

*****ATTACHMENTS*****

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: An ordinance to repeal and recreate Section 110-37 of the Municipal code relating to special assessments for street construction and resurfacing also to establish a schedule of flat fees per foot to be levied as assessments for street improvements for the year of 2017.

REPORT PREPARED BY: Ryan Sazama, City Engineer

REPORT DATE: February 9, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

This recreated ordinance and flat fee assessment schedule will allow property owners to know the street assessment prior to construction it will no longer have to be calculated by staff once the construction project is completed.

STAFF COMMENTS:

Approve the ordinance and resolution.

ACTION REQUESTED:

Motion to recommend the Common Council to approve General Ordinance 42-16-17 and Resolution 188-16-17 to repeal and recreate Section 110-37 of the Municipal code relating to special assessments for street construction and resurfacing also to establish a schedule of flat fees per foot to be levied as assessments for street improvements for the year of 2017.

ATTACHMENTS:

- I. G.O. 42-16-17
- II. Res. 188-16-17

III

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Res. No. 188- 16 - 17. By Alderpersons Belanger and Thiel.
February 6, 2017.

A RESOLUTION pursuant to Section 110-37(3), Sheboygan Municipal Code, establishing a schedule of flat fees per foot to be levied as assessments for street improvements for the year 2017.

WHEREAS, Section 110-37(3), Sheboygan Municipal Code, requires the common council to annually establish a schedule of flat fees per foot to be levied as assessments for street improvements; and

WHEREAS, it is the desire of the common council for said flat fees to be applied in a manner that equitably adjusts the impact of the fees in various circumstances.

NOW, THEREFORE, BE IT RESOLVED: That the following schedule of flat fees per foot to be levied as assessments for street improvements for the year 2017 is hereby established:

<insert schedule here>

BE IT FURTHER RESOLVED: That in determining the actual assessments to be levied, the Director of Public Works shall apply and modify the flat fee set forth above as follows:

(a) The city shall pay 100 percent of the assessable cost of grading, graveling, paving, repaving and resurfacing of street intersections.

(b) Grading, graveling and paving fees shall be assessed against the abutting property owners. On corner lots of single and two-family residential properties, the second assessment shall be calculated by deducting from the linear feet of frontage on the second side (the side being assessed) up to 120 linear feet of frontage of the long side not to exceed the length of the second side. The linear feet of frontage assessed to any parcel (before application of applicable corner lot deductions) shall not be less than the minimum permitted lot width for lots in the particular zoning district, provided, however, that legal nonconforming lots shall be assessed based upon the actual linear feet of frontage of the lot. A warranty period of 30 years is established for concrete paving, and a credit of 1/30 of the pre-credit current proposed repaving or resurfacing assessment for each year of unused warranty shall be applied to the current proposed assessment for repaving or resurfacing costs. Single- and two-family residential properties abutting on streets in excess of 36 feet in width shall be assessed for only 36 feet of said street. When it is deemed necessary to increase the depth of concrete to greater than seven inches, the assessment shall be computed based upon a

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seven-inch pavement. When any street is initially paved or resurfaced and the paving or resurfacing plans provide for the construction of a boulevard or island between the travel lanes, the cost of the curb or curb and gutter forming the boulevard or island shall be borne by the city.

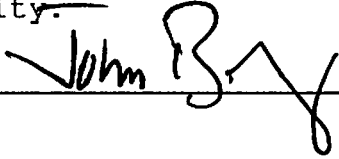
(c) Public property, except state property held for highway right-of-way purposes, shall be assessed at 100 percent for all costs of paving, widening or resurfacing regardless of the width of the street.

(d) When streets are resurfaced, the City shall assess 50% of the fee for resurfacing. A warranty period of 15 years is established for resurfacing of streets and a credit of 1/15 of the initial resurfacing cost for each year of unused warranty shall be applied to the second resurfacing. Whenever resurfacing is not possible and repaving is necessary, the fee for resurfacing, except public areas, shall be assessed against the property owners with the warranty contained subsection (b) above in effect. However, where abutting property owners were assessed for the cost of the initial paving, a maximum of 50 percent of the fee for the repaving shall be assessed against the property owners, less the credit for any applicable warranty contained in subsection (b) above in effect.

(e) For repair of curbs and gutters, the City shall assess 50 percent of the fee against the abutting property owner. On corner lots of single and two-family residential properties, the fee for a second repaving, resurfacing or repair shall be calculated by deducting from the linear feet of frontage on the second side (the side being assessed) up to 120 linear feet of frontage of the long side not to exceed the length of the second side. The linear feet of frontage assessed to any parcel (before application of applicable corner lot deductions) shall not be less than the minimum permitted lot width for lots in the particular zoning district provided, however, that legal nonconforming lots shall be assessed based upon the actual linear feet of frontage of the lot.

(f) The abutting property owner shall pay 100% of the fee for alley paving. However, when properties abut two alleys, a 25-percent reduction will be allowed on the long side, for a maximum of 120 feet.

(g) Any street initially paved to a width of 36 feet or less and repaved, resurfaced or repaired beyond the width of 36 feet, by city order, shall have 100 percent of the fee for the repaving, resurfacing or repairing beyond the width of 36 feet paid by the city.



I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

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6.4

Gen. Ord. No. 42 - 16 - 17. By Alderpersons Belanger and Thiel.
February 6, 2017.

AN ORDINANCE repealing and recreating Section 110-37 of the Municipal Code relating to special assessments for street construction and resurfacing.

THE COMMON COUNCIL OF THE CITY OF SHEBOYGAN DO ORDAIN AS FOLLOWS:

Section 1. Section 110-37 of the Municipal Code is hereby repealed and recreated to read as follows:

"Sec. 110-37. Assessments.

In levying and collecting special assessments for public street improvements, the City shall proceed in the following manner:

(1) Whenever the Common Council shall deem it necessary in the best interest of the City to construct or cause to be constructed any such improvements, all or part of the cost of which is to be assessed against the property benefited, it shall follow the provisions of §66.0703, Wis. Stats., relating to the repaving and relating to the paving, resurfacing of streets and alleys and providing for the costs of constructing such and the manner of levying special assessments against the property benefited thereby. Said provisions are adopted by and for the city and shall be in full force and effect as ordinances of the city as if fully set forth in this section.

(2) Through the exercise of the city's police power, all special assessments for street improvements shall be levied against abutting property on a linear-foot basis. All assessments shall be based upon the full cost of each project levied per linear foot on the street or alley frontage.

(3) Each year, before introduction of the resolution authorizing letting of bids on public construction under this section, the Common Council shall, via resolution, establish a schedule of flat fees per foot to be levied. Multiple fees may be established related to different types of construction, including (but not limited to) construction, resurfacing, curb and gutter, etc. In no case may such flat fee exceed the maximum cost of construction allowed under §66.0703, Wis. Stats.

(4) Notwithstanding any other subsection of this section, the due date of any special assessment levied against property located within a general floodplain district (GFP) under the city's floodplain zoning ordinance or within a wetland area under the city's wetland ordinance

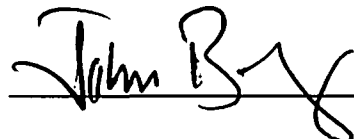
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abutting on or benefited by the paving, repaving or resurfacing of a street or alley shall be deferred while no use of the street or alley is made in connection with the property. At such time as the property no longer qualifies for deferral of the special assessment, such expense may be paid in the manner and upon the terms provided in subsection (4)(d) and (e) of this section. Any such special assessment shall be a lien against the property from the date of the levy.

(5) Notwithstanding any other subsection of this section, the common council may, by resolution, permit the deferral of the due date of certain special assessments for grading and graveling streets in certain new residential subdivisions for five years and may permit payment thereafter in five equal annual installments, with interest at the rate in place at the commencement of the deferral accruing from the commencement of the deferral until paid in full, in accordance with guidelines established by resolution of the common council. However, any such certain special assessments for grading and graveling streets deferred under this subsection shall become due in full immediately upon sale of such lot. Any such special assessment for grading and graveling streets shall be a lien against the property from the date of the levy."

Section 2. All ordinances or parts thereof in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict, and this ordinance shall be in effect from and after its passage and publication.



I HEREBY CERTIFY that the foregoing Ordinance was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

II

Other Matters

7.6

R. O. No. 219 - 16 - 17. By CITY CLERK. February 6, 2017.

Submitting a communication from Charlie Klima requesting the opportunity to speak to the committee responsible for the policy concerning the cost of sidewalk repair after tree root problems.

Pub. Wks.

City Clerk



JAN 30 2017

Jan 30 2017

To/ City Clerk
Sue Richards

If possible, please schedule me
some time to talk to whichever
committee is responsible for
the policy concerning the
cost of sidewalk repair
after tree root problems

Thank You

Charlie Klima

Charles Klima
1405 Parkwood Blvd
Sheboygan WI 53081

Home 458-3143 Cell 917-9966

Jan 20 5 01 PM

TO: Mr. [unclear]
FROM: [unclear]

It is requested that you please [unclear]

be [unclear] to [unclear]

of [unclear] [unclear]

the policy concerning [unclear]

of [unclear] [unclear]

of [unclear] [unclear]

[unclear]

[unclear]

[unclear]

[unclear]

FOR THE [unclear] [unclear]

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Communication from Charlie Klima, 1405 Parkwood Boulevard, requesting to discuss the City sidewalk policy pertaining to his sidewalk being damaged by tree roots from City trees in the city right-of-way.

REPORT PREPARED BY: Ryan Sazama, City Engineer

REPORT DATE: February 9, 2017 **MEETING DATE:** February 14, 2107

FISCAL SUMMARY:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

The homeowner at 1405 Parkwood Boulevard had sidewalk replaced in 2016. The total cost of the sidewalk repair was \$875. The tree root credit to the homeowner was \$350 (40%) and the homeowners cost was \$525 (\$875 – \$350). Currently, a homeowner receives a tree root credit of 40% for the two squares next to the tree. If the sidewalk is damaged three times due to the tree roots, the tree is removed and the homeowner (has to be the same homeowner from the two previous sidewalk charges) is not charged for the two squares.

STAFF COMMENTS:

Discuss department policy on sidewalk damage due to tree roots and consider changes in the policy.

ACTION REQUESTED:

HOLD until changes in the policy are presented to the committee.

ATTACHMENTS:

- I. R.O. 219-16-17

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: The Department of Public Works hired a consultant (Traffic Analysis & Design, Inc.) to perform a traffic signal warrant analysis at the intersection of Washington Avenue and S. 32nd Street.

REPORT PREPARED BY: Ryan Sazama, City Engineer

REPORT DATE: February 9, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

During the reconstruction of the S. Taylor Drive and Washington Avenue intersection in 2016 temporary traffic signals were installed at the intersection of S. 32nd Street and Washington Avenue as part of this project. Temporary traffic signals were installed at this intersection during the road reconstruction because S. 32nd Street was used as a detour route due to lane and road closures during the construction process. Once the road construction was completed businesses requested these signals remain in place. Because this is a connecting highway traffic signals must be approved by the Wisconsin Department of Transportation. Before any approvals for the permanent installation of traffic signals a traffic study was requested (once construction was completed) to determine if the criteria/warrants were met to justify the permanent installation of traffic signals.

STAFF COMMENTS:

The criteria/warrants for the installation of signalized traffic signals were not met.

ACTION REQUESTED:

Motion to recommend the Common Council file the document and have staff analyze the intersection again when there is increased development in the immediate area.

ATTACHMENTS:

- I. R.O. 220-16-17

Other Matters

7.7

II

R. O. No. 220 - 16 - 17. By DIRECTOR OF PUBLIC WORKS. February 6, 2017.

Submitting a Traffic Signal Warrant Study for STH 28/Washington Avenue at S. 32nd Street Intersection, Sheboygan, Wisconsin.

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Director of Public Works

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TRAFFIC SIGNAL WARRANT STUDY FOR:

**STH 28/Washington Avenue at S. 32nd Street
Intersection**
City of Sheboygan, Wisconsin

DATE SUBMITTED: November 16, 2016

PREPARED FOR:

City of Sheboygan
Municipal Service Building
2026 New Jersey Avenue
Sheboygan, WI 53081
Phone: (920) 459-3485
Contact Person: Ryan Sazama, PE, AIA

PREPARED BY:

TADI (Traffic Analysis & Design, Inc.)
N36 W7505 Buchanan Street
Cedarburg, WI 53012
Phone: (800) 605-3091
Contact Persons: Alicia Dougherty, PE
John A. Bieberitz, PE, PTOE

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EXECUTIVE SUMMARY

This report provides an evaluation of the urban intersection of STH 28/Washington Avenue and S. 32nd Street located in the City of Sheboygan, Sheboygan County, Wisconsin (shown on [Exhibit 1](#)). The T-intersection is currently under two-way stop sign control with a stop sign on S. 32nd Street and free-flow conditions on STH 28/Washington Avenue. The intersection is located approximately .2 miles east of the signalized intersection of STH 28/Washington Avenue and Greenwing Drive, and approximately .6 miles west of the signalized intersection of STH 28/Washington Avenue and S. Business Drive.

The Wisconsin Department of Transportation (WisDOT) recently reconstructed the intersection of STH 28/Washington Avenue and Taylor Drive approximately a ½-mile west of the study intersection. As part of the design and reconstruction, WisDOT placed temporary signals at the intersection of STH 28/Washington Avenue and S. 32nd Street. The City of Sheboygan has requested a traffic signal warrant analysis at this intersection to see if the criteria are met for permanent traffic signals.

This technical memorandum documents the procedures and findings of the peak hour traffic operational analysis and traffic signal warrant analysis for the intersection of Washington Avenue and S. 32nd Street. The analysis was completed for the existing year 2016 traffic volume conditions, approximately four weeks after the completion of the Taylor Drive intersection with Washington Avenue reconstruction project.

SAFETY ISSUES

The intersection crash rate was calculated to be 0.35 crashes per million entering vehicles (MEV). Eleven (11) crashes occurred at the STH 28/Washington Avenue intersection with S. 32nd Street over the five year period of January 1st of 2010 through December 31st of 2014, with an average of 2.2 crashes per year. The most crashes occurred in the year 2012 (4 crashes) and 2010 (3 crashes) with all other years having less than two crashes. All but three of the crashes involved property damage only, with two of the remaining reported as possible injury and one reported as non-incapacitating injury. Of the 11 crashes, 6 crashes (54.5-percent) occurred as a rear-end crash, 3 crashes (27.3-percent) occurred as a sideswipe crash, and 2 crashes (18.2-percent) were angle crashes. The closest thing to a pattern occurred as rear-end crashes occurring between eastbound vehicles (5 crashes). Three of the five rear-end crashes in the eastbound direction reported that the pavement was wet. A crash diagram is shown in [Exhibit 5](#) and crash statistics are included in [Exhibit 6](#).

TRAFFIC SIGNAL CONTROL

An evaluation of warrants 1-4 and warrant 7 for traffic signal installation indicated that signals are not warranted at this intersection under the year 2016 existing traffic volumes. For this intersection, the warrants are dependent on the minor street (S. 32nd Street) movements. Based on the warrant evaluation, none of the warrants are expected to be met. It is noted that only six of the required eight hours are met for warrant 1 and only two of the required four hours are met for warrant 2.

RECOMMENDATIONS

The capacity analysis indicated that the existing stop sign controlled intersection operates within acceptable parameters from a delay perspective during the weekday morning and evening peak hours. The existing two-way stop sign control currently provides LOS A for all eastbound and westbound movements and LOS D for all southbound movements during these peak periods. Therefore geometric improvements to the study area intersection are not recommended at the

time. Based on a traffic signal warrant analysis completed as part of this study, traffic signal control is not warranted under the existing traffic volumes at this intersection.

CHAPTER I – ANALYSIS OF EXISTING CONDITIONS

PART A – PHYSICAL CHARACTERISTICS

[Exhibit 2](#) shows the existing configuration of the study area intersection and adjacent roadways. More specifically, [Exhibit 2](#) graphically illustrates existing intersection geometrics, existing traffic control, posted speed limits, approximate distances between driveways, and the number of travel lanes and median types along roadways within the study area. The study area roadways are discussed below:

STH 28/Washington Avenue is a four-lane undivided east/west major arterial with a posted speed limit of 35 miles per hour (mph). According to WisDOT, the Year 2014 Average Annual Daily Traffic (AADT) volume along STH 28/Washington Avenue was approximately 17,300 vehicles per day (vpd) to the east of S. 32nd Street. A sidewalk exists along only the south side of STH 28/Washington Avenue and parking is not allowed on STH 28/Washington Avenue within the limits of the intersection.

S. 32nd Street is a two-lane undivided north/south urban roadway that makes up the stop sign controlled north leg of the STH 28/Washington Avenue T-intersection. S. 32nd Street accesses an industrial park on the north side of STH 28/Washington Avenue. The posted speed limit on S. 32nd Street is 25-mph. Parking is restricted along both sides of S. 32nd Street. There is currently no AADT data available along S. 32nd Street. Sidewalks do not currently exist along S. 32nd Street within the limits of the intersection.

PART B – TRAFFIC VOLUMES

Traffic Analysis & Design, Inc. collected weekday 13-hour turning movement counts from 6:00 a.m. to 7:00 p.m. in November of 2016. Based on these counts, the weekday morning and weekday evening peak hours were identified as being from 7:00 to 8:00 a.m. and 3:30 to 4:30 p.m., respectively. The year 2016 existing traffic volumes for the study area intersection are shown in [Exhibit 3](#). All traffic count data; including vehicle counts, pedestrian counts and truck percentages are included in [Appendix A](#) of this report.

PART C – CAPACITY LEVEL OF SERVICE

The study area intersections were analyzed based on the procedures set forth in the *2010 Highway Capacity Manual* (HCM) and all detailed results can be found in [Appendix B](#). Intersection operation is defined by “level of service”. Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS ‘A’, to very poor, represented by LOS ‘F’. For the purpose of this study, LOS D was used to define acceptable peak hour operating conditions for the study area intersections. Descriptions of the various levels of service are as follows:

LOS A is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. At signalized and unsignalized intersections, average delays are less than 10 seconds.

LOS B represents stable operation. At signalized intersections, average vehicle delays are 10 to 20 seconds. At unsignalized intersections, average delays are 10 to 15 seconds.

LOS C still represents stable operation, but periodic backups of a few vehicles may develop behind turning vehicles. Most drivers begin to feel restricted, but not objectionably so. At signalized intersections, average vehicle delays are 20 to 35 seconds. At unsignalized intersections, average delays are 15 to 25 seconds.

LOS D represents increasing traffic restrictions as the intersection approaches instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, thus preventing excessive backups. At signalized intersections, average vehicle delays are 35 to 55 seconds. At unsignalized intersections, average delays are 25 to 35 seconds.

LOS E represents the capacity of the intersection. At signalized intersections, average vehicle delays are 55 to 80 seconds. At unsignalized intersections, average delays are 35 to 50 seconds.

LOS F represents jammed conditions where the intersection is over capacity and acceptable gaps for unsignalized intersections in the mainline traffic flow are minimal. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average delays exceed 50 seconds.

Year 2016 Existing Traffic Operating Conditions

[Exhibit 4](#) shows the year 2016 existing traffic peak hour operating conditions at the study area intersection. The existing intersection geometrics, shown in [Exhibit 2](#), were used in the analysis.

As shown in [Exhibit 4](#), all movements at the stop sign controlled study area intersection currently operate at LOS D or better conditions during the weekday morning and weekday evening peak periods.

