Corridor Study for
Blackhawk Boulevard

Final Report

Prepared for:

City of South Beloit, Illinois through the Stateline Area Transportation Study Metropolitan Planning Organization (SLATS MPO)

Prepared by:

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August 2019

SRF No. 11578

*This document was prepared with Federal funds but does not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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Executive Summary

The Blackhawk Boulevard corridor study evaluates traffic operations as well as roadway and intersection geometrics along this corridor within the City of South Beloit. This report documents the methodologies, findings, and recommended mitigation strategies to facilitate acceptable traffic Levels of Service (LOS) and improve safety at key intersections in the analysis area for existing-year and future-year (Year 2040) conditions.

A review of the existing roadway and intersection geometrics found deficiencies at several locations. A description of these issues is provided below.

- The intersection spacing of the Prairie Hill Road and Nazarene Drive intersection to Blackhawk Boulevard is very short (180 feet), which can interfere with typical driver behavior and increase safety issues.
- The east and west legs of Prairie Hill Road at Blackhawk Boulevard do not provide left-turn lanes for vehicles to move out of the through traffic stream
- The intersection spacing of the Blackhawk Boulevard and Webster Avenue intersection to Gardner Street is very short (160 feet), which can interfere with typical driver behavior and increase safety issues.
- The intersection spacing of the Blackhawk Boulevard and Dickop Street intersection to Gardner Street is very short (150 feet), which can interfere with typical driver behavior and increase safety issues.
- The east and west legs of Shirland Avenue at State Street are skewed in a manner that does not promote efficient travel across the intersection.
- Private access drives are located within the functional intersection area of the State Street and Shirland Avenue intersection, which can interfere with typical driver behavior and increase safety issues.

Crash data was obtained and analyzed at study intersections. The data does not indicate significant crash issues are present along the Blackhawk Boulevard corridor and its intersections.

Traffic operations analysis performed for this project indicate that side street operational deficiencies currently exist at the Blackhawk Boulevard with Charles Street / Northwestern Avenue and Elmwood Avenue intersections. This is due to movements from the side-streets not provided adequate gaps to complete their turning movement. These delays will continue as traffic increases along Blackhawk Boulevard in the future. However, the volume of traffic at these locations is, and forecasted to be, negligible (less than 50 vehicles in the peak hours) and anticipated queues on these roadways are minimal. Therefore, intersection improvements, such as exclusive turn lanes or intersection control upgrades, would not be cost-effective for the small number of vehicles it would benefit under existing or future conditions. However, traffic operations should be monitored at these intersections to ensure significant deficiencies are not occurring regularly or traffic shifts significantly increase approach volumes along the side-streets.

This report recommends the following improvements for consideration along Blackhawk Boulevard:

- Addition of bike lanes throughout the corridor, both off-street (bike path on the north and south ends of the study corridor) and on-street (use of Roscoe Avenue)
    - The existing median of Blackhawk Boulevard would likely require significant stormwater improvement to accommodate on-street bike lanes

    - City officials stated that the loss of existing on-street parking to accommodate on-street bike lanes would not be favored by residents and businesses
- Removal/relocation of driveways for McDonalds and the Beloit Daily News near the Shirland Avenue intersection and the construction of a new private drive from Shirland Avenue to access these properties
- Conversion of Dickop Street to a private driveway and the removal of the existing at-grade railroad crossing
- Conversion of Gardner Street intersection to a 4-legged intersection, with the west leg becoming a new roadway leading to the Confluence nature center
    - Both intersection control of traffic signal and roundabout can be accommodated; however, the selection of one alternative should be determined later with the aid of a more in-depth design process
- Removing access to and from Webster Avenue and Blackhawk Boulevard
- Adding left-turn lanes on both approaches of Prairie Hill Road at Blackhawk Boulevard
- Relocation of the Prairie Hill Road and Nazarene Drive intersection to the east
    - A short-term or interim improvement may be to restrict movements on Nazarene Drive at Prairie Hill Road

1.0 Introduction

1.1 Study Purpose

This report documents the results of a corridor study for Blackhawk Boulevard in South Beloit, Illinois. The purpose of this study is to identify existing concerns along the corridor related to both operations and safety and develop recommended alternatives.

1.2 Study Area

Per City of South Beloit and SLATS MPO recommendations, the corridor study area includes an analysis of the following intersections:

- State Street and Shirland Avenue (located just north of the Illinois / Wisconsin state line in Beloit, Wisconsin)
- Blackhawk Boulevard and Dickop Street
- Blackhawk Boulevard and Gardner Street
- Blackhawk Boulevard and Webster Ave
- Blackhawk Boulevard and Charles Street/Northwestern Avenue
- Blackhawk Boulevard and Elmwood Avenue
- Blackhawk Boulevard and Oak Grove Avenue
- Blackhawk Boulevard and Prairie Hill Road
- Prairie Hill Road and Nazarene Drive

The general study area limits are illustrated in Figure 1.1.

1.3 Study Approach

This study was completed utilizing industry accepted publications such as the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Additionally, design standards from the following resources were utilized: WisDOT *Facility Development Manual* (FDM), AASHTO's *A Policy of Geometric Design of Highways and Streets*, the *Manual on Uniform Traffic Control Devices* (MUTCD), and IDOT's *Bureau of Design and Environment Manual* (BDE). These designs standards aid in determining sub-standard components within the existing roadway and help to develop alternatives to address the concerns.

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Study Area

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Figure 1.1

2.0 Planned Development

2.1 Corridor Improvements

From discussions with City of South Beloit officials and Stateline Area Transportation Study (SLATS) MPO staff, one intersection improvement is to be included within the analysis of this study. The intersection of Oak Grove Road is being converted from a side-street stop-controlled intersection to a signalized intersection. The west approach is also being reconfigured to include a shared left-through lane and an exclusive right turn lane. This improvement began in autumn 2018 after data collection for this study was completed. This improvement will be included in the Year 2040 (Future Year) operations analysis. Additionally, the corridor is scheduled to undergo a design study by the Illinois Department of Transportation (IDOT). This study will address roadway pavement needs and install Americans with Disabilities Act (ADA) crosswalk ramps along the corridor. Since the IDOT study hasn't started at this time, these design considerations were not utilized in this study.

2.2 Future Developments

From discussions with City of South Beloit officials and SLATS MPO staff, no future developments were identified along the corridor. It should be noted that a study of the Turtle Creek watershed is currently being conducted. This study will determine if any additional developments will be added to the surrounding area. However, for this study, no additional developments will be assumed.

3.0 Existing Area Conditions

3.1 Roadway Transportation System

Descriptions of major area roadways within the study area are summarized below. Roadway and intersection characteristics including exclusive turn lanes at major intersections are illustrated in Figure 3.1.

Blackhawk Boulevard

Blackhawk Boulevard is a divided four-lane, north-south principal arterial roadway that connects the communities of Beloit and South Beloit. Blackhawk Boulevard begins at the Wisconsin/Illinois state line and continues south through South Beloit. North of the state line, the roadway is designated as State Street and Wisconsin State Trunk Highway 213; south of the state line, the roadway is designated as Blackhawk Boulevard and Illinois Route 2. From Gardner Street south, Blackhawk Boulevard also carries the Illinois Route 75 roadway designation. On-street parking is provided on both sides of the roadway from Winnebago Avenue to Charles Street. On-street parking is provided on the west side of the roadway from Charles Street to just south of the Turtle Creek bridge. Parking is prohibited south of Winnebago Avenue. The posted speed limit on Blackhawk Boulevard from the state line to Forest Park Boulevard is 30 mph. From Forest Park Boulevard to Liston Avenue, the posted speed limit is 35 mph. South of Liston Avenue, the posted speed limit is 45 mph. Exclusive left turn and/or right turn lanes are present at major intersections.

Shirland Avenue

Shirland Avenue is a four-lane, east-west minor arterial roadway in Beloit that runs from Frederick Street and ends just east of State Street. At its signalized intersection with State Street, the west leg provides a shared through-left turn lane and an exclusive right turn lane while the east leg provides one shared lane for all movements. On-street parking is prohibited along both sides of Shirland Avenue and the roadway has a posted speed limit of 25 mph within the study area.

Dickop Street

Dickop Street is a two-lane, east-west local roadway that connects to Blackhawk Boulevard at a T-intersection. Less than 500 feet west of Blackhawk Boulevard, Dickop Street ends at the Nature at the Confluence nature center. On-street parking is provided along the south side of Dickop Street and driveways to local businesses are present on the north side. At the intersection with Blackhawk Boulevard, one lane is present for all turning movements and all turning movements are under stop-sign control. Dickop Street does not have a posted speed limit.

Gardner Street

Gardner Street, also known as Illinois Route 75, is a four-lane, east-west principal arterial roadway running from Blackhawk Boulevard through South Beloit. On street parking is prohibited on both sides of Gardner Street and has a posted speed limit of 30 mph. At its signalized intersection with Blackhawk Boulevard, Gardner Street has a shared through-left turn lane and an exclusive right turn lane. The western leg of this intersection is an access drive for a Papa John's restaurant.

Webster Avenue

Webster Avenue is a two-lane, east west local roadway that runs from Blackhawk Boulevard to Eastern Avenue. Parking is allowed on both sides of the street. At its intersection with Blackhawk Boulevard, Webster Avenue connects only to the northbound flow of traffic due to the presence of a raised median. Therefore, the lane configuration on Webster Avenue is one right turn lane. All movements from Webster Avenue onto Blackhawk Boulevard are under stop-sign control.

Charles Street / Northwestern Avenue

Charles Street is a two-lane, east-west local roadway that runs west of Blackhawk Boulevard to the Canadian Pacific railroad tracks. Parking is allowed on both sides of the roadway and the approach to Blackhawk Boulevard has one shared turn lane with all movement from Charles Street under stop-sign control. Connecting at the same point on the east side of Blackhawk Boulevard is Northwestern Avenue. This east-west local roadway is also two-lane; however, parking is only allowed on the southwest side of the street. This leg of the intersection also has one shared turn lane and all movements from Northwestern Avenue are under stop-sign control.

Elmwood Avenue

Elmwood Avenue is a two-lane, east-west local roadway that runs from Doner Drive to Northwestern Avenue. Parking is allowed on both sides of the roadway throughout the corridor. At its unsignalized intersection with Blackhawk Boulevard, north the east and west legs of the intersection have one shared turn lane and all movements from Elmwood Avenue are under stop-sign control.

Oak Grove Avenue

Oak Grove Avenue is a two-lane, east-west local roadway that runs from Northwestern Avenue to the Canadian Pacific railroad tracks. West of Blackhawk Boulevard, on-street parking is permitted on both sides of the roadway. East of Blackhawk Boulevard, on street parking is prohibited but sidewalks are present. At its signalized intersection with Blackhawk Boulevard, the west approach of Oak Grove Avenue provides a shared through/left turn lane and an exclusive right turn lane while the east approach provides no exclusive turn lanes.

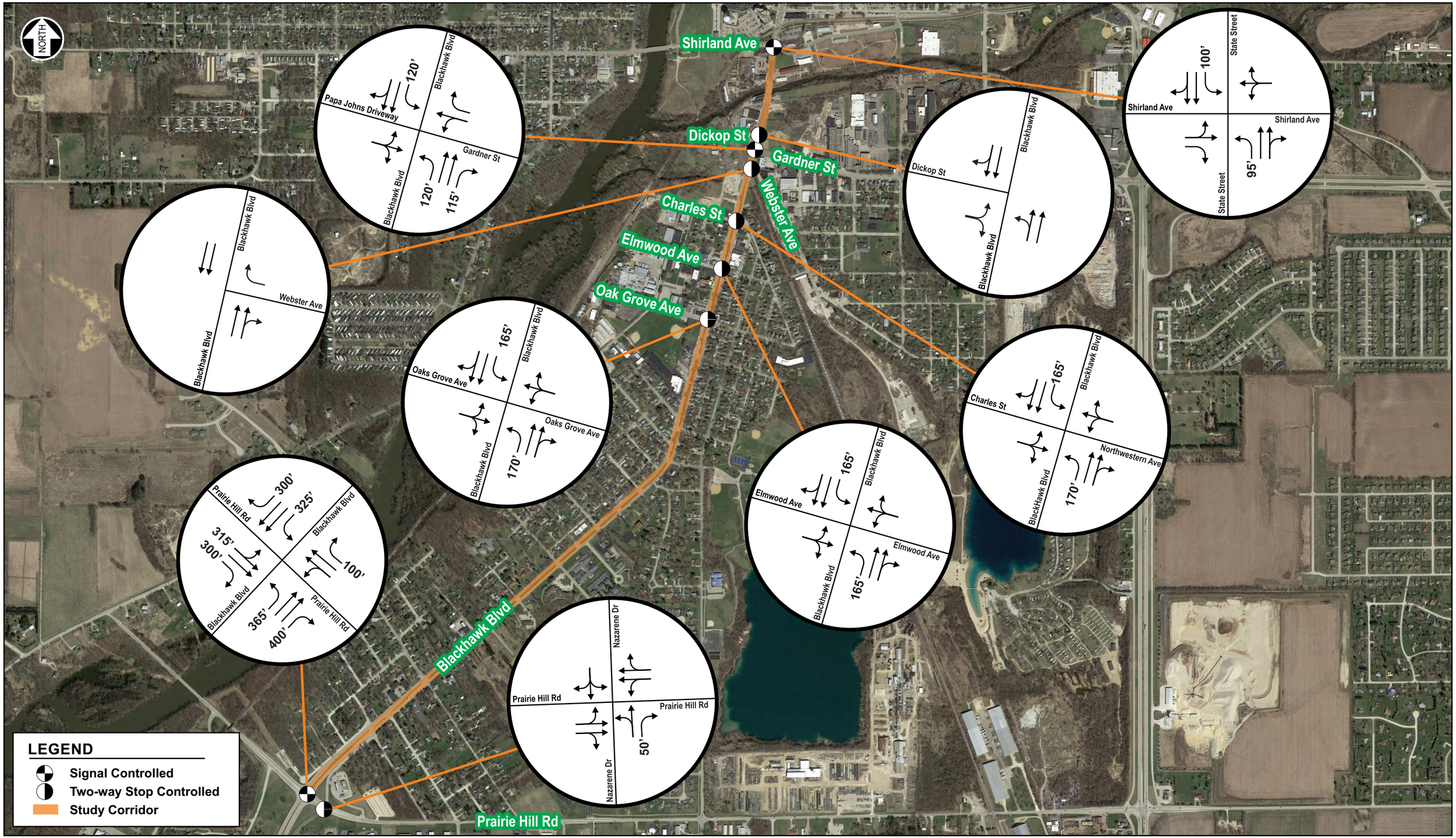
Prairie Hill Road

Prairie Hill Road is a four-lane, east-west minor arterial roadway with a posted speed limit of 40 mph. East of Blackhawk Boulevard, Prairie Hill Road is also designated as Winnebago County Route 76. In the vicinity of Blackhawk Boulevard and Nazarene Drive, a painted median is provided to separate the travel lanes. At its signalized intersection with Blackhawk Boulevard, both the east and west legs have a shared through-left turn lane, through lane, and channelized right turn lane. At its unsignalized intersection with Nazarene Drive, no exclusive turn lanes are provided.

Nazarene Drive

Nazarene Drive is a local two-lane, north-south roadway that serves as a frontage road to Blackhawk Boulevard. Its unsignalized intersection with Prairie Hill Road is located approximately 180 feet east from Blackhawk Boulevard[1]. At Prairie Hill Road, the south approach of Nazarene Drive has a shared left-through lane and an exclusive right turn lane while the north approach of Nazarene Drive has a shared turn lane but there is sufficient space for a de facto right turn lane. All movements from Nazarene Drive onto Prairie Hill Road are under stop sign control.

[1] Measured from the edge of the outermost travel lane on Blackhawk Boulevard to the curb return radius on the south leg of the Nazarene Intersection per BDE Manual Chapter 35-2.03, Figure 35-2.M.



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Existing Intersection Geometry

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Figure 3.1

3.2 Area Land Uses

Land uses surrounding Blackhawk Boulevard consists primarily of residential neighborhoods and institutional land uses (e.g. schools, parks, and churches) south of Elmwood Avenue. North of Elmwood Avenue, Blackhawk Boulevard provides direct access to various restaurants, retail stores, and city buildings located in downtown South Beloit.

3.3 Data Collection Plan

SRF's data collection efforts focused on gathering and organizing a variety of information related to the study area. A field review of the study area was performed to gather intersection and roadway geometrics, multi-modal facilities, and surrounding land uses. Traffic signal phasing and timing information for signalized intersections within the study area was provided by the Illinois Department of Transportation (IDOT) and the City of Beloit (Shirland Avenue intersection). Intersection turning movement counts were gathered to understand traffic operations during peak traffic periods within the study area.

All intersections located within the study area were identified during the project scoping process. Analyzed intersections are located near the development site or would be directly affected by development traffic in the area. Discussions with City of South Beloit officials and SLATS MPO staff determined that intersection data collection would be conducted at nine intersections. The intersections selected for data collection are listed below.

- State Street and Shirland Avenue
- Blackhawk Boulevard and Dickop Street
- Blackhawk Boulevard and Gardner Street
- Blackhawk Boulevard and Webster Ave
- Blackhawk Boulevard and Charles Street/Northwestern Avenue
- Blackhawk Boulevard and Elmwood Avenue
- Blackhawk Boulevard and Oak Grove Avenue
- Blackhawk Boulevard and Prairie Hill Road
- Prairie Hill Road and Nazarene Drive

Key study area roadways and intersection locations are shown in Figure 3.1.

Peak Hour Turning Movement Counts

Weekday morning (7:00 to 9:00 a.m.) and weekday evening (4:00 to 6:00 p.m.) peak hour turning movement counts were collected at eight intersections on either Tuesday, May 15, 2018, Thursday, May 17, 2018, or Tuesday, May 22, 2018. The ninth intersection stated previously, Blackhawk Boulevard and Charles Street / Northwestern Avenue, was collected for 12 hours (6:00 am to 6:00 pm). The counts were collected using video-based data collection technology. Specifically, a video camera was mounted on a pole to capture traffic operations at each intersection. The recorded video data were reviewed and quantified into traffic counts. It was determined that the morning peak hour of the study area occurs from 7:15 to 8:15 a.m. and the evening peak hour occurs from 4:30 to 5:30 p.m. Peak hour turning movement volumes are displayed in Figure 3.2 while intersection turning movement count summaries for each intersection is provided in Appendix A.

3.4 Corridor Safety Analysis

Blackhawk Boulevard roadway and intersection crash data for the Years 2013 through 2017 were obtained for review. This review investigated for crash commonalities and trends throughout the project corridor. In addition, the existing roadway and intersection geometrics were reviewed to determine whether design standards or multimodal accommodates are met. The following sections summarize the processes and results of the safety analysis.

Geometric Review of Existing Conditions

The geometry along the corridor was reviewed and compared to national (AASHTO) and local (WisDOT FDM and IDOT BDE) standards. These standards provide information on recommended cross section elements, horizontal and vertical profile, site distance and intersection spacing. The following locations raise potential concerns to be considered for future improvements.

Blackhawk Boulevard

Blackhawk Boulevard contains two travel lanes in each direction separated by a raised median along the length of the corridor. North of Liston Avenue, Blackhawk Boulevard provides sidewalks and on-street parking on both sides of the roadway. While motorists and pedestrians are accommodated throughout the corridor (where needed), there are no on-street or off-street bicycle elements to serve this mode of transportation.

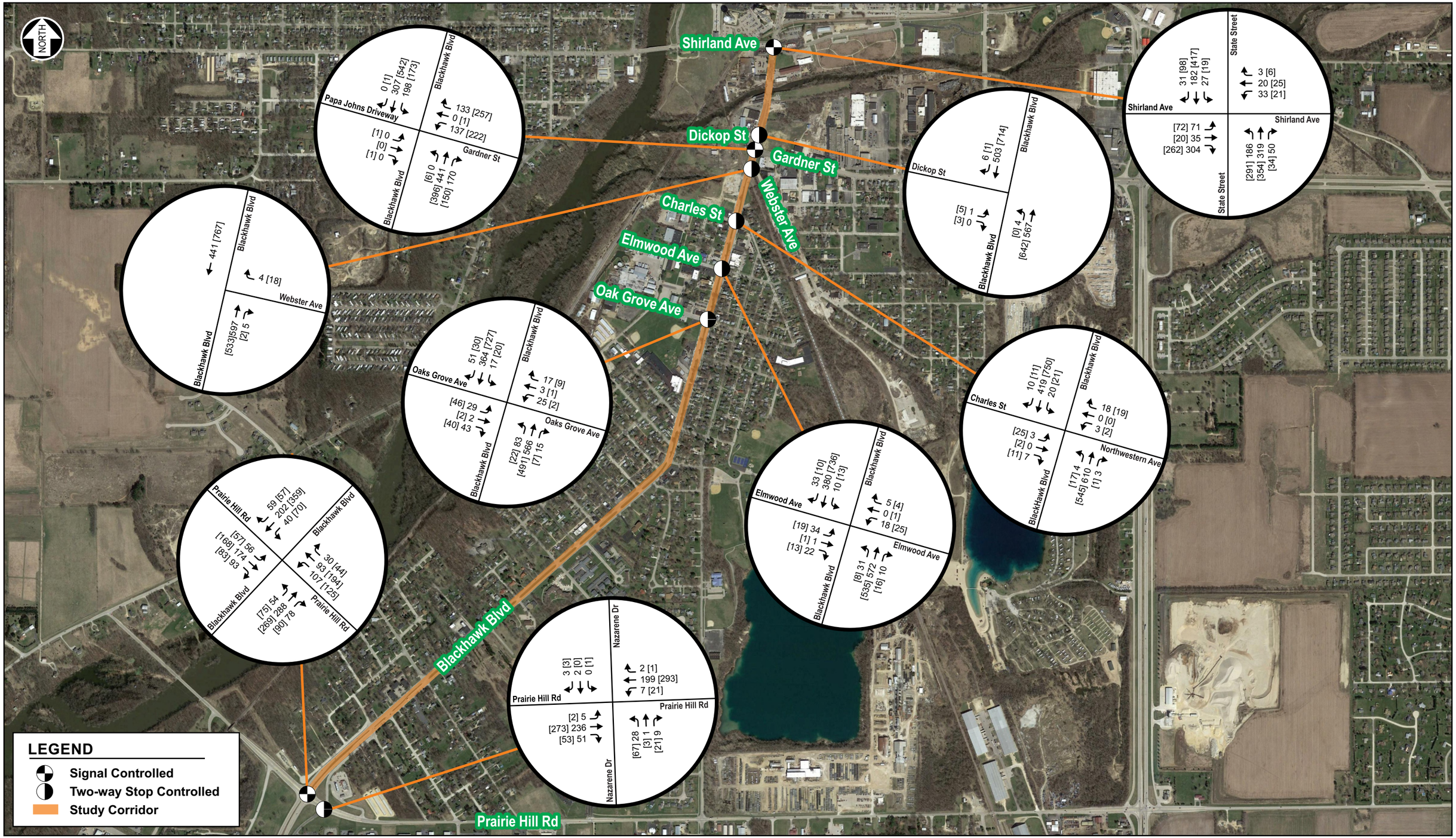
State Street and Shirland Avenue

The intersection of State Street and Shirland Avenue is a skewed intersection. The east and west legs of the intersection do not line up well to provide safe travel across the intersection. Additionally, driveways for both McDonalds and Beloit Daily News are within the functional length of the intersection[2]. This can pose safety concerns as vehicles turning to and from these access drives cause interruption in traffic flow and interfere with typical driver behavior.

Blackhawk Boulevard and Dickop Street

The location of Dickop Street is approximately 150 feet north of the intersection of Blackhawk Boulevard and Gardner Street. This places Dickop Street near/within the functional area of the intersection. This can pose safety concerns as vehicles turning to and from Dickop Street cause interruption in traffic flow and interfere with typical driver behavior.

[2] WisDOT FDM describes the surrounding area of an intersection, including auxiliary lanes, as the functional length of the intersection while IDOT BDE refers to this area as the functional intersection area.



Existing 2018 Turning Movement Counts

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Figure 3.2

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Blackhawk Boulevard and Webster Avenue

The location of Webster Avenue is approximately 160 feet south of the intersection of Blackhawk Boulevard and Gardner Street. This places Webster Street within the functional area of the intersection. This can pose concerns as vehicles turning to and from Webster Avenue cause interruption in traffic flow and interfere with typical driver behavior.

Blackhawk Boulevard and Prairie Hill Road

The intersection of Blackhawk Boulevard and Prairie Hill Road provides exclusive left turn lanes on Blackhawk Boulevard, but not along Prairie Hill Road. The lack of exclusive turn lanes can cause operational deficiencies on Prairie Hill Road as the inside through lane serves as a de facto left turn lane. Additionally, this condition can create sight obstructions for left-turning vehicles if two vehicles are waiting to turn left at the same time (i.e. negative offset).

Prairie Hill Road and Nazarene Drive

Nazarene Drive serves as a frontage road to Blackhawk Boulevard. Currently, the intersection of Prairie Hill Road and Nazarene Drive is located 180 feet from Blackhawk Boulevard. IDOT BDE standards states that frontage roads should be placed a minimum of 300 feet from major intersections. Additionally, Nazarene Drive is also within the functional intersection area. With Prairie Hill Road having higher posted speeds, closely-spaced intersections increase crash risk with vehicles that slow down to safely execute turning movements.

Intersection Crash Statistics

IDOT and the City of South Beloit provided crash data (years 2013-2017) for the extents of the corridor. This data was reviewed for severity and frequency at both intersections and segments throughout the corridor. The analysis of this data found that the crash rate of all studied intersections fall below threshold of 1.00 crashes per million entering vehicles (MEV). This indicates that crash frequency is not occurring at a rate that requires improvement based on existing crashes.

Table 3.1 Intersection Crash Statistics

Intersection	PD	Injury Level			K	Total Crashes	Crash Rate (MEV)
		C	B	A			
Prairie Hill Road	10	1	2	3	0	16	0.65
Oak Grove Avenue	2	0	0	0	0	2	0.10
Elmwood Avenue	2	0	0	0	0	2	0.09
Charles Street / Northwestern Avenue	2	1	2	0	0	5	0.24
Webster Avenue	0	0	0	0	0	0	0.00
Gardner Avenue (IL 75)	17	2	0	0	0	19	0.53
Dickop Street	0	0	0	0	0	0	0.00
Shirland Avenue / State Street	3	0	0	0	0	3	0.10
Total Crashes	**36**	**4**	**4**	**3**	**0**	**47**	

3.5 Pavement and Signal Equipment Inventory

An investigation of the existing roadway pavement and traffic signal equipment was performed. As mentioned in Chapter 2.1, this corridor will be designed by IDOT for roadway reconstruction. This analysis will provide a preliminary evaluation of the roadway pavement condition and an inventory of the traffic signal equipment that exists along the corridor.

Pavement Evaluation

Blackhawk Boulevard primarily has an asphaltic pavement roadway surface along the study corridor. An exception to this includes the concrete structure and approaches over Turtle Creek. Concrete curb and gutter is present from Perry Avenue to Shirland Avenue while asphalt shoulders are provided from Prairie Hill Road to Perry Avenue. An inventory of the existing pavement condition was performed by visually inspecting the roadway and driving over the roadway surface. A description of the findings are described below:

From Prairie Hill Road to Winnebago Avenue, frequent transverse cracking is present on the pavement. Longitudinal cracking is present between the travel lanes and at the edgelines, but neither the transverse or longitudinal cracking appear to be wide. Some alligator cracking is present in isolated areas. Potholes and patches are present, but not frequent. Some minor rutting is present at Prairie Hill Avenue. Overall ride on this segment is satisfactory.

Blackhawk Boulevard southbound lanes, looking north from Prairie Hill Road

From Winnebago Avenue to Webster Avenue, frequent transverse and longitudinal cracking is present on the pavement, more than the segment to the south. Alligator cracking and potholes / pothole patching are more frequent in this segment, particularly on the northern end of this segment. Overall ride on this segment is satisfactory.

From Webster Avenue to Shirland Avenue, transverse and longitudinal cracking is frequent and larger-sized potholes are present. Rutting exists at Gardner Street. Significant alligator cracking is present in this section. Pavement ride is poor except at the Turtle Creek structure, where this pavement was recently resurfaced.

Blackhawk Boulevard northbound lanes at Gardner Street

Traffic Signal Inventory

Three traffic signals currently exist along the study corridor: Prairie Hill Road, Gardner Street, and Shirland Avenue. The following describes an inventory of the equipment at each traffic signal location:

Prairie Hill Road: Traffic signals and poles at this intersection are in good condition, with no noticeable deficiencies to the poles or equipment. Video detection cameras are provided on all approaches of the intersection. Backplates are provided on all travel lane signal heads, distinguishing the signal head from environmental conditions such as sunlight. Consideration should be made to installing retroreflective backplates to the signal heads to enhance the visibility and noticeability of the signals. A review of the traffic signal controller cabinet was performed and found to be in good operating order.

Blackhawk Boulevard and Prairie Hill Road intersection, looking southeast

Gardner Street: Traffic signals and poles at this intersection are in good condition, with no noticeable deficiencies to the poles or equipment. Backplates are provided on all travel lane signal heads, distinguishing the signal head from environmental conditions such as sunlight. Consideration should be made to installing retroreflective backplates to the signal heads to enhance the visibility and noticeability of the signals. A review of the traffic signal controller cabinet was performed and found to be in good operating order.

Blackhawk Boulevard and Gardner Street intersection, looking northwest

State Street / Shirland Avenue: Traffic signals and poles at this intersection are in good condition, with no noticeable deficiencies to the poles or equipment. Backplates are provided on all travel lane signal heads, distinguishing the signal head from environmental conditions such as sunlight. It should be noted that the traffic signal heads and poles are all black in color; consideration should be made to installing retroreflective backplates to the signal heads to enhance the visibility and noticeability of the signals. A review of the traffic signal controller cabinet was performed and found to be in good operating order.

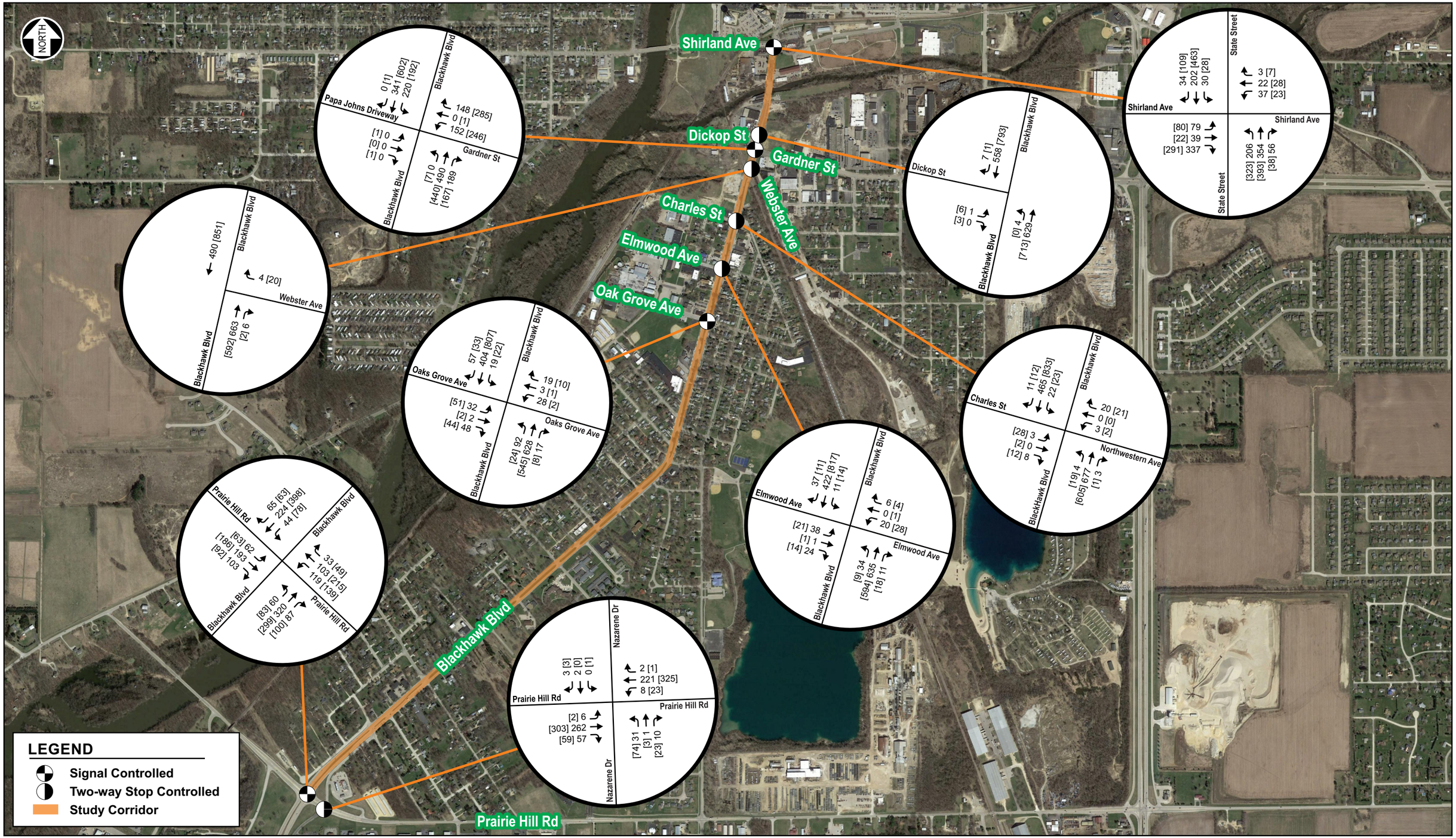
State Street and Shirland Avenue intersection, looking southeast

4.0 Background Traffic

4.1 Background Traffic

Background traffic is non-study area or regional trips that travel through the study area to reach their destination. While their trip origin or destination is not within the study area, they contribute to the typical increase of traffic over time. Through discussions with City of South Beloit officials and SLATS MPO staff, it was determined that all improvements throughout the corridor should be accommodating through Year 2040. Therefore, to account for future trips that would travel through the study area, an average annual growth rate of one percent per year was added to develop background traffic volumes for the analysis horizon year.

Figure 3.2 illustrates Year 2018 traffic conditions (existing-year traffic) while Figure 4.1 illustrates Year 2040 traffic conditions (existing-year traffic + background growth) for the study area.



Future 2040 Turning Movement Counts

Corridor Study for Blackhawk Boulevard

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Figure 4.1

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5.0 Traffic Operations Analysis

To determine how traffic operates under current and future conditions, an operational analysis was conducted for intersections identified in Section 3.3 using methodologies published in the *Highway Capacity Manual* (HCM). The HCM module in the traffic operations software package, Synchro, was used to document the results of the traffic operations analysis. Operational analysis results identify a Level of Service (LOS), which is intended to depict the quality of traffic flow through an intersection. Signalized and unsignalized intersections are given a ranking from LOS A through LOS F as a function of the average control delay as presented in Table 5.1 for signalized intersections and Table 5.2 for unsignalized and roundabout intersections.

Table 5.1 Level of Service (LOS) Criteria, Signalized Intersections

LOS Designation	Average Control Delay/Vehicle (seconds)	Description
A	≤ 10.0	Very low vehicle delays, free flow, signal progression extremely favorable, most vehicles arrive during given signal phase.
B	10.1 to 20.0	Good signal progression, more vehicles stop and experience higher delays than for LOS A.
C	20.1 to 35.0	Stable flow, fair signal progression, significant number of vehicles stop at signals.
D	35.1 to 55.0	Congestion noticeable, longer delays and unfavorable signal progression, many vehicles stop at signals.
E	55.1 to 80.0	Limit of acceptable delay, unstable flow, poor signal progression, traffic near roadway capacity, frequent cycle failures.
F	> 80.0	Unacceptable delays, extremely unstable flow and congestion, traffic exceeds roadway capacity, stop-and-go conditions

Table 5.2: Level of Service (LOS) Criteria, Unsignalized and Roundabout Intersections

LOS Designation	Average Control Delay/Vehicle (seconds)	Description
A	≤ 10.0	No delays at intersections with continuous flow of traffic. Uncongested operations: high frequency of long gaps available for all left and right turning traffic. No observable queues.
B	10.1 to 15.0	Same as LOS A
C	15.1 to 25.0	Moderate delays at intersections with satisfactory to good traffic flow. Light congestion; infrequent backups on critical approaches.
D	25.1 to 35.0	Increased probability of delays along every approach. Significant congestion on critical approaches, but intersection functional. No standing long lines formed.
E	35.1 to 50.0	Heavy traffic flow condition. Heavy delays probable. No available gaps for cross-street traffic or main street turning traffic. Limited stable traffic flow.
F	> 50.0	Unstable traffic flow. Heavy congestion. Traffic moves in forced flow condition. Average delays greater than one minute highly probable. Total breakdown.

SOURCE: *Highway Capacity Manual, HCM2010*, Transportation Research Board, 2010.

For the intersection operations analysis, all key intersections in the study area were evaluated to determine which intersections may not operate at LOS A, B or C. In addition, a more detailed analysis of the intersections was conducted to identify and address individual turning movements (greater than 50 vehicles per hour) that are operating at LOS D, E, or F. It is important to note that some intersections may currently have individual turning movements that operate at LOS D, E or F. However, these movements may have relatively low volumes (less than 50 vehicles per hour) and cost-effective improvements may not exist to improve their LOS.

For side-street stop-controlled intersections, the majority of the intersection delay is attributed to the side-street approaches, since traffic on the mainline is not required to stop. It is typical of intersections with higher mainline traffic volumes to experience heavier levels of delay on the side-street approaches but operate at an acceptable overall intersection level of service during the peak hour periods. However, as the side-street delay increases, motorists tend to accept smaller gaps and/or take greater risks in their attempt to enter the mainline traffic stream which could eventually lead to safety problems. In this case, increasing incidents of crashes could require intersection modifications even though overall operational analyses indicate LOS values above D.

5.1 Existing Conditions

To determine how traffic currently operates in the study area, an operational analysis was conducted for the weekday morning and afternoon peak hours at the key intersections. Existing geometrics, traffic controls, and peak hour traffic volumes for the key intersections are shown in Figures 3.1 and 3.2. Level of service and queueing results for each turning movement at the analyzed intersections are shown in Table 5.3 for the weekday morning peak hour and Table 5.4 for the weekday afternoon peak hour. The traffic operations output files are located in Appendix B.

Table 5.3 Traffic Operations Analysis, Existing Conditions, Year 2018, Weekday Morning Peak Hour

Weekday Morning Peak - Existing Conditions																
Intersection	Overall		By Approach	Eastbound			Westbound			Northbound			Southbound		
	Delay (s)	LOS		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Blackhawk Blvd and Shirland Ave*	14.1	B	Delay (s)	20.0	0.0	10.9	31.2	0.0	0.0	11.1	8.5	8.5	21.3	22.9	23.0
			LOS	C	A	B	C	A	A	B	A	A	C	C	C
			V/C Ratio	0.31	0	0.48	0.55	0	0	0.32	0.25	0.25	0.11	0.41	0.42
			95% Queue (ft)	85	0	190	55	0	0	110	95	95	25	90	90
Blackhawk Blvd and Dickop Street	0.1	A	Delay (s)	19.4						8.7	0.0			0.0	0.0
			LOS	C						A	A			A	A
			V/C Ratio	0.01						0.01	0			0	0.00
			95% Queue (ft)	0						0	0			0	0
Blackhawk Blvd and Gardner Street*	12.7	B	Delay (s)	0.0	0.0	0.0	24.0	0.0	0.0	0.0	14.7	0.0	9.9	6.7	0.0
			LOS	A	A	A	C	A	A	A	B	A	A	A	A
			V/C Ratio	0	0	0	0.37	0	0	0	0.35	0	0.42	0.17	0
			95% Queue (ft)	0	0	0	125	0	0	0	160	0	105	75	0
Blackhawk Blvd and Webster Ave	0.0	A	Delay (s)				10.6				0.0	0.0	0.0		
			LOS				B				A	A	A		
			V/C Ratio				0.01				0	0	0		
			95% Queue (ft)				0				0	0	0		
Blackhawk Blvd and Charles/Northwestern Ave	0.6	A	Delay (s)	14.1			14.2			8.4	0.0	0.0	9.4	0.0	0.0
			LOS	B			B			A	A	A	A	A	A
			V/C Ratio	0.03			0.06			0.01	0	0	0.03	0	0
			95% Queue (ft)	5			5			0	0	0	5	0	0
Blackhawk Blvd and Elmwood Ave	1.9	A	Delay (s)	21.6			26.0			8.5	0.0	0.0	9.4	0.0	0.0
			LOS	C			D			A	A	A	A	A	A
			V/C Ratio	0.25			0.14			0.04	0	0	0.02	0	0
			95% Queue (ft)	25			15			5	0	0	0	0	0
Blackhawk Boulevard and Oak Grove Ave	3.4	A	Delay (s)	24.4			32.5			8.6	0.0	0.0	9.6	0.0	0.0
			LOS	C			D			A	A	A	A	A	A
			V/C Ratio	0.32			0.29			0.09	0	0	0.03	0	0
			95% Queue (ft)	35			30			10	0	0	5	0	0
Blackhawk Boulevard and Prairie Hill Rd*	13.7	B	Delay (s)	14.6	14.6	0.0	17.8	14.4	0.0	10.6	12.9	0.0	10.9	12.8	0.0
			LOS	B	B	A	B	B	A	B	B	A	B	B	A
			V/C Ratio	0.27	0.29	0.00	0.32	0.25	0.00	0.12	0.3	0.00	0.1	0.22	0.00
			95% Queue (ft)	70	60	0	70	50	0	25	75	0	20	55	0
Prairie Hill Rd and Nazarene Dr	1.2	A	Delay (s)	8.0	0.0		8.0	0.0	0.0	10.9			10.6		
			LOS	A	A		A	A	A	B			B		
			V/C Ratio	0.01	0		0.01	0	0	0.02			0.01		
			95% Queue (ft)	0	0		0	0	0	5			0		

***Signalized Intersection**

Table 5.4 Traffic Operations Analysis, Existing Conditions, Year 2018, Weekday Evening Peak Hour

Weekday Evening Peak - Existing Conditions																
Intersection	Overall		By Approach	Eastbound			Westbound			Northbound			Southbound		
	Delay (s)	LOS		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Blackhawk Blvd and Shirland Ave*	15.9	B	Delay (s)	23.6	0.0	13.5	34.3	0.0	0.0	12.9	6.9	6.9	18.2	22.3	22.4
			LOS	C	A	B	C	A	A	B	A	A	B	C	C
			V/C Ratio	0.32	0	0.43	0.55	0	0	0.50	0.21	0.21	0.08	0.61	0.62
			95% Queue (ft)	75	0	170	55	0	0	165	85	85	20	210	205
Blackhawk Blvd and Dickop Street	0.1	A	Delay (s)	19.1						0.0	0.0			0.0	0.0
			LOS	C						A	A			A	A
			V/C Ratio	0.03						0	0			0	0
			95% Queue (ft)	5						0	0			0	0
Blackhawk Blvd and Gardner Street*	12.4	B	Delay (s)	19.8	0.0	0.0	25.2	0.0	0.0	11.9	13.6	0.0	9.3	7.4	7.4
			LOS	B	A	A	C	A	A	B	B	A	A	A	A
			V/C Ratio	0	0	0	0.52	0	0	0.01	0.28	0	0.32	0.27	0.27
			95% Queue (ft)	5	0	0	195	0	0	5	125	0	85	125	130
Blackhawk Blvd and Webster Ave	0.1	A	Delay (s)				10.1				0.0	0.0	0.0		
			LOS				B				A	A	A		
			V/C Ratio				0.03				0	0	0		
			95% Queue (ft)				5				0	0	0		
Blackhawk Blvd and Charles/Northwestern Ave	1.3	A	Delay (s)	34.5			11.9			9.7	0.0	0.0	8.7	0.0	0.0
			LOS	D			B			A	A	A	A	A	A
			V/C Ratio	0.25			0.04			0.023	0	0	0.022	0	0
			95% Queue (ft)	25			5			5	0	0	5	0	0
Blackhawk Blvd and Elmwood Ave	1.2	A	Delay (s)	24.1			25.9			9.4	0.0	0.0	8.7	0.0	0.0
			LOS	C			D			A	A	A	A	A	A
			V/C Ratio	0.16			0.16			0.01	0	0	0.014	0	0
			95% Queue (ft)	15			15			0	0	0	0	0	0
Blackhawk Boulevard and Oak Grove Ave	2.4	A	Delay (s)	32.5			14.7			9.7	0.0	0.0	8.5	0.0	0.0
			LOS	D			B			A	A	A	A	A	A
			V/C Ratio	0.42			0.03			0.029	0	0	0.02	0	0
			95% Queue (ft)	50			5			5	0	0	5	0	0
Blackhawk Boulevard and Prairie Hill Rd*	13.8	B	Delay (s)	15.7	15.2	0.0	18.3	15.8	0.0	9.7	12.2	0.0	9.7	12.7	0.0
			LOS	B	B	A	B	B	A	A	B	A	A	B	A
			V/C Ratio	0.32	0.34	0	0.5	0.45	0	0.17	0.27	0	0.14	0.36	0
			95% Queue (ft)	65	65	0	110	85	0	30	65	0	30	90	0
Prairie Hill Rd and Nazarene Dr	2.0	A	Delay (s)	7.9	0.0		7.9	0.1	0.0	12.2			10.5		
			LOS	A	A		A	A	A	B			B		
			V/C Ratio	0.002	0		0.02	0	0	0.05			0.01		
			95% Queue (ft)	0	0		5	0	0	5			0		

*Signalized Intersection

From Table 5.3 and Table 5.4, overall intersection traffic operations within the study area are performing at LOS C or better. Reviewing the approach traffic operations, LOS D appears at the intersections of Charles/Northwestern Avenue during the evening peak while Elmwood Avenue has LOS D present during both peak periods. At this intersection, turning movements from the side-streets experience longer delays due to inadequate gaps in the Blackhawk Boulevard traffic. This longer delay is expected when there is side-street stop sign control along a principal arterial route with higher traffic volumes. It should be noted, though, that the queues present at these intersections are not significantly long due to the minimal amount of left-turning and through traffic occurring at the side-street.

5.2 Year 2040 Conditions, No Build

To determine if the existing roadway system will accommodate Year 2040 traffic volumes, a peak hour operations analysis was conducted that analyzed existing-year and background traffic for Year 2040 conditions. All intersections assumed existing geometric conditions for Year 2040. This includes the new signalized intersection at Oak Grove Avenue, whose construction began in late 2018. Level of service (LOS) and queuing results for the Year 2040 conditions analysis are shown in Table 5.5 (weekday morning peak hour) and Table 5.6 (weekday evening peak hour). Traffic operations output files for Year 2040 no build conditions are presented in Appendix C.

Table 5.5 Traffic Operations Analysis, Future Conditions, Year 2040, Weekday Morning Peak Hour

Weekday Morning Peak - Future Conditions																	
Intersection	Overall		By Approach	Eastbound			Westbound			Northbound			Southbound		
	Delay (s)	LOS		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Blackhawk Blvd and Shirland Ave*	15.3	B	Delay (s)	20.3	0.0	11.8	33.7	0.0	0.0	12.7	9.6	9.6	22.2	24.0	24.1
			LOS	C	A	B	C	A	A	B	A	A	C	C	C
			V/C Ratio	0.32	0	0.53	0.60	0	0	0.38	0.28	0.29	0.13	0.43	0.44
			95% Queue (ft)	95	0	215	65	0	0	135	115	120	25	105	110
Blackhawk Blvd and Dickop Street	0.1	A	Delay (s)	21.8						9.0	0.0			0.0	0.0
			LOS	C						A	A			A	A
			V/C Ratio	0.01						0.005	0			0	0
			95% Queue (ft)	0						0	0			0	0
Blackhawk Blvd and Gardner Street*	13.2	B	Delay (s)	0.0	0.0	0.0	24.9	0.0	0.0	0.0	15.4	0.0	10.4	6.7	0.0
			LOS	A	A	A	C	A	A	A	B	A	B	A	A
			V/C Ratio	0	0	0	0.42	0	0	0	0.4	0	0.47	0.19	0
			95% Queue (ft)	0	0	0	625	0	0	0	385	0	260	170	0
Blackhawk Blvd and Webster Ave	0.0	A	Delay (s)				11.0				0.0	0.0	0.0		
			LOS				B				A	A	A		
			V/C Ratio				0.01				0	0	0		
			95% Queue (ft)				0				0	0	0		
Blackhawk Blvd and Charles/Northwestern Ave	0.6	A	Delay (s)	15.0			15.3			8.6	0.0	0.0	9.8	0.0	0.0
			LOS	C			C			A	A	A	A	A	A
			V/C Ratio	0.04			0.07			0.005	0	0	0.034	0	0
			95% Queue (ft)	5			5			0	0	0	5	0	0
Blackhawk Blvd and Elmwood Ave	2.3	A	Delay (s)	26.9			31.6			8.7	0.0	0.0	9.8	0.0	0.0
			LOS	D			D			A	A	A	A	A	A
			V/C Ratio	0.32			0.19			0.041	0	0	0.018	0	0
			95% Queue (ft)	35			20			5	0	0	5	0	0
Blackhawk Boulevard and Oak Grove Ave*	8.9	A	Delay (s)	34.1	0.0	30.6	34.9	0.0	0.0	4.6	6.2	6.2	5.2	6.7	6.7
			LOS	C	A	C	C	A	A	A	A	A	A	A	A
			V/C Ratio	0.16	0	0.21	0.24	0	0	0.16	0.32	0.32	0.05	0.24	0.24
			95% Queue (ft)	40	0	55	60	0	0	40	170	180	10	125	130
Blackhawk Boulevard and Prairie Hill Rd*	14.4	B	Delay (s)	14.5	14.4	0.0	18.1	14.1	0.0	11.4	14.1	0.0	11.8	14.0	0.0
			LOS	B	B	A	B	B	A	B	B	A	B	B	A
			V/C Ratio	0.29	0.3	0	0.35	0.26	0	0.14	0.35	0	0.12	0.25	0
			95% Queue (ft)	80	70	0	80	60	0	30	90	0	20	65	0
Prairie Hill Rd and Nazarene Dr	1.2	A	Delay (s)	8.1	0.0		8.1	0.0	0.0	11.4			11.0		
			LOS	A	A		A	A	A	B			B		
			V/C Ratio	0.006	0		0.008	0	0	0.02			0.01		
			95% Queue (ft)	0	0		0	0	0	5			0		

***Signalized Intersection**

Table 5.6 Traffic Operations Analysis, Future Conditions, Year 2040, Weekday Evening Peak Hour

Weekday Evening Peak - Future Conditions																
Intersection	Overall		By Approach	Eastbound			Westbound			Northbound			Southbound		
	Delay (s)	LOS		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Blackhawk Blvd and Shirland Ave*	17.4	B	Delay (s)	24.1	0.0	14.5	36.7	0.0	0.0	16.0	7.7	7.7	19.0	23.8	23.9
			LOS	C	A	B	D	A	A	B	A	A	B	C	C
			V/C Ratio	0.32	0	0.48	0.60	0	0	0.60	0.24	0.24	0.09	0.66	0.67
			95% Queue (ft)	85	0	200	65	0	0	205	105	105	20	240	235
Blackhawk Blvd and Dickop Street	0.1	A	Delay (s)	22.6						0.0	0.0			0.0	0.0
			LOS	C						A	A			A	A
			V/C Ratio	0.05						0	0			0	0
			95% Queue (ft)	5						0	0			0	0
Blackhawk Blvd and Gardner Street*	12.9	B	Delay (s)	20.1	0.0	0.0	26.5	0.0	0.0	12.2	14.1	0.0	9.5	7.5	7.5
			LOS	C	A	A	C	A	A	B	B	A	A	A	A
			V/C Ratio	0	0	0	0.59	0	0	0.02	0.32	0	0.36	0.30	0.30
			95% Queue (ft)	5	0	0	215	0	0	5	140	0	95	140	150
Blackhawk Blvd and Webster Ave	0.1	A	Delay (s)				10.4				0.0	0.0	0.0		
			LOS				B				A	A	A		
			V/C Ratio				0.03				0	0.00	0		
			95% Queue (ft)				5				0	0	0		
Blackhawk Blvd and Charles/Northwestern Ave	1.7	A	Delay (s)	46.5			12.5			10.1	0.0	0.0	8.9	0.0	0.0
			LOS	E			B			B	A	A	A	A	A
			V/C Ratio	0.34			0.05			0.028	0	0	0.026	0	0
			95% Queue (ft)	35			5			5	0	0	5	0	0
Blackhawk Blvd and Elmwood Ave	1.5	A	Delay (s)	30.0			32.2			9.7	0.0	0.0	8.9	0.0	0.0
			LOS	D			D			A	A	A	A	A	A
			V/C Ratio	0.21			0.21			0.012	0	0	0.016	0	0
			95% Queue (ft)	20			20			0	0	0	0	0	0
Blackhawk Boulevard and Oak Grove Ave*	9.2	A	Delay (s)	20.7	0.0	16.1	19.9	0.0	0.0	19.3	7.5	7.5	19.2	8.6	8.6
			LOS	C	A	B	B	A	A	B	A	A	B	A	A
			V/C Ratio	0.21	0	0.17	0.06	0	0	0.14	0.33	0.33	0.12	0.51	0.51
			95% Queue (ft)	35	0	25	10	0	0	15	105	110	15	175	185
Blackhawk Boulevard and Prairie Hill Rd*	14.5	B	Delay (s)	15.9	15.0	0.0	18.7	15.6	0.0	10.6	13.4	0.0	10.5	13.9	0.0
			LOS	B	B	A	B	B	A	B	B	A	B	B	A
			V/C Ratio	0.33	0.35	0	0.53	0.46	0	0.2	0.31	0	0.17	0.41	0
			95% Queue (ft)	75	75	0	120	100	0	35	80	0	35	110	0
Prairie Hill Rd and Nazarene Dr	2.1	A	Delay (s)	8.0	0.0		8.0	0.1	0.0	13.1			10.9		
			LOS	A	A		A	A	A	B			B		
			V/C Ratio	0.002	0		0.022	0	0	0.06			0.01		
			95% Queue (ft)	0	0		5	0	0	5			0		

*Signalized Intersection

From Table 5.5 and Table 5.6, overall intersection traffic operations within the study area should still perform at LOS C or better for year 2040 operations. Delay for the westbound approach operations at Blackhawk Boulevard and Shirland Avenue begins to worsen under this condition during the evening peak hour. The intersection of Charles Street/Northwestern Avenue also shows increased delay. This location, however, continues to have minimal anticipated queues. The side streets at the intersection of Blackhawk Boulevard and Elmwood Avenue continue to suffer due to the lack of available gaps present on the mainline. The addition of the new signal system at Oak Grove Avenue, shows acceptable capabilities for Year 2040 traffic volumes.

While traffic operations at the Elmwood Avenue and Charles / Northwestern Avenue intersections currently, and are anticipated to, have side-street movements that operate poorly during peak traffic periods, the number of vehicles affected by this condition is small (less than 50 vehicles during the peak hour). Therefore, intersection improvements such as side-street exclusive turn lanes and/or intersection control upgrades may not be cost-effective due to the minimal number of vehicles that would benefit from these improvements. However, traffic conditions should be monitored at these locations to determine whether deficiencies worsen (e.g. side-street queues become much larger) or traffic shifts increase side-street approach volumes. These conditions may result in mitigating intersection operations with the previously-mentioned improvements.

6.0 Alternatives Evaluation

While Chapter 5.0 indicated that existing and future traffic operations analysis do not show significant operational deficiencies along Blackhawk Boulevard, Chapter 3.0 highlights several geometric deficiencies in the study area that could create safety issues. Therefore, alternatives were developed that address these issues while maintaining favorable mobility. This alternatives evaluation is provided below. Preliminary cost estimates for each alternative are provided in the Appendix.

6.1 Corridor Improvements

Alternative BH-1.0: Add bike lanes via various cross section adjustments

This alternative would add bike lanes to the Blackhawk Boulevard roadway cross-section. To do so, various cross section adjustments would need to be completed throughout the corridor including the following:

Shoulder widening from Prairie Hill Road to Hillside Drive (Blackhawk Boulevard speed limit would be reduced to 35 mph to accommodate on-street bike lanes in this area)

A combination of roadway widening, median narrowing, and removal of on-street parking lanes or removal of terrace to relocate on-street parking from Hillside Drive to Northwestern Avenue

The construction of an off-street bike path from Northwestern Avenue to Shirland Avenue.

The combination of these adjustments will aid in the inclusion of 5-foot bike lanes throughout the length of the corridor. Figure included in Appendix D.

Pros	Cons
• Provides multi-modal accommodations along Blackhawk Boulevard • Bike lanes can be constructed to desired standards	• Requires reconstruction of shoulders, curb and gutter, and median area in various locations to install • Requires removal of on-street parking lanes in some areas of South Beloit • Additional study would be required to add bike accommodations to Turtle Creek Bridge • Increased construction cost

Alternative BH-1.1: Add bike lanes via minimizing median (where applicable)

This alternative would add bike lanes to the Blackhawk Boulevard roadway cross-section. To avoid roadway widening in areas with an urban cross-section (e.g. curb and gutter), the median width would be reduced by 10 feet to allow 5-foot bike lanes in each direction. In areas with a rural cross-section (e.g. shoulders and ditches), the shoulders would be paved to accommodate the bike lane. Figure included in Appendix D.

