



Twin Falls City Council Agenda

Monday, December 10, 2018, 5:00 PM

City Council Chambers
203 Main Avenue East
Twin Falls, Idaho

Members: Shawn Barigar, Suzanne Hawkins, Nikki Boyd, Chris Talkington, Gregory Lanting, Christopher Reid, Ruth Pierce

- 1) CALL MEETING TO ORDER/CONFIRMATION OF QUORUM
- 2) PLEDGE OF ALLEGIANCE
- 3) PROCLAMATIONS: None
- 4) GENERAL PUBLIC INPUT
- 5) CONSENT CALENDAR
 - a) **ACTION ITEM:** Request to approve the December 03, 2018, City Council Minutes.
By: Amy Luna, Finance Administrative Assistant
 - b) **ACTION ITEM:** Request to approve the Accounts Payable for November 29 thru December 5, 2018.
By: Amy Luna, Finance Administrative Assistant
- 6) ITEMS OF CONSIDERATION
 - a) **ACTION ITEM:** Request to purchase a surface pro with contingency funds for the new attorney at the cost of \$2,462.15.
By: Shayne Nope , City Attorney
 - b) **ACTION ITEM:** Request to award the contract of the Sludge Truck Chassis purchase to Schow's Truck Center of Burley, ID in the amount of \$119,084.00
By: Jason Brown, Environmental Engineer
 - c) **PRESENTATION:** Blue Lakes and Bridgeview/Fillmore intersection study by ITD.
By: Jackie Fields, City Engineer, Stephen Lewis, Keller Associates
- 7) GENERAL INPUT/ADVISORY BOARD REPORT/ANNOUNCEMENTS
- 8) PUBLIC HEARINGS: None
- 9) ADJOURNMENT

Any person(s) needing special accommodations to participate in the above-noticed meeting could contact Leila Sanchez (208) 735-7287 at least two working days before the meeting. Si desea esta información en español, llame Leila Sanchez (208) 735-7287.

Public Input Procedures

1. Individuals wishing to provide public input regarding matters relevant to the City of Twin Falls shall
 - wait to be recognized by the Mayor or Chairman
 - approach the microphone/podium
 - state their name, and whether they are a resident or property owner in the City of Twin Falls, and proceed with their input.
2. The Mayor or Chairman may limit input to no less than two (2) minutes. Individuals are not permitted to give their time to other speakers.

Public Hearing Procedures for Zoning Requests

1. Prior to opening the first Public Hearing of the session, the Mayor or Chairman shall review the public hearing procedures.
 2. Individuals wishing to testify or speak before the City Council or Planning and Zoning shall wait to be recognized by the Mayor or Chairman, approach the microphone/podium, state their name, then proceed with their comments. Following their statements, they shall write their name and address on the record sheet(s) provided by the staff. The staff shall make an audio recording of the Public Hearing.
 3. The Applicant, or the spokesperson for the Applicant, will make a presentation on the application/request (request). No changes to the request may be made by the applicant after the publication of the Notice of Public Hearing. The presentation should include the following:
 - A complete explanation and description of the request.
 - Why the request is being made.
 - Location of the Property.
 - Impacts on the surrounding properties and efforts to mitigate those impacts.
 4. Applicant is limited to 15 minutes, unless a written request for additional time is received, at least 72 hours prior to the hearing, and granted by the Mayor or Chairman.
 5. A City Staff Report shall summarize the application and history of the request.
 6. The City Council or Planning & Zoning Commission may ask questions of staff or the applicant pertaining to the request.
 7. The general public will then be given the opportunity to provide their testimony regarding the request. The Mayor or Chairman may limit public testimony to no less than two (2) minutes per person.
 - Five or more individuals, having received personal public notice of the application under consideration, may select by written petition, a spokesperson. The written petition must be received at least 72 hours prior to the hearing and must be granted by the Mayor or Chairman. The spokesperson shall be limited to 15 minutes.
 - Written comments, including e-mail, shall be either read into the record or displayed to the public on the overhead projector.
 - Following the Public Testimony, the applicant is permitted five (5) minutes to respond to Public Testimony.
 8. Following the Public Testimony and Applicant's response, the hearing shall continue. The City Council or Planning & Zoning Commission, as recognized by the Mayor or Chairman, shall be allowed to question the Applicant, Staff or anyone who has testified. The Mayor or Chairman may again establish time limits.
 9. The Mayor or Chairman shall close the Public Hearing. The City Council or Planning and Zoning Commission shall deliberate on the request. Deliberations and decisions shall be based upon the information and testimony provided during the Public Hearing. Once the Public Hearing is closed, additional testimony from the staff, applicant or public is not allowed. Legal or procedural questions may be directed to the City Attorney.
- * Any person not conforming to the above rules may be prohibited from speaking. Persons refusing to comply with such prohibitions may be asked to leave the hearing and, thereafter removed from the room by order of the Mayor or Chairman.



**Twin Falls City Council
Minutes**

Monday, December 3, 2018,

5:00 PM City Council Chambers
203 Main Avenue
East Twin Falls,
Idaho

1) CALL MEETING TO ORDER/CONFIRMATION OF QUORUM

Present: Mayor Shawn Barigar, Vice Mayor Nikki Boyd, Council Members Suzanne Hawkins, Chris Talkington, Greg Lanting, Christopher Ried

Absent: Council Member Ruth Pierce

Staff Present: City Manager Travis Rothweiler, Deputy City Managers Mitch Humble & Brian Pike, City Attorney Shayne Nope, Fire Chief Les Kenworthy, Grant & Community Relations Manager Mandi Thompson, City Engineer Erin Steel, Communications Director Tami Lauda, Human Resource Director Gretchen Scott, Assistant City Engineer Troy Vitek, Public Information Officer Joshua Palmer, Desk Top Support Specialist Jeremiah Parent, Finance Administrative Assistant Amy Luna.

2) PLEDGE OF ALLEGIANCE

Mayor Barigar invited all present, who wished, to recite the Pledge of Allegiance to the Flag.

3) PROCLAMATIONS

- a) 2018 VETERANS SUICIDE AWARENESS MONTH – Hayley Rienstra, Twin Falls County Veteran Service Officer.
- Mayor Barigar read and presented the 2018 VETERANS SUICIDE AWARENESS MONTH proclamation to Bob Smith, Twin Falls County Veteran Service Officer & Don Hall, Twin Falls County Commissioner.*

4) GENERAL PUBLIC INPUT

5) CONSENT CALENDAR

MOTION: Vice Mayor Boyd moved to approve the Consent Calendar as presented. Council Member Talkington seconded the motion. Roll call vote showed all members present voted in favor of the motion. 6 to 0.

- a) **ACTION ITEM:** Request to approve the Accounts Payable for November 15 Thru 28, 2018.
- b) **ACTION ITEM:** Request to approve the November 19, 2018 City Council Minutes.
- c) **ACTION ITEM:** Request to approve the November 26, 2018 City Council Minutes.
- d) **ACTION ITEM:** Request to approve Alcohol License for A Taste of Thai.
- e) **ACTION ITEM:** Request to approve a Trust Agreement for Golden Eagle Subdivision No. 1, placing Lots 4, 9, 10, 11, 12, 13 and 14 in trust.
- f) **ACTION ITEM:** Request to accept the Improvement Agreement for the purpose of developing Golden Eagle Subdivision No. 1.

6) ITEMS OF CONSIDERATION

- a) **ACTION ITEM:** Request to authorize the Mayor to sign the program agreement form for the Children Pedestrian Safety Program: 2019 Application.
City Engineer 1 Erin Steel made a request to authorize the Mayor to sign the program agreement form for the Children Pedestrian Safety Program: 2019 Application.
Grant amount \$248,500.00.

Discussion ensued on the following:

City Engineer Steel: Presented the request and asked for ideas on who might write letters of support to accompany the application.

Council Member Lanting: Presidents of the PTO's may be willing to write the letter.

Council Member Hawkins: Recommended the LDS Stake House that is in the impact area.

What is the difference between the two colors on the map?

Council Member Talkington: Asked about the split of the funds? What are the cost for the City?

MOTION: Council Member Talkington moved to authorize the Mayor to sign the program agreement form for the Children Pedestrian Safety Program: 2019 Application. Council Member Lanting seconded the motion. Roll call vote showed all members present voted in favor of the motion. 6 to 0.

- b) **ACTION ITEM:** Request to approve the contract between the City of Twin Falls and the Twin Falls Rural Fire District from October 1, 2018 to September 30, 2021.
Fire Chief Kenworthy made a request to approve the contract between the City of Twin Falls and the Twin Falls Rural Fire District for October 1, 2018 to September 30, 2021.
Contract amount is \$504,795.00.

MOTION: Council Member Hawkins moved to approve the contract between the City of Twin Falls and the Twin Falls Rural Fire District for October 1, 2018 to September 30, 2021. Council Member Reid seconded the motion. Roll call vote showed all members present voted in favor of the motion. 6 to 0.

- c) **ACTION ITEM:** Request to approve the use of contingency funds in the amount of \$7,653.50. The funds would be used to partner with Twin Falls County, Jerome County, to hire an EMS consultant firm to evaluate opportunities for regional cooperation, to include consideration of EMS system design and operational changes.
Fire Chief Kenworthy made a request to approve the use of contingency funds in the amount of \$7,653.50 to partner with Twin Falls County & Jerome County, to hire an EMS consultant firm to evaluate opportunities for regional cooperation, to include consideration of EMS system design and operational changes.

St. Luke's EMS Director Blaine Patterson: Discussed the RFP Specifics.

St. Luke's EMS Medical Director Dr. Kevin Kraal: Discussed the need for lowering EMS & Medical Costs.

Discussion ensued on the following:

Council Member Hawkins: Is in support of this idea. However, has a question about the taxing as the city residents are already taxed by the county?

Council Member Talkington: Is in support of this idea. Concerned with what the consultant will recommend and hope that they know the complexity of our community needs.

MOTION: Council Member Talkington moved to approve the use of contingency funds in the amount of \$7,653.50 to partner with Twin Falls County & Jerome County, to hire an EMS consultant firm to evaluate opportunities for regional cooperation, to include consideration of EMS system design and operational changes. Council Member Lanting seconded the motion. Roll call vote showed all members present voted in favor of the motion. 6 to 0.

- d) **ACTION ITEM:** Request to approve changes to the Municipal Powers Outsource Grant (MPOG) Process.
Grant & Community Relations Manager Mandi Thompson made a request to approve changes to the Municipal Powers Outsource Grant (MPOG) process.

Discussion ensued on the following:

Council Member Hawkins: Explained why she believes this is "Not the program that the City should be involved in". Spoke against this program.

Council Member Talkington: Spoke in favor of keeping this program.

Council Member Lanting: Spoke in favor of keeping this program.

Council Member Reid: Spoke in favor of keeping this program.

Council Member Hawkins: City is already stepping up to the needs of the City. And is still against this process

City Manager Rothweiler: Spoke on how the process works.

Vice Mayor Boyd: City spends a lot of time on this process, likes the scoring metrics. Not for the MPOG process as it stands but is willing to give it one more try using the suggestions that Mandi has made.

Council Member Talkington: Talked about the lack of credible feedback as to how the funds are used by the recipients.

Mayor Barigar: Talked about this process and how it should go forward. Is also willing to try the new process. Would like to see further changes be made in the future.

Vice Mayor Boyd: Asked if a \$10,000.00 amount is a legitimate cap?

MOTION: Council Member Talkington moved to approve changes to the Municipal Powers Outsource Grant (MPOG) process as presented. Council Member Lanting seconded the motion. Roll call vote showed all members present voted. Motion failed 3 to 3.

Council Member Lanting: Asked if this new process failed does that mean that we use the previous process to distribute the MPOG funds this year?

Council Member Hawkins: Asked if the funds would just go back into the general fund?

City Manager Rothweiler: Explained that these funds do not have to be spent and the funds can be re-appropriated to other funds. However if you go forward the previous process would be used.

City Attorney Nope: Explained the way to go forward and reconsider the original motion.

Council Member Reid: Do we have a process, should we vote no, which would allow services to come to the City and ask for help?

MOTION: Chris Talkington moved to reconsider the previous motion. Greg Lanting seconded the motion.

Further discussion ensued on the following:

City Attorney Nope: Explained that they can either vote on the motion to reconsider or, they can make a motion to amend the original request. If the amendment passes then it would become a part of the original motion and the Council can then vote on the amended motion.

Council Member Hawkins: Clarified the choices as follows: 1. Do it as we always have. 2. Do it the new way. 3. But to not do it at all, is not on the table at this time and will need to be re-visited at a later time.

Vice Mayor Boyd: Would like to see that all the choices be made tonight rather than having another meeting to discuss this again.

Council Member Reid: Agreed that this needs to be voted on tonight and the proposal is much better than before.

Mayor Barigar: Can support the new process as long as this topic is added to the agenda in the near future to discuss continuing to have the MPOG in the future.

Council Member Hawkins: Agreed to the support of this process and re-visiting the whole program in the future.

MOTION: Council Member Reid moved to make an amendment to the original motion by adding a cap of \$10,000 per applicant. Council Member Lanting seconded the motion. Roll call vote showed all members present voted. 6 to 0.

Council Member Lanting: Thanked Mandi for her hard work and thinks that the Council needs to give it a try. Community needs to have adequate notice should we decide not to do this in the future.

Roll call vote on the original motion with approved amendment, showed all members present voted in favor of the motion. 6 to 0.

7) GENERAL INPUT/ADVISORY BOARD REPORT/ANNOUNCEMENTS

City Manager Rothweiler: Reminder of the City Retreat on December 5th and that the City will be shut down to allow this to happen.

8) PUBLIC HEARINGS

9) ADJOURNMENT

a) Executive Sessions:

§74-206(1)(b) To consider the evaluation, dismissal or disciplining of, or to hear complaints or charges brought against, a public officer, employee, staff member or individual agent, or public school student.

§ 74-206(1)(f) To communicate with legal counsel for the public agency to discuss the legal ramifications of and legal options for pending litigation, or controversies not yet being litigated but imminently likely to be litigated. The mere presence of legal counsel at an executive session does not satisfy this requirement.

MOTION: Vice Mayor Boyd moved to Adjourn to Executive Session 74-206(1)(b) To consider the evaluation, dismissal or disciplining of, or to hear complaints or charges brought against, a public officer, employee, staff member or individual agent, or public school student; and, § 74- 206(1)(f) To communicate with legal counsel for the public agency to discuss the legal ramifications of and legal options for pending litigation, or controversies not yet being litigated but imminently likely to be litigated. The mere presence of legal counsel at an executive session does not satisfy this requirement. Council Member Hawkins seconded the motion. Roll call vote showed all members present voted in favor of the motion. 6 to 0.

The meeting adjourned at 06:34 PM



Date: Monday, December 10, 2018
To: Honorable Mayor and City Council
From: Shayne Nope, City Attorney

ACTION ITEM

Request:

ACTION ITEM: Request to purchase a surface pro with contingency funds for the new attorney at the cost of \$2,462.15.

Time Estimate:

Five Minutes

Background:

With the hiring of a new Prosecuting attorney, there is a need to provide a Surface Pro, Surface pen, Surface dock and 3 year warranty.

Approval Process:

A simple majority vote of the Council.

Budget Impact:

Budget impact

Regulatory Impact:

N/A

History:

N/A

Analysis:

N/A

Conclusion:

Approve the purchase of a Surface Pro, Surface pen, Surface dock and 3 year warranty for the cost of \$2462.15.

Attachments:

1. Quote - City of Twin Falls - Book 2 US1122018BS01





Date: Monday, December 10, 2018
To: Honorable Mayor and City Council
From: Jason Brown, Environmental Engineer

ACTION ITEM

Request:

ACTION ITEM: Request to award the contract of the Sludge Truck Chassis purchase to Schow's Truck Center of Burley, ID in the amount of \$119,084.00

Time Estimate:

10 minutes

Background:

On October 22, 2018 the City Council authorized staff to publicly bid the purchase of a new sludge truck chassis using wastewater reserve funds. Staff proceeded to publicly bid the purchase and on November 29, 2018, opened three (3) bids. The three bidders were Boise Peterbilt, Rush Truck Center, and Schow's Truck Center.

In the bidding process, the City asked for trade-in values for two (2) additional trucks. Schow's Truck Center provided the lowest bid and staff is recommending awarding the contract to Schow's Truck Center. Engineering is recommending a contingency of \$5,000.00 for any unforeseen modifications to the chassis due to installation of the sludge bed.

Approval Process:

City Council approves and authorizes City Engineer to execute the contract with Schow's Truck Center.

Budget Impact:

This purchase will be using wastewater reserve funds as approved by the Council on October 22, 2018. As noted in earlier staff report (October 22), wastewater reserves have \$2.9 million. The total of \$119,084.00 contract with Schow's Truck Center with an additional \$5,000.00 contingency for a total of \$124,084.00.

Regulatory Impact:

Requires a budget amendment for the current FY18-19 in the amount of \$124,084.00.

History:

N/A

Analysis:

N/A

Conclusion:

Staff recommends approval of the proposal and to authorized the City Engineer to execute the contract with Schow's Truck Center for \$119,084.00 and hold and additional \$5,000.00 for contingency and change orders. Giving a total value of \$124,084.00

Attachments:

1. Bid Tabulation
2. 2018-11-29-CONTRACT

UNIT PRICE BID TABULATION

2018 - Sludge Truck Chassis

Opened at: 203 Main Ave. East, Twin Falls, ID
On this Date: November 29, 2018
At this Time: 2:00 pm (local time)

<u>SPEC. PAY</u> <u>REF.</u>	<u>BID ITEM DESCRIPTION</u>	<u>UNIT</u>	<u>ESTD</u> <u>QNTY</u>	<u>Boise Peterbilt</u>		<u>Rush Truck Center</u>		<u>Schow's Truck Center</u>	
				<u>BID UNIT</u> <u>PRICE</u>	<u>BID PRICE</u>	<u>BID UNIT PRICE</u>	<u>BID PRICE</u>	<u>BID UNIT</u> <u>PRICE</u>	<u>BID PRICE</u>
SLUDGE TRUCK									
	Chassis	EA	1	\$156,918.00	\$156,918.00	\$141,460.00	\$141,460.00	\$141,084.00	\$141,084.00
Trade-In									
	1994 Internaltional (Chassis Only)	EA	1	\$4,500.00	\$4,500.00	\$4,500.00	\$4,500.00	\$12,500.00	\$12,500.00
	1990 International (Chassis and Dump Bed)	EA	1	\$2,500.00	\$2,500.00	\$1,200.00	\$1,200.00	\$9,500.00	\$9,500.00
TOTAL OF ALL BID PRICES				\$149,918.00		\$135,760.00		\$119,084.00	
Low-Bid Ranking				3		2		1	
Percentage of Low Bid				126%		114%		100%	



6. CONTRACT

This contract made and entered into this ____ day of _____, 2018, by and between the City of Twin Falls, hereinafter called the "Owner" and SCHOW'S TRUCK CENTER, hereinafter called the "Contractor".

W I T N E S S E T H

Said Contractor, in consideration of the sum to be paid him by the said Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the equipment for the City of Twin Falls, Idaho, to the extent of the Proposal made by the Contractor on the ____ day of _____, 2018, all in full compliance with the Contract Documents referred to herein.

The Invitation for Bids, Specifications, Proposal, Bid Schedule, Bid Security and Contract are hereby referred to and by reference made a part of the Contract fully and completely and are mutually cooperative therewith.

In consideration of the faithful performance of the work herein embraced, the Owner agrees to pay to the Contractor the amount bid as adjusted in accordance with the Proposal as determined by the Contract Documents and based on the said Proposal made by the Contractor.

It is agreed that the time limit for the completion of the contracted work shall be no later than the time limit shown by the Bidder on the Bid Schedule.

IN WITNESS WHEREOF, the parties have executed this contract as of the day and year first above written.

