report are provided in response to approved City Council <u>Resolution R-20-225</u> – Resolution Directing Evaluation of City Pedestrian and Cycling Transportation Environment by a Professional Engineer with Vision Zero Expertise. Specifically, City Council directed the City Administrator to engage with Sam Schwartz, a PE with Vision Zero expertise, to review a sample of the city's pedestrian crossings, including, but not limited to various facility components utilized across varied geographic installations, related to city ordinances and educational communications, and interdependencies, such as, unlit crosswalks and the crosswalk ordinance. The purpose of the evaluation is to identify deficiencies and opportunities to significantly decrease our pedestrian and cyclist crash rate.

Attached to this memo is the final report produced by the Sam Schwartz consulting team. Since the draft was originally shared with City Council in October, some additional language was added to the discussions on the crosswalk ordinance (page 1) and possible education campaigns (pages 10-11). Additionally, staff shared the draft report with the Transportation Commission at their November 18, 2020 meeting and it was well received.

Staff considers the report complete and will program to advance the recommendations contained therein starting in 2021.

Attachments: Pedestrian & Bicycle Infrastructure Review

cc: E Cooper J Fournier R Hess S Higgins C Hupy N Hutchinson Sam Schwartz 223 W. Jackson Blvd., Suite 1101 Chicago, IL 60606 (773) 305-0800 samschwartz.com

Sam Schwartz

Memorandum

To: Eli Cooper, AICP – City of Ann Arbor
From: Sam Schwartz Consulting
Date: December 16, 2020
Re: Pedestrian & Bicycle Infrastructure Review

Ann Arbor's crosswalk ordinance mandates drivers to stop for pedestrians standing at the curb or within a crosswalk. Even so, tragically 44 percent of all crashes where a person walking was killed or seriously injured from 2014-2018 were a result of the driver failing to yield. In 2017, the crosswalk ordinance was reviewed in a memorandum by Toole Design Group, finding the ordinance to be "within the range of regional variation in norms and practices and consistent with driver instruction in Michigan." Upon our review of the crosswalk ordinance, we concur with the previous finding and further that the ordinance remains consistent with regional and national recommended practice.

In 2019, the city published Crosswalk Design Guidelines outlining design options for different types of crossing locations and establishing a transparent process to choose the level of design for a crosswalk. Overall, the guidelines provide an organized and clear approach for determining a crossing's design features and gives careful consideration for school crossings. Our review indicates that the guidelines present a thorough set of crosswalk treatments; however, opportunities exists to update the guidance as new research and device approvals have emerged.

To identify the design options for a selected crosswalk location, the guidelines follow a decision tree to determine whether the location requires (1) standard, (2) standard+, or (3) high-risk design applications. The various treatments are organized into separate matrices for controlled and uncontrolled design options. Uncontrolled design options, which is the focus of this review, follow a fairly intricate selection process. In addition to vehicular volume, the process is informed by the National Cooperative Highway Research Program (NCHRP) Report 562 five-step worksheet. The worksheet considers various data inputs including pedestrian volume, crossing distance, walking speed, vehicle speed, etc. to estimate pedestrian delay and to determine if a signal warrant is met. Ultimately, the pedestrian delay and expected compliance guides the design designation.

While the NCHRP Report considers school locations, the five-step worksheet does not apply to school crossings. The guidelines give special consideration for crosswalks adjacent to a school or designated walking route and qualifies the design option to apply the next level (e.g. a standard+ crosswalk would become high-risk).

Sam Schwartz compared Ann Arbor's existing Crosswalk Design Guidelines to relevant standards and guidance in the National Association of City Transportation Officials (NACTO) *Urban Street Design Guide* and the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD) *2011*. It is evident these standards and guidance were all consulted in the creation of the recent Crosswalk Design Guidelines. Organized by controlled and uncontrolled crossings, NACTO guidance applies treatments given vehicle volume, vehicle speed, and street width with special considerations for schools, parks, senior centers, transit stops, hospitals, campuses, and major public buildings. While similar to NACTO's toolbox of treatments, Ann Arbor's design categories are more straightforward in prioritizing safety.

Sam Schwartz also compared the existing Crosswalk Design Guidelines to the Federal Highway Administration (FHWA) *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* which post-dates the original authoring of the design guidelines. In FHWA guidance, crosswalk treatments are determined by roadway characteristics (vehicle volume, posted speed limit, and lane configuration) and, separately, by safety issues. Crash history and typical dangerous driving behaviors help inform safety measures. FHWA provides additional guidance about the effectiveness of Pedestrian Hybrid Beacons and Rectangular Rapid Flashing Beacons along with the interaction with other crosswalk treatments. The FHWA guidance links tools to the MUTCD standards, describing considerations such as minimum widths or thresholds. Overall, the Crosswalk Design Guidelines fall within FHWA guidance and, like FHWA, Ann Arbor's guidance identifies signage with their MUTCD designation.

Reviewed Standards and Guidance:

- 2019 Ann Arbor Crosswalk Design Guidelines
- 2013 National Association of City Transportation Officials (NACTO) Urban Street Design Guide
- 2006 National Cooperative Highway Research Program (NCHRP) Report 562
- 2018 Federal Highway Administration (FHWA) *Guide for Improving Pedestrian Safety at* Uncontrolled Crossing Locations
- 2011 <u>Manual of Uniform Traffic Control Devices (MUTCD)</u>, 2011 Michigan MUTCD, 2009 Federal <u>Edition</u>
- 2016 <u>Michigan Department of Transportation (MDOT)</u> User guide for R1-6 Gateway Treatment for Pedestrian Crossings
- 2020 MDOT Guidance for Installation of Pedestrian Crosswalks on Michigan State Trunkline Highways
- 2005 FHWA Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations
- 2004 (2010 Update) <u>American Association of State Highway Transportation Officials (AASHTO)</u> <u>Guide for the Planning, Design, and Operations of Pedestrian Facilities</u>

Data Collection

Based on a guideline review and using responses from the city's Pedestrian Crossing Survey from the beginning of 2020, Sam Schwartz identified an initial list of uncontrolled crosswalk locations for data collection. Those locations were reviewed and expanded upon by councilmembers. In a meeting with councilmembers, additional crosswalk locations were recommended for field review. Ultimately, a list of 23 crosswalk locations were identified for review, none controlled by a stop sign or signal. The selected crosswalks are shown in Figure 1 and included a variety of midblock crossings, school crossings, and/or along bike routes that make up a geographically diverse and representative sample of the existing pedestrian and bicycle network throughout the city. Additionally, the selected crosswalks are located on a variety of street types including local, collector, minor and principal arterials.

| # | Crosswalk Location | Туре | Bus Stop | Bike Facility | School |
|----|---|--------------|-------------------------|------------------|--------|
| 1 | Pontiac Trail south of Arrowwood Trail | Uncontrolled | | Ø | |
| 2 | Pontiac Trail & Brookside Drive | Uncontrolled | | Ø | |
| 3 | Traver Road south of John A Woods Avenue | Uncontrolled | | | |
| 4 | Broadway Street/ Division Street west of Broadway Bridge | Uncontrolled | | | |
| 5 | Fifth Avenue along Community High School | Uncontrolled | | | V |
| 6 | Nixon Road north of Plymouth Road | Uncontrolled | $\mathbf{\overline{A}}$ | Ø | |
| 7 | Green Road & Burbank Drive (north of Plymouth) | Uncontrolled | | | |
| 8 | Green Road & Hubbard Road | Uncontrolled | | Ø | |
| 9 | Geddes Road & Earhart Road | Roundabout | | | |
| 10 | Geddes Ave near Gallup Park pathway | Uncontrolled | | V | |
| 11 | Geddes Avenue & Arlington Boulevard | Uncontrolled | | | |
| 12 | Washtenaw Avenue north of Stadium Boulevard | Uncontrolled | | | |
| 13 | Pittsfield Boulevard & Jeanne Avenue | Roundabout | | | |
| 14 | Fernwood Avenue & Lorraine Street | Uncontrolled | | | V |
| 15 | Tappan Avenue & Oakland Avenue | Uncontrolled | \square | | V |
| 16 | Stadium Boulevard between Kipke Drive & Main Street | Uncontrolled | | Ø | |
| 17 | Delaware Drive between Mershon Drive & 7th Street | Uncontrolled | | | |
| 18 | Victors Way & Boardwalk Drive | Uncontrolled | | V | |
| 19 | State Street and Ellsworth Road | Roundabout | | | |
| 20 | Jefferson Street & Third Street | Uncontrolled | | | |
| 21 | Soule Boulevard & Lutz Avenue | Uncontrolled | | | |
| 22 | Maple Road & Haisley Drive | Uncontrolled | V | M | |
| 23 | Vesper Road & Red Oak Road | Uncontrolled | | | |

Table 1. Crosswalk Locations for Field Data Collection



Key Findings

On September 17, 2020, a Sam Schwartz staff member visited each of the 23 identified crosswalk locations to collect information using the data collection forms contained in the Appendix A and took photographs. All field observations were conducted during daylight hours.