Pros	Cons
• Provides multi-modal accommodations along Blackhawk Boulevard • Minimal, if any, right-of-way needed to construct bike lanes • Bike lanes can be constructed to desired standards	• Requires reconstruction of median area to install • Reduces storage width of vehicles performing two-stage crossings

Alternative BH-1.2: Add bike lanes via removing on-street parking (where applicable)

This alternative would add bike lanes to the Blackhawk Boulevard cross-section. To avoid roadway widening in the areas with an urban cross-section, existing on-street parking lanes would be removed and replaced with bike lanes. In areas with a rural cross-section, the shoulders would be paved to accommodate the bike lane. Figure included in Appendix D.

Pros	Cons
• Provides multi-modal accommodations along Blackhawk Boulevard • Minimal, if any, right-of-way needed to construct bike lanes • Bike lanes can be constructed to desired standards • Minimal construction costs	• Eliminates on-street parking, which may not be desirable to residents and business that front Blackhawk Boulevard

Recommendation

For Alternative BH-1.1 (reduce median size along entire length of Blackhawk Boulevard), the reconstruction of the existing median would likely require significant stormwater improvements to accommodate the smaller median. In addition, the median clear zone is reduced significantly, where numerous trees and other City features are located. It is possible that these median elements would be removed to accommodate the smaller median. In addition, the smaller median may not provide two-stage crossing for traffic movements from the side-streets. For Alternative BH-1.2, discussions with City officials indicated significant concerns about the removal of on-street parking along Blackhawk Boulevard as it used by many residents, patrons, and visitors to the downtown and residential areas. Alternative BH-1.0 is recommended for implementation as it provides the most contiguous option for bicyclists for the entire length of the study corridor and provides a compromise between the latter two mentioned alternatives. While this alternative calls for the removal of on-street parking and median narrowing, elements identified as "cons" for the other alternatives, these features will not be performed throughout the entire length of the Blackhawk Boulevard corridor. Areas that significantly benefit from on-street parking, such as the commercial district along Blackhawk Boulevard, will remain. Also, the minimal median narrowing will allow for two-stage crossings to continue and may not require additional median treatments to accommodate existing stormwater and median features.

6.2 Intersection Improvements

Prairie Hill Road and Blackhawk Boulevard

Alternative BH-2.0: Add EB and WB left-turn lanes, provide left-turn phasing

This alternative would add left-turn lanes to the east and west approaches of Prairie Hill Road at Blackhawk Boulevard. Traffic signal phasing and timing updates are also recommended. The primary purpose for this improvement is to increase safety at the intersection. Within the past five years, 7 of 16 crashes at this intersection involved left-turning vehicles from Prairie Hill Road being struck by opposing through movements. Figure included in Appendix D.

Pros	Cons
• Removes left-turning vehicles from through travel lanes • Can be accommodated within existing right-of-way	• Use of protected phasing reduces green time allotment to other movements, potentially increasing delay

Recommendation

It is recommended that Alternative BH-2.0 be implemented as the improvement improves safety and mobility by removing left-turning vehicles out of the Prairie Hill Road traffic stream and provides a protected traffic signal phase to complete their left turn movement. Traffic operations analysis with this improvement indicate that additional delay due to the new signal phasing is not significant, indicating that traffic volumes can be adequately accommodated with this improvement.

Nazarene Drive and Prairie Hill Avenue

Alternative BH-2.1: Restrict access on the north and south approaches (Nazarene Drive)

This alternative would restrict movements to and from Prairie Hill Road and Nazarene Drive to right-in, right-out only due to the proximity of this intersection to Blackhawk Boulevard (approximately 180 feet). Closely-spaced intersections, particularly on high-speed arterials, can create situations atypical of driver expectations and increase crash probability. As previously mentioned, the recommended offset distance for frontage roads is 300 feet. Figure included in Appendix D.

Pros	Cons
• Reduces number of conflict points at intersection, increasing safety • A small number of left-turn and through movements on north leg would be affected by access restriction (less than five vehicles during peak hour) • Driver expectations are less impeded along Prairie Hill Road, given close proximity of Nazarene Drive to Blackhawk Boulevard • Provides ability to design proper storage lane and taper lengths for proposed left-turn lane on Prairie Hill Road at Blackhawk Boulevard (see Alternative BH-2.0)	• South leg of Nazarene Drive has higher volumes (maximum 75 vehicles during peak hour) that would be affected and required to re-route via Progressive Lane to reach Prairie Hill Road • Increased travel time (up to 2 minutes, assuming speed limit) for emergency vehicles south of Prairie Hill Road as they cannot turn left onto or out of Nazarene Drive • Guidance signage necessary to direct affected motorists to travel along Progressive Lane to reach the nearest full access intersection of Prairie Hill Road • Motorists exiting Nazarene Drive onto EB Prairie Hill Road could make a U-turn downstream to go WB on Prairie Hill Road

Alternative BH-2.2: Relocate the intersection of Nazarene Drive and Prairie Hill Road east

This alternative would relocate the Prairie Hill Road and Nazarene Drive intersection to a location approximately 700 feet from Blackhawk. This alternative, similar to alternative BH-2.1, reduces the number of conflict points created by closely-spaced intersections on high-speed arterials. However, this alternative differs by allowing all traffic movements to occur at the shifted intersection. As previously mentioned, the recommended offset distance for frontage roads is 300 feet. Figure included in Appendix D.

Pros	Cons
• Identified as an improvement in South Beloit Comprehensive Plan • Provides opportunity to eliminate current intersection skew and improved site distance • Provides better access management near Blackhawk Boulevard / Prairie Hill Road intersection • Atypical movements are reduced and driver experience is improved along Prairie Hill Road, given close proximity of Nazarene Drive to Blackhawk Boulevard • Provides ability to design proper storage lane and taper lengths for proposed left-turn lane on Prairie Hill Road at Blackhawk Boulevard (see Alternative BH-2.0) • Intersection improvements may be accommodated within existing roadway right of way	• Right-of-way acquisition may be needed to perform improvement (to be determined later, depending on approved roadway alignment) • Significant construction costs, compared to BH-2.1 alternative • Access to existing gas station parcel in NE quadrant will likely be altered to accommodate new roadway alignment

Recommendation

Alternative BH-2.2 is recommended as it provides the best long-term option of maintaining mobility and safety, while allowing for continuity of Nazarene Drive. It does require significant construction costs but may be accommodated within the existing roadway right of way (this is dependent on the final roadway alignment, determined at a later time). If Alternative BH-2.2 is desired, but not implemented immediately, Alternative BH-2.1 could be implemented as a short-term or interim solution, as it would eliminate turning movements that are lower-volume and have the most conflict points to Prairie Hill Road. By doing so, safety is improved at this location while Alternative BH-2.1 is being designed and constructed.

Webster Avenue and Blackhawk Boulevard

Alternative BH-3.0: Eliminate access

This alternative would eliminate access from Webster Avenue at Blackhawk Boulevard due to the proximity of this intersection to the intersection of Blackhawk Boulevard and Gardner Street (approximately 170 feet). Closely-spaced intersections can interfere with typical driver behavior and increase crash probability. No figure provided for this alternative.

Pros	Cons
• Minimal number of vehicles affected by access restriction (maximum of 20 vehicles during peak hour) • Improves driver experience by removing atypical driver situations along Blackhawk Boulevard, given close proximity of Webster Avenue to Gardner Street • Improves access management near signalized intersections	• May increase emergency response time to parcels near Blackhawk Boulevard and Webster Avenue • Construction costs necessary to provide cul-de-sac or other turnaround feature

Recommendation

Alternative BH-3.0 is recommended for implementation as it maximizes safety and mobility along Blackhawk Boulevard with minimal impact to vehicles that use Webster Avenue.

Gardner Street and Blackhawk Boulevard

Alternative BH-3.1: Install roundabout

This alternative would change intersection control from traffic signals to roundabout. Within the past 5 years, 13 of 19 crashes at this intersection were identified as "turning" or "angle" crashes. The additional 6 crashes included 3 rear-end crashes and 3 sideswipe crashes. 6 of the 13 turning/angle crashes involving left-turning vehicles being struck by oncoming through movements. The addition of a roundabout would eliminate the possibility of angle crashes as well as reduce severity of crashes at the intersection. Figure included in Appendix D.

Pros	Cons
• Roundabouts recognized for increasing intersection safety, particularly reducing crash severity • Roundabouts typically can accommodate higher intersection traffic volumes than traffic signals • Motorists can travel through roundabout when gap is present, not waiting for green time	• High construction costs and right of way acquisition, particularly of the existing Papa John's • Papa John's access drive would be moved onto Dickop Street • Future-year traffic operations for traffic signal control are adequate • Roundabouts can be polarizing to the traveling public

Alternative BH-3.2: Close Dickop Street and create new roadway to create 4-leg signalized intersection

This alternative would close Dickop Street located just north of Gardner Street, and provide a new road that connects the nature center to Blackhawk Boulevard at Gardner Street. Dickop Street just east of the railroad tracks would also then dead end which removes the at-grade railroad crossing on Dickop Street. An alternate railroad crossing would be required for the extension of Gardner Street. Figure included in Appendix D.

Pros	Cons
• Converts Dickop Street from public road to private access drive, reducing traffic demand at its intersection with Blackhawk Boulevard • Provides safer access for vehicles to and from the nature center via signalized intersection at Gardner Street • The at-grade railroad crossing will be relocated south to accommodate the new roadway. No additional at-grade intersections with the railroad are required.	• High construction costs and right of way acquisition, particularly the existing Papa John's • If Papa John's remains, the Dickop Street access drive remains along Blackhawk Boulevard and would be very close to the Gardner Street intersection • Green time at traffic signal necessary for approach, potentially altering existing intersection delays • Requires coordination with railroad company to move the access across the railroad tracks farther south

Alternative BH-3.3: Close Dickop Street and create new roadway to create 4-leg roundabout

This alternative would close Dickop Street located just north of Gardner Street, and provide a new road that connects the nature center to Blackhawk Boulevard at Gardner Street via a new roundabout. Dickop Street just east of the railroad tracks would also then dead end which removes the at-grade railroad crossing on Dickop Street. An alternate railroad crossing would be required for the extension of Gardner Street. Figure included in Appendix D. Traffic operation outputs for this new geometric alternative can be found in Appendix E.

Pros	Cons
• Roundabouts recognized for increasing intersection safety, particularly reducing crash severity • Roundabouts typically can accommodate higher intersection traffic volumes than traffic signals • Motorists can travel through roundabout when gap is present, not waiting for green time • Provides safer access for vehicles to and from the nature center via roundabout at Gardner Street • Dickop Street access could be converted to a private driveway. • The at-grade crossing will be relocated south to accommodate the new roadway. No additional at-grade intersections with the railroad are required.	• High construction costs and right of way acquisition, particularly the existing Papa John's • Requires relocation of Papa John's • Roundabouts can be polarizing to the traveling public • Requires coordination with railroad company to move the access across the railroad tracks farther south

Recommendation

Alternatives BH-3.2 and BH-3.3 both maximize safety and mobility to the area by converting Dickop Street to a private access drive and relocating the at-grade railroad crossing to the new intersection leg so the new roadway can connect to the Confluence nature center. Both alternatives have significant right of way costs, as the Papa John's restaurant will likely need to be relocated. Both alternatives do not significantly impact traffic operations along Blackhawk Boulevard and Gardner Street and both can be designed to accommodate oversized, overweight (OSOW) vehicles. The traffic signal alternative is more traditional to the traveling public, particularly bicyclists and pedestrians, and would not require as much right of way as the roundabout alternative. The roundabout alternative significantly reduces crash severity and can be constructed to have gateway features in the center median, promoting the City.

Shirland Avenue and State Street

Alternative BH-4.1: Remove McDonalds access and southern access drive for Beloit Daily News (BDN) parking lot

This alternative would close access drives along State Street including the outbound McDonalds access and the southern Beloit Daily News (BDN) access drive as these access drives are located in, and very near, the physical area of the State Street and Shirland Avenue intersection. Private access drives are not typically anticipated in the intersection area and do not adhere to intersection geometrics and control provided for the State Street and Shirland Avenue intersection (e.g. southbound left-turn lane is for Shirland Avenue, not the parking lot; in addition, video footage showed vehicles violating right-only guidance at McDonalds access drive). No figure provided for this alternative.

Pros	Cons
• Improved access management near intersection of State Street and Shirland Avenue • Improves driver experience at intersection and reduces atypical situations by eliminating conflict points • Improved vehicle adherence to intersection lane configuration • Minimal construction costs to implement • Additional parking lanes could be added to the western portion of both the McDonalds and BDN parking lots	• Increases traffic demand on east Shirland Avenue approach by removing connecting access from McDonalds to State Street, possibly increasing delays at State Street and Shirland Avenue • Northern access drive to BDN parking lot still remains in functional area of Shirland Avenue intersection (100 feet north of Shirland Avenue) • Increases site circulation in McDonalds access, may not be desired by restaurant

Alternative BH-4.2: Connect east leg of Shirland Avenue to Colby Street, Remove all access drives to McDonalds and BDN along State Street

This alternative would connect the east leg of Shirland Avenue to the terminus of Colby Street. A new access drive to the BDN parking lot would be added along this new roadway just east of the McDonalds. This allows for the BDN access drives on State Street to be closed. Additionally, the existing McDonalds access drive allowing to State Street would also be closed. Figure included in Appendix D.

Pros	Cons
• Provides better access management near the intersection of State Street and Shirland Avenue • Improves driver experience and removes atypical situations at the intersection by eliminating conflict points • Improved vehicle adherence to intersection lane configuration • Provides roadway connectivity in the area by connecting Shirland Avenue and Colby Street • Additional parking lanes could be added to the western portion of both the McDonalds and BDN parking lots	• Increases traffic demand on east Shirland Avenue approach by removing exit from McDonalds onto State Street, possibly increasing delays at State Street and Shirland Avenue intersection • Increases site circulation in McDonalds access, may not be desired by restaurant • Right-of-way necessary for implementation • Construction costs may be significant • Likely removal of parking spaces for existing Family Dollar store

Alternative BH-4.3: Connect east leg of Shirland Avenue to Colby Street, Relocate McDonalds restaurant, Remove all access drives for BDN along State Street

This alternative relocates the McDonalds restaurant to the north, replacing the Beloit Daily News Parking lot, allowing for an ideal connection from Shirland Avenue and Colby Street. This also provides better access management to parcels within in the immediate area. Figure included in Appendix D.

Pros	Cons
• Provides better access management near the intersection of State Street and Shirland Avenue • Improves driver experience and removes atypical situations at the intersection by eliminating conflict points • Improved vehicle adherence to intersection lane configuration • Provides roadway connectivity in the area by connecting Shirland Avenue and Colby Street	• Increases traffic demand on east Shirland Avenue approach, possibly increasing delays at State Street and Shirland Avenue intersection • Significant construction costs and right of way acquisition to implement • Would require land acquisition from BDN if desirable relocation was to the north

Recommendation

Alternative BH-4.2 is recommended as it removes the access drives in the functional intersection area, improves driver experience and safety along Blackhawk Boulevard/State Street. Access to the McDonalds restaurant and Beloit Daily News parking lot are not significantly impacted as the new site access drive will be constructed close to the intersection. The extension of Shirland Avenue to Colby Street adds connectivity to the surrounding area, including another travel path to the Broad Street corridor.

Blackhawk Boulevard and Charles Street / Northwestern Avenue

A Year 2040 traffic signal warrant analysis was performed at this intersection to determine if future-year traffic volumes would meet criteria (i.e. warrants) published in the Manual for Uniform Traffic Control Devices (MUTCD) for consideration of installing a traffic signal. Intersection turning movement counts were collected for twelve hours at this location and traffic volumes were increased by one percent per year, based on background growth assumptions discussed in Chapter 4.1 of this study.

When the forecasted intersection turning movement volumes are evaluated, none of the traffic signal warrants are met for these conditions. This analysis, provided in the Appendix, indicates that traffic volumes along Charles Street are not large enough to meet minimum volume warrants for consideration of traffic signals. Therefore, traffic signals are not warranted at this intersection; however, this evaluation may be revisited if any land use changes or traffic shifts increase the amount of traffic using Charles Street.

6.3 Preliminary Pavement Design

Chapter 3.5 inventoried the existing roadway pavement along Blackhawk Boulevard, noting pavement deficiencies where present. From the inventory, the roadway currently has frequent transverse and longitudinal cracking with more significant alligator cracking and potholes north of Webster Avenue. To mitigate these deficiencies, a reconstruction of Blackhawk Boulevard would be necessary to strengthen the roadway pavement as well as the base layers under the roadway surface. A preliminary pavement design was performed for this roadway, taking into consideration the Year 2040 average daily traffic, truck traffic percentage, and assumptions about soil types in the area. This analysis indicated that a pavement design of 6.5 inches of asphaltic pavement over 18 inches of base aggregate would accommodate the roadway's traffic characteristics.

It should be noted that this pavement design is preliminary, in nature, with several assumptions made in its design that would be investigated and determined later in the design process. For example, the condition of the base course and subbase are unknown at this time and may require design modifications upon further inspection. The pavement design identified for this study should be considered an adequate "first-cut" of developing a pavement design for this roadway upon reconstruction.

7.0 Findings and Recommendations

The following findings and recommendations for the corridor of Blackhawk Boulevard are based on site reviews of the study area, intersection operations analysis for existing-year and future conditions as well as preliminary design review.

- Existing geometric review performed and outlined in Chapter 3 indicates that several geometric concerns are present throughout the corridor. The following improvements are recommended in regard to this analysis:
    - Provide bicycle accommodations along the length of the corridor via a combination of cross-section updates along the length of the corridor. These include paving shoulders, moving curb and gutter, reducing median width, removal of on-street parking or removal of terrace to relocate on-street parking, and the addition of an off-street bike path (see alternative BH 1.0).
    - At the intersection of State Street and Shirland Avenue, the driveways for McDonalds and Beloit Daily News should be removed from State Street. To accommodate these businesses, the east leg of Shirland Avenue should be fully connected with Colby Street and a new driveway for the two businesses should be added off these connections (see alternative BH 4.2).
    - A west leg of the intersection should be added to the intersection of Blackhawk Boulevard and Gardner Street. This roadway would be a new roadway, designated as either Gardner Street or Dickop Street, that would reconnect the Nature Center to Blackhawk Boulevard. The existing Dickop Street should remove its designation as a roadway and be converted to a private driveway, minimizing the vehicle utilization. Alternatively, creating a roundabout for this new 4-legged intersection should be considered, pending further design review. A roundabout would provide less delay to motorists, reduce the risk for more severe crashes, while also providing an opportunity to create an aesthetically pleasing entrance to the City (see alternative BH 3.2 or 3.3).
    - The connection between Webster Avenue and Blackhawk Boulevard should be discontinued via the creation of a cul-de-sac on Webster Avenue (see alternative BH 3.2 or 3.3).
    - Left turn lanes should be added to the intersection of Blackhawk Boulevard and Prairie Hill Road, to increase safety and visibility at the intersection (see alternative BH 2.0).
    - Nazarene Drive is located to close to the intersection of Blackhawk Boulevard and Prairie Hill Road. This intersection should be moved to the east to accommodate the recommended design standard requiring frontage roads to be placed 300 feet from major intersections. Until this project can be completed, the intersection should be restricted to ¾ access to prevent left turns from Nazarene Drive onto Prairie Hill Road (see alternatives BH 2.1 and 2.2).

- Traffic operations analysis performed and outlined in Chapter 6.1 indicate that existing operational deficiencies occur at the following intersections: Charles/Northwestern Avenue, Elmwood Avenue and Oak Grove Avenue. Motorists from the side-streets have difficulty finding adequate gaps in the Blackhawk Boulevard traffic stream to complete their turning movement. Ongoing improvements at Oak Grove Avenue will adequately improve operations (e.g. traffic signal installation), while improvements at the remaining intersections are not recommended at this time due to the minimal volume on the side streets (less than 50 vehicles per hour). However, traffic operations should be monitored at these locations to determine if deficiencies occur regularly or traffic shifts increase the side-street traffic volumes to necessitate intersection improvements such as exclusive turn lanes and/or intersection control upgrades.
- Traffic operations analysis performed in Chapter 6.2 indicate 2040 volumes do not significantly decrease operations throughout the corridor. No improvements should be considered at this time due to the existing or projected increase in traffic volume along the corridor.

Appendix

Appendix A: Intersection Turning Movement Counts

Appendix B: Existing Year (2018) Traffic Operations Analysis Worksheets

Appendix C: Future Year (2040) Traffic Operations Analysis Worksheets

Appendix D: Improvement Alternative Figures

Appendix E: Improvement Alternative Cost Estimates

Appendix F: Blackhawk Boulevard / Charles Street Traffic Signal Warrant Analysis

Appendix G: Roundabout Alternative Traffic Operations Analysis

Appendix A: Intersection Turning Movement Counts

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Base Information, Observed (2.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Nazarene Dr and Prairie Hill Rd

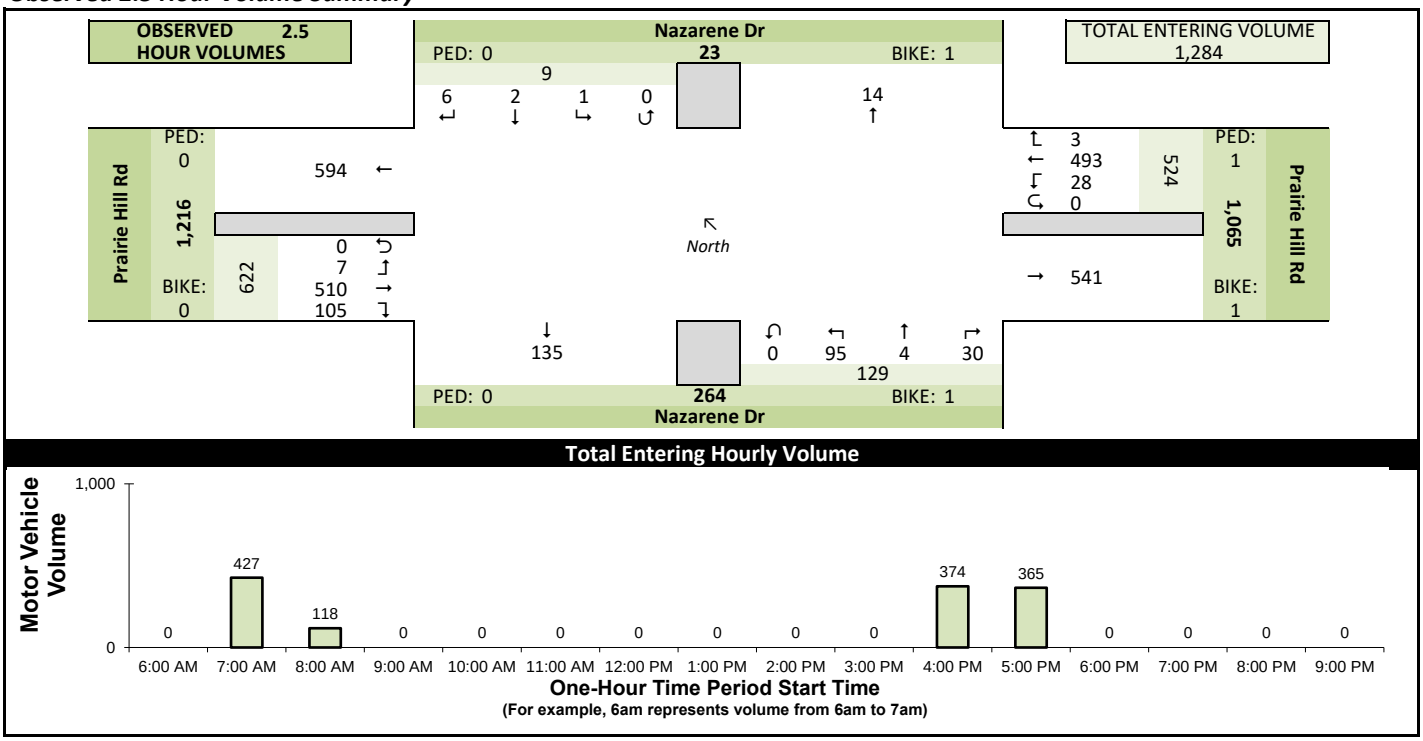
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Partial Stop Control	
Roadway Names	North Direction	↖
North Leg	Nazarene Dr	
East Leg	Prairie Hill Rd	
South Leg	Nazarene Dr	
West Leg	Prairie Hill Rd	
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	None	
Other (describe)	None	None

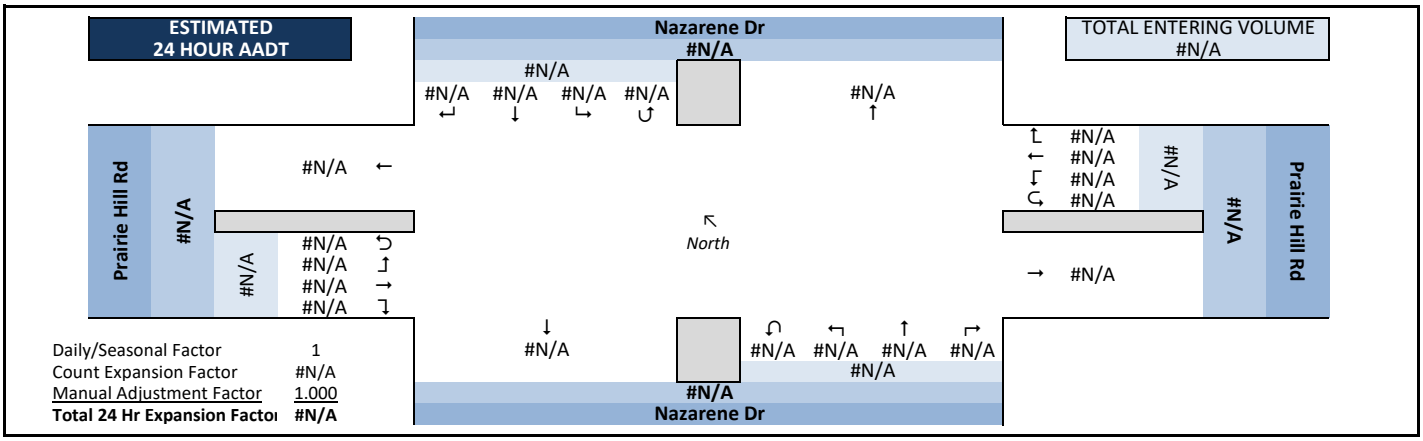
Count Information

Hrs Counted:	7:15 AM-8:30 AM and 4:30 PM-5:45 PM				
1st Day of Count	Thursday, May 17, 2018			Weather	
AM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Midday Peak Period					
PM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1	Count Expansion Factor	#N/A		
Company Name	SRF Consulting, Inc.			Manual Adj.	1.000
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 2.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

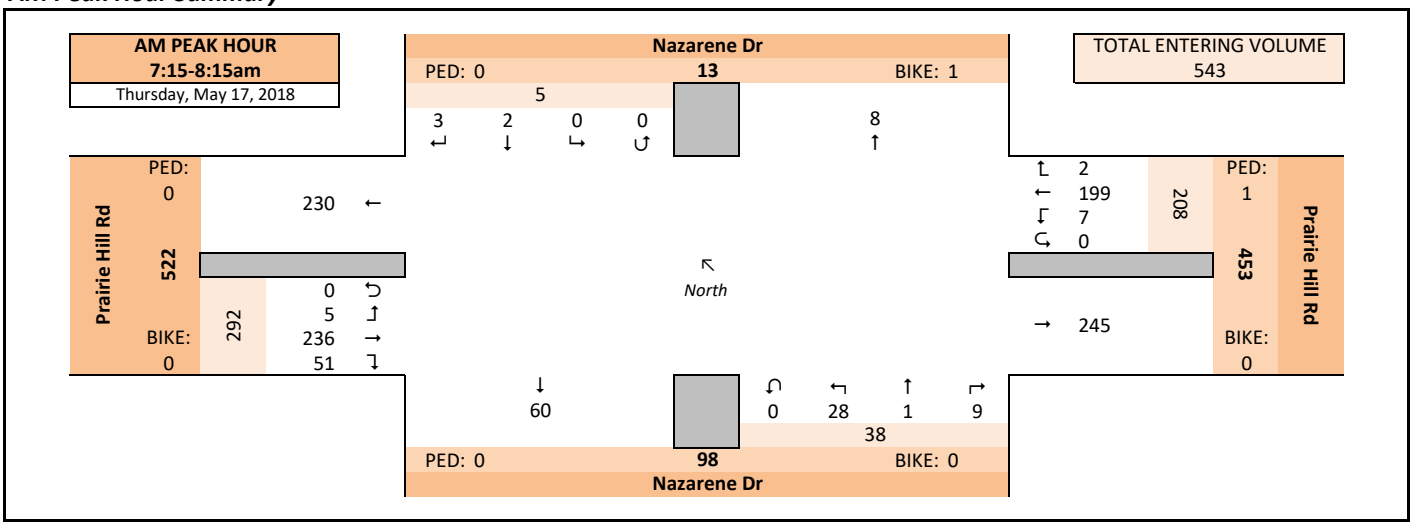
Count Basics			Page 2 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

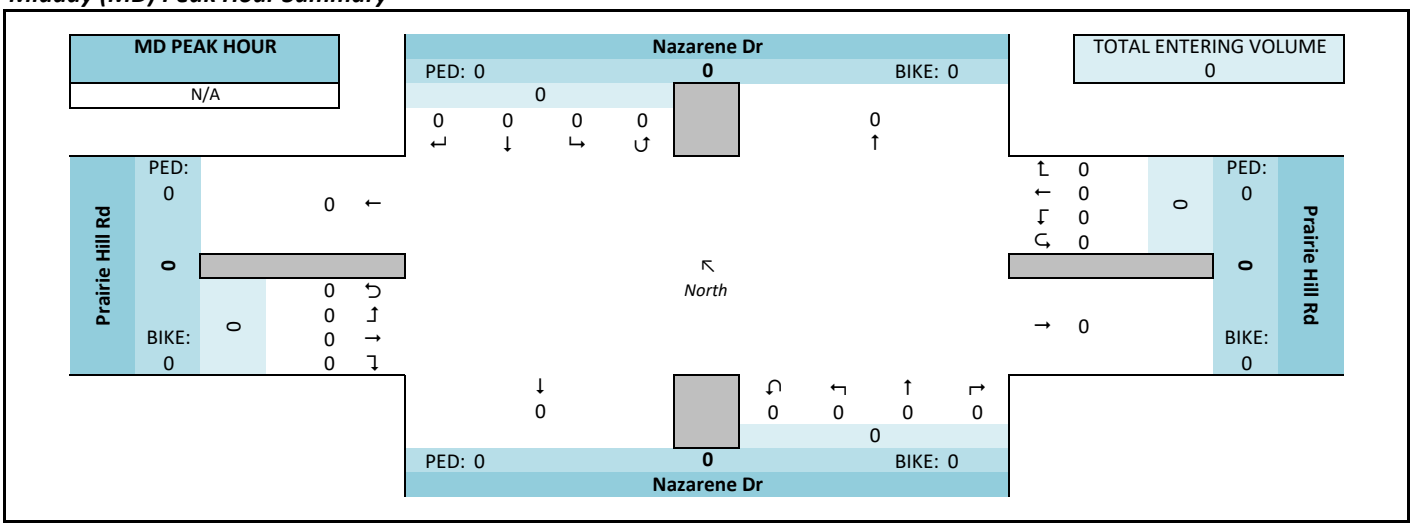
All Motor Vehicles

Nazarene Dr and Prairie Hill Rd

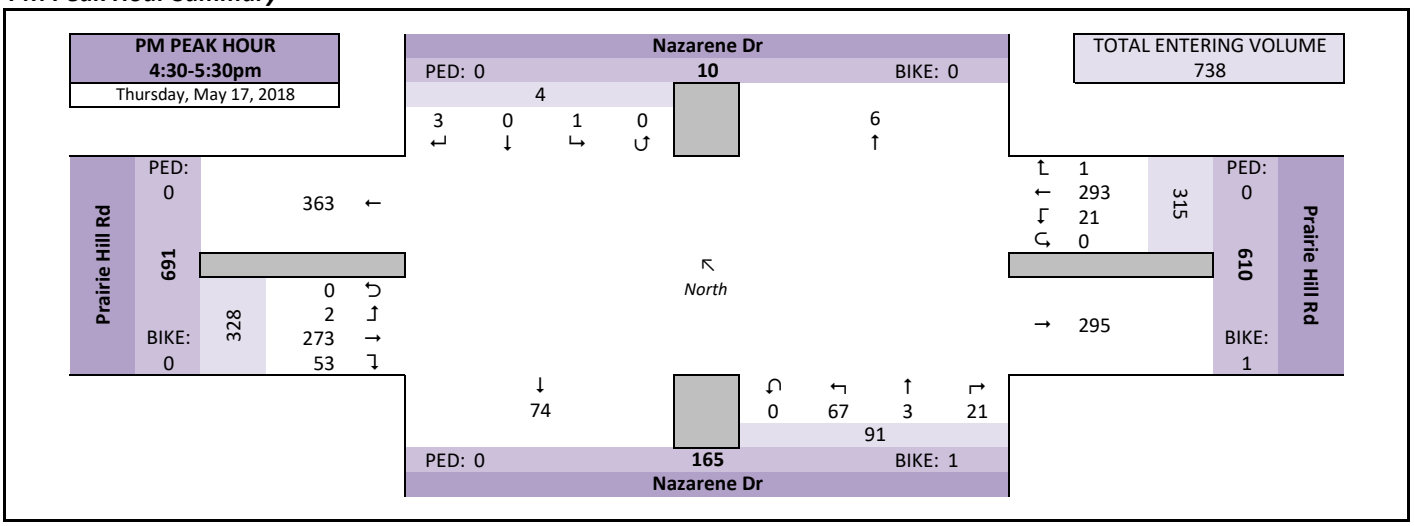
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Nazarene Dr and Prairie Hill Rd

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, May 17, 2018		From North					From East					From South					From West					
	AM Peak Hour	Nazarene Dr					Prairie Hill Rd					Nazarene Dr					Prairie Hill Rd					
	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	Totals
AM Peak Hour	7:15 AM	3	2	0	0	5	1	62	3	0	66	3	0	2	0	5	5	51	3	0	59	135
	7:30 AM	0	0	0	0	0	0	56	2	0	58	4	0	11	0	15	14	72	0	0	86	159
	7:45 AM	0	0	0	0	0	0	42	1	0	43	0	0	5	0	5	20	64	1	0	85	133
	8:00 AM	0	0	0	0	0	1	39	1	0	41	2	1	10	0	13	12	49	1	0	62	116
	Peak Hour Volume	3	2	0	0	5	2	199	7	0	208	9	1	28	0	38	51	236	5	0	292	543
	Rounded Hourly Volume	5	0	0	0	5	0	200	5	0	205	10	0	30	0	40	50	235	5	0	290	540
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	50.0	7.5	14.3	0.0	8.2	22.2	0.0	14.3	0.0	15.8	9.8	8.1	20.0	0.0	8.6	8.8
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	50.0	7.5	14.3	0.0	8.2	22.2	0.0	14.3	0.0	15.8	9.8	8.1	20.0	0.0	8.6	8.8
	Peak Hour Factor (PHF)	0.25	0.25	0.00	0.00	0.25	0.50	0.80	0.58	0.00	0.79	0.56	0.25	0.64	0.00	0.63	0.64	0.82	0.42	0.00	0.85	0.85

N/A		From North					From East					From South					From West					
	MD Peak Hour	Nazarene Dr					Prairie Hill Rd					Nazarene Dr					Prairie Hill Rd					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, May 17, 2018		From North					From East					From South					From West					
	PM Peak Hour	Nazarene Dr					Prairie Hill Rd					Nazarene Dr					Prairie Hill Rd					
	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	Totals
PM Peak Hour	4:30 PM	2	0	1	0	3	0	87	3	0	90	4	0	25	0	29	11	83	1	0	95	217
	4:45 PM	1	0	0	0	1	0	55	6	0	61	9	1	12	0	22	10	62	1	0	73	157
	5:00 PM	0	0	0	0	0	0	86	3	0	89	6	1	18	0	25	17	65	0	0	82	196
	5:15 PM	0	0	0	0	0	1	65	9	0	75	2	1	12	0	15	15	63	0	0	78	168
	Peak Hour Volume	3	0	1	0	4	1	293	21	0	315	21	3	67	0	91	53	273	2	0	328	738
	Rounded Hourly Volume	5	0	0	0	5	0	295	20	0	315	20	5	65	0	90	55	275	0	0	330	740
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.4	0.0	0.0	3.0	0.0	2.2	0.0	4.0	0.0	0.0	3.4	4.1
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.4	0.0	0.0	3.0	0.0	2.2	0.0	4.0	0.0	0.0	3.4	4.1
	Peak Hour Factor (PHF)	0.37	0.00	0.25	0.00	0.33	0.25	0.84	0.58	0.00	0.87	0.58	0.75	0.67	0.00	0.78	0.78	0.82	0.50	0.00	0.86	0.85

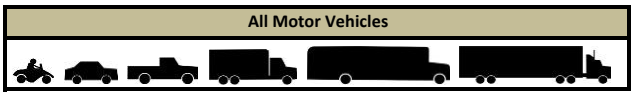
Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Nazarene Dr			Prairie Hill Rd			Nazarene Dr			Prairie Hill Rd			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	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
	7:45 AM	0	1	1	1	0	1	0	0	0	0	0	0	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	1	1	1	0	1	0	0	0	0	0	0	2
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	1	1	0	1	1	0	0	0	2

Intersection Traffic Volume Report

Count Basics		Page 4 of 11
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

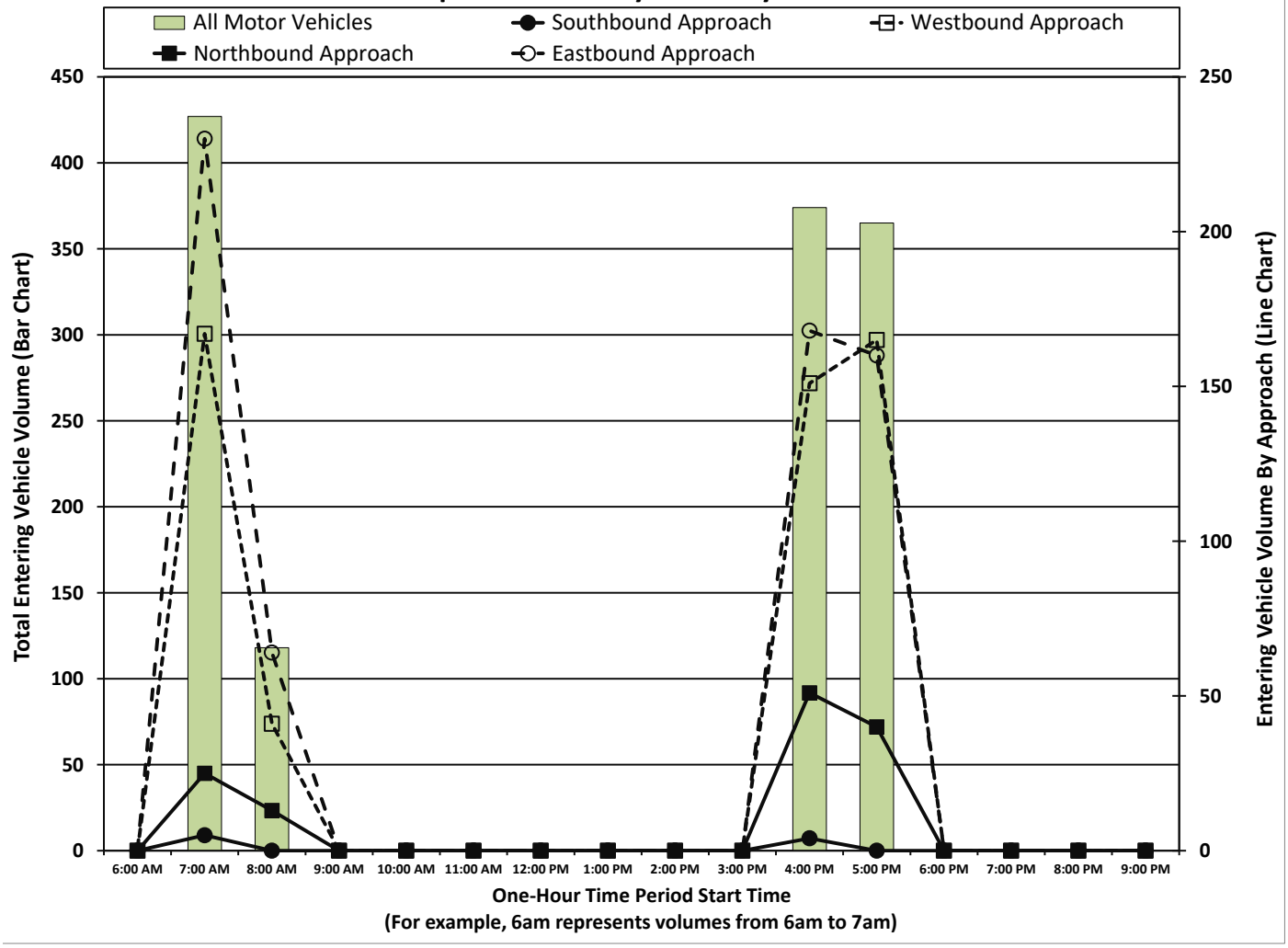


Nazarene Dr and Prairie Hill Rd

One-Hour Motor Vehicle Data

	One-Hour Time Period Start Time	From North (↓) Nazarene Dr					From East (←) Prairie Hill Rd					From South (↑) Nazarene Dr					From West (→) Prairie Hill Rd					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
AM	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:00 AM	3	2	0	0	5	1	160	6	0	167	7	0	18	0	25	39	187	4	0	230	427	397	30
AM	8:00 AM	0	0	0	0	0	1	39	1	0	41	2	1	10	0	13	13	50	1	0	64	118	105	13
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	3	0	1	0	4	0	142	9	0	151	13	1	37	0	51	21	145	2	0	168	374	319	55
PM	5:00 PM	0	0	0	0	0	1	152	12	0	165	8	2	30	0	40	32	128	0	0	160	365	325	40
PM	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
PM	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
PM	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
PM	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		6	2	1	0	9	3	493	28	0	524	30	4	95	0	129	105	510	7	0	622	1284	1146	138

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		*Page 5 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Nazarene Dr and Prairie Hill Rd

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Nazarene Dr					From East (←) Prairie Hill Rd					From South (↑) Nazarene Dr					From West (→) Prairie Hill Rd					15-Min	Hourly	
	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	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	7:15 AM	3	2	0	0	5	1	62	3	0	66	3	0	2	0	5	5	51	3	0	59	135	543	0.85
	7:30 AM	0	0	0	0	0	0	56	2	0	58	4	0	11	0	15	14	72	0	0	86	159	410	0.64
	7:45 AM	0	0	0	0	0	0	42	1	0	43	0	0	5	0	5	20	64	1	0	85	133		
	8:00 AM	0	0	0	0	0	1	39	1	0	41	2	1	10	0	13	12	49	1	0	62	116		
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2		
	8:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	2	0	1	0	3	0	87	3	0	90	4	0	25	0	29	11	83	1	0	95	217	738	0.85
	4:45 PM	1	0	0	0	1	0	55	6	0	61	9	1	12	0	22	10	62	1	0	73	157	522	0.67
	5:00 PM	0	0	0	0	0	0	86	3	0	89	6	1	18	0	25	17	65	0	0	82	196		
	5:15 PM	0	0	0	0	0	1	65	9	0	75	2	1	12	0	15	15	63	0	0	78	168		
	5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1		
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	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		
	6:30 PM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	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		6	2	1	0	9	3	493	28	0	524	30	4	95	0	129	105	510	7	0	622	1284		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Nazarene Dr					From East (←) Prairie Hill Rd					From South (↑) Nazarene Dr					From West (→) Prairie Hill Rd					Total Hourly	
	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	Volume	PHF
AM	7:15 AM	3	2	0	0	5	2	199	7	0	208	9	1	28	0	38	51	236	5	0	292	543	0.85
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	3	0	1	0	4	1	293	21	0	315	21	3	67	0	91	53	273	2	0	328	738	0.85

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Base Information, Observed (4.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Prairie Hill Rd

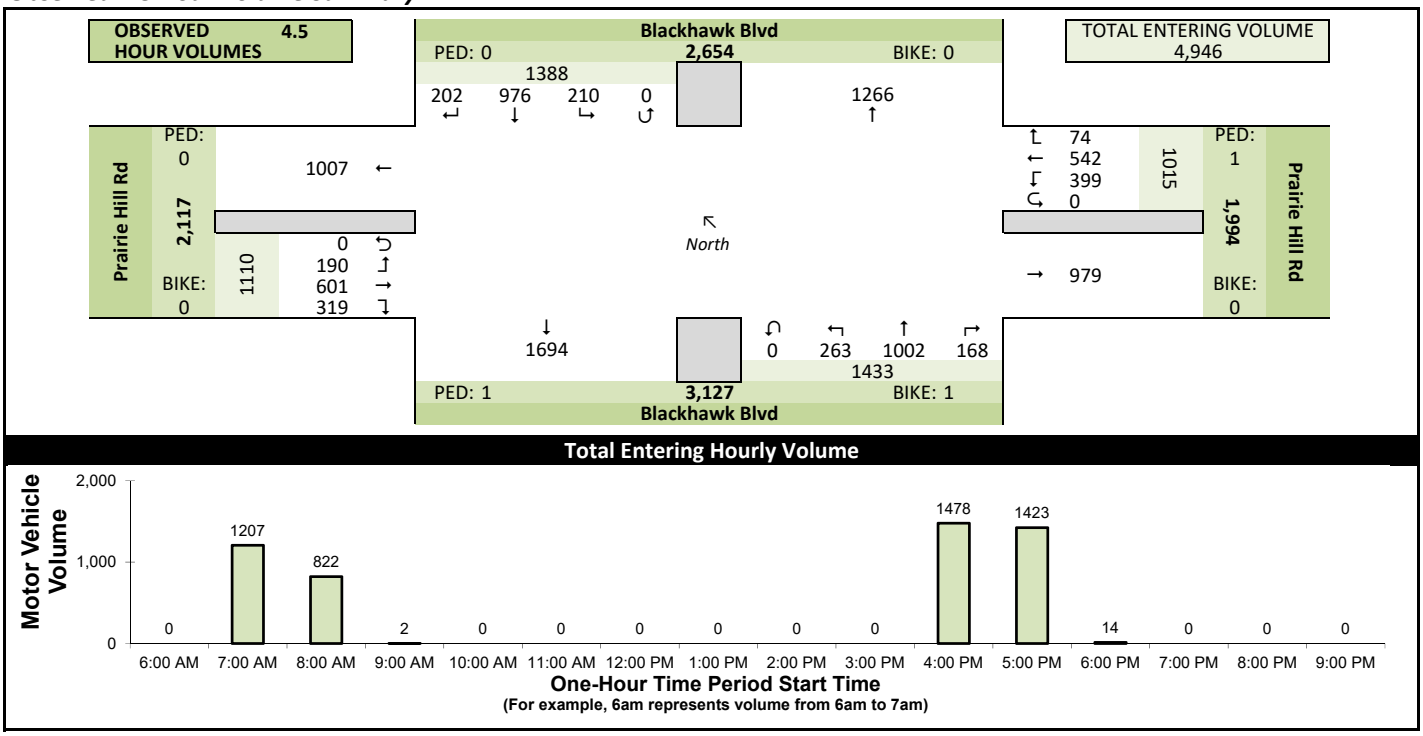
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Traffic Signal	
Roadway Names	North Direction	↖
North Leg	Blackhawk Blvd	
East Leg	Prairie Hill Rd	
South Leg	Blackhawk Blvd	
West Leg	Prairie Hill Rd	
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	None	
Other (describe)	None	None

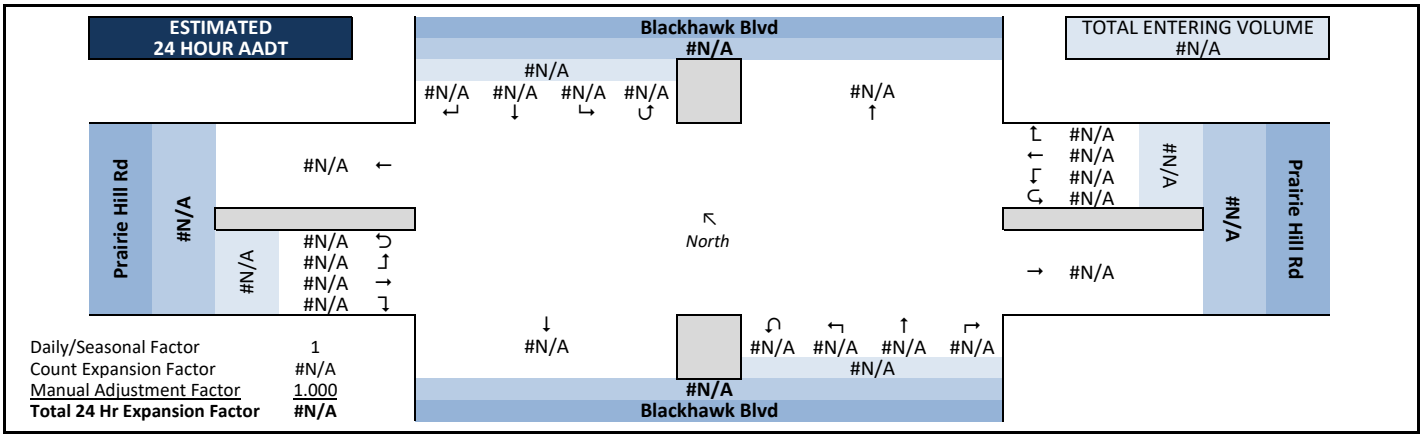
Count Information

Hrs Counted:	7:00 AM-9:15 AM and 4:00 PM-6:15 PM				
1st Day of Count	Thursday, May 17, 2018			Weather	
AM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Midday Peak Period					
PM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor	#N/A	
Company Name	SRF Consulting, Inc.		Manual Adj.	1.000	
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 4.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

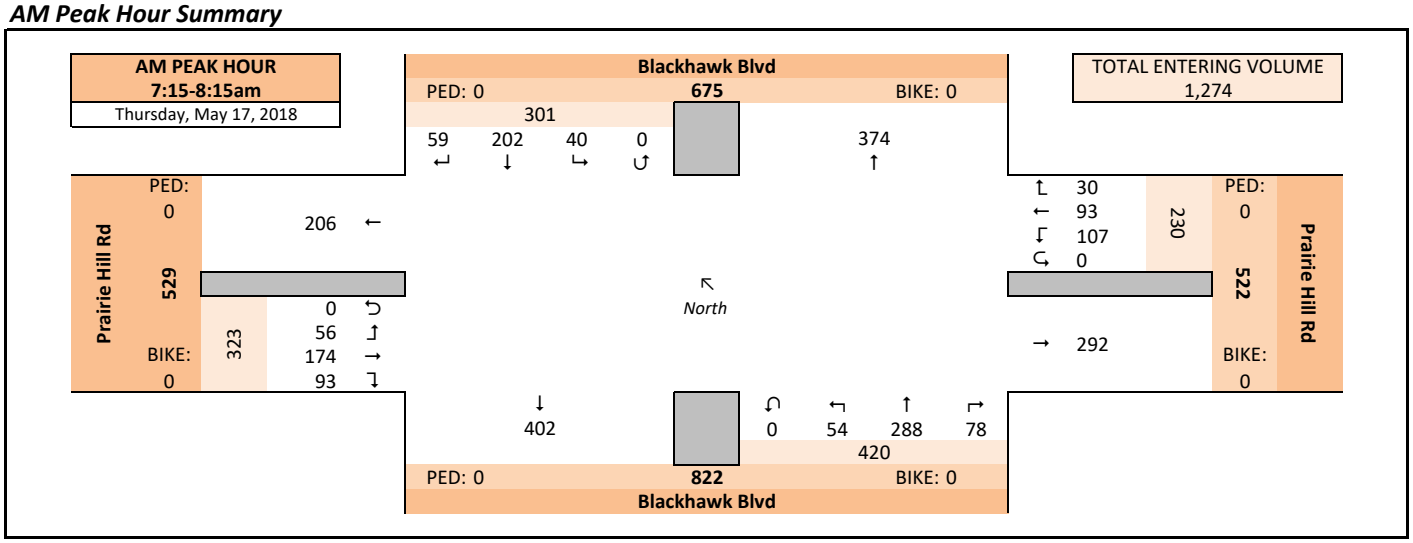
Count Basics			Page 2 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

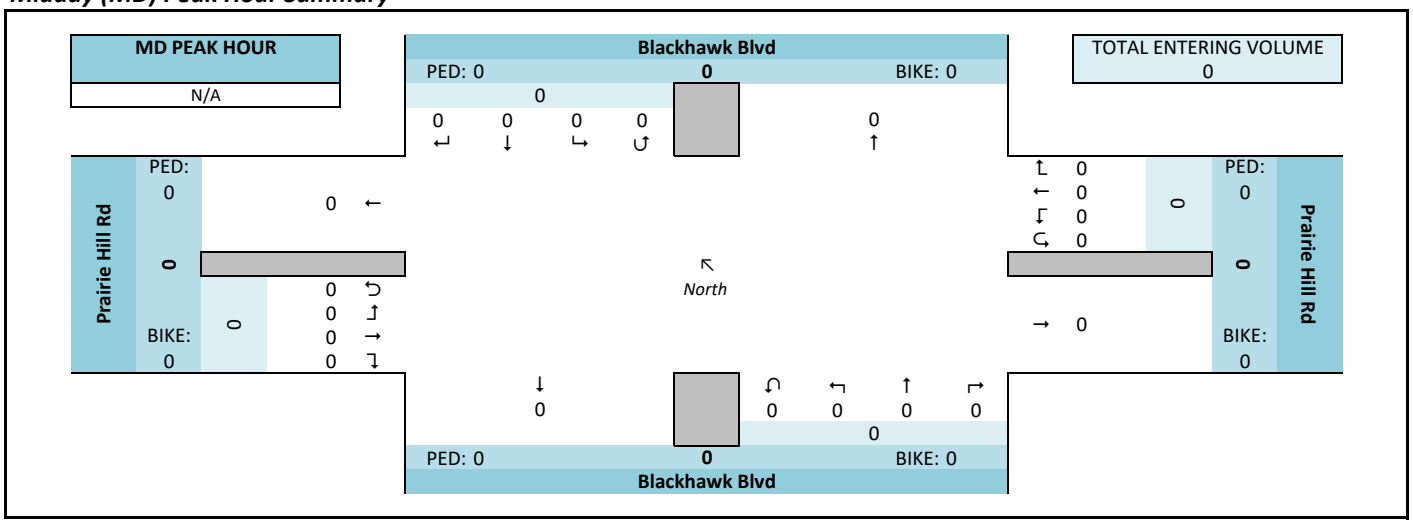
All Motor Vehicles

Blackhawk Blvd and Prairie Hill Rd

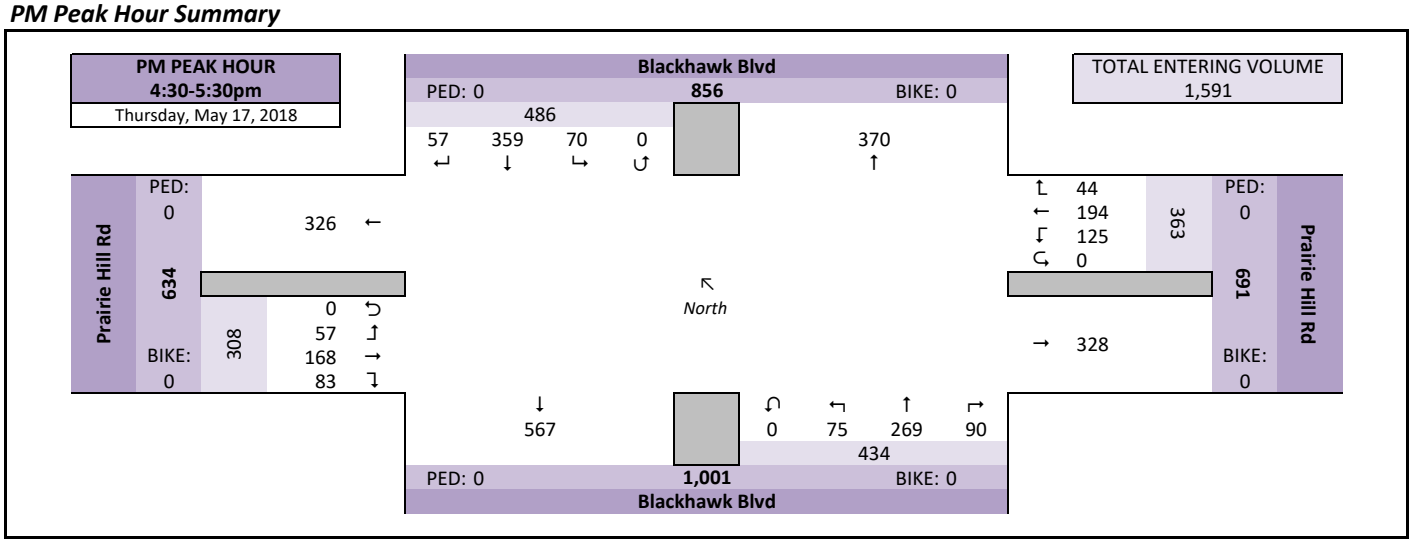
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