CONTRACTOR

CITY OF TWIN FALLS

SCHOW'S TRUCK CENTER

Name of Person or Firm

Mayor



Signature of Representative

Attest:

JEFF PEDERSEN

Typed Name of Representative

Title: SALES MANAGER

360 S. 400 W. HEYBURN, ID. 83336
Business Address

Witness



Date: Monday, December 10, 2018
To: Honorable Mayor and City Council
From: Jackie Fields, City Engineer, Stephen Lewis, Keller Associates

PRESENTATION

Request:

PRESENTATION: Blue Lakes and Bridgeview/Fillmore intersection study by ITD.

Time Estimate:

25 minutes, including time for questions

Background:

The City and ITD have long been concerned about traffic impacts on Blue Lakes Blvd. North. The signal at the intersection of Blue Lakes Blvd. N and Fillmore/Bridgeview can impact the Perrine Bridge. Placement of the roundabout on Fillmore within close proximity to this intersection affects signal operations and also the operations of the roundabout itself. In response to comments on the delay through the roundabout on Fillmore, staff began to investigate potential short-term improvements to traffic operations in the area. Staff intended longer term solutions to be suggested in the City's Transportation Master Plan and through subsequent discussion with ITD. The City Council requested ITD's collaboration on modest improvements to the intersection. ITD selected Keller Associates to study the intersection. Stephen Lewis, from Keller Associates, is here to present the report.

Approval Process:

none

Budget Impact:

Regulatory Impact:

none

History:

N/A

Analysis:

N/A

Conclusion:

Long term capacity and traffic flow alternatives are very costly and will need a significant amount of lead time to accomplish. However, there are some alternatives that may provide some short term relief to the congestion at the intersection. While ITD remains committed to safety on Blue Lakes Blvd., their staff is also willing to try different ideas and to continue to consider the possibilities (because one or more may be a good solution).

Attachments:

1. Blue Lakes Traffic Study_Final 2018-11-30

Technical Memorandum

TO: Bruce Christenson, P.E., PTOE; Idaho Transportation Department

FROM: Stephen Lewis, P.E., PTOE; Keller Associates
Alex Grover, P.E.; Keller Associates

DATE: October 23, 2017
REVISED November 30, 2018

SUBJECT: Blue Lakes Boulevard Traffic Study, Twin Falls;
Key No. 19960



BACKGROUND

The purpose of this memo is to present a traffic study of the US-93 (Blue Lakes Blvd.) & Bridgeview Blvd./Fillmore Street signalized intersection. US-93 in the City of Twin Falls between the Perrine Bridge and Pole Line Road is a critical principal arterial route, being the most direct and one of the few crossings of the Snake River Canyon for many miles. The route is also the northern end of the Blue Lakes commercial corridor, an important area of commerce for the regional economy.

The objective of the traffic study is to identify the feasibility of providing increased side-street capacity at the Bridgeview Blvd. signal, while maintaining the function of Blue Lakes Blvd., under current (2017) and future (2022, 2027, and 2037) conditions.

Keller Associates evaluated traffic level of service during the Friday mid-day, Friday PM, and Saturday mid-day peak hours. Five-year crash history was also investigated to determine possible safety issues. Several improvement options were evaluated to explore the feasibility of increasing intersection capacity in the future.

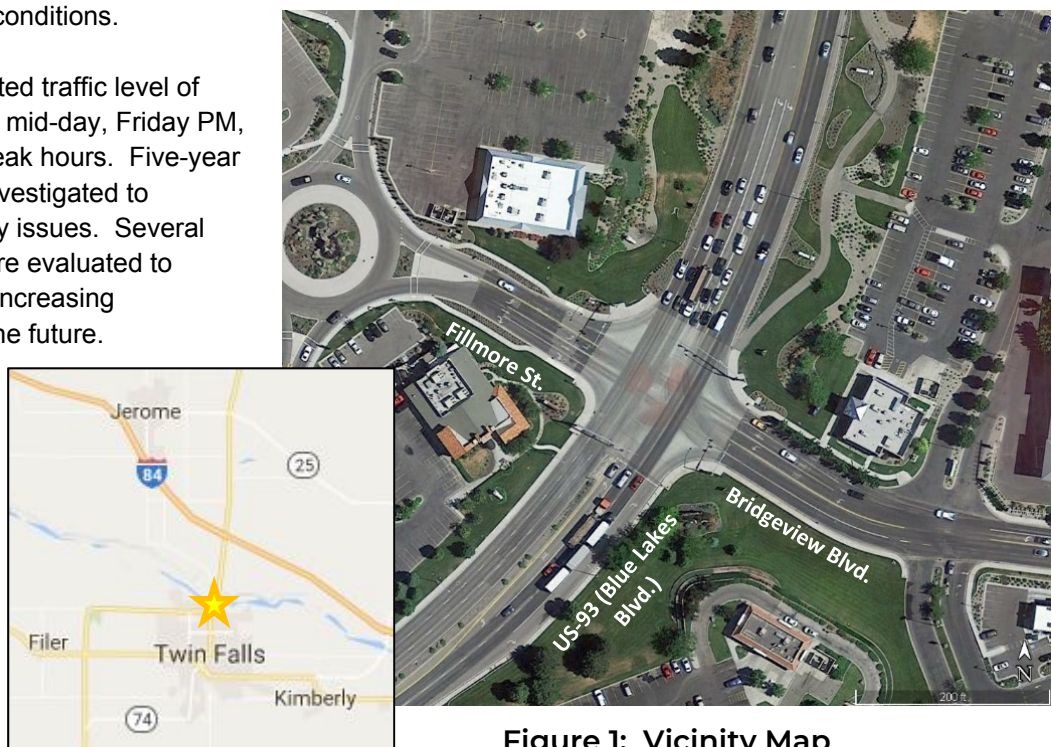


Figure 1: Vicinity Map

DATA COLLECTION

L2 Data Collection performed turning movement counts on Friday, July 21, 2017 from 11:30 AM to 1:30 PM and 4:00 to 6:00 PM, and Saturday, July 22, 2017 from 11:30 AM to 1:30 PM. Peak hours were identified as 12:30 to 1:30 PM and 4:45 to 5:45 PM on Friday and 12:30 to 1:30 PM on Saturday. Turning movement count summary sheets are attached to this memo.

Year 2018 and 2038 Average Annual Daily Traffic (AADT) forecasts for Blue Lakes Blvd. and Bridgeview Blvd. were obtained from the Idaho Transportation Department (ITD). Growth factors from 2018 to 2038 were 1.57 for Blue Lakes Blvd. and 1.20 for Bridgeview Blvd. These correspond to 2.3 percent and 0.9 percent annual compounded growth rates, respectively. The future growth rate for Fillmore Street was assumed the same as Bridgeview Blvd.

Turning movement count projections for Years 2022, 2027, and 2037 were calculated by applying the AADT growth rates to existing turning movements via the Furness method¹. AADT and turning movement count forecast sheets are attached to this memo.

The existing signal-timing plan at Blue Lakes Blvd. & Bridgeview Blvd. was received from the City of Twin Falls. Crash history from 2012 to 2016 was obtained from ITD's WebCARS database.

TRAFFIC CAPACITY ANALYSIS

Keller Associates used the peak hour turning movement counts and forecasts to evaluate existing and future Level of Service (LOS), delay, and queues at Blue Lakes Blvd. & Bridgeview Blvd. Trafficware's Synchro analysis software was used for the evaluations. The existing signal-timing plan was modeled in Synchro for the existing-year evaluations and optimized for the future-year evaluations². Detailed Synchro output sheets are attached to this memo.

Criteria for lowest *acceptable* LOS are shown below. They are consistent with the 2009 City of Twin Falls Master Transportation Plan.

- Intersection average: LOS D (nearing capacity; delay 35 to 55 sec/veh)
- Intersection approaches: LOS E (at capacity; delay 55 to 80 sec/veh)
- Individual movements: LOS E (at capacity; delay 55 to 80 sec/veh)

Tables 1, 2, and 3 on the following page summarize *average intersection*, *worst approach*, and *worst movement* delay and level of service, respectively, with the existing geometric and traffic signal configurations (No Build). Corresponding vehicle queue lengths may be found in the attached Synchro output sheets. Note that the Friday PM peak hour has the highest traffic volumes and worst conditions in each scenario.

¹ A common factoring algorithm named after its creator, K.P. Furness. This iterative method, as discussed in NCHRP Report 255 is used to convert approach growth increments to forecasted turning movements.

² Cycle length and phase splits were optimized for Year 2022, 2027, and 2037 evaluations using Synchro's built-in optimization procedure, which seeks to minimize average intersection delay and total number of stops. Following this automatic procedure, cycle lengths were then manually adjusted to ensure that the overall lowest intersection delay and volume/capacity ratio was chosen. Cycle length and phase splits were optimized for the Friday PM peak hour, then used for the Friday mid-day and Saturday mid-day peak hours, because PM peak hour traffic volumes are significantly higher than the other two periods and represent the worst-case scenario.

Table 1: Intersection Average LOS and Delay – Blue Lakes Blvd & Bridgeview Blvd

Analysis Scenario	Intersection Average – Level of Service, Delay (sec/veh)		
	Friday Midday Peak Hour	Friday PM Peak Hour	Saturday Midday Peak Hour
2017 Existing	LOS C 22	LOS C 30	LOS C 22
2022 No Build*	LOS C 21	LOS C 30	LOS C 20
2027 No Build*	LOS C 23	LOS D 37	LOS C 21
2037 No Build*	LOS C 34	LOS E 67	LOS C 28

* = Optimized signal timing

 = Nearing unacceptable level of service (near capacity)

 = Unacceptable level of service (at capacity)

Table 2: Worst Approach LOS and Delay – Blue Lakes Blvd & Bridgeview Blvd

Analysis Scenario	Worst Approach – Level of Service, Delay (sec/veh)		
	Friday Midday Peak Hour	Friday PM Peak Hour	Saturday Midday Peak Hour
2017 Existing	LOS C 32 Eastbound	LOS D 49 Eastbound	LOS C 27 Eastbound
2022 No Build*	LOS C 29 Eastbound	LOS D 45 Eastbound	LOS C 26 Eastbound
2027 No Build*	LOS D 35 Eastbound	LOS E 64 Eastbound	LOS C 28 Eastbound
2037 No Build*	LOS E 55 Eastbound	LOS F 126 Eastbound	LOS D 40 Eastbound

* = Optimized signal timing

 = Nearing unacceptable level of service (at capacity)

 = Unacceptable level of service (demand exceeds capacity)

Table 3: Worst Movement LOS and Delay – Blue Lakes Blvd & Bridgeview Blvd

Analysis Scenario	Worst Movement – Level of Service, Delay (sec/veh)		
	Friday Midday Peak Hour	Friday PM Peak Hour	Saturday Midday Peak Hour
2017 Existing	LOS D 43 Northbound left	LOS E 65 Northbound left	LOS D 41 Northbound left
2022 No Build*	LOS D 38 Northbound left	LOS E 61 Southbound left	LOS D 39 Northbound left
2027 No Build*	LOS E 48 Northbound left	LOS E 78 Eastbound left	LOS D 41 Northbound left
2037 No Build*	LOS E 73 Eastbound left	LOS F 157 Eastbound left	LOS E 58 Northbound left

* = Optimized signal timing

 = Nearing unacceptable level of service (at capacity)

 = Unacceptable level of service (demand exceeds capacity)

Year 2017 (Existing)

The Blue Lakes Blvd. & Bridgeview Blvd. intersection is currently operating with acceptable level of service during all three peak hours studied. However, some vehicle queues are spilling back into and blocking upstream intersections. The eastbound left turn 95th percentile queue³ is at least 266 feet during the Friday PM peak hour, which backs up into the roundabout. The westbound right turn queue is at least 371 feet during the Friday PM peak hour, which backs up past the Best Buy/IHOP access.

Year 2022 (5-year projection)

Delay and level of service are expected to remain acceptable. Delay, level of service, and queue lengths are expected to remain similar to 2017 if the signal timing is optimized; optimized signal cycle length and phase splits should offset background traffic growth. However, the northbound through queue may begin to spill back into the Perrine Street intersection, with the Friday PM peak hour 95th percentile queue is expected to be at least 720 feet.

Year 2027 (10-year projection)

Some turning movements are expected to be at capacity in 2027, especially during the PM peak hour. Queue spillback on the eastbound, westbound, and northbound approaches is expected to worsen. On the southbound approach, the through and left turn 95th percentile queues are expected to exceed 454 feet and 273 feet, respectively (the dual left turn bays are 250 feet long with a 200-foot taper).

Year 2037 (20-year projection)

By 2037, the intersection is expected to be at capacity during the Friday PM peak hour, with several turning movements failing during the Friday midday and PM peak hours. The Friday PM peak hour is expected to be the worst, with an average LOS E and multiple movements at LOS F (eastbound left, northbound left, northbound through, and southbound left). During the Friday PM peak hour, expected 95th percentile queues on each approach are:

- Eastbound: at least 450 feet
- Northbound: at least 1,500 feet
- Westbound: at least 750 feet
- Southbound: at least 700 feet

CRASH HISTORY

There were 22 crashes at the Blue Lakes Blvd. & Bridgeview Blvd. intersection during the five-year period from 2012 to 2016. The intersection crash rate during this time was 0.33 crashes/MV (crashes per million entering vehicles) using a 2016 intersection AADT of 36,800 vehicles/day. Typically, intersection crash rates over 1.0 crashes/MV indicate need for safety improvements. The intersection is currently ranked on ITD's High Accident Location (HAL) list at #465 Statewide and #66 within District 4.

There was one A-injury (incapacitating injury) crash in the vicinity of the intersection. It was a rear-end crash between two northbound Blue Lakes Boulevard vehicles, located approximately 400 feet south of the intersection. "Inattention" was cited as the contributing circumstance. Long queues on the northbound approach could also have contributed to the crash. Four crashes were C-injury severity (possible injury). The other seventeen crashes were Property Damage Only crashes.

³ The 95th-percentile queue is defined to be the queue length that has only a 5-percent probability of being exceeded during the analysis period.

Fifteen of the 22 crashes were rear-ends. All fifteen had “Following Too Close” or “Inattention” cited as the main contributing circumstance. Four of the 22 crashes were either angle or angle-turning crashes. Notably, three of the four occurred when a southbound vehicle failed to yield to the signal.

Overall, crash history does not appear to be a significant issue at the intersection. However, shortening vehicle queues could reduce the number of rear-end collisions. Alerting southbound drivers with an Advance Warning Signal (AWS) on the south side of the bridge could potentially reduce the number of failure-to-yield crashes. Such an AWS installation would preferably be mounted overhead for increased driver visibility, due to the seven-lane width of US-93 in this area.

IMPROVEMENT SCENARIOS

Five scenarios were studied in order to find improvements that would reduce vehicle delay and queue lengths over the No Build condition. These Options A through E are discussed in the following paragraphs, with comparisons of Options C through E Friday PM Peak Hour level of service and delay shown in **Table 4** on the following page.

Option A – Add a third northbound through lane

Adding a third northbound through lane would significantly increase capacity of the intersection; however, the third through lane would need to taper back to two lanes within the 660 feet between the Bridgeview Boulevard intersection and Perrine Bridge. This is not enough length for motorists to comfortably or safely merge, and therefore the third through lane would likely be significantly under-utilized and lead to unsafe driver behaviors. The recommended length of such a through lane downstream of the traffic signal is 1800 feet, per NCHRP guidelines⁴, plus a taper of 320 feet. This option is not shown in the Table 4 comparison, as it was considered infeasible.

Option B – Northbound left turn Flashing Yellow Arrow (FYA)

Converting the northbound left turn phasing from protected to protected-permitted FYA would reduce delay and improve level of service for that one movement, but does not significantly affect overall intersection performance. In addition, some jurisdictions avoid using FYA if the left turn crosses three through lanes, for safety reasons, which is the case for northbound left turns at Blue Lakes Blvd. & Bridgeview Blvd. This option is not shown in the Table 4 comparison, as it was considered unlikely to be implemented by itself, due to its limited benefit.

Option C – Eastbound and westbound left turn Flashing Yellow Arrow (FYA)

Converting the eastbound and westbound left turns from permitted to protected-permitted FYA phasing is expected to slightly worsen conditions, reducing overall capacity, increasing delay, and decreasing level of service. The additional protected phases introduce more yellow and all-red lost time into the signal cycle, which reduces green time to the primary movements.

Option D – Eastbound and westbound dual left turn lanes

Constructing dual left turn lanes eastbound and westbound is expected to slightly worsen conditions, reducing overall capacity, increasing delay, and decreasing level of service to a degree comparable to eastbound and

⁴ National Cooperative Highway Research Program (NCHRP) Report 707, Guidelines on the Use of Auxiliary Through Lanes at Signalized Intersections.

westbound left turn flashing yellow arrow (Option C). However, construction of dual left turn lanes would double the existing left turn storage and shorten queues on their respective approaches.

Option E – Combination of options

- Eastbound dual left-turn lanes
- Westbound left-turn Flashing Yellow Arrow
- Westbound dual right-turn lanes
- Northbound left-turn Flashing Yellow Arrow

The combined effect of the Option E improvements is expected to slightly improve overall level of service. The eastbound dual left turn lanes increase left turn storage to somewhat alleviate queue spillback into the roundabout. Since left-turn queues are not as long on the westbound approach, protected-permitted flashing yellow arrow phasing is the better option to increase capacity. The westbound dual right turn lanes and northbound flashing yellow arrow should increase capacity for their respective movements.

However, the Option E improvements are not expected to improve the level of service to acceptable levels in the 2037 Friday PM peak hour. LOS E is expected for the intersection average, and the eastbound left, westbound through, and southbound left movements are expected to be LOS F. Friday PM peak hour queues are expected to shorten slightly compared to the No Build scenario; expected 95th percentile queues on each approach are:

- Eastbound: at least 250 feet
- Northbound: at least 1,500 feet
- Westbound: at least 350 feet
- Southbound: at least 650 feet

Table 4: Improvement Scenario Comparison – Blue Lakes Blvd & Bridgeview Blvd

Analysis Scenario*		Friday PM Peak Hour Level of Service, Delay (sec/veh)				
		Intersection Average	Blue Lakes Blvd		Fillmore St / Bridgeview Blvd	
			Northbound	Southbound	Eastbound	Westbound
2022	No Build	LOS C 30	LOS C 34	LOS C 24	LOS D 45	LOS C 29
	Option C	LOS C 34	LOS C 30	LOS C 25	LOS E 67	LOS D 52
	Option D	LOS D 35	LOS C 33	LOS C 24	LOS E 63	LOS E 56
2027	No Build	LOS D 37	LOS D 42	LOS C 27	LOS E 64	LOS D 40
	Option C	LOS D 42	LOS D 39	LOS C 29	LOS F 79	LOS E 73
	Option D	LOS D 43	LOS D 40	LOS C 26	LOS E 79	LOS F 81
2037	No Build	LOS E 67	LOS F 90	LOS D 40	LOS F 126	LOS E 68
	Option C	LOS E 79	LOS F 92	LOS D 35	LOS F 200	LOS F 142
	Option D	LOS E 76	LOS E 78	LOS D 38	LOS F 123	LOS F 184
	Option E	LOS E 61	LOS E 76	LOS D 36	LOS F 123	LOS E 68

* = All scenarios utilize optimized signal timing

= Nearing unacceptable level of service

= Unacceptable level of service

ALTERNATIVE INTERSECTION CONCEPTS

Keller Associates used the Federal Highway Administration Capacity Analysis for Planning of Junctions (CAP-X) software product, to determine whether an alternative intersection design is feasible. Year 2037 Friday PM Peak Hour volumes were used in the CAP-X screening tool of alternate intersection forms, such as quadrant roadways, displaced left turns, restricted/median U-turns, and roundabouts. Of the total 22 intersection variants studied, only the Displaced Left Turn (DLT)⁵ options indicated an acceptable volume-to-capacity (v/c) ratio of 0.96. However, a DLT is likely to be geometrically infeasible at this location, due to the requirement of new signalized crossover intersections along Blue Lakes Blvd., 300 to 500 feet both upstream and downstream of the central intersection. Partial Median U-Turn options (also known as ThrU-Turn) were the next highest ranked with v/c ratios of 0.99. Completed CAP-X worksheets are attached to this memo.