Of the 23 crosswalk locations, 20 were uncontrolled and three were at roundabouts (a single approach was observed at each roundabout). Nine crosswalk locations were adjacent to bus stops. Five locations were adjacent to schools with an additional five locations within two blocks of a school. Twelve crosswalks intersected a bike facility. Table 2 summarizes the crosswalk devices inventoried in the field by street type.

| | | High Visibility Markings | Adv. Ped Warning | Adv. School Warning | Ped Warning Series | School Warning Series | Bright Sides | In Lane Signs | Stop Bar | Stop Here for Ped | Over- head | RRFB | Ped Refuge Island | Curb Ext. |
|-------------------------------------|----|--------------------------------|------------------------|---------------------------|--------------------------|-----------------------------|-----------------|------------------|-------------|-------------------------|---------------|------|-------------------------|--------------|
| Street Type | # | | Series | Series | | | | | | | | | | |
| Local (2 lanes) | 8 | 6* | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Collector (2- 3 lanes) | 4 | 2* | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| Minor/ Major 2 Lanes | 6 | 6 | 2 | 0 | 2 | 0 | 1 | 3 | 0 | 1 | 1 | 1 | 2 | 2 |
| Minor/ Major <u>></u> 3 Lanes | 5 | 5 | 1 | 0 | 3 | 0 | 1 | 2 | 2 | 3 | 0 | 3 | 2 | 0 |
| Total | 23 | 18 | 4 | 3 | 7 | 3 | 4 | 6 | 2 | 4 | 1 | 6 | 5 | 2 |

Table 2. Summary of Crosswalk Devices by Street Type

*One crosswalk is under construction

Based on the information collected in the field, several key findings were identified and summarized below.

1. Crosswalk pavement markings are consistent and in good condition.

The majority (87%) of the crosswalks were marked. One crosswalk was unmarked (Vesper Road & Red Oak Road) and two were part of a resurfacing or restriping project during the Sam Schwartz field visit. Of the marked crosswalks, 95% had high-visibility pavement markings, and nearly all displayed the continental design, as shown in *Figure 2*. One crosswalk had parallel striping (Pittsfield Boulevard & Jeanne Avenue). Overall, the pavement markings were in good condition. Only one location had faded pavement markings (Broadway Street/ Division Street west of Broadway Bridge).



Figure 2 This crosswalk at Green Road and Burbank Road applies high-visibility continental pavement markings.

2. Basic crosswalk signage meets minimum engineering standards. In some locations, the minimum standards are exceeded with optional applications used.

Over half of the observed crosswalks (61%) included signage designated in the Guidelines. All crosswalks without signage were located on low-speed (25 MPH) local, collector, or minor arterial streets, or on a street under construction. 56% of the unsigned crosswalks were on local streets, and 22% on minor arterials and 22% on collector streets. The unsigned crosswalks aligned with "Standard" design option in the Guidelines.

Pedestrian Warning Series (W11-2) and In-Lane Signs (R1-6a) were the most common signage application. It was noted in the field that the in-lane signs at both the centerline and lane lanes appeared to be particularly effective at calming traffic by creating a sense of narrow travel lanes, encouraging drivers to slow down. There was some inconsistency in the application of in-lane signs and observations show the location, placement, and number of signs varied by location (see *Figures 3* and *4*).



Figure 3 The crosswalk at Pontiac Trail south of Arrowwood Trail has four in-lane pedestrian signs.



Figure 4 The crosswalk at Broadway and Division includes one in-lane pedestrian sign in the street and one on the island to the left.

Of the crosswalks with signs, 50% included advanced pedestrian or school warning signs. Four of the seven pedestrian warning series signs included advanced warning signs. School warning series (S1-1) signs were present at two of the five observed crosswalks adjacent to schools and one of the five observed crosswalks within two blocks of a school. All the observed school warning series signs had advanced warning signs. As advanced warning signs are considered optional by MUTCD, the city's application meets standards. However, FHWA best practice guidance recommends the use of advance signage in conjunction with warning signs, particularly at locations where drivers may not be expecting a crosswalk.

Of the observed crosswalks, the Stop Here for Pedestrians sign was applied four times, and only once in conjunction with a stop bar. These crosswalks without a stop bar are inconsistent with the city's Guidelines which call for a Stop Here for Pedestrian (R1-5b) sign to be used with a stop bar. Additionally, there appear to be several other crossings where this signage would be beneficial given FHWA's strongly worded guidance for crossings on roads with four or more lanes and/or roads with speed limits of 35 mph or greater.



Figure 5 A temporary, non-MUTCD sign at Vesper Road and Red Oak Road. This suggests a desire for appropriate MUTCD signage at some uncontrolled crossing locations.



Figure 6 A yellow school warning series sign at Delaware Drive between Mershon Drive and 7th Street. While the yellow color is permitted on MUTCD signage, school warning signs shall have a fluorescent yellowgreen background.

3. Several locations would benefit from additional or more consistent best practice countermeasure treatments, particularly for multi-lane roadways.

About a quarter of the observed crosswalk locations (26%) have a RRFB, including one school location (Tappan Middle School). The RRFBs were located on collector, minor arterials, and major arterial streets with varying speed limits. In the Crosswalk Design Guidelines, RRFBs are not listed as a recommendation for collector street types and may be an appropriate addition to the street type's design options.

Of the six locations with RRFBs, only one location had a pedestrian refuge island. While pedestrian refuge islands are a desirable crosswalk tool, RRFBs can serve as useful devices on four lane roads without islands where the posted speed limit is 30 MPH or less and average daily traffic (ADT) volume is 9,000 vehicles per day or less. Based on FHWA guidance, however, there are a few locations where an RRFB may not be sufficient. This includes streets with a posted speed limit of 40 MPH or more and ADTs exceeding 15,000 vehicles per day. An example may include the crosswalk on Washtenaw Avenue near Tappan Middle School where the speed limit is 45 MPH with a 30 MPH school zone during specific times (see *Figure 7*). In cases such as this, the FHWA recommends the use of a Pedestrian Hybrid Beacon, along with other crosswalk devices (e.g. Stop Here For Pedestrians sign and corresponding stop bar).

In the Guidelines, Pedestrian Hybrid Beacons (PHB) and RRFBs are recommended in "high-risk" locations on minor and major arterials. There were no observed PHBs during the field observations. During field observations, it appeared the prevailing speed of traffic was higher than the speed limit at some of the locations with RRFBs, particularly at locations with a speed limit of 35 MPH and over – although, official speed data was not collected. PHBs may be more appropriate at higher speed/volume locations to better alert traffic to stop.

Rather than categorizing by functional classification—which only serves as a proxy for key characteristics of the crossing, the FHWA provide guidance on crosswalk devices based on speed limit, lane count, and traffic volume. For example, RRFBs and PHBs are considered at all uncontrolled crosswalk locations except two lane roads \leq 30 mph and < 15,000 ADT *or* three lane roads with a raised median, \leq 30 MPH, and < 9,000 ADT. It would be beneficial to organize the suite of crosswalk devices based on speed and traffic volume rather than functional classification.



Figure 7 Near Tappan Middle School, crosswalk, with an RRFB, crosses four lanes of traffic with a 45 MPH speed limit with a 30 MPH school zone from 7:30 – 8:20 AM and 3:05 – 3:35 PM

4. Approximately one-third of the crosswalks had no adjacent lighting.

The presence/proximity of lighting was assessed during the daytime crosswalk observations. Per FHWA guidance, lighting within ten feet of the crosswalk markings is considered 'at the crosswalk'. Lighting between 10 to 20 feet is identified as 'adjacent to the crosswalk'. Crosswalks with lighting more than 20 feet away were considered to have no adjacent lighting. Nearly three-quarters of the crosswalks had lighting at or adjacent to the sidewalk; 52% of the lit crosswalks had lighting at the crosswalk and 48% had adjacent lighting. About a quarter of the crosswalks had no adjacent lighting. Of the crosswalks with no adjacent lighting, most were on local streets with lower traffic volumes. The midblock crosswalk at Pontiac Trail south of Arrowwood Trail, a minor arterial, was the only observed non-local street to have no adjacent lighting.

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|---|--------|---|----|----|
| 1 | a | | C, | υ. |

| Location of Lighting | # | % |
|---------------------------------|---|-----|
| At Crosswalk (<10 feet) | 9 | 39% |
| Adjacent Lighting (10-20 feet) | 8 | 35% |
| No Adjacent Lighting (>20 feet) | 6 | 26% |

The guidelines note street lighting is considered by Street Light Asset Management Team (SLAM). The guidelines acknowledge that collector, minor, and major arterial streets will contain positive contrast lighting, further guidance for street lighting at crosswalks is contained in Ann Arbor's engineering standards (<u>Orange Book</u>) and is currently being updated. NACTO and FHWA provide specific guidance for street lighting at crosswalks will reference. For example, FHWA recommends lighting to be placed within 10 to 15 feet in front of mid-block crosswalks in each direction of travel.



Figure 8 The light at Pontiac Trail south of Arrowwood Trail sits 60 feet away from the crosswalk.



Figure 9 The crosswalk on Geddes Avenue at Gallup Path includes lighting at the crosswalk on both sides.