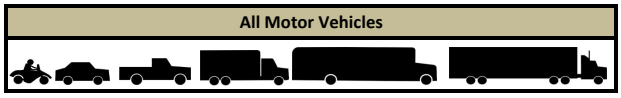


Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Prairie Hill Rd



Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, May 17, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Prairie Hill Rd					Blackhawk Blvd					Prairie Hill Rd					
	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	Totals
AM Peak Hour	7:15 AM	13	59	5	0	77	6	30	31	0	67	20	54	15	0	89	24	34	6	0	64	297
	7:30 AM	16	54	12	0	82	15	22	30	0	67	26	81	13	0	120	26	48	13	0	87	356
	7:45 AM	20	45	13	0	78	1	23	23	0	47	22	98	16	0	136	22	50	17	0	89	350
	8:00 AM	10	44	10	0	64	8	18	23	0	49	10	55	10	0	75	21	42	20	0	83	271
	Peak Hour Volume	59	202	40	0	301	30	93	107	0	230	78	288	54	0	420	93	174	56	0	323	1274
	Rounded Hourly Volume	60	200	40	0	300	30	95	105	0	230	80	290	55	0	425	95	175	55	0	325	1280
	% Single Unit Trucks	8.5	5.9	15.0	0.0	7.6	10.0	8.6	7.5	0.0	8.3	9.0	7.3	7.4	0.0	7.6	4.3	6.9	10.7	0.0	6.8	7.5
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	8.5	5.9	15.0	0.0	7.6	10.0	8.6	7.5	0.0	8.3	9.0	7.3	7.4	0.0	7.6	4.3	6.9	10.7	0.0	6.8	7.5
	Peak Hour Factor (PHF)	0.74	0.86	0.77	0.00	0.92	0.50	0.77	0.86	0.00	0.86	0.75	0.73	0.84	0.00	0.77	0.89	0.87	0.70	0.00	0.91	0.89

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Prairie Hill Rd					Blackhawk Blvd					Prairie Hill Rd					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, May 17, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Prairie Hill Rd					Blackhawk Blvd					Prairie Hill Rd					
	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	Totals
PM Peak Hour	4:30 PM	18	80	19	0	117	22	62	30	0	114	23	66	26	0	115	32	53	10	0	95	441
	4:45 PM	10	74	14	0	98	2	40	26	0	68	18	66	15	0	99	20	41	16	0	77	342
	5:00 PM	18	121	22	0	161	10	50	44	0	104	18	57	21	0	96	12	42	18	0	72	433
	5:15 PM	11	84	15	0	110	10	42	25	0	77	31	80	13	0	124	19	32	13	0	64	375
	Peak Hour Volume	57	359	70	0	486	44	194	125	0	363	90	269	75	0	434	83	168	57	0	308	1591
	Rounded Hourly Volume	55	360	70	0	485	45	195	125	0	365	90	270	75	0	435	85	170	55	0	310	1595
	% Single Unit Trucks	5.3	0.6	1.4	0.0	1.2	4.5	6.2	4.0	0.0	5.2	3.3	2.2	1.3	0.0	2.3	4.8	4.2	7.0	0.0	4.9	3.1
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	5.3	0.6	1.4	0.0	1.2	4.5	6.2	4.0	0.0	5.2	3.3	2.2	1.3	0.0	2.3	4.8	4.2	7.0	0.0	4.9	3.1
	Peak Hour Factor (PHF)	0.79	0.74	0.80	0.00	0.75	0.50	0.78	0.71	0.00	0.80	0.73	0.84	0.72	0.00	0.87	0.65	0.79	0.79	0.00	0.81	0.90

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
		Blackhawk Blvd			Prairie Hill Rd			Blackhawk Blvd			Prairie Hill Rd			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:15 AM	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
	7:45 AM	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
	Total	0	0	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	0	0
	12:15 PM	0	0	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	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	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
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

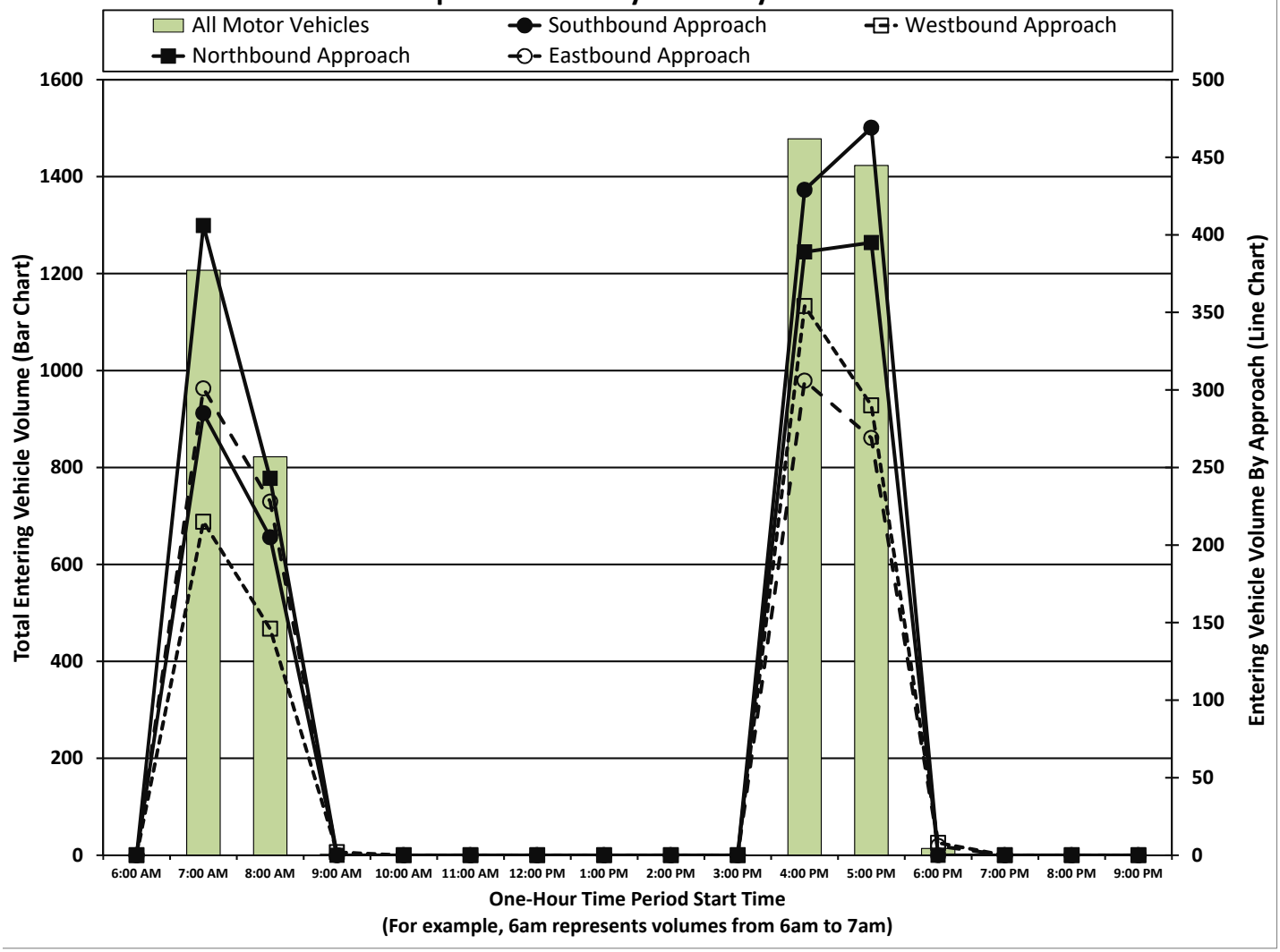
All Motor Vehicles

Blackhawk Blvd and Prairie Hill Rd

One-Hour Motor Vehicle Data

	One-Hour Time Period Start Time	From North (↓) Blackhawk Blvd					From East (←) Prairie Hill Rd					From South (↑) Blackhawk Blvd					From West (→) Prairie Hill Rd					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
AM	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:00 AM	55	190	40	0	285	22	87	106	0	215	68	283	55	0	406	98	161	42	0	301	1207	516	691
AM	8:00 AM	26	142	37	0	205	8	60	78	0	146	10	196	37	0	243	57	132	39	0	228	822	374	448
AM	9:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	60	301	68	0	429	24	218	112	0	354	41	261	87	0	389	96	156	54	0	306	1478	660	818
PM	5:00 PM	61	343	65	0	469	20	169	101	0	290	49	262	84	0	395	67	147	55	0	269	1423	559	864
PM	6:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	5	0	0	6	14	14	0
PM	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
PM	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
PM	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		202	976	210	0	1388	74	542	399	0	1015	168	1002	263	0	1433	319	601	190	0	1110	4946	2125	2821

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Prairie Hill Rd

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Blackhawk Blvd					From East (←) Prairie Hill Rd					From South (↑) Blackhawk Blvd					From West (→) Prairie Hill Rd					15-Min	Hourly	
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	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	6	32	10	0	48	0	12	22	0	34	0	50	11	0	61	26	29	6	0	61	204	1207	0.85
	7:15 AM	13	59	5	0	77	6	30	31	0	67	20	54	15	0	89	24	34	6	0	64	297	1274	0.89
	7:30 AM	16	54	12	0	82	15	22	30	0	67	26	81	13	0	120	26	48	13	0	87	356	1193	0.84
	7:45 AM	20	45	13	0	78	1	23	23	0	47	22	98	16	0	136	22	50	17	0	89	350	1018	0.73
	8:00 AM	10	44	10	0	64	8	18	23	0	49	10	55	10	0	75	21	42	20	0	83	271	822	0.76
	8:15 AM	7	41	13	0	61	0	14	18	0	32	0	54	6	0	60	12	44	7	0	63	216	553	0.64
	8:30 AM	8	29	5	0	42	0	14	25	0	39	0	49	11	0	60	10	23	7	0	40	181		
	8:45 AM	1	28	9	0	38	0	14	12	0	26	0	38	10	0	48	14	23	5	0	42	154		
	9:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2		
	9:15 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	10	83	19	0	112	0	68	27	0	95	0	63	26	0	89	30	28	11	0	69	365	1478	0.84
	4:15 PM	22	64	16	0	102	0	48	29	0	77	0	66	20	0	86	14	34	17	0	65	330	1546	0.88
	4:30 PM	18	80	19	0	117	22	62	30	0	114	23	66	26	0	115	32	53	10	0	95	441	1591	0.90
	4:45 PM	10	74	14	0	98	2	40	26	0	68	18	66	15	0	99	20	41	16	0	77	342	1471	0.85
	5:00 PM	18	121	22	0	161	10	50	44	0	104	18	57	21	0	96	12	42	18	0	72	433	1423	0.82
	5:15 PM	11	84	15	0	110	10	42	25	0	77	31	80	13	0	124	19	32	13	0	64	375	1004	0.67
	5:30 PM	21	73	12	0	106	0	41	22	0	63	0	62	22	0	84	20	32	16	0	68	321		
	5:45 PM	11	65	16	0	92	0	36	10	0	46	0	63	28	0	91	16	41	8	0	65	294		
	6:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	5	0	0	6	14		
	6:15 PM	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	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	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	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		202	976	210	0	1388	74	542	399	0	1015	168	1002	263	0	1433	319	601	190	0	1110	4946		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Blackhawk Blvd					From East (←) Prairie Hill Rd					From South (↑) Blackhawk Blvd					From West (→) Prairie Hill Rd					Total Hourly	
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	Volume	PHF
AM	7:15 AM	59	202	40	0	301	30	93	107	0	230	78	288	54	0	420	93	174	56	0	323	1274	0.89
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	57	359	70	0	486	44	194	125	0	363	90	269	75	0	434	83	168	57	0	308	1591	0.90

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Base Information, Observed (2.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Oak Grove Ave

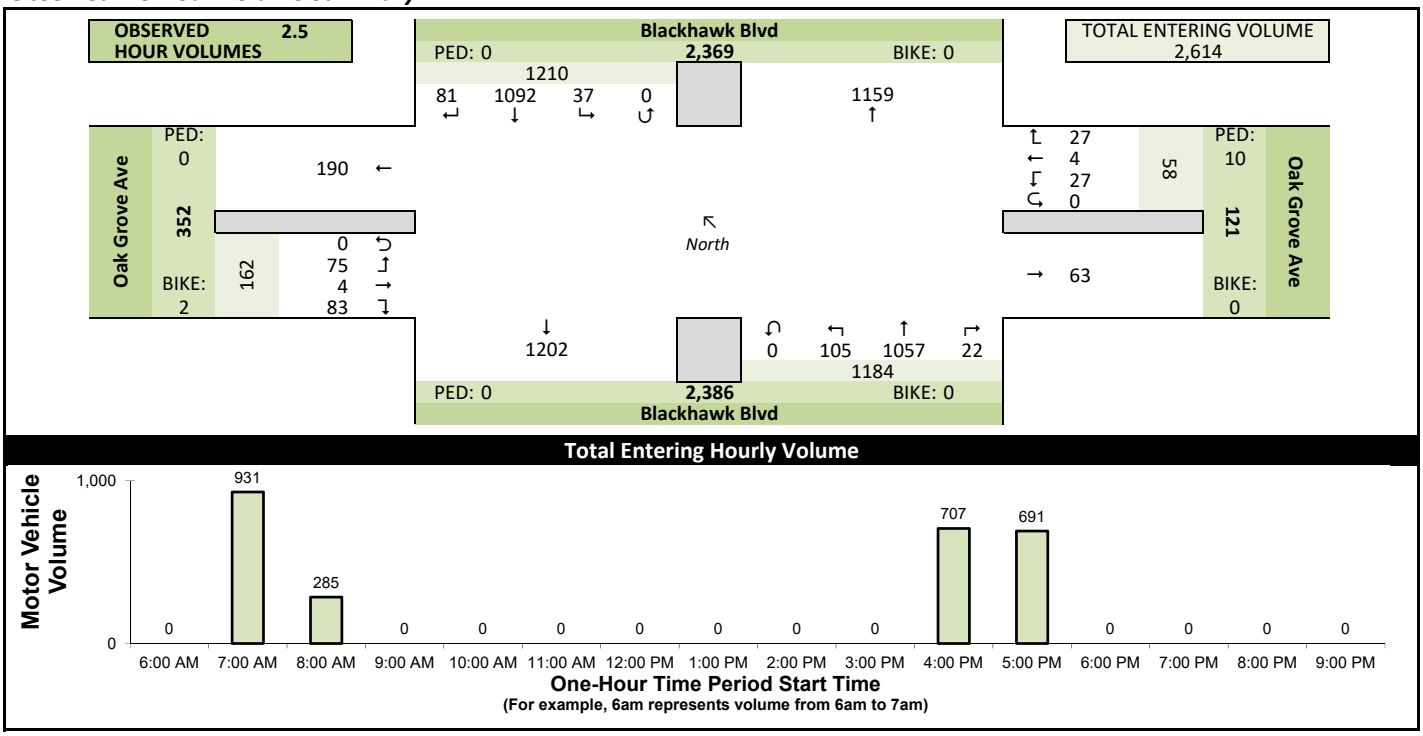
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Partial Stop Control	
Roadway Names	North Direction	↖
North Leg	Blackhawk Blvd	
East Leg	Oak Grove Ave	
South Leg	Blackhawk Blvd	
West Leg	Oak Grove Ave	
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	None	
Other (describe)	None	None

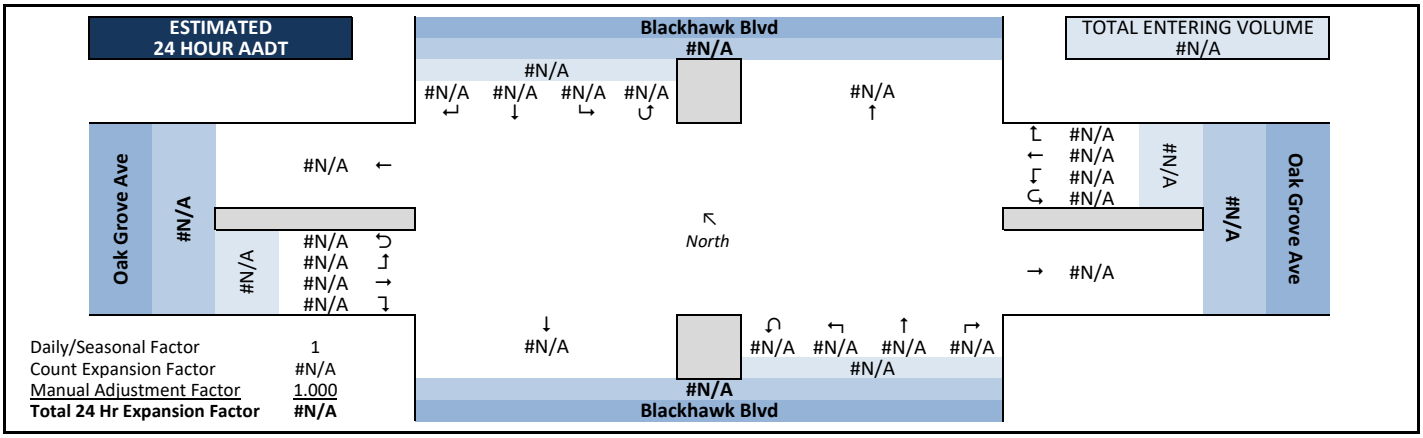
Count Information

Hrs Counted:	7:15 AM-8:30 AM and 4:30 PM-5:45 PM				
1st Day of Count	Tuesday, May 15, 2018			Weather	
AM Peak Period	Tuesday, May 15, 2018			Clear & Dry	
Midday Peak Period					
PM Peak Period	Tuesday, May 15, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor	#N/A	
Company Name	SRF Consulting, Inc.		Manual Adj.	1.000	
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 2.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

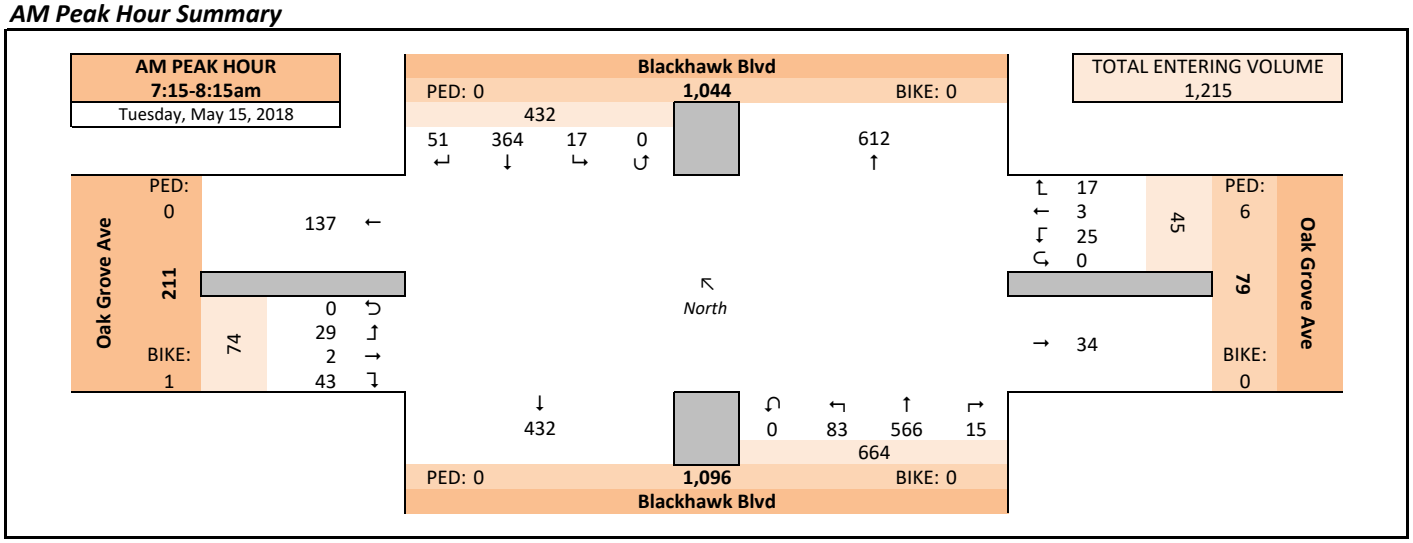
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

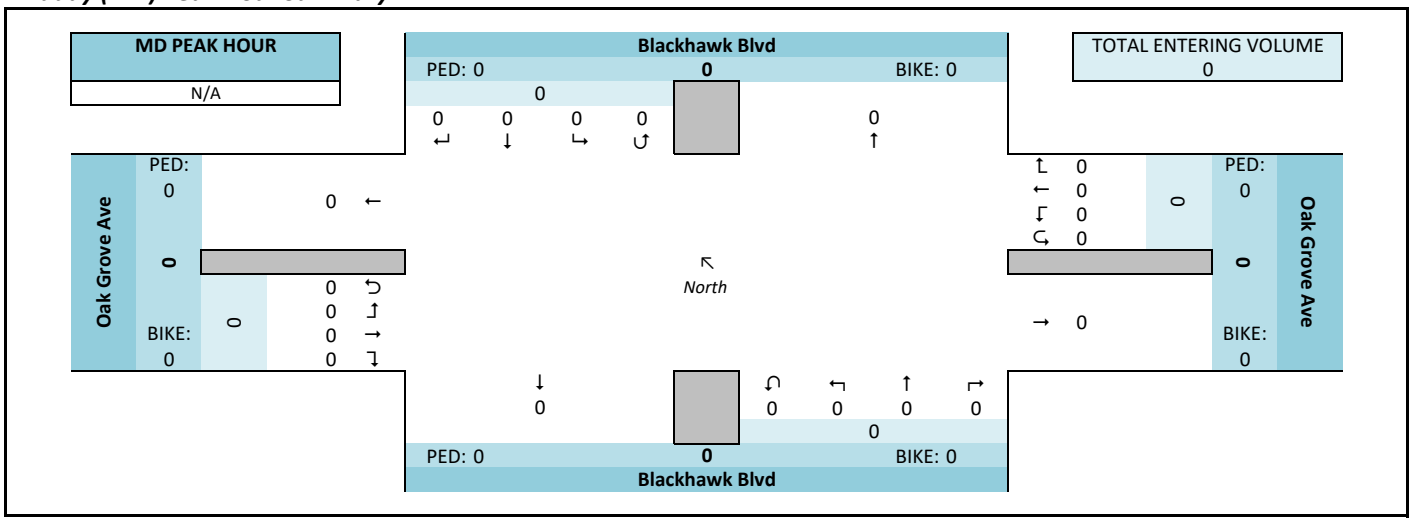
All Motor Vehicles

Blackhawk Blvd and Oak Grove Ave

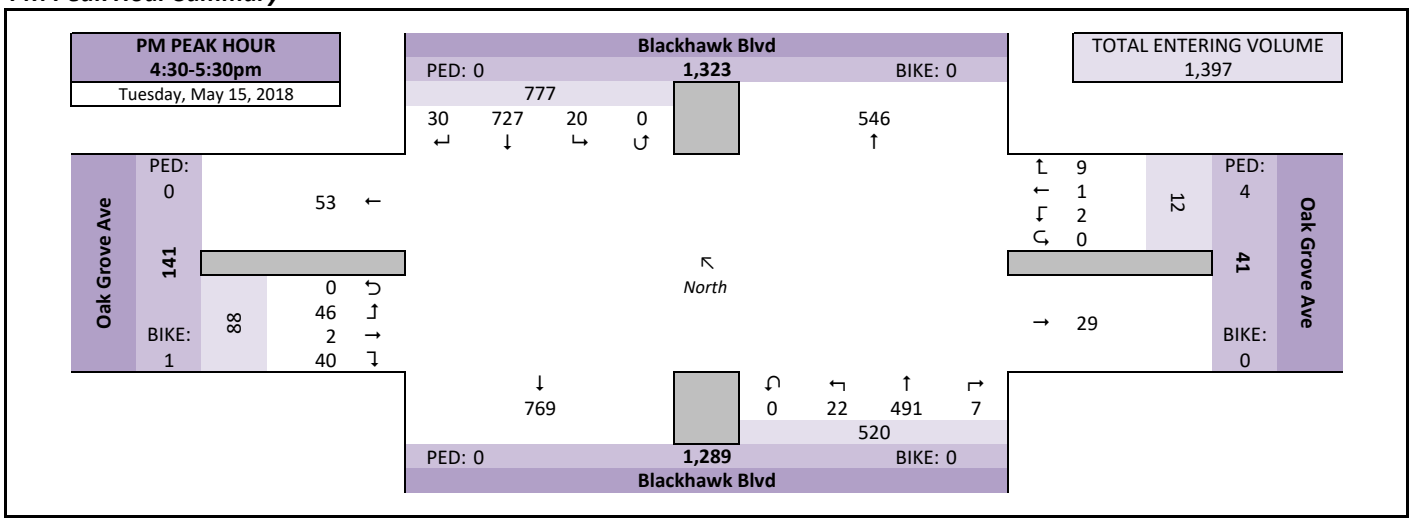
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

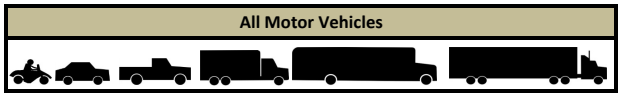


Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Oak Grove Ave



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 15, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Oak Grove Ave					Blackhawk Blvd					Oak Grove Ave					
	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	Totals
AM Peak Hour	7:15 AM	10	50	2	0	62	1	1	2	0	4	1	127	37	0	165	13	0	15	0	28	259
	7:30 AM	11	108	7	0	126	5	0	8	0	13	3	140	24	0	167	5	0	2	0	7	313
	7:45 AM	16	108	4	0	128	7	1	4	0	12	9	174	16	0	199	11	1	8	0	20	359
	8:00 AM	14	98	4	0	116	4	1	11	0	16	2	125	6	0	133	14	1	4	0	19	284
	Peak Hour Volume	51	364	17	0	432	17	3	25	0	45	15	566	83	0	664	43	2	29	0	74	1215
	Rounded Hourly Volume	50	365	15	0	430	15	5	25	0	45	15	565	85	0	665	45	0	30	0	75	1215
	% Single Unit Trucks	2.0	3.8	17.6	0.0	4.2	5.9	0.0	8.0	0.0	6.7	6.7	5.1	0.0	0.0	4.5	11.6	0.0	17.2	0.0	13.5	5.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	2.0	3.8	17.6	0.0	4.2	5.9	0.0	8.0	0.0	6.7	6.7	5.1	0.0	0.0	4.5	11.6	0.0	17.2	0.0	13.5	5.0
	Peak Hour Factor (PHF)	0.80	0.84	0.61	0.00	0.84	0.61	0.75	0.57	0.00	0.70	0.42	0.81	0.56	0.00	0.83	0.77	0.50	0.48	0.00	0.66	0.85

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Oak Grove Ave					Blackhawk Blvd					Oak Grove Ave					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, May 15, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Oak Grove Ave					Blackhawk Blvd					Oak Grove Ave					
	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	Totals
PM Peak Hour	4:30 PM	10	180	4	0	194	1	0	1	0	2	2	136	5	0	143	14	0	18	0	32	371
	4:45 PM	5	163	5	0	173	4	1	0	0	5	2	133	5	0	140	10	0	8	0	18	336
	5:00 PM	7	207	8	0	222	2	0	1	0	3	2	110	6	0	118	7	2	9	0	18	361
	5:15 PM	8	177	3	0	188	2	0	0	0	2	1	112	6	0	119	9	0	11	0	20	329
	Peak Hour Volume	30	727	20	0	777	9	1	2	0	12	7	491	22	0	520	40	2	46	0	88	1397
	Rounded Hourly Volume	30	725	20	0	775	10	0	0	0	10	5	490	20	0	515	40	0	45	0	85	1385
	% Single Unit Trucks	10.0	1.8	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2	4.5	0.0	2.3	7.5	0.0	2.2	0.0	4.5	2.3
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	10.0	1.8	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2	4.5	0.0	2.3	7.5	0.0	2.2	0.0	4.5	2.3
	Peak Hour Factor (PHF)	0.75	0.88	0.62	0.00	0.87	0.56	0.25	0.50	0.00	0.60	0.87	0.90	0.92	0.00	0.91	0.71	0.25	0.64	0.00	0.69	0.94

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
		Blackhawk Blvd			Oak Grove Ave			Blackhawk Blvd			Oak Grove Ave			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:15 AM	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	1	1	1
	7:45 AM	0	0	0	6	0	6	0	0	0	0	0	0	6
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	6	0	6	0	0	0	0	1	1	7
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	0	1	0	0	0	0	1	1	2
	5:15 PM	0	0	0	2	0	2	0	0	0	0	0	0	2
	Total	0	0	0	4	0	4	0	0	0	0	1	1	5

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

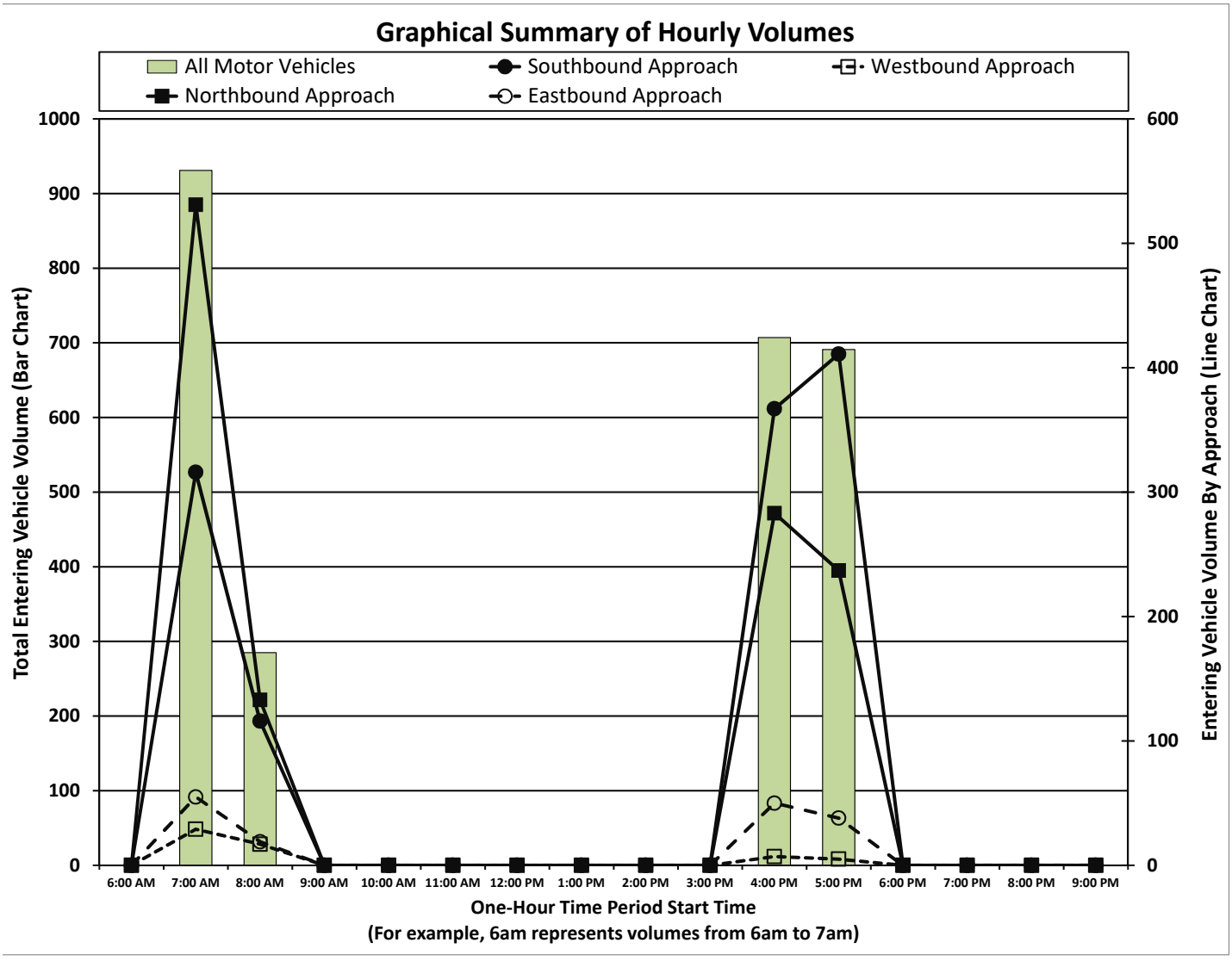
Hourly Volume Summary - Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Oak Grove Ave

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Oak Grove Ave					From South (↑) Blackhawk Blvd					From West (→) Oak Grove Ave					Total Vehicle Volume	Directional Volume Totals E/W	Directional Volume Totals N/S
		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 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	37	266	13	0	316	13	2	14	0	29	13	441	77	0	531	29	1	25	0	55	931	84	847
	8:00 AM	14	98	4	0	116	5	1	11	0	17	2	125	6	0	133	14	1	4	0	19	285	36	249
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	15	343	9	0	367	5	1	1	0	7	4	269	10	0	283	24	0	26	0	50	707	57	650
	5:00 PM	15	385	11	0	411	4	0	1	0	5	3	222	12	0	237	16	2	20	0	38	691	43	648
	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
	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		81	1092	37	0	1210	27	4	27	0	58	22	1057	105	0	1184	83	4	75	0	162	2614	220	2394



Intersection Traffic Volume Report

Count Basics		*Page 5 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Oak Grove Ave

15-Minute Motor Vehicle Data

15-Minute Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Oak Grove Ave					From South (↑) Blackhawk Blvd					From West (→) Oak Grove Ave					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			
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	7:15 AM	10	50	2	0	62	1	1	2	0	4	1	127	37	0	165	13	0	15	0	28	259	1215	0.85
	7:30 AM	11	108	7	0	126	5	0	8	0	13	3	140	24	0	167	5	0	2	0	7	313	957	0.67
	7:45 AM	16	108	4	0	128	7	1	4	0	12	9	174	16	0	199	11	1	8	0	20	359		
	8:00 AM	14	98	4	0	116	4	1	11	0	16	2	125	6	0	133	14	1	4	0	19	284		
	8:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1		
	8:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	10	180	4	0	194	1	0	1	0	2	2	136	5	0	143	14	0	18	0	32	371	1397	0.94
	4:45 PM	5	163	5	0	173	4	1	0	0	5	2	133	5	0	140	10	0	8	0	18	336	1027	0.71
	5:00 PM	7	207	8	0	222	2	0	1	0	3	2	110	6	0	118	7	2	9	0	18	361		
	5:15 PM	8	177	3	0	188	2	0	0	0	2	1	112	6	0	119	9	0	11	0	20	329		
	5:30 PM	0	1	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	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		
	6:30 PM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	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		81	1092	37	0	1210	27	4	27	0	58	22	1057	105	0	1184	83	4	75	0	162	2614		

Peak Hour All Vehicle Volume Summary

Hourly Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Oak Grove Ave					From South (↑) Blackhawk Blvd					From West (→) Oak Grove Ave					Total Hourly Volume	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		
AM	7:15 AM	51	364	17	0	432	17	3	25	0	45	15	566	83	0	664	43	2	29	0	74	1215	0.85
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	30	727	20	0	777	9	1	2	0	12	7	491	22	0	520	40	2	46	0	88	1397	0.94

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Base Information, Observed (2.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Elmwood Ave

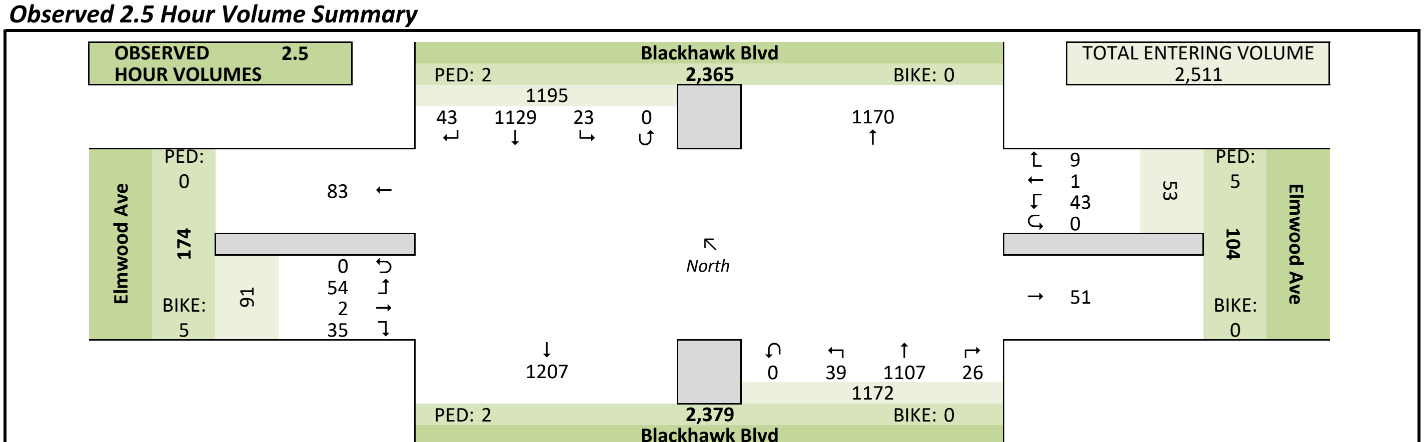
Site Information

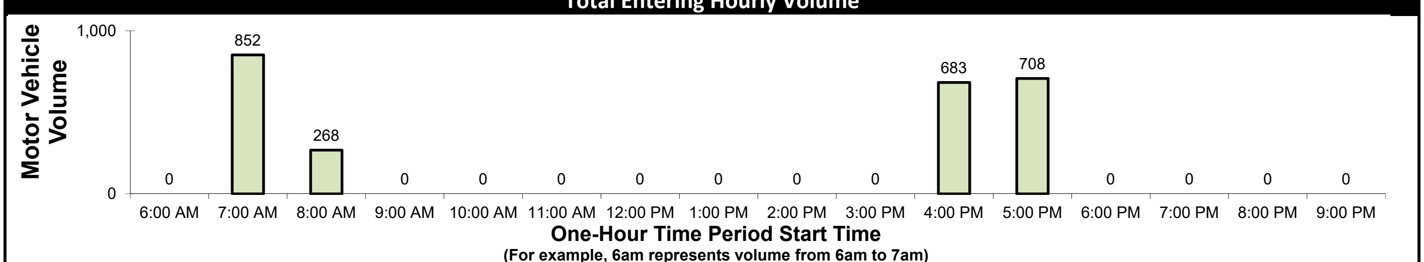
Municipality	City of South Beloit, IL		
County	[redacted]		
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↖
North Leg	Blackhawk Blvd		
East Leg	Elmwood Ave		
South Leg	Blackhawk Blvd		
West Leg	Elmwood Ave		
Special Considerations			
Schools	Other		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

Count Information

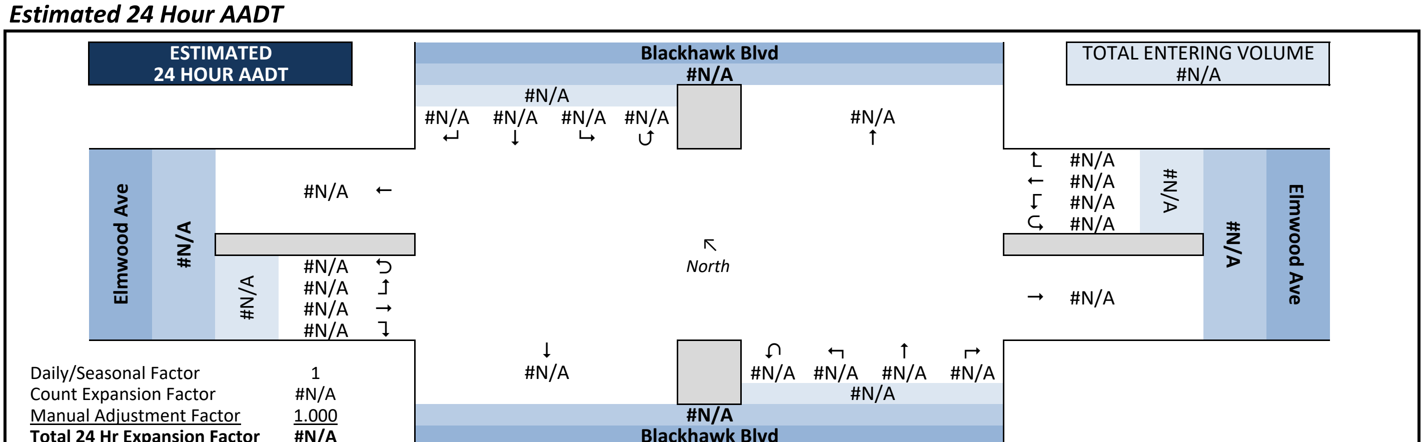
Hrs Counted:	7:15 AM-8:30 AM and 4:30 PM-5:45 PM				
1st Day of Count	Tuesday, May 15, 2018		Weather		
AM Peak Period	Tuesday, May 15, 2018		Clear & Dry		
Midday Peak Period					
PM Peak Period	Tuesday, May 15, 2018		Clear & Dry		
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1	Count Expansion Factor	#N/A		
Company Name	SRF Consulting, Inc.	Manual Adj.	1.000		
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 2.5 Hour Volume Summary





Estimated 24 Hour AADT



Intersection Traffic Volume Report

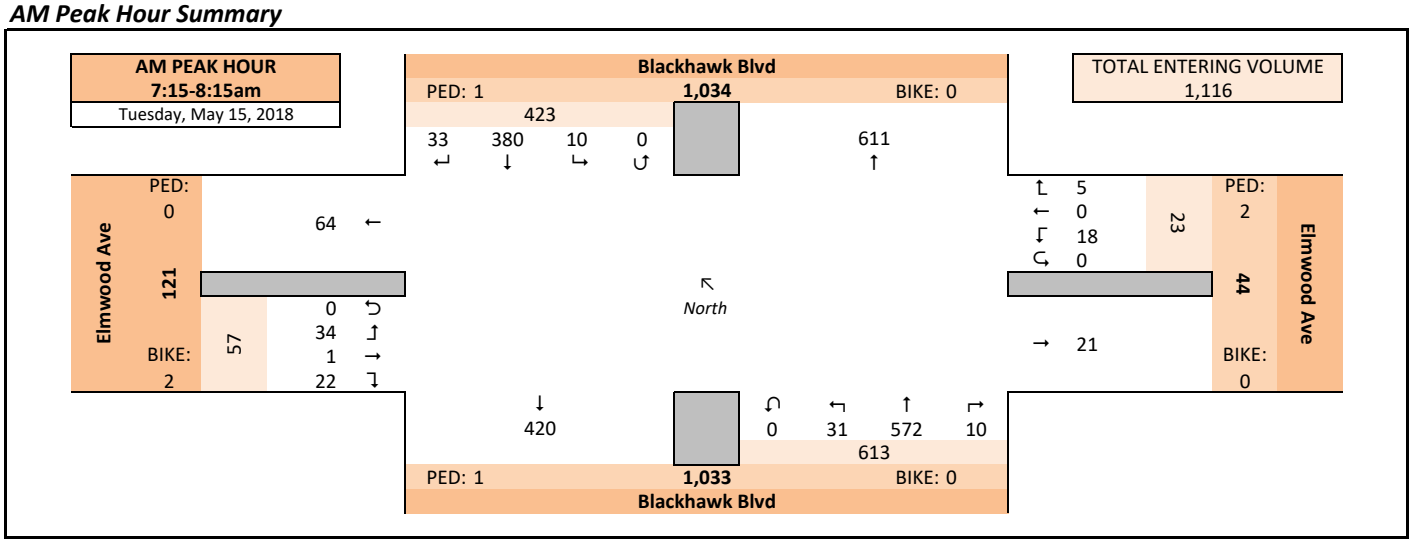
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

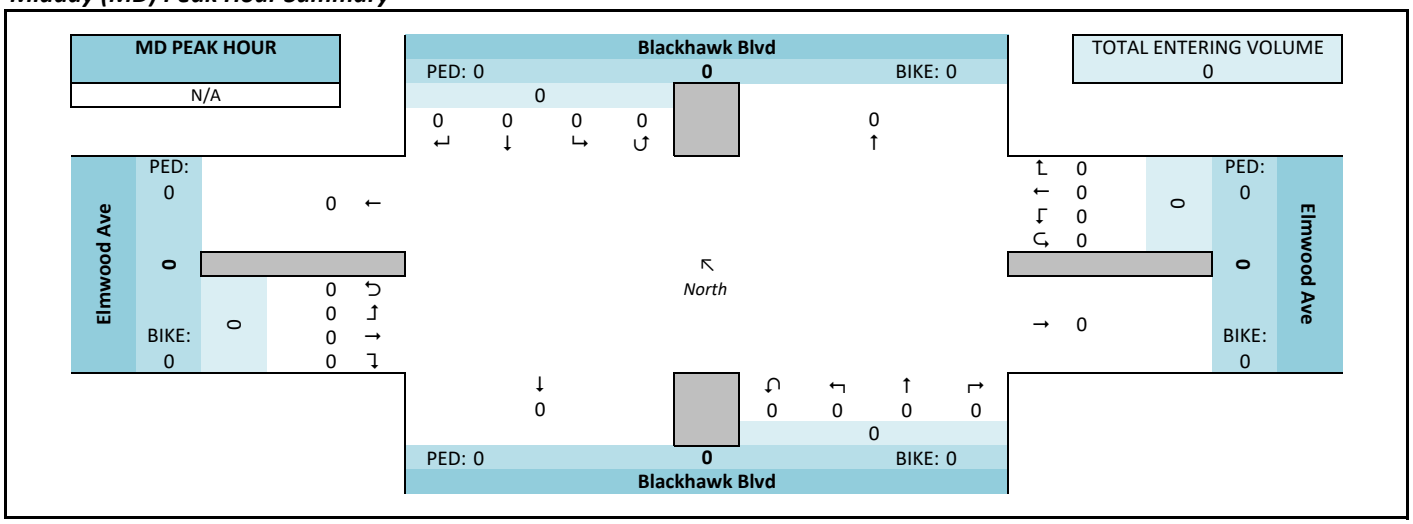
All Motor Vehicles

Blackhawk Blvd and Elmwood Ave

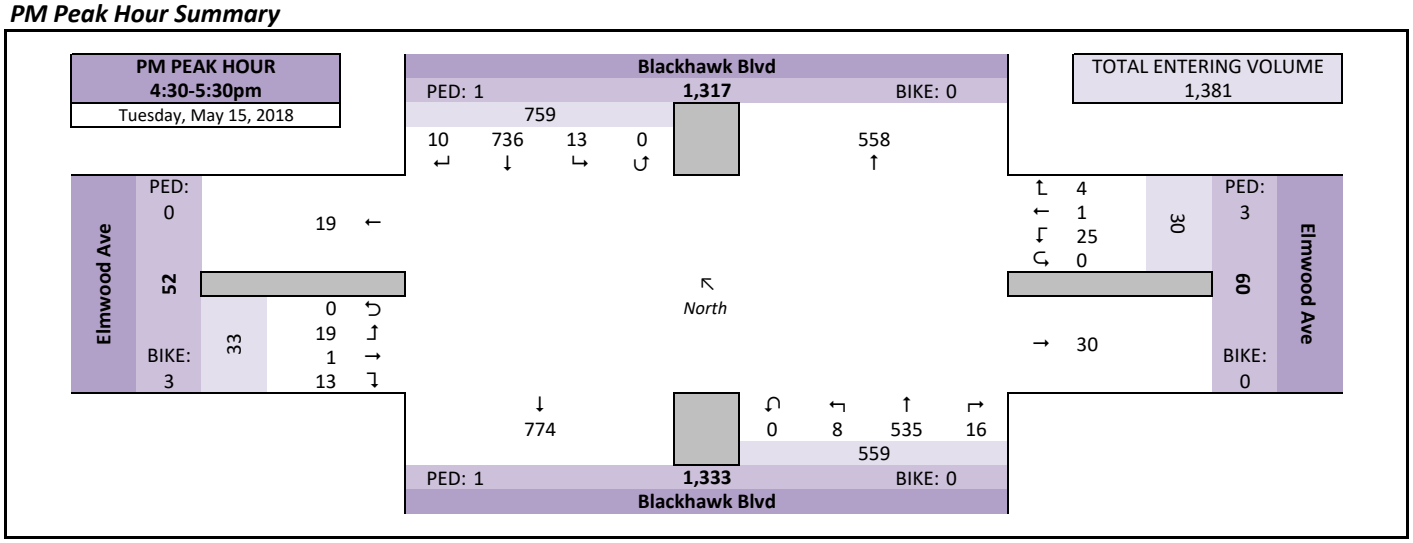
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

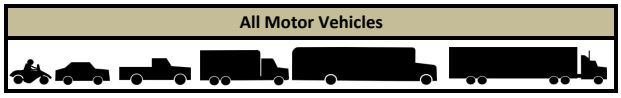


Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Elmwood Ave



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 15, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Elmwood Ave					Blackhawk Blvd					Elmwood Ave					
	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	Totals
AM Peak Hour	7:15 AM	13	58	1	0	72	0	0	3	0	3	1	129	5	0	135	2	0	4	0	6	216
	7:30 AM	7	105	4	0	116	4	0	7	0	11	1	143	5	0	149	7	1	6	0	14	290
	7:45 AM	6	121	1	0	128	1	0	4	0	5	5	179	11	0	195	7	0	11	0	18	346
	8:00 AM	7	96	4	0	107	0	0	4	0	4	3	121	10	0	134	6	0	13	0	19	264
	Peak Hour Volume	33	380	10	0	423	5	0	18	0	23	10	572	31	0	613	22	1	34	0	57	1116
	Rounded Hourly Volume	35	380	10	0	425	5	0	20	0	25	10	570	30	0	610	20	0	35	0	55	1115
	% Single Unit Trucks	0.0	4.7	10.0	0.0	4.5	20.0	0.0	0.0	0.0	4.3	0.0	5.8	0.0	0.0	5.4	9.1	0.0	0.0	0.0	3.5	4.9
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	4.7	10.0	0.0	4.5	20.0	0.0	0.0	0.0	4.3	0.0	5.8	0.0	0.0	5.4	9.1	0.0	0.0	0.0	3.5	4.9
	Peak Hour Factor (PHF)	0.63	0.79	0.62	0.00	0.83	0.31	0.00	0.64	0.00	0.52	0.50	0.80	0.70	0.00	0.79	0.79	0.25	0.65	0.00	0.75	0.81

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Elmwood Ave					Blackhawk Blvd					Elmwood Ave					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, May 15, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Elmwood Ave					Blackhawk Blvd					Elmwood Ave					
	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	Totals
PM Peak Hour	4:30 PM	3	179	1	0	183	0	0	6	0	6	6	146	3	0	155	3	0	8	0	11	355
	4:45 PM	5	163	9	0	177	0	0	6	0	6	3	137	2	0	142	2	0	1	0	3	328
	5:00 PM	1	209	3	0	213	2	0	11	0	13	4	123	2	0	129	7	1	6	0	14	369
	5:15 PM	1	185	0	0	186	2	1	2	0	5	3	129	1	0	133	1	0	4	0	5	329
	Peak Hour Volume	10	736	13	0	759	4	1	25	0	30	16	535	8	0	559	13	1	19	0	33	1381
	Rounded Hourly Volume	10	735	15	0	760	5	0	25	0	30	15	535	10	0	560	15	0	20	0	35	1385
	% Single Unit Trucks	10.0	2.3	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	2.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	10.0	2.3	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	2.4
	Peak Hour Factor (PHF)	0.50	0.88	0.36	0.00	0.89	0.50	0.25	0.57	0.00	0.58	0.67	0.92	0.67	0.00	0.90	0.46	0.25	0.59	0.00	0.59	0.94

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Blackhawk Blvd			Elmwood Ave			Blackhawk Blvd			Elmwood Ave			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	1	1	0	1	0	0	0	0	1	1	3
	7:45 AM	0	0	0	1	0	1	1	0	1	0	1	1	3
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1	0	1	2	0	2	1	0	1	0	2	2	6
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	1	0	1	0	0	0	0	1	1	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	1
	5:00 PM	1	0	1	1	0	1	0	0	0	0	1	1	3
	5:15 PM	0	0	0	1	0	1	1	0	1	0	0	0	2
	Total	1	0	1	3	0	3	1	0	1	0	3	3	8

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

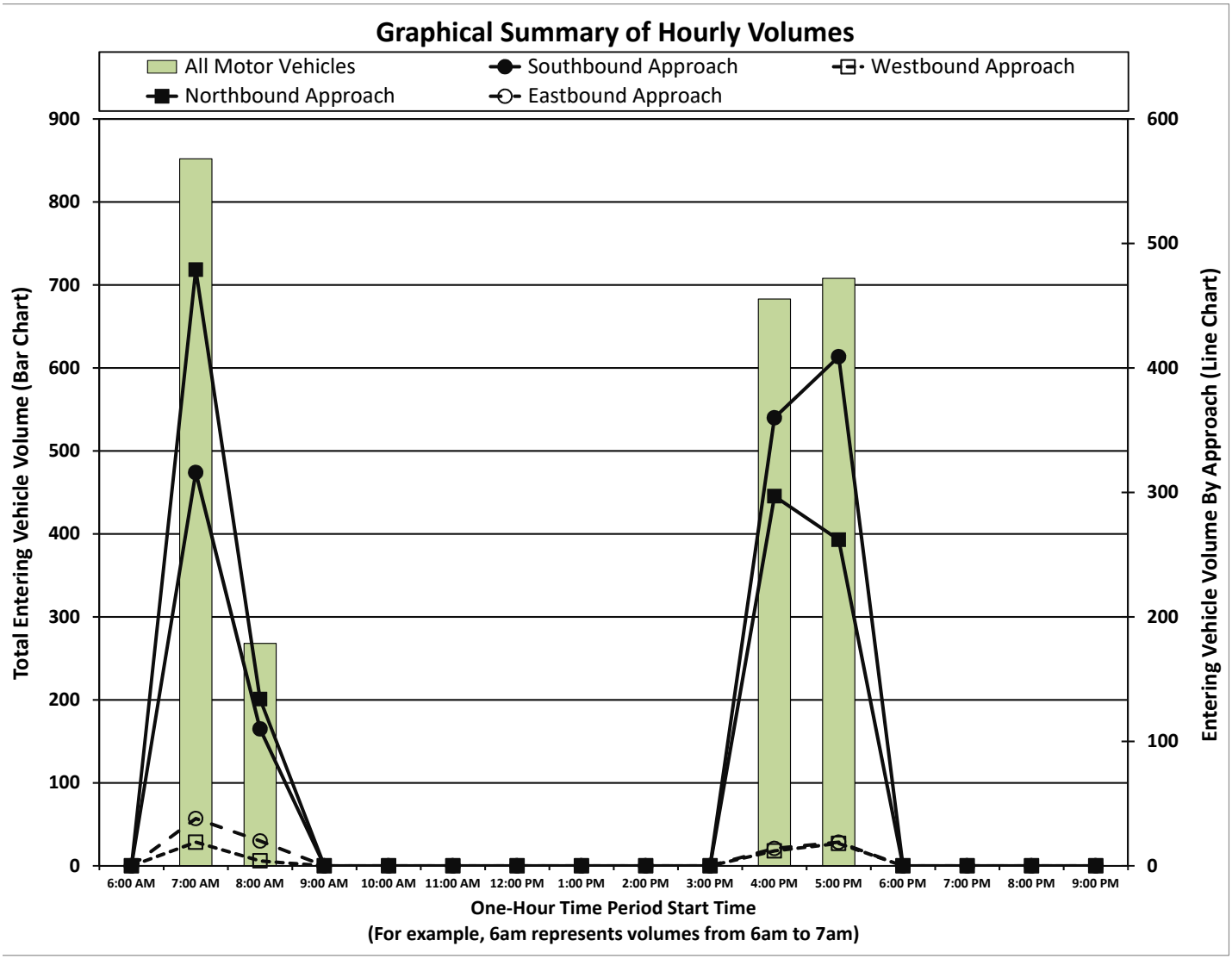
Hourly Volume Summary - Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Elmwood Ave

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Elmwood Ave					From South (↑) Blackhawk Blvd					From West (→) Elmwood Ave					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
AM	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:00 AM	26	284	6	0	316	5	0	14	0	19	7	451	21	0	479	16	1	21	0	38	852	57	795
AM	8:00 AM	7	99	4	0	110	0	0	4	0	4	3	121	10	0	134	6	0	14	0	20	268	24	244
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	8	342	10	0	360	0	0	12	0	12	9	283	5	0	297	5	0	9	0	14	683	26	657
PM	5:00 PM	2	404	3	0	409	4	1	13	0	18	7	252	3	0	262	8	1	10	0	19	708	37	671
PM	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
PM	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
PM	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
PM	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		43	1129	23	0	1195	9	1	43	0	53	26	1107	39	0	1172	35	2	54	0	91	2511	144	2367



Intersection Traffic Volume Report

Count Basics		*Page 5 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Elmwood Ave