CONCLUSIONS AND RECOMMENDATIONS

At the Blue Lakes Blvd. & Bridgeview Blvd intersection, traffic level of service is currently acceptable but queues are spilling back into and at times blocking adjacent intersections on the eastbound and westbound approaches. Actual level of service for eastbound movements may be worse than is shown in these calculations, due to motorists hesitating to make permitted left turns across the large intersection width or concurrently with westbound right turning vehicles.

Sometime between 2027 and 2037, unacceptable levels of service are expected during the Friday midday and PM peak hours and queues are expected to lengthen on all approaches, blocking adjacent accesses/intersections on the eastbound, westbound and northbound approaches. Limiting movement combinations appear to be the eastbound-left vs. westbound-right and southbound-left vs. northbound-through. These movements are high volume and conflict with one another, and therefore cannot run concurrently, limiting the amount of traffic signal green time for each.

Improvement Option E would slightly improve average intersection capacity in 2037, but the eastbound-left, northbound-through, and southbound-left movements are expected to still have high volumes and failing LOS. Neither conventional improvements nor alternative intersection configurations show much promise of improving 2037 traffic conditions at this constrained location; a grade separation or diversion of turning traffic to alternate intersections appear to be the only long-term solutions.

The installation of flashing yellow arrow protected/permitted left turns eastbound and westbound (Option C) may be a low-cost, short-term solution to the delays experienced by eastbound and westbound motorists. The protected portion of the left-turn phase is flexible and can be programmed by time of day, to ensure minimal disruption to the predominant traffic flows on Blue Lakes Blvd. Though the analysis shows slight worsening conditions to Fillmore Street and Bridgeview Drive with the flashing yellow arrow, that analysis does not model existing driver hesitation in making eastbound left turns. If the new signal heads and phasing alter driver behavior into making more frequent and safer left turns, as some national research suggests, then the flashing yellow arrow may be an improvement.

⁵ A Displaced Left Turn (DLT) intersection is also referred to as a Continuous Flow Intersection (CFI).

Attachments: Vehicle turning movement count summaries (Pages 9-11)
 ITD AADT forecasts (Pages 12-13)
 Furness Method turning movement volumes (Pages 14-22)
 Synchro output—
 Friday Midday Peak (Pages 23-30)
 Friday PM Peak (Pages 31-52)
 Saturday Midday Peak (Pages 53-60)
 Cap-X Evaluation (Pages 61-73)

TURNING MOVEMENT COUNT SUMMARY



INTERSECTION

N-S STREET: *Blue Lakes Blvd*
E-W STREET: *Bridgeview Blvd*

PROJECT NO.:

217111

COUNT DATE:

July 21, 2017

NOTES:

Signalized

COUNT TIME

FROM: *11:30 AM*

TO: *1:30 PM*

GROWTH FACTOR:

1.00

PEAK HOUR VOLUMES

0.6% HV 6.6% HV 1.2% HV

96 1,056 304

0.4% HV 0.9% HV 1.6% HV

135 125 32

0.4% HV 0.9% HV 1.6% HV

240 111 110

1.3% HV 0.4% HV 0.5% HV

42 965 89

0% HV 5.7% HV 0% HV

Blue Lakes Blvd

COUNT DATA INPUT:

TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
11:30 AM	11:45 AM	8	185	21	33	14	7	59	233	23	24	20	55	682
11:45 AM	12:00 PM	8	186	19	25	28	11	68	234	16	22	33	66	716
12:00 PM	12:15 PM	6	206	30	33	28	6	66	244	22	26	29	53	749
12:15 PM	12:30 PM	9	221	29	31	28	5	74	271	22	26	31	66	813
12:30 PM	12:45 PM	6	242	23	37	30	7	68	281	21	21	25	57	818
12:45 PM	1:00 PM	10	243	18	34	32	11	91	273	17	33	38	61	861
1:00 PM	1:15 PM	18	232	30	25	32	5	77	252	26	25	26	58	806
1:15 PM	1:30 PM	8	248	18	39	31	9	68	250	32	31	22	64	820
1:30 PM	1:45 PM													0
1:45 PM	2:00 PM													0
2:00 PM	2:15 PM													0
2:15 PM	2:30 PM													0
Heavy Vehicles included in counts:														
		0	100	0	1	2	1	7	135	1	1	1	6	255
		0%	6%	0%	0%	1%	2%	1%	7%	1%	0%	0%	1%	4%

HOURLY TOTALS:

TIME PERIOD			NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:		L	T	R	L	T	R	L	T	R	L	T	R	
11:30 AM	12:30 PM		31	798	99	122	98	29	267	982	83	98	113	240	2,960
11:45 AM	12:45 PM		29	855	101	126	114	29	276	1,030	81	95	118	242	3,096
12:00 PM	1:00 PM		31	912	100	135	118	29	299	1,069	82	106	123	237	3,241
12:15 PM	1:15 PM		43	938	100	127	122	28	310	1,077	86	105	120	242	3,298
12:30 PM	1:30 PM		42	965	89	135	125	32	304	1,056	96	110	111	240	3,305
12:45 PM	1:45 PM		36	723	66	98	95	25	236	775	75	89	86	183	2,487
1:00 PM	2:00 PM		26	480	48	64	63	14	145	502	58	56	48	122	1,626
1:15 PM	2:15 PM		8	248	18	39	31	9	68	250	32	31	22	64	820
1:30 PM	2:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.



TURNING MOVEMENT COUNT SUMMARY

INTERSECTION

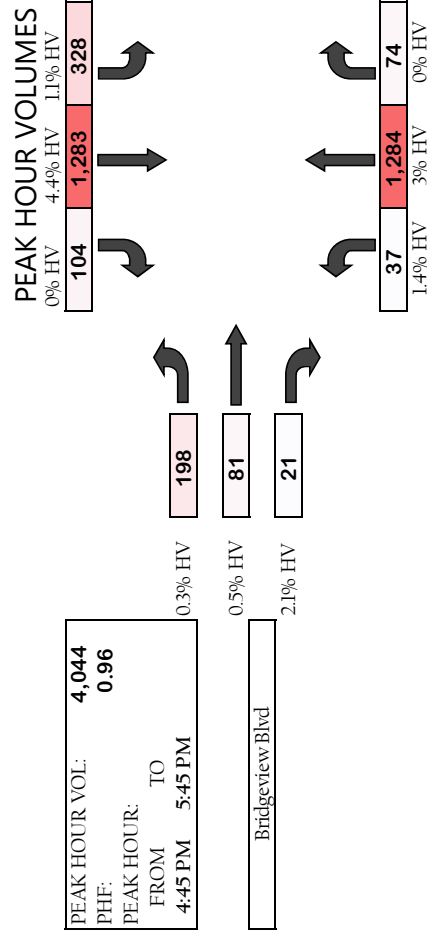
N-S STREET: *Blue Lakes Blvd*
E-W STREET: *Bridgeview Blvd*

PROJECT NO.: *217111*
COUNT DATE: *July 21, 2017*
NOTES: *Signalized*

COUNT TIME

FROM: *4:00 PM*
TO: *6:00 PM*

GROWTH FACTOR: *1.00*



COUNT DATA INPUT:

TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	10	268	26	63	23	6	76	242	23	39	27	92	895
4:15 PM	7	323	17	46	34	10	80	308	22	29	29	109	1,014
4:30 PM	10	279	20	50	36	8	96	279	16	30	23	101	948
4:45 PM	10	299	19	46	27	3	94	315	23	31	24	99	990
5:00 PM	9	304	16	46	19	5	71	303	21	31	33	102	960
5:15 PM	10	336	18	51	15	5	81	322	33	30	30	121	1,052
5:30 PM	8	345	21	55	20	8	82	343	27	25	23	85	1,042
5:45 PM	10	289	25	39	27	2	73	261	24	27	30	106	913
6:00 PM													0
6:15 PM													0
6:30 PM													0
6:45 PM													0
7:00 PM													0
Heavy Vehicles included in counts:													
	1	74	0	1	1	1	7	104	0	0	0	0	189
	1%	3%	0%	0%	0%	2%	1%	4%	0%	0%	0%	0%	2%

HOURLY TOTALS:

TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	37	1,169	82	205	120	27	346	1,144	84	129	103	401	3,847
4:15 PM	36	1,205	72	188	116	26	341	1,205	82	121	109	411	3,912
4:30 PM	39	1,218	73	193	97	21	342	1,219	93	122	110	423	3,950
4:45 PM	37	1,284	74	198	81	21	328	1,283	104	117	110	407	4,044
5:00 PM	37	1,274	80	191	81	20	307	1,229	105	113	116	414	3,967
5:15 PM	28	970	64	145	62	15	236	926	84	82	83	312	3,007
5:30 PM	18	634	46	94	47	10	155	604	51	52	53	191	1,955
5:45 PM	10	289	25	39	27	2	73	261	24	27	30	106	913
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY



INTERSECTION

N-S STREET: Blue Lakes Blvd
E-W STREET: Bridgeview Blvd

PROJECT NO.: 217111
COUNT DATE: July 22, 2017
NOTES: Signalized

COUNT TIME

FROM: 11:30 AM
TO: 1:30 PM

GROWTH FACTOR: 1.00

PEAK HOUR VOL: 3,180
PHF: 0.93
PEAK HOUR: FROM 12:30 PM TO 1:30 PM

Bridgeview Blvd

PEAK HOUR VOLUMES
0% HV 122 4.6% HV 975 0.9% HV 284

0.4% HV

0% HV

0% HV

123

134

36

262

109

142

0% HV 47 4.6% HV 813 0% HV 133

Blue Lakes Blvd

COUNT DATA INPUT:

TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
11:30 AM	7	185	34	24	30	10	62	241	21	30	30	53	727
11:45 AM	9	187	38	29	31	11	68	216	16	24	35	55	719
12:00 PM	11	185	34	34	28	9	84	250	28	34	29	54	780
12:15 PM	8	203	24	28	29	13	69	214	33	32	29	63	745
12:30 PM	10	197	33	26	23	8	72	255	25	40	18	49	756
12:45 PM	15	196	31	28	37	9	59	263	28	35	33	75	809
1:00 PM	13	212	41	39	41	8	84	249	38	35	24	75	859
1:15 PM	9	208	28	30	33	11	69	208	31	32	34	63	756
1:30 PM													0
1:45 PM													0
2:00 PM													0
2:15 PM													0
2:30 PM													0
Heavy Vehicles included in counts:													
	0	72	0	1	0	0	5	88	0	0	0	5	171
	0%	5%	0%	0%	0%	0%	1%	5%	0%	0%	0%	1%	3%

HOURLY TOTALS:

TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
11:30 AM	35	760	130	115	118	43	283	921	98	120	123	225	2,971
11:45 AM	38	772	129	117	111	41	293	935	102	130	111	221	3,000
12:00 PM	44	781	122	116	117	39	284	982	114	141	109	241	3,090
12:15 PM	46	808	129	121	130	38	284	981	124	142	104	262	3,169
12:30 PM	47	813	133	123	134	36	284	975	122	142	109	262	3,180
12:45 PM	37	616	100	97	111	28	212	720	97	102	91	213	2,424
1:00 PM	22	420	69	69	74	19	153	457	69	67	58	138	1,615
1:15 PM	9	208	28	30	33	11	69	208	31	32	34	63	756
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

AADT Volume Projection Report

Route Multiple

Traffic Data 2016

Segment 002220 Milepost From 49.210 Start 2018

Milepost To 50.039 End Projection 2038

Year	Segment	Milepost		AADT	CAADT	DHV	DHV %	CDHV	CDHV %	DIR	From Description		To Description
		From	To								CHENEY DR	POLE LINE RD	
2016	002220	49.210	49.455	25,000	2,100	2,500	10.00	150	7.14	60/40%	CHENEY DR	POLE LINE RD	POLELINE RD (US-93)
		49.455	50.039	30,000	2,400	3,280	10.93	180	7.50	60/40%	POLE LINE RD		
	2016	Weighted averages		28,520	2,310	3,050	10.66	170	7.39				
2018	002220	49.210	49.455	26,000	2,180	2,600	10.00	150	6.88	60/40%	CHENEY DR	POLE LINE RD	POLELINE RD (US-93)
		49.455	50.039	31,820	2,570	3,480	10.94	200	7.78	60/40%	POLE LINE RD		
	2018	Weighted averages		30,100	2,450	3,220	10.66	190	7.52				
2038	002220	49.210	49.455	36,000	3,020	3,600	10.00	210	6.95	60/40%	CHENEY DR	POLE LINE RD	POLELINE RD (US-93)
		49.455	50.039	50,060	4,250	5,490	10.97	330	7.76	60/40%	POLE LINE RD		
	2038	Weighted averages		45,900	3,890	4,930	10.68	290	7.53				

AADT Volume Projection Report

Route		Traffic Data 2016							
Segment		025216	Milepost From		100.000	Start 2018			
			Milepost To		100.451	End Projection 2038			
</									

2022 FRIDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Furness Screen - Blue Lakes Blvd & Bridgeview Blvd

Enter Turning Counts

Count data
Turn %-ages

Previous
Next

1 of 1

Enter Forecast Approach & Departure Volumes

Goal Actual
0 0.2 % Convergence
5 Iterations
☒ Use counts turns as floor

Reset
Iterate
Print
Close

Convergence goal achieved.

Input file name: [none]

2027 FRIDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Furness Screen - Blue Lakes Blvd & Bridgeview Blvd

Enter Turning Counts

Count data
Turn %-ages

1 of 1

Enter Forecast Approach & Departure Volumes

Goal: 0, Actual: 0.3, % Convergence
7 Iterations
Use counts turns as floor

Reset
Iterate
Print
Close

Convergence goal achieved.

Input file name: [none]

The screenshot displays the 'Furness Screen' software interface for the intersection of Blue Lakes Blvd & Bridgeview Blvd. The interface is divided into two main sections: 'Enter Turning Counts' and 'Enter Forecast Approach & Departure Volumes'.

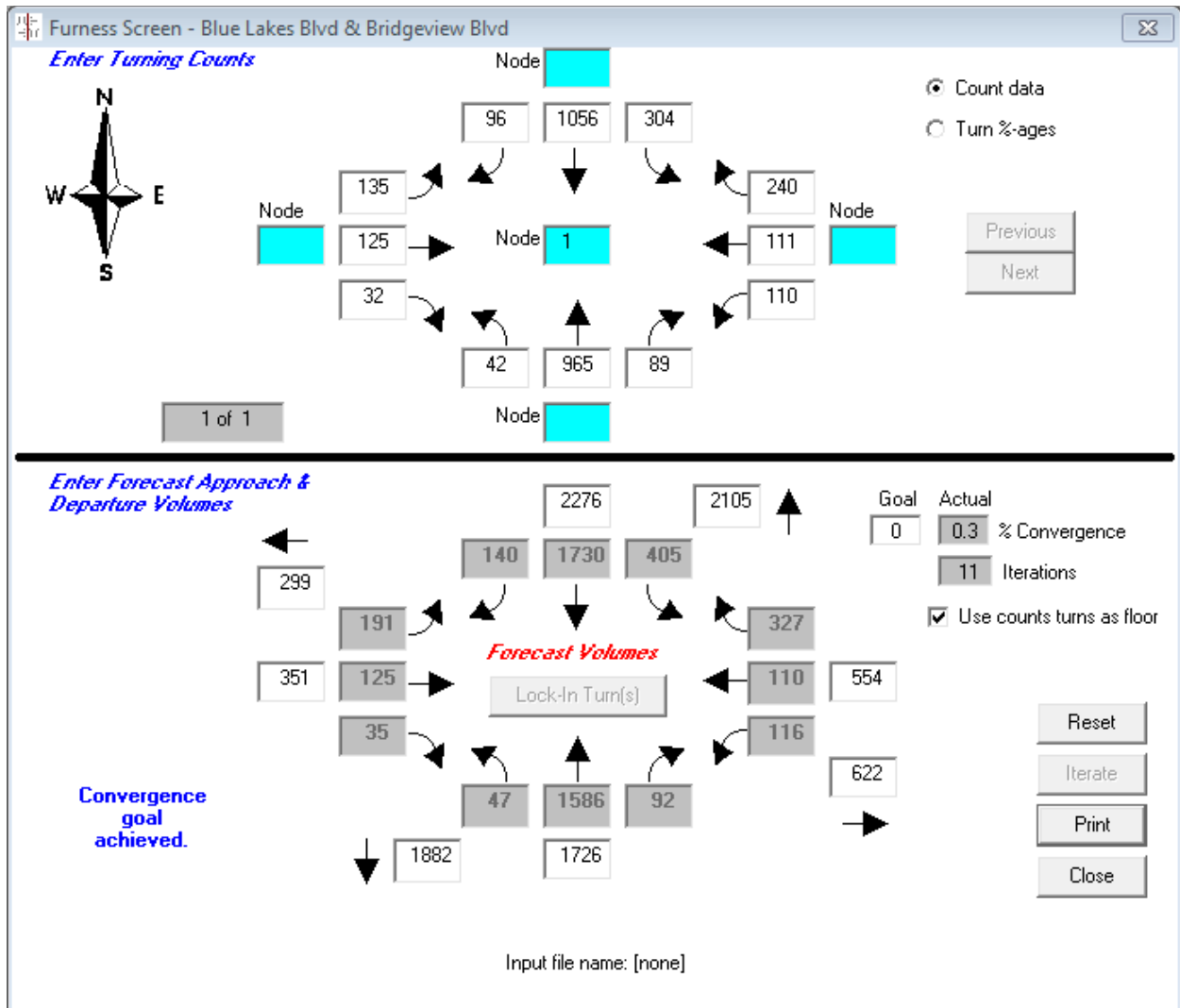
Enter Turning Counts Section:

- A compass rose indicates North (N), South (S), East (E), and West (W).
- A diagram shows the intersection with turning counts for various approaches. The central node is labeled 'Node 1'.
- Count data is selected (radio button).
- Buttons for 'Previous' and 'Next' are visible.
- A status bar shows '1 of 1'.

Enter Forecast Approach & Departure Volumes Section:

- A diagram shows the intersection with forecast volumes and lock-in turn times.
- Convergence results are displayed: Goal: 0, Actual: 0.3, % Convergence, 7 Iterations.
- The 'Use counts turns as floor' checkbox is checked.
- Buttons for 'Reset', 'Iterate', 'Print', and 'Close' are visible.
- A message states 'Convergence goal achieved.'
- The input file name is '[none]'.

2037 FRIDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES



2022 FRIDAY PM PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Node

104 1283 328

198 81 21

Node **1**

407 110 117

37 1284 74

Node

☒ Count data

☐ Turn %-ages

Previous

Next

1 of 1

Enter Forecast Approach & Departure Volumes

263

214

316

81

21

1589

115

1451

349

439

109

116

38

1458

74

1570

1916

2112

665

504

Forecast Volumes

Lock-In Turn(s)

Goal

Actual

☐ % Convergence

☐ Iterations

☒ Use counts turns as floor

Reset

Iterate

Print

Close

Input file name: [none]

2027 FRIDAY PM PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Enter Turning Counts

Node 1

104 1283 328

198 407

81 110

21 117

37 1284 74

Node 1

1 of 1

Previous

Next

☒ Count data

☐ Turn %-ages

Enter Forecast Approach & Departure Volumes

2134 2354

128 1634 372

229 475

331 81 109 700

21 116

36 1649 74

1771 1760

526

Forecast Volumes

Lock-In Turn(s)

Convergence goal not achieved !

Input file name: [none]

Goal Actual

0 -0.6 % Convergence

100 Iterations

☒ Use counts turns as floor

Reset

Iterate

Print

Close

2037 FRIDAY PM PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Node 1

104 1283 328

198 81 21

37 1284 74

407 110 117

Node 1

☒ Count data

☐ Turn %-ages

Previous

Next

1 of 1

Enter Forecast Approach & Departure Volumes

2660 2948

154 2081 423

265 81 21

367 2217 2237

555 108 114

778 576

Forecast Volumes

Lock-In Turn(s)

Goal Actual

0 -1.5 % Convergence

100 Iterations

☒ Use counts turns as floor

Reset

Iterate

Print

Close

Convergence goal not achieved !

