



**PONTIAC CITY COUNCIL
STUDY SESSION**

May 22, 2018

6:00 p.m.

25th Session of the 10th Council

It is this Council's mission "To serve the citizens of Pontiac by committing to help provide an enhanced quality of life for its residents, fostering the vision of a family-friendly community that is a great place to live, work and play."

Call to order

Roll Call

Authorization to Excuse Councilmembers from Meeting

Amendments to and Approval of the Agenda

Approval of Minutes

1. Special Meeting of May 14, 2018
2. Meeting of May 15, 2018.

Deputy Mayor Report or Departmental Head Report

Public Comment

Review Agenda Items for City Council Consideration

3. Resolution to change Annette Wesley's title to Director of Elections.
4. Resolution to authorize the Department of Public Works to remove traffic signs located at the following intersections: Joslyn and 2nd Ave., Joslyn and Madison Ave, Joslyn and Kennett St., Martin Luther King Jr. Blvd. and Valencia, N. Saginaw and Howard. In accordance with Section 610 (a) of Act No. 300 of the Public Acts of 1949 as last amended (Compiled Laws of 1949 Section 257.610, MSA 9.2310.)

Adjournment

May 14, 2018

**Official Proceedings
Pontiac City Council
23rd Session of the Tenth Council**

A Special Meeting of the City Council of Pontiac, Michigan was called to order in City Hall, Monday, May 14, 2018 at 4:00 p.m. by President Kermit Williams.

Call to Order at 4:00 p.m.

Roll Call

Members Present: Carter, Miller, Taylor-Burks, Williams and Woodward.

Members Absent: Pietila and Waterman.

Mayor Waterman was Present.

Clerk announced a quorum.

18-167 **Excuse Councilperson Mary Pietila and Councilperson Patrice Waterman for personal reasons. Moved by Councilperson Woodward and second by Councilperson Carter.**

Ayes: Miller, Taylor-Burks, Williams, Woodward and Carter

No: None

Motion Carried.

There was 1 individual addressed the body during public comment.

Council recess for 5 minutes at 4:41 p.m.

Council back in session at 4:46 p.m.

18-168 **Resolution for the proposed Initiative Ordinances submitted to the electors for the August 7, 2018 Election. Moved by Councilperson Woodward and second by Councilperson Taylor-Burks.**

Whereas: The proposed Initiative Ordinances shall be submitted to the electors in the following form:

Proposal 1

**CITY OF PONTIAC-MEDICAL MARIHUANA FACILITIES LICENSING
ORDINANCE**

Shall the City of Pontiac, Oakland County, Michigan adopt an Ordinance to allow for Medical Marihuana Facilities which include 20 provisioning centers, and an unlimited number of growers, processors, secured transporters and safety compliance facilities that

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meet the requirements of State law and applicable City Ordinances consistent with the Medical Marihuana Facilities Licensing Act, 2016 PA 281. A full copy of the proposed City of Pontiac Medical Marihuana Facilities Ordinance is available in the City Clerk's office during normal business hours for review.

Yes ☐

No ☐

Proposal 2

**CITY OF PONTIAC-MEDICAL MARIHUANA FACILITIES LICENSING
ORDINANCE**

Shall the City of Pontiac, Oakland County, Michigan adopt an Ordinance to allow for Medical Marihuana Facilities which include up to 4 provisioning centers, and up to 2 growers, processors, secured transporters and safety compliance facilities that meet the requirements of State law and applicable City Ordinances consistent with the Medical Marihuana Facilities Licensing Act, 2016 PA 281. A full copy of the proposed City of Pontiac Medical Marihuana Facilities Ordinance is available in the City Clerk's office during normal business hours for review.

Yes ☐

No ☐

Proposal 3

**CITY OF PONTIAC-MEDICAL MARIHUANA FACILITIES LICENSING
ORDINANCE**

Shall the City of Pontiac, Oakland County, Michigan adopt an Ordinance Opting Out of having any Medical Marihuana Facilities consisting of provisioning centers, growers, processors, secured transporters and safety compliance facilities that meet the requirements of State law under the Medical Marihuana Facilities Licensing Act, 2016 PA 281. A full copy of the proposed City of Pontiac Ordinance to Opt Out of Medical Marihuana Facilities is available in the City Clerk's office during normal business hours for review.

Yes

☐

No

☐

THEREFORE, BE IT RESOLVED: The proposed Initiative Ordinances shall be, and the same is hereby ordered to be, submitted to the qualified electors of this City at the August primary election in the City of Pontiac, the 7th day of August, 2018, and the City Clerk is hereby directed to give notice of the election and notice of registration thereof in the manner prescribed by law and to do all things and to provide all supplies necessary to submit the Initiative Ordinances to the vote of the electors as required by law.

Ayes: Taylor-Burks, Williams, Woodward, Carter and Miller

No: None

Resolution Passed.

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President Kermit Williams adjourned the meeting at 5:14 p.m.

SHEILA R. GRANDISON
ACTING CITY CLERK

DRAFT

May 15, 2018

**Official Proceedings
Pontiac City Council
24th Session of the Tenth Council**

A Formal Meeting of the City Council of Pontiac, Michigan was called to order in City Hall, Tuesday, May 15, 2018 at 6:00 p.m. by President Kermit Williams.

Call to Order at 6:00 p.m.

Invocation by Pastor from the City of Pontiac

Pledge of Allegiance

Roll Call

Members Present: Carter, Miller, Pietila, Taylor-Burks, Williams and Woodward.

Members Absent: Waterman.

Mayor Waterman was Present.

Clerk announced a quorum.

18-169 **Excuse Councilperson Patrice Waterman for personal reasons.** Moved by Councilperson Taylor-Burks and second by Councilperson Pietila.

Ayes: Miller, Pietila, Taylor-Burks, Williams, Woodward and Carter

No: None

Motion Carried.

18-170 **Approve the Agenda with a motion to move item #6 (Resolution to authorize Mayor to enter into a contract with D/A Central Intelligence Security Solutions for a total of \$90,000 for the city's Security System Upgrade project) to I.T. Subcommittee.** Moved by Councilperson Woodward and second by Councilperson Taylor-Burks.

Ayes: Pietila, Taylor-Burks, Williams, Woodward, Carter and Miller

No: None

Motion Carried.

18-171 **Journal of May 8, 2018.** Moved by Councilperson Woodward and second by Councilperson Pietila.

Ayes: Taylor-Burks, Williams, Woodward, Carter, Miller and Pietila

No: None

Motion Carried.

18-172 **Journal of May 10, 2018 Special Meeting.** Moved by Councilperson Taylor-Burks and second by Councilperson Woodward.

Ayes: Williams, Woodward, Carter, Miller, Pietila and Taylor- Burks

No: None

Motion Carried.

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18-173 **Resolution requiring publication of sale of City-Owned Property.** Moved by Councilperson Carter and second by Woodward.

WHEREAS, on April 24, 2018, the President of the City Council of the City of Pontiac requested a Resolution from the City Attorney requiring publication of the sale of property owned by the City of Pontiac prior to its sale; and

WHEREAS, Charter Section 3.113 allows for the sales of City- owned real property only after notice and public hearing; and

WHEREAS, The City Council additionally desires publication of real property available for purchase;

NOW THEREFORE, BE IT RESOLVED, that the Pontiac City Council hereby resolves that no City owned real property, shall be sold without being publicized upon the City website for a period of not less-than seven (7) days prior to such sale.

Ayes: Williams, Woodward, Carter, Miller, Pietila and Taylor-Burks

No: None

Resolution Passed.

18-174 **Resolution adopting policy for violations of the Code of Ethics.** Moved by Councilperson Pietila and second by Councilperson Woodward.

WHEREAS, on February 27, 2018 the Pontiac City Council adopted a Code of ethics; and

WHEREAS. The Pontiac City Council now desires of adopt a Policy for Violations of the Code of Ethics; and

NOW THEREFORE, BE IT RESOLVED, that the Pontiac City Council hereby adopts the following Policy for Violations of the Codes of Ethics:

Violation of the Code of Ethics

1. Determination of Violation(s) of the Code of Ethics

- a. If a violation of the Code of Ethics is asserted by a member of Council, the Councilmember(s) alleged to have been in violation of the Code of Ethics shall have the opportunity to address and refute the allegations.
- b. By a Resolution passed by a majority of Council members serving, the Council may find that a Council member has violated the Code of Ethics

2. Sanctions for Violation of the Code of Ethics

Subsequent to a Resolution establishing a violation of the Code of Ethics, the President may sanction that member of Council not to exceed the following levels:

- a. For a finding of a first violation of the Code of Ethics, the Council member may be subject to censure.
- b. For a finding of the second violation of the Code of Ethics, the Council member may be removed from any position(s) of Chair of Council Committee(s).

- c. For a finding of a third violation of the Code of Ethics, the Council member may be removed from Council Committee(s)

3. Determination of Egregious Violations(s) of the Code of Ethics

- a. If an egregious violation of the Code of Ethics is asserted by a member of Council, the Councilmember(s) alleged to have been in violation of the Code of Ethics shall have the opportunity to address and refute the allegation.
- b. By a Resolution passed by a 2/3 roll call vote of council members serving, the council may find that a council member has violated the code of Ethics.

4. Sanctions for Egregious Violations of the Code of Ethics

Subsequent to a Resolution establishing an egregious violation of Code of Ethics, the President may sanction that member of Council at any or all of the following levels; (a) Censure; (b) Removal from any position(s) of Chair Committee(s); (c) Removal from Council Committee(s)

Ayes: Woodward, Carter, Miller, Pietila, Taylor-Burks and Williams

No: None

Resolution Passed.

18-175 Resolution to override the Mayor's veto regarding non-payment for Clark Hill PLC Invoices. Moved by Councilperson Taylor-Burks and second by Councilperson Carter.

WHEREAS, on May 1, 2018, the City Council of the City of Pontiac passed a resolution for Clark Hill PLC to initiate legal action on behalf of the City Council against Mayor Waterman and Director Nazarko for non-payment of Clark Hill PLC invoices; and

WHEREAS, on May 8, 2018, the Mayor vetoed that Resolution pursuant to and consistent with the procedure set forth in Pontiac City Charter Provision 3.112(f); and

WHEREAS, Pursuant to Pontiac City Charter Provision 3.112(f), the City Council wishes to reconsider the Resolution for adoption over the Mayor's veto;

NOW THEREFORE, BE IT RESOLVED, by the Pontiac City Council hereby adopts the Resolution over the Mayor's veto with five (5) votes as required by Pontiac City Charter Provision 3.112(f).

Ayes: Carter, Miller, Taylor-Burks and Williams

No: Pietila and Woodward

Resolution Failed.

18-176 Resolution to authorize the City of Pontiac to request local bridge program funds for prevention maintenance of the University Drive over the Grand Trunk Western Railroad Bridge for the year 2021. Moved by Councilperson Pietila and second by Councilperson Carter.

WHEREAS, the condition of the bridge listed below have deteriorated to such an extent that preventive maintenance is necessary and

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WHEREAS, the budget of the City of Pontiac will not allow preventive maintenance of this bridge without additional funds from other sources.

THEREFORE BE IT NOW RESOLVED, that the City of Pontiac request local bridge program funds for preventive maintenance of the Kennett Road over the CN & GTW Railroad Bridge for the year 2021.

Ayes: Miller, Pietila Taylor-Burks, Williams, Woodward and Carter

No: None

Resolution Passed.

18-177 **Resolution to authorize the Mayor to enter into a contract with Merlo Construction for \$766,569.75 for the CDBG sidewalk funded program tabled for two (2) weeks.** Moved by Councilperson Carter and second by Councilperson Taylor-Burks.

Ayes: Carter, Miller, Taylor-Burks, Williams and Woodward

No: Pietila

Motion Carried.

18-178 **Resolution to authorize Mayor to sign RCOC Cost Participation Agreement (Tri-Party) for the Opdyke Road Resurfacing Project.** Moved by Councilperson Carter and second by Councilperson Woodward.

WHEREAS, the BOARD, PONTIAC, and the City of Auburn Hills, hereinafter referred to as AUBURN HILLS, in cooperation with the Michigan Department of Transportation, hereinafter referred to as MDOT, have programmed the resurfacing of Opdyke Road from Auburn Road to Perry Street, as described in Exhibit "A", attached hereto, and made a part hereof, which improvements involve a border road under the jurisdiction of the BOARD and within PONTIAC and AUBURN HILLS, which improvements are hereinafter referred to as the PROJECT; and

WHEREAS, the estimated total cost of the PROJECT is \$7,399,200; and

WHEREAS, the BOARD will enter into a contract with MDOT for partial funding of the PROJECT with federal program dollars under the Surface Transportation Program in the amount of \$3,148,900; and

WHEREAS, the BOARD, as the requesting party therein, will be the party financially responsible to MDOT to bear all costs of the PROJECT in excess of federal funds, hereinafter referred to as the LOCAL SHARE; and

WHEREAS, PONTIAC'S share of said LOCAL SHARE involves certain designated and approved Tri-Party Program funding in the amount of \$50,000, which shall be paid through equal contributions by the BOARD, PONTIAC, and the Oakland County Board of Commissioners, hereinafter referred to as the COUNTY; and

WHEREAS, all the parties hereto have reached a mutual understanding regarding the cost sharing for the LOCAL SHARE and wish to commit that understanding to writing in this Agreement.

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NOW, THEREFORE, in consideration of the mutual covenants set forth herein and in conformity with applicable law, it is hereby agreed between PONTIAC and the BOARD that:

1. PONTIAC and AUBURN HILLS approve of the PROJECT, declare its public necessity, and authorizes the BOARD and MDOT to perform or cause to be performed, and complete the PROJECT along with all administration in referencethereto.
2. The PROJECT shall include construction engineering and total payments to the contractor. Any costs incurred by RCOC prior to this agreement date shall be allowable.
3. The estimated LOCAL SHARE of the participating construction cost is \$698,300 and shall be funded simultaneously:
 - a. PONTIAC has agreed to contribute \$50,000 toward their share of the estimated cost of the participating construction and will fund their share from the Tri-Party Program. Any participating construction PROJECT costs above PONTIAC'S Tri-Party Program funding of \$50,000 will be funded first with any available Tri-Party Program funds. If no Tri-Party Program funds are available, PONTIAC'S share of any participating construction PROJECT costs above \$50,000 will be shared equally by the BOARD and PONTIAC.
 - b. AUBURN HILLS has agreed to contribute \$290,000 toward their share of the estimated cost of the participating construction and will fund their share from the Tri-Party Program.
Any participating construction PROJECT costs above AUBURN HILLS' Tri-Party Program funding of \$290,000 will be funded first with any available Tri-Party Program funds. If no Tri-Party Program funds are available, AUBURN HILLS' share of any participating construction PROJECT costs above \$290,000 will be shared equally by the BOARD and AUBURN HILLS.
 - c. BOARD has agreed to contribute \$358,300 toward the estimated cost of the participating construction.
4. AUBURN HILLS will contribute the cost of all Part B non-participating items, which include waterline bursting construction, pedestrian pathway, culvert cleaning, and irrigation system work, estimated in the amount of \$3,552,000. Any Part B non-participating item overages will be funded 100% by AUBURN HILLS.
5. Upon execution of this agreement, the BOARD shall submit an invoice to PONTIAC in the amount of \$16,667 (being 100% of PONTIAC'S Tri-Party contribution).
6. Upon execution of this agreement and approval by the COUNTY, the BOARD shall submit an invoice to the COUNTY in the amount of \$16,667 (being 100% of the COUNTY'S Tri-Party contribution).
 - a. The invoice shall be sent to:
Lynn Sonkiss, Manager of Fiscal Services Executive Office Building
2100 Pontiac Lake Road, Building 41 West
Waterford, MI 48328

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7. The total actual LOCAL SHARE will be determined from the records of the BOARD upon completion of State financial audits of the PROJECT and a final determination of the total federal funds used on the PROJECT. Final adjustments in the financial obligations of the parties hereto will be made upon completion of the required audits.
8. Upon receipt of said invoice(s), PONTIAC and the COUNTY shall pay to the BOARD the full amount thereof, within thirty (30) days of such receipt.
9. The BOARD shall execute a separate Cost Participation Agreement with the City of Auburn Hills, for their share of the estimated PROJECT cost.

Ayes: Miller, Pietila, Taylor-Burks, Williams, Woodward and Carter

No: None

Resolution Passed.

18-179 **Resolution to authorize Mayor to sign Cost Participation Agreement for additional construction for Opdyke Road over the Clinton River in the city of Pontiac, Michigan.**
Moved by Councilperson Carter and second by Councilperson Pietila.

WHEREAS, the BOARD has programmed the removal and replacement of the Opdyke Road bridge over the Clinton River, which improvements involve a border road under the jurisdiction of the BOARD and within the COMMUNITY, said improvements are hereinafter referred to as the PROJECT; and

WHEREAS, the PROJECT shall also include the construction of decorative railing on the bridge, all together with necessary work, located on the Opdyke Road bridge over the Clinton River, which improvements are beyond the PROJECT limits, and are hereafter referred to as ADDITIONAL CONSTRUCTION items; and

WHEREAS, the estimated total cost associated with said ADDITIONAL CONSTRUCTION items is \$6,750; and

WHEREAS, the BOARD and the COMMUNITY have reached a mutual understanding regarding the funding of the ADDITIONAL CONSTRUCTION items and wish to commit that understanding to writing in this Agreement

NOW, THEREFORE, in consideration of the mutual covenants set forth herein, it is hereby agreed between the COMMUNITY and the BOARD that:

1. The BOARD shall forthwith undertake and complete the PROJECT, including the ADDITIONAL CONSTRUCTION items, as above described, and shall perform the engineering, inspection, and the administration in reference thereto.
2. The actual total cost of the ADDITIONAL CONSTRUCTION items, as determined by the BOARD, shall include only payments to the contractor. Any costs incurred by RCOC prior to this agreement date shall be allowable.
3. The actual cost of the ADDITIONAL CONSTRUCTION items as determined by the BOARD along with any overages shall be funded solely by the COMMUNITY, estimated in the amount of \$6,750.

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4. Upon execution of this Agreement, the BOARD shall submit an invoice to the COMMUNITY for \$6,750 (being 100% of the cost of the ADDITIONAL CONSTRUCTION items).
5. Upon receipt of said invoices, the COMMUNITY shall pay to the BOARD the full amount thereof, within thirty (30) days of such receipt.
6. The BOARD shall execute a separate Cost Participation Agreement with the City of Auburn Hills, for their share of the estimated ADDITIONAL CONSTRUCTION cost.
7. The COMMUNITY shall be responsible for maintaining their portion of said decorative railing.

Ayes: Pietila, Taylor-Burks, Williams, Woodward, Carter and Miller

No: None

Resolution Passed.

18-180 Resolution to authorize, direct DPW Director, John Balint, as agent for the City of Pontiac to request reimbursement of eligible mosquito control activity under Oakland County's West Nile Virus Fund program. Moved by Councilperson Pietila and second by Councilperson Woodward.

Whereas, upon the recommendation of the Oakland County Executive, the Oakland County Board of Commissioners has established a West Nile Virus Fund Program to assist Oakland County cities, villages, and townships in addressing mosquito control activities; and

Whereas, Oakland County's West Nile Virus Fund Program authorizes Oakland County cities, villages, and townships to apply for reimbursement of eligible expenses incurred in connection with personal mosquito protection measures/activity, mosquito habitat eradication, mosquito larviciding, or focused adult mosquito insecticide spraying in designated community green areas; and

Whereas, the City of Pontiac, Oakland County, Michigan, has or will incur expenses in connection with mosquito control activities believed to be eligible for reimbursement under Oakland County's West Nile Virus Fund Program;

Now, Therefore, Be It Resolved, that the City Council of Pontiac authorizes and directs its Department of Public Works, as agent for the City of Pontiac, to request reimbursement of eligible mosquito control activity under Oakland County's West Nile Virus Fund Program,

Ayes: Taylor-Burks, Williams, Woodward, Carter, Miller and Pietila

No: None

Resolution Passed.

18-181 Resolution to authorize the Mayor to enter into an agreement with Precision Concrete Cutting for an amount not to exceed \$75,000. Moved by Councilperson Miller and second by Councilperson Woodward.

Whereas, the City of Pontiac has met with Precision Concrete Cutting and received referenced from surrounding communities, and;

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Whereas, we have also received specifications and received information confirming that they have a patented process, and;

Whereas, the City believes this process will assist in eliminating future liability and assisting in making our CDBG dollars for sidewalk repair go much further, and;

Now, Therefore, Be It Resolved, that the Pontiac City Council authorized the Mayor to enter into a contract with Precision Concrete Cutting for an amount not to exceed \$75,000.

Ayes: Williams, Woodward, Carter, Miller, Pietila and Taylor-Burks

No: None

Resolution Passed.

There were 9 individuals who addressed the body during public comment.

Honorable Mayor Reported

Attorney Anthony Chubb, Councilman Don Woodward, Councilwoman Mary Pietila, Councilwoman Gloria Miller, Councilwoman Doris Taylor-Burks, Pro-Tem Randy Carter and President Kermit Williams made closing comments. Acting City Clerk Sheila Grandison had no closing comment.

President Kermit Williams adjourned the meeting at 7:13 p.m.

SHEILA R. GRANDISON
ACTING CITY CLERK

COMMUNITY DEVELOPMENT SUB-COMMITTEE NOTES
May 15, 2018

In attendance:

Council members: Chairman Don Woodward, Mary Pietila and Gloria Miller

Mayor: Deirdre Waterman

Deputy Mayor: Jane Bais-DiSessa

Economic Development Director: Rachel J. Loughrin

Start time: 9:41 a.m.

I. Proposed Medical Marijuana Ballot Referendum

- Jobs For Pontiac has submitted a proposal to go on the ballot.
- The City of Pontiac is submitting two additional proposals.
- The City is considering community benefits and the process for implementation.

II. Proposed Ordinance Review

a. Building Demolition and Moving, Chapter 22, Article 7

- An amended draft provided.
- Provision 22-866 Safety and Fencing was added to the ordinance.
- Provision 22-870 Building Implosion Permit Application is included.

* On Feathersone, there is a buildup of dirt and it should be questioned as to what will be done with the dirt.

* The cars at the Silverdome are leaving.

b. Blight Court Ordinance (Under Review)

- The draft has been finalized, but the Deputy Mayor has to draft the procedures.
- The draft will be presented to Wade Trim first during their meeting and then to the Council at their work session.

III. Upcoming City Events-Update

a. Dream Cruise is August 18, 2018

b. M1 Road Kill is August 11, 2018

- After having a meeting with business owners, it was determined that the north end of town had not been included in the dream cruise and there was not enough residential participation.
- The Dream Cruise will have car hops which will be associated with the food trucks.
- More businesses are involved in the planning.
- The Deputy Mayor and the DPW Director are drafting letters that will be addressed to the businesses that will be affected by the Dream Cruise and the Economic Development Director and the Community Development Deputy Director will personally deliver the letters.
- Lot 9 is not used for the Dream Cruise, instead there is parking on Saginaw.
- Lot 9 was used last year for part of the entertainment, not sure whether or not Lot 9 is participating this year as it changes year to year. They can come in under the umbrella or pay half the cost.

IV. New Business

a. State of the City

- The State of the City will be held on June 4, 2018 at Crowfoot, the doors open at 6:00 pm and will start at 7:00pm.
- On May 22, 2018, the neighborhood community projects will be given to Council and certificates will be presented at the State of the City on June 4.

b. Youth Recreation Report

- Various subcommittees are involved.
- The Youth Advisory Committee's report is due to the Council on May 21, 2018 and there is 1 meeting left.
- There are lots of challenges for the budget, including two (2) settlements.
- As a consequence of the challenges, money will not be available from the surplus, so in order to have a youth program, the millage will have to be levied.

Adjourned: 10:36 a.m.

DEPARTMENT OF PUBLIC WORKS SUB-COMMITTEE NOTES

May 16, 2018

In attendance:

Council members: Chairperson Doris Taylor- Burks, and Don Woodward

DPW Director: John Balint

Start time: 4:10 p.m.

AGENDA

- I. Joslyn Road
 - The signs will go out next week as the start date is May 28, 2018 and September 28, 2018 is the completion date.
 - The distance is from Perry to Walton.
- II. Yellow Flashing Lights on Three (3) Streets
 - A. The light at Kennett will be removed as the light has been in flash mode for over a year.
 - B. The light on Madison will have a crossing beacon.
 - C. The light on Beverly will stay.
- III. Pre-Bid Meetings
 - There was a pre-bid meeting to discuss Hill St. from Auburn to Pike.
 - There was another pre-bid meeting to talk with road maintenance contractors regarding catch basins.
- IV. Parks
 - Discussed the possibility of placing signs at Oakland Park and other parks that say the park closes at dusk and also locking the parks at dusk that have gates (the cost of erecting gates for parks that do not current have gates will be researched).
 - Closing the parks pursuant to the ordinance will reduce the clean-ups, graffiti and the amount of work required.
 - Even if the park does not have a gate, the Sherriff's can enforce the closure.
 - Signs to be placed at Oakland Park, one by the basketball court, one by the Nelson St. side and on the other side of the Park.
 - Beaudette Park has just one entrance.
 - Other signs maybe erected that prohibit parking on the grass and no alcohol.
- V. Banners on Street Light Poles
 - Very costly and all installation costs would have to be paid by the party requesting it.
- VI. Sidewalks
 - A map was used to show the various districts, all of the areas where the sidewalks would be replaced, areas that were CDBG eligible and ineligible.
 - The Executive examined areas where work had been done in the past and selected new areas, the first block North of James K, Montcalm, Saginaw, W. of Perry and S. of Walton.
 - The cut off is University and not South of University

- The Executive looked at all the sidewalk lawsuits and complaints in 2016, but 2017 complaints were not included.
- Individual locations had to get approval, but blocks were easier to get approved.
- No blocks in Districts 1 or District 7.
- District 7 had a lot of money spent on streets in the last two (2) years.
- \$ 2 million dollars has been spent on District 1.
- Hitting locations in every District.
- The concrete cutting will target 1,250 locations, will allow for ADA compliance when complete and reduce the amount of work the CDBG contractor will have to do.
- The contract for the concrete cutting is for 1 year and extendable for years two (2) and three (3).
- The purpose is to spend “a little bit of money for a bigger impact.”
- A contractor has to get approved.
- All of the tree complaints have not been tracked.
- There is \$600,000 of CDBG funds from 2016 and 2017 that needs to be spent before September 2018. The City does not have the \$766,569.75, but that is understood.

VII. Upcoming Issues

- Signal removal agreements, four (4) coming with no cost.
- Possibly have the CDBG sidewalk presentation placed on the Agenda for May 22, 2018.

Adjourned: 5:00 p.m.



Resolution to change Annette Wesley's title to Director of Elections

WHEREAS, Annette Wesley in March of 2015, entered into an Employment Agreement with the City of Pontiac and was hired as an Election Specialist; and,

WHEREAS, the former City Clerk, Sherikia Hawkins also served as the Director of Elections until December 20, 2017; and,

WHEREAS, the Acting Clerk, Sheila Grandison on December 21, 2017, appointed Annette Wesley as the Director of Elections.

NOW THEREFORE, BE IT RESOLVED, that the Pontiac City Council hereby approves and authorizes Annette Wesley's job title to be changed from Elections Specialist to Director of Elections.



CITY OF PONTIAC

OFFICIAL MEMORANDUM

Executive Branch

TO: Pontiac City Council

FROM: Jane Bais-DiSessa, Deputy Mayor, at the request of
John V. Balint, City Engineer

DATE: May 18, 2018

RE: Removal of Traffic Signals in the City of Pontiac

RECEIVED
2018 MAY 18 PM 3:01
PONTIAC CITY CLERK

The Department of Public Work, Engineering Division has been working on the rehabilitation of Joslyn Road between Perry Street (BL I-75) and Walton Blvd. This 1.6 mile road segment has eight signalized intersections which is a high density of signals and hinders efficient traffic movement. Hubbell, Roth & Clark (HRC) is providing design engineering for the Joslyn Road rehabilitation project. As part of the traffic signal modernization effort, signal warrant analyses were performed to justify the need in keeping the signals at three intersections:

- Joslyn Rd and 2nd Ave
- Joslyn Rd and Madison Ave
- Joslyn Rd and Kennett St
- Martin Luther King Jr. Boulevard and Valencia
- N. Saginaw and Howard Street

Based on the analysis, none of these intersections meet the minimum requirements for a signal. Before an existing traffic signal can be removed, it is recommended to put the traffic signal in flash mode for at least one month as a trial to confirm the intersections will operate safely. At the city's request, the Road Commission for Oakland County put the three signals in flash on June 1, 2017.

The city has received a few complaints about the flashing signals and there have been no crashes related to the change in signal operation. It is the request of the Department of Public Works, Engineering Division to approve the removal of these five signals at such time in 2018 when the rehabilitation project is under construction and the remaining signals are modernized.

WHEREAS, Section 610, (a) of Act No. 300 of the Public Acts of 1949 as last amended (Compiled Laws of 1949 Section 257.610, MSA 9.2310) says,

"Local authorities and county road commissions in their respective jurisdictions shall place and maintain such traffic control devices upon highways under their jurisdiction as they may deem necessary to indicate and to carry out the provisions of this chapter or local traffic ordinances or to regulate, warn, or guide traffic. All such traffic control devices hereafter erected shall conform to the State Manual specifications."

WHEREAS, the intersections of Joslyn and 2nd Ave, Joslyn and Madison Ave, and Joslyn and Kennett St, Martin Luther King Jr. Boulevard and Valencia and N. Saginaw and Howard, in the city of Pontiac, do not meet the minimum requirements for a signal and therefore shall be removed.

NOW, THEREFORE, BE IT RESOLVED,

The Pontiac City Council approves the removal of the traffic signals at the intersections of Joslyn and 2nd Ave, Joslyn and Madison Ave, and Joslyn and Kennett St, Martin Luther King Jr. Boulevard and Valencia and N. Saginaw and Howard, and authorizes the Department of Public Works to implement the removals.

RECEIVED
2018 MAY 18 PM 3:01
PONTIAC CITY CLERK

Memorandum

To: John Balint, P.E.

From: Nicholas Nicita, P.E.

Date: May 17, 2017

Subject: Signal Warrant Analysis
Joslyn Ave at 2nd Ave, Madison Ave, and Kennett St

HRC Job No. 20170097

Hubbell, Roth & Clark (HRC) is providing traffic signal modernization for a rehabilitation project on a 1.6 mile stretch along Joslyn Ave in Pontiac, Michigan. As part of the traffic signal modernization, signal warrant analyses were performed to justify the need in keeping the signals at the following intersections:

- ≡ Joslyn Ave and 2nd Ave
- ≡ Joslyn Ave and Madison Ave
- ≡ Joslyn Ave and Kennett St

Turning movement counts for the AM, midday, and PM peak hours along with 24-hour volume counts were provided by Traffic Data Collection in order to perform the signal warrant analysis. The turning movement counts were taken at all three intersections on May 18, 2016 and the 24-hour volume counts were recorded during the week of May 16, 2016. An investigation of the need for traffic signal controls included, where applicable, an analysis of the factors contained in the following warrants:

- ≡ Warrant 1: Eight-Hour Vehicular Volume
- ≡ Warrant 2: Four-Hour Vehicular Volume
- ≡ Warrant 3: Peak Hour
- ≡ Warrant 4: Pedestrian Volume
- ≡ Warrant 5: School Crossing
- ≡ Warrant 6: Coordinated Signal System
- ≡ Warrant 7: Crash Experience
- ≡ Warrant 8: Roadway Network
- ≡ Warrant 9: Intersection Near a Grade Crossing

A summary of the traffic warrant analysis for the three signalized intersections is shown in **Table 1**. All three intersections failed to meet any of the nine signal warrants. Warrant 5 related to school crossings and Warrant 9 related to rail crossings were not applicable to any of the three intersections. The complete analysis can be found in Attachments A – C.

Table 1: Traffic Signal Warrant Analysis Summary

Warrant		Joslyn Ave and 2nd Ave	Joslyn Ave and Madison Ave	Joslyn Ave and Kennett St
		Warrant Met		
Warrant 1: Eight-Hour Vehicular Volume	Condition A	No	No	No
	Condition B	No	No	No
	Combination of A & B	N/A	N/A	N/A
Warrant 2: Four-Hour Vehicular Volume		No	No	No
Warrant 3: Peak Hour		No	No	No
Warrant 4: Pedestrian Volume		No	No	No
Warrant 5: School Crossing		N/A	N/A	N/A
Warrant 6: Coordinated Signal System		No	No	No
Warrant 7: Crash Experience		No	No	No
Warrant 8: Roadway Network		No	No	No
Warrant 9: Intersection Near a Grade Crossing		N/A	N/A	N/A

Based on the traffic signal warrant analysis, HRC recommends removing the signals at the intersections of Joslyn Ave / 2nd Ave, Joslyn Ave / Madison Ave, and Joslyn Ave / Kennett St since none of these intersections warrant a traffic signal. Prior to removal, it is recommended to put the traffic signals in flash mode for at least one month as a trial to confirm the intersections will operate accordingly before permanently removing them.



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Attachment A: Signal Warrant Analysis for Joslyn Ave and 2nd Ave

Michigan Manual of Uniform Traffic Control Devices
Volume Summary
Prepared by MDOT for the 2011 Edition of the MMUTCD

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	2nd Ave
Intersection:	Joslyn Ave @ 2nd Ave		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

	Major NB	Major SB	Minor EB	Minor WB	Total Major	Highest Minor	Total
00:01 - 01:00	67	54	4	7	121	7	132
01:00 - 02:00	58	39	4	0	97	4	101
02:00 - 03:00	40	35	0	0	75	0	75
03:00 - 04:00	63	34	0	0	97	0	97
04:00 - 05:00	58	58	1	4	116	4	121
05:00 - 06:00	135	203	2	9	338	9	349
06:00 - 07:00	213	481	13	13	694	13	720
07:00 - 08:00	352	619	19	14	971	19	1004
08:00 - 09:00	311	530	8	15	841	15	864
09:00 - 10:00	254	340	5	16	594	16	615
10:00 - 11:00	317	282	9	11	599	11	619
11:00 - 12:00	415	363	5	10	778	10	793
12:00 - 13:00	413	431	7	20	844	20	871
13:00 - 14:00	449	443	14	14	892	14	920
14:00 - 15:00	621	522	15	14	1143	15	1172
15:00 - 16:00	790	570	11	17	1360	17	1388
16:00 - 17:00	825	494	15	17	1319	17	1351
17:00 - 18:00	799	443	11	21	1242	21	1274
18:00 - 19:00	529	432	20	24	961	24	1005
19:00 - 20:00	351	333	13	17	684	17	714
20:00 - 21:00	316	312	19	7	628	19	654
21:00 - 22:00	267	264	15	18	531	18	564
22:00 - 23:00	194	243	2	8	437	8	447
23:00 - 00:00	111	148	7	9	259	9	275
Total	7948	7673	219	285	15621	307	16125

Summary of Warrants

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	2nd Ave
Intersection:	Joslyn Ave at 2nd Ave		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

Warrant	Condition	Is Warrant Met
Data Has Been Validated		YES
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	NO
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
LOS and Safety		

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Joslyn Ave @ 2nd Ave		
Date:	5/15/2017	by	NN

3	: No. of Lanes on Major St?
1	: No. of Lanes on Minor St?
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
Time	N-S	E-W											
00:01 - 01:00	121	7	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	97	4	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	75	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	97	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	116	4	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	338	9	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	694	13	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	971	19	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	841	15	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	594	16	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	599	11	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	778	10	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	844	20	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	892	14	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	1143	15	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1360	17	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1319	17	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1242	21	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	961	24	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	684	17	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	628	19	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	531	18	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	437	8	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	259	9	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 0

Number of Hours that met the warrant 1B = 0

Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

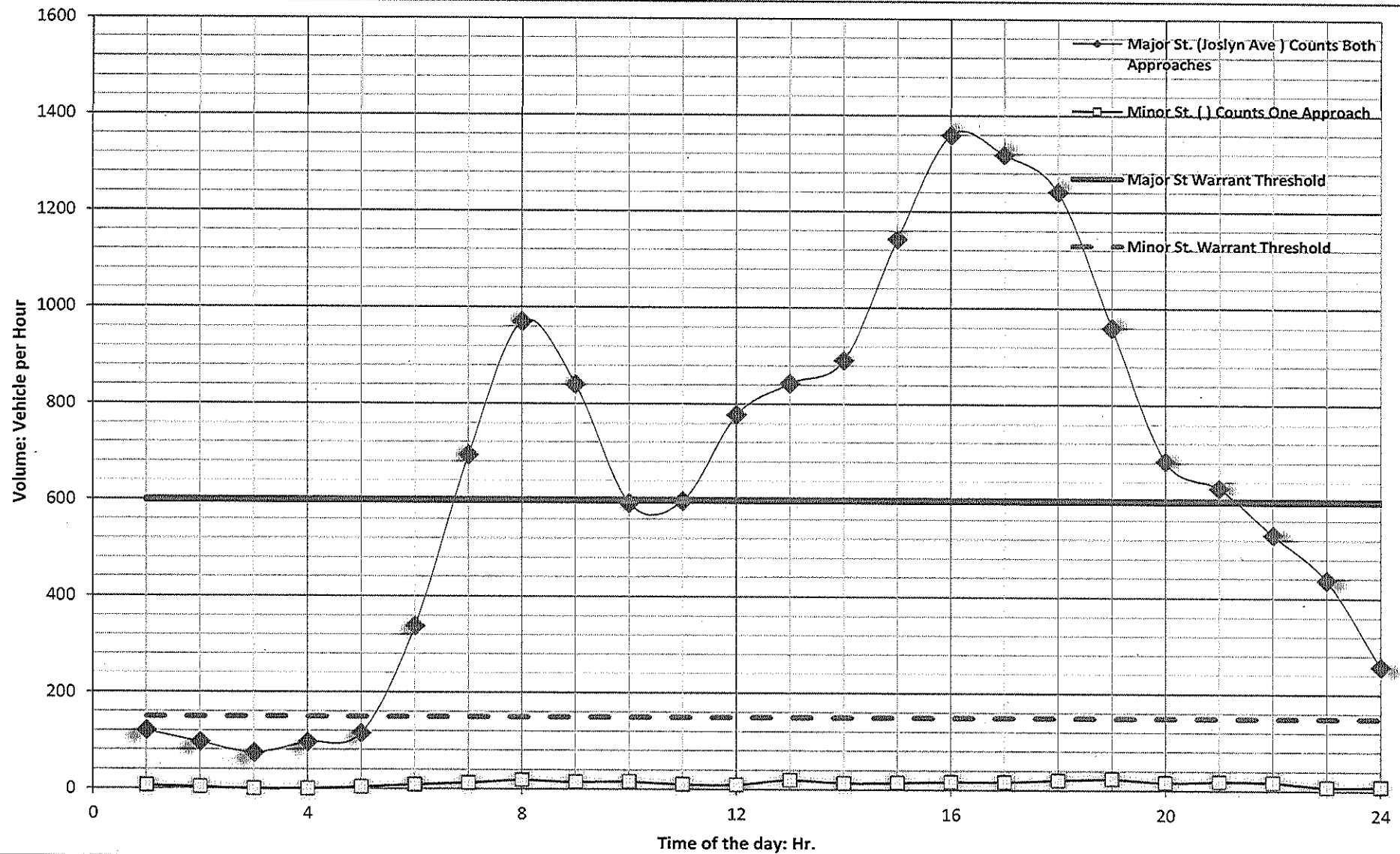


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ 2nd Ave

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 5/18/2016

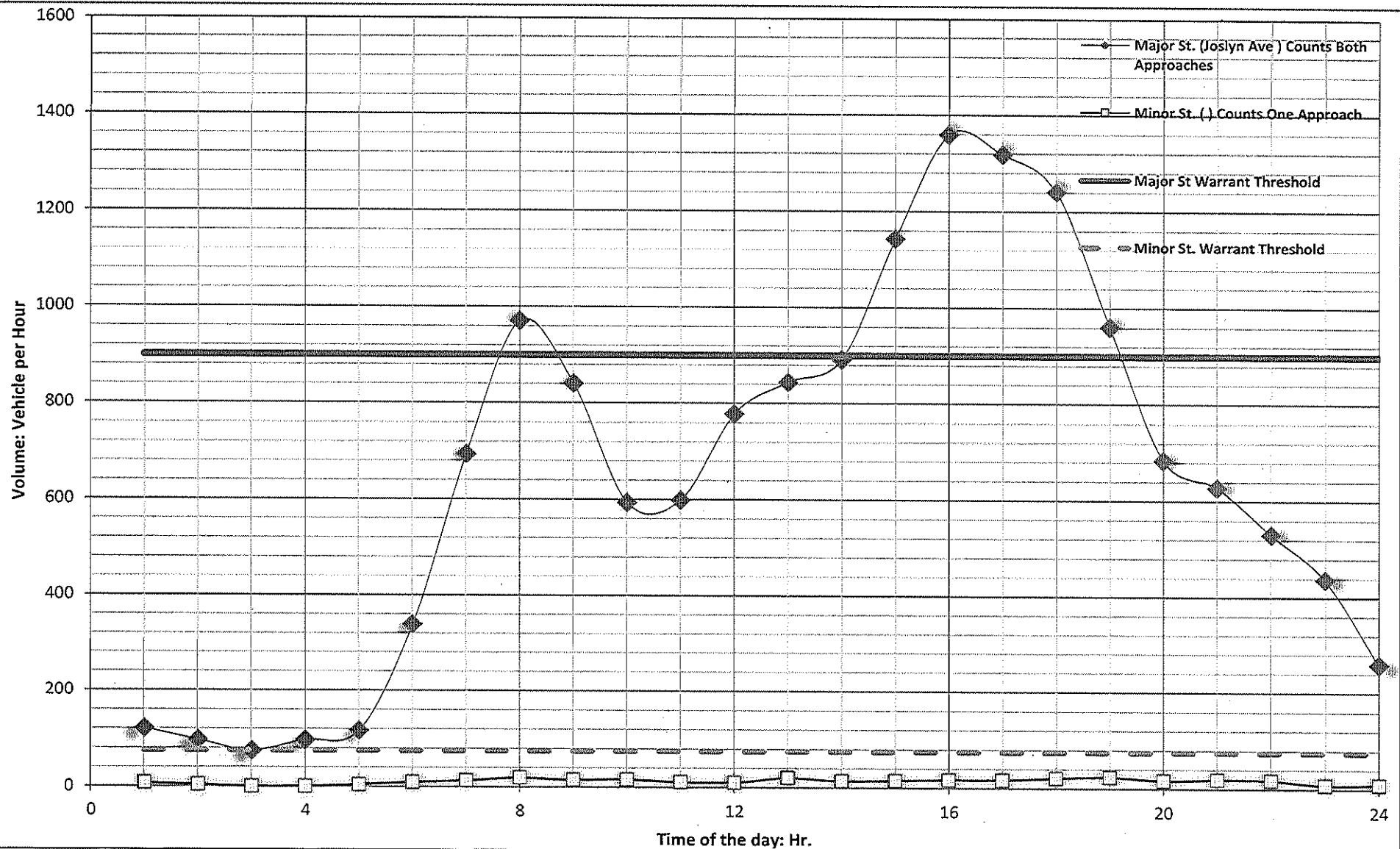


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ 2nd Ave

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

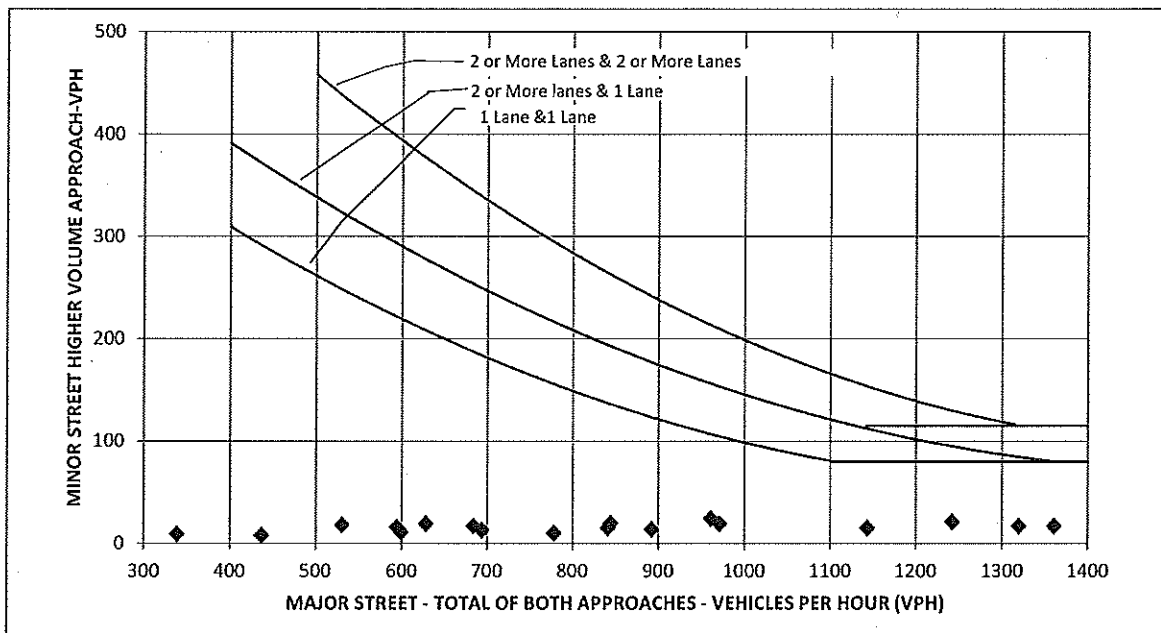
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 5/18/2016

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	0
Intersection:	Joslyn Ave @ 2nd Ave
Date	5/15/2017 by NN

3	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met

0

Is Warrant 2 (100%) Met?

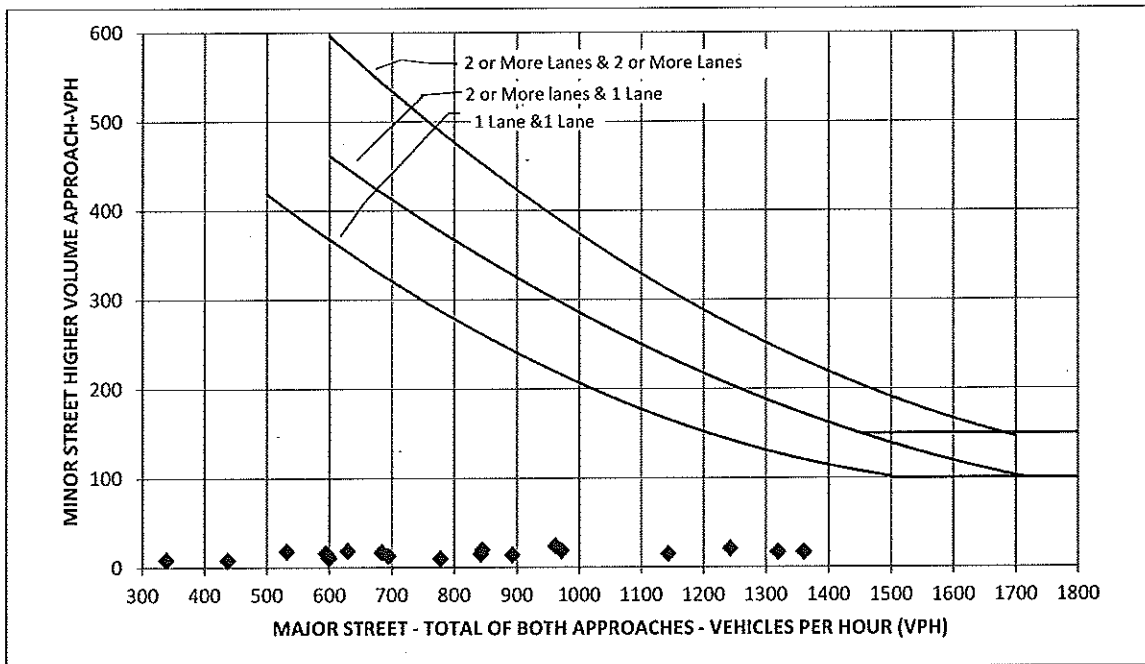
NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 A: Peak-Hour Vehicular Volume			
Spot Number:	0		
Intersection:	Joslyn Ave @ 2nd Ave		
Date	5/15/2017	by	NN
NOT MET	0	: Total Stop Time Delay (hrs)	
NOT MET	1	: Minor Street Approach Lanes	
NOT MET	4	: Total Approaches	
NOT MET	0	: Minor Approach Volume	
NOT MET	97	: Total Entering Volume	
	03:00 - 04:00 : Peak Hour		
Is Warrant 3 A Met?			NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	0		
Intersection:	Joslyn Ave @ 2nd Ave		
Date	5/15/2017	by	NN

3	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

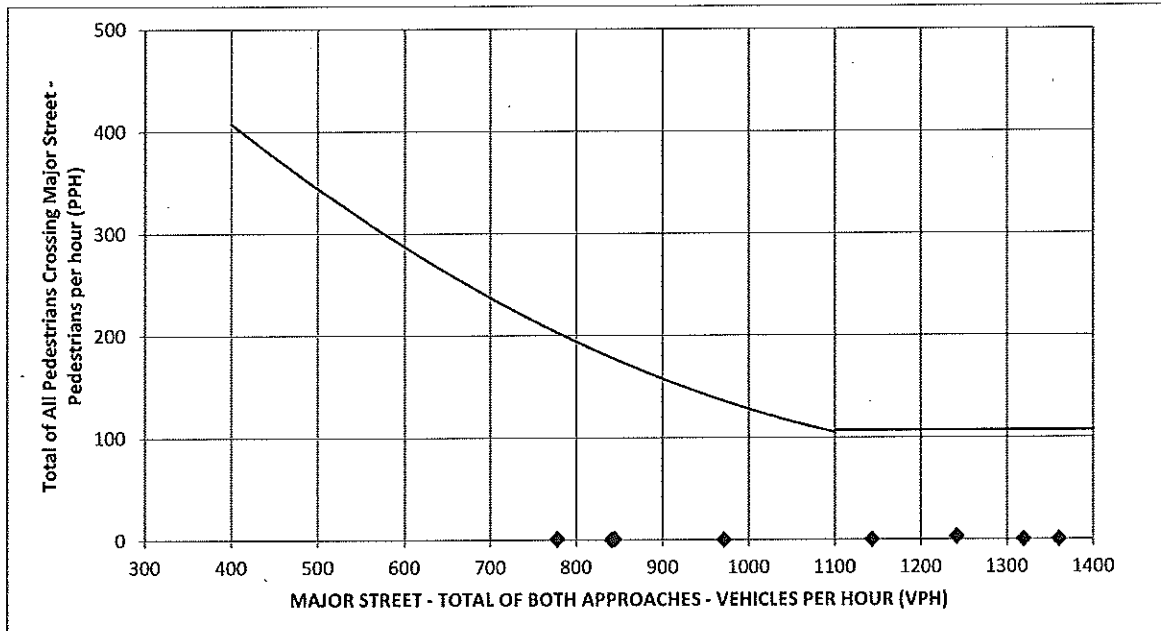


How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume**

Spot Number:	0
Intersection:	Joslyn Ave @ 2nd Ave
Date	5/15/2017 by NN

650	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

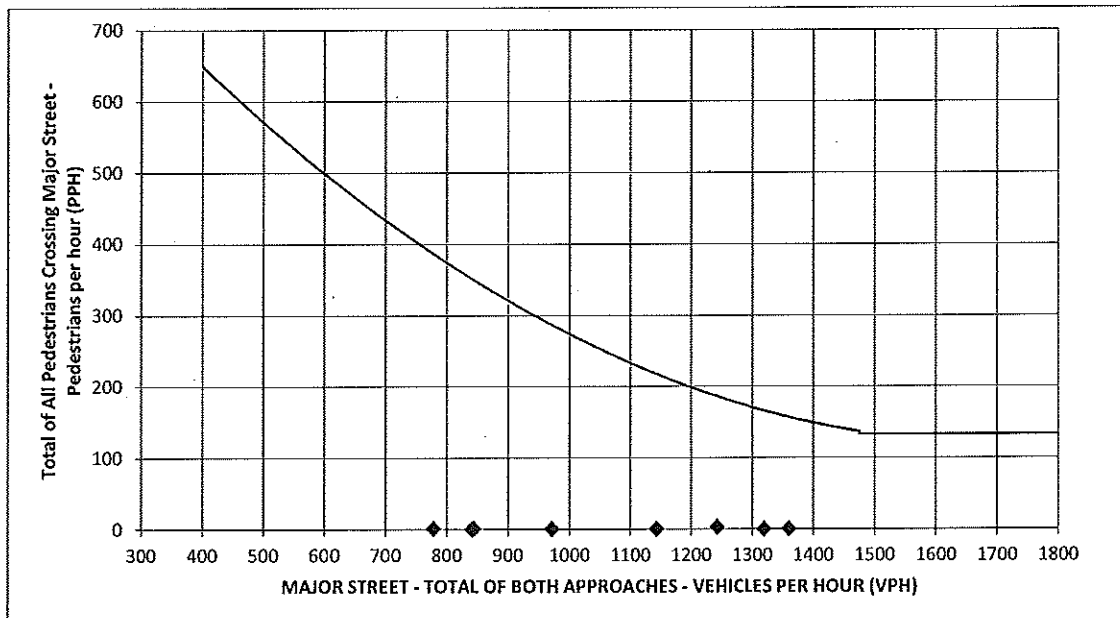


How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	0
Intersection:	Joslyn Ave @ 2nd Ave
Date: 5/15/2017	by: NN

650	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population Isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 7: Crash Experience

Spot Number:	0		
Intersection:	Joslyn Ave @ 2nd Ave		
Date	5/15/2017	by	NN

1	: No. of Lanes on Major St?
3	: No. of Lanes on Minor St?
NO	: Has adequate trial of remedial measure with adequate enforcement been tried?
NO	: Are there 5 or more Crashes Susceptible to Correction by Signalization in a 12 Month Period?

	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?
Time	N-S	E-W						
00:01 - 01:00	121	7	480	120	NO	720	60	NO
01:00 - 02:00	97	4	480	120	NO	720	60	NO
02:00 - 03:00	75	0	480	120	NO	720	60	NO
03:00 - 04:00	97	0	480	120	NO	720	60	NO
04:00 - 05:00	116	4	480	120	NO	720	60	NO
05:00 - 06:00	338	9	480	120	NO	720	60	NO
06:00 - 07:00	694	13	480	120	NO	720	60	NO
07:00 - 08:00	971	19	480	120	NO	720	60	NO
08:00 - 09:00	841	15	480	120	NO	720	60	NO
09:00 - 10:00	594	16	480	120	NO	720	60	NO
10:00 - 11:00	599	11	480	120	NO	720	60	NO
11:00 - 12:00	778	10	480	120	NO	720	60	NO
12:00 - 13:00	844	20	480	120	NO	720	60	NO
13:00 - 14:00	892	14	480	120	NO	720	60	NO
14:00 - 15:00	1143	15	480	120	NO	720	60	NO
15:00 - 16:00	1360	17	480	120	NO	720	60	NO
16:00 - 17:00	1319	17	480	120	NO	720	60	NO
17:00 - 18:00	1242	21	480	120	NO	720	60	NO
18:00 - 19:00	961	24	480	120	NO	720	60	NO
19:00 - 20:00	684	17	480	120	NO	720	60	NO
20:00 - 21:00	628	19	480	120	NO	720	60	NO
21:00 - 22:00	531	18	480	120	NO	720	60	NO
22:00 - 23:00	437	8	480	120	NO	720	60	NO
23:00 - 00:00	259	9	480	120	NO	720	60	NO

Is there a reduction in the warrant thresholds to 56% = NO

Number of Hours that met the warrant 7A = 0

Number of Hours that met the warrant 7B = 0

A. Is the Minimum Vehicular Volume Warrant Met Based on Crash Patterns? (Condition A)

NO

B. Is the Interruption of Continuous Traffic Met Based on Crash Patterns? (Condition B)

NO



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Attachment B: Signal Warrant Analysis for Joslyn Ave and Madison Ave

Michigan Manual of Uniform Traffic Control Devices
Volume Summary
Prepared by MDOT for the 2011 Edition of the MMUTCD

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	Madison Ave
Intersection:	Joslyn Ave @ Madison Ave		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

	Major NB	Major SB	Minor EB	Minor WB	Total Major	Highest Minor	Total
00:01 - 01:00	49	61	0	18	110	18	128
01:00 - 02:00	39	36	0	7	75	7	82
02:00 - 03:00	27	28	0	4	55	4	59
03:00 - 04:00	59	29	0	10	88	10	98
04:00 - 05:00	52	37	0	12	89	12	101
05:00 - 06:00	141	106	0	32	247	32	279
06:00 - 07:00	217	343	0	54	560	54	614
07:00 - 08:00	321	535	0	109	856	109	965
08:00 - 09:00	281	463	0	93	744	93	837
09:00 - 10:00	220	337	0	69	557	69	626
10:00 - 11:00	256	294	0	62	550	62	612
11:00 - 12:00	300	319	0	86	619	86	705
12:00 - 13:00	335	399	0	118	734	118	852
13:00 - 14:00	403	375	0	135	778	135	913
14:00 - 15:00	416	519	0	116	935	116	1051
15:00 - 16:00	563	630	0	121	1193	121	1314
16:00 - 17:00	642	493	0	126	1135	126	1261
17:00 - 18:00	683	451	0	112	1134	112	1246
18:00 - 19:00	415	374	0	131	789	131	920
19:00 - 20:00	287	318	0	89	605	89	694
20:00 - 21:00	291	286	0	81	577	81	658
21:00 - 22:00	229	207	0	88	436	88	524
22:00 - 23:00	149	231	0	50	380	50	430
23:00 - 00:00	92	151	0	33	243	33	276
Total	6467	7022	0	1756	13489	1756	15245

Summary of Warrants

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	Madison Ave
Intersection:	Joslyn Ave at Madison Ave		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

Warrant	Condition	Is Warrant Met
Data Has Been Validated		YES
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	NO
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:
LOS and Safety

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Joslyn Ave @ Madison Ave		
Date	5/15/2017	by	NN

3	: No. of Lanes on Major St?
2	: No. of Lanes on Minor St?
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	110	E-W	18	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
01:00 - 02:00	75		7	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
02:00 - 03:00	55		4	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
03:00 - 04:00	88		10	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
04:00 - 05:00	89		12	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
05:00 - 06:00	247		32	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
06:00 - 07:00	560		54	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
07:00 - 08:00	856		109	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
08:00 - 09:00	744		93	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
09:00 - 10:00	557		69	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
10:00 - 11:00	550		62	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
11:00 - 12:00	619		86	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
12:00 - 13:00	734		118	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
13:00 - 14:00	778		135	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
14:00 - 15:00	935		116	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A
15:00 - 16:00	1193		121	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A
16:00 - 17:00	1135		126	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A
17:00 - 18:00	1134		112	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A
18:00 - 19:00	789		131	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
19:00 - 20:00	605		89	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
20:00 - 21:00	577		81	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
21:00 - 22:00	436		88	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
22:00 - 23:00	380		50	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A
23:00 - 00:00	243		33	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	0
Number of Hours that met the warrant 1B =	4
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

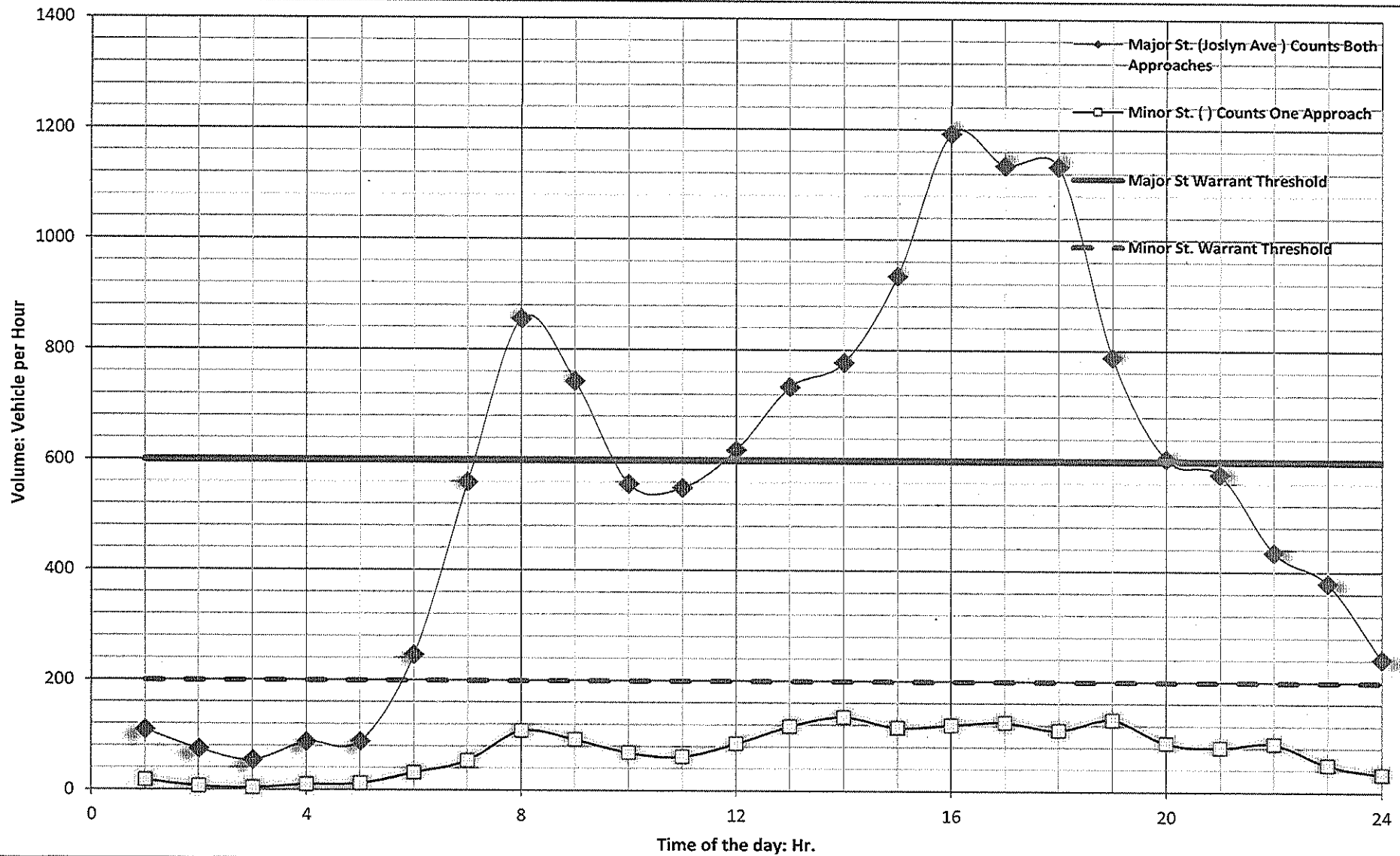


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ Madison Ave

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 5/18/2016

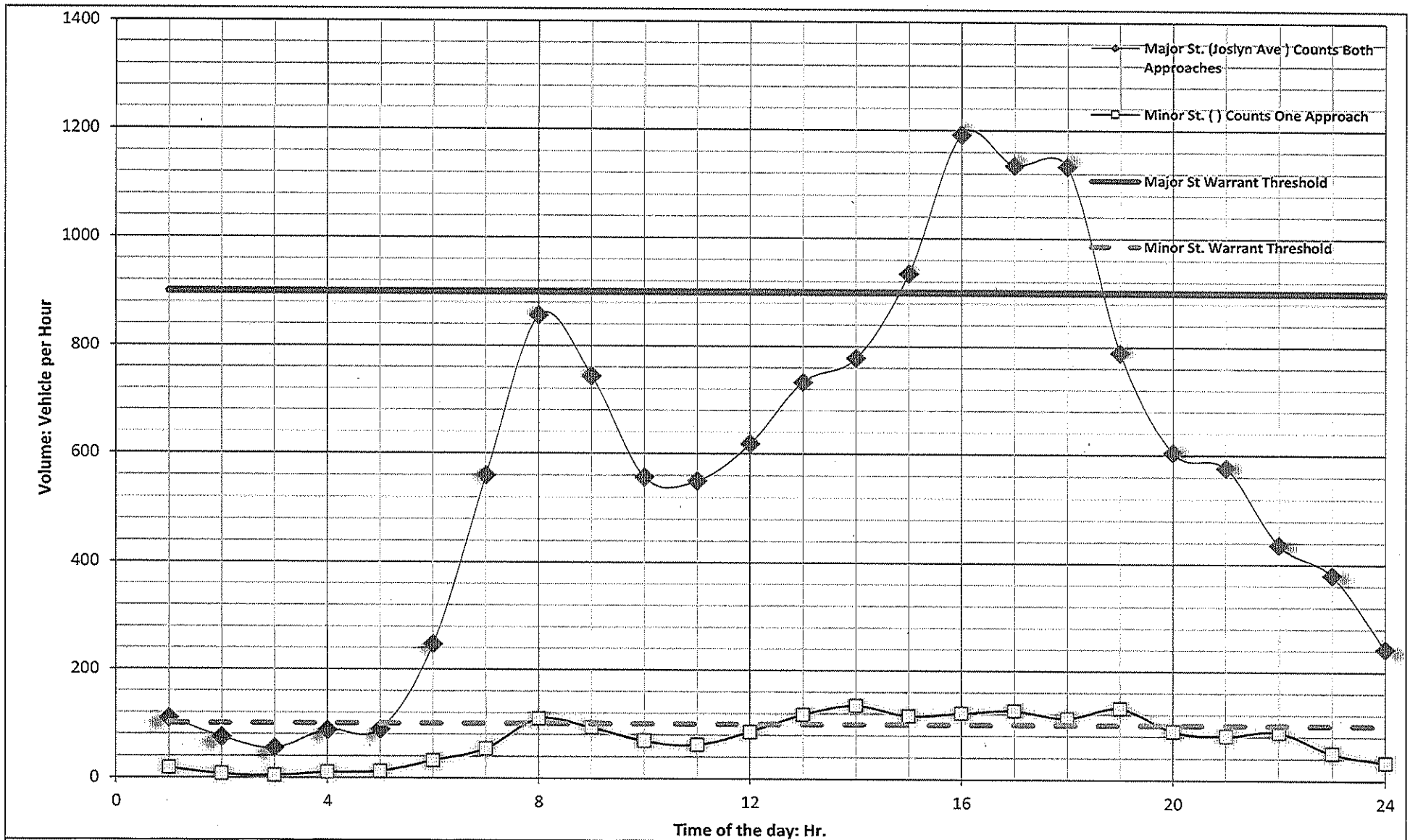


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ Madison Ave

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 4

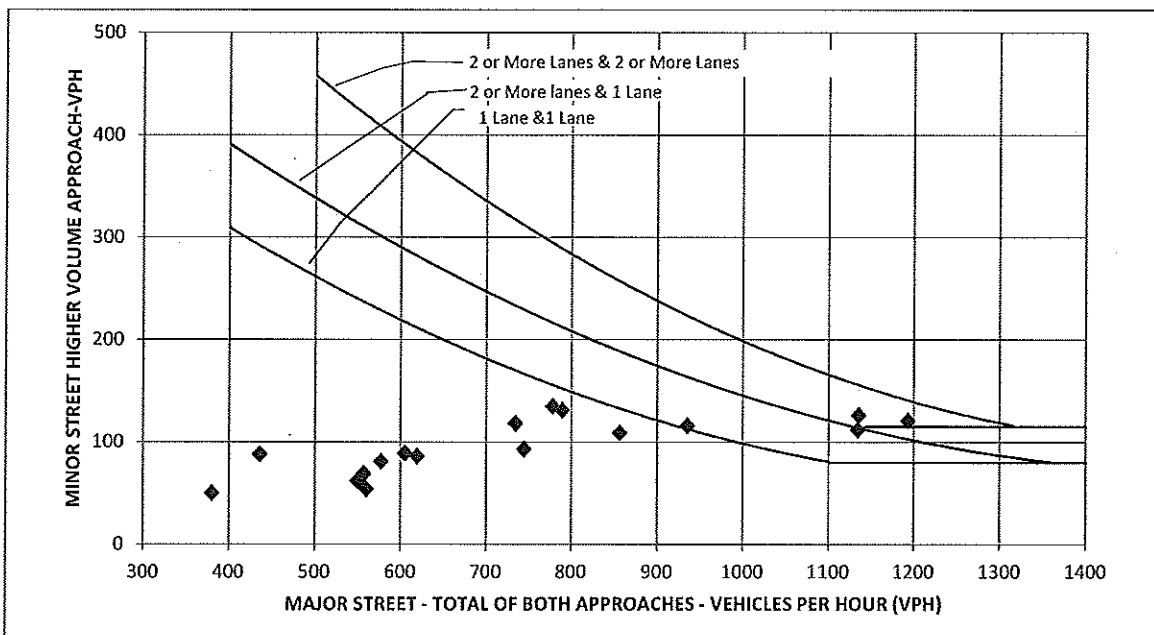
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 5/18/2016

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Madison Ave
Date	5/15/2017 by NN

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



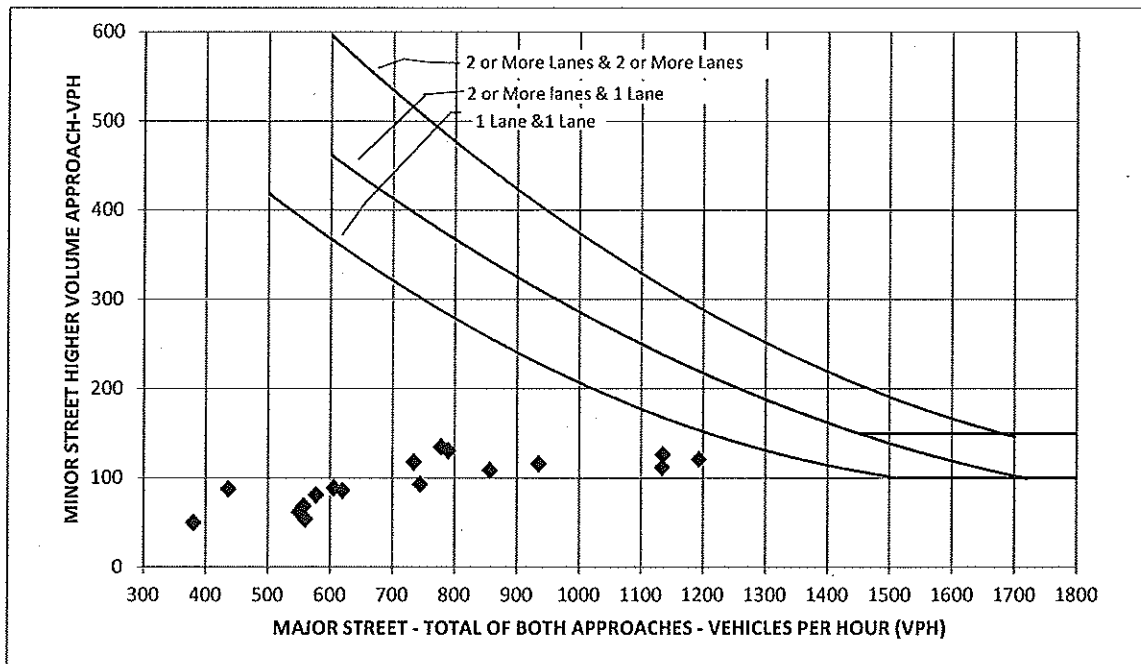
How Many Hours Are Met	0
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices			
Worksheet for Signal Warrants (Section 4C)			
WARRANT 3 A: Peak-Hour Vehicular Volume			
Spot Number:	0		
Intersection:	Joslyn Ave @ Madison Ave		
Date	5/15/2017	by	NN
NOT MET	0	: Total Stop Time Delay (hrs)	
	2	: Minor Street Approach Lanes	
	3	: Total Approaches	
NOT MET	12	: Minor Approach Volume	
NOT MET	101	: Total Entering Volume	
	04:00 - 05:00 : Peak Hour		
Is Warrant 3 A Met?			NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Madison Ave
Date	5/15/2017 by NN

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

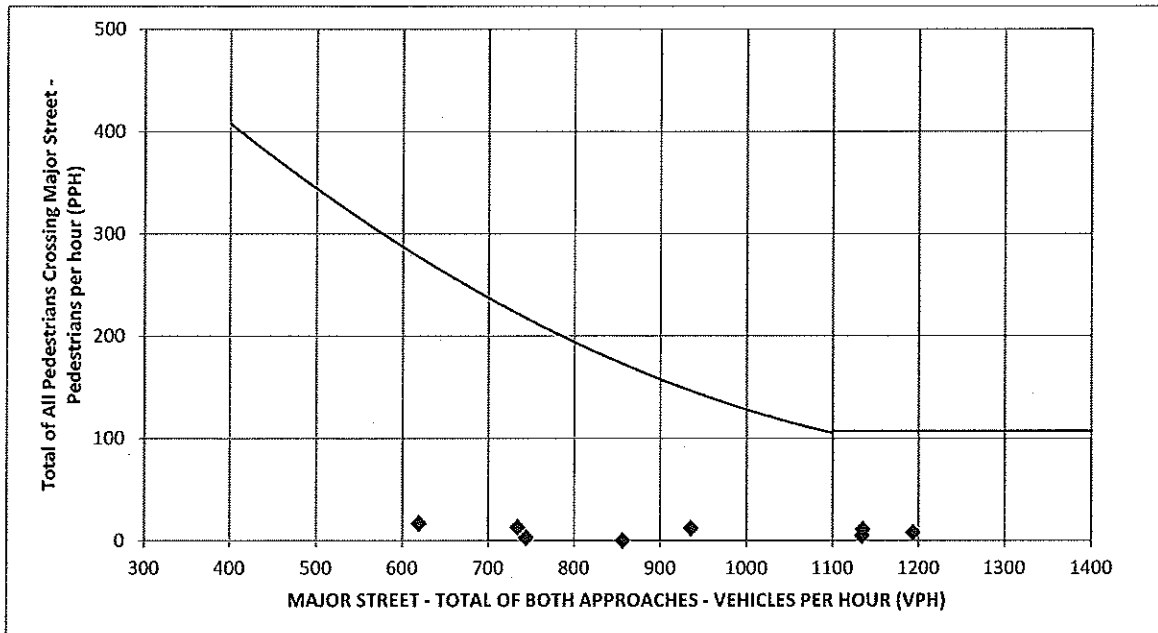


How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Madison Ave
Date	5/15/2017
by	NN

900	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

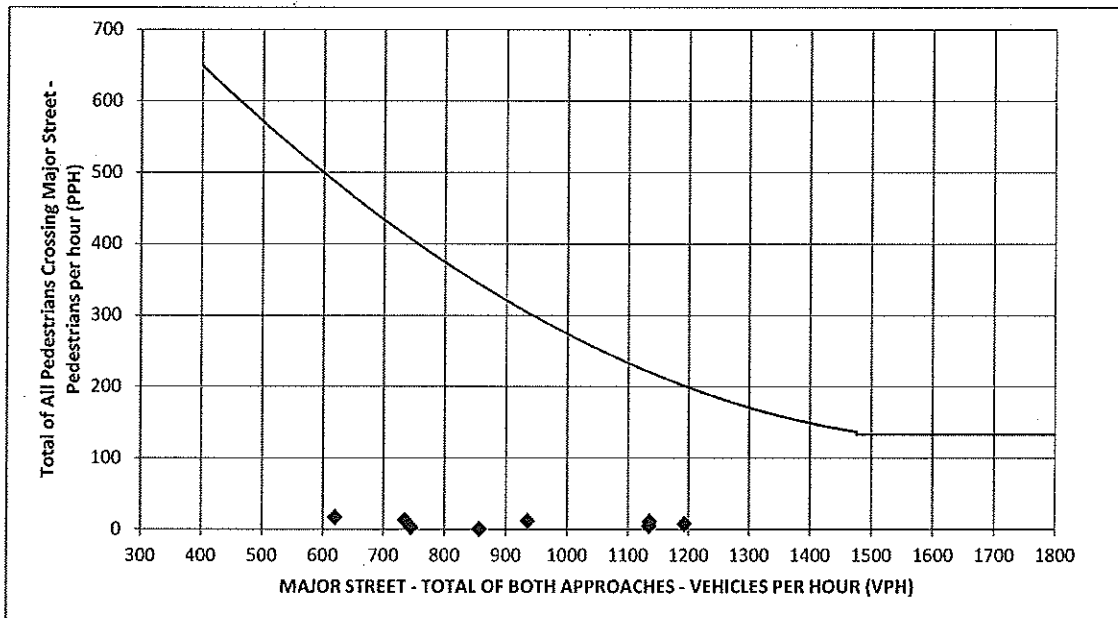


How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Madison Ave
Date:	5/15/2017 by NN

900	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 7: Crash Experience

Spot Number:	0		
Intersection:	Joslyn Ave @ Madison Ave		
Date	5/15/2017	by	NN

2	: No. of Lanes on Major St?
3	: No. of Lanes on Minor St?
NO	: Has adequate trial of remedial measure with adequate enforcement been tried?
NO	: Are there 5 or more Crashes Susceptible to Correction by Signalization in a 12 Month Period?

	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?
Time	N-S	E-W						
00:01 - 01:00	110	18	480	160	NO	720	80	NO
01:00 - 02:00	75	7	480	160	NO	720	80	NO
02:00 - 03:00	55	4	480	160	NO	720	80	NO
03:00 - 04:00	88	10	480	160	NO	720	80	NO
04:00 - 05:00	89	12	480	160	NO	720	80	NO
05:00 - 06:00	247	32	480	160	NO	720	80	NO
06:00 - 07:00	560	54	480	160	NO	720	80	NO
07:00 - 08:00	856	109	480	160	NO	720	80	YES
08:00 - 09:00	744	93	480	160	NO	720	80	YES
09:00 - 10:00	557	69	480	160	NO	720	80	NO
10:00 - 11:00	550	62	480	160	NO	720	80	NO
11:00 - 12:00	619	86	480	160	NO	720	80	NO
12:00 - 13:00	734	118	480	160	NO	720	80	YES
13:00 - 14:00	778	135	480	160	NO	720	80	YES
14:00 - 15:00	935	116	480	160	NO	720	80	YES
15:00 - 16:00	1193	121	480	160	NO	720	80	YES
16:00 - 17:00	1135	126	480	160	NO	720	80	YES
17:00 - 18:00	1134	112	480	160	NO	720	80	YES
18:00 - 19:00	789	131	480	160	NO	720	80	YES
19:00 - 20:00	605	89	480	160	NO	720	80	NO
20:00 - 21:00	577	81	480	160	NO	720	80	NO
21:00 - 22:00	436	88	480	160	NO	720	80	NO
22:00 - 23:00	380	50	480	160	NO	720	80	NO
23:00 - 00:00	243	33	480	160	NO	720	80	NO

Is there a reduction in the warrant thresholds to 56% = NO

Number of Hours that met the warrant 7A = 0

Number of Hours that met the warrant 7B = 9

A. Is the Minimum Vehicular Volume Warrant Met Based on Crash Patterns? (Condition A)

NO

B. Is the Interruption of Continuous Traffic Met Based on Crash Patterns? (Condition B)

NO

Attachment C: Signal Warrant Analysis for Joslyn Ave and Kennett St

Michigan Manual of Uniform Traffic Control Devices
Volume Summary
Prepared by MDOT for the 2011 Edition of the MMUTCD

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	Kennett St
Intersection:	Joslyn Ave @ Kennett St		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

	Major NB	Major SB	Minor EB	Minor WB	Total Major	Highest Minor	Total
00:01 - 01:00	54	58	0	4	112	4	116
01:00 - 02:00	38	32	0	2	70	2	72
02:00 - 03:00	25	21	0	2	46	2	48
03:00 - 04:00	45	25	0	12	70	12	82
04:00 - 05:00	49	40	0	10	89	10	99
05:00 - 06:00	118	94	0	54	212	54	266
06:00 - 07:00	222	321	2	50	543	50	595
07:00 - 08:00	342	481	0	57	823	57	880
08:00 - 09:00	306	405	1	41	711	41	753
09:00 - 10:00	217	316	7	25	533	25	565
10:00 - 11:00	259	276	0	14	535	14	549
11:00 - 12:00	292	280	0	22	572	22	594
12:00 - 13:00	313	371	1	31	684	31	716
13:00 - 14:00	408	335	8	29	743	29	780
14:00 - 15:00	411	478	45	21	889	45	955
15:00 - 16:00	479	568	119	36	1047	119	1202
16:00 - 17:00	528	424	223	26	952	223	1201
17:00 - 18:00	610	392	128	35	1002	128	1165
18:00 - 19:00	401	326	27	38	727	38	792
19:00 - 20:00	299	292	1	31	591	31	623
20:00 - 21:00	255	275	0	24	530	24	554
21:00 - 22:00	197	208	0	23	405	23	428
22:00 - 23:00	138	199	0	17	337	17	354
23:00 - 00:00	99	133	0	11	232	11	243
Total	6105	6350	562	615	12455	1012	13632

Summary of Warrants

Spot Number:	0		
Major Street:	Joslyn Ave	Minor Street:	Kennett St
Intersection:	Joslyn Ave at Kennett St		
City/Twp:	Pontiac		
Date Performed:	5/15/2017	Performed By:	NN
Date Volumes Collected:	5/18/2016		

Warrant	Condition	Is Warrant Met
Data Has Been Validated		YES
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	NO
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
LOS and Safety		

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Joslyn Ave @ Kennett St
Date	5/15/2017 by NN

3	: No. of Lanes on Major St?
3	: No. of Lanes on Minor St?
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
Time	N-S	E-W											
00:01 - 01:00	112	4	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	70	2	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	46	2	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	70	12	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	89	10	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	212	54	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	543	50	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	823	57	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	711	41	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	533	25	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	535	14	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	572	22	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	684	31	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	743	29	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	889	45	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1047	119	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	952	223	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1002	128	600	200	NO	900	100	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	727	38	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	591	31	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	530	24	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	405	23	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	337	17	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	232	11	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 1

Number of Hours that met the warrant 1B = 3

Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

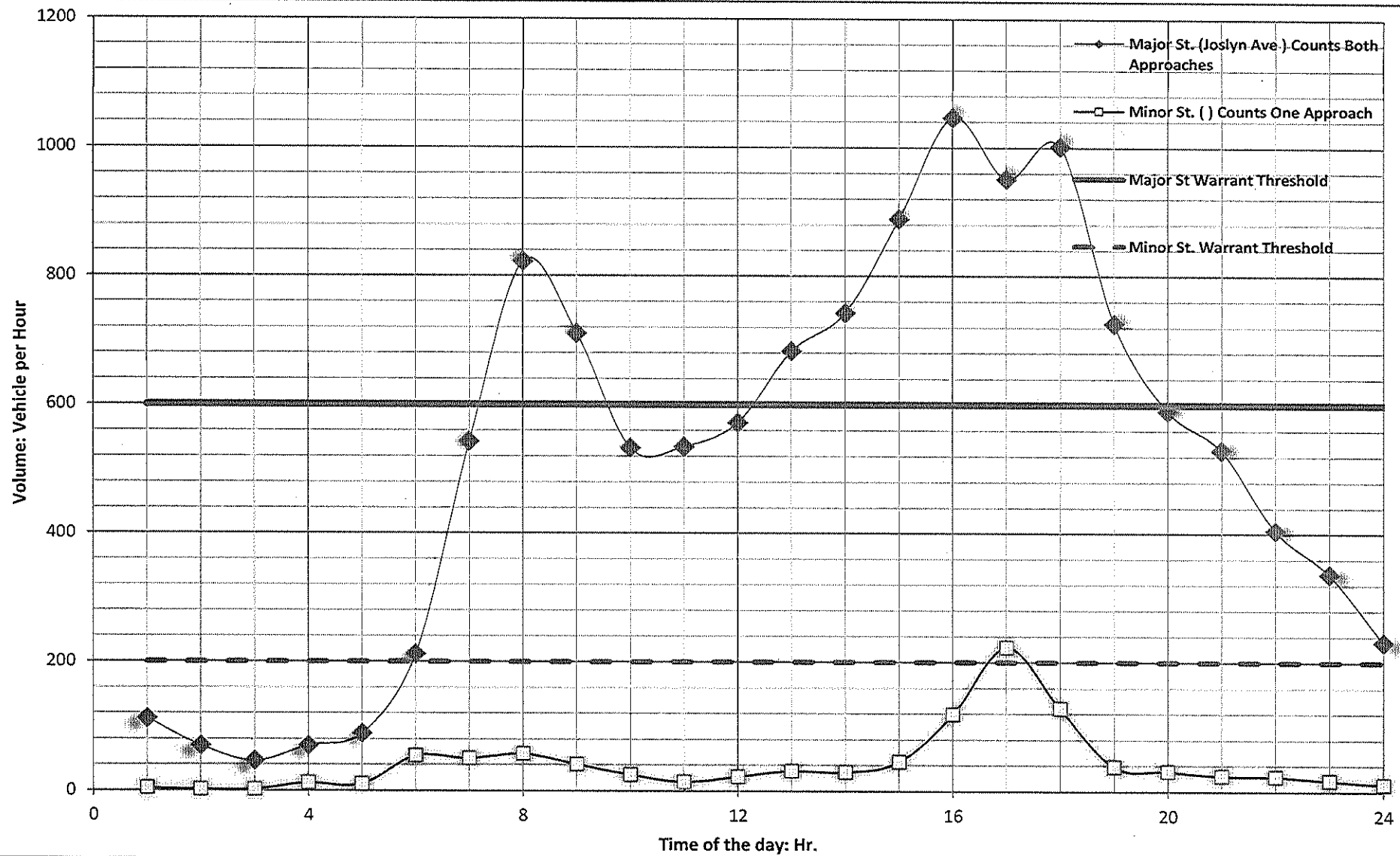


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ Kennett St

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 3

Number of Hours that met the Warrant: 1

Does this intersection meet Warrant 1A for signal installation?

NO

Data Collection Date: 5/18/2016

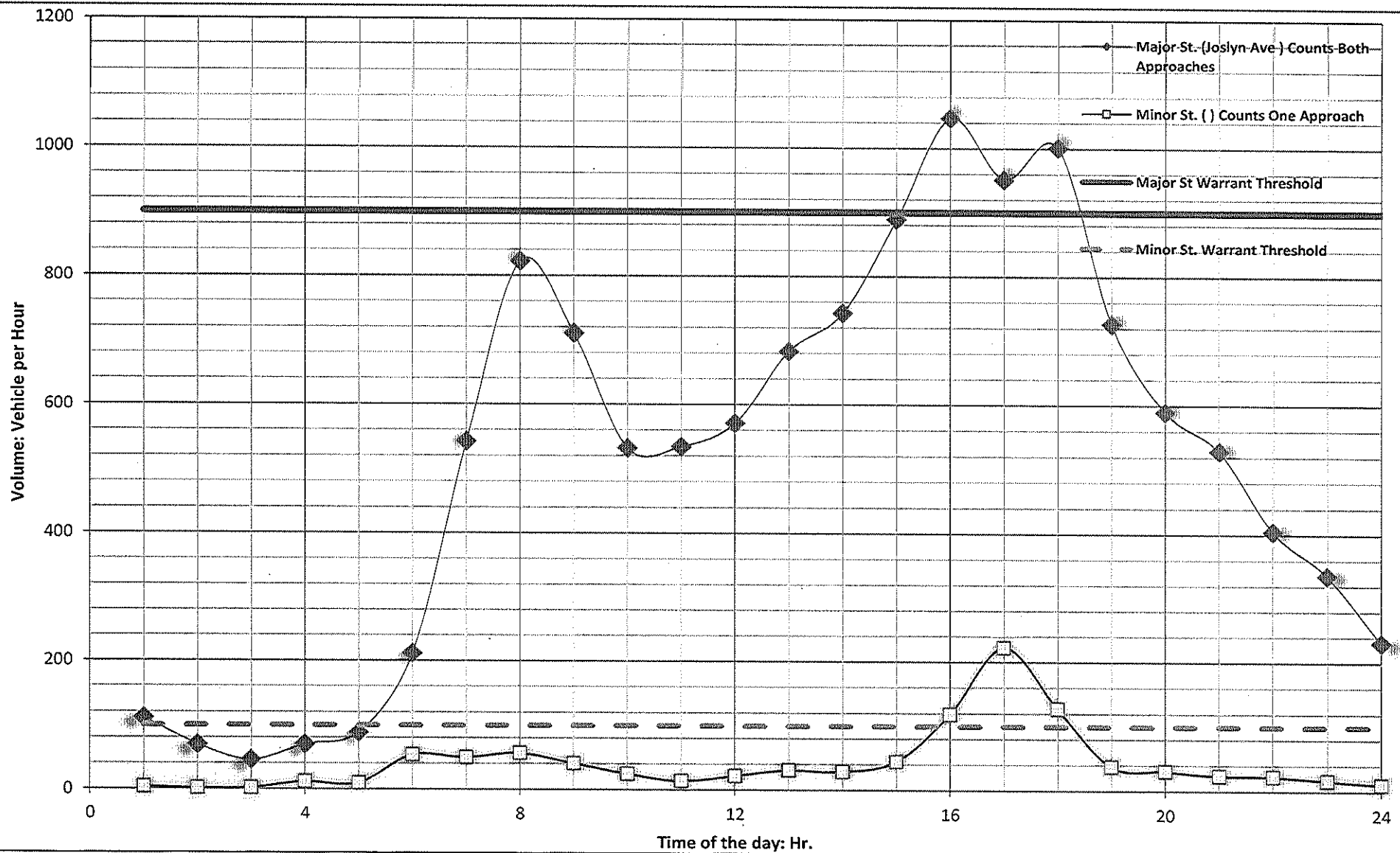


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

Joslyn Ave @ Kennett St

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 3

Number of Hours that met the Warrant: 3

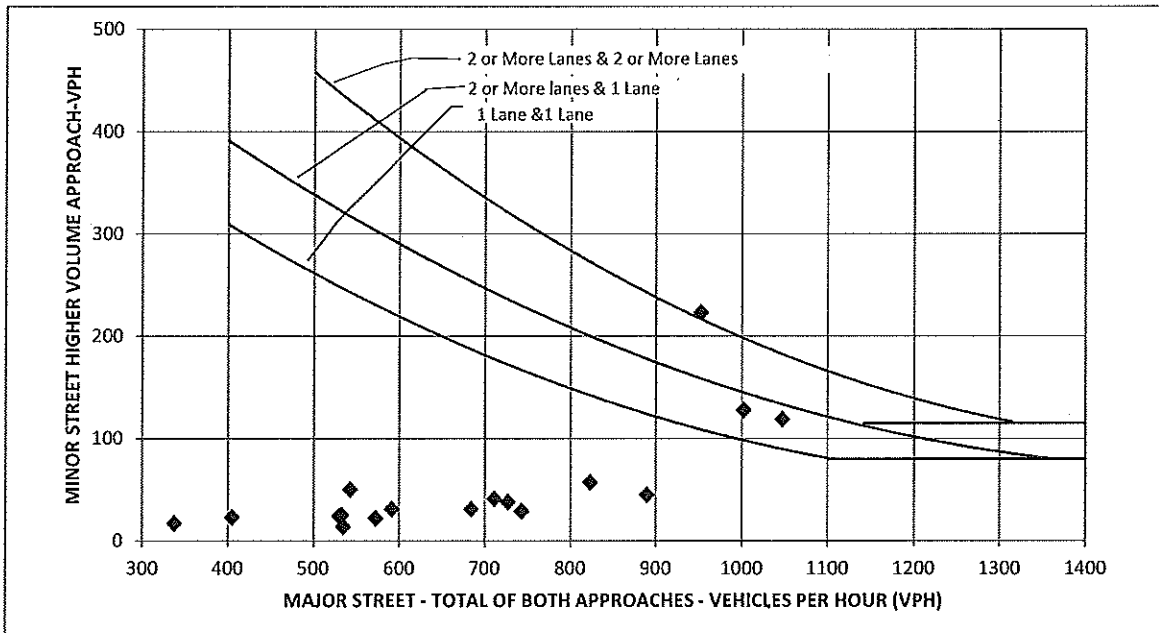
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 5/18/2016

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Kennett St
Date	5/15/2017 by NN

3	: No. of Lanes on Major St.
3	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



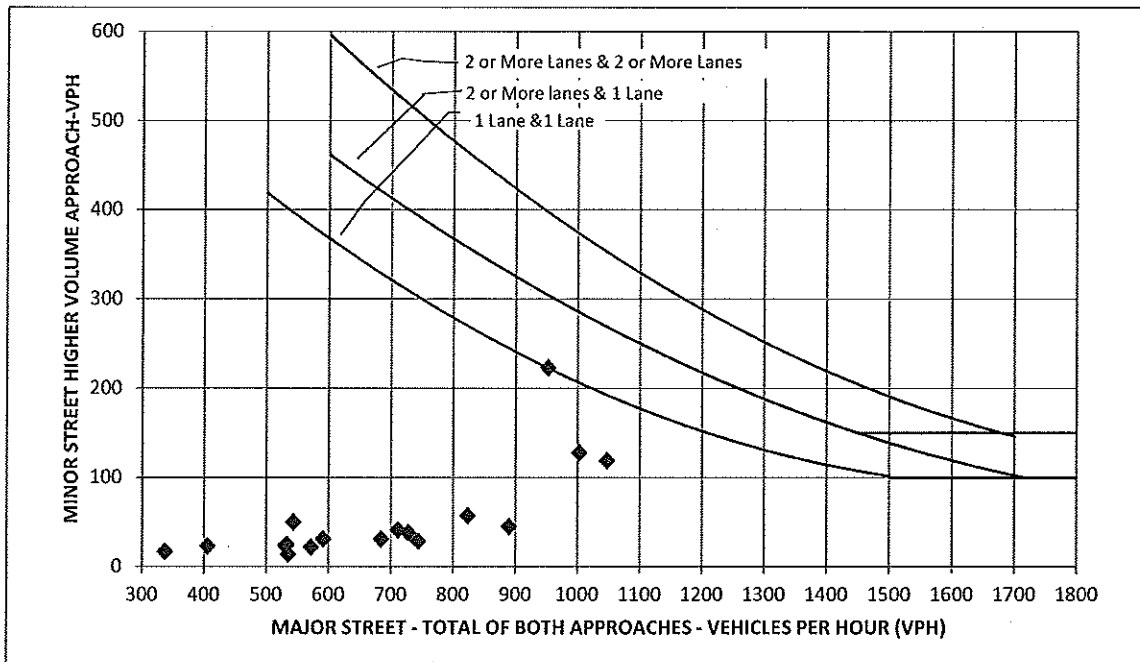
How Many Hours Are Met	1
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices			
Worksheet for Signal Warrants (Section 4C)			
WARRANT 3 A: Peak-Hour Vehicular Volume			
Spot Number:	0		
Intersection:	Joslyn Ave @ Kennett St		
Date	5/15/2017	by	NN
NOT MET	0	: Total Stop Time Delay (hrs)	
	3	: Minor Street Approach Lanes	
	4	: Total Approaches	
NOT MET	12	: Minor Approach Volume	
NOT MET	82	: Total Entering Volume	
	03:00 - 04:00	: Peak Hour	
Is Warrant 3 A Met?			NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Kennett St
Date:	5/15/2017 by NN

3	: No. of Lanes on Major St.
3	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

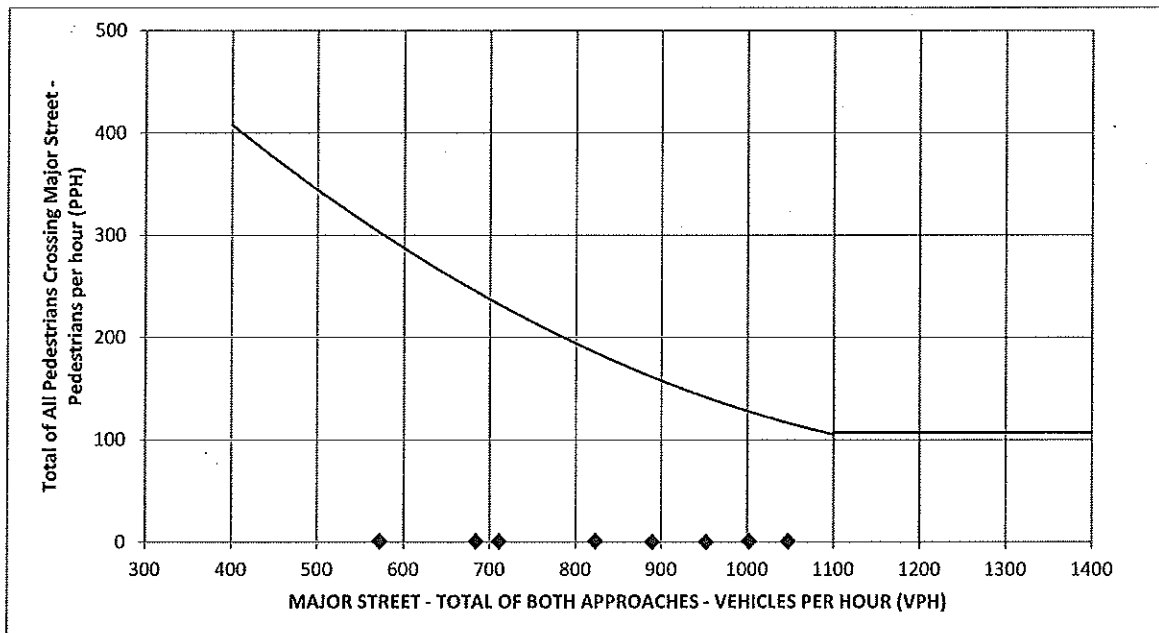


How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Kennett St
Date	5/15/2017 by NN

680	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

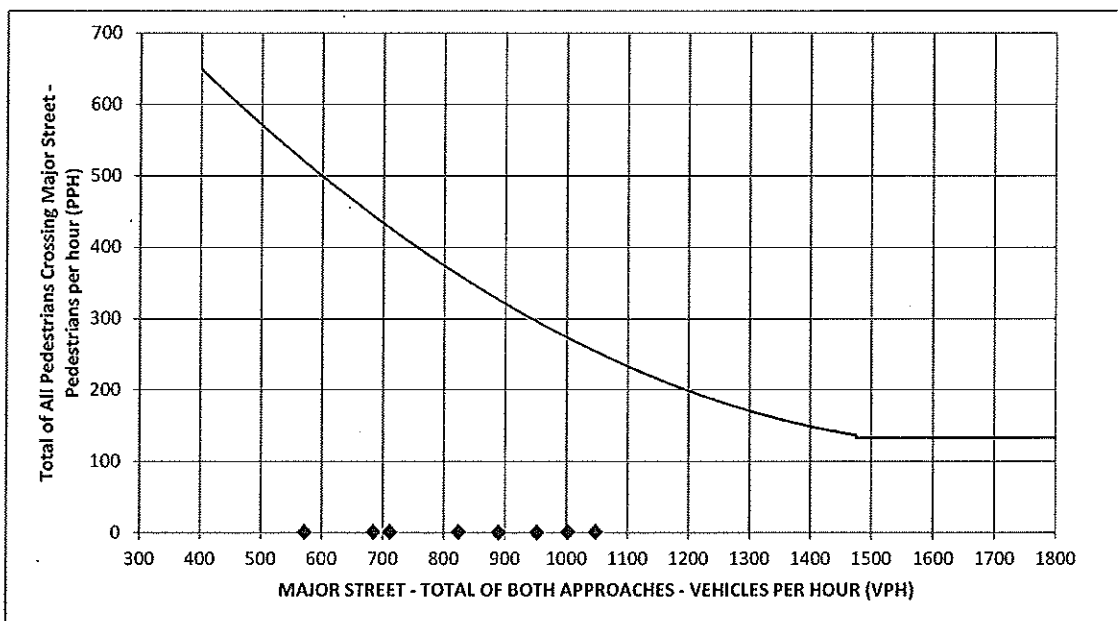


How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	0
Intersection:	Joslyn Ave @ Kennett St
Date	5/15/2017 by NN

680	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 7: Crash Experience

Spot Number:	0		
Intersection:	Joslyn Ave @ Kennett St		
Date	5/15/2017	by	NN

3	: No. of Lanes on Major St?
3	: No. of Lanes on Minor St?
NO	: Has adequate trial of remedial measure with adequate enforcement been tried?
NO	: Are there 5 or more Crashes Susceptible to Correction by Signalization in a 12 Month Period?

	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?
Time	N-S	E-W						
00:01 - 01:00	112	4	480	160	NO	720	80	NO
01:00 - 02:00	70	2	480	160	NO	720	80	NO
02:00 - 03:00	46	2	480	160	NO	720	80	NO
03:00 - 04:00	70	12	480	160	NO	720	80	NO
04:00 - 05:00	89	10	480	160	NO	720	80	NO
05:00 - 06:00	212	54	480	160	NO	720	80	NO
06:00 - 07:00	543	50	480	160	NO	720	80	NO
07:00 - 08:00	823	57	480	160	NO	720	80	NO
08:00 - 09:00	711	41	480	160	NO	720	80	NO
09:00 - 10:00	533	25	480	160	NO	720	80	NO
10:00 - 11:00	535	14	480	160	NO	720	80	NO
11:00 - 12:00	572	22	480	160	NO	720	80	NO
12:00 - 13:00	684	31	480	160	NO	720	80	NO
13:00 - 14:00	743	29	480	160	NO	720	80	NO
14:00 - 15:00	889	45	480	160	NO	720	80	NO
15:00 - 16:00	1047	119	480	160	NO	720	80	YES
16:00 - 17:00	952	223	480	160	YES	720	80	YES
17:00 - 18:00	1002	128	480	160	NO	720	80	YES
18:00 - 19:00	727	38	480	160	NO	720	80	NO
19:00 - 20:00	591	31	480	160	NO	720	80	NO
20:00 - 21:00	530	24	480	160	NO	720	80	NO
21:00 - 22:00	405	23	480	160	NO	720	80	NO
22:00 - 23:00	337	17	480	160	NO	720	80	NO
23:00 - 00:00	232	11	480	160	NO	720	80	NO

Is there a reduction in the warrant thresholds to 56% = NO

Number of Hours that met the warrant 7A = 1

Number of Hours that met the warrant 7B = 3

A. Is the Minimum Vehicular Volume Warrant Met Based on Crash Patterns? (Condition A)

NO

B. Is the Interruption of Continuous Traffic Met Based on Crash Patterns? (Condition B)

NO



HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS SINCE 1915

HUBBELL, ROTH & CLARK, INC.
OFFICE: 555 Hulet Drive | Bloomfield Hills, MI 48302-0360
MAILING: PO Box 824 | Bloomfield Hills, MI 48303-0824
PHONE: 248.454.6300 | FAX: 248.454.6312
WEBSITE: www.hrcengr.com | EMAIL: info@hrcengr.com

RECEIVED
MAY 18 PM 3:02
PONTIAC CITY CLERK

August 15, 2017

City of Pontiac
Department of Public Works -- Engineering Division
47450 Woodward Avenue
Pontiac, Michigan 48342

Attn: John Balint, P.E.

Re: Proposal for Engineering Services
Traffic Signal Warrant Analysis for City of Pontiac

HRC Job No. 20170662

Dear Mr. Balint:

At your request, Hubbell, Roth, & Clark, Inc. (HRC) has prepared a traffic signal warrant analysis to determine if the intersection of Martin Luther King Jr. Boulevard and Valencia Drive warrants a traffic signal. Martin Luther King Jr. Boulevard and Valencia Drive are under the jurisdiction of the City of Pontiac and any changes will need to be approved by them prior to implementation.

To complete the traffic signal warrant analysis, HRC undertook the following tasks:

- Collected 24 hour counts for the approaching roadways.
- Conducted a traffic signal warrant study using standard formats from the Michigan Department of Transportation (MDOT) and Road Commission for Oakland County (RCOC).
- Summarized the traffic signal warrant study in a letter report.

Study Area

The City of Pontiac is looking to determine if a traffic signal at the intersection of Martin Luther King Jr. Boulevard and Valencia Drive is required. The intersection formerly operated with a four-way traffic signal, but recently designated a flashing yellow light for traffic along Martin Luther King Jr. Boulevard and a flashing red light for Valencia Drive. The nearest traffic signals are approximately 1,100 feet northwest and 1,500 feet southeast of the study area.

The land use surrounding the study area is primarily residential. There are houses along both Martin Luther King Jr. Boulevard and Valencia Drive and a townhouse community northeast of the study area. The study area is shown in **Figure 1**.

PRINCIPALS

Daniel W. Mitchell | Nancy M.D. Faught
Keith D. McCormack | Jesse B. VanDeCreek
Roland N. Alix | Michael C. MacDonald
James F. Burton | Charles E. Hart

SENIOR ASSOCIATES

Gary J. Tressel | Randal L. Ford
William R. Davis | Dennis J. Benoit
Robert F. DeFraim | Thomas D. LaCross
Albert P. Mickalich | Timothy H. Sullivan
Thomas G. Maxwell

ASSOCIATES

Marvin A. Olane | Marshall J. Grazioli
Donna M. Martin | Colleen L. Hill-Stramsak
Bradley W. Shepler | Karyn M. Stickel
Jane M. Graham | Todd J. Sneathen
Aaron A. Uranga | Salvatore Conigliaro



Figure 1: Study Area

Roadway Conditions

The study area covers the intersection of Martin Luther King Jr. Boulevard and Valencia Drive. Martin Luther King Jr. Boulevard is a northwest-southeast, five-lane roadway with a center left-turn lane and curb and gutter. It is classified as a principal arterial and has a posted speed limit of 35 miles per hour (MPH). Valencia Drive is a northeast-southwest, two-lane roadway with a speed limit of 25 MPH. For simplicity, however, the attachments and text included in this report will denote Martin Luther King Jr. Boulevard as north-south and Valencia Drive as east-west.

Existing Traffic Volumes

24-hour turning movement counts were collected at the study area on Wednesday, August 2, 2017. The complete turning movement count reports can be found in **Attachment A**.

Non-Motorized Traffic Conditions

There are currently no public transit services within the study area. Both sidewalks and crosswalks exist throughout the studied area. Pedestrians crossing any of the four legs at the study area were counted and are included in the complete turning movement count reports in **Attachment A**.

Traffic Signal Warrant Analysis

Traffic control signals should not be installed unless one or more of the signal warrants in the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) are met. Information should be obtained by means of engineering studies and compared with the requirements set forth in the warrants. If the requirements are not met, traffic signals should not be put in operation. When a traffic control signal is indicated as being warranted, it is presumed the signal and all related traffic control devices and markings are installed according to the standards set forth in the MMUTCD.

A traffic signal warrant analysis was performed at the study area. An investigation of the need for a traffic signal included, where applicable, an analysis of the factors contained in the following nine warrants:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network
- Warrant 9: Intersection Near a Grade Crossing

A summary of the traffic warrant analysis is shown in Table 1. The study area failed to meet any of the nine signal warrants. Warrant 5 related to school crossings and Warrant 9 related to rail crossings were not applicable. It also should be noted Warrant 7 was not able to be fully analyzed since the crash data base includes crashes from when the existing traffic signal was in operation, but it would not have met the warrant, regardless, since it does not meet the volume criteria. The complete analysis can be found in Attachment B.

Table 1: Traffic Signal Warrant Analysis Summary

Warrant		Martin Luther King Jr. Boulevard and Valencia Drive
		Warrant Met
Warrant 1: Eight-Hour Vehicular Volume	Condition A	No
	Condition B	No
	Combination of A & B	N/A
Warrant 2: Four-Hour Vehicular Volume		No
Warrant 3: Peak Hour		No
Warrant 4: Pedestrian Volume		No
Warrant 5: School Crossing		N/A
Warrant 6: Coordinated Signal System		No
Warrant 7: Crash Experience		No
Warrant 8: Roadway Network		No
Warrant 9: Intersection Near a Grade Crossing		N/A

Conclusions and Recommendations

Based on the traffic signal warrant analysis, HRC has concluded the studied intersection does not warrant a traffic signal. The City of Pontiac has already placed the signal in flash mode and HRC recommends keeping it in flash mode for at least 90 days to evaluate the intersection operations under conditions that simulate a permanent traffic signal removal. The Road Commission for Oakland County also requires executed removal agreements along with a city council resolution to remove the signal. If you would like HRC to help prepare the resolution, please let us know.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

Nicholas Nicita

Nicholas Nicita, PE, LEED AP
Staff Engineer

NBN/lfm

Attachments: A – 24-Hour Turning Movement Counts
 B – Signal Warrant Analysis

pc: HRC; File

Attachment A: 24-Hour Turning Movement Counts

Hubbell, Roth & Clark, Inc.
555 Hulet Drive
Bloomfield Hills, Michigan, United States 48302
248.454.6300 nncita@hrc-engr.com

Count Name: Pontiac Traffic Signal Warrant
Analysis
Site Code: 20170662
Start Date: 08/02/2017
Page No: 1
Intersection: Martin Luther King Jr Blvd and Valencia Dr

Turning Movement Data

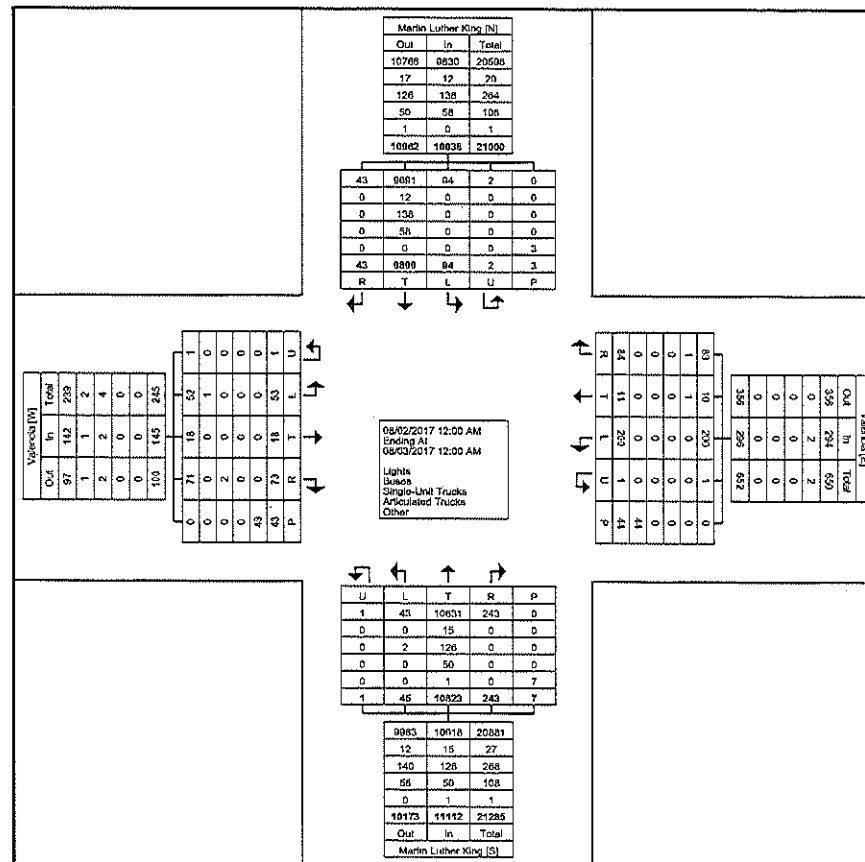
Start Time	Martin Luther King Southbound						Valencia Westbound						Martin Luther King Northbound						Valencia Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 AM	0	60	0	0	0	60	2	1	0	0	0	3	0	47	1	0	1	48	3	0	0	0	2	3	114
12:15 AM	0	45	0	0	0	45	3	0	0	0	0	3	0	48	3	0	0	51	0	0	0	0	2	0	99
12:30 AM	1	46	1	0	0	48	1	0	0	0	0	1	0	29	2	0	0	31	0	0	1	0	0	1	81
12:45 AM	0	17	1	0	1	18	1	1	0	0	0	2	1	34	2	0	0	37	0	1	0	0	1	1	58
Hourly Total	1	168	2	0	1	171	7	2	0	0	0	9	1	158	8	0	1	167	3	1	1	0	5	5	362
1:00 AM	0	26	0	0	0	26	0	0	0	0	0	0	0	30	1	0	0	31	0	0	1	0	1	1	58
1:15 AM	1	20	0	0	0	21	1	0	0	0	1	1	0	20	0	0	0	20	1	0	0	0	1	1	43
1:30 AM	0	23	0	0	0	23	0	1	0	0	2	1	0	24	3	0	0	27	0	1	0	0	0	1	52
1:45 AM	0	21	0	0	0	21	0	0	0	0	0	0	0	16	3	0	0	19	0	0	0	0	0	0	40
Hourly Total	1	90	0	0	0	91	1	1	0	0	3	2	0	90	7	0	0	97	1	1	1	0	2	3	193
2:00 AM	0	18	0	0	0	18	0	0	0	0	0	0	0	20	0	0	0	20	0	0	0	0	0	0	38
2:15 AM	0	12	0	0	0	12	0	0	0	0	0	0	0	10	0	0	0	10	0	0	1	0	0	1	23
2:30 AM	0	28	0	0	0	28	0	0	0	0	0	0	0	18	0	0	0	18	0	0	0	0	0	0	46
2:45 AM	1	23	0	0	0	24	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	0	0	0	39
Hourly Total	1	81	0	0	0	82	0	0	0	0	0	0	0	63	0	0	0	63	0	0	1	0	0	1	146
3:00 AM	0	22	0	0	0	22	0	0	0	0	0	0	0	19	1	0	2	20	0	0	0	0	0	0	42
3:15 AM	0	10	1	0	0	11	0	0	0	0	0	0	0	18	0	0	0	18	0	0	0	0	0	0	29
3:30 AM	3	19	0	0	0	22	0	0	2	0	0	2	0	15	0	0	0	15	1	0	0	0	0	0	40
3:45 AM	0	12	0	0	0	12	1	0	0	0	0	1	1	16	0	0	0	17	0	0	0	0	0	0	30
Hourly Total	3	63	1	0	0	67	1	0	2	0	0	3	1	68	1	0	2	70	1	0	0	0	0	1	141
4:00 AM	0	17	0	0	0	17	0	0	1	0	0	1	0	14	0	0	0	14	0	0	0	0	0	0	32
4:15 AM	0	18	0	0	0	18	1	0	0	0	0	1	0	10	0	0	0	10	0	0	0	0	0	0	29
4:30 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	32	1	0	0	33	0	0	0	0	0	0	53
4:45 AM	0	23	0	0	0	23	1	1	0	0	0	2	0	34	0	0	0	34	0	1	1	0	0	2	61
Hourly Total	0	78	0	0	0	78	2	1	1	0	0	4	0	90	1	0	0	91	0	1	1	0	0	2	175
5:00 AM	0	21	0	0	0	21	0	0	0	0	0	0	0	25	0	0	0	25	0	0	0	0	0	0	46
5:15 AM	0	37	0	0	0	37	4	0	0	0	0	4	0	45	0	0	0	45	0	0	0	0	1	0	86
5:30 AM	0	59	0	0	0	59	1	0	1	0	0	2	0	108	0	0	0	108	0	0	0	0	0	0	169
5:45 AM	1	48	0	0	0	49	5	0	2	0	0	7	0	116	0	0	0	116	0	1	0	0	0	1	173
Hourly Total	1	165	0	0	0	166	10	0	3	0	0	13	0	294	0	0	0	294	0	1	0	0	1	1	474
6:00 AM	1	78	0	0	0	79	0	0	1	0	0	1	0	58	0	0	0	58	0	0	1	0	1	1	139
6:15 AM	0	92	0	0	0	92	1	0	0	0	0	1	0	82	0	0	0	82	0	0	1	0	0	1	176
6:30 AM	0	181	0	0	0	181	3	0	0	0	1	3	0	120	1	0	0	121	0	0	1	0	0	1	306
6:45 AM	0	140	0	0	0	140	1	0	0	0	0	1	0	166	2	0	0	168	1	0	0	0	0	1	310
Hourly Total	1	491	0	0	0	492	5	0	1	0	1	6	0	428	3	0	0	429	1	0	3	0	1	4	931
7:00 AM	0	167	0	0	0	167	2	0	0	0	0	2	0	123	0	0	0	123	1	0	0	0	0	1	293
7:15 AM	1	174	1	0	0	176	4	0	2	0	0	6	0	128	1	0	0	129	0	1	0	0	0	1	310
7:30 AM	0	201	0	0	0	201	1	0	3	0	0	4	0	134	0	0	0	134	1	0	0	0	1	1	340
7:45 AM	1	189	0	0	0	190	6	0	0	0	3	6	0	151	2	0	0	153	0	0	1	0	1	1	350
Hourly Total	2	731	1	0	0	734	13	0	5	0	3	18	0	534	3	0	0	537	2	1	1	0	2	4	1293

8:00 AM	0	187	0	0	0	187	3	0	1	0	2	4	0	133	1	0	0	134	0	0	0	0	0	0	325
8:15 AM	3	152	0	0	0	155	1	0	1	0	2	2	1	118	0	0	0	119	2	0	2	0	1	4	280
8:30 AM	0	150	1	0	0	151	4	1	0	0	1	5	0	122	0	0	0	122	1	1	3	0	0	5	283
8:45 AM	0	117	0	0	0	117	3	0	0	0	2	3	0	105	1	0	0	106	1	0	1	0	0	2	228
Hourly Total	3	606	1	0	0	610	11	1	2	0	7	14	1	478	2	0	0	481	4	1	6	0	1	11	1118
9:00 AM	4	114	0	0	0	118	0	0	1	0	2	1	1	124	1	0	0	126	0	0	1	0	1	1	246
9:15 AM	0	89	0	0	0	89	2	0	0	0	2	2	0	100	2	0	1	102	0	1	1	1	2	3	196
9:30 AM	2	85	0	0	0	87	4	0	1	0	0	5	1	94	3	0	0	98	1	0	0	0	2	1	191
9:45 AM	0	88	0	0	0	88	0	0	2	0	0	2	0	89	0	0	0	89	1	0	0	0	0	1	180
Hourly Total	6	376	0	0	0	382	6	0	4	0	4	10	2	407	6	0	1	415	2	1	2	1	5	6	813
10:00 AM	1	101	1	0	0	103	3	0	1	0	2	4	3	99	2	0	0	104	0	0	2	0	1	2	213
10:15 AM	0	94	2	0	1	96	1	0	0	0	1	1	0	103	2	0	0	105	1	0	1	0	1	2	204
10:30 AM	0	88	0	0	0	88	2	0	1	0	0	3	0	81	3	0	0	84	0	0	2	0	0	2	177
10:45 AM	0	81	2	0	0	83	1	0	0	0	1	1	0	102	0	0	0	102	0	0	1	0	5	1	187
Hourly Total	1	364	5	0	1	370	7	0	2	0	4	9	3	385	7	0	0	395	1	0	6	0	7	7	781
11:00 AM	4	111	1	0	1	116	4	0	1	0	1	5	0	115	1	0	0	116	0	0	0	0	1	0	237
11:15 AM	0	100	1	0	0	101	3	0	3	0	1	6	1	97	0	0	0	98	0	0	0	0	0	0	205
11:30 AM	0	95	1	0	0	96	2	0	1	0	1	3	0	106	5	0	0	111	1	0	1	0	0	2	212
11:45 AM	2	113	2	0	0	117	2	0	4	0	1	6	0	91	3	0	0	94	2	0	2	0	0	4	221
Hourly Total	6	419	5	0	1	430	11	0	9	0	4	20	1	409	9	0	0	419	3	0	3	0	1	6	875
12:00 PM	0	129	1	0	0	130	1	0	0	0	0	1	0	131	5	0	0	136	0	0	1	0	0	1	268
12:15 PM	2	117	1	0	0	120	1	0	1	0	5	2	1	138	1	0	0	140	0	0	3	0	1	3	265
12:30 PM	0	118	1	0	0	119	8	0	1	0	0	9	1	137	3	0	0	141	0	0	2	0	0	2	271
12:45 PM	1	111	1	0	0	113	1	0	0	0	0	1	1	143	7	0	0	151	3	0	5	0	0	8	273
Hourly Total	3	475	4	0	0	482	11	0	2	0	5	13	3	549	16	0	0	568	3	0	11	0	1	14	1077
1:00 PM	0	121	0	1	0	122	4	0	1	0	0	5	1	120	3	0	0	124	1	0	2	0	0	3	254
1:15 PM	0	122	1	1	0	124	2	0	1	0	0	3	0	143	1	0	0	144	1	0	1	0	0	2	273
1:30 PM	0	121	1	0	0	122	5	0	1	0	2	6	0	132	4	0	0	136	0	0	1	0	0	1	265
1:45 PM	4	134	2	0	0	140	2	0	0	0	2	2	2	174	5	0	0	181	1	0	1	0	2	2	325
Hourly Total	4	498	4	2	0	508	13	0	3	0	4	16	3	569	13	0	0	585	3	0	5	0	2	8	1117
2:00 PM	4	172	0	0	0	176	1	1	2	0	1	4	2	162	2	0	0	166	2	0	1	0	2	3	349
2:15 PM	2	191	1	0	0	194	3	0	2	0	2	5	1	151	4	0	0	156	1	0	1	0	0	2	357
2:30 PM	1	197	2	0	0	200	2	0	1	0	0	3	0	174	6	0	0	180	1	0	1	0	0	2	385
2:45 PM	4	151	0	0	0	155	4	0	1	0	0	5	1	183	1	0	0	185	3	0	0	0	0	3	348
Hourly Total	11	711	3	0	0	725	10	1	6	0	3	17	4	670	13	0	0	687	7	0	3	0	2	10	1439
3:00 PM	0	223	2	0	0	225	3	0	2	1	1	6	0	150	2	0	0	152	0	0	0	0	0	0	383
3:15 PM	2	191	1	0	0	194	6	0	2	0	0	8	1	179	4	0	0	184	1	0	0	0	1	1	387
3:30 PM	1	210	0	0	0	211	2	0	0	0	1	2	1	196	4	0	0	201	0	1	1	0	0	2	416
3:45 PM	2	127	0	0	0	129	4	1	0	0	0	5	0	195	5	0	1	200	1	0	0	0	0	1	335
Hourly Total	5	751	3	0	0	759	15	1	4	1	2	21	2	720	15	0	1	737	2	1	1	0	1	4	1521
4:00 PM	0	138	0	0	0	138	0	0	2	0	0	2	0	253	5	0	0	258	0	1	2	0	0	3	401
4:15 PM	0	167	0	0	0	167	2	0	1	0	0	3	0	248	5	0	0	253	2	0	1	0	0	3	426
4:30 PM	3	195	2	0	0	200	0	0	1	0	0	1	0	291	4	0	0	295	1	0	1	0	2	2	498
4:45 PM	5	212	0	0	0	217	2	0	2	0	1	4	3	310	1	1	0	315	0	1	1	0	0	2	538
Hourly Total	8	712	2	0	0	722	4	0	6	0	1	10	3	1102	15	1	0	1121	3	2	5	0	2	10	1863
5:00 PM	1	189	2	0	0	192	3	0	0	0	0	3	6	341	9	0	0	356	1	0	1	0	2	2	553
5:15 PM	2	203	0	0	0	205	3	0	0	0	0	3	3	316	6	0	0	325	1	0	2	0	0	3	536
5:30 PM	2	173	0	0	0	175	1	0	1	0	0	2	1	316	5	0	0	322	0	0	1	0	0	1	500
5:45 PM	1	151	0	0	0	152	5	0	0	0	0	5	0	246	4	0	0	250	1	0	1	0	1	2	409
Hourly Total	6	716	2	0	0	724	12	0	1	0	0	13	10	1219	24	0	0	1253	3	0	5	0	3	8	1998
6:00 PM	1	149	0	0	0	150	3	0	1	0	2	4	0	195	7	0	1	202	1	0	2	0	0	3	359
6:15 PM	2	137	2	0	0	141	4	0	3	0	0	7	0	193	4	0	0	197	2	0	0	0	0	2	347

6:30 PM	4	129	1	0	0	134	2	0	0	0	0	2	0	174	7	0	0	181	3	0	0	0	0	3	320
6:45 PM	3	139	0	0	0	142	3	0	4	0	0	7	1	145	2	0	0	148	1	0	3	0	2	4	301
Hourly Total	10	554	3	0	0	567	12	0	8	0	2	20	1	707	20	0	1	728	7	0	5	0	2	12	1327
7:00 PM	0	150	0	0	0	150	3	0	2	0	0	5	1	157	4	0	0	162	1	2	1	0	0	4	321
7:15 PM	2	148	0	0	0	150	3	0	2	0	0	5	1	123	7	0	0	131	1	1	0	0	1	2	288
7:30 PM	0	114	0	0	0	114	1	0	2	0	0	3	0	118	4	0	0	122	0	0	0	0	1	0	239
7:45 PM	1	126	1	0	0	128	3	0	0	0	0	3	0	133	8	0	0	141	0	0	0	0	0	0	272
Hourly Total	3	538	1	0	0	542	10	0	6	0	0	16	2	531	23	0	0	558	2	3	1	0	2	6	1120
8:00 PM	1	108	1	0	0	110	5	0	4	0	0	9	2	120	6	0	0	128	0	1	1	0	0	2	249
8:15 PM	3	121	0	0	0	124	2	0	1	0	0	3	1	110	0	0	0	111	1	1	3	0	0	5	243
8:30 PM	1	105	0	0	0	106	1	0	3	0	0	4	1	113	4	0	1	118	1	0	1	0	0	2	230
8:45 PM	1	100	1	0	0	102	1	0	0	0	0	1	1	106	3	0	0	110	1	0	2	0	0	3	216
Hourly Total	6	434	2	0	0	442	9	0	8	0	0	17	5	449	13	0	1	467	3	2	7	0	0	12	938
9:00 PM	4	91	1	0	0	96	4	1	1	0	0	6	0	98	7	0	0	105	0	1	2	0	1	3	210
9:15 PM	2	92	0	0	0	94	5	0	0	0	1	5	1	93	2	0	0	96	0	0	0	0	0	0	195
9:30 PM	1	80	0	0	0	81	2	0	4	0	0	6	0	108	5	0	0	113	0	0	0	0	0	0	200
9:45 PM	2	67	0	0	0	69	4	0	2	0	0	6	1	93	3	0	0	97	0	1	0	0	1	1	173
Hourly Total	9	330	1	0	0	340	15	1	7	0	1	23	2	392	17	0	0	411	0	2	2	0	2	4	778
10:00 PM	1	83	1	0	0	85	2	2	1	0	0	5	0	87	5	0	0	92	1	0	1	0	0	2	184
10:15 PM	0	85	0	0	0	85	1	0	0	0	0	1	0	76	7	0	0	83	0	0	0	0	1	0	169
10:30 PM	0	76	1	0	0	77	4	1	1	0	0	6	0	72	3	0	0	75	0	0	1	0	0	1	159
10:45 PM	1	58	0	0	0	59	3	0	0	0	0	3	0	70	1	0	0	71	0	0	1	0	0	1	134
Hourly Total	2	302	2	0	0	308	10	3	2	0	0	15	0	305	16	0	0	321	1	0	3	0	1	4	646
11:00 PM	1	71	0	0	0	72	2	0	1	0	0	3	0	47	2	0	0	49	0	0	0	0	0	0	124
11:15 PM	0	67	1	0	0	68	1	0	0	0	0	1	1	57	4	0	0	62	0	0	0	0	0	0	131
11:30 PM	0	63	0	0	0	63	2	0	0	0	0	2	0	57	2	0	0	59	0	1	0	0	0	1	125
11:45 PM	0	45	0	0	0	45	0	0	1	0	0	1	0	47	3	0	0	50	1	0	0	0	0	1	97
Hourly Total	1	246	1	0	0	248	5	0	2	0	0	7	1	208	11	0	0	220	1	1	0	0	0	2	477
Grand Total	94	9899	43	2	3	10038	200	11	84	1	44	296	45	10823	243	1	7	11112	53	18	73	1	43	145	21591
Approach %	0.9	98.6	0.4	0.0	-	-	67.6	3.7	28.4	0.3	-	-	0.4	97.4	2.2	0.0	-	-	36.6	12.4	50.3	0.7	-	-	-
Total %	0.4	45.8	0.2	0.0	-	46.5	0.9	0.1	0.4	0.0	-	1.4	0.2	50.1	1.1	0.0	-	51.5	0.2	0.1	0.3	0.0	-	0.7	-
Lights	94	9691	43	2	-	9830	200	10	83	1	-	294	43	10631	243	1	-	10918	52	18	71	1	-	142	21184
% Lights	100.0	97.9	100.0	100.0	-	97.9	100.0	90.9	98.8	100.0	-	99.3	95.6	98.2	100.0	100.0	-	98.3	98.1	100.0	97.3	100.0	-	97.9	98.1
Buses	0	12	0	0	-	12	0	1	1	0	-	2	0	15	0	0	-	15	1	0	0	0	-	1	30
% Buses	0.0	0.1	0.0	0.0	-	0.1	0.0	9.1	1.2	0.0	-	0.7	0.0	0.1	0.0	0.0	-	0.1	1.9	0.0	0.0	0.0	-	0.7	0.1
Single-Unit Trucks	0	138	0	0	-	138	0	0	0	0	-	0	2	126	0	0	-	128	0	0	2	0	-	2	268
% Single-Unit Trucks	0.0	1.4	0.0	0.0	-	1.4	0.0	0.0	0.0	0.0	-	0.0	4.4	1.2	0.0	0.0	-	1.2	0.0	0.0	2.7	0.0	-	1.4	1.2
Articulated Trucks	0	58	0	0	-	58	0	0	0	0	-	0	0	50	0	0	-	50	0	0	0	0	-	0	108
% Articulated Trucks	0.0	0.6	0.0	0.0	-	0.6	0.0	0.0	0.0	0.0	-	0.0	0.0	0.5	0.0	0.0	-	0.4	0.0	0.0	0.0	0.0	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	-	22.7	-	-	-	-	-	0.0	-	-	-	-	-	9.3	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	34	-	-	-	-	-	7	-	-	-	-	-	39	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	-	77.3	-	-	-	-	-	100.0	-	-	-	-	-	90.7	-	-

Bloomfield Hills, Michigan, United States 48302
248.454.6300 nnicita@hrc-engr.com

Count Name: Pontiac Traffic Signal Warrant
Analysis
Site Code: 20170662
Start Date: 08/02/2017
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Turning Movement Data Plot

Hubbell, Roth & Clark, Inc.
555 Hulet Drive

Bloomfield Hills, Michigan, United States 48302
248.454.6300 nnicita@hrc-engr.com

Count Name: Pontiac Traffic Signal Warrant
Analysis
Site Code: 20170662
Start Date: 08/02/2017
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Turning Movement Peak Hour Data (7:15 AM)

Start Time	Martin Luther King Southbound						Valencia Westbound						Martin Luther King Northbound						Valencia Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:15 AM	1	174	1	0	0	176	4	0	2	0	0	6	0	126	1	0	0	127	0	1	0	0	0	1	310
7:30 AM	0	201	0	0	0	201	1	0	3	0	0	4	0	134	0	0	0	134	1	0	0	0	1	1	340
7:45 AM	1	189	0	0	0	190	6	0	0	0	3	6	0	151	2	0	0	153	0	0	1	0	1	1	350
8:00 AM	0	187	0	0	0	187	3	0	1	0	2	4	0	133	1	0	0	134	0	0	0	0	0	0	325
Total	2	751	1	0	0	754	14	0	6	0	5	20	0	544	4	0	0	548	1	1	1	0	2	3	1325
Approach %	0.3	99.6	0.1	0.0	-	-	70.0	0.0	30.0	0.0	-	-	0.0	99.3	0.7	0.0	-	-	33.3	33.3	33.3	0.0	-	-	-
Total %	0.2	56.7	0.1	0.0	-	56.9	1.1	0.0	0.5	0.0	-	1.5	0.0	41.1	0.3	0.0	-	41.4	0.1	0.1	0.1	0.0	-	0.2	-
PHF	0.500	0.934	0.250	0.000	-	0.938	0.583	0.000	0.500	0.000	-	0.833	0.000	0.901	0.500	0.000	-	0.895	0.250	0.250	0.250	0.000	-	0.750	0.946
Lights	2	735	1	0	-	738	14	0	6	0	-	20	0	533	4	0	-	537	1	1	1	0	-	3	1298
% Lights	100.0	97.9	100.0	-	-	97.9	100.0	-	100.0	-	-	100.0	-	98.0	100.0	-	-	98.0	100.0	100.0	100.0	-	-	100.0	98.0
Buses	0	2	0	0	-	2	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	4
% Buses	0.0	0.3	0.0	-	-	0.3	0.0	-	0.0	-	-	0.0	-	0.4	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.3
Single-Unit Trucks	0	12	0	0	-	12	0	0	0	0	-	0	0	6	0	0	-	6	0	0	0	0	-	0	18
% Single-Unit Trucks	0.0	1.6	0.0	-	-	1.6	0.0	-	0.0	-	-	0.0	-	1.1	0.0	-	-	1.1	0.0	0.0	0.0	-	-	0.0	1.4
Articulated Trucks	0	2	0	0	-	2	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	5
% Articulated Trucks	0.0	0.3	0.0	-	-	0.3	0.0	-	0.0	-	-	0.0	-	0.6	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Bloomfield Hills, Michigan, United States 48302
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Site Code: 20170662
Start Date: 08/02/2017



Turning Movement Peak Hour Data Plot (7:15 AM)

Hubbell, Roth & Clark, Inc.
555 Hulet Drive

Bloomfield Hills, Michigan, United States 48302
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Count Name: Pontiac Traffic Signal Warrant
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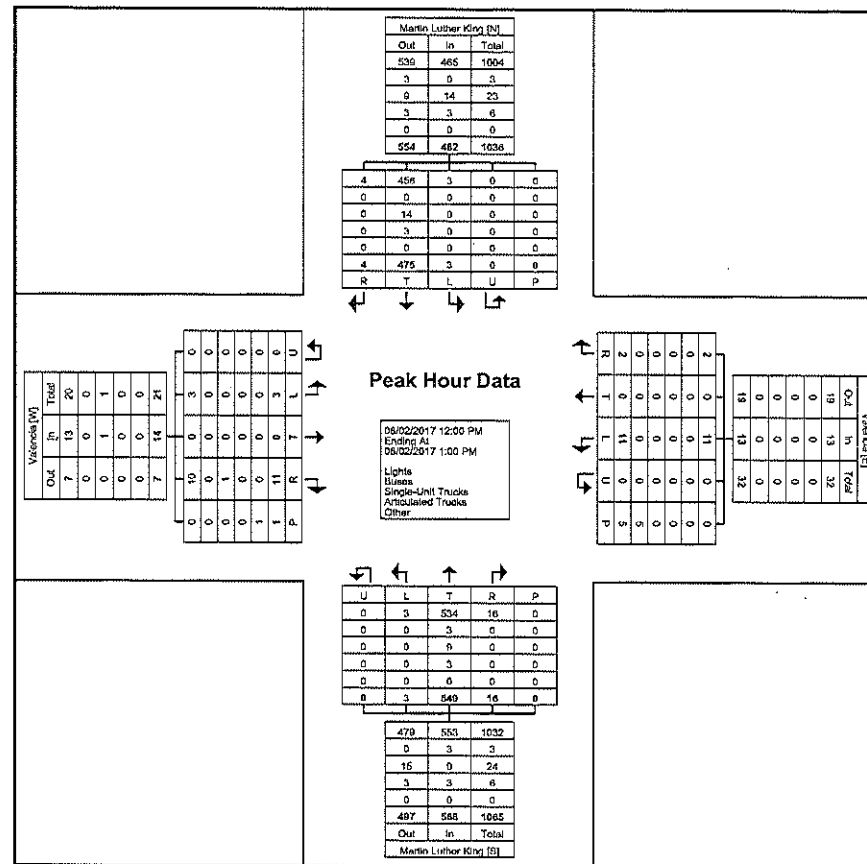
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Martin Luther King Southbound						Valencia Westbound						Martin Luther King Northbound						Valencia Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	0	129	1	0	0	130	1	0	0	0	0	1	0	131	5	0	0	136	0	0	1	0	0	1	268
12:15 PM	2	117	1	0	0	120	1	0	1	0	5	2	1	138	1	0	0	140	0	0	3	0	1	3	265
12:30 PM	0	118	1	0	0	119	8	0	1	0	0	9	1	137	3	0	0	141	0	0	2	0	0	2	271
12:45 PM	1	111	1	0	0	113	1	0	0	0	0	1	1	143	7	0	0	151	3	0	5	0	0	8	273
Total	3	475	4	0	0	482	11	0	2	0	5	13	3	549	16	0	0	568	3	0	11	0	1	14	1077
Approach %	0.6	98.5	0.8	0.0	-	-	84.6	0.0	15.4	0.0	-	-	0.5	96.7	2.8	0.0	-	-	21.4	0.0	78.6	0.0	-	-	-
Total %	0.3	44.1	0.4	0.0	-	44.8	1.0	0.0	0.2	0.0	-	1.2	0.3	51.0	1.5	0.0	-	52.7	0.3	0.0	1.0	0.0	-	1.3	-
PHF	0.375	0.921	1.000	0.000	-	0.927	0.344	0.000	0.500	0.000	-	0.361	0.750	0.960	0.571	0.000	-	0.940	0.250	0.000	0.550	0.000	-	0.438	0.986
Lights	3	458	4	0	-	465	11	0	2	0	-	13	3	534	16	0	-	553	3	0	10	0	-	13	1044
% Lights	100.0	96.4	100.0	-	-	96.5	100.0	-	100.0	-	-	100.0	100.0	97.3	100.0	-	-	97.4	100.0	-	90.9	-	-	92.9	96.9
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	3
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.5	0.0	-	-	0.5	0.0	-	0.0	-	-	0.0	0.3
Single-Unit Trucks	0	14	0	0	-	14	0	0	0	0	-	0	0	9	0	0	-	9	0	0	1	0	-	1	24
% Single-Unit Trucks	0.0	2.9	0.0	-	-	2.9	0.0	-	0.0	-	-	0.0	0.0	1.6	0.0	-	-	1.6	0.0	-	9.1	-	-	7.1	2.2
Articulated Trucks	0	3	0	0	-	3	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	6
% Articulated Trucks	0.0	0.6	0.0	-	-	0.6	0.0	-	0.0	-	-	0.0	0.0	0.5	0.0	-	-	0.5	0.0	-	0.0	-	-	0.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Hubbell, Roth & Clark, Inc.
555 Hulet Drive

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Count Name: Pontiac Traffic Signal Warrant
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Turning Movement Peak Hour Data Plot (12:00 PM)

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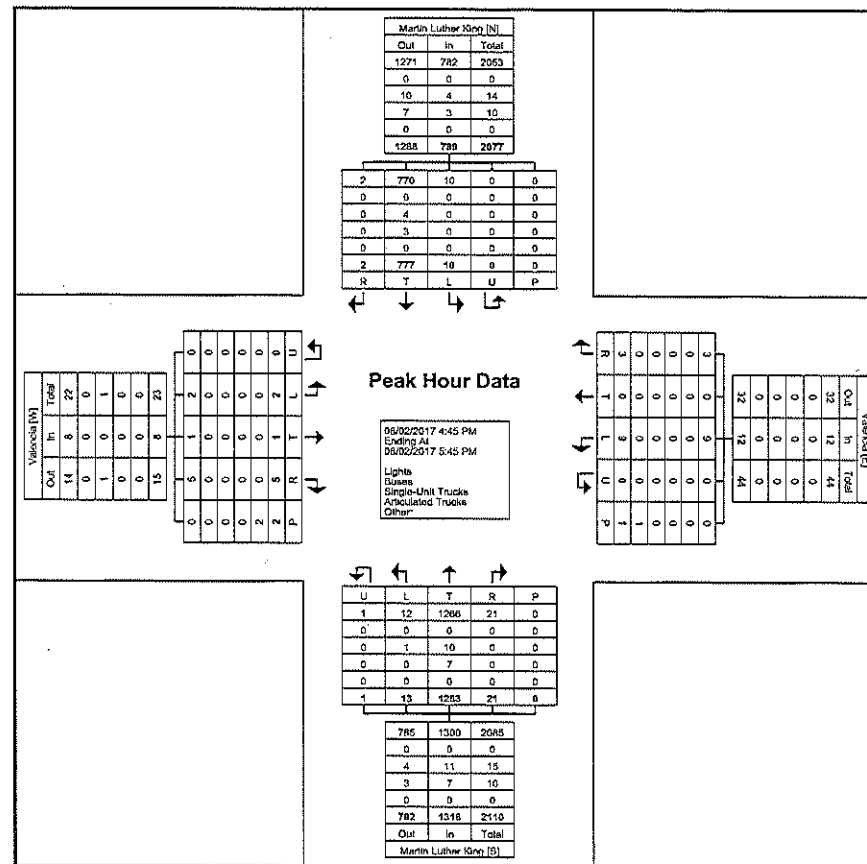
Turning Movement Peak Hour Data (4:45 PM)

Start Time	Martin Luther King Southbound						Valencia Westbound						Martin Luther King Northbound						Valencia Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	5	212	0	0	0	217	2	0	2	0	1	4	3	310	1	1	0	315	0	1	1	0	0	2	538
5:00 PM	1	189	2	0	0	192	3	0	0	0	0	3	6	341	9	0	0	356	1	0	1	0	2	2	553
5:15 PM	2	203	0	0	0	205	3	0	0	0	0	3	3	316	6	0	0	325	1	0	2	0	0	3	536
5:30 PM	2	173	0	0	0	175	1	0	1	0	0	2	1	316	5	0	0	322	0	0	1	0	0	1	500
Total	10	777	2	0	0	789	9	0	3	0	1	12	13	1283	21	1	0	1318	2	1	5	0	2	8	2127
Approach %	1.3	98.5	0.3	0.0	-	-	75.0	0.0	25.0	0.0	-	-	1.0	97.3	1.6	0.1	-	-	25.0	12.5	62.5	0.0	-	-	-
Total %	0.5	36.5	0.1	0.0	-	37.1	0.4	0.0	0.1	0.0	-	0.6	0.6	60.3	1.0	0.0	-	62.0	0.1	0.0	0.2	0.0	-	0.4	-
PHF	0.500	0.916	0.250	0.000	-	0.909	0.750	0.000	0.375	0.000	-	0.750	0.542	0.941	0.583	0.250	-	0.926	0.500	0.250	0.625	0.000	-	0.667	0.962
Lights	10	770	2	0	-	782	9	0	3	0	-	12	12	1266	21	1	-	1300	2	1	5	0	-	8	2102
% Lights	100.0	99.1	100.0	-	-	99.1	100.0	-	100.0	-	-	100.0	92.3	98.7	100.0	100.0	-	98.6	100.0	100.0	100.0	-	-	100.0	98.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	4	0	0	-	4	0	0	0	0	-	0	1	10	0	0	-	11	0	0	0	0	-	0	15
% Single-Unit Trucks	0.0	0.5	0.0	-	-	0.5	0.0	-	0.0	-	-	0.0	7.7	0.8	0.0	0.0	-	0.8	0.0	0.0	0.0	-	-	0.0	0.7
Articulated Trucks	0	3	0	0	-	3	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	10
% Articulated Trucks	0.0	0.4	0.0	-	-	0.4	0.0	-	0.0	-	-	0.0	0.0	0.5	0.0	0.0	-	0.5	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: Pontiac Traffic Signal Warrant
Analysis
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Turning Movement Peak Hour Data Plot (4:45 PM)



Attachment B: Signal Warrant Analysis

Michigan Manual of Uniform Traffic Control Devices
Volume Summary
Prepared by MDOT for the 2011 Edition of the MMUTCD

Spot Number:	0		
Major Street:	MLK		Minor Street: Valencia
Intersection:	MLK @ Valencia		
City/Twp:	Pontiac		
Date Performed:	8/14/2017	Performed By:	NBN
Date Volumes Collected:	8/2/2017		

	Major NB	Major SB	Minor EB	Minor WB	Total Major	Highest Minor	Total
00:01 - 01:00	167	171	5	9	338	9	352
01:00 - 02:00	97	91	3	2	188	3	193
02:00 - 03:00	63	82	1	0	145	1	146
03:00 - 04:00	70	67	1	3	137	3	141
04:00 - 05:00	91	78	2	4	169	4	175
05:00 - 06:00	294	166	1	13	460	13	474
06:00 - 07:00	429	492	4	6	921	6	931
07:00 - 08:00	537	734	4	18	1271	18	1293
08:00 - 09:00	481	610	11	14	1091	14	1116
09:00 - 10:00	415	382	6	10	797	10	813
10:00 - 11:00	395	370	7	9	765	9	781
11:00 - 12:00	419	430	6	20	849	20	875
12:00 - 13:00	568	482	14	13	1050	14	1077
13:00 - 14:00	585	508	8	16	1093	16	1117
14:00 - 15:00	687	725	10	17	1412	17	1439
15:00 - 16:00	737	759	4	21	1496	21	1521
16:00 - 17:00	1121	722	10	10	1843	10	1863
17:00 - 18:00	1253	724	8	13	1977	13	1998
18:00 - 19:00	728	567	12	20	1295	20	1327
19:00 - 20:00	556	542	6	16	1098	16	1120
20:00 - 21:00	467	442	12	17	909	17	938
21:00 - 22:00	411	340	4	23	751	23	778
22:00 - 23:00	321	306	4	15	627	15	646
23:00 - 00:00	220	248	2	7	468	7	477
Total	11112	10038	145	296	21150	299	21591

Summary of Warrants			
Spot Number:	0		
Major Street:	MLK	Minor Street:	Valencia
Intersection:	MLK at Valencia		
City/Twp:	Pontiac		
Date Performed:	8/14/2017	Performed By:	NBN
Date Volumes Collected:	8/2/2017		
Warrant		Condition	Is Warrant Met
Data Has Been Validated			YES
WARRANT 1: Eight-Hour Vehicular Volume			NO
		Condition A	NO
		Condition B	NO
		Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume		(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume		(100%)	NO
		Condition A	NO
		Condition B	NO
WARRANT 4: Pedestrian Volume		(100%)	NO
		Four Hour	NO
		Peak Hour	NO
(Threshold)		HAWK	NO
(Threshold)		RRFB	NO
WARRANT 5: School Crossing			NO
WARRANT 6: Coordinated Signal System			NO
WARRANT 7: Crash Experience			NO
		Condition A	NO
		Condition B	NO
WARRANT 8: Roadway Network			NO
WARRANT 9: Intersection Near a Grade Crossing			#N/A
Issue to Be Addressed by Signalization:			
LOS and Safety			

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	MLK @ Valencia		
Date	8/14/2017	by	NBN

2	: No. of Lanes on Major St?
1	: No. of Lanes on Minor St?
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	338	9	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	188	3	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	145	1	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	137	3	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	169	4	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	460	13	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	921	6	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	1271	18	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	1091	14	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	797	10	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	765	9	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	849	20	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	1050	14	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	1093	16	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	1412	17	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1496	21	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1843	10	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1977	13	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	1295	20	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	1098	16	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	909	17	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	751	23	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	627	15	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	468	7	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	0
Number of Hours that met the warrant 1B =	0
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

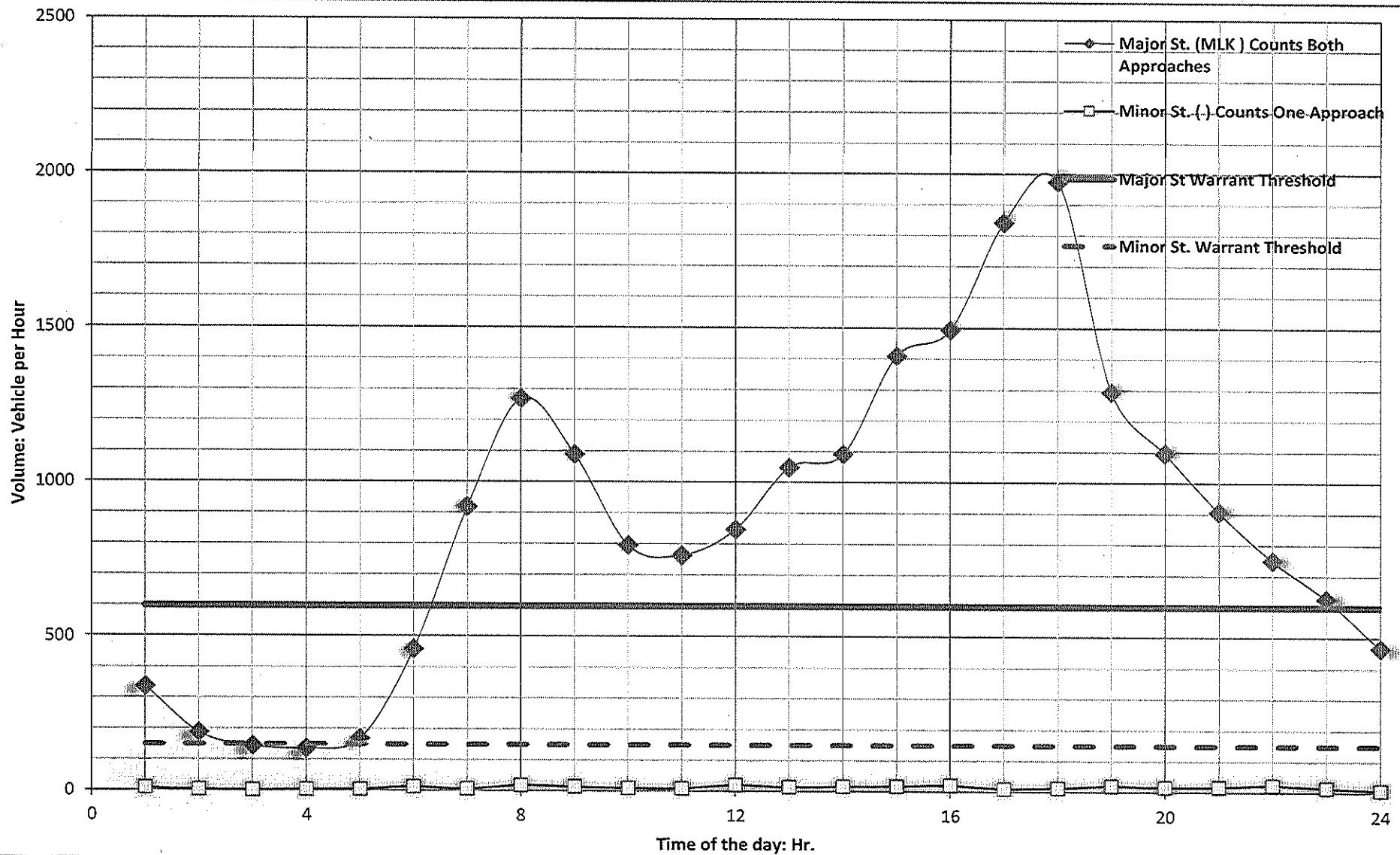


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

MLK @ Valencia

NO. OF LANES ON MAJOR ST.? 2

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 8/2/2017

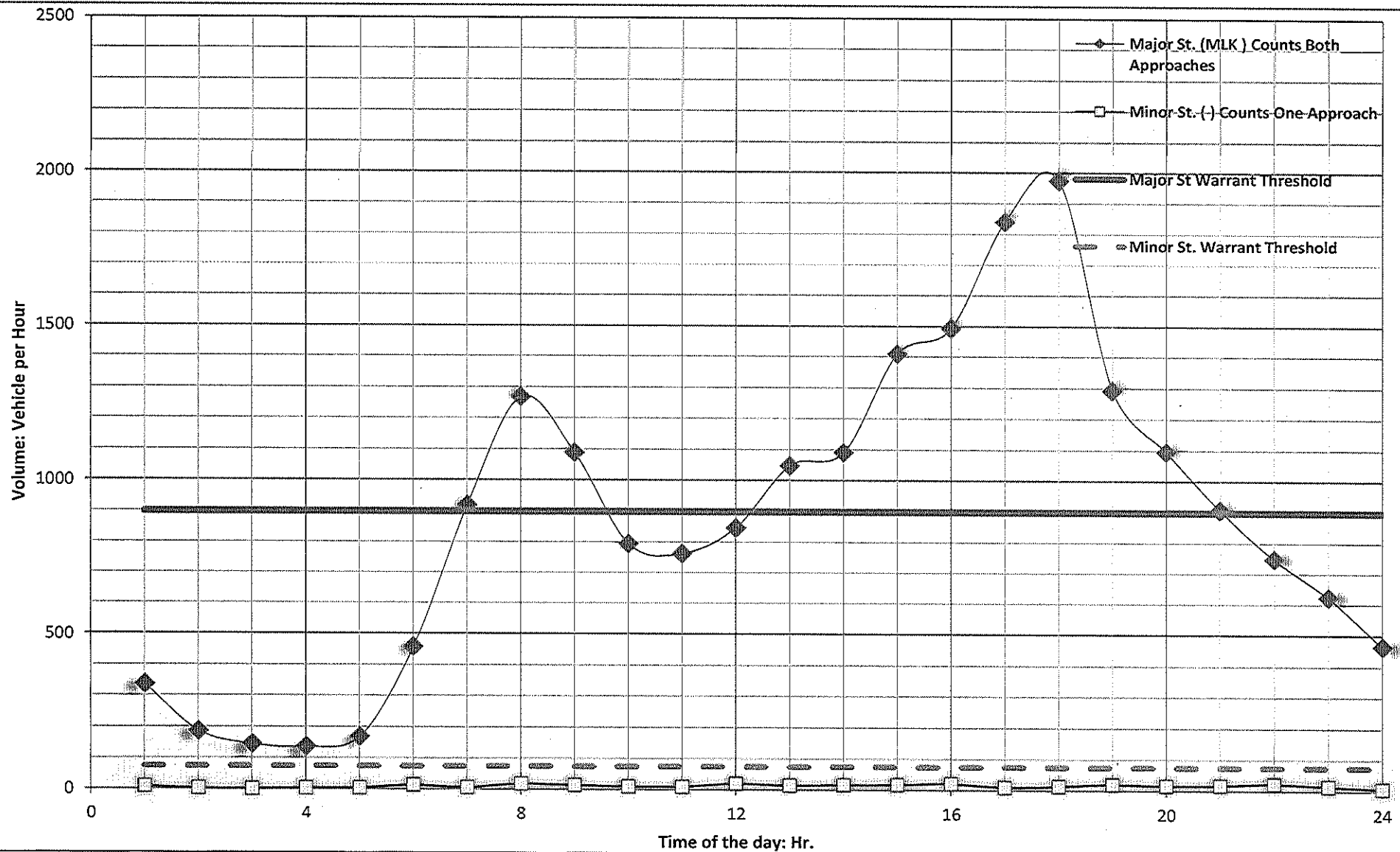


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number:

MLK @ Valencia

NO. OF LANES ON MAJOR ST.? 2

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

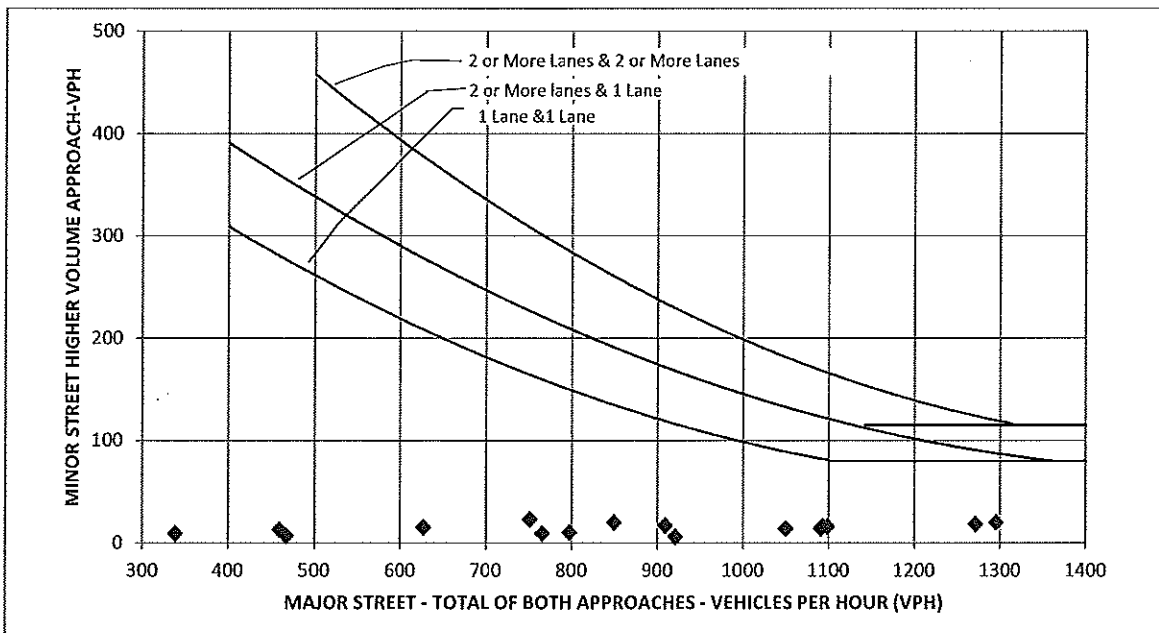
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 8/2/2017

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	0		
Intersection:	MLK @ Valencia		
Date	8/14/2017	by	NBN

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?



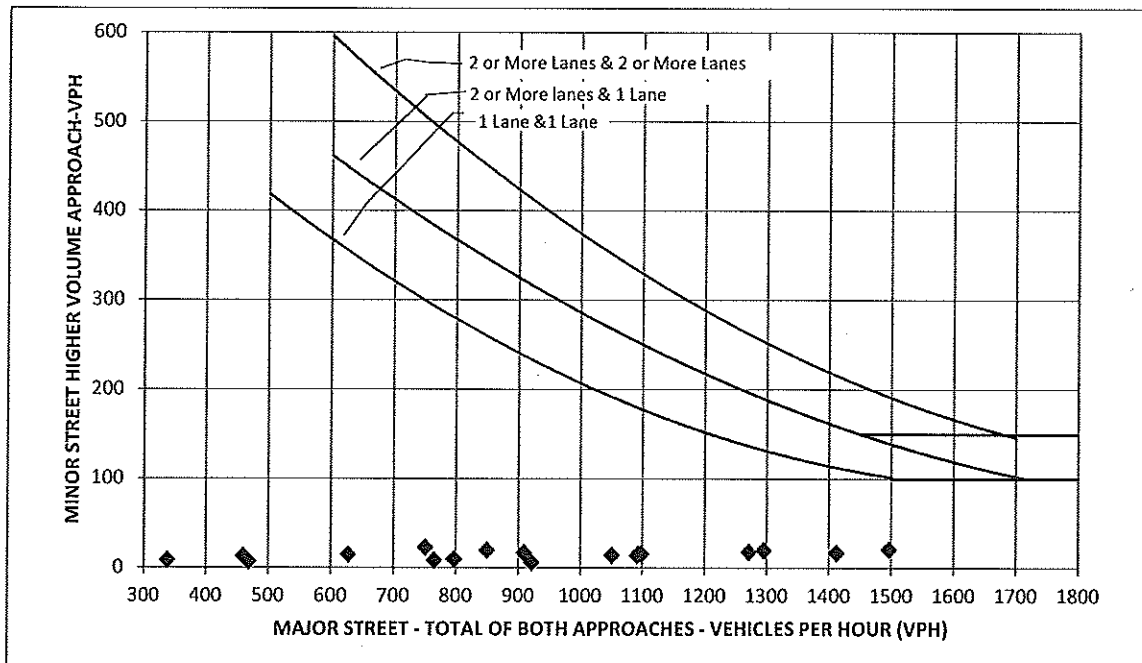
How Many Hours Are Met	0
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices			
Worksheet for Signal Warrants (Section 4C)			
WARRANT 3 A: Peak-Hour Vehicular Volume			
Spot Number:	0		
Intersection:	MLK @ Valencia		
Date:	8/14/2017	by:	NBN
NOT MET	0	: Total Stop Time Delay (hrs)	
	1	: Minor Street Approach Lanes	
	4	: Total Approaches	
NOT MET	13	: Minor Approach Volume	
NOT MET	474	: Total Entering Volume	
	05:00 - 06:00 : Peak Hour		
Is Warrant 3 A Met?			NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	0
Intersection:	MLK @ Valencia
Date:	8/14/2017 by NBN

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

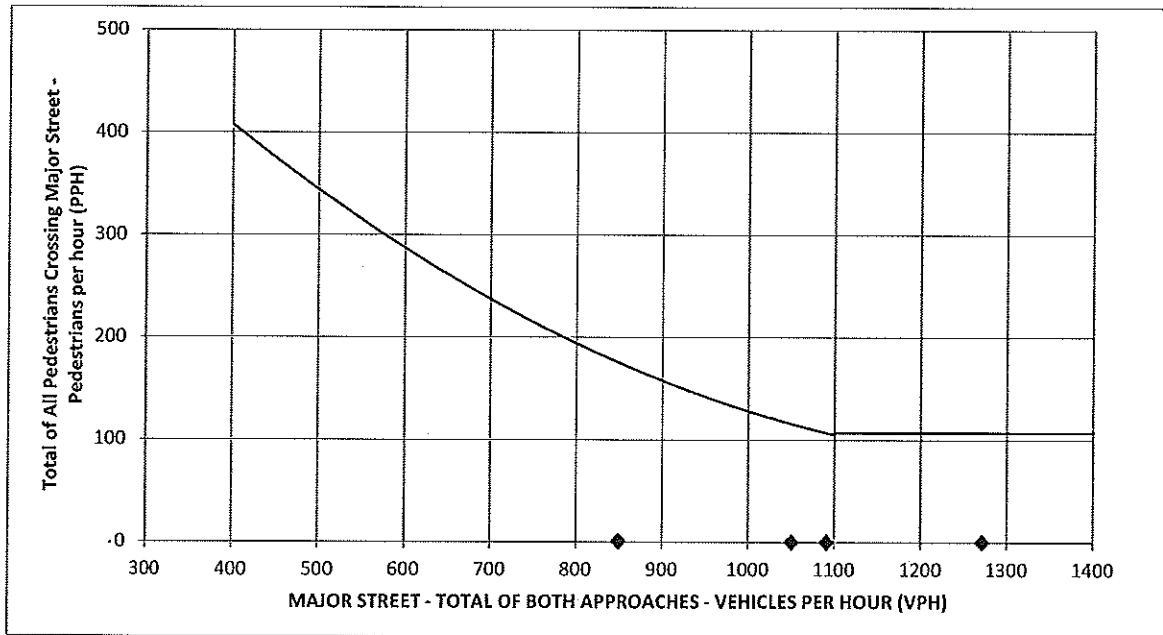


How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	0
Intersection:	MLK @ Valencia
Date:	8/14/2017 by NBN

1100	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

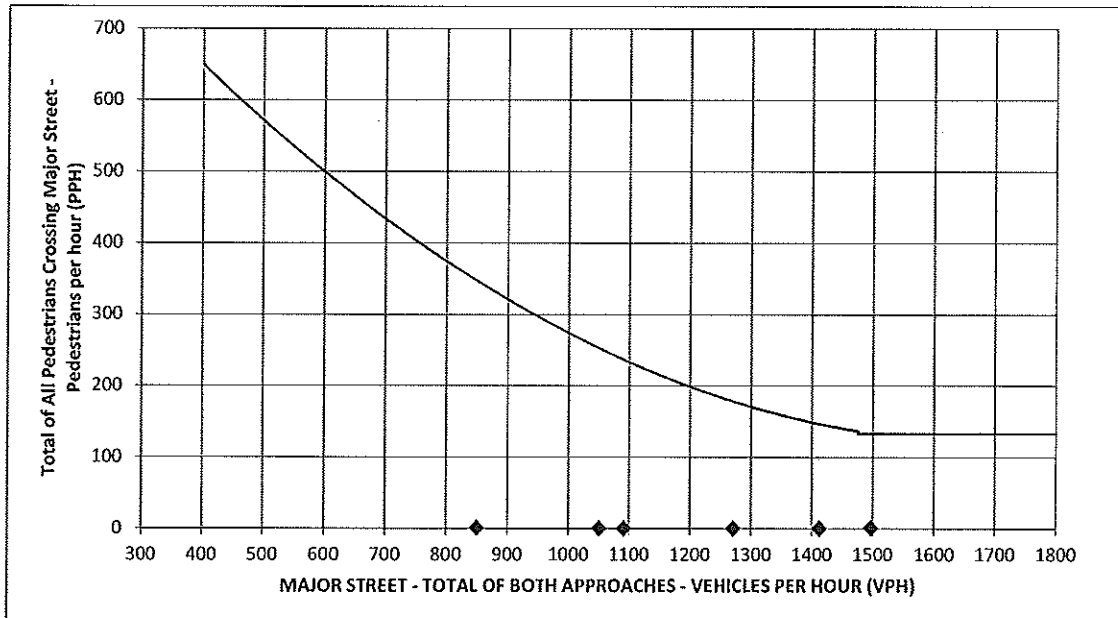


How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	0
Intersection:	MLK @ Valencia
Date:	8/14/2017 by NBN

1100	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 7: Crash Experience

Spot Number:	0		
Intersection:	MLK @ Valencia		
Date	8/14/2017	by	NBN

1	: No. of Lanes on Major St?
2	: No. of Lanes on Minor St?
NO	: Has adequate trial of remedial measure with adequate enforcement been tried?
NO	: Are there 5 or more Crashes Susceptible to Correction by Signalization in a 12 Month Period?

Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?
00:01 - 01:00	338	9	480	120	NO	720	60	NO
01:00 - 02:00	188	3	480	120	NO	720	60	NO
02:00 - 03:00	145	1	480	120	NO	720	60	NO
03:00 - 04:00	137	3	480	120	NO	720	60	NO
04:00 - 05:00	169	4	480	120	NO	720	60	NO
05:00 - 06:00	460	13	480	120	NO	720	60	NO
06:00 - 07:00	921	6	480	120	NO	720	60	NO
07:00 - 08:00	1271	18	480	120	NO	720	60	NO
08:00 - 09:00	1091	14	480	120	NO	720	60	NO
09:00 - 10:00	797	10	480	120	NO	720	60	NO
10:00 - 11:00	765	9	480	120	NO	720	60	NO
11:00 - 12:00	849	20	480	120	NO	720	60	NO
12:00 - 13:00	1050	14	480	120	NO	720	60	NO
13:00 - 14:00	1093	16	480	120	NO	720	60	NO
14:00 - 15:00	1412	17	480	120	NO	720	60	NO
15:00 - 16:00	1496	21	480	120	NO	720	60	NO
16:00 - 17:00	1843	10	480	120	NO	720	60	NO
17:00 - 18:00	1977	13	480	120	NO	720	60	NO
18:00 - 19:00	1295	20	480	120	NO	720	60	NO
19:00 - 20:00	1098	16	480	120	NO	720	60	NO
20:00 - 21:00	909	17	480	120	NO	720	60	NO
21:00 - 22:00	751	23	480	120	NO	720	60	NO
22:00 - 23:00	627	15	480	120	NO	720	60	NO
23:00 - 00:00	468	7	480	120	NO	720	60	NO

Is there a reduction in the warrant thresholds to 56% =	NO
Number of Hours that met the warrant 7A =	0
Number of Hours that met the warrant 7B =	0

A. Is the Minimum Vehicular Volume Warrant Met Based on Crash Patterns? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met Based on Crash Patterns? (Condition B)	NO



HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

RECEIVED
2018 MAY 18 PM 3:03
PONTIAC CITY CLERK

Memorandum

To: John Balint, P.E.
From: Lia Michaels, P.E., PTOE
Date: March 13, 2018
Subject: Signal Warrant Analysis
N Saginaw St. at Howard St.

Lia Michaels

HRC Job No. 20180187

At your request, Hubbell, Roth & Clark (HRC) conducted a signal warrant analyses at N Saginaw St and Howard St. Turning movement counts for 24-hours were started on Wednesday, 3/7/18, and concluded on Thursday, 3/8/18, at this intersection. An investigation of the need for traffic signal controls included, where applicable, an analysis of the factors contained in the following warrants:

- ≡ Warrant 1: Eight-Hour Vehicular Volume
- ≡ Warrant 2: Four-Hour Vehicular Volume
- ≡ Warrant 3: Peak Hour
- ≡ Warrant 4: Pedestrian Volume
- ≡ Warrant 5: School Crossing
- ≡ Warrant 6: Coordinated Signal System
- ≡ Warrant 7: Crash Experience
- ≡ Warrant 8: Roadway Network
- ≡ Warrant 9: Intersection Near a Grade Crossing

A summary of the traffic warrant analysis for the intersection is shown in the table below. None of the nine signal warrants were met. Please note that Warrant 9 related to rail crossings is not applicable. The complete analysis can be found in Attachment A.

Warrant		Met?
Warrant 1: Eight-Hour Vehicular Volume	Condition A	No
	Condition B	No
	Combination of A & B	N/A
Warrant 2: Four-Hour Vehicular Volume		No
Warrant 3: Peak Hour		No
Warrant 4: Pedestrian Volume		No
Warrant 5: School Crossing		No
Warrant 6: Coordinated Signal System		No
Warrant 7: Crash Experience		No
Warrant 8: Roadway Network		No
Warrant 9: Intersection Near a Grade Crossing		N/A

Based on the analysis, a signal at this intersection is not warranted.