15-Minute Motor Vehicle Data

	15-Minute Time Period Start Time	From North (↓) Blackhawk Blvd					From East (←) Elmwood Ave					From South (↑) Blackhawk Blvd					From West (→) Elmwood Ave					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			
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	7:15 AM	13	58	1	0	72	0	0	3	0	3	1	129	5	0	135	2	0	4	0	6	216	1116	0.81
	7:30 AM	7	105	4	0	116	4	0	7	0	11	1	143	5	0	149	7	1	6	0	14	290	904	0.65
	7:45 AM	6	121	1	0	128	1	0	4	0	5	5	179	11	0	195	7	0	11	0	18	346		
	8:00 AM	7	96	4	0	107	0	0	4	0	4	3	121	10	0	134	6	0	13	0	19	264		
	8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4		
	8:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	3	179	1	0	183	0	0	6	0	6	6	146	3	0	155	3	0	8	0	11	355	1381	0.94
	4:45 PM	5	163	9	0	177	0	0	6	0	6	3	137	2	0	142	2	0	1	0	3	328	1036	0.70
	5:00 PM	1	209	3	0	213	2	0	11	0	13	4	123	2	0	129	7	1	6	0	14	369		
	5:15 PM	1	185	0	0	186	2	1	2	0	5	3	129	1	0	133	1	0	4	0	5	329		
	5:30 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	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		
	6:30 PM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	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		43	1129	23	0	1195	9	1	43	0	53	26	1107	39	0	1172	35	2	54	0	91	2511		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period Start Time	From North (↓) Blackhawk Blvd					From East (←) Elmwood Ave					From South (↑) Blackhawk Blvd					From West (→) Elmwood Ave					Total Hourly Volume	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		
AM	7:15 AM	33	380	10	0	423	5	0	18	0	23	10	572	31	0	613	22	1	34	0	57	1116	0.81
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	10	736	13	0	759	4	1	25	0	30	16	535	8	0	559	13	1	19	0	33	1381	0.94

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1	Page 1 of 11
Start Date:	Tuesday, May 15, 2018	Weekday
Total Number of Hours Counted: 12.25		Non-Holiday	No Special Events

Base Information, Observed (12.25) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Northwest Ave

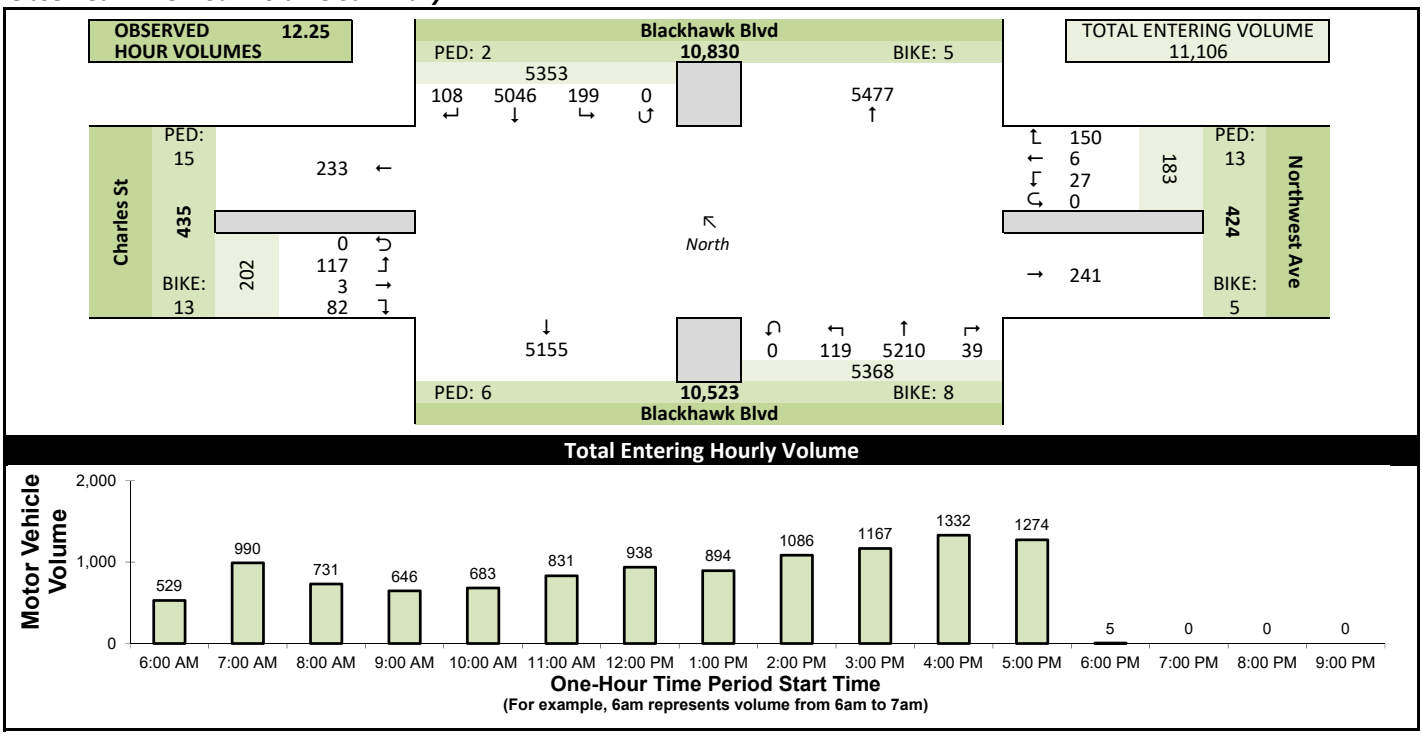
Site Information

Municipality	City of South Beloit, IL
County	
Traffic Control	Partial Stop Control
Roadway Names	North Direction ↖
North Leg	Blackhawk Blvd
East Leg	Northwest Ave
South Leg	Blackhawk Blvd
West Leg	Charles St
Special Considerations	
Schools	Other
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementry school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

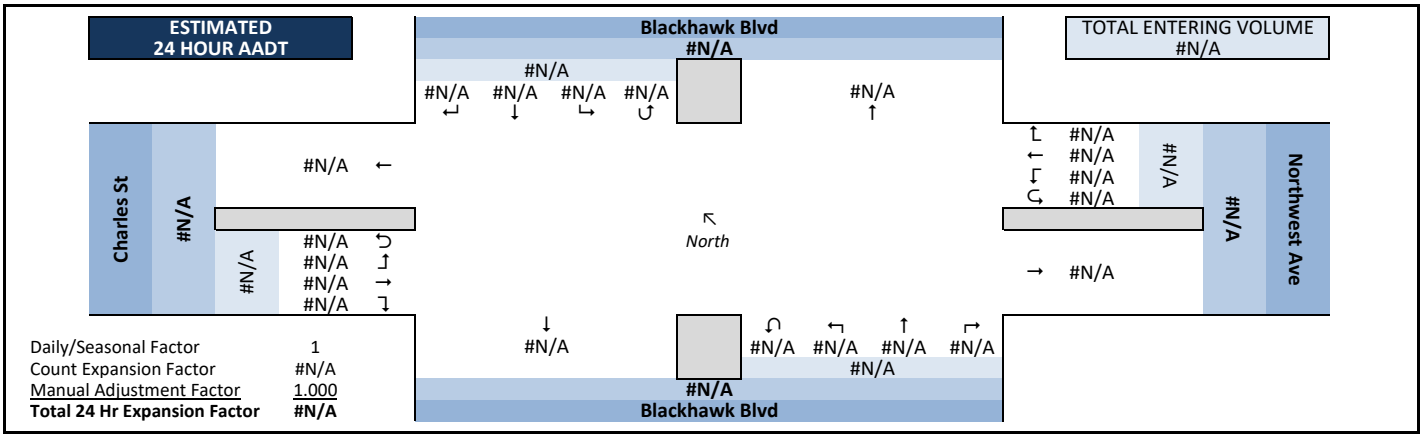
Count Information

Hrs Counted:	6:00 AM-6:15 PM				
1st Day of Count	Tuesday, May 15, 2018			Weather	
AM Peak Period	Tuesday, May 15, 2018			Clear & Dry	
Midday Peak Period	Tuesday, May 15, 2018			Clear & Dry	
PM Peak Period	Tuesday, May 15, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD	12:00-1:00pm	PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD	12:00-1:00pm	PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor		#N/A
Company Name	SRF Consulting, Inc.			Manual Adj.	1.000
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period	Bougie, Sam			
	PM Peak Period	Bougie, Sam			
Comments	Backup in northbound lanes 8:41-8:44				

Observed 12.25 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

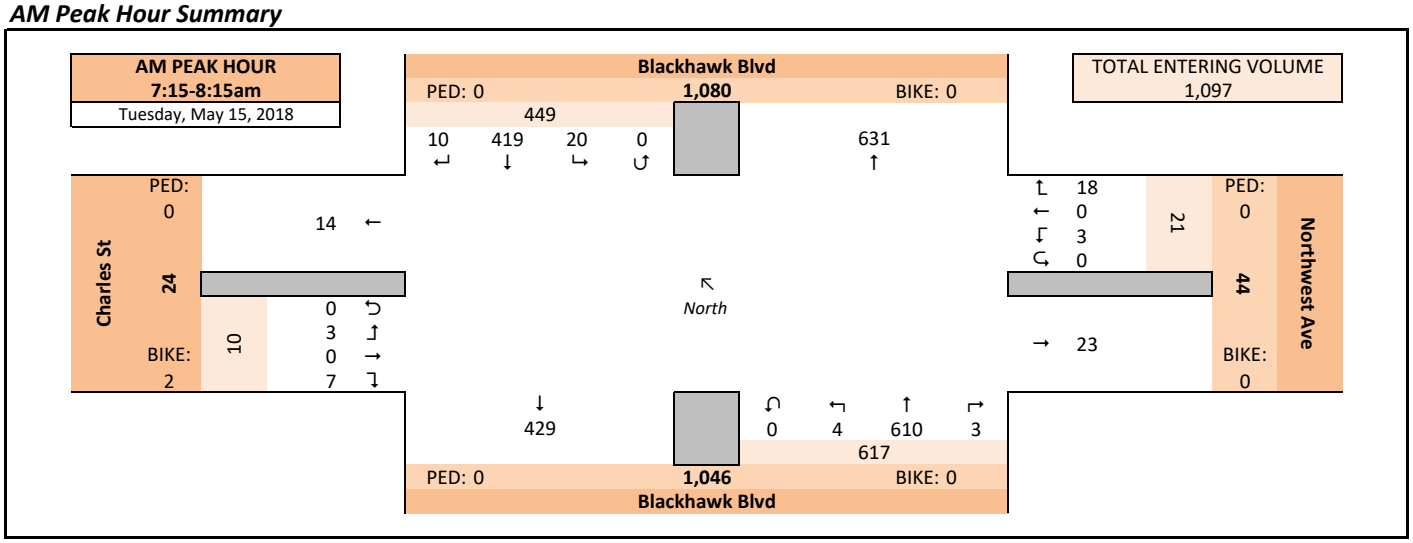
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 12.25		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

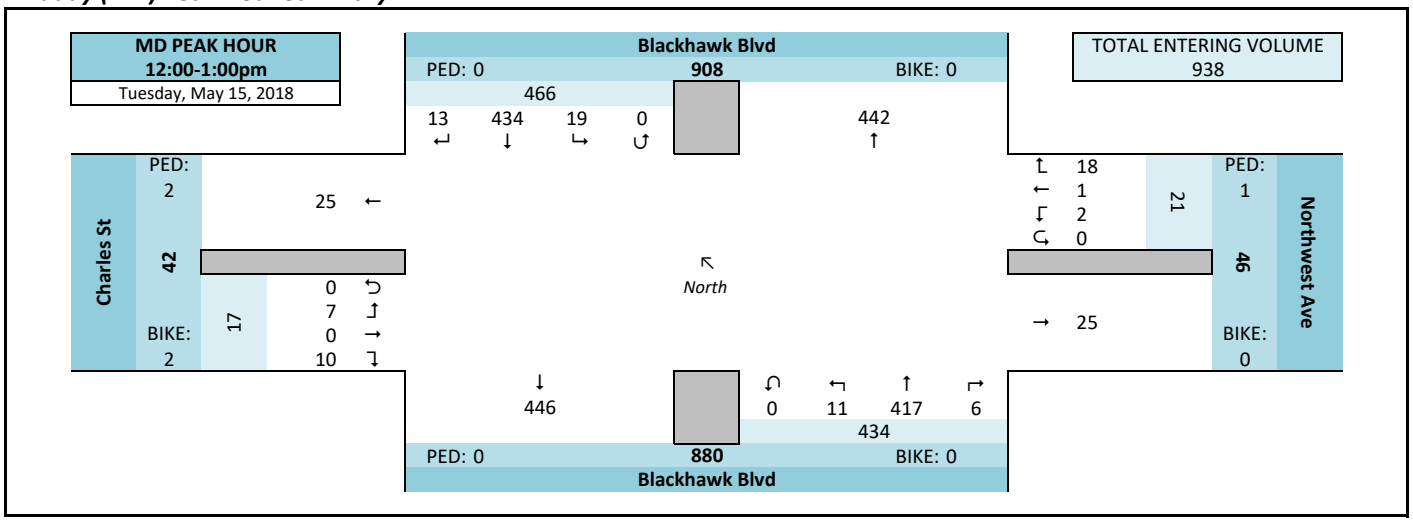
All Motor Vehicles

Blackhawk Blvd and Northwest Ave

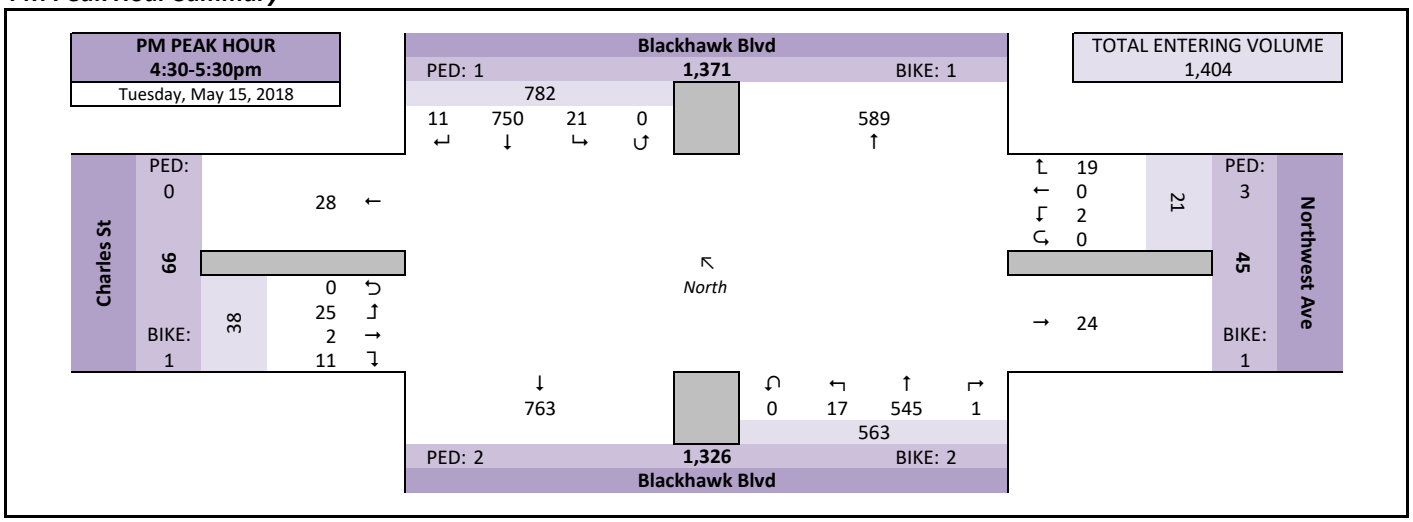
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

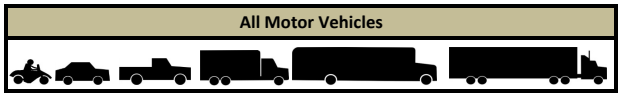


Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 12.25	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Northwest Ave



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 15, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Northwest Ave					Blackhawk Blvd					Charles St					
	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	Totals
AM Peak Hour	7:15 AM	3	78	1	0	82	3	0	1	0	4	1	140	2	0	143	0	0	0	0	0	229
	7:30 AM	1	118	5	0	124	7	0	2	0	9	1	151	1	0	153	0	0	1	0	1	287
	7:45 AM	3	126	13	0	142	3	0	0	0	3	0	185	1	0	186	2	0	1	0	3	334
	8:00 AM	3	97	1	0	101	5	0	0	0	5	1	134	0	0	135	5	0	1	0	6	247
	Peak Hour Volume	10	419	20	0	449	18	0	3	0	21	3	610	4	0	617	7	0	3	0	10	1097
	Rounded Hourly Volume	10	420	20	0	450	20	0	5	0	25	5	610	5	0	620	5	0	5	0	10	1105
	% Single Unit Trucks	10.0	4.5	5.0	0.0	4.7	0.0	0.0	33.3	0.0	4.8	33.3	5.7	0.0	0.0	5.8	14.3	0.0	0.0	0.0	10.0	5.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	10.0	4.5	5.0	0.0	4.7	0.0	0.0	33.3	0.0	4.8	33.3	5.7	0.0	0.0	5.8	14.3	0.0	0.0	0.0	10.0	5.4
	Peak Hour Factor (PHF)	0.83	0.83	0.38	0.00	0.79	0.64	0.00	0.37	0.00	0.58	0.75	0.82	0.50	0.00	0.83	0.35	0.00	0.75	0.00	0.42	0.82

Tuesday, May 15, 2018		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Northwest Ave					Blackhawk Blvd					Charles St					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	2	141	4	0	147	6	0	1	0	7	0	120	1	0	121	3	0	0	0	3	278
	12:15 PM	4	90	2	0	96	6	0	0	0	6	4	99	1	0	104	2	0	0	0	2	208
	12:30 PM	5	100	6	0	111	4	0	1	0	5	2	87	2	0	91	3	0	6	0	9	216
	12:45 PM	2	103	7	0	112	2	1	0	0	3	0	111	7	0	118	2	0	1	0	3	236
	Peak Hour Volume	13	434	19	0	466	18	1	2	0	21	6	417	11	0	434	10	0	7	0	17	938
	Rounded Hourly Volume	15	435	20	0	470	20	0	0	0	20	5	415	10	0	430	10	0	5	0	15	935
	% Single Unit Trucks	7.7	5.3	5.3	0.0	5.4	22.2	0.0	0.0	0.0	19.0	0.0	7.2	0.0	0.0	6.9	10.0	0.0	0.0	0.0	5.9	6.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	7.7	5.3	5.3	0.0	5.4	22.2	0.0	0.0	0.0	19.0	0.0	7.2	0.0	0.0	6.9	10.0	0.0	0.0	0.0	5.9	6.4
	Peak Hour Factor (PHF)	0.65	0.77	0.68	0.00	0.79	0.75	0.25	0.50	0.00	0.75	0.37	0.87	0.39	0.00	0.90	0.83	0.00	0.29	0.00	0.47	0.84

Tuesday, May 15, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Northwest Ave					Blackhawk Blvd					Charles St					
	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	Totals
PM Peak Hour	4:30 PM	0	194	5	0	199	5	0	0	0	5	0	157	4	0	161	1	0	7	0	8	373
	4:45 PM	3	173	5	0	181	2	0	1	0	3	0	132	7	0	139	5	0	6	0	11	334
	5:00 PM	5	197	5	0	207	7	0	1	0	8	0	133	5	0	138	2	2	8	0	12	365
	5:15 PM	3	186	6	0	195	5	0	0	0	5	1	123	1	0	125	3	0	4	0	7	332
	Peak Hour Volume	11	750	21	0	782	19	0	2	0	21	1	545	17	0	563	11	2	25	0	38	1404
	Rounded Hourly Volume	10	750	20	0	780	20	0	0	0	20	0	545	15	0	560	10	0	25	0	35	1395
	% Single Unit Trucks	9.1	2.5	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	5.9	0.0	2.0	0.0	50.0	8.0	0.0	7.9	2.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	9.1	2.5	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	5.9	0.0	2.0	0.0	50.0	8.0	0.0	7.9	2.4
	Peak Hour Factor (PHF)	0.55	0.95	0.87	0.00	0.94	0.68	0.00	0.50	0.00	0.66	0.25	0.87	0.61	0.00	0.87	0.55	0.25	0.78	0.00	0.79	0.94

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Blackhawk Blvd			Northwest Ave			Blackhawk Blvd			Charles St			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	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	1	1	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	2	2	2
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	1	2	3	3
	12:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	12:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
	Total	0	0	0	1	0	1	0	0	0	2	2	4	5
PM	4:30 PM	1	1	2	1	1	2	0	1	1	0	0	0	5
	4:45 PM	0	0	0	1	0	1	1	1	2	0	0	0	3
	5:00 PM	0	0	0	0	0	0	1	0	1	0	1	1	2
	5:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	Total	1	1	2	3	1	4	2	2	4	0	1	1	11

Intersection Traffic Volume Report

Count Basics		Page 4 of 11
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 12.25	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

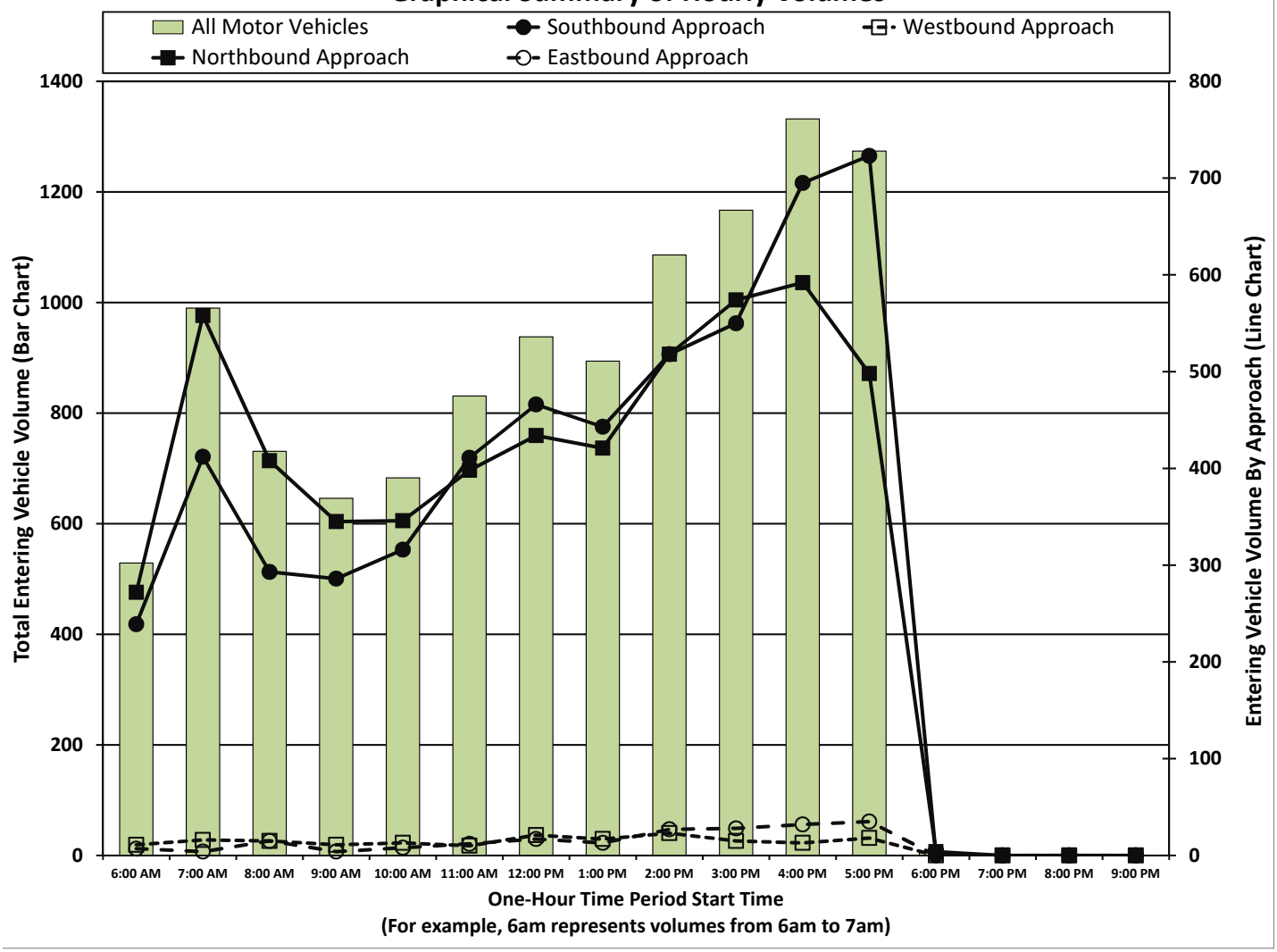
All Motor Vehicles

Blackhawk Blvd and Northwest Ave

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Northwest Ave					From South (↑) Blackhawk Blvd					From West (→) Charles St					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
AM	6:00 AM	7	227	5	0	239	10	0	1	0	11	0	272	0	0	272	6	0	1	0	7	529	18	511
AM	7:00 AM	9	383	20	0	412	13	0	3	0	16	5	549	4	0	558	2	0	2	0	4	990	20	970
AM	8:00 AM	5	279	9	0	293	13	0	2	0	15	7	399	2	0	408	10	0	5	0	15	731	30	701
AM	9:00 AM	7	269	10	0	286	7	2	2	0	11	2	339	4	0	345	4	0	0	0	4	646	15	631
MD	10:00 AM	4	297	15	0	316	8	0	5	0	13	2	333	11	0	346	0	0	8	0	8	683	21	662
MD	11:00 AM	3	390	18	0	411	8	1	1	0	10	0	394	4	0	398	2	0	10	0	12	831	22	809
MD	12:00 PM	13	434	19	0	466	18	1	2	0	21	6	417	11	0	434	10	0	7	0	17	938	38	900
MD	1:00 PM	7	415	21	0	443	14	0	3	0	17	1	410	10	0	421	6	0	7	0	13	894	30	864
PM	2:00 PM	15	479	24	0	518	18	2	3	0	23	8	494	16	0	518	12	0	15	0	27	1086	50	1036
PM	3:00 PM	13	519	18	0	550	14	0	1	0	15	2	554	18	0	574	9	1	18	0	28	1167	43	1124
PM	4:00 PM	8	669	18	0	695	12	0	1	0	13	4	564	24	0	592	8	0	24	0	32	1332	45	1287
PM	5:00 PM	17	684	22	0	723	15	0	3	0	18	2	481	15	0	498	13	2	20	0	35	1274	53	1221
PM	6:00 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5	0	5
PM	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
PM	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
PM	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		108	5046	199	0	5353	150	6	27	0	183	39	5210	119	0	5368	82	3	117	0	202	11106	385	10721

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		*Page 5 of 11*
Start Date: Tuesday, May 15, 2018	Weekday	
Total Number of Hours Counted: 12.25	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Northwest Ave

15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) Blackhawk Blvd					From East (←) Northwest Ave					From South (↑) Blackhawk Blvd					From West (→) Charles St					15-Min	Hourly	
	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	Totals	Sum	PHF
AM Peak Period	6:00 AM	3	42	1	0	46	4	0	0	0	4	0	34	0	0	34	1	0	0	0	1	85	529	0.73
	6:15 AM	1	51	1	0	53	2	0	1	0	3	0	60	0	0	60	2	0	0	0	2	118	584	0.81
	6:30 AM	1	66	2	0	69	1	0	0	0	1	0	76	0	0	76	0	0	0	0	0	146	695	0.76
	6:45 AM	2	68	1	0	71	3	0	0	0	3	0	102	0	0	102	3	0	1	0	4	180	836	0.73
	7:00 AM	2	61	1	0	64	0	0	0	0	0	3	73	0	0	76	0	0	0	0	0	140	990	0.74
	7:15 AM	3	78	1	0	82	3	0	1	0	4	1	140	2	0	143	0	0	0	0	0	229	1097	0.82
	7:30 AM	1	118	5	0	124	7	0	2	0	9	1	151	1	0	153	0	0	1	0	1	287	1050	0.79
	7:45 AM	3	126	13	0	142	3	0	0	0	3	0	185	1	0	186	2	0	1	0	3	334	898	0.67
	8:00 AM	3	97	1	0	101	5	0	0	0	5	1	134	0	0	135	5	0	1	0	6	247	731	0.74
	8:15 AM	1	77	5	0	83	4	0	2	0	6	0	86	1	0	87	3	0	3	0	6	182	635	0.87
	8:30 AM	1	42	1	0	44	4	0	0	0	4	2	83	1	0	86	1	0	0	0	1	135	610	0.91
	8:45 AM	0	63	2	0	65	0	0	0	0	0	4	96	0	0	100	1	0	1	0	2	167	644	0.95
	9:00 AM	1	66	3	0	70	2	0	0	0	2	0	79	0	0	79	0	0	0	0	0	151	646	0.96
	9:15 AM	1	61	0	0	62	4	2	1	0	7	0	84	2	0	86	2	0	0	0	2	157	679	0.92
	9:30 AM	0	62	3	0	65	0	0	0	0	0	1	101	1	0	103	1	0	0	0	1	169	687	0.93
	9:45 AM	5	80	4	0	89	1	0	1	0	2	1	75	1	0	77	1	0	0	0	1	169	673	0.91
Midday Peak Period	10:00 AM	0	86	3	0	89	0	0	0	0	0	2	84	5	0	91	0	0	4	0	4	184	683	0.93
	10:15 AM	1	64	6	0	71	4	0	3	0	7	0	84	2	0	86	0	0	1	0	1	165	704	0.86
	10:30 AM	1	69	4	0	74	3	0	1	0	4	0	72	3	0	75	0	0	2	0	2	155	746	0.90
	10:45 AM	2	78	2	0	82	1	0	1	0	2	0	93	1	0	94	0	0	1	0	1	179	779	0.94
	11:00 AM	0	94	1	0	95	1	0	0	0	1	0	108	0	0	108	0	0	1	0	1	205	831	0.90
	11:15 AM	1	99	5	0	105	4	0	0	0	4	0	94	1	0	95	2	0	1	0	3	207	904	0.81
	11:30 AM	1	95	4	0	100	1	1	0	0	2	0	77	1	0	78	0	0	8	0	8	188	905	0.81
	11:45 AM	1	102	8	0	111	2	0	1	0	3	0	115	2	0	117	0	0	0	0	0	231	933	0.84
	12:00 PM	2	141	4	0	147	6	0	1	0	7	0	120	1	0	121	3	0	0	0	3	278	938	0.84
	12:15 PM	4	90	2	0	96	6	0	0	0	6	4	99	1	0	104	2	0	0	0	2	208	872	0.92
	12:30 PM	5	100	6	0	111	4	0	1	0	5	2	87	2	0	91	3	0	6	0	9	216	902	0.95
	12:45 PM	2	103	7	0	112	2	1	0	0	3	0	111	7	0	118	2	0	1	0	3	236	903	0.95
	1:00 PM	2	97	6	0	105	5	0	2	0	7	0	94	2	0	96	0	0	4	0	4	212	894	0.94
	1:15 PM	2	111	4	0	117	4	0	1	0	5	0	109	3	0	112	2	0	2	0	4	238	905	0.95
	1:30 PM	1	87	6	0	94	1	0	0	0	1	1	115	4	0	120	2	0	0	0	2	217	924	0.90
	1:45 PM	2	120	5	0	127	4	0	0	0	4	0	92	1	0	93	2	0	1	0	3	227	1010	0.83
PM Peak Period	2:00 PM	2	98	3	0	103	5	0	0	0	5	3	103	5	0	111	0	0	4	0	4	223	1086	0.90
	2:15 PM	2	117	7	0	126	5	0	2	0	7	4	110	4	0	118	2	0	4	0	6	257	1121	0.92
	2:30 PM	3	127	8	0	138	6	2	0	0	8	0	148	1	0	149	7	0	1	0	8	303	1096	0.90
	2:45 PM	8	137	6	0	151	2	0	1	0	3	1	133	6	0	140	3	0	6	0	9	303	1154	0.80
	3:00 PM	1	113	4	0	118	3	0	1	0	4	0	125	3	0	128	1	0	7	0	8	258	1167	0.81
	3:15 PM	4	97	4	0	105	4	0	0	0	4	1	114	3	0	118	1	0	4	0	5	232	1222	0.85
	3:30 PM	5	152	5	0	162	5	0	0	0	5	1	180	6	0	187	4	0	3	0	7	361	1302	0.90
	3:45 PM	3	157	5	0	165	2	0	0	0	2	0	135	6	0	141	3	1	4	0	8	316	1314	0.88
	4:00 PM	4	157	4	0	165	3	0	0	0	3	2	131	5	0	138	1	0	6	0	7	313	1332	0.89
	4:15 PM	1	145	4	0	150	2	0	0	0	2	2	144	8	0	154	1	0	5	0	6	312	1384	0.93
	4:30 PM	0	194	5	0	199	5	0	0	0	5	0	157	4	0	161	1	0	7	0	8	373	1404	0.94
	4:45 PM	3	173	5	0	181	2	0	1	0	3	0	132	7	0	139	5	0	6	0	11	334	1319	0.90
	5:00 PM	5	197	5	0	207	7	0	1	0	8	0	133	5	0	138	2	2	8	0	12	365	1274	0.87
	5:15 PM	3	186	6	0	195	5	0	0	0	5	1	123	1	0	125	3	0	4	0	7	332	914	0.69
	5:30 PM	4	148	8	0	160	0	0	1	0	1	1	117	4	0	122	3	0	2	0	5	288		
	5:45 PM	5	153	3	0	161	3	0	1	0	4	0	108	5	0	113	5	0	6	0	11	289		
	6:00 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5		
	6:15 PM	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	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	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	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		108	5046	199	0	5353	150	6	27	0	183	39	5210	119	0	5368	82	3	117	0	202	11106		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Blackhawk Blvd					From East (←) Northwest Ave					From South (↑) Blackhawk Blvd					From West (→) Charles St					Total Hourly	
	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	Volume	PHF
AM	7:15 AM	10	419	20	0	449	18	0	3	0	21	3	610	4	0	617	7	0	3	0	10	1097	0.82
MD	12:00 PM	13	434	19	0	466	18	1	2	0	21	6	417	11	0	434	10	0	7	0	17	938	0.84
PM	4:30 PM	11	750	21	0	782	19	0	2	0	21	1	545	17	0	563	11	2	25	0	38	1404	0.94

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Base Information, Observed (2.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Webster Ave

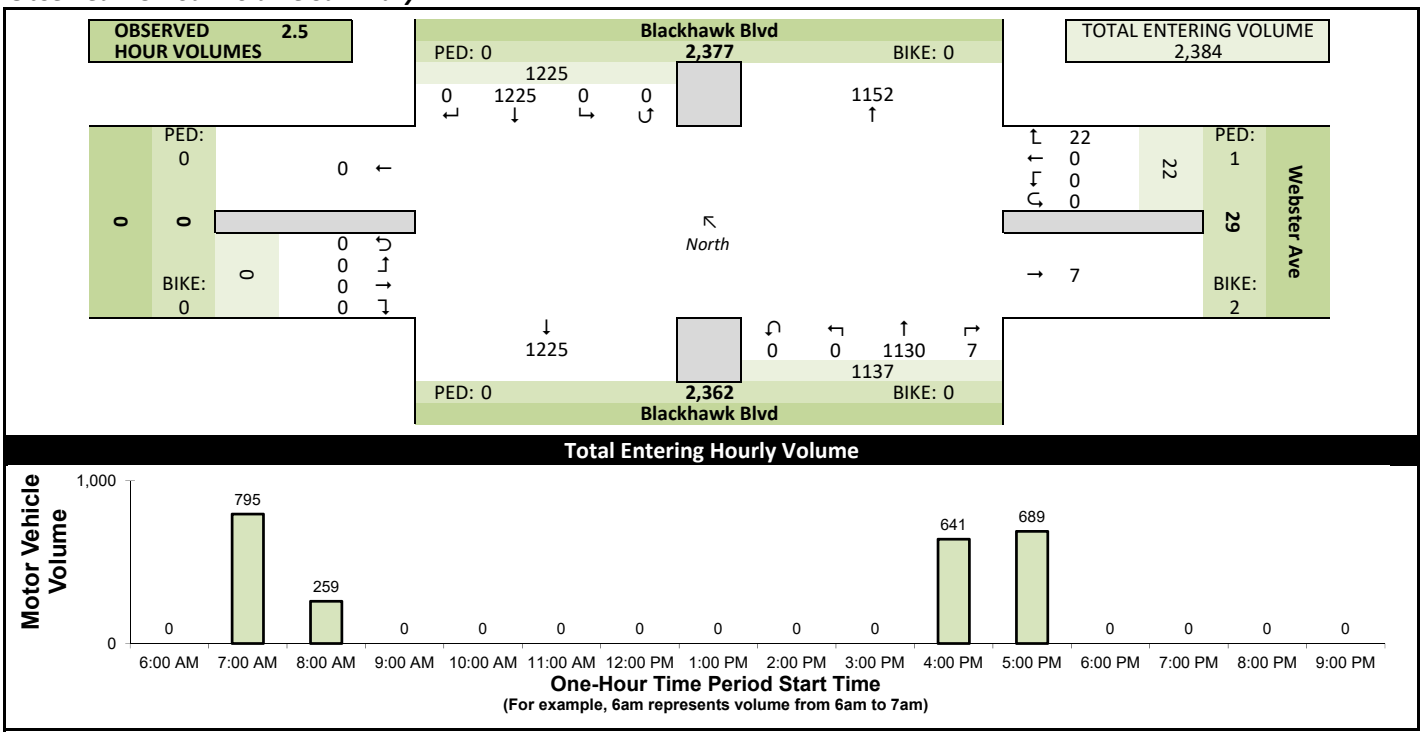
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Partial Stop Control	
Roadway Names	North Direction	↖
North Leg	Blackhawk Blvd	
East Leg	Webster Ave	
South Leg	Blackhawk Blvd	
West Leg		
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	None	
Other (describe)	None	None

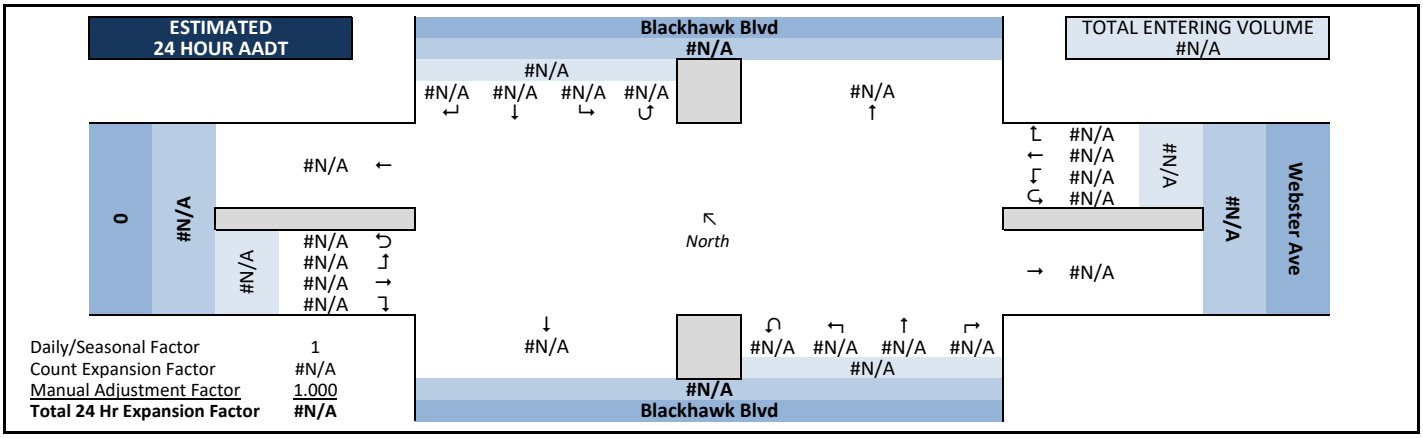
Count Information

Hrs Counted:	7:15 AM-8:30 AM and 4:30 PM-5:45 PM				
1st Day of Count	Tuesday, May 22, 2018			Weather	
AM Peak Period	Tuesday, May 22, 2018			Clear & Dry	
Midday Peak Period					
PM Peak Period	Tuesday, May 22, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor	#N/A	
Company Name	SRF Consulting, Inc.		Manual Adj.	1.000	
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 2.5 Hour Volume Summary



Estimated 24 Hour AADT

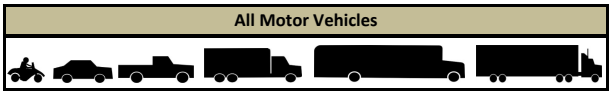


Intersection Traffic Volume Report

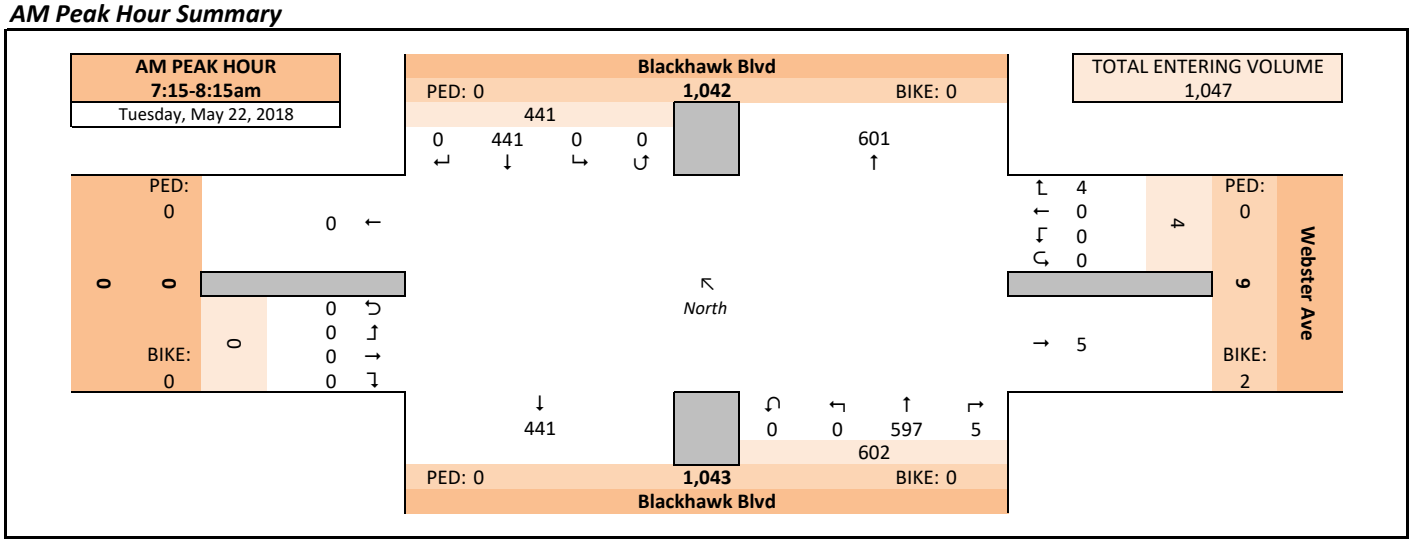
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

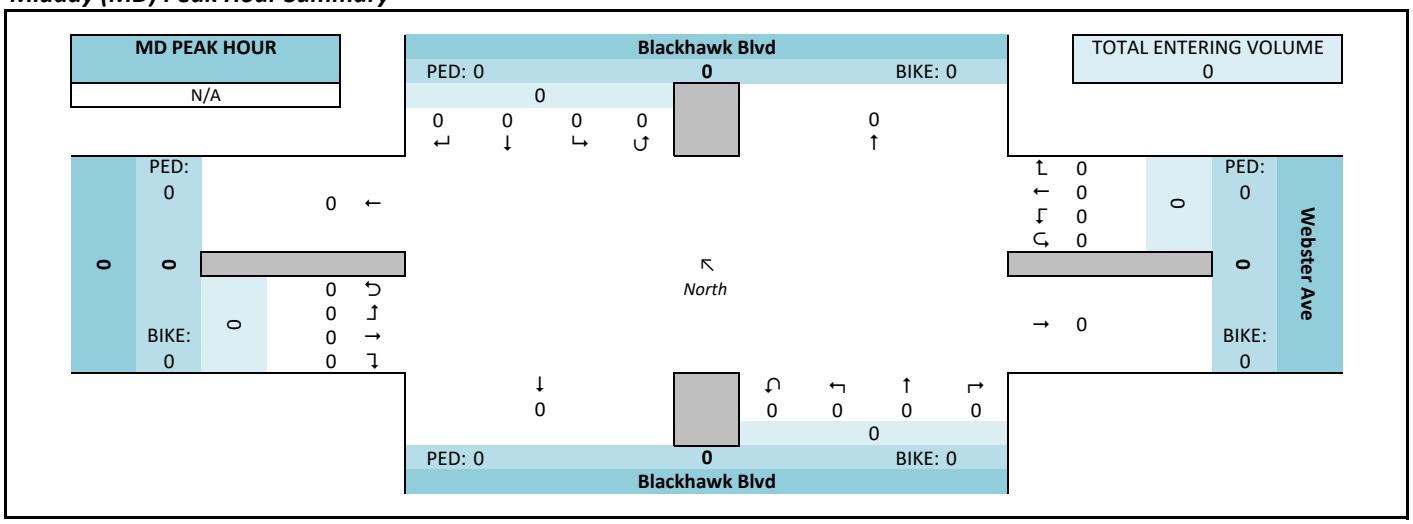
Blackhawk Blvd and Webster Ave



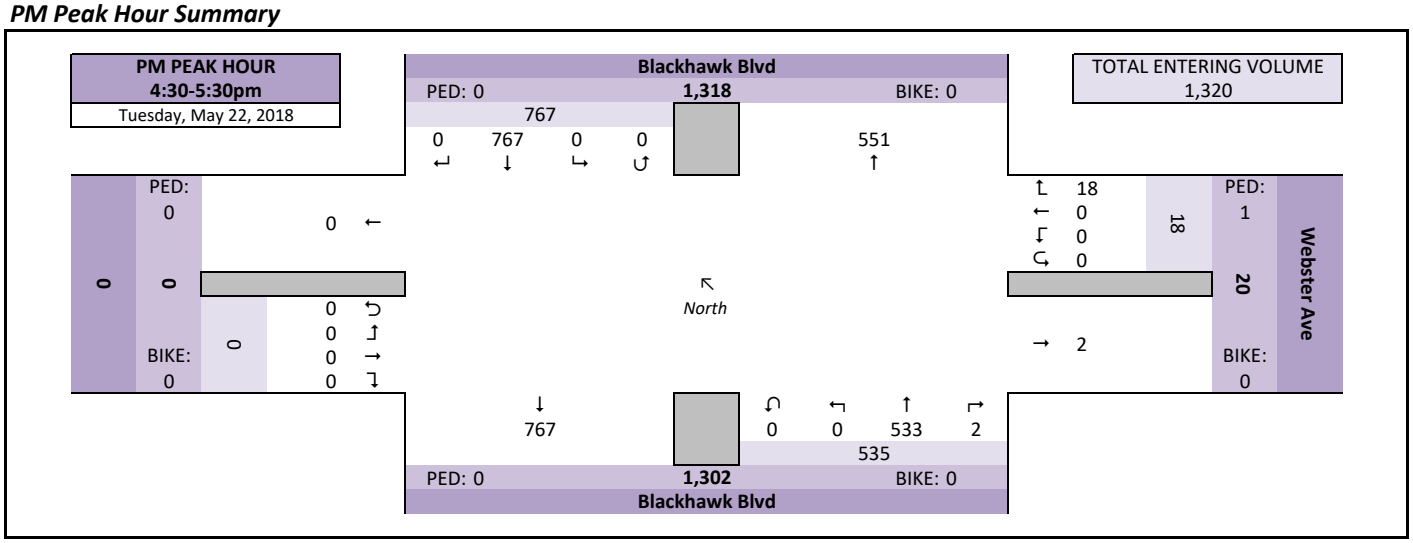
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Webster Ave

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 22, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Webster Ave					Blackhawk Blvd					0					
	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	Totals
AM Peak Hour	7:15 AM	0	78	0	0	78	0	0	0	0	0	3	121	0	0	124	0	0	0	0	0	202
	7:30 AM	0	100	0	0	100	1	0	0	0	1	1	180	0	0	181	0	0	0	0	0	282
	7:45 AM	0	145	0	0	145	2	0	0	0	2	0	164	0	0	164	0	0	0	0	0	311
	8:00 AM	0	118	0	0	118	1	0	0	0	1	1	132	0	0	133	0	0	0	0	0	252
	Peak Hour Volume	0	441	0	0	441	4	0	0	0	4	5	597	0	0	602	0	0	0	0	0	1047
	Rounded Hourly Volume	0	440	0	0	440	5	0	0	0	5	5	595	0	0	600	0	0	0	0	0	1045
	% Single Unit Trucks	0.0	6.1	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	20.0	5.9	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	6.1	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	20.0	5.9	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	6.0
	Peak Hour Factor (PHF)	0.00	0.76	0.00	0.00	0.76	0.50	0.00	0.00	0.00	0.50	0.42	0.83	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.84

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Webster Ave					Blackhawk Blvd					0					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, May 22, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Webster Ave					Blackhawk Blvd					0					
	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	Totals
PM Peak Hour	4:30 PM	0	175	0	0	175	6	0	0	0	6	0	134	0	0	134	0	0	0	0	0	315
	4:45 PM	0	193	0	0	193	1	0	0	0	1	1	131	0	0	132	0	0	0	0	0	326
	5:00 PM	0	209	0	0	209	8	0	0	0	8	0	131	0	0	131	0	0	0	0	0	348
	5:15 PM	0	190	0	0	190	3	0	0	0	3	1	137	0	0	138	0	0	0	0	0	331
	Peak Hour Volume	0	767	0	0	767	18	0	0	0	18	2	533	0	0	535	0	0	0	0	0	1320
	Rounded Hourly Volume	0	765	0	0	765	20	0	0	0	20	0	535	0	0	535	0	0	0	0	0	1320
	% Single Unit Trucks	0.0	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.3
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.3
	Peak Hour Factor (PHF)	0.00	0.92	0.00	0.00	0.92	0.56	0.00	0.00	0.00	0.56	0.50	0.97	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.95

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
		Blackhawk Blvd			Webster Ave			Blackhawk Blvd			0			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	2
	7:30 AM	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
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	2	2	0	0	0	0	0	0	2
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	0	0	0	0	0	0	1

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

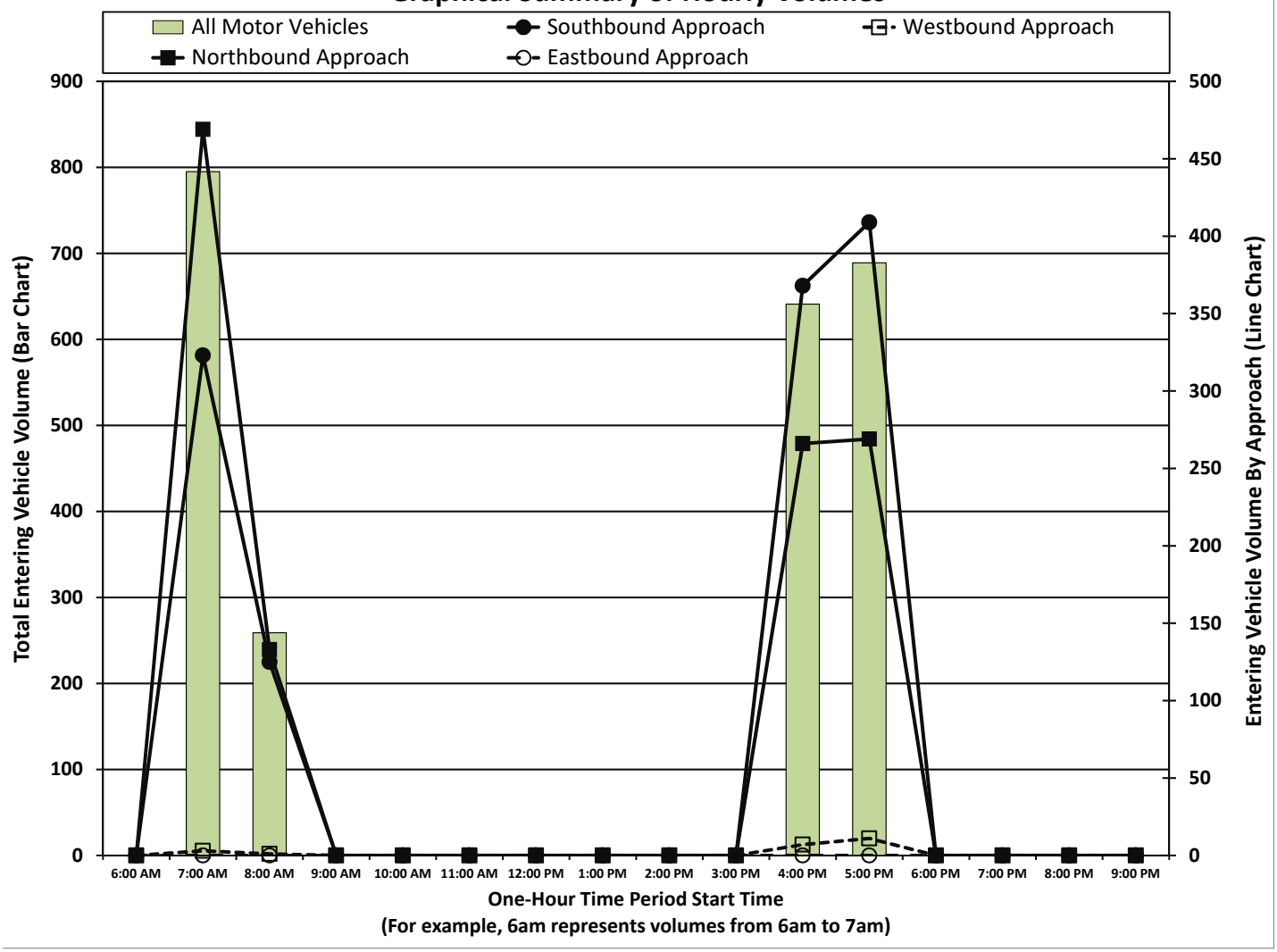
All Motor Vehicles

Blackhawk Blvd and Webster Ave

One-Hour Motor Vehicle Data

	One-Hour Time Period Start Time	From North (↓) Blackhawk Blvd					From East (←) Webster Ave					From South (↑) Blackhawk Blvd					From West (→) 0					Total Vehicle Volume	Directional Volume Totals E/W	Directional Volume Totals N/S
		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 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:00 AM	0	323	0	0	323	3	0	0	0	3	4	465	0	0	469	0	0	0	0	0	795	3	792
AM	8:00 AM	0	125	0	0	125	1	0	0	0	1	1	132	0	0	133	0	0	0	0	0	259	1	258
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	368	0	0	368	7	0	0	0	7	1	265	0	0	266	0	0	0	0	0	641	7	634
PM	5:00 PM	0	409	0	0	409	11	0	0	0	11	1	268	0	0	269	0	0	0	0	0	689	11	678
PM	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
PM	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
PM	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
PM	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		0	1225	0	0	1225	22	0	0	0	22	7	1130	0	0	1137	0	0	0	0	0	2384	22	2362

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		*Page 5 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Webster Ave

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Blackhawk Blvd					From East (←) Webster Ave					From South (↑) Blackhawk Blvd					From West (→) 0					15-Min Totals	Hourly Sum	PHF
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			
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	7:15 AM	0	78	0	0	78	0	0	0	0	0	3	121	0	0	124	0	0	0	0	0	202	1047	0.84
	7:30 AM	0	100	0	0	100	1	0	0	0	1	1	180	0	0	181	0	0	0	0	0	282	852	0.68
	7:45 AM	0	145	0	0	145	2	0	0	0	2	0	164	0	0	164	0	0	0	0	0	311		
	8:00 AM	0	118	0	0	118	1	0	0	0	1	1	132	0	0	133	0	0	0	0	0	252		
	8:15 AM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
	8:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	0	175	0	0	175	6	0	0	0	6	0	134	0	0	134	0	0	0	0	0	315	1320	0.95
	4:45 PM	0	193	0	0	193	1	0	0	0	1	1	131	0	0	132	0	0	0	0	0	326	1015	0.73
	5:00 PM	0	209	0	0	209	8	0	0	0	8	0	131	0	0	131	0	0	0	0	0	348		
	5:15 PM	0	190	0	0	190	3	0	0	0	3	1	137	0	0	138	0	0	0	0	0	331		
	5:30 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	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		
	6:30 PM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	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		0	1225	0	0	1225	22	0	0	0	22	7	1130	0	0	1137	0	0	0	0	0	2384		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Blackhawk Blvd					From East (←) Webster Ave					From South (↑) Blackhawk Blvd					From West (→) 0					Total Hourly Volume	PHF
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		
AM	7:15 AM	0	441	0	0	441	4	0	0	0	4	5	597	0	0	602	0	0	0	0	0	1047	0.84
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	0	767	0	0	767	18	0	0	0	18	2	533	0	0	535	0	0	0	0	0	1320	0.95

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Base Information, Observed (4.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Gardner St