PART D – CRASH ANALYSIS

Crash Frequency/Severity

A review of the crash records indicated that eleven (11) non-deer crashes occurred at the intersection of STH 28/Washington Avenue and S. 32nd Street over the past five years (January 1st of 2010 through December 31st of 2014).

The most crashes occurred in the year 2012 (4 crashes) and 2010 (3 crashes) with all other years having less than two crashes. All but three of the crashes involved property damage only, with two of the remaining reported as possible injury and one reported as non-incapacitating injury. Of the 11 crashes, 6 crashes (54.5-percent) occurred as a rear-end crash, 3 crashes (27.3-percent) occurred as a sideswipe crash, and 2 crashes (18.2-percent) were angle crashes. A crash diagram was prepared for this intersection and is shown in [Exhibit 5](#).

Crash Patterns Observed

Six of the eleven crashes were rear-end crashes on STH 28/Washington Avenue. In all cases it was reported that the driver of the vehicle who rear-ended the other vehicle was either following too close or was driving inattentively. The other crashes included a southbound driver's vision blocked by a westbound truck, an illegal eastbound U-turn on a highway, an eastbound vehicle attempting a left-turn from the outside through lane, an eastbound vehicle changing lanes without seeing other eastbound vehicles, and a westbound vehicle in the outside lane colliding with a truck attempting to make a wide right-turn.

The intersection crash rate was calculated to be 0.35 crashes per million entering vehicles (MEV). Crash statistics are included in [Exhibit 6](#).

CHAPTER II –IMPROVEMENT ANALYSIS

PART A – TRAFFIC SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis was conducted for the intersection of STH 28/Washington Avenue and S. 32nd Street with the year 2016 existing traffic volumes. Chapter 4C of the 2009 *Manual on Uniform Traffic Control Devices* (MUTCD) outlines the standards for determining the need for traffic signals at a particular location. For a traffic signal to be installed, at least one of the following warrants must be satisfied. The eight signal warrants are listed below:

- Warrant 1, Eight-Hour Vehicular Volume.
- Warrant 2, Four-Hour Vehicular Volume.
- Warrant 3, Peak Hour.
- Warrant 4, Pedestrian Hour.
- Warrant 5, School Crossing.
- Warrant 6, Coordinated Signal Systems.
- Warrant 7, Crash Experience.
- Warrant 8, Roadway Network.

Warrants 1, 2, 3, 4, and 7 and a left-turn conflict analysis have been evaluated for this location. The posted speed limit along STH 28/Washington Avenue is 35 mph. The MUTCD has different criteria based on urban speeds (less than or equal to 40 mph) and rural speeds (greater than 40 mph). Since the speed on STH 28/Washington Avenue is less than 40 mph, the 100-percent minimum vehicular volumes were used in this analysis. Warrants 1, 2, 3, 4, 7 and the left-turn conflict analysis are described below:

Warrant 1, Eight Hour Vehicular Volume states that a traffic signal may be considered if one of the following conditions exists for at least eight hours of an average day:

- A. *The vehicles per hour given on the major street meet or exceed 600 and the vehicles per hour on the minor street meet or exceed 150; or*
- B. *The vehicles per hour given on the major street meet or exceed 900 and the vehicles per hour on the minor street meet or exceed 75.*

Or if the following two conditions exist for eight hours of an average day:

- A. *The vehicles per hour on the major street and minor street meet or exceed 80% of the values stated in A (480 major, 120 minor); and*
- B. *The vehicles per hour on the major street and minor street meet or exceed 80% of the values stated in B (720 major, 60 minor)*

Warrant 2, Four Hour Volume is satisfied if during any four hours of an average day the major street and minor street volumes fall above the 100 percent four-hour curves shown on the graph in the Appendix of this report.

Warrant 3, Peak Hour Volume is satisfied if during any hour of an average day the major street and minor street volumes fall above the 100 percent peak hour curves shown on the graph in the Appendix of this report. Note that this signal warrant is applied by WisDOT only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Warrant 4, Pedestrian Volume states that a traffic signal may be considered at an intersection or midblock crossing if one of the following conditions exists for an average day:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in the Appendix of this report; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in the Appendix of this report.

Warrant 7, Crash Experience states that a traffic signal may be considered if one of the following conditions exists:

- A. Five (5) or more reported crashes in a 12-month period involving personal injury or property damage and susceptible to correction by traffic signal installation; and
- B. For at least eight hours of an average day, the vehicles per hour given on the major street meet or exceed 400 and the vehicles per hour on the minor street meet or exceed 120; or
- C. The vehicles per hour given on the major street meet or exceed 600 and the vehicles per hour on the minor street meet or exceed 60.

Left Turn Conflict Analysis is met if the product of the major street left turn volume and opposing through plus right-turn movements exceed 80,000 when the opposing lane configuration is one lane and 100,000 when the opposing lane configuration is two lanes.

The warrant analysis assumes the intersection to include two-lane approaches eastbound and westbound on STH 28/Washington Avenue (major street) and one-lane approach southbound on S. 32nd Street (minor street).

For approaches with only one lane for all traffic movements, 100 percent of the right turn volumes are typically included in the evaluation of traffic signal warrants. 50 percent of the right turn volumes were used for the westbound traffic movements consist of an exclusive through lane and shared through/right lane.

The traffic signal warrant study was conducted using the 13-hour turning movement counts collected at the S. 32nd Street intersection with STH 28/Washington Avenue in November of 2016, once the reconstruction of STH 28/Washington Avenue and Taylor Drive was completed for approximately four weeks. The traffic signal warrant analysis summary is shown in [Table 1](#).

Table 1
Summary of MUTCD Traffic Signal Warrant Evaluation

Existing Traffic Signal Control	MUTCD Traffic Signal Warrants Met?						Traffic Signal Warranted?
	1	2	3	4	7	LT Conflict	
2-Way Stop	NO	NO	NO	NO	NO	NO	NO

As shown in [Appendix C](#) of this report, Warrant 1, the Eight Hour Warrant, is expected to be met for 6 of the 13 hours evaluated and Warrant 2, the Four Hour Warrant, is expected to be met for 2 of the 4 hours evaluated. None of the other warrants are expected to be met; however the Eight Hour Warrant is the main warrant used by WisDOT to determine if traffic signals should be installed. It is noted that for Warrants 2 and 3, the volume of side street traffic is too low to warrant traffic signals. In addition, the volume of pedestrians present at the intersection is too low to meet the requirements for signal Warrant 4. Furthermore, the intersection has experienced an average of approximately two traffic crashes per year for the last five years, with a high of five crashes between December 2011 and December 2012. In order for the crash warrant to be met, five or more reported crashes in a 12-month period that are susceptible to correction by traffic signal installation need to be reported and other remedial measures to reduce crash frequency must be met. The five reported crashes from December 2011 to December 2012 occurred between vehicles moving in the same direction and two were rear-end crashes, all of which would not be correctable with the installation of a traffic signal. A study conducted by *The Crash Modification Factors Clearinghouse* shows that adding a traffic signal to an intersection results in a crash reduction factor of negative (-) 58 for rear-end crashes, which equates to an increase in rear-end crashes. [Appendix D](#) includes the information from this study. Since most of the crashes that occurred at the intersection were rear-end crashes and the 12-month crash threshold was not met, Warrant 7 is not met. In summary, traffic signals are not warranted or recommended for installation with the year 2016 existing traffic volumes.

PART B – OPERATIONAL ANALYSIS WITH TRAFFIC SIGNALS

[Exhibit 7](#) shows the year 2016 existing traffic peak hour operating conditions at the study area intersection under a signal controlled scenario. The existing intersection geometrics were also used in the analysis.

As shown in [Exhibit 7](#), all movements at the study area intersection operate at LOS B or better conditions during the weekday morning and weekday evening peak periods with the installation of a signal.

Even though there are operational improvements with the addition of a traffic signal, traffic signal control is not warranted under the existing traffic volumes at this intersection. Under the existing, stop-controlled configuration, the intersection operates within acceptable parameters (LOS D or better); therefore, no geometric improvements are recommended at the study intersection.

CHAPTER III – RECOMMENDATIONS

SUMMARY/RECOMMENDATIONS

The intersection of STH 28/Washington Avenue and S. 32nd Street was evaluated for traffic signal control to determine what changes, if any, should be recommended to improve the operations and safety of the intersection.

The capacity analysis indicated that the current stop sign controlled intersection operates acceptably from a delay perspective during the weekday morning and evening peak hours. The existing two-way stop sign control currently provides LOS A for all eastbound and westbound movements and LOS D for all southbound movements during these peak periods. Based on a traffic signal warrant analysis completed as part of this study, traffic signal control is not warranted under the existing traffic volumes at this intersection. There are no recommendations for geometric improvements at this time; however, the intersection should be monitored and traffic signal warrants reevaluated if delays increase or safety reduces.

Sheboygan, Wisconsin



LEGEND

- Study Area Intersection/Driveway

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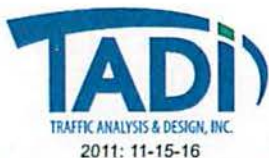





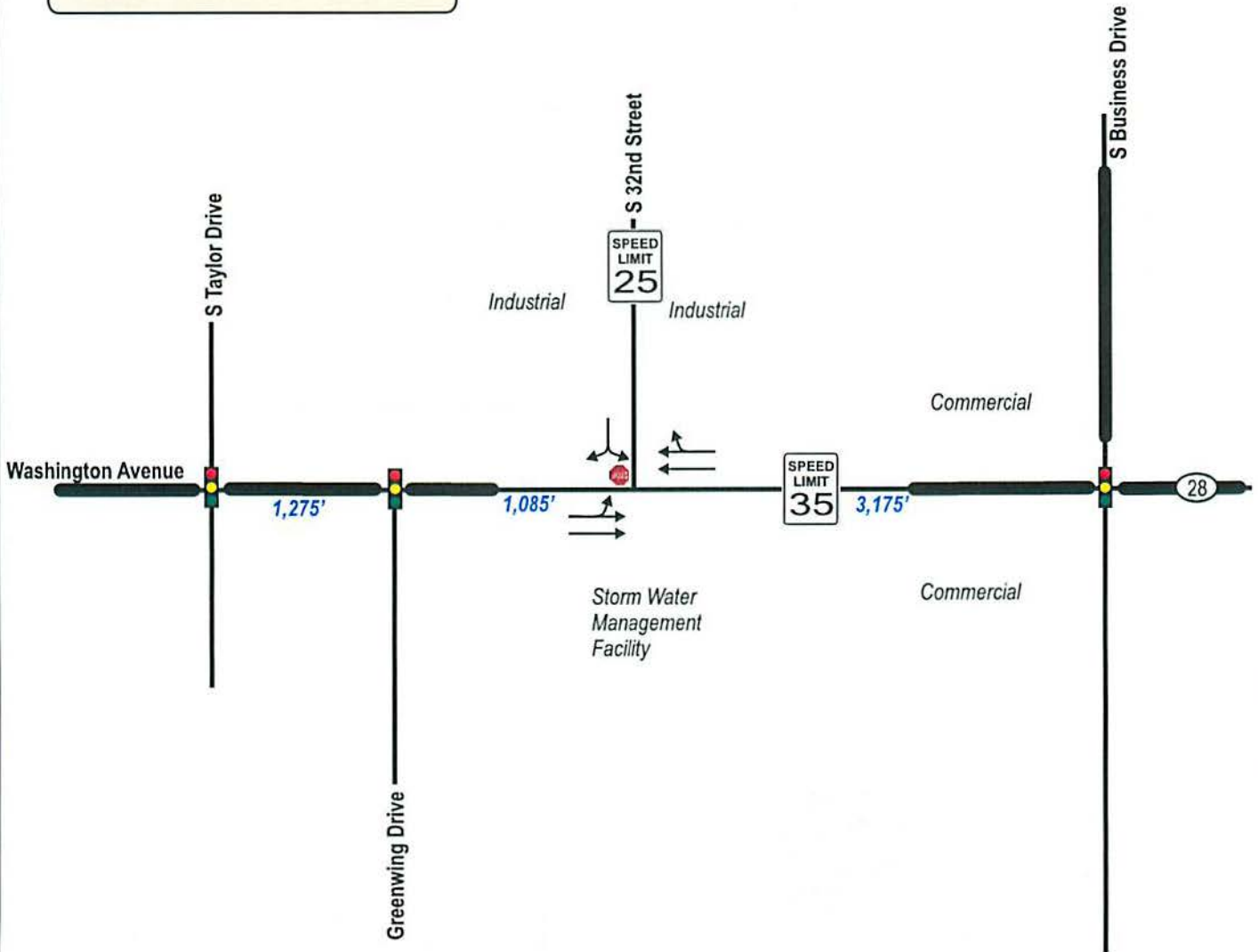


EXHIBIT 1
PROJECT OVERVIEW MAP
STH 28/WASHINGTON AVE & S 32nd STREET
SHEBOYGAN, WISCONSIN

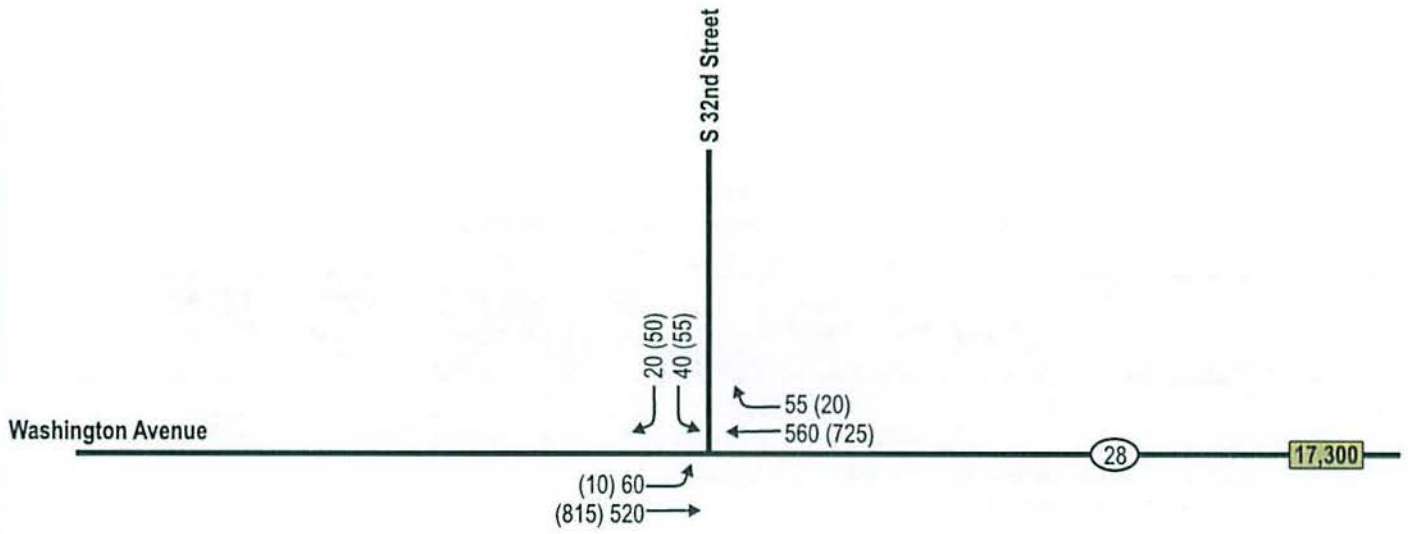
LEGEND

-  Traffic Signal
-  Stop Sign
-  Existing Lane Configuration
-  Distance Between Roadways (in Feet)
-  Divided Roadway Median



LEGEND

- XX AM Peak Hour (7:00 - 8:00AM)
- (XX) PM Peak Hour (3:30 - 4:30 PM)
- Negligible Traffic Volumes (Fewer than 3 vph)
- XXXX 2014 Average Annual Daily Traffic (AADT)



NOT TO SCALE

EXHIBIT 4

**Existing Traffic Peak Hour Operating Conditions
Existing Geometrics and Traffic Control**

Intersection	Traffic Control	Peak Hour	Level of Service per Movement by Approach									
			Eastbound			Westbound			Northbound			Southbound
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT/RT
STH 28/Washington Avenue & S. 32nd Street	Two-Way Stop	AM	A	A	-	-	*	*	-	-	-	D
		PM	A	A	-	-	*	*	-	-	-	D

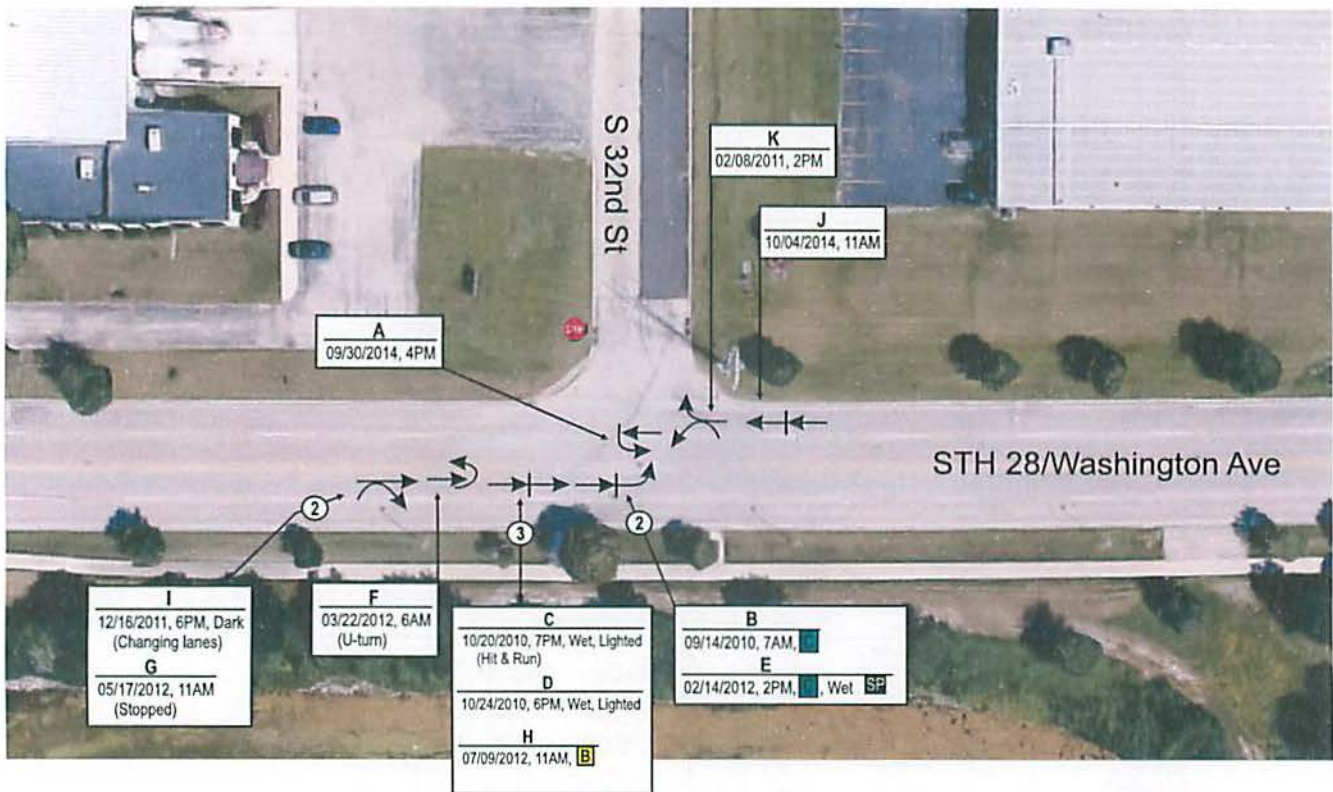
Notes: (-) indicates a movement that is not possible or is prohibited.
(*) indicates a free movement.