Input file name: [none]

2022 SATURDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Furness Screen - Blue Lakes Blvd & Bridgeview Blvd

Enter Turning Counts

Count data
Turn %-ages

Previous
Next

1 of 1

Enter Forecast Approach & Departure Volumes

Forecast Volumes

Lock-In Turn(s)

Goal Actual
0 0.2 % Convergence
4 Iterations
☒ Use counts turns as floor

Reset
Iterate
Print
Close

Convergence goal achieved.

Input file name: [none]

2027 SATURDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Node

122 975 284

Node

123 134 36

Node 1

262 109 142

47 813 133

Node

☒ Count data

☐ Turn %-ages

Previous

Next

1 of 1

Enter Forecast Approach & Departure Volumes

Goal Actual

0 0.2 % Convergence

6 Iterations

☒ Use counts turns as floor

Reset

Iterate

Print

Close

Forecast Volumes

Lock-In Turn(s)

1720 1499

143 1250 326

304 147 321 134 39

301 108 151

561 603

51 1050 142

1442 1244

Convergence goal achieved.

Input file name: [none]

2037 SATURDAY MIDDAY PEAK HOUR – FURNESS METHOD TURNING MOVEMENT VOLUMES

Furness Screen - Blue Lakes Blvd & Bridgeview Blvd

Enter Turning Counts

Count data
Turn %-ages

Previous
Next

1 of 1

Enter Forecast Approach & Departure Volumes

Forecast Volumes

Lock-In Turn(s)

Goal	Actual	% Convergence
0	0.3	

8 Iterations

☒ Use counts turns as floor

Reset
Iterate
Print
Close

Convergence goal achieved.

Input file name: [none]

Lanes, Volumes, Timings

Existing 2017 Friday MIDDAY

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	125	32	110	111	240	42	965	89	304	1056	96
Future Volume (vph)	135	125	32	110	111	240	42	965	89	304	1056	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1787	1881	1599	1805	3406	1615	3467	4807	0
Flt Permitted	0.682			0.674			0.950			0.950		
Satd. Flow (perm)	1283	1881	1583	1268	1881	1599	1805	3406	1615	3467	4807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			41			87		13	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	0%	6%	0%	1%	7%	1%
Adj. Flow (vph)	141	130	33	115	116	250	44	1005	93	317	1100	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	130	33	115	116	250	44	1005	93	317	1200	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	50.2	50.2	50.2	50.2	50.2	35.2	25.2	72.0	72.0	35.2	72.0	
Total Split (%)	31.9%	31.9%	31.9%	31.9%	31.9%	22.4%	16.0%	45.7%	45.7%	22.4%	45.7%	
Maximum Green (s)	45.0	45.0	45.0	45.0	45.0	30.0	20.0	65.0	65.0	30.0	65.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	15.7	15.7	15.7	15.7	15.7	34.6	7.2	30.3	30.3	13.4	42.1	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.44	0.09	0.39	0.39	0.17	0.54	
v/c Ratio	0.55	0.34	0.08	0.45	0.31	0.34	0.27	0.76	0.14	0.53	0.46	
Control Delay	39.2	32.0	0.4	36.4	31.5	14.1	43.4	25.5	5.4	35.5	13.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

Existing 2017 Friday MIDDAY

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	39.2	32.0	0.4	36.4	31.5	14.1	43.4	25.5	5.4	35.5	13.3	
LOS	D	C	A	D	C	B	D	C	A	D	B	
Approach Delay		31.9			23.6			24.6			17.9	
Approach LOS		C			C			C			B	
90th %ile Green (s)	26.1	26.1	26.1	26.1	26.1	19.5	10.3	45.8	45.8	19.5	55.0	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
70th %ile Green (s)	19.2	19.2	19.2	19.2	19.2	15.4	8.1	35.3	35.3	15.4	42.6	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
50th %ile Green (s)	15.4	15.4	15.4	15.4	15.4	13.0	6.8	29.8	29.8	13.0	36.0	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
30th %ile Green (s)	12.1	12.1	12.1	12.1	12.1	10.9	0.0	24.1	24.1	10.9	40.2	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Skip	Gap	Gap	Gap	Hold	
10th %ile Green (s)	8.4	8.4	8.4	8.4	8.4	8.6	0.0	18.7	18.7	8.6	32.5	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Skip	Gap	Gap	Gap	Hold	
Queue Length 50th (ft)	60	53	0	48	47	60	20	207	2	70	135	
Queue Length 95th (ft)	148	129	0	122	117	147	65	373	33	148	231	
Internal Link Dist (ft)		148			431			772			1040	
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	787	1154	1010	778	1154	1103	492	2862	1371	1418	4366	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.18	0.11	0.03	0.15	0.10	0.23	0.09	0.35	0.07	0.22	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 157.4

Actuated Cycle Length: 77.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 108.8

70th %ile Actuated Cycle: 87.3

50th %ile Actuated Cycle: 75.6

30th %ile Actuated Cycle: 64.5

10th %ile Actuated Cycle: 53.1

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
25.2 s	72 s	50.2 s
 Ø5	 Ø6	 Ø8
35.2 s	72 s	50.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	125	33	113	110	258	44	1095	91	325	1195	105
Future Volume (vph)	147	125	33	113	110	258	44	1095	91	325	1195	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1787	1881	1599	1805	3406	1615	3467	4811	0
Flt Permitted	0.683			0.674			0.950			0.950		
Satd. Flow (perm)	1285	1881	1583	1268	1881	1599	1805	3406	1615	3467	4811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			48			90		17	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	0%	6%	0%	1%	7%	1%
Adj. Flow (vph)	153	130	34	118	115	269	46	1141	95	339	1245	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	130	34	118	115	269	46	1141	95	339	1354	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	13.6	10.3	35.2	35.2	13.6	38.5	
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	15.1%	11.4%	39.1%	39.1%	15.1%	42.8%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	8.4	5.1	28.2	28.2	8.4	31.5	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	12.5	12.5	12.5	12.5	12.5	26.2	5.1	28.3	28.3	8.4	36.0	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.39	0.08	0.42	0.42	0.13	0.54	
v/c Ratio	0.63	0.37	0.09	0.50	0.33	0.41	0.34	0.79	0.13	0.78	0.52	
Control Delay	37.0	26.2	0.5	31.4	25.5	13.7	37.8	22.8	4.5	43.5	12.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	37.0	26.2	0.5	31.4	25.5	13.7	37.8	22.8	4.5	43.5	12.4	
LOS	D	C	A	C	C	B	D	C	A	D	B	
Approach Delay	28.7			20.6			22.0			18.6		
Approach LOS	C			C			C			B		
90th %ile Green (s)	19.3	19.3	19.3	19.3	19.3	8.4	5.1	28.2	28.2	8.4	31.5	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	14.5	14.5	14.5	14.5	14.5	8.4	5.1	28.2	28.2	8.4	31.5	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	12.1	12.1	12.1	12.1	12.1	8.4	5.1	28.2	28.2	8.4	31.5	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	9.8	9.8	9.8	9.8	9.8	8.4	0.0	28.2	28.2	8.4	41.8	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	8.0	8.0	8.0	8.0	8.0	8.4	0.0	28.2	28.2	8.4	41.8	
10th %ile Term Code	Min	Min	Min	Min	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	58	47	0	43	41	61	18	200	1	69	135	
Queue Length 95th (ft)	112	90	0	88	81	114	52	#365	28	#147	215	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	695	1018	908	686	1018	657	138	1444	736	437	2601	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.13	0.04	0.17	0.11	0.41	0.33	0.79	0.13	0.78	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 66.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 73.3

70th %ile Actuated Cycle: 68.5

50th %ile Actuated Cycle: 66.1

30th %ile Actuated Cycle: 63.8

10th %ile Actuated Cycle: 62

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
10.3 s	38.5 s	41.2 s
 Ø5	 Ø6	 Ø8
13.6 s	35.2 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	125	34	115	110	278	45	1235	92	349	1348	115
Future Volume (vph)	160	125	34	115	110	278	45	1235	92	349	1348	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1787	1881	1599	1805	3406	1615	3467	4811	0
Flt Permitted	0.683			0.674			0.950			0.950		
Satd. Flow (perm)	1285	1881	1583	1268	1881	1599	1805	3406	1615	3467	4811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157			44			137		17	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	0%	6%	0%	1%	7%	1%
Adj. Flow (vph)	167	130	35	120	115	290	47	1286	96	364	1404	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	130	35	120	115	290	47	1286	96	364	1524	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	16.0	10.3	42.8	42.8	16.0	48.5	
Total Split (%)	41.2%	41.2%	41.2%	41.2%	41.2%	16.0%	10.3%	42.8%	42.8%	16.0%	48.5%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	10.8	5.1	35.8	35.8	10.8	41.5	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	14.6	14.6	14.6	14.6	14.6	30.7	5.1	35.9	35.9	10.8	46.1	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.39	0.06	0.46	0.46	0.14	0.58	
v/c Ratio	0.70	0.37	0.08	0.51	0.33	0.45	0.41	0.83	0.12	0.76	0.54	
Control Delay	45.9	30.6	0.4	36.4	29.8	17.0	48.0	25.8	1.6	46.0	12.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	45.9	30.6	0.4	36.4	29.8	17.0	48.0	25.8	1.6	46.0	12.6	
LOS	D	C	A	D	C	B	D	C	A	D	B	
Approach Delay	35.1			24.3			24.9			19.1		
Approach LOS	D			C			C			B		
90th %ile Green (s)	22.8	22.8	22.8	22.8	22.8	10.8	5.1	35.8	35.8	10.8	41.5	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	17.3	17.3	17.3	17.3	17.3	10.8	5.1	35.8	35.8	10.8	41.5	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	14.4	14.4	14.4	14.4	14.4	10.8	5.1	35.8	35.8	10.8	41.5	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	11.7	11.7	11.7	11.7	11.7	10.8	0.0	35.8	35.8	10.8	51.8	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	8.2	8.2	8.2	8.2	8.2	10.8	0.0	35.8	35.8	10.8	51.8	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	77	56	0	53	49	86	23	276	0	89	173	
Queue Length 95th (ft)	140	104	0	103	93	148	#62	#482	14	#174	270	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	588	861	810	581	861	649	117	1551	810	476	2816	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.15	0.04	0.21	0.13	0.45	0.40	0.83	0.12	0.76	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 78.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 23.0

Intersection LOS: C

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 86.8

70th %ile Actuated Cycle: 81.3

50th %ile Actuated Cycle: 78.4

30th %ile Actuated Cycle: 75.7

10th %ile Actuated Cycle: 72.2

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

		
Ø1	Ø2	Ø4
10.3 s	48.5 s	41.2 s
		
Ø5	Ø6	Ø8
16 s	42.8 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	125	35	116	110	327	47	1586	92	405	1730	140
Future Volume (vph)	191	125	35	116	110	327	47	1586	92	405	1730	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1787	1881	1599	1805	3406	1615	3467	4815	0
Flt Permitted	0.644			0.609			0.950			0.950		
Satd. Flow (perm)	1211	1881	1583	1146	1881	1599	1805	3406	1615	3467	4815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			34			106		15	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	1%	1%	1%	0%	6%	0%	1%	7%	1%
Adj. Flow (vph)	199	130	36	121	115	341	49	1652	96	422	1802	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	130	36	121	115	341	49	1652	96	422	1948	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	21.2	14.2	67.6	67.6	21.2	74.6	
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	16.3%	10.9%	52.0%	52.0%	16.3%	57.4%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	16.0	9.0	60.6	60.6	16.0	67.6	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	23.1	23.1	23.1	23.1	23.1	44.4	7.3	60.8	60.8	16.1	71.8	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.38	0.06	0.52	0.52	0.14	0.61	
v/c Ratio	0.84	0.35	0.09	0.54	0.31	0.55	0.44	0.94	0.11	0.89	0.66	
Control Delay	73.1	42.5	0.4	50.8	41.7	28.7	67.5	38.9	3.1	72.6	18.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	73.1	42.5	0.4	50.8	41.7	28.7	67.5	38.9	3.1	72.6	18.3	
LOS	E	D	A	D	D	C	E	D	A	E	B	
Approach Delay	55.0			35.9			37.8			28.0		
Approach LOS	E			D			D			C		
90th %ile Green (s)	35.4	35.4	35.4	35.4	35.4	16.0	9.0	60.6	60.6	16.0	67.6	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	27.3	27.3	27.3	27.3	27.3	16.0	8.9	60.6	60.6	16.0	67.7	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
50th %ile Green (s)	22.9	22.9	22.9	22.9	22.9	16.0	7.6	60.6	60.6	16.0	69.0	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	18.7	18.7	18.7	18.7	18.7	16.0	6.3	60.6	60.6	16.0	70.3	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
10th %ile Green (s)	13.3	13.3	13.3	13.3	13.3	16.0	0.0	60.6	60.6	16.0	81.8	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	145	85	0	83	75	179	36	590	0	163	345	
Queue Length 95th (ft)	232	141	0	143	127	268	83	#923	26	#292	523	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	372	578	570	352	578	625	138	1763	887	473	2949	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.22	0.06	0.34	0.20	0.55	0.36	0.94	0.11	0.89	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 117.5

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 34.2

Intersection LOS: C

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 129.4

70th %ile Actuated Cycle: 121.3

50th %ile Actuated Cycle: 116.9

30th %ile Actuated Cycle: 112.7

10th %ile Actuated Cycle: 107.3

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
14.2 s	74.6 s	41.2 s
 Ø5	 Ø6	 Ø8
21.2 s	67.6 s	41.2 s

Lanes, Volumes, Timings

Existing 2017 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	81	21	117	110	407	37	1284	74	328	1283	104
Future Volume (vph)	198	81	21	117	110	407	37	1284	74	328	1283	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4947	0
Flt Permitted	0.664			0.702			0.950			0.950		
Satd. Flow (perm)	1249	1881	1583	1334	1900	1615	1787	3505	1615	3467	4947	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			28			87		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		5.2			11.6			19.4			25.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	206	84	22	122	115	424	39	1338	77	342	1336	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	84	22	122	115	424	39	1338	77	342	1444	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	50.2	50.2	50.2	50.2	50.2	35.2	25.2	72.0	72.0	35.2	72.0	
Total Split (%)	31.9%	31.9%	31.9%	31.9%	31.9%	22.4%	16.0%	45.7%	45.7%	22.4%	45.7%	
Maximum Green (s)	45.0	45.0	45.0	45.0	45.0	30.0	20.0	65.0	65.0	30.0	65.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	25.4	25.4	25.4	25.4	25.4	47.9	7.5	50.6	50.6	17.0	63.2	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.43	0.07	0.45	0.45	0.15	0.57	
v/c Ratio	0.73	0.20	0.05	0.40	0.27	0.60	0.33	0.84	0.10	0.65	0.51	
Control Delay	57.7	39.2	0.2	43.7	39.8	27.5	65.2	33.7	3.9	53.5	16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

Existing 2017 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	57.7	39.2	0.2	43.7	39.8	27.5	65.2	33.7	3.9	53.5	16.8	
LOS	E	D	A	D	D	C	E	C	A	D	B	
Approach Delay		48.7			32.7			33.0			23.9	
Approach LOS		D			C			C			C	
90th %ile Green (s)	39.6	39.6	39.6	39.6	39.6	24.5	10.8	65.0	65.0	24.5	78.7	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Max	Max	Gap	Hold	
70th %ile Green (s)	30.8	30.8	30.8	30.8	30.8	19.3	8.6	62.0	62.0	19.3	72.7	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
50th %ile Green (s)	25.6	25.6	25.6	25.6	25.6	16.8	7.2	51.4	51.4	16.8	61.0	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
30th %ile Green (s)	20.6	20.6	20.6	20.6	20.6	14.3	6.0	43.2	43.2	14.3	51.5	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	
10th %ile Green (s)	13.8	13.8	13.8	13.8	13.8	10.8	0.0	32.5	32.5	10.8	48.5	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Skip	Gap	Gap	Gap	Hold	
Queue Length 50th (ft)	136	49	0	74	68	213	27	425	0	120	227	
Queue Length 95th (ft)	266	108	0	156	141	371	76	701	25	211	361	
Internal Link Dist (ft)		148			431			772			1040	
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	533	803	733	569	811	919	338	2161	1029	986	3541	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	0.10	0.03	0.21	0.14	0.46	0.12	0.62	0.07	0.35	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 157.4

Actuated Cycle Length: 111.4

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 30.2

Intersection LOS: C

Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 146.5

70th %ile Actuated Cycle: 129.5

50th %ile Actuated Cycle: 111.2

30th %ile Actuated Cycle: 95.5

10th %ile Actuated Cycle: 74.5

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
25.2 s	72 s	50.2 s
 Ø5	 Ø6	 Ø8
35.2 s	72 s	50.2 s

Lanes, Volumes, Timings

2022 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Future Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4947	0
Flt Permitted	0.684			0.702			0.950			0.950		
Satd. Flow (perm)	1287	1881	1583	1334	1900	1615	1787	3505	1615	3467	4947	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			40			73		15	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1511	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1631	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	17.0	11.9	51.8	51.8	17.0	56.9	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	15.5%	10.8%	47.1%	47.1%	15.5%	51.7%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	11.8	6.7	44.8	44.8	11.8	49.9	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	20.8	20.8	20.8	20.8	20.8	37.9	6.1	45.1	45.1	11.9	55.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.40	0.06	0.47	0.47	0.12	0.58	
v/c Ratio	0.79	0.20	0.05	0.42	0.28	0.69	0.35	0.92	0.10	0.84	0.57	
Control Delay	55.3	30.5	0.2	35.7	31.7	27.1	53.8	34.7	5.1	60.7	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

2022 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	55.3	30.5	0.2	35.7	31.7	27.1	53.8	34.7	5.1	60.7	15.6	
LOS	E	C	A	D	C	C	D	C	A	E	B	
Approach Delay	45.3			29.3			33.8			23.8		
Approach LOS	D			C			C			C		
90th %ile Green (s)	32.2	32.2	32.2	32.2	32.2	11.8	6.7	44.8	44.8	11.8	49.9	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	24.6	24.6	24.6	24.6	24.6	11.8	6.7	44.8	44.8	11.8	49.9	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	20.5	20.5	20.5	20.5	20.5	11.8	6.5	44.8	44.8	11.8	50.1	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	16.7	16.7	16.7	16.7	16.7	11.8	0.0	44.8	44.8	11.8	61.8	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	11.8	11.8	11.8	11.8	11.8	11.8	0.0	44.8	44.8	11.8	61.8	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	128	42	0	63	57	204	23	428	1	111	235	
Queue Length 95th (ft)	209	80	0	113	102	310	62	#720	29	#219	364	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	489	715	658	507	722	666	126	1658	802	432	2883	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.12	0.03	0.24	0.16	0.69	0.32	0.92	0.10	0.84	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 95.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 29.6

Intersection LOS: C

Intersection Capacity Utilization 93.8%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 106.2

