TRAFFIC COMMISSION
Tuesday, January 19, 2016 ◆ 2:30 p.m.
Municipal Building, Third Floor Conference Room

Agenda

OLD BUSINESS

1. Request of The University of Findlay, 1000 North Main Street, for a pedestrian activated light across North Main Street from new admissions office to the campus.

   6/15/2015
   Jones stated that the current signal crossings are too far away from The University of Findlay (UF) Admissions Office. The midblock crossing policy was reviewed. UF prefers to place a signal at the intersection of North Main Street and Allen Avenue. UF will pursue traffic study for signal. Jones stated that there are 30-40 people per day historically crossing over to the Admissions Office. There are more activities at the UF Armstrong Sports Complex at the corner of Trenton and Blanchard. Many more people are crossing Main Street from the main campus. Cobb stated that UF is acquiring more and more properties on the east side of Main Street as well. Director Schmelzer stated that a conventional signal at an existing intersection is preferable over a midblock crossing. Motion to table request by Councilman Monday, second by Director Schmelzer. Motion passed 4-0.

2. Request for additional signals at Sandusky Street and Main Street.

   12/21/2015
   Schmelzer stated that stacking on Sandusky Street at the Main Street intersection has been increasing. The City has the infrastructure with cameras to install left turn signals to the existing lights on Sandusky Street on the eastbound and westbound sides. A dedicated left turn lane exists for westbound traffic. A dedicated left turn lane will have to be created for eastbound traffic which will eliminate about three parking spaces. This can be coordinated with the TAP project for Main Street. Schmelzer stated that he will research if a left turn lane can be installed and have ready for next meeting.

NEW BUSINESS

The Proposed Crosswalk would lie in the vicinity of Swing (vacated) near the Admissions Office. The University has expanded to the east side of N. Main Street, and this expansion now includes the Admissions Office, where tours for prospective students originate. Most families attempt to park at the Admissions Office, however, on certain days, 200 or more families, with an average of 5 people per family, utilize the Admissions Office, and must park on the west side of N. Main Street. For tours, these families are accompanied, and cross Main Street at the Howard Street signal. (The Main & Trenton intersection is too heavily travelled with too many heavy turn movements to provide a feeling of safety for guides or families). However, upon arrival, these individuals tend to cross at the most convenient location, near the Admissions office. The University is concerned about the safety of these families.

ATTACHMENT A

Application to Consider Marked Crosswalk at Mid-Block or Uncontrolled Location

APPLICANT INFORMATION					
NAME:	Martin L. Terry				
REPRESENTING:	The University of Findlay				
STREET ADDRESS:	1000 North Main Street				
CITY:	Findlay	STATE:	Ohio	ZIP CODE:	45840
TELEPHONE:	419-434-4521	E-MAIL:	terry@findlay.edu		

LOCATION INFORMATION

STREET: N. Main Street

ROADWAY CLASSIFICATION: Principal Arterial

LOCATION: At / near FEET N S E W OF Swing Ave. (Vac) (NEAREST STREET)

PEDESTRIAN GENERATOR(S): The University of Findlay Admissions Office

POSTED SPEED LIMIT: 35 MPH CROSSING DISTANCE: 62 FEET

NEAREST PROTECTED PEDESTRIAN CROSSING LOCATION: 540' FEET (N) S E W

NUMBER OF TRAVEL LANES: 2 3 (4) >4 RAISED MEDIAN? YES (NO)

I request that consideration be given to establishing a marked crosswalk at the location stated. I understand that, as the applicant, I will be responsible for conducting the required evaluation and constructing/installing the required components, if approved.

Applicant Signature: Martin L Terry Date: 6-4-15

The Findlay Traffic Commission reviewed this application on _____, 20___ and

_____ Approves further evaluation _____ Denies further evaluation

_____

Paul Schmelzer, Service-Safety Director

CROSSWALK ANALYSIS

for

NORTH MAIN STREET (US-224)
CAMPUS CROSSINGS

FINDLAY, OHIO

Prepared For:

The University of Findlay
1000 North Main Street
Findlay, OH 45840

Prepared By:
DGL Consulting Engineers, LLC
3455 Briarfield Boulevard, Suite E
Maumee, Ohio 43537

October 26, 2015

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EXECUTIVE SUMMARY

DGL was commissioned by the University of Findlay to analyze locations on North Main Street within campus limits for safer pedestrian crossings. Existing signalized intersections with pedestrian crossings include Trenton Avenue, George Street and Howard Street.

The University Admissions Office, where tours for prospective students originate, is now located east of N. Main Street opposite vacated Swing Street. Because the Admission Office parking lot is small, visitors park on the west side of N. Main Street in front of the Student Recreation Center.

Pedestrian crossings in the campus area, specifically near the Admissions Office, were discussed at the June 15, 2015 Traffic Commission meeting. The consensus was that the most acceptable place for such a crosswalk would be at the North Main and Allen intersection. Analysis of the existing traffic signal at North Main and George for pedestrian movements and signal warrants should also be considered.

City of Findlay Policy for establishing marked crosswalks requires that a traffic study be completed that justifies the crosswalk, and that if approved, the applicant is responsible for preparing plans and specifications, as well as for the construction of the recommended improvements.

Because N. Main Street is a 4-lane undivided street with a posted speed limit of 35 mph, this policy requires that potential devices, such as signalization or pedestrian hybrid beacons, be analyzed with respect to the Ohio Manual on Uniform Traffic Control Devices (OMUTCD)

Pedestrian and vehicular traffic volume counts were conducted and analyzed to determine whether minimum requirements are met for installation of a traffic signal or pedestrian hybrid beacons. Also analyzed was the potential of constructing a median island and installing rectangular rapid flashing beacons. As requested, the study also incorporated review of the appropriateness of the existing traffic signal at N. Main Street and George Street.

The data collected and analyzed, along with review of the site characteristics, support the following recommendations:

- Retain the existing traffic signal at the intersection of N. Main Street and George Street. Upgrade to include audible pushbuttons and countdown pedestrian signal heads.
- Construct at an appropriate mid-block location between Midland and Allen either:
    - Pedestrian Hybrid Beacons (HAWKs), or
    - A median island and Rectangular Rapid Flashing Beacons (RRFBs).

These recommendations result in retaining the existing protected crossing that serves traditional pedestrian traffic, while providing an additional protected warranted crossing.

INTRODUCTION

The University has expanded to the east side of N. Main Street, and this expansion now includes the Admissions Office, where tours for prospective students originate. Most families attempt to park at the Admissions Office, however, on certain days, 200 or more families, with an average of 5 people per family, utilize the Admissions Office, and must park on the west side of N. Main Street. For campus tours, these families are accompanied by a tour guide, and cross North Main Street at the George Street signal. Unaccompanied individuals tend to cross at the most convenient location, near the Admissions office. The University is concerned about the safety of these families.

Figure 1 – Location Map

Initially, it was conceived that the proposed crosswalk would be in the vicinity of Swing (vacated) near the University Admissions Office. The consensus at the City's June 15, 2015 Traffic Commission meeting was that the most acceptable place for such a crosswalk would be at the N. Main & Allen intersection, and that removal of the existing traffic signal at N. Main & George should be considered as part of this analysis.

Figure 1 shows the location of the proposed crosswalk. The Admissions Office is located near the northeast corner of this intersection.

City of Findlay Policy for establishing marked crosswalks requires that a traffic study be completed that justifies the crosswalk. If approved, the applicant is responsible for preparing plans and specifications and for contracting for the construction of the recommended treatment.

The level of analysis required is defined by the City of Findlay Policy on Marked Crosswalks at Mid-Block or Uncontrolled Locations, dated August 19, 2013, and provided in Appendix A. The Policy groups the type of analysis required based on a

combination of the number of travel lanes present, the posted travel speed and the traffic volume of the primary roadway.

EXISTING CONDITIONS

An aerial view of the N. Main and Allen intersection is shown in Figure 2. Four travel lanes exist on Main Street, with on-street parking permitted and utilized on both sides. The pavement width is approximately 62 feet.

The posted speed on Main Street is 35 mph. According to the most recent (2013) traffic data collected by ODOT, the Average Daily Traffic (ADT) on this roadway is 14,774 vehicles per day.

Figure 2 – North Main & Allen Intersection

A gas station / convenience store exists in the northeast quadrant of the intersection, with two driveways present on N. Main Street, and two additional driveways on Allen. A residential property exists on the southeast quadrant of the intersection, with driveway access off of Allen. The University of Findlay Koehler Fitness and Recreation Complex occupies the west side of Main Street, with its parking lot driveway offset south of Allen by approximately forty feet (40').

At Swing Street, the pavement markings begin the transition to accommodate the northbound left turn lane serving Trenton. On-street parking is not permitted north of the Admissions Office.

City of Findlay guidelines indicate due to high traffic volumes and uncontrolled intersections a marked crosswalk with minimal signage cannot safely accommodate pedestrians without a higher level of intersection control. The intersection must be reviewed to determine whether warrants for signalization contained in the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) are met.

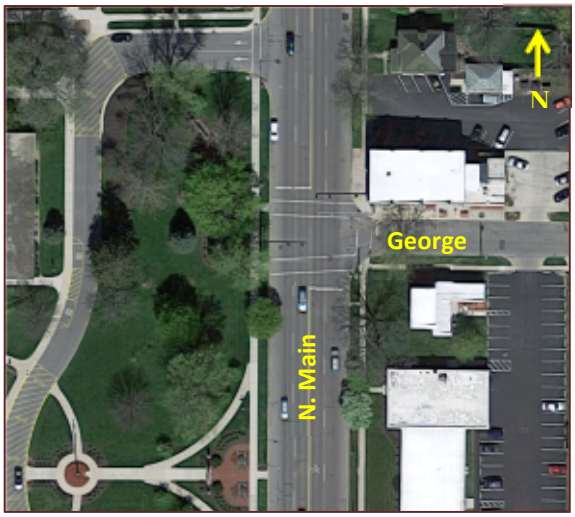


Figure 3 – North Main & George Intersection

The City Traffic Commission also specified that the intersection of North Main Street and George Street should be reviewed to determine whether this signal meets warrants, and to make appropriate recommendations in its regard. This intersection is shown in Figure 3. The basic roadway conditions, lane configuration, speed limit, and traffic volume, are consistent with those at Allen. This signal is semi-actuated and not coordinated with the signal at Trenton.

A commercial storefront, consisting of a tattoo parlor and a coffee house, exist on the northeast corner of the intersection, with parking lot access off of N. Main Street. A Chiropractic office exists on the southeast corner, with parking lot access off of George. The University of Findlay's primary campus frontage, including its main offices, Student Union and various large educational buildings, exist along the west side of Main Street. A one-way westbound-to-southbound drive serving pick-up, drop-off and deliveries for the campus intersects Main Street approximately 140' north of George.

DATA COLLECTION

Due to the inconsistent traffic patterns of pedestrians in a college campus environment, particularly at a location where this traffic is heavily influenced by prospective students and their families, DGL worked with the University's Admissions staff to conduct traffic counts on a day where pedestrian traffic was expected to be significant. University officials requested that the traffic counts be conducted on Wednesday, August 12, 2015. It should be noted that The University of Findlay did not have classes in session on this date however, athletes had arrived on campus. Curb construction and some lane restrictions on N. Main Street were also present.

Manual turn counts were conducted at the intersections of N. Main and Allen and N. Main and George on the date requested. Turn movements and pedestrian crossings were documented for the counting periods. Mid-block crossings of pedestrians were also documented. Pedestrians were not counted at the Trenton or Howard intersections.

Data collection occurred between the hours of 11:00 am to 2:00 pm and 3:00 pm to 6:00 pm. Counts intended to analyze signal warrants would typically include a.m. peak data. While traffic volumes are typically high in the AM Peak due to commuters and

Glenwood Middle School (north of Trenton), University-related pedestrian traffic is typically low. It was determined that this time period would be of little impact to the analysis. A summary of the data collected at these intersections is shown in Table 1 and Table 2.

Hour Beginning	Vehicular Traffic						Pedestrians Crossing		
	Southbound N. Main St.		Northbound N. Main St.		Westbound Allen Ave.		N. Main at Allen	Allen at N. Main	N. Main Mid-Block
	Left	Thru	Thru	Right	Left	Right			
11:00 AM	8	427	495	3	9	8	1	0	311*
12:00 PM	13	504	546	4	7	6	0	1	41
1:00 PM	21	493	578	6	11	10	0	7	15
2:00 PM									
3:00 PM	19	488	617	12	4	13	1	24	31
4:00 PM	18	546	642	14	7	11	0	20	87
5:00 PM	6	556	762	4	7	15	0	7	18

Table 1 – Manual Turn Count at N. Main Street & Allen Avenue, August 12, 2015

Hour Beginning	Vehicular Traffic						Pedestrians Crossing		
	Southbound N. Main St.		Northbound N. Main St.		Westbound George St.		N. Main at George	George at N. Main	N. Main Mid-Block
	Left	Thru	Thru	Right	Left	Right			
11:00 AM	19	449	498	15	15	13	25	15	16
12:00 PM	21	505	526	21	16	25	30	18	1
1:00 PM	19	470	585	18	10	21	34	27	2
2:00 PM									
3:00 PM	21	497	608	13	14	21	28	15	13
4:00 PM	29	499	632	23	24	21	36	5	3
5:00 PM	22	547	750	31	24	32	17	16	5

Table 2 – Manual Turn Count at N. Main Street & George Street, August 12, 2015

* The significant mid-block crossing volume between 11:00 a.m. and 12 Noon in the vicinity of N. Main Street & Allen was noted. DGL staff indicated that a large volume of athletes crossed Main Street, then returned approximately 5 minutes later, crossing in the opposite direction.