Recommendations

- The FHWA publication provides an opportunity for Ann Arbor to update its guidance and enhance best practice applications. To codify what was observed in practice in many cases, the following recommendations were identified to inform the potential revision of, or inclusion in, the city's Crosswalk and Design Guidelines and/or related engineering design standards (such as Ann Arbor's Orange Book).
 - While Ann Arbor's Guidelines consider traffic volume and vehicular speed in the design process, updates should consider adopting FHWA methodology of organizing the suite of crosswalk devices based on roadway characteristics (speed, traffic volume, lane configuration) rather than functional classification.
 - In addition to school designations, special considerations should be expanded to include bus stops, parks, community centers, senior facilities, side paths/ trail crossings, and areas with higher transportation equity needs as candidates for "standard+" and/or "high risk" locations.
 - o Set the minimum standard for high-visibility continental pavement markings.
 - Updates should reference specific guidance from NACTO and FHWA for lighting to be placed within 10 to 15 feet in front of mid-block crosswalks in each direction of travels.
 - Guidelines for Pedestrian Hybrid Beacons and Rectangular Rapid Flashing Beacons should be updated to reflect current FHWA guidance.
- Follow consistency in the application of lighting, selected signage and countermeasure device treatments.
 - Consistent application of in-lane pedestrian signs and advanced pedestrian warning signage.
 - Use Stop Here for Pedestrians signs in conjunction with stop bars.
 - Continue to coordinate with the SLAM team to review lighting placement at uncontrolled crossings
- Ann Arbor should continue to educate drivers on the local crosswalk ordinance in order to normalize stopping for pedestrians at a crosswalk. A multi-faceted campaign that takes advantage of existing resources while adding to those can be an effective way to change the culture.
 - The city should partner with the Ann Arbor Police Department to conduct pedestrian safety campaigns at uncontrolled crosswalks. For these to be successful, the focus should be on education rather than enforcement and fines. In these campaigns, police officers dressed in plain clothes act as pedestrians; when drivers do not stop for the crossing officer, a second police officer pulls the driver over to explain the crosswalk law and provide more information to the driver. These campaigns should be conducted at various locations throughout the city



on an annual or bi-annual basis. The National Highway Traffic Safety Administration has published detailed and thorough guidance on conducting these types of campaigns.¹

- In conjunction with the pedestrian safety campaigns, the city should prepare materials to market the same messages through earned media, social media, other city advertising resources, and through partnerships with councilmembers, agencies and community groups. A broader messaging campaign in coordination with the crosswalk compliance campaigns can greatly amplify the effect of the campaign and get the messages to a much wider audience.
- Engage community groups to conduct pedestrian safety events or messaging campaigns. Examples include crosswalk safety events, pace car programs, murals, or other messaging. (Example crosswalk campaign: <u>https://wisconsinbikefed.org/safety/milwalkee-walks-takes-action-on-education/</u>)
- The city should continue and expand the A2 Be Safe Campaign, ensuring the campaign is shared with other agencies to reinforce consistent messaging and amplify the A2 Be Safe efforts.

¹ <u>https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812059-pedestriansafetyenforceoperahowtoguide.pdf</u>

Appendix

- A. FHWA Crosswalk Application Guidance Chart
- B. Blank Data Collection Form
- C. Select Crosswalk Devices by Street Type
- D. Completed Field Observation Forms (PDF)
- E. Completed Field Observations Data (Excel)

Appendix A | FHWA Crosswalk Application Guidance Chart

| | | | | | | | | | P | oste | ed | Sp | eed | l Li | mit | t an | nd A | AAC | DT | | | | | | | | |
|---|---|---|--|--|---|---|-----------------|-------------|-------------|---|--|---|--|---|--|-----------------------------|---|---|----------------------|-------------------|--------|--------------|--------------|-------------|------------------------|-------------|------------------|
| | \vdash | Ve | ehio | cle A | AD | T < | 7,00 | 0 | - | | | ÷. | | | |)-15 | | | | Ve | hic | le A | ADT | ·>1 | 5,00 | 00 | |
| Roadway Configuration | ≤3 | 0 m | ph | 3 | 5 m | ph | ≥4 | 0 m | nph | ≤3 | 0 m | nph | 35 | 5 m | ph | ≥4 | 0 m | nph | ≤3 | 0 m | nph | 35 | 5 m | ph | ≥4(| 0 m | ph |
| 2 lanes (1 lane in each direction) | 0 4 | 2 5 | 6 | 0 | 5 | 6 | 1 | 5 | 6 | 0 4 | 5 | 6 | 0 | 5 | 6 | 1 | 5 | 6 | 0 4 | 5 | 6 | 0 | 5 | 6 | 1 | 5 | 6 |
| | 0 | 2 | 3 | 7 | | 9 6 | 0 | | 0 0 | 1 | | 3 | 7 | | 9 3 | 0 | | 0 0 | 7 | | 9 8 | 7 | | 9 | 1 | | 0 0 |
| 3 lanes with raised median (1 lane in each direction) | 4 | 5 | Ŭ | 7 | 5 | 9 | 0 | 5 | 0 | 4 | 5 | 9 | 0 | 5 | 0 | | 5 | 0 | 4 | 5 | 9 | 0 | 5 | 0 | | 5 | 0 |
| 3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane) | 0 4 7 | 2 5 | 3 | 0 | 5 | 6 9 | 0 | 5 | 6 | ① 4 | 5 | 3 6 9 | 1 | 5 | € 6 | _ | 5 | 6 | ① 4 | 5 | 6 9 | - | 5 | 6 | ① 5 | 6 | 0 |
| 4+ lanes with raised median (2 or more lanes in each direction) | 0 | 5 | 9 8 | 7 0 | 5 | 0 | 1 | 5 | 0 | 7 | 5 | 8 | 1 | 5 | | 1 | 5 | 0 | 7 | 5 | 0 | 0 | 5 | 0 | 1 | 5 | 0 |
| 4+ lanes w/o raised median (2 or more lanes in each direction) | 7 0 7 | 8 5 8 | 9 6 9 | 7 ① 7 | 8 5 8 | 9 3 3 9 | - | 8 5 8 | © © © | 7 ① 7 | 8 5 8 | 9 3 3 9 | 1 1 | 8 5 8 | © © © | 1 | | 3 0 | 1 1 | 8 5 8 | 6 0 | 1 | 8 5 8 | © © © | 1 | 8 5 8 | 0 8 0 9 |
| Given the set of conditions in a c # Signifies that the countermeet treatment at a marked uncor Signifies that the countermeet considered, but not mandate engineering judgment at a m crossing location. O Signifies that crosswalk visibilit always occur in conjunction w countermeasures.* The absence of a number signifier is generally not an appropriate tr be considered following engineering | asun ntrol asun d on nark ty er vith es th reat | led re sh r req ed u nhan othe nat t men | croa nou juire inco cer er id he | ssin Id a ed, l ontr nent lenti | g lo lwa oaso olle ifieo nte | ncat ed u ed u ed houl d | be ipor d | re | y | 1 2 3 4 5 6 7 8 9 | crc an Ra Ad an In- Cu Pe Re Ro | ossw d cr isec van d yi Stre ctar desi ctar ad I | valk ossi d cro eld eet P exter triar ngulo Diet | app ing issv ield (sto Pede nsio n ref ar R | proc wai valk He p) estri on fuge | ach, ming c ere To | ade g si o (S Cros and ash | equo gns Stop ssin I ing I | dte r Her g si | re F gn con | or) | ne li Ped | ight esti | ing | tion: leve s sig | els, | n |

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Source: FHWA. (2018, July). *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*.

https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_L_ oc_3-2018_07_17-508compliant.pdf

Appendix B: Data Collection Form

Please complete the following information about the crossing location.

Location:

| I. Crossing Information | |
|--|---|
| I. Crossing Information 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Street Type: 0. Local 0. Collector 0. Minor Arterial 0. Major/ Principal Arterial 3. Crossing Type: 0. Controlled 0. Signal 0. Stop Sign 0. Roundabout 4. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 0. Faster 0. Slower 0. About the same 0. Not sure 5. Is a bus stop adjacent to the crosswalk? | 8. Lane Configuration: A. Number of Lanes B. Type of Striping B. Type of Striping C. Location of Parking (if present): D. Parking Clearance from X-walk: E. Right-of-way Width: 9. Geometry: A. Is there a porkchop island? Yes |
| Yes Sign Post Bench Shelter | B. Please describe the cross-section. (Lanes, median, etc.) |
| 6. Is a school adjacent to the crosswalk? | |
| Yes No 7. Does a bike facility intersect the crosswalk? Yes No Bike Route or Shared Lane Bike Lane Bufered or Protected Bike Lane | |
| Shared Use Path | |

| Location: | |
|--|---|
| Time: Date: | Weather: |
| II. Field Data Observation | IS |
| 1. Crosswalk Length. <i>Measure curb to curb.</i> 2. Pavement Markings Unmarked crosswalk Marked Crosswalk Marked Crosswalk Paded Faded Parallel (or traditional) High-visibility (continental, zebuther in the crossing a location for cars to stop? What is the located relative to the crosswalk? 3. Signage & Signals Warning Series Signage Pedestrian warning series School warning series Bright sides or post reflectors | 5. Lighting Available at crosswalk Available adjacent to crosswalk No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| | 6. Photos Crosswalk Signage Lighting Pavement Markings |

III. Field Data Additional Notes

When approaching or leaving the site, take note of the crosswalk as you drive through. Are there visibility concerns?