70th %ile Actuated Cycle: 98.6

50th %ile Actuated Cycle: 94.5

30th %ile Actuated Cycle: 90.7

10th %ile Actuated Cycle: 85.8

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

		
Ø1	Ø2	Ø4
11.9 s	56.9 s	41.2 s
		
Ø5	Ø6	Ø8
17 s	51.8 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Future Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4947	0
Flt Permitted	0.684			0.601			0.950			0.950		
Satd. Flow (perm)	1287	1881	1583	1142	1900	1615	1787	3505	1615	3467	4947	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			80			110		13	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1511	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1631	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	10.2	41.2	41.2	10.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	11.5	41.2	41.2	10.2	39.9	17.0	12.2	56.6	56.6	17.0	61.4	
Total Split (%)	9.2%	33.0%	33.0%	8.2%	31.9%	13.6%	9.8%	45.3%	45.3%	13.6%	49.1%	
Maximum Green (s)	6.3	36.0	36.0	5.0	34.7	11.8	7.0	49.6	49.6	11.8	54.4	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	16.4	11.7	11.7	17.1	10.7	27.7	6.2	49.6	49.6	11.8	59.5	
Actuated g/C Ratio	0.16	0.12	0.12	0.17	0.11	0.27	0.06	0.49	0.49	0.12	0.59	
v/c Ratio	0.93	0.39	0.07	0.49	0.57	0.91	0.36	0.88	0.09	0.90	0.56	
Control Delay	82.0	46.2	0.5	42.2	54.2	53.6	55.6	31.1	1.5	70.8	14.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.0	46.2	0.5	42.2	54.2	53.6	55.6	31.1	1.5	70.8	14.8	
LOS	F	D	A	D	D	D	E	C	A	E	B	
Approach Delay	67.4			51.7			30.3			25.0		
Approach LOS	E			D			C			C		
90th %ile Green (s)	6.3	15.9	15.9	5.0	14.6	11.8	7.0	49.6	49.6	11.8	54.4	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	6.3	13.4	13.4	5.0	12.1	11.8	7.0	49.6	49.6	11.8	54.4	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	6.3	11.7	11.7	5.0	10.4	11.8	6.7	49.6	49.6	11.8	54.7	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	6.3	10.0	10.0	5.0	8.7	11.8	0.0	49.6	49.6	11.8	66.6	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	6.3	0.0	0.0	19.5	8.0	11.8	0.0	49.6	49.6	11.8	66.6	
10th %ile Term Code	Max	Skip	Skip	Hold	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	129	51	0	66	71	241	25	441	0	120	245	
Queue Length 95th (ft)	#228	97	0	116	127	#418	61	#647	13	#215	323	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	240	670	645	245	652	501	124	1721	849	405	2917	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.93	0.13	0.03	0.49	0.17	0.91	0.32	0.88	0.09	0.90	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 101.1

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 33.8

Intersection LOS: C

Intersection Capacity Utilization 93.8%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 104.9

70th %ile Actuated Cycle: 102.4

50th %ile Actuated Cycle: 100.7

30th %ile Actuated Cycle: 99

10th %ile Actuated Cycle: 98.3

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

			
Ø1	Ø2	Ø3	Ø4
12.2 s	61.4 s	11.5 s	39.9 s
			
Ø5	Ø6	Ø7	Ø8
17 s	56.6 s	10.2 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Future Volume (vph)	214	81	21	116	109	439	38	1458	74	349	1451	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	2		1	2		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4947	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4947	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			77			149		13	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1511	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	84	22	121	114	457	40	1519	77	364	1631	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	10.2	41.2	41.2	10.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	13.6	41.2	41.2	10.6	38.2	18.8	12.3	59.4	59.4	18.8	65.9	
Total Split (%)	10.5%	31.7%	31.7%	8.2%	29.4%	14.5%	9.5%	45.7%	45.7%	14.5%	50.7%	
Maximum Green (s)	8.4	36.0	36.0	5.4	33.0	13.6	7.1	52.4	52.4	13.6	58.9	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	8.4	13.4	13.4	8.7	11.1	29.9	6.3	52.4	52.4	13.6	64.0	
Actuated g/C Ratio	0.08	0.12	0.12	0.08	0.10	0.28	0.06	0.48	0.48	0.13	0.59	
v/c Ratio	0.83	0.36	0.06	0.43	0.59	0.91	0.38	0.89	0.09	0.83	0.56	
Control Delay	74.8	47.2	0.4	55.5	58.9	55.3	60.4	33.9	0.2	64.1	15.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.8	47.2	0.4	55.5	58.9	55.3	60.4	33.9	0.2	64.1	15.4	
LOS	E	D	A	E	E	E	E	C	A	E	B	
Approach Delay	62.8			55.9			33.0			24.3		
Approach LOS	E			E			C			C		
90th %ile Green (s)	8.4	18.2	18.2	5.4	15.2	13.6	7.1	52.4	52.4	13.6	58.9	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	8.4	15.5	15.5	5.4	12.5	13.6	7.1	52.4	52.4	13.6	58.9	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	8.4	13.8	13.8	5.4	10.8	13.6	6.8	52.4	52.4	13.6	59.2	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	8.4	12.1	12.1	5.4	9.1	13.6	0.0	52.4	52.4	13.6	71.2	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	8.4	0.0	0.0	21.6	8.0	13.6	0.0	52.4	52.4	13.6	71.2	
10th %ile Term Code	Max	Skip	Skip	Hold	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	79	54	0	43	77	261	27	483	0	128	261	
Queue Length 95th (ft)	#152	101	0	#90	135	#438	65	#692	0	#215	339	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	269	626	636	283	580	502	117	1699	859	436	2935	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.83	0.13	0.03	0.43	0.20	0.91	0.34	0.89	0.09	0.83	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 108.1

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 34.8

Intersection LOS: C

Intersection Capacity Utilization 88.1%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 112.2

70th %ile Actuated Cycle: 109.5

50th %ile Actuated Cycle: 107.8

30th %ile Actuated Cycle: 106.1

10th %ile Actuated Cycle: 105

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

			
Ø1	Ø2	Ø3	Ø4
12.3 s	65.9 s	13.6 s	38.2 s
			
Ø5	Ø6	Ø7	Ø8
18.8 s	59.4 s	10.6 s	41.2 s

Lanes, Volumes, Timings

2027 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Future Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4946	0
Flt Permitted	0.650			0.702			0.950			0.950		
Satd. Flow (perm)	1223	1881	1583	1334	1900	1615	1787	3505	1615	3467	4946	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			34			106		15	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1702	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1835	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	20.2	12.2	68.6	68.6	20.2	76.6	
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	15.5%	9.4%	52.8%	52.8%	15.5%	58.9%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	15.0	7.0	61.6	61.6	15.0	69.6	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	26.6	26.6	26.6	26.6	26.6	46.9	6.3	61.8	61.8	15.1	75.1	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.39	0.05	0.51	0.51	0.12	0.62	
v/c Ratio	0.89	0.20	0.05	0.41	0.27	0.77	0.41	0.96	0.09	0.90	0.60	
Control Delay	78.2	38.7	0.2	44.2	40.0	38.4	70.9	43.2	1.6	77.6	16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

2027 Friday PM

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	78.2	38.7	0.2	44.2	40.0	38.4	70.9	43.2	1.6	77.6	16.8	
LOS	E	D	A	D	D	D	E	D	A	E	B	
Approach Delay	63.6			39.6			42.0			27.4		
Approach LOS	E			D			D			C		
90th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	15.0	7.0	61.6	61.6	15.0	69.6	
90th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	32.7	32.7	32.7	32.7	32.7	15.0	7.0	61.6	61.6	15.0	69.6	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	27.4	27.4	27.4	27.4	27.4	15.0	7.0	61.6	61.6	15.0	69.6	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	22.5	22.5	22.5	22.5	22.5	15.0	0.0	61.6	61.6	15.0	81.8	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	16.2	16.2	16.2	16.2	16.2	15.0	0.0	61.6	61.6	15.0	81.8	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	182	54	0	81	74	311	29	662	0	157	336	
Queue Length 95th (ft)	283	97	0	139	125	444	70	#956	14	#273	454	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	365	561	557	398	567	647	103	1791	877	431	3074	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	0.15	0.04	0.30	0.20	0.77	0.37	0.96	0.09	0.90	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 121

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 36.8

Intersection LOS: D

Intersection Capacity Utilization 102.2%

ICU Level of Service G

Analysis Period (min) 15

90th %ile Actuated Cycle: 130

70th %ile Actuated Cycle: 126.7

50th %ile Actuated Cycle: 121.4

30th %ile Actuated Cycle: 116.5

10th %ile Actuated Cycle: 110.2

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
12.2 s	76.6 s	41.2 s
 Ø5	 Ø6	 Ø8
20.2 s	68.6 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Future Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4946	0
Flt Permitted	0.676			0.627			0.950			0.950		
Satd. Flow (perm)	1272	1881	1583	1191	1900	1615	1787	3505	1615	3467	4946	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			77			149		13	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1702	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1835	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	11.2	41.2	41.2	10.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	12.0	41.2	41.2	10.2	39.4	17.0	10.3	61.6	61.6	17.0	68.3	
Total Split (%)	9.2%	31.7%	31.7%	7.8%	30.3%	13.1%	7.9%	47.4%	47.4%	13.1%	52.5%	
Maximum Green (s)	6.8	36.0	36.0	5.0	34.2	11.8	5.1	54.6	54.6	11.8	61.3	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	17.6	12.5	12.5	17.5	11.0	28.0	5.1	54.6	54.6	11.8	65.6	
Actuated g/C Ratio	0.16	0.12	0.12	0.16	0.10	0.26	0.05	0.51	0.51	0.11	0.61	
v/c Ratio	0.99	0.38	0.07	0.50	0.58	1.03	0.45	0.96	0.09	1.02	0.60	
Control Delay	96.9	48.4	0.4	45.1	57.9	82.8	67.4	39.6	0.2	97.8	14.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	96.9	48.4	0.4	45.1	57.9	82.8	67.4	39.6	0.2	97.8	14.7	
LOS	F	D	A	D	E	F	E	D	A	F	B	
Approach Delay	79.0			72.7			38.5			29.2		
Approach LOS	E			E			D			C		
90th %ile Green (s)	6.8	16.9	16.9	5.0	15.1	11.8	5.1	54.6	54.6	11.8	61.3	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	6.8	14.3	14.3	5.0	12.5	11.8	5.1	54.6	54.6	11.8	61.3	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	6.8	12.5	12.5	5.0	10.7	11.8	5.1	54.6	54.6	11.8	61.3	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	6.8	10.9	10.9	5.0	9.1	11.8	0.0	54.6	54.6	11.8	71.6	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	6.8	0.0	0.0	20.0	8.0	11.8	0.0	54.6	54.6	11.8	71.6	
10th %ile Term Code	Max	Skip	Skip	Hold	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	149	54	0	70	76	~324	26	565	0	~140	288	
Queue Length 95th (ft)	#270	102	0	123	134	#515	#67	#806	0	#254	373	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	242	633	642	241	608	480	85	1791	898	382	3038	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.99	0.13	0.03	0.50	0.19	1.03	0.45	0.96	0.09	1.02	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 106.9

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 42.1

Intersection LOS: D

Intersection Capacity Utilization 102.2%

ICU Level of Service G

Analysis Period (min) 15

90th %ile Actuated Cycle: 110.9

70th %ile Actuated Cycle: 108.3

50th %ile Actuated Cycle: 106.5

30th %ile Actuated Cycle: 104.9

10th %ile Actuated Cycle: 103.8

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

														
Ø1	Ø2		Ø3	Ø4		Ø5	Ø6	Ø7	Ø8					
10.3 s	68.3 s		12 s	39.4 s		17 s	61.6 s	10.2 s	41.2 s					

2027 Friday PM (FYA EB & WB) 07/21/2017 Revised 11/29/2018

Synchro 10 Report

ASG/sjl

Page 2

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Future Volume (vph)	229	81	21	116	109	475	36	1649	74	372	1634	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	2		1	2		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4946	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4946	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			72			139			12
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1702	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	84	22	121	114	495	38	1718	77	388	1835	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	11.2	41.2	41.2	10.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	14.0	41.2	41.2	11.0	38.2	20.0	12.4	67.8	67.8	20.0	75.4	
Total Split (%)	10.0%	29.4%	29.4%	7.9%	27.3%	14.3%	8.9%	48.4%	48.4%	14.3%	53.9%	
Maximum Green (s)	8.8	36.0	36.0	5.8	33.0	14.8	7.2	60.8	60.8	14.8	68.4	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	8.8	14.6	14.6	5.8	11.6	31.6	6.4	60.8	60.8	14.8	73.6	
Actuated g/C Ratio	0.07	0.12	0.12	0.05	0.10	0.27	0.05	0.51	0.51	0.12	0.62	
v/c Ratio	0.93	0.36	0.07	0.71	0.61	1.02	0.40	0.96	0.09	0.90	0.60	
Control Delay	96.2	52.1	0.4	78.4	65.7	84.5	67.1	41.6	0.2	75.8	15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	96.2	52.1	0.4	78.4	65.7	84.5	67.1	41.6	0.2	75.8	15.8	
LOS	F	D	A	E	E	F	E	D	A	E	B	
Approach Delay	79.3			80.6			40.4			26.3		
Approach LOS	E			F			D			C		
90th %ile Green (s)	8.8	19.1	19.1	5.8	16.1	14.8	7.2	60.8	60.8	14.8	68.4	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	8.8	16.3	16.3	5.8	13.3	14.8	7.2	60.8	60.8	14.8	68.4	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	8.8	14.4	14.4	5.8	11.4	14.8	6.9	60.8	60.8	14.8	68.7	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	8.8	12.6	12.6	5.8	9.6	14.8	0.0	60.8	60.8	14.8	80.8	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	8.8	11.0	11.0	5.8	8.0	14.8	0.0	60.8	60.8	14.8	80.8	
10th %ile Term Code	Max	Hold	Hold	Max	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	95	60	0	47	85	~361	29	635	0	152	322	
Queue Length 95th (ft)	#183	110	0	#97	146	#558	67	#881	0	#254	411	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	257	570	586	171	528	483	108	1796	895	432	3071	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.93	0.15	0.04	0.71	0.22	1.02	0.35	0.96	0.09	0.90	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 118.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 42.6

Intersection LOS: D

Intersection Capacity Utilization 96.0%

ICU Level of Service F

Analysis Period (min) 15

90th %ile Actuated Cycle: 123.1

70th %ile Actuated Cycle: 120.3

50th %ile Actuated Cycle: 118.4

30th %ile Actuated Cycle: 116.6

10th %ile Actuated Cycle: 115

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

														
Ø1	Ø2				Ø3	Ø4								
12.4 s	75.4 s				14 s	38.2 s								
														
Ø5	Ø6				Ø7	Ø8								
20 s	67.8 s				11 s	41.2 s								

2027 Friday PM (Dual Lefts EB & WB) 07/21/2017 Revised 11/29/2018

Synchro 10 Report

ASG

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Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Future Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4951	0
Flt Permitted	0.611			0.675			0.950			0.950		
Satd. Flow (perm)	1149	1881	1583	1282	1900	1615	1787	3505	1615	3467	4951	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			59			59		13	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2168	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2328	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	25.0	14.3	103.8	103.8	25.0	114.5	
Total Split (%)	24.2%	24.2%	24.2%	24.2%	24.2%	14.7%	8.4%	61.1%	61.1%	14.7%	67.4%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	9.1	96.8	96.8	19.8	107.5	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	36.0	36.0	36.0	36.0	36.0	61.0	7.6	96.8	96.8	19.8	111.1	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.36	0.04	0.57	0.57	0.12	0.65	
v/c Ratio	1.14	0.21	0.05	0.44	0.28	0.94	0.48	1.11	0.08	1.09	0.72	
Control Delay	156.6	57.0	0.2	64.2	58.4	70.5	98.6	92.6	5.6	139.2	21.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	156.6	57.0	0.2	64.2	58.4	70.5	98.6	92.6	5.6	139.2	21.3	
LOS	F	E	A	E	E	E	F	F	A	F	C	
Approach Delay	125.7			67.9			89.8			40.1		
Approach LOS	F			E			F			D		
90th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	9.1	96.8	96.8	19.8	107.5	
90th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	9.1	96.8	96.8	19.8	107.5	
70th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	8.0	96.8	96.8	19.8	108.6	
50th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	6.6	96.8	96.8	19.8	110.0	
30th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
10th %ile Green (s)	36.0	36.0	36.0	36.0	36.0	19.8	0.0	96.8	96.8	19.8	121.8	
10th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	~356	78	0	117	107	575	42	~1478	9	~284	615	
Queue Length 95th (ft)	#554	132	0	189	170	#823	87	#1598	34	#402	679	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	243	398	417	271	402	617	95	1995	945	403	3239	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.14	0.21	0.05	0.44	0.28	0.94	0.40	1.11	0.08	1.09	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 170

Actuated Cycle Length: 170

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 67.3

Intersection LOS: E

Intersection Capacity Utilization 122.3%

ICU Level of Service H

Analysis Period (min) 15

90th %ile Actuated Cycle: 170

70th %ile Actuated Cycle: 170

50th %ile Actuated Cycle: 170

30th %ile Actuated Cycle: 170

10th %ile Actuated Cycle: 170

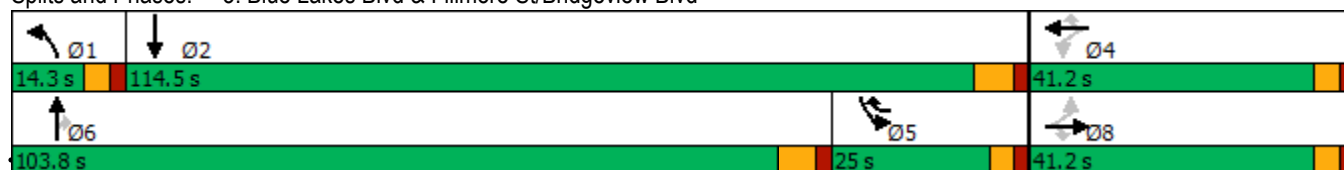
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd



2037 Friday PM 07/21/2017 Revised 11/29/2018

Synchro 10 Report

ASG/sjl

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Lanes, Volumes, Timings

2037 Friday PM (FYA EB & WB)

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Future Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1881	1583	1805	1900	1615	1787	3505	1615	3467	4951	0
Flt Permitted	0.470			0.702			0.950			0.950		
Satd. Flow (perm)	884	1881	1583	1334	1900	1615	1787	3505	1615	3467	4951	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			67			129		12	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2168	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2328	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	10.5	41.2	41.2	10.5	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	12.2	41.2	41.2	10.5	39.5	20.0	11.2	78.3	78.3	20.0	87.1	
Total Split (%)	8.1%	27.5%	27.5%	7.0%	26.3%	13.3%	7.5%	52.2%	52.2%	13.3%	58.1%	
Maximum Green (s)	7.0	36.0	36.0	5.3	34.3	14.8	6.0	71.3	71.3	14.8	80.1	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	20.8	13.8	13.8	17.4	12.1	32.1	5.8	71.3	71.3	14.8	82.4	
Actuated g/C Ratio	0.16	0.11	0.11	0.14	0.09	0.25	0.05	0.56	0.56	0.12	0.64	
v/c Ratio	1.43	0.42	0.07	0.59	0.63	1.27	0.47	1.13	0.08	1.10	0.73	
Control Delay	258.9	59.4	0.5	60.0	71.5	173.3	79.6	95.1	0.4	126.3	17.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

2037 Friday PM (FYA EB & WB)

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	258.9	59.4	0.5	60.0	71.5	173.3	79.6	95.1	0.4	126.3	17.8	
LOS	F	E	A	E	E	F	E	F	A	F	B	
Approach Delay	200.2			142.5			91.7			35.1		
Approach LOS	F			F			F			D		
90th %ile Green (s)	7.0	18.5	18.5	5.3	16.8	14.8	6.0	71.3	71.3	14.8	80.1	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	7.0	15.6	15.6	5.3	13.9	14.8	6.0	71.3	71.3	14.8	80.1	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	7.0	13.6	13.6	5.3	11.9	14.8	6.0	71.3	71.3	14.8	80.1	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	7.0	11.8	11.8	5.3	10.1	14.8	6.0	71.3	71.3	14.8	80.1	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
10th %ile Green (s)	7.0	9.7	9.7	5.3	8.0	14.8	0.0	71.3	71.3	14.8	91.3	
10th %ile Term Code	Max	Hold	Hold	Max	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	~227	66	0	86	92	~562	31	~1117	0	~212	461	
Queue Length 95th (ft)	#477	120	0	146	155	#778	#73	#1329	3	#336	578	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	193	530	549	200	509	455	83	1956	958	401	3197	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.43	0.16	0.04	0.59	0.22	1.27	0.46	1.13	0.08	1.10	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 127.8