Pedestrian compliance was extremely good at the N. Main Street & George intersection where the signalized crosswalks exist. Mid-block crossings in the vicinity of this signal are also notably less than those near Allen because classes were not in session on August 12, 2015.

Signal Warrants are, by definition, to address conditions present on an “average day”, thus it is appropriate to have data that represents classes in session. Data collection was repeated on Wednesday, August 26, 2015 during similar peak traffic periods observed during the previous count, and included the same documented conditions.

Curb construction and some lane restrictions on N. Main Street were again present. This data is summarized in Table 3 and Table 4.

Hour Beginning	Vehicular Traffic						Pedestrians Crossing		
	Southbound N. Main St.		Northbound N. Main St.		Westbound Allen Ave.		N. Main at Allen	Allen at N. Main	N. Main Mid-Block
	Left	Thru	Thru	Right	Left	Right			
11:00 AM*	4	289	295	5	6	15	12	7	5
12:00 PM**	15	334	347	9	3	11	13	6	2
1:00 PM									
2:00 PM									
3:00 PM	24	500	487	6	6	22	18	2	9
4:00 PM	29	495	504	7	10	27	22	9	7
5:00 PM									

* Includes 45 minutes of data – 11:15 to 12:00
** Includes 30 minutes of data – 12:00 to 12:30

Table 3 – Manual Turn Count at N. Main Street & Allen Avenue, August 26, 2015

Hour Beginning	Vehicular Traffic						Pedestrians Crossing		
	Southbound N. Main St.		Northbound N. Main St.		Westbound George St.		N. Main at George	George at N. Main	N. Main Mid-Block
	Left	Thru	Thru	Right	Left	Right			
11:00 AM*	10	303	297	20	19	21	35	4	0
12:00 PM**	16	306	342	9	15	15	42	4	0
1:00 PM									
2:00 PM									
3:00 PM	13	475	468	17	24	28	25	12	0
4:00 PM	18	472	506	9	19	38	28	14	0
5:00 PM									

* Includes 45 minutes of data – 11:15 to 12:00
** Includes 30 minutes of data – 12:00 to 12:30

Table 4 – Manual Turn Count at N. Main Street & George Street, August 26, 2015

This data reflects somewhat lower traffic volumes on Main Street, while pedestrian activity at George Street is consistent with the previous data. Pedestrians again showed good compliance with the traffic signal at this intersection. While pedestrian crossing was documented at the Main and Allen intersection, these crossings more typically occurred at the intersection, as opposed to mid-block. This may have been due to the installation of curbs along the east side of Main Street which was occurring at the time of the count. No mass crossing of any group was observed.

Traffic Count Data is included in Appendix B.

ANALYSIS

In accordance with City of Findlay policy, analysis was conducted in accordance with the requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) to determine whether the intersection of N. Main Street and Allen Avenue would meet minimum warrants for installation of a traffic signal. Additionally, in response to the request made at the June 15, 2015 Traffic Commission meeting, as similar analysis was conducted with respect to the intersection of N. Main Street & George Street.

The OMUTCD provides direction for performing a Signal Warrant Analysis, and defines nine sets of "minimum conditions" under which installing traffic signals might be justified. Satisfying one or more of these warrants does not in and of itself require installation of a traffic signal. In turn, not meeting any of the warrants does not automatically indicate that a signal installation should be removed. "A careful analysis of traffic operations, pedestrian and bicycle needs, and other factors…coupled with engineering judgement…define the minimum conditions under which installing or removing traffic control signal might be justified."

Signal Warrant Analysis

The majority of signal warrants are based on only vehicular traffic. Warrant 4, Pedestrian Volume, is based upon a combination of vehicular traffic volumes on the Major Street, and the number of pedestrians crossing that street. The Warrant is reviewed under two separate conditions. The first considers a single hour (four consecutive 15-minute periods); the second considers any four hours of an average day. For purposes of the analysis, pedestrians crossing at mid-block locations were assumed to cross in compliance with a traffic signal, if installed.

N. Main and Allen – Vehicular traffic volumes are well below the minimums required to meet any of the vehicular traffic-based warrants. The pedestrian volumes approach the warrant requirements only with the athlete crossing. It is unclear whether this crossing is a normal occurrence. Warrant Charts are shown in Figure 4 and Figure 5.

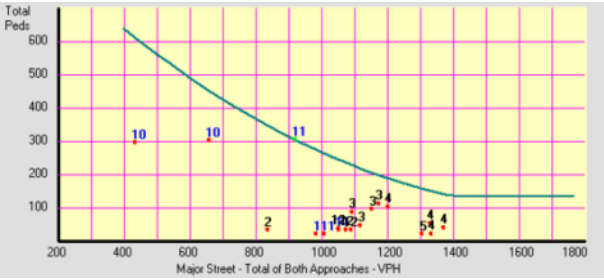


Figure 4 – N. Main & Allen 1-hour Pedestrian Warrant

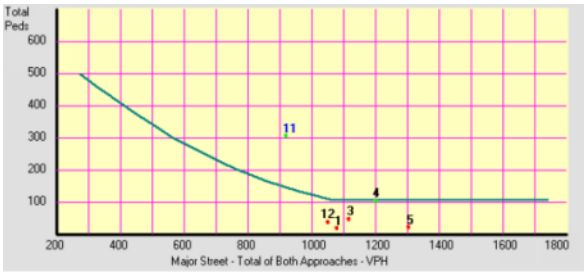


Figure 5 – N. Main & Allen 4-hour Pedestrian Warrant

N. Main and George - Vehicular traffic volumes are well below the minimums required to meet any of the vehicular traffic-based warrants. The pedestrian volumes do not meet warrant requirements.

Signal Warrant Analysis output is contained in Appendix C.

Pedestrian Hybrid Beacon Guidelines Analysis

Pedestrian Hybrid Beacons, also commonly known as HAWKs, are a relatively new type device used to notify drivers of pedestrian crossings, and to provide an added level of protection for pedestrians. Installations throughout the nation reflect good driver compliance. These beacons remain dark until activated by a pedestrian, at which point they react similar to that observed on a traffic signal. These devices can operate independently, or can be coordinated within a signal system. Benefits of coordination include little disruption to traffic flow; benefits of independent operation include quicker crossing availability. The typical operation of Pedestrian Hybrid Beacons, as obtained directly from the OMUTCD, is shown in Figure 6.

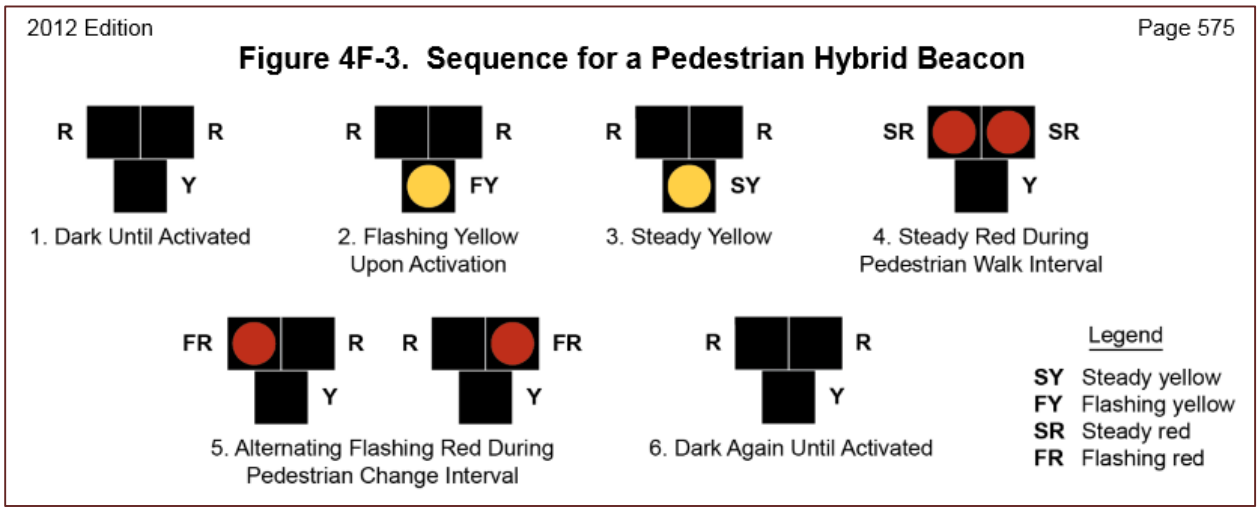


Figure 6 – Operation of Pedestrian Hybrid Beacons

Guidelines for considering installation of a Pedestrian Hybrid Beacon consist of analysis of data similar to that included in Warrant 4. Pedestrian volumes required to meet the recommended guidelines are much lower than those required to attain a signal warrant. An added aspect of the analysis is that the distance required to cross the street is considered. Pedestrian Hybrid Beacons should only be considered at mid-block locations, where the distance to the nearest stop-controlled street or driveway exceeds 100 feet.

These guidelines were reviewed with respect to conditions on Main Street between Allen and George. The data collected shows that pedestrians often cross at mid-block locations. A roadway segment exists on N. Main Street between Midland and Allen that meets the spacing requirement noted above. An additional location exists between Midland and Garfield. These potential locations are shown in Figure 7.

Figure 7 – Potential HAWK Locations

Main Street vehicular traffic volumes and pedestrian volumes crossing Main Street in the vicinity of Allen and were plotted on the graph used for the Pedestrian Hybrid Beacon warrant, shown in Figure 8. Plotted points include all documented periods on both August 12, 2015 and August 26, 2015 where pedestrian traffic met or exceeded the minimum volume of 20 pedestrians per hour. Where documentation occurred for a partial hour, the vehicular and pedestrian volumes were expanded linearly.

For the 62' crossing length (the current width of N. Main Street), pedestrian crossing activity meets the required guidelines for installation of a Pedestrian Hybrid Beacon. While not excessive, the volume of pedestrians crossing N. Main Street on an average day in the vicinity of the Admissions office is consistently at a level which deserves attention.

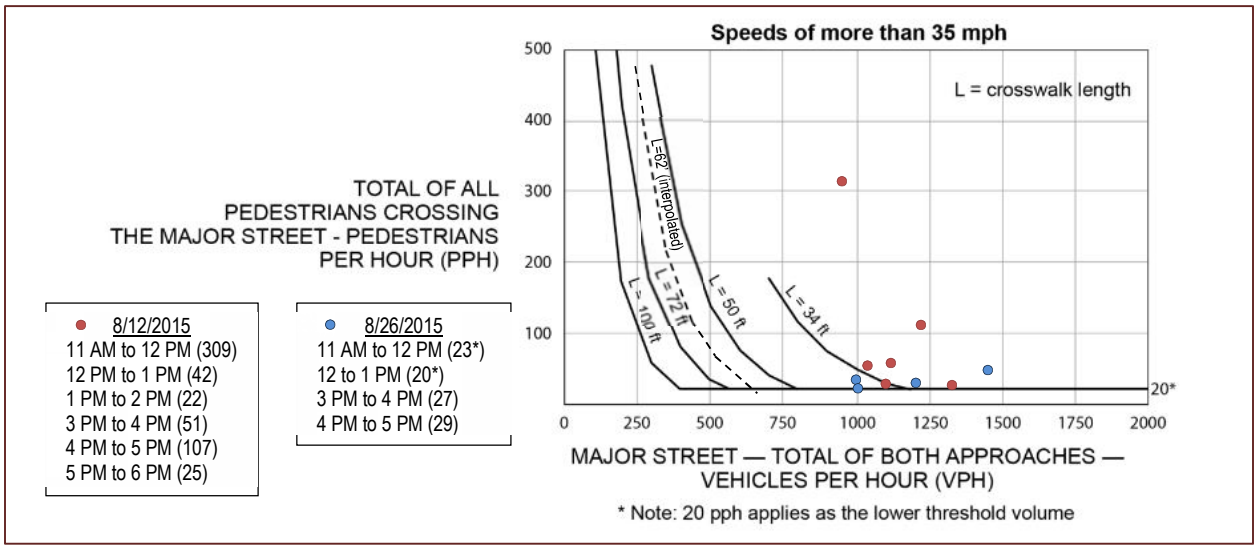


Figure 8 – Pedestrian Hybrid Beacon Warrant

Rectangular Rapid Flashing Beacon (RRFB) Analysis

The City of Findlay's Policy permits consideration of Rectangular Rapid Flashing Beacons (RRFB) under certain conditions. The OMUTCD does not provide any Warrants or Guidance on the installation of these devices. Many communities, however, have installed them and have indicated high driver compliance.

Because N. Main Street is an undivided 4-lane street, with a 35 mph speed limit, current conditions do not support installation of RRFB's. The placement of the devices under such conditions does not provide acceptable visibility to drivers in all travel lanes.