Notes:

Pedestrian & Bicycle Infrastructure Review December 16, 2020

Sam Schwartz

Appendix C | Select Crosswalk Devices by Street Type

| | | | | | Loca | I Streets | | | | | | | | | |
|--------------------------------------|-------------------|----------------------|--------------------------|-------------------------------|----------------------------------|--------------------------|-----------------------------|-----------------|---------------------|-------------|-------------------------|---------------|------|-------------------------|--------------|
| Location | Crosswalk Type | Pavement Markings | Type of Markings | Adv. Ped Warning Series | Adv. School Warning Series | Ped Warning Series | School Warning Series | Bright Sides | In Lane Signs | Stop Bar | Stop Here for Ped | Over- head | RRFB | Ped Refuge Island | Curb Ext. |
| Traver Rd South of John A Woods | Uncontrolled | Marked | High Visibility | | | | | | | | | | | | |
| Tappan Ave and Oakland Ave | Uncontrolled | Marked | High Visibility | | | | | | | | | | | | |
| Fernwood Ave and Lorraine St | Uncontrolled | Marked | High Visibility | | 1 | | 1 | | | | | | | | |
| Delaware between Mershon and 24th | Uncontrolled | Marked | High Visibility | | 1 | | 1 | | | | | | | | |
| Vesper and Red Oak | Uncontrolled | Unmarked | | | | | | | | | | | | 1 | |
| Jefferson and 3rd | Uncontrolled | Marked | High Visibility | | | | | | | | | | | | |
| Soule and Lutz Victors Way and | Uncontrolled | Marked Under | High Visibility Under | | 1 | | 1 | | | | | | | | |
| Boardwalk Drive | Uncontrolled | Construction | Construction | | | | | | | | | | | | |
| Total | | | 6 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| | | | | | Collec | ctor Stree | ets | | | | | | | | |
|----------------------------|-------------------|-----------------------|-----------------------|-------------------------------|----------------------------------|--------------------------|-----------------------------|-----------------|---------------------|-------------|-------------------------|---------------|------|--------------------------|--------------|
| Location | Crosswalk Type | Pavement Markings | Type of Markings | Adv. Ped Warning Series | Adv. School Warning Series | Ped Warning Series | School Warning Series | Bright Sides | In Lane Signs | Stop Bar | Stop Here for Ped | Over- head | RRFB | Ped. Refuge Island | Curb Ext. |
| Green and Hubbard | Uncontrolled | Under Construction | Under Construction | | | | | | | | | | | | |
| Green and Burbank | Uncontrolled | Marked | High Visibility | 1 | | 1 | | 1 | 1 | | | | 1 | | |
| Nixon North of Plymouth | Uncontrolled | Marked | High Visibility | | | 1 | | 1 | | | | | 1 | | |
| Pittsfield and Jeanne | Roundabout | Marked | Parallel | | | | | | | | | | | | |
| Total | | | | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |

| | | | | | Minor/ Ma | jor Arteria | ls < 3 Lan | es | | | | | | | |
|--|-------------------|----------------------|---------------------|-------------------------------|----------------------------------|--------------------------|-----------------------------|-----------------|---------------------|-------------|-------------------------|---------------|------|--------------------------|--------------|
| Location | Crosswalk Type | Pavement Markings | Type of Markings | Adv. Ped Warning Series | Adv. School Warning Series | Ped Warning Series | School Warning Series | Bright Sides | In Lane Signs | Stop Bar | Stop Here for Ped | Over- head | RRFB | Ped. Refuge Island | Curb Ext. |
| Pontiac Trail and Brookside Dr | Uncontrolled | Marked | High Visibility | | | | | | | | | | | | |
| Geddes Ave and Arlington Blvd | Uncontrolled | Marked | High Visibility | | | | | | | | | | | | |
| Geddes Ave at Gallup Park Pathway | Uncontrolled | Marked | High Visibility | 1 | | 1 | | | | | 1 | 1 | 1 | | |
| Pontiac Trail south of Arrowwood | Uncontrolled | Marked | High Visibility | | | | | 1 | 1 | | | | | 0 | 1 |
| Fifth Ave at Community High School | Uncontrolled | Marked | High Visibility | | | | | | 1 | | | | | 1 | 1 |
| Broadway and Divison west of Broadway Bridge | Uncontrolled | Marked | High Visibility | 1 | | 1 | | | 1 | | | | | 1 | |
| Total | | | | 2 | 0 | 2 | 0 | 1 | 3 | 0 | 1 | 1 | 1 | 2 | 2 |

| | | | | Min | or/ Major Art | terials <u>></u> 3 | Lanes | | | | | | | | |
|--|-------------------|----------------------|---------------------|----------------------------------|----------------------------------|--------------------------|-----------------------------|-----------------|---------------------|-------------|-------------------------|---------------|------|-------------------------|--------------|
| Location | Crosswalk Type | Pavement Markings | Type of Markings | Adv. Ped Warning Series | Adv. School Warning Series | Ped Warning Series | School Warning Series | Bright Sides | In Lane Signs | Stop Bar | Stop Here for Ped | Over- head | RRFB | Ped Refuge Island | Curb Ext. |
| Washtenaw north of Stadium | Uncontrolled | Marked | High Visibility | | | 1 | | | | 1 | | | 1 | | |
| Stadium blvd between Kipke and Main | Uncontrolled | Marked | High Visibility | 1 | | 1 | | | 1 | | 1 | | 1 | 1 | |
| Maple Rd and Haisley | Uncontrolled | Marked | High Visibility | | | 1 | | 1 | | | | | 1 | | |
| State St and Ellsworth | Roundabout | Marked | High Visibility | | | | | | | | 1 | | | 1 | |
| Geddes Rd and Earhart Rd | Roundabout | Marked | High Visibility | | | | | | 1 | 1 | 1 | | | | |
| | - | - | Total | 1 | 0 | 3 | 0 | 1 | 2 | 2 | 3 | 0 | 3 | 2 | 0 |



| e: Date: Weat | ther: |
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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a-stop-bar-present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature VARIABLE SPEED LIMIT SIGN X-WALE |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series NONE School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series In Street Stop for Pedestrian Sign None Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |



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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a-stop-bar-present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series Monte In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes Pole mounted Lighting Yes Sibe 380' Facm No E Sibe 380' Facm Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |

| Signal Stop Sign Roundabout 3. Posted Speed Limit: 2.5 4. Is a bus stop adjacent Yes Sign Post Bench Shelter 5. Is a school adjacent to Yes Yes Yes I 6. Does a bike facility in | Lincontrolled Midblock At or adjacent to an intersection In what relation to the speed limit people seem to be driving? Faster Slower About the same Not sure to the crosswalk? No to the crosswalk? No | 7. Lane Configuration: A. Number of Lanes 2 LANE B. On street parking? Yes X No Location? Curbside Loading Floating C. Parking Clearance from X-was D. Is there a porkchop island? Yes X No E. Is there a raised median or pedestrian refuge island? Yes No F. Please describe the cross-sec (Lanes, median, etc.) |
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| II. Field Data Observations | | |
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| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature | |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series Mowe School warning series In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. | |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting | |



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| II. Field Data Observations | | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature | |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series 340' WB School warning series 250' EB At Crosswalk Berty Have Warning Series Signage Berty Have Pedestrian warning series Berty Have School warning series Berty Berty School warning series Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 f No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. Amached To OVERHEAD SIGNAGE MAST ARMS | |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings | |

| using NearMap or GoogleMaps. 2. Crossing Type: Controlled Uncontrolled Signal Midblock Stop Sign At or adjacent to an intersection 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? Yes No Sign Post Slower Shelter No Sign Post Shelter 5. Is a school adjacent to the crosswalk? Yes No Yes No Stop Sign Post Stop Sign Post Yes No To The Source <th>A. Number of Lanes 2 LAWE B. On street parking? Yes Yes No Location? Curbside Curbside Loading Floating C. Parking Clearance from X-walk Image: Comparison of the state of the state</th> | A. Number of Lanes 2 LAWE B. On street parking? Yes Yes No Location? Curbside Curbside Loading Floating C. Parking Clearance from X-walk Image: Comparison of the state |
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| I. Field Data Observations | | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning | |
| Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | Sidewalk connection Additional traffic calming feature PAVEMENT COLORATION/PAVERS, Low CURBS 4. Lighting | |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Morrie At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series School warning series Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: Median (1/x-mark) Ri-6A Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" | At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 for No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. 100000 10000 100000 100000 100000 100000 100000 100000 100000 1000000 1000000 1000000 10000000000 1000000000000000000000000000000000000 | |
| Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting | |



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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop-bar-present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage 230' 58 | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |



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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Marked Crosswalk Faded BEIND REPAUED Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Marc At Crosswalk Warning Series Signage Pedestrian warning series Mome School warning series School warning series Mome School warning series School warning series School warning series Mome School warning series Mome School warning series Mome School warning series Mome School warning series School warning | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. Lighting for the second se |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5 70 P 5. Photos Crosswalk Signage Lighting Pavement Markings |

| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled Signal Midblock Stop Sign Roundabout X At or adjacent to an intersection X L E 6 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? Faster Slower About the same Not sure 4. Is a bus stop adjacent to the crosswalk? Yes Yes Yes No 6. Does a bike facility intersect the crosswalk? Yes No | 7. Lane Configuration: A. Number of Lanes Itel: 5 Lane Itel: 5 Lane Itel: 5 Lane B. On street parking? Yes No Location? Curbside Loading Floating C. Parking Clearance from X-wall D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes No F. Please describe the cross-sect (Lanes, median, etc.) |
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| e: Date: Weather: | | |
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| II. Field Data Observations | | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature | |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series AVE: 3201 School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series School warning series Marget Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. | |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings | |

| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled × Uncontrolled Signal Midblock Stop Sign Roundabout 3. Posted Speed Limit: 2.5 (Assume) 2.5 (Assume) 2.5 (Assume) 3. Posted Speed Limit: 2.5 (Assume) 3. Posted Speed Limit: 2.5 (Assume) 4. Is a bus stop adjacent to the crosswalk? Yes × No Sign Post Bench Shelter 5. Is a school adjacent to the crosswalk? Yes × No 6. Does a bike facility intersect the crosswalk? Yes × No 7. Joes × No | 7. Lane Configuration: A. Number of Lanes Z B. On street parking? Yes Yes No C. Parking Clearance from X-was C. Parking Clearance from X-was D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes No F. Please describe the cross-sect (Lanes, median, etc.) |
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| : Date: Weather: | |
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| II. Field Data Observations | And the state of the second |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there-a-stop-bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Mome At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian ANNE Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage |

| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled X Uncontrolled Signal X Midblock Stop Sign At or adjacent to an intersection 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? Faster Slower About the same Not sure 4. Is a bus stop adjacent to the crosswalk? Yes No Shelter 5. Is a school adjacent to the crosswalk? Yes No 6. Does a bike facility intersect the crosswalk? Yes Yes No | 7. Lane Configuration: A. Number of Lanes 4-LANE B. On street parking? Yes No Location? Curbside Loading Floating C. Parking Clearance from X-wa D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes No F. Please describe the cross-sec (Lanes, median, etc.) |
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| II. Field Data Observations | |
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| 1. Pavement Markings | 3. Infrastructure |
| Unmarked crosswalk Marked Crosswalk | Pedestrian Refuge Island |
| Faded | Curb extension or bumpout Roadside placemaking |
| Parallel (or traditional) | Driveway present |
| X High-visibility (continental, lader, or zebra) | ADA ramp/ detectable warning |
| | Sidewalk connection |
| Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | Additional traffic calming feature |
| YES -> 35' UPSTREAM BOTH SIDES | |
| and the second se | 4. Lighting |
| 2. Signage & Signals | At crosswalk (w/in 10 ft) |
| Advanced Signage (within 200 ft) | Adjacent to crosswalk (10-20 |
| Warning Series Signage | No adjacent lighting |
| Pedestrian warning series NONE | Is lighting human-scaled? |
| School warning series | Yes |
| At Crosswalk | No |
| Warning Series Signage | Draw placement and measure distance |
| School warning series | from crosswalk. |
| | LIGHT BUT STOP |
| Bright sides or post reflectors In Street Stop for Pedestrian Sign | 1 1 1 1 1 1 1 1 1 1 |
| Number of Signs and Location: | 017 0 |
| Humber of olgite and Ecodatori. | |
| | 0 [] 0 - Lilly |
| Signs on island | |
| Stop here for pedestrian | 1 1447 BAD |
| Overhead mounted "local law, stop for ped" | 1.00000000 2.00015 |
| // Signals? Associated Push-Button? | |
| Pedestrian Hybrid Beacon | 5. Photos |
| Rectangular Rapid Flashing Beacon | Crosswalk |



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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series EB: 7607 At Crosswalk WB: 3607 Warning Series Signage Pedestrian warning series School warning series School warning series School warning series School warning series In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 f No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage |

| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled Signal Stop Sign Roundabout 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? Easter Slower About the same Not sure 4. Is a bus stop adjacent to the crosswalk? Yes Yes No Sign Post Bench Shelter | 7. Lane Configuration: A. Number of Lanes S - L ME (TWLTL) B. On street parking? Yes X No Location? Curbside Loading Floating C. Parking Clearance from X-wa D. Is there a porkchop island? Yes X No E. Is there a raised median or pedestrian refuge island? X Yes No F. Please describe the cross-sec |
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| 5. Is a school adjacent to the crosswalk? Yes | (Lanes, median, etc.) |

| me: - Date: Weather: | |
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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming features |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series to B: 330¹ School warning series EB: 335¹ At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| 2: BOTH IN MEDIAN Signs on island Stop here for pedestrian × 7 Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: Not stop!" | 5. Photos Crosswalk Signage Lighting Pavement Markings |

| Signal Stop Sign Roundabout 3. Posted Speed Limit: 25 (Assumed) 4. Is a bus stop adjacent Yes Sign Post Bench Shelter 5. Is a school adjacent to Yes N | Incontrolled Midblock At or adjacent to an intersection In what relation to the speed limit people seem to be driving? Faster Slower About the same Not sure I law voume to the crosswalk? | 7. Lane Configuration: A. Number of Lanes 2. LANC B. On street parking? M Yes No Location? M Curbside Loading Floating C. Parking Clearance from X-wa 15' D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes M No F. Please describe the cross-sect (Lanes, median, etc.) |
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| 6. Does a bike facility into Yes × N <i>Type</i> ? | | 30' |

| e: Date: Weather: | |
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| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series Warning Series Signage Pedestrian warning series School warning series School | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Sporte To PESTORE OF WHO SHIP MARE VISIBILITY NEEDED, WHO VOLME (P PHY-UD) DOCTOFF, Signs on island PEODLE STAGE Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |

Please complete the following information about the crossing location.

Location: #15 VESPER/RED OAK I. Crossing Information 1. Collect aerial of crosswalk 7. Lane Configuration: using NearMap or GoogleMaps. A. Number of Lanes 2. Crossing Type: 4LANE? 2 LANE? × Uncontrolled Controlled B. On street parking? Midblock Signal No X Yes Stop Sign X At or adjacent Location? to an intersection Roundabout Curbside Loading Floating N LEG 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 257 C. Parking Clearance from X-walk: Faster UNLIEAR BUT DIDN'T SEE Slower CLOSE TADS PARKED About the same D. Is there a porkchop island? Not sure X Yes No 4. Is a bus stop adjacent to the crosswalk? Yes X No E. Is there a raised median or pedestrian refuge island? Sign Post Bench X Yes No Shelter F. Please describe the cross-section. 5. Is a school adjacent to the crosswalk? (Lanes, median, etc.) Yes NO IDEA ... × No NO SILVAGE WHATSOFFER 6. Does a bike facility intersect the crosswalk? Yes X No Type?

| . Field Data Observations | |
|--|--|
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present |
| High-visibility (continental, lader, or zebra) Is there a-stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | ADA ramp/ detectable warnin Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island → Oly FLAG MAX Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage |



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| II. Field Data Observations | | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop-bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature | |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. | |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting | |

| Collect aerial of crosswalk using NearMap or GoogleMaps. Crossing Type: Controlled Signal Stop Sign Roundabout X or adjacent to an intersection X LEC Posted Speed Limit: In what relation to the speed limit people seem | 7. Lane Configuration: A. Number of Lanes 4 1SEE BELOW B. On street parking? X Yes No Location? Curbside Loading Floating |
|--|--|
| 2 ? (Assume) to be driving? Faster Slower About the same Not sure 4. Is a bus stop adjacent to the crosswalk? Yes Yes No Sign Post Bench Shelter Shelter 5. Is a school adjacent to the crosswalk? Yes No Closes a bike facility intersect the crosswalk? Yes No Type? | C. Parking Clearance from X-war 70 ' D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes No F. Please describe the cross-set (Lanes, median, etc.) |

| e: Date: Wea | ther: |
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| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage \$1-1 Pedestrian warning series 1 School warning series -130' 5 6 At Crosswalk NB WARNING P Warning Series Signage ONCY - 80 570 Pedestrian warning series - 100 1000 1000 Warning Series Signage ONCY - 80 570 Pedestrian warning series - 10000 1000 School warning series - 10000 1000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 10000 1000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 10000 10000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 10000 10000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 100000 10000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 100000 10000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 10000000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 100000000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 10000000000 Marning Series Signage ONCY - 80 570 Pedestrian warning series - 100000000000000000000000000000000000 | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |

| . Crossing Information | |
|---|---|
| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled Signal Stop Sign Roundabout 3. Posted Speed Limit: 2.5 Slower About the same Not sure 4. Is a bus stop adjacent to the crosswalk? Yes Sign Post Bench Shelter 5. Is a school adjacent to the crosswalk? Yes Yes Yes No 6. Does a bike facility intersect the crosswalk? Yes Yes No | 7. Lane Configuration: A. Number of Lanes 2 - LANE B. On street parking? Yes Yes No Location? Curbside Loading Floating C. Parking Clearance from X-wale C. Parking Clearance from X-wale D. Is there a porkchop island? Yes Yes No E. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? Yes Yos F. Please describe the cross-sect (Lanes, median, etc.) \$TREET WAS Beinde RESURFACED DURING FIECD VISIT, LANEAGES WALK TYRE/ BIKE LANES UNKNOWN |

| e: Date: Weat | her: |
|---|---|
| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Marning Series Signage Pedestrian warning series School warning series Marting Series Signage Marting Series | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Mone Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |





| 1. Collect aerial of crosswalk using NearMap or GoogleMaps. 2. Crossing Type: Controlled ✓ Uncontrolled Signal ✓ Midblock Stop Sign At or adjacent to an intersection 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 3. Post Slower 4. Is a bus stop adjacent to the crosswalk? Yes No Sign Post Bench Bench NB/S B Yes No 6. Does a bike facility intersect the crosswalk? Yes No 7ype? DEPRIMATED, UMPROTECTED, MAISB | 7. Lane Configuration: A. Number of Lanes 3-LANE (TWLTL) B. On street parking? Yes X No Location? Curbside Loading Floating C. Parking Clearance from X-walk D. Is there a porkchop island? Yes No E. Is there a raised median or pedestrian refuge island? X Yes No F. Please describe the cross-sector (Lanes, median, etc.) |
|--|--|
|--|--|