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.43

Intersection Signal Delay: 79.9

Intersection LOS: E

Intersection Capacity Utilization 122.3%

ICU Level of Service H

Analysis Period (min) 15

90th %ile Actuated Cycle: 132.5

70th %ile Actuated Cycle: 129.6

50th %ile Actuated Cycle: 127.6

30th %ile Actuated Cycle: 125.8

10th %ile Actuated Cycle: 123.7

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

											
Ø1	Ø2					Ø3	Ø4				
11.2 s	87.1 s					12.2 s	39.5 s				
											
Ø5	Ø6					Ø7	Ø8				
20 s	78.3 s					10.5 s	41.2 s				

Print Date: 10/05/2017

Synchro 9 Report

ASG

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Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Future Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	2		1	2		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4951	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	1881	1583	3502	1900	1615	1787	3505	1615	3467	4951	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119			56			108		11	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2168	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2328	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases			8			4			6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	10.5	41.2	41.2	10.5	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	17.0	41.4	41.4	13.8	38.2	24.0	14.6	100.8	100.8	24.0	110.2	
Total Split (%)	9.4%	23.0%	23.0%	7.7%	21.2%	13.3%	8.1%	56.0%	56.0%	13.3%	61.2%	
Maximum Green (s)	11.8	36.2	36.2	8.6	33.0	18.8	9.4	93.8	93.8	18.8	103.2	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	11.8	17.4	17.4	8.3	13.9	37.9	7.5	93.8	93.8	18.8	107.2	
Actuated g/C Ratio	0.07	0.11	0.11	0.05	0.09	0.24	0.05	0.58	0.58	0.12	0.67	
v/c Ratio	1.09	0.41	0.08	0.66	0.69	1.37	0.46	1.08	0.08	1.09	0.71	
Control Delay	148.3	73.2	0.6	93.3	92.5	219.8	92.7	80.0	1.0	134.7	19.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	148.3	73.2	0.6	93.3	92.5	219.8	92.7	80.0	1.0	134.7	19.5	
LOS	F	E	A	F	F	F	F	E	A	F	B	
Approach Delay	123.3			183.5			77.6			37.8		
Approach LOS	F			F			E			D		
90th %ile Green (s)	11.8	22.7	22.7	8.6	19.5	18.8	9.4	93.8	93.8	18.8	103.2	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	11.8	19.4	19.4	8.6	16.2	18.8	9.1	93.8	93.8	18.8	103.5	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
50th %ile Green (s)	11.8	17.1	17.1	8.6	13.9	18.8	7.8	93.8	93.8	18.8	104.8	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	11.8	14.9	14.9	8.6	11.7	18.8	6.6	93.8	93.8	18.8	106.0	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
10th %ile Green (s)	11.8	13.4	13.4	7.1	8.7	18.8	0.0	93.8	93.8	18.8	117.8	
10th %ile Term Code	Max	Hold	Hold	Gap	Gap	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	~167	84	0	64	118	~755	40	~1370	0	~268	557	
Queue Length 95th (ft)	#279	144	0	#105	189	#984	84	#1581	10	#403	690	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	254	423	448	187	389	423	104	2043	986	405	3300	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.09	0.20	0.05	0.64	0.29	1.37	0.37	1.08	0.08	1.09	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 161

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 76.5

Intersection LOS: E

Intersection Capacity Utilization 115.2%

ICU Level of Service H

Analysis Period (min) 15

90th %ile Actuated Cycle: 166.5

70th %ile Actuated Cycle: 163.2

50th %ile Actuated Cycle: 160.9

30th %ile Actuated Cycle: 158.7

10th %ile Actuated Cycle: 155.7

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø3	 Ø4
14.6 s	110.2 s	17 s	38.2 s
 Ø5	 Ø6	 Ø7	 Ø8
24 s	100.8 s	13.8 s	41.4 s

2037 Friday PM (Dual Lefts EB & WB) 07/21/2017 Revised 11/29/2018

Synchro 10 Report

ASG

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Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Future Volume (vph)	265	81	21	114	108	555	36	2127	74	423	2081	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	2		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	1881	1583	1805	1900	2842	1787	3505	1615	3467	4951	0
Flt Permitted	0.950			0.702			0.048			0.950		
Satd. Flow (perm)	3467	1881	1583	1334	1900	2842	90	3505	1615	3467	4951	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119			56			108		11	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	2%	0%	0%	0%	1%	3%	0%	1%	4%	0%
Adj. Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2168	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	84	22	119	113	578	38	2216	77	441	2328	0
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4	5	1	6		5	2	
Permitted Phases			8	4		4	6		6			
Detector Phase	3	8	8	7	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	10.2	41.2	41.2	10.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	17.0	43.2	43.2	12.0	38.2	24.0	11.6	100.8	100.8	24.0	113.2	
Total Split (%)	9.4%	24.0%	24.0%	6.7%	21.2%	13.3%	6.4%	56.0%	56.0%	13.3%	62.9%	
Maximum Green (s)	11.8	38.0	38.0	6.8	33.0	18.8	6.4	93.8	93.8	18.8	106.2	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		29.0	29.0		26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	11.8	18.9	18.9	20.7	13.9	37.9	101.1	93.8	93.8	18.8	109.3	
Actuated g/C Ratio	0.07	0.12	0.12	0.13	0.09	0.24	0.63	0.58	0.58	0.12	0.68	
v/c Ratio	1.09	0.38	0.08	0.62	0.69	0.81	0.33	1.08	0.08	1.09	0.69	
Control Delay	148.3	70.4	0.5	74.3	92.5	62.2	17.2	80.0	1.0	134.7	17.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	148.3	70.4	0.5	74.3	92.5	62.2	17.2	80.0	1.0	134.7	17.9	
LOS	F	E	A	E	F	E	B	E	A	F	B	
Approach Delay	122.7			68.2			76.3			36.5		
Approach LOS	F			E			E			D		
90th %ile Green (s)	11.8	24.5	24.5	6.8	19.5	18.8	6.4	93.8	93.8	18.8	106.2	
90th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Max	Max	Max	Max	Hold	
70th %ile Green (s)	11.8	21.2	21.2	6.8	16.2	18.8	5.8	93.8	93.8	18.8	106.8	
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
50th %ile Green (s)	11.8	18.9	18.9	6.8	13.9	18.8	5.3	93.8	93.8	18.8	107.3	
50th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Gap	Max	Max	Max	Hold	
30th %ile Green (s)	11.8	16.7	16.7	6.8	11.7	18.8	5.0	93.8	93.8	18.8	107.6	
30th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Min	Max	Max	Max	Hold	
10th %ile Green (s)	11.8	13.7	13.7	6.8	8.7	18.8	0.0	93.8	93.8	18.8	117.8	
10th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	~167	83	0	110	118	301	10	~1370	0	~268	530	
Queue Length 95th (ft)	#279	142	0	174	189	381	24	#1581	10	#403	654	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	254	444	464	191	389	712	124	2043	986	405	3363	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.09	0.19	0.05	0.62	0.29	0.81	0.31	1.08	0.08	1.09	0.69	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 161

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 60.6

Intersection LOS: E

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

90th %ile Actuated Cycle: 166.5

70th %ile Actuated Cycle: 163.2

50th %ile Actuated Cycle: 160.9

30th %ile Actuated Cycle: 158.7

10th %ile Actuated Cycle: 155.7

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

			
Ø1	Ø2	Ø3	Ø4
11.6 s	113.2 s	17 s	38.2 s
			
Ø5	Ø6	Ø7	Ø8
24 s	100.8 s	12 s	43.2 s

2037 Friday PM (EB Dual Lefts, WB FYA & Dual Rights, NB FYA) 07/21/2017 Revised 11/29/2018

Synchro 10 Report

ASG/sjl

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Lanes, Volumes, Timings

Existing 2017 Saturday MIDDAY

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	134	36	142	109	262	47	813	133	284	975	122
Future Volume (vph)	123	134	36	142	109	262	47	813	133	284	975	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1900	1615	1805	1900	1599	1805	3438	1615	3467	4882	0
Flt Permitted	0.682			0.665			0.950			0.950		
Satd. Flow (perm)	1283	1900	1615	1264	1900	1599	1805	3438	1615	3467	4882	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			64			114		19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		5.2			11.6			19.4			25.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	1%	0%	5%	0%	1%	5%	0%
Adj. Flow (vph)	132	144	39	153	117	282	51	874	143	305	1048	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	144	39	153	117	282	51	874	143	305	1179	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	50.2	50.2	50.2	50.2	50.2	35.2	25.2	72.0	72.0	35.2	72.0	
Total Split (%)	31.9%	31.9%	31.9%	31.9%	31.9%	22.4%	16.0%	45.7%	45.7%	22.4%	45.7%	
Maximum Green (s)	45.0	45.0	45.0	45.0	45.0	30.0	20.0	65.0	65.0	30.0	65.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	16.6	16.6	16.6	16.6	16.6	34.7	7.4	26.9	26.9	12.6	35.2	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.47	0.10	0.36	0.36	0.17	0.47	
v/c Ratio	0.46	0.34	0.09	0.55	0.28	0.36	0.29	0.70	0.22	0.52	0.51	
Control Delay	33.4	29.0	0.4	35.9	28.2	11.9	41.1	24.7	6.9	34.2	15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

Existing 2017 Saturday MIDDAY

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.4	29.0	0.4	35.9	28.2	11.9	41.1	24.7	6.9	34.2	15.9	
LOS	C	C	A	D	C	B	D	C	A	C	B	
Approach Delay		27.3			22.0			23.1			19.6	
Approach LOS		C			C			C			B	
90th %ile Green (s)	27.4	27.4	27.4	27.4	27.4	18.3	10.7	40.3	40.3	18.3	47.9	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold	
70th %ile Green (s)	20.3	20.3	20.3	20.3	20.3	14.5	8.4	31.9	31.9	14.5	38.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold	
50th %ile Green (s)	16.2	16.2	16.2	16.2	16.2	12.2	7.0	26.1	26.1	12.2	31.3	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold	
30th %ile Green (s)	12.8	12.8	12.8	12.8	12.8	10.4	6.0	22.1	22.1	10.4	26.5	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Hold	
10th %ile Green (s)	8.9	8.9	8.9	8.9	8.9	8.2	0.0	16.3	16.3	8.2	29.7	
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Skip	Gap	Gap	Gap	Hold	
Queue Length 50th (ft)	51	54	0	60	43	57	21	170	8	64	134	
Queue Length 95th (ft)	129	130	0	149	109	142	69	313	51	138	234	
Internal Link Dist (ft)		148			431			772			1040	
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	820	1215	1069	809	1215	1173	513	2960	1406	1478	4509	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.12	0.04	0.19	0.10	0.24	0.10	0.30	0.10	0.21	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 157.4

Actuated Cycle Length: 74.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 103.4

70th %ile Actuated Cycle: 84.1

50th %ile Actuated Cycle: 71.9

30th %ile Actuated Cycle: 62.7

10th %ile Actuated Cycle: 50.8

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

 Ø1	 Ø2	 Ø4
25.2 s	72 s	50.2 s
 Ø5	 Ø6	 Ø8
35.2 s	72 s	50.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	134	37	147	108	281	49	927	138	303	1105	132
Future Volume (vph)	133	134	37	147	108	281	49	927	138	303	1105	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1900	1615	1805	1900	1599	1805	3438	1615	3467	4886	0
Flt Permitted	0.682			0.665			0.950			0.950		
Satd. Flow (perm)	1283	1900	1615	1264	1900	1599	1805	3438	1615	3467	4886	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			48			148		25	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	1%	0%	5%	0%	1%	5%	0%
Adj. Flow (vph)	143	144	40	158	116	302	53	997	148	326	1188	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	144	40	158	116	302	53	997	148	326	1330	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	14.7	10.3	34.1	34.1	14.7	38.5	
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	16.3%	11.4%	37.9%	37.9%	16.3%	42.8%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	9.5	5.1	27.1	27.1	9.5	31.5	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	12.7	12.7	12.7	12.7	12.7	27.4	5.1	24.6	24.6	9.4	33.6	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.43	0.08	0.38	0.38	0.15	0.52	
v/c Ratio	0.57	0.38	0.10	0.63	0.31	0.43	0.37	0.76	0.21	0.64	0.52	
Control Delay	33.1	25.9	0.5	36.3	24.7	13.2	38.5	22.3	3.9	34.4	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.1	25.9	0.5	36.3	24.7	13.2	38.5	22.3	3.9	34.4	12.5	
LOS	C	C	A	D	C	B	D	C	A	C	B	
Approach Delay	25.9			21.8			20.7			16.8		
Approach LOS	C			C			C			B		
90th %ile Green (s)	19.1	19.1	19.1	19.1	19.1	9.5	5.1	27.1	27.1	9.5	31.5	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	15.1	15.1	15.1	15.1	15.1	9.5	5.1	27.1	27.1	9.5	31.5	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	12.5	12.5	12.5	12.5	12.5	9.5	5.1	26.6	26.6	9.5	31.0	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Max	Gap	Gap	Max	Hold	
30th %ile Green (s)	10.2	10.2	10.2	10.2	10.2	9.5	0.0	23.2	23.2	9.5	37.9	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Skip	Gap	Gap	Max	Hold	
10th %ile Green (s)	8.0	8.0	8.0	8.0	8.0	8.7	0.0	19.3	19.3	8.7	33.2	
10th %ile Term Code	Min	Min	Min	Min	Min	Gap	Skip	Gap	Gap	Gap	Hold	
Queue Length 50th (ft)	53	51	0	60	41	69	21	171	0	64	131	
Queue Length 95th (ft)	105	98	0	116	81	128	57	278	33	#126	206	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	725	1075	962	715	1075	713	144	1464	773	517	2566	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.13	0.04	0.22	0.11	0.42	0.37	0.68	0.19	0.63	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 64.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 73.1

70th %ile Actuated Cycle: 69.1

50th %ile Actuated Cycle: 66

30th %ile Actuated Cycle: 60.3

10th %ile Actuated Cycle: 53.4

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

		
Ø1	Ø2	Ø4
10.3 s	38.5 s	41.2 s
		
Ø5	Ø6	Ø8
14.7 s	34.1 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	134	39	151	108	301	51	1050	142	326	1250	143
Future Volume (vph)	147	134	39	151	108	301	51	1050	142	326	1250	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1900	1615	1805	1900	1599	1805	3438	1615	3467	4890	0
Flt Permitted	0.682			0.665			0.950			0.950		
Satd. Flow (perm)	1283	1900	1615	1264	1900	1599	1805	3438	1615	3467	4890	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			48			139		24	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	1%	0%	5%	0%	1%	5%	0%
Adj. Flow (vph)	158	144	42	162	116	324	55	1129	153	351	1344	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	144	42	162	116	324	55	1129	153	351	1498	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	14.4	10.3	34.4	34.4	14.4	38.5	
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	16.0%	11.4%	38.2%	38.2%	16.0%	42.8%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	9.2	5.1	27.4	27.4	9.2	31.5	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	13.1	13.1	13.1	13.1	13.1	27.5	5.1	27.5	27.5	9.2	36.0	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.41	0.08	0.41	0.41	0.14	0.53	
v/c Ratio	0.63	0.39	0.10	0.66	0.31	0.48	0.40	0.80	0.21	0.74	0.57	
Control Delay	36.7	26.4	0.5	38.2	25.0	14.6	40.5	24.3	4.6	40.0	13.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	36.7	26.4	0.5	38.2	25.0	14.6	40.5	24.3	4.6	40.0	13.2	
LOS	D	C	A	D	C	B	D	C	A	D	B	
Approach Delay	27.9			23.0			22.7			18.3		
Approach LOS	C			C			C			B		
90th %ile Green (s)	19.8	19.8	19.8	19.8	19.8	9.2	5.1	27.4	27.4	9.2	31.5	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	15.3	15.3	15.3	15.3	15.3	9.2	5.1	27.4	27.4	9.2	31.5	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	12.8	12.8	12.8	12.8	12.8	9.2	5.1	27.4	27.4	9.2	31.5	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	10.4	10.4	10.4	10.4	10.4	9.2	0.0	27.4	27.4	9.2	41.8	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Max	Skip	Max	Max	Max	Hold	
10th %ile Green (s)	8.0	8.0	8.0	8.0	8.0	9.2	0.0	27.4	27.4	9.2	41.8	
10th %ile Term Code	Min	Min	Min	Min	Min	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	60	52	0	62	41	78	22	205	3	72	158	
Queue Length 95th (ft)	115	98	0	118	81	140	#60	#370	39	#146	247	
Internal Link Dist (ft)	148			431			772			1040		
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	689	1020	919	678	1020	682	137	1405	742	476	2628	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.14	0.05	0.24	0.11	0.48	0.40	0.80	0.21	0.74	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 67.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 21.2

Intersection LOS: C

Intersection Capacity Utilization 72.6%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 73.8

70th %ile Actuated Cycle: 69.3

50th %ile Actuated Cycle: 66.8

30th %ile Actuated Cycle: 64.4

10th %ile Actuated Cycle: 62

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

		
Ø1	Ø2	Ø4
10.3 s	38.5 s	41.2 s
		
Ø5	Ø6	Ø8
14.4 s	34.4 s	41.2 s

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	134	43	158	108	349	55	1357	149	378	1610	169
Future Volume (vph)	175	134	43	158	108	349	55	1357	149	378	1610	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	120		120	210		210	250		0
Storage Lanes	1		1	1		0	1		1	2		0
Taper Length (ft)	50			80			100			210		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1900	1615	1805	1900	1599	1805	3438	1615	3467	4893	0
Flt Permitted	0.682			0.615			0.950			0.950		
Satd. Flow (perm)	1283	1900	1615	1168	1900	1599	1805	3438	1615	3467	4893	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			40			125		21	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		228			511			852			1120	
Travel Time (s)		6.2			11.6			14.5			19.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	0%	0%	1%	0%	5%	0%	1%	5%	0%
Adj. Flow (vph)	188	144	46	170	116	375	59	1459	160	406	1731	182
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	144	46	170	116	375	59	1459	160	406	1913	0
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8		8	4		4			6			
Detector Phase	8	8	8	4	4	5	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	41.2	41.2	41.2	38.2	38.2	10.2	10.2	33.0	33.0	10.2	35.0	
Total Split (s)	41.2	41.2	41.2	41.2	41.2	18.0	11.6	50.8	50.8	18.0	57.2	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	16.4%	10.5%	46.2%	46.2%	16.4%	52.0%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	12.8	6.4	43.8	43.8	12.8	50.2	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	3.2	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.0	7.0	5.2	7.0	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	29.0	29.0	29.0	26.0	26.0			19.0	19.0		21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0		0	
Act Effect Green (s)	17.8	17.8	17.8	17.8	17.8	35.9	6.1	44.0	44.0	12.8	53.0	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.39	0.07	0.48	0.48	0.14	0.58	
v/c Ratio	0.76	0.39	0.11	0.75	0.32	0.58	0.50	0.89	0.19	0.84	0.68	
Control Delay	54.4	34.9	0.5	55.4	33.4	23.3	58.3	31.3	5.5	56.6	16.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings

3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	54.4	34.9	0.5	55.4	33.4	23.3	58.3	31.3	5.5	56.6	16.9	
LOS	D	C	A	E	C	C	E	C	A	E	B	
Approach Delay		40.4			33.3			29.8			23.8	
Approach LOS		D			C			C			C	
90th %ile Green (s)	27.7	27.7	27.7	27.7	27.7	12.8	6.4	43.8	43.8	12.8	50.2	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Max	
70th %ile Green (s)	21.1	21.1	21.1	21.1	21.1	12.8	6.4	43.8	43.8	12.8	50.2	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
50th %ile Green (s)	17.6	17.6	17.6	17.6	17.6	12.8	6.4	43.8	43.8	12.8	50.2	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Max	Max	Max	Max	Hold	
30th %ile Green (s)	14.3	14.3	14.3	14.3	14.3	12.8	6.3	43.8	43.8	12.8	50.3	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Gap	Max	Max	Max	Hold	
10th %ile Green (s)	10.0	10.0	10.0	10.0	10.0	12.8	0.0	43.8	43.8	12.8	61.8	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Max	Skip	Max	Max	Max	Hold	
Queue Length 50th (ft)	104	74	0	94	58	150	34	387	10	119	279	
Queue Length 95th (ft)	177	127	0	164	105	236	#87	#650	51	#227	423	
Internal Link Dist (ft)		148			431			772			1040	
Turn Bay Length (ft)	100		100	120		120	210		210	250		
Base Capacity (vph)	503	745	720	458	745	647	125	1641	836	483	2822	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.19	0.06	0.37	0.16	0.58	0.47	0.89	0.19	0.84	0.68	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 92.1