CRASH FREQUENCY/SEVERITY

11 Crashes
 0 Fatal Crash (K)
 0 Incapacitating (Type A)
 1 Non-Incapacitating (Type B)
 2 Possible (Type C)
 8 Property Damage Only

INTERSECTION CRASH RATE

0.35 Crashes
 Per Million
 Entering Vehicles
 Entering Vehicles: 17,300/day



LEGEND

→ Moving Vehicle	🚦 Traffic Signal	↘ Angle (Right Angle)	↔ Head-On
↔ Backing Vehicle	🛑 Stop/Yield Sign	↙ Angle (Left Turn)	↔ Rear-End
🚶 Pedestrian	🌳 Tree	↘ Angle (Right Turn)	⤴ Out of Control
🚲 Bicyclist	📍 Utility Pole	↔ Sideswipe-Same	↔ Overtake
🚗 Parked Vehicle	📍 Fixed Object	↔ Sideswipe-Opposite	↻ Overturn
	📍 Non-Fixed Object		

= CRASH FREQUENCY (if > 1)

CRASH SEVERITY DEFINITIONS

- [K] = Fatal Crash
- [A] = Incapacitating Injury Crash
- [B] = Non-Incapacitating Injury Crash
- [C] = Possible Injury Crash
- [D] = Property Damage Only Crash

REFERENCE: ALCOHOL/DRUG INVOLVEMENT, AL/DG, DATE OF CRASH, MILITARY TIME, LIGHT, ROAD, WEATHER CONDITIONS, SEVERITY - SEE SEVERITY DEFINITIONS, SPEED RELATED ("SP" IF YES), (NOTES)

NOTE: DEER CRASHES NOT INCLUDED



EXHIBIT 5
CRASH HISTORY (2010-2014)
STH 28/WASHINGTON AVE & S 32nd STREET
SHEBOYGAN, WISCONSIN

GENERAL INFORMATION

INTERSECTION: STH 28-Washington Ave & S 32nd St	CRASHES FROM: 1/1/2010	DURATION: 5 YEARS
MUNICIPALITY: Sheboygan	TO: 12/31/2014	0 MONTHS
COUNTY: Sheboygan		
STATE: WI		
TADI PROJECT ID: 2011	PREPARED BY: ACP	DATE: 11/14/2016

INTERSECTION CHARACTERISTICS

TRAFFIC CONTROL: MINOR STOP CONTROLLED	POSTED SPEED (MAJOR): 35
INTERSECTION AADT: Year (2014) 17,300	DEER CRASHES INCLUDED: NO
NUMBER OF LEGS: 3	AREA TYPE: URBAN

CRASH STATISTICS

CRASH FREQUENCY & SEVERITY

YEAR	PD	TYPE C	TYPE B	TYPE A	FATAL	TOTAL
2010	2	1	0	0	0	3
2011	2	0	0	0	0	2
2012	2	1	1	0	0	4
2013	0	0	0	0	0	0
2014	2	0	0	0	0	2

TOTAL	8	2	1	0	0	11
PERCENT	72.7%	18.2%	9.1%	0.0%	0.0%	100.0%
YEAR AVG.	1.6	0.4	0.2	0.0	0.0	2.2

CRASH RATES	per MEV
TOTAL	0.35
FATAL	0.00
INJURY	0.10
TYPE A	0.00
TYPE B	0.03
TYPE C	0.06

LIGHT CONDITIONS	PERCENT
DAY	8 72.7%
DARK	3 27.3%
TOTAL	11 100.0%

Note: Dawn, dusk, or street lighted conditions included in dark total.

VEHICLE TYPES	PERCENT
CAR	19 86.4%
TRUCK	2 9.1%
OTHER/UNK	1 4.5%
TOTAL	22 100.0%

Note: Statistics based on first and second vehicles in crashes.

DAY AND TIME

DAY OF WEEK	EARLY MORNING		AM PEAK		PM MIDDAY		PM PEAK		LATE EVENING		UNKNOWN	TOTAL	
	2:00 AM TO 5:59 AM	6:00 AM TO 9:59 AM	10:00 AM TO 1:59 PM	2:00 PM TO 5:59 PM	6:00 PM TO 9:59 PM	1:59 AM TO 10:00 PM							
	5:59 AM	9:59 AM	1:59 PM	5:59 PM	9:59 PM	1:59 AM							
MONDAY	0	0	1	0	0	0	0	0	0	0	1	Weekday	
TUESDAY	0	1	0	3	0	0	0	0	0	0	4		
WEDNESDAY	0	0	0	0	1	0	0	0	0	0	1		
THURSDAY	0	1	1	0	0	0	0	0	0	0	2		
FRIDAY	0	0	0	0	1	0	0	0	0	0	1		
SATURDAY	0	0	1	0	0	0	0	0	0	0	1	Weekend	
SUNDAY	0	0	0	0	1	0	0	0	0	0	1		
TOTAL	0	2	3	3	3	0	0	0	0	0	11		

DRIVER AGES	PERCENT
<25	6 27.3%
25-34	4 18.2%
35-44	2 9.1%
45-54	6 27.3%
55-64	2 9.1%
65-74	0 0.0%
75-84	1 4.5%
85+	0 0.0%
UNKNOWN	1 4.5%
TOTAL	22 100.0%

Note: Statistics based on first and second vehicles in crashes.

VEHICLE DAMAGE	PERCENT
OTHER/UNK	1 4.5%
NONE	1 4.5%
VERY MINOR	1 4.5%
MINOR	7 31.8%
MODERATE	6 27.3%
SEVERE	4 18.2%
VERY SEVERE	2 9.1%
TOTAL	22 100.0%

Note: Statistics based on first and second vehicles in crashes.

VEHICLES INVOLVED	PERCENT
SINGLE VEHICLE	0.0%
TWO VEHICLES	81.8%
3 OR MORE VEHICLES	18.2%

ROAD CONDITIONS	PERCENT
DRY	8 72.7%
WET	3 27.3%
SNOW	0 0.0%
ICE	0 0.0%
MUD	0 0.0%
OTHER/UNK	0 0.0%
TOTAL	11 100.0%

CRASH TYPE	PERCENT
ANGLE	2 18.2%
REAR-END	6 54.5%
HEAD-ON	0 0.0%
SS-SAME	3 27.3%
SS-OPPOSITE	0 0.0%
PEDESTRIAN	0 0.0%
BICYCLE	0 0.0%
FIXED	0 0.0%
NOT FIXED	0 0.0%
DEER	0 0.0%
OVERTURN	0 0.0%
OTHR/UNKN	0 0.0%
TOTAL	11 100.0%

BY SEASON	PERCENT
SPRING	2 18.2%
SUMMER	1 9.1%
FALL	5 45.5%
WINTER	3 27.3%
TOTAL	11 100.0%

Note: W=Win+Dec-Feb, Spr=Mar-May, Sum=June-Aug, Fall=Sept-Nov

PERCENT OF CRASHES	PERCENT
ALCOHOL RELATED	0.0%
SPEED RELATED	0.0%



NOT TO SCALE

EXHIBIT 6
CRASH STATISTICS (2010-2014)
STH 28/WASHINGTON AVE & S 32nd STREET
SHEBOYGAN, WISCONSIN

EXHIBIT 7

**Existing Traffic Peak Hour Operating Conditions
Existing Geometrics with Traffic Signal**

Intersection	Traffic Control	Peak Hour	Level of Service per Movement by Approach									
			Eastbound			Westbound			Northbound			Southbound
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT/RT
STH 28/Washington Avenue & S. 32nd Street	Signal	AM	A	A	-	-	*	*	-	-	-	B
		PM	A	A	-	-	*	*	-	-	-	B

Notes: (-) indicates a movement that is not possible or is prohibited.
(*) indicates a free movement.

Appendix A

Traffic Counts

Existing 2016 Traffic Counts

Intersection Traffic Volume Report

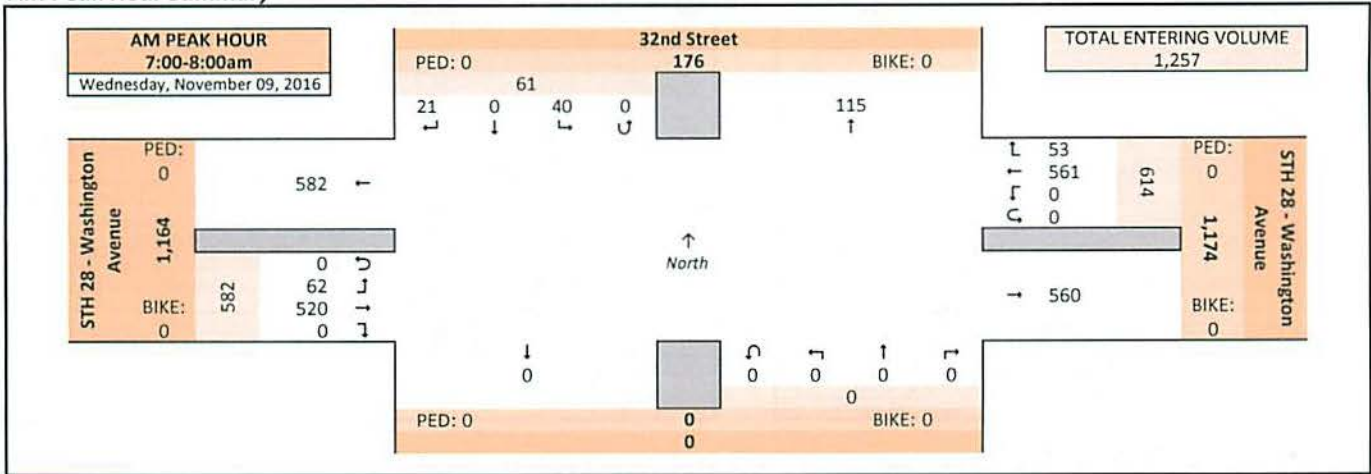
Peak Hour Volume Graphical Summary

32nd Street and STH 28 - Washington Avenue

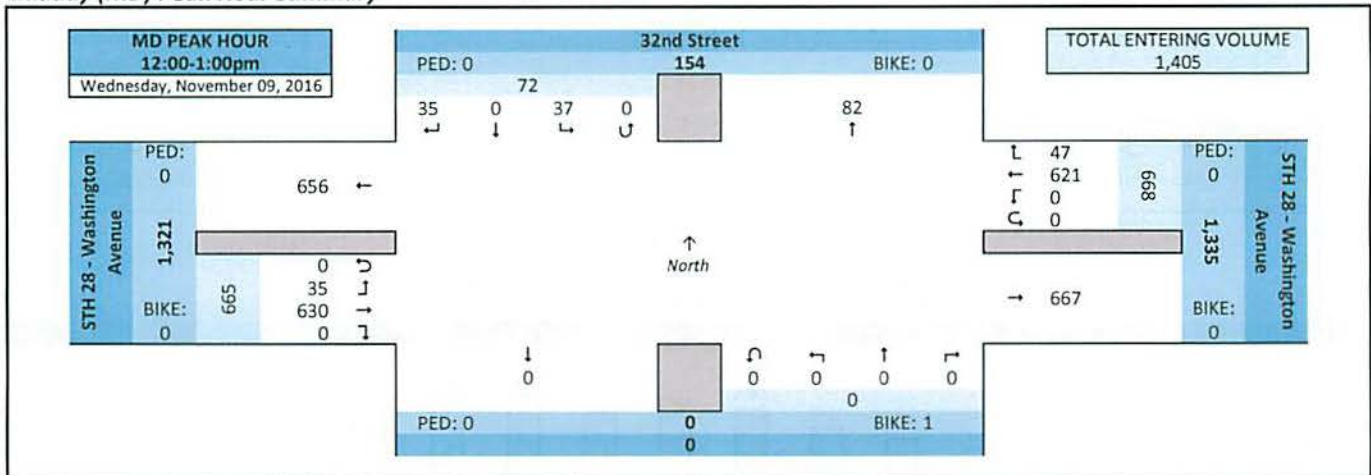
Count Basics		Page 2 of 11	
Start Date:	Monday, November 07, 2016	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



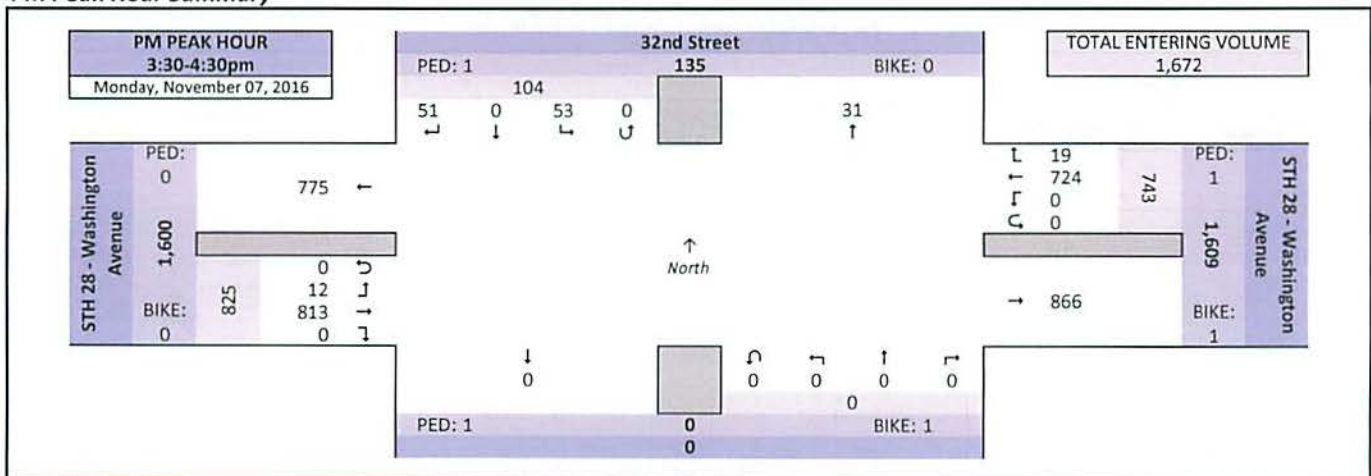
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Peak Hour Volume Summary

32nd Street and STH 28 - Washington Avenue



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, November 09, 2016		From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Totals
AM Peak Hour	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	7:00 AM	8	0	23	0	31	7	116	0	0	123	0	0	0	0	0	0	112	13	0	125	279
	7:15 AM	5	0	6	0	11	13	129	0	0	142	0	0	0	0	0	0	140	16	0	156	309
	7:30 AM	4	0	5	0	9	12	173	0	0	185	0	0	0	0	0	0	137	15	0	152	346
	7:45 AM	4	0	6	0	10	21	143	0	0	164	0	0	0	0	0	0	131	18	0	149	323
	Peak Hour Volume	21	0	40	0	61	53	561	0	0	614	0	0	0	0	0	0	520	62	0	582	1257
	Rounded Hourly Volume	20	0	40	0	60	55	560	0	0	615	0	0	0	0	0	0	520	60	0	580	1255
	% Single Unit Trucks	14.3	0.0	7.5	0.0	9.8	1.9	3.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.7	6.5	0.0	4.0	3.7
	% Heavy Trucks	4.8	0.0	2.5	0.0	3.3	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.5	1.4
	% Trucks (Total)	19.0	0.0	10.0	0.0	13.1	1.9	4.1	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	5.4	6.5	0.0	5.5	5.1
	Peak Hour Factor (PHF)	0.66	0.00	0.43	0.00	0.49	0.63	0.81	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.86	0.00	0.93	0.91

Wednesday, November 09, 2016		From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Totals
Midday (MD) Peak Hour	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	12	0	21	0	33	9	154	0	0	163	0	0	0	0	0	0	167	8	0	175	371
	12:15 PM	6	0	4	0	10	14	124	0	0	138	0	0	0	0	0	0	133	12	0	145	293
	12:30 PM	9	0	10	0	19	10	155	0	0	165	0	0	0	0	0	0	169	10	0	179	363
	12:45 PM	8	0	2	0	10	14	188	0	0	202	0	0	0	0	0	0	161	5	0	166	378
	Peak Hour Volume	35	0	37	0	72	47	621	0	0	668	0	0	0	0	0	0	630	35	0	665	1405
	Rounded Hourly Volume	35	0	35	0	70	45	620	0	0	665	0	0	0	0	0	0	630	35	0	665	1400
	% Single Unit Trucks	17.1	0.0	0.0	0.0	8.3	2.1	2.3	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	2.7	14.3	0.0	3.3	3.1
	% Heavy Trucks	5.7	0.0	5.4	0.0	5.6	0.0	1.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.9	0.0	1.4	1.5
	% Trucks (Total)	22.9	0.0	5.4	0.0	13.9	2.1	3.5	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	4.0	17.1	0.0	4.7	4.6
	Peak Hour Factor (PHF)	0.73	0.00	0.44	0.00	0.55	0.84	0.83	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.73	0.00	0.93	0.93

Monday, November 07, 2016		From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Totals
PM Peak Hour	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	3:30 PM	15	0	17	0	32	5	187	0	0	192	0	0	0	0	0	0	203	2	0	205	429
	3:45 PM	8	0	11	0	19	5	162	0	0	167	0	0	0	0	0	0	197	3	0	200	386
	4:00 PM	20	0	15	0	35	3	190	0	0	193	0	0	0	0	0	0	220	5	0	225	453
	4:15 PM	8	0	10	0	18	6	185	0	0	191	0	0	0	0	0	0	193	2	0	195	404
	Peak Hour Volume	51	0	53	0	104	19	724	0	0	743	0	0	0	0	0	0	813	12	0	825	1672
	Rounded Hourly Volume	50	0	55	0	105	20	725	0	0	745	0	0	0	0	0	0	815	10	0	825	1675
	% Single Unit Trucks	0.0	0.0	1.9	0.0	1.0	0.0	2.5	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	58.3	0.0	1.6	1.9
	% Heavy Trucks	5.9	0.0	0.0	0.0	2.9	5.3	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	8.3	0.0	0.6	0.6
	% Trucks (Total)	5.9	0.0	1.9	0.0	3.8	5.3	2.6	0.0	0.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	1.2	66.7	0.0	2.2	2.5
	Peak Hour Factor (PHF)	0.64	0.00	0.78	0.00	0.74	0.79	0.95	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.60	0.00	0.92	0.92

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
	32nd Street			STH 28 - Washington Avenue			0			STH 28 - Washington Avenue			
	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
15-Minute Start Time													
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	0	
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	1	1	0	1	
	Total	0	0	0	0	0	0	0	1	1	0	1	
PM	3:30 PM	1	0	1	1	0	1	0	0	0	0	2	
	3:45 PM	0	0	0	0	1	1	1	1	2	0	3	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	
	Total	1	0	1	1	1	2	1	1	2	0	5	

Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

32nd Street and STH 28 - Washington Avenue

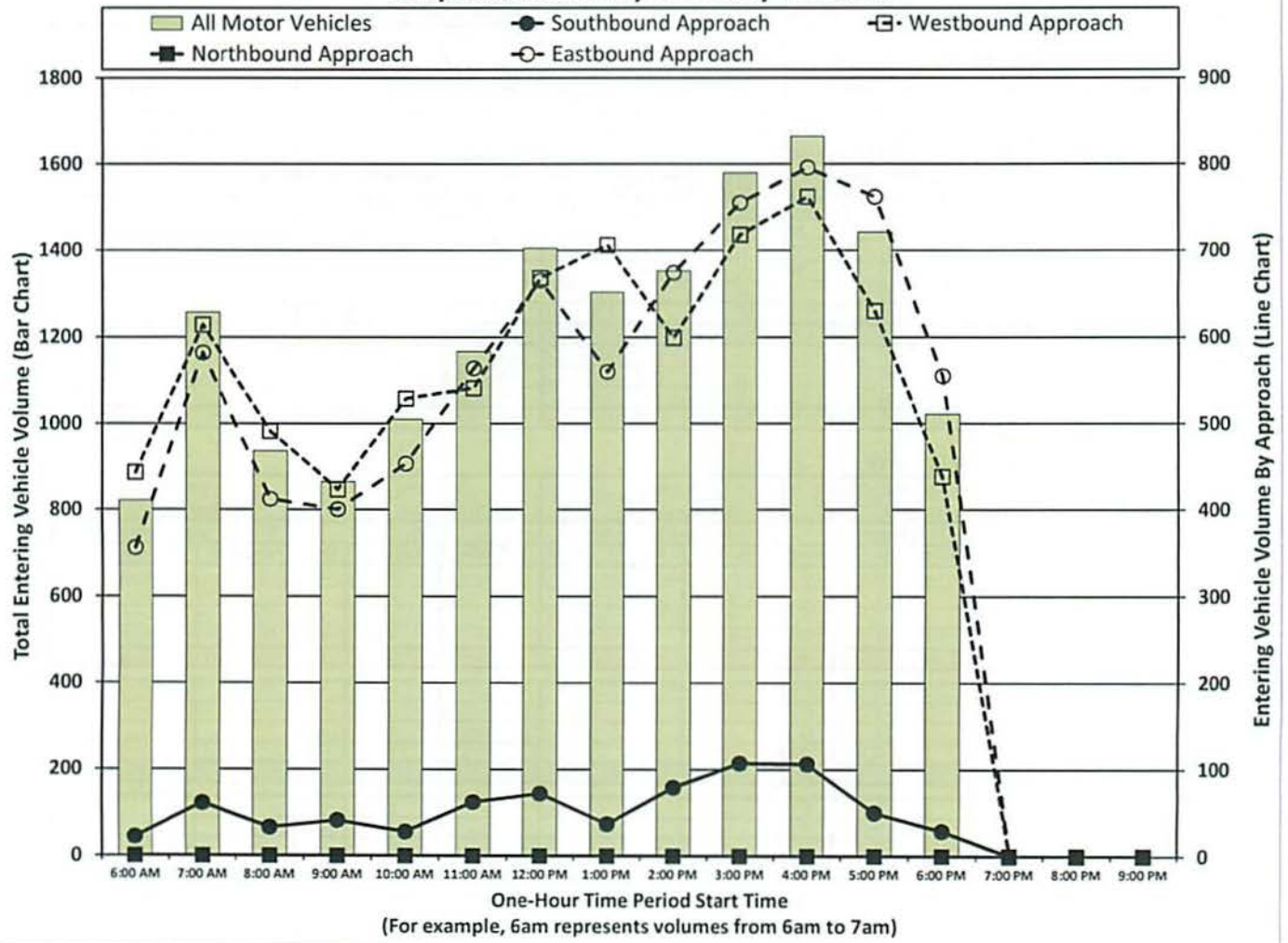
Count Basics			Page 4 of 11
Start Date:	Monday, November 07, 2016	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



One-Hour Motor Vehicle Data

One-Hour Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Vehicle Volume	Directional Volume Totals	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S
	6:00 AM	14	0	8	0	22	59	384	0	0	443	0	0	0	0	0	0	281	75	0		356	821
7:00 AM	21	0	40	0	61	53	561	0	0	614	0	0	0	0	0	0	520	62	0	582	1257	1196	61
8:00 AM	18	0	15	0	33	36	455	0	0	491	0	0	0	0	0	0	378	34	0	412	936	903	33
9:00 AM	22	0	19	0	41	22	401	0	0	423	0	0	0	0	0	0	380	20	0	400	864	823	41
10:00 AM	12	0	16	0	28	22	507	0	0	529	0	0	0	0	0	0	441	12	0	453	1010	982	28
11:00 AM	29	0	33	0	62	21	520	0	0	541	0	0	0	0	0	0	541	23	0	564	1167	1105	62
12:00 PM	35	0	37	0	72	47	621	0	0	668	0	0	0	0	0	0	630	35	0	665	1405	1333	72
1:00 PM	15	0	22	0	37	46	660	0	0	706	0	0	0	0	0	0	537	23	0	560	1303	1266	37
2:00 PM	41	0	38	0	79	37	562	0	0	599	0	0	0	0	0	0	647	27	0	674	1352	1273	79
3:00 PM	46	0	61	0	107	15	703	0	0	718	0	0	0	0	0	0	745	10	0	755	1580	1473	107
4:00 PM	63	0	43	0	106	22	740	0	0	762	0	0	0	0	0	0	784	12	0	796	1664	1558	106
5:00 PM	27	0	23	0	50	15	615	0	0	630	0	0	0	0	0	0	746	16	0	762	1442	1392	50
6:00 PM	14	0	15	0	29	13	425	0	0	438	0	0	0	0	0	0	541	14	0	555	1022	993	29
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	357	0	370	0	727	408	7154	0	0	7562	0	0	0	0	0	0	7171	363	0	7534	15823	15096	727

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

32nd Street and STH 28 - Washington Avenue



15-Minute Motor Vehicle Data

15-Minute Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					15-Min Totals	Hourly Sum	PHF	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
	6:00 AM	2	0	2	0	4	7	94	0	0	101	0	0	0	0	0	0	37	8	0				0
6:15 AM	2	0	3	0	5	7	91	0	0	98	0	0	0	0	0	0	49	12	0	0	61	164	950	0.85
6:30 AM	6	0	2	0	8	24	95	0	0	119	0	0	0	0	0	0	87	31	0	0	118	245	1095	0.89
6:45 AM	4	0	1	0	5	21	104	0	0	125	0	0	0	0	0	0	108	24	0	0	132	262	1196	0.86
7:00 AM	8	0	23	0	31	7	116	0	0	123	0	0	0	0	0	0	112	13	0	0	125	279	1257	0.91
7:15 AM	5	0	6	0	11	13	129	0	0	142	0	0	0	0	0	0	140	16	0	0	156	309	1257	0.91
7:30 AM	4	0	5	0	9	12	173	0	0	185	0	0	0	0	0	0	137	15	0	0	152	346	1177	0.85
7:45 AM	4	0	6	0	10	21	143	0	0	164	0	0	0	0	0	0	131	18	0	0	149	323	1009	0.78
8:00 AM	6	0	4	0	10	10	144	0	0	154	0	0	0	0	0	0	102	13	0	0	115	279	936	0.84
8:15 AM	4	0	4	0	8	10	114	0	0	124	0	0	0	0	0	0	93	4	0	0	97	229	857	0.86
8:30 AM	2	0	1	0	3	8	83	0	0	91	0	0	0	0	0	0	74	10	0	0	84	178	856	0.86
8:45 AM	6	0	6	0	12	8	114	0	0	122	0	0	0	0	0	0	109	7	0	0	116	250	904	0.90
9:00 AM	1	0	4	0	5	5	99	0	0	104	0	0	0	0	0	0	86	5	0	0	91	200	864	0.95
9:15 AM	10	0	4	0	14	8	109	0	0	117	0	0	0	0	0	0	93	4	0	0	97	228	913	0.92
9:30 AM	5	0	5	0	10	5	99	0	0	104	0	0	0	0	0	0	103	9	0	0	112	226	900	0.90
9:45 AM	6	0	6	0	12	4	94	0	0	98	0	0	0	0	0	0	98	2	0	0	100	210	946	0.87
10:00 AM	4	0	3	0	7	3	135	0	0	138	0	0	0	0	0	0	100	4	0	0	104	249	1010	0.92
10:15 AM	3	0	2	0	5	7	111	0	0	118	0	0	0	0	0	0	90	2	0	0	92	215	1055	0.90
10:30 AM	2	0	6	0	8	4	126	0	0	130	0	0	0	0	0	0	131	3	0	0	134	272	1125	0.96
10:45 AM	3	0	5	0	8	8	135	0	0	143	0	0	0	0	0	0	120	3	0	0	123	274	1144	0.97
11:00 AM	5	0	9	0	14	2	129	0	0	131	0	0	0	0	0	0	143	6	0	0	149	294	1167	0.98
11:15 AM	3	0	3	0	6	4	133	0	0	137	0	0	0	0	0	0	138	4	0	0	142	285	1244	0.84
11:30 AM	11	0	9	0	20	6	122	0	0	128	0	0	0	0	0	0	135	8	0	0	143	291	1252	0.84
11:45 AM	10	0	12	0	22	9	136	0	0	145	0	0	0	0	0	0	125	5	0	0	130	297	1324	0.89
12:00 PM	12	0	21	0	33	9	154	0	0	163	0	0	0	0	0	0	167	8	0	0	175	371	1405	0.93
12:15 PM	6	0	4	0	10	14	124	0	0	138	0	0	0	0	0	0	133	12	0	0	145	293	1379	0.91
12:30 PM	9	0	10	0	19	10	155	0	0	165	0	0	0	0	0	0	169	10	0	0	179	363	1383	0.91
12:45 PM	8	0	2	0	10	14	188	0	0	202	0	0	0	0	0	0	161	5	0	0	166	378	1355	0.90
1:00 PM	4	0	6	0	10	13	171	0	0	184	0	0	0	0	0	0	140	11	0	0	151	345	1303	0.94
1:15 PM	3	0	5	0	8	7	148	0	0	155	0	0	0	0	0	0	128	6	0	0	134	297	1294	0.96
1:30 PM	5	0	4	0	9	9	173	0	0	182	0	0	0	0	0	0	139	5	0	0	144	335	1307	0.97
1:45 PM	3	0	7	0	10	17	168	0	0	185	0	0	0	0	0	0	130	1	0	0	131	326	1348	0.90
2:00 PM	16	0	16	0	32	10	150	0	0	160	0	0	0	0	0	0	140	4	0	0	144	336	1352	0.90
2:15 PM	7	0	9	0	16	14	141	0	0	155	0	0	0	0	0	0	129	10	0	0	139	310	1397	0.92
2:30 PM	14	0	5	0	19	10	155	0	0	165	0	0	0	0	0	0	184	8	0	0	192	376	1471	0.96
2:45 PM	4	0	8	0	12	3	116	0	0	119	0	0	0	0	0	0	194	5	0	0	199	330	1524	0.89
3:00 PM	20	0	17	0	37	2	159	0	0	161	0	0	0	0	0	0	179	4	0	0	183	381	1580	0.92
3:15 PM	3	0	16	0	19	3	195	0	0	198	0	0	0	0	0	0	166	1	0	0	167	384	1652	0.91
3:30 PM	15	0	17	0	32	5	187	0	0	192	0	0	0	0	0	0	203	2	0	0	205	429	1672	0.92
3:45 PM	8	0	11	0	19	5	162	0	0	167	0	0	0	0	0	0	197	3	0	0	200	386	1647	0.91
4:00 PM	20	0	15	0	35	3	190	0	0	193	0	0	0	0	0	0	220	5	0	0	225	453	1664	0.92
4:15 PM	8	0	10	0	18	6	185	0	0	191	0	0	0	0	0	0	193	2	0	0	195	404	1626	0.98
4:30 PM	22	0	11	0	33	6	182	0	0	188	0	0	0	0	0	0	179	4	0	0	183	404	1585	0.95
4:45 PM	13	0	7	0	20	7	183	0	0	190	0	0	0	0	0	0	192	1	0	0	193	403	1523	0.92
5:00 PM	12	0	12	0	24	2	165	0	0	167	0	0	0	0	0	0	217	7	0	0	224	415	1442	0.87
5:15 PM	5	0	4	0	9	2	152	0	0	154	0	0	0	0	0	0	198	2	0	0	200	363	1305	0.90
5:30 PM	5	0	5	0	10	6	149	0	0	155	0	0	0	0	0	0	173	4	0	0	177	342	1243	0.91
5:45 PM	5	0	2	0	7	5	149	0	0	154	0	0	0	0	0	0	158	3	0	0	161	322	1130	0.88
6:00 PM	3	0	3	0	6	2	118	0	0	120	0	0	0	0	0	0	152	0	0	0	152	278	1022	0.85
6:15 PM	1	0	4	0	5	3	122	0	0	125	0	0	0	0	0	0	164	7	0	0	171	301		
6:30 PM	7	0	6	0	13	7	99	0	0	106	0	0	0	0	0	0	107	3	0	0	110	229		
6:45 PM	3	0	2	0	5	1	86	0	0	87	0	0	0	0	0	0	118	4	0	0	122	214		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals	357	0	370	0	727	408	7154	0	0	7562	0	0	0	0	0	0	7171	363	0	0	7534	15823		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Hourly Volume	PHF
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru										

Intersection Traffic Volume Report

Count Basics			Page 6 of 11		
Start Date:	Monday, November 07, 2016	Weekday	Schools in Session		
Total Number of Hours Counted:	13	Non-Holiday	No Special Events		

15-Minute Automobile Data

32nd Street and STH 28 - Washington Avenue



15-Minute Automobile Data

15-Minute Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					15-Min Totals	Hourly Sum
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
	6:00 AM	1	0	2	0	3	7	93	0	0	100	0	0	0	0	0	0	32	7	0		
6:15 AM	2	0	3	0	5	7	90	0	0	97	0	0	0	0	0	0	42	11	0	53	155	905
6:30 AM	5	0	2	0	7	23	93	0	0	116	0	0	0	0	0	0	84	29	0	113	236	1043
6:45 AM	3	0	1	0	4	21	100	0	0	121	0	0	0	0	0	0	103	24	0	127	252	1139
7:00 AM	6	0	23	0	29	7	113	0	0	120	0	0	0	0	0	0	102	11	0	113	262	1193
7:15 AM	5	0	5	0	10	12	123	0	0	135	0	0	0	0	0	0	132	16	0	148	293	1193
7:30 AM	4	0	3	0	7	12	168	0	0	180	0	0	0	0	0	0	131	14	0	145	332	1114
7:45 AM	2	0	5	0	7	21	134	0	0	155	0	0	0	0	0	0	127	17	0	144	306	943
8:00 AM	5	0	4	0	9	8	136	0	0	144	0	0	0	0	0	0	97	12	0	109	262	864
8:15 AM	3	0	2	0	5	9	106	0	0	115	0	0	0	0	0	0	90	4	0	94	214	784
8:30 AM	1	0	1	0	2	7	75	0	0	82	0	0	0	0	0	0	70	7	0	77	161	775
8:45 AM	2	0	6	0	8	8	104	0	0	112	0	0	0	0	0	0	101	6	0	107	227	819
9:00 AM	1	0	4	0	5	5	92	0	0	97	0	0	0	0	0	0	79	1	0	80	182	784
9:15 AM	4	0	3	0	7	7	103	0	0	110	0	0	0	0	0	0	86	2	0	88	205	836
9:30 AM	2	0	4	0	6	5	91	0	0	96	0	0	0	0	0	0	97	6	0	103	205	834
9:45 AM	4	0	5	0	9	3	85	0	0	88	0	0	0	0	0	0	94	1	0	95	192	888
10:00 AM	3	0	3	0	6	3	126	0	0	129	0	0	0	0	0	0	96	3	0	99	234	954
10:15 AM	1	0	2	0	3	6	106	0	0	112	0	0	0	0	0	0	86	2	0	88	203	1001
10:30 AM	2	0	5	0	7	4	118	0	0	122	0	0	0	0	0	0	128	2	0	130	259	1068
10:45 AM	2	0	3	0	5	6	130	0	0	136	0	0	0	0	0	0	115	2	0	117	258	1083
11:00 AM	4	0	8	0	12	2	127	0	0	129	0	0	0	0	0	0	137	3	0	140	281	1111
11:15 AM	2	0	2	0	4	3	126	0	0	129	0	0	0	0	0	0	134	3	0	137	270	1186
11:30 AM	9	0	8	0	17	5	122	0	0	127	0	0	0	0	0	0	124	6	0	130	274	1197
11:45 AM	10	0	11	0	21	8	133	0	0	141	0	0	0	0	0	0	120	4	0	124	286	1268
12:00 PM	9	0	20	0	29	9	150	0	0	159	0	0	0	0	0	0	162	6	0	168	356	1341
12:15 PM	6	0	3	0	9	14	116	0	0	130	0	0	0	0	0	0	131	11	0	142	281	1315
12:30 PM	6	0	10	0	16	10	151	0	0	161	0	0	0	0	0	0	161	7	0	168	345	1316
12:45 PM	6	0	2	0	8	13	182	0	0	195	0	0	0	0	0	0	151	5	0	156	359	1289
1:00 PM	4	0	6	0	10	12	165	0	0	177	0	0	0	0	0	0	134	9	0	143	330	1238
1:15 PM	2	0	5	0	7	7	136	0	0	143	0	0	0	0	0	0	126	6	0	132	282	1231
1:30 PM	3	0	4	0	7	8	168	0	0	176	0	0	0	0	0	0	132	3	0	135	318	1250
1:45 PM	1	0	6	0	7	15	162	0	0	177	0	0	0	0	0	0	123	1	0	124	308	1295
2:00 PM	12	0	16	0	28	8	146	0	0	154	0	0	0	0	0	0	138	3	0	141	323	1302
2:15 PM	6	0	9	0	15	14	138	0	0	152	0	0	0	0	0	0	125	9	0	134	301	1349
2:30 PM	12	0	5	0	17	9	148	0	0	157	0	0	0	0	0	0	182	7	0	189	363	1425
2:45 PM	4	0	7	0	11	3	111	0	0	114	0	0	0	0	0	0	187	3	0	190	315	1478
3:00 PM	18	0	17	0	35	1	153	0	0	154	0	0	0	0	0	0	179	2	0	181	370	1542
3:15 PM	2	0	16	0	18	3	191	0	0	194	0	0	0	0	0	0	164	1	0	165	377	1612
3:30 PM	15	0	16	0	31	4	182	0	0	186	0	0	0	0	0	0	199	0	0	199	416	1630
3:45 PM	7	0	11	0	18	5	157	0	0	162	0	0	0	0	0	0	197	2	0	199	379	1605
4:00 PM	19	0	15	0	34	3	185	0	0	188	0	0	0	0	0	0	217	1	0	218	440	1622
4:15 PM	7	0	10	0	17	6	181	0	0	187	0	0	0	0	0	0	190	1	0	191	395	1589
4:30 PM	22	0	11	0	33	6	175	0	0	181	0	0	0	0	0	0	174	3	0	177	391	1550
4:45 PM	13	0	7	0	20	7	179	0	0	186	0	0	0	0	0	0	189	1	0	190	396	1493
5:00 PM	12	0	12	0	24	2	163	0	0	165	0	0	0	0	0	0	214	4	0	218	407	1415
5:15 PM	5	0	4	0	9	1	149	0	0	150	0	0	0	0	0	0	195	2	0	197	356	1285
5:30 PM	4	0	5	0	9	5	147	0	0	152	0	0	0	0	0	0	170	3	0	173	334	1223
5:45 PM	5	0	2	0	7	5	146	0	0	151	0	0	0	0	0	0	158	2	0	160	318	1113
6:00 PM	3	0	3	0	6	2	117	0	0	119	0	0	0	0	0	0	152	0	0	152	277	1006
6:15 PM	1	0	4	0	5	3	117	0	0	120	0	0	0	0	0	0	162	7	0	169	294	
6:30 PM	7	0	6	0	13	7	98	0	0	105	0	0	0	0	0	0	104	2	0	106	224	
6:45 PM	3	0	1	0	4	1	85	0	0	86	0	0	0	0	0	0	118	3	0	121	211	
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals	297	0	348	0	645	382	6892	0	0	7274	0	0	0	0	0	0	6941	297	0	7238	15157	