The pavement width of N. Main Street in the vicinity of the University of Findlay campus is, however, sufficient to construct a median island, which would provide several benefits that may support installation of RRFB's. These benefits include:

- Creates a refuge area for pedestrians
- Reduces street crossing distance
- Allows pedestrians to negotiate crossings in segments, with a single direction of conflicting traffic on each segment
- Involves no conflicting turn movements that would be present at an intersection crossing

Potential locations are the same as those for HAWK installation, with construction of a median island required. Parking near the crossing would need to be prohibited, and a loss of three stalls on each side would likely be realized. A concept drawing is shown in Figure 9.

Figure 9 – Concept Median Island for RRFB's

Other Considerations

There are several factors that may not be obvious that should be taken into account in this study.

The University of Findlay currently occupies four (4) buildings on the east side of Main Street, with the most recent acquisition being the Admissions Office. This office is the initial stop for all prospective students, as Campus tours originate here. Guides direct tours across N. Main Street in the vicinity of the Admissions Office and the Koehler Fitness and Recreation Complex. The Campus Tour Route, provided by Admissions Staff at the University of Findlay, is shown in Figure 10.

During the 2014-2015 Academic Year, over 9,300 people, an average of 42 people per day that Admissions was open, toured the campus. Mondays and Fridays tend to be the busiest, with up to 25 tours conducted in a day. The size of the tour groups vary. With limited parking on these occasions, families may decide to park directly across Main, and cross to Admissions. The University expects to see the number of prospective students, families and tours increase by approximately 20% during the 2015-2016 Academic Year.

Figure 10 – Campus Tour Route

In addition to normal staff, approximately 45 students are employed part-time at this office and are required to cross Main Street travelling to and from their job. Various meetings are also conducted in the Admissions Office, as the facilities are very pleasant and accessible. These meetings typically include Faculty and Staff travelling to and from the main campus area.

A considerable student population lives off-campus, in the neighborhood east of Main Street, and must cross N. Main to reach campus. This was more evident at the George Street crossing, where pedestrians were documented crossing throughout the day.

The Armstrong Sports Complex is located at the intersection of Trenton and Blanchard, approximately ½ mile east of the main campus. Various athletic teams, including Soccer and Lacrosse, practice at this location. Students dress at the Recreation Center on the west side of Main Street, and travel to the Sports Complex. While parking is available at that site, many students opt to walk, which requires crossing Main Street.

While there are no immediate plans for additional property acquisition east of Main Street, the University is experiencing growth, and expansion is a near certainty. Plans and fundraising for a new Football/Lacrosse stadium on the main portion of campus are underway, and its construction will be a draw for student-athletes.

Summary

Based on the first set of traffic counts, it appears that the intersection of N. Main and Allen would meet the minimum warrants for signalization under Warrant 4, but only if certain assumptions are made. These assumptions include the following:

- All pedestrians currently crossing mid-block would utilize the protected crossing.
- A signal would not be coordinated with the signal at N. Main Street and Trenton Avenue.

The second set of counts indicates that Warrant 4 is not met on a normal day.

While the traffic signal at the intersection of N. Main and George does not meet minimum warrants for signalization, it does provide a protected crossing for pedestrians and is not disruptive to normal traffic flow. Pedestrian compliance with signal indications is good, but not near 100%.

Alternatives exist for enhancing safety for pedestrians, and should be considered. These alternatives include Pedestrian Hybrid Beacons (HAWK's), or a center median equipped with Rectangular Rapid Flashing Beacons (RRFB's). Each of the alternatives considered would require parking restrictions in the immediate vicinity of the device.

The University of Findlay would like to provide a safe and efficient method for pedestrians to cross N. Main Street in the vicinity of the Admissions Office in order to better serve the campus community. The University's desire is for a traffic signal to be constructed at the intersection of Allen Avenue and North Main Street, which is the subject of this Traffic Study. In addition, the City of Findlay has request an analysis as to whether the existing traffic signal at the N. Main Street and George Street intersection should remain in service.

OMUTCD Warrants for a traffic signal are not met at either location. The OMUTCD cautions that traffic signals are often considered a panacea for all traffic problems at intersections. There are advantages and disadvantages to signalization, and unjustified traffic signals can create more problems than they correct. While such an installation may be well-meaning, an unwarranted traffic signal is commonly disobeyed, resulting in crashes that would otherwise not occur, and potential harm to the pedestrians intended to be protected.

RECOMMENDATIONS

Based on the data collected and analyzed, along with review of the site characteristics, the following direction is recommended:

- Retain the existing traffic signal at the intersection of N. Main Street and George Street. Upgrade to include audible pushbuttons and countdown pedestrian signal heads.
- Construct at an appropriate mid-block location between Midland and Allen either:
    - Pedestrian Hybrid Beacons (HAWKs), or
    - A median island and Rectangular Rapid Flashing Beacons (RRFBs).

These recommendations result in retaining the existing protected crossing that serves traditional pedestrian traffic, while providing an additional protected warranted crossing.

Appendix A

City of Findlay Policy on Marked Crosswalks

City of Findlay, OH
Policy on Marked Crosswalks at Mid-Block or Uncontrolled Locations

August 19, 2013

Background

The City of Findlay has received requests to mark crosswalks at locations where traffic is not normally required to stop or yield and where such crossings would normally be unexpected. The City of Findlay wants to encourage safe movement of pedestrians throughout the City in a manner that segregates and facilitates high-volume crossings without over-use of associated traffic control devices.

Section 4511.46 of the Ohio Revised Code requires drivers to yield to pedestrians legally in a crosswalk (marked or unmarked), and also requires pedestrians to ensure that they will not create a hazard by suddenly entering a crosswalk. Neither drivers nor pedestrians fully understand their rights and responsibilities under the law, which results in confusion and collisions.

Marking a crosswalk with only the minimum required signs and markings may encourage pedestrian/vehicular conflicts that would not otherwise occur. Research has shown that driver compliance with the law is greatly improved when marked crosswalks are enhanced with high-visibility signs and pavement markings, and supplemented by active warning devices.

Policy Statement

It shall be the policy of the City of Findlay to only mark crosswalks at mid-block or otherwise uncontrolled locations after a complete evaluation by a qualified Professional Engineer and approval by the City of Findlay Traffic Commission. Approved crossings will require the installation of appropriate warning devices, such as, but not limited to, pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB's), high-intensity signs and pavement markings, medians and pedestrian ramps. Crossings established using only static signs and pavement markings as warning devices are not considered appropriate. All costs associated with conducting the evaluation and constructing/installing required roadway modifications and traffic control devices shall be borne by the Applicant. All devices shall become the property of the City of Findlay, which will be responsible for performing all appropriate repairs and maintenance.

Procedure

1. Prior to making application to the Traffic Commission, the location where the crossing is requested shall be documented as meeting various screening criteria. This criteria is included on the application form (Attachment A) and summarized as follows:
    a. The proposed crosswalk location shall be associated with a pedestrian generator (e.g. school, park, multi-use trail, transit stop, commercial).
    b. The proposed crosswalk shall be located a minimum of 300' from any existing signalized pedestrian crossing. The minimum required distance may be reduced to 200' within the CBD, at the discretion of the Traffic Commission.
    c. The proposed crosswalk shall be on a roadway with a posted speed limit greater than 25 mph. The minimum speed limit may be reduced to 25 mph within the CBD or in close

proximity to schools, parks and other major institutions, at the discretion of the Traffic Commission.

d. The proposed crosswalk location shall not have been considered within the previous 24 month period.

Locations which do not meet these minimum criteria will not be considered.

2. The application shall be filed with the Traffic Commission, who will determine whether the proposal has merit to continue to further evaluation.
3. Upon authorization to continue, the applicant will retain a Professional Engineer registered in the State of Ohio with specific training in to conduct or supervise an evaluation of the existing and projected conditions and to recommend associated actions. The study shall be completed within 6 months of authorization, and the following minimum considerations shall be addressed in the evaluation:
    a. The proposed crosswalk is associated with a pedestrian generator, and serves a noticeable, defined and regular crossing.
    b. The proposed crosswalk is located at least 300' from the nearest existing signalized pedestrian crossing.
    c. The posted speed limit on the roadway to be crossed exceeds 25 mph or is located within the CBD or in close proximity to schools, parks and other major institutions.
    d. The existing ADT of the roadway to be crossed exceeds 1500 vpd.
    e. Sight distance is adequate, or can be made adequate, for safe stopping
    f. A minimum of 20 pedestrians cross the roadway during the peak crossing hour.
    g. Age and ability/disability (average walking speed) of pedestrians.
    h. Current geometry supports or can be modified to support a marked pedestrian crossing.
    i. Volume of heavy trucks.
    j. Availability of sufficient gaps.
    k. Other safety considerations.

Attachment B contains the Guidelines and treatments for marked crosswalks in the City of Findlay, and shall serve as a basis for need and treatment evaluations.

4. An electronic copy and 5 paper copies of the evaluation and recommendations shall be provided to the Service Director a minimum of 2 weeks in advance of the next Traffic Commission meeting. The document shall be signed and sealed, shall include a resume of the preparer responsible for the report, and may include relevant experience of the preparer's firm.
5. If approved by the Traffic Commission, the applicant shall prepare detailed plans and specifications for the proposed improvement in conformance with City of Findlay Standards.
6. A construction bond will be required by the City of Findlay for work occurring within the public right of way. Construction of the improvements shall be completed within 12 months of project approval.

ATTACHMENT A

Application to Consider Marked Crosswalk at Mid-Block or Uncontrolled Location

APPLICANT INFORMATION	
NAME:	_____
REPRESENTING:	_____
STREET ADDRESS:	_____
CITY: _____ STATE: _____ ZIP CODE: _____	
TELEPHONE: _____ E-MAIL: _____	

LOCATION INFORMATION	
STREET:	_____
ROADWAY CLASSIFICATION:	_____
LOCATION: _____ FEET N S E W OF _____ (NEAREST STREET)	
PEDESTRIAN GENERATOR(S):	_____
POSTED SPEED LIMIT: _____ MPH	CROSSING DISTANCE: _____ FEET
NEAREST PROTECTED PEDESTRIAN CROSSING LOCATION: _____	FEET N S E W
NUMBER OF TRAVEL LANES: 2 3 4 >4	RAISED MEDIAN? YES NO

I request that consideration be given to establishing a marked crosswalk at the location stated. I understand that, as the applicant, I will be responsible for conducting the required evaluation and constructing/installing the required components, if approved.

Applicant Signature: _____ Date: _____

The Findlay Traffic Commission reviewed this application on _____, 20___ and

_____ Approves further evaluation _____ Denies further evaluation

_____

Paul Schmelzer, Service-Safety Director

ATTACHMENT B

Guidelines for Treatment of Marked Crosswalks at Mid-Block or Uncontrolled Locations

In general, the following table represents the appropriateness of marked crosswalks for combinations of lanes, travel speeds and traffic volumes and typical traffic control required at installation. Any location where the existing or projected crossing will exceed 100 pedestrians in the peak hour will require MUTCD warrant analyses for pedestrian hybrid beacons and signalization.

	<1,500 ADT	1,500<ADT<9,000				9,000<ADT<15,000				>15,000 ADT
	Any speed	25 mph	30 mph	35 mph	40 mph or more	25 mph	30 mph	35 mph	40 mph or more	Any Speed
2 lanes	No	No	No	RRFB	RRFB	RRFB	RRFB	RRFB	RRFB	RRFB
3 lanes	No	No	RRFB	RRFB	RRFB	RRFB	RRFB	RRFB	MUTCD	RRFB
4 lanes	No	RRFB	RRFB	RRFB	MUTCD	RRFB	RRFB	MUTCD	MUTCD	MUTCD
>4 lanes	No	RRFB	RRFB	MUTCD	MUTCD	RRFB	MUTCD	MUTCD	MUTCD	MUTCD

Key

No	Combination of Traffic Volumes, Speed and Lane Configuration do not support establishment of a marked crossing, independent of number of pedestrians.
RRFB	Combination of Traffic Volumes, Speed and Lane Configuration support consideration of a marked crossing with visibility and pedestrian operation enhancements, to include Rectangular Rapid Flashing Beacons (RRFB) as a minimum required treatment, where pedestrian traffic supports a marked crossing.
MUTCD	The Combination of Traffic Volumes, Speed and Lane Configuration may not support consideration of a marked crossing without installation of MUTCD warranted devices (pedestrian hybrid beacons or signalization).