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

90th %ile Actuated Cycle: 101.7

70th %ile Actuated Cycle: 95.1

50th %ile Actuated Cycle: 91.6

30th %ile Actuated Cycle: 88.3

10th %ile Actuated Cycle: 84

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Blue Lakes Blvd & Fillmore St/Bridgeview Blvd

		
Ø1	Ø2	Ø4
11.6 s	57.2 s	41.2 s
		
Ø5	Ø6	Ø8
18 s	50.8 s	41.2 s



U.S. Department of Transportation
Federal Highway Administration

Capacity Analysis for Planning of Junctions

CAP-X

Version 2.0
June 2014

Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)
Project Number:	A019(960)
Location	Twin Falls, ID
Date	Counts performed July 2017; analysis uses 2037 Friday PM peak hour forecast volumes; analyzed October 2017

Traffic Volume Demand						
	Volume (Veh/hr)				Percent (%)	
	U-Turn 	Left 	Thru 	Right 	Truck	Volume Growth
Eastbound	0	265	81	21	1.00%	0.00%
Westbound	0	114	108	555	0.00%	0.00%
Southbound	0	423	2081	154	3.00%	0.00%
Northbound	0	36	2127	74	4.00%	0.00%
Adjustment Factor	0.80	0.95		0.85		
Suggested	0.80	0.95		0.85		
Truck to PCE Factor				Suggested = 2.00		2.00
Critical Lane Volume				1600		

Equivalent Passenger Car Volume				
	Volume (Veh/hr)			
	U-Turn 	Left 	Thru 	Right 
Eastbound	0	268	82	21
Westbound	0	114	108	555
Southbound	0	436	2143	159
Northbound	0	37	2212	77

Notes:	
Left-Turn Adjustment Factor	Conversion of left-turning vehicles to equivalent through vehicles
Right-turn Adjustment Factor	Conversion of right-turning vehicles to equivalent through vehicles
U-turn Adjustment Factor	Conversion of U-turning vehicles to equivalent through vehicles
Truck to PCE Factor	1 truck = X Passenger Car Equivalents
Critical Lane Volume Sum Limit	Saturation Value for Critical Lane Volume Sum at an intersection

Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)					Critical Lane Volume Sum				
Project Number:	A019(960)					Acceptable Configurations				
Location	Twin Falls, ID					< 1200	1200 - 1399	1400 - 1599	≥ 1600	
Date	Counts performed July 2017; analysis uses 2037 Friday PM peak hour forecast volumes; analyzed October 2017					5	1	6	20	

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									3171	1.98	1.98	14
2	Conventional Shared RT LN	CSRL									2518	1.57	1.57	13
3.1	Quadrant Roadway	S-W			1427	0.89			814	0.51	1942	1.21	1.21	10
3.2		N-E	2074	1.30			1069	0.67			1300	0.81	1.30	12
3.3		S-E			1685	1.05	1685	1.05			1942	1.21	1.21	10
3.4		N-W	1666	1.04					935	0.58	1781	1.11	1.11	8
4.1	Partial Displaced Left Turn	N-S	1469	0.92	791	0.49					1811	1.13	1.13	9
4.2		E-W					638	0.40	427	0.27	1758	1.10	1.10	7
5	Displaced Left Turn	FULL	1469	0.92	791	0.49	638	0.40	427	0.27	1529	0.96	0.96	1
6.1	Restricted Crossing U-Turn	N-S	1508	0.94	1382	0.86	1699	1.06	1347	0.84			1.06	6
6.2		E-W	4156	2.60	3914	2.45	1794	1.12	1797	1.12			2.60	15
7.1	Median U-Turn	N-S	1101	0.69	1603	1.00					1518	0.95	1.00	5
7.2		E-W					770	0.48	873	0.55	1590	0.99	0.99	2
8.1	Partial Median U-Turn	N-S	959	0.60	1436	0.90					1590	0.99	0.99	3
8.2		E-W					556	0.35	328	0.21	1590	0.99	0.99	3

Full Displaced Left Turn Intersection

Design and Results

Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)	Critical Lane Volume Sum			
Project Number:	A019(960)	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	Twin Falls, ID	VOLUME / CAPACITY RATIO:		0.96	
Date	analysis uses 2037 Friday PM peak hour forecast volume				

Zone 1

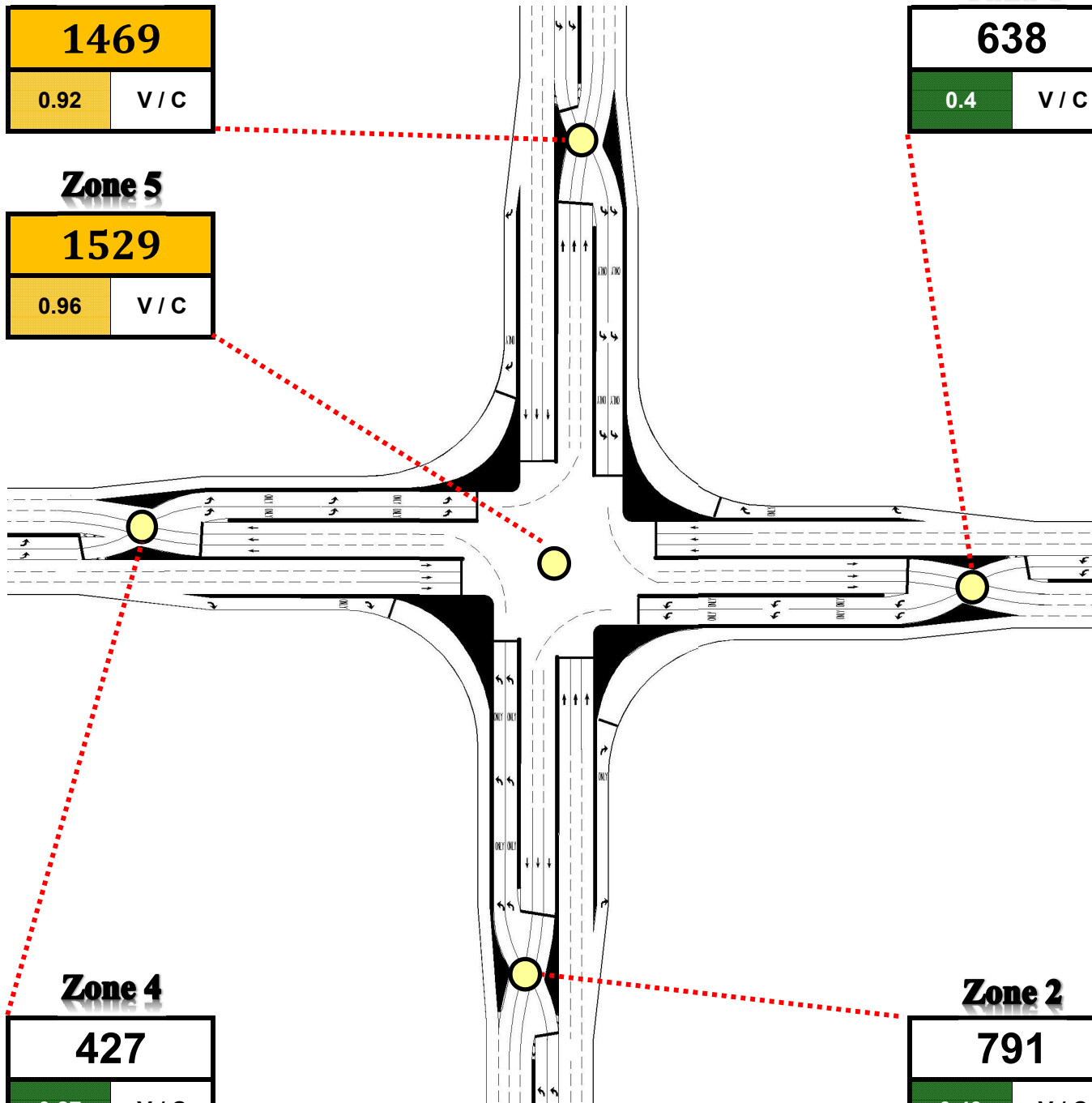
1469	
0.92	V / C

Zone 3

638	
0.4	V / C

Zone 5

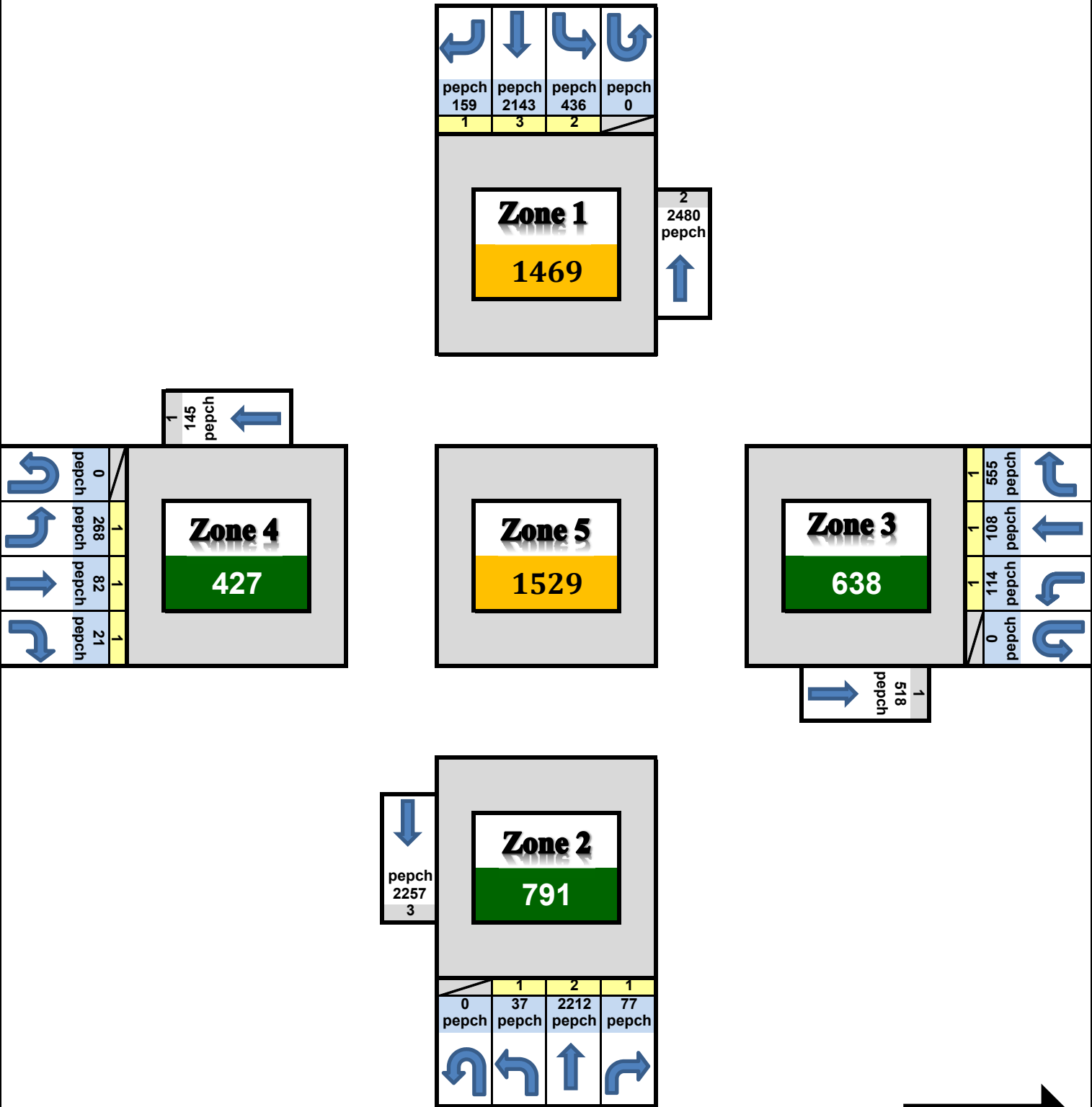
1529	
0.96	V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Full Displaced Left Turn Intersection

Data Input and Configuration

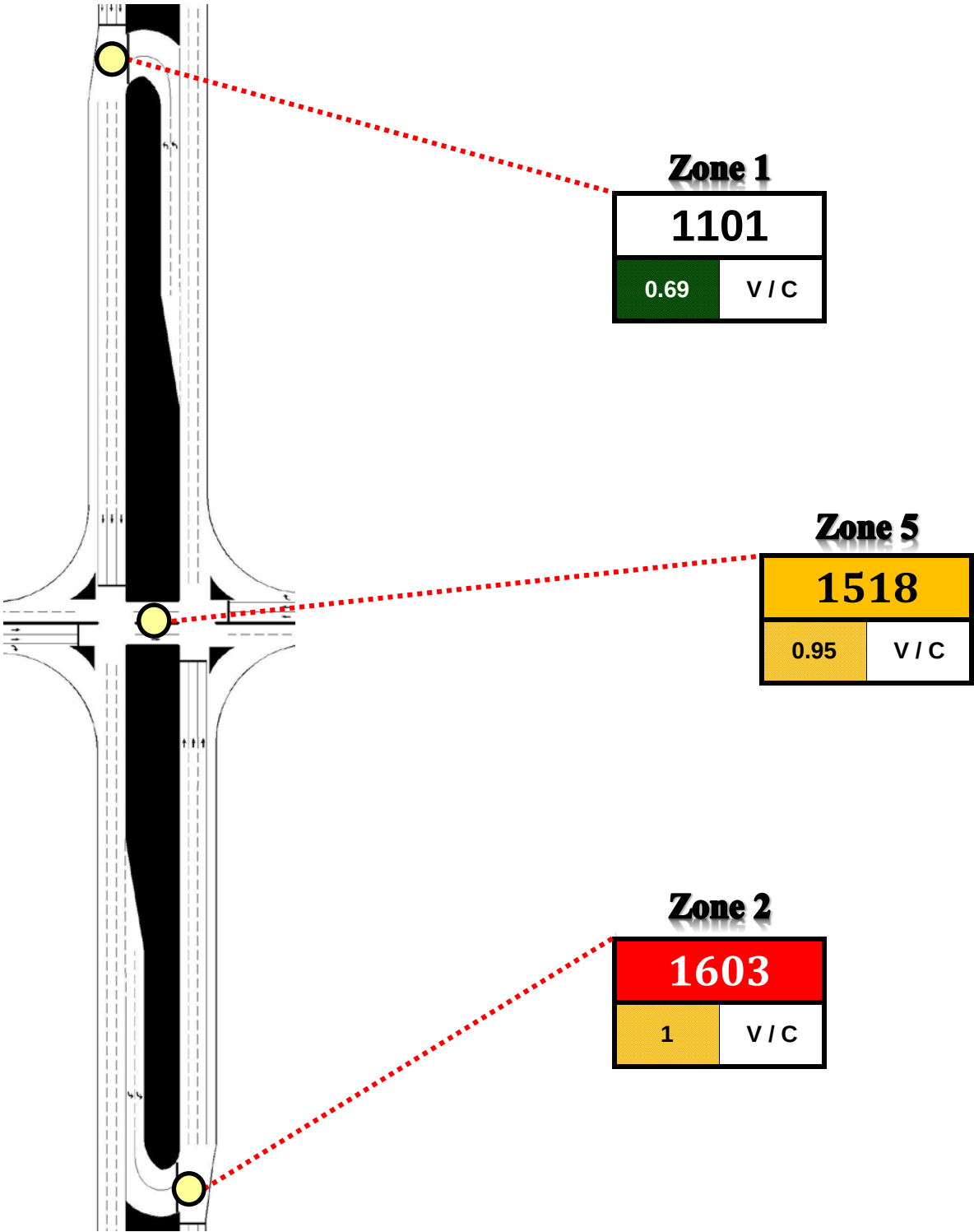


Back to Results

Median U-Turn Intersection (N-S)

Design and Results

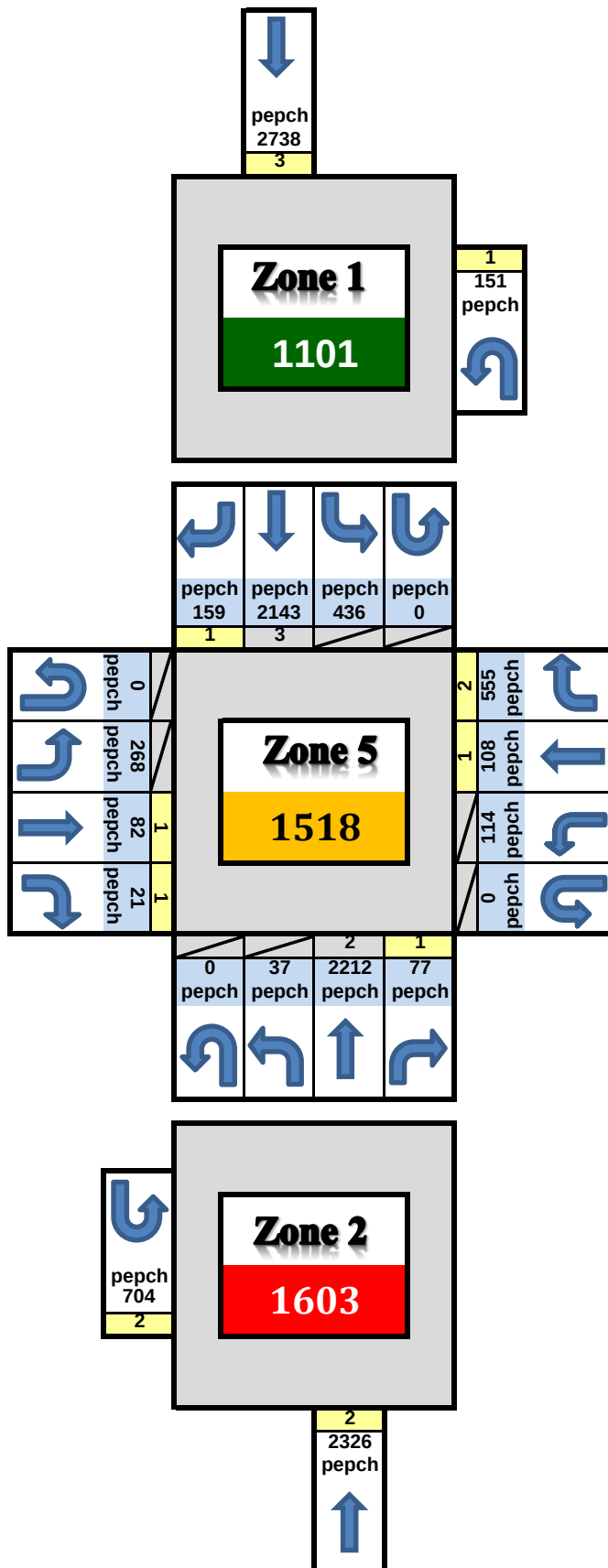
Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)	Critical Lane Volume Sum			
Project Number:	A019(960)	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	Twin Falls, ID	VOLUME / CAPACITY RATIO:		1	
Date	analysis uses 2037 Friday PM peak hour forecast volume				



Note: This diagram does not reflect the actual lane configuration of the Intersection

Median U-Turn Intersection (N-S)

Data Input and Configuration



Back to Results

Median U-Turn Intersection (E-W)