Location: #21 STATE ST & EUSWORTH I. Crossing Information 1. Collect aerial of crosswalk 7. Lane Configuration: using NearMap or GoogleMaps. A. Number of Lanes 2. Crossing Type: S- LANES Controlled Uncontrolled B. On street parking? Signal Midblock Yes X No Stop Sign At or adjacent Location? to an intersection Roundabout ~ LEG Curbside Loading Floating 3. Posted Speed Limit: In what relation to the speed limit people seem to be driving? 35 C. Parking Clearance from X-walk: Faster Slower FASTER NB About the same SLOWER SB D. Is there a porkchop island? Not sure (APPROACHING CIRCLE) × Yes No 4. Is a bus stop adjacent to the crosswalk? Yes < No E. Is there a raised median or pedestrian refuge island? Sign Post Bench × Yes No Shelter F. Please describe the cross-section. 5. Is a school adjacent to the crosswalk? (Lanes, median, etc.) Yes No 11111 6. Does a bike facility intersect the crosswalk? L Yes No Type? Lors OF SPEED

| e: Date: Wea | ather: |
|---|--|
| II. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature Romble Streips ~ 10⁴ UPSTREAM OF x-WALK |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Max "VIELO At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series School warning series School warning series In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian × 3 Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting |



| : Date: Wea | ather: |
|--|---|
| I. Field Data Observations | |
| Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location | 3. Infrastructure Pedestrian Refuge Island Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature |
| Ves - 2.5' UPSTREAM OF WB APPROACH | RUMBLE FTRIPS BOTH EBIWE 2 ~ 10' UPSTREAM OF X-WALKS |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series At Crosswalk Warning Series Signage & Nowe Pedestrian warning series School warning series | At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: MIDDLE OF LANE WIT APPROACH MEDIAN (I EACH DIATETION) Signs on island Stop here for pedestrian -> WIT APPROACH Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting |



| e: Date: We | ather: |
|--|---|
| I. Field Data Observations | |
| 1. Pavement Markings Unmarked crosswalk Marked Crosswalk Faded Parallel (or traditional) High-visibility (continental, lader, or zebra) Is there a stop bar present at the crossing indicating a location for cars to stop? What is the location relative to the crosswalk? | 3. Infrastructure Kine Pedestrian Refuge Island Curb extension or bumpout Curb extension or bumpout Roadside placemaking Driveway present ADA ramp/ detectable warning Sidewalk connection Additional traffic calming feature VARIABILIC SPEER CIMIT STEE VARIABILIC SPEER CIMIT STEE |
| 2. Signage & Signals Advanced Signage (within 200 ft) Warning Series Signage Pedestrian warning series School warning series Marc At Crosswalk Warning Series Signage Pedestrian warning series School warning series School warning series Bright sides or post reflectors In Street Stop for Pedestrian Sign Number of Signs and Location: | 4. Lighting At crosswalk (w/in 10 ft) Adjacent to crosswalk (10-20 ft) No adjacent lighting Is lighting human-scaled? Yes No Draw placement and measure distance from crosswalk. |
| Signs on island Stop here for pedestrian Nank Overhead mounted "local law, stop for ped" Signals? Associated Push-Button? Pedestrian Hybrid Beacon Rectangular Rapid Flashing Beacon Other signage: | 5. Photos Crosswalk Signage Lighting Pavement Markings |

| ID | Location | StreetType | Crossing_Type | Crossing_Location | Speed_Limit | Prevaling_Speed | Bus_Stop | Bus_Sign | Bus_Bench |
|----|---|----------------|---------------|-------------------|-------------|-----------------|----------|----------|-----------|
| 1 | Pontiac Trail and Brookside Dr | Minor Arterial | Uncontrolled | At/ Adjacent | 25 | Faster | 1 | 1 | 0 |
| 2 | Traver Road South of John A Woods | Local | Uncontrolled | Midblock | 25 | Same | 0 | 0 | 0 |
| 3 | Geddes Ave and Arlington Blvd | Minor Arterial | Uncontrolled | At/ Adjacent | 25 | Faster | 0 | 0 | 0 |
| 4 | Geddes Ave at Gallup Park Pathway | Minor Arterial | Uncontrolled | Midblock | 25 | Faster | 0 | 0 | 0 |
| 5 | Pontiac Trail south of Arrowwood | Minor Arterial | Uncontrolled | Midblock | 30 | Faster | 1 | 0 | 1 |
| 6 | Fifth Ave at Community High School | Minor Arterial | Uncontrolled | At/ Adjacent | 25 | Slower | 1 | 1 | 1 |
| 7 | Broadway and Divison west of Broadway I | Major Arterial | Uncontrolled | At/ Adjacent | 30 | Faster | 0 | 0 | 0 |
| 8 | Green and Hubbard | Collector | Uncontrolled | At/ Adjacent | 35 | Same | 1 | 1 | 0 |
| 9 | Green and Burbank | Collector | Uncontrolled | At/ Adjacent | 35 | | 1 | 1 | 0 |
| 10 | Tappan Ave and Okland Ave | Local | Uncontrolled | At/ Adjacent | 25 | Same | 0 | 0 | 0 |
| 11 | Washtenaw north of Stadium | Major Arterial | Uncontrolled | Midblock | 45 | Faster | 1 | 1 | 0 |
| 12 | Fernwood Ave and Lorraine St | Local | Uncontrolled | At/ Adjacent | 25 | Same | 0 | 0 | 0 |
| 13 | Stadium blvd between Kipke and Main | Major Arterial | Uncontrolled | Midblock | 35 | Faster | 0 | 0 | 0 |
| 14 | Delaware between Mershon and 24th | Local | Uncontrolled | Midblock | 25 | Not Sure | 0 | 0 | 0 |
| 15 | Vesper and Red Oak | Local | Uncontrolled | At/ Adjacent | 25 | Not Sure | 0 | 0 | 0 |
| 16 | Jefferson and 3rd | Local | Uncontrolled | At/ Adjacent | 25 | Same | 0 | 0 | 0 |
| 17 | Soule and Lutz | Local | Uncontrolled | At/ Adjacent | 25 | | 0 | 0 | 0 |
| 18 | Victors Way and Boardwalk Drive | Local | Uncontrolled | At/ Adjacent | 25 | Same | 0 | 0 | 0 |
| 19 | Maple Rd and Haisley | Minor Arterial | Uncontrolled | At/ Adjacent | 35 | Same | 1 | 1 | 1 |
| 20 | Nixon North of Plymouth | Collector | Uncontrolled | Midblock | 30 | Same | 1 | 1 | 1 |
| 21 | State St and Ellsworth | Major Arterial | Roundabout | | 35 | Faster | 0 | 0 | 0 |
| 22 | Geddes Rd and Earhart Rd | Minor Arterial | Roundabout | | 20 | Faster | 1 | 1 | 0 |
| 23 | Pittsfield and Jeanne | Collector | Roundabout | | 25 | Same | 0 | 0 | 0 |

| ID | Location | Bus_Shelter | School | Bike_Facility | Bike_Type | Num_Lanes | Street_Parking | Parking_Clearance | Parking_Width |
|----|---------------------------------------|-------------|--------|---------------|------------------|-----------|----------------|-------------------|---------------|
| 1 | Pontiac Trail and Brookside Dr | 0 | 2 | 1 | Striped | 2 | 0 | | |
| 2 | Traver Road South of John A Woods | 0 | 0 | 0 | | 2 | 1 | Curbside | Under 20 |
| 3 | Geddes Ave and Arlington Blvd | 0 | 0 | 1 | Striped, WB Only | 2 | 0 | | |
| 4 | Geddes Ave at Gallup Park Pathway | 0 | 0 | 1 | Striped, WB Only | 2 | 0 | | |
| 5 | Pontiac Trail south of Arrowwood | 0 | 2 | 1 | Striped | 2 | 0 | | |
| 6 | Fifth Ave at Community High School | 0 | 1 | 1 | Striped | 2 | 1 | Loading | Under 20 |
| 7 | Broadway and Divison west of Broadway | 0 | 0 | 1 | Trail | 2 | 0 | | |
| 8 | Green and Hubbard | 0 | 0 | 1 | Striped | 3 | 0 | | |
| 9 | Green and Burbank | 0 | 0 | 1 | Buffer | 5 | 0 | | |
| 10 | Tappan Ave and Okland Ave | 0 | 0 | 0 | | 2 | 0 | | |
| 11 | Washtenaw north of Stadium | 0 | 1 | 0 | Trail | 4 | 0 | | |
| 12 | Fernwood Ave and Lorraine St | 0 | 1 | 0 | | 2 | 1 | Curbside | |
| 13 | Stadium blvd between Kipke and Main | 0 | 0 | 1 | Striped | 5 | 0 | | |
| 14 | Delaware between Mershon and 24th | 0 | 1 | 0 | | 2 | 1 | Curbside | Under 20 |
| 15 | Vesper and Red Oak | 0 | 0 | 0 | | 4 | 1 | Curbside | Unclear |
| 16 | Jefferson and 3rd | 0 | 2 | 0 | | 2 | 1 | Curbside | Over 20 |
| 17 | Soule and Lutz | 0 | 2 | 0 | | 4 | 1 | Curbside | Under 20 |
| 18 | Victors Way and Boardwalk Drive | 0 | 0 | 1 | Striped | 2 | 0 | | |
| 19 | Maple Rd and Haisley | 0 | 0 | 1 | Buffer | 3 | 0 | | |
| 20 | Nixon North of Plymouth | 1 | 0 | 1 | Striped | 3 | 0 | | |
| 21 | State St and Ellsworth | 0 | 0 | 0 | | 5 | 0 | | |
| 22 | Geddes Rd and Earhart Rd | 0 | 1 | 0 | | 3 | 0 | | |
| 23 | Pittsfield and Jeanne | 0 | 2 | 0 | | 2 | 1 | Curbside | Over 20 |