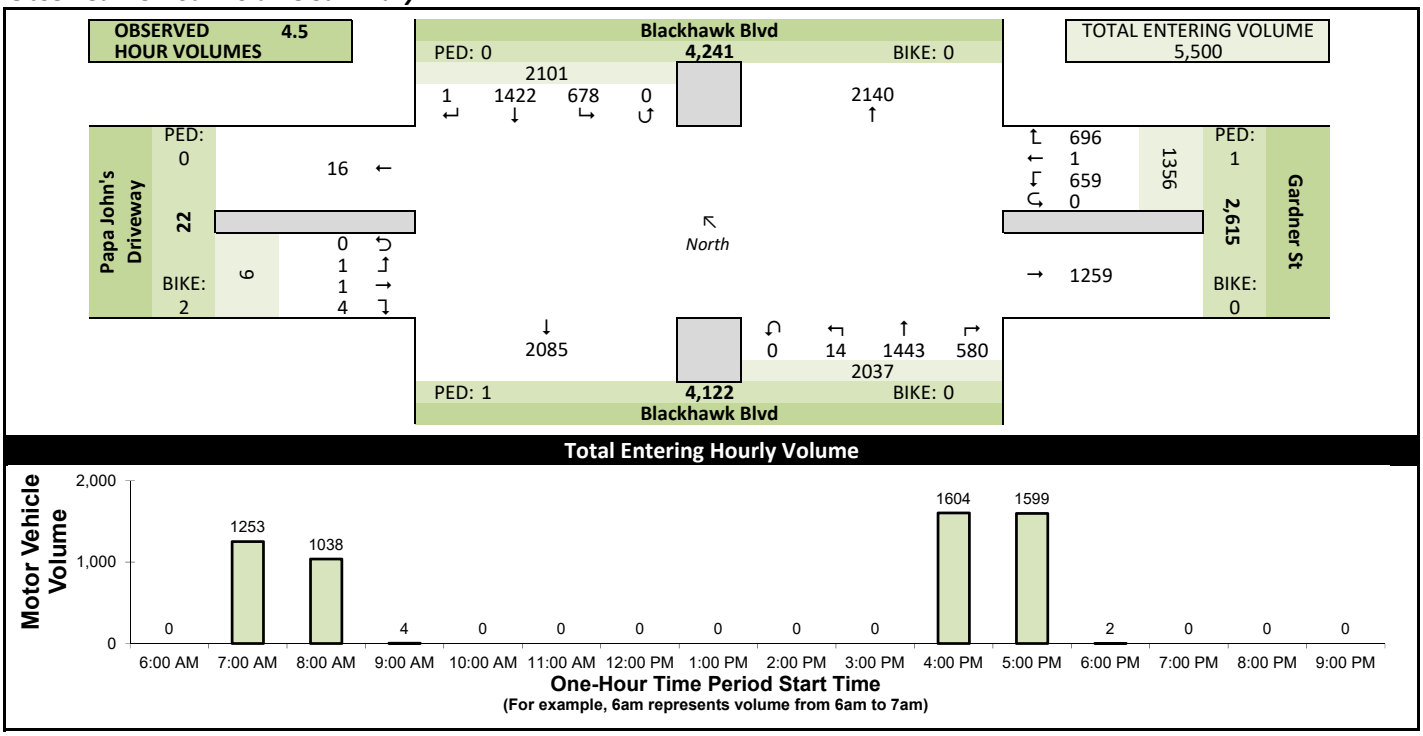
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Traffic Signal	
Roadway Names	North Direction	↖
North Leg	Blackhawk Blvd	
East Leg	Gardner St	
South Leg	Blackhawk Blvd	
West Leg	Papa John's Driveway	
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	None	
Other (describe)	None	None

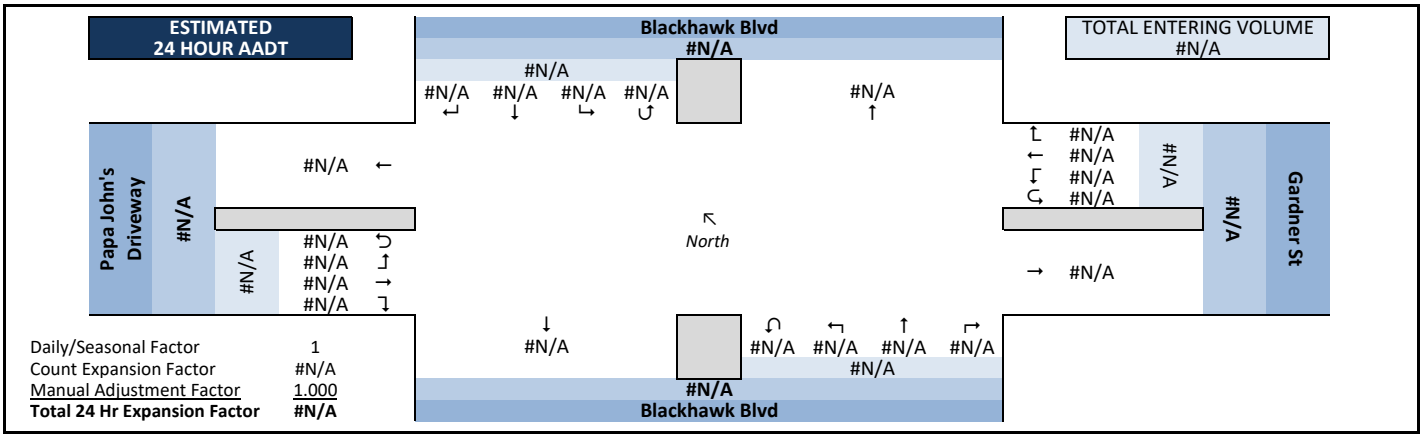
Count Information

Hrs Counted:	7:00 AM-9:15 AM and 4:00 PM-6:15 PM				
1st Day of Count	Tuesday, May 22, 2018			Weather	
AM Peak Period	Tuesday, May 22, 2018			Cloudy & Dry	
Midday Peak Period				Clear & Dry	
PM Peak Period	Tuesday, May 22, 2018			Cloudy & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor	#N/A	
Company Name	SRF Consulting, Inc.		Manual Adj.	1.000	
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments	Semi spills liquid in middle of intersection going left WB @7:48AM. @7:55AM truck blocks middle lane going SB to clean up the spill and leaves @8:03. Truck comes back @8:41AM blocking left lane of SB on south side of intersection and leaves @8:46				

Observed 4.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

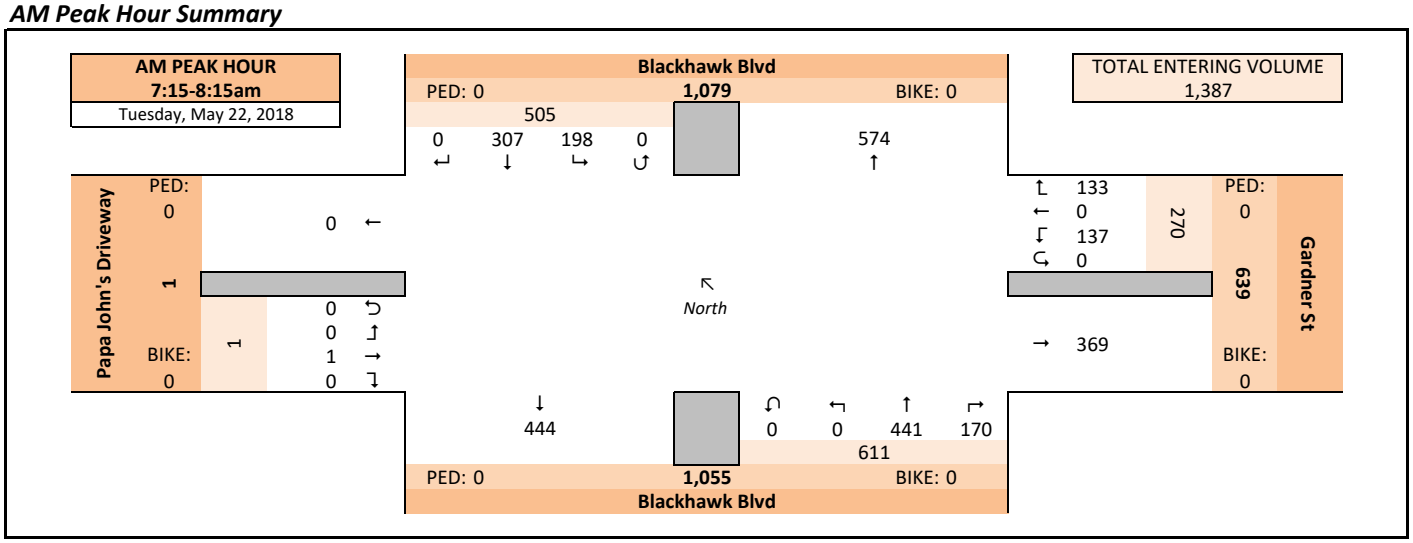
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

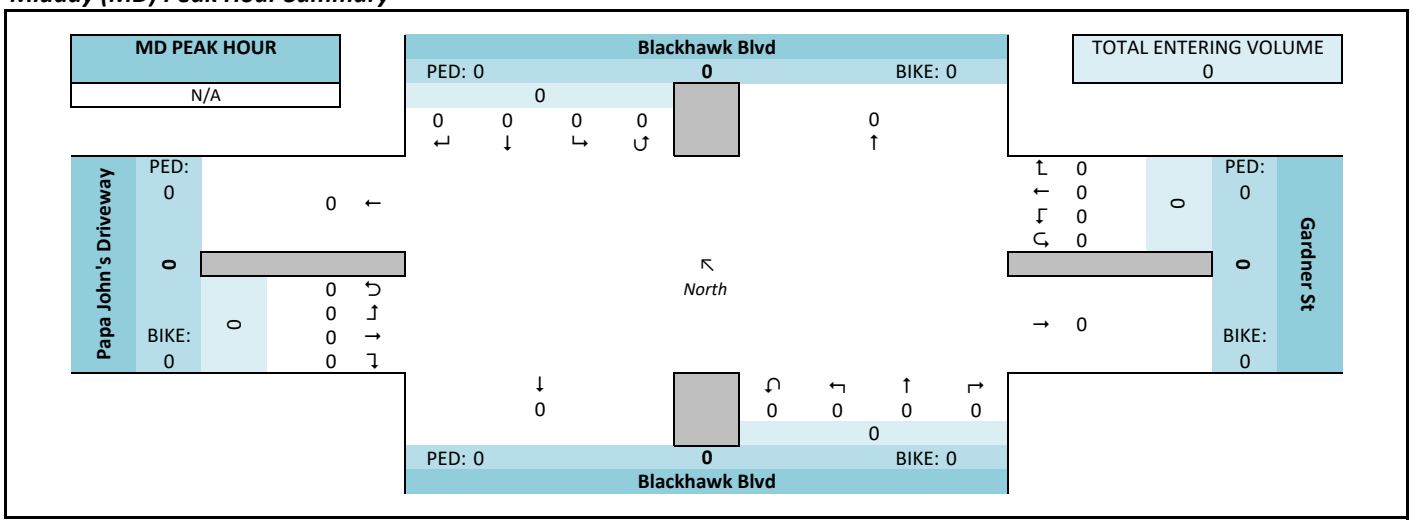
All Motor Vehicles

Blackhawk Blvd and Gardner St

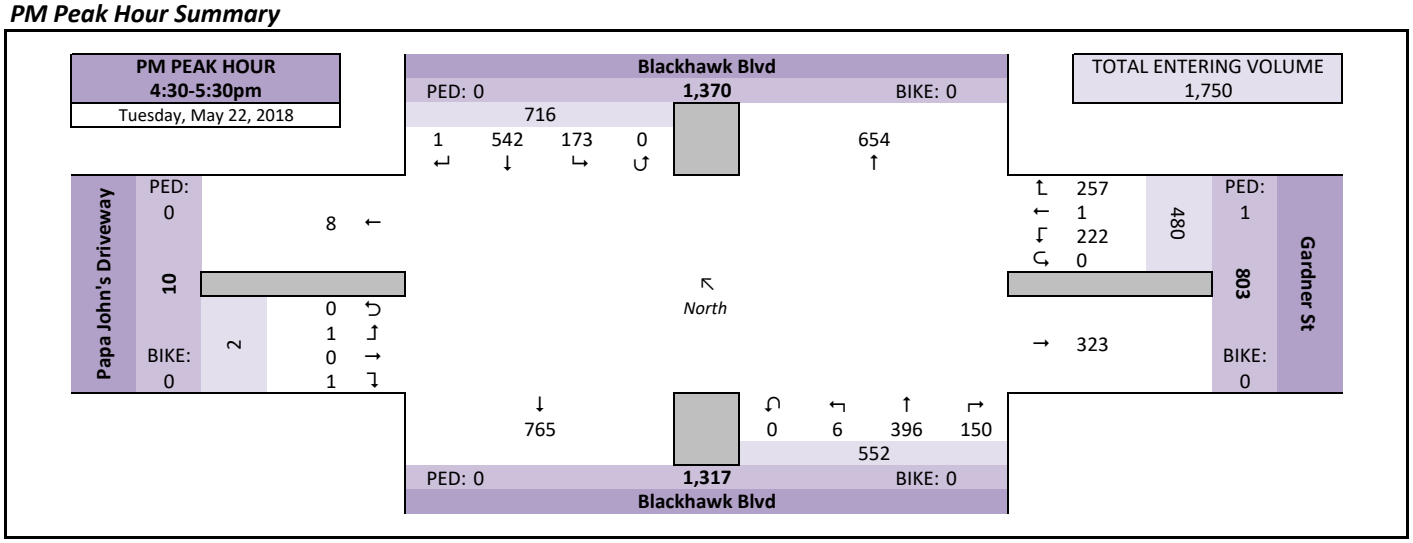
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

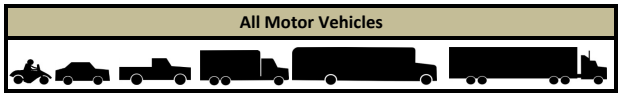


Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Gardner St



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 22, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Gardner St					Blackhawk Blvd					Papa John's Driveway					
	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	Totals
AM Peak Hour	7:15 AM	0	56	50	0	106	30	0	21	0	51	35	90	0	0	125	0	1	0	0	1	283
	7:30 AM	0	72	55	0	127	34	0	26	0	60	59	124	0	0	183	0	0	0	0	0	370
	7:45 AM	0	100	53	0	153	40	0	44	0	84	37	125	0	0	162	0	0	0	0	0	399
	8:00 AM	0	79	40	0	119	29	0	46	0	75	39	102	0	0	141	0	0	0	0	0	335
	Peak Hour Volume	0	307	198	0	505	133	0	137	0	270	170	441	0	0	611	0	1	0	0	1	1387
	Rounded Hourly Volume	0	305	200	0	505	135	0	135	0	270	170	440	0	0	610	0	0	0	0	0	1385
	% Single Unit Trucks	0.0	4.2	5.6	0.0	4.8	9.8	0.0	10.2	0.0	10.0	9.4	4.3	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	6.2
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	4.2	5.6	0.0	4.8	9.8	0.0	10.2	0.0	10.0	9.4	4.3	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	6.2
	Peak Hour Factor (PHF)	0.00	0.77	0.90	0.00	0.83	0.83	0.00	0.74	0.00	0.80	0.72	0.88	0.00	0.00	0.83	0.00	0.25	0.00	0.00	0.25	0.87

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Gardner St					Blackhawk Blvd					Papa John's Driveway					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, May 22, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Gardner St					Blackhawk Blvd					Papa John's Driveway					
	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	Totals
PM Peak Hour	4:30 PM	1	119	45	0	165	64	0	60	0	124	45	99	0	0	144	0	0	1	0	1	434
	4:45 PM	0	130	33	0	163	65	0	54	0	119	31	97	3	0	131	0	0	0	0	0	413
	5:00 PM	0	162	45	0	207	69	0	52	0	121	37	99	2	0	138	0	0	0	0	0	466
	5:15 PM	0	131	50	0	181	59	1	56	0	116	37	101	1	0	139	1	0	0	0	1	437
	Peak Hour Volume	1	542	173	0	716	257	1	222	0	480	150	396	6	0	552	1	0	1	0	2	1750
	Rounded Hourly Volume	0	540	175	0	715	255	0	220	0	475	150	395	5	0	550	0	0	0	0	0	1740
	% Single Unit Trucks	0.0	1.8	3.5	0.0	2.2	1.6	0.0	4.1	0.0	2.7	3.3	1.5	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.3
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	1.8	3.5	0.0	2.2	1.6	0.0	4.1	0.0	2.7	3.3	1.5	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.3
	Peak Hour Factor (PHF)	0.25	0.84	0.86	0.00	0.86	0.93	0.25	0.92	0.00	0.97	0.83	0.98	0.50	0.00	0.96	0.25	0.00	0.25	0.00	0.50	0.94

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
		Blackhawk Blvd			Gardner St			Blackhawk Blvd			Papa John's Driveway			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:15 AM	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
	7:45 AM	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
	Total	0	0	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	0	0
	12:15 PM	0	0	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	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	0	0	0	0	0	0	1

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

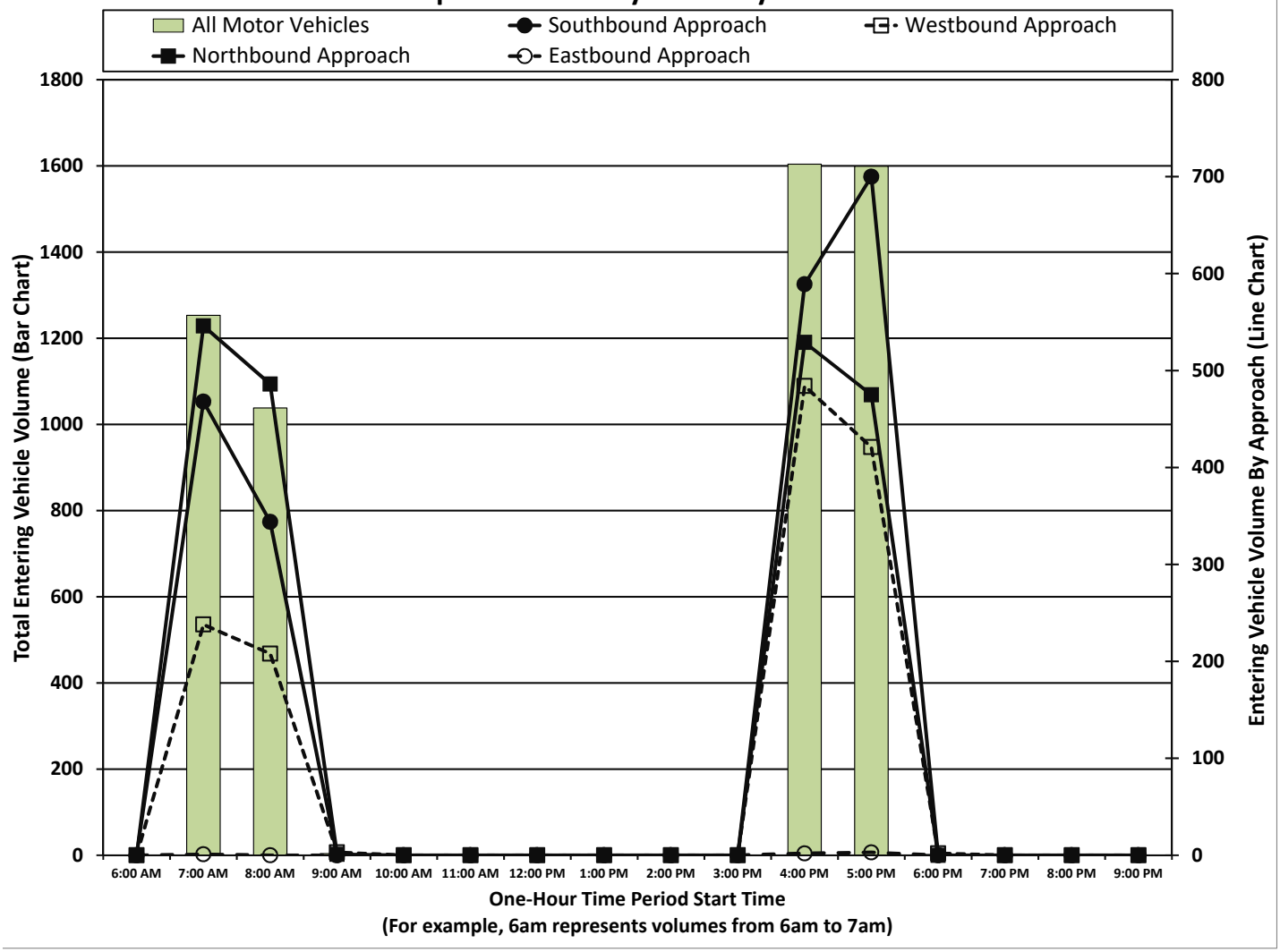
All Motor Vehicles

Blackhawk Blvd and Gardner St

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Gardner St					From South (↑) Blackhawk Blvd					From West (→) Papa John's Driveway					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
AM	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	271	197	0	468	132	0	106	0	238	155	390	1	0	546	0	1	0	0	1	1253	239	1014
	8:00 AM	0	212	132	0	344	99	0	109	0	208	143	342	1	0	486	0	0	0	0	0	1038	208	830
	9:00 AM	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	4	3	1
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	1	426	162	0	589	255	0	229	0	484	161	363	5	0	529	1	0	1	0	2	1604	486	1118
	5:00 PM	0	513	187	0	700	209	1	211	0	421	120	348	7	0	475	3	0	0	0	3	1599	424	1175
	6:00 PM	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2	2	0
	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		1	1422	678	0	2101	696	1	659	0	1356	580	1443	14	0	2037	4	1	1	0	6	5500	1362	4138

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Gardner St

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Blackhawk Blvd					From East (←) Gardner St					From South (↑) Blackhawk Blvd					From West (→) Papa John's Driveway					15-Min	Hourly	
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	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	0	43	39	0	82	28	0	15	0	43	24	51	1	0	76	0	0	0	0	0	201	1253	0.79
	7:15 AM	0	56	50	0	106	30	0	21	0	51	35	90	0	0	125	0	1	0	0	1	283	1387	0.87
	7:30 AM	0	72	55	0	127	34	0	26	0	60	59	124	0	0	183	0	0	0	0	0	370	1322	0.83
	7:45 AM	0	100	53	0	153	40	0	44	0	84	37	125	0	0	162	0	0	0	0	0	399	1204	0.75
	8:00 AM	0	79	40	0	119	29	0	46	0	75	39	102	0	0	141	0	0	0	0	0	335	1038	0.77
	8:15 AM	0	45	24	0	69	19	0	22	0	41	35	73	0	0	108	0	0	0	0	0	218	707	0.70
	8:30 AM	0	46	41	0	87	29	0	16	0	45	39	81	0	0	120	0	0	0	0	0	252		
	8:45 AM	0	42	27	0	69	22	0	25	0	47	30	86	1	0	117	0	0	0	0	0	233		
	9:00 AM	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	4		
	9:15 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	99	38	0	137	61	0	56	0	117	42	82	2	0	126	1	0	0	0	1	381	1604	0.92
	4:15 PM	0	78	46	0	124	65	0	59	0	124	43	85	0	0	128	0	0	0	0	0	376	1689	0.91
	4:30 PM	1	119	45	0	165	64	0	60	0	124	45	99	0	0	144	0	0	1	0	1	434	1750	0.94
	4:45 PM	0	130	33	0	163	65	0	54	0	119	31	97	3	0	131	0	0	0	0	0	413	1691	0.91
	5:00 PM	0	162	45	0	207	69	0	52	0	121	37	99	2	0	138	0	0	0	0	0	466	1599	0.86
	5:15 PM	0	131	50	0	181	59	1	56	0	116	37	101	1	0	139	1	0	0	0	1	437	1135	0.65
	5:30 PM	0	122	49	0	171	40	0	55	0	95	18	87	2	0	107	2	0	0	0	2	375		
	5:45 PM	0	98	43	0	141	41	0	48	0	89	28	61	2	0	91	0	0	0	0	0	321		
	6:00 PM	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2		
	6:15 PM	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	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	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	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		1	1422	678	0	2101	696	1	659	0	1356	580	1443	14	0	2037	4	1	1	0	6	5500		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Blackhawk Blvd					From East (←) Gardner St					From South (↑) Blackhawk Blvd					From West (→) Papa John's Driveway					Total Hourly	
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	Volume	PHF
AM	7:15 AM	0	307	198	0	505	133	0	137	0	270	170	441	0	0	611	0	1	0	0	1	1387	0.87
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	1	542	173	0	716	257	1	222	0	480	150	396	6	0	552	1	0	1	0	2	1750	0.94

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Base Information, Observed (2.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and

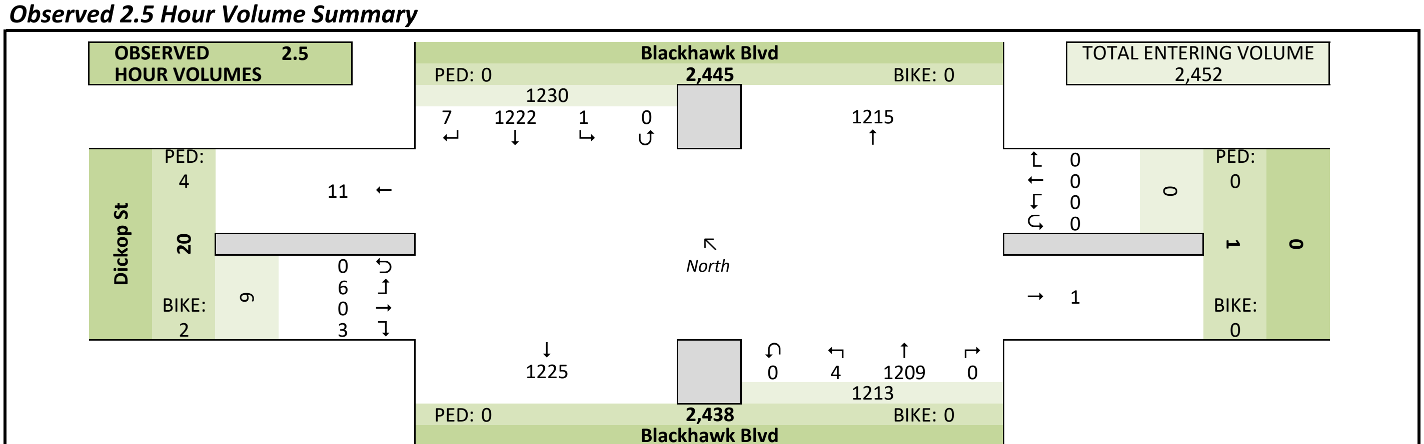
Site Information

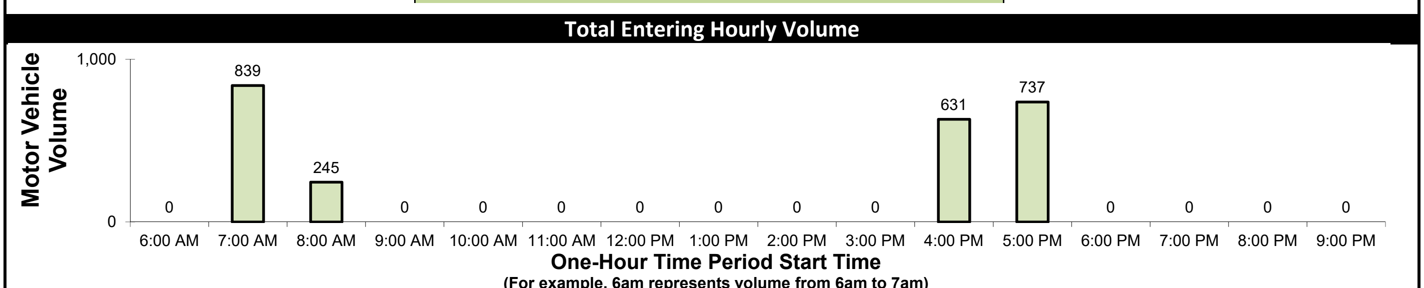
Municipality	City of South Beloit, IL		
County		[redacted]	
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↖
North Leg	Blackhawk Blvd		
East Leg			
South Leg	Blackhawk Blvd		
West Leg	Dickop St		
Special Considerations			
Schools	Other		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

Count Information

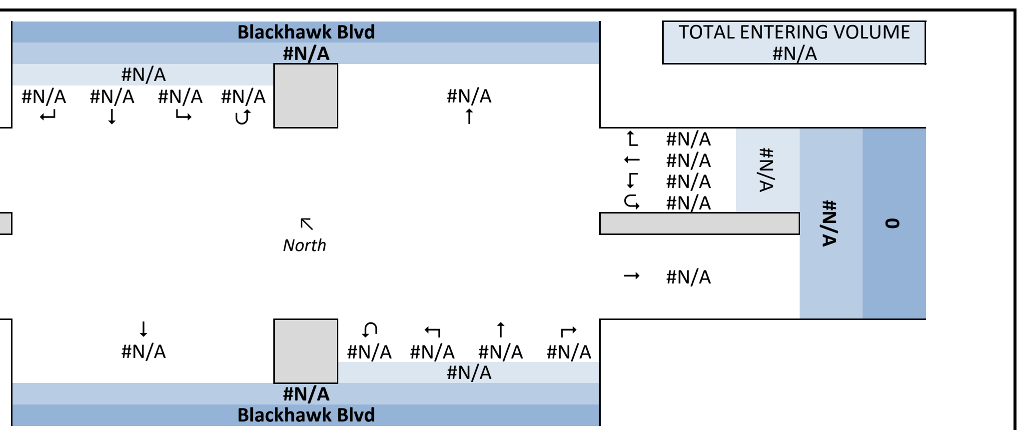
Hrs Counted:	7:15 AM-8:30 AM and 4:30 PM-5:45 PM		
1st Day of Count	Tuesday, May 22, 2018	Weather	
AM Peak Period	Tuesday, May 22, 2018	Clear & Dry	
Midday Peak Period			
PM Peak Period	Tuesday, May 22, 2018	Clear & Dry	
Calculated Peak Hours			
AM 7:15-8:15am	MD	PM 4:30-5:30pm	
Peak Hours Selected for Analysis			
AM 7:15-8:15am	MD	PM 4:30-5:30pm	
Daily/Seasonal Adjustment Group			
Count Expansion Group			
Daily/Seasonal Adjustment Factor	1	Count Expansion Factor	#N/A
Company Name	SRF Consulting, Inc.	Manual Adj.	1.000
Observers: AM Peak Period	Bougie, Sam		
Midday Peak Period			
PM Peak Period	Bougie, Sam		
Comments			

Observed 2.5 Hour Volume Summary





Estimated 24 Hour AADT



Daily/Seasonal Factor	1
Count Expansion Factor	#N/A
Manual Adjustment Factor	1.000
Total 24 Hr Expansion Factor	**#N/A**

Intersection Traffic Volume Report

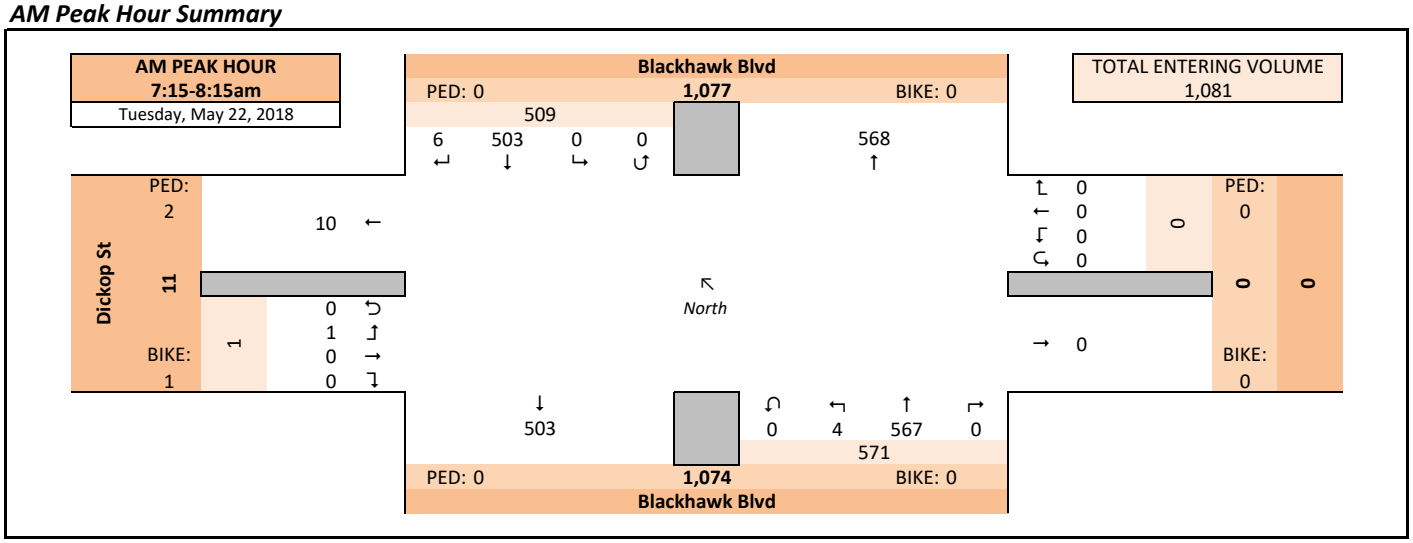
Count Basics			Page 2 of 11
Start Date:	Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

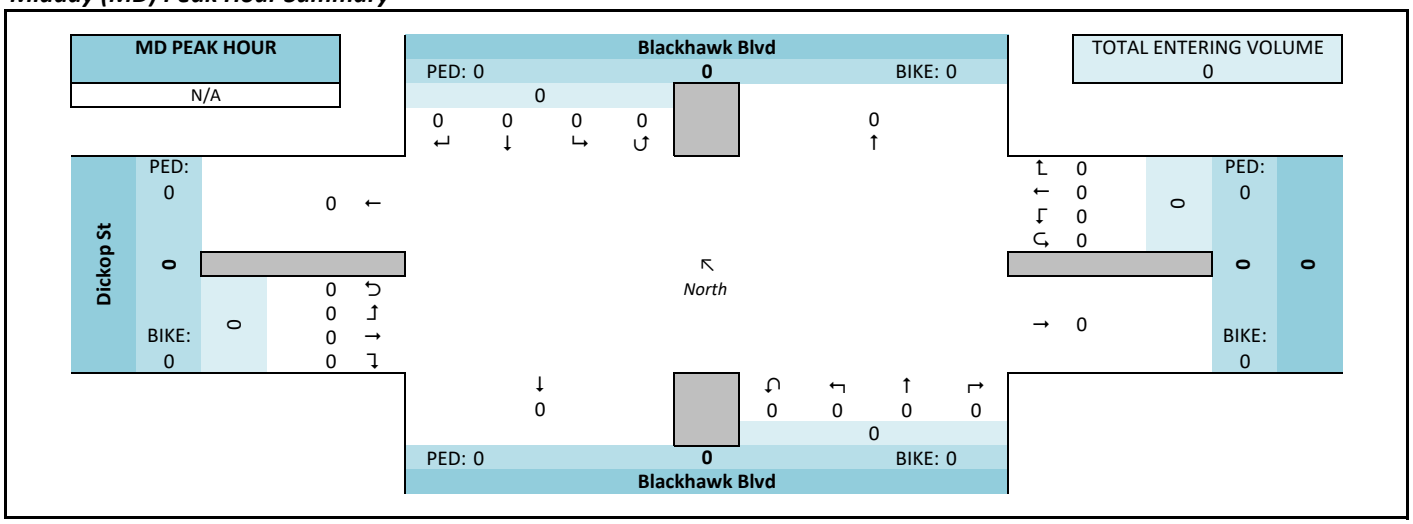
All Motor Vehicles

Blackhawk Blvd and

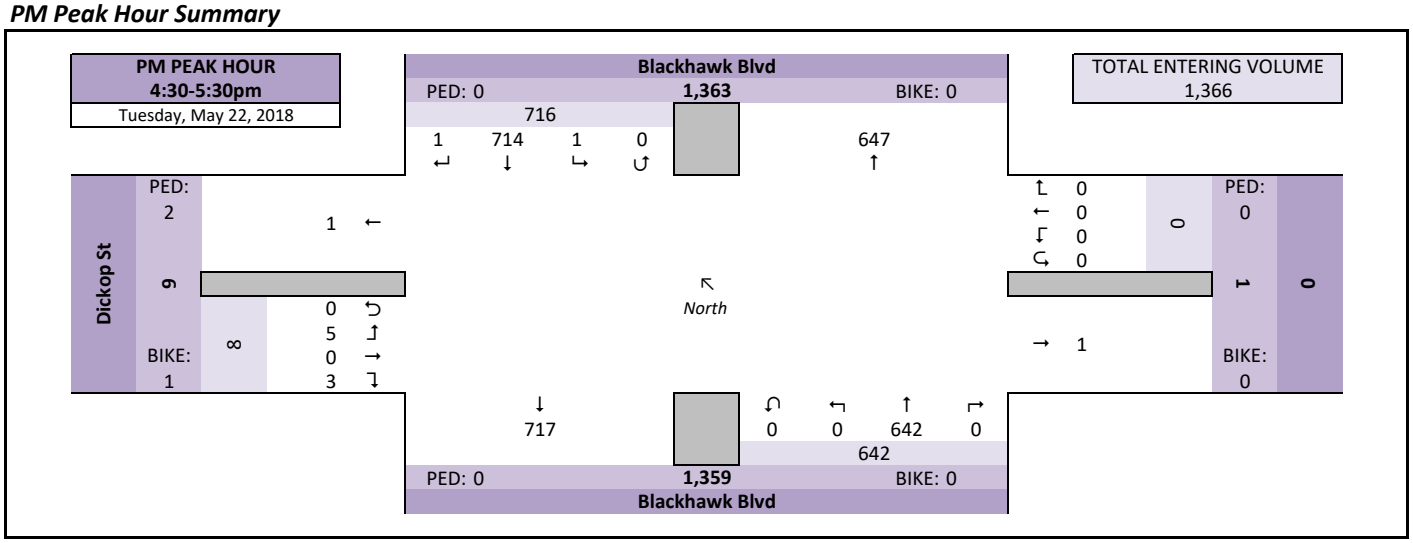
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

All Motor Vehicles

Blackhawk Blvd and

Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, May 22, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					0					Blackhawk Blvd					Dickop St					
	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	Totals
AM Peak Hour	7:15 AM	0	101	0	0	101	0	0	0	0	0	0	114	0	0	114	0	0	0	0	0	215
	7:30 AM	1	132	0	0	133	0	0	0	0	0	0	160	1	0	161	0	0	1	0	1	295
	7:45 AM	4	157	0	0	161	0	0	0	0	0	0	166	2	0	168	0	0	0	0	0	329
	8:00 AM	1	113	0	0	114	0	0	0	0	0	0	127	1	0	128	0	0	0	0	0	242
	Peak Hour Volume	6	503	0	0	509	0	0	0	0	0	0	567	4	0	571	0	0	1	0	1	1081
	Rounded Hourly Volume	5	505	0	0	510	0	0	0	0	0	0	565	5	0	570	0	0	0	0	0	1080
	% Single Unit Trucks	0.0	4.2	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	4.9
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	4.2	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	4.9
	Peak Hour Factor (PHF)	0.37	0.80	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.50	0.00	0.85	0.00	0.00	0.25	0.00	0.25	0.82

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					0					Blackhawk Blvd					Dickop St					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, May 22, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					0					Blackhawk Blvd					Dickop St					
	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	Totals
PM Peak Hour	4:30 PM	0	160	0	0	160	0	0	0	0	0	0	154	0	0	154	2	0	1	0	3	317
	4:45 PM	0	157	0	0	157	0	0	0	0	0	0	157	0	0	157	0	0	0	0	0	314
	5:00 PM	1	202	0	0	203	0	0	0	0	0	0	171	0	0	171	0	0	0	0	0	374
	5:15 PM	0	195	1	0	196	0	0	0	0	0	0	160	0	0	160	1	0	4	0	5	361
	Peak Hour Volume	1	714	1	0	716	0	0	0	0	0	0	642	0	0	642	3	0	5	0	8	1366
	Rounded Hourly Volume	0	715	0	0	715	0	0	0	0	0	0	640	0	0	640	5	0	5	0	10	1365
	% Single Unit Trucks	0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	2.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	2.0
	Peak Hour Factor (PHF)	0.25	0.88	0.25	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.94	0.37	0.00	0.31	0.00	0.40	0.91

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Blackhawk Blvd			0			Blackhawk Blvd			Dickop St			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
	7:30 AM	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	1	1	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	2	1	3	3
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
	4:45 PM	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	1	1	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	2	1	3	3

Intersection Traffic Volume Report

Count Basics		
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

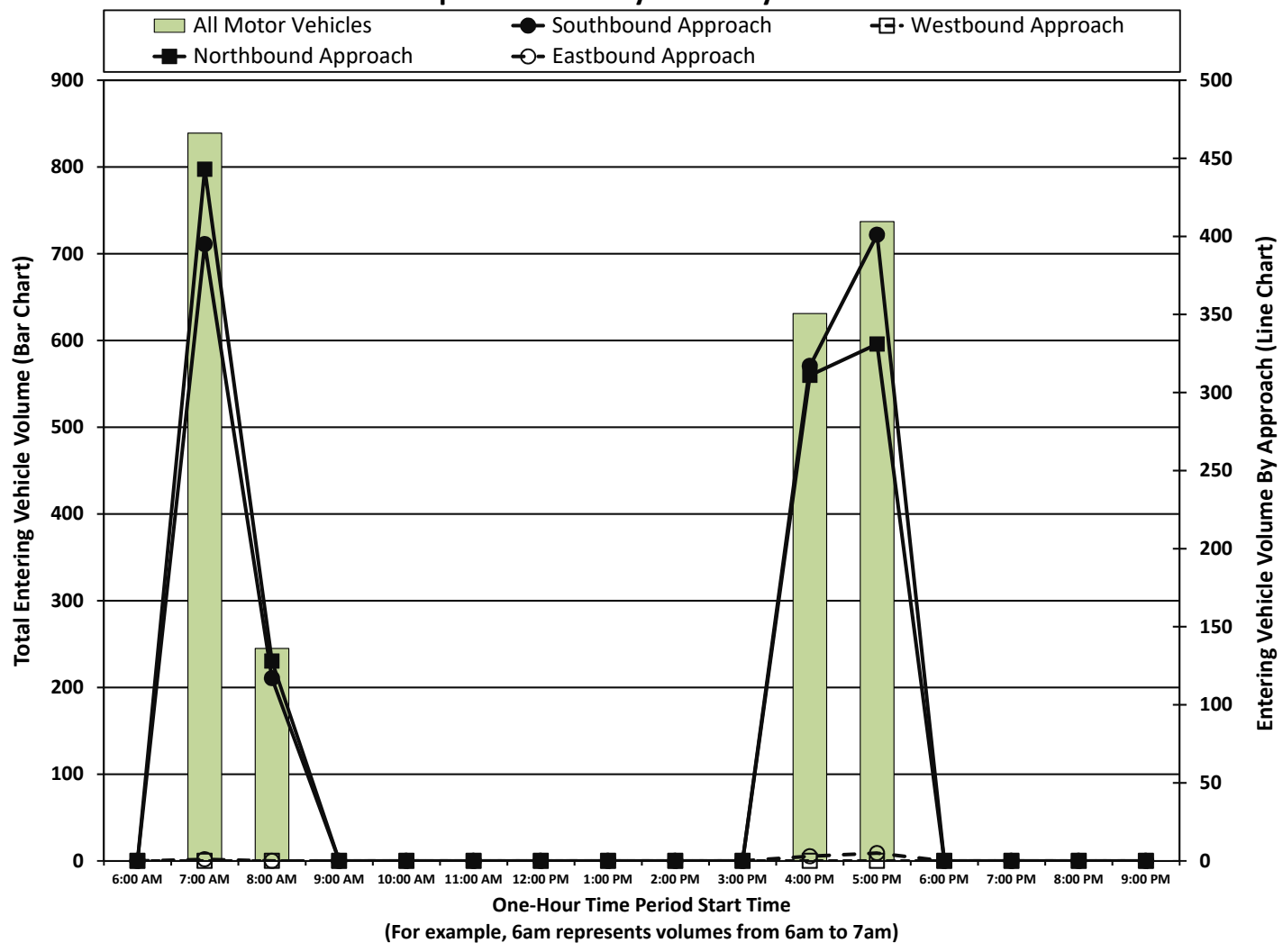
All Motor Vehicles

Blackhawk Blvd and

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) 0					From South (↑) Blackhawk Blvd					From West (→) Dickop St					Total Vehicle Volume	Directional Volume Totals E/W	Directional Volume Totals N/S
		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 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	5	390	0	0	395	0	0	0	0	0	0	440	3	0	443	0	0	1	0	1	839	1	838
	8:00 AM	1	116	0	0	117	0	0	0	0	0	0	127	1	0	128	0	0	0	0	0	245	0	245
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	317	0	0	317	0	0	0	0	0	0	311	0	0	311	2	0	1	0	3	631	3	628
	5:00 PM	1	399	1	0	401	0	0	0	0	0	0	331	0	0	331	1	0	4	0	5	737	5	732
	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
	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		7	1222	1	0	1230	0	0	0	0	0	0	1209	4	0	1213	3	0	6	0	9	2452	9	2443

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Tuesday, May 22, 2018	Weekday	
Total Number of Hours Counted: 2.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Blackhawk Blvd					From East (←) 0					From South (↑) Blackhawk Blvd					From West (→) Dickop St					15-Min	Hourly	
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	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	7:15 AM	0	101	0	0	101	0	0	0	0	0	0	114	0	0	114	0	0	0	0	0	215	1081	0.82
	7:30 AM	1	132	0	0	133	0	0	0	0	0	0	160	1	0	161	0	0	1	0	1	295	869	0.66
	7:45 AM	4	157	0	0	161	0	0	0	0	0	0	166	2	0	168	0	0	0	0	0	329		
	8:00 AM	1	113	0	0	114	0	0	0	0	0	0	127	1	0	128	0	0	0	0	0	242		
	8:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
	8:30 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:00 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	4:30 PM	0	160	0	0	160	0	0	0	0	0	0	154	0	0	154	2	0	1	0	3	317	1366	0.91
	4:45 PM	0	157	0	0	157	0	0	0	0	0	0	157	0	0	157	0	0	0	0	0	314	1051	0.70
	5:00 PM	1	202	0	0	203	0	0	0	0	0	0	171	0	0	171	0	0	0	0	0	374		
	5:15 PM	0	195	1	0	196	0	0	0	0	0	0	160	0	0	160	1	0	4	0	5	361		
	5:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:00 PM	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		
	6:30 PM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0		
	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		7	1222	1	0	1230	0	0	0	0	0	0	1209	4	0	1213	3	0	6	0	9	2452		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Blackhawk Blvd					From East (←) 0					From South (↑) Blackhawk Blvd					From West (→) Dickop St					Total Hourly	
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	Volume	PHF
AM	7:15 AM	6	503	0	0	509	0	0	0	0	0	0	567	4	0	571	0	0	1	0	1	1081	0.82
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	1	714	1	0	716	0	0	0	0	0	0	642	0	0	642	3	0	5	0	8	1366	0.91

Intersection Traffic Volume Report

Count Basics	Version 2013.J4.1		Page 1 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Base Information, Observed (4.5) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Blackhawk Blvd and Shirland Ave

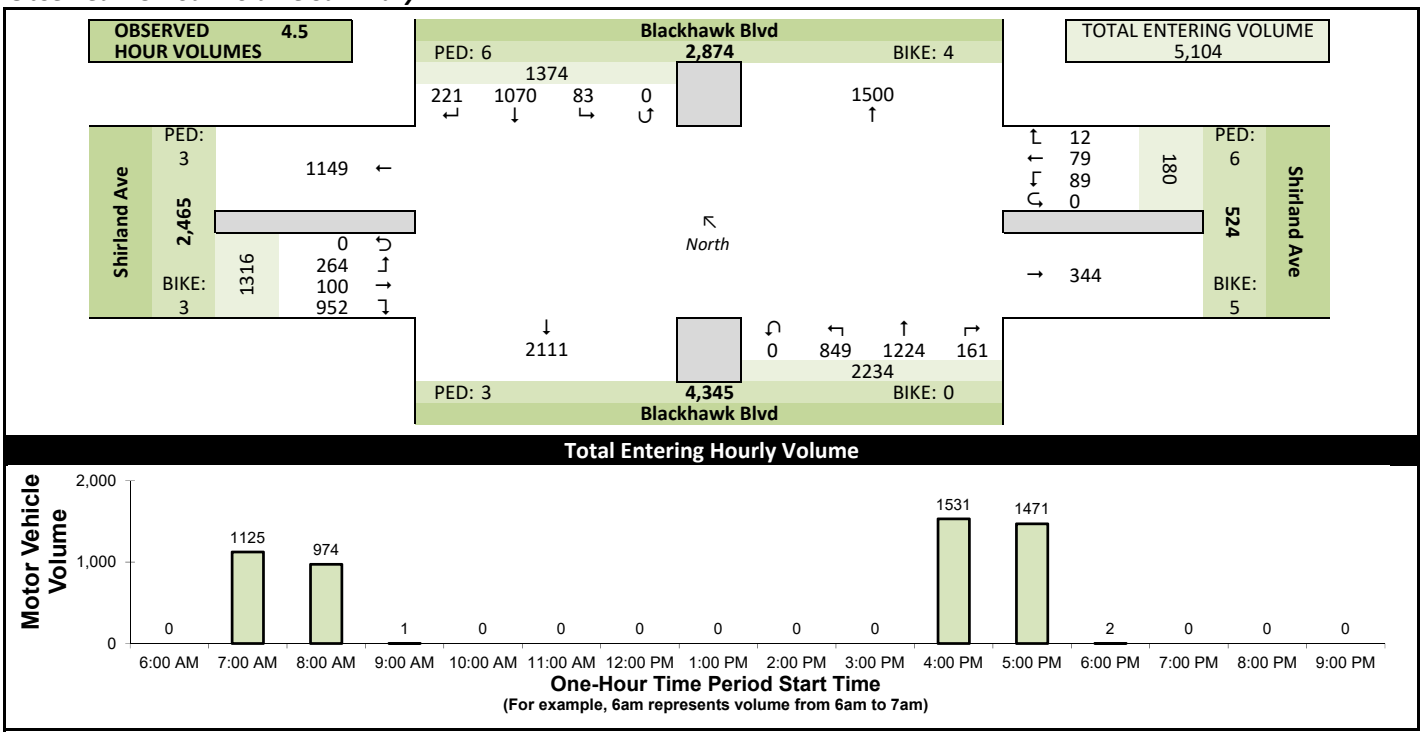
Site Information

Municipality	City of South Beloit, IL	
County		
Traffic Control	Traffic Signal	
Roadway Names	North Direction	↖
North Leg	Blackhawk Blvd	
East Leg	Shirland Ave	
South Leg	Blackhawk Blvd	
West Leg	Shirland Ave	
Special Considerations		
Schools	Other	
Holidays	None	
Special Events	None	
Special Pedestrians Observed		
Pre-school children	None	
Elementry school age children	None	
Visually impaired (white cane/helper dog)	None	
Elderly/disabled (except wheelchairs)	None	
Wheelchairs/electric scooters	1 or 2	
Other (describe)	None	None

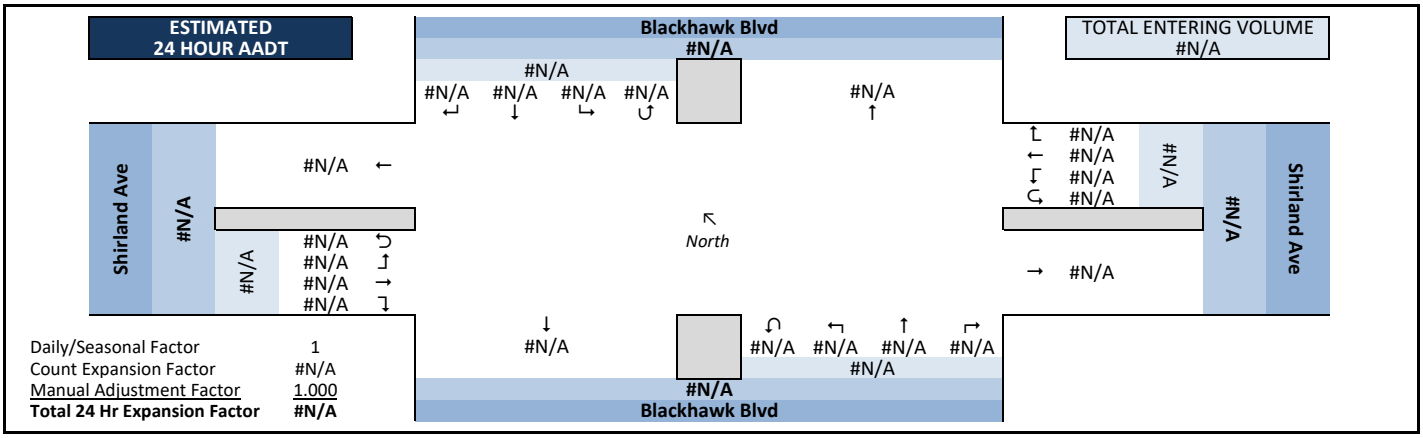
Count Information

Hrs Counted:	7:00 AM-9:15 AM and 4:00 PM-6:15 PM				
1st Day of Count	Thursday, May 17, 2018			Weather	
AM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Midday Peak Period				Clear & Dry	
PM Peak Period	Thursday, May 17, 2018			Clear & Dry	
Calculated Peak Hours					
AM	7:30-8:30am	MD		PM	4:15-5:15pm
Peak Hours Selected for Analysis					
AM	7:15-8:15am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group					
Count Expansion Group					
Daily/Seasonal Adjustment Factor	1		Count Expansion Factor	#N/A	
Company Name	SRF Consulting, Inc.		Manual Adj.	1.000	
Observers	AM Peak Period	Bougie, Sam			
	Midday Peak Period				
	PM Peak Period	Bougie, Sam			
Comments					

Observed 4.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

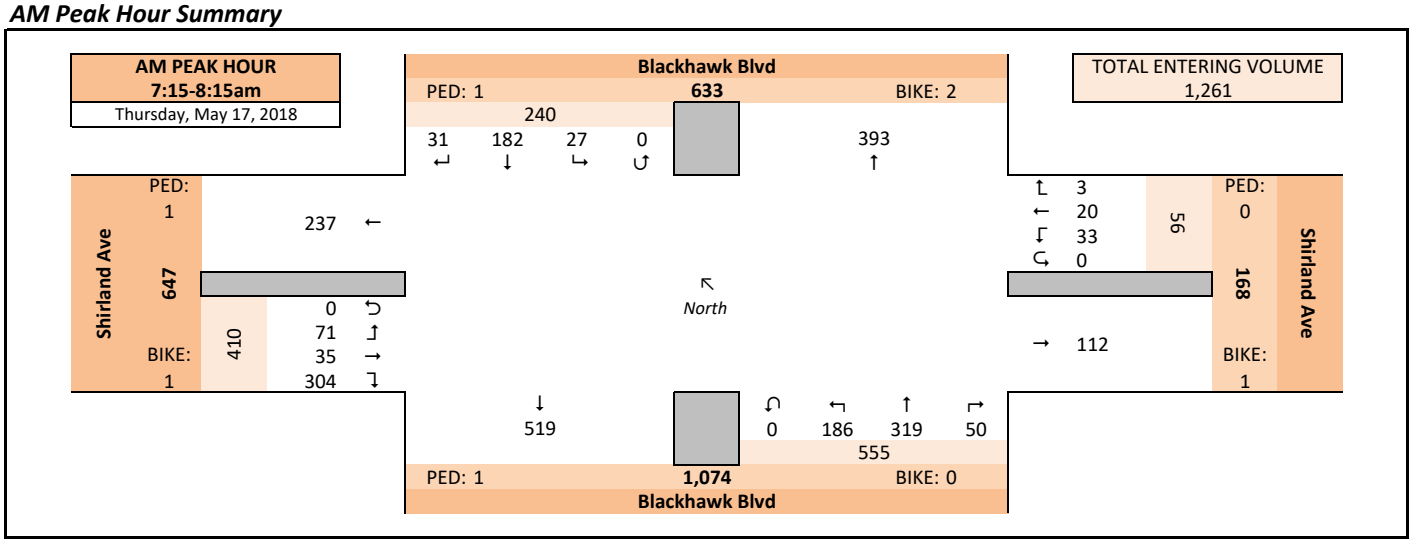
Count Basics			Page 2 of 11
Start Date:	Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