Appendix B
Traffic Counts

DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & Allen Ave
Date: 8/12/2015
Counter: RL
Notes:

File Name : N. Main Street & Allen Ave
Site Code : 50580502
Start Date : 8/12/2015
Page No : 1

Groups Printed- Cars - Trucks & Buses

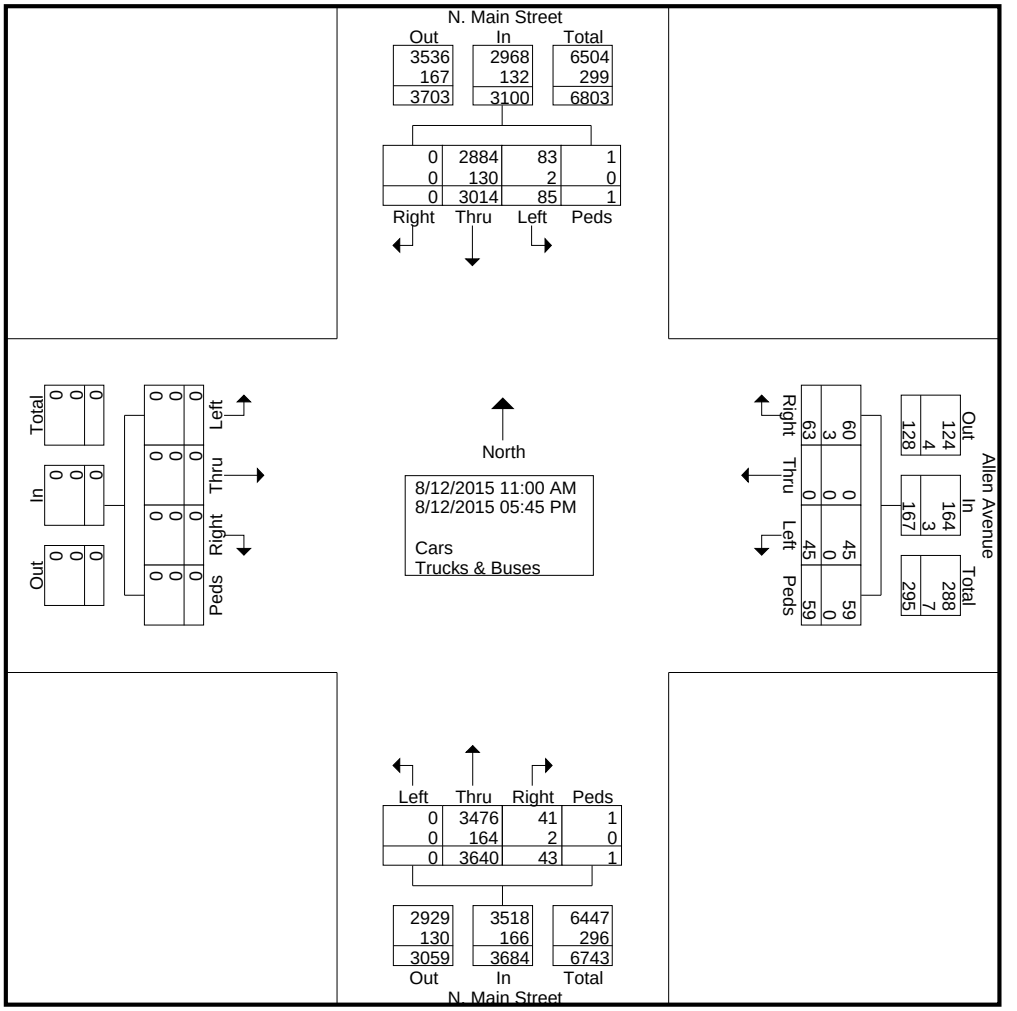
	N. Main Street From North					Allen Avenue From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	88	1	1	90	2	0	2	0	4	1	100	0	0	101	0	0	0	0	0	195
11:15 AM	0	102	1	0	103	3	0	0	0	3	1	141	0	0	142	0	0	0	0	0	248
11:30 AM	0	111	1	0	112	2	0	1	0	3	0	119	0	0	119	0	0	0	0	0	234
11:45 AM	0	126	5	0	131	1	0	6	0	7	1	135	0	0	136	0	0	0	0	0	274
Total	0	427	8	1	436	8	0	9	0	17	3	495	0	0	498	0	0	0	0	0	951
12:00 PM	0	112	3	0	115	1	0	1	0	2	1	140	0	0	141	0	0	0	0	0	258
12:15 PM	0	113	4	0	117	1	0	3	0	4	2	150	0	0	152	0	0	0	0	0	273
12:30 PM	0	138	2	0	140	2	0	1	0	3	1	135	0	0	136	0	0	0	0	0	279
12:45 PM	0	141	4	0	145	2	0	2	1	5	0	121	0	0	121	0	0	0	0	0	271
Total	0	504	13	0	517	6	0	7	1	14	4	546	0	0	550	0	0	0	0	0	1081
01:00 PM	0	125	2	0	127	3	0	4	0	7	1	153	0	0	154	0	0	0	0	0	288
01:15 PM	0	132	8	0	140	4	0	3	1	8	0	143	0	0	143	0	0	0	0	0	291
01:30 PM	0	118	6	0	124	0	0	1	4	5	3	129	0	0	132	0	0	0	0	0	261
01:45 PM	0	118	5	0	123	3	0	3	2	8	2	153	0	0	155	0	0	0	0	0	286
Total	0	493	21	0	514	10	0	11	7	28	6	578	0	0	584	0	0	0	0	0	1126
*** BREAK ***																					
03:00 PM	0	132	6	0	138	3	0	1	4	8	3	156	0	1	160	0	0	0	0	0	306
03:15 PM	0	110	5	0	115	5	0	1	8	14	3	132	0	0	135	0	0	0	0	0	264
03:30 PM	0	125	2	0	127	3	0	0	4	7	6	167	0	0	173	0	0	0	0	0	307
03:45 PM	0	121	6	0	127	2	0	2	8	12	0	162	0	0	162	0	0	0	0	0	301
Total	0	488	19	0	507	13	0	4	24	41	12	617	0	1	630	0	0	0	0	0	1178
04:00 PM	0	132	5	0	137	6	0	3	8	17	3	131	0	0	134	0	0	0	0	0	288
04:15 PM	0	150	5	0	155	1	0	3	7	11	5	151	0	0	156	0	0	0	0	0	322
04:30 PM	0	135	4	0	139	1	0	0	3	4	4	178	0	0	182	0	0	0	0	0	325
04:45 PM	0	129	4	0	133	3	0	1	2	6	2	182	0	0	184	0	0	0	0	0	323
Total	0	546	18	0	564	11	0	7	20	38	14	642	0	0	656	0	0	0	0	0	1258
05:00 PM	0	149	3	0	152	5	0	2	2	9	2	248	0	0	250	0	0	0	0	0	411
05:15 PM	0	160	2	0	162	4	0	3	3	10	2	189	0	0	191	0	0	0	0	0	363
05:30 PM	0	122	0	0	122	1	0	2	1	4	0	161	0	0	161	0	0	0	0	0	287
05:45 PM	0	125	1	0	126	5	0	0	1	6	0	164	0	0	164	0	0	0	0	0	296
Total	0	556	6	0	562	15	0	7	7	29	4	762	0	0	766	0	0	0	0	0	1357
Grand Total	0	3014	85	1	3100	63	0	45	59	167	43	3640	0	1	3684	0	0	0	0	0	6951
Apprch %	0	97.2	2.7	0		37.7	0	26.9	35.3		1.2	98.8	0	0		0	0	0	0		
Total %	0	43.4	1.2	0	44.6	0.9	0	0.6	0.8	2.4	0.6	52.4	0	0	53	0	0	0	0	0	
Cars	0	2884	83	1	2968	60	0	45	59	164	41	3476	0	1	3518	0	0	0	0	0	6650
% Cars	0	95.7	97.6	100	95.7	95.2	0	100	100	98.2	95.3	95.5	0	100	95.5	0	0	0	0	0	95.7
Trucks & Buses	0	130	2	0	132	3	0	0	0	3	2	164	0	0	166	0	0	0	0	0	301
% Trucks & Buses	0	4.3	2.4	0	4.3	4.8	0	0	0	1.8	4.7	4.5	0	0	4.5	0	0	0	0	0	4.3

DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & Allen Ave
Date: 8/12/2015
Counter: RL
Notes:

File Name : N. Main Street & Allen Ave
Site Code : 50580502
Start Date : 8/12/2015
Page No : 2



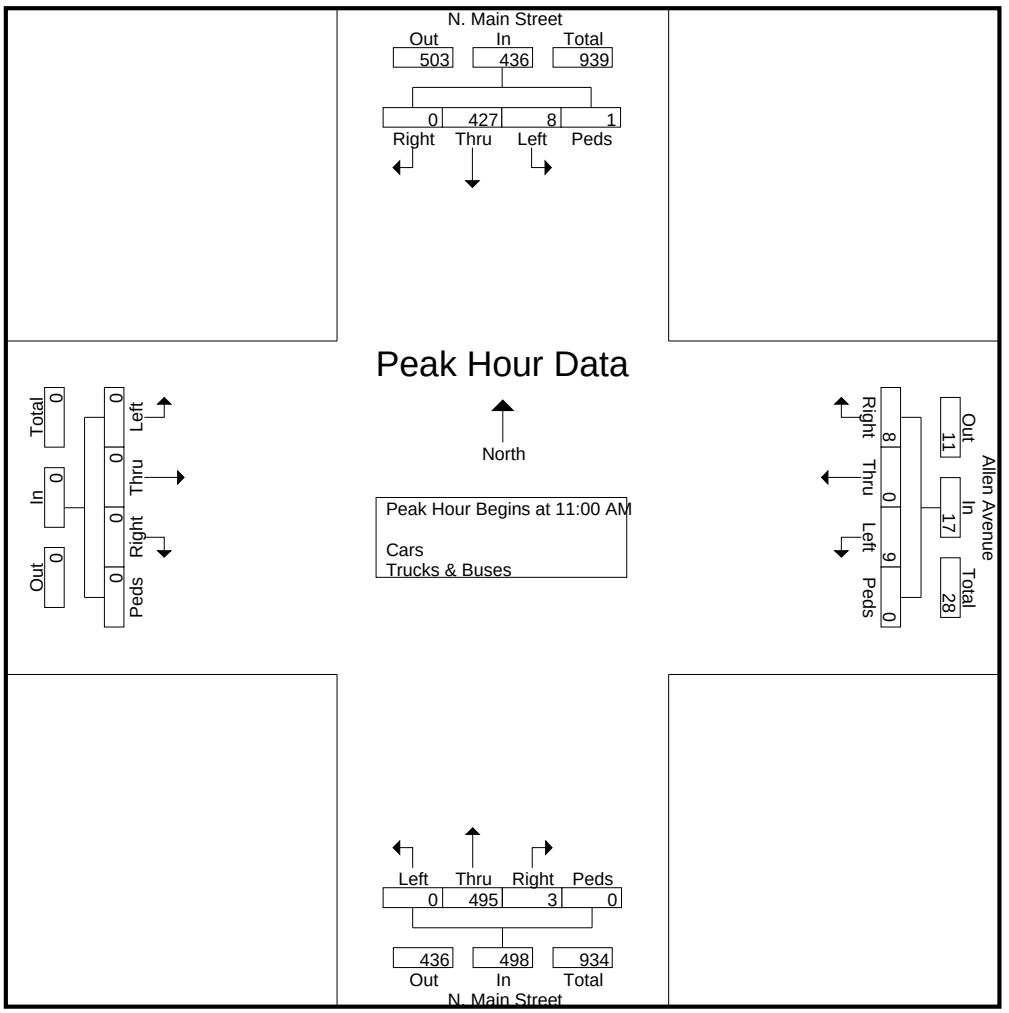
DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & Allen Ave
Date: 8/12/2015
Counter: RL
Notes:

File Name : N. Main Street & Allen Ave
Site Code : 50580502
Start Date : 8/12/2015
Page No : 3

	N. Main Street From North					Allen Avenue From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	88	1	**1**	90	2	0	2	0	4	**1**	100	0	0	101	0	0	0	0	0	195
11:15 AM	0	102	1	0	103	**3**	0	0	0	3	1	**141**	0	0	**142**	0	0	0	0	0	248
11:30 AM	0	111	1	0	112	2	0	1	0	3	0	119	0	0	119	0	0	0	0	0	234
11:45 AM	0	**126**	**5**	0	**131**	1	0	**6**	0	**7**	1	135	0	0	136	0	0	0	0	0	**274**
Total Volume	0	427	8	1	436	8	0	9	0	17	3	495	0	0	498	0	0	0	0	0	951
% App. Total	0	97.9	1.8	0.2		47.1	0	52.9	0		0.6	99.4	0	0		0	0	0	0		
PHF	.000	.847	.400	.250	.832	.667	.000	.375	.000	.607	.750	.878	.000	.000	.877	.000	.000	.000	.000	.000	.868