Design and Results

Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)			
Project Number:	A019(960)			
Location:	Twin Falls, ID			
Date	performed July 2017; analysis uses 2037 Friday PM peak hour forecast volumes; analyzed October			
		<u>Critical Lane Volume Sum</u>		
		< 1200	1200 - 1399	1400 - 1599
				≥ 1600
		VOLUME / CAPACITY RATIO:		0.99

Zone 4

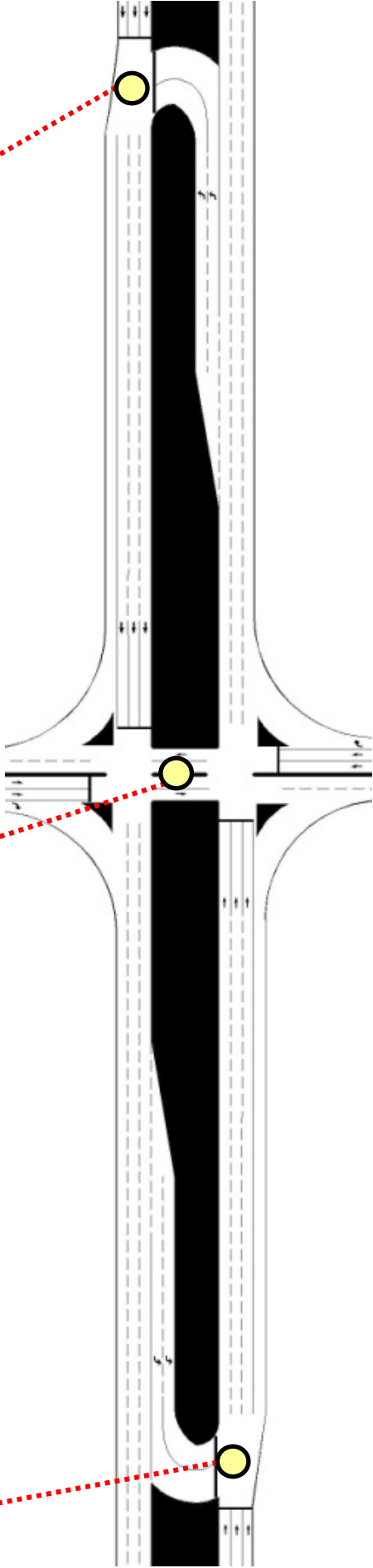
873	V / C
0.55	

Zone 5

1590	V / C
0.99	

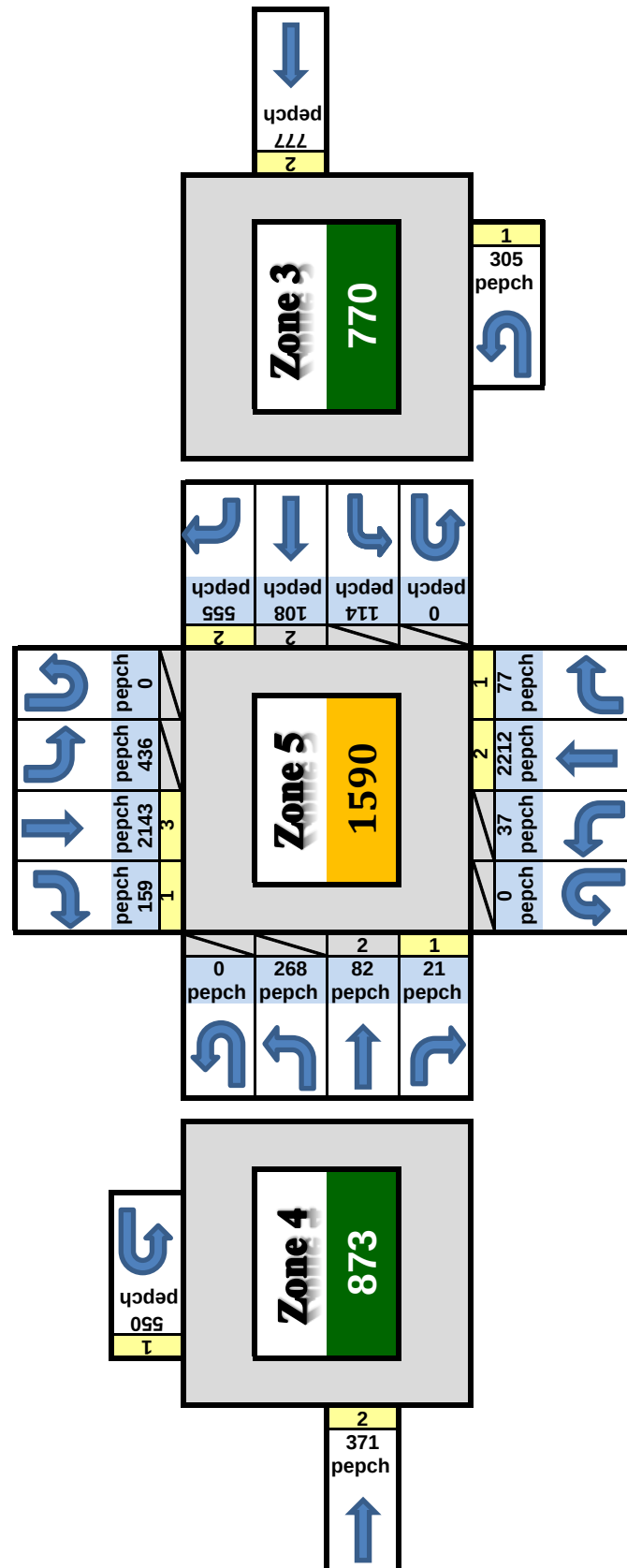
Zone 3

770	V / C
0.48	



Note: This diagram does not reflect the actual lane configuration of the intersection

Data Input and Configuration

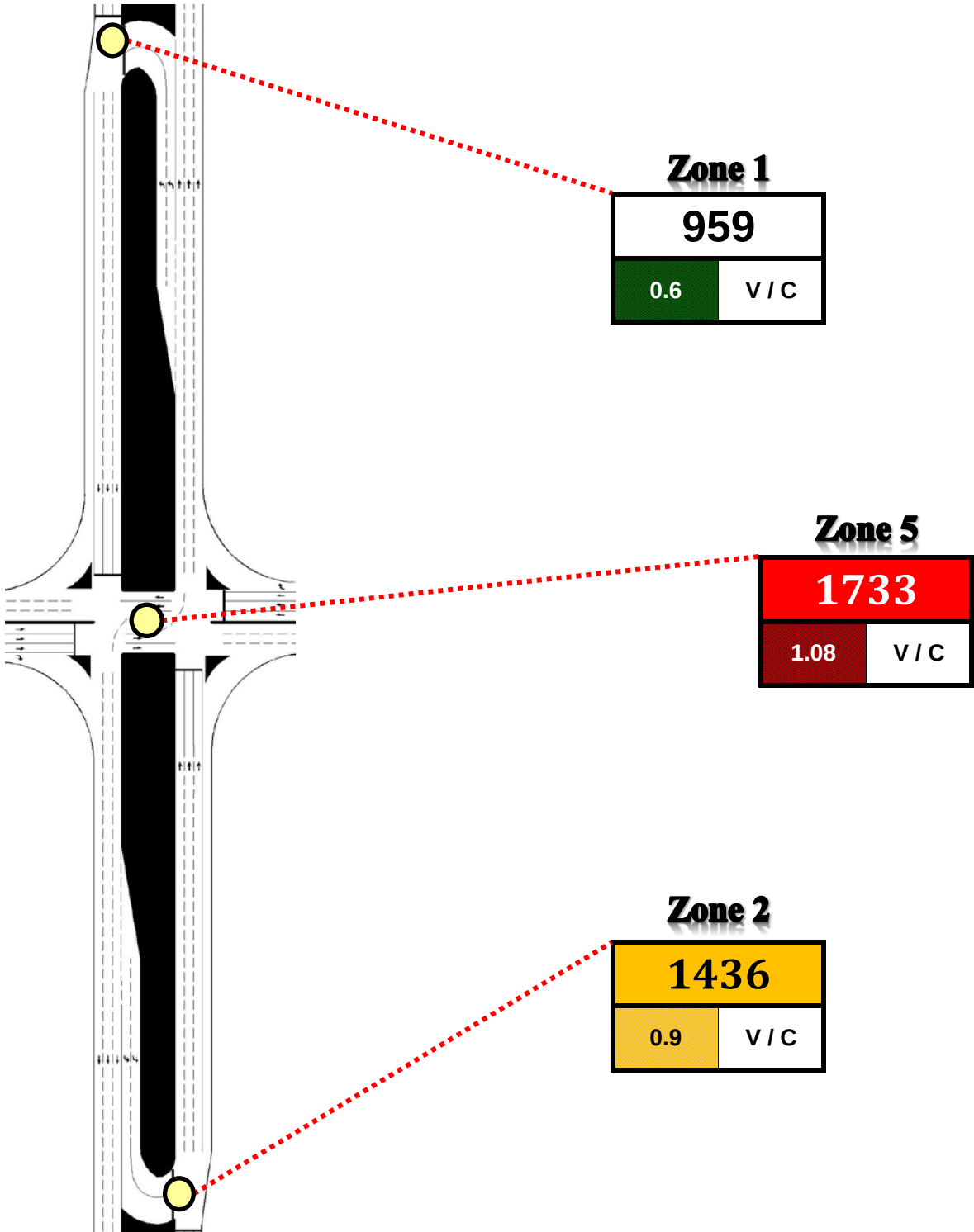


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Partial Median U-Turn Intersection (N-S)

Design and Results

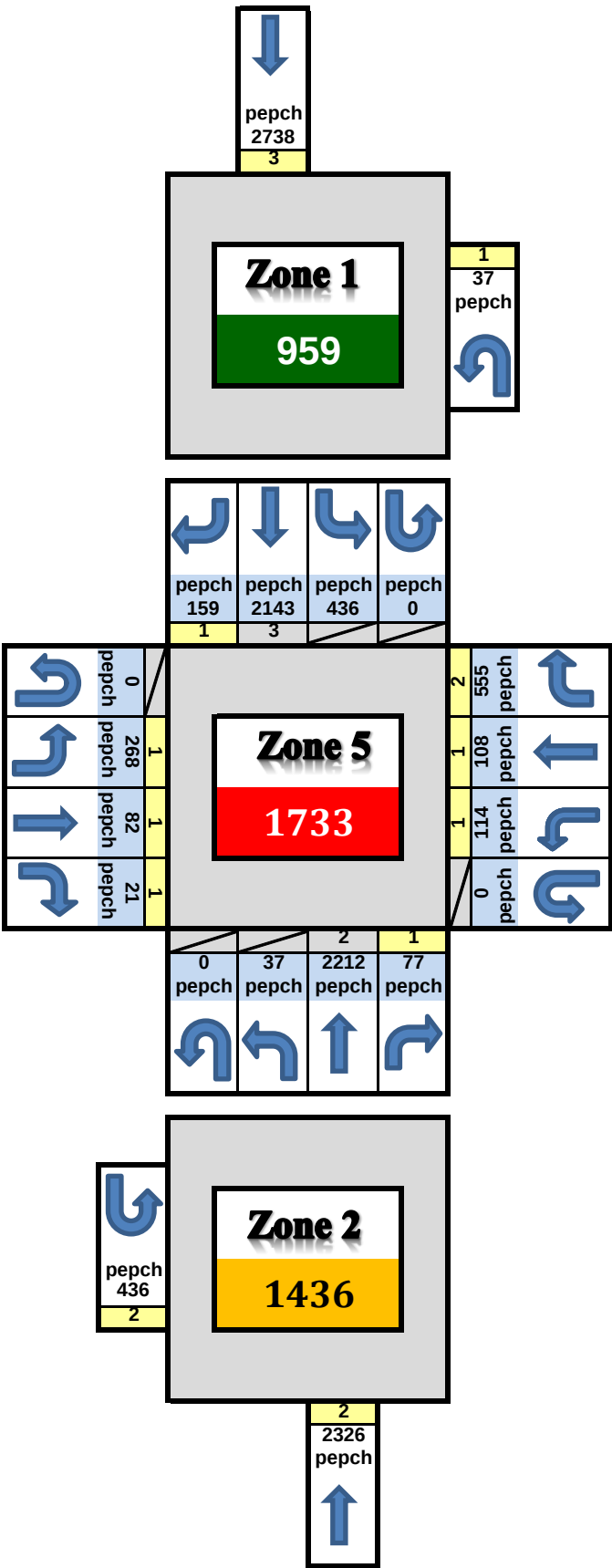
Project Name:	ue Lakes Boulevard Traffic Study (Main Project)	Critical Lane Volume Sum			
Project Number:	A019(960)	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	Twin Falls, ID	VOLUME / CAPACITY RATIO:		1.08	
Date	; analysis uses 2037 Friday PM peak hour forecast volume				



Note: This diagram does not reflect the actual lane configuration of the Intersection

Partial Median U-Turn Intersection (N-S)

Data Input and Configuration

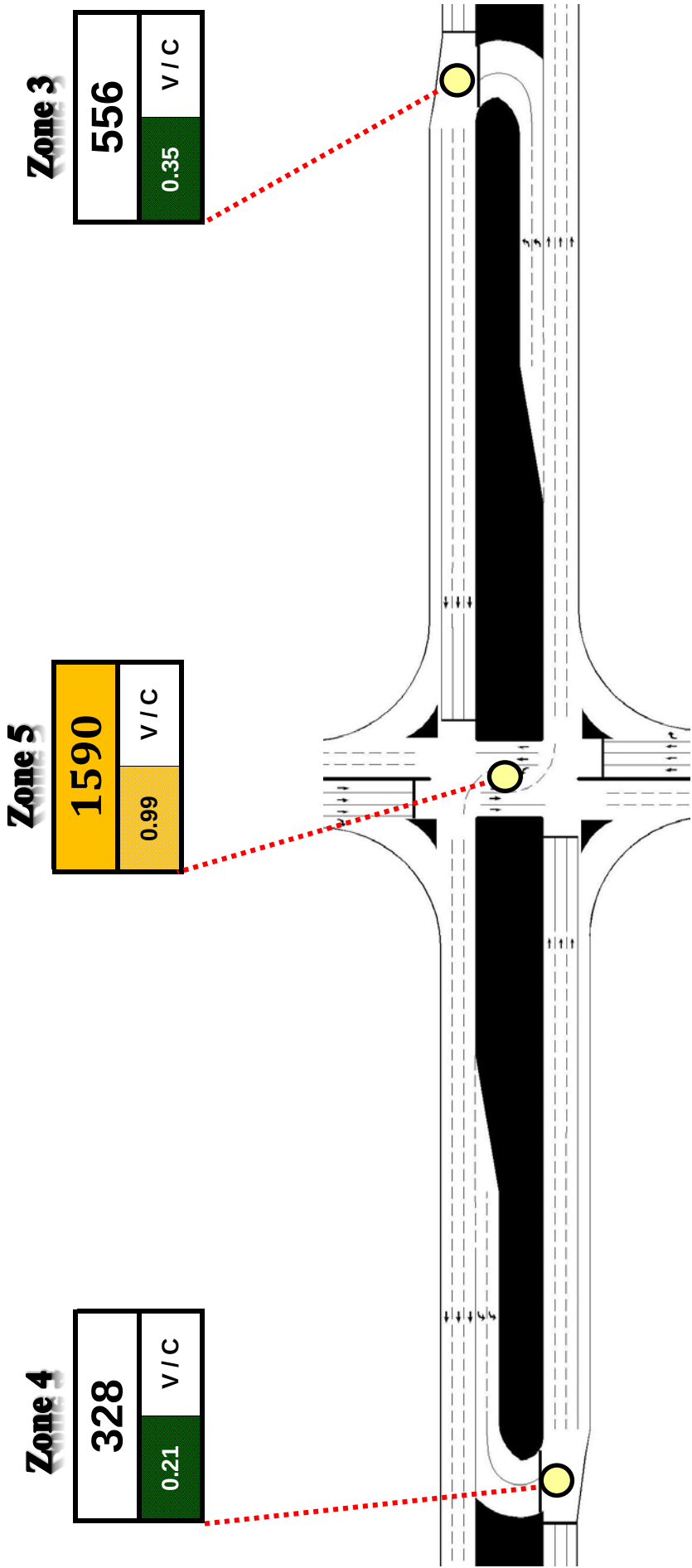


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Partial Median U-Turn Intersection (E-W)

Design and Results

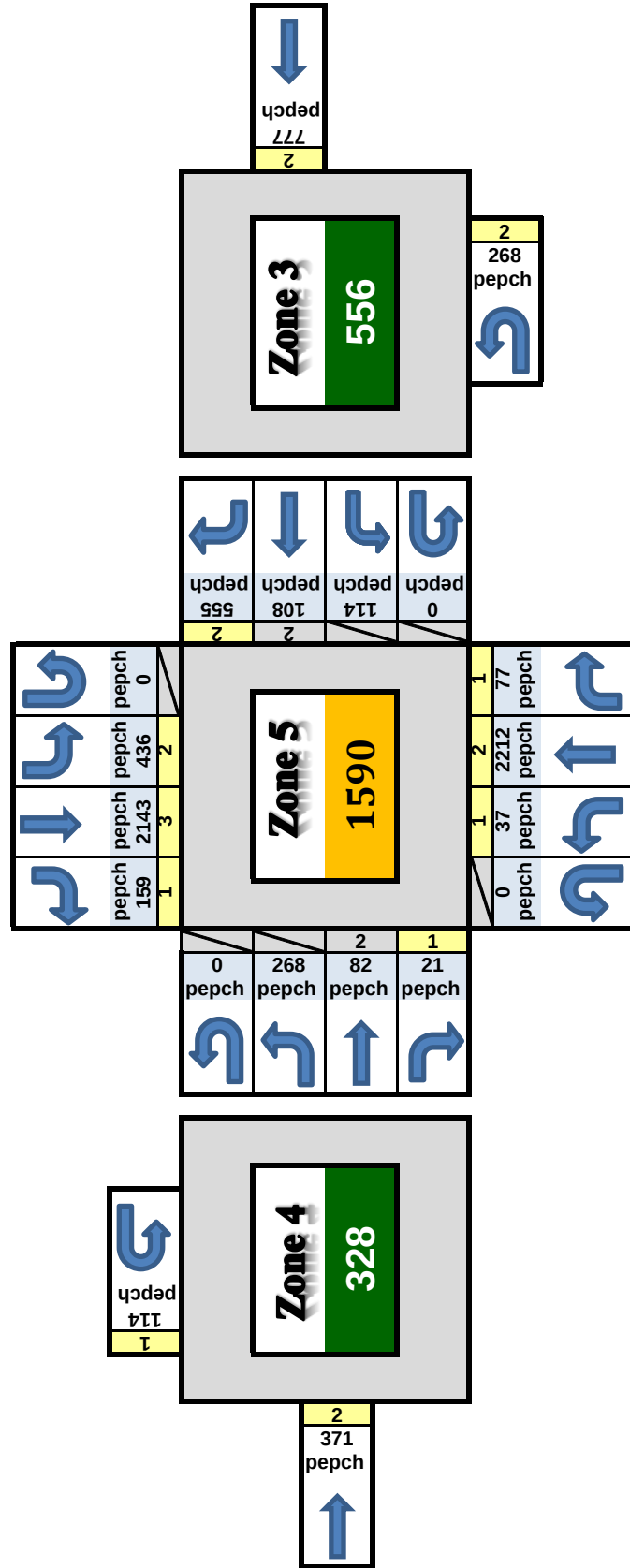
Project Name:	Blue Lakes Boulevard Traffic Study (Main Project)			
Project Number:	A019(960)			
Location	Twin Falls, ID			
Date	performed July 2017; analysis uses 2037 Friday PM peak hour forecast volumes; analyzed October 2017			
		Critical Lane Volume Sum		
		< 1200	1200 - 1399	1400 - 1599
				≥ 1600
		VOLUME / CAPACITY RATIO:		0.99



Note: This diagram does not reflect the actual lane configuration of the intersection

Partial Median U-Turn Intersection (E-W)

Data Input and Configuration



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