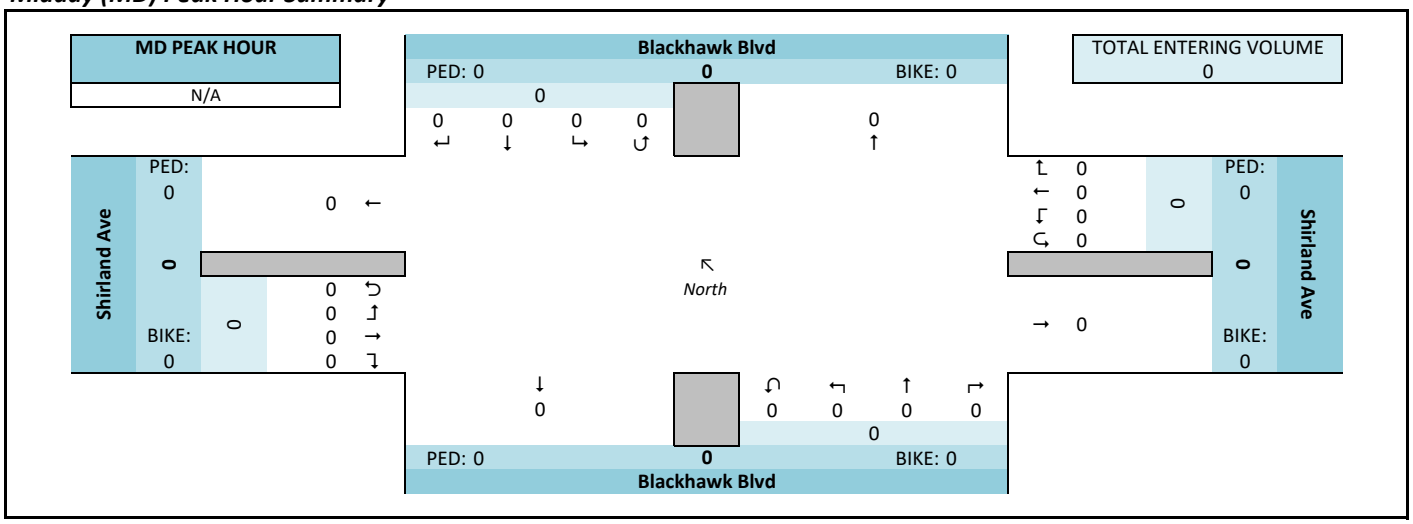
Blackhawk Blvd and Shirland Ave

All Motor Vehicles

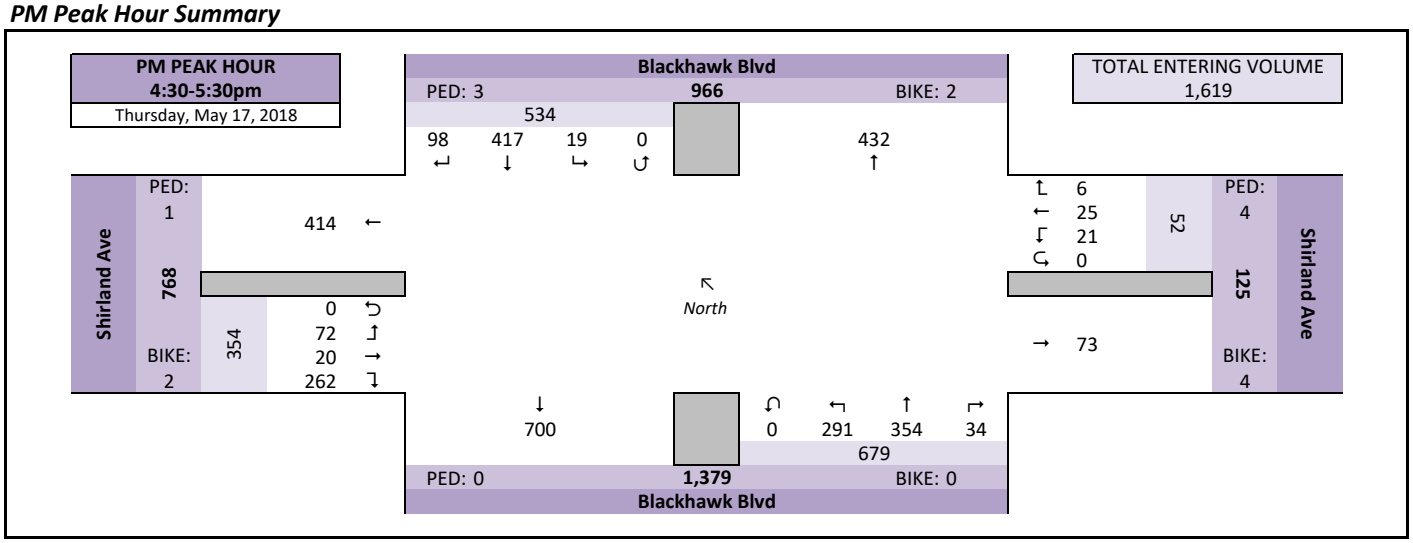
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics		*Page 3 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Blackhawk Blvd and Shirland Ave

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, May 17, 2018		From North					From East					From South					From West					
	AM Peak Hour	Blackhawk Blvd					Shirland Ave					Blackhawk Blvd					Shirland Ave					
	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	Totals
AM Peak Hour	7:15 AM	3	42	2	0	47	1	4	7	0	12	14	61	37	0	112	51	4	13	0	68	239
	7:30 AM	3	43	4	0	50	0	2	11	0	13	12	87	53	0	152	82	11	22	0	115	330
	7:45 AM	11	54	12	0	77	1	7	8	0	16	13	87	54	0	154	100	11	22	0	133	380
	8:00 AM	14	43	9	0	66	1	7	7	0	15	11	84	42	0	137	71	9	14	0	94	312
	Peak Hour Volume	31	182	27	0	240	3	20	33	0	56	50	319	186	0	555	304	35	71	0	410	1261
	Rounded Hourly Volume	30	180	25	0	235	5	20	35	0	60	50	320	185	0	555	305	35	70	0	410	1260
	% Single Unit Trucks	19.4	4.4	0.0	0.0	5.8	0.0	5.0	0.0	0.0	1.8	0.0	5.3	4.8	0.0	4.7	4.3	0.0	1.4	0.0	3.4	4.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	19.4	4.4	0.0	0.0	5.8	0.0	5.0	0.0	0.0	1.8	0.0	5.3	4.8	0.0	4.7	4.3	0.0	1.4	0.0	3.4	4.4
	Peak Hour Factor (PHF)	0.55	0.84	0.56	0.00	0.78	0.75	0.71	0.75	0.00	0.87	0.89	0.92	0.86	0.00	0.90	0.76	0.80	0.81	0.00	0.77	0.83

N/A		From North					From East					From South					From West					
	MD Peak Hour	Blackhawk Blvd					Shirland Ave					Blackhawk Blvd					Shirland Ave					
	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	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Thursday, May 17, 2018		From North					From East					From South					From West					
	PM Peak Hour	Blackhawk Blvd					Shirland Ave					Blackhawk Blvd					Shirland Ave					
	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	Totals
PM Peak Hour	4:30 PM	21	104	8	0	133	1	5	2	0	8	10	112	76	0	198	71	3	22	0	96	435
	4:45 PM	16	85	6	0	107	1	10	6	0	17	5	77	68	0	150	64	7	17	0	88	362
	5:00 PM	38	133	4	0	175	3	3	7	0	13	11	81	88	0	180	61	3	17	0	81	449
	5:15 PM	23	95	1	0	119	1	7	6	0	14	8	84	59	0	151	66	7	16	0	89	373
	Peak Hour Volume	98	417	19	0	534	6	25	21	0	52	34	354	291	0	679	262	20	72	0	354	1619
	Rounded Hourly Volume	100	415	20	0	535	5	25	20	0	50	35	355	290	0	680	260	20	70	0	350	1615
	% Single Unit Trucks	3.1	1.7	0.0	0.0	1.9	16.7	0.0	4.8	0.0	3.8	2.9	0.6	3.4	0.0	1.9	1.5	0.0	6.9	0.0	2.5	2.1
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	3.1	1.7	0.0	0.0	1.9	16.7	0.0	4.8	0.0	3.8	2.9	0.6	3.4	0.0	1.9	1.5	0.0	6.9	0.0	2.5	2.1
	Peak Hour Factor (PHF)	0.64	0.78	0.59	0.00	0.76	0.50	0.62	0.75	0.00	0.76	0.77	0.79	0.83	0.00	0.86	0.92	0.71	0.82	0.00	0.92	0.90

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Blackhawk Blvd			Shirland Ave			Blackhawk Blvd			Shirland Ave			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
	7:45 AM	0	0	0	0	1	1	1	0	1	0	0	0	2
	8:00 AM	1	2	3	0	0	0	0	0	0	0	0	0	3
	Total	1	2	3	0	1	1	1	0	1	1	1	2	7
MD	12:00 PM	0	0	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	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	1	1	2	0	0	0	0	0	0	2
	4:45 PM	2	2	4	2	1	3	0	0	0	0	1	1	8
	5:00 PM	1	0	1	1	1	2	0	0	0	1	1	2	5
	5:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
	Total	3	2	5	4	4	8	0	0	0	1	2	3	16

Intersection Traffic Volume Report

Count Basics		*Page 4 of 11*
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

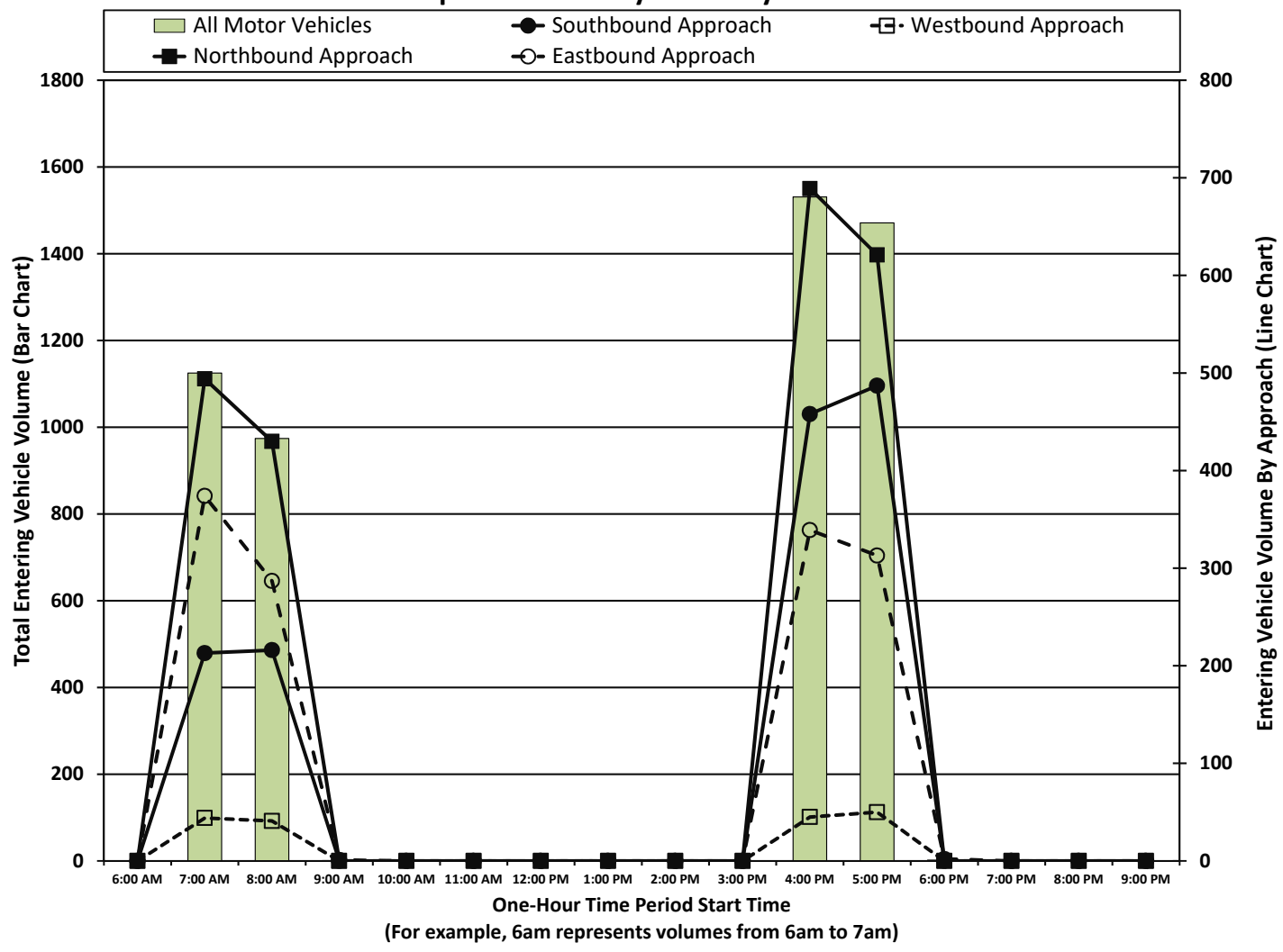
All Motor Vehicles

Blackhawk Blvd and Shirland Ave

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) Blackhawk Blvd					From East (←) Shirland Ave					From South (↑) Blackhawk Blvd					From West (→) Shirland Ave					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
AM	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	22	171	20	0	213	2	14	28	0	44	49	279	166	0	494	274	31	69	0	374	1125	418	707
	8:00 AM	42	151	23	0	216	3	17	21	0	41	46	257	127	0	430	195	32	60	0	287	974	328	646
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	71	363	24	0	458	3	28	14	0	45	30	363	296	0	689	248	17	74	0	339	1531	384	1147
	5:00 PM	86	385	16	0	487	4	20	26	0	50	36	325	260	0	621	233	20	60	0	313	1471	363	1108
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	2	0
	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		221	1070	83	0	1374	12	79	89	0	180	161	1224	849	0	2234	952	100	264	0	1316	5104	1496	3608

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics		Page 5 of 11
Start Date: Thursday, May 17, 2018	Weekday	
Total Number of Hours Counted: 4.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

All Motor Vehicles

Blackhawk Blvd and Shirland Ave

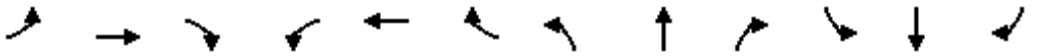
15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) Blackhawk Blvd					From East (←) Shirland Ave					From South (↑) Blackhawk Blvd					From West (→) Shirland Ave					15-Min	Hourly	
	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	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 AM	5	32	2	0	39	0	1	2	0	3	10	44	22	0	76	41	5	12	0	58	176	1125	0.74
	7:15 AM	3	42	2	0	47	1	4	7	0	12	14	61	37	0	112	51	4	13	0	68	239	1261	0.83
	7:30 AM	3	43	4	0	50	0	2	11	0	13	12	87	53	0	152	82	11	22	0	115	330	1266	0.83
	7:45 AM	11	54	12	0	77	1	7	8	0	16	13	87	54	0	154	100	11	22	0	133	380	1156	0.76
	8:00 AM	14	43	9	0	66	1	7	7	0	15	11	84	42	0	137	71	9	14	0	94	312	974	0.78
	8:15 AM	10	38	6	0	54	1	5	8	0	14	10	64	28	0	102	47	11	16	0	74	244	663	0.68
	8:30 AM	9	37	5	0	51	1	2	3	0	6	16	60	26	0	102	41	8	12	0	61	220		
	8:45 AM	9	33	3	0	45	0	3	3	0	6	9	49	31	0	89	36	4	18	0	58	198		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1		
	9:15 AM	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 PM	19	79	6	0	104	1	5	3	0	9	12	86	71	0	169	55	5	17	0	77	359	1531	0.88
	4:15 PM	15	95	4	0	114	0	8	3	0	11	3	88	81	0	172	58	2	18	0	78	375	1621	0.90
	4:30 PM	21	104	8	0	133	1	5	2	0	8	10	112	76	0	198	71	3	22	0	96	435	1619	0.90
	4:45 PM	16	85	6	0	107	1	10	6	0	17	5	77	68	0	150	64	7	17	0	88	362	1526	0.85
	5:00 PM	38	133	4	0	175	3	3	7	0	13	11	81	88	0	180	61	3	17	0	81	449	1471	0.82
	5:15 PM	23	95	1	0	119	1	7	6	0	14	8	84	59	0	151	66	7	16	0	89	373	1024	0.69
	5:30 PM	13	82	6	0	101	0	8	4	0	12	9	83	62	0	154	54	3	18	0	75	342		
	5:45 PM	12	75	5	0	92	0	2	9	0	11	8	77	51	0	136	52	7	9	0	68	307		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2		
	6:15 PM	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	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	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	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		221	1070	83	0	1374	12	79	89	0	180	161	1224	849	0	2234	952	100	264	0	1316	5104		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Blackhawk Blvd					From East (←) Shirland Ave					From South (↑) Blackhawk Blvd					From West (→) Shirland Ave					Total Hourly	
	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	Volume	PHF
AM	7:15 AM	31	182	27	0	240	3	20	33	0	56	50	319	186	0	555	304	35	71	0	410	1261	0.83
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	98	417	19	0	534	6	25	21	0	52	34	354	291	0	679	262	20	72	0	354	1619	0.90

Appendix B: Existing Year (2018) Traffic Operations Analysis Worksheets



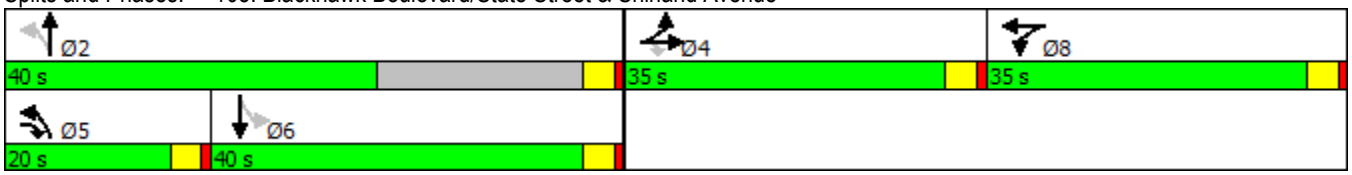
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	35	304	33	20	3	186	319	50	27	182	31
Future Volume (vph)	71	35	304	33	20	3	186	319	50	27	182	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.992			0.980			0.978	
Flt Protected		0.967			0.971		0.950			0.950		
Satd. Flow (prot)	0	1825	1553	0	1830	0	1719	3391	0	1805	3325	0
Flt Permitted		0.967			0.971		0.441			0.495		
Satd. Flow (perm)	0	1825	1553	0	1830	0	798	3391	0	940	3325	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			366		2			17			14	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		884			241			1113			803	
Travel Time (s)		24.1			6.6			25.3			18.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	1%	0%	4%	0%	0%	0%	5%	5%	0%	0%	4%	19%
Adj. Flow (vph)	86	42	366	40	24	4	224	384	60	33	219	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	128	366	0	68	0	224	444	0	33	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4	5	8	8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	10.0	6.0	6.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0		14.0	23.0		23.0	23.0	
Total Split (s)	35.0	35.0	20.0	35.0	35.0		20.0	40.0		40.0	40.0	
Total Split (%)	26.9%	26.9%	15.4%	26.9%	26.9%		15.4%	30.8%		30.8%	30.8%	
Maximum Green (s)	31.0	31.0	16.0	31.0	31.0		16.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		9.9	24.7		8.1		32.6	33.9		11.4	11.4	
Actuated g/C Ratio		0.18	0.44		0.14		0.58	0.60		0.20	0.20	
v/c Ratio		0.40	0.41		0.26		0.30	0.22		0.18	0.38	
Control Delay		27.5	2.3		27.0		10.4	8.6		25.3	23.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		27.5	2.3		27.0		10.4	8.6		25.3	23.2	
LOS		C	A		C		B	A		C	C	
Approach Delay		8.9			27.0			9.2			23.4	
Approach LOS		A			C			A			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 56.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 42.2% ICU Level of Service A
Analysis Period (min) 15

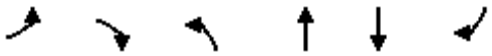
Splits and Phases: 105: Blackhawk Boulevard/State Street & Shirland Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	35	304	33	20	3	186	319	50	27	182	31
Future Volume (veh/h)	71	35	304	33	20	3	186	319	50	27	182	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1887	1827	1900	1900	1900	1810	1821	1900	1900	1790	1900
Adj Flow Rate, veh/h	86	42	366	40	24	4	224	384	60	33	219	37
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	4	0	0	0	5	5	5	0	4	4
Cap, veh/h	275	134	759	73	44	7	696	1532	238	292	525	87
Arrive On Green	0.22	0.22	0.22	0.07	0.07	0.07	0.26	0.51	0.51	0.18	0.18	0.18
Sat Flow, veh/h	1227	599	1553	1075	645	107	1723	3004	466	961	2918	486
Grp Volume(v), veh/h	128	0	366	68	0	0	224	220	224	33	126	130
Grp Sat Flow(s),veh/h/ln	1826	0	1553	1827	0	0	1723	1730	1739	961	1700	1704
Q Serve(g_s), s	3.5	0.0	9.6	2.2	0.0	0.0	4.7	4.3	4.4	1.8	4.0	4.1
Cycle Q Clear(g_c), s	3.5	0.0	9.6	2.2	0.0	0.0	4.7	4.3	4.4	1.8	4.0	4.1
Prop In Lane	0.67		1.00	0.59		0.06	1.00		0.27	1.00		0.28
Lane Grp Cap(c), veh/h	410	0	759	123	0	0	696	883	887	292	306	307
V/C Ratio(X)	0.31	0.00	0.48	0.55	0.00	0.00	0.32	0.25	0.25	0.11	0.41	0.42
Avail Cap(c_a), veh/h	934	0	1204	935	0	0	696	1028	1033	690	1010	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	10.4	27.4	0.0	0.0	9.9	8.3	8.3	21.1	22.0	22.1
Incr Delay (d2), s/veh	0.4	0.0	0.5	3.8	0.0	0.0	1.2	0.1	0.1	0.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.0	7.5	2.2	0.0	0.0	4.3	3.7	3.8	0.9	3.5	3.6
LnGrp Delay(d),s/veh	20.0	0.0	10.9	31.2	0.0	0.0	11.1	8.5	8.5	21.3	22.9	23.0
LnGrp LOS	C		B	C			B	A	A	C	C	C
Approach Vol, veh/h		494			68			668			289	
Approach Delay, s/veh		13.2			31.2			9.4			22.7	
Approach LOS		B			C			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		34.9		17.6	20.0	14.9		8.1
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		36.0		31.0	16.0	36.0		31.0
Max Q Clear Time (g_c+I1), s		6.4		11.6	6.7	6.1		4.2
Green Ext Time (p_c), s		4.8		2.0	0.4	4.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	0	4	567	503	6
Future Volume (vph)	1	0	4	567	503	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt					0.998	
Flt Protected	0.950					
Satd. Flow (prot)	1805	0	0	3407	3466	0
Flt Permitted	0.950					
Satd. Flow (perm)	1805	0	0	3407	3466	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	329			204	1113	
Travel Time (s)	9.0			4.6	25.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	6%	4%	0%
Adj. Flow (vph)	1	0	5	691	613	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	696	620	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			3	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	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.5%		ICU Level of Service A	
Analysis Period (min) 15			

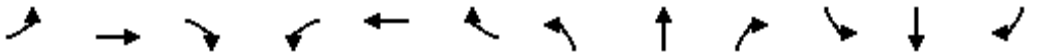
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	4	567	503	6
Future Vol, veh/h	1	0	4	567	503	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	6	4	0
Mvmt Flow	1	0	5	691	613	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	972	310	621	0	-	0
Stage 1	617	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	254	692	969	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	252	692	969	-	-	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	969	-	252	-	-
HCM Lane V/C Ratio	0.005	-	0.005	-	-
HCM Control Delay (s)	8.7	0	19.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

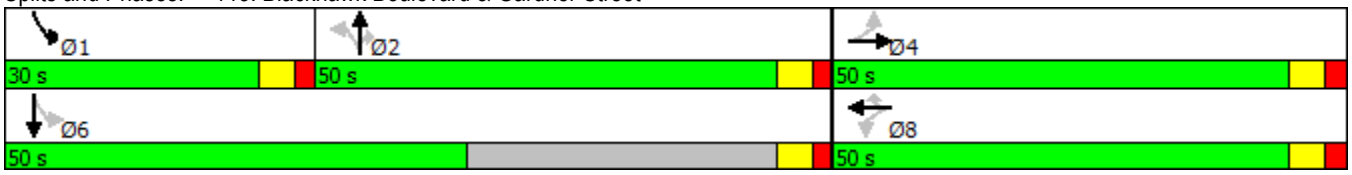


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	137	0	133	0	441	170	198	307	0
Future Volume (vph)	0	0	0	137	0	133	0	441	170	198	307	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850			
Flt Protected					0.950					0.950		
Satd. Flow (prot)	0	1900	0	0	1641	1468	1900	3471	1482	1703	3471	0
Flt Permitted					0.757					0.358		
Satd. Flow (perm)	0	1900	0	0	1308	1468	1900	3471	1482	642	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						153			195			
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		251			1246			204			204	
Travel Time (s)		5.7			34.0			4.6			4.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	10%	0%	10%	0%	4%	9%	6%	4%	0%
Adj. Flow (vph)	0	0	0	157	0	153	0	507	195	228	353	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	157	153	0	507	195	228	353	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0		18.0	18.0	18.0	30.0	30.0	30.0	5.0	30.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	35.4	35.4	35.4	10.5	35.4	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	50.0	50.0	50.0	30.0	50.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	38.5%	38.5%	38.5%	23.1%	38.5%	
Maximum Green (s)	44.1	44.1		44.1	44.1	44.1	44.6	44.6	44.6	24.5	44.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4	1.9	1.9	1.9	2.0	1.9	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.9			5.9	5.9	5.4	5.4	5.4	5.5	5.4	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	
Recall Mode	Min	Min		Min	Min	Min	Min	Min	Min	None	Min	
Act Effct Green (s)					19.2	19.2		30.1	30.1	46.2	46.3	
Actuated g/C Ratio					0.25	0.25		0.39	0.39	0.60	0.60	
v/c Ratio					0.48	0.32		0.37	0.28	0.43	0.17	
Control Delay					30.7	6.4		18.3	4.1	9.9	7.2	
Queue Delay					0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay					30.7	6.4		18.3	4.1	9.9	7.2	
LOS					C	A		B	A	A	A	
Approach Delay					18.7			14.4			8.3	
Approach LOS					B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 76.8			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 115: Blackhawk Boulevard & Gardner Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	137	0	133	0	441	170	198	307	0
Future Volume (veh/h)	0	0	0	137	0	133	0	441	170	198	307	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1727	1727	1900	1827	1743	1792	1827	1900
Adj Flow Rate, veh/h	0	0	0	157	0	0	0	507	0	228	353	0
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	10	0	4	9	6	4	4
Cap, veh/h	0	473	0	425	0	365	99	1439	614	547	2066	0
Arrive On Green	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.41	0.00	0.10	0.60	0.00
Sat Flow, veh/h	0	1900	0	1309	0	1468	1044	3471	1482	1707	3563	0
Grp Volume(v), veh/h	0	0	0	157	0	0	0	507	0	228	353	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1309	0	1468	1044	1736	1482	1707	1736	0
Q Serve(g_s), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	7.2	0.0	5.1	3.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	7.2	0.0	5.1	3.3	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	473	0	425	0	365	99	1439	614	547	2066	0
V/C Ratio(X)	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.35	0.00	0.42	0.17	0.00
Avail Cap(c_a), veh/h	0	1158	0	897	0	895	310	2139	913	946	2139	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	23.2	0.0	0.0	0.0	14.5	0.0	9.4	6.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.2	0.0	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	5.0	0.0	0.0	0.0	6.3	0.0	4.2	2.9	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	24.0	0.0	0.0	0.0	14.7	0.0	9.9	6.7	0.0
LnGrp LOS				C				B		A	A	
Approach Vol, veh/h		0			157			507			581	
Approach Delay, s/veh		0.0			24.0			14.7			7.9	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.1	35.4		23.9		48.5		23.9
Change Period (Y+Rc), s	5.5	* 5.4		5.9		* 5.4		5.9
Max Green Setting (Gmax), s	24.5	* 45		44.1		* 45		44.1
Max Q Clear Time (g_c+I1), s	7.1	9.2		0.0		5.3		9.4
Green Ext Time (p_c), s	0.6	9.7		0.0		10.0		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	4	597	5	0	441
Future Volume (vph)	0	4	597	5	0	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1644	3398	0	0	3406
Flt Permitted						
Satd. Flow (perm)	0	1644	3398	0	0	3406
Link Speed (mph)	25		30			45
Link Distance (ft)	356		681			204
Travel Time (s)	9.7		15.5			3.1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	6%	20%	0%	6%
Adj. Flow (vph)	0	5	711	6	0	525
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	717	0	0	525
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		16			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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.7%		ICU Level of Service A	
Analysis Period (min) 15			

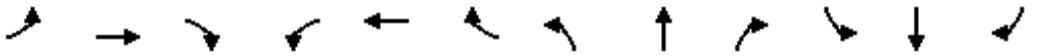
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	597	5	0	441
Future Vol, veh/h	0	4	597	5	0	441
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	6	20	0	6
Mvmt Flow	0	5	711	6	0	525

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	358	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	644	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	644	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	644	-
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s)	-	-	10.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	7	3	0	18	4	610	3	20	419	10
Future Volume (vph)	3	0	7	3	0	18	4	610	3	20	419	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.907			0.886			0.999			0.997	
Flt Protected		0.985			0.992		0.950			0.950		
Satd. Flow (prot)	0	1547	0	0	1589	0	1805	3398	0	1719	3424	0
Flt Permitted		0.985			0.992		0.950			0.950		
Satd. Flow (perm)	0	1547	0	0	1589	0	1805	3398	0	1719	3424	0
Link Speed (mph)		25			25			35			30	
Link Distance (ft)		589			469			612			681	
Travel Time (s)		16.1			12.8			11.9			15.5	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	14%	33%	0%	0%	0%	6%	33%	5%	5%	10%
Adj. Flow (vph)	4	0	9	4	0	22	5	744	4	24	511	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	26	0	5	748	0	24	523	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			

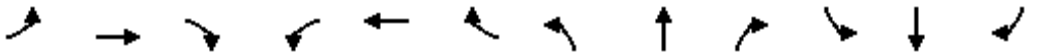
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	7	3	0	18	4	610	3	20	419	10
Future Vol, veh/h	3	0	7	3	0	18	4	610	3	20	419	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	14	33	0	0	0	6	33	5	5	10
Mvmt Flow	4	0	9	4	0	22	5	744	4	24	511	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	948	1323	262	1059	1327	374	523	0	0	748	0	0
Stage 1	566	566	-	755	755	-	-	-	-	-	-	-
Stage 2	382	757	-	304	572	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.18	8.16	6.5	6.9	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.44	3.83	4	3.3	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	218	158	702	142	157	629	1054	-	-	837	-	-
Stage 1	481	511	-	305	420	-	-	-	-	-	-	-
Stage 2	618	419	-	601	508	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	205	153	702	137	152	629	1054	-	-	837	-	-
Mov Cap-2 Maneuver	205	153	-	137	152	-	-	-	-	-	-	-
Stage 1	479	496	-	304	418	-	-	-	-	-	-	-
Stage 2	594	417	-	577	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	14.2	0.1	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1054	-	-	406	416	837	-	-
HCM Lane V/C Ratio	0.005	-	-	0.03	0.062	0.029	-	-
HCM Control Delay (s)	8.4	-	-	14.1	14.2	9.4	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1	22	18	0	5	31	572	10	10	380	33
Future Volume (vph)	34	1	22	18	0	5	31	572	10	10	380	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.948			0.971			0.997			0.988	
Flt Protected		0.971			0.962		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1702	0	1805	3399	0	1641	3410	0
Flt Permitted		0.971			0.962		0.950			0.950		
Satd. Flow (perm)	0	1690	0	0	1702	0	1805	3399	0	1641	3410	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		368			370			660			612	
Travel Time (s)		10.0			10.1			12.9			11.9	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	9%	0%	0%	20%	0%	6%	0%	10%	5%	0%
Adj. Flow (vph)	42	1	27	22	0	6	38	706	12	12	469	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	0	0	28	0	38	718	0	12	510	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			

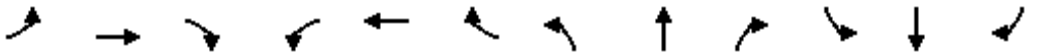
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	1	22	18	0	5	31	572	10	10	380	33
Future Vol, veh/h	34	1	22	18	0	5	31	572	10	10	380	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	0	0	9	0	0	20	0	6	0	10	5	0
Mvmt Flow	42	1	27	22	0	6	38	706	12	12	469	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	944	1309	255	1049	1324	359	510	0	0	719	0	0
Stage 1	514	514	-	789	789	-	-	-	-	-	-	-
Stage 2	430	795	-	260	535	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.08	7.5	6.5	7.3	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.5	4	3.5	2.2	-	-	2.3	-	-
Pot Cap-1 Maneuver	220	161	723	184	157	588	1065	-	-	827	-	-
Stage 1	517	539	-	354	405	-	-	-	-	-	-	-
Stage 2	579	402	-	728	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	209	153	723	169	149	588	1065	-	-	827	-	-
Mov Cap-2 Maneuver	209	153	-	169	149	-	-	-	-	-	-	-
Stage 1	499	531	-	341	391	-	-	-	-	-	-	-
Stage 2	552	388	-	689	519	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	26	0.4	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1065	-	-	286	200	827	-	-
HCM Lane V/C Ratio	0.036	-	-	0.246	0.142	0.015	-	-
HCM Control Delay (s)	8.5	-	-	21.6	26	9.4	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.5	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	2	43	25	3	17	83	566	15	17	364	51
Future Volume (vph)	29	2	43	25	3	17	83	566	15	17	364	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	130		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.921			0.949			0.996			0.982	
Flt Protected		0.981			0.973		0.950			0.950		
Satd. Flow (prot)	0	1510	0	0	1645	0	1805	3423	0	1530	3417	0
Flt Permitted		0.981			0.973		0.950			0.950		
Satd. Flow (perm)	0	1510	0	0	1645	0	1805	3423	0	1530	3417	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		679			374			1556			660	
Travel Time (s)		18.5			10.2			30.3			12.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	17%	0%	12%	8%	0%	6%	0%	5%	7%	18%	4%	2%
Adj. Flow (vph)	34	2	51	29	4	20	98	666	18	20	428	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	53	0	98	684	0	20	488	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

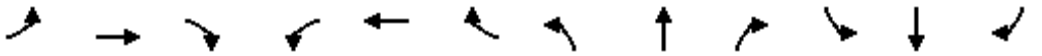
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	2	43	25	3	17	83	566	15	17	364	51
Future Vol, veh/h	29	2	43	25	3	17	83	566	15	17	364	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	17	0	12	8	0	6	0	5	7	18	4	2
Mvmt Flow	34	2	51	29	4	20	98	666	18	20	428	60

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1028	1377	244	1125	1398	342	488	0	0	684	0	0
Stage 1	498	498	-	870	870	-	-	-	-	-	-	-
Stage 2	530	879	-	255	528	-	-	-	-	-	-	-
Critical Hdwy	7.84	6.5	7.14	7.66	6.5	7.02	4.1	-	-	4.46	-	-
Critical Hdwy Stg 1	6.84	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.84	5.5	-	6.66	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4	3.42	3.58	4	3.36	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	169	146	727	153	142	642	1086	-	-	806	-	-
Stage 1	486	548	-	300	372	-	-	-	-	-	-	-
Stage 2	464	368	-	710	531	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	146	130	727	128	126	642	1086	-	-	806	-	-
Mov Cap-2 Maneuver	146	130	-	128	126	-	-	-	-	-	-	-
Stage 1	442	534	-	273	338	-	-	-	-	-	-	-
Stage 2	405	335	-	641	518	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.4	32.5	1.1	0.4
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1086	-	-	271	183	806	-	-
HCM Lane V/C Ratio	0.09	-	-	0.321	0.289	0.025	-	-
HCM Control Delay (s)	8.6	-	-	24.4	32.5	9.6	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	1.1	0.1	-	-

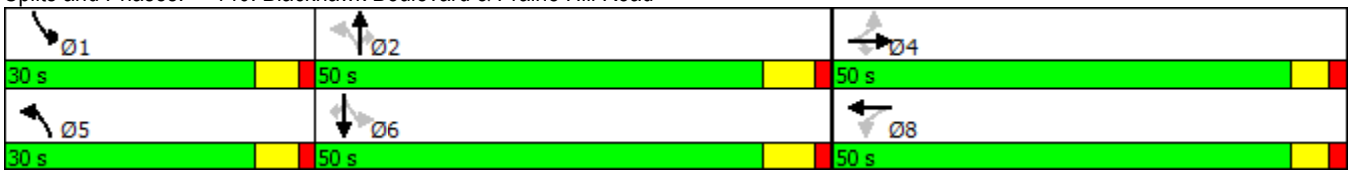


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	174	93	107	93	30	54	288	78	40	202	59
Future Volume (vph)	56	174	93	107	93	30	54	288	78	40	202	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	290		290	290		270
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.980				0.850			0.850
Flt Protected		0.988			0.977		0.950			0.950		
Satd. Flow (prot)	0	3303	1553	0	3181	0	1687	3374	1482	1570	3406	1482
Flt Permitted		0.807			0.732		0.554			0.556		
Satd. Flow (perm)	0	2698	1553	0	2383	0	984	3374	1482	919	3406	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104		14				88			70
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1053			308			2078			1160	
Travel Time (s)		17.9			5.3			31.5			17.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	11%	7%	4%	8%	9%	10%	7%	7%	9%	15%	6%	9%
Adj. Flow (vph)	63	196	104	120	104	34	61	324	88	45	227	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	259	104	0	258	0	61	324	88	45	227	66
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			12			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	4	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5		10.8	24.6	24.6	10.8	24.5	24.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	50.0	50.0	30.0	50.0	50.0
Total Split (%)	38.5%	38.5%	38.5%	38.5%	38.5%		23.1%	38.5%	38.5%	23.1%	38.5%	38.5%
Maximum Green (s)	44.4	44.4	44.4	44.4	44.4		24.2	43.4	43.4	24.2	43.4	43.4
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		4.3	5.0	5.0	4.3	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.5	1.6	1.6	1.5	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.6		5.6		5.8	6.6	6.6	5.8	6.6	6.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		4.0	3.5	3.5	4.0	3.5	3.5
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)		11.5	11.5		11.5		22.2	18.4	18.4	20.5	15.6	15.6
Actuated g/C Ratio		0.24	0.24		0.24		0.47	0.39	0.39	0.43	0.33	0.33
v/c Ratio		0.39	0.23		0.44		0.10	0.25	0.14	0.09	0.20	0.12
Control Delay		18.4	5.9		18.3		6.6	12.8	5.2	6.8	14.8	5.6
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		18.4	5.9		18.3		6.6	12.8	5.2	6.8	14.8	5.6
LOS		B	A		B		A	B	A	A	B	A
Approach Delay		14.8			18.3			10.6			11.9	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 47.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 140: Blackhawk Boulevard & Prairie Hill Road



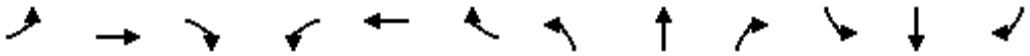
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	174	93	107	93	30	54	288	78	40	202	59
Future Volume (veh/h)	56	174	93	107	93	30	54	288	78	40	202	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1760	1827	1900	1748	1900	1776	1776	1743	1652	1792	1743
Adj Flow Rate, veh/h	63	196	0	120	104	0	61	324	0	45	227	0
Adj No. of Lanes	0	2	1	0	2	0	1	2	1	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	4	9	9	9	7	7	9	15	6	9
Cap, veh/h	250	673	421	377	411	0	524	1066	468	447	1039	452
Arrive On Green	0.27	0.27	0.00	0.27	0.27	0.00	0.06	0.32	0.00	0.05	0.31	0.00
Sat Flow, veh/h	529	2482	1553	853	1597	0	1691	3374	1482	1573	3406	1482
Grp Volume(v), veh/h	140	119	0	121	103	0	61	324	0	45	227	0
Grp Sat Flow(s),veh/h/ln	1490	1521	1553	859	1512	0	1691	1687	1482	1573	1703	1482
Q Serve(g_s), s	0.9	3.0	0.0	4.7	2.6	0.0	1.2	3.6	0.0	0.9	2.4	0.0
Cycle Q Clear(g_c), s	3.5	3.0	0.0	7.8	2.6	0.0	1.2	3.6	0.0	0.9	2.4	0.0
Prop In Lane	0.45		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	510	412	421	379	410	0	524	1066	468	447	1039	452
V/C Ratio(X)	0.27	0.29	0.00	0.32	0.25	0.00	0.12	0.30	0.00	0.10	0.22	0.00
Avail Cap(c_a), veh/h	1436	1374	1403	1082	1366	0	1259	2979	1308	1148	3007	1308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.2	14.2	0.0	17.2	14.0	0.0	10.4	12.7	0.0	10.7	12.7	0.0
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.6	0.4	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	2.4	0.0	2.7	2.0	0.0	1.0	3.0	0.0	0.7	2.1	0.0
LnGrp Delay(d),s/veh	14.6	14.6	0.0	17.8	14.4	0.0	10.6	12.9	0.0	10.9	12.8	0.0
LnGrp LOS	B	B		B	B		B	B		B	B	
Approach Vol, veh/h		259			224			385			272	
Approach Delay, s/veh		14.6			16.2			12.5			12.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	22.1		18.9	8.6	21.6		18.9
Change Period (Y+Rc), s	5.8	* 6.6		5.6	5.8	* 6.6		5.6
Max Green Setting (Gmax), s	24.2	* 43		44.4	24.2	* 43		44.4
Max Q Clear Time (g_c+I1), s	2.9	5.6		5.5	3.2	4.4		9.8
Green Ext Time (p_c), s	0.1	4.3		3.6	0.2	4.4		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	236	51	7	199	2	28	1	9	0	2	3
Future Volume (vph)	5	236	51	7	199	2	28	1	9	0	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.999			0.967			0.910	
Flt Protected		0.999			0.998			0.965				
Satd. Flow (prot)	0	3236	0	0	3316	0	0	1533	0	0	1729	0
Flt Permitted		0.999			0.998			0.965				
Satd. Flow (perm)	0	3236	0	0	3316	0	0	1533	0	0	1729	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		308			459			395			273	
Travel Time (s)		5.3			7.8			10.8			7.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	20%	8%	10%	14%	8%	50%	14%	0%	22%	0%	0%	0%
Adj. Flow (vph)	6	278	60	8	234	2	33	1	11	0	2	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	344	0	0	244	0	0	45	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.3%		ICU Level of Service A	
Analysis Period (min) 15			

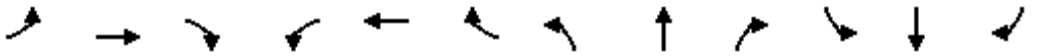
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	236	51	7	199	2	28	1	9	0	2	3
Future Vol, veh/h	5	236	51	7	199	2	28	1	9	0	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	20	8	10	14	8	50	14	0	22	0	0	0
Mvmt Flow	6	278	60	8	234	2	33	1	11	0	2	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	-	278	0	0	424	542	139	403	541	118
Stage 1	-	-	-	-	-	-	289	289	-	252	252	-
Stage 2	-	-	-	-	-	-	135	253	-	151	289	-
Critical Hdwy	4.5	-	-	4.38	-	-	7.78	6.5	7.34	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.78	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.78	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.4	-	-	2.34	-	-	3.64	4	3.52	3.5	4	3.3
Pot Cap-1 Maneuver	1207	-	0	1199	-	-	486	450	824	537	451	918
Stage 1	-	-	0	-	-	-	662	677	-	736	702	-
Stage 2	-	-	0	-	-	-	821	701	-	842	677	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1207	-	-	1199	-	-	477	444	824	523	445	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	477	444	-	523	445	-
Stage 1	-	-	-	-	-	-	658	673	-	732	696	-
Stage 2	-	-	-	-	-	-	809	695	-	825	673	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	10.9	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	623	1207	-	1199	-	-	644
HCM Lane V/C Ratio	0.019	0.005	-	0.007	-	-	0.009
HCM Control Delay (s)	10.9	8	0	8	0	-	10.6
HCM Lane LOS	B	A	A	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	0	-	-	0



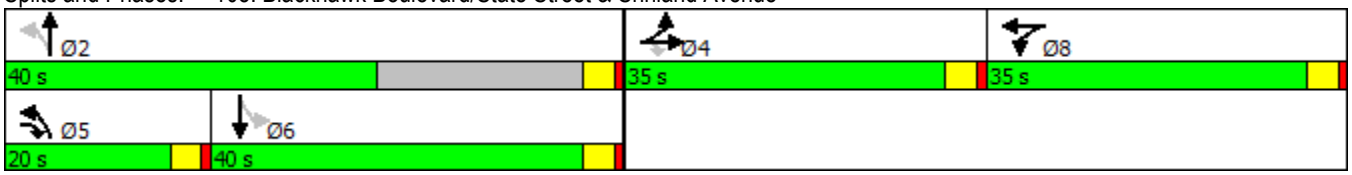
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	20	262	21	25	6	291	354	34	25	417	98
Future Volume (vph)	72	20	262	21	25	6	291	354	34	25	417	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.984			0.987			0.971	
Flt Protected		0.962			0.981		0.950			0.950		
Satd. Flow (prot)	0	1733	1568	0	1765	0	1752	3522	0	1805	3430	0
Flt Permitted		0.962			0.981		0.254			0.501		
Satd. Flow (perm)	0	1733	1568	0	1765	0	469	3522	0	952	3430	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			291		5			10			22	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		884			241			1113			803	
Travel Time (s)		24.1			6.6			25.3			18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	0%	3%	5%	0%	16%	3%	1%	3%	0%	2%	3%
Adj. Flow (vph)	80	22	291	23	28	7	323	393	38	28	463	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	291	0	58	0	323	431	0	28	572	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4	5	8	8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	10.0	6.0	6.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0		14.0	23.0		23.0	23.0	
Total Split (s)	35.0	35.0	20.0	35.0	35.0		20.0	40.0		40.0	40.0	
Total Split (%)	26.9%	26.9%	15.4%	26.9%	26.9%		15.4%	30.8%		30.8%	30.8%	
Maximum Green (s)	31.0	31.0	16.0	31.0	31.0		16.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		10.1	26.4		8.3		39.6	41.0		17.6	17.6	
Actuated g/C Ratio		0.16	0.43		0.14		0.65	0.67		0.29	0.29	
v/c Ratio		0.36	0.35		0.24		0.48	0.18		0.10	0.57	
Control Delay		31.2	2.5		30.0		10.6	7.0		20.9	22.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		31.2	2.5		30.0		10.6	7.0		20.9	22.3	
LOS		C	A		C		B	A		C	C	
Approach Delay		10.0			30.0			8.6			22.2	
Approach LOS		A			C			A			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 61.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 50.3% ICU Level of Service A
Analysis Period (min) 15

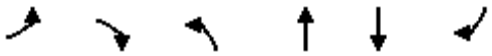
Splits and Phases: 105: Blackhawk Boulevard/State Street & Shriland Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	20	262	21	25	6	291	354	34	25	417	98
Future Volume (veh/h)	72	20	262	21	25	6	291	354	34	25	417	98
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1801	1845	1900	1828	1900	1845	1878	1900	1900	1859	1900
Adj Flow Rate, veh/h	80	22	291	23	28	7	323	393	38	28	463	109
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	3	0	0	0	3	1	1	0	2	2
Cap, veh/h	251	69	674	42	51	13	641	1881	181	368	755	177
Arrive On Green	0.18	0.18	0.18	0.06	0.06	0.06	0.25	0.57	0.57	0.27	0.27	0.27
Sat Flow, veh/h	1359	374	1568	696	848	212	1757	3290	316	972	2843	665
Grp Volume(v), veh/h	102	0	291	58	0	0	323	212	219	28	286	286
Grp Sat Flow(s),veh/h/ln	1733	0	1568	1756	0	0	1757	1784	1822	972	1766	1742
Q Serve(g_s), s	3.3	0.0	8.5	2.1	0.0	0.0	6.8	3.8	3.8	1.4	9.3	9.4
Cycle Q Clear(g_c), s	3.3	0.0	8.5	2.1	0.0	0.0	6.8	3.8	3.8	1.4	9.3	9.4
Prop In Lane	0.78		1.00	0.40		0.12	1.00		0.17	1.00		0.38
Lane Grp Cap(c), veh/h	320	0	674	105	0	0	641	1020	1042	368	469	462
V/C Ratio(X)	0.32	0.00	0.43	0.55	0.00	0.00	0.50	0.21	0.21	0.08	0.61	0.62
Avail Cap(c_a), veh/h	823	0	1129	834	0	0	641	1020	1042	646	974	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	13.0	29.8	0.0	0.0	10.1	6.8	6.8	18.1	21.0	21.1
Incr Delay (d2), s/veh	0.6	0.0	0.4	4.5	0.0	0.0	2.8	0.1	0.1	0.1	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.0	6.7	2.1	0.0	0.0	6.6	3.3	3.4	0.7	8.3	8.2
LnGrp Delay(d),s/veh	23.6	0.0	13.5	34.3	0.0	0.0	12.9	6.9	6.9	18.2	22.3	22.4
LnGrp LOS	C		B	C			B	A	A	B	C	C
Approach Vol, veh/h		393			58			754			600	
Approach Delay, s/veh		16.1			34.3			9.5			22.2	
Approach LOS		B			C			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		41.3		16.1	20.0	21.3		7.9
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		36.0		31.0	16.0	36.0		31.0
Max Q Clear Time (g_c+I1), s		5.8		10.5	8.8	11.4		4.1
Green Ext Time (p_c), s		7.3		1.6	0.6	5.9		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	3	0	642	714	1
Future Volume (vph)	5	3	0	642	714	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.949					
Flt Protected	0.970					
Satd. Flow (prot)	1749	0	0	3539	3539	0
Flt Permitted	0.970					
Satd. Flow (perm)	1749	0	0	3539	3539	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	329			204	1113	
Travel Time (s)	9.0			4.6	25.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	5	3	0	705	785	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	705	786	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			3	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	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.8%		ICU Level of Service A	
Analysis Period (min) 15			

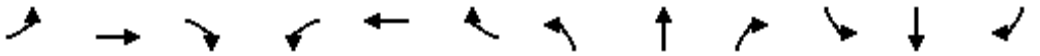
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	3	0	642	714	1
Future Vol, veh/h	5	3	0	642	714	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	0	0	0	2	2	0
Mvmt Flow	5	3	0	705	785	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1138	393	786	0	-	0
Stage 1	785	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	198	612	842	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	198	612	842	-	-	-
Mov Cap-2 Maneuver	198	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	842	-	265	-	-
HCM Lane V/C Ratio	-	-	0.033	-	-
HCM Control Delay (s)	0	-	19.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

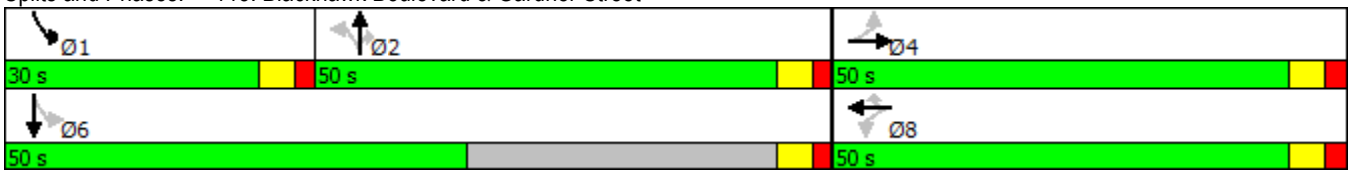


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	222	1	257	6	396	150	173	542	1
Future Volume (vph)	1	0	1	222	1	257	6	396	150	173	542	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932				0.850			0.850			
Flt Protected		0.976			0.953		0.950			0.950		
Satd. Flow (prot)	0	1728	0	0	1741	1583	1805	3539	1568	1736	3539	0
Flt Permitted		0.908			0.727		0.434			0.405		
Satd. Flow (perm)	0	1608	0	0	1328	1583	825	3539	1568	740	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66				273			160			
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		251			1246			204			204	
Travel Time (s)		5.7			34.0			4.6			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	4%	0%	2%	0%	2%	3%	4%	2%	0%
Adj. Flow (vph)	1	0	1	236	1	273	6	421	160	184	577	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	237	273	6	421	160	184	578	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0		18.0	18.0	18.0	30.0	30.0	30.0	5.0	30.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	35.5	35.5	35.5	10.5	35.4	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	50.0	50.0	50.0	30.0	50.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	38.5%	38.5%	38.5%	23.1%	38.5%	
Maximum Green (s)	44.1	44.1		44.1	44.1	44.1	44.6	44.6	44.6	24.5	44.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4	1.9	1.9	1.9	2.0	1.9	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.9			5.9	5.9	5.4	5.4	5.4	5.5	5.4	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	
Recall Mode	Min	Min		Min	Min	Min	Min	Min	Min	None	Min	
Act Effct Green (s)		22.9			22.9	22.9	30.3	30.3	30.3	46.2	46.3	
Actuated g/C Ratio		0.28			0.28	0.28	0.38	0.38	0.38	0.57	0.57	
v/c Ratio		0.00			0.63	0.42	0.02	0.32	0.23	0.33	0.28	
Control Delay		0.0			33.5	5.1	20.3	20.2	4.9	11.0	9.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		0.0			33.5	5.1	20.3	20.2	4.9	11.0	9.8	
LOS		A			C	A	C	C	A	B	A	
Approach Delay					18.3			16.0			10.1	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 80.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 115: Blackhawk Boulevard & Gardner Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	222	1	257	6	396	150	173	542	1
Future Volume (veh/h)	1	0	1	222	1	257	6	396	150	173	542	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1827	1863	1900	1863	1845	1827	1863	1900
Adj Flow Rate, veh/h	1	0	1	236	1	0	6	421	0	184	577	1
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	3	4	2	2
Cap, veh/h	269	25	217	451	1	402	460	1496	663	578	2129	4
Arrive On Green	0.25	0.00	0.25	0.25	0.25	0.00	0.42	0.42	0.00	0.09	0.59	0.59
Sat Flow, veh/h	759	97	856	1380	6	1583	849	3539	1568	1740	3625	6
Grp Volume(v), veh/h	2	0	0	237	0	0	6	421	0	184	282	296
Grp Sat Flow(s),veh/h/ln	1711	0	0	1386	0	1583	849	1770	1568	1740	1770	1862
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	0.0	0.3	5.5	0.0	3.9	5.5	5.5
Cycle Q Clear(g_c), s	0.1	0.0	0.0	10.9	0.0	0.0	0.3	5.5	0.0	3.9	5.5	5.5
Prop In Lane	0.50		0.50	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	510	0	0	453	0	402	460	1496	663	578	1039	1093
V/C Ratio(X)	0.00	0.00	0.00	0.52	0.00	0.00	0.01	0.28	0.00	0.32	0.27	0.27
Avail Cap(c_a), veh/h	1070	0	0	962	0	984	635	2224	985	1027	1112	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	0.0	23.8	0.0	0.0	11.9	13.4	0.0	9.0	7.2	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.1	0.0	0.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	7.7	0.0	0.0	0.1	4.9	0.0	3.3	4.9	5.1
LnGrp Delay(d),s/veh	19.8	0.0	0.0	25.2	0.0	0.0	11.9	13.6	0.0	9.3	7.4	7.4
LnGrp LOS	B			C			B	B		A	A	A
Approach Vol, veh/h		2			237			427			762	
Approach Delay, s/veh		19.8			25.2			13.5			7.8	
Approach LOS		B			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	11.7	35.4		23.9		47.1		23.9
Change Period (Y+Rc), s	5.5	* 5.4		5.9		* 5.4		5.9
Max Green Setting (Gmax), s	24.5	* 45		44.1		* 45		44.1
Max Q Clear Time (g_c+I1), s	5.9	7.5		2.1		7.5		12.9
Green Ext Time (p_c), s	0.5	11.2		2.3		11.2		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	18	533	2	0	767
Future Volume (vph)	0	18	533	2	0	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1644	3536	0	0	3505
Flt Permitted						
Satd. Flow (perm)	0	1644	3536	0	0	3505
Link Speed (mph)	25		30			45
Link Distance (ft)	356		681			204
Travel Time (s)	9.7		15.5			3.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	0%	3%
Adj. Flow (vph)	0	19	561	2	0	807
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	19	563	0	0	807
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		16			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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.8%		ICU Level of Service A	
Analysis Period (min) 15			

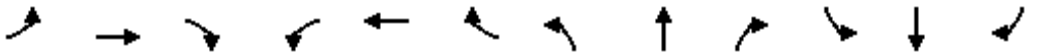
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	533	2	0	767
Future Vol, veh/h	0	18	533	2	0	767
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	3
Mvmt Flow	0	19	561	2	0	807

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	282	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	721	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	721	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	721	-
HCM Lane V/C Ratio	-	-	0.026	-
HCM Control Delay (s)	-	-	10.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	2	11	2	0	19	17	545	1	21	750	11
Future Volume (vph)	25	2	11	2	0	19	17	545	1	21	750	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.960			0.877						0.998	
Flt Protected		0.968			0.995		0.950			0.950		
Satd. Flow (prot)	0	1639	0	0	1658	0	1703	3539	0	1805	3495	0
Flt Permitted		0.968			0.995		0.950			0.950		
Satd. Flow (perm)	0	1639	0	0	1658	0	1703	3539	0	1805	3495	0
Link Speed (mph)		25			25			35			30	
Link Distance (ft)		589			469			612			681	
Travel Time (s)		16.1			12.8			11.9			15.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	50%	0%	0%	0%	0%	6%	2%	0%	0%	3%	9%
Adj. Flow (vph)	27	2	12	2	0	20	18	580	1	22	798	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	22	0	18	581	0	22	810	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.6%		ICU Level of Service A	
Analysis Period (min) 15			

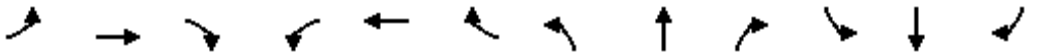
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	2	11	2	0	19	17	545	1	21	750	11
Future Vol, veh/h	25	2	11	2	0	19	17	545	1	21	750	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	50	0	0	0	0	6	2	0	0	3	9
Mvmt Flow	27	2	12	2	0	20	18	580	1	22	798	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1174	1465	405	1061	1470	290	810	0	0	581	0	0
Stage 1	848	848	-	616	616	-	-	-	-	-	-	-
Stage 2	326	617	-	445	854	-	-	-	-	-	-	-
Critical Hdwy	7.66	7.5	6.9	7.5	6.5	6.9	4.22	-	-	4.1	-	-
Critical Hdwy Stg 1	6.66	6.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	6.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.5	3.3	3.5	4	3.3	2.26	-	-	2.2	-	-
Pot Cap-1 Maneuver	140	82	601	181	129	713	786	-	-	1003	-	-
Stage 1	310	281	-	450	485	-	-	-	-	-	-	-
Stage 2	644	377	-	567	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	131	78	601	168	123	713	786	-	-	1003	-	-
Mov Cap-2 Maneuver	131	78	-	168	123	-	-	-	-	-	-	-
Stage 1	303	275	-	440	474	-	-	-	-	-	-	-
Stage 2	611	368	-	540	370	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.5	11.9	0.3	0.2
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	786	-	-	162	545	1003	-	-
HCM Lane V/C Ratio	0.023	-	-	0.25	0.041	0.022	-	-
HCM Control Delay (s)	9.7	-	-	34.5	11.9	8.7	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.1	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1	13	25	1	4	8	535	16	13	736	10
Future Volume (vph)	19	1	13	25	1	4	8	535	16	13	736	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.946			0.983			0.996			0.998	
Flt Protected		0.972			0.960		0.950			0.950		
Satd. Flow (prot)	0	1747	0	0	1793	0	1805	3494	0	1805	3528	0
Flt Permitted		0.972			0.960		0.950			0.950		
Satd. Flow (perm)	0	1747	0	0	1793	0	1805	3494	0	1805	3528	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		368			370			660			612	
Travel Time (s)		10.0			10.1			12.9			11.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	2%	10%
Adj. Flow (vph)	20	1	14	27	1	4	9	569	17	14	783	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	32	0	9	586	0	14	794	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