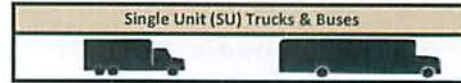
Peak Hour Automobile Volume Summary

Hourly Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Hourly Volume
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	AM 7:00 AM	17	0	36	0	53	52	538	0	0	590	0	0	0	0	0	0	492	58	0	
MD 12:00 PM	27	0	35	0	62	46	599	0	0	645	0	0	0	0	0	0	605	29	0	634	1341
PM 3:30 PM	48	0	52	0	100	18	705	0	0	723	0	0	0	0	0	0	803	4	0	807	1630

Intersection Traffic Volume Report

15-Minute Single Unit (SU) Truck & Bus Data

32nd Street and STH 28 - Washington Avenue



15-Minute Single Unit (SU) Truck & Bus Data

15-Minute Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					15-Min Totals	Hourly Sum		
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
	AM Peak Period	8:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	1			0	0
	6:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	0	5	6	33
	6:30 AM	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	2	2	0	0	4	7	39
	6:45 AM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	3	7	42
	7:00 AM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	0	7	2	0	0	9	13	47
	7:15 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	7	0	0	0	7	12	48
	7:30 AM	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	4	1	0	0	5	10	46
	7:45 AM	1	0	1	0	2	0	8	0	0	8	0	0	0	0	0	0	1	1	0	0	2	12	46
	8:00 AM	1	0	0	0	1	1	8	0	0	9	0	0	0	0	0	0	3	1	0	0	4	14	51
	8:15 AM	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	2	0	0	0	2	10	48
	8:30 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	3	2	0	0	5	10	54
	8:45 AM	3	0	0	0	3	0	8	0	0	8	0	0	0	0	0	0	6	0	0	0	6	17	57
	9:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	3	0	0	6	11	53
	9:15 AM	5	0	1	0	6	0	4	0	0	4	0	0	0	0	0	0	5	1	0	0	6	16	51
	9:30 AM	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	5	1	0	0	6	13	39
	9:45 AM	1	0	0	0	1	1	8	0	0	9	0	0	0	0	0	0	2	1	0	0	3	13	36
	10:00 AM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	1	1	0	0	2	9	33
	10:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	1	4	31
	10:30 AM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	3	1	0	0	4	10	35
	10:45 AM	1	0	2	0	3	0	3	0	0	3	0	0	0	0	0	0	4	0	0	0	4	10	34
	11:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	6	7	33
	11:15 AM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	2	0	0	0	2	8	36
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	0	0	9	9	35
	11:45 AM	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	0	4	1	0	0	5	9	40
	12:00 PM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	3	2	0	0	5	10	43
	12:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	1	0	0	2	7	43
	12:30 PM	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	0	6	2	0	0	8	14	42
	12:45 PM	2	0	0	0	2	1	2	0	0	3	0	0	0	0	0	0	7	0	0	0	7	12	42
	1:00 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	3	2	0	0	5	10	45
	1:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	1	0	0	1	6	43
	1:30 PM	2	0	0	0	2	1	3	0	0	4	0	0	0	0	0	0	7	1	0	0	8	14	44
	1:45 PM	0	0	1	0	1	2	5	0	0	7	0	0	0	0	0	0	7	0	0	0	7	15	40
	2:00 PM	2	0	0	0	2	1	3	0	0	4	0	0	0	0	0	0	1	1	0	0	2	8	37
	2:15 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	3	7	38
	2:30 PM	1	0	0	0	1	1	6	0	0	7	0	0	0	0	0	0	1	1	0	0	2	10	35
	2:45 PM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	4	2	0	0	6	12	37
	3:00 PM	2	0	0	0	2	1	4	0	0	5	0	0	0	0	0	0	0	2	0	0	2	9	31
	3:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	4	31
	3:30 PM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	4	2	0	0	6	12	32
	3:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	1	6	29
	4:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	3	0	0	4	9	29
	4:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	1	0	0	2	5	26
	4:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	0	4	9	28
	4:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	3	6	26
	5:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2	0	0	4	6	23
	5:15 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	3	0	0	0	3	7	18
	5:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	1	0	0	4	7	18
	5:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	1	3	15
	6:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14
	6:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	0	2	7	
	6:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	1	0	0	3	4	
	6:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		37	0	15	0	52	16	189	0	0	205	0	0	0	0	0	0	155	52	0	0	207	464	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

Hourly Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Hourly Volume
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 7:00 AM	3	0	3	0	6	1	17	0	0	18	0	0	0	0	0	0	19	4	0	23	47
MD 12:00 PM	6	0	0	0	6	1	14	0	0	15	0	0	0	0	0	0	17	5	0	22	43
PM 3:30 PM	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	0	6	7	0	13	32

Intersection Traffic Volume Report

15-Minute Semi-Truck Data

32nd Street and STH 28 - Washington Avenue



15-Minute Semi-Truck Data

15-Minute Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					15-Min Totals	Hourly Sum	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
	6:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0			0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	12
6:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	13
6:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	15
7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	3	17
7:15 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	16
7:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	17
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	20
8:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	21
8:15 AM	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	25
8:30 AM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	1	1	0	0	2	27
8:45 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	2	1	0	0	3	28
9:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	1	0	0	5	27
9:15 AM	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	0	0	2	1	0	0	3	26
9:30 AM	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	0	1	2	0	0	3	27
9:45 AM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	22
10:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3	0	0	0	3	23
10:15 AM	2	0	0	0	2	1	2	0	0	3	0	0	0	0	0	0	0	3	0	0	0	3	23
10:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	22
10:45 AM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	1	1	0	0	2	27
11:00 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	23
11:15 AM	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	0	0	2	1	0	0	3	22
11:30 AM	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	4	20
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	16
12:00 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	5
12:15 PM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	5
12:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	4
12:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	3	0	0	0	3	7
1:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	5
1:15 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	1	0	0	0	1	9
1:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
1:45 PM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
2:00 PM	2	0	0	0	2	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	5
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
2:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
3:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	4
4:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	4
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	4
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	23	0	7	0	30	10	73	0	0	83	0	0	0	0	0	0	0	75	14	0	0	89	202

Peak Hour Semi-Truck Volume Summary

Hourly Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Hourly Volume		
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
	AM 7:00 AM	2	0	1	0	3	1	5	0	0	6	0	0	0	0	0	0	0	8	0		0	0
MD 12:00 PM	1	0	1	0	2	0	9	0	0	9	0	0	0	0	0	0	0	9	1	0	0	10	21
PM 3:30 PM	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	6	1	0	0	7	13

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

32nd Street and STH 28 - Washington Avenue



15-Minute Heavy Vehicle Data

15-Minute Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					15-Min Totals	Hourly Sum
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
	6:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	5	1		
6:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	7	1	0	8	9
6:30 AM	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	0	0	3	2	0	5	9
6:45 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	5	0	0	5	10
7:00 AM	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	10	2	0	12	17
7:15 AM	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	0	8	0	0	8	16
7:30 AM	0	0	2	0	2	0	5	0	0	5	0	0	0	0	0	0	0	6	1	0	7	14
7:45 AM	2	0	1	0	3	0	9	0	0	9	0	0	0	0	0	0	0	4	1	0	5	17
8:00 AM	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	0	0	5	1	0	6	17
8:15 AM	1	0	2	0	3	1	8	0	0	9	0	0	0	0	0	0	0	3	0	0	3	15
8:30 AM	1	0	0	0	1	1	8	0	0	9	0	0	0	0	0	0	0	4	3	0	7	17
8:45 AM	4	0	0	0	4	0	10	0	0	10	0	0	0	0	0	0	0	8	1	0	9	23
9:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	7	4	0	11	18
9:15 AM	6	0	1	0	7	1	6	0	0	7	0	0	0	0	0	0	0	7	2	0	9	23
9:30 AM	3	0	1	0	4	0	8	0	0	8	0	0	0	0	0	0	0	6	3	0	9	21
9:45 AM	2	0	1	0	3	1	9	0	0	10	0	0	0	0	0	0	0	4	1	0	5	18
10:00 AM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	0	4	1	0	5	15
10:15 AM	2	0	0	0	2	1	5	0	0	6	0	0	0	0	0	0	0	4	0	0	4	12
10:30 AM	0	0	1	0	1	0	8	0	0	8	0	0	0	0	0	0	0	3	1	0	4	13
10:45 AM	1	0	2	0	3	2	5	0	0	7	0	0	0	0	0	0	0	5	1	0	6	16
11:00 AM	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	0	0	6	3	0	9	13
11:15 AM	1	0	1	0	2	1	7	0	0	8	0	0	0	0	0	0	0	4	1	0	5	15
11:30 AM	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0	0	11	2	0	13	17
11:45 AM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	0	5	1	0	6	11
12:00 PM	3	0	1	0	4	0	4	0	0	4	0	0	0	0	0	0	0	5	2	0	7	15
12:15 PM	0	0	1	0	1	0	8	0	0	8	0	0	0	0	0	0	0	2	1	0	3	12
12:30 PM	3	0	0	0	3	0	4	0	0	4	0	0	0	0	0	0	0	8	3	0	11	18
12:45 PM	2	0	0	0	2	1	6	0	0	7	0	0	0	0	0	0	0	10	0	0	10	19
1:00 PM	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	6	2	0	8	15
1:15 PM	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	0	0	2	0	0	2	15
1:30 PM	2	0	0	0	2	1	5	0	0	6	0	0	0	0	0	0	0	7	2	0	9	17
1:45 PM	2	0	1	0	3	2	6	0	0	8	0	0	0	0	0	0	0	7	0	0	7	18
2:00 PM	4	0	0	0	4	2	4	0	0	6	0	0	0	0	0	0	0	2	1	0	3	13
2:15 PM	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	4	1	0	5	9
2:30 PM	2	0	0	0	2	1	7	0	0	8	0	0	0	0	0	0	0	2	1	0	3	13
2:45 PM	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	0	7	2	0	9	15
3:00 PM	2	0	0	0	2	1	6	0	0	7	0	0	0	0	0	0	0	0	2	0	2	11
3:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	2	0	0	2	7
3:30 PM	0	0	1	0	1	1	5	0	0	6	0	0	0	0	0	0	0	4	2	0	6	13
3:45 PM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	0	0	1	0	1	7
4:00 PM	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	0	3	4	0	7	13
4:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	3	1	0	4	9
4:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	5	1	0	6	13
4:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	3	0	0	3	7
5:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	3	0	6	8
5:15 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	3	0	0	3	7
5:30 PM	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	0	0	3	1	0	4	8
5:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	1	4
6:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	2	0	0	2	7
6:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	1	0	4	5
6:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	3
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	60	0	22	0	82	26	262	0	0	288	0	0	0	0	0	0	0	230	66	0	296	666

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period Start Time	From North 32nd Street					From East STH 28 - Washington Avenue					From South 0					From West STH 28 - Washington Avenue					Total Hourly Volume	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
	AM 7:00 AM	4	0	4	0	8	1	23	0	0	24	0	0	0	0	0	0	0	28	4		0
MD 12:00 PM	8	0	2	0	10	1	22	0	0	23	0	0	0	0	0	0	0	25	6	0	31	64
PM 3:30 PM	3	0	1	0	4	1	19	0	0	20	0	0	0	0	0	0	0	10	8	0	18	42

Intersection Traffic Volume Report

15-Minute Pedestrian and Bicyclist Data

32nd Street and STH 28 - Washington Avenue



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			15-Min Totals	Hourly Sum
	32nd Street			STH 28 - Washington Avenue			0			STH 28 - Washington Avenue				
	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	1	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	1	1	0	0	0	1	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	1	4
11:15 AM	0	0	0	0	0	0	1	1	2	0	0	0	2	3
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	5
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1:30 PM	0	0	0	0	0	0	3	1	4	0	0	0	4	6
1:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	1	3
2:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	7
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	10
2:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	11
2:45 PM	0	0	0	0	0	0	4	1	5	0	0	0	5	12
3:00 PM	0	0	0	0	0	0	2	2	4	0	0	0	4	10
3:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	6
3:30 PM	1	0	1	1	0	1	0	0	0	0	0	0	2	5
3:45 PM	0	0	0	0	1	1	1	1	2	0	0	0	3	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:00 PM	0	0	0	0	0	0	1	2	3	0	0	0	3	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	1	1	2	2	1	3	14	14	28	1	0	1	34	

Special Pedestrians







Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Appendix B
Peak Hour Analysis Outputs – Existing Configuration

Year 2016 Existing Traffic Volumes
Two-way Stop Control and Traffic Signal Control

Lanes, Volumes, Timings
Existing Stop Controlled

AM Peak
11/15/2016

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Traffic Volume (vph)	60	520	560	55	40	20
Future Volume (vph)	60	520	560	55	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.987		0.955	
Flt Protected		0.995			0.968	
Satd. Flow (prot)	0	3389	3426	0	1554	0
Flt Permitted		0.995			0.968	
Satd. Flow (perm)	0	3389	3426	0	1554	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		997	1060		888	
Travel Time (s)		19.4	20.6		24.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	6%	4%	4%	13%	13%
Adj. Flow (vph)	66	571	615	60	44	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	637	675	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 46.8% ICU Level of Service A
 Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↕↔	
Traffic Vol, veh/h	60	520	560	55	40	20
Future Vol, veh/h	60	520	560	55	40	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	4	4	13	13
Mvmt Flow	66	571	615	60	44	22







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	676	0	1064
Stage 1	-	-	646
Stage 2	-	-	418
Critical Hdwy	4.22	-	7.06
Critical Hdwy Stg 1	-	-	6.06
Critical Hdwy Stg 2	-	-	6.06
Follow-up Hdwy	2.26	-	3.63
Pot Cap-1 Maneuver	885	-	201
Stage 1	-	-	455
Stage 2	-	-	601
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	885	-	179
Mov Cap-2 Maneuver	-	-	179
Stage 1	-	-	455
Stage 2	-	-	535

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	26.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	885	-	-	-	235
HCM Lane V/C Ratio	0.075	-	-	-	0.281
HCM Control Delay (s)	9.4	0.4	-	-	26.2
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	1.1

Lanes, Volumes, Timings
Existing Stop Controlled

PM Peak
11/15/2016

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		∨∨	
Traffic Volume (vph)	10	815	725	20	55	50
Future Volume (vph)	10	815	725	20	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996		0.936	
Flt Protected		0.999			0.974	
Satd. Flow (prot)	0	3536	3491	0	1666	0
Flt Permitted		0.999			0.974	
Satd. Flow (perm)	0	3536	3491	0	1666	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		997	1060		888	
Travel Time (s)		19.4	20.6		24.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Adj. Flow (vph)	11	886	788	22	60	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	897	810	0	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.4%
	ICU Level of Service A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Traffic Vol, veh/h	10	815	725	20	55	50
Future Vol, veh/h	10	815	725	20	55	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	11	886	788	22	60	54













Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	810	0	1264
Stage 1	-	-	799
Stage 2	-	-	465
Critical Hdwy	4.14	-	6.88
Critical Hdwy Stg 1	-	-	5.88
Critical Hdwy Stg 2	-	-	5.88
Follow-up Hdwy	2.22	-	3.54
Pot Cap-1 Maneuver	812	-	159
Stage 1	-	-	398
Stage 2	-	-	593
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	812	-	155
Mov Cap-2 Maneuver	-	-	155
Stage 1	-	-	398
Stage 2	-	-	577

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	33.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	812	-	-	-	239
HCM Lane V/C Ratio	0.013	-	-	-	0.478
HCM Control Delay (s)	9.5	0.1	-	-	33.1
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	2.4

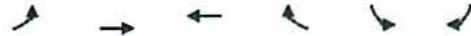
Lanes, Volumes, Timings
Existing Traffic Signal Control

AM Peak
11/15/2016

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	60	520	560	55	40	20
Future Volume (vph)	60	520	560	55	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.987		0.955	
Flt Protected		0.995			0.968	
Satd. Flow (prot)	0	3389	3426	0	1554	0
Flt Permitted		0.851			0.968	
Satd. Flow (perm)	0	2898	3426	0	1554	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			29		22	
Link Speed (mph)		35	35		25	
Link Distance (ft)		997	1060		888	
Travel Time (s)		19.4	20.6		24.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	6%	4%	4%	13%	13%
Adj. Flow (vph)	66	571	615	60	44	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	637	675	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex		CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		CI+Ex	CI+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		6	2		4	
Permitted Phases	6					
Detector Phase	6	6	2		4	
Switch Phase						

Lanes, Volumes, Timings
Existing Traffic Signal Control

AM Peak
11/15/2016

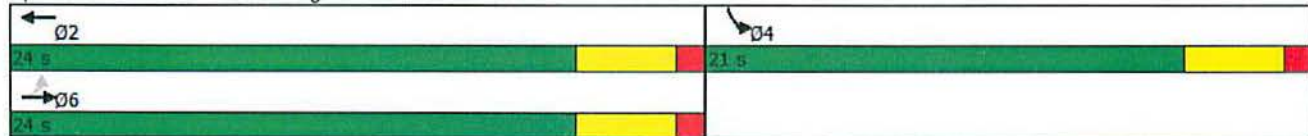


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	21.0	21.0	21.0		21.0	
Total Split (s)	24.0	24.0	24.0		21.0	
Total Split (%)	53.3%	53.3%	53.3%		46.7%	
Maximum Green (s)	19.5	19.5	19.5		16.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Act Effct Green (s)		30.9	30.9		7.4	
Actuated g/C Ratio		0.82	0.82		0.20	
v/c Ratio		0.27	0.24		0.21	
Control Delay		3.3	2.9		10.8	
Queue Delay		0.0	0.0		0.0	
Total Delay		3.3	2.9		10.8	
LOS		A	A		B	
Approach Delay		3.3	2.9		10.8	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other
 Cycle Length: 45
 Actuated Cycle Length: 37.9
 Natural Cycle: 45
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.27
 Intersection Signal Delay: 3.5
 Intersection Capacity Utilization 50.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 4: Washington Ave & S. 32nd Street









Queues
Existing Traffic Signal Control

AM Peak
11/15/2016

	→	←	↘
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	637	675	66
v/c Ratio	0.27	0.24	0.21
Control Delay	3.3	2.9	10.8
Queue Delay	0.0	0.0	0.0
Total Delay	3.3	2.9	10.8
Queue Length 50th (ft)	0	0	8
Queue Length 95th (ft)	57	54	26
Internal Link Dist (ft)	917	980	808
Turn Bay Length (ft)			
Base Capacity (vph)	2361	2796	689
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.27	0.24	0.10
Intersection Summary			

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

AM Peak
11/15/2016

									
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↑↑	↑↑		↑				
Traffic Volume (veh/h)	60	520	560	55	40	20			
Future Volume (veh/h)	60	520	560	55	40	20			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1792	1827	1900	1681	1900			
Adj Flow Rate, veh/h	66	571	615	60	44	22			
Adj No. of Lanes	0	2	2	0	0	0			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	6	6	4	4	0	0			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	249	1787	1972	192	100	50			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.62	0.62	0.62	0.62	0.10	0.10			
Ln Grp Delay, s/veh	3.5	3.8	3.6	3.6	15.4	0.0			
Ln Grp LOS	A	A	A	A	B				
Approach Vol, veh/h		637	675		67				
Approach Delay, s/veh		3.7	3.6		15.4				
Approach LOS		A	A		B				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		12.0		8.0		
Phs Duration (G+Y+Rc), s			24.0		7.6		24.0		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			19.5		16.5		19.5		
Max Allow Headway (MAH), s			5.2		4.0		5.2		
Max Q Clear (g_c+I1), s			4.9		3.3		5.1		
Green Ext Time (g_e), s			7.1		0.1		7.0		
Prob of Phs Call (p_c)			1.00		0.44		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		1012		181		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3288		23		2979		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			311		506		0		
Left Lane Group Data									
Assigned Mvmt	0	5	0	7	0	1	0	0	
Lane Assignment				L+T+R		L+T			
Lanes in Grp	0	0	0	1	0	1	0	0	

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

AM Peak
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Grp Vol (v), veh/h	0	0	0	67	0	324	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1541	0	1529	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.3	0.0	2.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	776	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	19.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	16.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	19.5	0.0	0.0	0.0	7.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.66	0.00	0.20	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	152	0	1081	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.44	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	805	0	1081	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	13.4	0.0	2.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	15.4	0.0	3.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	1.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	334	0	0	0	313	0	0
Grp Sat Flow (s), veh/h/ln	0	1736	0	0	0	1550	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	3.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	1071	0	0	0	956	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	1071	0	0	0	956	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.9	0.0	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.6	0.0	0.0	0.0	3.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

AM Peak
11/15/2016

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment	T+R							
Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	341	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1772	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.18	0.00	0.33	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1093	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1093	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary







HCM 2010 Ctrl Delay	4.2
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.













HCM 2010 Signalized Intersection Summary
Existing Traffic Signal Control

AM Peak
11/15/2016

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		↕↕	↕↕		↕			
Traffic Volume (veh/h)	60	520	560	55	40	20		
Future Volume (veh/h)	60	520	560	55	40	20		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1792	1827	1900	1681	1900		
Adj Flow Rate, veh/h	66	571	615	60	44	22		
Adj No. of Lanes	0	2	2	0	0	0		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	6	6	4	4	0	0		
Cap, veh/h	249	1787	1972	192	100	50		
Arrive On Green	0.62	0.62	0.62	0.62	0.10	0.10		
Sat Flow, veh/h	181	2979	3288	311	1012	506		
Grp Volume(v), veh/h	324	313	334	341	67	0		
Grp Sat Flow(s),veh/h/ln	1529	1550	1736	1772	1541	0		
Q Serve(g_s), s	0.0	3.1	2.9	2.9	1.3	0.0		
Cycle Q Clear(g_c), s	2.7	3.1	2.9	2.9	1.3	0.0		
Prop In Lane	0.20			0.18	0.66	0.33		
Lane Grp Cap(c), veh/h	1081	956	1071	1093	152	0		
V/C Ratio(X)	0.30	0.33	0.31	0.31	0.44	0.00		
Avail Cap(c_a), veh/h	1081	956	1071	1093	805	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	2.8	2.9	2.9	2.9	13.4	0.0		
Incr Delay (d2), s/veh	0.7	0.9	0.8	0.7	2.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.5	1.6	0.6	0.0		
LnGrp Delay(d),s/veh	3.5	3.8	3.6	3.6	15.4	0.0		
LnGrp LOS	A	A	A	A	B			
Approach Vol, veh/h		637	675		67			
Approach Delay, s/veh		3.7	3.6		15.4			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		24.0		7.6		24.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		19.5		16.5		19.5		
Max Q Clear Time (g_c+I1), s		4.9		3.3		5.1		
Green Ext Time (p_c), s		7.1		0.1		7.0		
Intersection Summary								
HCM 2010 Ctrl Delay			4.2					
HCM 2010 LOS			A					
Notes								
User approved volume balancing among the lanes for turning movement.								

Lanes, Volumes, Timings
Existing Traffic Signal Control

PM Peak
11/15/2016

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	10	815	725	20	55	50
Future Volume (vph)	10	815	725	20	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr _t			0.996		0.936	
Fl _t Protected		0.999			0.974	
Satd. Flow (prot)	0	3536	3491	0	1666	0
Fl _t Permitted		0.946			0.974	
Satd. Flow (perm)	0	3348	3491	0	1666	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			8		54	
Link Speed (mph)		35	35		25	
Link Distance (ft)		997	1060		888	
Travel Time (s)		19.4	20.6		24.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Adj. Flow (vph)	11	886	788	22	60	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	897	810	0	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex		CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		CI+Ex	CI+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		6	2		4	
Permitted Phases	6					
Detector Phase	6	6	2		4	
Switch Phase						

Lanes, Volumes, Timings
Existing Traffic Signal Control

PM Peak
11/15/2016

	↖	→	←	↗	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	21.0	21.0	21.0		21.0	
Total Split (s)	24.0	24.0	24.0		21.0	
Total Split (%)	53.3%	53.3%	53.3%		46.7%	
Maximum Green (s)	19.5	19.5	19.5		16.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Max	Max	Max		None	
Walk Time (s)	5.0	5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)		31.0	31.0		7.8	
Actuated g/C Ratio		0.75	0.75		0.19	
v/c Ratio		0.36	0.31		0.32	
Control Delay		4.3	4.0		11.1	
Queue Delay		0.0	0.0		0.0	
Total Delay		4.3	4.0		11.1	
LOS		A	A		B	
Approach Delay		4.3	4.0		11.1	
Approach LOS		A	A		B	

Intersection Summary

Area Type:	Other
Cycle Length:	45
Actuated Cycle Length:	41.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.36
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 4: Washington Ave & S. 32nd Street









Queues
Existing Traffic Signal Control

PM Peak
11/15/2016

	→	←	↘
Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	897	810	114
v/c Ratio	0.36	0.31	0.32
Control Delay	4.3	4.0	11.1
Queue Delay	0.0	0.0	0.0
Total Delay	4.3	4.0	11.1
Queue Length 50th (ft)	45	38	15
Queue Length 95th (ft)	88	75	36
Internal Link Dist (ft)	917	980	808
Turn Bay Length (ft)			
Base Capacity (vph)	2524	2633	705
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.36	0.31	0.16
Intersection Summary			

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

PM Peak
11/15/2016

									
Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↑↑	↑↑		∩				
Traffic Volume (veh/h)	10	815	725	20	55	50			
Future Volume (veh/h)	10	815	725	20	55	50			
Number	1	6	2	12	7	14			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	1845	1900	1827	1900			
Adj Flow Rate, veh/h	11	886	788	22	60	54			
Adj No. of Lanes	0	2	2	0	0	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	3	3	0	0			
Oposing Right Turn Influence	Yes				Yes				
Cap, veh/h	118	2031	2054	57	119	107			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.59	0.59	0.59	0.59	0.14	0.14			
Ln Grp Delay, s/veh	4.7	5.2	4.7	4.6	14.9	0.0			
Ln Grp LOS	A	A	A	A	B				
Approach Vol, veh/h		897	810		115				
Approach Delay, s/veh		5.0	4.7		14.9				
Approach LOS		A	A		B				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			8.0		12.0		8.0		
Phs Duration (G+Y+Rc), s			24.0		9.1		24.0		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			19.5		16.5		19.5		
Max Allow Headway (MAH), s			5.1		4.0		5.1		
Max Q Clear (g_c+I1), s			6.0		4.1		6.8		
Green Ext Time (g_e), s			8.4		0.2		8.1		
Prob of Phs Call (p_c)			1.00		0.65		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			0		860		11		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3575		14		3528		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			97		774		0		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment					L+T+R		L+T		
Lanes in Grp		0	0	0	1	0	1	0	0

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

PM Peak
11/15/2016

Grp Vol (v), veh/h	0	0	0	115	0	479	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1647	0	1844	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.1	0.0	4.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	684	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	19.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	19.5	0.0	0.0	0.0	14.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	0.52	0.00	0.02	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	227	0	1199	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	822	0	1199	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	13.2	0.0	3.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	14.9	0.0	4.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.0	0.0	2.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.1	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	396	0	0	0	418	0	0
Grp Sat Flow (s), veh/h/ln	0	1752	0	0	0	1610	0	0
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	4.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1033	0	0	0	950	0	0
V/C Ratio (X)	0.00	0.38	0.00	0.00	0.00	0.44	0.00	0.00
Avail Cap (c_a), veh/h	0	1033	0	0	0	950	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.6	0.0	0.0	0.0	3.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.7	0.0	0.0	0.0	5.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	2.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0

HCM 2010 Signalized Intersection Capacity Analysis
Existing Traffic Signal Control

PM Peak
11/15/2016

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	2.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment	T+R							
Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	414	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1828	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.05	0.00	0.47	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1078	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1078	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary







HCM 2010 Ctrl Delay	5.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
Existing Traffic Signal Control

PM Peak
11/15/2016

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		↕↕	↕↕		↕			
Traffic Volume (veh/h)	10	815	725	20	55	50		
Future Volume (veh/h)	10	815	725	20	55	50		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1863	1845	1900	1827	1900		
Adj Flow Rate, veh/h	11	886	788	22	60	54		
Adj No. of Lanes	0	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	3	3	0	0		
Cap, veh/h	118	2031	2054	57	119	107		
Arrive On Green	0.59	0.59	0.59	0.59	0.14	0.14		
Sat Flow, veh/h	11	3528	3575	97	860	774		
Grp Volume(v), veh/h	479	418	396	414	115	0		
Grp Sat Flow(s),veh/h/ln	1844	1610	1752	1828	1647	0		
Q Serve(g_s), s	0.0	4.8	4.0	4.0	2.1	0.0		
Cycle Q Clear(g_c), s	4.7	4.8	4.0	4.0	2.1	0.0		
Prop In Lane	0.02			0.05	0.52	0.47		
Lane Grp Cap(c), veh/h	1199	950	1033	1078	227	0		
V/C Ratio(X)	0.40	0.44	0.38	0.38	0.51	0.00		
Avail Cap(c_a), veh/h	1199	950	1033	1078	822	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	3.7	3.8	3.6	3.6	13.2	0.0		
Incr Delay (d2), s/veh	1.0	1.5	1.1	1.0	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	2.5	2.2	2.3	1.1	0.0		
LnGrp Delay(d),s/veh	4.7	5.2	4.7	4.6	14.9	0.0		
LnGrp LOS	A	A	A	A	B			
Approach Vol, veh/h		897	810		115			
Approach Delay, s/veh		5.0	4.7		14.9			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		24.0		9.1		24.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		19.5		16.5		19.5		
Max Q Clear Time (g_c+I1), s		6.0		4.1		6.8		
Green Ext Time (p_c), s		8.4		0.2		8.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								
User approved volume balancing among the lanes for turning movement.								

Appendix C
Traffic Signal Control Warrants

Year 2016 Existing Traffic Volumes

Wisconsin Department of Transportation Traffic Signal Warrant Summary Worksheet

100%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Washington Avenue and S. 32nd Street
 County: Sheboygan
 City: Sheboygan

Major Street: Washington Avenue
 Critical Approach Speed: 35 mph
 Lanes: 2 or more lanes

Minor Street: S. 32nd Street
 Critical Approach Speed: 25 mph
 Lanes: 1 lane

% Right Turns Included	In built-up area of isolated community of < 10,000 population? No
From North (SB) 100%	Total number of approaches at intersection? 3
From East (WB) 50%	If it is a "T" intersection, inflate minor threshold to 150%? No
From South (NB) 0%	Manually set volume level? No
From West (EB) 0%	

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
7-Nov-16	Monday	14:00	AM	19:00	PM
9-Nov-16	Wednesday	6:00	AM	14:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	No
Criterion A: Four-Hour	No
Criterion B: Peak-Hour	No
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	No
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Alicia Dougherty
 Agency: Traffic Analysis and Design, Inc
 Date: 11/14/2016

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	600	480
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	900	720
Minor Rd. Req	75	60
Number of Hours	3	6

Satisfied? No

Condition C: Combination of A & B at 80%		
---------------------------------------------	--	--

Satisfied? No

Time Period	6:00 AM		Enter Start Time (Military Time) (HH:MM)		Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
	From	To					
1	6:00	7:00			770	22	791.5
2	7:00	8:00			1170	61	1230.5
3	8:00	9:00			885	33	918
4	9:00	10:00			812	41	853
5	10:00	11:00			971	28	999
6	11:00	12:00			1095	62	1156.5
7	12:00	13:00			1310	72	1381.5
8	13:00	14:00			1243	37	1280
9	14:00	15:00			1255	79	1333.5
10	15:00	16:00			1466	107	1572.5
11	16:00	17:00			1547	106	1653
12	17:00	18:00			1385	50	1434.5
13	18:00	19:00			987	29	1015.5
14	19:00	20:00			0	0	0
15	20:00	21:00			0	0	0
16	21:00	22:00			0	0	0

Warrant 2: Four-Hour Volume

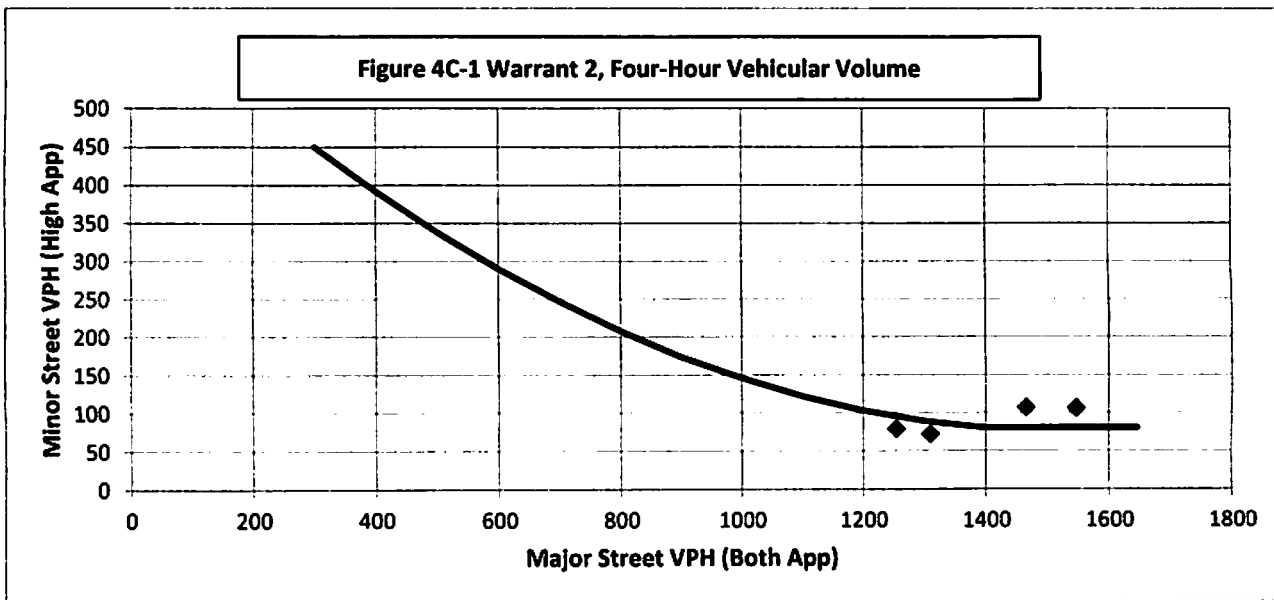
100%

Hour Start	16:00	15:00	14:00	12:00
Major Road Vol.	1547	1465.5	1254.5	1309.5
Minor Road Vol.	106	107	79	72

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

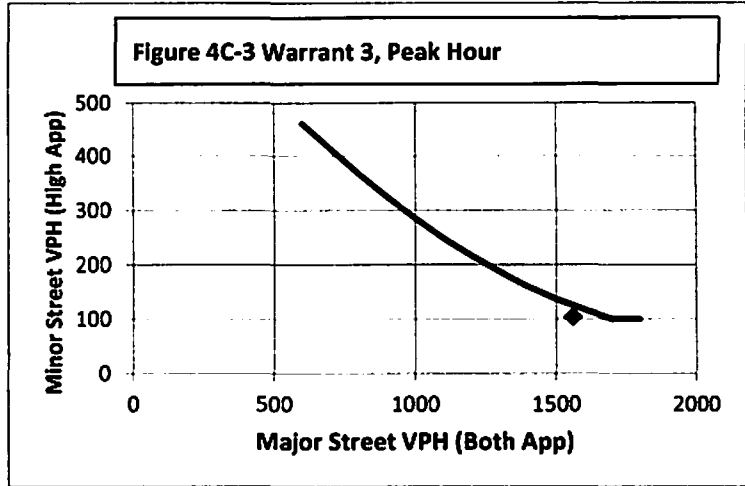
Condition justifying use of warrant:

Intersection located at an industrial complex

Criteria		Met?
Delay on Minor Approach	4	No
Volume on Minor Approach	100	Yes
Total Entering Volume (veh/h)	650	

Manually Set Peak Hour? Yes

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
15:30	1559	104
15:30	1559	104



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
14:00	7	1254.5
15:00	10	1465.5
16:00	1	1547
17:00	0	1384.5

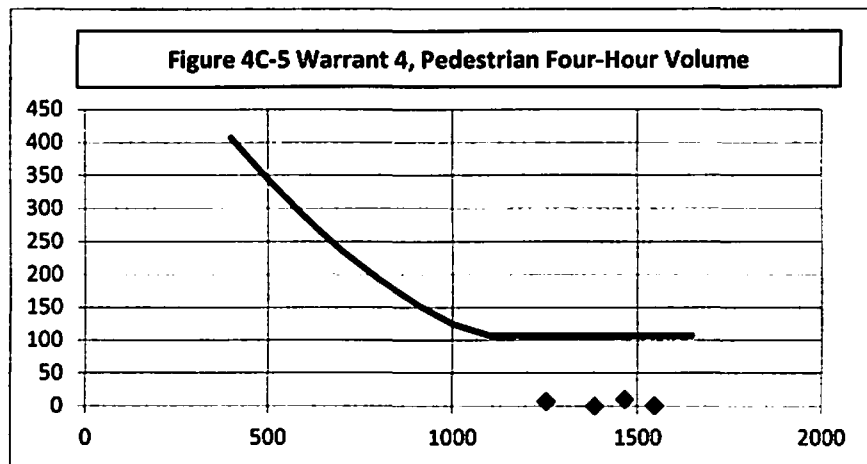
Manually Set Major Rd Vol?

No

Avg. walk speed less than 3.5 ft/s?

No

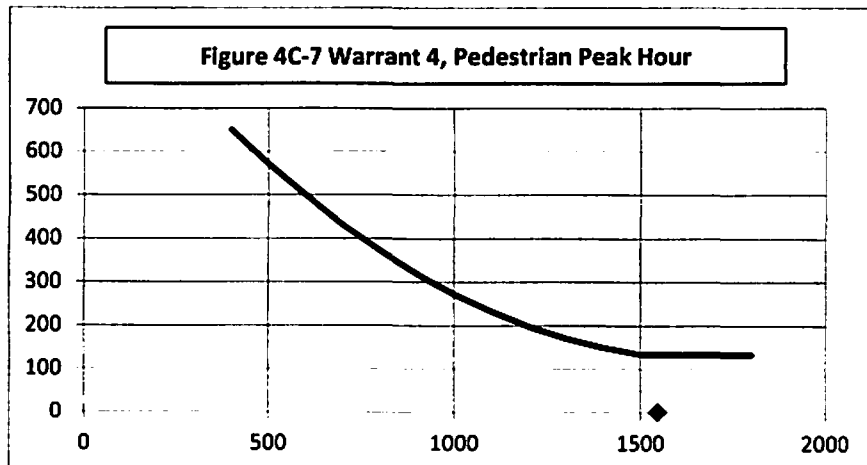
Criterion A Satisfied? No



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
16:00	1	1547

Criterion B Satisfied? No



Warrant 5: School Crossing

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Fulfilled?
1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Fulfilled?
1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Criteria		Met?	Fulfilled?
1	Adequate trial of other remedial measures has failed to reduce crash frequency.		No
	Measures Tried: Signal		
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months	No
		1	
3	Warrant 1, Condition A (80%)	No	No
	Warrant 1, Condition B (80%)	No	
	Warrant 4, Criterion A (80%)	No	
	Warrant 4, Criterion B (80%)	No	

Warrant 8: Roadway Network

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Met?	Fulfilled?
1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour	1663	Yes
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		No
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)		
	Hour		
	Volume		

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic			Fulfilled?
1	Part of the road or highway system that serves as the principal roadway network for through traffic flow		
2	Rural or suburban highway outside of, entering, or traversing a city		
3	Appears as a major route on an official plan		

Warrant 9: Intersection Near a Grade Crossing

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	15:30	1559	104	34.84

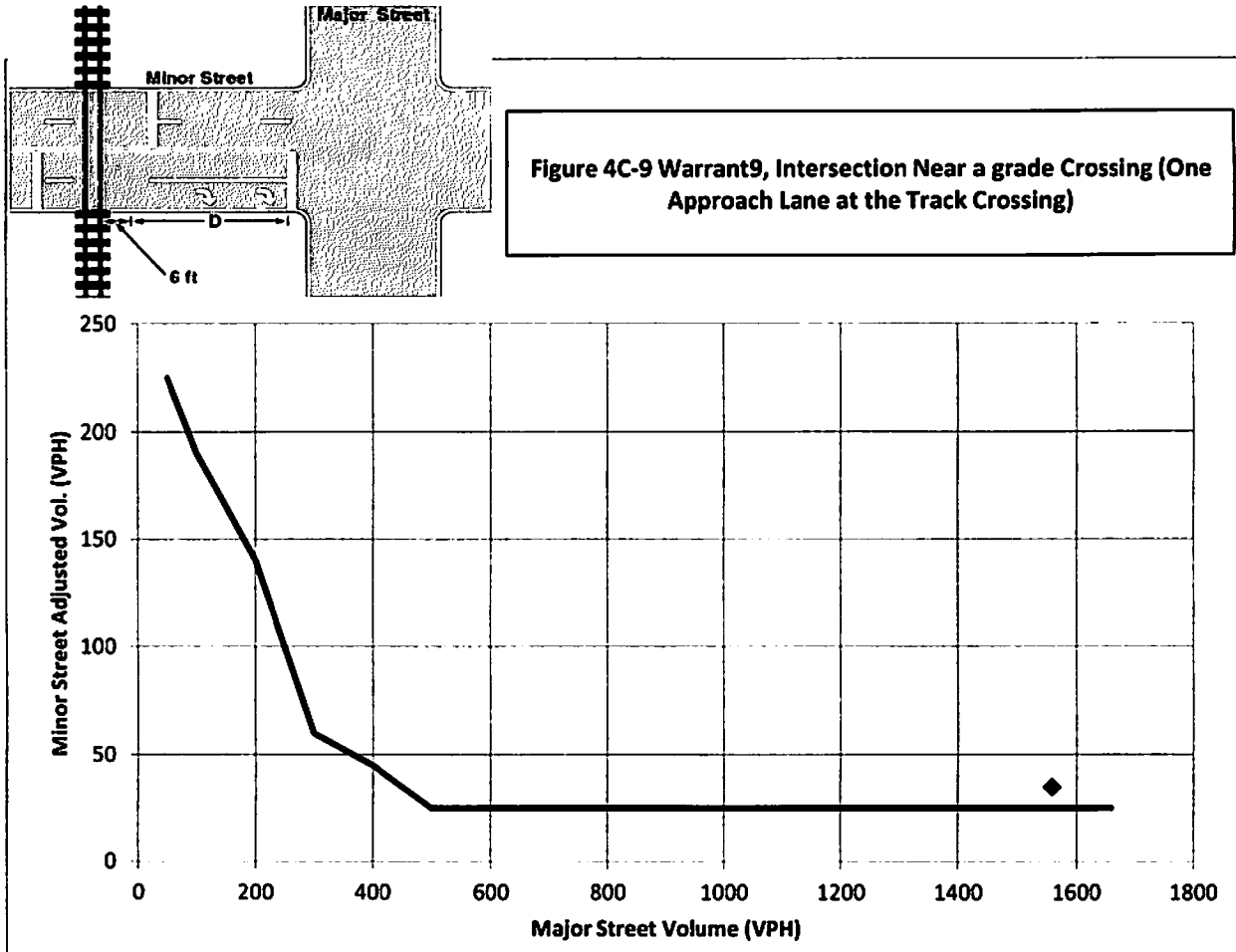


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)

Conclusions/Comments:

Updated: 2/18/2016

Hourly Volume Data																						
One Hour Time Period	From North (SB)					From East (WB)					From South (NB)					From West (EB)					Total Vehicle Volume	
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM	6:00	14	0	8	0	22	59	384	0	0	443	0	0	0	0	0	281	75	0	0	356	821
	7:00	21	0	40	0	61	53	561	0	0	614	0	0	0	0	0	520	62	0	0	582	1257
	8:00	18	0	15	0	33	36	455	0	0	491	0	0	0	0	0	378	34	0	0	412	936
	9:00	22	0	19	0	41	22	401	0	0	423	0	0	0	0	0	380	20	0	0	400	864
MD	10:00	12	0	16	0	28	22	507	0	0	529	0	0	0	0	0	441	12	0	0	453	1010
	11:00	29	0	33	0	62	21	520	0	0	541	0	0	0	0	0	541	23	0	0	564	1167
	12:00	35	0	37	0	72	47	621	0	0	668	0	0	0	0	0	630	35	0	0	665	1405
	13:00	15	0	22	0	37	46	660	0	0	706	0	0	0	0	0	537	23	0	0	560	1303
PM	14:00	41	0	38	0	79	37	562	0	0	599	0	0	0	0	0	647	27	0	0	674	1352
	15:00	46	0	61	0	107	15	703	0	0	718	0	0	0	0	0	745	10	0	0	755	1580
	16:00	63	0	43	0	106	22	740	0	0	762	0	0	0	0	0	784	12	0	0	796	1664
	17:00	27	0	23	0	50	15	615	0	0	630	0	0	0	0	0	746	16	0	0	762	1442
	18:00	14	0	15	0	29	13	425	0	0	438	0	0	0	0	0	541	14	0	0	555	1022
	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		357	0	370	0	727	408	7154	0	0	7562	0	0	0	0	0	7171	363	0	0	7534	15823

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

Major Road Left Turn as Minor Approach?

% Right Turns Included (Default 0%)

From North (SB)
 From East (WB)
 From South (NB)
 From West (EB)

Major Road Volume Totals:				
East/West				
Right	Thru	Left	T+LT	Total
30	665	75	740	770
27	1081	62	1143	1170
18	833	34	867	885
11	781	20	801	812
11	948	12	960	971
11	1061	23	1084	1095
24	1251	35	1286	1310
23	1197	23	1220	1243
19	1209	27	1236	1255
8	1448	10	1458	1466
11	1524	12	1536	1547
8	1361	16	1377	1385
7	966	14	980	987
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
204	14325	363	14688	14892

Minor Road Highest Volume:				
North/South				
Right	Thru	Left	T+LT	Total
14	0	8	8	22
21	0	40	40	61
18	0	15	15	33
22	0	19	19	41
12	0	16	16	28
29	0	33	33	62
35	0	37	37	72
15	0	22	22	37
41	0	38	38	79
46	0	61	61	107
63	0	43	43	106
27	0	23	23	50
14	0	15	15	29
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
357	0	370	370	727

Appendix D
Crash Modification Factors Clearinghouse

Accident Modification Factors for Traffic Engineering and ITS Improvements



CMF / CRF Details

CMF ID: 328

Install a traffic signal

Description:

Prior Condition: *No Prior Condition(s)*

Category: Intersection traffic control

Study: [Accident Modification Factors for Traffic Engineering and ITS Improvements, Harkey et al., 2008](#)

Star Quality Rating:



Crash Modification Factor (CMF)

Value: 1.58

Adjusted Standard Error: 0.17

Unadjusted Standard Error: 0.14

Crash Reduction Factor (CRF)

Value:	-58 (<i>This value indicates an increase in crashes</i>)
Adjusted Standard Error:	17
Unadjusted Standard Error:	14

Applicability

Crash Type:	Rear end
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Rural
Traffic Volume:	
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	

**Minor Road Traffic
Volume:**

Development Details

**Date Range of Data
Used:**

Municipality:

State:

Country:

**Type of Methodology
Used:**

Before/after using empirical Bayes or full Bayes

Sample Size Used:

Other Details

**Included in Highway
Safety Manual?**

Yes. HSM lists this CMF in italics font to indicate that it has a lower reliability than bold font CMFs since it has an adjusted standard error of 0.2 to 0.3.

**Date Added to
Clearinghouse:**

Comments:

Countermeasure name has been slightly modified for consistency across Clearinghouse

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the

02/16

interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.

III

4.3

Res. No. 183 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the appropriate City Officials to enter into an intergovernmental cooperative agreement for the City of Sheboygan to maintain the Taylor Drive Multi-Purpose Trail.

WHEREAS: the parties to the Agreement are the CITY OF SHEBOYGAN (City), a municipal corporation with offices at 828 Center Avenue, Sheboygan, Wisconsin 53081, and the SHEBOYGAN COUNTY (County), a Wisconsin governmental body corporate, organized pursuant to Wis. Stat. § 59.01, having its principal offices at 508 New York Avenue, Sheboygan, Wisconsin 53081.

WHEREAS: the City and County have collaborated on applying for and receiving grant money for the acquisition and construction of a multi-purpose bicycle and pedestrian trail ("the Trail") adjacent to Taylor Drive in the Town and City of Sheboygan from Crocker Avenue north to Taylor Park. This Agreement is intended to establish a division of responsibilities between the City and County in the operation and maintenance of the Trail.

WHEREAS: the costs for the initial purchase, construction, conversion, and signage of the Trail will be borne by County and the City shall be financially responsible for the costs of all subsequent long-term and short-term maintenance and repair of the Trail.

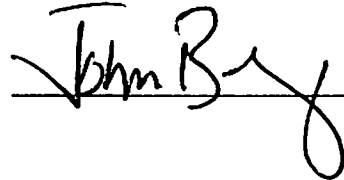
WHEREAS: this agreement constitutes the entire understanding between the parties relating to their relationship and supersedes all prior understandings, oral agreements, negotiations, representations, and agreements relating to the same subject matter.

Pub Wks.

III

RESOLVED: that the City will be deemed the "lead agency" for purposes of administering this Agreement. City shall confer and consult with County on the protocols that it will be utilizing in administering the Trail.

BE IT FURTHER RESOLVED: this resolution authorizes the appropriate City Officials to enter into an intergovernmental cooperative agreement for the City of Sheboygan to maintain the Taylor Drive Multi-Purpose Trail.



I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

MULTIPURPOSE TRAIL
INTERGOVERNMENTAL COOPERATIVE AGREEMENT
(Taylor Drive Trail)

1. **PARTIES.** The parties to the Agreement are the **CITY OF SHEBOYGAN** (City), a municipal corporation with offices at 828 Center Avenue, Sheboygan, Wisconsin 53081, and **SHEBOYGAN COUNTY** (County), a Wisconsin governmental body corporate, organized pursuant to Wis. Stat. § 59.01, having its principal offices at 508 New York Avenue, Sheboygan, Wisconsin 53081.

2. **PURPOSE.** City and County have collaborated on applying for and receiving grant money for the acquisition and construction of a multipurpose bicycle and pedestrian trail ("the Trail") adjacent to Taylor Drive in the Town and City of Sheboygan from Crocker Avenue north to Taylor Park. This Agreement is intended to establish a division of responsibilities between the City and County in the operation and maintenance of the Trail.

3. **EFFECTIVE DATE; TERM; TERMINATION.**

A. Effective Date. This Agreement shall become effective on the last date of the required signatures at the end of this document.

B. Initial Term; Renewals. The initial term of this Agreement shall extend through December 31, 2025. This Agreement shall automatically renew for additional ten- (10-) year terms unless either party provides the other with written notice of intent to non-renew at least twelve (12) months prior to the end of the initial term and at least twelve (12) months prior to the end of each renewal term thereafter.

C. Termination – Cause Not Necessary. During the initial term, this Agreement may not be terminated by either party except for cause. After the initial term, the Agreement may be terminated by either party for any reason by written notice of termination provided to the other party not later than two (2) years before the termination becomes effective.

D. Termination for Cause. Either party may terminate this Agreement at any time during the initial term or a renewal thereof in the event of a material default by the other party which default is not cured within two hundred forty (240) days after defaulting party's receipt of written notice of such default. If the defaulting party is proceeding in good faith with due diligence to cure such default but is unable to do so within two hundred forty (240) days, the cure period shall be extended as reasonably necessary.

E. Other Termination. This Agreement is premised on an expectation that the parties will enter into a similar agreement relating to another trail to be known as the "Southside Utility Corridor Trail," except that in that agreement, the responsibilities generally listed for the City in Paragraph 6 herein will be undertaken by County. In the event that the parties do not come to such similar agreement, either party, upon thirty (30) days' notice, may declare this Agreement null and void.

4. AUTHORITY. This Agreement is entered into between the parties pursuant to Wis. Stat. § 66.0301, authorizing intergovernmental cooperation. Both parties represent that their respective governing bodies have authorized the entry into this Agreement.

5. RESPONSIBILITIES OF COUNTY.

A. County shall be responsible for designing the Trail and arranging for its initial construction, including paving, drainage, signage, and lighting.

B. County shall be responsible for arranging any necessary agreements with adjacent neighbors outside of normal maintenance agreements.

C. County shall give to City any easements or rights-of-way over County-owned lands as may be necessary to use the Trail for such waterlines, storm sewer, and other utilities as City may need, provided such use does not interfere with Trail use which is permanent, notwithstanding termination or nonrenewal of the Agreement under Paragraph 3, above.

6. RESPONSIBILITIES OF CITY.

A. City shall be responsible for long-term maintenance and repair of the Trail.

B. City shall maintain liability and property insurance as it deems necessary and appropriate.

C. City shall be responsible for replacing old signs.

D. City shall be responsible for the cost of any replacement lighting.

E. City shall give to County easement rights or rights-of-way as over City-owned lands as may be necessary to use the trail in a manner which is permanent notwithstanding nonrenewal of the Agreement under Paragraph 3.

F. City shall provide such patrol of the Trail as the parties may agree to be necessary to identify hazards, impediments, damaged or removed signs, etc.

G. City shall provide such day-to-day maintenance and grooming, including snow removal and grass cutting, as may be necessary and appropriate.

H. City shall integrate the Trail into City's other park and trail facilities.

I. City shall adopt such ordinances as are necessary to regulate the Trail consistent with its ordinances regulating its other trails within the City.

J. City shall amend its zoning codes as may be necessary to allow the use of the Trail.

7. ALLOCATION OF COSTS.

A. Initial Purchase and Conversion. The costs for the initial purchase, construction, conversion, and signage of the Trail will be borne by County through the use of County property, tax revenues, and grant money.

B. Annual Ongoing Maintenance Costs. City shall be financially responsible for the costs of all subsequent long-term and short-term maintenance and repair of the Trail.

C. Day-to-day Maintenance and Repairs. City shall be financially responsible for the patrol and maintenance as provided under Paragraph 6, above.

D. Utility Bills. City shall be financially responsible for any electric or other utility bills arising from the Trail infrastructure.

E. Additional Service Costs. Both parties may enter into additional agreements for other services which are not a part of this Agreement. Each party shall individually be responsible for the costs associated with such additional agreements.

8. ADMINISTRATION. City shall be deemed the "lead agency" for purposes of administering this Agreement. City shall confer and consult with County on the protocols that it will be utilizing in administering the Trail.

9. TITLE TO PROPERTY. In the event that this Agreement expires or is otherwise terminated without cause after the initial term, any property rights related to tangible or intangible assets acquired by either party pursuant to this Agreement shall be retained by said party, and any ongoing maintenance shall accrue to City.

10. RESOLUTION OF DISPUTES; CHOICE OF LAW; VENUE. City and County agree to act promptly and amicably to resolve any disputes that may arise. Each party agrees that the existence of a dispute notwithstanding, it will continue without delay to carry out all of its responsibilities under this Agreement in the accomplishment of all non-disputed work. The laws of the State of Wisconsin shall govern this Agreement. The parties may agree to submit unresolved disputes to arbitration. Any litigation between the parties shall be venued in the Circuit Court of Sheboygan County, except to the extent that the state Circuit Court does not have jurisdiction over a matter in dispute.

11. LIABILITY FOR CERTAIN DAMAGES. Neither party shall be liable to the other for any incidental, consequential, indirect, or special damages arising or resulting from any delay, omission, or error in the electronic transmission or receipt of any data pursuant to this Agreement. Neither party shall be liable to the other for any failure to perform its obligations where such failure results from cause beyond such party's reasonable control.

12. HOLD HARMLESS; INDEMNIFICATION. Each party shall defend, hold harmless, and indemnify the other against any and all claims, liabilities, damages,

judgments, causes of action, costs, loss, and expense including reasonable attorneys' fees imposed upon or incurred by the other party arising from or related to the negligent or intentionally tortuous acts or omissions of the indemnifying party's officers, employees, or agents in performing the services pursuant to the Agreement. Each party shall promptly notify the other of any claim arising under this provision, and each party shall fully cooperate with the other in the investigation, resolution, and defense of such claim. This Agreement does not waive any governmental or sovereign immunity. Both parties retain all applicable governmental immunities, defenses, and statutory limitations available, including Wis. Stat. § 893.80, 895.52, and 345.05.

13. SEVERABILITY. If any provision in this Agreement is determined to be void and unenforceable for any reason, the remaining provisions shall remain in full force and effect unless the removal of the severed provision would substantially impair the ability of either party to perform the essential purpose of this Agreement.

14. ENTIRE AGREEMENT. This Agreement constitutes the entire understanding between the parties relating to their relationship and supersedes all prior understandings, oral agreements, negotiations, representations, and agreements relating to the same subject matter.

Approved by the parties by the following authorized representatives:

CITY OF SHEBOYGAN

By: _____
Michael J. Vandersteen Date Signed _____

By: _____
Susan Richards Date Signed _____

SHEBOYGAN COUNTY

By: _____
Aaron Brault Date Signed _____

By: _____
Adam N. Payne Date Signed _____

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Intergovernmental cooperative agreement for the maintenance of the Taylor Drive Multi-Purpose Trail

REPORT PREPARED BY: Ryan Sazama, City Engineer

REPORT DATE: February 9, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

The Taylor Drive Multi-purpose Trail was constructed in 2016. This trail was part of the Non-Motorized Grant which was cooperatively applied for by Sheboygan County and the City of Sheboygan. This project was one of several projects which were approved from this grant. This project extends from Erie Avenue to Crocker Avenue along the Taylor Drive corridor.