| ID | Location | Parking_Description | Porkchop | Raised_Median | Description | Pavement_Markings |
|----|---|---------------------|----------|---------------|---|--------------------|
| 1 | Pontiac Trail and Brookside Dr | | 0 | 0 | | Marked |
| 2 | Traver Road South of John A Woods | 11-20' | 0 | 0 | | Marked |
| 3 | Geddes Ave and Arlington Blvd | | 0 | 0 | | Marked |
| 4 | Geddes Ave at Gallup Park Pathway | | 0 | 0 | | Marked |
| 5 | Pontiac Trail south of Arrowwood | | 0 | 1 | | Marked |
| 6 | Fifth Ave at Community High School | 10' | 0 | 1 | Raised Crosswalk | Marked |
| 7 | Broadway and Divison west of Broadway I | | 1 | 1 | | Marked |
| 8 | Green and Hubbard | | 0 | 0 | | Under Construction |
| 9 | Green and Burbank | | 0 | 1 | | Marked |
| 10 | Tappan Ave and Okland Ave | | 0 | 0 | | Marked |
| 11 | Washtenaw north of Stadium | | 0 | 0 | | Marked |
| 12 | Fernwood Ave and Lorraine St | | 0 | 0 | Restricted parking | Marked |
| 13 | Stadium blvd between Kipke and Main | | 0 | 1 | | Marked |
| 14 | Delaware between Mershon and 24th | 15' | 0 | 0 | | Marked |
| 15 | Vesper and Red Oak | Unclear | 1 | 1 | | Unmarked |
| 16 | Jefferson and 3rd | 25' | 0 | 0 | | Marked |
| 17 | Soule and Lutz | 10' | 0 | 0 | | Marked |
| 18 | Victors Way and Boardwalk Drive | | 0 | 0 | | Under Construction |
| 19 | Maple Rd and Haisley | | 0 | 0 | | Marked |
| 20 | Nixon North of Plymouth | | 0 | 1 | | Marked |
| 21 | State St and Ellsworth | | 1 | 1 | | Marked |
| 22 | Geddes Rd and Earhart Rd | | 1 | 1 | | Marked |
| 23 | Pittsfield and Jeanne | 50' | 1 | 1 | Porkchop and raised median are only painted | Marked |

| ID | Location | Faded | Marked_Typed | Stop_Bar | Signs_Signals | Sign_AdvPedWarning | Sign_AdvSchoolWarning |
|----|---------------------------------------|-------|--------------------|----------|---------------|--------------------|-----------------------|
| 1 | Pontiac Trail and Brookside Dr | 0 | High Visibility | 0 | 0 | 0 | 0 |
| 2 | Traver Road South of John A Woods | 0 | High Visibility | 0 | 0 | 0 | 0 |
| 3 | Geddes Ave and Arlington Blvd | 0 | High Visibility | 0 | 0 | 0 | 0 |
| 4 | Geddes Ave at Gallup Park Pathway | 0 | High Visibility | 0 | 1 | 1 | 0 |
| 5 | Pontiac Trail south of Arrowwood | 0 | High Visibility | 0 | 1 | 0 | 0 |
| 6 | Fifth Ave at Community High School | 0 | High Visibility | 0 | 1 | 0 | 0 |
| 7 | Broadway and Divison west of Broadway | 1 | High Visibility | 0 | 1 | 1 | 0 |
| 8 | Green and Hubbard | 0 | Under Construction | 0 | 0 | 0 | 0 |
| 9 | Green and Burbank | 0 | High Visibility | 0 | 1 | 1 | 0 |
| 10 | Tappan Ave and Okland Ave | 0 | High Visibility | 0 | 0 | 0 | 0 |
| 11 | Washtenaw north of Stadium | 0 | High Visibility | 1 | 1 | 0 | 0 |
| 12 | Fernwood Ave and Lorraine St | 0 | High Visibility | 0 | 1 | 0 | 1 |
| 13 | Stadium blvd between Kipke and Main | 0 | High Visibility | 0 | 1 | 1 | 0 |
| 14 | Delaware between Mershon and 24th | 0 | High Visibility | 0 | 1 | 0 | 1 |
| 15 | Vesper and Red Oak | 0 | | 0 | 0 | 0 | 0 |
| 16 | Jefferson and 3rd | 0 | High Visibility | 0 | 0 | 0 | 0 |
| 17 | Soule and Lutz | 0 | High Visibility | 0 | 1 | 0 | 1 |
| 18 | Victors Way and Boardwalk Drive | | Under Construction | 0 | 0 | 0 | 0 |
| 19 | Maple Rd and Haisley | 0 | High Visibility | 0 | 1 | 0 | 0 |
| 20 | Nixon North of Plymouth | 0 | High Visibility | 0 | 1 | 0 | 0 |
| 21 | State St and Ellsworth | 0 | High Visibility | 0 | 1 | 0 | 0 |
| 22 | Geddes Rd and Earhart Rd | 0 | High Visibility | 1 | 1 | 0 | 0 |
| 23 | Pittsfield and Jeanne | 0 | Parallel | 0 | 0 | 0 | 0 |

| ID | Location | Sign_PedWarning | Sign_SchoolWarning | Sign_Bright | Sign_InStreet | Sign_InStreet_Number | Sign_Island |
|----|---|-----------------|--------------------|-------------|---------------|----------------------|-------------|
| 1 | Pontiac Trail and Brookside Dr | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Traver Road South of John A Woods | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Geddes Ave and Arlington Blvd | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Geddes Ave at Gallup Park Pathway | 1 | 0 | 0 | 0 | 0 | 0 |
| 5 | Pontiac Trail south of Arrowwood | 0 | 0 | 1 | 1 | 1 | 1 |
| 6 | Fifth Ave at Community High School | 0 | 0 | 0 | 1 | 1 | 1 |
| 7 | Broadway and Divison west of Broadway I | 1 | 0 | 0 | 1 | 3 | 1 |
| 8 | Green and Hubbard | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Green and Burbank | 1 | 0 | 1 | 1 | 1 | 1 |
| 10 | Tappan Ave and Okland Ave | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Washtenaw north of Stadium | 1 | 0 | 0 | 0 | 0 | 0 |
| 12 | Fernwood Ave and Lorraine St | 0 | 1 | 0 | 0 | 0 | 0 |
| 13 | Stadium blvd between Kipke and Main | 1 | 0 | 0 | 1 | 2 | 1 |
| 14 | Delaware between Mershon and 24th | 0 | 1 | 0 | 0 | 0 | 0 |
| 15 | Vesper and Red Oak | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Jefferson and 3rd | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Soule and Lutz | 0 | 1 | 0 | 0 | 0 | 0 |
| 18 | Victors Way and Boardwalk Drive | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Maple Rd and Haisley | 1 | 0 | 1 | 0 | 0 | 0 |
| 20 | Nixon North of Plymouth | 1 | 0 | 1 | 0 | 0 | 0 |
| 21 | State St and Ellsworth | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Geddes Rd and Earhart Rd | 0 | 0 | 0 | 1 | 3 | 1 |
| 23 | Pittsfield and Jeanne | 0 | 0 | 0 | 0 | 0 | 0 |

| ID | Location | Sign_StopPed | Sign_Overhead | Signal_PHB | Signal_RRFB | Other | Other_Description |
|----|---------------------------------------|--------------|---------------|------------|-------------|-------|--|
| 1 | Pontiac Trail and Brookside Dr | 0 | 0 | 0 | 0 | 0 | |
| 2 | Traver Road South of John A Woods | 0 | 0 | 0 | 0 | 0 | |
| 3 | Geddes Ave and Arlington Blvd | 0 | 0 | 0 | 0 | 0 | |
| 4 | Geddes Ave at Gallup Park Pathway | 1 | 1 | 0 | 1 | 1 | Audible cross with caustion, vehicles may not stop |
| 5 | Pontiac Trail south of Arrowwood | 0 | 0 | 0 | 0 | 0 | |
| 6 | Fifth Ave at Community High School | 0 | 0 | 0 | 0 | 0 | |
| 7 | Broadway and Divison west of Broadway | 0 | 0 | 0 | 0 | 1 | Median Warnings |
| 8 | Green and Hubbard | 0 | 0 | 0 | 0 | 0 | |
| 9 | Green and Burbank | 0 | 0 | 0 | 1 | 1 | Audible cross with caustion, vehicles may not stop |
| 10 | Tappan Ave and Okland Ave | 0 | 0 | 0 | 0 | 0 | |
| 11 | Washtenaw north of Stadium | 0 | 0 | 0 | 1 | 0 | |
| 12 | Fernwood Ave and Lorraine St | 0 | 0 | 0 | 0 | 0 | |
| 13 | Stadium blvd between Kipke and Main | 1 | 0 | 0 | 1 | 1 | Audible cross with caustion, vehicles may not stop |
| 14 | Delaware between Mershon and 24th | 0 | 0 | 0 | 0 | 1 | |
| 15 | Vesper and Red Oak | 0 | 0 | 0 | 0 | 1 | DIY Sign on Island |
| 16 | Jefferson and 3rd | 0 | 0 | 0 | 0 | 0 | |
| 17 | Soule and Lutz | 0 | 0 | 0 | 0 | 0 | |
| 18 | Victors Way and Boardwalk Drive | 0 | 0 | 0 | 0 | 0 | |
| 19 | Maple Rd and Haisley | 0 | 0 | 0 | 1 | 1 | Audible Yellow Light Flashing |
| 20 | Nixon North of Plymouth | 0 | 0 | 0 | 1 | 1 | Audible Yellow Light Flashing |
| 21 | State St and Ellsworth | 1 | 0 | 0 | 0 | 0 | |
| 22 | Geddes Rd and Earhart Rd | 1 | 0 | 0 | 0 | 0 | |
| 23 | Pittsfield and Jeanne | 0 | 0 | 0 | 0 | 0 | |

| ID | Location | Infrastructure | Infra_RefIsland | Infra_CurbExtension | Infra_Placemaking | Infra_Driveway | Infra_ADA |
|----|---|----------------|-----------------|---------------------|-------------------|----------------|-----------|
| 1 | Pontiac Trail and Brookside Dr | 1 | 0 | 0 | 0 | 0 | 1 |
| 2 | Traver Road South of John A Woods | 1 | 0 | 0 | 0 | 1 | 1 |
| 3 | Geddes Ave and Arlington Blvd | 1 | 0 | 0 | 0 | 0 | 1 |
| 4 | Geddes Ave at Gallup Park Pathway | 1 | 0 | 0 | 1 | 0 | 1 |
| 5 | Pontiac Trail south of Arrowwood | 1 | 0 | 1 | 1 | 0 | 1 |
| 6 | Fifth Ave at Community High School | 1 | 1 | 1 | 1 | | 1 |
| 7 | Broadway and Divison west of Broadway I | 1 | 1 | 0 | 0 | 0 | 1 |
| 8 | Green and Hubbard | 1 | 0 | 0 | 0 | 0 | 1 |
| 9 | Green and Burbank | 1 | 0 | 0 | 0 | 0 | 1 |
| 10 | Tappan Ave and Okland Ave | 1 | 0 | 0 | 0 | 0 | 1 |
| 11 | Washtenaw north of Stadium | 1 | 0 | 0 | 0 | 0 | 1 |
| 12 | Fernwood Ave and Lorraine St | 1 | 0 | 0 | 0 | 0 | 1 |
| 13 | Stadium blvd between Kipke and Main | 1 | 1 | 0 | 1 | 0 | 1 |
| 14 | Delaware between Mershon and 24th | 1 | 0 | 0 | 0 | 0 | 1 |
| 15 | Vesper and Red Oak | 1 | 1 | 0 | 0 | 0 | 1 |
| 16 | Jefferson and 3rd | 1 | 0 | 0 | 0 | 0 | 1 |
| 17 | Soule and Lutz | 1 | 0 | 0 | 0 | 0 | 1 |
| 18 | Victors Way and Boardwalk Drive | 1 | 0 | 0 | 0 | 0 | 1 |
| 19 | Maple Rd and Haisley | 1 | 0 | 0 | 0 | 0 | 1 |
| 20 | Nixon North of Plymouth | 1 | 0 | 0 | 0 | 0 | 1 |
| 21 | State St and Ellsworth | 1 | 1 | 0 | 0 | 0 | 1 |
| 22 | Geddes Rd and Earhart Rd | 1 | 0 | 0 | 0 | 0 | 1 |
| 23 | Pittsfield and Jeanne | 1 | 0 | 0 | 0 | 0 | 1 |

| ID | Location | Infra_Sidewalk | Infra_TrafficCalming | Infra_Description | Lighting |
|----|---|----------------|----------------------|---|----------------------|
| 1 | Pontiac Trail and Brookside Dr | 1 | 1 | Variable speed limit sign; Slow Crosswalk | Adjacent |
| 2 | Traver Road South of John A Woods | 1 | 1 | Speed bumps | No adjacent Lighting |
| 3 | Geddes Ave and Arlington Blvd | 1 | 0 | | Adjacent |
| 4 | Geddes Ave at Gallup Park Pathway | 1 | 0 | | At Crosswalk |
| 5 | Pontiac Trail south of Arrowwood | 1 | 1 | Pavement coloration, pavers, low curbs | No adjacent Lighting |
| 6 | Fifth Ave at Community High School | 1 | 1 | Pavement coloration/pavers, low curbs | At Crosswalk |
| 7 | Broadway and Divison west of Broadway I | 1 | 0 | | Adjacent |
| 8 | Green and Hubbard | 1 | 0 | | Adjacent |
| 9 | Green and Burbank | 1 | 0 | | At Crosswalk |
| 10 | Tappan Ave and Okland Ave | 1 | 0 | | No adjacent Lighting |
| 11 | Washtenaw north of Stadium | 1 | 0 | | At Crosswalk |
| 12 | Fernwood Ave and Lorraine St | 1 | 0 | | Adjacent |
| 13 | Stadium blvd between Kipke and Main | 1 | 0 | | Adjacent |
| 14 | Delaware between Mershon and 24th | 1 | 0 | | No adjacent Lighting |
| 15 | Vesper and Red Oak | 1 | 0 | | Adjacent |
| 16 | Jefferson and 3rd | 1 | 0 | | At Crosswalk |
| 17 | Soule and Lutz | 1 | 0 | | At Crosswalk |
| 18 | Victors Way and Boardwalk Drive | 1 | 0 | | No adjacent Lighting |
| 19 | Maple Rd and Haisley | 1 | 0 | | At Crosswalk* |
| 20 | Nixon North of Plymouth | 1 | 0 | | At Crosswalk* |
| 21 | State St and Ellsworth | 1 | 1 | Rumble strips about 10' upstream of crosswalk | Adjacent |
| 22 | Geddes Rd and Earhart Rd | 1 | 1 | Rumble strips about 10' upstream of crosswalk | At Crosswalk |
| 23 | Pittsfield and Jeanne | 1 | 0 | Variance speed limit sign near school | No adjacent Lighting |

| ID | Location | HumanScaled | Notes |
|----|---|-------------|--|
| 1 | Pontiac Trail and Brookside Dr | 0 | |
| 2 | Traver Road South of John A Woods | 0 | |
| 3 | Geddes Ave and Arlington Blvd | 0 | |
| 4 | Geddes Ave at Gallup Park Pathway | 0 | |
| 5 | Pontiac Trail south of Arrowwood | 0 | |
| 6 | Fifth Ave at Community High School | 1 | |
| 7 | Broadway and Divison west of Broadway I | 1 | Missing ADA on 2 approaches |
| 8 | Green and Hubbard | 1 | |
| 9 | Green and Burbank | 1 | |
| | Tappan Ave and Okland Ave | 0 | |
| 11 | Washtenaw north of Stadium | 0 | |
| 12 | Fernwood Ave and Lorraine St | 0 | |
| 13 | Stadium blvd between Kipke and Main | 1 | |
| 14 | Delaware between Mershon and 24th | | Resident said parents line up here to pick up kids from school |
| 15 | Vesper and Red Oak | 0 | Very confusing - how do people turn left, unclear how many lanes, ver wide |
| 16 | Jefferson and 3rd | 0 | |
| 17 | Soule and Lutz | 0 | |
| 18 | Victors Way and Boardwalk Drive | 0 | Street was being resurfaced |
| 19 | Maple Rd and Haisley | 0 | Lighting one side was at and the other was adjacent |
| 20 | Nixon North of Plymouth | 0 | Lighting one side was at and the other was adjacent |
| 21 | State St and Ellsworth | 0 | |
| | Geddes Rd and Earhart Rd | 1 | |
| 23 | Pittsfield and Jeanne | 0 | |

| Attribute | Description |
|-----------------------|---|
| ID | Location ID |
| Location | Intersecting Streets |
| StreetType | Functional Classification |
| Crossing_Type | Controlled (Roundabout) or Uncontrolled |
| Crossing_Location | Midblock or at/adjacent to intersection |
| Speed_Limit | 25, 30, 35, 45 MPH |
| Prevaling_Speed | Subjective observation if drivers are going above, at, or below the speed limit |
| Bus_Stop | 1 if bus stop is present |
| Bus_Sign | 1 if bus stop has a sign |
| Bus_Bench | 1 if bus stop has a bench |
| Bus_Shelter | 1 if bus stop provides a shelter |
| School | 1 if school is directly adjacent; 2 if school is within two blocks |
| Bike_Facility | 1 if bike facility is present on intersecting street |
| Bike_Type | Type of bike facility (striped bike lane, buffered bike lanet, etc) |
| Num_Lanes | Number of travel lanes |
| Street_Parking | 1 if street parking is present |
| Parking_Clearance | Curbside, Loading, or otherwise |
| Parking_Width | Under 20' (recommendation) or over 20' |
| Parking_Description | Engeering measures width from crosswalk |
| Porkchop | 1 if porkchop island is present |
| Raised_Median | 1 if raised median is present |
| Description | Description of median |
| Pavement_Markings | Marked or Unmarked |
| Faded | 1 if markings are faded |
| Marked_Typed | High Visibility, Parallel, or otherwise (e.g. under construction) |
| Stop_Bar | 1 if stop bar is present |
| Signs_Signals | 1 if any crosswalk sign or signal is present |
| Sign_AdvPedWarning | 1 if advanced pedestrian warning is present |
| Sign_AdvSchoolWarning | 1 if advanced school warning is present |
| Sign_PedWarning | 1 if pedestrian warning is present |
| Sign_SchoolWarning | 1 if school warning sign is present |
| Sign_Bright | 1 if bright sides is present |
| Sign_InStreet | 1 if in lane signs are present |
| Sign_InStreet_Number | Sum of in lane signs |
| Sign_Island | 1 if signs on the island are present |
| Sign_StopPed | 1 if stop here for pedestrian sign is present |
| Sign_Overhead | 1 if overhead sign is present |
| Signal_PHB | 1 if pedestrian hybrid beacon is present |
| Signal_RRFB | 1 if rectangular rapid flashing beacon is present |
| Other | 1 if other signage is present |
| Other_Description | |
| Infrastructure | 1 if crosswalk infrastruction is present |
| Infra_RefIsland | 1 if refuge island is present |
| Infra_CurbExtension | 1 if curbuge extension or bumpout is present |
| Infra_Placemaking | 1 if placemaking is present |
| Infra_Driveway | 1 if drivveway is present |

Infra_ADA Infra_Sidewalk Infra_TrafficCalming Infra_Description Lighting HumanScaled Notes 1 if ADA ramp/detectable parking

1 if sidewalk connection is present

1 if Additional traffic calming is present

1 if there is lighting (at crosswalk, adjacent to crosswalk, or no adjacent lighting) 1 if human scaled lighting