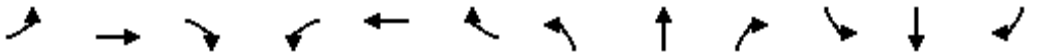
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1	13	25	1	4	8	535	16	13	736	10
Future Vol, veh/h	19	1	13	25	1	4	8	535	16	13	736	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	10
Mvmt Flow	20	1	14	27	1	4	9	569	17	14	783	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1118	1419	397	1015	1416	293	794	0	0	586	0	0
Stage 1	816	816	-	595	595	-	-	-	-	-	-	-
Stage 2	302	603	-	420	821	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	164	138	608	195	139	709	836	-	-	999	-	-
Stage 1	341	393	-	463	496	-	-	-	-	-	-	-
Stage 2	688	492	-	587	391	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	159	135	608	186	136	709	836	-	-	999	-	-
Mov Cap-2 Maneuver	159	135	-	186	136	-	-	-	-	-	-	-
Stage 1	337	387	-	458	491	-	-	-	-	-	-	-
Stage 2	675	487	-	564	386	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.1	25.9	0.1	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	836	-	-	223	204	999	-	-
HCM Lane V/C Ratio	0.01	-	-	0.157	0.156	0.014	-	-
HCM Control Delay (s)	9.4	-	-	24.1	25.9	8.7	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	2	40	2	1	9	22	491	7	20	727	30
Future Volume (vph)	46	2	40	2	1	9	22	491	7	20	727	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	130		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.938			0.896			0.998			0.994	
Flt Protected		0.975			0.992		0.950			0.950		
Satd. Flow (prot)	0	1660	0	0	1689	0	1719	3533	0	1805	3507	0
Flt Permitted		0.975			0.992		0.950			0.950		
Satd. Flow (perm)	0	1660	0	0	1689	0	1719	3533	0	1805	3507	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		679			374			1556			660	
Travel Time (s)		18.5			10.2			30.3			12.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	8%	0%	0%	0%	5%	2%	0%	0%	2%	10%
Adj. Flow (vph)	49	2	43	2	1	10	23	522	7	21	773	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	13	0	23	529	0	21	805	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			

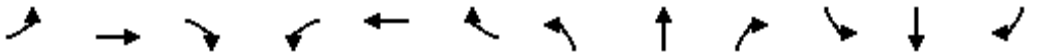
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	2	40	2	1	9	22	491	7	20	727	30
Future Vol, veh/h	46	2	40	2	1	9	22	491	7	20	727	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	0	8	0	0	0	5	2	0	0	2	10
Mvmt Flow	49	2	43	2	1	10	23	522	7	21	773	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1141	1409	403	1003	1421	265	805	0	0	530	0	0
Stage 1	832	832	-	573	573	-	-	-	-	-	-	-
Stage 2	309	577	-	430	848	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.5	7.06	7.5	6.5	6.9	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4	3.38	3.5	4	3.3	2.25	-	-	2.2	-	-
Pot Cap-1 Maneuver	156	140	580	199	138	739	796	-	-	1048	-	-
Stage 1	330	387	-	477	507	-	-	-	-	-	-	-
Stage 2	676	505	-	579	380	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	147	133	580	175	131	739	796	-	-	1048	-	-
Mov Cap-2 Maneuver	147	133	-	175	131	-	-	-	-	-	-	-
Stage 1	320	379	-	463	492	-	-	-	-	-	-	-
Stage 2	647	490	-	523	372	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.5	14.7	0.4	0.2
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	222	384	1048	-	-
HCM Lane V/C Ratio	0.029	-	-	0.422	0.033	0.02	-	-
HCM Control Delay (s)	9.7	-	-	32.5	14.7	8.5	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2	0.1	0.1	-	-

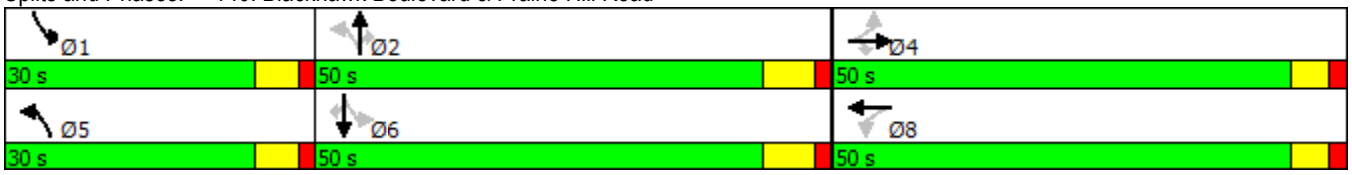


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	168	83	125	194	44	75	269	90	70	359	57
Future Volume (vph)	57	168	83	125	194	44	75	269	90	70	359	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	290		290	290		270
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.982				0.850			0.850
Flt Protected		0.988			0.983		0.950			0.950		
Satd. Flow (prot)	0	3405	1538	0	3313	0	1787	3539	1568	1787	3574	1538
Flt Permitted		0.764			0.772		0.514			0.569		
Satd. Flow (perm)	0	2633	1538	0	2602	0	967	3539	1568	1070	3574	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			92		13				100			70
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1053			308			2078			1160	
Travel Time (s)		17.9			5.3			31.5			17.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	4%	5%	4%	6%	5%	1%	2%	3%	1%	1%	5%
Adj. Flow (vph)	63	187	92	139	216	49	83	299	100	78	399	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	92	0	404	0	83	299	100	78	399	63
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			12			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	4	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5		10.8	24.6	24.6	10.8	24.5	24.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	50.0	50.0	30.0	50.0	50.0
Total Split (%)	38.5%	38.5%	38.5%	38.5%	38.5%		23.1%	38.5%	38.5%	23.1%	38.5%	38.5%
Maximum Green (s)	44.4	44.4	44.4	44.4	44.4		24.2	43.4	43.4	24.2	43.4	43.4
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		4.3	5.0	5.0	4.3	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.5	1.6	1.6	1.5	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.6		5.6		5.8	6.6	6.6	5.8	6.6	6.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)		10.8	10.8		10.8		20.3	15.4	15.4	20.1	15.3	15.3
Actuated g/C Ratio		0.23	0.23		0.23		0.43	0.33	0.33	0.43	0.33	0.33
v/c Ratio		0.41	0.22		0.66		0.16	0.26	0.17	0.15	0.34	0.11
Control Delay		18.4	5.8		22.4		7.2	14.0	4.9	7.1	14.7	4.9
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		18.4	5.8		22.4		7.2	14.0	4.9	7.1	14.7	4.9
LOS		B	A		C		A	B	A	A	B	A
Approach Delay		15.0			22.4			10.9			12.4	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 47			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 140: Blackhawk Boulevard & Prairie Hill Road



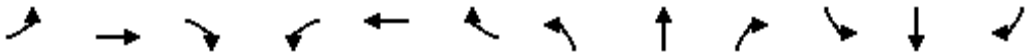
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	168	83	125	194	44	75	269	90	70	359	57
Future Volume (veh/h)	57	168	83	125	194	44	75	269	90	70	359	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1814	1810	1900	1806	1900	1881	1863	1845	1881	1881	1810
Adj Flow Rate, veh/h	63	187	0	139	216	0	83	299	0	78	399	0
Adj No. of Lanes	0	2	1	0	2	0	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	5	6	6	6	1	2	3	1	1	5
Cap, veh/h	218	546	367	294	456	0	502	1121	496	547	1123	483
Arrive On Green	0.24	0.24	0.00	0.24	0.24	0.00	0.07	0.32	0.00	0.07	0.31	0.00
Sat Flow, veh/h	437	2286	1538	680	1992	0	1792	3539	1568	1792	3574	1538
Grp Volume(v), veh/h	123	127	0	188	167	0	83	299	0	78	399	0
Grp Sat Flow(s),veh/h/ln	1154	1568	1538	1028	1561	0	1792	1770	1568	1792	1787	1538
Q Serve(g_s), s	1.3	3.2	0.0	5.7	4.4	0.0	1.4	3.0	0.0	1.3	4.1	0.0
Cycle Q Clear(g_c), s	5.6	3.2	0.0	8.9	4.4	0.0	1.4	3.0	0.0	1.3	4.1	0.0
Prop In Lane	0.51		1.00	0.74		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	374	367	377	373	0	502	1121	496	547	1123	483
V/C Ratio(X)	0.32	0.34	0.00	0.50	0.45	0.00	0.17	0.27	0.00	0.14	0.36	0.00
Avail Cap(c_a), veh/h	1347	1458	1431	1258	1452	0	1285	3218	1426	1335	3250	1398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.5	15.0	0.0	17.9	15.5	0.0	9.7	12.2	0.0	9.6	12.6	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	2.5	0.0	4.3	3.4	0.0	1.2	2.6	0.0	1.1	3.6	0.0
LnGrp Delay(d),s/veh	15.7	15.2	0.0	18.3	15.8	0.0	9.7	12.2	0.0	9.7	12.7	0.0
LnGrp LOS	B	B		B	B		A	B		A	B	
Approach Vol, veh/h		250			355			382			477	
Approach Delay, s/veh		15.5			17.1			11.7			12.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	21.7		17.0	9.1	21.6		17.0
Change Period (Y+Rc), s	5.8	* 6.6		5.6	5.8	* 6.6		5.6
Max Green Setting (Gmax), s	24.2	* 43		44.4	24.2	* 43		44.4
Max Q Clear Time (g_c+I1), s	3.3	5.0		7.6	3.4	6.1		10.9
Green Ext Time (p_c), s	0.0	0.7		0.5	0.0	0.7		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	273	53	21	293	1	67	3	21	1	0	3
Future Volume (vph)	2	273	53	21	293	1	67	3	21	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976						0.969			0.892	
Flt Protected					0.997			0.965			0.990	
Satd. Flow (prot)	0	3410	0	0	3409	0	0	1739	0	0	1678	0
Flt Permitted					0.997			0.965			0.990	
Satd. Flow (perm)	0	3410	0	0	3409	0	0	1739	0	0	1678	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		308			459			395			273	
Travel Time (s)		5.3			7.8			10.8			7.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	4%	0%	0%	6%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	2	321	62	25	345	1	79	4	25	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	385	0	0	371	0	0	108	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2

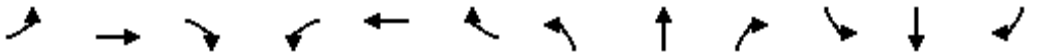
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	273	53	21	293	1	67	3	21	1	0	3
Future Vol, veh/h	2	273	53	21	293	1	67	3	21	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	4	0	0	6	0	3	0	0	0	0	0
Mvmt Flow	2	321	62	25	345	1	79	4	25	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	-	321	0	0	548	721	161	562	721	173
Stage 1	-	-	-	-	-	-	326	326	-	395	395	-
Stage 2	-	-	-	-	-	-	222	395	-	167	326	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.56	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.53	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1224	-	0	1250	-	-	417	356	862	414	356	847
Stage 1	-	-	0	-	-	-	658	652	-	607	608	-
Stage 2	-	-	0	-	-	-	757	608	-	824	652	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1224	-	-	1250	-	-	407	346	862	391	346	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	407	346	-	391	346	-
Stage 1	-	-	-	-	-	-	657	651	-	606	593	-
Stage 2	-	-	-	-	-	-	735	593	-	794	651	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	12.2	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	1224	-	1250	-	-	656
HCM Lane V/C Ratio	0.054	0.002	-	0.02	-	-	0.007
HCM Control Delay (s)	12.2	7.9	0	7.9	0.1	-	10.5
HCM Lane LOS	B	A	A	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	0.1	-	-	0

Appendix C: Future Year (2040) Traffic Operations Analysis Worksheets

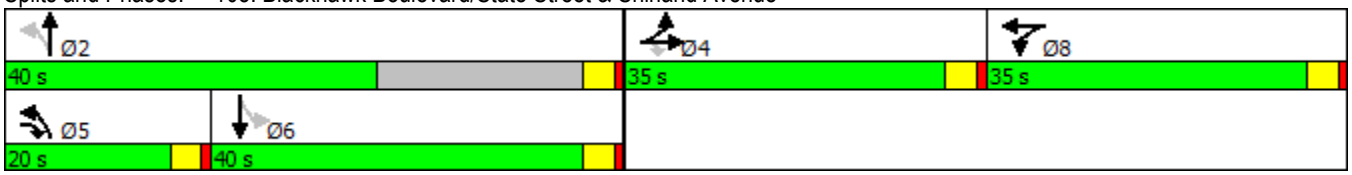


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	39	337	37	22	3	206	354	56	30	202	34
Future Volume (vph)	79	39	337	37	22	3	206	354	56	30	202	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.993			0.980			0.978	
Flt Protected		0.968			0.971		0.950			0.950		
Satd. Flow (prot)	0	1827	1553	0	1832	0	1719	3391	0	1805	3326	0
Flt Permitted		0.968			0.971		0.414			0.471		
Satd. Flow (perm)	0	1827	1553	0	1832	0	749	3391	0	895	3326	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			406		2			17			15	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		884			241			1113			803	
Travel Time (s)		24.1			6.6			25.3			18.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	1%	0%	4%	0%	0%	0%	5%	5%	0%	0%	4%	19%
Adj. Flow (vph)	95	47	406	45	27	4	248	427	67	36	243	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	406	0	76	0	248	494	0	36	284	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4	5	8	8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	10.0	6.0	6.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0		14.0	23.0		23.0	23.0	
Total Split (s)	35.0	35.0	20.0	35.0	35.0		20.0	40.0		40.0	40.0	
Total Split (%)	26.9%	26.9%	15.4%	26.9%	26.9%		15.4%	30.8%		30.8%	30.8%	
Maximum Green (s)	31.0	31.0	16.0	31.0	31.0		16.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		10.4	27.9		8.3		32.2	32.2		11.6	11.6	
Actuated g/C Ratio		0.17	0.46		0.14		0.53	0.53		0.19	0.19	
v/c Ratio		0.45	0.43		0.30		0.38	0.27		0.21	0.44	
Control Delay		29.2	2.4		28.7		11.5	9.4		26.5	24.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		29.2	2.4		28.7		11.5	9.4		26.5	24.3	
LOS		C	A		C		B	A		C	C	
Approach Delay		9.3			28.7			10.1			24.5	
Approach LOS		A			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 60.5			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

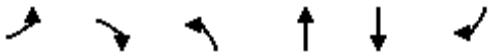
Splits and Phases: 105: Blackhawk Boulevard/State Street & Shirland Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	39	337	37	22	3	206	354	56	30	202	34
Future Volume (veh/h)	79	39	337	37	22	3	206	354	56	30	202	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1887	1827	1900	1900	1900	1810	1821	1900	1900	1790	1900
Adj Flow Rate, veh/h	95	47	406	45	27	4	248	427	67	36	243	41
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	4	0	0	0	5	5	5	0	4	4
Cap, veh/h	300	148	766	75	45	7	661	1500	234	286	554	92
Arrive On Green	0.25	0.25	0.25	0.07	0.07	0.07	0.25	0.50	0.50	0.19	0.19	0.19
Sat Flow, veh/h	1222	604	1553	1083	650	96	1723	3001	468	917	2919	486
Grp Volume(v), veh/h	142	0	406	76	0	0	248	245	249	36	140	144
Grp Sat Flow(s),veh/h/ln	1826	0	1553	1829	0	0	1723	1730	1739	917	1700	1704
Q Serve(g_s), s	4.1	0.0	11.6	2.6	0.0	0.0	5.8	5.3	5.4	2.1	4.7	4.8
Cycle Q Clear(g_c), s	4.1	0.0	11.6	2.6	0.0	0.0	5.8	5.3	5.4	2.1	4.7	4.8
Prop In Lane	0.67		1.00	0.59		0.05	1.00		0.27	1.00		0.28
Lane Grp Cap(c), veh/h	448	0	766	126	0	0	661	865	869	286	323	324
V/C Ratio(X)	0.32	0.00	0.53	0.60	0.00	0.00	0.38	0.28	0.29	0.13	0.43	0.44
Avail Cap(c_a), veh/h	877	0	1131	878	0	0	661	965	970	623	948	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	11.2	29.2	0.0	0.0	11.1	9.4	9.4	22.0	23.1	23.1
Incr Delay (d2), s/veh	0.4	0.0	0.6	4.5	0.0	0.0	1.6	0.2	0.2	0.2	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	8.7	2.6	0.0	0.0	5.4	4.6	4.7	1.0	4.1	4.3
LnGrp Delay(d),s/veh	20.3	0.0	11.8	33.7	0.0	0.0	12.7	9.6	9.6	22.2	24.0	24.1
LnGrp LOS	C		B	C			B	A	A	C	C	C
Approach Vol, veh/h		548			76			742			320	
Approach Delay, s/veh		14.0			33.7			10.6			23.8	
Approach LOS		B			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		36.3		19.8	20.0	16.3		8.5
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		36.0		31.0	16.0	36.0		31.0
Max Q Clear Time (g_c+I1), s		7.4		13.6	7.8	6.8		4.6
Green Ext Time (p_c), s		5.4		2.2	0.5	5.4		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	0	4	629	558	7
Future Volume (vph)	1	0	4	629	558	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt					0.998	
Flt Protected	0.950					
Satd. Flow (prot)	1805	0	0	3407	3466	0
Flt Permitted	0.950					
Satd. Flow (perm)	1805	0	0	3407	3466	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	329			204	1113	
Travel Time (s)	9.0			4.6	25.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	6%	4%	0%
Adj. Flow (vph)	1	0	5	767	680	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	772	689	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			3	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	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.2%		ICU Level of Service A	
Analysis Period (min) 15			

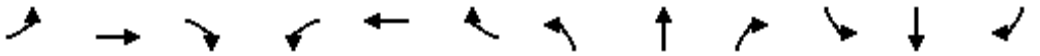
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	4	629	558	7
Future Vol, veh/h	1	0	4	629	558	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	6	4	0
Mvmt Flow	1	0	5	767	680	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1078	345	689	0	-	0
Stage 1	685	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	217	657	915	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	215	657	915	-	-	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	915	-	215	-	-
HCM Lane V/C Ratio	0.005	-	0.006	-	-
HCM Control Delay (s)	9	0	21.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

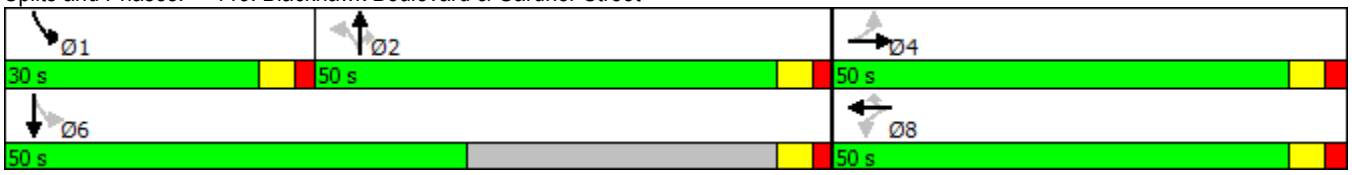


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	152	0	148	0	490	189	220	341	0
Future Volume (vph)	0	0	0	152	0	148	0	490	189	220	341	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850			
Flt Protected					0.950					0.950		
Satd. Flow (prot)	0	1900	0	0	1641	1468	1900	3471	1482	1703	3471	0
Flt Permitted					0.757					0.324		
Satd. Flow (perm)	0	1900	0	0	1308	1468	1900	3471	1482	581	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						170			217			
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		251			1246			204			204	
Travel Time (s)		5.7			34.0			4.6			4.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	10%	0%	10%	0%	4%	9%	6%	4%	0%
Adj. Flow (vph)	0	0	0	175	0	170	0	563	217	253	392	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	175	170	0	563	217	253	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0		18.0	18.0	18.0	30.0	30.0	30.0	5.0	30.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	35.4	35.4	35.4	10.5	35.4	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	50.0	50.0	50.0	30.0	50.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	38.5%	38.5%	38.5%	23.1%	38.5%	
Maximum Green (s)	44.1	44.1		44.1	44.1	44.1	44.6	44.6	44.6	24.5	44.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4	1.9	1.9	1.9	2.0	1.9	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.9			5.9	5.9	5.4	5.4	5.4	5.5	5.4	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	
Recall Mode	Min	Min		Min	Min	Min	Min	Min	Min	None	Min	
Act Effct Green (s)					20.3	20.3		30.8	30.8	47.8	47.9	
Actuated g/C Ratio					0.26	0.26		0.39	0.39	0.60	0.60	
v/c Ratio					0.52	0.34		0.42	0.31	0.50	0.19	
Control Delay					32.5	6.2		20.1	4.3	11.5	7.7	
Queue Delay					0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay					32.5	6.2		20.1	4.3	11.5	7.7	
LOS					C	A		C	A	B	A	
Approach Delay					19.6			15.7			9.2	
Approach LOS					B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 79.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 115: Blackhawk Boulevard & Gardner Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	152	0	148	0	490	189	220	341	0
Future Volume (veh/h)	0	0	0	152	0	148	0	490	189	220	341	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1727	1727	1900	1827	1743	1792	1827	1900
Adj Flow Rate, veh/h	0	0	0	175	0	0	0	563	0	253	392	0
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	10	0	4	9	6	4	4
Cap, veh/h	0	468	0	421	0	361	98	1424	608	533	2080	0
Arrive On Green	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.41	0.00	0.11	0.60	0.00
Sat Flow, veh/h	0	1900	0	1309	0	1468	1008	3471	1482	1707	3563	0
Grp Volume(v), veh/h	0	0	0	175	0	0	0	563	0	253	392	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1309	0	1468	1008	1736	1482	1707	1736	0
Q Serve(g_s), s	0.0	0.0	0.0	8.5	0.0	0.0	0.0	8.3	0.0	5.7	3.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	8.5	0.0	0.0	0.0	8.3	0.0	5.7	3.7	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	468	0	421	0	361	98	1424	608	533	2080	0
V/C Ratio(X)	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.40	0.00	0.47	0.19	0.00
Avail Cap(c_a), veh/h	0	1146	0	888	0	885	300	2117	904	911	2117	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.0	0.0	0.0	0.0	15.2	0.0	9.7	6.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	5.7	0.0	0.0	0.0	7.3	0.0	4.9	3.3	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	24.9	0.0	0.0	0.0	15.4	0.0	10.4	6.7	0.0
LnGrp LOS				C				B		B	A	
Approach Vol, veh/h		0			175			563			645	
Approach Delay, s/veh		0.0			24.9			15.4			8.1	
Approach LOS					C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.8	35.4		23.9		49.2		23.9
Change Period (Y+Rc), s	5.5	* 5.4		5.9		* 5.4		5.9
Max Green Setting (Gmax), s	24.5	* 45		44.1		* 45		44.1
Max Q Clear Time (g_c+I1), s	7.7	10.3		0.0		5.7		10.5
Green Ext Time (p_c), s	0.7	10.9		0.0		11.4		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	4	663	6	0	490
Future Volume (vph)	0	4	663	6	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1644	3398	0	0	3406
Flt Permitted						
Satd. Flow (perm)	0	1644	3398	0	0	3406
Link Speed (mph)	25		30			45
Link Distance (ft)	356		681			204
Travel Time (s)	9.7		15.5			3.1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	6%	20%	0%	6%
Adj. Flow (vph)	0	5	789	7	0	583
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	796	0	0	583
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		16			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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.5%		ICU Level of Service A	
Analysis Period (min) 15			

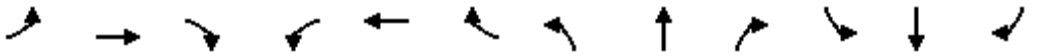
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	663	6	0	490
Future Vol, veh/h	0	4	663	6	0	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	6	20	0	6
Mvmt Flow	0	5	789	7	0	583

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	398	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	607	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	607	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	607	-
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	11	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	8	3	0	20	4	677	3	22	465	11
Future Volume (vph)	3	0	8	3	0	20	4	677	3	22	465	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.904			0.884			0.999			0.997	
Flt Protected		0.986			0.993		0.950			0.950		
Satd. Flow (prot)	0	1540	0	0	1593	0	1805	3398	0	1719	3424	0
Flt Permitted		0.986			0.993		0.950			0.950		
Satd. Flow (perm)	0	1540	0	0	1593	0	1805	3398	0	1719	3424	0
Link Speed (mph)		25			25			35			30	
Link Distance (ft)		589			469			612			681	
Travel Time (s)		16.1			12.8			11.9			15.5	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	14%	33%	0%	0%	0%	6%	33%	5%	5%	10%
Adj. Flow (vph)	4	0	10	4	0	24	5	826	4	27	567	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	28	0	5	830	0	27	580	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			

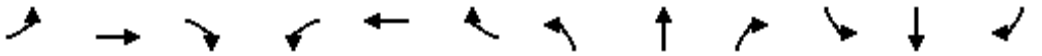
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	8	3	0	20	4	677	3	22	465	11
Future Vol, veh/h	3	0	8	3	0	20	4	677	3	22	465	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	14	33	0	0	0	6	33	5	5	10
Mvmt Flow	4	0	10	4	0	24	5	826	4	27	567	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1050	1466	290	1174	1471	415	580	0	0	829	0	0
Stage 1	627	627	-	837	837	-	-	-	-	-	-	-
Stage 2	423	839	-	337	634	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.18	8.16	6.5	6.9	4.1	-	-	4.2	-	-
Critical Hdwy Stg 1	6.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	7.16	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.44	3.83	4	3.3	2.2	-	-	2.25	-	-
Pot Cap-1 Maneuver	184	129	672	115	128	592	1004	-	-	779	-	-
Stage 1	443	479	-	269	385	-	-	-	-	-	-	-
Stage 2	585	384	-	572	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	124	672	110	123	592	1004	-	-	779	-	-
Mov Cap-2 Maneuver	171	124	-	110	123	-	-	-	-	-	-	-
Stage 1	441	462	-	268	383	-	-	-	-	-	-	-
Stage 2	558	382	-	544	460	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	15.3	0.1	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1004	-	-	374	377	779	-	-
HCM Lane V/C Ratio	0.005	-	-	0.036	0.074	0.034	-	-
HCM Control Delay (s)	8.6	-	-	15	15.3	9.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1	24	20	0	6	34	635	11	11	422	37
Future Volume (vph)	38	1	24	20	0	6	34	635	11	11	422	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.948			0.970			0.997			0.988	
Flt Protected		0.971			0.962		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1699	0	1805	3399	0	1641	3410	0
Flt Permitted		0.971			0.962		0.950			0.950		
Satd. Flow (perm)	0	1690	0	0	1699	0	1805	3399	0	1641	3410	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		368			370			660			612	
Travel Time (s)		10.0			10.1			12.9			11.9	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	9%	0%	0%	20%	0%	6%	0%	10%	5%	0%
Adj. Flow (vph)	47	1	30	25	0	7	42	784	14	14	521	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	32	0	42	798	0	14	567	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

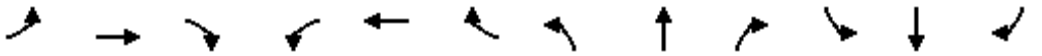
Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	1	24	20	0	6	34	635	11	11	422	37
Future Vol, veh/h	38	1	24	20	0	6	34	635	11	11	422	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	0	0	9	0	0	20	0	6	0	10	5	0
Mvmt Flow	47	1	30	25	0	7	42	784	14	14	521	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1047	1452	283	1163	1469	399	567	0	0	798	0	0
Stage 1	571	571	-	875	875	-	-	-	-	-	-	-
Stage 2	476	881	-	288	594	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	7.08	7.5	6.5	7.3	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.39	3.5	4	3.5	2.2	-	-	2.3	-	-
Pot Cap-1 Maneuver	185	132	693	152	129	553	1015	-	-	770	-	-
Stage 1	478	508	-	315	370	-	-	-	-	-	-	-
Stage 2	544	367	-	701	496	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	174	124	693	138	121	553	1015	-	-	770	-	-
Mov Cap-2 Maneuver	174	124	-	138	121	-	-	-	-	-	-	-
Stage 1	458	499	-	302	355	-	-	-	-	-	-	-
Stage 2	515	352	-	657	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.9	31.6	0.4	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1015	-	-	241	167	770	-	-
HCM Lane V/C Ratio	0.041	-	-	0.323	0.192	0.018	-	-
HCM Control Delay (s)	8.7	-	-	26.9	31.6	9.8	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	0.7	0.1	-	-

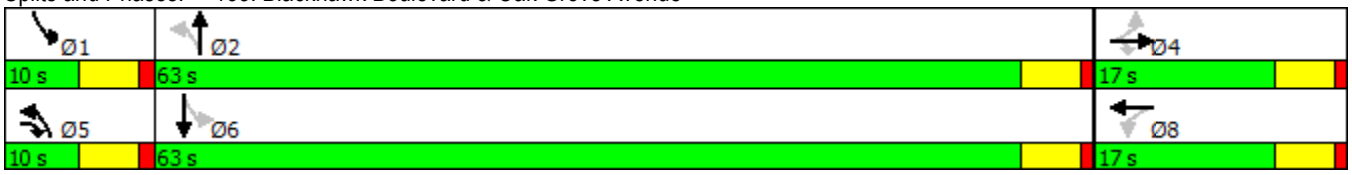


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	2	48	28	3	19	92	628	17	19	404	57
Future Volume (vph)	32	2	48	28	3	19	92	628	17	19	404	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	130		0	130		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.950			0.996			0.981	
Flt Protected		0.955			0.973		0.950			0.950		
Satd. Flow (prot)	0	1562	1442	0	1646	0	1805	3423	0	1530	3413	0
Flt Permitted		0.792			0.804		0.434			0.361		
Satd. Flow (perm)	0	1296	1442	0	1360	0	825	3423	0	581	3413	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			56		22			6			35	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		679			374			1556			660	
Travel Time (s)		18.5			10.2			30.3			12.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	17%	0%	12%	8%	0%	6%	0%	5%	7%	18%	4%	2%
Adj. Flow (vph)	38	2	56	33	4	22	108	739	20	22	475	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	56	0	59	0	108	759	0	22	542	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5		8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	5	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0	5.0	12.0	12.0		5.0	58.0		5.0	58.0	
Minimum Split (s)	17.0	17.0	10.0	17.0	17.0		10.0	63.0		10.0	63.0	
Total Split (s)	17.0	17.0	10.0	17.0	17.0		10.0	63.0		10.0	63.0	
Total Split (%)	18.9%	18.9%	11.1%	18.9%	18.9%		11.1%	70.0%		11.1%	70.0%	
Maximum Green (s)	12.0	12.0	5.0	12.0	12.0		5.0	58.0		5.0	58.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)		12.0	18.3		12.0		67.4	66.6		65.5	62.7	
Actuated g/C Ratio		0.14	0.21		0.14		0.77	0.76		0.75	0.72	
v/c Ratio		0.23	0.16		0.29		0.16	0.29		0.05	0.22	
Control Delay		38.5	9.1		28.7		3.4	5.3		3.1	5.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		38.5	9.1		28.7		3.4	5.3		3.1	5.8	
LOS		D	A		C		A	A		A	A	
Approach Delay		21.3			28.7			5.1			5.7	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

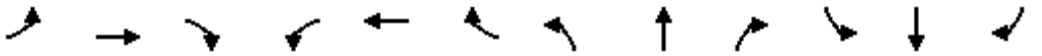
Splits and Phases: 135: Blackhawk Boulevard & Oak Grove Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	2	48	28	3	19	92	628	17	19	404	57
Future Volume (veh/h)	32	2	48	28	3	19	92	628	17	19	404	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1636	1696	1900	1780	1900	1900	1809	1900	1610	1831	1900
Adj Flow Rate, veh/h	38	2	56	33	4	22	108	739	20	22	475	67
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	12	0	0	0	0	5	5	18	4	4
Cap, veh/h	246	11	269	150	29	68	684	2297	62	472	1971	277
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.67	0.67	0.02	0.64	0.64
Sat Flow, veh/h	1247	80	1442	643	218	512	1810	3418	92	1533	3065	430
Grp Volume(v), veh/h	40	0	56	59	0	0	108	371	388	22	269	273
Grp Sat Flow(s),veh/h/ln	1328	0	1442	1373	0	0	1810	1718	1792	1533	1740	1755
Q Serve(g_s), s	0.0	0.0	2.9	1.5	0.0	0.0	1.7	7.9	7.9	0.4	5.7	5.8
Cycle Q Clear(g_c), s	2.0	0.0	2.9	3.5	0.0	0.0	1.7	7.9	7.9	0.4	5.7	5.8
Prop In Lane	0.95		1.00	0.56		0.37	1.00		0.05	1.00		0.25
Lane Grp Cap(c), veh/h	257	0	269	247	0	0	684	1155	1205	472	1119	1129
V/C Ratio(X)	0.16	0.00	0.21	0.24	0.00	0.00	0.16	0.32	0.32	0.05	0.24	0.24
Avail Cap(c_a), veh/h	261	0	273	251	0	0	691	1155	1205	523	1148	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	30.3	34.4	0.0	0.0	4.5	6.0	6.0	5.1	6.6	6.6
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.5	0.0	0.0	0.1	0.2	0.2	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.0	2.1	2.4	0.0	0.0	1.5	6.8	7.1	0.3	4.9	5.1
LnGrp Delay(d),s/veh	34.1	0.0	30.6	34.9	0.0	0.0	4.6	6.2	6.2	5.2	6.7	6.7
LnGrp LOS	C		C	C			A	A	A	A	A	A
Approach Vol, veh/h		96			59			867			564	
Approach Delay, s/veh		32.1			34.9			6.0			6.7	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	64.1		16.7	9.6	61.5		16.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	58.0		12.0	5.0	58.0		12.0
Max Q Clear Time (g_c+I1), s	2.4	9.9		4.9	3.7	7.8		5.5
Green Ext Time (p_c), s	0.0	10.3		0.4	0.0	8.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	8.9
HCM 2010 LOS	A

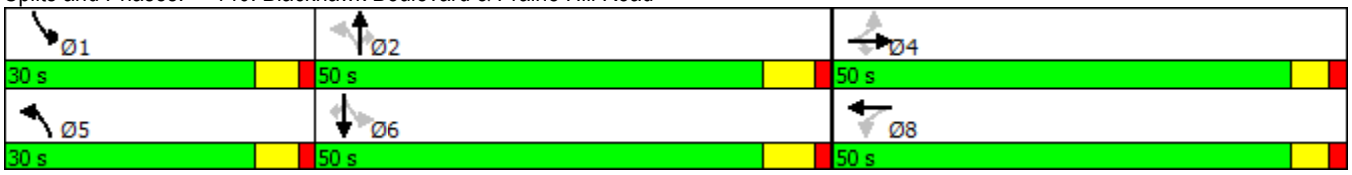


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	193	103	119	103	33	60	320	87	44	224	65
Future Volume (vph)	62	193	103	119	103	33	60	320	87	44	224	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	290		290	290		270
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.981				0.850			0.850
Flt Protected		0.988			0.977		0.950			0.950		
Satd. Flow (prot)	0	3303	1553	0	3184	0	1687	3374	1482	1570	3406	1482
Flt Permitted		0.796			0.720		0.581			0.537		
Satd. Flow (perm)	0	2661	1553	0	2347	0	1032	3374	1482	887	3406	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		14				98			73
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1053			308			2078			1160	
Travel Time (s)		17.9			5.3			31.5			17.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	11%	7%	4%	8%	9%	10%	7%	7%	9%	15%	6%	9%
Adj. Flow (vph)	70	217	116	134	116	37	67	360	98	49	252	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	287	116	0	287	0	67	360	98	49	252	73
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			12			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	4	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5		10.8	24.6	24.6	10.8	24.5	24.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	50.0	50.0	30.0	50.0	50.0
Total Split (%)	38.5%	38.5%	38.5%	38.5%	38.5%		23.1%	38.5%	38.5%	23.1%	38.5%	38.5%
Maximum Green (s)	44.4	44.4	44.4	44.4	44.4		24.2	43.4	43.4	24.2	43.4	43.4
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		4.3	5.0	5.0	4.3	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.5	1.6	1.6	1.5	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.6		5.6		5.8	6.6	6.6	5.8	6.6	6.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		4.0	3.5	3.5	4.0	3.5	3.5
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)		12.6	12.6		12.6		21.5	16.1	16.1	20.7	15.8	15.8
Actuated g/C Ratio		0.26	0.26		0.26		0.44	0.33	0.33	0.43	0.33	0.33
v/c Ratio		0.42	0.24		0.47		0.12	0.32	0.18	0.10	0.23	0.14
Control Delay		18.4	5.6		18.5		7.3	15.7	5.5	7.4	15.6	6.1
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		18.4	5.6		18.5		7.3	15.7	5.5	7.4	15.6	6.1
LOS		B	A		B		A	B	A	A	B	A
Approach Delay		14.7			18.5			12.7			12.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 48.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 50.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 140: Blackhawk Boulevard & Prairie Hill Road



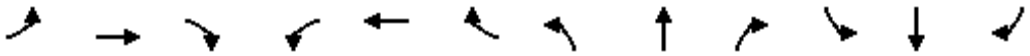
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	193	103	119	103	33	60	320	87	44	224	65
Future Volume (veh/h)	62	193	103	119	103	33	60	320	87	44	224	65
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1760	1827	1900	1749	1900	1776	1776	1743	1652	1792	1743
Adj Flow Rate, veh/h	70	217	0	134	116	0	67	360	0	49	252	0
Adj No. of Lanes	0	2	1	0	2	0	1	2	1	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	4	9	9	9	7	7	9	15	6	9
Cap, veh/h	261	713	459	387	446	0	495	1026	450	417	998	434
Arrive On Green	0.30	0.30	0.00	0.30	0.30	0.00	0.06	0.30	0.00	0.05	0.29	0.00
Sat Flow, veh/h	536	2415	1553	835	1591	0	1691	3374	1482	1573	3406	1482
Grp Volume(v), veh/h	152	135	0	134	116	0	67	360	0	49	252	0
Grp Sat Flow(s),veh/h/ln	1430	1521	1553	835	1512	0	1691	1687	1482	1573	1703	1482
Q Serve(g_s), s	1.4	3.5	0.0	5.6	3.0	0.0	1.4	4.3	0.0	1.1	2.9	0.0
Cycle Q Clear(g_c), s	4.4	3.5	0.0	9.1	3.0	0.0	1.4	4.3	0.0	1.1	2.9	0.0
Prop In Lane	0.46		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	525	449	459	387	446	0	495	1026	450	417	998	434
V/C Ratio(X)	0.29	0.30	0.00	0.35	0.26	0.00	0.14	0.35	0.00	0.12	0.25	0.00
Avail Cap(c_a), veh/h	1354	1320	1347	1010	1311	0	1193	2861	1256	1084	2888	1256
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.1	14.0	0.0	17.5	13.8	0.0	11.2	13.9	0.0	11.6	13.8	0.0
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.6	0.4	0.0	0.2	0.2	0.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	2.7	0.0	3.1	2.3	0.0	1.1	3.6	0.0	0.8	2.5	0.0
LnGrp Delay(d),s/veh	14.5	14.4	0.0	18.1	14.1	0.0	11.4	14.1	0.0	11.8	14.0	0.0
LnGrp LOS	B	B		B	B		B	B		B	B	
Approach Vol, veh/h		287			250			427			301	
Approach Delay, s/veh		14.4			16.3			13.7			13.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.3	22.2		20.7	8.9	21.6		20.7
Change Period (Y+Rc), s	5.8	* 6.6		5.6	5.8	* 6.6		5.6
Max Green Setting (Gmax), s	24.2	* 43		44.4	24.2	* 43		44.4
Max Q Clear Time (g_c+I1), s	3.1	6.3		6.4	3.4	4.9		11.1
Green Ext Time (p_c), s	0.1	4.9		4.1	0.2	4.9		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	262	57	8	221	2	31	1	10	0	2	3
Future Volume (vph)	6	262	57	8	221	2	31	1	10	0	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.999			0.967			0.910	
Flt Protected		0.999			0.998			0.965				
Satd. Flow (prot)	0	3235	0	0	3317	0	0	1533	0	0	1729	0
Flt Permitted		0.999			0.998			0.965				
Satd. Flow (perm)	0	3235	0	0	3317	0	0	1533	0	0	1729	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		308			459			395			273	
Travel Time (s)		5.3			7.8			10.8			7.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	20%	8%	10%	14%	8%	50%	14%	0%	22%	0%	0%	0%
Adj. Flow (vph)	7	308	67	9	260	2	36	1	12	0	2	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	382	0	0	271	0	0	49	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.2%		ICU Level of Service A	
Analysis Period (min) 15			

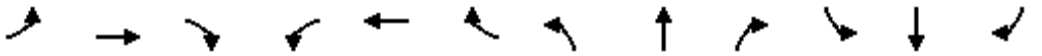
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	262	57	8	221	2	31	1	10	0	2	3
Future Vol, veh/h	6	262	57	8	221	2	31	1	10	0	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	20	8	10	14	8	50	14	0	22	0	0	0
Mvmt Flow	7	308	67	9	260	2	36	1	12	0	2	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	262	0	-	308	0	0	472	603	154	449	602	131
Stage 1	-	-	-	-	-	-	322	322	-	280	280	-
Stage 2	-	-	-	-	-	-	150	281	-	169	322	-
Critical Hdwy	4.5	-	-	4.38	-	-	7.78	6.5	7.34	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.78	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.78	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.4	-	-	2.34	-	-	3.64	4	3.52	3.5	4	3.3
Pot Cap-1 Maneuver	1178	-	0	1167	-	-	448	416	805	498	416	901
Stage 1	-	-	0	-	-	-	632	655	-	709	683	-
Stage 2	-	-	0	-	-	-	804	682	-	822	655	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1178	-	-	1167	-	-	439	409	805	484	409	901
Mov Cap-2 Maneuver	-	-	-	-	-	-	439	409	-	484	409	-
Stage 1	-	-	-	-	-	-	628	650	-	704	677	-
Stage 2	-	-	-	-	-	-	791	676	-	803	650	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	11.4	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	575	1178	-	1167	-	-	608
HCM Lane V/C Ratio	0.023	0.006	-	0.008	-	-	0.01
HCM Control Delay (s)	11.4	8.1	0	8.1	0	-	11
HCM Lane LOS	B	A	A	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	0	-	-	0



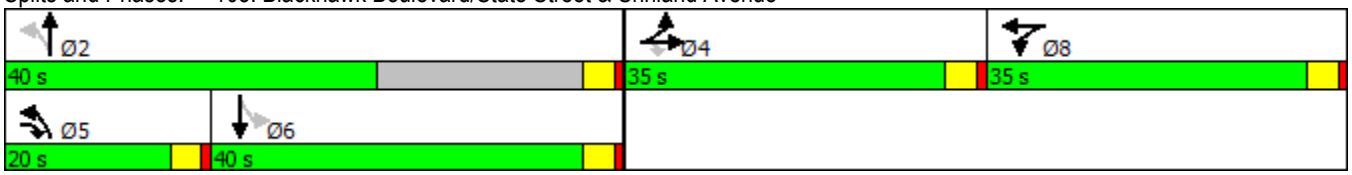
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	22	291	23	28	7	323	393	38	28	463	109
Future Volume (vph)	80	22	291	23	28	7	323	393	38	28	463	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.983			0.987			0.971	
Flt Protected		0.962			0.980		0.950			0.950		
Satd. Flow (prot)	0	1732	1568	0	1760	0	1752	3522	0	1805	3430	0
Flt Permitted		0.962			0.980		0.222			0.478		
Satd. Flow (perm)	0	1732	1568	0	1760	0	410	3522	0	908	3430	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			323		5			10			22	
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		884			241			1113			803	
Travel Time (s)		24.1			6.6			25.3			18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	0%	3%	5%	0%	16%	3%	1%	3%	0%	2%	3%
Adj. Flow (vph)	89	24	323	26	31	8	359	437	42	31	514	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	323	0	65	0	359	479	0	31	635	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	4	4	5	8	8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4				2			6		
Detector Phase	4	4	5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	10.0	6.0	6.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0		14.0	23.0		23.0	23.0	
Total Split (s)	35.0	35.0	20.0	35.0	35.0		20.0	40.0		40.0	40.0	
Total Split (%)	26.9%	26.9%	15.4%	26.9%	26.9%		15.4%	30.8%		30.8%	30.8%	
Maximum Green (s)	31.0	31.0	16.0	31.0	31.0		16.0	36.0		36.0	36.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)		10.9	26.0		8.7		41.6	43.1		19.5	19.5	
Actuated g/C Ratio		0.16	0.39		0.13		0.63	0.65		0.29	0.29	
v/c Ratio		0.40	0.40		0.28		0.59	0.21		0.12	0.62	
Control Delay		33.9	2.9		32.6		15.5	8.0		21.5	24.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		33.9	2.9		32.6		15.5	8.0		21.5	24.2	
LOS		C	A		C		B	A		C	C	
Approach Delay		10.9			32.6			11.2			24.1	
Approach LOS		B			C			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 66.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 54.4% ICU Level of Service A
Analysis Period (min) 15

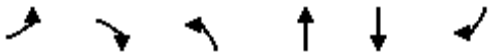
Splits and Phases: 105: Blackhawk Boulevard/State Street & Shriland Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	22	291	23	28	7	323	393	38	28	463	109
Future Volume (veh/h)	80	22	291	23	28	7	323	393	38	28	463	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1801	1845	1900	1827	1900	1845	1878	1900	1900	1859	1900
Adj Flow Rate, veh/h	89	24	323	26	31	8	359	437	42	31	514	121
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	3	0	0	0	3	1	1	0	2	2
Cap, veh/h	275	74	680	43	52	13	599	1852	177	358	774	181
Arrive On Green	0.20	0.20	0.20	0.06	0.06	0.06	0.23	0.56	0.56	0.27	0.27	0.27
Sat Flow, veh/h	1365	368	1568	702	837	216	1757	3291	315	930	2842	666
Grp Volume(v), veh/h	113	0	323	65	0	0	359	236	243	31	319	316
Grp Sat Flow(s),veh/h/ln	1732	0	1568	1754	0	0	1757	1784	1822	930	1766	1742
Q Serve(g_s), s	3.8	0.0	10.1	2.5	0.0	0.0	8.3	4.6	4.6	1.7	11.0	11.1
Cycle Q Clear(g_c), s	3.8	0.0	10.1	2.5	0.0	0.0	8.3	4.6	4.6	1.7	11.0	11.1
Prop In Lane	0.79		1.00	0.40		0.12	1.00		0.17	1.00		0.38
Lane Grp Cap(c), veh/h	349	0	680	109	0	0	599	1004	1025	358	481	475
V/C Ratio(X)	0.32	0.00	0.48	0.60	0.00	0.00	0.60	0.24	0.24	0.09	0.66	0.67
Avail Cap(c_a), veh/h	779	0	1069	789	0	0	599	1004	1025	590	922	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	13.9	31.5	0.0	0.0	11.6	7.6	7.6	18.9	22.3	22.3
Incr Delay (d2), s/veh	0.5	0.0	0.5	5.2	0.0	0.0	4.4	0.1	0.1	0.1	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.0	7.9	2.5	0.0	0.0	8.1	4.1	4.2	0.8	9.5	9.4
LnGrp Delay(d),s/veh	24.1	0.0	14.5	36.7	0.0	0.0	16.0	7.7	7.7	19.0	23.8	23.9
LnGrp LOS	C		B	D			B	A	A	B	C	C
Approach Vol, veh/h		436			65			838			666	
Approach Delay, s/veh		16.9			36.7			11.3			23.6	
Approach LOS		B			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		42.8		17.9	20.0	22.8		8.3
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		36.0		31.0	16.0	36.0		31.0
Max Q Clear Time (g_c+I1), s		6.6		12.1	10.3	13.1		4.5
Green Ext Time (p_c), s		8.3		1.7	0.6	5.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	3	0	713	793	1
Future Volume (vph)	6	3	0	713	793	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.959					
Flt Protected	0.966					
Satd. Flow (prot)	1760	0	0	3539	3539	0
Flt Permitted	0.966					
Satd. Flow (perm)	1760	0	0	3539	3539	0
Link Speed (mph)	25			30	30	
Link Distance (ft)	329			204	1113	
Travel Time (s)	9.0			4.6	25.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	7	3	0	784	871	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	784	872	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			3	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	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

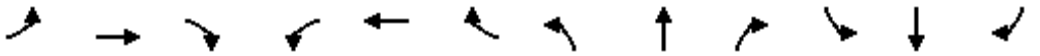
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	3	0	713	793	1
Future Vol, veh/h	6	3	0	713	793	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	0	0	0	2	2	0
Mvmt Flow	7	3	0	784	871	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1264	436	873	0	-	0
Stage 1	872	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	164	574	781	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	574	781	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	781	-	215	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-
HCM Control Delay (s)	0	-	22.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

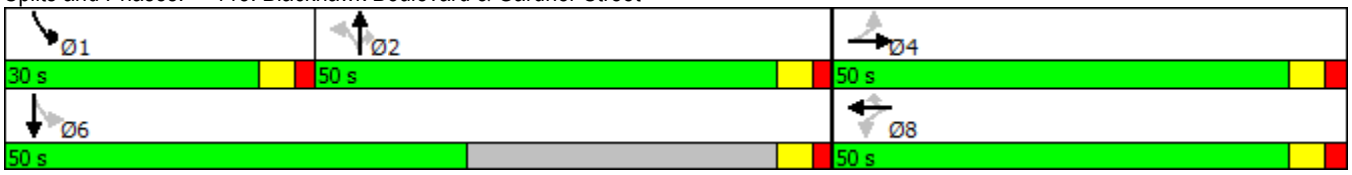


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	246	1	285	7	440	167	192	602	1
Future Volume (vph)	1	0	1	246	1	285	7	440	167	192	602	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932				0.850			0.850			
Flt Protected		0.976			0.953		0.950			0.950		
Satd. Flow (prot)	0	1728	0	0	1741	1583	1805	3539	1568	1736	3539	0
Flt Permitted		0.909			0.726		0.408			0.369		
Satd. Flow (perm)	0	1610	0	0	1327	1583	775	3539	1568	674	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66				303			178			
Link Speed (mph)		30			25			30			30	
Link Distance (ft)		251			1246			204			204	
Travel Time (s)		5.7			34.0			4.6			4.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	4%	0%	2%	0%	2%	3%	4%	2%	0%
Adj. Flow (vph)	1	0	1	262	1	303	7	468	178	204	640	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	263	303	7	468	178	204	641	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0		18.0	18.0	18.0	30.0	30.0	30.0	5.0	30.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	35.5	35.5	35.5	10.5	35.4	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	50.0	50.0	50.0	30.0	50.0	
Total Split (%)	38.5%	38.5%		38.5%	38.5%	38.5%	38.5%	38.5%	38.5%	23.1%	38.5%	
Maximum Green (s)	44.1	44.1		44.1	44.1	44.1	44.6	44.6	44.6	24.5	44.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.4	2.4		2.4	2.4	2.4	1.9	1.9	1.9	2.0	1.9	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.9			5.9	5.9	5.4	5.4	5.4	5.5	5.4	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	
Recall Mode	Min	Min		Min	Min	Min	Min	Min	Min	None	Min	
Act Effct Green (s)		25.0			25.0	25.0	30.4	30.4	30.4	47.3	47.4	
Actuated g/C Ratio		0.30			0.30	0.30	0.36	0.36	0.36	0.56	0.56	
v/c Ratio		0.00			0.66	0.44	0.02	0.36	0.26	0.39	0.32	
Control Delay		0.0			34.7	4.9	22.9	22.6	5.2	12.7	11.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		0.0			34.7	4.9	22.9	22.6	5.2	12.7	11.1	
LOS		A			C	A	C	C	A	B	B	
Approach Delay					18.8			17.8			11.5	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 83.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 115: Blackhawk Boulevard & Gardner Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	246	1	285	7	440	167	192	602	1
Future Volume (veh/h)	1	0	1	246	1	285	7	440	167	192	602	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1827	1863	1900	1863	1845	1827	1863	1900
Adj Flow Rate, veh/h	1	0	1	262	1	0	7	468	0	204	640	1
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	2	0	2	3	4	2	2
Cap, veh/h	270	24	219	448	1	398	436	1484	657	564	2141	3
Arrive On Green	0.25	0.00	0.25	0.25	0.25	0.00	0.42	0.42	0.00	0.09	0.59	0.59
Sat Flow, veh/h	774	97	870	1381	5	1583	801	3539	1568	1740	3626	6
Grp Volume(v), veh/h	2	0	0	263	0	0	7	468	0	204	312	329
Grp Sat Flow(s),veh/h/ln	1741	0	0	1386	0	1583	801	1770	1568	1740	1770	1862
Q Serve(g_s), s	0.0	0.0	0.0	12.5	0.0	0.0	0.4	6.3	0.0	4.4	6.3	6.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	12.5	0.0	0.0	0.4	6.3	0.0	4.4	6.3	6.3
Prop In Lane	0.50		0.50	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	513	0	0	449	0	398	436	1484	657	564	1045	1099
V/C Ratio(X)	0.00	0.00	0.00	0.59	0.00	0.00	0.02	0.32	0.00	0.36	0.30	0.30
Avail Cap(c_a), veh/h	1068	0	0	954	0	976	600	2206	977	995	1103	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	0.0	24.7	0.0	0.0	12.2	13.9	0.0	9.1	7.3	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.2	0.0	0.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	8.6	0.0	0.0	0.1	5.6	0.0	3.7	5.6	5.9
LnGrp Delay(d),s/veh	20.1	0.0	0.0	26.5	0.0	0.0	12.2	14.1	0.0	9.5	7.5	7.5
LnGrp LOS	C			C			B	B		A	A	A
Approach Vol, veh/h		2			263			475			845	
Approach Delay, s/veh		20.1			26.5			14.1			8.0	
Approach LOS		C			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	12.3	35.4		23.9		47.7		23.9
Change Period (Y+Rc), s	5.5	* 5.4		5.9		* 5.4		5.9
Max Green Setting (Gmax), s	24.5	* 45		44.1		* 45		44.1
Max Q Clear Time (g_c+I1), s	6.4	8.3		2.1		8.3		14.5
Green Ext Time (p_c), s	0.5	12.8		2.6		12.8		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	20	592	2	0	851
Future Volume (vph)	0	20	592	2	0	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1644	3539	0	0	3505
Flt Permitted						
Satd. Flow (perm)	0	1644	3539	0	0	3505
Link Speed (mph)	25		30			45
Link Distance (ft)	356		681			204
Travel Time (s)	9.7		15.5			3.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	0%	3%
Adj. Flow (vph)	0	21	623	2	0	896
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	21	625	0	0	896
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		16			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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

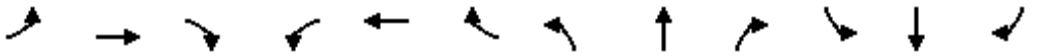
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	592	2	0	851
Future Vol, veh/h	0	20	592	2	0	851
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	3
Mvmt Flow	0	21	623	2	0	896

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	313	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	689	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	689	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	689	-
HCM Lane V/C Ratio	-	-	0.031	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2	12	2	0	21	19	605	1	23	833	12
Future Volume (vph)	28	2	12	2	0	21	19	605	1	23	833	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.961			0.876						0.998	
Flt Protected		0.968			0.996		0.950			0.950		
Satd. Flow (prot)	0	1643	0	0	1658	0	1703	3539	0	1805	3495	0
Flt Permitted		0.968			0.996		0.950			0.950		
Satd. Flow (perm)	0	1643	0	0	1658	0	1703	3539	0	1805	3495	0
Link Speed (mph)		25			25			35			30	
Link Distance (ft)		589			469			612			681	
Travel Time (s)		16.1			12.8			11.9			15.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	50%	0%	0%	0%	0%	6%	2%	0%	0%	3%	9%
Adj. Flow (vph)	30	2	13	2	0	22	20	644	1	24	886	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	24	0	20	645	0	24	899	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.1%		ICU Level of Service A	
Analysis Period (min) 15			