STAFF COMMENTS:

This agreement assigns municipality responsibilities for the on-going maintenance and operation of the new trail. Under this agreement the City of Sheboygan will be the agency responsible for the new Taylor Drive Multi-purpose Trail into the future.

The County is planning to construct (2018) an additional multi-purpose trail along the Alliant Energy power line corridor from Lakeshore Drive to South Business Drive and into the Business Center at Nemak to connect with Taylor Drive. The County will be responsible for the on-going maintenance and operation of this trail in the future.

ACTION REQUESTED:

Motion to recommend the Common Council to approve the intergovernmental cooperative agreement for the maintenance of the Taylor Drive Multi-Purpose Trail.

ATTACHMENTS:

- I. Res. 183-16-17

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Resolution by Ald. Belanger authorizing the purchase of a 6,000# capacity LP Gas powered forklift truck for the Motor Vehicle Dept.

REPORT PREPARED BY: Bernard Rammer, Purchasing Agent

REPORT DATE: January 27, 2017 **MEETING DATE:** February 14, 2017

FISCAL SUMMARY:

Budget Line Item: 70136100-641200
Budget Summary: Motor Vehicle Fund
Budgeted Expenditure: \$ 43,000.00
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

The Motor Vehicle Department has two forklift trucks and the older of the two, a 2007 model has become unreliable and a maintenance burden. Included in the 2017 budget is a new forklift truck identical to the one purchased in 2011.

STAFF COMMENTS:

This brand and model has proven itself to be extremely reliable and requires very little in the way of maintenance. With this addition, both forklift trucks will be identical to one another in all respects providing not only standardization in maintenance parts but also operator controls. In addition, this manufacturer is listed on the National Joint Powers Alliance (NJPA) contract and the pricing includes the discounts, and relieves the City of the need for competitive bidding. Finally, the 2007 unit being replaced will be sold at auction.



ACTION REQUESTED:

Motion to recommend the Common Council approve the Resolution by Alderperson Belanger authorizing the purchase of a Doosan Model G30P in the amount of \$ 29,315.00 from the Wolter Group/Wisconsin Lift Truck of Brookfield, WI.

ATTACHMENTS:

I. Resolution 184-16-17

III

4.4

Res. No. 184 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the Purchasing Agent to enter into contract with Wolter Group LLC dba Wisconsin Lift Truck for the purchase of one (1) 2017 Model Doosan G30P3-5 6000# Capacity LP-Gas powered lift truck for use at the Municipal Service Building.

WHEREAS: Doosan Forklifts are included in a national contract with the National Joint Powers Alliance (NJPA) and Doosan is the brand of forklift already in use at the Municipal Service Building

RESOLVED: That the Purchasing Agent is hereby authorized to execute a Purchase order in the amount of \$ 29,315.00 in accordance with the NJPA Contract Pricing and that the need for competitive bidding is hereby waived for this purchase.

BE IT FURTHER RESOLVED: That the appropriate City officials are authorized to draw the funds from Account# 70136100-641200 to complete the purchase.

Pub Wks

John Berg

I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

III

4.5

Res. No. 185 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the Purchasing Agent to enter into contract for the purchase of (4) Pickup trucks from Sheboygan Chevrolet Cadillac for the Department of Public Works Motor Vehicle Division

WHEREAS: The Sheboygan Dept. of Public Works is in need of and has planned for the replacement of four pickup trucks in various configurations and has included the expenditure in its 2017 budget and;

WHEREAS: The Purchasing Agent issued a request for bids for a these (4) vehicles with vehicle use specifications to assure each vehicle fits the current and future needs of the Department and;

WHEREAS: Following a review of the bids received, the low bid was submitted by Sheboygan Chevrolet for the four trucks and has been determined to meet all of the necessary specifications.

RESOLVED: That the Purchasing Agent is hereby authorized to enter into contract with Sheboygan Chevrolet in the amount of \$113,853.00 including license and title fees. The trucks to be replaced which are not able to be re-used for other operations will be sold at auction following receipt of the new vehicles.

BE IT FURTHER RESOLVED: That the appropriate City Officials are hereby authorized to draw orders on Account # 70136100-641100 in payment of same.

Pub Works

John B. [Signature]

I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Resolution by Ald. Belanger authorizing the purchase of four pickup trucks for the Motor Vehicle Dept. as included in the 2017 Budget.

REPORT PREPARED BY: Bernard Rammer. Purchasing Agent

REPORT DATE: January 27, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

STATUTORY REFERENCE:

Budget Line Item: 70136100-641100
Budget Summary: Motor Vehicle Fund
Budgeted Expenditure: \$ 123,000.00
Budgeted Revenue: N/A

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

Replacement of four pickup trucks in various configurations was included in the 2017 budget. A Request for Bids was issued with the bid for all four of the trucks received from Sheboygan Chevrolet found to be in compliance with all specifications and the lowest cost bid.



STAFF COMMENTS:

These trucks will replace older vehicles, primarily for use by supervisory personnel with the existing trucks either re-deployed for other operations or sold at auction due to their smaller size.

ACTION REQUESTED:

Motion to recommend the Common Council approve the Resolution by Ald. Belanger authorizing the purchase of four pickup trucks in the amount of \$113,853.00 including license and title fees from Sheboygan Chevrolet Cadillac in Sheboygan.

ATTACHMENTS:

- I. Resolution 185-16-17

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Resolution by Ald. Belanger authorizing the purchase of a Boom Style Flail Mower attachment for the Motor Vehicle Dept.

REPORT PREPARED BY: Bernard Rammer, Purchasing Agent

REPORT DATE: January 30, 2017 **MEETING DATE:** February 14, 2017

FISCAL SUMMARY:

Budget Line Item: 70136100-641200
Budget Summary: Motor Vehicle Fund
Budgeted Expenditure: \$ 30,000.00
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

The Parks Department maintains several areas where the cutting of long grass and weeds using conventional flail mowers is neither practical nor possible. The Department has a Trackless brand tractor which has an available attachment which will allow these areas to be maintained. Called a "Boom Flail" it is essentially a flail mower head on an articulated arm.

STAFF COMMENTS:

The tractor onto which this attachment will be mounted has the capability to receive this attachment with little or no additional preparations. The attachment can be installed and removed in a minimal amount of time. This will allow the Parks Department to maintain areas previously not accessible by other equipment. The Unit is included on the NJPA contract which eliminated the need for competitive bidding.



ACTION REQUESTED:

Motion to recommend the Common Council approve the Resolution by Alderperson Belanger authorizing the purchase of a Trackless Boom Flail mower attachment in the amount of \$ 29,950.00 from the Bruce Municipal Equipment Inc of Menomonee Falls, WI

ATTACHMENTS:

- I. Resolution 186-16-17

III

4.6

Res. No. 186 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the Purchasing Agent to enter into contract for the purchase of a Boom Style Flail Mower attachment for the City of Sheboygan Parks Department.

WHEREAS: The City of Sheboygan Parks Department is responsible for maintaining the landscape in many city owned Parks and other facilities and;

WHEREAS: There are a number of areas where access by a conventional style of flail mower is quite limited or even impossible to access and;

WHEREAS: The Parks Dept. has an all-wheel drive tractor/tool carrier whose manufacturer offers a "boom flail mower" attachment which has the capability to maintain the areas not accessible by other equipment and;

WHEREAS: The manufacturer is contracted with the National Joint Powers Alliance including the desired attachment, thus eliminating the necessity of competitive bidding

RESOLVED: That the Purchasing Agent is hereby authorized to enter into contract with Bruce Municipal Equipment of Menomonee Falls, WI for the purchase of one Trackless Brand Boom Flail Mower attachment, including Freight at a cost of \$ 29,950.00

BE IT FURTHER RESOLVED: That the appropriate City officials are authorized to draw on Account # 70136100-641200 in payment of same.

Pub Wks.

John By

I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20__.

Dated _____ 20__ . _____, City Clerk

Approved _____ 20__ . _____, Mayor

III

Other Matters

7.1

Res. No. 187 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the appropriate City officials to enter into a revised State/Municipal Agreement (revised dated January 4, 2017), I.D. 4630-05-00/71 for design and construction for the STH 42 Calumet Drive Reconstruction from Main Avenue to N. 26 St. scheduled for 2017 construction.

RESOLVED: That the Mayor and City Clerk are hereby authorized and directed to enter into the State/Municipal Agreement with the Wisconsin Department of Transportation for the design and construction for the STH 42 Calumet Drive Reconstruction from Main Avenue to N. 26 St. for the proposed sum of \$4,083,193 of which the Federal/State share is \$3,563,246 and of which the City of Sheboygan's share is \$519,947.

BE IT FURTHER RESOLVED: That the appropriate City officials are hereby authorized to draw orders on the future capital improvements program for street improvements.

Pub Wks.

John B. [Signature]

I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

III

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Resolution Authorizing City Officials to Execute a Revision to the State Municipal Agreement (WI DOT 4630-05-00/71/72 for the Calumet Drive Reconstruction Project from Main Avenue to North 26th Street between the City of Sheboygan and the State of Wisconsin, Department of Transportation.

REPORT PREPARED BY: Ryan Sazama, City Engineer

REPORT DATE: February 1, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

As a project of this magnitude is going through the design process the estimated cost is constantly being revised. The revised State Municipal Agreement reflects the updated cost for all entities participating in the project.

STAFF COMMENTS:

This project is the reconstruction of Calumet Drive from Main Avenue to N. 26th Street. This project is to be constructed in 2017.

ACTION REQUESTED:

Motion to recommend the Common Council approve a resolution to execute a Revision to the State Municipal Agreement between the City of Sheboygan and the State of Wisconsin, Department of Transportation.

ATTACHMENTS:

- I. Res. 187-16-17
- II. Revised State Municipal Agreement

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: Resolution by Ald. Belanger authorizing the purchase of a Harper Dew-eze ATM72 Slope Mower for the Parks Dept. as included in the 2017 Budget.

REPORT PREPARED BY: Bernard Rammer. Purchasing Agent

REPORT DATE: January 31, 2017

MEETING DATE: February 14, 2017

FISCAL SUMMARY:

Budget Line Item: 70136100-641200
Budget Summary: Motor Vehicle Fund
Budgeted Expenditure: \$ 53,000.00
Budgeted Revenue: N/A

STATUTORY REFERENCE:

Wisconsin Statutes: N/A
Municipal Code: N/A

BACKGROUND / ANALYSIS:

Replacement of the current 2006 model slope mower was included in the 2017 budget. This is a critical piece of equipment for the Parks Dept. due to the heavily sloped topography in a number of City Parks.



STAFF COMMENTS:

After trialing other brands of equipment it was determined that simply upgrading what we have offers the best alternative, as the operator is able to remain sitting fully upright while mowing is underway. This equipment has proven itself to be some of the safest and most efficient available for slope mowing.

ACTION REQUESTED:

Motion to recommend the Common Council approve the Resolution by Ald. Belanger authorizing the purchase of a Harper Dew-eze ATM 72 slope mower in the amount of \$37,220.00 including trade-in from Serwe Municipal Implement Sales of Brownsville WI

ATTACHMENTS:

- I. Resolution 190-16-17

III

Other Matters

7.4

Res. No. 190 - 16 - 17. By Alderperson Belanger. February 6, 2017.

A RESOLUTION authorizing the Purchasing Agent to enter into contract for the purchase of a Harper Dew-eze Slope Mower for the mowing of steep inclines for the Public Works Dept.

WHEREAS: The Sheboygan Parks Dept. maintains several parks which include steeply sloped lawns and has traditionally used a specialized piece of equipment for these areas.

WHEREAS: The Parks Department has trialed equipment currently available for this purpose and has determined that a current model of the same brand of mower is the best alternative for the work and have obtained a quote from the authorized dealer.

WHEREAS: because this is somewhat specialized equipment, the City requested a quote for the trade-in of the current 2006 machine and has determined that the trade-in offer is fair and reasonable and equal to or greater than what could be realized at auction.

RESOLVED: That the Purchasing Agent is hereby authorized to enter into contract with Serwe Municipal Implement Sales of Brownsville WI for the purchase of a 2017 model Harper Dew-eze 72" slope mower in in the amount of \$ 37,220.00 including trade-in of the current machine.

BE IT FURTHER RESOLVED: That the appropriate City Officials are hereby authorized to draw funds in the amount of \$37,220.00 on Account # 70136100-641200 in payment of same.

Pub Wks

John By

I HEREBY CERTIFY that the foregoing Resolution was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor



6.1

Gen. Ord. No. 37 - 16 - 17. By Alderperson Belanger. January 16, 2017.

AN ORDINANCE repealing and recreating Section 74-56 of the City of Sheboygan Municipal Code, relating to alcohol possession/consumption in parks.

THE COMMON COUNCIL OF THE CITY OF SHEBOYGAN DO ORDAIN AS FOLLOWS:

Section 1. Section 74-56 of the Sheboygan Municipal Code is hereby repealed and recreated so as to read as follows:

"Sec. 74-56. *Alcohol possession/consumption.*

- (a) The possession or consumption of fermented malt beverages or intoxicating liquors is prohibited in all city parks except the following:
 - (1) Cleveland Park, End Park, Evergreen Park, King Park, Kiwanis Park, Lakeview Park, and Veterans Park.
 - (2) Vollrath Park, except alcohol is prohibited between the hours of 12:00 p.m. to 6:00 p.m. on the day commencement exercises are held in such park each year for the area school district public high schools.
- (b) The possession or consumption of fermented malt beverages or intoxicating liquors is prohibited on all beach areas within the city.
- (c) A person(s) who rents a park shelter or a picnic area may possess and consume alcohol in and around the shelter or picnic area.
- (d) A group or organization that has a temporary Class "B" or a temporary "Class B" alcohol "picnic" license may also serve and permit the consumption of alcohol in any city park subject to subsection (f) below.
- (e) If any group or organization serves fermented malt beverages at any event pursuant to a permit issued under section 74-42, no person shall, during the course of the event, carry into the park plastic containers, glass bottles or metallic cans containing alcoholic beverages, except the sponsor of the event, who may transport kegs, barrels or cans into the park for the purpose of serving fermented malt beverages.

Pub Wks.

(f) No person shall drink or carry any open cup, can, glass, bottle or similar drinking vessel containing alcohol or fermented malt beverages in any city park between the hours of 11:00 p.m. and 4:00 a.m., except by approval of the director of engineering and public works for other organized functions."

Section 2. All ordinances or parts thereof in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict, and this ordinance shall be in effect from and after its passage and publication.

I HEREBY CERTIFY that the foregoing Ordinance was duly passed by the Common Council of the City of Sheboygan, Wisconsin, on the _____ day of _____, 20____.

Dated _____ 20____. _____, City Clerk

Approved _____ 20____. _____, Mayor

CITY OF SHEBOYGAN

REQUEST FOR PUBLIC WORKS COMMITTEE CONSIDERATION

ITEM DESCRIPTION: An Ordinance repealing and recreating Section 74-56 of the Sheboygan Municipal Code, relating to Alcohol Possession/Consumption in City Parks.

REPORT PREPARED BY: Joseph L. Kerlin, Superintendent of Parks and Forestry

REPORT DATE: January 11, 2017

MEETING DATE: January 24, 2017

FISCAL SUMMARY:

STATUTORY REFERENCE:

Budget Line Item: N/A
Budget Summary: N/A
Budgeted Expenditure: N/A
Budgeted Revenue: N/A

Wisconsin Statutes: N/A
Municipal Code: Section 74-56

BACKGROUND / ANALYSIS:

Revisions of this ordinance are at the request of the Sheboygan Public Works Department, Police Department and the Maywood Trust & Association. The re-created ordinance is simplified for enforcement use, removes the use of alcohol in Workers Water Street Park and Riverside Park due to continuous alcohol related incidents in a family orientated setting and the allowance of alcohol in Maywood Park during Maywood Trust and Association sponsored events when approved by the Public Works Department.

STAFF COMMENTS:

It is the recommendation of Public Work staff with the guidance of the City Attorney's office to approve the revision of this ordinance.

ACTION REQUESTED:

Motion to recommend the Common Council refer to the Public Works Committee for approval of the ordinance.

ATTACHMENTS:

- I. Ordinance ___-16 – 17
- II. Original ordinance Section 74-56

Sec. 74-56. - Alcohol possession/consumption.

- (a) The possession or consumption of fermented malt beverages or intoxicating liquors is permitted in all city parks except the following:
- (1) Elwood H. May Environmental Park.
 - (2) Fountain Park, except between the hours of 12:00 noon and 10:00 p.m. on the day of the city's annual "German Night" celebration, between the hours of 4:00 p.m. and 10:00 p.m. during the annual Early Bird Rotary Club Lobster Boil, and whenever the city grants the use of the park or selected picnic areas to groups or organizations for the purpose of annual celebration or special events pursuant to section 74-42.
 - (3) Vollrath Park between the hours of 12:00 noon and 6:00 p.m. on the day that commencement exercises are held in such park each year for the area school district public high schools.
 - (4) Sheridan Park.
 - (5) Northeast Park.
 - (6) Optimist Park.
 - (7) Voight Park.
 - (8) Franklin Park.
 - (9) Moose Park.
 - (10) Jaycee Park between June 1 and September 8.
 - (11) Evergreen Park between October 15 and May 15, except when the city grants the use of the park or selected picnic areas to groups or organizations for the purpose of annual celebration or special events pursuant to section 74-42.
 - (12) North Point Park.
 - (13) Deland Park, except on the day of the city's Fourth of July celebration or whenever the city grants the use of the park or selected picnic areas to groups or organizations for the purpose of annual celebration or special events pursuant to section 74-42.
Possession and consumption of such beverages, when permitted, is further restricted to that portion of the park which lies south of the North Pier.
 - (14) Indian Mound Park.
 - (15) Cole Park.
 - (16) The beach area of General Charles King Park.
 - (17) The beach area of Lakeview Park.

- (18) Rotary Riverview Park, except on the day of the City's Fourth of July celebration or whenever the city grants the use of the park or selected picnic areas to groups or organizations for the purpose of annual celebration or special events pursuant to section 74-42.
- (b) The possession of fermented malt beverages or intoxicating liquors is prohibited on all beach areas within the city not affected by subsection (a) above.
- (c) If any group or organization serves fermented malt beverages at any event pursuant to a permit issued under section 74-42, no person shall, during the course of the event, carry into the park plastic containers, glass bottles or metallic cans containing alcohol beverages, except the sponsor of the event, who may transport kegs, barrels or cans into the park for the purpose of serving fermented malt beverages.
- (d) No person shall drink or carry any open cup, can, glass, bottle or similar drinking vessel containing alcohol or fermented malt beverages in any city park between the hours of 11:00 p.m. and 4:00 a.m. except by:
- (1) Permit for Kiwanis and Roosevelt fieldhouses, Quarry View Center and Deland Community Center.
 - (2) Agreement with the Sheboygan Softball Association in Wildwood Complex and the Sheboygan Athletic Club in Wildwood Baseball Diamond.
 - (3) Approval of the director of engineering and public works for other organized functions.
- (Code 1975, § 27-37; Ord. No. 101-96-97, §§ 3—5, 12-16-96; Ord. No. 137-96-97, § 1, 3-17-97; Ord. No. 27-97-98, § 1, 7-7-97; Ord. No. 86-97-98, § 1, 11-17-97; Ord. No. 82-98-99, § 1, 9-21-98; Ord. No. 111-99-00, § 1, 4-17-2000; Ord. No. 89-01-02, § 1, 3-4-02; Ord. No. 91A-06-07, § 1, 3-19-07)