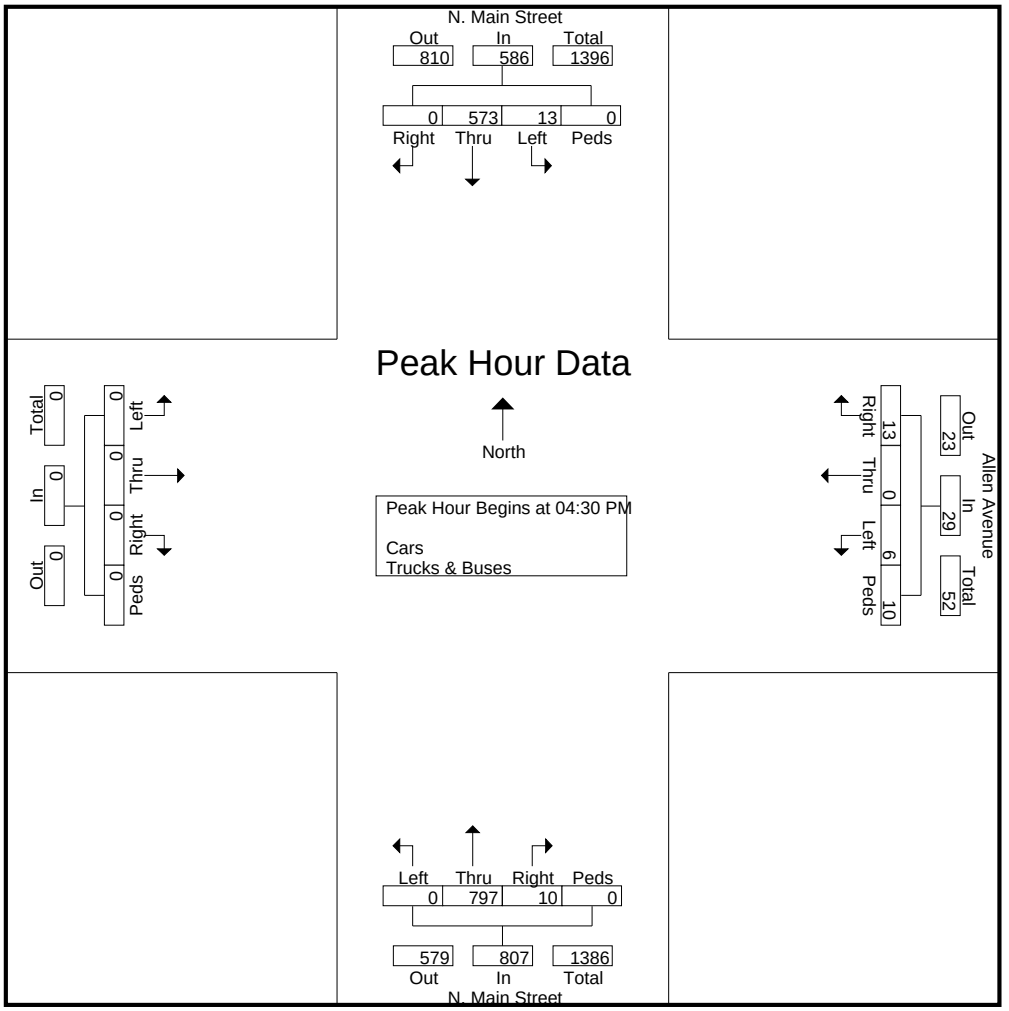
DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & Allen Ave
Date: 8/12/2015
Counter: RL
Notes:

File Name : N. Main Street & Allen Ave
Site Code : 50580502
Start Date : 8/12/2015
Page No : 4

	N. Main Street From North					Allen Avenue From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	135	**4**	0	139	1	0	0	**3**	4	**4**	178	0	0	182	0	0	0	0	0	325
04:45 PM	0	129	4	0	133	3	0	1	2	6	2	182	0	0	184	0	0	0	0	0	323
05:00 PM	0	149	3	0	152	**5**	0	2	2	9	2	**248**	0	0	**250**	0	0	0	0	0	**411**
05:15 PM	0	**160**	2	0	**162**	4	0	**3**	3	**10**	2	189	0	0	191	0	0	0	0	0	363
Total Volume	0	573	13	0	586	13	0	6	10	29	10	797	0	0	807	0	0	0	0	0	1422
% App. Total	0	97.8	2.2	0		44.8	0	20.7	34.5		1.2	98.8	0	0		0	0	0	0		
PHF	.000	.895	.813	.000	.904	.650	.000	.500	.833	.725	.625	.803	.000	.000	.807	.000	.000	.000	.000	.000	.865



DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: North Main Street
Date: 8/12/2015
Counter: RL
Notes: Midblock Pedestrain Crossing

File Name : Main St. North Midblock Pedestrians
Site Code : 50580703
Start Date : 8/12/2015
Page No : 1

Groups Printed- Pedestrains

	From North					From East					From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	177	0	0	177	0	0	0	0	0	0	117	0	0	117	294
11:15 AM	0	0	0	0	0	0	2	0	2	4	0	0	0	0	0	0	4	0	0	4	8
11:30 AM	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	6
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
Total	0	0	0	0	0	0	179	0	8	187	0	0	0	0	0	0	121	0	3	124	311
12:00 PM	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	3	3	10
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19	19
12:45 PM	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	13	13	0	0	0	0	0	0	0	0	28	28	41
01:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	5	5	7
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
*** BREAK ***																					
01:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	3	3	5
Total	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	11	11	15
*** BREAK ***																					
03:00 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	6	6	9
03:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	1	1	3
03:30 PM	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	5	5	9
03:45 PM	0	0	0	0	0	0	0	4	3	7	0	0	0	0	0	0	0	0	3	3	10
Total	0	0	0	0	0	0	0	4	12	16	0	0	0	0	0	0	0	0	15	15	31
04:00 PM	0	0	0	0	0	0	0	0	45	45	0	0	0	0	0	0	0	0	1	1	46
04:15 PM	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0	4	4	12
04:30 PM	0	0	0	0	0	0	0	0	11	11	0	0	0	0	0	0	0	0	16	16	27
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	0	0	0	0	0	64	64	0	0	0	0	0	0	0	0	23	23	87
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
05:30 PM	0	0	0	0	0	0	0	0	10	10	0	0	0	0	0	0	0	0	0	0	10
05:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	12	12	0	0	0	0	0	0	0	0	6	6	18
Grand Total	0	0	0	0	0	0	179	4	113	296	0	0	0	0	0	0	121	0	86	207	503
Apprch %	0	0	0	0		0	60.5	1.4	38.2		0	0	0	0		0	58.5	0	41.5		
Total %	0	0	0	0	0	0	35.6	0.8	22.5	58.8	0	0	0	0	0	0	24.1	0	17.1	41.2	

DGL Consulting Engineers LLC

3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & George St
Date: 8-12-2015
Counter: CMS
Notes:

File Name : N. Main Street & George Street
Site Code : 50580601
Start Date : 8/12/2015
Page No : 1

Groups Printed- Cars - Trucks & Buses

	N. Main Street From North					George Street From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	86	5	3	94	3	0	4	6	13	5	102	0	8	115	0	0	0	0	0	222
11:15 AM	0	116	6	0	122	3	0	5	2	10	3	154	0	0	157	0	0	0	0	0	289
11:30 AM	0	119	5	6	130	3	0	2	4	9	2	114	0	2	118	0	0	0	0	0	257
11:45 AM	0	128	3	4	135	4	0	4	3	11	5	128	0	2	135	0	0	0	0	0	281
Total	0	449	19	13	481	13	0	15	15	43	15	498	0	12	525	0	0	0	0	0	1049
12:00 PM	0	108	2	3	113	6	0	5	3	14	8	140	0	5	153	0	0	0	0	0	280
12:15 PM	0	117	8	2	127	3	0	1	2	6	4	138	0	2	144	0	0	0	0	0	277
12:30 PM	0	144	4	4	152	7	0	5	7	19	3	127	0	6	136	0	0	0	0	0	307
12:45 PM	0	136	7	5	148	9	0	5	6	20	6	121	0	3	130	0	0	0	0	0	298
Total	0	505	21	14	540	25	0	16	18	59	21	526	0	16	563	0	0	0	0	0	1162
01:00 PM	0	120	2	6	128	5	0	1	2	8	9	145	0	0	154	0	0	0	0	0	290
01:15 PM	0	120	4	16	140	5	0	3	11	19	6	151	0	1	158	0	0	0	0	0	317
01:30 PM	0	120	6	4	130	3	0	4	9	16	0	141	0	3	144	0	0	0	0	0	290
01:45 PM	0	110	7	1	118	8	0	2	5	15	3	148	0	3	154	0	0	0	0	0	287
Total	0	470	19	27	516	21	0	10	27	58	18	585	0	7	610	0	0	0	0	0	1184
*** BREAK ***																					
03:00 PM	0	146	2	3	151	6	1	3	6	16	5	149	0	9	163	0	0	0	0	0	330
03:15 PM	0	108	12	2	122	2	0	2	8	12	3	129	0	2	134	0	0	0	0	0	268
03:30 PM	0	127	2	3	132	10	0	3	1	14	3	164	0	1	168	0	0	0	0	0	314
03:45 PM	0	116	5	6	127	3	0	6	0	9	2	166	0	2	170	0	0	0	0	0	306
Total	0	497	21	14	532	21	1	14	15	51	13	608	0	14	635	0	0	0	0	0	1218
04:00 PM	0	120	8	7	135	5	0	4	2	11	7	141	0	3	151	0	0	0	0	0	297
04:15 PM	0	132	7	3	142	4	0	7	1	12	5	149	0	0	154	0	0	0	0	0	308
04:30 PM	0	130	5	9	144	4	0	5	1	10	5	181	0	4	190	0	0	0	0	0	344
04:45 PM	0	117	9	7	133	8	0	8	1	17	6	161	0	3	170	0	0	0	0	0	320
Total	0	499	29	26	554	21	0	24	5	50	23	632	0	10	665	0	0	0	0	0	1269
05:00 PM	0	150	7	1	158	9	0	7	4	20	6	252	0	4	262	0	0	0	0	0	440
05:15 PM	0	156	6	5	167	8	0	5	2	15	10	183	0	5	198	0	0	0	0	0	380
05:30 PM	0	124	5	0	129	8	0	4	4	16	7	159	0	0	166	0	0	0	0	0	311
05:45 PM	0	117	4	2	123	7	0	8	6	21	8	156	0	0	164	0	0	0	0	0	308
Total	0	547	22	8	577	32	0	24	16	72	31	750	0	9	790	0	0	0	0	0	1439
Grand Total	0	2967	131	102	3200	133	1	103	96	333	121	3599	0	68	3788	0	0	0	0	0	7321
Apprch %	0	92.7	4.1	3.2		39.9	0.3	30.9	28.8		3.2	95	0	1.8		0	0	0	0		
Total %	0	40.5	1.8	1.4	43.7	1.8	0	1.4	1.3	4.5	1.7	49.2	0	0.9	51.7	0	0	0	0	0	
Cars	0	2849	129	102	3080	130	1	101	96	328	121	3438	0	68	3627	0	0	0	0	0	7035
% Cars	0	96	98.5	100	96.2	97.7	100	98.1	100	98.5	100	95.5	0	100	95.7	0	0	0	0	0	96.1
Trucks & Buses	0	118	2	0	120	3	0	2	0	5	0	161	0	0	161	0	0	0	0	0	286
% Trucks & Buses	0	4	1.5	0	3.8	2.3	0	1.9	0	1.5	0	4.5	0	0	4.3	0	0	0	0	0	3.9

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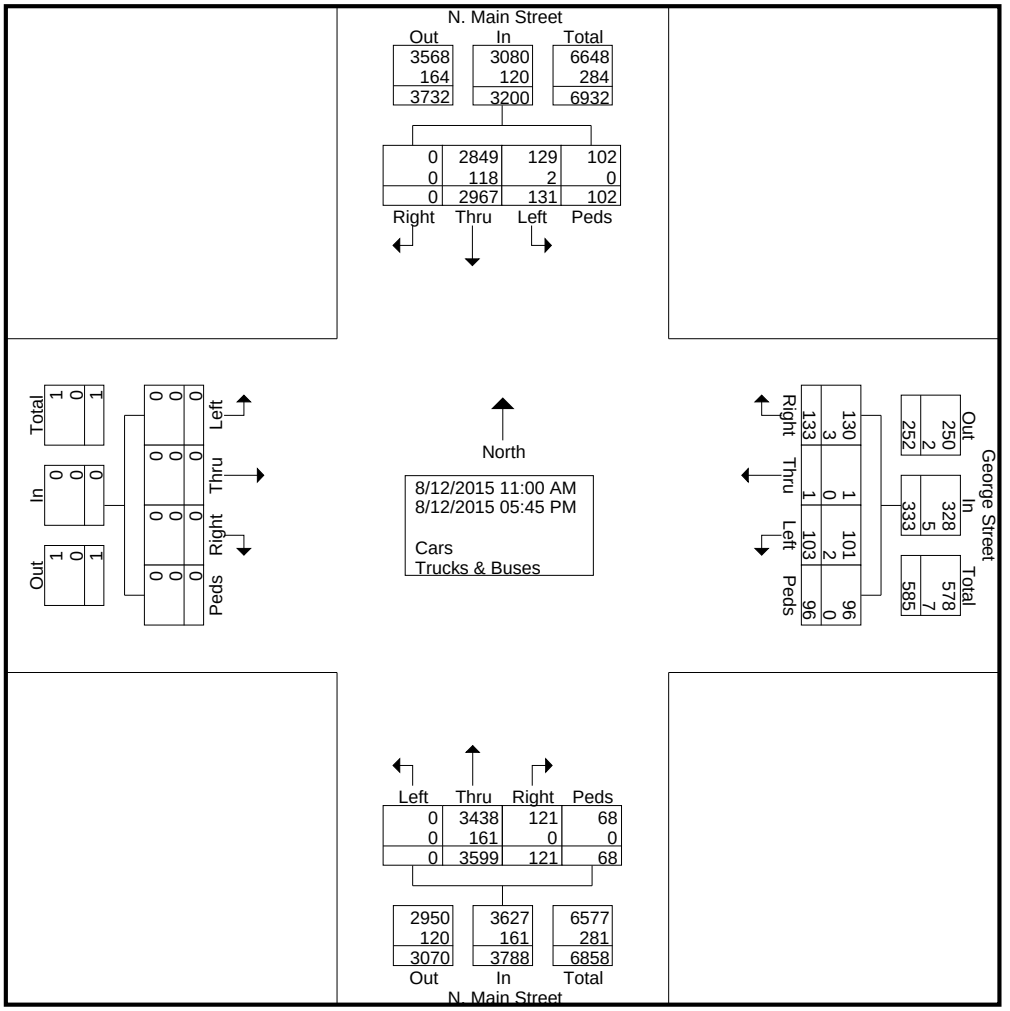
3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & George St
Date: 8-12-2015
Counter: CMS
Notes:

File Name : N. Main Street & George Street
Site Code : 50580601
Start Date : 8/12/2015
Page No : 2



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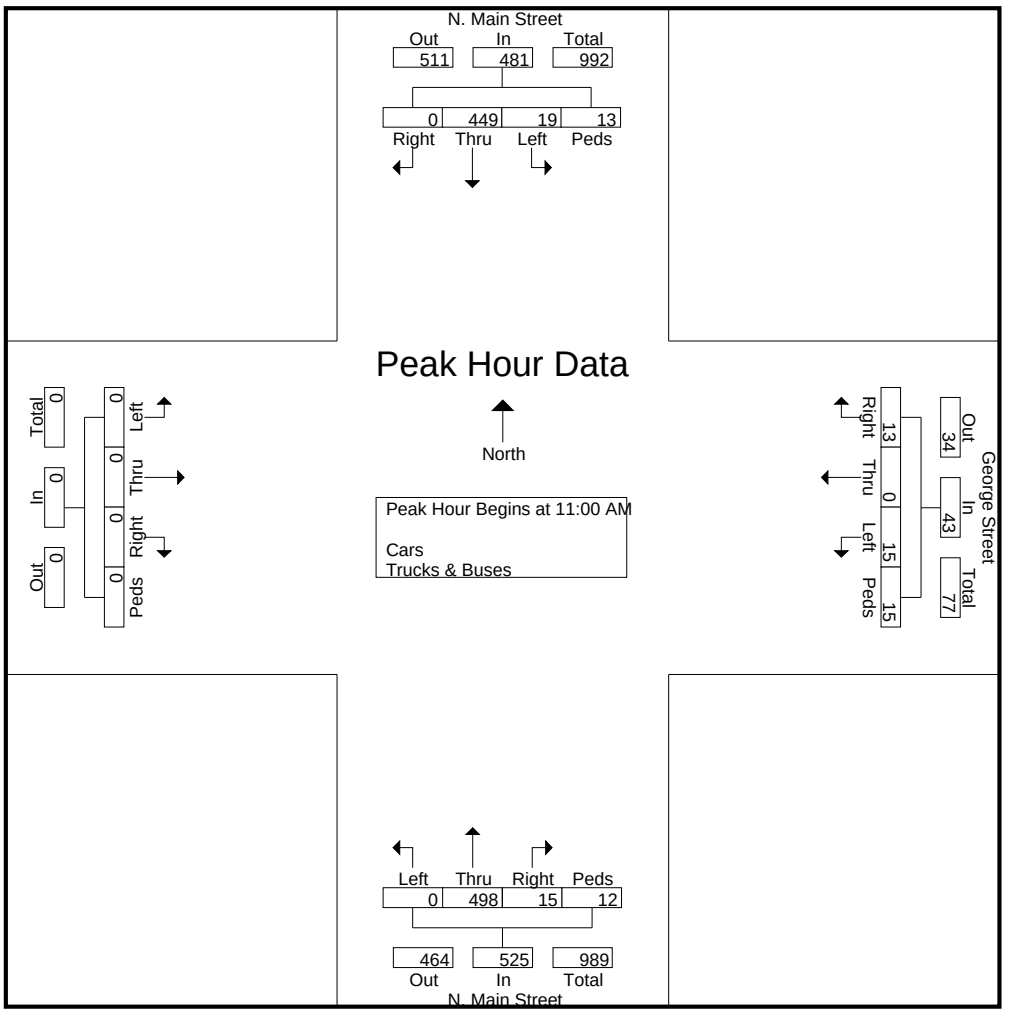
3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & George St
Date: 8-12-2015
Counter: CMS
Notes:

File Name : N. Main Street & George Street
Site Code : 50580601
Start Date : 8/12/2015
Page No : 3

	N. Main Street From North					George Street From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	86	5	3	94	3	0	4	**6**	**13**	**5**	102	0	**8**	115	0	0	0	0	0	222
11:15 AM	0	116	**6**	0	122	3	0	**5**	2	10	3	**154**	0	0	**157**	0	0	0	0	0	**289**
11:30 AM	0	119	5	**6**	130	3	0	2	4	9	2	114	0	2	118	0	0	0	0	0	257
11:45 AM	0	**128**	3	4	**135**	**4**	0	4	3	11	5	128	0	2	135	0	0	0	0	0	281
Total Volume	0	449	19	13	481	13	0	15	15	43	15	498	0	12	525	0	0	0	0	0	1049
% App. Total	0	93.3	4	2.7		30.2	0	34.9	34.9		2.9	94.9	0	2.3		0	0	0	0		
PHF	.000	.877	.792	.542	.891	.813	.000	.750	.625	.827	.750	.808	.000	.375	.836	.000	.000	.000	.000	.000	.907



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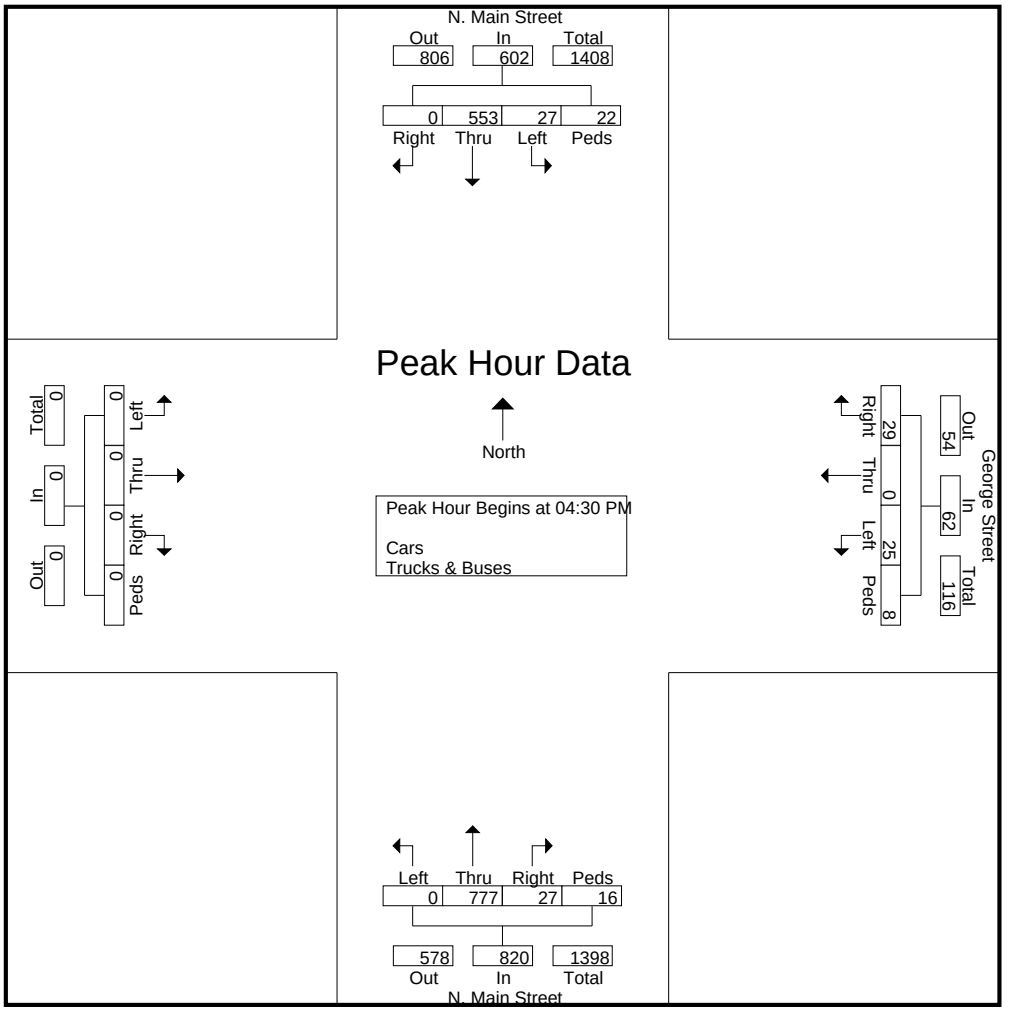
3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main St & George St
Date: 8-12-2015
Counter: CMS
Notes:

File Name : N. Main Street & George Street
Site Code : 50580601
Start Date : 8/12/2015
Page No : 4

	N. Main Street From North					George Street From East					N. Main Street From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	130	5	**9**	144	4	0	5	1	10	5	181	0	4	190	0	0	0	0	0	344
04:45 PM	0	117	**9**	7	133	8	0	**8**	1	17	6	161	0	3	170	0	0	0	0	0	320
05:00 PM	0	150	7	1	158	**9**	0	7	**4**	**20**	6	**252**	0	4	**262**	0	0	0	0	0	**440**
05:15 PM	0	**156**	6	5	**167**	8	0	5	2	15	**10**	183	0	**5**	198	0	0	0	0	0	380
Total Volume	0	553	27	22	602	29	0	25	8	62	27	777	0	16	820	0	0	0	0	0	1484
% App. Total	0	91.9	4.5	3.7		46.8	0	40.3	12.9		3.3	94.8	0	2		0	0	0	0		
PHF	.000	.886	.750	.611	.901	.806	.000	.781	.500	.775	.675	.771	.000	.800	.782	.000	.000	.000	.000	.000	.843



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419-535-1015

Intersection: South Main Street
Date: 8/12/2015
Counter: CMS
Notes: Midblock Pedestrians

File Name : Main St. South Midblock Pedestrians
Site Code : 50580803
Start Date : 8/12/2015
Page No : 1

Groups Printed- Pedestrains

	From North					From East					From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
11:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	9
*** BREAK ***																					
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
12:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
01:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	6
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
03:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	0	7	0	0	7	13
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
*** BREAK ***																					
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
Grand Total	0	0	0	0	0	0	20	0	0	20	0	1	0	0	1	0	19	0	0	19	40
Apprch %	0	0	0	0		0	100	0	0		0	100	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	50	0	0	50	0	2.5	0	0	2.5	0	47.5	0	0	47.5	

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3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main & Allen
Date: 8/26/2015
Counter: CMN
Notes: Mid-Block Ped Bank 2

File Name : 8-26-2015 N. Main & Allen with Mid-Block Ped
Site Code : 00000000
Start Date : 8/26/2015
Page No : 1

Groups Printed- Cars - Trucks & Buses - Block Pedestrian

	MAIN From North					ALLEN From East					MAIN From South					ALLEN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:15 AM	0	87	2	1	90	2	0	4	0	6	1	73	1	5	80	0	0	0	0	0	176
11:30 AM	0	102	0	2	104	5	0	1	2	8	0	97	1	4	102	2	0	0	0	2	216
11:45 AM	1	109	2	2	114	8	0	1	5	14	4	125	1	3	133	2	0	0	2	4	265
Total	1	298	4	5	308	15	0	6	7	28	5	295	3	12	315	4	0	0	2	6	657
12:00 PM	0	126	6	8	140	4	0	1	6	11	3	125	2	0	130	1	0	0	0	1	282
12:15 PM	0	110	4	2	116	2	0	0	0	2	1	116	1	0	118	1	0	0	0	1	237
12:30 PM	0	98	5	0	103	5	0	2	0	7	5	106	3	5	119	1	0	0	0	1	230
*** BREAK ***																					
Total	0	334	15	10	359	11	0	3	6	20	9	347	6	5	367	3	0	0	0	3	749
*** BREAK ***																					
03:00 PM	1	145	9	10	165	4	0	3	0	7	1	124	2	0	127	1	0	1	0	2	301
03:15 PM	3	136	3	4	146	7	0	1	1	9	3	120	1	0	124	1	0	1	0	2	281
03:30 PM	0	104	7	2	113	6	0	1	1	8	0	131	3	5	139	1	0	0	1	2	262
03:45 PM	2	115	5	3	125	5	0	1	0	6	2	112	3	3	120	0	0	1	0	1	252
Total	6	500	24	19	549	22	0	6	2	30	6	487	9	8	510	3	0	3	1	7	1096
04:00 PM	1	125	12	13	151	4	0	0	4	8	1	123	1	1	126	2	0	0	1	3	288
04:15 PM	0	120	7	6	133	2	0	2	4	8	4	116	2	1	123	0	0	1	1	2	266
04:30 PM	0	111	5	2	118	3	0	2	0	5	0	132	0	0	132	1	0	1	0	2	257
04:45 PM	2	139	5	3	149	18	1	6	2	27	2	133	2	3	140	2	1	0	0	3	319
Total	3	495	29	24	551	27	1	10	10	48	7	504	5	5	521	5	1	2	2	10	1130
Grand Total	10	1627	72	58	1767	75	1	25	25	126	27	1633	23	30	1713	15	1	5	5	26	3632
Apprch %	0.6	92.1	4.1	3.3		59.5	0.8	19.8	19.8		1.6	95.3	1.3	1.8		57.7	3.8	19.2	19.2		
Total %	0.3	44.8	2	1.6	48.7	2.1	0	0.7	0.7	3.5	0.7	45	0.6	0.8	47.2	0.4	0	0.1	0.1	0.7	
Cars	10	1596	72	55	1733	74	1	24	24	123	26	1581	23	10	1640	15	1	5	2	23	3519
% Cars	100	98.1	100	94.8	98.1	98.7	100	96	96	97.6	96.3	96.8	100	33.3	95.7	100	100	100	40	88.5	96.9
Trucks & Buses	0	31	0	0	31	1	0	1	0	2	1	52	0	0	53	0	0	0	0	0	86
% Trucks & Buses	0	1.9	0	0	1.8	1.3	0	4	0	1.6	3.7	3.2	0	0	3.1	0	0	0	0	0	2.4
Mid-Block Pedestrian	0	0	0	3	3	0	0	0	1	1	0	0	0	20	20	0	0	0	3	3	27
% Mid-Block Pedestrian	0	0	0	5.2	0.2	0	0	0	4	0.8	0	0	0	66.7	1.2	0	0	0	60	11.5	0.7

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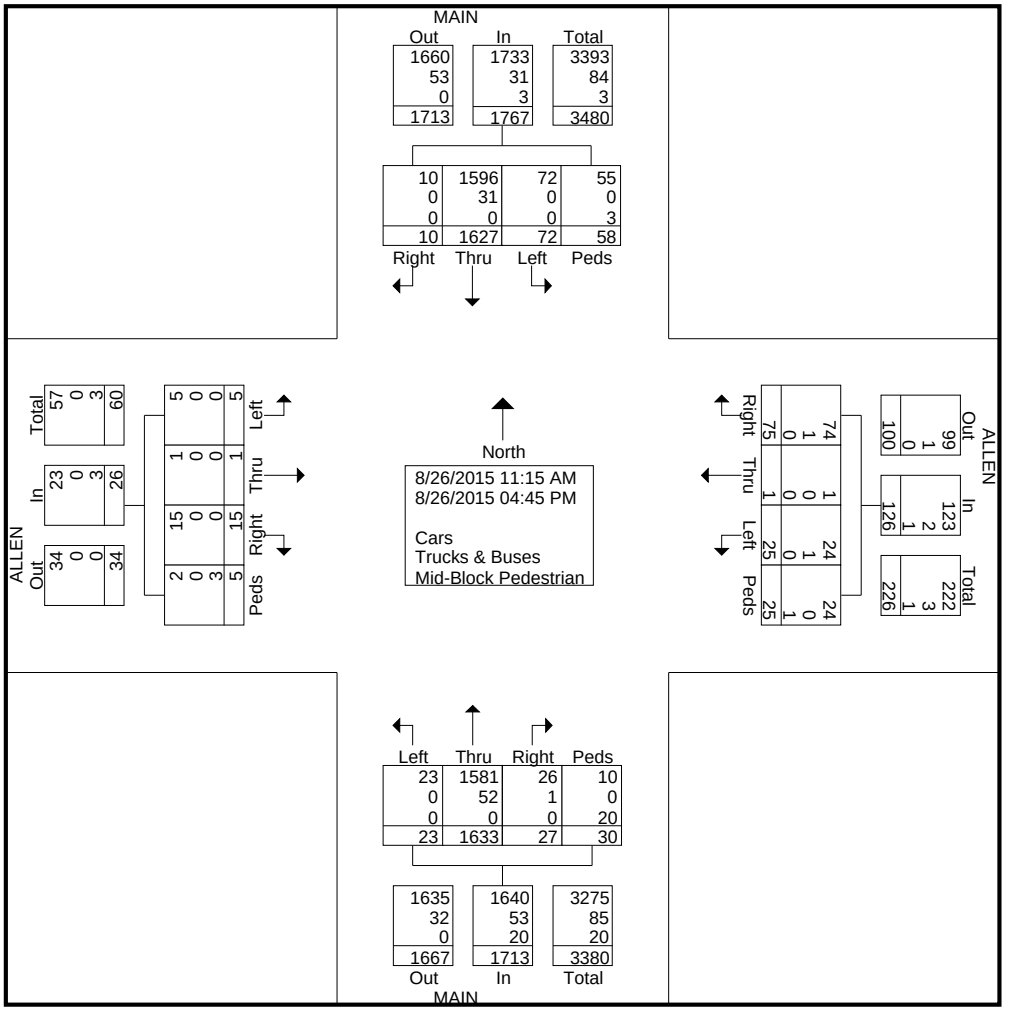
3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main & Allen
Date: 8/26/2015
Counter: CMN
Notes: Mid-Block Ped Bank 2

File Name : 8-26-2015 N. Main & Allen with Mid-Block Ped
Site Code : 00000000
Start Date : 8/26/2015
Page No : 2



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3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main & George
Date: 8/26/2016
Counter: LLA
Notes: Bank 2 Mid-Block Pedestrians

File Name : 8-26-2015 N. Main & George with Mid-Block Peds
Site Code : 15041006
Start Date : 8/26/2015
Page No : 1

Groups Printed- Cars - Trucks & Buses - Block Pedestrians

	From North					From East					From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:15 AM	0	94	2	1	97	5	0	7	0	12	6	81	0	1	88	0	0	0	0	0	197
11:30 AM	0	98	2	4	104	5	0	5	0	10	9	94	0	5	108	0	0	0	0	0	222
11:45 AM	0	111	6	12	129	11	0	7	4	22	5	122	0	12	139	0	0	0	0	0	290
Total	0	303	10	17	330	21	0	19	4	44	20	297	0	18	335	0	0	0	0	0	709
12:00 PM	0	119	4	6	129	7	0	5	2	14	3	130	0	12	145	0	0	0	0	0	288
12:15 PM	0	93	6	2	101	4	0	4	1	9	3	112	0	4	119	0	0	0	0	0	229
12:30 PM	0	94	6	8	108	4	0	6	1	11	3	100	0	10	113	0	0	0	0	0	232
*** BREAK ***																					
Total	0	306	16	16	338	15	0	15	4	34	9	342	0	26	377	0	0	0	0	0	749
*** BREAK ***																					
03:00 PM	1	112	4	3	120	8	20	6	3	37	3	99	0	1	103	0	29	1	0	30	290
03:15 PM	0	149	5	2	156	7	0	3	4	14	6	120	0	1	127	0	0	0	0	0	297
03:30 PM	0	95	1	4	100	6	0	6	2	14	4	129	0	2	135	0	0	0	0	0	249
03:45 PM	0	119	3	9	131	7	0	9	3	19	4	120	0	3	127	0	0	0	0	0	277
Total	1	475	13	18	507	28	20	24	12	84	17	468	0	7	492	0	29	1	0	30	1113
04:00 PM	0	120	5	8	133	13	0	6	6	25	3	117	0	8	128	0	0	0	0	0	286
04:15 PM	0	117	3	4	124	8	0	4	3	15	5	123	0	3	131	0	0	0	0	0	270
04:30 PM	0	112	5	1	118	6	0	6	1	13	1	131	0	0	132	0	0	0	0	0	263
04:45 PM	0	123	5	4	132	11	0	3	4	18	0	135	0	4	139	0	0	0	0	0	289
Total	0	472	18	17	507	38	0	19	14	71	9	506	0	15	530	0	0	0	0	0	1108
Grand Total	1	1556	57	68	1682	102	20	77	34	233	55	1613	0	66	1734	0	29	1	0	30	3679
Apprch %	0.1	92.5	3.4	4		43.8	8.6	33	14.6		3.2	93	0	3.8		0	96.7	3.3	0		
Total %	0	42.3	1.5	1.8	45.7	2.8	0.5	2.1	0.9	6.3	1.5	43.8	0	1.8	47.1	0	0.8	0	0	0.8	
Cars	1	1529	57	68	1655	101	17	75	34	227	55	1580	0	62	1697	0	28	1	0	29	3608
% Cars	100	98.3	100	100	98.4	99	85	97.4	100	97.4	100	98	0	93.9	97.9	0	96.6	100	0	96.7	98.1
Trucks & Buses	0	27	0	0	27	1	3	2	0	6	0	33	0	4	37	0	1	0	0	1	71
% Trucks & Buses	0	1.7	0	0	1.6	1	15	2.6	0	2.6	0	2	0	6.1	2.1	0	3.4	0	0	3.3	1.9
Mid-Block Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Mid-Block Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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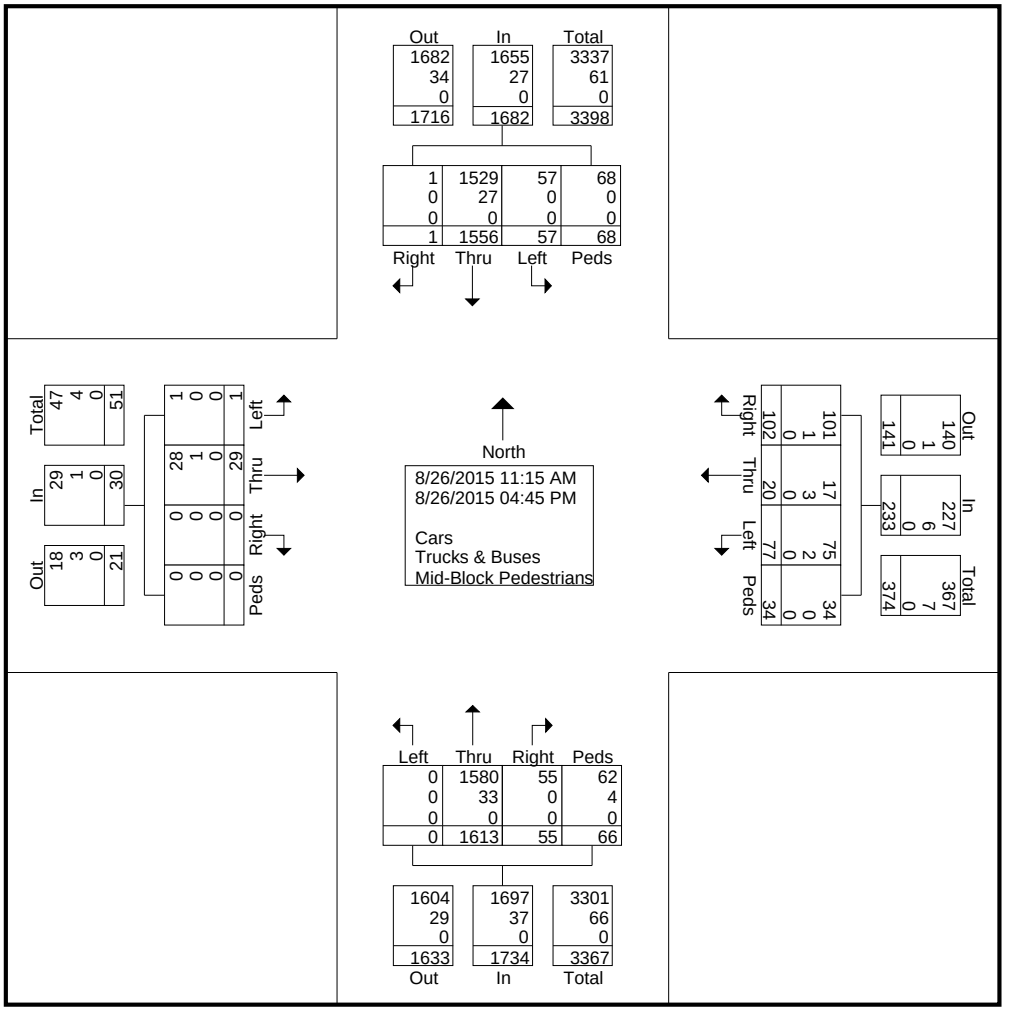
3455 Briarfield Blvd. - Suite E
Maumee, OH 43537
419-535-1015

Intersection: N. Main & George
Date: 8/26/2016
Counter: LLA
Notes: Bank 2 Mid-Block Pedestrians

File Name : 8-26-2015 N. Main & George with Mid-Block Peds
Site Code : 15041006
Start Date : 8/26/2015
Page No : 2



Appendix C
Warrant Reports

DGL Consulting Engineers, LLC.
3455 Briarfield Blvd. Suite E. Maumee, OH 43537
419-535-1015

Signal Warrants - Summary

Study Name **: Pedestrian Warrant 8-12-2015 Data Allen & Main**
Page No. **: 1**

Major Street Approaches

Northbound: **N. Main Street**
Number of Lanes: **2**
85% Speed < 40 MPH.
Total Approach Volume: **3,683**

Southbound: **N. Main Street**
Number of Lanes: **2**
85% Speed < 40 MPH.
Total Approach Volume: **3,099**

Minor Street Approaches

Eastbound: **UF Drive**
Number of Lanes: **1**
Total Approach Volume: **0**

Westbound: **Allen Avenue**
Number of Lanes: **1**
Total Approach Volume: **112**

Warrant Summary **(Urban values apply.)**

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).

Warrant 3 - Peak Hour ..... Not Evaluated

Warrant 3A - Peak Hour Delay ..... Not Evaluated

Warrant 3B - Peak Hour Volumes ..... Not Evaluated

Warrant 4 - Pedestrian Volumes ..... Satisfied
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

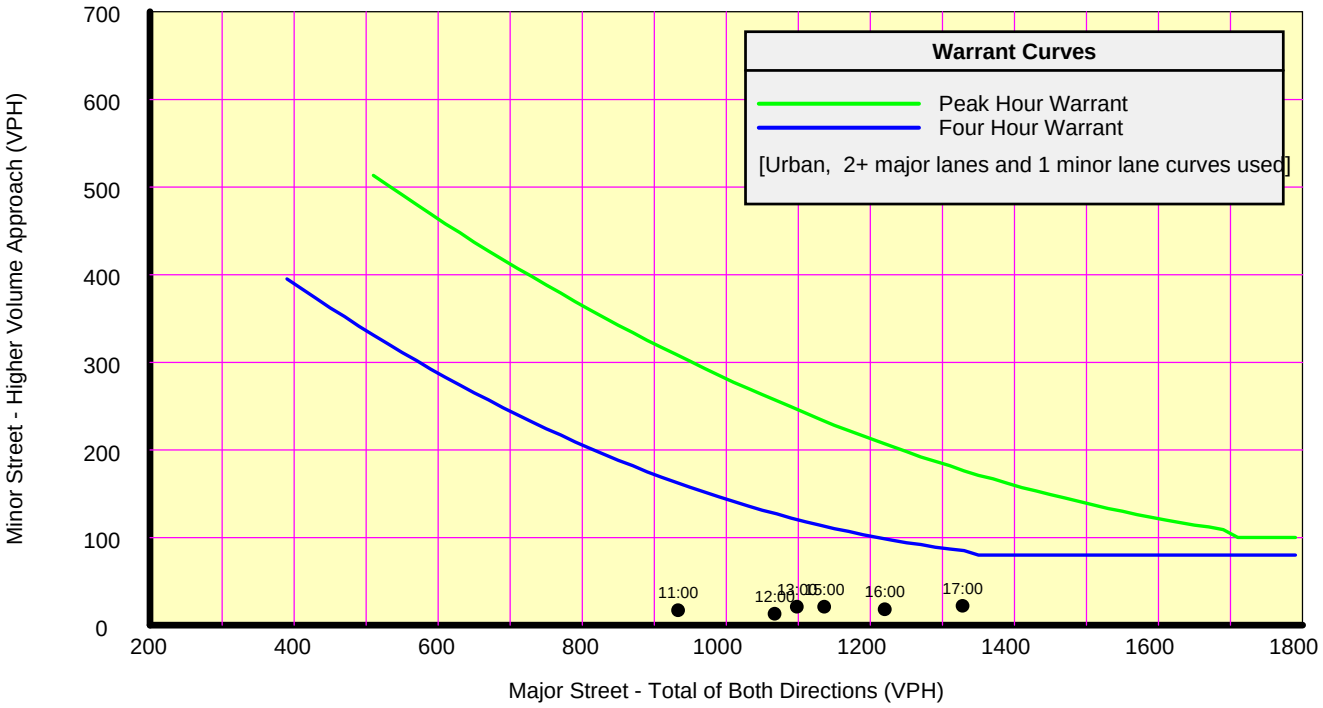
Warrant 8 - Roadway Network ..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing ..... Not Evaluated

DGL Consulting Engineers, LLC.
3455 Briarfield Blvd. Suite E. Maumee, OH 43537
419-535-1015

Signal Warrants - Summary

Study Name **: Pedestrian Warrant 8-12-2015 Data Allen & Main**



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:30	1,393	19	W	No	No
16:45	1,355	21	W	No	No
16:15	1,351	16	W	No	No
17:00	1,328	22	W	No	No
16:00	1,220	18	W	No	No
15:45	1,192	22	W	No	No
15:30	1,171	24	W	No	No
15:00	1,136	21	W	No	No
15:15	1,110	26	W	No	No
12:30	1,106	21	W	No	No
13:00	1,098	21	W	No	No
12:15	1,092	18	W	No	No
12:45	1,086	19	W	No	No
11:45	1,068	16	W	No	No
12:00	1,067	13	W	No	No
11:30	1,023	16	W	No	No
11:15	999	15	W	No	No
11:00	933	17	W	No	No
17:15	926	15	W	No	No
14:45	847	13	W	No	No
13:15	817	14	W	No	No
10:45	666	10	W	No	No
17:30	573	8	W	No	No
14:30	547	10	W	No	No

War 1B-Interruption of Traffic

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:30	1,393	19	W	No	No
16:45	1,355	21	W	No	No
16:15	1,351	16	W	No	No
17:00	1,328	22	W	No	No
16:00	1,220	18	W	No	No
15:45	1,192	22	W	No	No
15:30	1,171	24	W	No	No
15:00	1,136	21	W	No	No
15:15	1,110	26	W	No	No
12:30	1,106	21	W	No	No
13:00	1,098	21	W	No	No
12:15	1,092	18	W	No	No
12:45	1,086	19	W	No	No
11:45	1,068	16	W	No	No
12:00	1,067	13	W	No	No
11:30	1,023	16	W	No	No
11:15	999	15	W	No	No
11:00	933	17	W	No	No
17:15	926	15	W	No	No
14:45	847	13	W	No	No
13:15	817	14	W	No	No
10:45	666	10	W	No	No
17:30	573	8	W	No	No
14:30	547	10	W	No	No

War 1C-Combination of Warrants

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:30	1,393	19	W	No	No
16:45	1,355	21	W	No	No
16:15	1,351	16	W	No	No
17:00	1,328	22	W	No	No
16:00	1,220	18	W	No	No
15:45	1,192	22	W	No	No
15:30	1,171	24	W	No	No
15:00	1,136	21	W	No	No
15:15	1,110	26	W	No	No
12:30	1,106	21	W	No	No
13:00	1,098	21	W	No	No
12:15	1,092	18	W	No	No
12:45	1,086	19	W	No	No
11:45	1,068	16	W	No	No
12:00	1,067	13	W	No	No
11:30	1,023	16	W	No	No
11:15	999	15	W	No	No
11:00	933	17	W	No	No
17:15	926	15	W	No	No
14:45	847	13	W	No	No
13:15	817	14	W	No	No
10:45	666	10	W	No	No
17:30	573	8	W	No	No
14:30	547	10	W	No	No

DGL Consulting Engineers, LLC.
3455 Briarfield Blvd. Suite E. Maumee, OH 43537
419-535-1015

Signal Warrants - Summary

Study Name **: Pedestrian Warrant 8-26-2015 Data Allen & Main**
Page No. **: 1**

Major Street Approaches

Northbound: **MAIN**
Number of Lanes: **2**
85% Speed < 40 MPH.
Total Approach Volume: **1,683**

Southbound: **MAIN**
Number of Lanes: **2**
85% Speed < 40 MPH.
Total Approach Volume: **1,709**

Minor Street Approaches

Eastbound: **UF Drive**
Number of Lanes: **1**
Total Approach Volume: **21**

Westbound: **ALLEN**
Number of Lanes: **1**
Total Approach Volume: **101**

Warrant Summary **(Urban values apply.)**

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Evaluated

Warrant 3 - Peak Hour ..... Not Evaluated

Warrant 3A - Peak Hour Delay ..... Not Evaluated

Warrant 3B - Peak Hour Volumes ..... Not Evaluated

Warrant 4 - Pedestrian Volumes ..... Not Satisfied
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

Warrant 8 - Roadway Network ..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing ..... Not Evaluated

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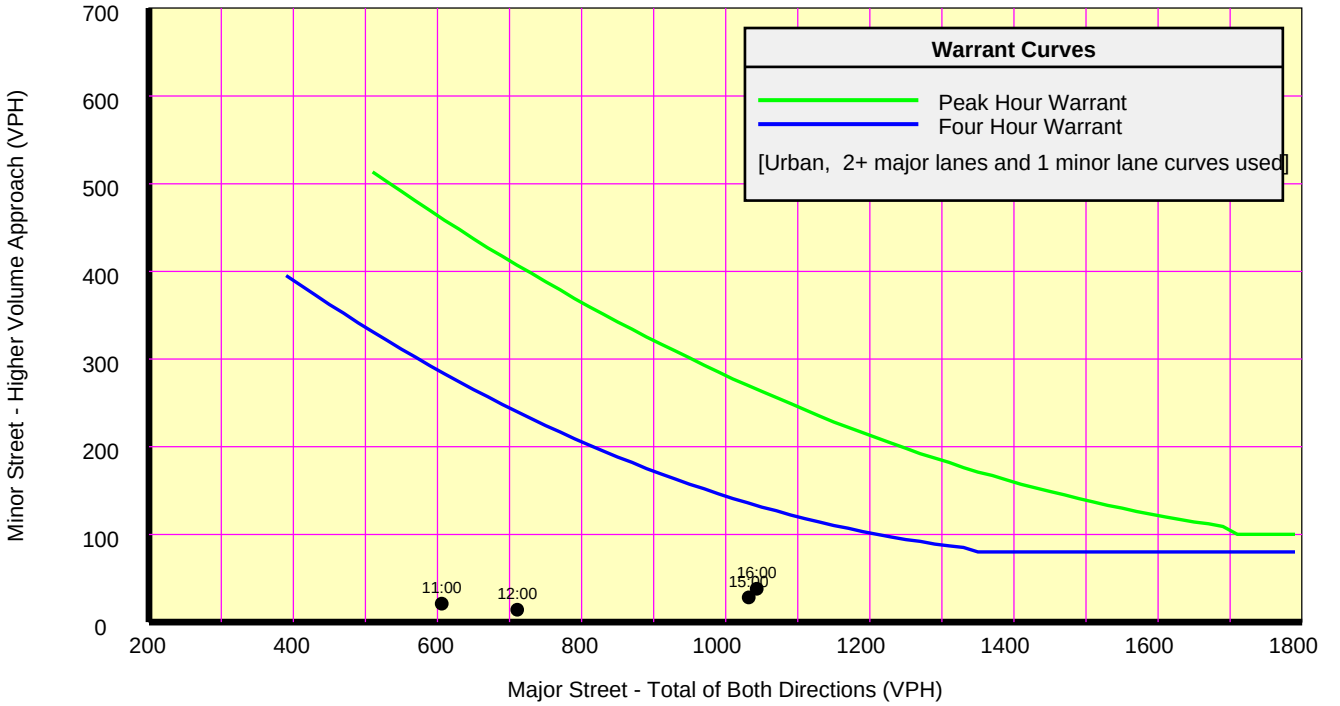
Signal Warrants - Summary

Study Name **: Pedestrian Warrant 8-26-2015 Data Allen & Main**



Analysis of 8-Hour Volume Warrants:

War 1A-Minimum Volume

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:00	1,043	38	W	No	No
15:00	1,032	28	W	No	No
15:15	1,013	25	W	No	No
15:45	999	19	W	No	No
15:30	996	21	W	No	No
11:45	953	23	W	No	No
11:30	936	22	W	No	No
11:15	868	26	W	No	No
14:45	793	22	W	No	No
16:15	780	34	W	No	No
12:00	711	14	W	No	No
11:00	606	21	W	No	No
14:30	548	15	W	No	No
16:30	531	30	W	No	No
12:15	449	9	W	No	No
10:45	364	12	W	No	No
16:45	283	25	W	No	No
14:15	282	7	W	No	No
12:30	217	7	W	No	No
10:30	164	6	W	No	No
22:45	0	0	W	No	No
22:30	0	0	W	No	No
22:15	0	0	W	No	No
22:00	0	0	W	No	No

War 1B-Interruption of Traffic

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:00	1,043	38	W	No	No
15:00	1,032	28	W	No	No
15:15	1,013	25	W	No	No
15:45	999	19	W	No	No
15:30	996	21	W	No	No
11:45	953	23	W	No	No
11:30	936	22	W	No	No
11:15	868	26	W	No	No
14:45	793	22	W	No	No
16:15	780	34	W	No	No
12:00	711	14	W	No	No
11:00	606	21	W	No	No
14:30	548	15	W	No	No
16:30	531	30	W	No	No
12:15	449	9	W	No	No
10:45	364	12	W	No	No
16:45	283	25	W	No	No
14:15	282	7	W	No	No
12:30	217	7	W	No	No
10:30	164	6	W	No	No
22:45	0	0	W	No	No
22:30	0	0	W	No	No
22:15	0	0	W	No	No
22:00	0	0	W	No	No

War 1C-Combination of Warrants

Hour Begin	Major Total	Minor Vol	Minor Dir	Maj NA	Min NA
16:00	1,043	38	W	No	No
15:00	1,032	28	W	No	No
15:15	1,013	25	W	No	No
15:45	999	19	W	No	No
15:30	996	21	W	No	No
11:45	953	23	W	No	No
11:30	936	22	W	No	No
11:15	868	26	W	No	No
14:45	793	22	W	No	No
16:15	780	34	W	No	No
12:00	711	14	W	No	No
11:00	606	21	W	No	No
14:30	548	15	W	No	No
16:30	531	30	W	No	No
12:15	449	9	W	No	No
10:45	364	12	W	No	No
16:45	283	25	W	No	No
14:15	282	7	W	No	No
12:30	217	7	W	No	No
10:30	164	6	W	No	No
22:45	0	0	W	No	No
22:30	0	0	W	No	No
22:15	0	0	W	No	No
22:00	0	0	W	No	No