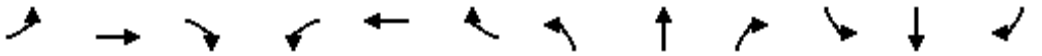
Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	2	12	2	0	21	19	605	1	23	833	12
Future Vol, veh/h	28	2	12	2	0	21	19	605	1	23	833	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	120	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	50	0	0	0	0	6	2	0	0	3	9
Mvmt Flow	30	2	13	2	0	22	20	644	1	24	886	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1303	1626	449	1178	1633	322	899	0	0	645	0	0
Stage 1	941	941	-	685	685	-	-	-	-	-	-	-
Stage 2	362	685	-	493	948	-	-	-	-	-	-	-
Critical Hdwy	7.66	7.5	6.9	7.5	6.5	6.9	4.22	-	-	4.1	-	-
Critical Hdwy Stg 1	6.66	6.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	6.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.5	3.3	3.5	4	3.3	2.26	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	63	563	148	102	680	727	-	-	950	-	-
Stage 1	272	249	-	409	451	-	-	-	-	-	-	-
Stage 2	613	346	-	532	342	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	104	60	563	135	97	680	727	-	-	950	-	-
Mov Cap-2 Maneuver	104	60	-	135	97	-	-	-	-	-	-	-
Stage 1	265	243	-	398	439	-	-	-	-	-	-	-
Stage 2	577	336	-	502	333	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	46.5	12.5	0.3	0.2
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	727	-	-	130	503	950	-	-
HCM Lane V/C Ratio	0.028	-	-	0.344	0.049	0.026	-	-
HCM Control Delay (s)	10.1	-	-	46.5	12.5	8.9	-	-
HCM Lane LOS	B	-	-	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.2	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1	14	28	1	4	9	594	18	14	817	11
Future Volume (vph)	21	1	14	28	1	4	9	594	18	14	817	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	140		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947			0.985			0.996			0.998	
Flt Protected		0.972			0.959		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1795	0	1805	3494	0	1805	3528	0
Flt Permitted		0.972			0.959		0.950			0.950		
Satd. Flow (perm)	0	1749	0	0	1795	0	1805	3494	0	1805	3528	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		368			370			660			612	
Travel Time (s)		10.0			10.1			12.9			11.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	2%	10%
Adj. Flow (vph)	22	1	15	30	1	4	10	632	19	15	869	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	35	0	10	651	0	15	881	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.9%		ICU Level of Service A	
Analysis Period (min) 15			

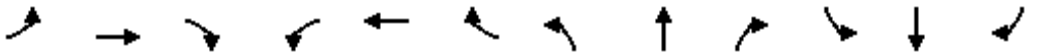
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	1	14	28	1	4	9	594	18	14	817	11
Future Vol, veh/h	21	1	14	28	1	4	9	594	18	14	817	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	140	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	10
Mvmt Flow	22	1	15	30	1	4	10	632	19	15	869	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1241	1575	440	1126	1572	326	881	0	0	651	0	0
Stage 1	905	905	-	661	661	-	-	-	-	-	-	-
Stage 2	336	670	-	465	911	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	133	111	570	162	111	676	776	-	-	945	-	-
Stage 1	302	358	-	423	463	-	-	-	-	-	-	-
Stage 2	657	459	-	552	356	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	128	108	570	153	108	676	776	-	-	945	-	-
Mov Cap-2 Maneuver	128	108	-	153	108	-	-	-	-	-	-	-
Stage 1	298	352	-	418	457	-	-	-	-	-	-	-
Stage 2	643	453	-	527	350	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	32.2	0.1	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	776	-	-	182	167	945	-	-
HCM Lane V/C Ratio	0.012	-	-	0.21	0.21	0.016	-	-
HCM Control Delay (s)	9.7	-	-	30	32.2	8.9	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.8	0	-	-

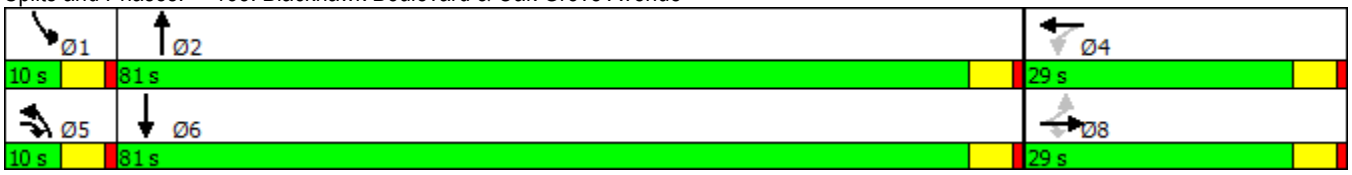


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2	44	2	1	10	24	545	8	22	807	33
Future Volume (vph)	51	2	44	2	1	10	24	545	8	22	807	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	130		0	130		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.894			0.998			0.994	
Flt Protected		0.954			0.993		0.950			0.950		
Satd. Flow (prot)	0	1778	1495	0	1687	0	1719	3533	0	1805	3507	0
Flt Permitted		0.935			0.938		0.950			0.950		
Satd. Flow (perm)	0	1743	1495	0	1593	0	1719	3533	0	1805	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			47		11			2			7	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		679			374			1556			660	
Travel Time (s)		18.5			10.2			30.3			12.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	8%	0%	0%	0%	5%	2%	0%	0%	2%	10%
Adj. Flow (vph)	54	2	47	2	1	11	26	580	9	23	859	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	47	0	14	0	26	589	0	23	894	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	5		4		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	5	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	29.0	29.0	10.0	29.0	29.0		10.0	81.0		10.0	81.0	
Total Split (%)	24.2%	24.2%	8.3%	24.2%	24.2%		8.3%	67.5%		8.3%	67.5%	
Maximum Green (s)	24.0	24.0	5.0	24.0	24.0		5.0	76.0		5.0	76.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	Min	None	None		Min	Min		Min	Min	
Act Effct Green (s)		7.8	12.2		7.5		5.5	19.2		5.5	19.2	
Actuated g/C Ratio		0.18	0.29		0.18		0.13	0.45		0.13	0.45	
v/c Ratio		0.17	0.10		0.05		0.12	0.37		0.10	0.56	
Control Delay		20.0	5.2		12.9		23.7	9.1		23.5	10.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		20.0	5.2		12.9		23.7	9.1		23.5	10.8	
LOS		B	A		B		C	A		C	B	
Approach Delay		13.2			12.9			9.7			11.1	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 42.4			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

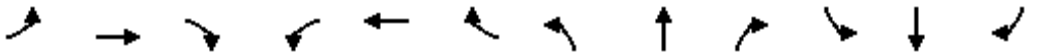
Splits and Phases: 135: Blackhawk Boulevard & Oak Grove Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	2	44	2	1	10	24	545	8	22	807	33
Future Volume (veh/h)	51	2	44	2	1	10	24	545	8	22	807	33
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1864	1759	1900	1900	1900	1810	1863	1900	1900	1857	1900
Adj Flow Rate, veh/h	54	2	47	2	1	11	26	580	9	23	859	35
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	8	0	0	0	5	2	2	0	2	2
Cap, veh/h	268	4	285	99	18	107	184	1745	27	193	1690	69
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.11	0.49	0.49	0.11	0.49	0.49
Sat Flow, veh/h	1404	52	1495	135	213	1276	1723	3568	55	1810	3456	141
Grp Volume(v), veh/h	56	0	47	14	0	0	26	288	301	23	439	455
Grp Sat Flow(s),veh/h/ln	1456	0	1495	1624	0	0	1723	1770	1854	1810	1764	1832
Q Serve(g_s), s	1.2	0.0	1.2	0.0	0.0	0.0	0.6	4.6	4.6	0.5	7.9	7.9
Cycle Q Clear(g_c), s	1.6	0.0	1.2	0.4	0.0	0.0	0.6	4.6	4.6	0.5	7.9	7.9
Prop In Lane	0.96		1.00	0.14		0.79	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	273	0	285	224	0	0	184	866	906	193	863	896
V/C Ratio(X)	0.21	0.00	0.17	0.06	0.00	0.00	0.14	0.33	0.33	0.12	0.51	0.51
Avail Cap(c_a), veh/h	878	0	927	908	0	0	184	2876	3011	193	2866	2977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	15.8	19.8	0.0	0.0	18.9	7.3	7.3	18.9	8.1	8.1
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.1	0.0	0.0	0.3	0.2	0.2	0.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	0.0	1.0	0.3	0.0	0.0	0.6	4.1	4.3	0.5	7.0	7.3
LnGrp Delay(d),s/veh	20.7	0.0	16.1	19.9	0.0	0.0	19.3	7.5	7.5	19.2	8.6	8.6
LnGrp LOS	C		B	B			B	A	A	B	A	A
Approach Vol, veh/h		103			14			615			917	
Approach Delay, s/veh		18.6			19.9			8.0			8.9	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	27.9		8.9	10.0	27.9		8.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	76.0		24.0	5.0	76.0		24.0
Max Q Clear Time (g_c+I1), s	2.5	6.6		2.4	2.6	9.9		3.6
Green Ext Time (p_c), s	0.0	13.0		0.5	0.0	13.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

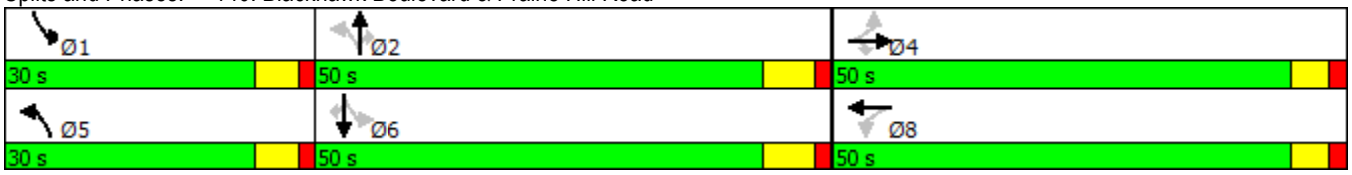


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	186	92	139	215	49	83	299	100	78	398	63
Future Volume (vph)	63	186	92	139	215	49	83	299	100	78	398	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	290		290	290		270
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.982				0.850			0.850
Flt Protected		0.988			0.983		0.950			0.950		
Satd. Flow (prot)	0	3405	1538	0	3313	0	1787	3539	1568	1787	3574	1538
Flt Permitted		0.747			0.761		0.489			0.551		
Satd. Flow (perm)	0	2574	1538	0	2565	0	920	3539	1568	1037	3574	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102		13				111			70
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1053			308			2078			1160	
Travel Time (s)		17.9			5.3			31.5			17.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	4%	5%	4%	6%	5%	1%	2%	3%	1%	1%	5%
Adj. Flow (vph)	70	207	102	154	239	54	92	332	111	87	442	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	277	102	0	447	0	92	332	111	87	442	70
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			12			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	4	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5		10.8	24.6	24.6	10.8	24.5	24.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	50.0	50.0	30.0	50.0	50.0
Total Split (%)	38.5%	38.5%	38.5%	38.5%	38.5%		23.1%	38.5%	38.5%	23.1%	38.5%	38.5%
Maximum Green (s)	44.4	44.4	44.4	44.4	44.4		24.2	43.4	43.4	24.2	43.4	43.4
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		4.3	5.0	5.0	4.3	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.5	1.6	1.6	1.5	1.6	1.6
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.6		5.6		5.8	6.6	6.6	5.8	6.6	6.6
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)		12.2	12.2		12.2		20.7	15.6	15.6	20.3	15.4	15.4
Actuated g/C Ratio		0.25	0.25		0.25		0.42	0.32	0.32	0.42	0.32	0.32
v/c Ratio		0.43	0.22		0.69		0.19	0.29	0.19	0.17	0.39	0.13
Control Delay		18.3	5.4		22.7		8.1	15.2	5.1	8.0	16.2	5.8
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		18.3	5.4		22.7		8.1	15.2	5.1	8.0	16.2	5.8
LOS		B	A		C		A	B	A	A	B	A
Approach Delay		14.8			22.7			11.9			13.8	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 48.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: Blackhawk Boulevard & Prairie Hill Road



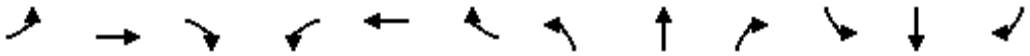
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	186	92	139	215	49	83	299	100	78	398	63
Future Volume (veh/h)	63	186	92	139	215	49	83	299	100	78	398	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1814	1810	1900	1806	1900	1881	1863	1845	1881	1881	1810
Adj Flow Rate, veh/h	70	207	0	154	239	0	92	332	0	87	442	0
Adj No. of Lanes	0	2	1	0	2	0	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	5	6	6	6	1	2	3	1	1	5
Cap, veh/h	227	580	406	306	492	0	468	1075	476	515	1079	464
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.00	0.07	0.30	0.00	0.07	0.30	0.00
Sat Flow, veh/h	442	2199	1538	676	1947	0	1792	3539	1568	1792	3574	1538
Grp Volume(v), veh/h	132	145	0	203	190	0	92	332	0	87	442	0
Grp Sat Flow(s),veh/h/ln	1072	1568	1538	979	1562	0	1792	1770	1568	1792	1787	1538
Q Serve(g_s), s	1.9	3.7	0.0	6.7	5.1	0.0	1.7	3.6	0.0	1.6	4.9	0.0
Cycle Q Clear(g_c), s	7.0	3.7	0.0	10.5	5.1	0.0	1.7	3.6	0.0	1.6	4.9	0.0
Prop In Lane	0.53		1.00	0.76		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	394	414	406	386	412	0	468	1075	476	515	1079	464
V/C Ratio(X)	0.33	0.35	0.00	0.53	0.46	0.00	0.20	0.31	0.00	0.17	0.41	0.00
Avail Cap(c_a), veh/h	1246	1401	1374	1170	1395	0	1211	3090	1369	1261	3121	1343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.8	14.8	0.0	18.3	15.3	0.0	10.5	13.3	0.0	10.4	13.8	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.4	0.3	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	2.9	0.0	4.7	4.0	0.0	1.4	3.2	0.0	1.4	4.3	0.0
LnGrp Delay(d),s/veh	15.9	15.0	0.0	18.7	15.6	0.0	10.6	13.4	0.0	10.5	13.9	0.0
LnGrp LOS	B	B		B	B		B	B		B	B	
Approach Vol, veh/h		277			393			424			529	
Approach Delay, s/veh		15.5			17.2			12.8			13.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.3	21.7		18.7	9.4	21.6		18.7
Change Period (Y+Rc), s	5.8	* 6.6		5.6	5.8	* 6.6		5.6
Max Green Setting (Gmax), s	24.2	* 43		44.4	24.2	* 43		44.4
Max Q Clear Time (g_c+I1), s	3.6	5.6		9.0	3.7	6.9		12.5
Green Ext Time (p_c), s	0.0	0.8		0.6	0.0	0.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	303	59	23	325	1	74	3	23	1	0	3
Future Volume (vph)	2	303	59	23	325	1	74	3	23	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976						0.969			0.892	
Flt Protected					0.997			0.964			0.990	
Satd. Flow (prot)	0	3410	0	0	3409	0	0	1736	0	0	1678	0
Flt Permitted					0.997			0.964			0.990	
Satd. Flow (perm)	0	3410	0	0	3409	0	0	1736	0	0	1678	0
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		308			459			395			273	
Travel Time (s)		5.3			7.8			10.8			7.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	4%	0%	0%	6%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	2	356	69	27	382	1	87	4	27	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	427	0	0	410	0	0	118	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.1

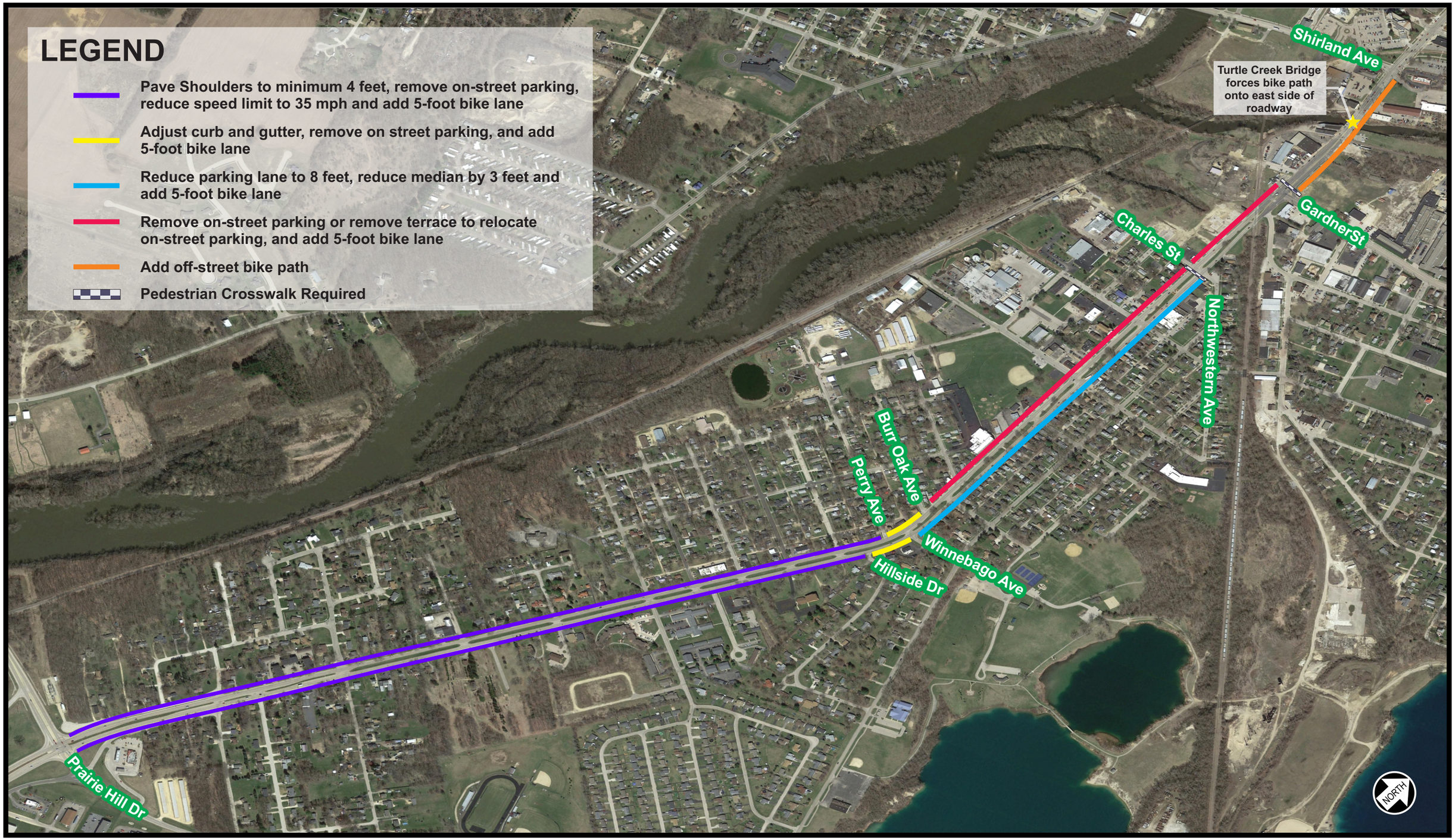
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	303	59	23	325	1	74	3	23	1	0	3
Future Vol, veh/h	2	303	59	23	325	1	74	3	23	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	4	0	0	6	0	3	0	0	0	0	0
Mvmt Flow	2	356	69	27	382	1	87	4	27	1	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	384	0	-	356	0	0	606	799	178	622	798	192
Stage 1	-	-	-	-	-	-	361	361	-	437	437	-
Stage 2	-	-	-	-	-	-	245	438	-	185	361	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.56	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.53	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1186	-	0	1214	-	-	379	321	841	375	321	823
Stage 1	-	-	0	-	-	-	627	629	-	574	583	-
Stage 2	-	-	0	-	-	-	734	582	-	805	629	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1186	-	-	1214	-	-	369	311	841	352	311	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	369	311	-	352	311	-
Stage 1	-	-	-	-	-	-	626	628	-	573	567	-
Stage 2	-	-	-	-	-	-	710	566	-	773	628	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	13.1	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1186	-	1214	-	-	617
HCM Lane V/C Ratio	0.064	0.002	-	0.022	-	-	0.008
HCM Control Delay (s)	13.1	8	0	8	0.1	-	10.9
HCM Lane LOS	B	A	A	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	0.1	-	-	0

Appendix D: Improvement Alternative Figures



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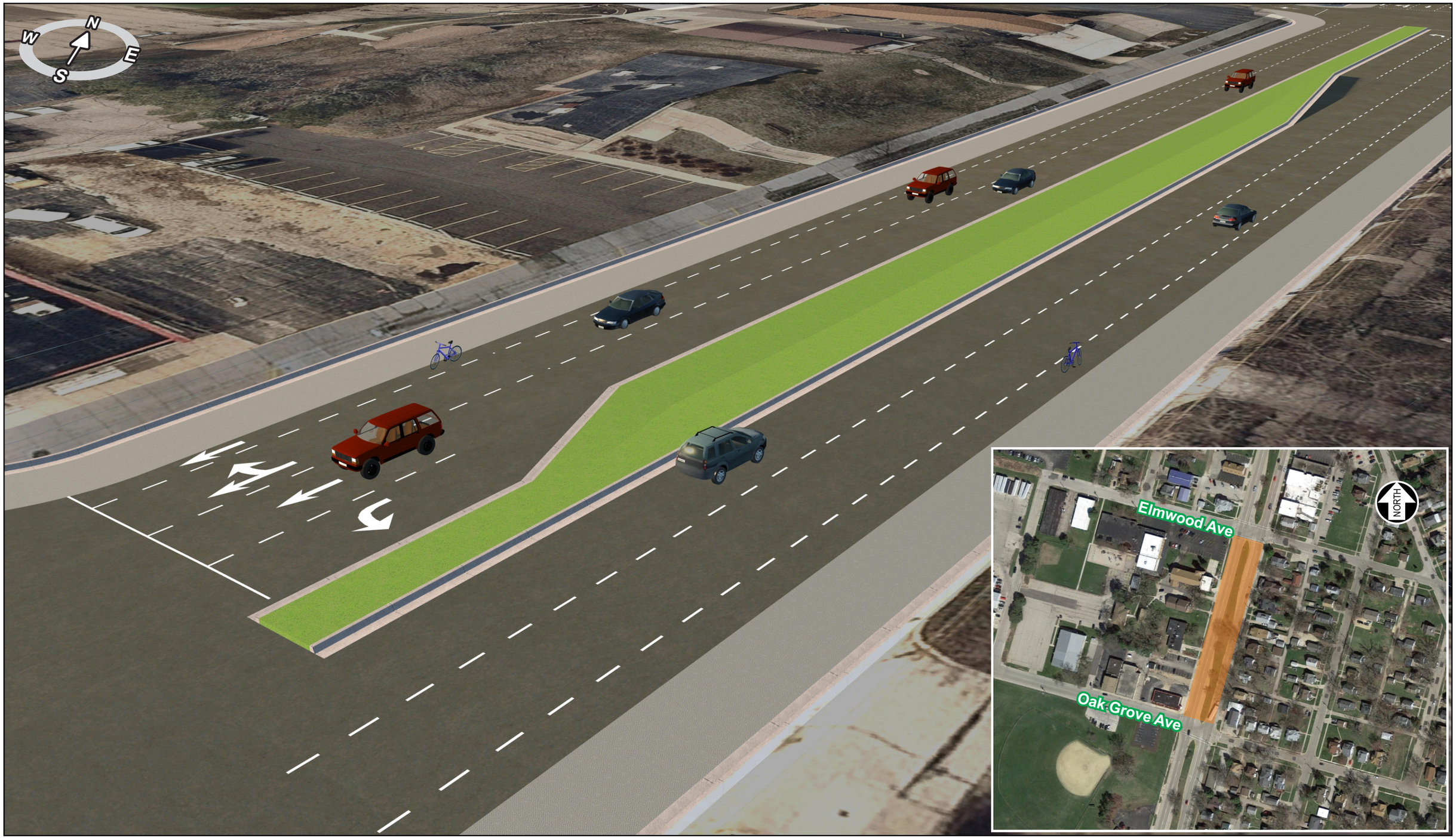
July 2018

Blackhawk Boulevard-Alternative BH-1.0: Add bike lanes via various cross section adjustments

Cranston Road/Blackhawk Road Corridor Study

City of South Beloit



Blackhawk Boulevard-Alternative BH-1.1: Add bike lanes via minimizing median (where applicable)

Cranston Road/Blackhawk Road Corridor Study

City of South Beloit

SRF Consulting Group, Inc.

Project No. 11578
July 2018

SRF Consulting Group, Inc.

Project No. 11578
July 2018

Blackhawk Boulevard-Alternative BH-1.2: Add bike lanes via removing on-street parking (where applicable)

Cranston Road/Blackhawk Road Corridor Study

City of South Beloit

SRF Consulting Group, Inc.

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July 2018

Blackhawk Boulevard- Alternative BH-2.0: Add EB and WB left-turn lanes, provide left-turn phasing

Cranston Road/Blackhawk Road Corridor Study
City of South Beloit

SRF Consulting Group, Inc.

Blackhawk Boulevard- Alternative BH-2.1: Restrict access on the north and south approaches (on Nazarene Drive)

Cranston Road/Blackhawk Road Corridor Study

City of South Beloit

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July 2018

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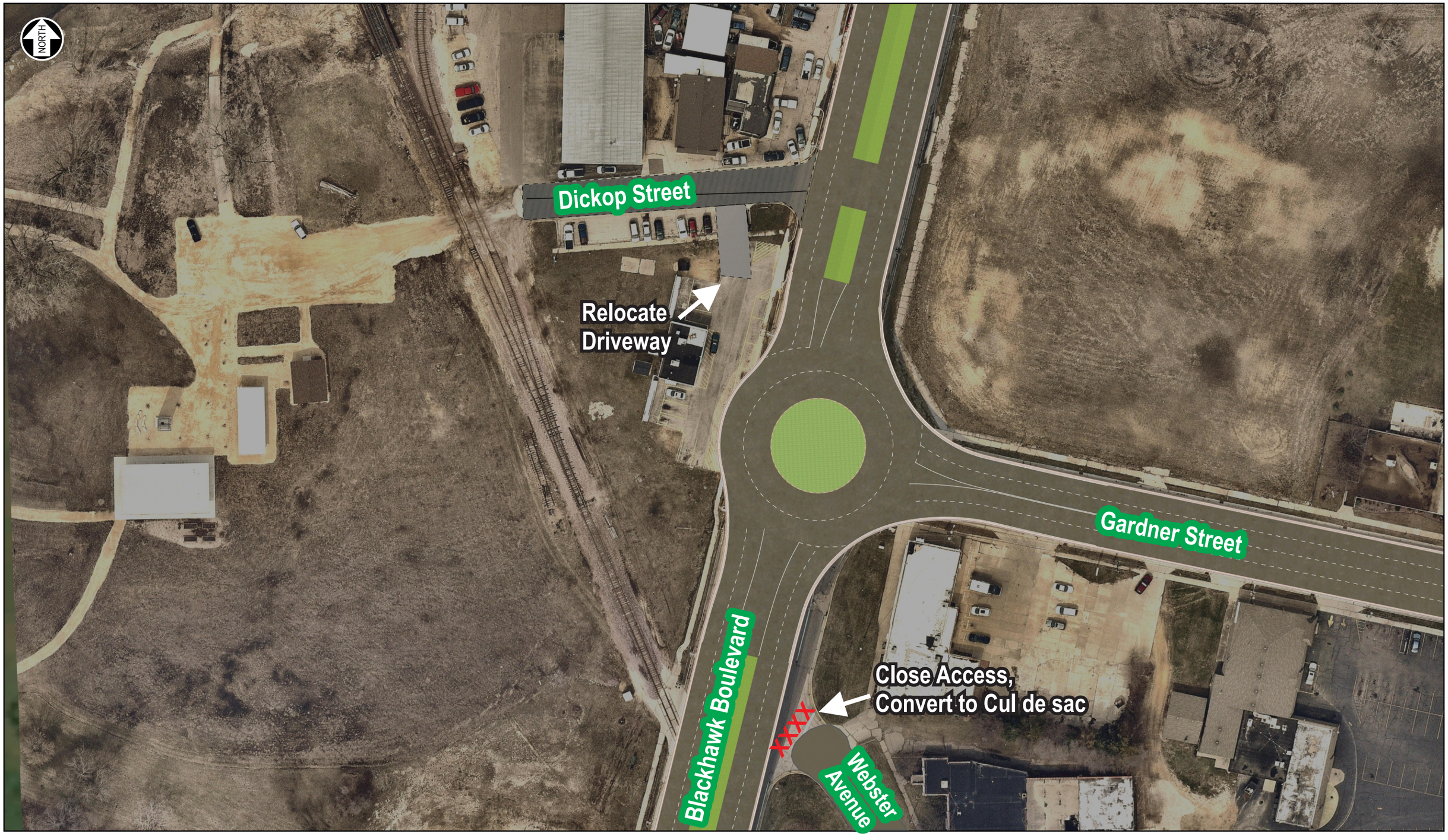
July 2018

Blackhawk Boulevard- Alternative BH-2.2: Relocate the intersection of Nazarene Drive and Prairie Hill Road east of existing

Cranston Road/Blackhawk Road Corridor Study
City of South Beloit



Blackhawk Boulevard- Alternative BH-3.1: Install roundabout

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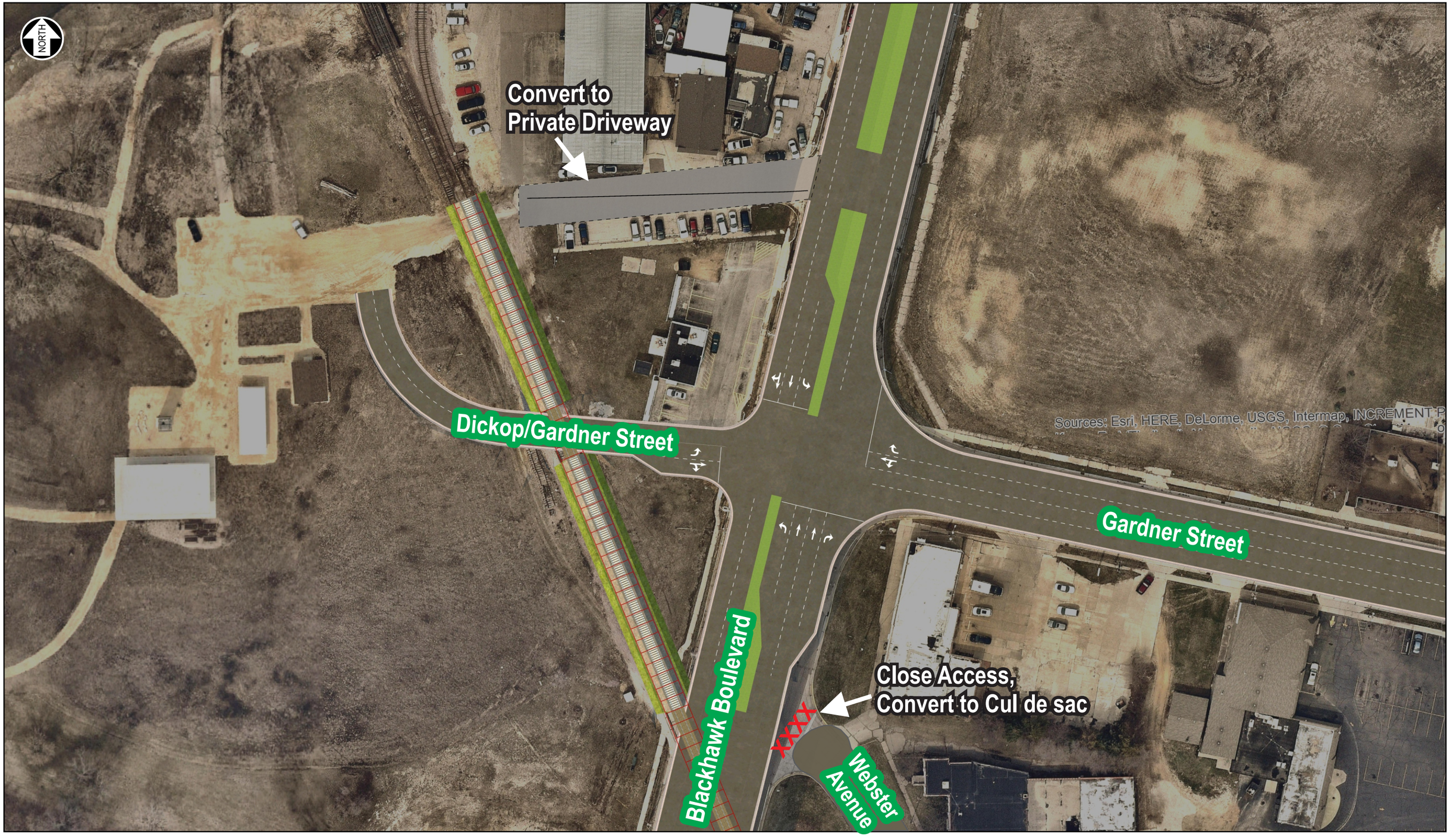

Blackhawk Boulevard- Alternative BH-3.2: Close Dickop Street and create new roadway to create 4-leg signalized intersection

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Project No. 11578
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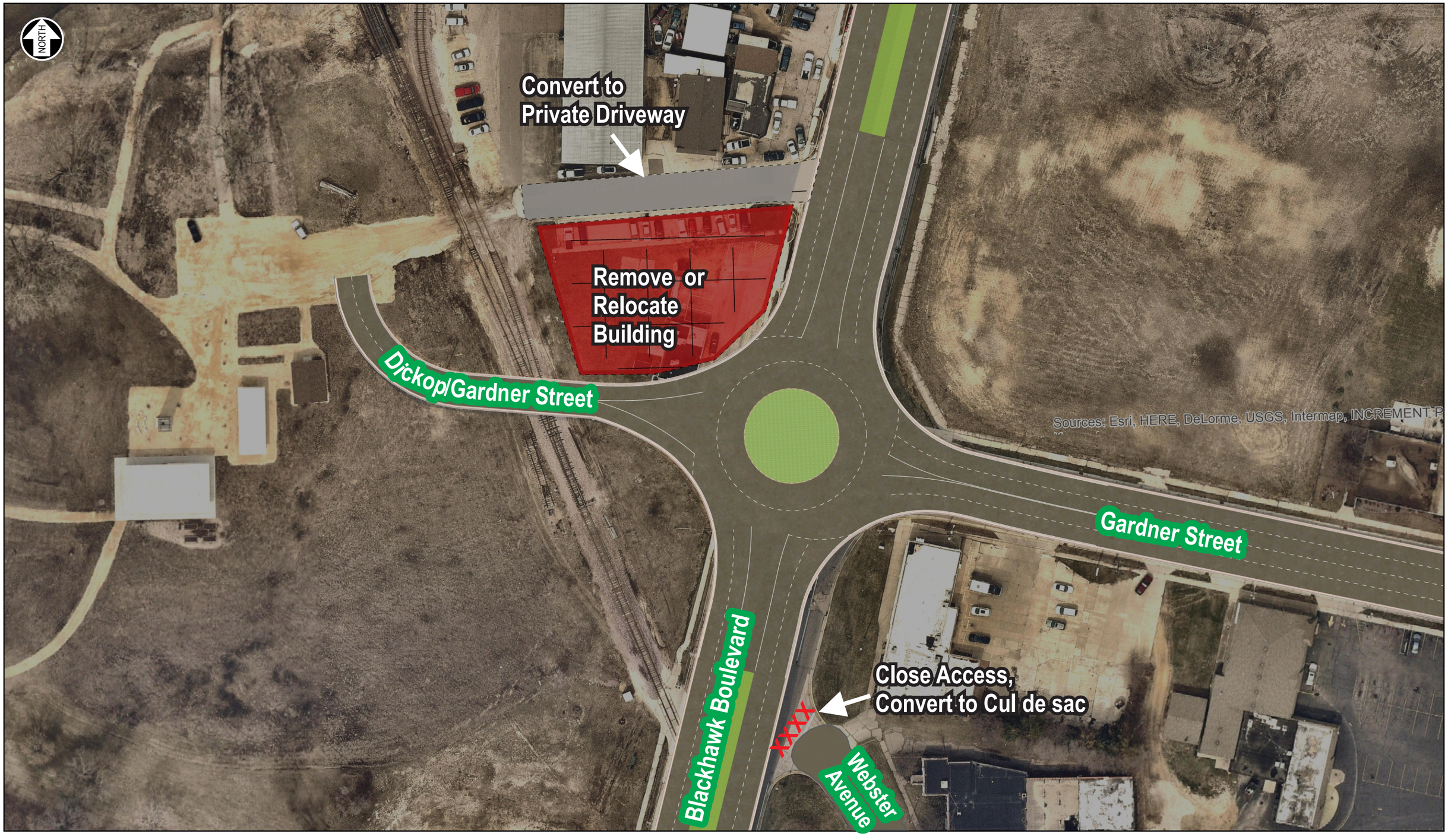

Blackhawk Boulevard- Alternative BH-3.3: Close Dickop Street and create new roadway to create 4-leg roundabout

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City of South Beloit

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Blackhawk Boulevard- Alternative BH-4.2: Connect east leg of Shirland Avenue to Colby Street, Remove all access drives to McDonalds and BDN along Blackhawk Boulevard

Cranston Road/Blackhawk Road Corridor Study
City of South Beloit

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Blackhawk Boulevard-Alternative BH-4.3: Connect east leg of Shirland Avenue to Colby Street, Relocate McDonalds restaurant, Remove all access drives for BDN along Blackhawk Boulevard

Cranston Road/Blackhawk Road Corridor Study
City of South Beloit

SRF Consulting Group, Inc.

Project No. 11578
July 2018

Appendix E: Improvement Alternative Cost Estimates

PRELIMINARY COST ESTIMATES - BLACKHAWK BOULEVARD ALTERNATIVES

Alternative	Description	Construction Cost
BH-1.0	Bike Lanes Via Various Cross Section Adjustments	$635,000
BH-1.1	Add Bike Lanes Via Minimizing Median (where applicable)	$820,000
BH-1.2	Add Bike Lanes Via Removing On-Street Parking (where applicable)	$45,000
BH-2.0	Add EB and WB Left-Turn Lanes, Provide Left-Turn Phasing	$7,500
BH-2.1	Restrict Acess on the North and Shouth Approaches (on Nazarene Drive)	$30,000
BH-2.2	Relocate the Intersection of Nazarene Drive and Prairie Hill Road East of Existing	$330,000
BH-3.1	Install Roundabout	$350,000
BH-3.2	Close Dickop Street and Create New Roadway to Create 4-Leg Signalized Intersection	$440,000
BH-3.3	Close Dickop Street and Create New Roadway to Create 4-Leg Roundabout	$490,000
BH-4.2	Connect East Leg of Shirland Avenue to Colby Street, Remove All Access Drives to McDonalds and BDN Along Blackhawk Boulevard	$145,000*
BH-4.3	Connect East Leg of Shirland Avenue to Colby Street, Relocate McDonalds Restaurant, Remove All Access Drives for BDN Along Blackhawk Boulevard	$230,000**

Notes

Construction costs do not include right of way acquisition, which may increase the overall value of construction

* Does not include compensation of right of way to realign Shirland / Colby and access removal for McDonalds and Beloit Daily News

** Does not include real estate relocation of McDonalds building

Appendix F: Blackhawk Boulevard / Charles Street Traffic Signal Warrant Analysis

Traffic Signal Warrant Summary Worksheet 70%

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

Intersection: Blackhawk Boulevard and Charles Street
County: Winnebago
City: South Beloit, IL

Major Street: Blackhawk Boulevard
Critical Approach Speed: 30 mph
Lanes: 2 or more lanes

Minor Street: Charles Street
Critical Approach Speed: 25 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 100%
From East (WB) 100%
From South (NB) 100%
From West (EB) 100%

In built-up area of isolated community of < 10,000 population? Yes
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
1/1/2040	No	6:00	AM	6:00	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	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	**No**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**No**

Warrant Analysis Conducted By:

Name:
Agency: SRF Consulting, INC.
Date:

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	105	84
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	53	42
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 56%

Satisfied? No

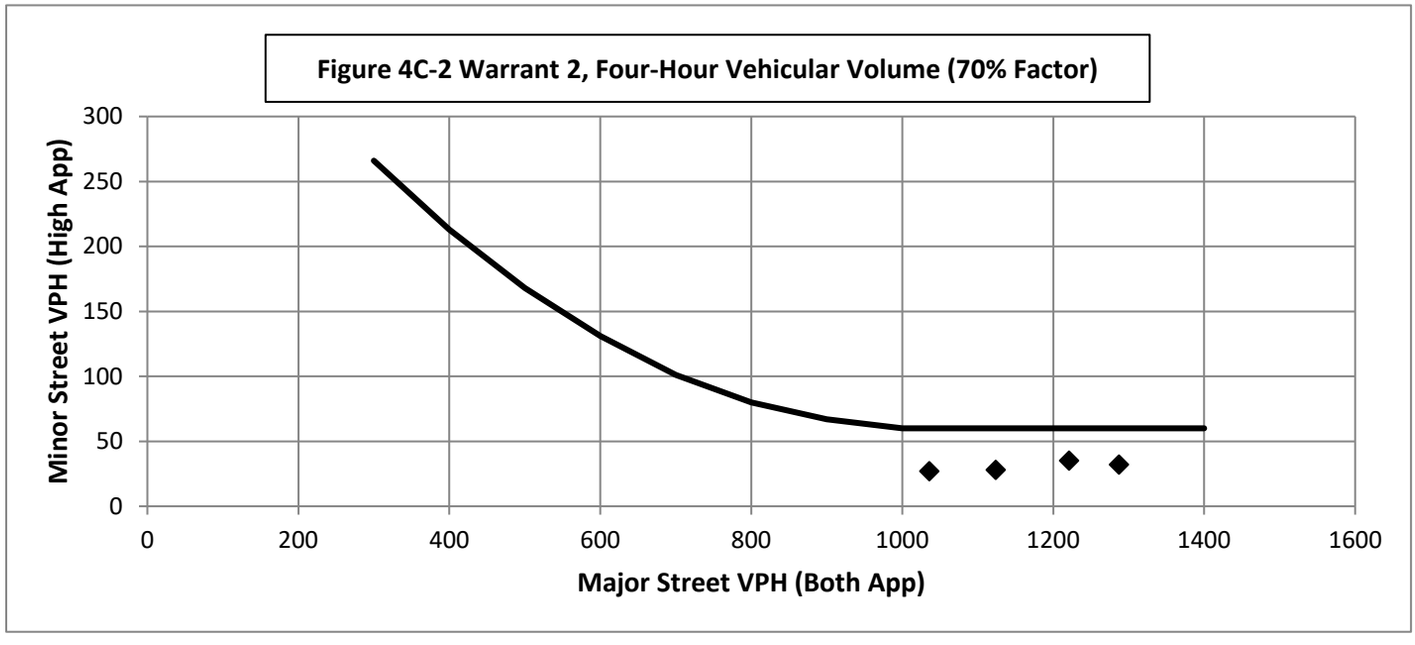
6:00 AM Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	511	11	522
2	7:00	8:00	970	16	986
3	8:00	9:00	701	15	716
4	9:00	10:00	631	11	642
5	10:00	11:00	662	13	675
6	11:00	12:00	809	12	821
7	12:00	13:00	900	21	921
8	13:00	14:00	864	17	881
9	14:00	15:00	1036	27	1063
10	15:00	16:00	1124	28	1152
11	16:00	17:00	1287	32	1319
12	17:00	18:00	1221	35	1256
13	18:00	19:00	0	0	0
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 70%

Warrant Evaluated? Yes
Warrant Satisfied? No
Manually Set To:

Hour Start	17:00	16:00	15:00	14:00
Major Road Vol.	1221	1287	1124	1036
Minor Road Vol.	35	32	28	27



Warrant 3: Peak Hour Volume 70%

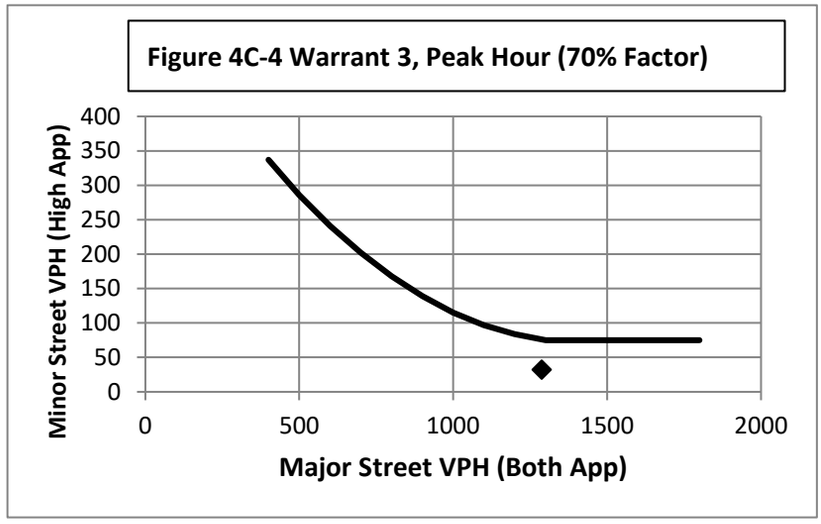
Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	No
Volume on Minor Approach	100	No
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1287	32



Warrant 4: Pedestrian Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

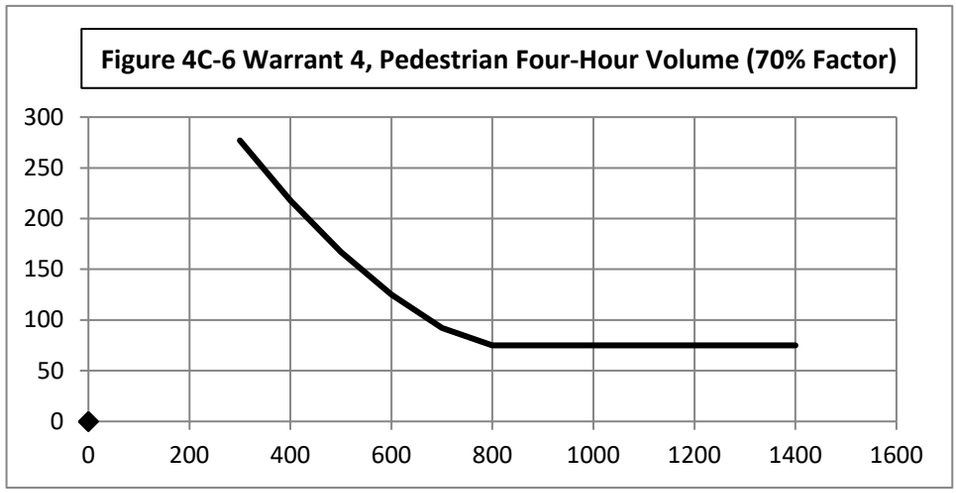
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
	0	0
	0	0
	0	0
	0	0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s? No

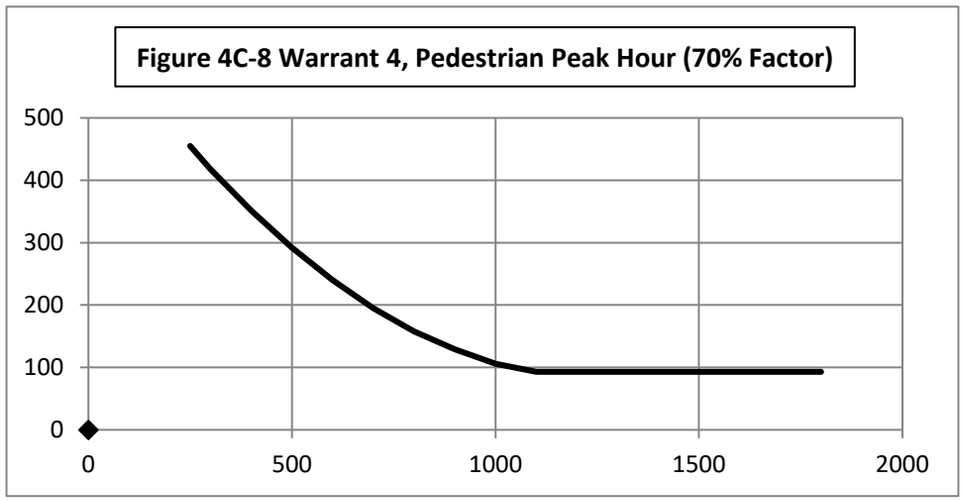
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Warrant 5: School Crossing 70%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To:**

	Criteria	Fulfilled?
1	There are a MINIMUM of 20 school children during the highest crossing hour.	No
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.	No
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.	Yes

Warrant 6: Coordinated Signal System 70%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

	Criteria	Fulfilled?
1	Signal spacing > 1000 ft	No
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.	No
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.	No

Warrant 7: Crash Experience 70%

Warrant Evaluated? No **Warrant Satisfied? N/A** **Manually Set To:**

	Criteria		Met?	Fulfilled?
1	Adequate trial of other remedial measures has failed to reduce crash frequency.			
	Measures Tried:			
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		
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 70%

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			1319	Yes	No
	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	Yes
2	Rural or suburban highway outside of, entering, or traversing a city	Yes
3	Appears as a major route on an official plan	Yes

Warrant 9: Intersection Near a Grade Crossing 70%

Warrant Evaluated? Yes **Warrant Satisfied? No** **Manually Set To: No**

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.
3 to 5	0	0% to 2.5%	600	16:00	1287	32	16

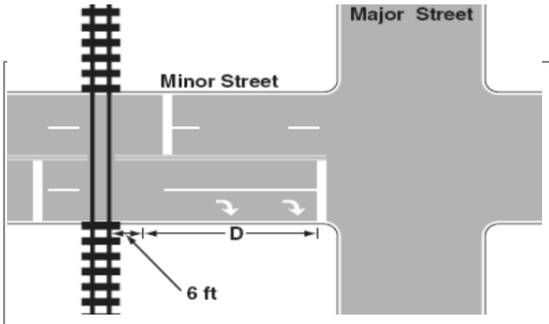
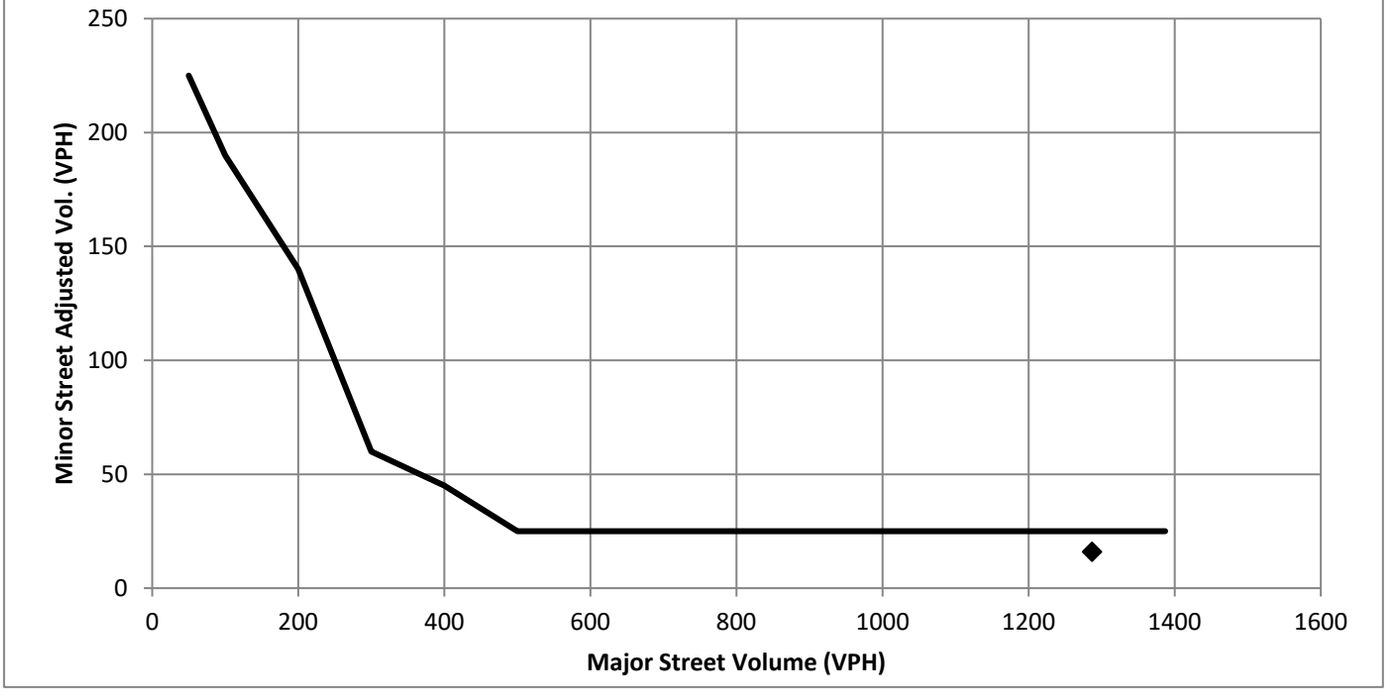


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)



Conclusions/Comments:

Updated: 2/18/2016

Appendix G: Roundabout Alternative Traffic Operations Analysis

LANE SUMMARY

Site: 101 [Year 2040, 3-Leg, AM]

New Site
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Blackhawk Blvd													
Lane 1	390	6.0	987	0.395	100	8.0	LOS A	1.6	41.7	Full	1600	0.0	0.0
Lane 2[d]	390	6.0	987	0.395	100	8.0	LOS A	1.6	41.7	Full	1600	0.0	0.0
Approach	780	6.0		0.395		8.0	LOS A	1.6	41.7				
East: Gardner St													
Lane 1[d]	175	10.0	760	0.230	100	7.3	LOS A	0.7	18.1	Full	1600	0.0	0.0
Lane 2	170	10.0	760	0.224	100	7.2	LOS A	0.7	17.6	Full	1600	0.0	0.0
Approach	345	10.0		0.230		7.3	LOS A	0.7	18.1				
North: Blackhawk Blvd													
Lane 1	322	5.0	1055	0.306	100	6.4	LOS A	1.2	30.1	Full	1600	0.0	0.0
Lane 2[d]	322	5.0	1055	0.306	100	6.4	LOS A	1.2	30.1	Full	1600	0.0	0.0
Approach	645	5.0		0.306		6.4	LOS A	1.2	30.1				
Intersection	1770	6.4		0.395		7.3	LOS A	1.6	41.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [Year 2040, 3-Leg, PM]

New Site
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Blackhawk Blvd													
Lane 1	327	2.0	1072	0.305	100	6.4	LOS A	1.2	30.3	Full	1600	0.0	0.0
Lane 2[d]	327	2.0	1072	0.305	100	6.4	LOS A	1.2	30.3	Full	1600	0.0	0.0
Approach	654	2.0		0.305		6.4	LOS A	1.2	30.3				
East: Gardner St													
Lane 1[d]	262	3.0	884	0.296	100	7.3	LOS A	1.0	25.6	Full	1600	0.0	0.0
Lane 2	303	3.0	884	0.343	100	7.9	LOS A	1.2	31.0	Full	1600	0.0	0.0
Approach	565	3.0		0.343		7.6	LOS A	1.2	31.0				
North: Blackhawk Blvd													
Lane 1	422	2.0	1022	0.413	100	8.0	LOS A	1.8	45.6	Full	1600	0.0	0.0
Lane 2[d]	422	2.0	1022	0.413	100	8.0	LOS A	1.8	45.6	Full	1600	0.0	0.0
Approach	845	2.0		0.413		8.0	LOS A	1.8	45.6				
Intersection	2064	2.3		0.413		7.4	LOS A	1.8	45.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [Year 2040, 4-leg, AM]

New Site
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Blackhawk Blvd													
Lane 1	393	6.0	978	0.402	100	8.1	LOS A	1.6	42.6	Full	1600	0.0	0.0
Lane 2[d]	393	6.0	978	0.402	100	8.1	LOS A	1.6	42.5	Full	1600	0.0	0.0
Approach	786	6.0		0.402		8.1	LOS A	1.6	42.6				
East: Gardner St													
Lane 1[d]	180	9.8	755	0.239	100	7.5	LOS A	0.7	18.9	Full	1600	0.0	0.0
Lane 2	170	10.0	756	0.225	100	7.3	LOS A	0.7	17.6	Full	1600	0.0	0.0
Approach	351	9.9		0.239		7.4	LOS A	0.7	18.9				
North: Blackhawk Blvd													
Lane 1	325	5.0	1045	0.311	100	6.6	LOS A	1.2	30.7	Full	1600	0.0	0.0
Lane 2[d]	325	5.0	1045	0.311	100	6.5	LOS A	1.2	30.7	Full	1600	0.0	0.0
Approach	651	5.0		0.311		6.5	LOS A	1.2	30.7				
West: RoadName													
Lane 1[d]	17	3.0	667	0.026	100	5.7	LOS A	0.1	1.8	Full	1600	0.0	0.0
Approach	17	3.0		0.026		5.7	LOS A	0.1	1.8				
Intersection	1805	6.3		0.402		7.4	LOS A	1.6	42.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [Year 2040, 4-leg, PM]

New Site
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Blackhawk Blvd													
Lane 1	327	2.0	1063	0.307	100	6.4	LOS A	1.2	30.5	Full	1600	0.0	0.0
Lane 2[d]	327	2.0	1063	0.307	100	6.4	LOS A	1.2	30.5	Full	1600	0.0	0.0
Approach	653	2.0		0.307		6.4	LOS A	1.2	30.5				
East: Gardner St													
Lane 1[d]	263	3.0	876	0.300	100	7.4	LOS A	1.0	26.0	Full	1600	0.0	0.0
Lane 2	303	3.0	881	0.344	100	7.9	LOS A	1.2	31.1	Full	1600	0.0	0.0
Approach	566	3.0		0.344		7.7	LOS A	1.2	31.1				
North: Blackhawk Blvd													
Lane 1	423	2.0	1015	0.416	100	8.1	LOS A	1.8	45.9	Full	1600	0.0	0.0
Lane 2[d]	423	2.0	1015	0.416	100	8.1	LOS A	1.8	45.9	Full	1600	0.0	0.0
Approach	846	2.0		0.416		8.1	LOS A	1.8	45.9				
West: RoadName													
Lane 1[d]	16	1.0	563	0.028	100	6.7	LOS A	0.1	2.0	Full	1600	0.0	0.0
Approach	16	1.0		0.028		6.7	LOS A	0.1	2.0				
Intersection	2081	2.3		0.416		7.5	LOS A	1.8	45.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach