



CITY OF OREM
CITY COUNCIL MEETING
56 North State Street, Orem, Utah
February 27, 2024

*This meeting may be held electronically
to allow a Councilmember to participate.*

3:00 P.M. WORK SESSION - CITY COUNCIL CHAMBERS

1 PRESENTATION - My Hometown Initiative (30 min)

Presenter: Jennica Jones, Strategies and Innovations Division Manager, Craig and Linda Burton, My Hometown Initiative Utah Associate Directors

2 ADJOURN TO CLOSED SESSION (120 min)

To discuss pending or reasonably imminent litigation; the character or professional competence of an individual; or the purchase or lease of real property.

1. AGENDA REVIEW & PREVIEW OF UPCOMING AGENDA ITEMS

The City Council will review the items on the agenda.

2. CITY COUNCIL REPORTS (BOARDS & COMMISSIONS, NEW BUSINESS, ETC.)

This is an opportunity for members of the City Council to raise issues of information or concern.

6:00 P.M. REGULAR SESSION - COUNCIL CHAMBERS

3. CALL TO ORDER

4. INVOCATION/INSPIRATIONAL THOUGHT: Scott Kirkland

5. PLEDGE OF ALLEGIANCE: Rondo Fehlberg

6. MAYOR'S REPORT/ITEMS REFERRED BY COUNCIL

6.1 PRESENTATION - Hillcrest Video Tour

Presenter: Bryce Merrill, Library and Recreation Director

7. PERSONAL APPEARANCES – 15 MINUTES

Time has been set aside for the public to express their ideas, concerns, and comments on items not scheduled as public hearings on the Agenda. Those wishing to speak are encouraged to show respect for those who serve the city. Comments should focus on issues concerning the city. Those wishing to speak should have signed in before the beginning of the meeting. (Please limit your comments to 3 minutes or less.)

8. CONSENT ITEMS

8.1 APPROVAL OF MEETING MINUTES

February 13, 2024

9. SCHEDULED ITEMS

9.1 PUBLIC HEARING – Amending Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).

Presenter: Jason Bench, Assistant Development Services Director

9.2 PUBLIC HEARING - Ordinance Amending Fiscal Year 2023-2024 Budget

Presenter: Brandon C. Nelson, CPA, Finance Director

9.3 DISCUSSION AND RESOLUTION - Regarding Status of Legislative Counsel

10. COMMUNICATION ITEMS

10.1 Monthly Financial Statement - January 2024

11. CITY MANAGER INFORMATION ITEMS

This is an opportunity for the City Manager to provide information to the City Council. These items are for information and do not require action by the City Council.

12. ADJOURN

THE PUBLIC IS INVITED TO PARTICIPATE IN ALL CITY COUNCIL MEETINGS.

**If you need a special accommodation to participate in the City Council Meetings and Study Sessions, please call the City Recorder's Office at least 3 working days prior to the meeting.
(Voice 801-229-7000)**

This agenda is also available on the City's webpage at orem.org



**CITY OF OREM
CITY COUNCIL
MEETING
FEBRUARY 27, 2024**

REQUEST:	APPROVAL OF MEETING MINUTES
APPLICANT:	
NOTICES:	
SITE INFORMATION:	
PREPARED BY:	

REQUEST:

BACKGROUND:

RECOMMENDATION:

CITY OF OREM
CITY COUNCIL MEETING
FEBRUARY 27, 2024



REQUEST:	6:00 P.M. SCHEDULED ITEM PUBLIC HEARING – Amending Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).
APPLICANT:	Jonathan Holdaway
FISCAL IMPACT:	None

NOTICES:

- Posted in 2 public places
- Posted on City webpage
- Posted on the State noticing website
- Faxed to newspapers
- Posted at utah.gov/pa
- Noticed 100 property owners within 500 feet of the property

SITE INFORMATION:

General Plan Designation:
Community Commercial
 Current Zone: **R20**
 Acreage: **3.49**
 Neighborhood: **Sunset Heights West**

**PLANNING
COMMISSION
RECOMMENDATION**

6-0 vote – Positive
Recommendation

PREPARED BY:

Cheryl Vargas
Associate Planner

REQUEST: The applicant requests the City amend Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).

BACKGROUND: The applicant is requesting approval to rezone a parcel of land that he owns located at 519 South Geneva Road in the R20 zone to the C2 zone. The applicant also owns two parcels to the north which are currently zoned C2.

The applicant would like all three parcels zoned C2 in order to develop the property as a neighborhood shopping center named the Vineyard Gardens Shopping Center. This shopping center will have a grocery store, a bank or credit union and two fast-food restaurants.

This area of Orem is growing rapidly along with the neighboring city of Vineyard. There are limited shopping options for residents in this area to use and a shopping center at this location would be a great benefit to the community.

There will be only one (1) access to the shopping center and it will be on the southern part of the project from Geneva Road.

Traffic/Transportation staff have reviewed the site plan and provided comments to the applicant to use larger truck turning radii on the site for deliveries. The applicant modified their site plan to accommodate larger trucks using truck turning templates.

Staff also met with the applicant and UDOT regarding access. The applicant agreed to close three existing accesses and install one access to serve the site off of Geneva Road. The project access will align with an existing commercial driveway on the west side of Geneva Road. Our desire was to also provide maximum distance from the 400 South/Geneva Road intersection to all for adequate queuing.

The traffic study was reviewed and the study area was expanded to include more intersections based on our traffic study guidelines. The project access on Geneva Road will possibly need signalization in the future or UDOT could restrict the access to a right-in/right-out.

Traffic staff recommends approval based on changes and cooperation with UDOT, Orem, and the applicant.

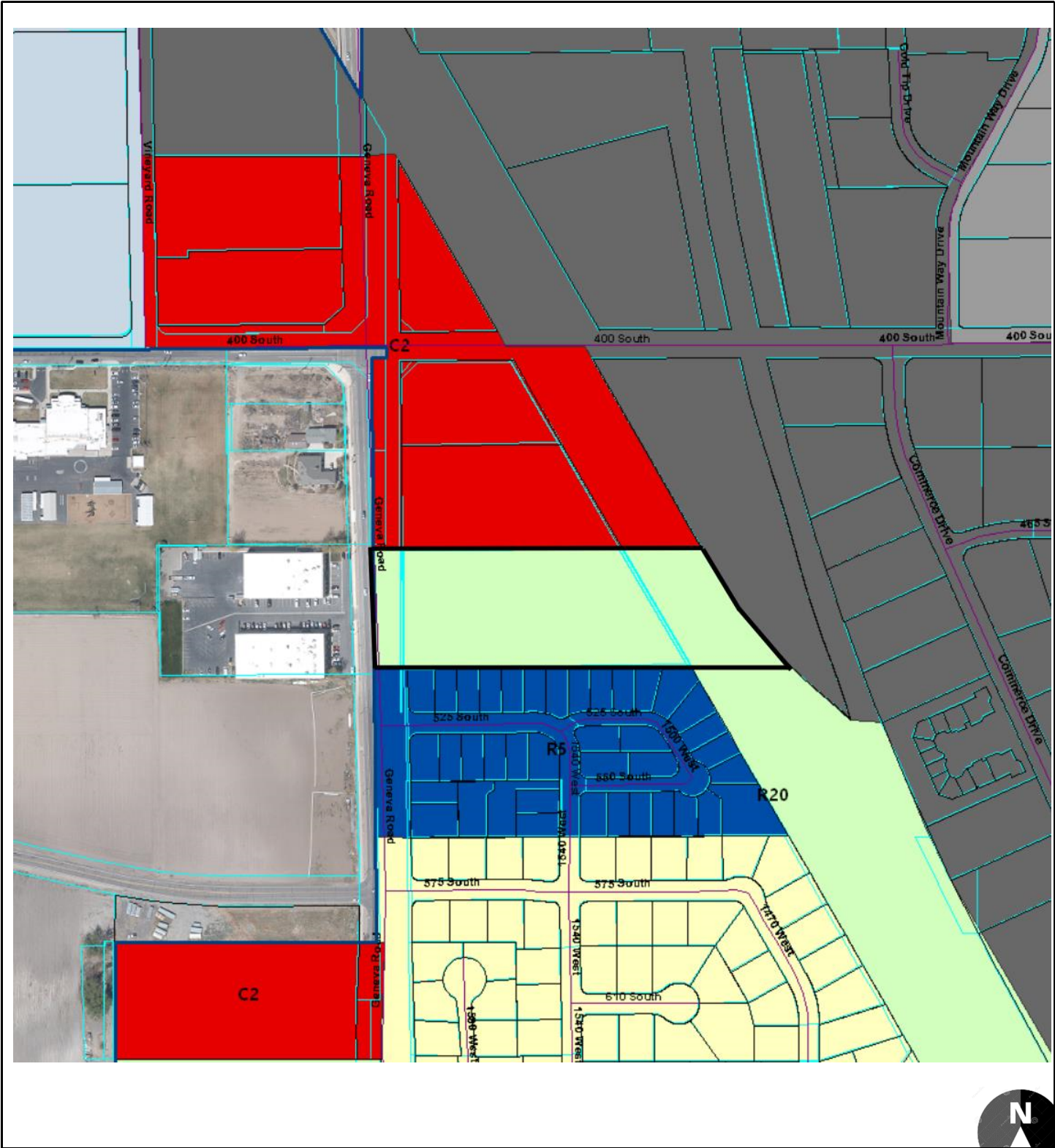
At the neighborhood meeting, where eight (8) people attended, there were two items of concern discussed.

1. Light and noise impacts on the neighboring properties.
 - a. There will be a masonry wall and trees along the southern property line that will help to screen the homes from any lights and noise coming from the shopping center.
 - b. Most of the noise/traffic using the property at night will be from the fast food restaurants which are located on the north end of the property away from the residential area.
2. Truck deliveries.
 - a. The loading dock for truck deliveries at the grocery store, which is located on the south end of the property, will be shielded from the neighboring residential properties by the building itself.

RECOMMENDATION: The Planning Commission recommends the City Council, by ordinance, amend Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).



Vineyard Gardens

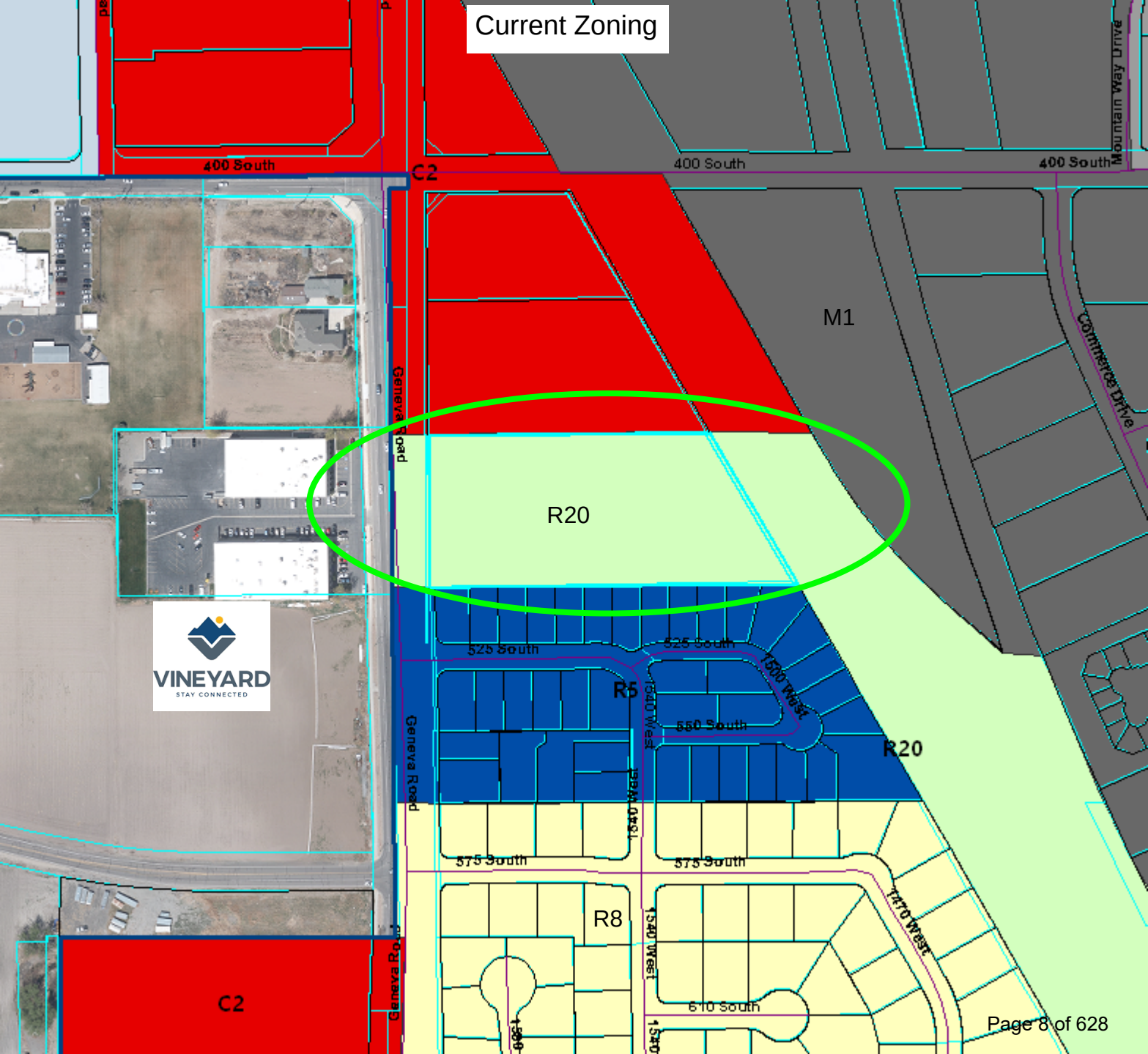


Rezone
Zone: R20
Acres: 3.49

NEIGHBORHOOD
Sunset Heights West

 435 S Geneva Road
 Parcels

Current Zoning



Proposed Zoning

400 South

C2

400 South

400 South

Geneva Road

M1

C2



Geneva Road

525 South

~~525 South~~

1500 W 30

550 South

R20

575 South

575300th

R8

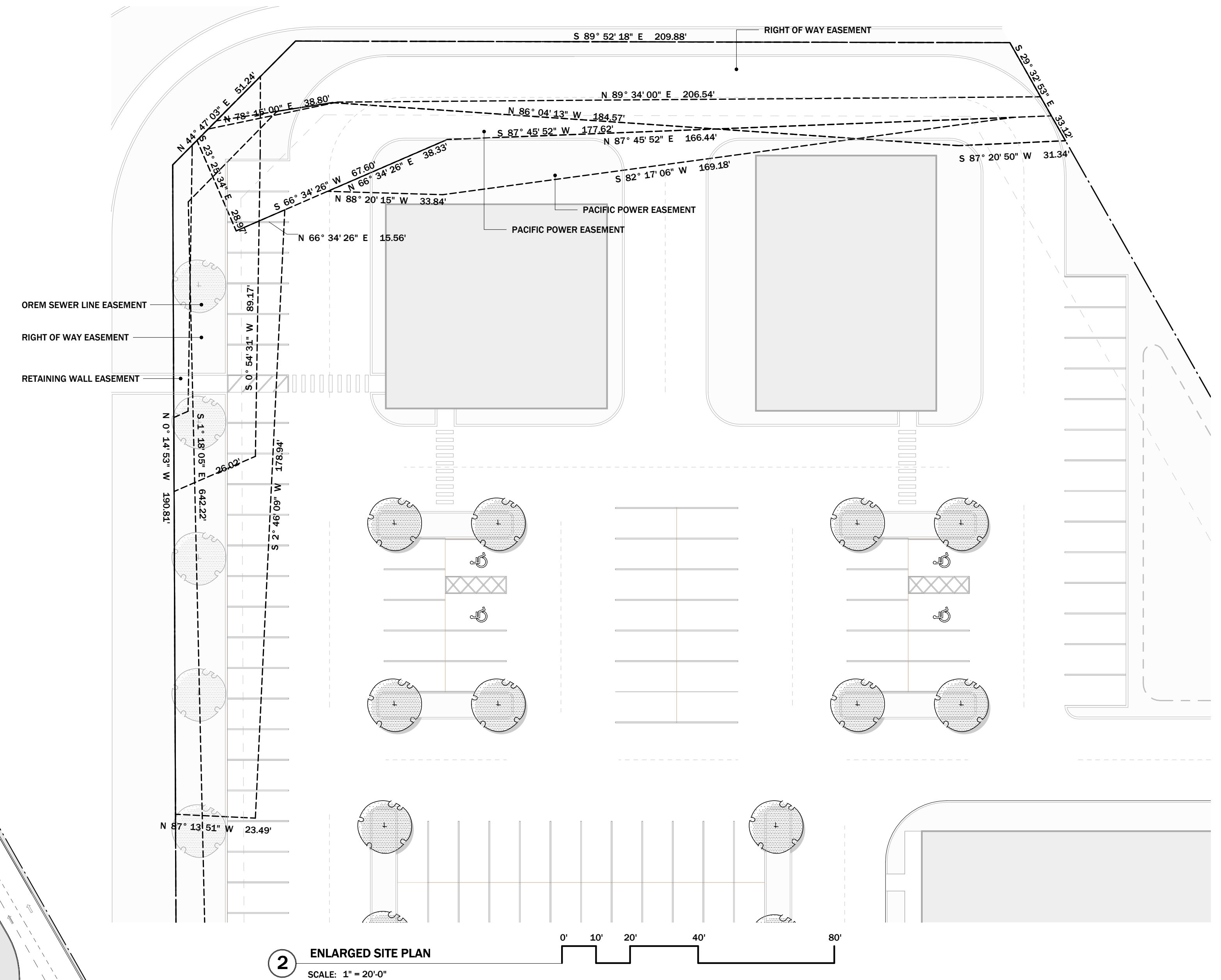
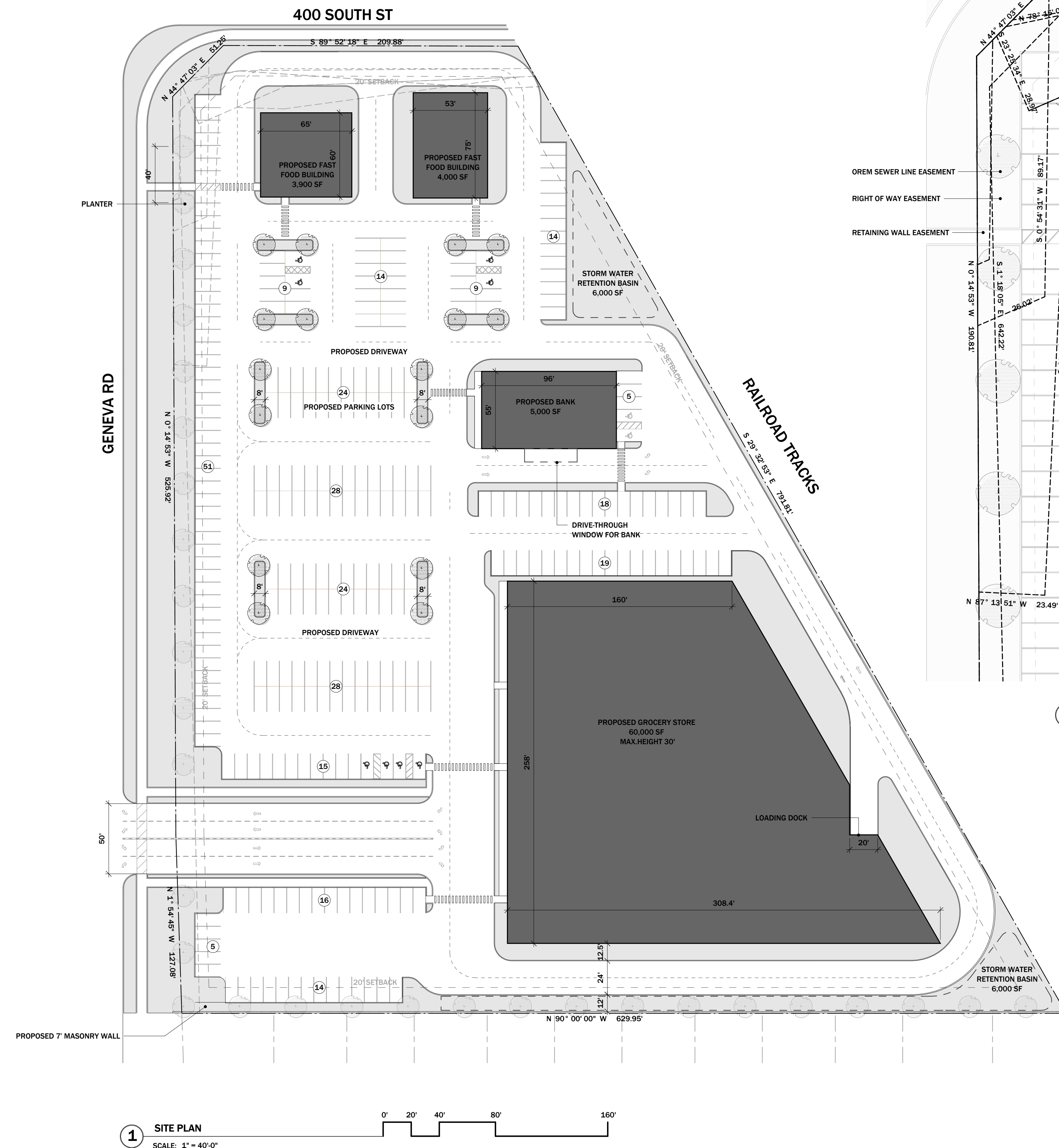
1540 West

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	

1470 West

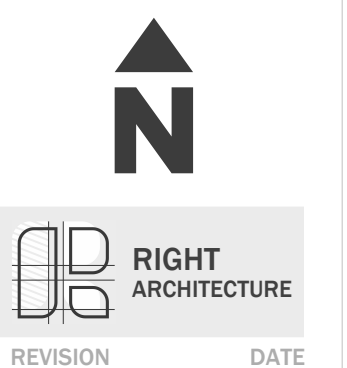
C2

Concept Plan



Total leasable space = 72,900 sq/ft.

Total parking spaces = 293, includes 10 handicapped spots.



PROJECT:
435 South Geneva
Road, Orem, Utah

SITE PLAN

SCALE: As indicated

JURISDICTION
PARCEL NUMBER
OWNER

UTAH COUNTY
18:028:0169, 18:028:0170,
18:028:0171
VINEYARD GARDENS SHOPPING CENTER

C-1

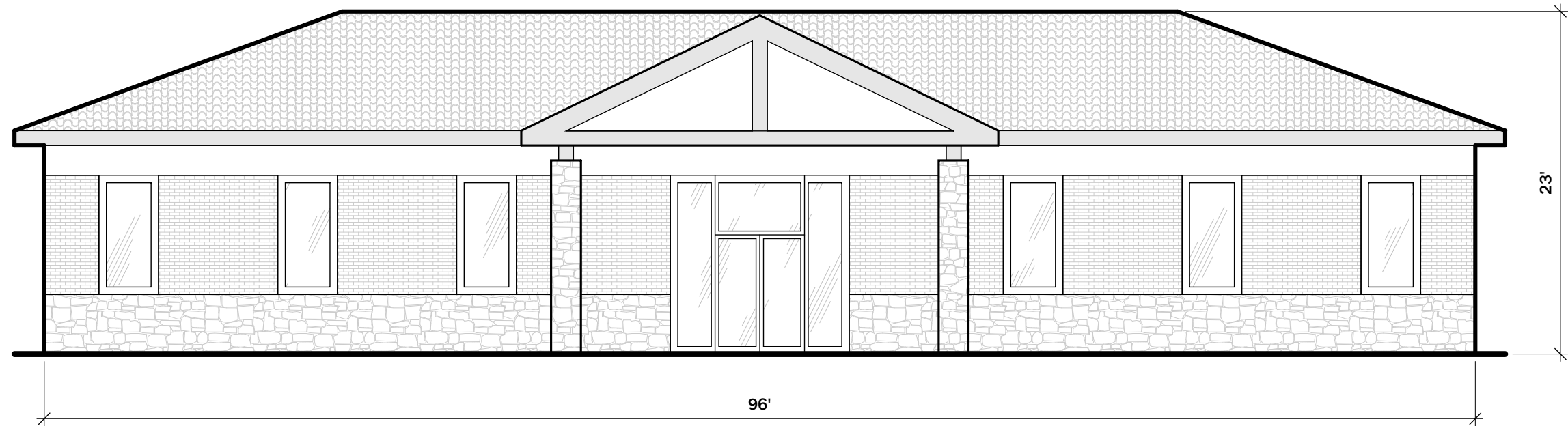
SHEET SIZE: 36" X 24"

Elevations



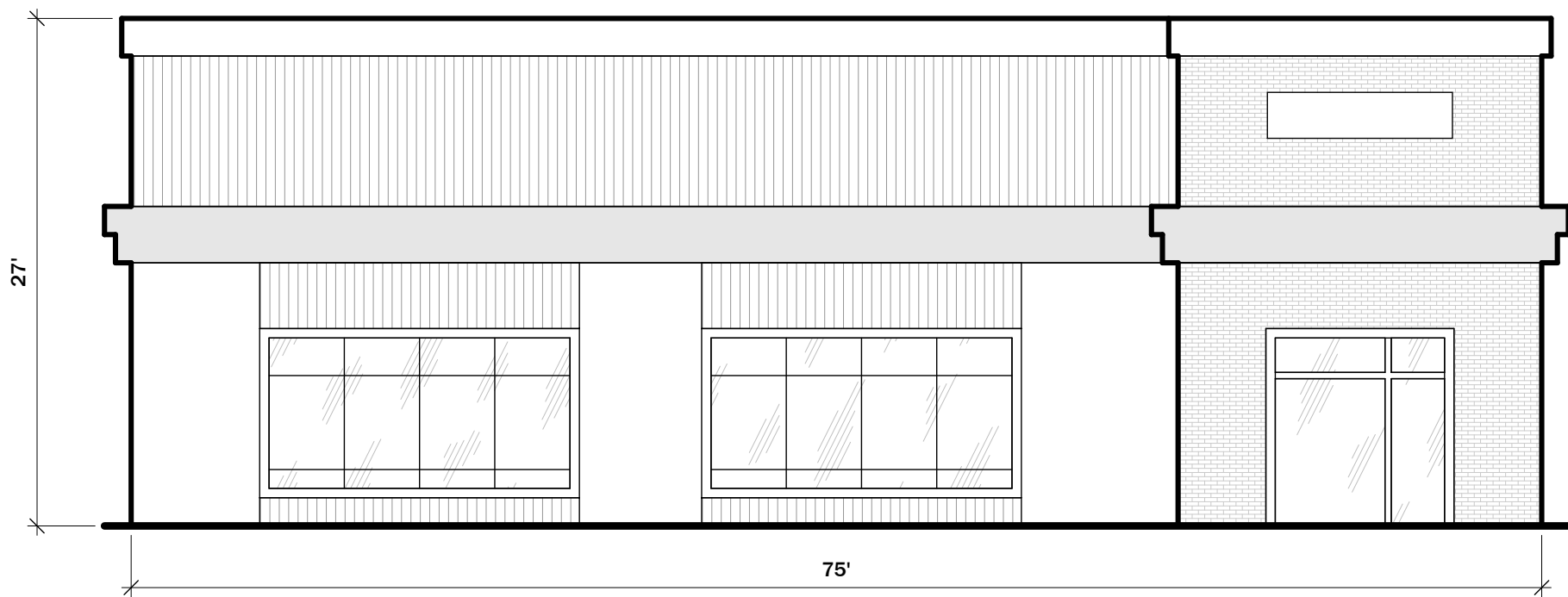
GROCERY STORE ELEVATION

Grocery store front will have stone facing surrounding entry doors.
Windows and doors will be metal framed.
Rest of front facing and parapet will be stucco.
Front roof will be metal sheeting.
Side and rear walls will be masonry.



BANK ELEVATION

Bank will have lower walls and columns made with stone facing.
Windows and doors will be metal framed.
Walls above stone facing will be brick.
Roof will be metal sheeting.



TYPICAL FAST FOOD ELEVATION

Fast food restaurants will have stucco walls.
Windows and doors will be metal framed.



PROJECT:
435 South Geneva
Road, Orem, Utah

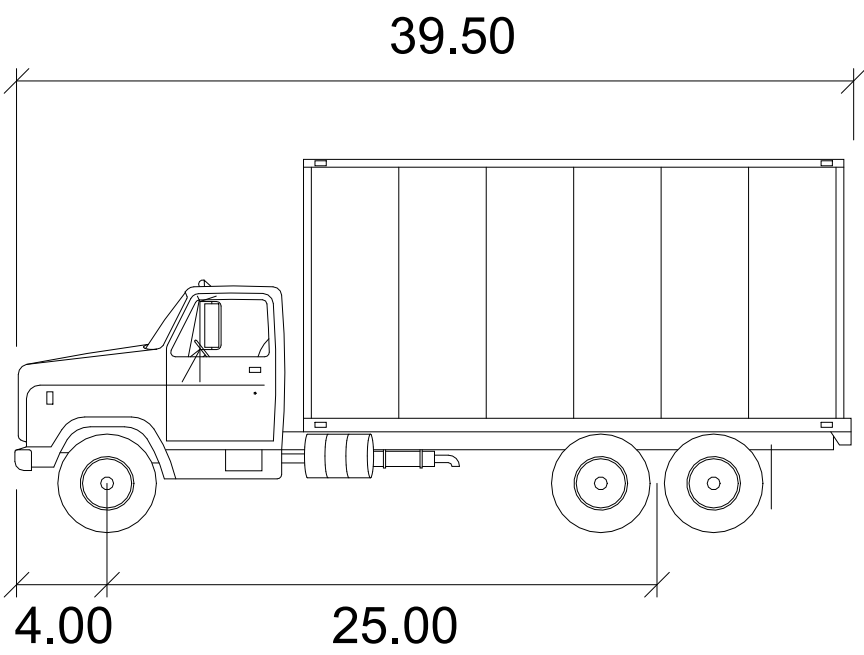
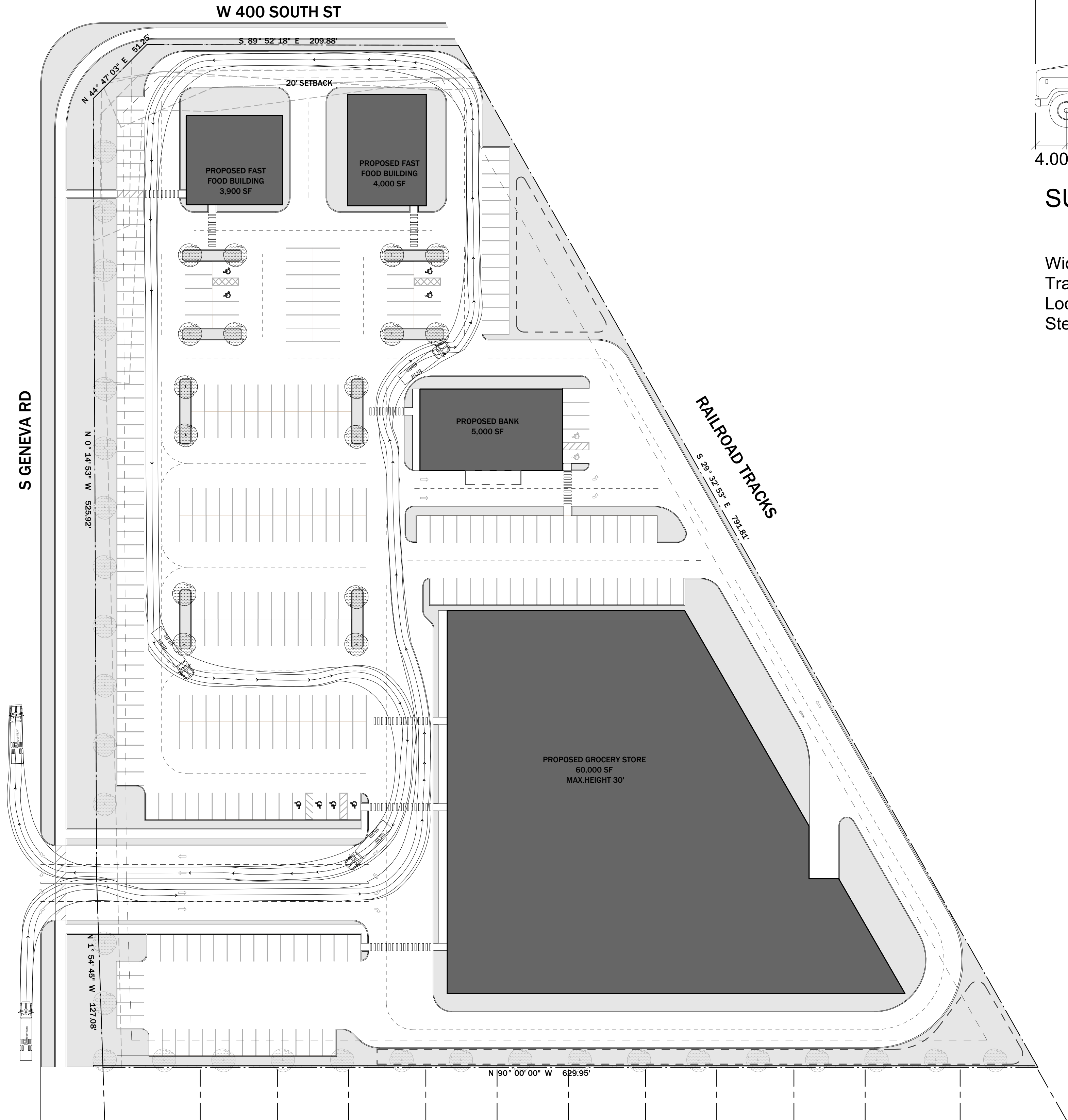
ELEVATIONS

SCALE: 1/8" = 1'-0"

C-2

SHEET SIZE: 36" X 24"

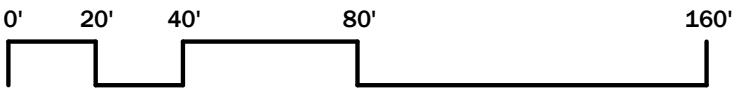
Box Truck Travel Path



SU-40

	Feet
Width	: 8.01
Track	: 8.01
Lock to Lock Time	: 6.0 s
Steering Angle	: 31.8 deg

1 BOX TRUCK PATH PLAN
SCALE: 1" = 40'-0"



RIGHT ARCHITECTURE

REVISION DATE

SCAN ME FOR MORE SERVICES

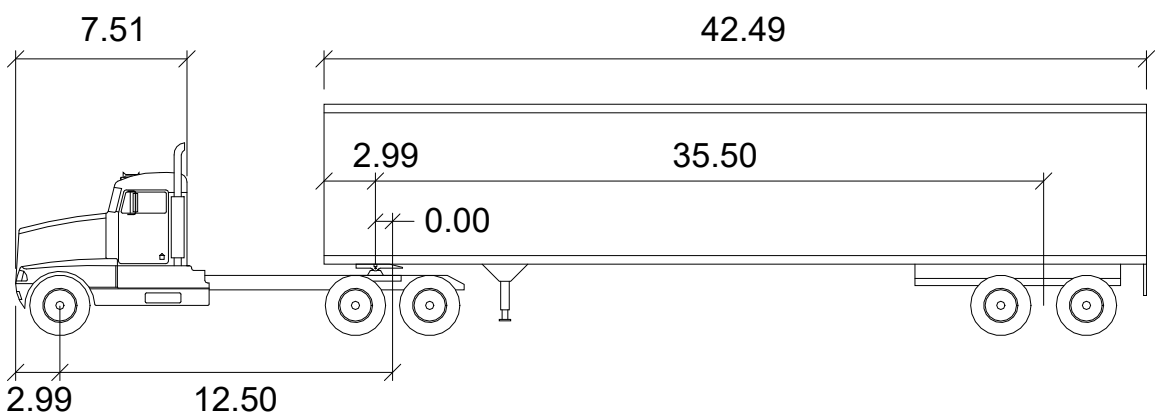
PROJECT:
435 South Geneva Road, Orem, Utah

BOX TRUCK PATH PLAN

SCALE: As Indicated

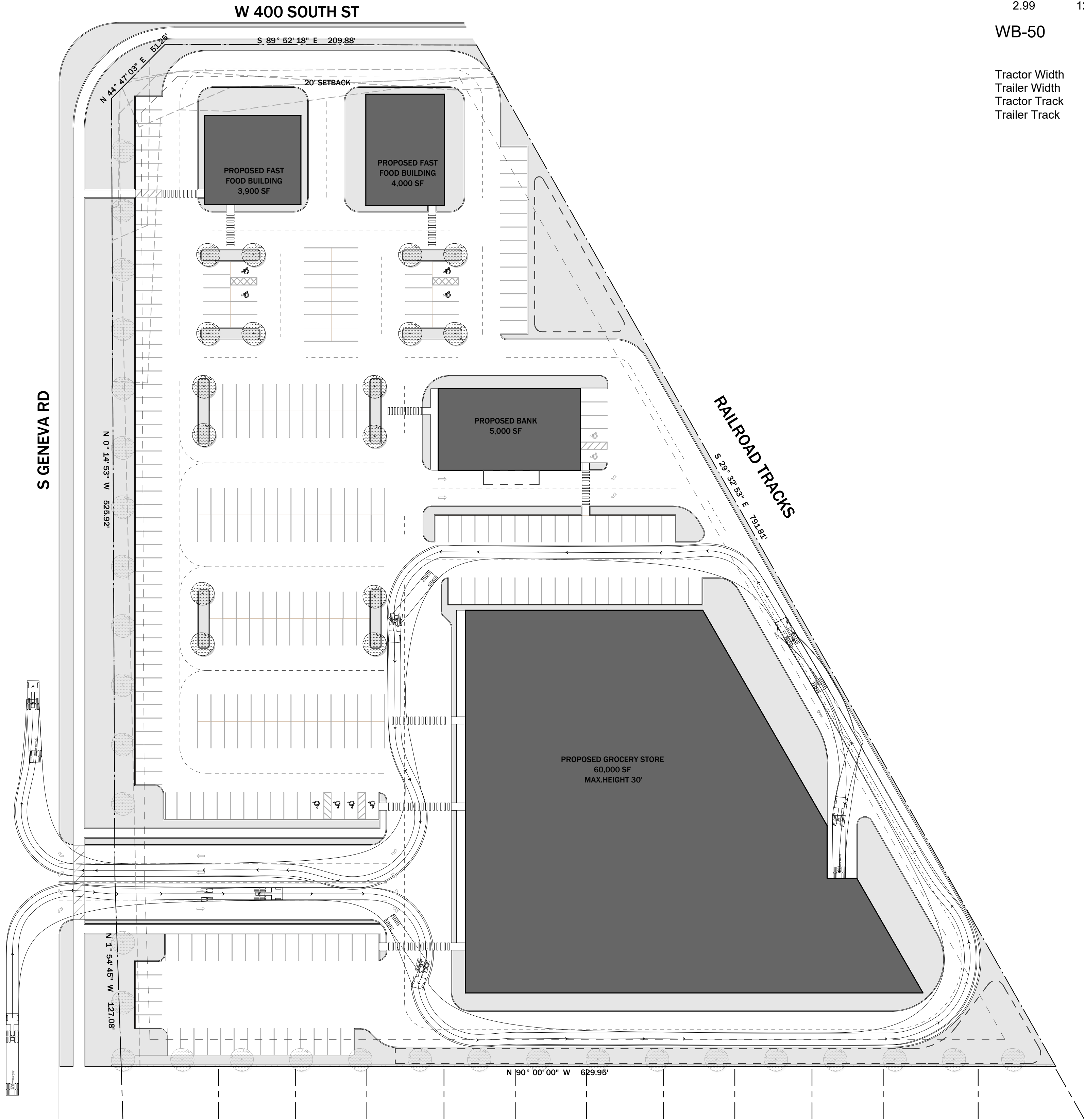
C-4
SHEET SIZE: 36" X 24"

Semi-Truck Travel Path

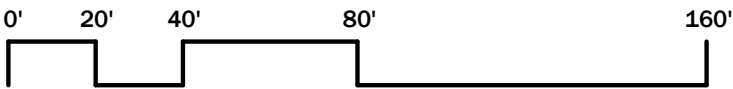


WB-50

	Feet		
Tractor Width	: 8.01	Lock to Lock Time	: 6.0 s
Trailer Width	: 8.50	Steering Angle	: 17.7 deg
Tractor Track	: 8.01	Articulating Angle	: 70.0 deg
Trailer Track	: 8.50		



1 40' SEMI TRAILER PATH PLAN
SCALE: 1" = 40'-0"



RIGHT
ARCHITECTURE

REVISION DATE

SCAN ME
FOR MORE
SERVICES

PROJECT:
435 South Geneva
Road, Orem, Utah

40' SEMI TRAILER
PATH PLAN

SCALE: As Indicated

C-3

SHEET SIZE: 36" X 24"

Street View from 400 South



Street View from Geneva Road



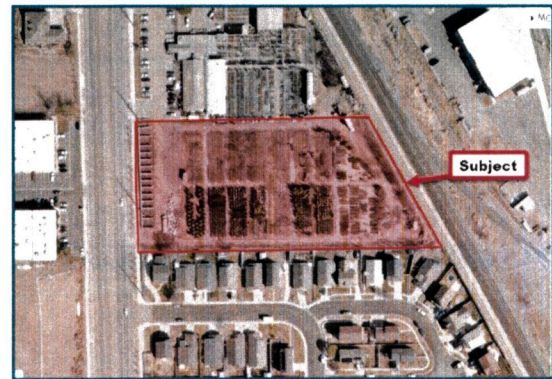
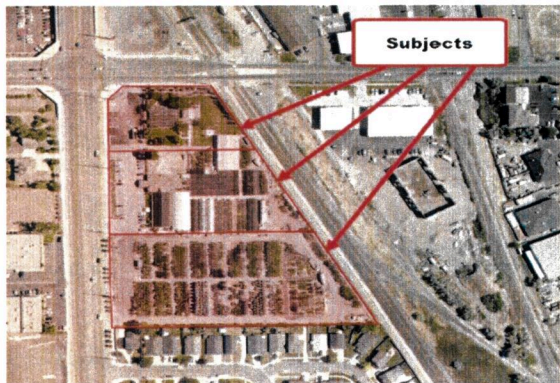
Neighborhood Meeting

1. Letters were sent on 5 September 2023 to all property owners on the list that the Orem planning office gave us. (Attachment 1)
2. Neighborhood meeting was held on 18 September 2023 at the Orem Recreation Center.
3. Meeting started at 7:00 p.m.
4. There were eight people in attendance (Attachment 2):
 - a. Jonathan and Myrna Holdaway (Vineyard Gardens Shopping Center)
 - b. Jay and Danielle Taylor (Vineyard Gardens Shopping Center)
 - c. Gerald Crismon (property owner)
 - d. Mike Carpenter (property owner)
 - e. Jonathan Stephens (property owner)
 - f. Austin Stephens (interested citizen)
5. Mr. Holdaway delivered a presentation covering the purpose for the meeting and what the concept plan was for the property. (Attachment 3)
6. Discussion items:
 - a. Light and noise impacts on the neighboring properties—is there a plan on how to minimize these impacts?
 - i. Yes. The masonry wall and trees along the southern property line will help to screen the homes from any lights and noise coming from the shopping center. Additionally, most of the noise/traffic using the property at night will be from the fast-food restaurants which are located on the far side of the shopping center.
 - b. Truck deliveries—how will the shopping center minimize noise from truck deliveries?
 - i. Most truck deliveries will be for the grocery store. The loading dock for the store is located on the northeast side of the store and is shielded by the building itself from the neighboring residential properties.
7. The meeting adjourned at 7:40 p.m.

Attachment 1

Jonathan Holdaway, Manager
Vineyard Gardens Shopping Center
658 S 2000 W
Syracuse, UT 84075
541-591-4270
jonathanholdaway@hotmail.com

Greetings. The purpose of this letter is to invite you to a neighborhood meeting to discuss our application to the city of Orem to re-zone the property located at 435 S Geneva Road, Orem. This property is currently being leased by Shade Landscaping. Prior to that it was operated by our family and was called Vineyard Garden Center. The property consists of three parcels as outlined below:



The north and center parcels are currently zoned as C2 (commercial use), and the southern parcel is zoned R20 (residential). We are applying to have the zoning changed on this southern parcel to C2 to match the zoning of the rest of the property.

We will hold the neighborhood meeting in the east multipurpose room at the Orem Recreation Center located at 575 W Center St, Orem, UT. The meeting is scheduled for Monday, 18 September 2023 starting at 7:00 p.m.

"Pursuant to Orem City Code Section 22-14-20(I), this meeting is being held to discuss the project with you. This is an opportunity for you to review the plans and provide input and recommendations regarding the project. This application has not yet been reviewed by the City and is subject to change during the review process."

We hope to see you there.

Welcome to the Neighborhood Meeting

Vineyard Gardens Shopping Center
435 S Geneva Road
Orem, Utah

1

Who We Are

- Children of Grant "Farmer Grant" Holdaway
 - Jonathan Holdaway
 - Danielle Taylor
 - Wendy Holdaway
 - Jeff Holdaway
 - Susie Holdaway

2

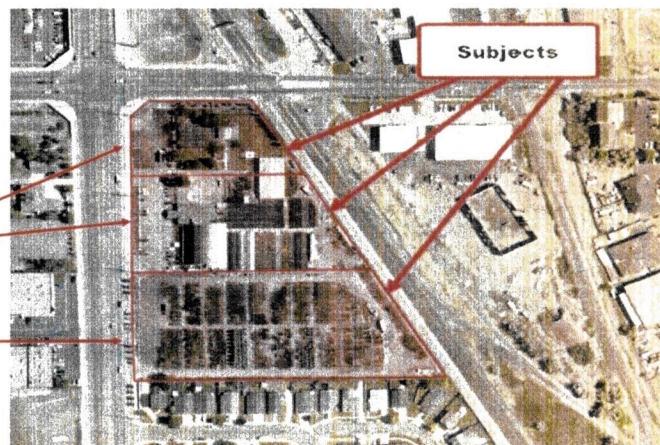
Why Are We Here?

- Our family is applying to Orem City to rezone a parcel of land located at 435 S Geneva Road, Orem
- This property was owned and operated by our father for many years
 - You may remember it as Vineyard Garden Center or Pumpkinland

3

What Property Are We Talking About?

- This is the property that our family owns
 - It is divided into three parcels: north, center and south
 - The north and center parcels are currently zoned C2
 - The south parcel is currently zoned R20



4

What Do These Zoning Classifications Mean?

- From the Orem City code
 - The purpose of the C2 zone is to allow a wide range of commercial and retail development including offices, business and personal services, public spaces, and general community shopping.
 - The purpose of the R20 zone is to promote rural and low-density residential estate uses with a minimum lot size of 20,000 square feet per lot, and to allow other selected uses which are compatible with the character of the zone.

5

What Are We Asking For?

- We would like to change the current zoning classification on the south parcel from R20 to C2
 - This would match the current zoning of the north and center parcels
 - We need this change in the zoning in order to be able to develop the property



6

Agenda Item 3.3 is a request by Jonathan Holdaway for the Planning Commission to forward a recommendation to the City Council to amend Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).



Staff Presentation: The applicant is requesting approval to rezone a parcel of land that he owns located at 519 South Geneva Road in the R20 zone to the C2 zone. He also owns two parcels to the north which are currently zoned C2, so rezoning the R20 parcel to C2 would continue the C2 zone further south.

The applicant would like to have all three parcels zoned C2 in order to develop the property as a neighborhood shopping center named the Vineyard Gardens Shopping Center. This shopping center will have a grocery store, a bank or credit union and two fast-food restaurants.

This area of Orem is growing rapidly along with the neighboring city of Vineyard. There are limited shopping options for residents in this area to use and a shopping center at this location would be a great benefit to the community.

The materials of the grocery store will have stone facing surrounding the entry doors, the remaining front facing and parapet will be stucco. The side and rear walls will be masonry. The bank will have lower walls and columns with stone facing with the walls above the stone facing being brick. The fast food restaurants will have stucco walls. All roofs will be standing seam metal.

There will be only one (1) access to the shopping center and it will be on the southern part of the project from Geneva Road.

Traffic/Transportation staff have reviewed the site plan and provided comments to the applicant to use larger truck turning radii on the site for deliveries. The applicant modified their site plan to accommodate larger trucks using truck turning templates.

Staff also met with the applicant and UDOT regarding access. The applicant agreed to close three existing accesses and install one access to serve the site off of Geneva Road. The project access will align with an existing commercial driveway on the west side of Geneva Road. Our desire was to also provide maximum distance from the 400 South/Geneva Road intersection to all for adequate queuing.

The traffic study was reviewed and the study area was expanded to include more intersections based on our traffic study guidelines. The project access on Geneva Road will possibly need signalization in the future or UDOT could restrict the access to a right-in/right-out.

Traffic staff recommends approval based on changes and cooperation with UDOT, Orem, and the applicant.

At the neighborhood meeting, where eight (8) people attended, there were two items of concern discussed.

1. Light and noise impacts on the neighboring properties.
 - a. There will be a masonry wall and trees along the southern property line that will help to screen the homes from any lights and noise coming from the shopping center.
 - b. Most of the noise/traffic using the property at night will be from the fast food restaurants which are located on the north end of the property away from the residential area.
2. Truck deliveries.
 - a. The loading dock for truck deliveries at the grocery store, which is located on the south end of the property, will be shielded from the neighboring residential properties by the building itself.

Recommendation: The Development Review Committee determined this request complies with the Orem City Code. Staff recommends the Planning Commission forward a positive recommendation to the City Council to amend Article 22-5-3(A) and the zoning map of the City of Orem by amending Article 22-5-3(A) and the zoning

map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres).

Chair Komen asked if the Planning Commission had any questions for Mr. Bench.

Chair Komen invited the applicant to come forward. Jonathan Holdaway introduced himself. Mr. Holdaway said this is a continuation of Grant Holdaway's (his father) dream. The property as it is had been used as a labor of love. Now that Grant Holdaway has passed away, this project is a way to improve that corner of his garden in Utah County. This proposal will be a welcome benefit and blessing for the people in that area. A shopping center of this nature will fill a need in the area and is a smart move for the community. Ms. Kleinlien asked if a larger grocery store came in would Mr. Holdaway be willing to give them more space. Mr. Holdaway said he deliberately planned this with the grocery store with a smaller footprint, but it is not cast in stone and could be amended if necessary. He feels this concept is a good mix. Ms. Kleinlein asked if he would court the grocery store first. Mr. Holdaway said the grocery store would definitely be the anchor in the shopping center.

Chair Komen opened the public hearing and invited those from the audience who had come to speak to this item to come forward to the microphone. ([click here for recording](#))

Jonathan Stevens
Rachel Bond

Chair Komen closed the public hearing and asked if the Planning Commission had any more questions for the applicant or staff. She then asked Mr. Dorny if with the traffic study was anything taken into account regarding children needing to cross the street. The study did mention that eventually a light would be placed where the cross street was going in and out to Geneva Road. Mr. Dorny responded yes, in the future plan a signal may be installed, dependent on future growth in the area. The entrance to the shopping center was moved to the south to give kids more safety to cross at the intersection. There was a negotiation with UDOT and the applicant and he thinks this is the best location for the entrance.

Chair Komen called for a motion on this item.

Planning Commission Action: Mr. Carpenter moved to forward a positive recommendation to the City Council to amend Article 22-5-3(A) and the zoning map of the City of Orem by amending Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres). Ms. Kleinlein seconded the motion. Those voting aye: Mike Carpenter, Gerald Crismon, James Hawkes, Helena Kleinlein, Madeline Komen and Haysam Sakar (via Zoom). The motion passed unanimously.



City Council Chambers, 56 N State Street

***** IMPORTANT DEVELOPMENT NOTICE *****

PUBLIC HEARING - Amending Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres). This lot will be combined with the two lots to the north to create a new shopping center which will include a grocery store, bank and two fast food restaurants.

Additional information can be viewed on orem.org/planning under "Current Planning (Public Hearing Notices)" tab.

ALPINE SCHOOL DISTRICT
575 N 100 E
AMERICAN FORK, UT 84003

City Council
Tue, Feb 27, 2024
6:00 pm



City Council Chambers, 56 N State Street

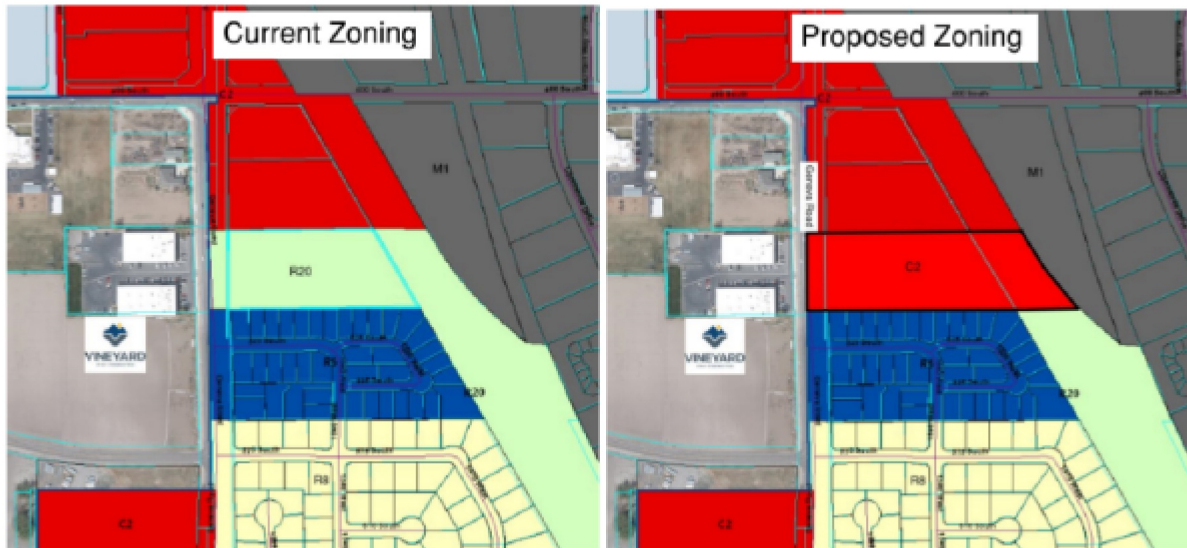
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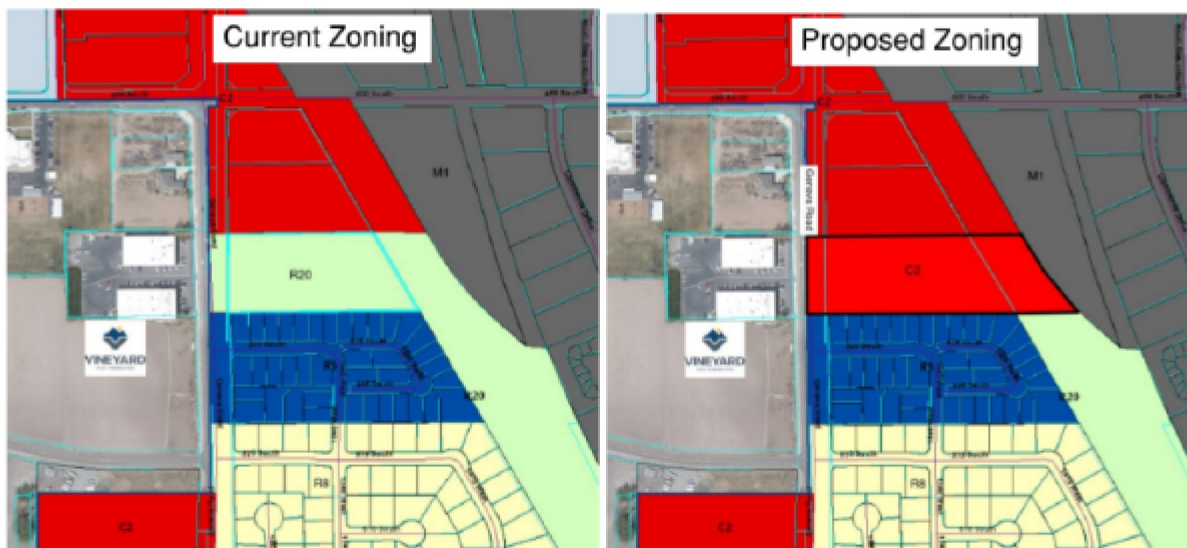
Additional information can be viewed on orem.org/planning under "Current Planning (Public Hearing Notices)" tab.

LKA LLC
1149 N 2220 W
CLINTON, UT 84015

City Council
Tue, Feb 27, 2024
6:00 pm



orem.org/planning under "Current Planning (Public Hearing Notices)" tab



orem.org/planning under "Current Planning (Public Hearing Notices)" tab

UTAH DEPARTMENT OF
TRANSPORTATION
PO BOX 140857
SALT LAKE CITY, UT 84114

UTAH DEPARTMENT OF
TRANSPORTATION
PO BOX 148420
SALT LAKE CITY, UT 84114

MILE HIGH BORROWER 1 (INCOME)
LLC
PO BOX 4090
SCOTTSDALE, AZ 85261

CSFW PROPERTIES LLC
PO BOX 970306
OREM, UT 84097

CHRIS KILLPACK
15 N 920 E
OREM, UT 84097

CORP OF PRES BISHOP CHURCH OF
JESUS CHRIST OF LDS
50 E NORTH TEMPLE
SALT LAKE CITY, UT 84150

JAMES HAWKES
55 WEST 500 SOUTH
OREM, UT 84058

UTAH COUNTY
100 E CENTER ST
PROVO, UT 84606

HELENA KLEINLEIN
103 WEST 2170 SOUTH
OREM, UT 84058

JEFF LAMBSON
156 E 1060 N
OREM, UT 84057

DAVE YOUNG
173 S COUNTRYSIDE LANE
OREM, UT 84058

TOWN OF VINEYARD
240 E GAMMON RD
VINEYARD, UT 84059

LANAE MILLETT
288 W 1500 N
OREM, UT 84057

1556 WEST 575 SOUTH OREM LLC
383 N ANDERSON LN
LINDON, UT 84042

SPRINGWATER HOLDINGS LLC
--OR CURRENT RESIDENT--
414 S COMMERCE DR
OREM, UT 84058

SPRINGWATER HOLDINGS LLC
%KIRKSEY, MATTHEW E
416 COMMERCE RD
OREM, UT 84058

CHUCK LC
416 S COMMERCE DR
OREM, UT 84057

BACH RENTALS LLC
--OR CURRENT RESIDENT--
430 S GENEVA RD
VINEYARD, UT 84058

A O A ESTATES LLC
--OR CURRENT RESIDENT--
435 S GENEVA RD
OREM, UT 84058

HACKING, JAMES L & DIANE C
--OR CURRENT RESIDENT--
436 S COMMERCE RD
OREM, UT 84058

CSFW PROPERTIES LLC
--OR CURRENT RESIDENT--
454 S COMMERCE RD
OREM, UT 84058

FORD REAL ESTATE PC INC (ET AL)
--OR CURRENT RESIDENT--
464 S COMMERCE RD
OREM, UT 84058

SKIP DUNN INVESTMENTS LC
--OR CURRENT RESIDENT--
482 S COMMERCE RD
OREM, UT 84058

THOMAS MACDONALD
489 NORTH PALISADES DR
OREM, UT 84097

K & G MANAGEMENT LLC
501 W MAIN CANYON RD
WALLSBURG, UT 84082

LKA LLC
--OR CURRENT RESIDENT--
502 S COMMERCE RD
OREM, UT 84058

FORD REAL ESTATE PC INC (ET AL)
526 W MEADOW CREST WAY
SARATOGA SPRINGS, UT 84045

ORTIZ, ALMA D
529 S 1500 W
OREM, UT 84058

BRAMALL, KADEN J & CHELSEA Z
530 S 1500 W
OREM, UT 84058

BOND, RACHEL
535 S 1500 W
OREM, UT 84058

FARNSWORTH, COLTIN ROBERT
535 S 1540 W
OREM, UT 84058

VILLEGAS, JOSE CORTES & MARIA A
540 S 1500 W
OREM, UT 84058

ROBLEDO, OMAR A & YAZMIN
541 S 1500 W
OREM, UT 84058

RAMIREZ, JOEL & EVELIN
547 S 1540 W
OREM, UT 84058

TAYLOR, R WADE
549 S 1500 W
OREM, UT 84058

RANGEL, JORGE AYALA (ET AL)
552 S 1540 W
OREM, UT 84058

GUDMUNDSON, DOUGLAS B &
BARBARA A
556 S 1540 W
OREM, UT 84058

RODRIGUEZ, MARIA (ET AL)
557 S GENEVA RD
OREM, UT 84058

TAYLOR, NANETTE
562 S 1540 W
OREM, UT 84058

SANCHEZ, GILBERT RENE & JESSICA
568 S 1540 W
OREM, UT 84058

MACKINTOSH, SKYE
569 S GENEVA RD
OREM, UT 84058

CHRISTENSEN, DANIEL REX &
DEBRA HOOLEY
571 S 1470 W
OREM, UT 84058

ALPINE SCHOOL DISTRICT
575 N 100 E
AMERICAN FORK, UT 84003

ALPINE SCHOOL DISTRICT
--OR CURRENT RESIDENT--
620 E HOLDAWAY RD
VINEYARD, UT 84058

MADELINE KOMEN
653 W. 1360 NORTH
OREM, UT 84057

A O A ESTATES LLC
%HOLDAWAY, JON
658 S 2000 W
SYRACUSE, UT 84075

UTAH TRANSIT AUTHORITY
%PROPERTY MANAGEMENT
669 W 200 S
SALT LAKE CITY, UT 84101

CORP OF PRES BISHOP CHURCH OF
JESUS CHRIST OF LDS
--OR CURRENT RESIDENT--
750 E 575 SOUTH
VINEYARD, UT 84058

DAVID SPENCER
899 NORTH 550 EAST
OREM, UT 84097

MURRAY LOW
904 S. 725 WEST
OREM, UT 84058

HACKING, JAMES L & DIANE C
930 W CENTER ST
LINDON, UT 84042

SKIP DUNN INVESTMENTS LC
1047 E 1060 S
OREM, UT 84097

GERALD CRISMON
1069 S. 545 EAST
OREM, UT 84097

JENN GALE
1144 E 920 N
OREM, UT 84097

LKA LLC
1149 N 2220 W
CLINTON, UT 84015

HAYSAM SAKAR
1194 E. 1090 NORTH
OREM, UT 84097

ROSA PROPERTIES SERIES LLC (ET
AL)
1233 W 1950 N
PROVO, UT 84604

RYAN CLARK
1405 N. 1430 WEST
PLEASANT GROVE, UT 84062

CROSS, JEFF & SLOANE R
1486 W 575 S
OREM, UT 84058

ROSA PROPERTIES SERIES LLC (ET
AL)
--OR CURRENT RESIDENT--
1498 W 575 SOUTH
OREM, UT 84058

OROPEZA, PUBLIO & MARIA ROCIO
1501 W 550 S
OREM, UT 84058

IBARRA, MARIA ALICIA LEDESMA
1502 W 525 S
OREM, UT 84058

CANO, VICTOR M (ET AL)
1509 W 550 S
OREM, UT 84058

BLANK, JOSEPH
1510 W 575 S
OREM, UT 84058

URIBE, CARLOS
1512 W 525 S
OREM, UT 84058

CHUCK LC
--OR CURRENT RESIDENT--
1513 W 400 SOUTH
OREM, UT 84058

TALATAINA, TAMAOAIGA LOTOTASI
(ET AL)
1513 W 550 S
OREM, UT 84058

ORTIZ, MICHAEL (ET AL)
1517 W 550 S
OREM, UT 84058

POWELL, ALEXANDREA & SAMUEL
1518 W 575 S
OREM, UT 84058

REDD, KELSEY & TYLER
1521 W 550 S
OREM, UT 84058

K & G MANAGEMENT LLC
--OR CURRENT RESIDENT--
1522 W 400 SOUTH
OREM, UT 84058

BAKER, LESLIE & LUAIN GLEN (ET
AL)
--OR CURRENT RESIDENT--
1522 W 525 SOUTH
OREM, UT 84058

WEBSTER, AUTUMN H (ET AL)
1527 W 550 S
OREM, UT 84058

PADILLA, FRANCISCO GUTIERREZ &
MARIA G GUTIERREZ
1528 W 575 S
OREM, UT 84058

POLAND, TREVOR C
1530 W 525 S
OREM, UT 84058

SUTTON, MARTIN A & LISA M
1531 W 550 S
OREM, UT 84058

YESSLITH, MERRILL & MISTY
1536 W 525 S
OREM, UT 84058

TAFOLLA, DANIEL
1542 W 525 S
OREM, UT 84058

STEPHENS, JONATHAN
1548 W 525 S
OREM, UT 84058

BARBEN, STEVEN A & KERLY P
1549 W 525 S
OREM, UT 84058

CHAFFIN, LARRY C & KRISTEN R
1555 W 525 S
OREM, UT 84058

1556 WEST 575 SOUTH OREM LLC
--OR CURRENT RESIDENT--
1556 W 575 SOUTH
OREM, UT 84058

HANSEN, SAM E & NANCY A
1558 W 525 S
OREM, UT 84058

HANSEN, ALEX J & MAYRA R
1565 W 525 S
OREM, UT 84058

TINAJERO-RAMIREZ, FERNANDO
1568 W 525 S
OREM, UT 84058

HARWARD, TORI R & ALEX S
1568 W 575 S
OREM, UT 84058

TREJO, MANUELA
1571 W 525 S
OREM, UT 84058

LEE, DAVID OWEN
--OR CURRENT RESIDENT--
1574 W 525 SOUTH
OREM, UT 84058

LOPEZ, TERESA
1578 W 575 S
OREM, UT 84058

BAKER, LESLIE & LUAIN GLEN (ET
AL)
--OR CURRENT RESIDENT--
1579 W 525 SOUTH
OREM, UT 84058

VIELBAUM, ROBERT L
1582 W 525 S
OREM, UT 84058

MILE HIGH BORROWER 1 (INCOME)
LLC
--OR CURRENT RESIDENT--
1587 W 525 SOUTH
OREM, UT 84058

GOMES, ADILSON G TAVARES &
ANDREIA A
1590 W 525 S
OREM, UT 84058

GARCIA, MIGUEL ANGEL GIRALDO
(ET AL)
1592 W 575 S
OREM, UT 84058

MIKE CARPENTER
1734 NORTH 350 WEST
OREM, UT 84057

JASON BENCH
1911 N MAIN STREET
OREM, UT 84057-2101

SOUTH VINEYARD LLC
3600 N ASHTON BLVD STE A
LEHI, UT 84043

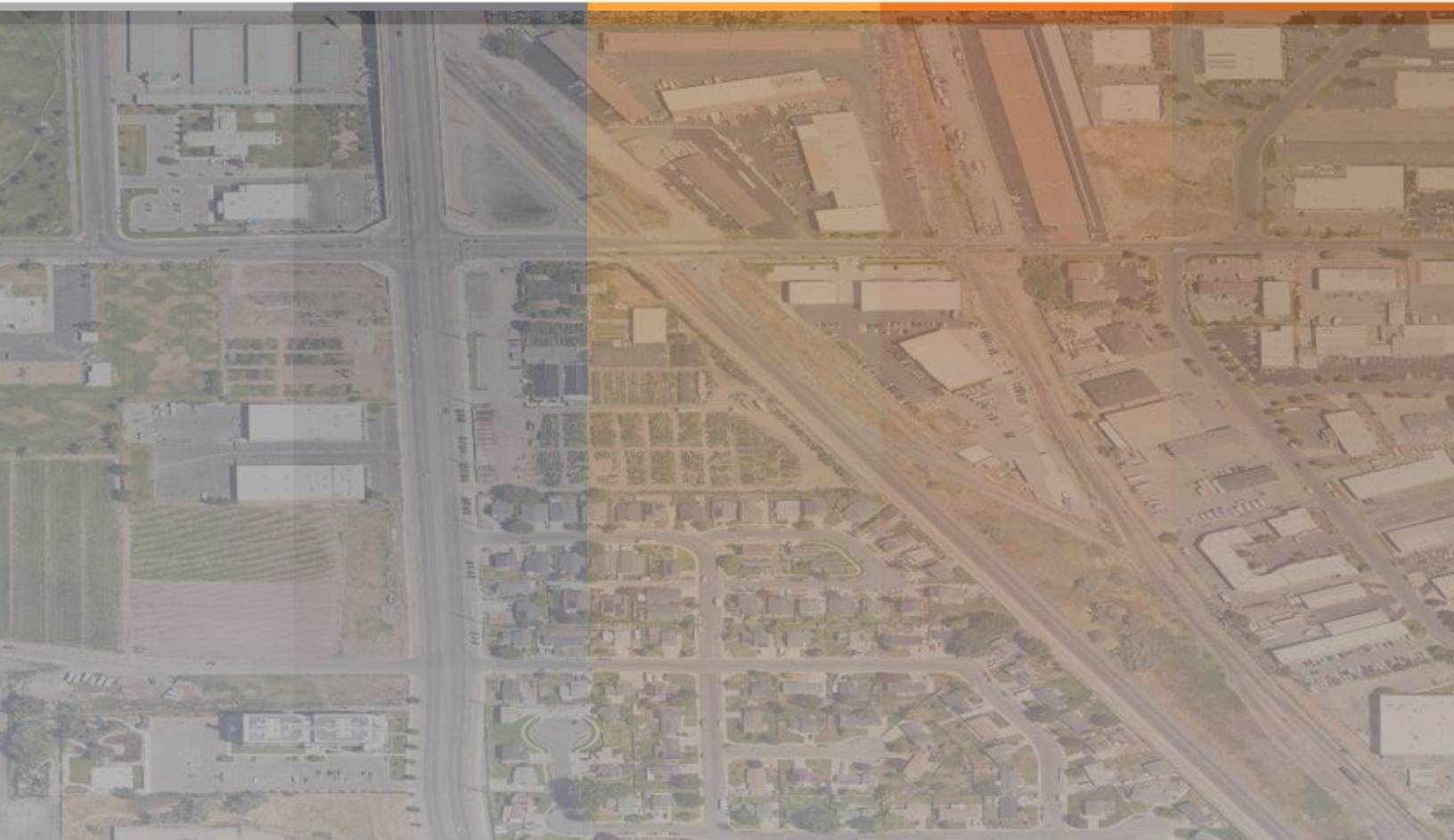
UTAH DEPARTMENT OF
TRANSPORTATION
4501 S 2700 W
SALT LAKE CITY, UT 84119

BAKER, LESLIE & LUAIN GLEN (ET
AL)
8877 N COTTAGE CANYON DR
CEDAR HILLS, UT 84062

BACH RENTALS LLC
11650 S STATE ST # 300
DRAPER, UT 84020



12/04/23



VINEYARD GARDENS TIS

OREM, UT

NOVEMBER 28, 2023
PROJECT # UT-8682-23

Table of Contents

List of Figures.....	iii
List of Tables.....	iii
Introduction and Summary.....	1
Purpose of Report and Study Objectives	1
Executive Summary.....	1
Conclusions and Recommendations.....	1
Proposed Development.....	4
Site Location	4
Site Plan and Preferred Access.....	5
Study Area Conditions.....	6
Study Area	6
Analysis of Existing Conditions	7
Study Intersection Level of Service.....	7
Queue Length	7
Existing Intersection Operations	8
Mitigations	8
Analysis of 2025 Background Conditions	10
Growth Rates	10
2025 Background Conditions	10
Mitigations	10
Project Traffic Volumes	12
Trip Generation.....	12
Internal Capture.....	13
Pass-by Trips	13
Trip Generation with Reductions	14
Trip Distribution.....	15
Analysis of 2025 Background Plus Project Conditions	16
2025 Background plus Project Intersection Operations.....	16
Queue Length.....	16
Mitigations	17
Analysis of 2030 Background Conditions.....	20
2030 Background Intersection Operations	20
Mitigations	20
Analysis of 2030 Background Plus Project Conditions	22
2030 Background plus Project Intersection Operations.....	22
Queue Length.....	22
Mitigations	23

Queue Length.....	23
Analysis of 2045 Background Conditions	25
2045 Background Intersection Operations	25
Mitigations	25
Analysis of 2045 Background Plus Project Conditions	27
2045 Background plus Project Intersection Operations.....	27
Queue Length.....	27
Mitigations	27
Conclusions and Recommendations.....	29
APPENDIX	31
TRAFFIC COUNTS.....	32
SITE LAYOUT	33
TRIP GENERATION.....	34
EXISTING BACKGROUND TRAFFIC	35
2025 BACKGROUND TRAFFIC	36
2025 BACKGROUND PLUS PROJECT.....	37
2030 BACKGROUND	38
2030 BACKGROUND PLUS PROJECT	39
2045 BACKGROUND	40
2045 BACKGROUND PLUS PROJECT	41

List of Figures

Figure 1: Project Location	4
Figure 2: Site Plan.....	5
Figure 3: Roadway Classification Map	6
Figure 4: LOS Example.....	7
Figure 5: Existing Turn Movement Volumes	9
Figure 6: 2025 Background Peak Hour Traffic Volumes	11
Figure 7: Trip Distribution	15
Figure 8: 2025 Background Plus Project with Mitigations Traffic Peak Hour Volumes	18
Figure 9: Project Traffic Only Peak Hour Volumes.....	19
Figure 10: 2030 Background Traffic Peak Hour Volumes	21
Figure 11: 2030 Background plus Project with Mitigations Traffic Peak Hour Volumes	24
Figure 12: 2045 Background Peak Hour Traffic Analysis	26
Figure 13: 2045 Background plus Project Peak Hour Traffic Analysis	28

List of Tables

Table 1: Level of Service Criteria.....	7
Table 2: Existing Peak Hour Traffic Analysis.....	8
Table 3: 2025 Background Peak Hour Traffic Analysis.....	10
Table 4: Trip Generation	13
Table 5: Existing Nursery Trip Generation	13
Table 6: Pass-by Trip Reduction	14
Table 7: ITE Trip Generation with Trip Reduction.....	14
Table 8: 2025 Background Plus Project Peak Hour Traffic Analysis.....	16
Table 9: 2025 Background plus Project Queue Length.....	16
Table 10: 2025 Background Plus Project with Mitigation Peak Hour Traffic Analysis	17
Table 11: 2030 Background Peak Hour Traffic Analysis.....	20
Table 12: 2030 Background plus Mitigation Peak Hour Traffic Analysis	20
Table 13: 2030 Background Plus Project Conditions	22
Table 14: 2030 Background plus Project Queue Length.....	22
Table 15: 2030 Background plus Project with Mitigations Project Conditions	23
Table 16: 2030 Background plus Project Queue Length.....	23
Table 17: 2045 Background Peak Hour Traffic Analysis.....	25
Table 18: 2045 Background Plus Project Conditions	27
Table 19: 2045 Background plus Project Queue Length.....	27

Introduction and Summary

PURPOSE OF REPORT AND STUDY OBJECTIVES

This Traffic Impact Study (TIS) aims to identify the traffic impacts of the proposed development in Orem, Utah. The study objectives are to define the study intersections, estimate trip generation and distribution for the site before and after development, analyze AM and PM peak traffic conditions with and without the project traffic in 2025, 2030, & 2045, and recommend improvements to mitigate traffic impacts if necessary.

EXECUTIVE SUMMARY

Site Location and Study Area – The Vineyard Gardens Shopping Center development site is just south of 400 South and east of Geneva Road in Orem, Utah as depicted in **Figure 1**. Major nearby streets surrounding the project area include Geneva Road and 400 South. This analysis will focus on the following intersections near the study area.

- Geneva Road & 400 South
- 1200 West & 400 South
- Geneva Road & Center Project Access
- 575 South & Geneva Road
- 800 South & Geneva Road
- 525 South & Geneva Road

Development Description – The development will include a 60,000 sq. ft. supermarket, a 5,000 sq. ft. drive-in bank, and two (2) 4,000 sq. ft. fast-food restaurants. There will be one access for this development. The existing north and south accesses will be removed, leaving the center access.

CONCLUSIONS AND RECOMMENDATIONS

1. Traffic counts were taken in October 2023 to create the existing conditions for this study. The traffic counts are in the Appendix at the end of this document.
2. *Existing Conditions* – All study intersections perform at an acceptable Level of Service (LOS) except for the intersection at 575 South & Geneva Road, which experiences a LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. Intersection does not warrant a signal and UDOT signal spacing requirements are not satisfied, there currently are no recommended mitigations.
3. *2025 Background Conditions* – The existing traffic data was modified by applying a 3.5% annual growth rate to estimate traffic conditions for the year 2025. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. The intersection does not warrant a signal, UDOT signal spacing requirements are not satisfied, and there currently are no recommended mitigations.

4. The proposed development within the study area is estimated to generate approximately 5,005 new external daily trips, with 180 trips and 395 trips occurring during the AM peak and PM peak hours, respectively after the reductions discussed in the Project Traffic Volume section.
5. *2025 Background plus Project Scenario* – The project trips were added to the 2025 Background scenario. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road and Geneva Road & Center Access. 575 South & Geneva Road experienced a LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. Intersection does not warrant a signal and UDOT signal spacing requirements are not satisfied. Geneva Road & Center Access experiences a LOS E during the AM and a LOS F during the PM peak hour, primarily due to significant delays in the westbound left-turn traffic.

Recommended Mitigations

- Geneva Road & Project Access
 - i. Install traffic signal, the warrant analysis is included in the Appendix. The developer will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640') and will need to review this improvement with the relevant governing agencies. After the recommended mitigation, all intersections except 575 South & Geneva Road operate at an acceptable LOS during the AM and PM peak hours.

6. *2030 Background Conditions* – The existing traffic data was modified by applying a 3.5% annual growth rate to estimate traffic conditions for the year 2030. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the AM and PM peak hours, due to significant delays in the eastbound left-turn traffic.

Recommended Mitigations

- 575 South & Geneva Road
 - i. Install traffic signal, the warrant analysis is included in the Appendix.
 - ii. Add a northbound through lane to have 3 through lanes.

After the recommended mitigation, all intersections operate at an acceptable LOS during the AM and PM peak hours.

7. *2030 Background plus Project Conditions* – The project trips were added to the 2030 Background scenario. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the AM and PM peak hours, primarily due to significant delays in the westbound left-turn traffic. This scenario includes previous mitigations.

Recommended Mitigations

- 575 South & Geneva Road
 - i. Install traffic signal, the warrant analysis is included in the Appendix.
 - ii. Add a northbound through lane to have 3 through lanes.

After the recommended mitigation, all intersections operate at an acceptable LOS during the AM and PM peak hours.

8. *2045 Background Conditions* – The existing traffic data was modified by applying a 1.5% annual growth rate to estimate traffic conditions for the year 2045. In this scenario, all intersections

operate at an acceptable LOS. This scenario includes all previous mitigations. There are currently no recommended mitigations.

9. *2045 Background plus Project Scenario* – The project trips were added to the 2045 Background scenario. In this scenario, all intersections operate at an acceptable LOS. This scenario includes all previous mitigations. There are currently no recommended mitigations.

Proposed Development

SITE LOCATION

The site for the Vineyard Gardens Shopping Center development is located on the south side of 400 South and east of Geneva Road in Orem, Utah (see **Figure 1**).

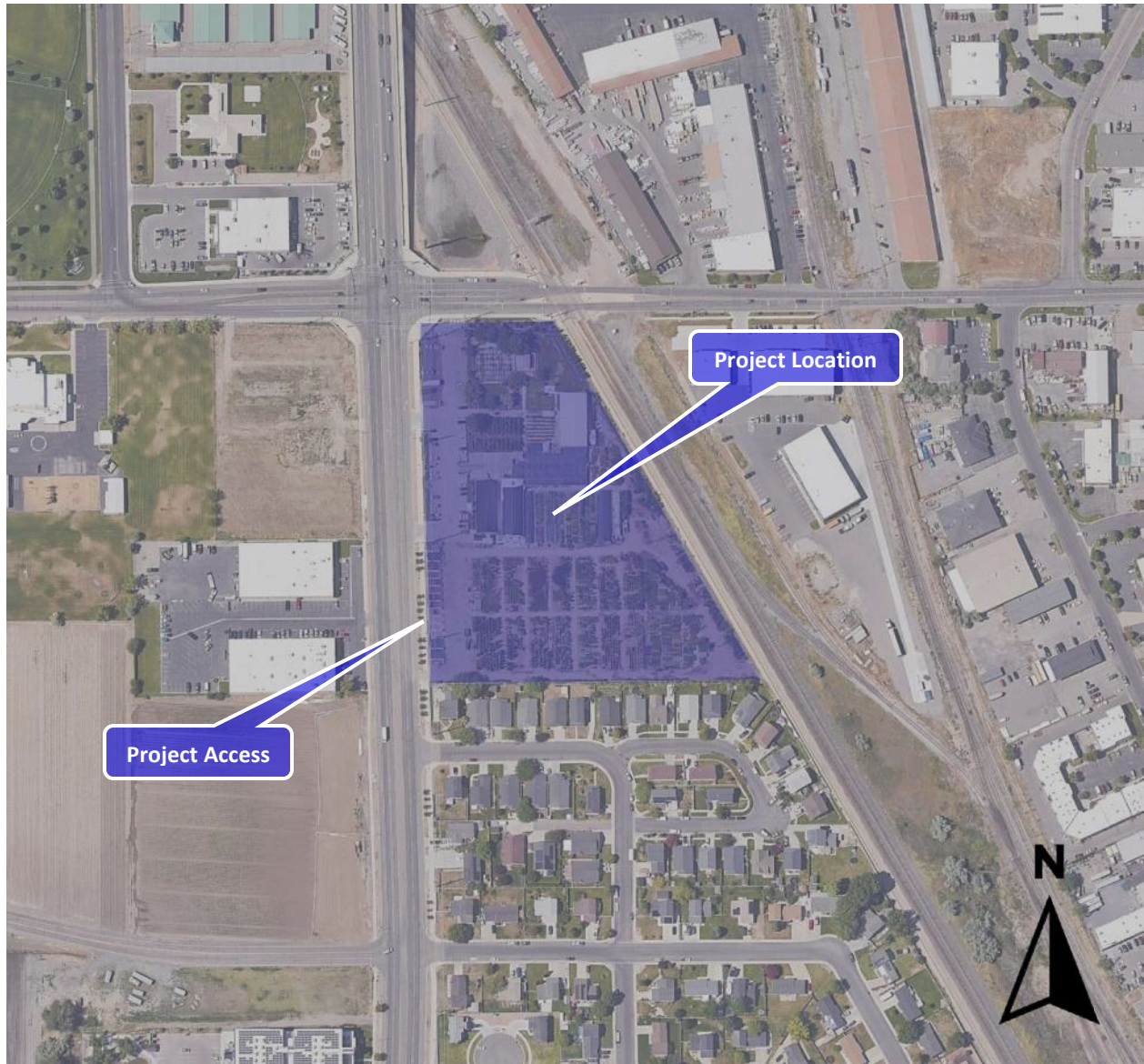
Figure 1: Project Location



SITE PLAN AND PREFERRED ACCESS

The site will have one access on the west side of the development on Geneva Road. The existing north and south accesses will be removed, and the center access will remain as the only access to the site and be relocated south approximately 160' to align with existing access on the west side of Geneva Road. The access location and site plan are shown in **Figure 2**.

Figure 2: Site Plan



Study Area Conditions

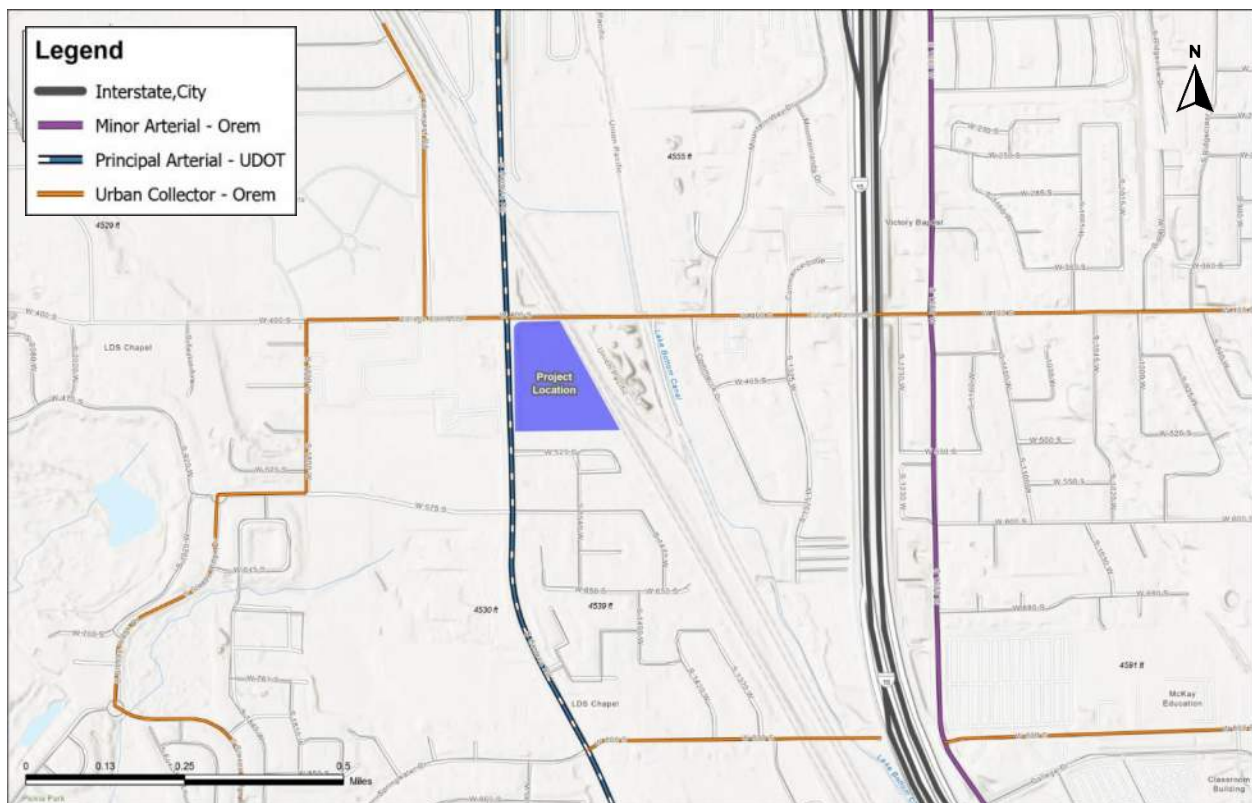
STUDY AREA

The major streets potentially impacted by the development are 400 South, Geneva Road, and 1200 West. The functional classification map, seen in **Figure 3**, shows the functional classification of roadways surrounding the project area. The speed limits listed in the description are the currently posted speed limits.

Roadway Descriptions:

- **Geneva Road:** A north/south running road classified as a Principal arterial with a speed limit of 45 mph. This principal arterial is a five-lane roadway with a dedicated lane in each direction.
- **400 South:** An east/west running road classified as an urban collector with a speed limit of 30 mph. This urban collector is a two-lane roadway with a dedicated lane in each direction.

Figure 3: Roadway Classification Map



Analysis of Existing Conditions

STUDY INTERSECTION LEVEL OF SERVICE

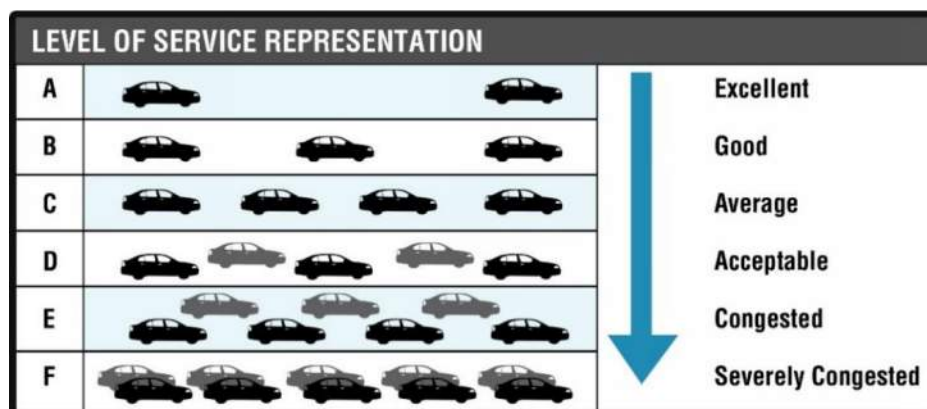
Level of Service (LOS) is a term used by the *Highway Capacity Manual* (HCM) to describe the traffic operations of an intersection, based on congestion and delay. It ranges from LOS A (almost no congestion or delay) to LOS F (traffic demand is above capacity and the intersection experiences long queues and delays). LOS C is generally considered acceptable for rural intersections, while LOS D is acceptable for urbanized intersections. LOS E is the threshold when the intersection reaches capacity. For two-way stop-controlled intersections, average intersection-wide delay and LOS are not defined by the HCM. **Table 1** summarizes LOS delay criteria for stop-controlled movements at unsignalized and signalized intersections. A visual representation of this is shown in **Figure 4**.

Table 1: Level of Service Criteria

Level of Service	Average Control Delay	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Source: Highway Capacity Manual (HCM) 2010

Figure 4: LOS Example



QUEUE LENGTH

The 95th percentile queue length is a key traffic engineering metric, representing the queue length exceeded only 5% of the time. It is crucial for assessing peak-period traffic impact and informs the design of effective measures to address congestion and optimize traffic operations under varying conditions.

EXISTING INTERSECTION OPERATIONS

In October 2023, Horrocks collected the traffic counts for the morning (AM) and evening (PM) peak hours at the study intersections obtained by Horrocks Engineers in October of 2023. The balanced traffic turning movements are shown in **Figure 5** illustrates the balanced traffic turning movements. All study intersections perform at an acceptable LOS except for the intersection at 575 South & Geneva Road, which experiences an LOS F with significant delays during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic, as shown in **Table 2**.

Table 2: Existing Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
Existing Peak Hour Conditions					
1	400 South & Geneva Road	22.0	C	24.7	C
2	400 South & 1200 West	23.6	C	20.6	C
3	800 South & Geneva Road	5.8	A	7.1	A
4	575 South & Geneva Road	34.0	D	73.8	F
5	Geneva Road & Center Access	17.7	C	24.6	C
6	525 South & Geneva Road	19.3	C	19.3	C

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

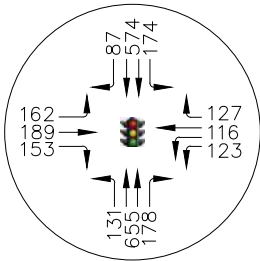
MITIGATIONS

575 South & Geneva Road

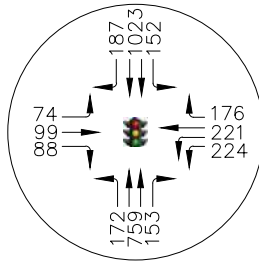
- The existing traffic volumes do not meet the signal warrant requirements and will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640'). UDOT plans on a signal at this location in the future. There are currently no recommended mitigations.



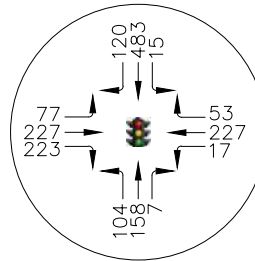
1 AM PEAK HOUR



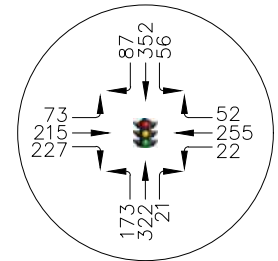
1 PM PEAK HOUR



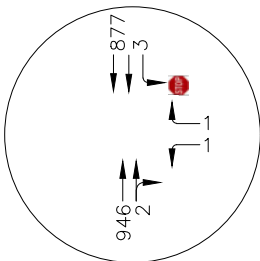
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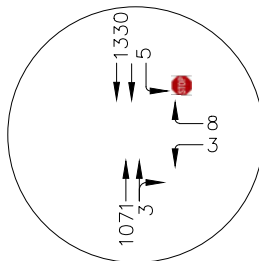
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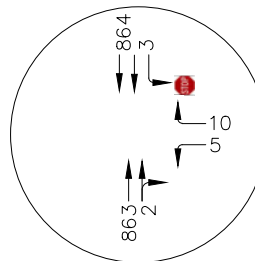
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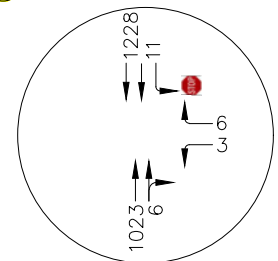
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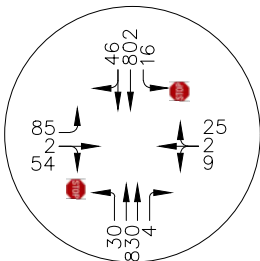
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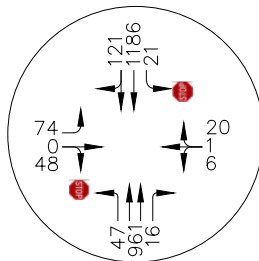
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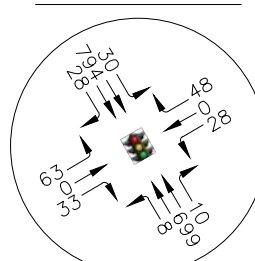
5 AM PEAK HOUR



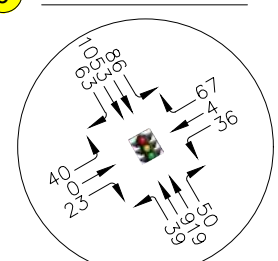
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Analysis of 2025 Background Conditions

GROWTH RATES

The growth rates for the project were calculated based on the projected 2030 and 2050 volumes from the MAG Travel Demand Model (TDM). Using this TDM data, an annual background growth factor of 3.5% will be applied to the 2025 and 2030 horizon years, while a growth factor of 1.5% will be used for the 2045 horizon year.

2025 BACKGROUND CONDITIONS

The existing traffic was modified by applying a 3.5% annual growth rate to estimate traffic conditions for the year 2025, which is shown in **Figure 6**. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experiences an LOS E during the AM peak hour and an LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. **Table 3** shows the 2025 Background LOS conditions.

Table 3: 2025 Background Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2025 Background Peak Hour Conditions					
1	400 South & Geneva Road	22.7	C	26.2	C
2	400 South & 1200 West	26.0	C	21.1	C
3	800 South & Geneva Road	6.1	A	7.6	A
4	575 South & Geneva Road	42.4	E	131.6	F
5	Geneva Road & Center Access	18.8	C	28.8	D
6	525 South & Geneva Road	19.6	C	24.4	C

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

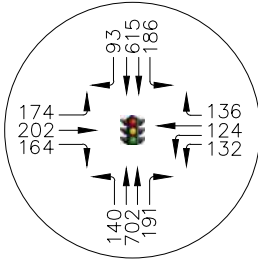
MITIGATIONS

575 South & Geneva Road

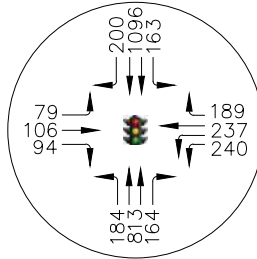
- 2025 projected traffic volumes do not meet the signal warrant requirements and will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640'). UDOT plans on a signal at this location in the future. There are currently no recommended mitigations.



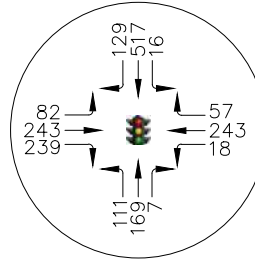
1 AM PEAK HOUR



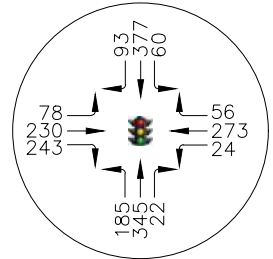
1 PM PEAK HOUR



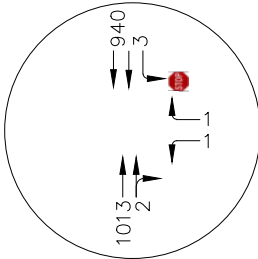
2 AM PEAK HOUR



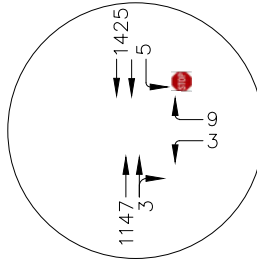
2 PM PEAK HOUR



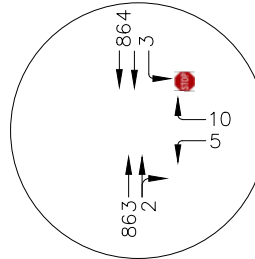
3 AM PEAK HOUR



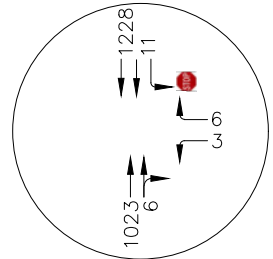
3 PM PEAK HOUR



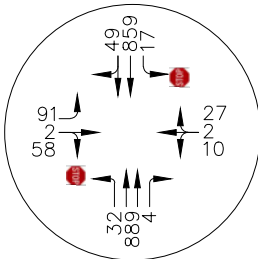
4 AM PEAK HOUR



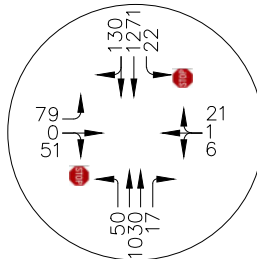
4 PM PEAK HOUR



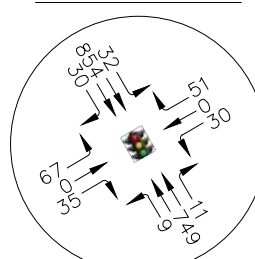
5 AM PEAK HOUR



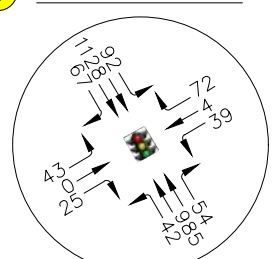
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Project Traffic Volumes

Project traffic volumes were estimated and distributed using the industry-standard trip generation literature and using existing traffic counts and engineering judgment to distribute project traffic to the existing road network.

TRIP GENERATION

The trip generation was estimated using the *ITE Trip Generation Manual 11th Edition*. The following land use from the manual was used:

- **Supermarket (ITE 820)** – A supermarket is a free-standing retail store that sells a complete assortment of food, beverages, food preparation materials, and household products. A supermarket may also provide additional products and services such as a bakery, dry cleaning, floral arrangements, greeting cards, a limited-service bank, and a pharmacy.
- **Drive-in Bank (ITE 912)** – A bank is a financial institution that can offer various financial services. A drive-in bank provides banking services for a motorist through a teller station. A drive-in bank may also serve patrons who walk into the building. The drive-in lanes may or may not provide an automatic teller machine (ATM). Walk-in bank (Land Use 911) is a related use.
- **Fast Casual Restaurant (ITE 930)** – A fast-casual restaurant is a sit-down restaurant with no (or very limited) wait staff or table service. Customer typically orders off a menu board, pays for food before the food is prepared, and seat themselves. The menu generally contains higher-quality, made-to-order food items with fewer frozen or processed ingredients than at a fast-food restaurant. Most patrons eat their meals within the restaurant, but a significant proportion of the restaurant sales can be carry-out orders. A fast-casual restaurant typically serves lunch and dinner; some serve breakfast. A typical duration of stay for an eat-in customer is 40 minutes or less. Fine dining restaurants (Land Use 931), high-turnover (sit-down) restaurants (Land Use 932), and fast-food restaurants without drive-through windows (Land Use 933) are related uses.
- **Fast-Food Restaurant with Drive-Through Window** – This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all open for lunch and dinner, some are open late at night or 24 hours a day), and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurants (Land Use 930), high-turnover (sit-down) restaurants (Land Use 932), fast-food restaurants without drive-through windows (Land Use 933), and fast-food restaurants with drive-through windows and no indoor seating (Land Use 935) are related uses.

Based on the ITE methodology, the development within the study area is estimated to generate approximately 6,990 new external trips, with 241 trips and 737 trips occurring during the AM peak and PM peak hours, respectively. Copies of the ITE Trip Generation 11th Edition land use descriptions and rates used in this project are in the [APPENDIX](#). **Table 4** contains a summary of the calculated trip generation for the project.

Table 4: Trip Generation

Vineyard Gardens Shopping Center Trip Generation										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Supermarket (ITE 850)		93.84	50%	50%	2.86	59%	41%	8.95	50%	50%
1000 sq ft	65	6,100	3,050	3,050	186	110	76	582	291	291
Total New Trips		6,100	3,050	3,050	186	110	76	582	291	291
Drive-in Bank (ITE 912)		100.35	50%	50%	9.95	58%	42%	21.01	50%	50%
1000 sq ft	5	502	251	251	50	29	21	105	53	53
Total New Trips		502	251	251	50	29	21	105	53	53
Fast Casual Restaurant (ITE 930)		97.14	50%	50%	1.43	50%	50%	12.55	55%	45%
1000 sq ft	4	389	194	194	6	3	3	50	28	23
Total New Trips		389	194	194	6	3	3	50	28	23
Fast-Food Restaurant with Drive Thru Window (ITE 934)		467.48	50%	50%	44.61	51%	49%	33.03	52%	48%
1000 sq ft	4	1,870	935	935	178	91	87	132	69	63
Total New Trips		1,870	935	935	178	91	87	132	69	63
Total New Trips		6,990	3,495	3,495	241	141	100	737	371	366

ITE Trip Generation 11th Edition

Since the current land use on the project site is a nursery, the trips attributed to this existing land use will be removed and substituted with the new project-related trips in the scenarios involving project trips.

Table 5 shows the existing trip generation to be removed from the new trip generation.

Table 5: Existing Nursery Trip Generation

Vineyard Gardens Shopping Center Trip Generation										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Nursery (Garden Center) (ITE 817)		68.10	50%	50%	2.68	50%	50%	6.94	50%	50%
1000 sq ft	13	885	443	443	35	18	17	90	47	43
Total New Trips		885	443	443	35	18	17	90	47	43

ITE Trip Generation 11th Edition

INTERNAL CAPTURE

A project with mixed land use will include internal capture. Internal capture reduces project trips that will not leave the project area. Internal capture happens when residential land use, office land use, and retail land use are all in one project area. If one of these land uses were separated from the project area it would create a trip that would affect the existing traffic network. Since all three land uses are within the study project area, some project trips will not affect the existing traffic network. Internal capture was calculated using the ITE internal capture methodology and will require a **2%** reduction in the AM and a **19%** reduction in the PM. These reductions will be used in every scenario and applied overall to all land uses.

PASS-BY TRIPS

Pass-by trips only apply to commercial/retail developments. The development does not generate pass-by trips but is existing trips on the roadway that will use the development. Horrocks will apply pass-by trips to the external trips after the internal capture reduction. In the ITE manual, a supermarket has a pass-by trip reduction of 24% during the PM peak hours, a drive-in bank has a pass-by trip reduction of 29% during the AM peak hour and 35% during the PM peak hour, and the fast-food restaurant with drive-thru has a pass-by trip reduction of 50% during the AM Peak hour and 55% during the PM peak hour, as shown in Table 6.

Table 6: Pass-by Trip Reduction

Land Use	AM Pass-By Reduction %	PM Pass-By Reduction %
Supermarket (ITE 850)	-	24%
Drive-In Bank (ITE 912)	29%	35%
Fast-Food Restaurant with a Drive Through Window (ITE 934)	50%	55%

TRIP GENERATION WITH REDUCTIONS

With the reductions for pass-by trips and internal capture included in the trip generation, the development will generate approximately 5,005 new daily trips with 180 during the AM peak hour and 395 during the PM peak hour. **Table 7** shows the trip generation with reductions for pass-by, internal capture, and existing land use trip generation.

Table 7: ITE Trip Generation with Trip Reduction

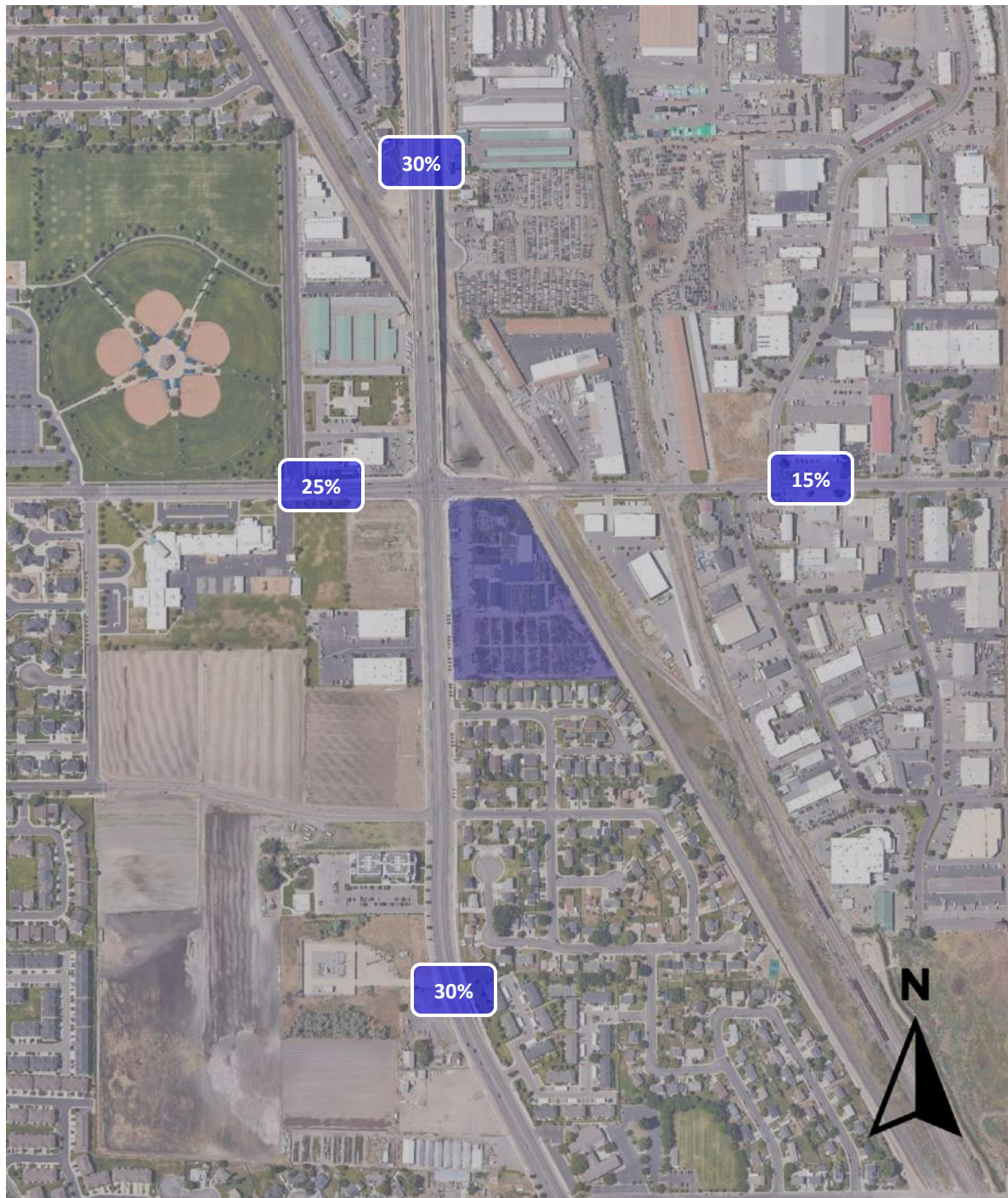
Vineyard Gardens Shopping Center Trip Generation										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Supermarket (ITE 850)		93.84	50%	50%	2.86	59%	41%	8.95	50%	50%
1000 sq ft	12	1,126	563	563	34	20	14	107	54	54
AM Internal Capture	4%				1	0	0			
PM Internal Capture	9%							19	10	10
AM Pass-By Trip Reduction	0%				0	0	0			
PM Pass-By Trip Reduction	24%							21	11	11
Daily Pass-By Trip Reduction	12%	136	68	68						
Total New Trips		990	495	495	34	20	14	67	33	33
Drive-in Bank (ITE 912)		100.35	50%	50%	9.95	58%	42%	21.01	50%	50%
1000 sq ft	5	502	251	251	50	29	21	105	53	53
AM Internal Capture	4%				1	1	0			
PM Internal Capture	9%							19	9	9
AM Pass-By Trip Reduction	29%				14	8	6			
PM Pass-By Trip Reduction	35%							30	15	15
Daily Pass-By Trip Reduction	32%	161	80	80						
Total New Trips		341	171	171	35	20	15	56	28	28
Fast Casual Restaurant (ITE 930)		97.14	50%	50%	1.43	50%	50%	12.55	55%	45%
1000 sq ft	4	389	194	194	6	3	3	50	28	23
AM Internal Capture	4%				0	0	0			
PM Internal Capture	9%							5	2	2
AM Pass-By Trip Reduction	50%				3	1	1			
PM Pass-By Trip Reduction	55%							25	14	11
Daily Pass-By Trip Reduction	53%	204	102	102						
Total New Trips		185	92	92	3	1	1	21	11	9
Fast-Food Restaurant with Drive Thru Window (ITE 934)		467.48	50%	50%	44.61	51%	49%	33.03	52%	48%
1000 sq ft	4	1,870	935	935	178	91	87	132	69	63
AM Internal Capture	2%				7	4	3			
PM Internal Capture	18%							12	6	6
AM Pass-By Trip Reduction	50%				86	44	42			
PM Pass-By Trip Reduction	55%							66	34	32
Daily Pass-By Trip Reduction	53%	982	491	491						
Total New Trips		888	444	444	86	44	42	54	28	26
Nursery (Garden Center) (ITE 817)		68.10	50%	50%	2.68	50%	50%	6.94	50%	50%
1000 sq ft	13	885	443	443	35	18	17	90	47	43
Total New Trips		-885	-443	-443	-35	-18	-17	-90	-47	-43
Total New Trips		5,005	2,503	2,503	180	108	72	395	197	198

ITE Trip Generation 11th Edition

TRIP DISTRIBUTION

The estimated new trips from the proposed development were distributed onto the roadway network based on the proposed site access locations, existing turning movements, traffic patterns, and proximity to major roadways, as shown in **Figure 7**.

Figure 7: Trip Distribution



Analysis of 2025 Background Plus Project Conditions

2025 BACKGROUND PLUS PROJECT INTERSECTION OPERATIONS

Project traffic was added to the 2025 background traffic to create a 2025 Background plus Project traffic scenario, which is shown in **Figure 8**. Project-generated traffic is shown in **Figure 9**. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road and Geneva Road & Center Access. 575 South & Geneva Road experiences a LOS E during the AM peak hour and a LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. Geneva Road & Center Access experiences a LOS F during the PM peak hour, primarily due to significant delays in the westbound left-turn traffic. **Table 8** shows the 2025 Background plus Project LOS conditions. The difference column is in comparison to the 2025 Background Scenario.

Table 8: 2025 Background Plus Project Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour			PM Peak Hour		
		Average Control Delay (sec/veh)	Level of Service	Difference	Average Control Delay (sec/veh)	Level of Service	Difference
2025 Background plus Project Peak Hour Conditions							
1	400 South & Geneva Road	23.1	C	+0.4	29.4	C	+1.7
2	400 South & 1200 West	24.6	C	-1.4	21.5	C	+0.4
3	800 South & Geneva Road	6.2	A	+0.1	8.1	A	+0.4
4	575 South & Geneva Road	45.7	E	+3.3	172.8	F	+41.2
5	Geneva Road & Center Access	31.0	D	+12.2	226.9	F	+198.1
6	525 South & Geneva Road	20.1	C	+0.5	25.8	D	+1.4

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

QUEUE LENGTH

The distance between the intersections of 400 South & Geneva Road and Geneva Road and Center Access is approximately 550 feet. The distance between the intersections of 525 South & Geneva Road and Geneva Road and Center Access is approximately 225 feet. There is no conflict in the queue lengths observed for the left-turn storage bays at these intersections. **Table 9** shows the queue lengths for intersection approach movements affected by the proposed project access.

Table 9: 2025 Background plus Project Queue Length

Intersection Number	Intersection	Intersection Movement	AM Peak Hour Queue Length	PM Peak Hour Queue Length
2025 Background plus Project Peak Hour Conditions				
1	400 South & Geneva Road	Northbound Left-Turn	100'	200'
5	Geneva Road & Center Access	Southbound Left-Turn	25'	50'
6	525 South & Geneva Road	Southbound Left-Turn	0'	0'

The queue lengths have been rounded to the nearest 25'.

MITIGATIONS

575 South & Geneva Road

- 2025 projected traffic volumes do not meet the signal warrant requirements and will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640'). UDOT plans on a signal at this location in the future. There are currently no recommended mitigations.

Geneva Road & Project Access

- Install traffic signal, the warrant analysis is included in the Appendix. The developer will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640') and will need to review this improvement with the relevant governing agencies.

Following the implementation of the mitigations, the intersection now operates with a satisfactory LOS.

Table 10 illustrates the subsequent delays and LOS after mitigations. See **Figure 8** for roadway improvements.

Table 10: 2025 Background Plus Project with Mitigation Peak Hour Traffic Analysis

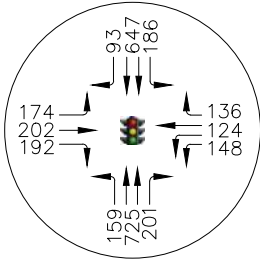
Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2025 Background plus Mitigation Peak Hour Conditions					
1	400 South & Geneva Road	23.1	C	29.3	C
2	400 South & 1200 West	24.6	C	21.5	C
3	800 South & Geneva Road	6.2	A	8.1	A
4	575 South & Geneva Road	45.7	E	172.8	F
5	Geneva Road & Center Access	7.7	A	9.8	A
6	525 South & Geneva Road	21.2	C	25.8	D

Source: HCM Methodologies using PTV Vistro Software

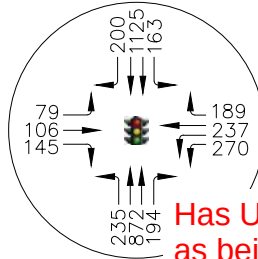
Control delay for unsignalized intersections is shown for the worst approach only per the HCM.



1 AM PEAK HOUR

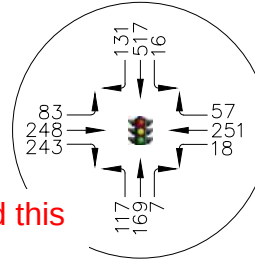


1 PM PEAK HOUR

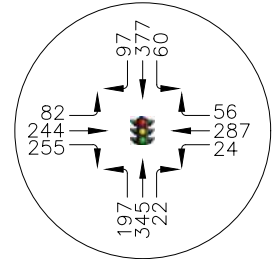


Has UDOT approved this as being a signal?

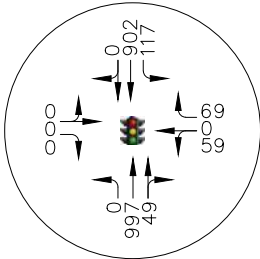
2 AM PEAK HOUR



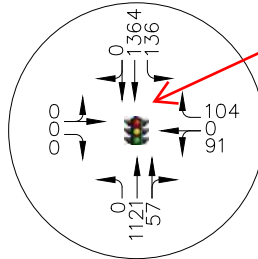
2 PM PEAK HOUR



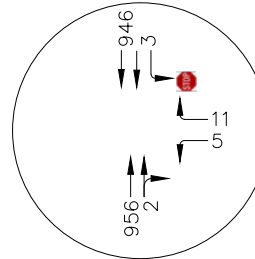
3 AM PEAK HOUR



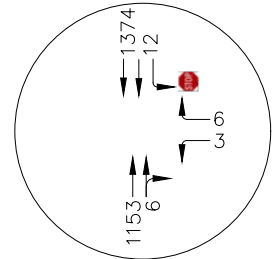
3 PM PEAK HOUR



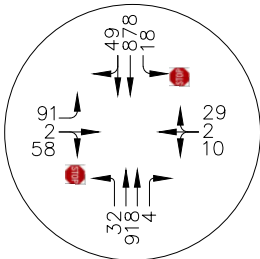
4 AM PEAK HOUR



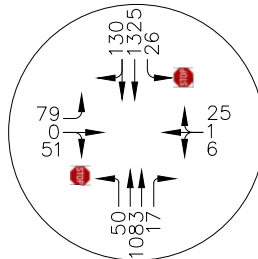
4 PM PEAK HOUR



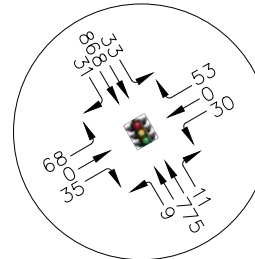
5 AM PEAK HOUR



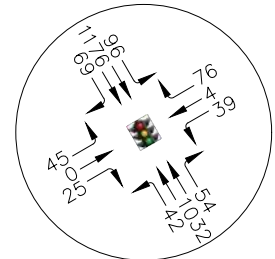
5 PM PEAK HOUR



6 AM PEAK HOUR

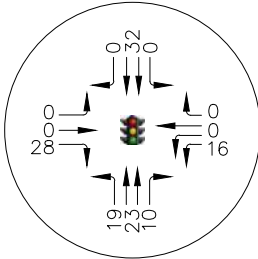


6 PM PEAK HOUR

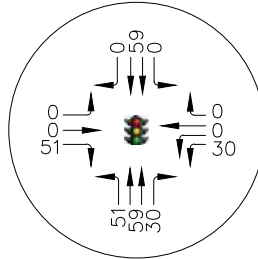




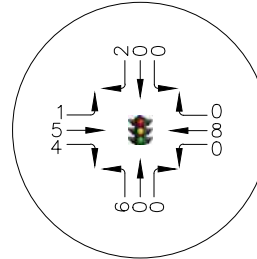
1 AM PEAK HOUR



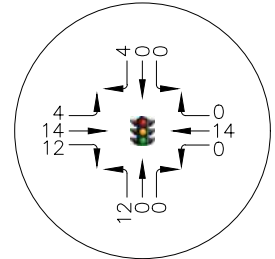
1 PM PEAK HOUR



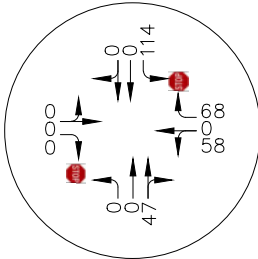
2 AM PEAK HOUR



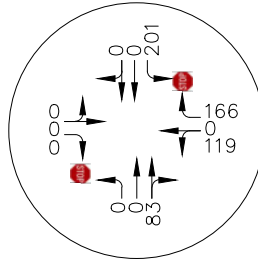
2 PM PEAK HOUR



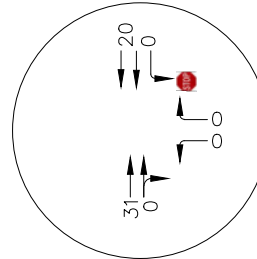
3 AM PEAK HOUR



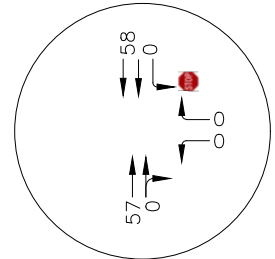
3 PM PEAK HOUR



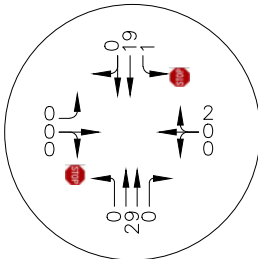
4 AM PEAK HOUR



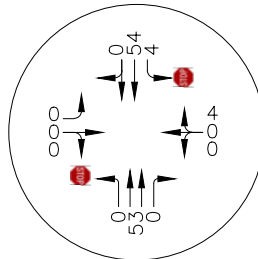
4 PM PEAK HOUR



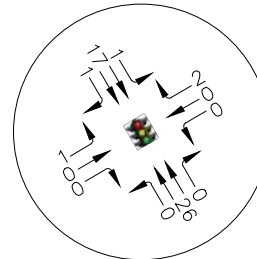
5 AM PEAK HOUR



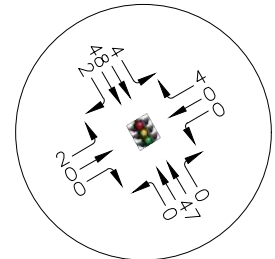
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Analysis of 2030 Background Conditions

2030 BACKGROUND INTERSECTION OPERATIONS

In Phase 1 (2019-2030) of the MAG Regional Transportation Plan (RTP), 1200 West is scheduled for expansion to a 5-lane configuration. In the 2030 scenarios and will be represented as a 5-lane arterial. The existing traffic was adjusted using a 3.5% annual growth rate to estimate 2030 traffic conditions, which is shown in **Figure 10**. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experiences an LOS F during the AM and PM peak hours, primarily due to significant delays in the eastbound left turn. **Table 11** shows the 2030 Background LOS conditions.

Table 11: 2030 Background Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2030 Background Peak Hour Conditions					
1	400 South & Geneva Road	25.2	C	34.9	D
2	400 South & 1200 West	22.3	C	20.5	C
3	800 South & Geneva Road	7.1	A	12.8	B
4	575 South & Geneva Road	105.2	F	*300.0	F
5	Geneva Road & Center Access	22.6	C	34.3	D
6	525 South & Geneva Road	23.4	C	30.6	D

Source: HCM Methodologies using Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

* Delays larger than 300 seconds are capped since drivers will change their route after a significant delay

MITIGATIONS

575 South & Geneva Road

- Install traffic signal, the warrant analysis is included in the Appendix. The developer will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640') and will need to review this improvement with the relevant governing agencies.
- Add a northbound through lane to have 3 through lanes.

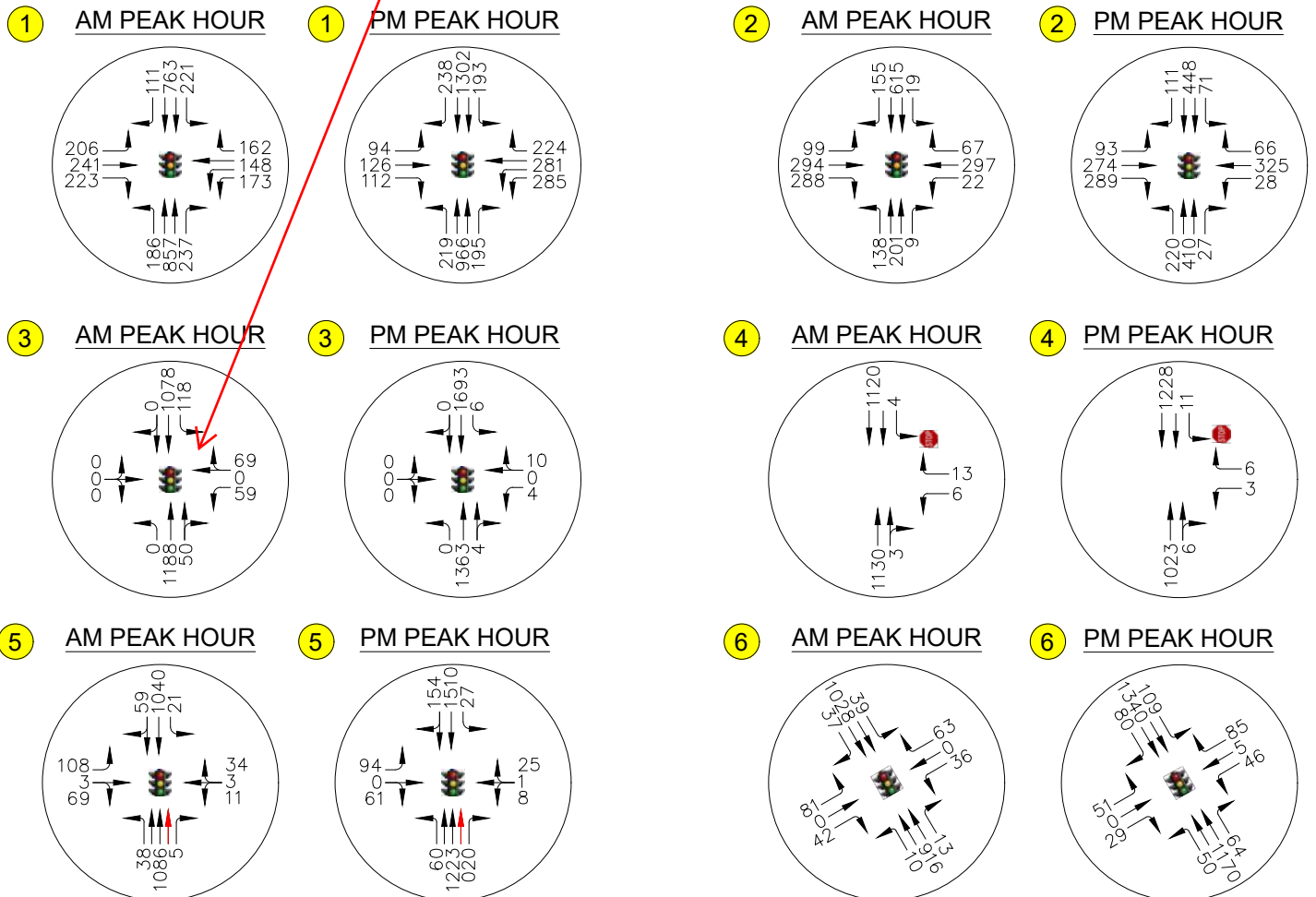
The mitigations were implemented and assessed to represent the 2030 mitigation scenario. **Table 12** illustrates the subsequent delays and LOS after mitigations. See **Figure 10** for roadway improvements.

Table 12: 2030 Background plus Mitigation Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2030 Background plus Mitigation Peak Hour Conditions					
1	400 South & Geneva Road	25.2	C	34.9	D
2	400 South & 1200 West	22.4	C	20.5	C
3	800 South & Geneva Road	7.2	A	12.8	B
4	575 South & Geneva Road	10.0	A	30.3	C
5	Geneva Road & Center Access	10.9	B	34.3	D
6	525 South & Geneva Road	24.1	C	22.6	C

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.



Analysis of 2030 Background Plus Project Conditions

2030 BACKGROUND PLUS PROJECT INTERSECTION OPERATIONS

Project traffic was added to the 2030 background traffic to create a 2030 Background plus Project traffic scenario, which is shown in **Figure 11**. In this scenario, all intersections operate at an acceptable LOS, except for Geneva Road & Center Access, which experiences an LOS E during the AM peak hour and an LOS F during the PM peak hour, primarily due to significant delays in the westbound left-turn traffic. **Table 13** shows the 2030 Background plus Project LOS conditions. The difference column is in comparison to the 2030 Background plus Mitigation Scenario. This scenario includes all previous mitigations.

Table 13: 2030 Background Plus Project Conditions

Intersection Number	Intersection	AM Peak Hour			PM Peak Hour		
		Average Control Delay (sec/veh)	Level of Service	Difference	Average Control Delay (sec/veh)	Level of Service	Difference
2030 Background plus Project Peak Hour Conditions							
1	400 South & Geneva Road	25.5	C	+0.3	46.6	D	+11.7
2	400 South & 1200 West	22.4	C	+0.1	20.9	C	+0.4
3	800 South & Geneva Road	7.2	A	+0.0	18.3	B	+5.5
4	575 South & Geneva Road	116.6	F	+106.6	*300.0	F	*300.0
5	Geneva Road & Center Access	10.3	B	+0.6	11.6	B	-22.7
6	525 South & Geneva Road	24.1	C	+0.0	32.4	D	+9.8

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

* Delays larger than 300 seconds are capped since drivers will change their route after a significant delay

QUEUE LENGTH

The distance between the intersections of 400 South & Geneva Road and Geneva Road and Center Access is approximately 550 feet. The distance between the intersections of 525 South & Geneva Road and Geneva Road and Center Access is approximately 225 feet. There is no conflict in the queue lengths observed for the left-turn storage bays at these intersections. **Table 14** shows the queue lengths for intersection approach movements affected by the proposed project access.

Table 14: 2030 Background plus Project Queue Length

Intersection Number	Intersection	Intersection Movement	AM Peak Hour Queue Length	PM Peak Hour Queue Length
2030 Background plus Project Peak Hour Conditions				
1	400 South & Geneva Road	Northbound Left-Turn	125'	225'
5	Geneva Road & Center Access	Southbound Left-Turn	25'	250'
6	525 South & Geneva Road	Southbound Left-Turn	0'	0'

The queue lengths have been rounded to the nearest 25'.

MITIGATIONS

575 South & Geneva Road

- Install traffic signal, the warrant analysis is included in the Appendix. The developer will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640') and will need to review this improvement with the relevant governing agencies.

The mitigations were implemented and assessed to represent the 2030 mitigation scenario. **Table 15** illustrates the subsequent delays and LOS after mitigations. See **Figure 11** for roadway improvements.

Table 15: 2030 Background plus Project with Mitigations Project Conditions

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2030 Background plus Mitigation Peak Hour Conditions					
1	400 South & Geneva Road	25.7	C	42.3	D
2	400 South & 1200 West	22.4	C	20.9	C
3	800 South & Geneva Road	7.2	A	18.3	B
4	575 South & Geneva Road	10.1	B	38.2	C
5	Geneva Road & Center Access	12.7	B	11.5	B
6	525 South & Geneva Road	24.3	C	32.4	D

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

QUEUE LENGTH

Table 16 shows the queue lengths for intersection approach movements after mitigation.

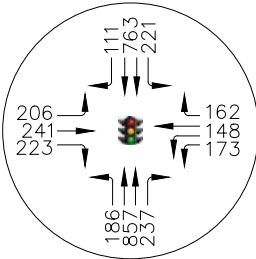
Table 16: 2030 Background plus Project Queue Length

Intersection Number	Intersection	Intersection Movement	AM Peak Hour Queue Length	PM Peak Hour Queue Length
2030 Background plus Project Peak Hour Conditions				
1	400 South & Geneva Road	Northbound Left-Turn	125'	275'
5	Geneva Road & Center Access	Southbound Left-Turn	25'	175'
6	525 South & Geneva Road	Southbound Left-Turn	0'	0'

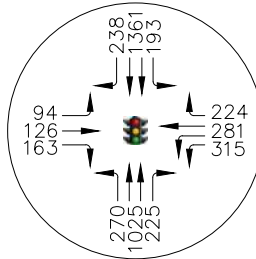
The queue lengths have been rounded to the nearest 25'.



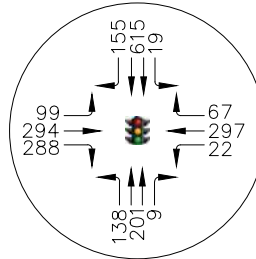
1 AM PEAK HOUR



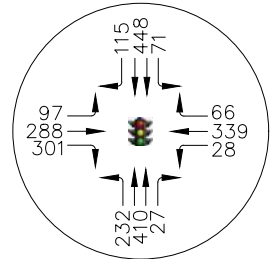
1 PM PEAK HOUR



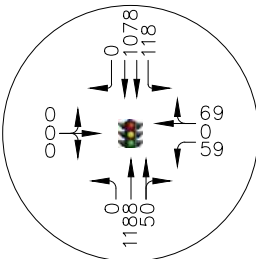
2 AM PEAK HOUR



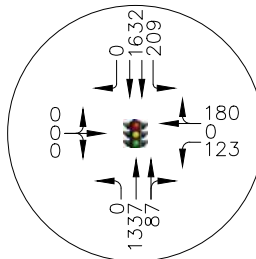
2 PM PEAK HOUR



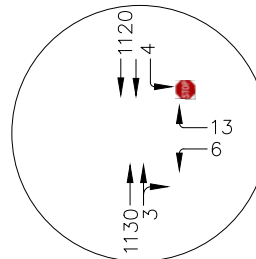
3 AM PEAK HOUR



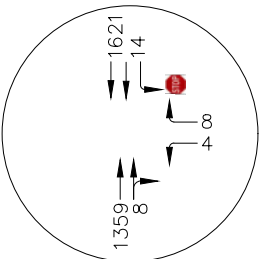
3 PM PEAK HOUR



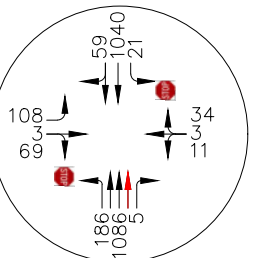
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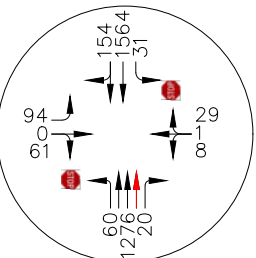
4 PM PEAK HOUR



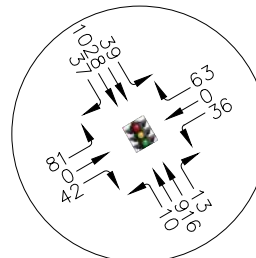
5 AM PEAK HOUR



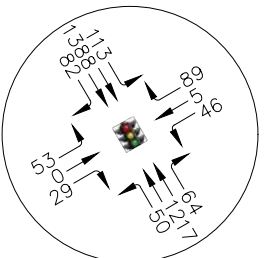
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Analysis of 2045 Background Conditions

2045 BACKGROUND INTERSECTION OPERATIONS

In Phase 2 (2031-2040), Geneva Road is scheduled for expansion to a 7-lane configuration. In the 2045 scenarios, Geneva Road will be represented as a 7-lane arterial. The existing traffic was modified by applying a 1.5% annual growth rate to estimate traffic conditions for the year 2045, which is shown in **Figure 12**. In this scenario, all intersections operate at an acceptable LOS. **Table 17** shows the 2045 Background LOS conditions. This scenario includes all previous mitigations.

Table 17: 2045 Background Peak Hour Traffic Analysis

Intersection Number	Intersection	AM Peak Hour		PM Peak Hour	
		Average Control Delay (sec/veh)	Level of Service	Average Control Delay (sec/veh)	Level of Service
2045 Background Peak Hour Conditions					
1	400 South & Geneva Road	25.4	C	32.6	C
2	400 South & 1200 West	23.0	C	21.4	C
3	800 South & Geneva Road	6.4	A	7.7	A
4	575 South & Geneva Road	7.5	A	43.4	D
5	Geneva Road & Center Access	31.9	D	35.0	D
6	525 South & Geneva Road	28.4	D	34.3	D

Source: HCM Methodologies using Vistro Software

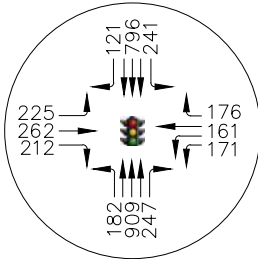
Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

MITIGATIONS

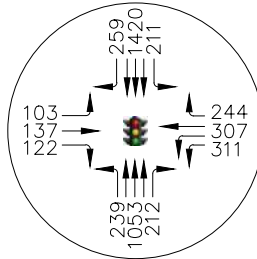
There are currently no recommended mitigations.



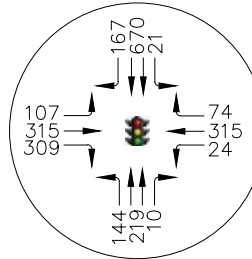
1 AM PEAK HOUR



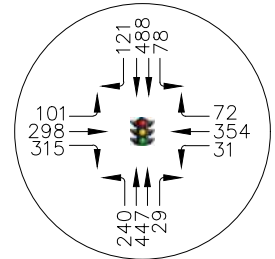
1 PM PEAK HOUR



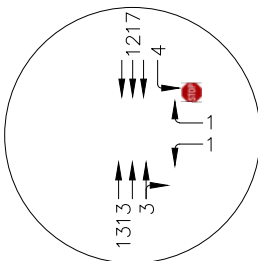
2 AM PEAK HOUR



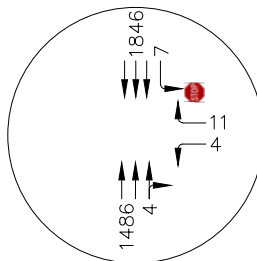
2 PM PEAK HOUR



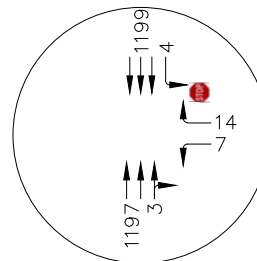
3 AM PEAK HOUR



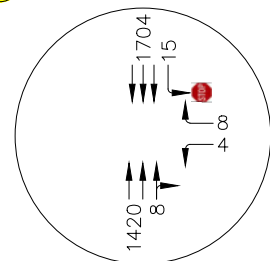
3 PM PEAK HOUR



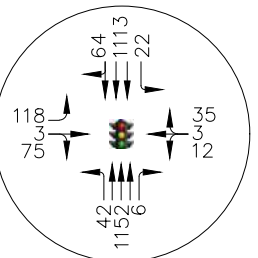
4 AM PEAK HOUR



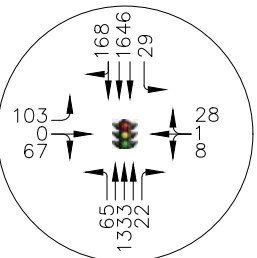
4 PM PEAK HOUR



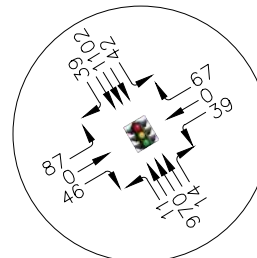
5 AM PEAK HOUR



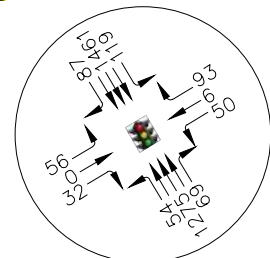
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Analysis of 2045 Background Plus Project Conditions

2045 BACKGROUND PLUS PROJECT INTERSECTION OPERATIONS

Project traffic was added to the 2045 background traffic to create a 2045 Background plus Project traffic scenario, which is shown in **Figure 13**. In this scenario, all intersections operate at an acceptable LOS during the AM and PM peak hours. **Table 18** shows the 2045 Background plus Project LOS conditions. The difference column is in comparison to the 2045 Background Scenario. This scenario includes all previous mitigations.

Table 18: 2045 Background Plus Project Conditions

Intersection Number	Intersection	AM Peak Hour			PM Peak Hour		
		Average Control Delay (sec/veh)	Level of Service	Difference	Average Control Delay (sec/veh)	Level of Service	Difference
2045 Background plus Project Peak Hour Conditions							
1	400 South & Geneva Road	28.3	C	+2.9	35.5	D	+2.9
2	400 South & 1200 West	23.3	C	+0.3	21.9	C	+0.5
3	800 South & Geneva Road	6.4	A	+0.0	8.0	A	+0.3
4	575 South & Geneva Road	7.6	A	+0.1	52.5	D	+9.1
5	Geneva Road & Center Access	6.5	A	-25.4	13.9	B	-21.1
6	525 South & Geneva Road	29.5	D	+1.1	34.2	D	-0.1

Source: HCM Methodologies using PTV Vistro Software

Control delay for unsignalized intersections is shown for the worst approach only per the HCM.

QUEUE LENGTH

The distance between the intersections of 400 South & Geneva Road and Geneva Road and Center Access is approximately 550 feet. The distance between the intersections of 525 South & Geneva Road and Geneva Road and Center Access is approximately 225 feet. There is no conflict in the queue lengths observed for the left-turn storage bays at these intersections. **Table 19** shows the queue lengths for intersection approach movements affected by the proposed project access.

Table 19: 2045 Background plus Project Queue Length

Intersection Number	Intersection	Intersection Movement	AM Peak Hour Queue Length	PM Peak Hour Queue Length
2045 Background plus Project Peak Hour Conditions				
1	400 South & Geneva Road	Northbound Left-Turn	150'	300'
5	Geneva Road & Center Access	Southbound Left-Turn	25'	125'
6	525 South & Geneva Road	Southbound Left-Turn	0'	0'

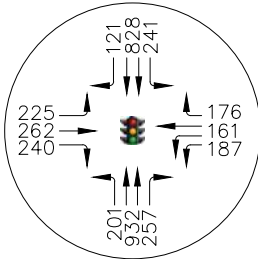
The queue lengths have been rounded to the nearest 25'.

MITIGATIONS

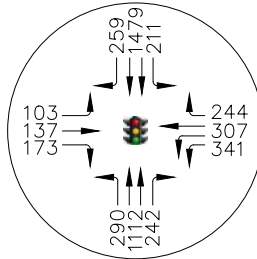
There are currently no recommended mitigations.



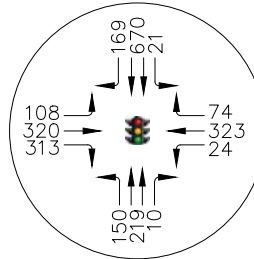
1 AM PEAK HOUR



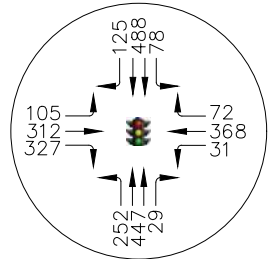
1 PM PEAK HOUR



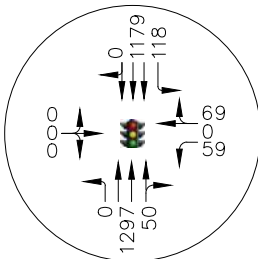
2 AM PEAK HOUR



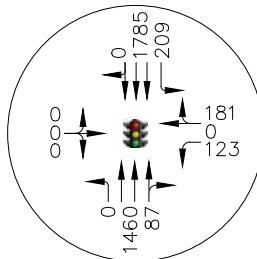
2 PM PEAK HOUR



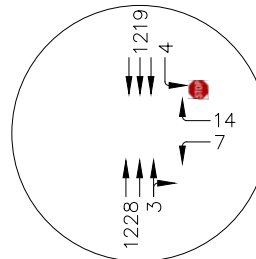
3 AM PEAK HOUR



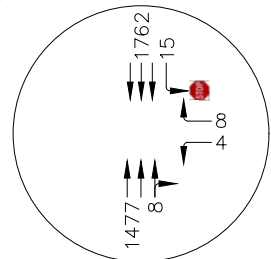
3 PM PEAK HOUR



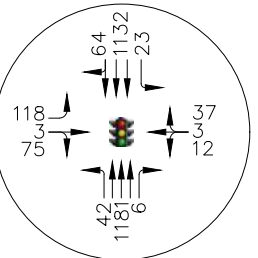
4 AM PEAK HOUR



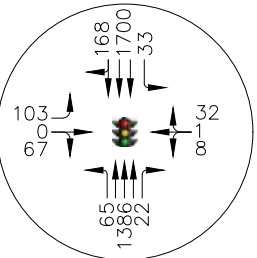
4 PM PEAK HOUR



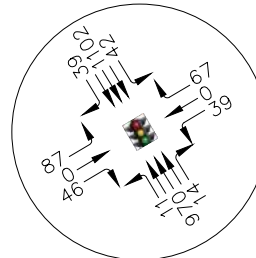
5 AM PEAK HOUR



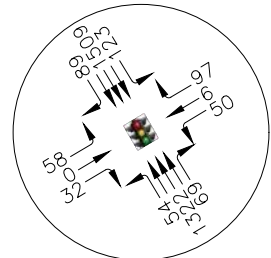
5 PM PEAK HOUR



6 AM PEAK HOUR



6 PM PEAK HOUR



Conclusions and Recommendations

1. Traffic counts were taken in October 2023 to create the existing conditions for this study. The traffic counts are in the Appendix at the end of this document.
2. *Existing Conditions* – All study intersections perform at an acceptable Level of Service (LOS) except for the intersection at 575 South & Geneva Road, which experiences a LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. Intersection does not warrant a signal and UDOT signal spacing requirements are not satisfied, there currently are no recommended mitigations.
3. *2025 Background Conditions* – The existing traffic data was modified by applying a 3.5% annual growth rate to estimate traffic conditions for the year 2025. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. The intersection does not warrant a signal, UDOT signal spacing requirements are not satisfied, and there currently are no recommended mitigations.
4. The proposed development within the study area is estimated to generate approximately 5,005 new external daily trips, with 180 trips and 395 trips occurring during the AM peak and PM peak hours, respectively after the reductions discussed in the Project Traffic Volume section.
5. *2025 Background plus Project Scenario* – The project trips were added to the 2025 Background scenario. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road and Geneva Road & Center Access. 575 South & Geneva Road experienced a LOS F during the PM peak hour, primarily due to significant delays in the eastbound left-turn traffic. Intersection does not warrant a signal and UDOT signal spacing requirements are not satisfied. Geneva Road & Center Access experiences a LOS E during the AM and a LOS F during the PM peak hour, primarily due to significant delays in the westbound left-turn traffic.

Recommended Mitigations

- Geneva Road & Project Access
 - i. Install traffic signal, the warrant analysis is included in the Appendix. The developer will need an access variance from UDOT for signal spacing requirements not being satisfied (2,640') and will need to review this improvement with the relevant governing agencies.

After the recommended mitigation, all intersections except 575 South & Geneva Road operate at an acceptable LOS during the AM and PM peak hours.

6. *2030 Background Conditions* – The existing traffic data was modified by applying a 3.5% annual growth rate to estimate traffic conditions for the year 2030. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the AM and PM peak hours, due to significant delays in the eastbound left-turn traffic.

Recommended Mitigations

- 575 South & Geneva Road
 - i. Install traffic signal, the warrant analysis is included in the Appendix.

- ii. Add a northbound through lane to have 3 through lanes.

After the recommended mitigation, all intersections operate at an acceptable LOS during the AM and PM peak hours.

- 7. *2030 Background plus Project Conditions* – The project trips were added to the 2030 Background scenario. In this scenario, all intersections operate at an acceptable LOS, except for 575 South & Geneva Road, which experience an LOS F during the AM and PM peak hours, primarily due to significant delays in the westbound left-turn traffic. This scenario includes previous mitigations.

Recommended Mitigations

- 575 South & Geneva Road
 - i. Install traffic signal, the warrant analysis is included in the Appendix.
 - ii. Add a northbound through lane to have 3 through lanes.

After the recommended mitigation, all intersections operate at an acceptable LOS during the AM and PM peak hours.

- 8. *2045 Background Conditions* – The existing traffic data was modified by applying a 1.5% annual growth rate to estimate traffic conditions for the year 2045. In this scenario, all intersections operate at an acceptable LOS. This scenario includes all previous mitigations. There are currently no recommended mitigations.
- 9. *2045 Background plus Project Scenario* – The project trips were added to the 2045 Background scenario. In this scenario, all intersections operate at an acceptable LOS. This scenario includes all previous mitigations. There are currently no recommended mitigations.



VINEYARD GARDENS TIS APPENDIX OREM, UT

NOVEMBER 28, 2023
PROJECT # UT-8682-23

Table of Contents

APPENDIX

TRAFFIC COUNTS

SITE LAYOUT

TRIP GENERATION

EXISTING BACKGROUND TRAFFIC

2025 BACKGROUND TRAFFIC

2025 BACKGROUND PLUS PROJECT

2030 BACKGROUND

2030 BACKGROUND PLUS PROJECT

2045 BACKGROUND

2045 BACKGROUND PLUS PROJECT

SIGNAL WARRANTS

APPENDIX

TRAFFIC COUNTS

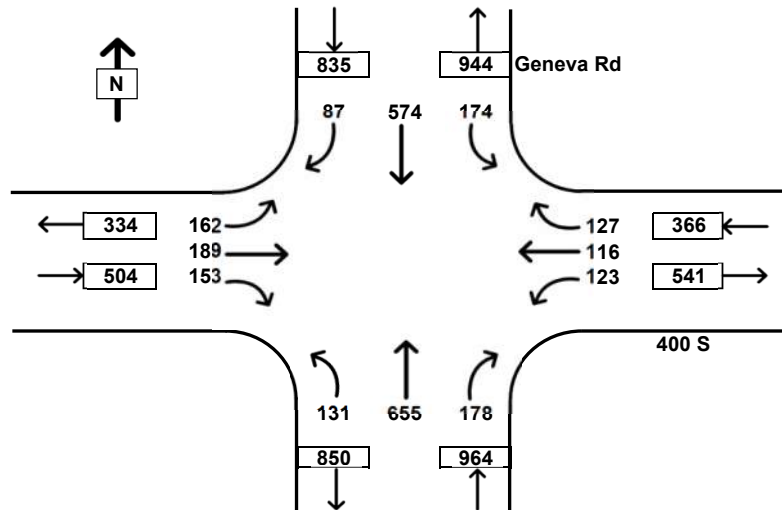
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **400 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	18	94	19	0	15	6	14	1	8	89	29	0	18	9	16	0	335	
07:15 AM	07:30 AM	32	119	18	0	19	11	20	0	23	134	38	6	24	34	16	0	488	
07:30 AM	07:45 AM	43	111	20	1	22	20	37	1	32	160	62	2	42	81	34	0	664	
07:45 AM	08:00 AM	49	166	36	1	42	34	31	2	40	171	54	1	49	56	48	0	776	2263
08:00 AM	08:15 AM	45	169	23	0	35	35	38	1	29	172	34	0	46	32	43	0	701	2629
08:15 AM	08:30 AM	37	128	8	0	24	27	21	2	30	152	28	1	25	20	28	0	528	2669
08:30 AM	08:45 AM	47	144	14	0	14	12	41	0	20	165	54	4	18	29	39	0	597	2602
08:45 AM	09:00 AM	64	143	16	0	20	17	27	0	14	171	54	0	19	50	31	1	626	2452



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
174	574	87	123	116	127	131	655	178	162	189	153
835			366			964			504		
Trucks: 3%			Trucks: 5%			Trucks: 2%			Trucks: 1%		
Peak Hour: 7:30:00 AM			8:30 AM			Peak Vol: 2669			Intersection PHF: 0.86		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.89	0.85	0.60	0.73	0.83	0.84	0.82	0.95	0.72	0.83	0.58	0.80

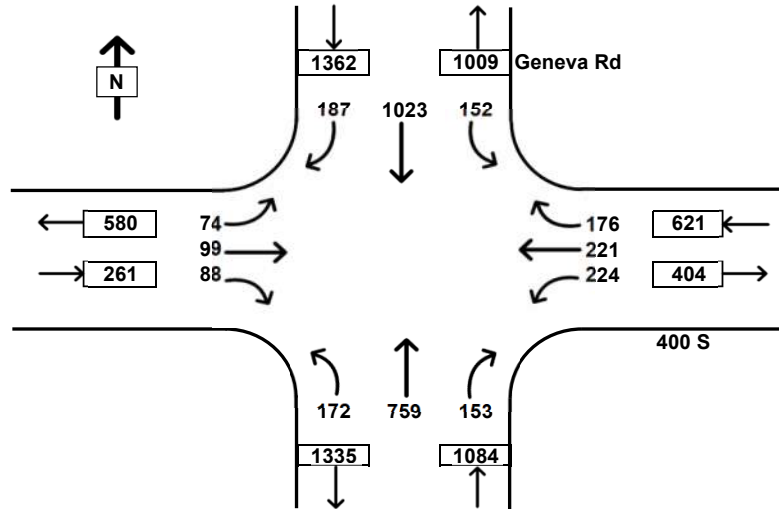
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **400 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	33	192	31	0	52	39	61	0	37	182	36	0	19	13	20	0	715	
04:15 PM	04:30 PM	27	200	39	0	68	41	42	0	36	138	30	1	25	20	21	0	687	
04:30 PM	04:45 PM	41	227	36	0	51	36	39	0	36	175	33	0	22	23	11	1	730	
04:45 PM	05:00 PM	30	236	31	1	46	49	45	0	35	150	42	0	28	21	18	1	731	2863
05:00 PM	05:15 PM	37	253	38	0	57	50	53	2	41	188	29	0	21	28	25	0	820	2968
05:15 PM	05:30 PM	32	262	38	0	67	64	49	0	53	208	36	1	18	24	23	0	874	3155
05:30 PM	05:45 PM	51	264	62	1	41	52	39	0	39	175	42	1	20	24	21	1	830	3255
05:45 PM	06:00 PM	32	244	49	1	59	55	35	0	39	188	46	0	15	23	19	0	804	3328



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
152	1023	187	224	221	176	172	759	153	74	99	88
1362			621			1084			261		
Trucks: 1%			Trucks: 2%			Trucks: 1%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 3328			PHF: 0.95		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.75	0.97	0.75	0.84	0.86	0.83	0.81	0.91	0.83	0.88	0.88	0.88

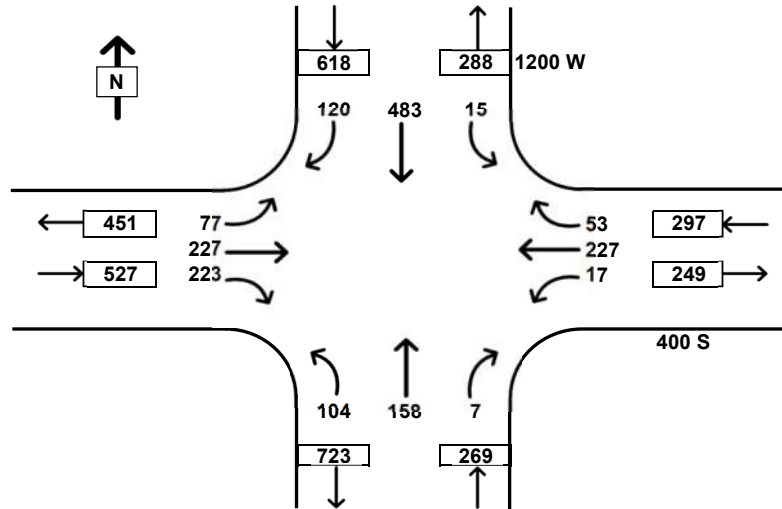
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **1200 W**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **400 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
07:00 AM	07:15 AM	3	36	23	0	0	32	14	0	13	23	0	0	5	17	16	0	182	
07:15 AM	07:30 AM	1	54	19	0	3	34	15	0	18	23	1	0	13	49	31	0	261	
07:30 AM	07:45 AM	2	112	27	1	2	54	15	0	20	34	6	2	25	109	62	0	468	
07:45 AM	08:00 AM	7	151	40	0	9	74	17	0	25	46	1	1	20	55	65	1	510	1421
08:00 AM	08:15 AM	5	113	31	0	4	56	13	1	37	38	0	1	14	32	53	0	396	1635
08:15 AM	08:30 AM	1	107	22	1	2	43	8	0	22	40	0	1	18	31	43	0	337	1711
08:30 AM	08:45 AM	6	164	21	0	3	30	14	0	23	32	2	0	23	40	62	0	420	1663
08:45 AM	09:00 AM	9	198	16	0	4	43	14	0	18	52	7	4	18	48	104	0	531	1684



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
15	483	120	17	227	53	104	158	7	77	227	223
618			297			269			527		
Trucks: 2%			Trucks: 1%			Trucks: 3%			Trucks: 2%		
Peak Hour: 7:30:00 AM			8:30 AM			Peak Vol: 1711			Intersection PHF: 0.84		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.54	0.80	0.75	0.47	0.77	0.78	0.70	0.86	0.29	0.77	0.52	0.86

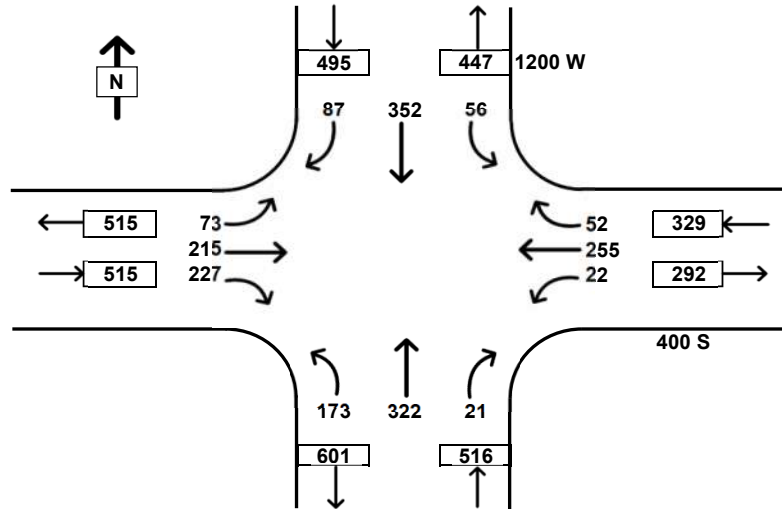
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **1200 W**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **400 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	16	73	16	0	4	51	13	0	65	107	3	3	28	37	46	0	459	
04:15 PM	04:30 PM	15	65	16	0	5	53	17	1	51	74	9	1	21	34	38	1	398	
04:30 PM	04:45 PM	9	68	20	0	5	55	17	5	32	72	6	1	32	48	41	2	405	
04:45 PM	05:00 PM	18	84	17	1	6	52	11	0	35	74	6	0	13	43	49	0	408	1670
05:00 PM	05:15 PM	14	91	21	0	2	65	9	0	51	93	3	1	28	50	58	0	485	1696
05:15 PM	05:30 PM	13	101	26	1	4	66	18	0	51	87	5	0	15	55	51	0	492	1790
05:30 PM	05:45 PM	16	90	15	1	10	66	13	1	35	75	8	2	18	55	64	0	465	1850
05:45 PM	06:00 PM	13	70	25	1	6	58	12	1	36	67	5	0	12	55	54	0	413	1855



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
56	352	87	22	255	52	173	322	21	73	215	227
495			329			516			515		
Trucks: 1%			Trucks: 1%			Trucks: 1%			Trucks: 1%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 1855			PHF: 0.94		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.88	0.87	0.84	0.55	0.97	0.72	0.85	0.87	0.66	0.65	0.98	0.89

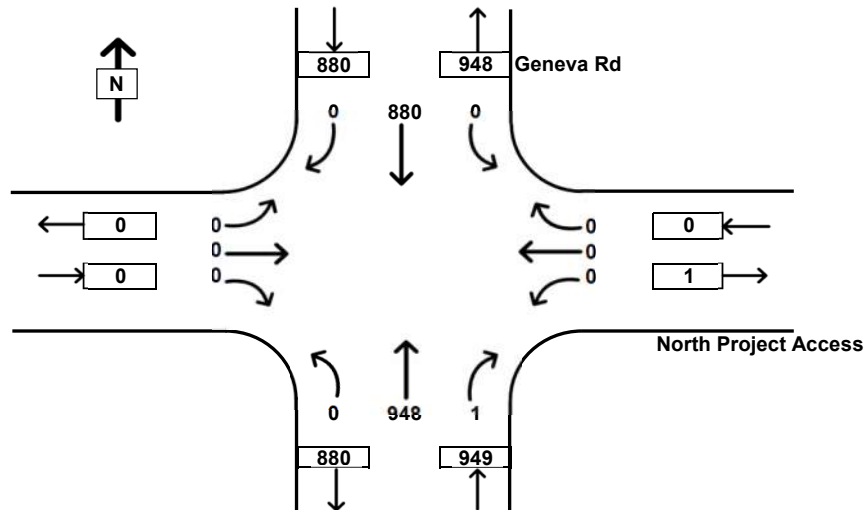
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **North Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	0	125	0	0	0	0	0	0	0	126	0	0	0	0	0	0	251	
07:15 AM	07:30 AM	0	154	0	0	0	0	0	0	0	195	0	0	0	0	0	0	349	
07:30 AM	07:45 AM	0	167	0	0	0	0	0	0	0	254	0	0	0	0	0	0	421	
07:45 AM	08:00 AM	0	256	0	0	0	0	0	0	0	265	0	0	0	0	0	0	521	1542
08:00 AM	08:15 AM	0	247	0	0	0	0	0	0	0	234	1	0	0	0	0	0	482	1773
08:15 AM	08:30 AM	0	180	0	0	0	0	0	0	0	210	0	0	0	0	0	0	390	1814
08:30 AM	08:45 AM	0	197	0	0	0	0	0	0	0	239	0	0	0	0	0	0	436	1829
08:45 AM	09:00 AM	0	194	0	0	0	0	0	0	0	239	0	0	0	0	0	0	433	1741



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	880	0	0	0	0	0	948	1	0	0	0
880			0			949			0		
Trucks: 3%			Trucks: 0%			Trucks: 2%			Trucks: 0%		
Peak Hour: 7:45:00 AM			8:45 AM			Peak Vol: 1829			Intersection PHF: 0.88		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.89	0.25	0.00	0.00	0.00

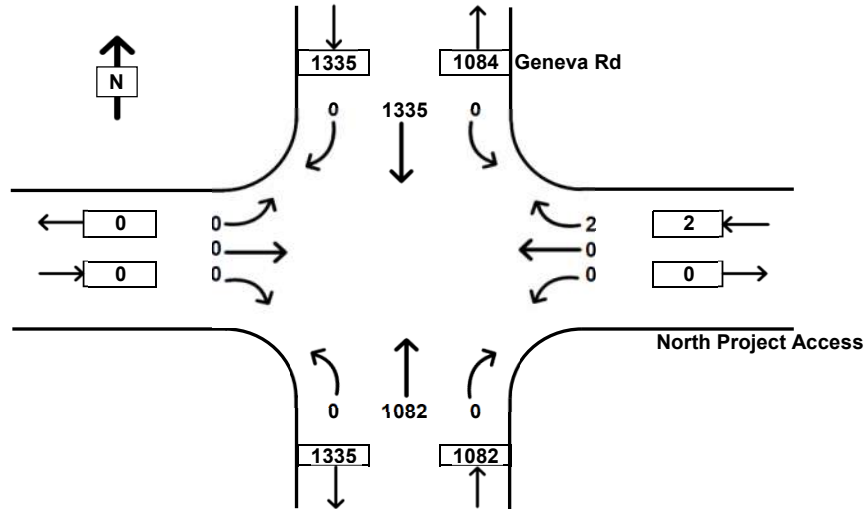
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **North Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	0	264	0	0	0	0	1	0	0	254	0	0	0	0	0	0	519	
04:15 PM	04:30 PM	0	289	0	0	0	0	2	0	0	202	0	0	0	0	0	0	493	
04:30 PM	04:45 PM	1	288	0	0	2	0	1	0	0	243	0	0	0	0	0	0	535	
04:45 PM	05:00 PM	0	300	0	0	0	0	0	0	0	227	0	0	0	0	0	0	527	2074
05:00 PM	05:15 PM	0	335	0	0	0	0	0	0	0	258	0	0	0	0	0	0	593	2148
05:15 PM	05:30 PM	0	352	0	0	0	0	0	0	0	297	0	0	0	0	0	0	649	2304
05:30 PM	05:45 PM	0	326	0	0	0	0	0	0	0	256	0	0	0	0	0	0	582	2351
05:45 PM	06:00 PM	0	322	0	0	0	0	2	0	0	271	0	0	0	0	0	0	595	2419



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	1335	0	0	0	2	0	1082	0	0	0	0
1335			2			1082			0		
Trucks: 1%			Trucks: 100%			Trucks: 1%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 2419			PHF: 0.93		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.00	0.95	0.00	0.00	0.00	0.25	0.00	0.91	0.00	0.00	0.00	0.00

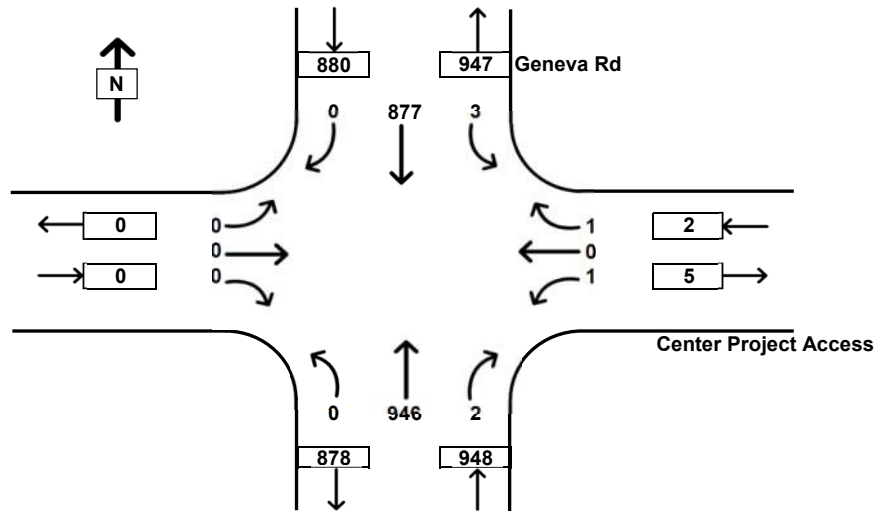
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **Center Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	0	125	0	0	0	0	0	0	0	126	0	0	0	0	0	0	251	
07:15 AM	07:30 AM	0	154	0	0	0	0	0	1	0	195	0	0	0	0	0	0	349	
07:30 AM	07:45 AM	0	167	0	0	0	0	0	3	0	254	0	0	0	0	0	0	421	
07:45 AM	08:00 AM	0	256	0	0	0	0	0	2	0	264	1	0	0	0	0	0	521	1542
08:00 AM	08:15 AM	1	246	0	0	1	0	1	1	0	234	0	0	0	0	0	0	483	1774
08:15 AM	08:30 AM	2	178	0	0	0	0	0	3	0	209	1	0	0	0	0	0	390	1815
08:30 AM	08:45 AM	0	197	0	0	0	0	0	1	0	239	0	0	0	0	0	0	436	1830
08:45 AM	09:00 AM	1	193	0	0	0	0	1	0	0	238	0	0	0	0	0	0	433	1742



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	877	0	1	0	1	0	946	2	0	0	0
880			2			948			0		
Trucks: 3%			Trucks: 0%			Trucks: 2%			Trucks: 0%		
Peak Hour: 7:45:00 AM			8:45 AM			Peak Vol: 1830			Intersection PHF: 0.88		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.38	0.86	0.00	0.25	0.00	0.25	0.00	0.90	0.50	0.00	0.00	0.00

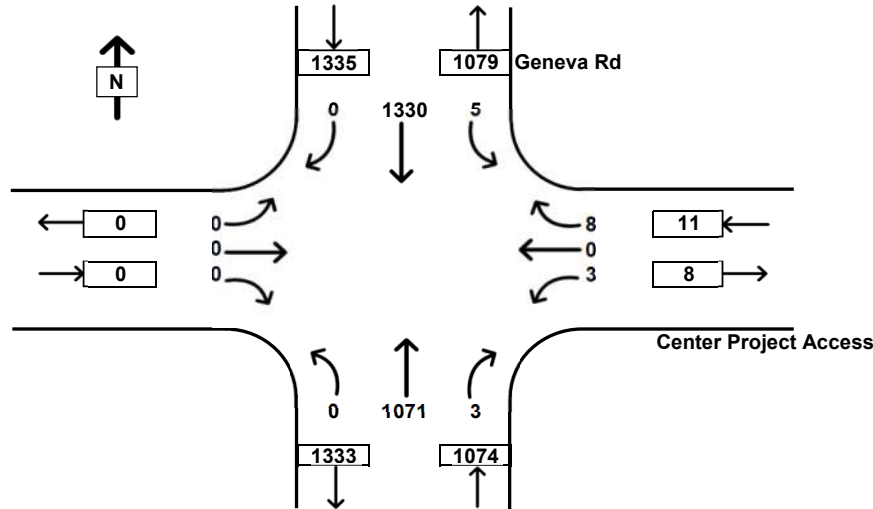
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **Center Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	3	261	0	0	1	0	2	1	0	249	3	0	0	0	0	0	519	
04:15 PM	04:30 PM	2	287	0	0	0	0	0	2	0	201	1	0	0	0	0	0	491	
04:30 PM	04:45 PM	4	286	0	0	0	0	0	0	0	243	0	0	0	0	0	0	533	
04:45 PM	05:00 PM	6	294	0	0	0	0	0	0	0	227	0	0	0	0	0	0	527	2070
05:00 PM	05:15 PM	2	333	0	0	2	0	2	3	0	254	2	0	0	0	0	0	595	2146
05:15 PM	05:30 PM	3	349	0	0	0	0	4	1	0	293	0	0	0	0	0	0	649	2304
05:30 PM	05:45 PM	0	326	0	0	1	0	2	1	0	254	0	0	0	0	0	0	583	2354
05:45 PM	06:00 PM	0	322	0	0	0	0	0	0	0	270	1	0	0	0	0	0	593	2420



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
5	1330	0	3	0	8	0	1071	3	0	0	0
1335			11			1074			0		
Trucks: 1%			Trucks: 9%			Trucks: 1%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 2420			PHF: 0.93		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.42	0.95	0.00	0.38	0.00	0.50	0.00	0.91	0.38	0.00	0.00	0.00

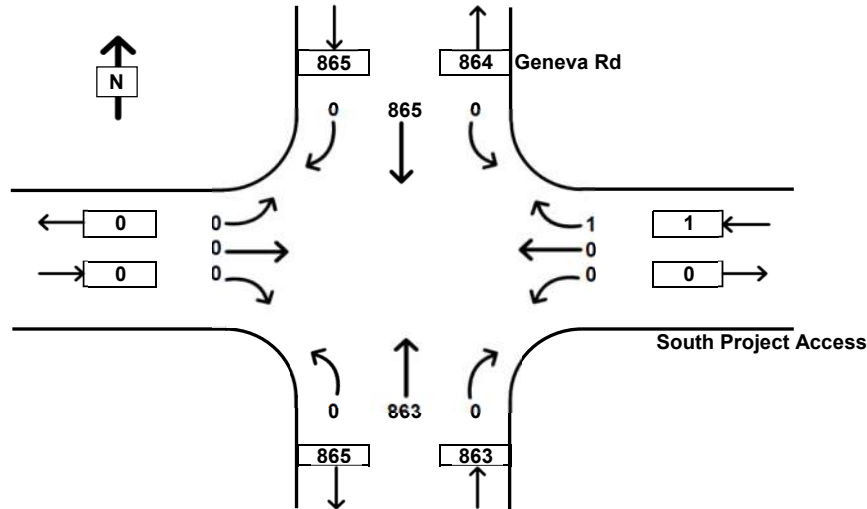
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **South Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	0	119	0	0	0	0	0	1	0	113	0	0	0	0	0	0	232	
07:15 AM	07:30 AM	1	147	0	0	0	0	0	2	0	162	0	0	0	0	0	0	310	
07:30 AM	07:45 AM	0	163	0	0	0	0	0	0	0	199	0	0	0	0	0	0	362	
07:45 AM	08:00 AM	0	265	0	0	0	0	0	0	0	251	0	0	0	0	0	0	516	1420
08:00 AM	08:15 AM	0	236	0	0	0	0	0	1	0	214	0	0	0	0	0	0	450	1638
08:15 AM	08:30 AM	0	171	0	0	0	0	1	1	0	189	0	0	0	0	0	0	361	1689
08:30 AM	08:45 AM	0	193	0	0	0	0	0	0	0	209	0	0	0	0	0	0	402	1729
08:45 AM	09:00 AM	0	186	0	0	0	0	0	0	0	213	0	0	0	0	0	0	399	1612



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	865	0	0	0	1	0	863	0	0	0	0
865			1			863			0		
Trucks: 2%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 7:45:00 AM			8:45 AM			Peak Vol: 1729			Intersection PHF: 0.84		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.00	0.82	0.00	0.00	0.00	0.25	0.00	0.86	0.00	0.00	0.00	0.00

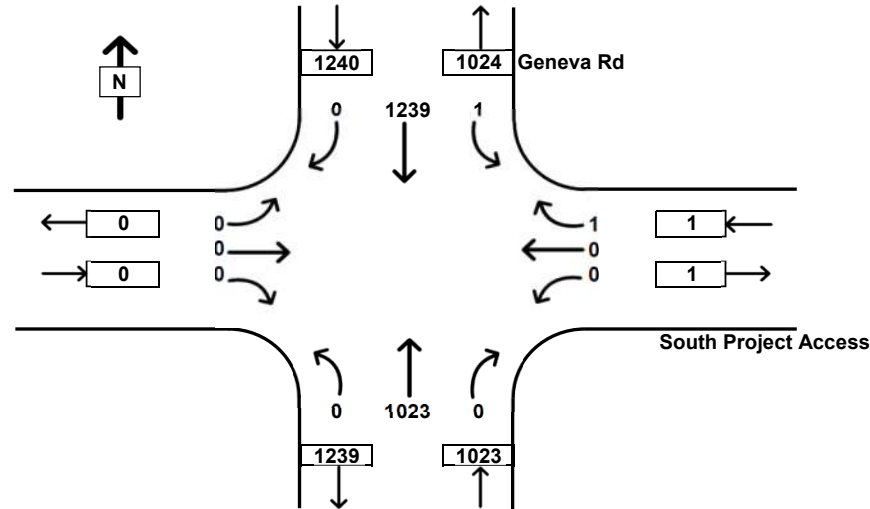
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **South Project Access**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	0	253	0	0	0	0	0	2	0	248	0	0	0	0	0	0	501	
04:15 PM	04:30 PM	0	246	0	0	0	0	0	2	0	210	0	0	0	0	0	0	456	
04:30 PM	04:45 PM	0	269	0	0	0	0	0	0	0	228	0	0	0	0	0	0	497	
04:45 PM	05:00 PM	0	263	0	0	0	0	0	0	0	216	0	0	0	0	0	0	479	1933
05:00 PM	05:15 PM	0	324	0	0	0	0	1	1	0	251	0	0	0	0	0	0	576	2008
05:15 PM	05:30 PM	1	316	0	0	0	0	0	1	0	282	0	0	0	0	0	0	599	2151
05:30 PM	05:45 PM	0	300	0	0	0	0	0	1	0	227	0	0	0	0	0	0	527	2181
05:45 PM	06:00 PM	0	299	0	0	0	0	0	0	0	263	0	0	0	0	0	0	562	2264



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	1239	0	0	0	1	0	1023	0	0	0	0
1240			1			1023			0		
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 2264			PHF: 0.94		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.25	0.96	0.00	0.00	0.00	0.25	0.00	0.91	0.00	0.00	0.00	0.00

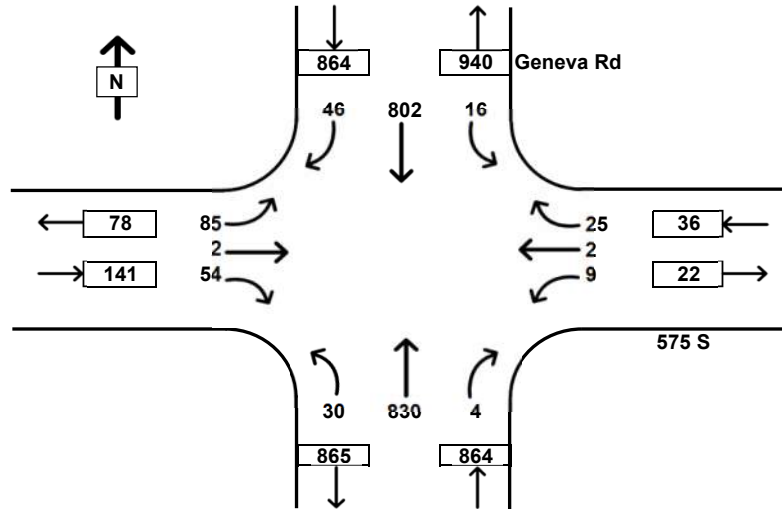
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **575 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
07:00 AM	07:15 AM	1	112	7	0	3	0	5	1	1	110	2	0	12	1	4	1	258	
07:15 AM	07:30 AM	4	135	12	0	3	0	12	0	5	157	0	0	29	0	10	0	367	
07:30 AM	07:45 AM	4	151	2	0	3	0	17	1	5	192	2	0	29	0	9	0	414	
07:45 AM	08:00 AM	4	241	13	0	3	1	10	1	12	239	0	0	13	1	21	0	558	1597
08:00 AM	08:15 AM	6	218	13	0	4	1	3	2	11	200	3	0	28	1	14	1	502	1841
08:15 AM	08:30 AM	5	158	12	0	1	0	4	4	6	183	1	0	27	0	12	1	409	1883
08:30 AM	08:45 AM	1	185	8	0	1	0	8	0	1	208	0	0	17	0	7	0	436	1905
08:45 AM	09:00 AM	2	178	11	0	1	0	3	3	6	206	1	1	36	0	7	1	451	1798



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
16	802	46	9	2	25	30	830	4	85	2	54
864			36			864			141		
Trucks: 2%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 7:45:00 AM			8:45 AM			Peak Vol: 1905			Intersection PHF: 0.85		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.67	0.83	0.88	0.56	0.50	0.63	0.63	0.87	0.33	0.76	0.50	0.64

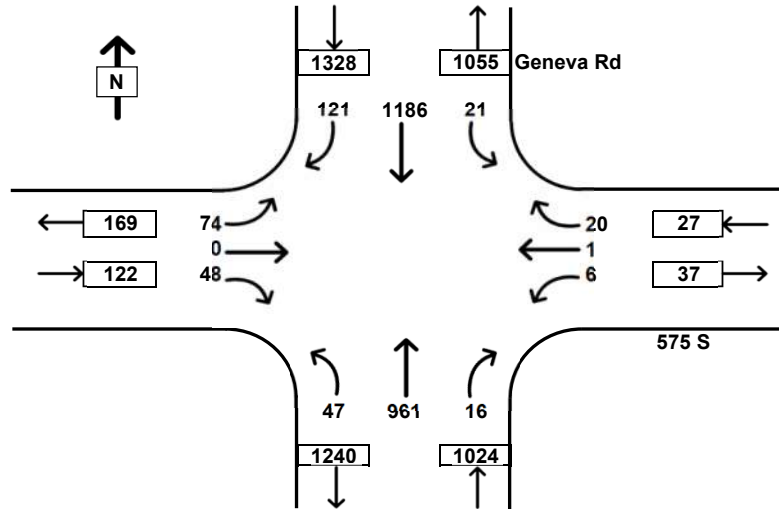
TRAFFIC COUNT SUMMARY

City: **Orem**
 N-S Street: **Geneva Rd**
 Date: **Wednesday October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **575 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	2	246	20	0	0	0	5	1	12	234	2	0	12	1	7	1	541	
04:15 PM	04:30 PM	9	243	30	0	0	0	3	2	5	201	4	0	16	0	3	0	514	
04:30 PM	04:45 PM	5	260	26	0	2	0	3	0	10	217	1	0	11	0	7	2	542	
04:45 PM	05:00 PM	8	252	26	0	2	0	4	0	13	202	1	0	13	0	9	3	530	2127
05:00 PM	05:15 PM	3	306	29	0	1	0	5	1	12	238	2	0	13	0	17	0	626	2212
05:15 PM	05:30 PM	9	308	36	0	1	0	4	2	9	268	5	0	21	0	8	0	669	2367
05:30 PM	05:45 PM	5	288	28	0	2	0	2	1	11	214	2	0	23	0	10	1	585	2410
05:45 PM	06:00 PM	4	284	28	0	2	1	9	0	15	241	7	0	17	0	13	0	621	2501



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
21	1186	121	6	1	20	47	961	16	74	0	48
1328			27			1024			122		
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 2501			PHF: 0.93		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.58	0.96	0.84	0.75	0.25	0.56	0.78	0.90	0.57	0.80	0.00	0.71

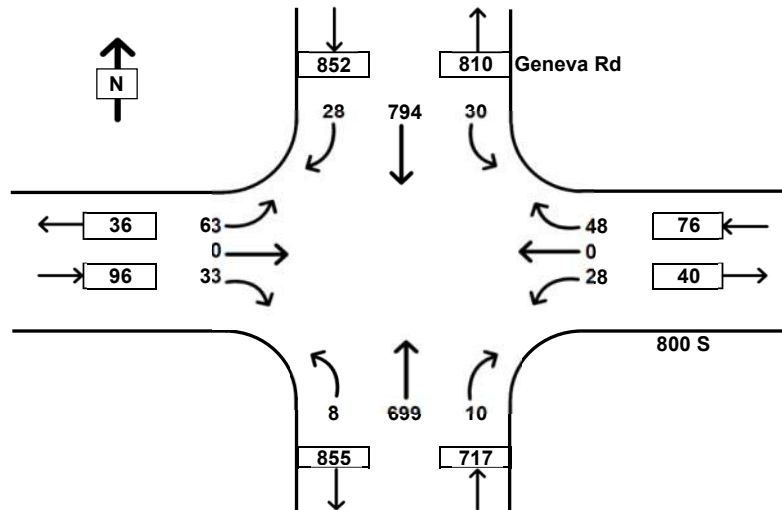
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **07:00 AM**
 Interval Length: **15 min**

E-W Street: **800 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	5	108	1	0	2	0	7	0	0	100	2	0	7	0	1	1	233	
07:15 AM	07:30 AM	5	133	2	0	8	0	10	0	2	139	4	1	12	0	5	0	320	
07:30 AM	07:45 AM	1	141	3	0	5	0	12	3	1	156	3	2	16	0	8	0	346	
07:45 AM	08:00 AM	7	243	8	0	6	0	17	0	1	189	3	1	21	0	9	0	504	1403
08:00 AM	08:15 AM	9	225	8	0	9	0	8	1	2	179	0	0	19	0	8	0	467	1637
08:15 AM	08:30 AM	3	164	5	0	7	0	7	1	4	169	4	0	10	0	11	1	384	1701
08:30 AM	08:45 AM	11	162	7	0	6	0	16	0	1	162	3	0	13	0	5	0	386	1741
08:45 AM	09:00 AM	10	170	6	0	2	0	18	0	6	174	5	0	12	0	5	0	408	1645



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
30	794	28	28	0	48	8	699	10	63	0	33
852			76			717			96		
Trucks: 2%			Trucks: 4%			Trucks: 2%			Trucks: 1%		
Peak Hour: 7:45:00 AM			8:45 AM			Peak Vol: 1741			Intersection PHF: 0.86		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.68	0.82	0.88	0.78	0.00	0.71	0.50	0.92	0.63	0.75	0.00	0.75

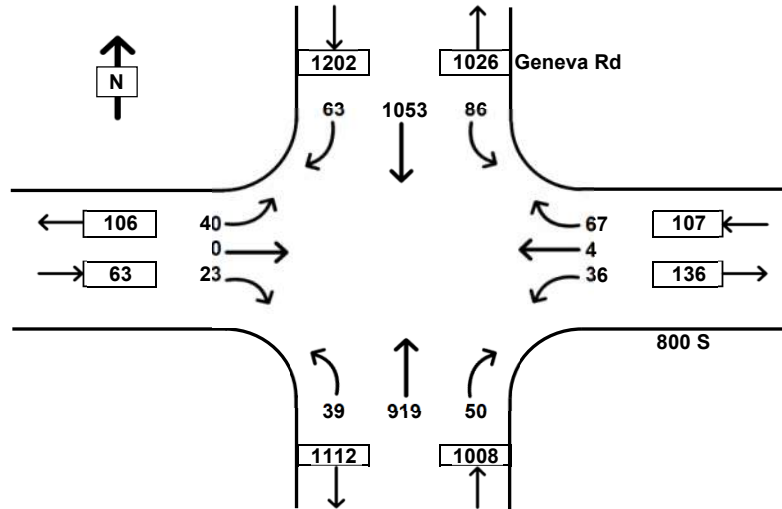
TRAFFIC COUNT SUMMARY

City: **Vineyard**
 N-S Street: **Geneva Rd**
 Date: **Wednesday, October 11, 2023**
 Begin Time: **04:00 PM**
 Interval Length: **15 min**

E-W Street: **800 S**



Time Interval		SB				WB				NB				EB				Total All Moves	Hourly Totals
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
04:00 PM	04:15 PM	20	211	12	0	7	1	19	2	7	216	7	0	10	1	3	0	514	
04:15 PM	04:30 PM	21	218	15	0	7	0	19	0	4	175	11	1	7	0	4	0	481	
04:30 PM	04:45 PM	21	221	16	0	6	0	7	0	8	197	12	0	8	0	6	0	502	
04:45 PM	05:00 PM	20	234	11	0	6	0	9	1	6	214	5	1	6	2	5	0	518	2015
05:00 PM	05:15 PM	20	272	16	0	9	1	13	0	11	232	10	1	16	0	6	0	606	2107
05:15 PM	05:30 PM	22	264	25	0	12	0	18	1	16	255	11	0	7	0	7	0	637	2263
05:30 PM	05:45 PM	21	242	10	1	9	3	12	0	6	189	16	2	13	0	4	0	525	2286
05:45 PM	06:00 PM	23	275	12	2	6	0	24	2	6	243	13	0	4	0	6	0	612	2380



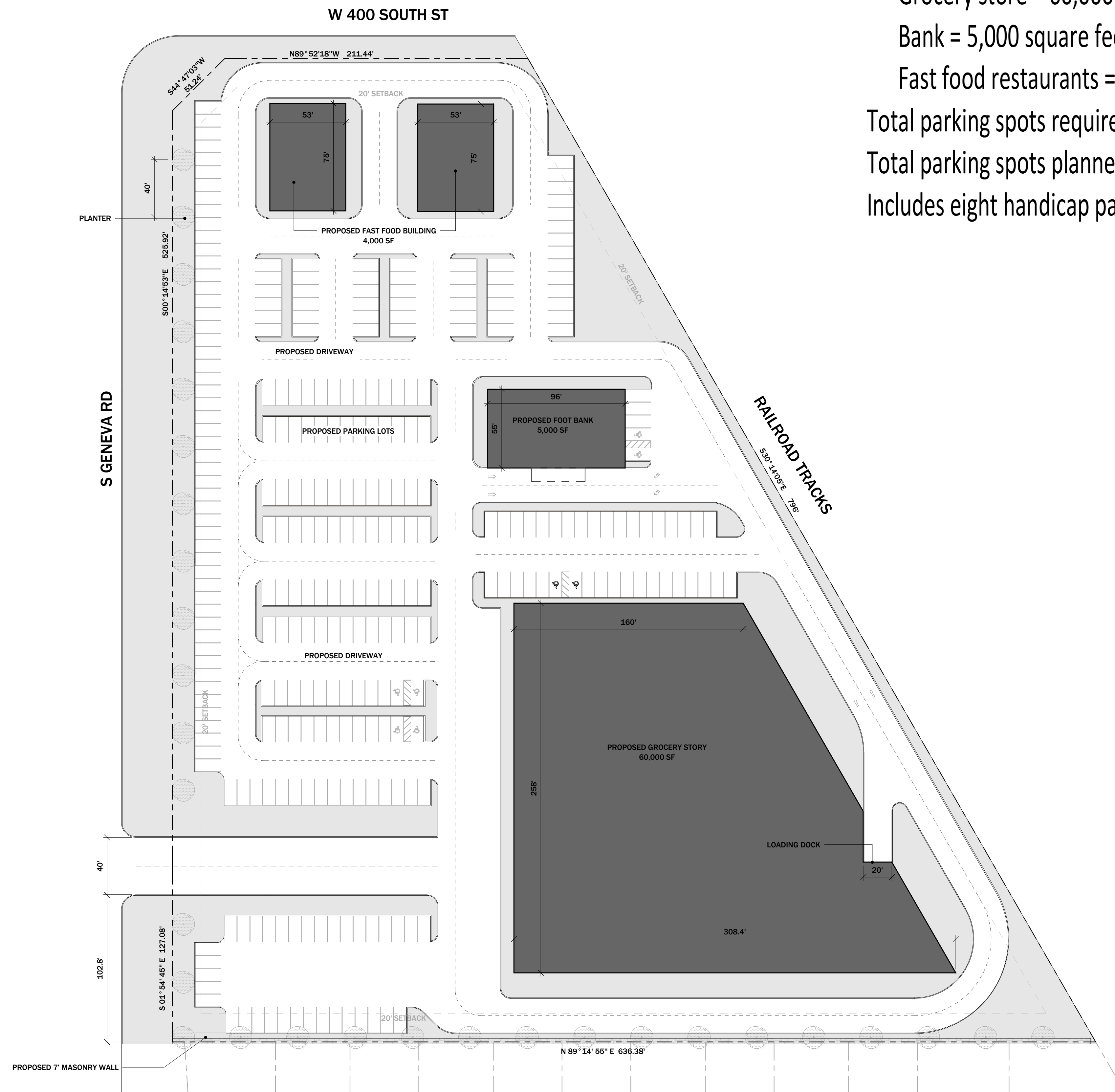
ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
86	1053	63	36	4	67	39	919	50	40	0	23
1202			107			1008			63		
Trucks: 1%			Trucks: 0%			Trucks: 1%			Trucks: 0%		
Peak Hour: 5:00:00 PM			6:00 PM			Peak Vol: 2380			PHF: 0.93		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

PHF by Movement

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
1	2	3	5	6	7	9	10	11	13	14	15
0.93	0.96	0.63	0.75	0.33	0.70	0.61	0.90	0.78	0.63	0.00	0.82

SITE LAYOUT



Total leasable space = 73,000 square feet
Grocery store = 60,000 square feet
Bank = 5,000 square feet
Fast food restaurants = 4,000 square feet each
Total parking spots required = 292
Total parking spots planned = 297
Includes eight handicap parking spots



SCAN ME
FOR MORE
SERVICES

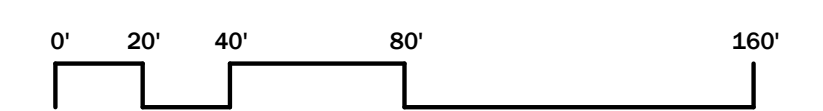
PROJECT:
435 South Geneva
Road, Orem, Utah,
USA

JURISDICTION
PARCEL NUMBER
OWNER

UTAH COUNTY
18-028-0169, 18-028-0170,
18-028-0171
VINEYARD GARDENS SHOPPING CENTER

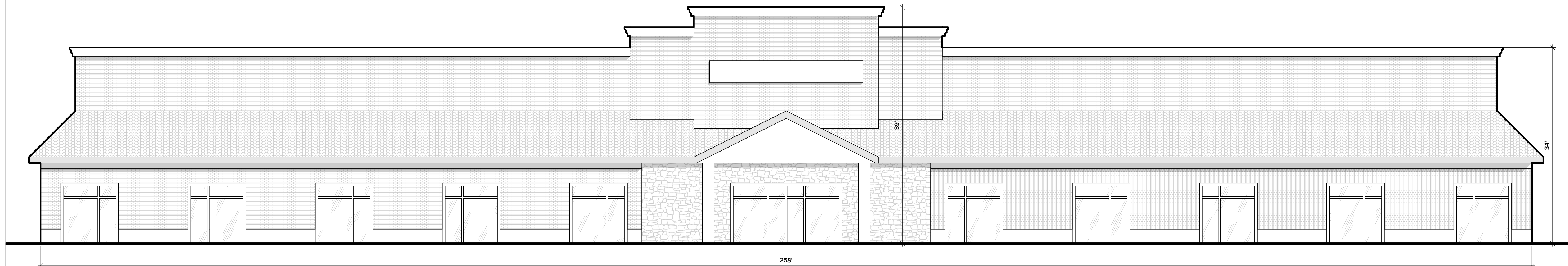
SITE PLAN

SCALE: 1" = 40'-0"



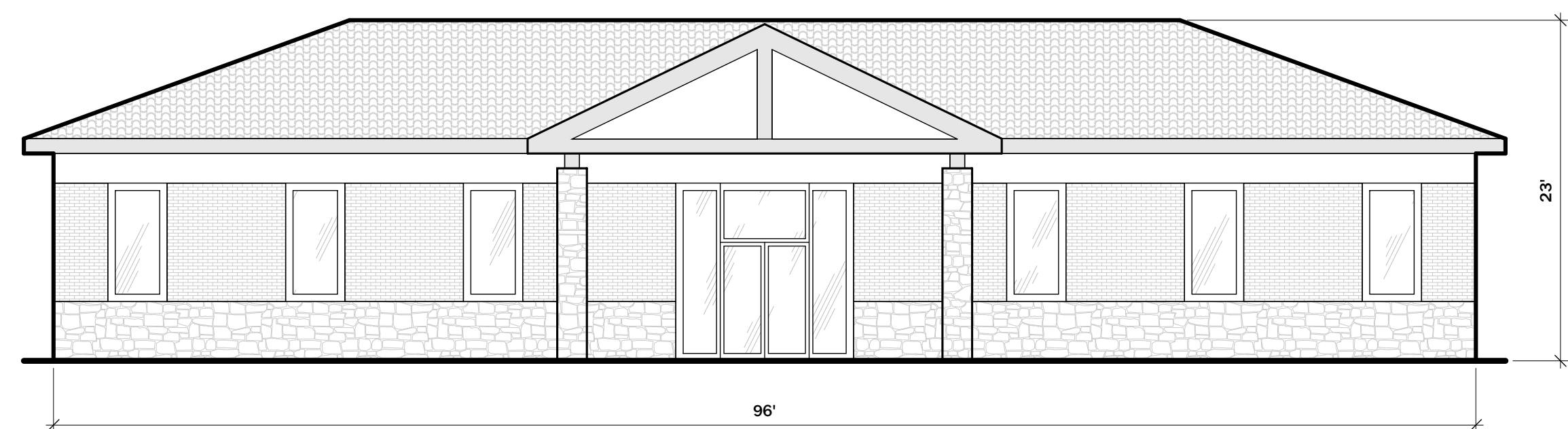
C-1

SHEET SIZE: 36" X 24"



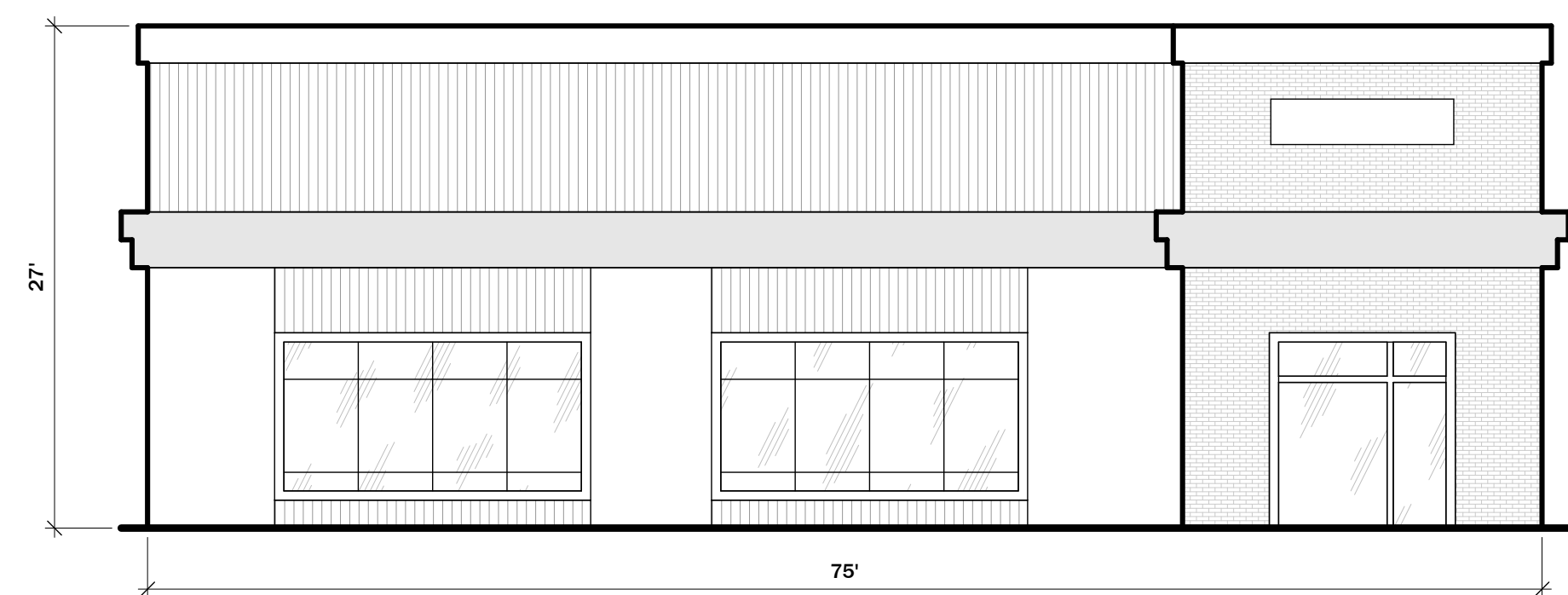
GROCERY STORE ELEVATION

Grocery store front will have stone facing surrounding entry doors.
 Windows and doors will be metal framed.
 Rest of front facing and parapet will be stucco.
 Front roof will be metal sheeting.
 Side and rear walls will be masonry.



BANK ELEVATION

Bank will have lower walls and columns made with stone facing.
 Windows and doors will be metal framed.
 Walls above stone facing will be brick.
 Roof will be metal sheeting.



TYPICAL FAST FOOD ELEVATION

Fast food restaurants will have stucco walls.
 Windows and doors will be metal framed.

TRIP GENERATION

Vineyard Gardens Shopping Center Trip Generation											
Variable		Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
Supermarket (ITE 850)			93.84	50%	50%	2.86	59%	41%	8.95	50%	50%
1000 sq ft	65		6,100	3,050	3,050	186	110	76	582	291	291
AM Internal Capture	4%					7	4	3			
PM Internal Capture	9%								52	26	26
AM Pass-By Trip Reduction	0%					0	0	0			
PM Pass-By Trip Reduction	24%								127	64	64
Daily Pass-By Trip Reduction	12%		735	368	368						
Total New Trips			5,365	2,682	2,682	178	105	73	402	201	201
Drive-in Bank (ITE 912)			100.35	50%	50%	9.95	58%	42%	21.01	50%	50%
1000 sq ft	5		502	251	251	50	29	21	105	53	53
AM Internal Capture	4%					2	1	1			
PM Internal Capture	9%								9	5	5
AM Pass-By Trip Reduction	29%					14	8	6			
PM Pass-By Trip Reduction	35%								33	17	17
Daily Pass-By Trip Reduction	32%		161	80	80						
Total New Trips			341	171	171	34	20	14	62	31	31
Fast Casual Restaurant (ITE 930)			467.48	50%	50%	44.61	51%	49%	33.03	52%	48%
1000 sq ft	4		1,870	935	935	178	91	87	132	69	63
AM Internal Capture	4%					7	4	3			
PM Internal Capture	9%								12	6	6
AM Pass-By Trip Reduction	50%					86	44	42			
PM Pass-By Trip Reduction	55%								66	34	32
Daily Pass-By Trip Reduction	53%		982	491	491						
Total New Trips			888	444	444	86	44	42	54	28	26
Fast-Food Restaurant with Drive Thru (ITE 934)			97.14	50%	50%	1.43	50%	50%	12.55	55%	45%
1000 sq ft	4		389	194	194	6	3	3	50	28	23
AM Internal Capture	4%					0	0	0			
PM Internal Capture	9%								5	2	2
AM Pass-By Trip Reduction	50%					3	1	1			
PM Pass-By Trip Reduction	55%								25	14	11
Daily Pass-By Trip Reduction	53%		204	102	102						
Total New Trips			185	92	92	3	1	1	21	11	9
Nursery (Garden Center) (ITE 817)			68.1	50%	50%	2.68	51%	49%	6.94	52%	48%
1000 sq ft	13		-885	-443	-443	-35	-18	-17	-90	-47	-43
Total New Trips			-885	-443	-443	-35	-18	-17	-90	-47	-43
Total New Trips			5,005	2,503	2,503	180	108	72	395	197	198

ITE Trip Generation 11th Edition

Land Use: 850 Supermarket

Description

A supermarket is a free-standing retail store that sells a complete assortment of food, beverage, food preparation materials, and household products. A supermarket may also provide additional products and services such as a bakery, dry cleaning, floral arrangements, greeting cards, a limited-service bank, and a pharmacy.

Additional Data

In prior editions of *Trip Generation Manual*, a separate land use code was assigned to a discount supermarket. With the addition of new supermarket data points, an examination of the database reveals very little difference between trip generation rates for the traditional supermarket and a reported discount supermarket. This examination looked at both the small discount supermarkets and the large discount supermarkets. As a result, all types of supermarkets are included in this land use database.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Illinois, Kentucky, Maryland, Minnesota, Nevada, New Jersey, New York, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

213, 221, 236, 251, 273, 305, 359, 365, 438, 440, 442, 447, 448, 514, 520, 537, 552, 577, 610, 715, 716, 728, 738, 746, 854, 870, 882, 893, 917, 926, 935, 946, 959, 961, 966, 975, 1004, 1009, 1025, 1058, 1063, 1064

Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

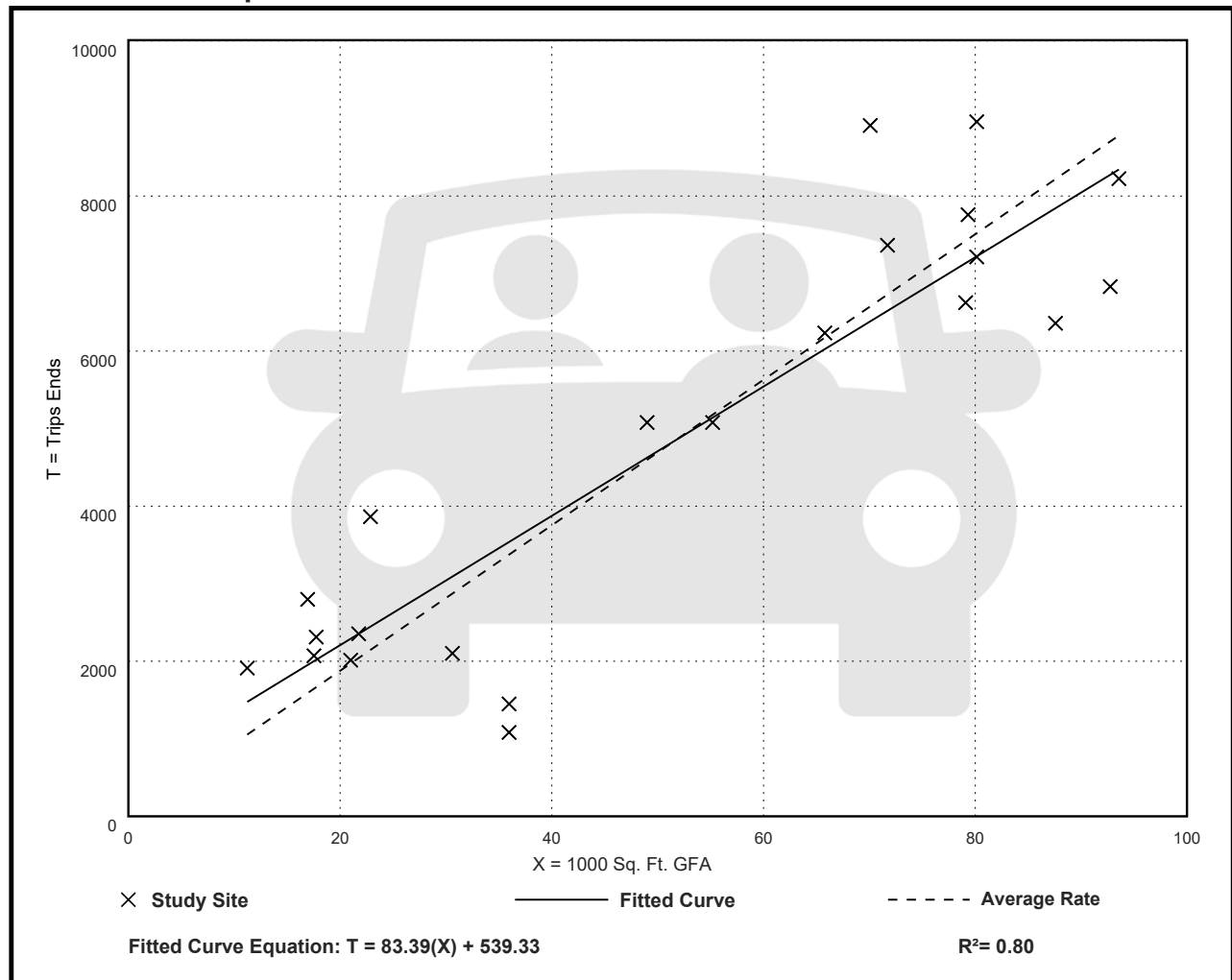
Avg. 1000 Sq. Ft. GFA: 52

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
93.84	30.09 - 170.24	27.05

Data Plot and Equation



Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 34

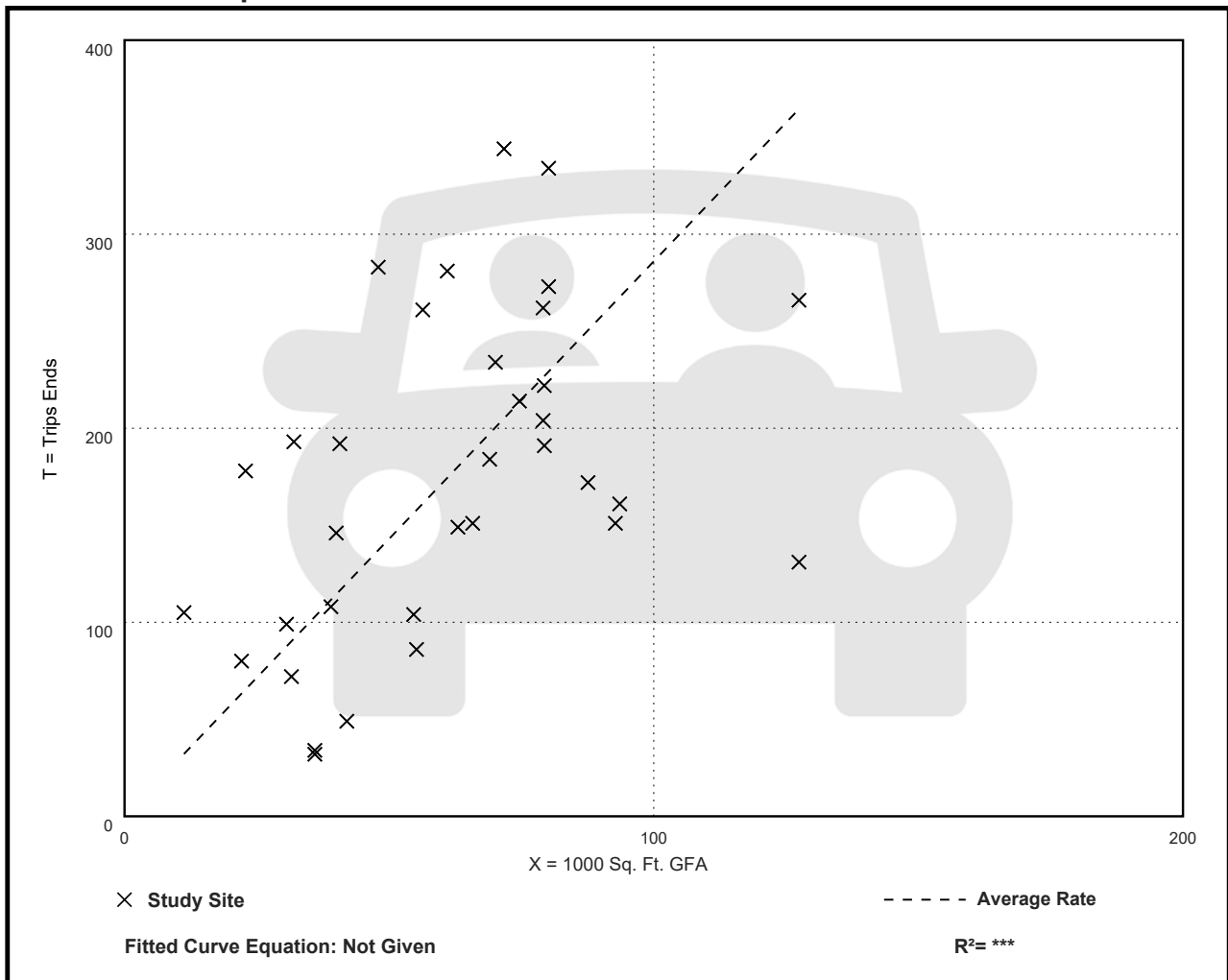
Avg. 1000 Sq. Ft. GFA: 61

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.86	0.89 - 9.35	1.45

Data Plot and Equation



Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 104

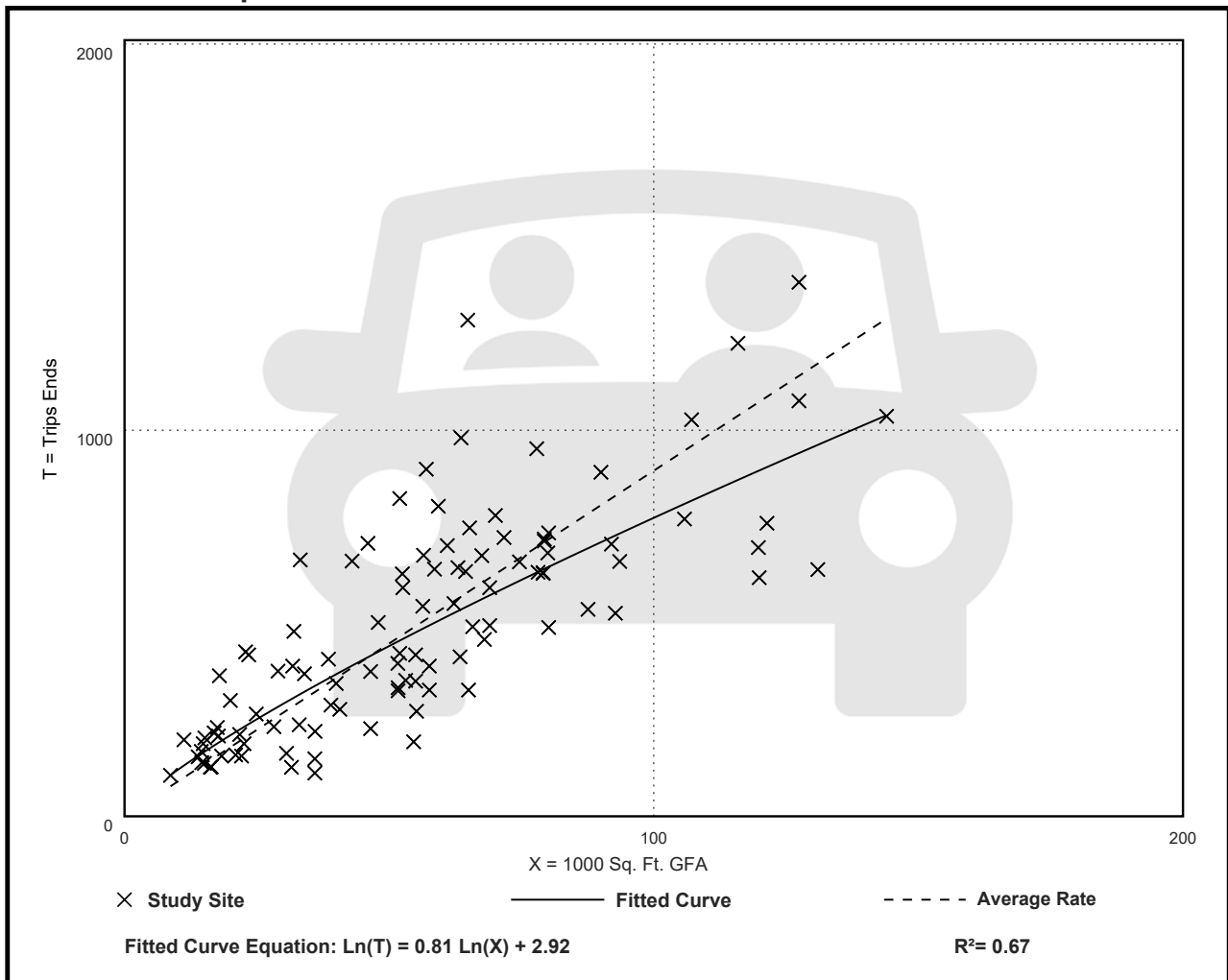
Avg. 1000 Sq. Ft. GFA: 55

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.95	3.11 - 20.30	3.32

Data Plot and Equation



Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 30

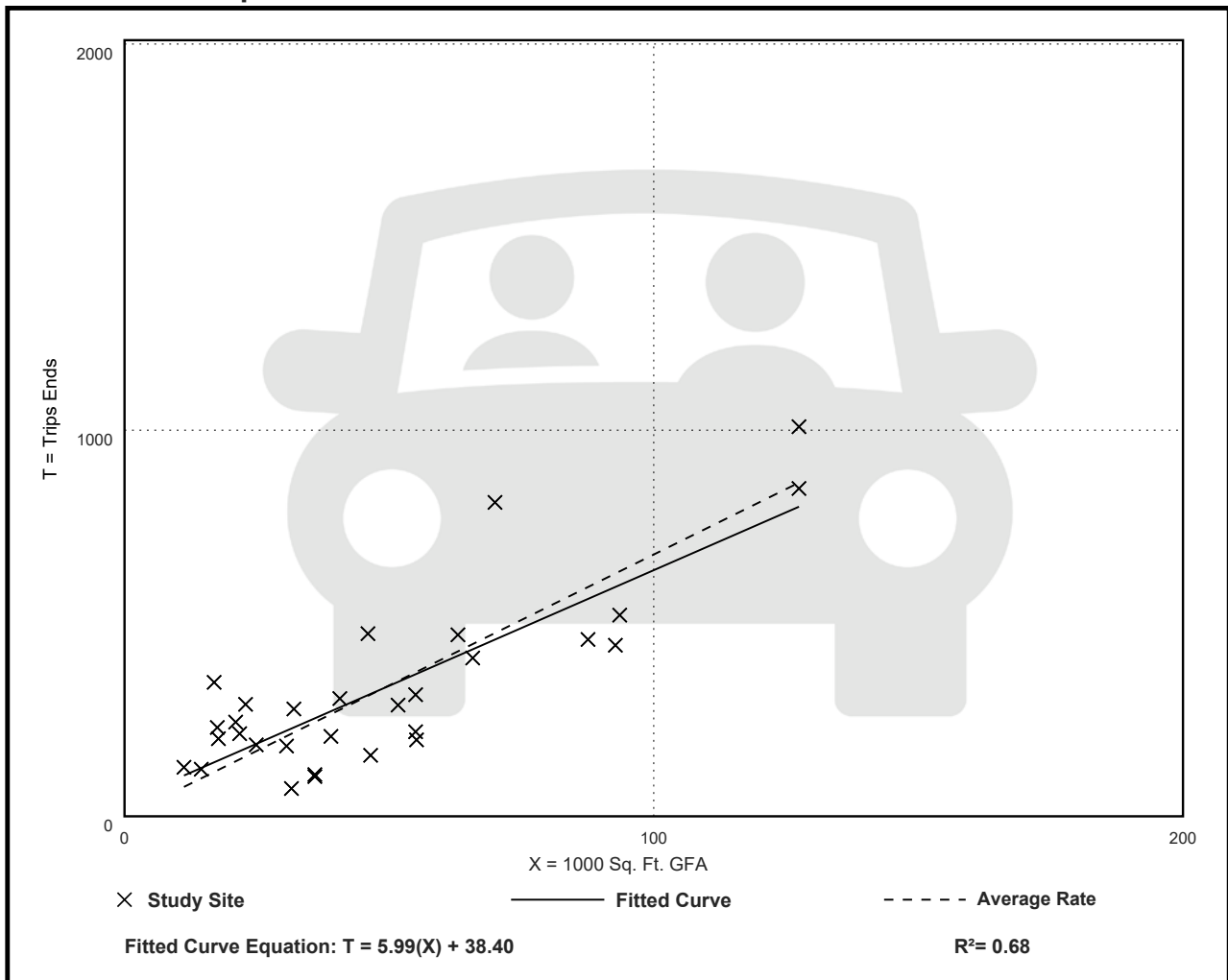
Avg. 1000 Sq. Ft. GFA: 48

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.78	2.28 - 20.49	3.02

Data Plot and Equation



Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 65

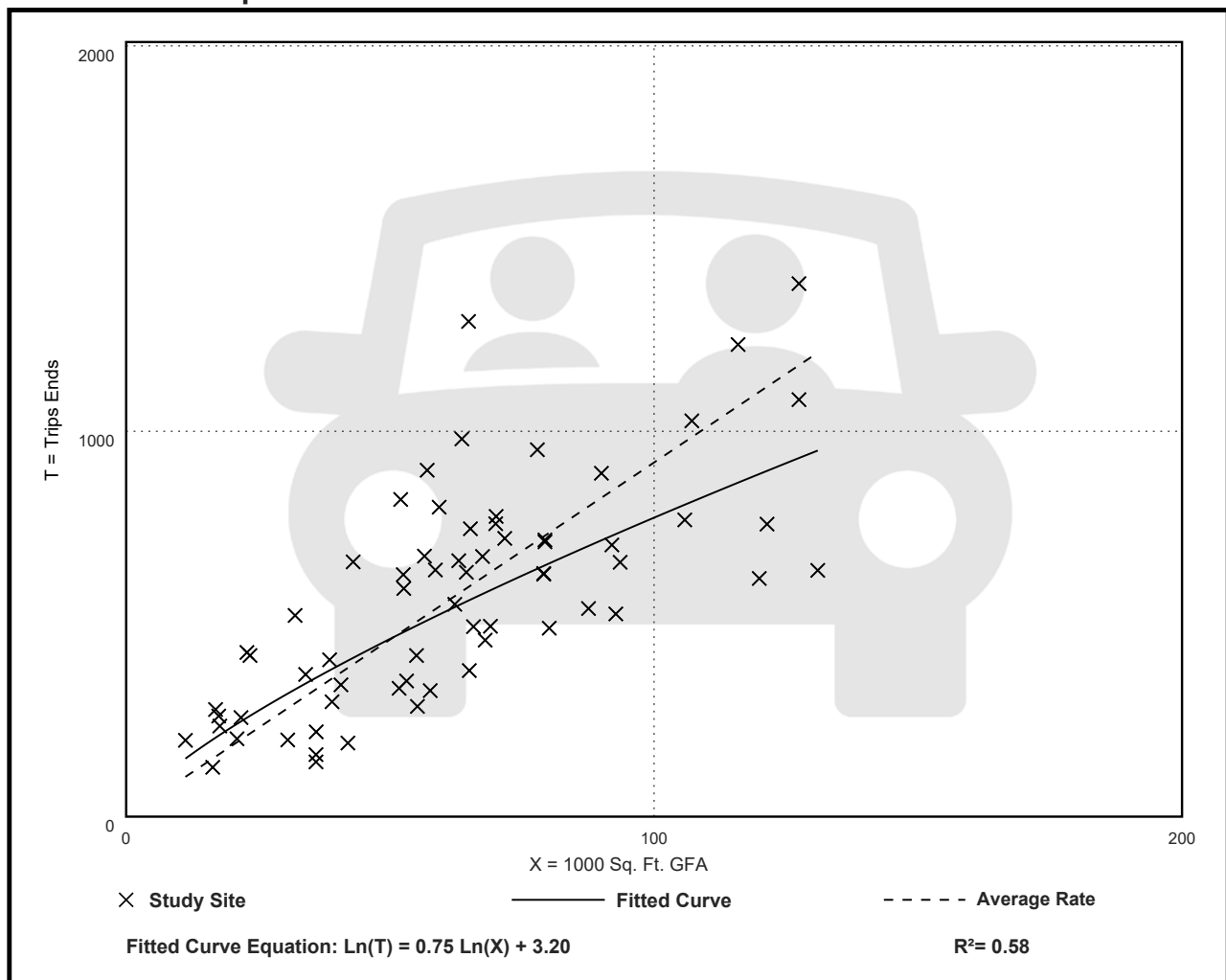
Avg. 1000 Sq. Ft. GFA: 62

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.19	3.95 - 19.81	3.40

Data Plot and Equation



Land Use: 912

Drive-in Bank

Description

A bank is a financial institution that can offer a wide variety of financial services. A drive-in bank provides banking services for a motorist through a teller station. A drive-in bank may also serve patrons who walk into the building. The drive-in lanes may or may not provide an automatic teller machine (ATM). Walk-in bank (Land Use 911) is a related use.

Additional Data

The independent variable—drive-in lanes—refers to all lanes at a banking facility used for financial transactions, including ATM-only lanes.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 2000s and the 2010s in Colorado, Kentucky, Minnesota, Nebraska, New Jersey, New York, Oregon, Pennsylvania, Texas, Vermont, Virginia, Washington, and Wisconsin.

To assist in the future analysis of this land use, it is important that Friday data be collected and reported separately from weekday data. It is also important to specify the date and month of the data collection period and the number of drive-through lanes that are open at the time of the study.

Source Numbers

535, 539, 553, 555, 573, 577, 600, 624, 626, 629, 630, 637, 656, 657, 710, 724, 728, 866, 869, 883, 884, 927, 935, 961, 1047

Drive-in Bank (912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 19

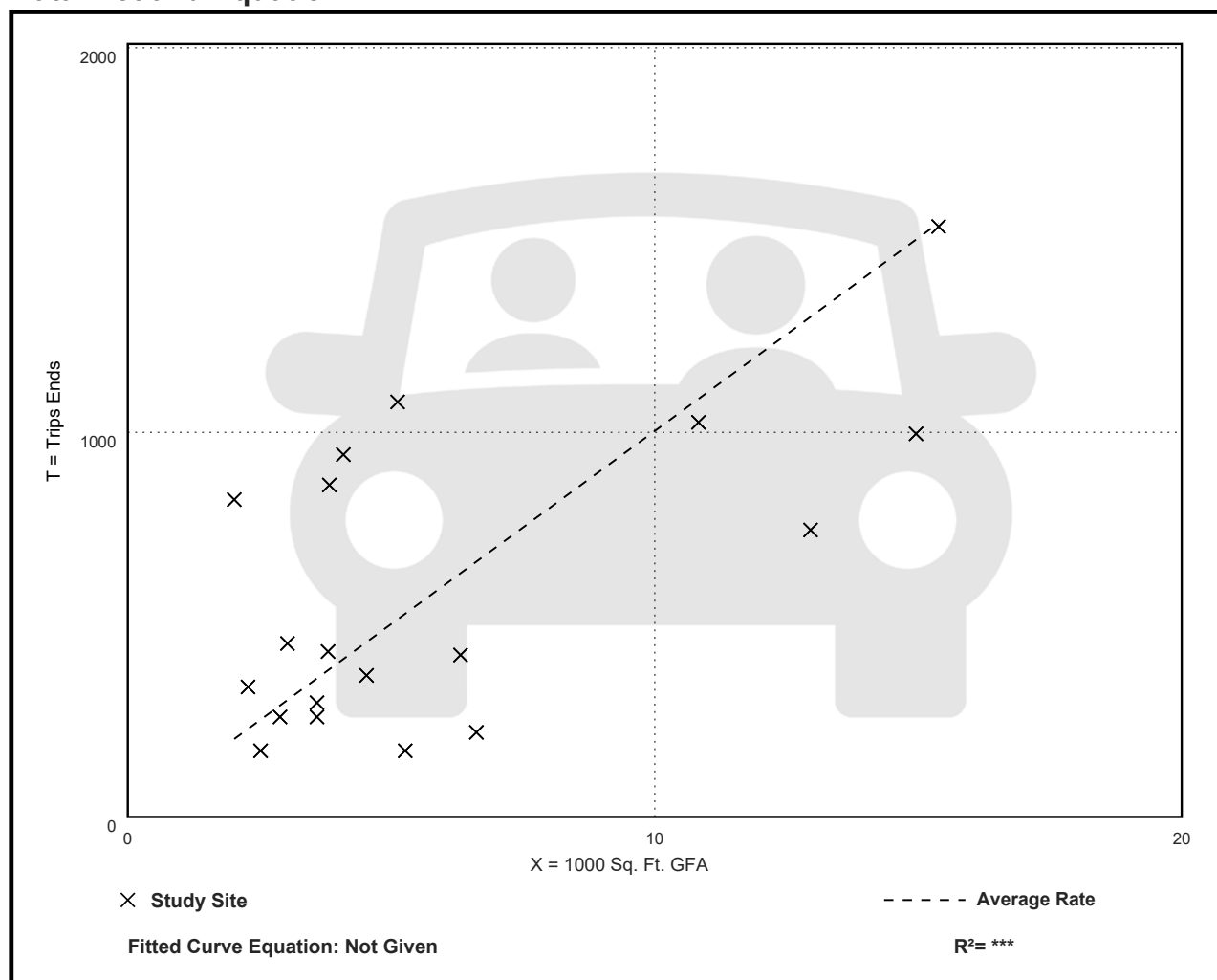
Avg. 1000 Sq. Ft. GFA: 6

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
100.35	32.67 - 408.42	68.62

Data Plot and Equation



Drive-in Bank (912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 44

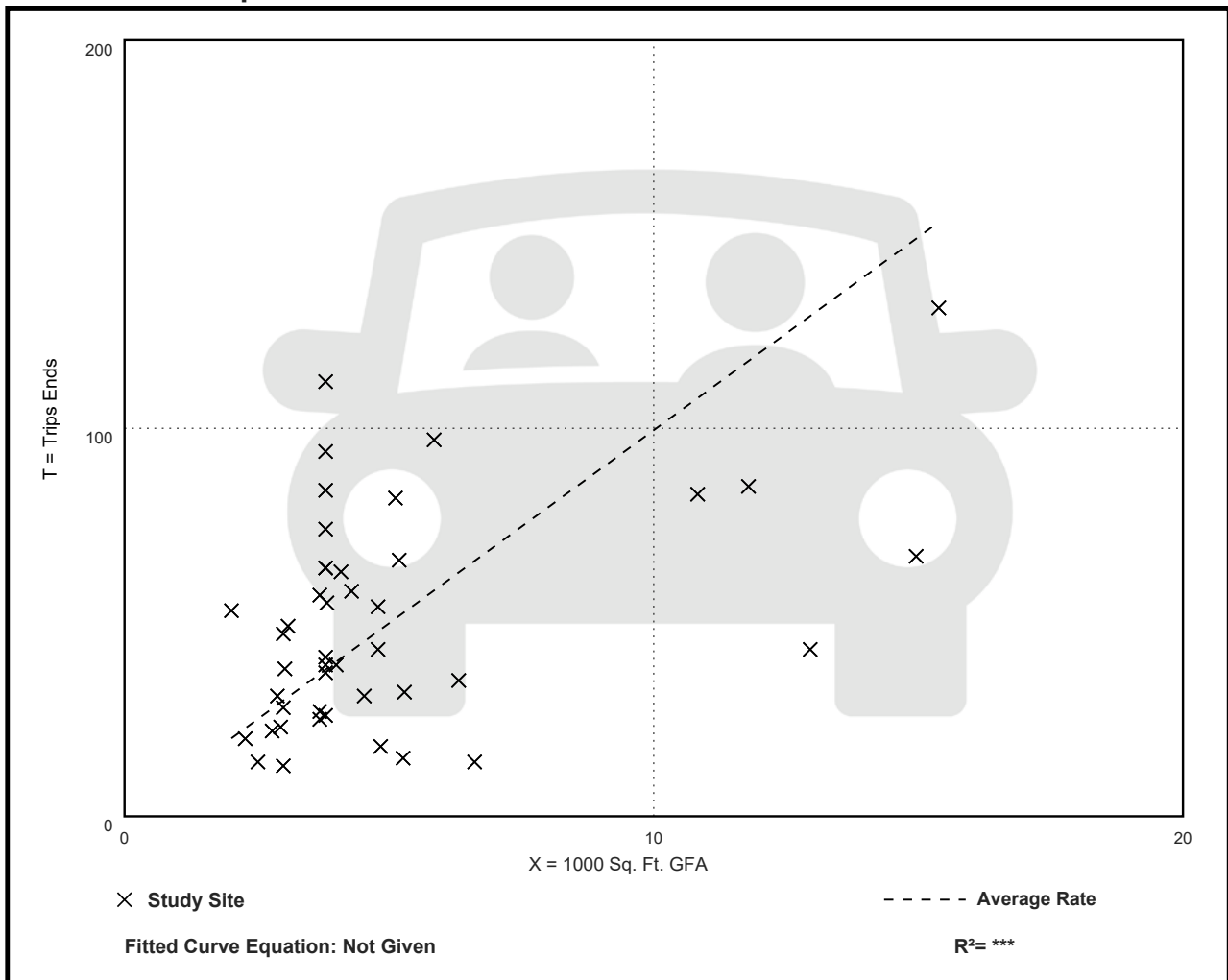
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.95	2.12 - 29.47	6.00

Data Plot and Equation



Drive-in Bank (912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 114

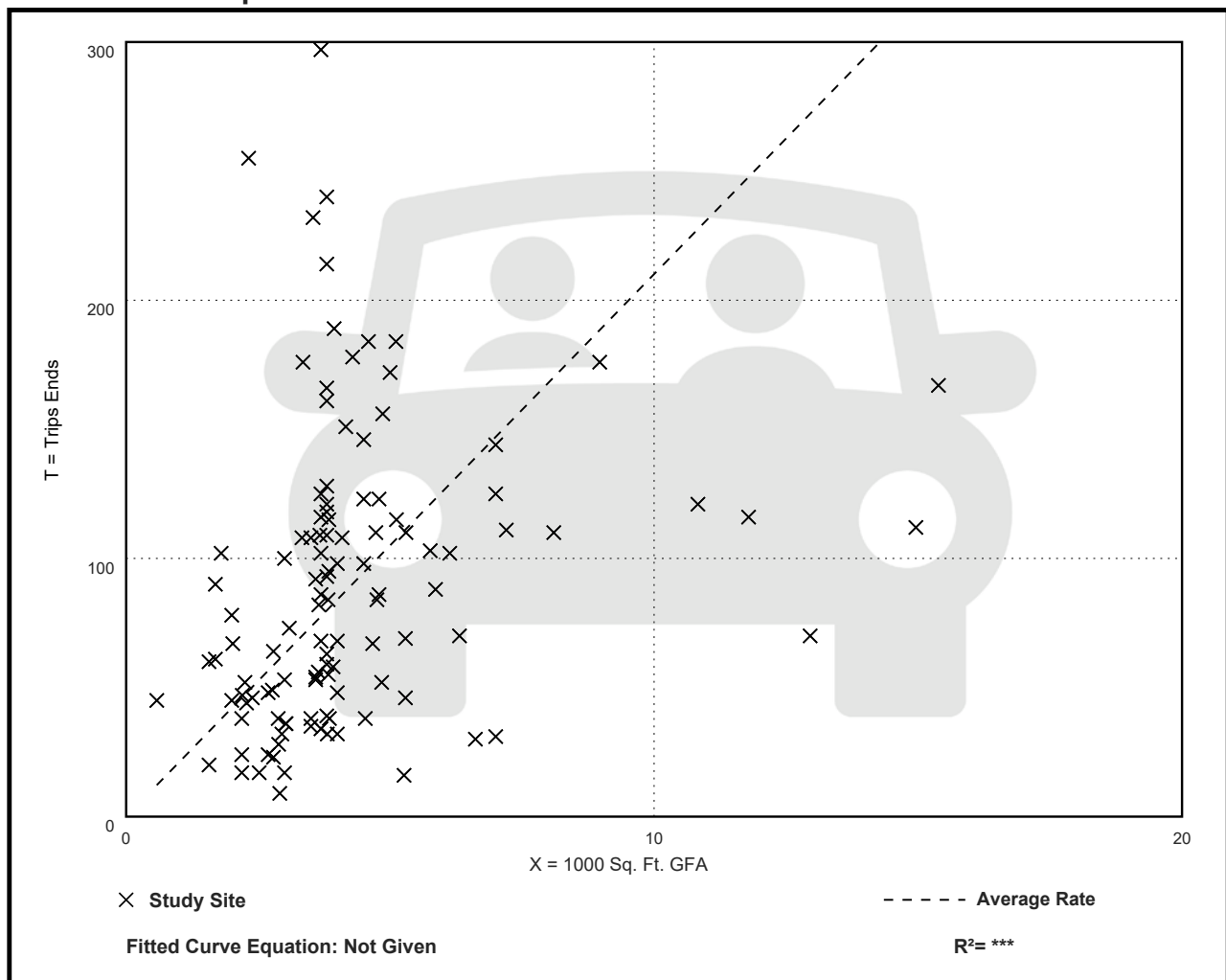
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
21.01	3.04 - 109.91	15.13

Data Plot and Equation



Drive-in Bank (912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 51

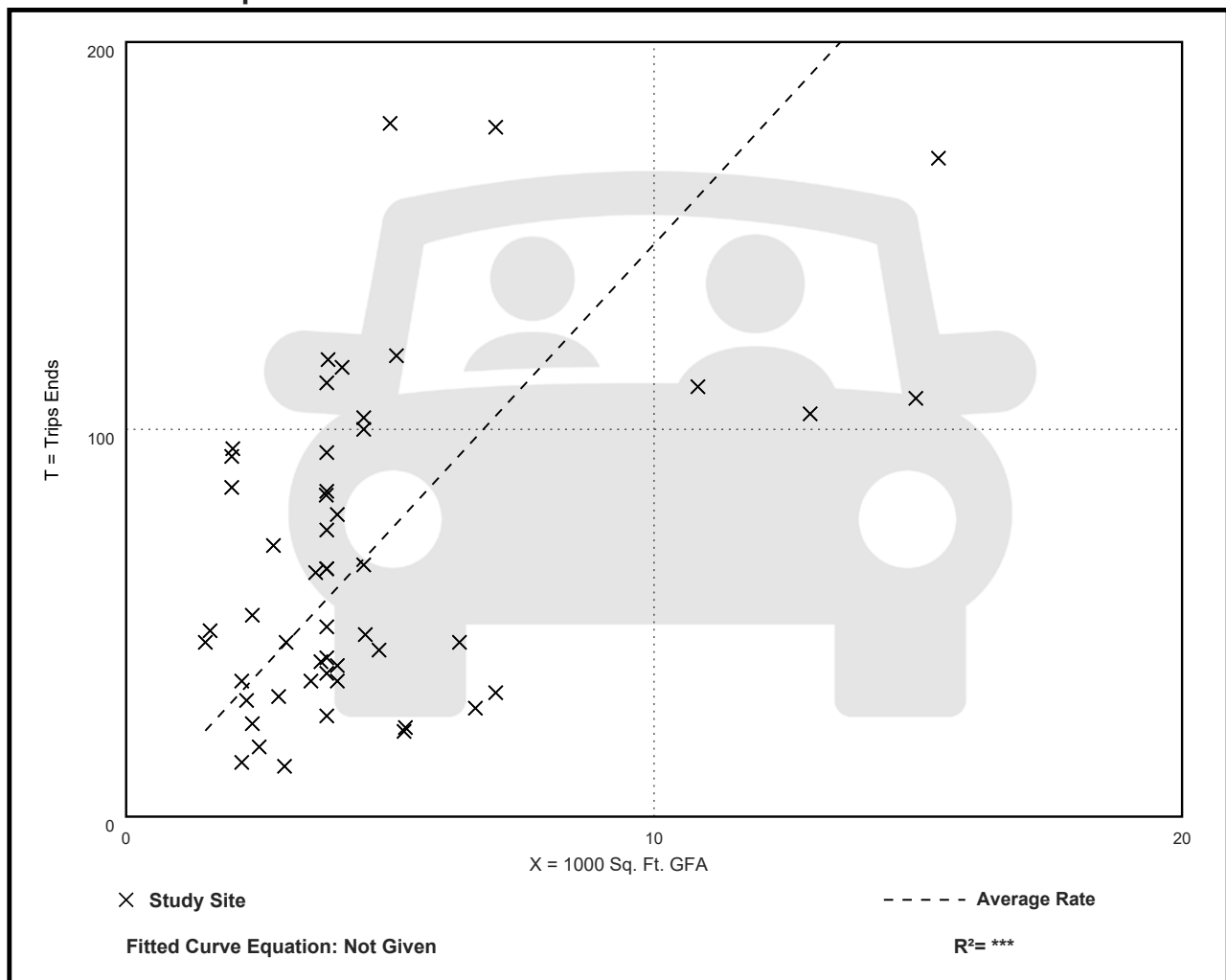
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.78	4.18 - 47.03	9.60

Data Plot and Equation



Drive-in Bank (912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 57

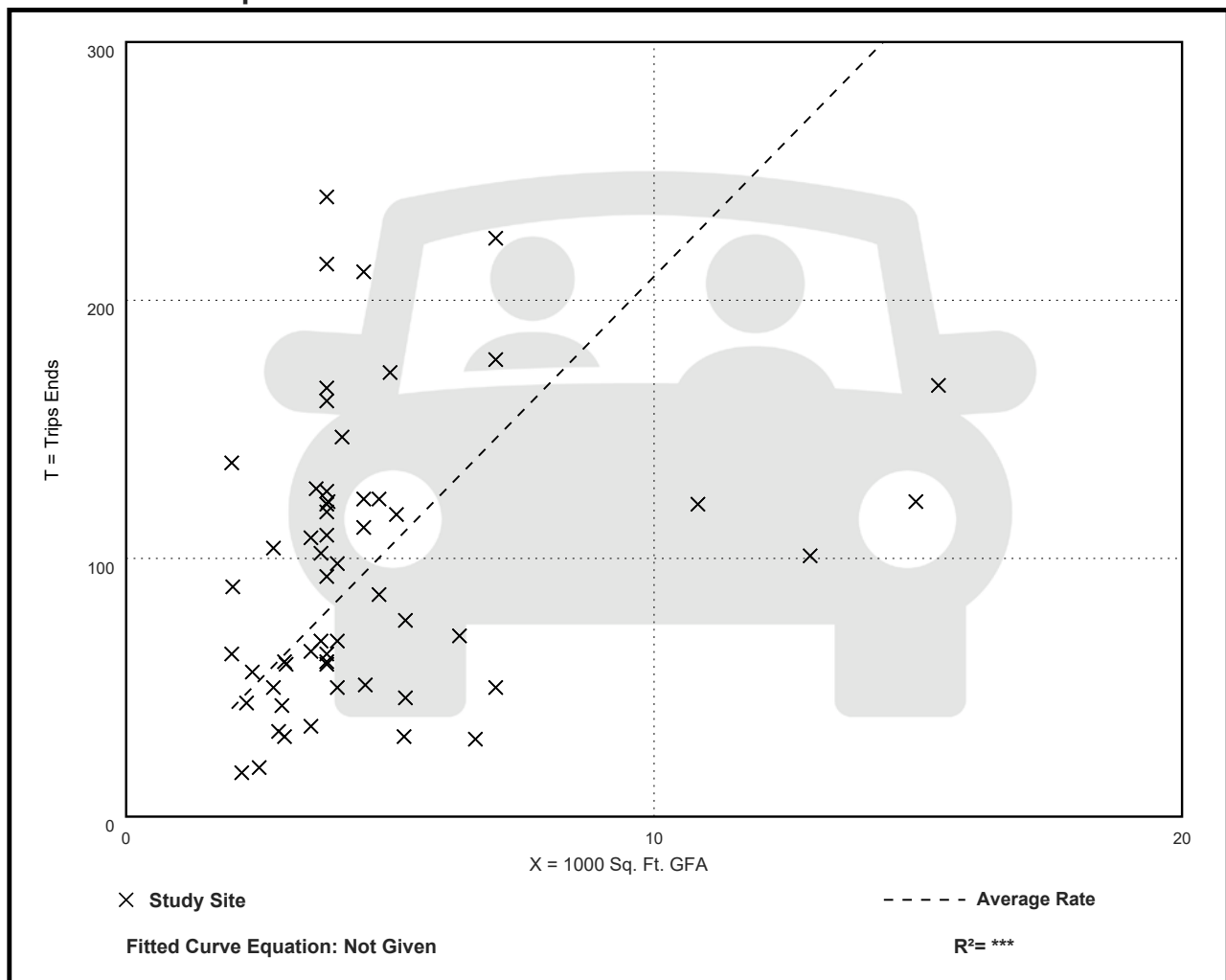
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
20.92	4.54 - 68.50	13.57

Data Plot and Equation



Land Use: 930

Fast Casual Restaurant

Description

A fast casual restaurant is a sit-down restaurant with no (or very limited) wait staff or table service. A customer typically orders off a menu board, pays for food before the food is prepared, and seats themselves. The menu generally contains higher-quality, made-to-order food items with fewer frozen or processed ingredients than at a fast-food restaurant. Most patrons eat their meal within the restaurant, but a significant proportion of the restaurant sales can be carry-out orders. A fast casual restaurant typically serves lunch and dinner; some serve breakfast. A typical duration of stay for an eat-in customer is 40 minutes or less. Fine dining restaurant (Land Use 931), high-turnover (sit-down) restaurant (Land Use 932), and fast-food restaurant without drive-through window (Land Use 933) are related uses.

Additional Data

The fast casual restaurant study sites included in this land use did not have a drive-through window.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 2010s in Minnesota, South Carolina, Washington, and Wisconsin.

Source Numbers

861, 869, 939, 959, 962, 1048

Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 1

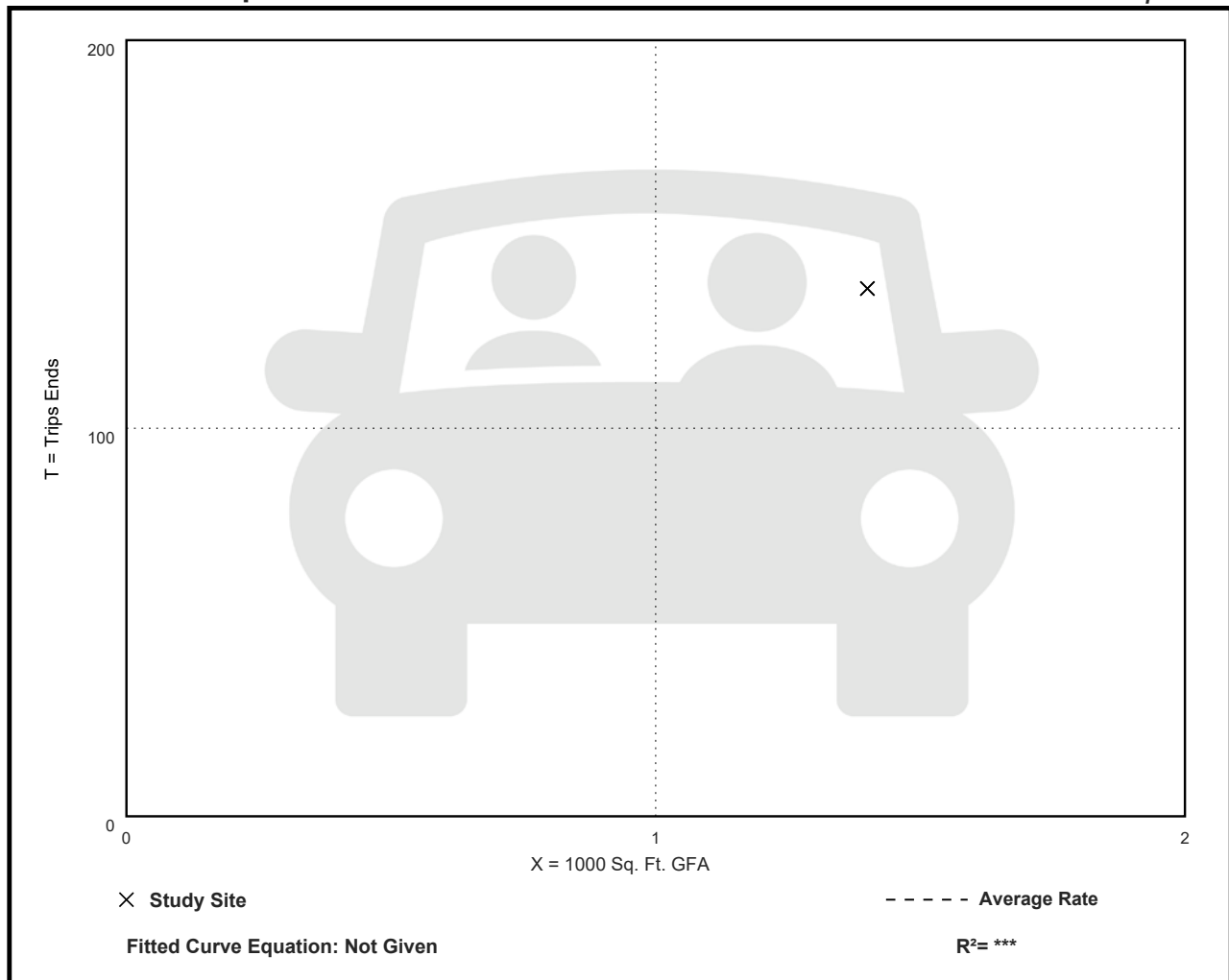
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
97.14	97.14 - 97.14	***

Data Plot and Equation

Caution – Small Sample Size



Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 1

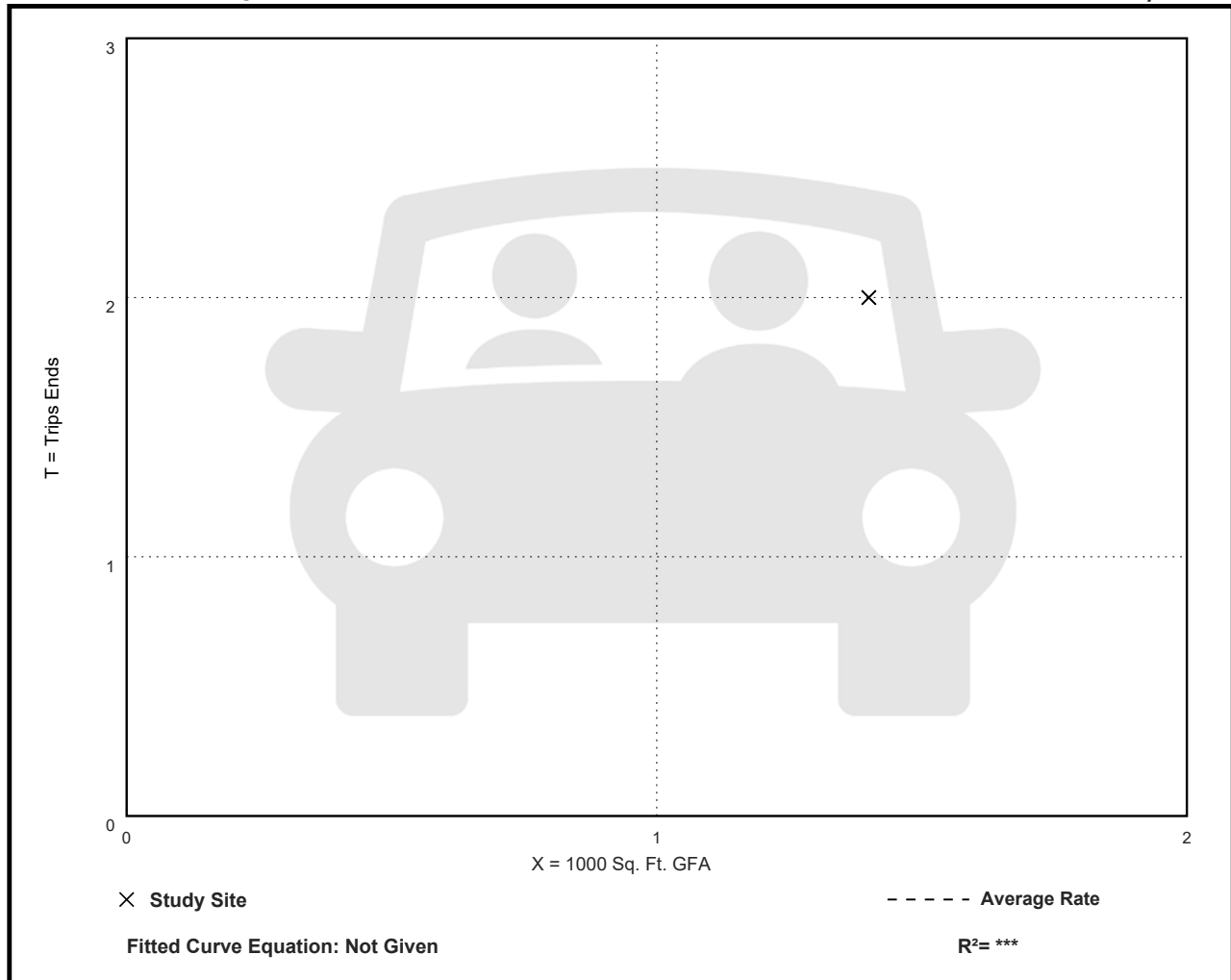
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.43	1.43 - 1.43	***

Data Plot and Equation

Caution – Small Sample Size



Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 15

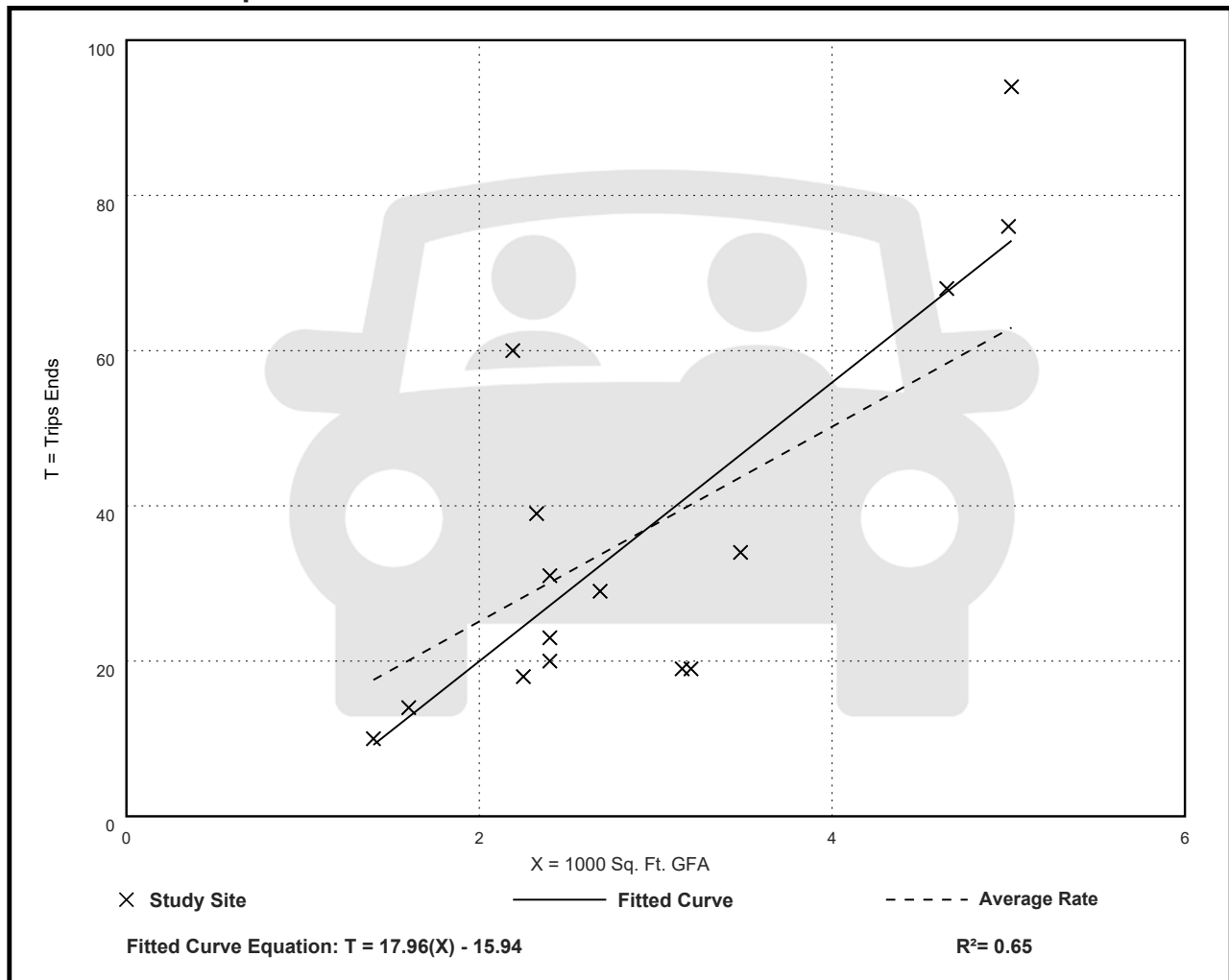
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
12.55	5.94 - 27.40	5.52

Data Plot and Equation



Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 1

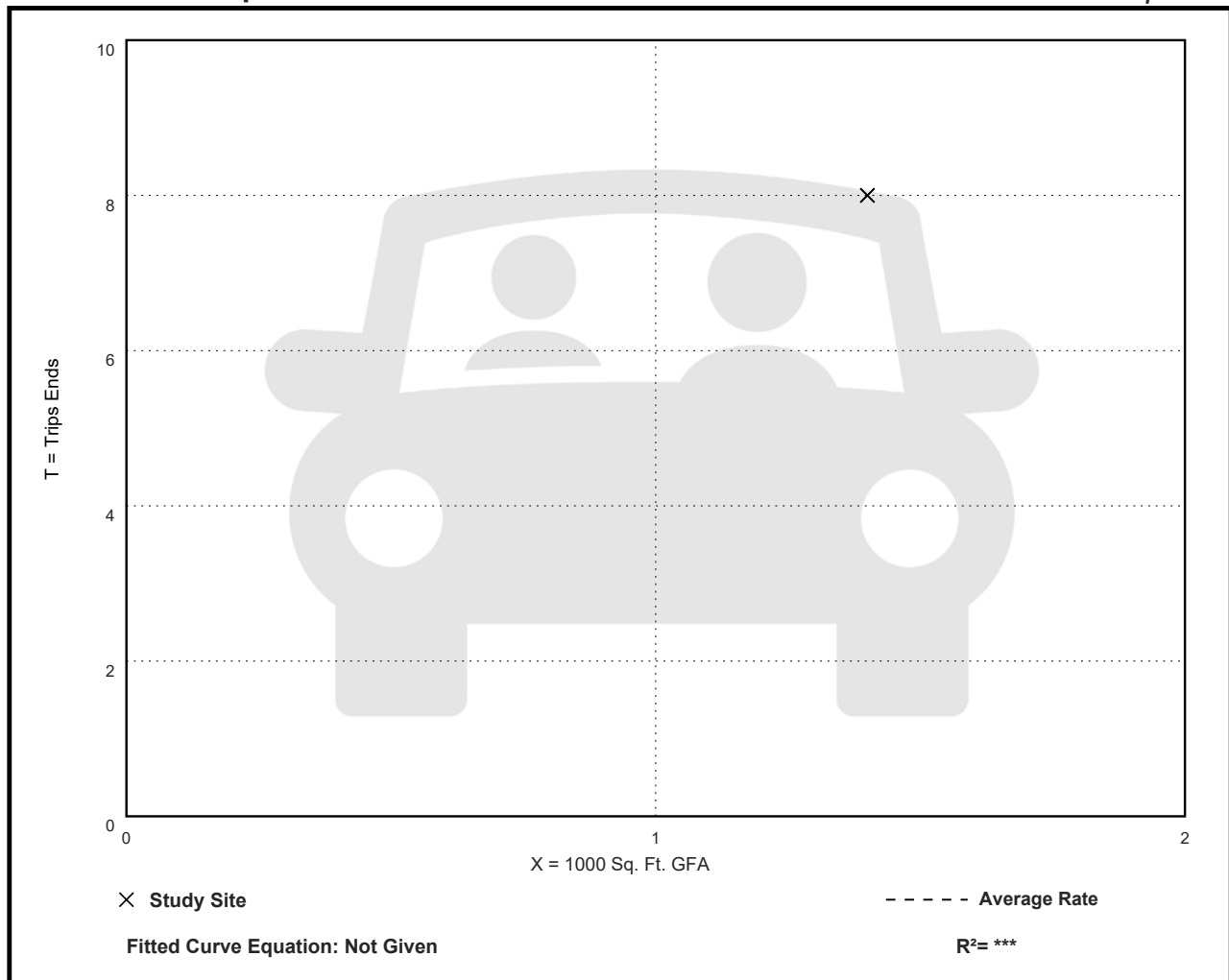
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.71	5.71 - 5.71	***

Data Plot and Equation

Caution – Small Sample Size



Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 1

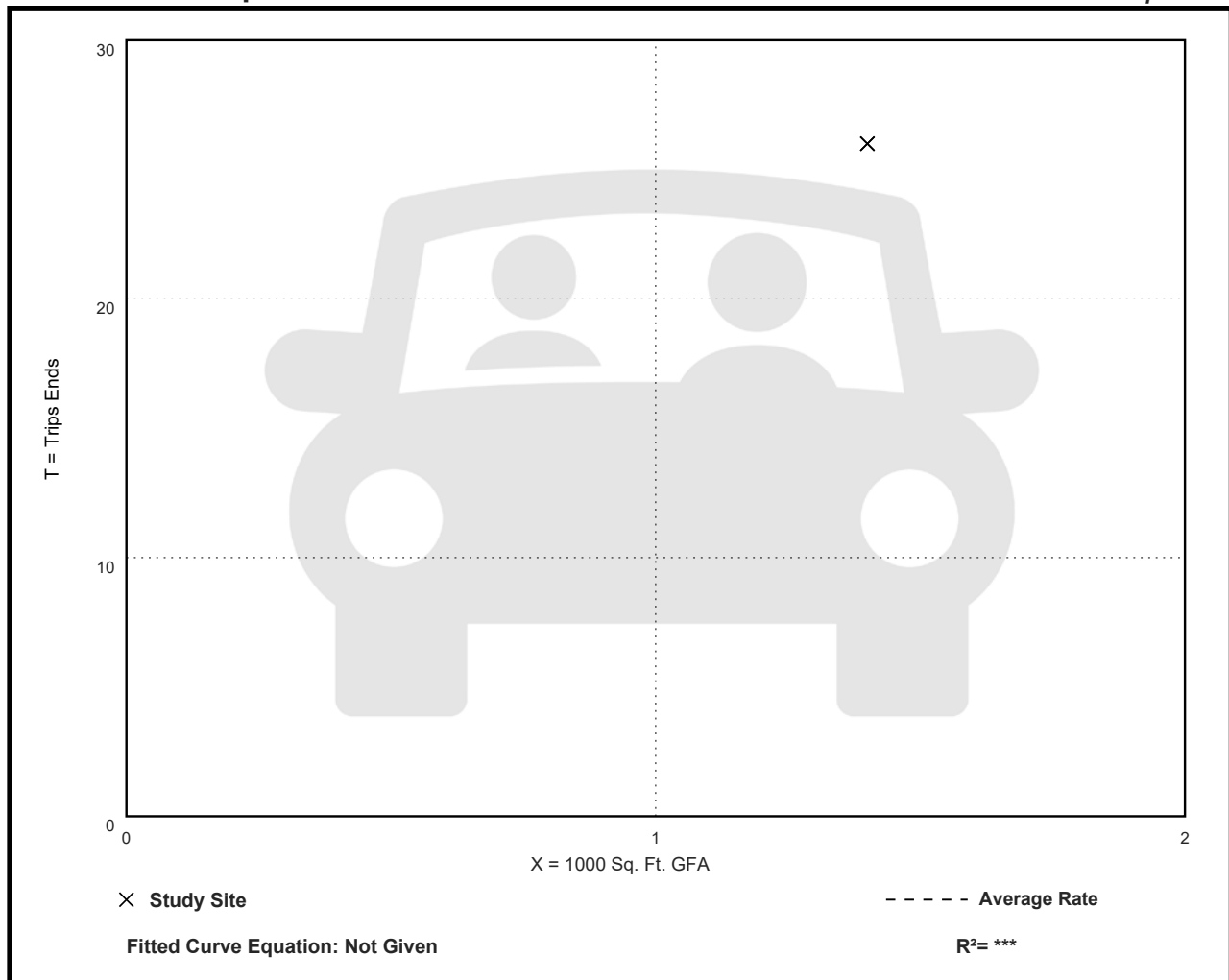
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
18.57	18.57 - 18.57	***

Data Plot and Equation

Caution – Small Sample Size



Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 5

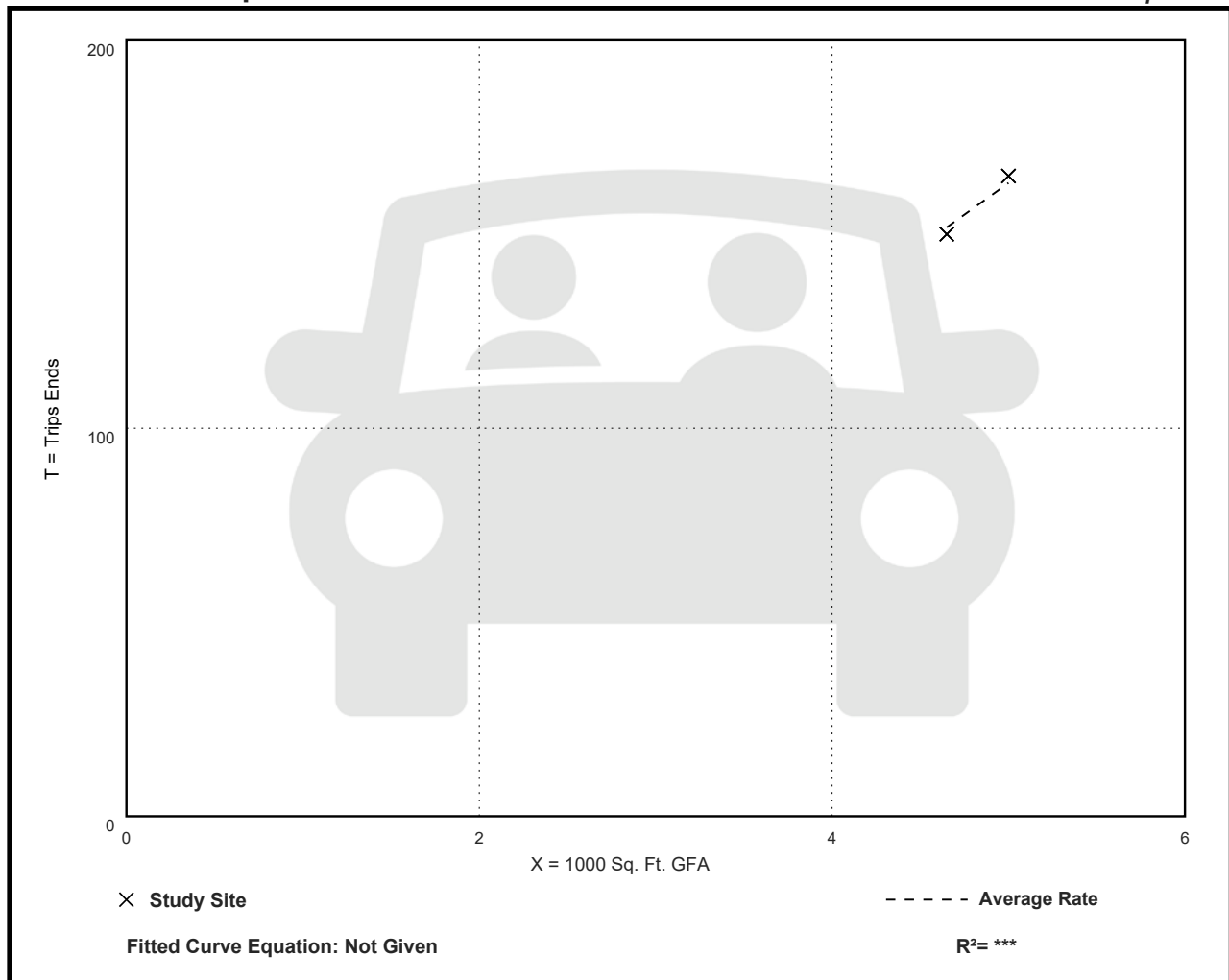
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
32.64	32.26 - 33.00	***

Data Plot and Equation

Caution – Small Sample Size



Land Use: 934

Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 71

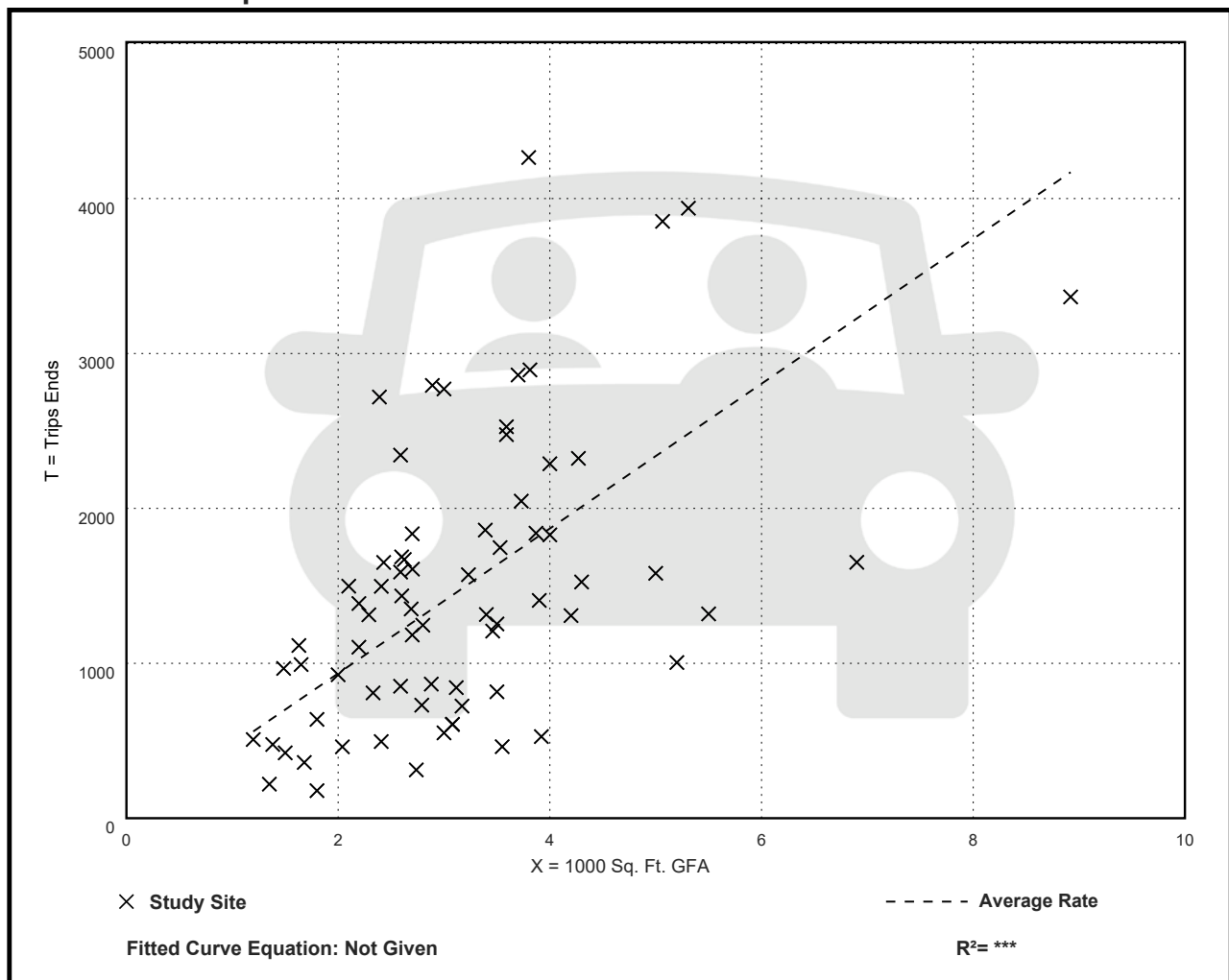
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 96

Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 190

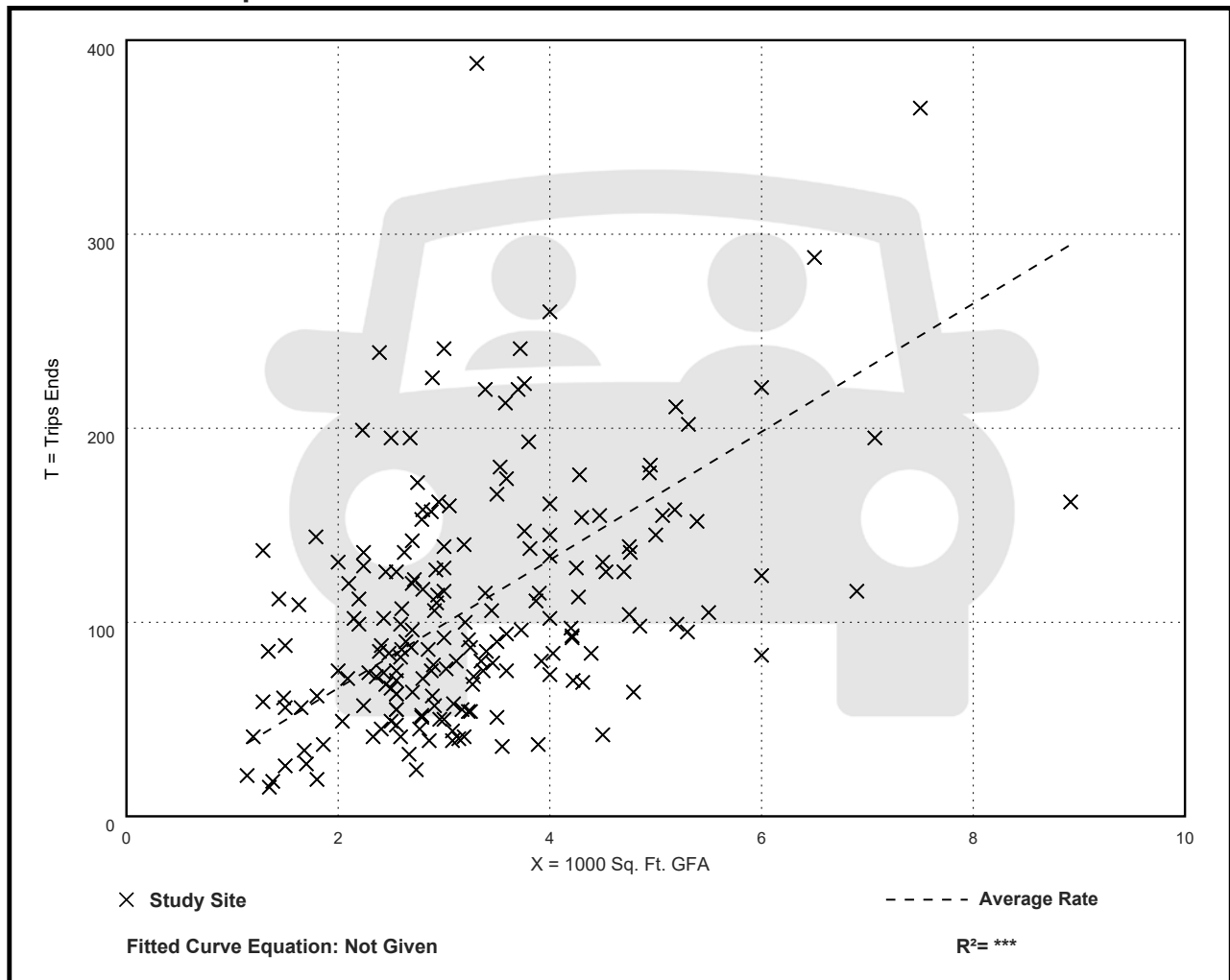
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 118

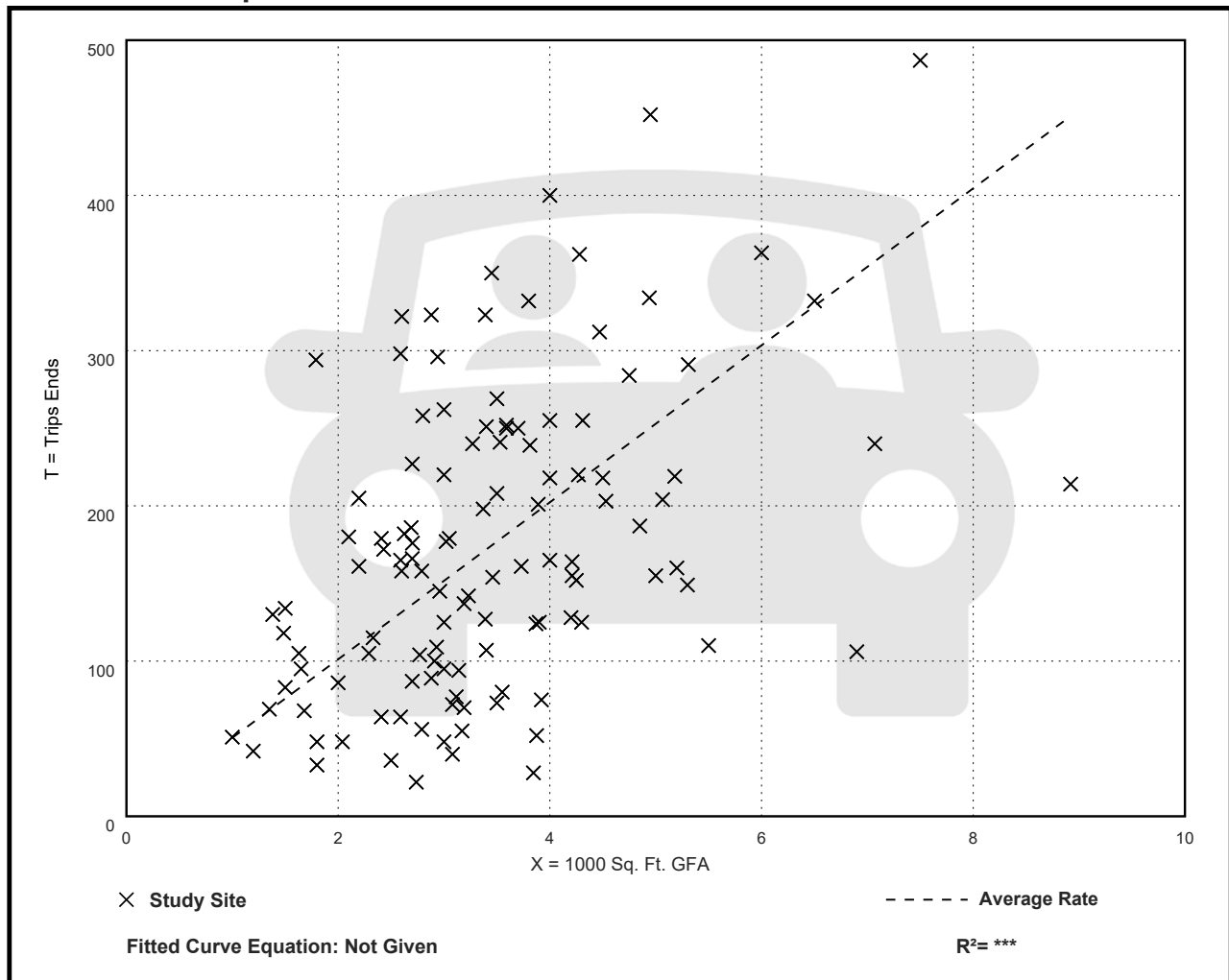
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.57	7.28 - 164.25	25.99

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 135

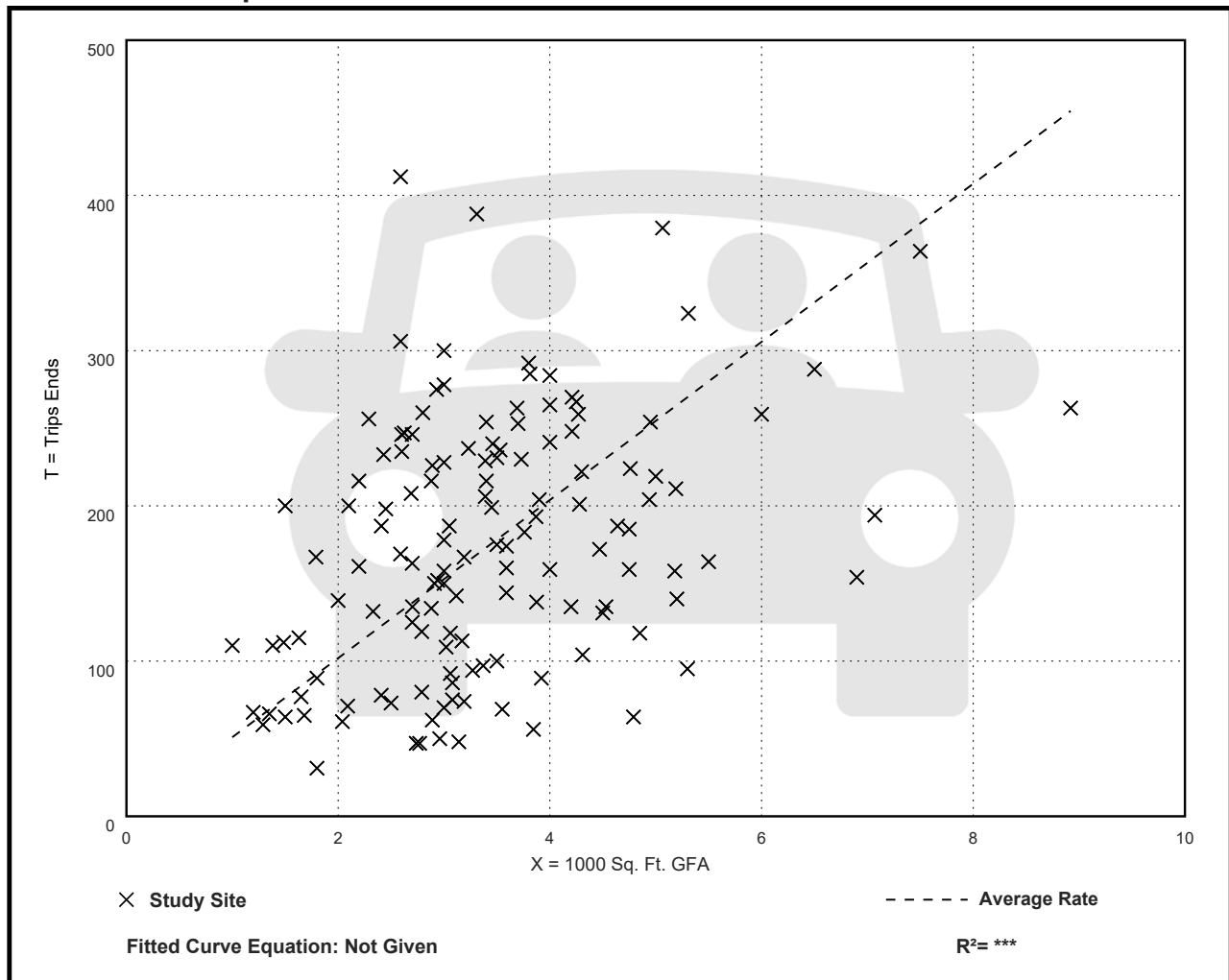
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.94	13.36 - 159.07	24.91

Data Plot and Equation



EXISTING BACKGROUND TRAFFIC

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\1 - Existing AM Summarized.pdf

Scenario 1 Existing AM
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.471	22.0	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.564	23.6	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	EB Left	0.298	5.8	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.481	34.0	D
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.004	17.7	C
10	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.023	19.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	172	62	49	151	36	49	81	48	42	35	38
Total Analysis Volume [veh/h]	160	689	247	196	604	145	195	326	191	168	140	151
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	28	0	9	28	0	23	40	0	13	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	53	44	44	53	44	44	29	19	19	6	15	15
g / C, Green / Cycle	0.59	0.49	0.49	0.59	0.49	0.49	0.32	0.21	0.21	0.07	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.16	0.27	0.17	0.09	0.14	0.17	0.12	0.05	0.07	0.10
s, saturation flow rate [veh/h]	862	3565	1572	739	3553	1615	1381	1884	1607	3356	1887	1494
c, Capacity [veh/h]	553	1746	770	483	1740	791	489	388	331	237	321	254
d1, Uniform Delay [s]	8.94	14.50	13.88	9.54	14.09	12.85	23.47	34.25	32.15	40.83	33.41	34.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.19	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.32	0.67	1.10	2.53	0.55	0.51	0.92	4.95	1.59	3.87	0.93	2.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.39	0.32	0.41	0.35	0.18	0.40	0.84	0.58	0.71	0.44	0.59
d, Delay for Lane Group [s/veh]	10.26	15.17	14.98	12.06	14.64	13.36	24.39	39.20	33.74	44.70	34.34	36.61
Lane Group LOS	B	B	B	B	B	B	C	D	C	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.38	4.09	2.93	1.82	3.48	1.58	3.20	7.21	3.82	1.92	2.78	3.15
50th-Percentile Queue Length [ft/ln]	34.47	102.23	73.25	45.43	86.96	39.42	79.97	180.23	95.44	48.11	69.48	78.76
95th-Percentile Queue Length [veh/ln]	2.48	7.36	5.27	3.27	6.26	2.84	5.76	11.61	6.87	3.46	5.00	5.67
95th-Percentile Queue Length [ft/ln]	62.04	184.02	131.85	81.78	156.52	70.96	143.94	290.31	171.79	86.59	125.06	141.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.26	15.17	14.98	12.06	14.64	13.36	24.39	39.20	33.74	44.70	34.34	36.61
Movement LOS	B	B	B	B	B	B	C	D	C	D	C	D
d_A, Approach Delay [s/veh]	14.41			13.91			33.68			38.88		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	22.03											
Intersection LOS	C											
Intersection V/C	0.471											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	2.956			2.990			2.531			2.683		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			801			578		
d_b, Bicycle Delay [s]	24.16			24.16			16.16			22.72		
I_b,int, Bicycle LOS Score for Intersection	2.464			2.339			2.734			2.317		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	46	6	7	151	40	25	109	65	9	74	17
Total Analysis Volume [veh/h]	149	184	24	28	604	160	100	437	259	36	295	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	44	0	10	45	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	54	48	48	54	45	45	28	28	28	28	28	28
g / C, Green / Cycle	0.60	0.53	0.53	0.60	0.50	0.50	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.01	0.02	0.32	0.10	0.10	0.23	0.16	0.05	0.16	0.04
s, saturation flow rate [veh/h]	913	1853	1615	1222	1878	1594	1014	1880	1581	761	1880	1615
c, Capacity [veh/h]	414	978	853	696	943	800	237	584	491	136	584	501
d1, Uniform Delay [s]	24.22	11.13	10.17	10.19	16.45	12.41	35.66	27.87	25.59	40.54	25.38	22.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.15	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.42	0.43	0.06	0.11	3.34	0.56	1.19	2.76	0.88	1.03	0.68	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.19	0.03	0.04	0.64	0.20	0.42	0.75	0.53	0.26	0.51	0.14
d, Delay for Lane Group [s/veh]	26.64	11.55	10.24	10.30	19.79	12.97	36.85	30.63	26.47	41.57	26.05	22.46
Lane Group LOS	C	B	B	B	B	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.40	1.89	0.23	0.22	9.19	1.79	2.13	8.75	4.64	0.81	5.21	1.05
50th-Percentile Queue Length [ft/ln]	34.95	47.27	5.65	5.42	229.80	44.67	53.18	218.64	115.88	20.33	130.25	26.29
95th-Percentile Queue Length [veh/ln]	2.52	3.40	0.41	0.39	14.16	3.22	3.83	13.60	8.17	1.46	8.95	1.89
95th-Percentile Queue Length [ft/ln]	62.90	85.09	10.18	9.75	354.11	80.40	95.72	339.89	204.15	36.60	223.84	47.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.64	11.55	10.24	10.30	19.79	12.97	36.85	30.63	26.47	41.57	26.05	22.46
Movement LOS	C	B	B	B	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.76			18.08			30.06			26.84		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.59											
Intersection LOS	C											
Intersection V/C	0.564											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.541			2.600			2.603			2.349		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			911			711			711		
d_b, Bicycle Delay [s]	13.89			13.34			18.69			18.69		
I_b,int, Bicycle LOS Score for Intersection	2.149			2.866			2.873			2.218		
Bicycle LOS	B			C			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	184	4	11	209	8	21	0	11	9	0	17
Total Analysis Volume [veh/h]	16	736	16	44	836	32	84	0	44	36	0	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6	6	6	6
g / C, Green / Cycle	0.42	0.42	0.42	0.42	0.42	0.42	0.24	0.24	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.01	0.06	0.24	0.02	0.06	0.00	0.03	0.03	0.00	0.04
s, saturation flow rate [veh/h]	648	3548	1615	722	3542	1615	1354	1900	1576	1384	1900	1535
c, Capacity [veh/h]	402	1487	677	434	1484	677	536	466	386	541	466	376
d1, Uniform Delay [s]	8.73	5.07	4.06	8.48	5.26	4.10	8.69	0.00	6.98	8.37	0.00	7.10
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.26	0.01	0.10	0.34	0.03	0.13	0.00	0.13	0.05	0.00	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.50	0.02	0.10	0.56	0.05	0.16	0.00	0.11	0.07	0.00	0.18
d, Delay for Lane Group [s/veh]	8.77	5.33	4.07	8.58	5.60	4.13	8.83	0.00	7.11	8.42	0.00	7.33
Lane Group LOS	A	A	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.04	0.17	0.01	0.10	0.21	0.01	0.27	0.00	0.12	0.11	0.00	0.19
50th-Percentile Queue Length [ft/ln]	0.94	4.36	0.17	2.45	5.31	0.35	6.81	0.00	2.99	2.80	0.00	4.75
95th-Percentile Queue Length [veh/ln]	0.07	0.31	0.01	0.18	0.38	0.03	0.49	0.00	0.22	0.20	0.00	0.34
95th-Percentile Queue Length [ft/ln]	1.69	7.84	0.31	4.40	9.57	0.63	12.25	0.00	5.38	5.03	0.00	8.55

Movement, Approach, & Intersection Results

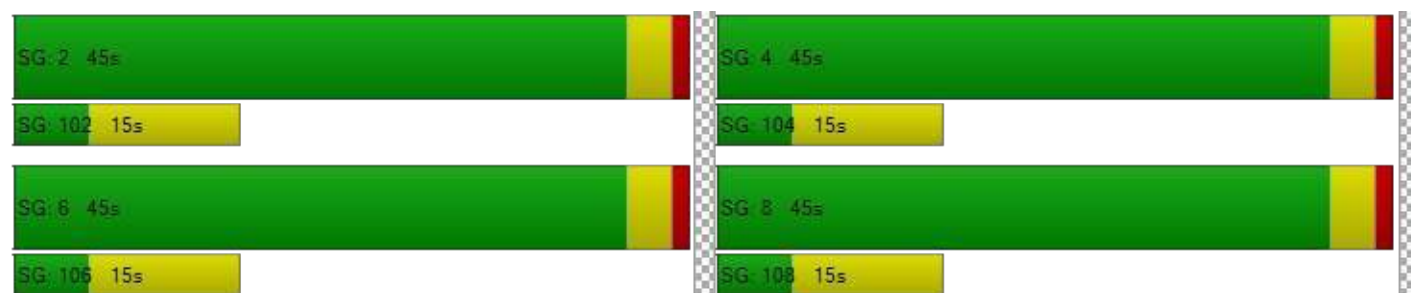
d_M, Delay for Movement [s/veh]	8.77	5.33	4.07	8.58	5.60	4.13	8.83	0.00	7.11	8.42	0.00	7.33
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	5.37			5.69			8.24			7.71		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.84											
Intersection LOS	A											
Intersection V/C	0.298											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	4.58			4.58			4.58			4.58		
I_p,int, Pedestrian LOS Score for Intersection	2.833			2.929			2.108			2.145		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3452			3452			3452			3452		
d_b, Bicycle Delay [s]	6.26			6.26			6.26			6.26		
I_b,int, Bicycle LOS Score for Intersection	2.193			2.312			1.771			1.731		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 34.0
 Level Of Service: D
 Volume to Capacity (v/c): 0.481

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	218	3	6	211	13	28	1	21	4	1	10
Total Analysis Volume [veh/h]	48	874	12	24	844	52	112	4	84	16	4	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.03	0.01	0.00	0.48	0.02	0.15	0.07	0.02	0.07
d_M, Delay for Movement [s/veh]	10.01	0.00	0.00	9.81	0.00	0.00	34.03	23.06	12.76	23.71	24.21	13.20
Movement LOS	B	A	A	A	A	A	D	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.20	0.00	0.00	0.10	0.00	0.00	2.40	0.60	0.60	0.58	0.58	0.58
95th-Percentile Queue Length [ft/ln]	5.00	0.00	0.00	2.40	0.00	0.00	60.02	14.93	14.93	14.46	14.46	14.46
d_A, Approach Delay [s/veh]	0.51			0.26			24.88			16.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.17											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	17.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	946	2	3	877	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	0.00	3.19	0.25	0.25
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	946	2	3	877	1	1
Peak Hour Factor	0.9500	0.9200	0.9200	0.9500	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	249	1	1	231	0	0
Total Analysis Volume [veh/h]	996	2	3	923	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.15	0.00	17.71	11.91
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.32	0.00	0.26	0.14
d_A, Approach Delay [s/veh]	0.00		0.03		14.81	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 10: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	863	2	3	864	5	10
Peak Hour Factor	0.9500	0.8800	0.8800	0.9500	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	227	1	1	227	1	3
Total Analysis Volume [veh/h]	908	2	3	909	6	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	9.86	0.00	19.28	11.93
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.30	0.00	3.36	3.36
d_A, Approach Delay [s/veh]	0.00		0.03		14.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\2 - Existing PM Summarized.pdf

Scenario 2 Existing PM
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.462	24.7	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.387	20.6	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.365	7.1	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.677	73.8	F
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.016	24.6	C
11	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.012	19.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	198	46	51	266	62	21	28	25	67	64	53
Total Analysis Volume [veh/h]	212	791	184	203	1066	249	84	113	100	267	257	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	9	24	0	15	30	0	25	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	53	44	44	53	44	44	29	15	15	9	15	15
g / C, Green / Cycle	0.59	0.49	0.49	0.59	0.49	0.49	0.32	0.17	0.17	0.10	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.30	0.22	0.12	0.24	0.30	0.15	0.06	0.06	0.06	0.08	0.14	0.13
s, saturation flow rate [veh/h]	712	3588	1598	830	3590	1615	1419	1900	1615	3464	1886	1579
c, Capacity [veh/h]	356	1756	783	431	1756	790	362	328	279	364	314	263
d1, Uniform Delay [s]	30.20	15.04	13.25	23.38	16.70	13.88	30.43	32.77	32.85	39.06	36.20	36.12
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.18	0.84	0.71	3.67	1.57	1.04	0.32	0.62	0.78	2.89	5.25	5.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.45	0.24	0.47	0.61	0.32	0.23	0.34	0.36	0.73	0.82	0.81
d, Delay for Lane Group [s/veh]	37.38	15.88	13.95	27.05	18.27	14.92	30.75	33.39	33.63	41.95	41.46	41.92
Lane Group LOS	D	B	B	C	B	B	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.32	4.86	2.06	1.97	7.35	2.93	1.27	2.20	1.96	2.97	5.80	4.82
50th-Percentile Queue Length [ft/ln]	57.90	121.55	51.56	49.27	183.67	73.34	31.83	54.93	48.99	74.14	145.03	120.52
95th-Percentile Queue Length [veh/ln]	4.17	8.48	3.71	3.55	11.79	5.28	2.29	3.96	3.53	5.34	9.75	8.42
95th-Percentile Queue Length [ft/ln]	104.21	211.96	92.81	88.69	294.80	132.01	57.29	98.88	88.19	133.45	243.78	210.54

Movement, Approach, & Intersection Results

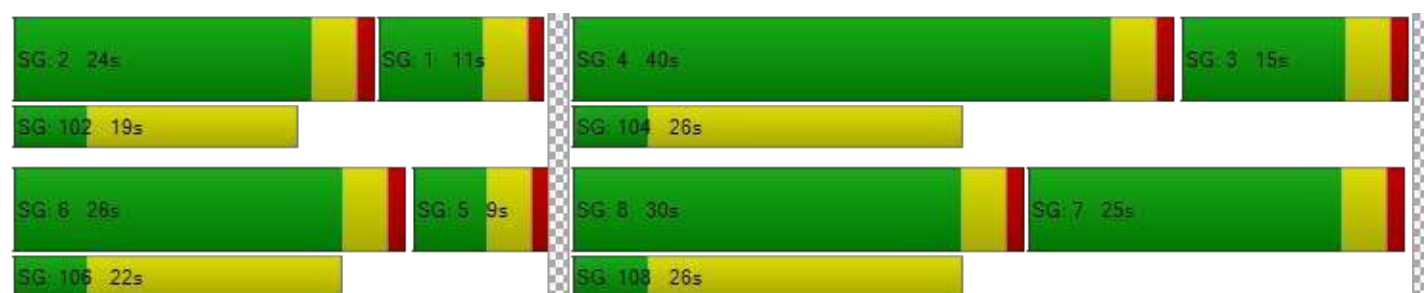
d_M, Delay for Movement [s/veh]	37.38	15.88	13.95	27.05	18.27	14.92	30.75	33.39	33.63	41.95	41.46	41.92
Movement LOS	D	B	B	C	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	19.42			18.89			32.72			41.77		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	24.66											
Intersection LOS	C											
Intersection V/C	0.462											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.093			3.188			2.629			2.796		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			444			578			800		
d_b, Bicycle Delay [s]	25.69			27.22			22.76			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.539			2.812			2.050			2.774		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	93	8	16	101	26	28	55	64	10	66	18
Total Analysis Volume [veh/h]	204	370	32	64	405	104	112	219	255	40	263	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	44	0	11	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	56	48	48	56	47	47	26	26	26	26	26	26
g / C, Green / Cycle	0.63	0.54	0.54	0.63	0.53	0.53	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.19	0.20	0.02	0.06	0.21	0.07	0.11	0.12	0.16	0.04	0.14	0.04
s, saturation flow rate [veh/h]	1066	1895	1615	1142	1891	1556	1039	1900	1604	930	1885	1606
c, Capacity [veh/h]	580	1022	871	629	999	822	224	537	454	231	533	454
d1, Uniform Delay [s]	15.64	11.86	9.74	12.04	12.74	10.73	37.40	26.16	27.52	33.02	26.90	24.23
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.68	1.00	0.08	0.32	1.22	0.32	1.72	0.50	1.09	0.35	0.71	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.36	0.04	0.10	0.41	0.13	0.50	0.41	0.56	0.17	0.49	0.16
d, Delay for Lane Group [s/veh]	17.31	12.86	9.82	12.36	13.96	11.04	39.11	26.66	28.62	33.37	27.60	24.39
Lane Group LOS	B	B	A	B	B	B	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.70	4.15	0.29	0.47	4.82	1.04	2.47	3.85	4.76	0.79	4.77	1.17
50th-Percentile Queue Length [ft/ln]	42.45	103.86	7.35	11.70	120.51	26.04	61.83	96.24	119.07	19.66	119.16	29.25
95th-Percentile Queue Length [veh/ln]	3.06	7.48	0.53	0.84	8.42	1.87	4.45	6.93	8.34	1.42	8.35	2.11
95th-Percentile Queue Length [ft/ln]	76.41	186.96	13.23	21.06	210.52	46.86	111.30	173.24	208.54	35.39	208.68	52.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.31	12.86	9.82	12.36	13.96	11.04	39.11	26.66	28.62	33.37	27.60	24.39
Movement LOS	B	B	A	B	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	14.20			13.25			29.89			27.60		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.59											
Intersection LOS	C											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	2.561			2.612			2.622			2.354		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			800			689			689		
d_b, Bicycle Delay [s]	13.89			16.20			19.34			19.34		
I_b,int, Bicycle LOS Score for Intersection	2.560			2.505			2.527			2.178		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	239	16	23	274	25	16	0	7	12	3	24
Total Analysis Volume [veh/h]	64	957	64	92	1097	100	63	0	28	48	12	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.27	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.04	0.17	0.31	0.06	0.05	0.00	0.02	0.03	0.01	0.06
s, saturation flow rate [veh/h]	475	3583	1615	551	3596	1615	1306	1900	1615	1404	1900	1615
c, Capacity [veh/h]	320	1448	652	350	1453	652	555	518	441	581	518	441
d1, Uniform Delay [s]	12.02	6.00	4.58	11.51	6.33	4.69	8.28	0.00	6.66	8.07	6.59	6.96
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.52	0.06	0.39	0.82	0.11	0.09	0.00	0.06	0.06	0.02	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.66	0.10	0.26	0.76	0.15	0.11	0.00	0.06	0.08	0.02	0.22
d, Delay for Lane Group [s/veh]	12.32	6.52	4.64	11.91	7.15	4.80	8.37	0.00	6.72	8.13	6.60	7.20
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	0.44	0.05	0.32	0.57	0.07	0.20	0.00	0.07	0.15	0.03	0.27
50th-Percentile Queue Length [ft/ln]	5.96	10.93	1.14	7.99	14.18	1.85	5.03	0.00	1.85	3.72	0.77	6.73
95th-Percentile Queue Length [veh/ln]	0.43	0.79	0.08	0.57	1.02	0.13	0.36	0.00	0.13	0.27	0.06	0.48
95th-Percentile Queue Length [ft/ln]	10.73	19.68	2.06	14.37	25.52	3.32	9.05	0.00	3.33	6.69	1.39	12.11

Movement, Approach, & Intersection Results

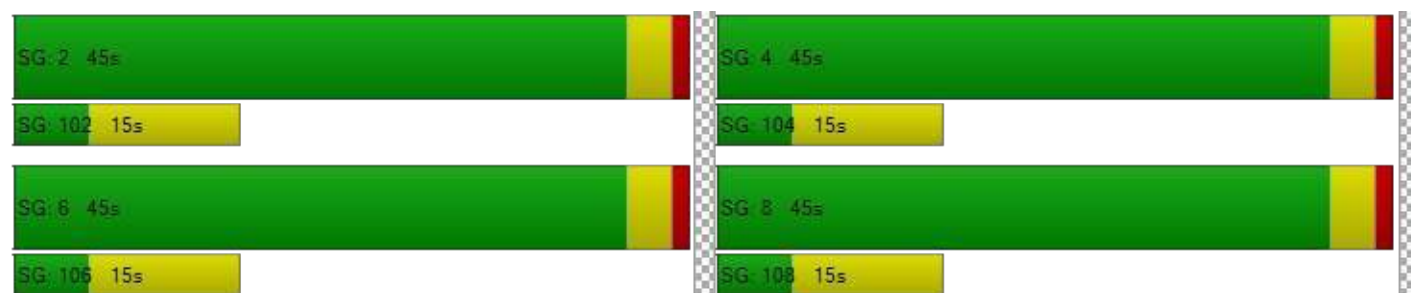
d_M, Delay for Movement [s/veh]	12.32	6.52	4.64	11.91	7.15	4.80	8.37	0.00	6.72	8.13	6.60	7.20
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.75			7.30			7.86			7.44		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.10											
Intersection LOS	A											
Intersection V/C	0.365											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	4.98			4.98			4.98			4.98		
I_p,int, Pedestrian LOS Score for Intersectio	2.993			3.050			2.198			2.247		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3324			3324			3324			3324		
d_b, Bicycle Delay [s]	5.41			5.41			5.41			5.41		
I_b,int, Bicycle LOS Score for Intersection	2.455			2.623			1.710			1.817		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 73.8
 Level Of Service: F
 Volume to Capacity (v/c): 0.677

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	250	7	9	309	36	23	0	17	2	0	9
Total Analysis Volume [veh/h]	60	1001	28	36	1235	144	93	0	68	8	1	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	3	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.00	0.05	0.01	0.00	0.68	0.00	0.17	0.05	0.01	0.07
d_M, Delay for Movement [s/veh]	13.11	0.00	0.00	10.57	0.00	0.00	73.76	30.30	16.08	30.21	39.00	12.55
Movement LOS	B	A	A	B	A	A	F	D	C	D	E	B
95th-Percentile Queue Length [veh/ln]	0.40	0.00	0.00	0.17	0.00	0.00	3.75	0.62	0.62	0.17	0.25	0.25
95th-Percentile Queue Length [ft/ln]	10.07	0.00	0.00	4.17	0.00	0.00	93.82	15.48	15.48	4.16	6.35	6.35
d_A, Approach Delay [s/veh]	0.72			0.27			49.40			16.28		
Approach LOS	A			A			E			C		
d_I, Intersection Delay [s/veh]	3.64											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1071	3	5	1330	3	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.65	0.00	0.00	1.05	0.00	12.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1071	3	5	1330	3	8
Peak Hour Factor	0.9600	0.9200	0.9200	0.9600	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	279	1	1	346	1	2
Total Analysis Volume [veh/h]	1116	3	5	1385	3	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	10.74	0.00	24.63	13.48
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.60	0.00	2.81	2.81
d_A, Approach Delay [s/veh]	0.00		0.04		16.26	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 11: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1023	6	11	1228	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	2	3	307	1	2
Total Analysis Volume [veh/h]	1023	6	11	1228	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	10.46	0.00	19.27	12.35
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.25	0.00	1.81	1.81
d_A, Approach Delay [s/veh]	0.00		0.09		14.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	C					

2025 BACKGROUND TRAFFIC

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 3 2025 AM

Report File: C:\...\3 - 2025 AM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.506	22.7	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.602	26.0	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.319	6.1	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.568	42.4	E
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.004	18.8	C
12	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.020	19.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	702	191	186	615	93	174	202	164	132	124	136
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	185	66	52	162	39	52	87	51	45	37	40
Total Analysis Volume [veh/h]	171	739	265	209	647	155	210	348	205	181	149	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	28	0	9	28	0	23	40	0	13	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	52	43	43	52	43	43	30	20	20	7	16	16
g / C, Green / Cycle	0.57	0.47	0.47	0.57	0.47	0.47	0.34	0.22	0.22	0.07	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.17	0.29	0.18	0.10	0.15	0.18	0.13	0.05	0.08	0.11
s, saturation flow rate [veh/h]	836	3565	1572	712	3553	1615	1367	1884	1607	3356	1887	1494
c, Capacity [veh/h]	519	1688	744	451	1682	765	504	411	351	251	342	270
d1, Uniform Delay [s]	9.86	15.71	14.98	10.66	15.23	13.78	22.61	33.67	31.47	40.65	32.71	33.79
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.23	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.69	0.83	1.33	3.39	0.67	0.60	1.18	4.88	1.55	3.91	0.88	2.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.44	0.36	0.46	0.38	0.20	0.42	0.85	0.58	0.72	0.44	0.60
d, Delay for Lane Group [s/veh]	11.55	16.54	16.31	14.05	15.90	14.38	23.79	38.55	33.02	44.56	33.59	35.91
Lane Group LOS	B	B	B	B	B	B	C	D	C	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.59	4.67	3.34	2.11	3.95	1.77	3.41	7.65	4.06	2.07	2.92	3.35
50th-Percentile Queue Length [ft/ln]	39.66	116.76	83.41	52.80	98.86	44.34	85.21	191.35	101.45	51.76	73.09	83.74
95th-Percentile Queue Length [veh/ln]	2.86	8.21	6.01	3.80	7.12	3.19	6.14	12.19	7.30	3.73	5.26	6.03
95th-Percentile Queue Length [ft/ln]	71.40	205.37	150.13	95.05	177.95	79.81	153.38	304.79	182.61	93.17	131.56	150.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.55	16.54	16.31	14.05	15.90	14.38	23.79	38.55	33.02	44.56	33.59	35.91
Movement LOS	B	B	B	B	B	B	C	D	C	D	C	D
d_A, Approach Delay [s/veh]	15.76			15.28			33.00			38.39		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	22.68											
Intersection LOS	C											
Intersection V/C	0.506											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	2.993			3.032			2.555			2.705		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			801			578		
d_b, Bicycle Delay [s]	24.16			24.16			16.16			22.72		
I_b,int, Bicycle LOS Score for Intersection	2.529			2.394			2.819			2.371		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	111	169	7	16	517	129	82	243	239	18	243	57
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	49	6	7	162	43	27	117	69	10	79	18
Total Analysis Volume [veh/h]	159	197	24	30	646	172	106	467	278	38	316	73
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	41	0	19	42	0	0	40	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	52	52	59	50	50	33	33	33	33	33	33
g / C, Green / Cycle	0.59	0.52	0.52	0.59	0.50	0.50	0.33	0.33	0.33	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.18	0.11	0.01	0.02	0.34	0.11	0.11	0.25	0.18	0.05	0.17	0.05
s, saturation flow rate [veh/h]	868	1853	1615	1206	1878	1594	990	1880	1581	727	1880	1615
c, Capacity [veh/h]	367	966	842	667	940	798	239	621	522	132	621	533
d1, Uniform Delay [s]	30.79	12.80	11.61	12.01	19.01	13.98	38.68	29.85	27.22	44.46	26.97	23.50
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.70	0.48	0.06	0.13	4.09	0.62	1.29	1.87	0.85	1.20	0.65	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.20	0.03	0.04	0.69	0.22	0.44	0.75	0.53	0.29	0.51	0.14
d, Delay for Lane Group [s/veh]	34.49	13.28	11.68	12.14	23.10	14.60	39.97	31.72	28.07	45.65	27.61	23.61
Lane Group LOS	C	B	B	B	C	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.82	2.37	0.26	0.28	11.64	2.21	2.51	10.25	5.51	0.96	6.18	1.24
50th-Percentile Queue Length [ft/ln]	45.49	59.15	6.55	6.89	291.06	55.20	62.83	256.13	137.74	24.01	154.44	30.95
95th-Percentile Queue Length [veh/ln]	3.28	4.26	0.47	0.50	17.24	3.97	4.52	15.49	9.36	1.73	10.25	2.23
95th-Percentile Queue Length [ft/ln]	81.88	106.48	11.79	12.40	430.95	99.36	113.09	387.36	233.98	43.22	256.34	55.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.49	13.28	11.68	12.14	23.10	14.60	39.97	31.72	28.07	45.65	27.61	23.61
Movement LOS	C	B	B	B	C	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	22.05			20.98			31.56			28.54		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.02											
Intersection LOS	C											
Intersection V/C	0.602											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.40			41.40			41.40			41.40		
I_p,int, Pedestrian LOS Score for Intersectio	2.573			2.637			2.643			2.369		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	740			760			720			720		
d_b, Bicycle Delay [s]	19.84			19.21			20.47			20.47		
I_b,int, Bicycle LOS Score for Intersection	2.187			2.959			2.964			2.264		
Bicycle LOS	B			C			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	6.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	749	11	32	851	30	67	0	35	30	0	51
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	197	4	12	224	9	22	0	12	10	0	18
Total Analysis Volume [veh/h]	18	788	17	47	896	34	89	0	47	38	0	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6	6	6	6
g / C, Green / Cycle	0.42	0.42	0.42	0.42	0.42	0.42	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.03	0.22	0.01	0.07	0.25	0.02	0.07	0.00	0.03	0.03	0.00	0.05
s, saturation flow rate [veh/h]	611	3548	1615	687	3542	1615	1349	1900	1576	1380	1900	1535
c, Capacity [veh/h]	380	1472	670	412	1469	670	543	481	399	548	481	388
d1, Uniform Delay [s]	9.34	5.30	4.17	9.03	5.52	4.21	8.66	0.00	6.92	8.31	0.00	7.05
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.30	0.02	0.12	0.41	0.03	0.14	0.00	0.13	0.05	0.00	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.54	0.03	0.11	0.61	0.05	0.16	0.00	0.12	0.07	0.00	0.19
d, Delay for Lane Group [s/veh]	9.39	5.61	4.18	9.15	5.93	4.24	8.80	0.00	7.05	8.37	0.00	7.28
Lane Group LOS	A	A	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.05	0.23	0.01	0.12	0.28	0.02	0.29	0.00	0.13	0.12	0.00	0.20
50th-Percentile Queue Length [ft/ln]	1.16	5.77	0.21	2.88	7.10	0.43	7.25	0.00	3.19	2.96	0.00	5.03
95th-Percentile Queue Length [veh/ln]	0.08	0.42	0.02	0.21	0.51	0.03	0.52	0.00	0.23	0.21	0.00	0.36
95th-Percentile Queue Length [ft/ln]	2.10	10.38	0.38	5.19	12.77	0.78	13.06	0.00	5.75	5.33	0.00	9.05

Movement, Approach, & Intersection Results

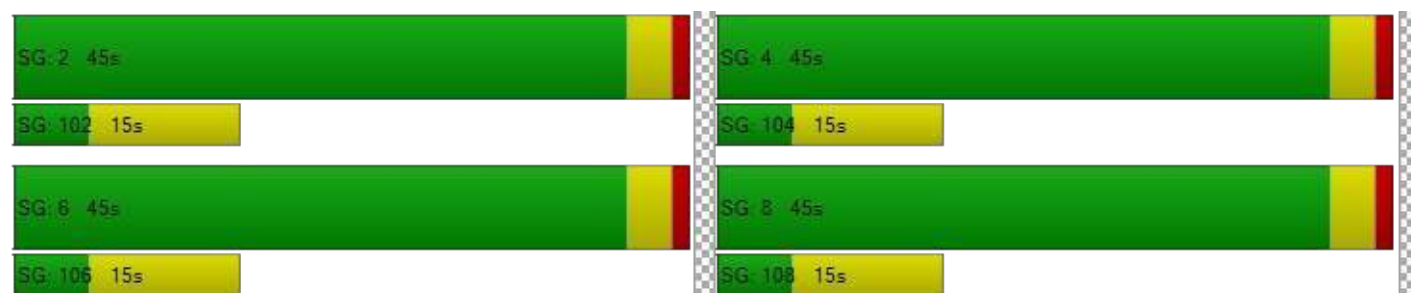
d_M, Delay for Movement [s/veh]	9.39	5.61	4.18	9.15	5.93	4.24	8.80	0.00	7.05	8.37	0.00	7.28
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	5.66			6.03			8.19			7.65		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.11											
Intersection LOS	A											
Intersection V/C	0.319											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	4.70			4.70			4.70			4.70		
I_p,int, Pedestrian LOS Score for Intersection	2.866			2.968			2.114			2.153		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3414			3414			3414			3414		
d_b, Bicycle Delay [s]	6.00			6.00			6.00			6.00		
I_b,int, Bicycle LOS Score for Intersection	2.239			2.366			1.784			1.741		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 42.4
 Level Of Service: E
 Volume to Capacity (v/c): 0.568

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	889	4	17	859	49	91	2	58	10	2	27
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	234	3	6	226	14	30	1	23	4	1	11
Total Analysis Volume [veh/h]	51	936	12	25	904	56	120	4	91	18	4	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.03	0.01	0.00	0.57	0.02	0.17	0.09	0.02	0.08
d_M, Delay for Movement [s/veh]	10.34	0.00	0.00	10.09	0.00	0.00	42.36	25.01	13.37	26.29	26.70	14.13
Movement LOS	B	A	A	B	A	A	E	D	B	D	D	B
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.11	0.00	0.00	3.10	0.69	0.69	0.71	0.71	0.71
95th-Percentile Queue Length [ft/ln]	5.66	0.00	0.00	2.65	0.00	0.00	77.59	17.32	17.32	17.63	17.63	17.63
d_A, Approach Delay [s/veh]	0.53			0.26			29.77			18.27		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	3.70											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	946	2	3	877	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	0.00	3.19	0.25	0.25
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1013	2	3	940	1	1
Peak Hour Factor	0.9500	0.9200	0.9200	0.9500	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	1	1	247	0	0
Total Analysis Volume [veh/h]	1066	2	3	989	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.48	0.00	18.83	12.29
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.34	0.00	0.29	0.15
d_A, Approach Delay [s/veh]	0.00		0.03		15.56	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 12: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	925	2	3	926	5	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	231	1	1	232	1	3
Total Analysis Volume [veh/h]	925	2	3	926	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	9.93	0.00	19.55	11.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.00	3.11	3.11
d_A, Approach Delay [s/veh]	0.00		0.03		14.34	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 4 2025 PM

Report File: C:\...\4 - 2025 PM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.517	26.2	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.414	21.1	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.391	7.6	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.897	131.6	F
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.018	26.8	D
13	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.016	24.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	26.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	813	164	163	1096	200	79	106	94	240	237	189
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	212	49	54	285	67	22	30	27	71	69	57
Total Analysis Volume [veh/h]	227	847	198	217	1142	267	90	120	107	286	276	228
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	9	24	0	15	30	0	25	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	52	43	43	52	43	43	30	16	16	10	16	16
g / C, Green / Cycle	0.57	0.47	0.47	0.57	0.47	0.47	0.34	0.18	0.18	0.11	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.33	0.24	0.12	0.27	0.32	0.17	0.06	0.06	0.07	0.08	0.15	0.14
s, saturation flow rate [veh/h]	694	3588	1598	808	3590	1615	1397	1900	1615	3464	1886	1579
c, Capacity [veh/h]	332	1700	757	403	1695	763	371	347	295	384	334	279
d1, Uniform Delay [s]	32.47	16.32	14.23	26.74	18.38	15.01	30.04	32.10	32.21	38.79	35.71	35.63
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.89	1.05	0.84	5.09	2.16	1.27	0.34	0.59	0.75	2.90	5.22	5.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.50	0.26	0.54	0.67	0.35	0.24	0.35	0.36	0.75	0.83	0.82
d, Delay for Lane Group [s/veh]	43.36	17.36	15.07	31.83	20.53	16.28	30.37	32.70	32.96	41.69	40.94	41.42
Lane Group LOS	D	B	B	C	C	B	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.85	5.56	2.34	2.32	8.55	3.34	1.33	2.31	2.07	3.17	6.20	5.16
50th-Percentile Queue Length [ft/ln]	71.16	139.10	58.60	58.05	213.86	83.54	33.25	57.64	51.83	79.25	155.11	129.10
95th-Percentile Queue Length [veh/ln]	5.12	9.43	4.22	4.18	13.35	6.01	2.39	4.15	3.73	5.71	10.29	8.89
95th-Percentile Queue Length [ft/ln]	128.08	235.81	105.48	104.49	333.78	150.37	59.85	103.76	93.29	142.66	257.24	222.27

Movement, Approach, & Intersection Results

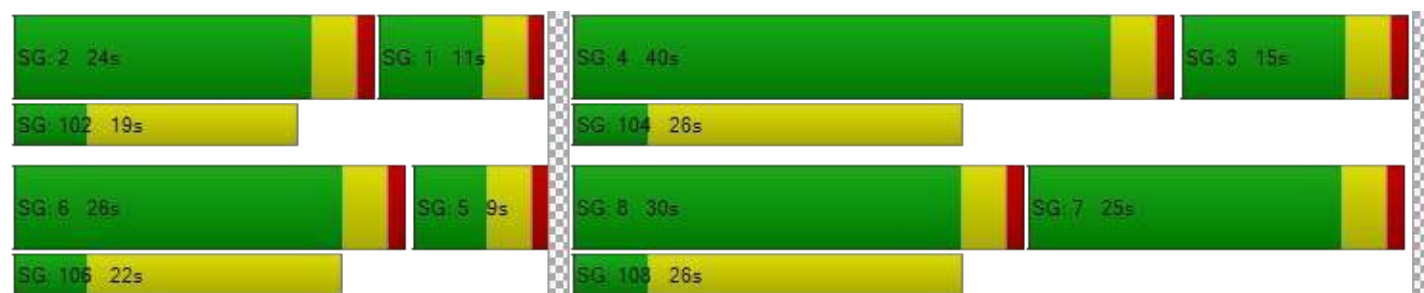
d_M, Delay for Movement [s/veh]	43.36	17.36	15.07	31.83	20.53	16.28	30.37	32.70	32.96	41.69	40.94	41.42
Movement LOS	D	B	B	C	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.64			21.34			32.13			41.35		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	26.24											
Intersection LOS	C											
Intersection V/C	0.517											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.139			3.239			2.609			2.831		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			444			578			800		
d_b, Bicycle Delay [s]	25.69			27.22			22.76			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.609			2.901			2.083			2.863		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.414

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	345	22	60	377	93	78	230	243	24	273	56
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	99	8	17	108	28	30	59	68	11	70	19
Total Analysis Volume [veh/h]	218	397	33	68	433	111	120	235	273	44	281	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	34	0	17	42	0	0	39	0	0	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	54	46	46	54	45	45	28	28	28	28	28	28
g / C, Green / Cycle	0.60	0.51	0.51	0.60	0.50	0.50	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.02	0.06	0.23	0.07	0.12	0.12	0.17	0.05	0.15	0.05
s, saturation flow rate [veh/h]	1050	1895	1615	1129	1891	1556	1016	1900	1604	902	1885	1606
c, Capacity [veh/h]	535	974	830	582	953	784	239	584	493	242	579	493
d1, Uniform Delay [s]	18.73	13.45	10.85	14.09	14.36	11.93	36.35	24.65	26.03	31.81	25.38	22.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.30	1.27	0.09	0.41	1.56	0.38	1.64	0.45	0.98	0.36	0.63	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.41	0.04	0.12	0.45	0.14	0.50	0.40	0.55	0.18	0.49	0.16
d, Delay for Lane Group [s/veh]	21.03	14.71	10.94	14.50	15.93	12.30	37.98	25.10	27.01	32.17	26.01	22.85
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.02	4.87	0.32	0.54	5.62	1.19	2.62	4.01	4.97	0.85	4.95	1.22
50th-Percentile Queue Length [ft/ln]	50.54	121.74	8.11	13.61	140.41	29.74	65.53	100.27	124.13	21.26	123.77	30.61
95th-Percentile Queue Length [veh/ln]	3.64	8.49	0.58	0.98	9.50	2.14	4.72	7.22	8.62	1.53	8.60	2.20
95th-Percentile Queue Length [ft/ln]	90.97	212.22	14.60	24.49	237.57	53.54	117.95	180.49	215.49	38.27	215.00	55.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.03	14.71	10.94	14.50	15.93	12.30	37.98	25.10	27.01	32.17	26.01	22.85
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.65			15.11			28.39			26.07		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.11											
Intersection LOS	C											
Intersection V/C	0.414											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.593			2.647			2.656			2.369		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	667			844			778			778		
d_b, Bicycle Delay [s]	20.00			15.02			16.81			16.81		
I_b,int, Bicycle LOS Score for Intersection	2.629			2.569			2.596			2.225		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.391

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	985	54	92	1128	67	43	0	25	39	4	72
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	257	17	25	294	27	17	0	8	13	3	26
Total Analysis Volume [veh/h]	69	1026	69	99	1175	106	68	0	30	52	12	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.16	0.29	0.04	0.19	0.33	0.07	0.05	0.00	0.02	0.04	0.01	0.06
s, saturation flow rate [veh/h]	438	3583	1615	514	3596	1615	1298	1900	1615	1401	1900	1615
c, Capacity [veh/h]	301	1432	645	329	1437	645	560	534	454	588	534	454
d1, Uniform Delay [s]	12.44	6.32	4.71	12.08	6.70	4.83	8.24	0.00	6.60	8.02	6.51	6.91
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.68	0.07	0.51	1.20	0.12	0.10	0.00	0.06	0.06	0.02	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.72	0.11	0.30	0.82	0.16	0.12	0.00	0.07	0.09	0.02	0.23
d, Delay for Lane Group [s/veh]	12.83	7.01	4.79	12.59	7.90	4.95	8.34	0.00	6.66	8.09	6.53	7.17
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	0.56	0.06	0.39	0.75	0.09	0.22	0.00	0.08	0.16	0.03	0.29
50th-Percentile Queue Length [ft/ln]	7.27	13.95	1.38	9.74	18.79	2.20	5.46	0.00	1.98	4.05	0.77	7.23
95th-Percentile Queue Length [veh/ln]	0.52	1.00	0.10	0.70	1.35	0.16	0.39	0.00	0.14	0.29	0.06	0.52
95th-Percentile Queue Length [ft/ln]	13.09	25.11	2.49	17.53	33.81	3.95	9.83	0.00	3.57	7.29	1.38	13.02

Movement, Approach, & Intersection Results

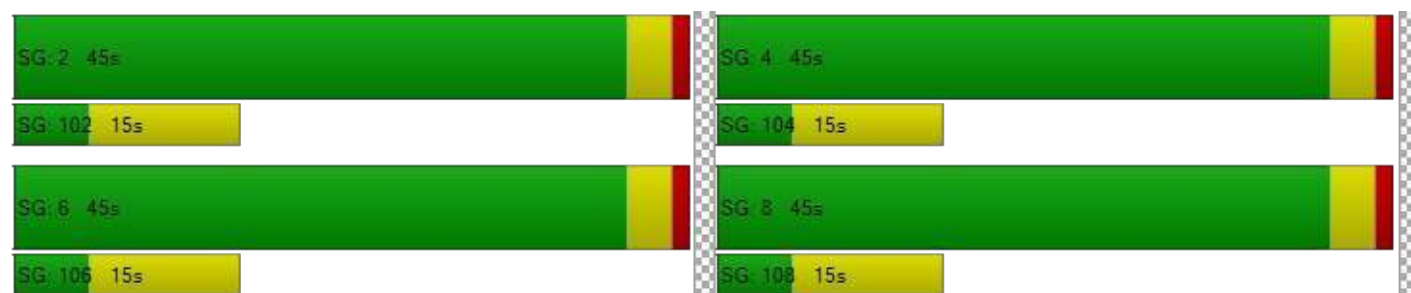
d_M, Delay for Movement [s/veh]	12.83	7.01	4.79	12.59	7.90	4.95	8.34	0.00	6.66	8.09	6.53	7.17
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.22			8.01			7.82			7.41		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.64											
Intersection LOS	A											
Intersection V/C	0.391											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.10			5.10			5.10			5.10		
I_p,int, Pedestrian LOS Score for Intersectio	3.040			3.100			2.210			2.263		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3287			3287			3287			3287		
d_b, Bicycle Delay [s]	5.16			5.16			5.16			5.16		
I_b,int, Bicycle LOS Score for Intersection	2.520			2.698			1.721			1.835		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 131.6
 Level Of Service: F
 Volume to Capacity (v/c): 0.897

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1030	17	22	1271	130	79	0	51	6	1	21
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	268	7	9	331	39	25	0	18	2	0	9
Total Analysis Volume [veh/h]	64	1073	30	38	1324	155	99	0	72	8	1	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.00	0.06	0.01	0.00	0.90	0.00	0.20	0.06	0.01	0.07
d_M, Delay for Movement [s/veh]	14.06	0.00	0.00	10.98	0.00	0.00	131.59	37.64	17.31	34.71	48.10	14.29
Movement LOS	B	A	A	B	A	A	F	E	C	D	E	B
95th-Percentile Queue Length [veh/ln]	0.48	0.00	0.00	0.19	0.00	0.00	5.43	0.73	0.73	0.51	0.51	0.51
95th-Percentile Queue Length [ft/ln]	11.97	0.00	0.00	4.72	0.00	0.00	135.64	18.13	18.13	12.82	12.82	12.82
d_A, Approach Delay [s/veh]	0.77			0.27			83.47			18.57		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	5.67											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1071	3	5	1330	3	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.65	0.00	0.00	1.05	0.00	12.50
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1147	3	5	1425	3	9
Peak Hour Factor	0.9600	0.9200	0.9200	0.9600	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	299	1	1	371	1	2
Total Analysis Volume [veh/h]	1195	3	5	1484	3	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	11.16	0.00	26.76	14.08
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.64	0.00	3.24	3.24
d_A, Approach Delay [s/veh]	0.00		0.04		17.01	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 13: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1096	6	12	1316	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	274	2	3	329	1	2
Total Analysis Volume [veh/h]	1096	6	12	1316	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	10.83	0.00	24.39	12.86
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.46	0.00	2.19	2.19
d_A, Approach Delay [s/veh]	0.00		0.10		16.70	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	C					

2025 BACKGROUND PLUS PROJECT

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\5 - 2025 AM + Pro Summarized.pdf

Scenario 5 2025 AM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.520	23.1	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.609	24.6	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.326	6.2	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.592	45.7	E
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.318	31.0	D
14	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.020	20.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	23	10	0	32	0	0	0	28	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	725	201	186	647	93	174	202	192	148	124	136
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	191	70	52	170	39	52	87	60	51	37	40
Total Analysis Volume [veh/h]	194	763	279	209	681	155	210	348	240	203	149	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	29	0	9	29	0	20	41	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	42	42	51	42	42	31	20	20	7	17	17
g / C, Green / Cycle	0.57	0.47	0.47	0.57	0.47	0.47	0.34	0.22	0.22	0.08	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.24	0.21	0.18	0.30	0.19	0.10	0.15	0.18	0.15	0.06	0.08	0.11
s, saturation flow rate [veh/h]	819	3565	1572	696	3553	1615	1361	1884	1607	3356	1887	1494
c, Capacity [veh/h]	503	1674	738	439	1668	758	508	413	352	261	351	278
d1, Uniform Delay [s]	10.34	16.08	15.37	11.01	15.63	13.98	22.35	33.60	32.21	40.67	32.30	33.37
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.32	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.23	0.90	1.47	3.68	0.74	0.61	1.59	4.75	2.33	5.00	0.81	1.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.46	0.38	0.48	0.41	0.20	0.41	0.84	0.68	0.78	0.42	0.58
d, Delay for Lane Group [s/veh]	12.57	16.98	16.84	14.69	16.38	14.59	23.94	38.36	34.54	45.67	33.11	35.29
Lane Group LOS	B	B	B	B	B	B	C	D	C	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.88	4.91	3.59	2.16	4.26	1.79	3.45	7.63	4.91	2.36	2.90	3.32
50th-Percentile Queue Length [ft/ln]	46.90	122.85	89.77	53.91	106.39	44.76	86.16	190.84	122.84	58.95	72.49	82.92
95th-Percentile Queue Length [veh/ln]	3.38	8.55	6.46	3.88	7.64	3.22	6.20	12.16	8.55	4.24	5.22	5.97
95th-Percentile Queue Length [ft/ln]	84.43	213.74	161.58	97.04	190.97	80.57	155.10	304.12	213.72	106.11	130.48	149.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.57	16.98	16.84	14.69	16.38	14.59	23.94	38.36	34.54	45.67	33.11	35.29
Movement LOS	B	B	B	B	B	B	C	D	C	D	C	D
d_A, Approach Delay [s/veh]	16.25			15.77			33.41			38.76		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	23.14											
Intersection LOS	C											
Intersection V/C	0.520											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.030			3.048			2.584			2.711		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	556			556			823			623		
d_b, Bicycle Delay [s]	23.43			23.43			15.57			21.32		
I_b,int, Bicycle LOS Score for Intersection	2.579			2.422			2.876			2.408		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	2	1	5	4	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	117	169	7	16	517	131	83	248	243	18	251	57
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	49	6	7	162	44	27	119	71	10	81	18
Total Analysis Volume [veh/h]	167	197	24	30	646	175	108	477	283	38	326	73
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	35	0	18	39	0	0	37	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	52	45	45	52	43	43	30	30	30	30	30	30
g / C, Green / Cycle	0.58	0.50	0.50	0.58	0.48	0.48	0.34	0.34	0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.01	0.02	0.34	0.11	0.11	0.25	0.18	0.05	0.17	0.05
s, saturation flow rate [veh/h]	895	1853	1615	1216	1878	1594	981	1880	1581	717	1880	1615
c, Capacity [veh/h]	362	927	809	652	893	758	248	633	532	141	633	544
d1, Uniform Delay [s]	30.13	12.56	11.39	11.79	18.88	13.91	34.71	26.54	24.13	39.83	23.96	20.74
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	0.52	0.07	0.13	5.07	0.71	1.20	1.85	0.83	1.02	0.65	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.21	0.03	0.05	0.72	0.23	0.44	0.75	0.53	0.27	0.52	0.13
d, Delay for Lane Group [s/veh]	34.33	13.08	11.46	11.93	23.95	14.62	35.91	28.39	24.95	40.85	24.61	20.85
Lane Group LOS	C	B	B	B	C	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.81	2.20	0.24	0.25	11.09	2.11	2.28	9.24	4.93	0.85	5.61	1.08
50th-Percentile Queue Length [ft/ln]	45.15	54.91	6.08	6.33	277.22	52.82	56.91	230.99	123.25	21.31	140.37	27.08
95th-Percentile Queue Length [veh/ln]	3.25	3.95	0.44	0.46	16.55	3.80	4.10	14.22	8.57	1.53	9.50	1.95
95th-Percentile Queue Length [ft/ln]	81.26	98.83	10.94	11.40	413.75	95.08	102.44	355.61	214.29	38.36	237.52	48.74

Movement, Approach, & Intersection Results

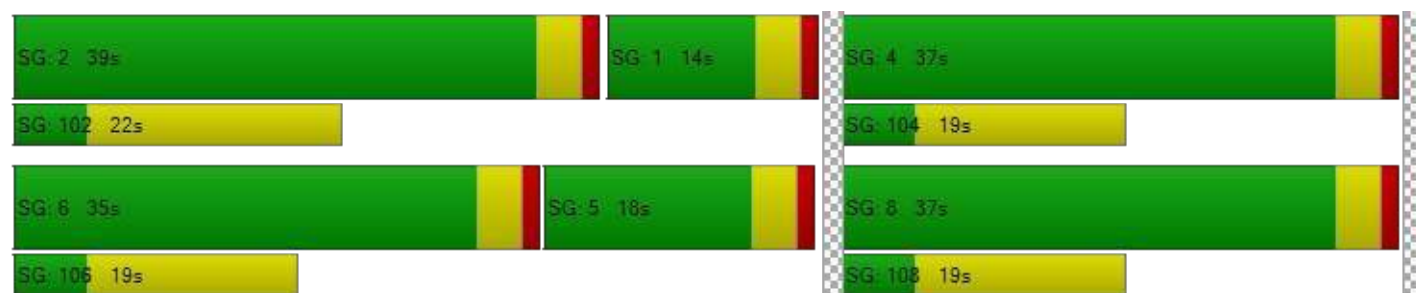
d_M, Delay for Movement [s/veh]	34.33	13.08	11.46	11.93	23.95	14.62	35.91	28.39	24.95	40.85	24.61	20.85
Movement LOS	C	B	B	B	C	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	22.12			21.61			28.21			25.40		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.59											
Intersection LOS	C											
Intersection V/C	0.609											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.572			2.636			2.653			2.368		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	689			778			733			733		
d_b, Bicycle Delay [s]	19.34			16.81			18.05			18.05		
I_b,int, Bicycle LOS Score for Intersection	2.200			2.964			2.992			2.281		
Bicycle LOS	B			C			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	6.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	1	17	1	1	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	775	11	33	868	31	68	0	35	30	0	53
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	204	4	12	228	9	23	0	12	10	0	19
Total Analysis Volume [veh/h]	18	816	17	49	914	35	91	0	47	38	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.01	0.07	0.26	0.02	0.07	0.00	0.03	0.03	0.00	0.05
s, saturation flow rate [veh/h]	600	3548	1615	669	3542	1615	1346	1900	1576	1380	1900	1535
c, Capacity [veh/h]	374	1468	668	402	1466	668	544	484	402	550	484	391
d1, Uniform Delay [s]	9.51	5.39	4.19	9.30	5.59	4.24	8.65	0.00	6.91	8.30	0.00	7.05
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.33	0.02	0.13	0.44	0.03	0.14	0.00	0.13	0.05	0.00	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.56	0.03	0.12	0.62	0.05	0.17	0.00	0.12	0.07	0.00	0.19
d, Delay for Lane Group [s/veh]	9.56	5.72	4.21	9.43	6.03	4.27	8.80	0.00	7.04	8.35	0.00	7.28
Lane Group LOS	A	A	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.05	0.25	0.01	0.13	0.30	0.02	0.30	0.00	0.13	0.12	0.00	0.21
50th-Percentile Queue Length [ft/ln]	1.19	6.33	0.22	3.13	7.62	0.46	7.43	0.00	3.19	2.96	0.00	5.25
95th-Percentile Queue Length [veh/ln]	0.09	0.46	0.02	0.23	0.55	0.03	0.54	0.00	0.23	0.21	0.00	0.38
95th-Percentile Queue Length [ft/ln]	2.15	11.39	0.40	5.63	13.72	0.83	13.38	0.00	5.74	5.33	0.00	9.45

Movement, Approach, & Intersection Results

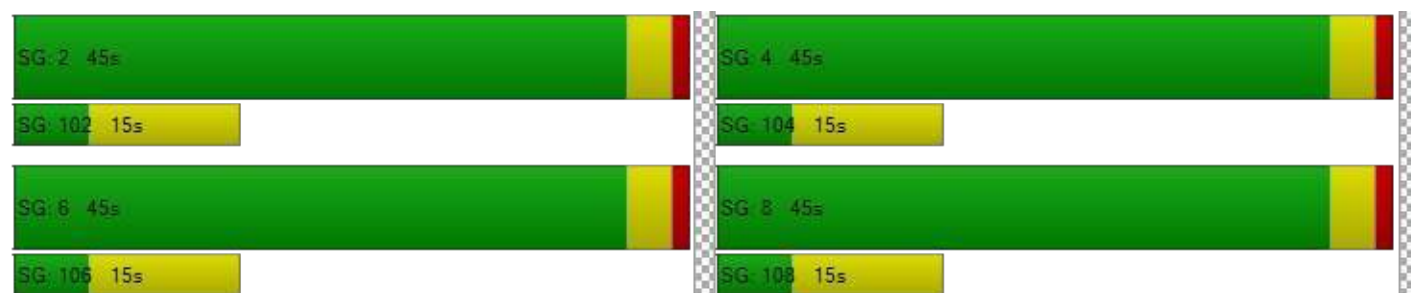
d_M, Delay for Movement [s/veh]	9.56	5.72	4.21	9.43	6.03	4.27	8.80	0.00	7.04	8.35	0.00	7.28
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	5.77			6.14			8.20			7.64		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.20											
Intersection LOS	A											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	4.72			4.72			4.72			4.72		
I_p,int, Pedestrian LOS Score for Intersection	2.877			2.985			2.115			2.157		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3405			3405			3405			3405		
d_b, Bicycle Delay [s]	5.94			5.94			5.94			5.94		
I_b,int, Bicycle LOS Score for Intersection	2.262			2.383			1.787			1.746		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 45.7
 Level Of Service: E
 Volume to Capacity (v/c): 0.592

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	1	19	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	918	4	18	878	49	91	2	58	10	2	29
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	242	3	7	231	14	30	1	23	4	1	12
Total Analysis Volume [veh/h]	51	966	12	27	924	56	120	4	91	18	4	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.04	0.01	0.00	0.59	0.02	0.17	0.10	0.02	0.09
d_M, Delay for Movement [s/veh]	10.44	0.00	0.00	10.24	0.00	0.00	45.69	25.88	13.54	27.37	27.70	14.53
Movement LOS	B	A	A	B	A	A	E	D	B	D	D	B
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.12	0.00	0.00	3.30	0.71	0.71	0.76	0.76	0.76
95th-Percentile Queue Length [ft/ln]	5.77	0.00	0.00	2.95	0.00	0.00	82.53	17.70	17.70	19.01	19.01	19.01
d_A, Approach Delay [s/veh]	0.52			0.27			31.72			18.71		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	3.84											
Intersection LOS	E											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	31.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.318

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	946	2	3	877	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.11	0.00	0.00	3.19	2.00	2.00	2.00	2.00	0.25	2.00	0.25
Growth Factor	1.0000	1.0713	1.0713	1.0713	1.0713	1.0000	1.0000	1.0000	1.0000	1.0713	1.0000	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	76	0	0	0	0	0	20	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-16	16	38	-38	0	0	0	0	38	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	997	49	117	902	0	0	0	0	59	0	69
Peak Hour Factor	1.0000	0.9500	0.9200	0.9200	0.9500	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	262	13	32	237	0	0	0	0	16	0	19
Total Analysis Volume [veh/h]	0	1049	53	127	949	0	0	0	0	64	0	75
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	0	3

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.20	0.01	0.00	0.00	0.00	0.00	0.32	0.00	0.16
d_M, Delay for Movement [s/veh]	10.01	0.00	0.00	12.00	0.00	0.00	98.50	123.48	11.71	31.02	33.38	13.83
Movement LOS	B	A	A	B	A	A	F	F	B	D	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	1.30	1.30	0.55
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	18.32	0.00	0.00	0.00	0.00	0.00	32.52	32.52	13.65
d_A, Approach Delay [s/veh]	0.00			1.42			77.90			21.74		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	1.96											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 14: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	956	2	3	946	5	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	239	1	1	237	1	3
Total Analysis Volume [veh/h]	956	2	3	946	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	10.07	0.00	20.11	12.15
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.32	0.00	3.20	3.20
d_A, Approach Delay [s/veh]	0.00		0.03		14.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

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Report File: C:\...\6 - 2025 PM + Pro Summarized.pdf

Scenario 6 2025 PM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.625	29.4	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.424	21.5	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.408	8.1	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	1.009	172.8	F
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	1.211	226.9	F
15	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.017	25.8	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	59	30	0	59	0	0	0	51	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	872	194	163	1155	200	79	106	145	270	237	189
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	227	58	54	301	67	22	30	41	80	69	57
Total Analysis Volume [veh/h]	290	908	234	217	1203	267	90	120	165	321	276	228
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	9	24	0	15	30	0	25	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	41	41	50	39	39	32	17	17	11	16	16
g / C, Green / Cycle	0.56	0.46	0.46	0.56	0.44	0.44	0.35	0.19	0.19	0.12	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.39	0.25	0.15	0.28	0.34	0.17	0.06	0.06	0.10	0.09	0.15	0.14
s, saturation flow rate [veh/h]	739	3588	1598	778	3590	1615	1414	1900	1615	3464	1886	1579
c, Capacity [veh/h]	339	1647	734	370	1567	705	399	354	301	422	334	279
d1, Uniform Delay [s]	34.09	17.63	15.43	29.49	21.49	17.12	28.97	31.81	33.19	38.26	35.71	35.63
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.34	1.33	1.14	6.66	3.67	1.55	0.28	0.56	1.56	2.87	5.21	5.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.55	0.32	0.59	0.77	0.38	0.23	0.34	0.55	0.76	0.83	0.82
d, Delay for Lane Group [s/veh]	57.43	18.97	16.57	36.15	25.15	18.66	29.26	32.37	34.75	41.13	40.92	41.40
Lane Group LOS	E	B	B	D	C	B	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.76	6.34	2.96	2.52	10.29	3.66	1.29	2.29	3.34	3.54	6.20	5.16
50th-Percentile Queue Length [ft/ln]	119.11	158.61	73.92	63.04	257.36	91.52	32.35	57.37	83.58	88.56	155.09	129.08
95th-Percentile Queue Length [veh/ln]	8.34	10.48	5.32	4.54	15.56	6.59	2.33	4.13	6.02	6.38	10.29	8.89
95th-Percentile Queue Length [ft/ln]	208.61	261.88	133.06	113.48	388.91	164.74	58.23	103.26	150.44	159.41	257.21	222.25

Movement, Approach, & Intersection Results

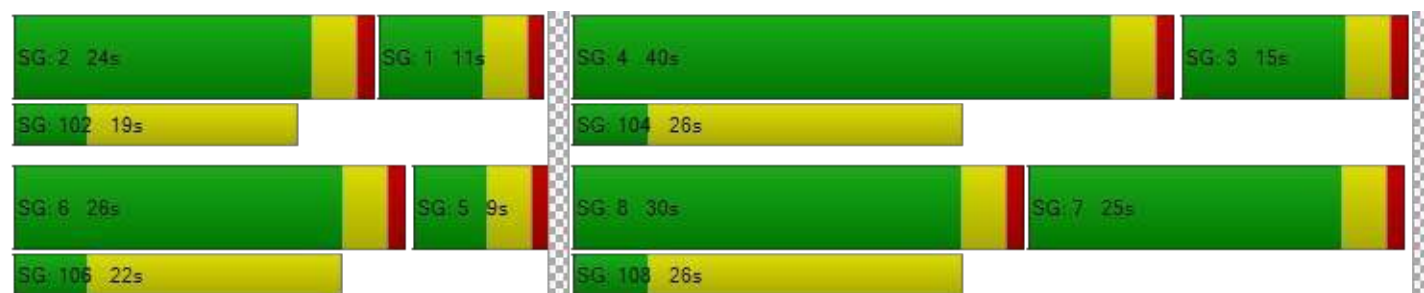
d_M, Delay for Movement [s/veh]	57.43	18.97	16.57	36.15	25.15	18.66	29.26	32.37	34.75	41.13	40.92	41.40
Movement LOS	E	B	B	D	C	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	26.37			25.54			32.67			41.13		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.41											
Intersection LOS	C											
Intersection V/C	0.625											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.215			3.267			2.594			2.845		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			444			578			800		
d_b, Bicycle Delay [s]	25.69			27.22			22.76			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.741			2.951			2.178			2.921		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	4	4	14	12	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	197	345	22	60	377	97	82	244	255	24	287	56
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	99	8	17	108	29	32	62	72	11	74	19
Total Analysis Volume [veh/h]	232	397	33	68	433	115	126	249	287	44	296	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	38	0	14	43	0	0	38	0	0	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	53	45	45	53	44	44	29	29	29	29	29	29
g / C, Green / Cycle	0.59	0.50	0.50	0.59	0.49	0.49	0.32	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.02	0.06	0.23	0.07	0.13	0.13	0.18	0.05	0.16	0.05
s, saturation flow rate [veh/h]	1051	1895	1615	1131	1891	1556	1002	1900	1604	879	1885	1606
c, Capacity [veh/h]	520	954	813	566	933	768	243	604	510	245	599	510
d1, Uniform Delay [s]	20.31	14.04	11.33	14.92	14.99	12.48	36.06	24.10	25.51	31.28	24.85	22.01
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.76	1.34	0.09	0.43	1.66	0.41	1.70	0.45	0.98	0.35	0.63	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.42	0.04	0.12	0.46	0.15	0.52	0.41	0.56	0.18	0.49	0.15
d, Delay for Lane Group [s/veh]	23.06	15.38	11.42	15.35	16.65	12.89	37.77	24.56	26.49	31.63	25.48	22.15
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.27	5.02	0.33	0.57	5.78	1.27	2.75	4.21	5.18	0.84	5.17	1.20
50th-Percentile Queue Length [ft/ln]	56.85	125.38	8.34	14.13	144.57	31.79	68.78	105.20	129.48	21.07	129.21	30.04
95th-Percentile Queue Length [veh/ln]	4.09	8.69	0.60	1.02	9.73	2.29	4.95	7.57	8.91	1.52	8.90	2.16
95th-Percentile Queue Length [ft/ln]	102.32	217.20	15.02	25.43	243.16	57.22	123.80	189.30	222.79	37.92	222.43	54.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.06	15.38	11.42	15.35	16.65	12.89	37.77	24.56	26.49	31.63	25.48	22.15
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.87			15.80			27.91			25.50		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.50											
Intersection LOS	C											
Intersection V/C	0.424											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.601			2.658			2.687			2.374		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	756			867			756			756		
d_b, Bicycle Delay [s]	17.42			14.45			17.42			17.42		
I_b,int, Bicycle LOS Score for Intersection	2.652			2.576			2.652			2.249		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	4	48	2	2	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1032	54	96	1176	69	45	0	25	39	4	76
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	269	17	26	306	27	18	0	8	13	3	27
Total Analysis Volume [veh/h]	69	1075	69	103	1225	110	71	0	30	52	12	109
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.17	0.30	0.04	0.21	0.34	0.07	0.06	0.00	0.02	0.04	0.01	0.07
s, saturation flow rate [veh/h]	416	3583	1615	490	3596	1615	1291	1900	1615	1401	1900	1615
c, Capacity [veh/h]	291	1424	642	316	1429	642	562	541	460	592	541	460
d1, Uniform Delay [s]	12.57	6.53	4.77	12.35	6.93	4.90	8.23	0.00	6.56	7.99	6.48	6.90
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.84	0.07	0.59	1.60	0.13	0.10	0.00	0.06	0.06	0.02	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.76	0.11	0.33	0.86	0.17	0.13	0.00	0.07	0.09	0.02	0.24
d, Delay for Lane Group [s/veh]	12.99	7.37	4.85	12.95	8.53	5.03	8.33	0.00	6.62	8.05	6.49	7.16
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.31	0.65	0.06	0.44	0.90	0.10	0.23	0.00	0.08	0.16	0.03	0.31
50th-Percentile Queue Length [ft/ln]	7.72	16.17	1.46	10.99	22.49	2.41	5.72	0.00	1.98	4.05	0.77	7.68
95th-Percentile Queue Length [veh/ln]	0.56	1.16	0.10	0.79	1.62	0.17	0.41	0.00	0.14	0.29	0.06	0.55
95th-Percentile Queue Length [ft/ln]	13.90	29.11	2.62	19.78	40.48	4.34	10.30	0.00	3.56	7.29	1.38	13.83

Movement, Approach, & Intersection Results

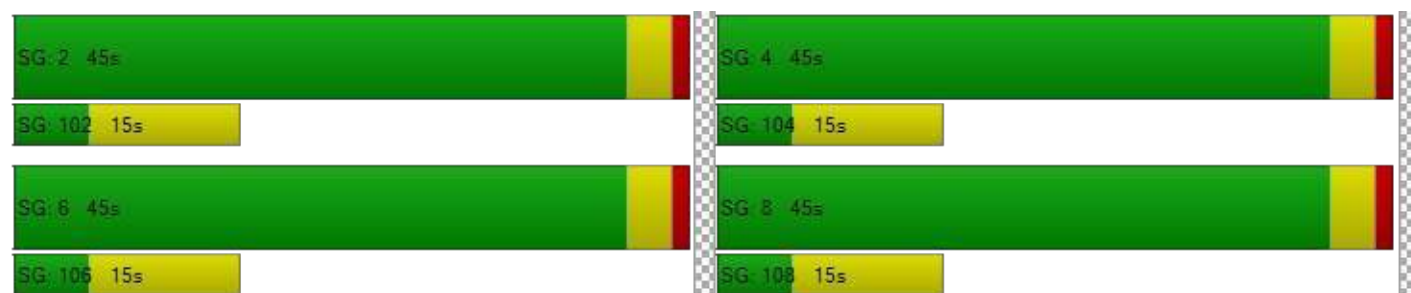
d_M, Delay for Movement [s/veh]	12.99	7.37	4.85	12.95	8.53	5.03	8.33	0.00	6.62	8.05	6.49	7.16
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.54			8.58			7.82			7.38		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.05											
Intersection LOS	A											
Intersection V/C	0.408											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.16			5.16			5.16			5.16		
I_p,int, Pedestrian LOS Score for Intersection	3.064			3.133			2.212			2.271		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3268			3268			3268			3268		
d_b, Bicycle Delay [s]	5.04			5.04			5.04			5.04		
I_b,int, Bicycle LOS Score for Intersection	2.560			2.746			1.726			1.845		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 172.8
 Level Of Service: F
 Volume to Capacity (v/c): 1.009

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	4	54	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1083	17	26	1325	130	79	0	51	6	1	25
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	282	7	11	345	39	25	0	18	2	0	11
Total Analysis Volume [veh/h]	64	1128	30	45	1380	155	99	0	72	8	1	45
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.00	0.07	0.01	0.00	1.01	0.00	0.21	0.07	0.01	0.09
d_M, Delay for Movement [s/veh]	14.59	0.00	0.00	11.36	0.00	0.00	172.85	41.57	17.98	38.15	55.10	15.09
Movement LOS	B	A	A	B	A	A	F	E	C	E	F	C
95th-Percentile Queue Length [veh/ln]	0.51	0.00	0.00	0.24	0.00	0.00	6.15	0.76	0.76	0.63	0.63	0.63
95th-Percentile Queue Length [ft/ln]	12.66	0.00	0.00	5.95	0.00	0.00	153.73	19.08	19.08	15.74	15.74	15.74
d_A, Approach Delay [s/veh]	0.76			0.32			107.64			19.25		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	6.90											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	226.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.211

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1071	3	6	1330	0	0	0	0	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.65	0.00	0.00	1.05	2.00	2.00	2.00	2.00	0.00	2.00	12.50
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0000	1.0000	1.0000	1.0000	1.0713	1.0000	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	140	0	0	0	0	0	58	0	140
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-26	26	61	-61	0	0	0	0	61	0	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1121	86	207	1364	0	0	0	0	122	0	178
Peak Hour Factor	1.0000	0.9600	0.9200	0.9200	0.9600	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	292	23	56	355	0	0	0	0	33	0	48
Total Analysis Volume [veh/h]	0	1168	93	225	1421	0	0	0	0	133	0	193
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	0	3

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.40	0.01	0.00	0.00	0.00	0.00	1.21	0.00	0.48
d_M, Delay for Movement [s/veh]	12.42	0.00	0.00	15.73	0.00	0.00	744.05	557.39	14.58	226.92	65.80	22.15
Movement LOS	B	A	A	C	A		F	F	B	F	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.94	0.00	0.00	0.00	0.00	0.00	8.65	2.55	2.55
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	48.39	0.00	0.00	0.00	0.00	0.00	216.37	63.78	63.78
d_A, Approach Delay [s/veh]	0.00			2.15			438.68			105.69		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	11.75											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 15: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	25.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	0	0	58	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1153	6	12	1374	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	288	2	3	344	1	2
Total Analysis Volume [veh/h]	1153	6	12	1374	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	11.14	0.00	25.82	13.23
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.53	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.00		0.10		17.43	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	D					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 19 2025 AM + Pro + Mit

Report File: C:\...\7 - 2025 AM + Pro + Mit Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.521	23.1	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.609	24.6	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.326	6.2	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.592	45.7	E
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.360	7.7	A
16	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.026	21.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	23	10	0	32	0	0	0	28	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	725	201	186	647	93	174	202	192	148	124	136
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	191	70	52	170	39	52	87	60	51	37	40
Total Analysis Volume [veh/h]	194	763	279	209	681	155	210	348	240	203	149	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	28	0	9	28	0	23	40	0	13	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	42	42	51	42	42	31	20	20	7	17	17
g / C, Green / Cycle	0.57	0.47	0.47	0.57	0.47	0.47	0.35	0.22	0.22	0.08	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.24	0.21	0.18	0.30	0.19	0.10	0.15	0.18	0.15	0.06	0.08	0.11
s, saturation flow rate [veh/h]	820	3565	1572	697	3553	1615	1358	1884	1607	3356	1887	1494
c, Capacity [veh/h]	500	1661	732	437	1655	752	512	413	352	273	357	283
d1, Uniform Delay [s]	10.50	16.30	15.58	11.18	15.85	14.17	22.11	33.59	32.20	40.36	32.04	33.10
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.23	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.26	0.92	1.50	3.73	0.76	0.62	1.14	4.74	2.33	4.02	0.78	1.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.46	0.38	0.48	0.41	0.21	0.41	0.84	0.68	0.74	0.42	0.57
d, Delay for Lane Group [s/veh]	12.76	17.22	17.08	14.90	16.61	14.79	23.25	38.34	34.53	44.38	32.82	34.92
Lane Group LOS	B	B	B	B	B	B	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.90	4.96	3.63	2.18	4.30	1.81	3.36	7.63	4.91	2.32	2.88	3.29
50th-Percentile Queue Length [ft/ln]	47.49	124.09	90.68	54.58	107.46	45.20	84.05	190.78	122.82	57.98	72.08	82.37
95th-Percentile Queue Length [veh/ln]	3.42	8.62	6.53	3.93	7.70	3.25	6.05	12.16	8.55	4.17	5.19	5.93
95th-Percentile Queue Length [ft/ln]	85.49	215.44	163.22	98.25	192.47	81.37	151.28	304.04	213.69	104.36	129.74	148.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.76	17.22	17.08	14.90	16.61	14.79	23.25	38.34	34.53	44.38	32.82	34.92
Movement LOS	B	B	B	B	B	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	16.49			16.00			33.22			38.05		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	23.15											
Intersection LOS	C											
Intersection V/C	0.521											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.030			3.049			2.583			2.709		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			801			578		
d_b, Bicycle Delay [s]	24.16			24.16			16.16			22.72		
I_b,int, Bicycle LOS Score for Intersection	2.579			2.422			2.876			2.408		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	2	1	5	4	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	117	169	7	16	517	131	83	248	243	18	251	57
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	49	6	7	162	44	27	119	71	10	81	18
Total Analysis Volume [veh/h]	167	197	24	30	646	175	108	477	283	38	326	73
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	35	0	18	39	0	0	37	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	52	45	45	52	43	43	30	30	30	30	30	30
g / C, Green / Cycle	0.58	0.50	0.50	0.58	0.48	0.48	0.34	0.34	0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.01	0.02	0.34	0.11	0.11	0.25	0.18	0.05	0.17	0.05
s, saturation flow rate [veh/h]	895	1853	1615	1216	1878	1594	981	1880	1581	717	1880	1615
c, Capacity [veh/h]	362	927	809	652	893	758	248	633	532	141	633	544
d1, Uniform Delay [s]	30.13	12.56	11.39	11.79	18.88	13.91	34.71	26.54	24.13	39.83	23.96	20.74
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	0.52	0.07	0.13	5.07	0.71	1.20	1.85	0.83	1.02	0.65	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.21	0.03	0.05	0.72	0.23	0.44	0.75	0.53	0.27	0.52	0.13
d, Delay for Lane Group [s/veh]	34.33	13.08	11.46	11.93	23.95	14.62	35.91	28.39	24.95	40.85	24.61	20.85
Lane Group LOS	C	B	B	B	C	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.81	2.20	0.24	0.25	11.09	2.11	2.28	9.24	4.93	0.85	5.61	1.08
50th-Percentile Queue Length [ft/ln]	45.15	54.91	6.08	6.33	277.22	52.82	56.91	230.99	123.25	21.31	140.37	27.08
95th-Percentile Queue Length [veh/ln]	3.25	3.95	0.44	0.46	16.55	3.80	4.10	14.22	8.57	1.53	9.50	1.95
95th-Percentile Queue Length [ft/ln]	81.26	98.83	10.94	11.40	413.75	95.08	102.44	355.61	214.29	38.36	237.52	48.74

Movement, Approach, & Intersection Results

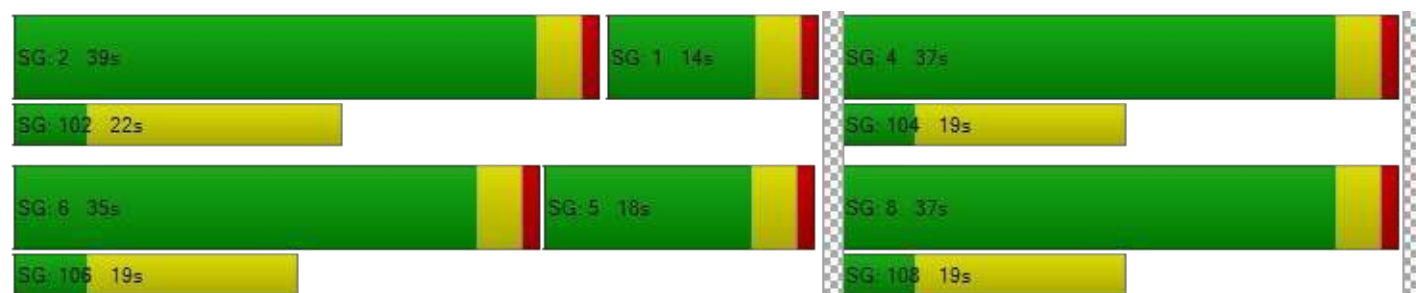
d_M, Delay for Movement [s/veh]	34.33	13.08	11.46	11.93	23.95	14.62	35.91	28.39	24.95	40.85	24.61	20.85
Movement LOS	C	B	B	B	C	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	22.12			21.61			28.21			25.40		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.59											
Intersection LOS	C											
Intersection V/C	0.609											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.572			2.636			2.653			2.368		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	689			778			733			733		
d_b, Bicycle Delay [s]	19.34			16.81			18.05			18.05		
I_b,int, Bicycle LOS Score for Intersection	2.200			2.964			2.992			2.281		
Bicycle LOS	B			C			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	6.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	1	17	1	1	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	775	11	33	868	31	68	0	35	30	0	53
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	204	4	12	228	9	23	0	12	10	0	19
Total Analysis Volume [veh/h]	18	816	17	49	914	35	91	0	47	38	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.01	0.07	0.26	0.02	0.07	0.00	0.03	0.03	0.00	0.05
s, saturation flow rate [veh/h]	600	3548	1615	669	3542	1615	1346	1900	1576	1380	1900	1535
c, Capacity [veh/h]	374	1468	668	402	1466	668	544	484	402	550	484	391
d1, Uniform Delay [s]	9.51	5.39	4.19	9.30	5.59	4.24	8.65	0.00	6.91	8.30	0.00	7.05
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.33	0.02	0.13	0.44	0.03	0.14	0.00	0.13	0.05	0.00	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.56	0.03	0.12	0.62	0.05	0.17	0.00	0.12	0.07	0.00	0.19
d, Delay for Lane Group [s/veh]	9.56	5.72	4.21	9.43	6.03	4.27	8.80	0.00	7.04	8.35	0.00	7.28
Lane Group LOS	A	A	A	A	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.05	0.25	0.01	0.13	0.30	0.02	0.30	0.00	0.13	0.12	0.00	0.21
50th-Percentile Queue Length [ft/ln]	1.19	6.33	0.22	3.13	7.62	0.46	7.43	0.00	3.19	2.96	0.00	5.25
95th-Percentile Queue Length [veh/ln]	0.09	0.46	0.02	0.23	0.55	0.03	0.54	0.00	0.23	0.21	0.00	0.38
95th-Percentile Queue Length [ft/ln]	2.15	11.39	0.40	5.63	13.72	0.83	13.38	0.00	5.74	5.33	0.00	9.45

Movement, Approach, & Intersection Results

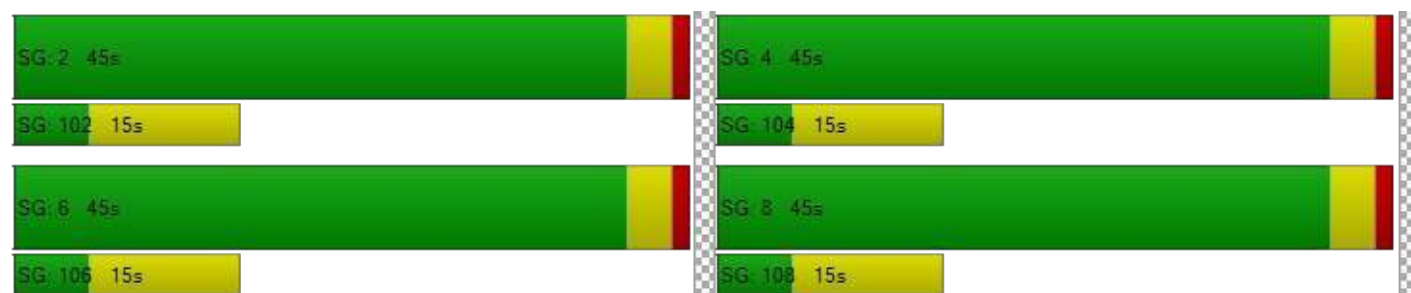
d_M, Delay for Movement [s/veh]	9.56	5.72	4.21	9.43	6.03	4.27	8.80	0.00	7.04	8.35	0.00	7.28
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	5.77			6.14			8.20			7.64		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.20											
Intersection LOS	A											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	4.72			4.72			4.72			4.72		
I_p,int, Pedestrian LOS Score for Intersection	2.877			2.985			2.115			2.157		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3405			3405			3405			3405		
d_b, Bicycle Delay [s]	5.94			5.94			5.94			5.94		
I_b,int, Bicycle LOS Score for Intersection	2.262			2.383			1.787			1.746		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 45.7
 Level Of Service: E
 Volume to Capacity (v/c): 0.592

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	1	19	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	918	4	18	878	49	91	2	58	10	2	29
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	242	3	7	231	14	30	1	23	4	1	12
Total Analysis Volume [veh/h]	51	966	12	27	924	56	120	4	91	18	4	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.04	0.01	0.00	0.59	0.02	0.17	0.10	0.02	0.09
d_M, Delay for Movement [s/veh]	10.44	0.00	0.00	10.24	0.00	0.00	45.69	25.88	13.54	27.37	27.70	14.53
Movement LOS	B	A	A	B	A	A	E	D	B	D	D	B
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.12	0.00	0.00	3.30	0.71	0.71	0.76	0.76	0.76
95th-Percentile Queue Length [ft/ln]	5.77	0.00	0.00	2.95	0.00	0.00	82.53	17.70	17.70	19.01	19.01	19.01
d_A, Approach Delay [s/veh]	0.52			0.27			31.72			18.71		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	3.84											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	946	2	3	877	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.11	0.00	0.00	3.19	2.00	2.00	2.00	2.00	0.25	2.00	0.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0713	1.0713	1.0713	1.0713	1.0000	1.0000	1.0000	1.0000	1.0713	1.0000	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	76	0	0	0	0	0	20	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-16	16	38	-38	0	0	0	0	38	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	997	49	117	902	0	0	0	0	59	0	69
Peak Hour Factor	1.0000	0.9500	0.9200	0.9200	0.9500	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	262	13	32	237	0	0	0	0	16	0	19
Total Analysis Volume [veh/h]	0	1049	53	127	949	0	0	0	0	64	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	72	0	0	72	0	0	18	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.30	0.30	0.24	0.26	0.26	0.00	0.00	0.06	0.05
s, saturation flow rate [veh/h]	591	1868	1837	520	1852	1852	1870	1589	1016	1612
c, Capacity [veh/h]	373	773	760	340	766	766	627	406	558	412
d1, Uniform Delay [s]	0.00	5.92	5.92	11.77	5.59	5.59	0.00	0.00	8.45	7.03
k, delay calibration	0.11	0.19	0.19	0.11	0.12	0.12	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	2.18	2.22	0.68	0.92	0.92	0.00	0.00	0.09	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.72	0.72	0.37	0.62	0.62	0.00	0.00	0.11	0.18
d, Delay for Lane Group [s/veh]	0.00	8.10	8.14	12.45	6.51	6.51	0.00	0.00	8.54	7.24
Lane Group LOS	A	A	A	B	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	0.75	0.75	0.50	0.42	0.42	0.00	0.00	0.19	0.19
50th-Percentile Queue Length [ft/ln]	0.00	18.80	18.70	12.50	10.62	10.62	0.00	0.00	4.71	4.76
95th-Percentile Queue Length [veh/ln]	0.00	1.35	1.35	0.90	0.76	0.76	0.00	0.00	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.00	33.84	33.66	22.51	19.12	19.12	0.00	0.00	8.48	8.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	8.12	8.14	12.45	6.51	6.51	0.00	0.00	0.00	8.54	8.54	7.24
Movement LOS	A	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.12			7.21			0.00			7.83		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.68											
Intersection LOS	A											
Intersection V/C	0.360											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			4.74			4.74		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.860			2.144		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5637			5637			1161			1161		
d_b, Bicycle Delay [s]	39.89			39.89			2.13			2.13		
I_b,int, Bicycle LOS Score for Intersection	2.469			2.447			1.560			1.789		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 16: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	956	2	3	946	5	11
Peak Hour Factor	0.9500	0.8800	0.8800	0.9500	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	252	1	1	249	1	3
Total Analysis Volume [veh/h]	1006	2	3	996	6	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	10.29	0.00	21.22	12.54
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.00	4.06	4.06
d_A, Approach Delay [s/veh]	0.00		0.03		15.28	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 20 2025 PM + Pro + Mit

Report File: C:\...\8 - 2025 PM + Pro + Mit Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.637	29.3	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.424	21.5	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.408	8.1	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	1.009	172.8	F
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	WB Right	0.625	9.8	A
17	525 South 7 Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.017	25.8	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	59	30	0	59	0	0	0	51	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	872	194	163	1155	200	79	106	145	270	237	189
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	227	58	54	301	67	22	30	41	80	69	57
Total Analysis Volume [veh/h]	290	908	234	217	1203	267	90	120	165	321	276	228
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	38	0	9	23	0	9	30	0	13	34	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	42	42	51	36	36	31	17	17	11	16	16
g / C, Green / Cycle	0.56	0.46	0.46	0.56	0.40	0.40	0.35	0.18	0.18	0.12	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.34	0.25	0.15	0.28	0.34	0.17	0.06	0.06	0.10	0.09	0.15	0.14
s, saturation flow rate [veh/h]	846	3588	1598	776	3590	1615	1409	1900	1615	3464	1886	1579
c, Capacity [veh/h]	395	1662	740	375	1429	643	390	351	299	412	334	279
d1, Uniform Delay [s]	31.58	17.36	15.19	29.02	24.53	19.54	29.28	31.92	33.30	38.51	35.71	35.63
k, delay calibration	0.50	0.50	0.50	0.50	0.25	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.44	1.30	1.12	6.38	3.26	1.97	0.30	0.57	1.60	3.24	5.21	5.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.55	0.32	0.58	0.84	0.42	0.23	0.34	0.55	0.78	0.83	0.82
d, Delay for Lane Group [s/veh]	43.02	18.65	16.31	35.40	27.78	21.51	29.58	32.49	34.90	41.75	40.92	41.40
Lane Group LOS	D	B	B	D	C	C	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.80	6.29	2.93	2.48	11.01	4.02	1.30	2.30	3.35	3.57	6.20	5.16
50th-Percentile Queue Length [ft/ln]	94.92	157.15	73.26	62.02	275.32	100.46	32.58	57.44	83.71	89.29	155.07	129.07
95th-Percentile Queue Length [veh/ln]	6.83	10.40	5.27	4.47	16.46	7.23	2.35	4.14	6.03	6.43	10.29	8.89
95th-Percentile Queue Length [ft/ln]	170.86	259.95	131.86	111.63	411.39	180.82	58.64	103.39	150.68	160.72	257.19	222.23

Movement, Approach, & Intersection Results

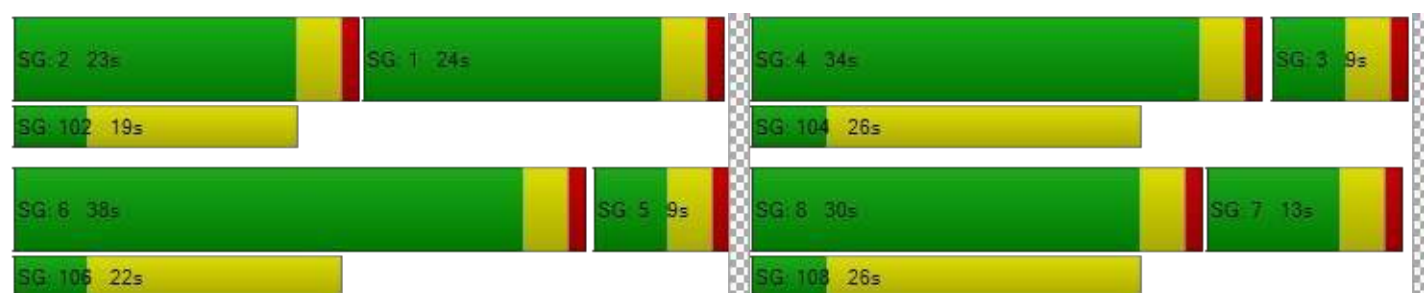
d_M, Delay for Movement [s/veh]	43.02	18.65	16.31	35.40	27.78	21.51	29.58	32.49	34.90	41.75	40.92	41.40
Movement LOS	D	B	B	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	23.21			27.77			32.85			41.37		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.30											
Intersection LOS	C											
Intersection V/C	0.637											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersectio	3.215	3.268	2.565	2.845
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	422	578	667
d_b, Bicycle Delay [s]	17.42	28.01	22.76	20.00
I_b,int, Bicycle LOS Score for Intersection	2.741	2.951	2.178	2.921
Bicycle LOS	B	C	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	4	4	14	12	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	197	345	22	60	377	97	82	244	255	24	287	56
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	99	8	17	108	29	32	62	72	11	74	19
Total Analysis Volume [veh/h]	232	397	33	68	433	115	126	249	287	44	296	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	31	0	9	26	0	0	50	0	0	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	54	46	46	54	45	45	28	28	28	28	28	28
g / C, Green / Cycle	0.60	0.51	0.51	0.60	0.50	0.50	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.02	0.06	0.23	0.07	0.13	0.13	0.18	0.05	0.16	0.05
s, saturation flow rate [veh/h]	1049	1895	1615	1129	1891	1556	1002	1900	1604	879	1885	1606
c, Capacity [veh/h]	519	968	825	565	947	779	245	590	498	246	586	499
d1, Uniform Delay [s]	20.38	13.63	11.00	14.98	14.55	12.11	35.94	24.62	26.05	31.19	25.37	22.48
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.78	1.29	0.09	0.44	1.59	0.40	1.67	0.48	1.06	0.34	0.68	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.41	0.04	0.12	0.46	0.15	0.51	0.42	0.58	0.18	0.51	0.16
d, Delay for Lane Group [s/veh]	23.16	14.91	11.09	15.41	16.14	12.51	37.61	25.10	27.11	31.53	26.05	22.63
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.23	4.92	0.33	0.55	5.67	1.25	2.74	4.26	5.25	0.84	5.24	1.22
50th-Percentile Queue Length [ft/ln]	55.71	122.94	8.19	13.82	141.77	31.20	68.59	106.53	131.21	21.02	130.88	30.42
95th-Percentile Queue Length [veh/ln]	4.01	8.55	0.59	1.00	9.58	2.25	4.94	7.65	9.01	1.51	8.99	2.19
95th-Percentile Queue Length [ft/ln]	100.29	213.86	14.74	24.88	239.40	56.15	123.47	191.17	225.13	37.84	224.69	54.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.16	14.91	11.09	15.41	16.14	12.51	37.61	25.10	27.11	31.53	26.05	22.63
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	17.61			15.38			28.35			25.99		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.53											
Intersection LOS	C											
Intersection V/C	0.424											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.601			2.658			2.687			2.374		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			489			1022			1022		
d_b, Bicycle Delay [s]	22.05			25.69			10.76			10.76		
I_b,int, Bicycle LOS Score for Intersection	2.652			2.576			2.652			2.249		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	4	48	2	2	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1032	54	96	1176	69	45	0	25	39	4	76
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	269	17	26	306	27	18	0	8	13	3	27
Total Analysis Volume [veh/h]	69	1075	69	103	1225	110	71	0	30	52	12	109
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	71	0	0	71	0	0	19	0	0	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.17	0.30	0.04	0.21	0.34	0.07	0.06	0.00	0.02	0.04	0.01	0.07
s, saturation flow rate [veh/h]	416	3583	1615	490	3596	1615	1291	1900	1615	1401	1900	1615
c, Capacity [veh/h]	292	1424	642	317	1429	642	562	541	460	592	541	460
d1, Uniform Delay [s]	12.57	6.53	4.77	12.35	6.93	4.90	8.23	0.00	6.56	7.99	6.48	6.90
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	0.84	0.07	0.59	1.60	0.13	0.10	0.00	0.06	0.06	0.02	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.76	0.11	0.33	0.86	0.17	0.13	0.00	0.07	0.09	0.02	0.24
d, Delay for Lane Group [s/veh]	12.98	7.37	4.85	12.94	8.53	5.03	8.33	0.00	6.62	8.05	6.49	7.16
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.31	0.65	0.06	0.44	0.90	0.10	0.23	0.00	0.08	0.16	0.03	0.31
50th-Percentile Queue Length [ft/ln]	7.67	16.17	1.46	10.97	22.49	2.41	5.72	0.00	1.98	4.05	0.77	7.68
95th-Percentile Queue Length [veh/ln]	0.55	1.16	0.10	0.79	1.62	0.17	0.41	0.00	0.14	0.29	0.06	0.55
95th-Percentile Queue Length [ft/ln]	13.80	29.11	2.62	19.74	40.48	4.34	10.30	0.00	3.56	7.29	1.38	13.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.98	7.37	4.85	12.94	8.53	5.03	8.33	0.00	6.62	8.05	6.49	7.16
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.54			8.58			7.82			7.38		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.05											
Intersection LOS	A											
Intersection V/C	0.408											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.16			5.16			5.16			5.16		
I_p,int, Pedestrian LOS Score for Intersection	3.064			3.133			2.212			2.271		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5340			5340			1196			1196		
d_b, Bicycle Delay [s]	35.00			35.00			2.03			2.03		
I_b,int, Bicycle LOS Score for Intersection	2.560			2.746			1.726			1.845		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	172.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.009

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	4	54	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1083	17	26	1325	130	79	0	51	6	1	25
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	282	7	11	345	39	25	0	18	2	0	11
Total Analysis Volume [veh/h]	64	1128	30	45	1380	155	99	0	72	8	1	45
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.00	0.07	0.01	0.00	1.01	0.00	0.21	0.07	0.01	0.09
d_M, Delay for Movement [s/veh]	14.59	0.00	0.00	11.36	0.00	0.00	172.85	41.57	17.98	38.15	55.10	15.09
Movement LOS	B	A	A	B	A	A	F	E	C	E	F	C
95th-Percentile Queue Length [veh/ln]	0.51	0.00	0.00	0.24	0.00	0.00	6.15	0.76	0.76	0.63	0.63	0.63
95th-Percentile Queue Length [ft/ln]	12.66	0.00	0.00	5.95	0.00	0.00	153.73	19.08	19.08	15.74	15.74	15.74
d_A, Approach Delay [s/veh]	0.76			0.32			107.64			19.25		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	6.90											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1071	3	6	1330	0	0	0	0	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.65	0.00	0.00	1.05	2.00	2.00	2.00	2.00	0.00	2.00	12.50
Proportion of CAVs [%]	0.00											
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0000	1.0000	1.0000	1.0000	1.0713	1.0000	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	140	0	0	0	0	0	58	0	140
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-26	26	61	-61	0	0	0	0	61	0	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1121	86	207	1364	0	0	0	0	122	0	178
Peak Hour Factor	1.0000	0.9600	0.9200	0.9200	0.9600	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	292	23	56	355	0	0	0	0	33	0	48
Total Analysis Volume [veh/h]	0	1168	93	225	1421	0	0	0	0	133	0	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	57	0	0	57	0	0	25	0	0	25	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	61	0	0	61	0	0	29	0	0	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	7	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	69	69	69	13	13	13
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.76	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.00	0.34	0.34	0.50	0.40	0.00	0.09	0.12
s, saturation flow rate [veh/h]	383	1890	1842	447	3588	1775	1440	1589
c, Capacity [veh/h]	300	1442	1405	352	2737	303	267	235
d1, Uniform Delay [s]	0.00	3.82	3.82	13.81	4.19	0.00	36.04	37.17
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.99	1.02	8.57	0.71	0.00	1.43	6.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.44	0.44	0.64	0.52	0.00	0.50	0.82
d, Delay for Lane Group [s/veh]	0.00	4.80	4.84	22.38	4.89	0.00	37.47	44.08
Lane Group LOS	A	A	A	C	A	A	D	D
Critical Lane Group	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	2.66	2.61	3.64	3.03	0.00	2.81	4.50
50th-Percentile Queue Length [ft/ln]	0.00	66.43	65.20	91.00	75.81	0.00	70.23	112.49
95th-Percentile Queue Length [veh/ln]	0.00	4.78	4.69	6.55	5.46	0.00	5.06	7.98
95th-Percentile Queue Length [ft/ln]	0.00	119.57	117.36	163.79	136.46	0.00	126.41	199.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	4.82	4.84	22.38	4.89	0.00	0.00	0.00	0.00	37.47	44.08	44.08
Movement LOS	A	A	A	C	A		A	A	A	D	D	D
d_A, Approach Delay [s/veh]	4.82			7.28			0.00			41.39		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	9.76											
Intersection LOS	A											
Intersection V/C	0.625											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.716			2.610		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1267			1267			556			556		
d_b, Bicycle Delay [s]	6.05			6.05			23.47			23.47		
I_b,int, Bicycle LOS Score for Intersection	2.600			2.918			1.560			2.098		
Bicycle LOS	B			C			A			B		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 17: 525 South 7 Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.8
 Level Of Service: D
 Volume to Capacity (v/c): 0.017

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0713	1.0713	1.0713	1.0713	1.0713	1.0713
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	0	0	58	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1153	6	12	1374	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	288	2	3	344	1	2
Total Analysis Volume [veh/h]	1153	6	12	1374	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	11.14	0.00	25.82	13.23
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.53	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.00		0.10		17.43	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	D					

2030 BACKGROUND

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 7 2030 AM

Report File: C:\...\9 - 2030 AM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.610	25.2	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.524	22.3	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.381	7.1	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.904	105.2	F
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.005	22.6	C
18	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.030	23.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	834	227	221	731	111	206	241	195	157	148	162
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	219	79	62	192	46	62	104	61	54	45	48
Total Analysis Volume [veh/h]	204	878	315	248	769	185	248	416	244	215	178	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	28	0	9	28	0	23	40	0	13	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	38	38	35	23	23	8	20	20
g / C, Green / Cycle	0.53	0.43	0.43	0.53	0.43	0.43	0.39	0.26	0.26	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.26	0.25	0.20	0.38	0.22	0.11	0.19	0.22	0.15	0.06	0.09	0.13
s, saturation flow rate [veh/h]	772	3565	1572	650	3553	1615	1318	1884	1607	3356	1887	1494
c, Capacity [veh/h]	433	1518	670	375	1513	688	541	482	411	284	409	324
d1, Uniform Delay [s]	13.07	19.64	18.51	15.27	18.89	16.72	20.13	31.94	29.34	40.20	30.44	31.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	1.61	2.37	8.82	1.22	0.96	1.94	4.84	1.38	4.09	0.73	1.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.58	0.47	0.66	0.51	0.27	0.46	0.86	0.59	0.76	0.44	0.60
d, Delay for Lane Group [s/veh]	16.71	21.25	20.88	24.09	20.11	17.68	22.07	36.78	30.72	44.30	31.17	33.41
Lane Group LOS	B	C	C	C	C	B	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.35	6.62	4.69	3.32	5.55	2.44	3.87	9.03	4.67	2.46	3.36	3.85
50th-Percentile Queue Length [ft/ln]	58.65	165.62	117.27	82.92	138.80	60.95	96.86	225.63	116.78	61.38	83.96	96.28
95th-Percentile Queue Length [veh/ln]	4.22	10.85	8.24	5.97	9.42	4.39	6.97	13.95	8.22	4.42	6.04	6.93
95th-Percentile Queue Length [ft/ln]	105.57	271.15	206.07	149.26	235.41	109.71	174.35	348.81	205.40	110.49	151.12	173.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.71	21.25	20.88	24.09	20.11	17.68	22.07	36.78	30.72	44.30	31.17	33.41
Movement LOS	B	C	C	C	C	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	20.50			20.56			31.13			36.72		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	25.20											
Intersection LOS	C											
Intersection V/C	0.610											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.094			3.153			2.622			2.764		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			801			578		
d_b, Bicycle Delay [s]	24.16			24.16			16.16			22.72		
I_b,int, Bicycle LOS Score for Intersection	2.712			2.551			3.058			2.527		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	132	201	9	19	615	153	98	289	284	22	289	67
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	58	8	9	192	51	32	139	83	12	94	21
Total Analysis Volume [veh/h]	189	234	31	35	769	204	127	556	330	47	375	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	27	0	22	31	0	0	41	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	40	40	46	37	37	36	36	36	36	36	36
g / C, Green / Cycle	0.52	0.44	0.44	0.52	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.02	0.03	0.22	0.13	0.14	0.30	0.21	0.07	0.20	0.05
s, saturation flow rate [veh/h]	855	3527	1615	1196	3576	1594	926	1880	1581	637	1880	1615
c, Capacity [veh/h]	383	1549	709	597	1492	665	276	742	624	147	742	637
d1, Uniform Delay [s]	28.04	15.16	14.43	13.67	19.48	17.53	32.43	23.43	20.85	38.85	20.61	17.43
k, delay calibration	0.50	0.50	0.50	0.50	0.19	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.50	0.21	0.12	0.19	0.49	1.19	1.20	1.55	0.70	1.23	0.53	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.15	0.04	0.06	0.52	0.31	0.46	0.75	0.53	0.32	0.51	0.13
d, Delay for Lane Group [s/veh]	32.54	15.36	14.54	13.85	19.97	18.73	33.63	24.97	21.55	40.08	21.14	17.52
Lane Group LOS	C	B	B	B	B	B	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.38	1.41	0.37	0.35	5.72	2.90	2.60	10.16	5.32	1.05	5.95	1.15
50th-Percentile Queue Length [ft/ln]	59.50	35.30	9.20	8.81	143.04	72.62	65.01	254.02	133.01	26.23	148.75	28.73
95th-Percentile Queue Length [veh/ln]	4.28	2.54	0.66	0.63	9.64	5.23	4.68	15.39	9.10	1.89	9.95	2.07
95th-Percentile Queue Length [ft/ln]	107.11	63.55	16.55	15.85	241.11	130.72	117.01	384.71	227.58	47.22	248.75	51.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.54	15.36	14.54	13.85	19.97	18.73	33.63	24.97	21.55	40.08	21.14	17.52
Movement LOS	C	B	B	B	B	B	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	22.46			19.50			24.94			22.28		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	22.27											
Intersection LOS	C											
Intersection V/C	0.524											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	2.825			2.911			2.730			2.407		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	511			600			822			822		
d_b, Bicycle Delay [s]	24.94			22.05			15.61			15.61		
I_b,int, Bicycle LOS Score for Intersection	1.934			2.391			3.231			2.398		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	890	13	38	1011	36	80	0	42	36	0	61
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	234	5	14	266	10	27	0	14	12	0	21
Total Analysis Volume [veh/h]	20	937	21	56	1064	41	107	0	56	46	0	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.01	0.09	0.30	0.03	0.08	0.00	0.04	0.03	0.00	0.06
s, saturation flow rate [veh/h]	518	3548	1615	595	3542	1615	1332	1900	1576	1369	1900	1535
c, Capacity [veh/h]	323	1423	648	353	1421	648	571	528	438	578	528	427
d1, Uniform Delay [s]	11.32	6.08	4.53	10.94	6.39	4.59	8.42	0.00	6.74	8.02	0.00	6.88
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.52	0.02	0.21	0.81	0.04	0.16	0.00	0.13	0.06	0.00	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.66	0.03	0.16	0.75	0.06	0.19	0.00	0.13	0.08	0.00	0.20
d, Delay for Lane Group [s/veh]	11.40	6.60	4.55	11.15	7.20	4.63	8.58	0.00	6.87	8.08	0.00	7.11
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.07	0.46	0.02	0.18	0.59	0.03	0.35	0.00	0.15	0.14	0.00	0.24
50th-Percentile Queue Length [ft/ln]	1.68	11.50	0.39	4.51	14.64	0.77	8.77	0.00	3.79	3.57	0.00	6.01
95th-Percentile Queue Length [veh/ln]	0.12	0.83	0.03	0.32	1.05	0.06	0.63	0.00	0.27	0.26	0.00	0.43
95th-Percentile Queue Length [ft/ln]	3.02	20.70	0.70	8.11	26.34	1.39	15.79	0.00	6.83	6.42	0.00	10.83

Movement, Approach, & Intersection Results

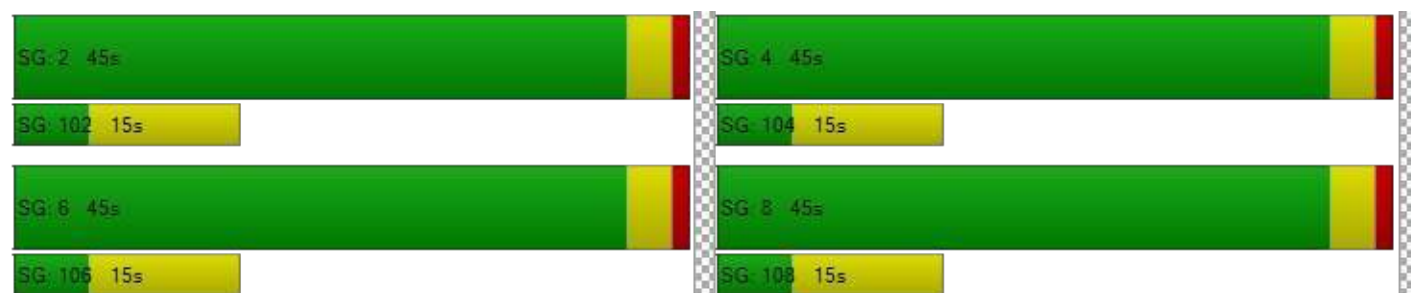
d_M, Delay for Movement [s/veh]	11.40	6.60	4.55	11.15	7.20	4.63	8.58	0.00	6.87	8.08	0.00	7.11
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.65			7.30			7.99			7.45		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.10											
Intersection LOS	A											
Intersection V/C	0.381											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.05			5.05			5.05			5.05		
I_p,int, Pedestrian LOS Score for Intersectio	2.963			3.086			2.127			2.175		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3300			3300			3300			3300		
d_b, Bicycle Delay [s]	5.25			5.25			5.25			5.25		
I_b,int, Bicycle LOS Score for Intersection	2.366			2.517			1.829			1.777		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 105.2
 Level Of Service: F
 Volume to Capacity (v/c): 0.904

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1057	5	20	1021	59	108	3	69	11	3	32
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	278	4	7	269	17	36	2	27	5	2	13
Total Analysis Volume [veh/h]	60	1113	15	30	1075	67	142	6	108	20	6	51
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.05	0.01	0.00	0.90	0.04	0.23	0.14	0.04	0.11
d_M, Delay for Movement [s/veh]	11.44	0.00	0.00	11.03	0.00	0.00	105.19	32.67	15.83	36.72	36.77	18.17
Movement LOS	B	A	A	B	A	A	F	D	C	E	E	C
95th-Percentile Queue Length [veh/ln]	0.32	0.00	0.00	0.15	0.00	0.00	6.41	1.09	1.09	1.19	1.19	1.19
95th-Percentile Queue Length [ft/ln]	8.01	0.00	0.00	3.76	0.00	0.00	160.33	27.13	27.13	29.80	29.80	29.80
d_A, Approach Delay [s/veh]	0.58			0.28			65.79			24.44		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	7.33											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	946	2	3	877	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	0.00	3.19	0.25	0.25
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1204	3	4	1116	1	1
Peak Hour Factor	0.9500	0.9200	0.9200	0.9500	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	317	1	1	294	0	0
Total Analysis Volume [veh/h]	1267	3	4	1175	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.55	0.00	22.62	13.48
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.00	0.37	0.18
d_A, Approach Delay [s/veh]	0.00		0.04		18.05	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 18: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1099	3	4	1100	6	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	275	1	1	275	2	3
Total Analysis Volume [veh/h]	1099	3	4	1100	6	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	10.76	0.00	23.40	13.18
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.48	0.00	4.49	4.49
d_A, Approach Delay [s/veh]	0.00		0.04		16.40	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 8 2030 PM

Report File: C:\...\10 - 2030 PM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.670	34.9	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.363	20.5	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Thru	0.463	12.8	B
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	1.667	452.2	F
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.031	34.3	D
19	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.028	30.6	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	219	966	195	193	1302	238	94	126	112	285	281	224
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	252	59	64	339	79	27	36	32	85	82	67
Total Analysis Volume [veh/h]	270	1006	235	257	1356	317	107	143	127	339	327	270
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	9	24	0	15	30	0	25	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	36	36	35	19	19	11	18	18
g / C, Green / Cycle	0.53	0.43	0.43	0.53	0.41	0.41	0.38	0.21	0.21	0.13	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.38	0.28	0.15	0.34	0.38	0.20	0.08	0.08	0.08	0.10	0.17	0.17
s, saturation flow rate [veh/h]	715	3588	1598	762	3590	1615	1346	1900	1615	3464	1886	1579
c, Capacity [veh/h]	301	1530	682	327	1451	653	406	405	344	440	387	324
d1, Uniform Delay [s]	35.40	20.56	17.35	33.55	25.66	19.87	28.68	30.12	30.23	38.03	34.39	34.30
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.02	2.22	1.38	17.09	12.41	2.57	0.34	0.52	0.66	2.90	5.49	5.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.66	0.34	0.79	0.93	0.49	0.26	0.35	0.37	0.77	0.85	0.83
d, Delay for Lane Group [s/veh]	66.43	22.79	18.73	50.64	38.07	22.44	29.03	30.64	30.89	40.93	39.88	39.90
Lane Group LOS	E	C	B	D	D	C	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.21	7.98	3.22	4.03	14.82	4.92	1.46	2.66	2.38	3.74	7.31	6.04
50th-Percentile Queue Length [ft/ln]	130.32	199.61	80.56	100.70	370.42	123.10	36.58	66.45	59.50	93.42	182.77	150.94
95th-Percentile Queue Length [veh/ln]	8.96	12.62	5.80	7.25	21.13	8.56	2.63	4.78	4.28	6.73	11.74	10.07
95th-Percentile Queue Length [ft/ln]	223.93	315.46	145.01	181.27	528.23	214.08	65.85	119.61	107.09	168.15	293.62	251.68

Movement, Approach, & Intersection Results

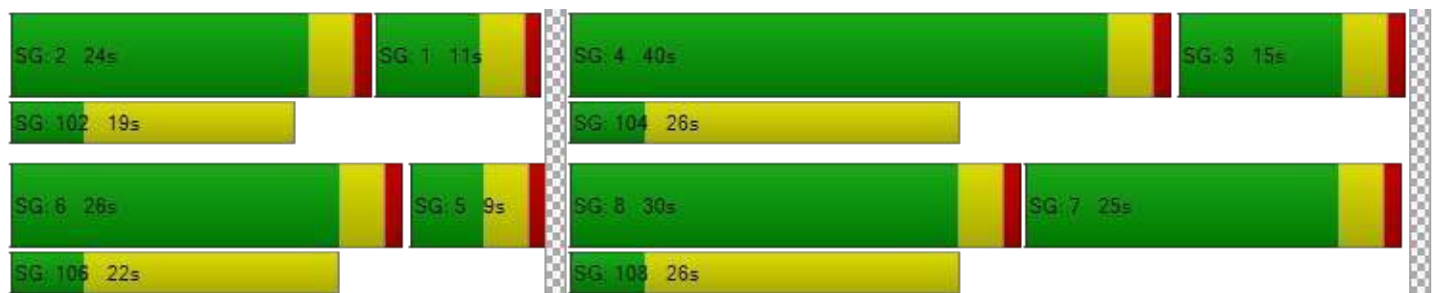
d_M, Delay for Movement [s/veh]	66.43	22.79	18.73	50.64	38.07	22.44	29.03	30.64	30.89	40.93	39.88	39.90
Movement LOS	E	C	B	D	D	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	29.95			37.18			30.27			40.27		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.94											
Intersection LOS	C											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.267			3.378			2.561			2.819		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			444			578			800		
d_b, Bicycle Delay [s]	25.69			27.22			22.76			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.806			3.152			2.182			3.104		
Bicycle LOS	C			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	410	27	71	448	111	93	274	289	28	325	66
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	118	10	20	129	33	36	70	81	13	84	23
Total Analysis Volume [veh/h]	259	471	41	81	515	132	143	280	325	51	335	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	31	0	14	33	0	0	45	0	0	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	49	41	41	49	40	40	33	33	33	33	33	33
g / C, Green / Cycle	0.55	0.45	0.45	0.55	0.45	0.45	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.26	0.13	0.03	0.07	0.14	0.08	0.15	0.15	0.20	0.06	0.18	0.06
s, saturation flow rate [veh/h]	1010	3609	1615	1093	3601	1556	955	1900	1604	824	1885	1606
c, Capacity [veh/h]	513	1637	733	556	1607	694	259	693	585	258	687	585
d1, Uniform Delay [s]	20.63	15.44	13.78	14.61	16.10	15.08	34.90	21.32	22.79	29.45	22.10	19.28
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.52	0.44	0.15	0.55	0.11	0.61	1.82	0.38	0.83	0.37	0.54	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.29	0.06	0.15	0.32	0.19	0.55	0.40	0.56	0.20	0.49	0.16
d, Delay for Lane Group [s/veh]	24.15	15.89	13.92	15.16	16.22	15.69	36.73	21.70	23.62	29.82	22.64	19.40
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.99	2.96	0.47	0.78	3.25	1.67	3.10	4.42	5.53	0.95	5.49	1.31
50th-Percentile Queue Length [ft/ln]	74.86	73.93	11.83	19.57	81.25	41.63	77.46	110.42	138.14	23.67	137.27	32.77
95th-Percentile Queue Length [veh/ln]	5.39	5.32	0.85	1.41	5.85	3.00	5.58	7.86	9.38	1.70	9.33	2.36
95th-Percentile Queue Length [ft/ln]	134.75	133.08	21.30	35.22	146.25	74.93	139.42	196.58	234.52	42.60	233.34	58.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.15	15.89	13.92	15.16	16.22	15.69	36.73	21.70	23.62	29.82	22.64	19.40
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	18.56			16.00			25.41			22.78		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.50											
Intersection LOS	C											
Intersection V/C	0.363											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.842			2.930			2.755			2.413		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			644			911			911		
d_b, Bicycle Delay [s]	22.05			20.67			13.34			13.34		
I_b,int, Bicycle LOS Score for Intersection	2.196			2.160			2.794			2.348		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1170	64	109	1340	80	51	0	29	46	5	85
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	305	21	29	349	32	20	0	9	15	4	30
Total Analysis Volume [veh/h]	82	1219	82	117	1396	127	81	0	35	61	15	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.24	0.34	0.05	0.28	0.39	0.08	0.06	0.00	0.02	0.04	0.01	0.07
s, saturation flow rate [veh/h]	348	3583	1615	422	3596	1615	1273	1900	1615	1395	1900	1615
c, Capacity [veh/h]	282	1396	629	284	1401	629	568	568	482	604	568	482
d1, Uniform Delay [s]	12.83	7.25	5.04	12.83	7.82	5.19	8.21	0.00	6.45	7.92	6.36	6.82
k, delay calibration	0.11	0.11	0.11	0.18	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.58	1.86	0.09	1.59	10.39	0.16	0.11	0.00	0.06	0.07	0.02	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.87	0.13	0.41	1.00	0.20	0.14	0.00	0.07	0.10	0.03	0.25
d, Delay for Lane Group [s/veh]	13.41	9.10	5.13	14.42	18.21	5.35	8.32	0.00	6.51	8.00	6.38	7.09
Lane Group LOS	B	A	A	B	B	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.40	1.07	0.08	0.63	2.90	0.13	0.27	0.00	0.09	0.19	0.04	0.34
50th-Percentile Queue Length [ft/ln]	10.03	26.79	2.07	15.82	72.51	3.34	6.63	0.00	2.31	4.80	0.96	8.56
95th-Percentile Queue Length [veh/ln]	0.72	1.93	0.15	1.14	5.22	0.24	0.48	0.00	0.17	0.35	0.07	0.62
95th-Percentile Queue Length [ft/ln]	18.05	48.22	3.72	28.48	130.52	6.01	11.94	0.00	4.15	8.64	1.73	15.41

Movement, Approach, & Intersection Results

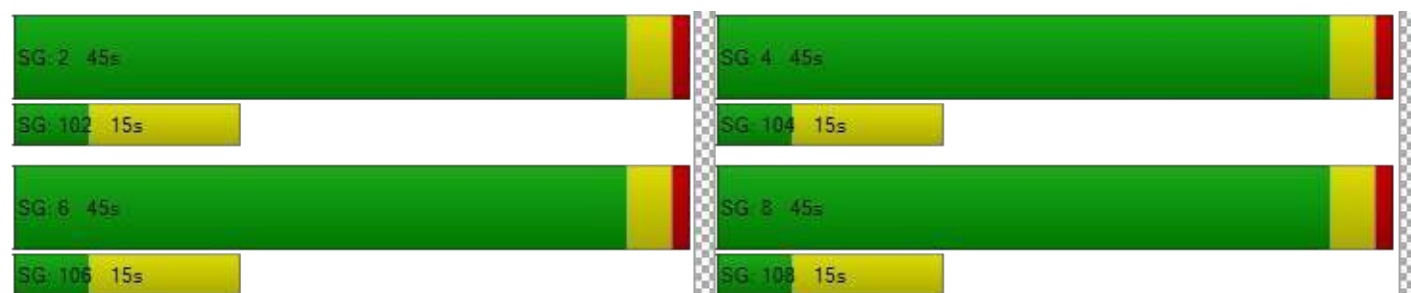
d_M, Delay for Movement [s/veh]	13.41	9.10	5.13	14.42	18.21	5.35	8.32	0.00	6.51	8.00	6.38	7.09
Movement LOS	B	A	A	B	B	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.12			16.94			7.78			7.32		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	12.81											
Intersection LOS	B											
Intersection V/C	0.463											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.38			5.38			5.38			5.38		
I_p,int, Pedestrian LOS Score for Intersectio	3.165			3.239			2.242			2.303		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3202			3202			3202			3202		
d_b, Bicycle Delay [s]	4.63			4.63			4.63			4.63		
I_b,int, Bicycle LOS Score for Intersection	2.701			2.913			1.751			1.885		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 452.2
 Level Of Service: F
 Volume to Capacity (v/c): 1.667

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1223	20	27	1510	154	94	0	61	8	1	25
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	318	9	12	393	46	29	0	21	3	0	11
Total Analysis Volume [veh/h]	77	1274	35	47	1573	183	118	0	86	11	1	45
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.01	0.00	0.09	0.02	0.00	1.67	0.00	0.29	0.14	0.03	0.11
d_M, Delay for Movement [s/veh]	17.65	0.00	0.00	12.37	0.00	0.00	452.18	57.74	22.14	57.25	115.12	19.92
Movement LOS	C	A	A	B	A	A	F	F	C	F	F	C
95th-Percentile Queue Length [veh/ln]	0.80	0.00	0.00	0.29	0.00	0.00	10.23	1.18	1.18	1.07	1.07	1.07
95th-Percentile Queue Length [ft/ln]	19.88	0.00	0.00	7.18	0.00	0.00	255.69	29.51	29.51	26.87	26.87	26.87
d_A, Approach Delay [s/veh]	0.98			0.32			270.89			28.79		
Approach LOS	A			A			F			D		
d_I, Intersection Delay [s/veh]	17.06											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	34.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1071	3	5	1330	3	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.65	0.00	0.00	1.05	0.00	12.50
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1363	4	6	1693	4	10
Peak Hour Factor	0.9600	0.9200	0.9200	0.9600	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	355	1	2	441	1	3
Total Analysis Volume [veh/h]	1420	4	7	1764	4	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.02	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	12.55	0.00	34.30	16.24
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.10	0.00	4.98	4.98
d_A, Approach Delay [s/veh]	0.00		0.05		21.05	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 19: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	30.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1302	8	14	1563	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	326	2	4	391	1	2
Total Analysis Volume [veh/h]	1302	8	14	1563	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.02	0.03	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	12.06	0.00	30.57	14.51
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.06	0.00	3.70	3.70
d_A, Approach Delay [s/veh]	0.00		0.11		19.86	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

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Report File: C:\...\11 - 2030 AM + Mit Summarized.pdf

Scenario 9 2030 AM + Mit
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.610	25.2	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.524	22.3	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.381	7.1	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.412	9.6	A
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.005	22.6	C
20	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.030	23.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	834	227	221	731	111	206	241	195	157	148	162
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	219	79	62	192	46	62	104	61	54	45	48
Total Analysis Volume [veh/h]	204	878	315	248	769	185	248	416	244	215	178	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	28	0	9	28	0	23	40	0	13	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	38	38	35	23	23	8	20	20
g / C, Green / Cycle	0.53	0.43	0.43	0.53	0.43	0.43	0.39	0.26	0.26	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.26	0.25	0.20	0.38	0.22	0.11	0.19	0.22	0.15	0.06	0.09	0.13
s, saturation flow rate [veh/h]	772	3565	1572	650	3553	1615	1318	1884	1607	3356	1887	1494
c, Capacity [veh/h]	433	1518	670	375	1513	688	541	482	411	284	409	324
d1, Uniform Delay [s]	13.07	19.64	18.51	15.27	18.89	16.72	20.13	31.94	29.34	40.20	30.44	31.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.35	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	1.61	2.37	8.82	1.22	0.96	1.94	4.84	1.38	4.09	0.73	1.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.58	0.47	0.66	0.51	0.27	0.46	0.86	0.59	0.76	0.44	0.60
d, Delay for Lane Group [s/veh]	16.71	21.25	20.88	24.09	20.11	17.68	22.07	36.78	30.72	44.30	31.17	33.41
Lane Group LOS	B	C	C	C	C	B	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.35	6.62	4.69	3.32	5.55	2.44	3.87	9.03	4.67	2.46	3.36	3.85
50th-Percentile Queue Length [ft/ln]	58.65	165.62	117.27	82.92	138.80	60.95	96.86	225.63	116.78	61.38	83.96	96.28
95th-Percentile Queue Length [veh/ln]	4.22	10.85	8.24	5.97	9.42	4.39	6.97	13.95	8.22	4.42	6.04	6.93
95th-Percentile Queue Length [ft/ln]	105.57	271.15	206.07	149.26	235.41	109.71	174.35	348.81	205.40	110.49	151.12	173.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.71	21.25	20.88	24.09	20.11	17.68	22.07	36.78	30.72	44.30	31.17	33.41
Movement LOS	B	C	C	C	C	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	20.50			20.56			31.13			36.72		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	25.20											
Intersection LOS	C											
Intersection V/C	0.610											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.094			3.153			2.622			2.764		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			801			578		
d_b, Bicycle Delay [s]	24.16			24.16			16.16			22.72		
I_b,int, Bicycle LOS Score for Intersection	2.712			2.551			3.058			2.527		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	132	201	9	19	615	153	98	289	284	22	289	67
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	58	8	9	192	51	32	139	83	12	94	21
Total Analysis Volume [veh/h]	189	234	31	35	769	204	127	556	330	47	375	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	27	0	22	31	0	0	41	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	40	40	46	37	37	36	36	36	36	36	36
g / C, Green / Cycle	0.52	0.44	0.44	0.52	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.02	0.03	0.22	0.13	0.14	0.30	0.21	0.07	0.20	0.05
s, saturation flow rate [veh/h]	855	3527	1615	1196	3576	1594	926	1880	1581	637	1880	1615
c, Capacity [veh/h]	383	1549	709	597	1492	665	276	742	624	147	742	637
d1, Uniform Delay [s]	28.04	15.16	14.43	13.67	19.48	17.53	32.43	23.43	20.85	38.85	20.61	17.43
k, delay calibration	0.50	0.50	0.50	0.50	0.19	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.50	0.21	0.12	0.19	0.49	1.19	1.20	1.55	0.70	1.23	0.53	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.15	0.04	0.06	0.52	0.31	0.46	0.75	0.53	0.32	0.51	0.13
d, Delay for Lane Group [s/veh]	32.54	15.36	14.54	13.85	19.97	18.73	33.63	24.97	21.55	40.08	21.14	17.52
Lane Group LOS	C	B	B	B	B	B	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.38	1.41	0.37	0.35	5.72	2.90	2.60	10.16	5.32	1.05	5.95	1.15
50th-Percentile Queue Length [ft/ln]	59.50	35.30	9.20	8.81	143.04	72.62	65.01	254.02	133.01	26.23	148.75	28.73
95th-Percentile Queue Length [veh/ln]	4.28	2.54	0.66	0.63	9.64	5.23	4.68	15.39	9.10	1.89	9.95	2.07
95th-Percentile Queue Length [ft/ln]	107.11	63.55	16.55	15.85	241.11	130.72	117.01	384.71	227.58	47.22	248.75	51.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.54	15.36	14.54	13.85	19.97	18.73	33.63	24.97	21.55	40.08	21.14	17.52
Movement LOS	C	B	B	B	B	B	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	22.46			19.50			24.94			22.28		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	22.27											
Intersection LOS	C											
Intersection V/C	0.524											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.825			2.911			2.730			2.407		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	511			600			822			822		
d_b, Bicycle Delay [s]	24.94			22.05			15.61			15.61		
I_b,int, Bicycle LOS Score for Intersection	1.934			2.391			3.231			2.398		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	890	13	38	1011	36	80	0	42	36	0	61
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	234	5	14	266	10	27	0	14	12	0	21
Total Analysis Volume [veh/h]	20	937	21	56	1064	41	107	0	56	46	0	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.01	0.09	0.30	0.03	0.08	0.00	0.04	0.03	0.00	0.06
s, saturation flow rate [veh/h]	518	3548	1615	595	3542	1615	1332	1900	1576	1369	1900	1535
c, Capacity [veh/h]	323	1423	648	353	1421	648	571	528	438	578	528	427
d1, Uniform Delay [s]	11.32	6.08	4.53	10.94	6.39	4.59	8.42	0.00	6.74	8.02	0.00	6.88
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.52	0.02	0.21	0.81	0.04	0.16	0.00	0.13	0.06	0.00	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.66	0.03	0.16	0.75	0.06	0.19	0.00	0.13	0.08	0.00	0.20
d, Delay for Lane Group [s/veh]	11.40	6.60	4.55	11.15	7.20	4.63	8.58	0.00	6.87	8.08	0.00	7.11
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.07	0.46	0.02	0.18	0.59	0.03	0.35	0.00	0.15	0.14	0.00	0.24
50th-Percentile Queue Length [ft/ln]	1.68	11.50	0.39	4.51	14.64	0.77	8.77	0.00	3.79	3.57	0.00	6.01
95th-Percentile Queue Length [veh/ln]	0.12	0.83	0.03	0.32	1.05	0.06	0.63	0.00	0.27	0.26	0.00	0.43
95th-Percentile Queue Length [ft/ln]	3.02	20.70	0.70	8.11	26.34	1.39	15.79	0.00	6.83	6.42	0.00	10.83

Movement, Approach, & Intersection Results

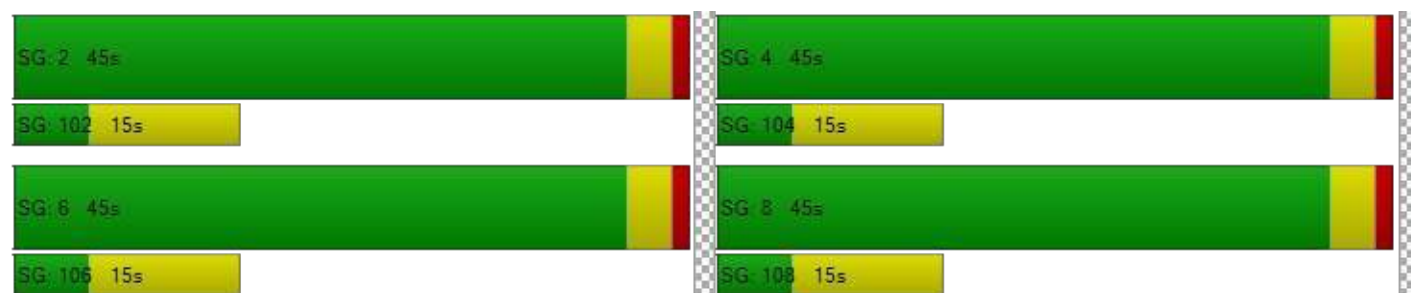
d_M, Delay for Movement [s/veh]	11.40	6.60	4.55	11.15	7.20	4.63	8.58	0.00	6.87	8.08	0.00	7.11
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.65			7.30			7.99			7.45		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.10											
Intersection LOS	A											
Intersection V/C	0.381											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.05			5.05			5.05			5.05		
I_p,int, Pedestrian LOS Score for Intersection	2.963			3.147			2.127			2.175		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3300			3300			3300			3300		
d_b, Bicycle Delay [s]	5.25			5.25			5.25			5.25		
I_b,int, Bicycle LOS Score for Intersection	2.366			2.517			1.829			1.777		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1057	5	20	1021	59	108	3	69	11	3	32
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	278	4	7	269	17	36	2	27	5	2	13
Total Analysis Volume [veh/h]	60	1113	15	30	1075	67	142	6	108	20	6	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	62	0	0	62	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	9	9	9
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.12	0.22	0.01	0.06	0.31	0.31	0.10	0.07	0.05
s, saturation flow rate [veh/h]	500	5161	1615	507	1876	1837	1368	1628	1615
c, Capacity [veh/h]	290	1939	607	342	705	690	586	527	693
d1, Uniform Delay [s]	13.13	6.62	5.24	10.44	7.49	7.49	6.83	6.54	6.37
k, delay calibration	0.11	0.11	0.11	0.11	0.25	0.25	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.27	0.02	0.11	5.42	5.55	0.21	0.20	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.57	0.02	0.09	0.82	0.82	0.24	0.22	0.11
d, Delay for Lane Group [s/veh]	13.48	6.89	5.25	10.55	12.91	13.05	7.04	6.75	6.44
Lane Group LOS	B	A	A	B	B	B	A	A	A
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.27	0.54	0.02	0.10	1.92	1.91	0.41	0.32	0.20
50th-Percentile Queue Length [ft/ln]	6.70	13.44	0.46	2.47	48.02	47.73	10.19	7.92	5.06
95th-Percentile Queue Length [veh/ln]	0.48	0.97	0.03	0.18	3.46	3.44	0.73	0.57	0.36
95th-Percentile Queue Length [ft/ln]	12.05	24.19	0.83	4.44	86.44	85.92	18.35	14.26	9.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.48	6.89	5.25	10.55	12.97	13.05	7.04	6.75	6.75	6.44	6.44	6.44
Movement LOS	B	A	A	B	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.20			12.92			6.91			6.44		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	9.64											
Intersection LOS	A											
Intersection V/C	0.412											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			5.80			5.80		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			2.059			1.737		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4368			4368			1807			1807		
d_b, Bicycle Delay [s]	18.61			18.61			0.12			0.12		
I_b,int, Bicycle LOS Score for Intersection	2.213			2.527			1.982			1.687		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	946	2	3	877	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	0.00	3.19	0.25	0.25
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1204	3	4	1116	1	1
Peak Hour Factor	0.9500	0.9200	0.9200	0.9500	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	317	1	1	294	0	0
Total Analysis Volume [veh/h]	1267	3	4	1175	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.55	0.00	22.62	13.48
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.00	0.37	0.18
d_A, Approach Delay [s/veh]	0.00		0.04		18.05	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 20: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1099	3	4	1100	6	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	275	1	1	275	2	3
Total Analysis Volume [veh/h]	1099	3	4	1100	6	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	10.76	0.00	23.40	13.18
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.48	0.00	4.49	4.49
d_A, Approach Delay [s/veh]	0.00		0.04		16.40	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\12 - 2030 PM + Mit Summarized.pdf

Scenario 10 2030 PM + Mit
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.670	34.9	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.363	20.5	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Thru	0.463	12.8	B
4	575 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.940	30.3	C
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.031	34.3	D
21	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.014	22.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	219	966	195	193	1302	238	94	126	112	285	281	224
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	252	59	64	339	79	27	36	32	85	82	67
Total Analysis Volume [veh/h]	270	1006	235	257	1356	317	107	143	127	339	327	270
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	9	24	0	15	30	0	25	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	36	36	35	19	19	11	18	18
g / C, Green / Cycle	0.53	0.43	0.43	0.53	0.41	0.41	0.38	0.21	0.21	0.13	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.38	0.28	0.15	0.34	0.38	0.20	0.08	0.08	0.08	0.10	0.17	0.17
s, saturation flow rate [veh/h]	715	3588	1598	762	3590	1615	1346	1900	1615	3464	1886	1579
c, Capacity [veh/h]	301	1530	682	327	1451	653	406	405	344	440	387	324
d1, Uniform Delay [s]	35.40	20.56	17.35	33.55	25.66	19.87	28.68	30.12	30.23	38.03	34.39	34.30
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.02	2.22	1.38	17.09	12.41	2.57	0.34	0.52	0.66	2.90	5.49	5.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.66	0.34	0.79	0.93	0.49	0.26	0.35	0.37	0.77	0.85	0.83
d, Delay for Lane Group [s/veh]	66.43	22.79	18.73	50.64	38.07	22.44	29.03	30.64	30.89	40.93	39.88	39.90
Lane Group LOS	E	C	B	D	D	C	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.21	7.98	3.22	4.03	14.82	4.92	1.46	2.66	2.38	3.74	7.31	6.04
50th-Percentile Queue Length [ft/ln]	130.32	199.61	80.56	100.70	370.42	123.10	36.58	66.45	59.50	93.42	182.77	150.94
95th-Percentile Queue Length [veh/ln]	8.96	12.62	5.80	7.25	21.13	8.56	2.63	4.78	4.28	6.73	11.74	10.07
95th-Percentile Queue Length [ft/ln]	223.93	315.46	145.01	181.27	528.23	214.08	65.85	119.61	107.09	168.15	293.62	251.68

Movement, Approach, & Intersection Results

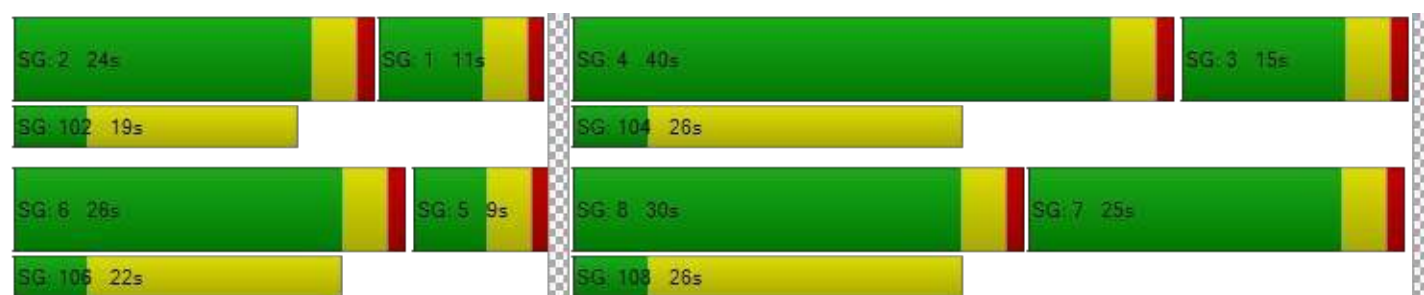
d_M, Delay for Movement [s/veh]	66.43	22.79	18.73	50.64	38.07	22.44	29.03	30.64	30.89	40.93	39.88	39.90
Movement LOS	E	C	B	D	D	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	29.95			37.18			30.27			40.27		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.94											
Intersection LOS	C											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.267			3.378			2.561			2.819		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			444			578			800		
d_b, Bicycle Delay [s]	25.69			27.22			22.76			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.806			3.152			2.182			3.104		
Bicycle LOS	C			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	410	27	71	448	111	93	274	289	28	325	66
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	118	10	20	129	33	36	70	81	13	84	23
Total Analysis Volume [veh/h]	259	471	41	81	515	132	143	280	325	51	335	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	31	0	14	33	0	0	45	0	0	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	49	41	41	49	40	40	33	33	33	33	33	33
g / C, Green / Cycle	0.55	0.45	0.45	0.55	0.45	0.45	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.26	0.13	0.03	0.07	0.14	0.08	0.15	0.15	0.20	0.06	0.18	0.06
s, saturation flow rate [veh/h]	1010	3609	1615	1093	3601	1556	955	1900	1604	824	1885	1606
c, Capacity [veh/h]	513	1637	733	556	1607	694	259	693	585	258	687	585
d1, Uniform Delay [s]	20.63	15.44	13.78	14.61	16.10	15.08	34.90	21.32	22.79	29.45	22.10	19.28
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.52	0.44	0.15	0.55	0.11	0.61	1.82	0.38	0.83	0.37	0.54	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.29	0.06	0.15	0.32	0.19	0.55	0.40	0.56	0.20	0.49	0.16
d, Delay for Lane Group [s/veh]	24.15	15.89	13.92	15.16	16.22	15.69	36.73	21.70	23.62	29.82	22.64	19.40
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.99	2.96	0.47	0.78	3.25	1.67	3.10	4.42	5.53	0.95	5.49	1.31
50th-Percentile Queue Length [ft/ln]	74.86	73.93	11.83	19.57	81.25	41.63	77.46	110.42	138.14	23.67	137.27	32.77
95th-Percentile Queue Length [veh/ln]	5.39	5.32	0.85	1.41	5.85	3.00	5.58	7.86	9.38	1.70	9.33	2.36
95th-Percentile Queue Length [ft/ln]	134.75	133.08	21.30	35.22	146.25	74.93	139.42	196.58	234.52	42.60	233.34	58.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.15	15.89	13.92	15.16	16.22	15.69	36.73	21.70	23.62	29.82	22.64	19.40
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	18.56			16.00			25.41			22.78		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.50											
Intersection LOS	C											
Intersection V/C	0.363											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	2.842			2.930			2.755			2.413		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			644			911			911		
d_b, Bicycle Delay [s]	22.05			20.67			13.34			13.34		
I_b,int, Bicycle LOS Score for Intersection	2.196			2.160			2.794			2.348		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1170	64	109	1340	80	51	0	29	46	5	85
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	305	21	29	349	32	20	0	9	15	4	30
Total Analysis Volume [veh/h]	82	1219	82	117	1396	127	81	0	35	61	15	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.24	0.34	0.05	0.28	0.39	0.08	0.06	0.00	0.02	0.04	0.01	0.07
s, saturation flow rate [veh/h]	348	3583	1615	422	3596	1615	1273	1900	1615	1395	1900	1615
c, Capacity [veh/h]	282	1396	629	284	1401	629	568	568	482	604	568	482
d1, Uniform Delay [s]	12.83	7.25	5.04	12.83	7.82	5.19	8.21	0.00	6.45	7.92	6.36	6.82
k, delay calibration	0.11	0.11	0.11	0.18	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.58	1.86	0.09	1.59	10.39	0.16	0.11	0.00	0.06	0.07	0.02	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.87	0.13	0.41	1.00	0.20	0.14	0.00	0.07	0.10	0.03	0.25
d, Delay for Lane Group [s/veh]	13.41	9.10	5.13	14.42	18.21	5.35	8.32	0.00	6.51	8.00	6.38	7.09
Lane Group LOS	B	A	A	B	B	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.40	1.07	0.08	0.63	2.90	0.13	0.27	0.00	0.09	0.19	0.04	0.34
50th-Percentile Queue Length [ft/ln]	10.03	26.79	2.07	15.82	72.51	3.34	6.63	0.00	2.31	4.80	0.96	8.56
95th-Percentile Queue Length [veh/ln]	0.72	1.93	0.15	1.14	5.22	0.24	0.48	0.00	0.17	0.35	0.07	0.62
95th-Percentile Queue Length [ft/ln]	18.05	48.22	3.72	28.48	130.52	6.01	11.94	0.00	4.15	8.64	1.73	15.41

Movement, Approach, & Intersection Results

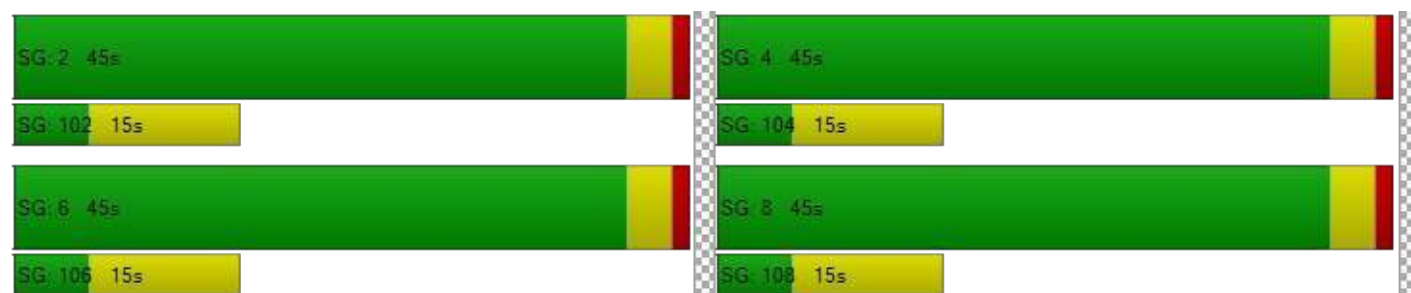
d_M, Delay for Movement [s/veh]	13.41	9.10	5.13	14.42	18.21	5.35	8.32	0.00	6.51	8.00	6.38	7.09
Movement LOS	B	A	A	B	B	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.12			16.94			7.78			7.32		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	12.81											
Intersection LOS	B											
Intersection V/C	0.463											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.38			5.38			5.38			5.38		
I_p,int, Pedestrian LOS Score for Intersection	3.165			3.273			2.242			2.303		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3202			3202			3202			3202		
d_b, Bicycle Delay [s]	4.63			4.63			4.63			4.63		
I_b,int, Bicycle LOS Score for Intersection	2.701			2.913			1.751			1.885		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.940

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1223	20	27	1510	154	94	0	61	8	1	25
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	318	9	12	393	46	29	0	21	3	0	11
Total Analysis Volume [veh/h]	77	1274	35	47	1573	183	118	0	86	11	1	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	123	0	0	123	0	5	19	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	117	0	0	117	0	9	23	0	0	14	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	118	118	118	118	118	118	14	14	10
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84	0.84	0.10	0.10	0.07
(v / s)_i Volume / Saturation Flow Rate	0.28	0.88	0.02	0.11	0.47	0.48	0.13	0.05	0.06
s, saturation flow rate [veh/h]	278	1455	1615	427	1886	1818	935	1615	886
c, Capacity [veh/h]	239	1221	1356	54	1583	1527	120	167	96
d1, Uniform Delay [s]	10.25	11.25	1.84	70.05	3.39	3.47	63.98	59.50	62.56
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.38	0.11	0.14
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.55	37.73	0.04	88.31	1.42	1.56	67.13	2.45	7.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	1.04	0.03	0.87	0.56	0.57	0.98	0.51	0.59
d, Delay for Lane Group [s/veh]	13.80	48.97	1.88	158.37	4.81	5.04	131.10	61.95	69.61
Lane Group LOS	B	F	A	F	A	A	F	E	E
Critical Lane Group	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.20	11.02	0.11	2.99	5.04	5.14	6.31	3.04	2.16
50th-Percentile Queue Length [ft/ln]	30.06	275.57	2.71	74.71	126.07	128.54	157.69	76.06	53.95
95th-Percentile Queue Length [veh/ln]	2.16	17.05	0.20	5.38	8.73	8.86	10.43	5.48	3.88
95th-Percentile Queue Length [ft/ln]	54.11	426.21	4.88	134.47	218.13	221.51	260.66	136.92	97.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.80	48.97	1.88	158.37	4.91	5.04	131.10	61.95	61.95	69.61	69.61	69.61
Movement LOS	B	F	A	F	A	A	F	E	E	E	E	E
d_A, Approach Delay [s/veh]	45.83			8.93			101.95			69.61		
Approach LOS	D			A			F			E		
d_I, Intersection Delay [s/veh]	30.25											
Intersection LOS	C											
Intersection V/C	0.940											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			61.33			61.33		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			2.198			1.861		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1613			1613			271			143		
d_b, Bicycle Delay [s]	2.62			2.62			52.33			60.40		
I_b,int, Bicycle LOS Score for Intersection	2.322			3.047			1.896			1.654		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	34.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1071	3	5	1330	3	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.65	0.00	0.00	1.05	0.00	12.50
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1363	4	6	1693	4	10
Peak Hour Factor	0.9600	0.9200	0.9200	0.9600	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	355	1	2	441	1	3
Total Analysis Volume [veh/h]	1420	4	7	1764	4	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.02	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	12.55	0.00	34.30	16.24
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.10	0.00	4.98	4.98
d_A, Approach Delay [s/veh]	0.00		0.05		21.05	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 21: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1023	6	11	1228	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	2	3	307	1	2
Total Analysis Volume [veh/h]	1023	6	11	1228	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	10.46	0.00	22.59	12.41
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.25	0.00	2.02	2.02
d_A, Approach Delay [s/veh]	0.00		0.09		15.80	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	C					

2030 BACKGROUND PLUS PROJECT

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\13 - 2030 AM + Pro Summarized.pdf

Scenario 11 2030 AM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.624	25.5	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.529	22.4	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.387	7.2	A
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	0.940	116.6	F
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.399	10.3	B
22	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.031	24.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	23	10	0	32	0	0	0	28	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	857	237	221	763	111	206	241	223	173	148	162
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	226	82	62	201	46	62	104	70	59	45	48
Total Analysis Volume [veh/h]	227	902	329	248	803	185	248	416	279	237	178	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	26	0	9	26	0	10	43	0	12	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	38	38	35	23	23	8	25	25
g / C, Green / Cycle	0.52	0.42	0.42	0.52	0.42	0.42	0.39	0.26	0.26	0.09	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.30	0.25	0.21	0.39	0.23	0.11	0.21	0.22	0.17	0.07	0.09	0.13
s, saturation flow rate [veh/h]	758	3565	1572	638	3553	1615	1200	1884	1607	3356	1887	1494
c, Capacity [veh/h]	419	1500	661	365	1495	679	507	484	413	298	526	417
d1, Uniform Delay [s]	13.89	20.18	19.06	16.24	19.48	17.02	20.27	31.83	30.02	40.14	25.79	26.83
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.97	1.79	2.66	9.79	1.39	0.99	3.36	4.58	1.94	4.85	0.38	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.60	0.50	0.68	0.54	0.27	0.49	0.86	0.68	0.80	0.34	0.46
d, Delay for Lane Group [s/veh]	18.86	21.97	21.73	26.02	20.87	18.01	23.63	36.42	31.96	44.99	26.17	27.63
Lane Group LOS	B	C	C	C	C	B	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.77	6.97	5.03	3.43	5.95	2.47	4.02	8.98	5.51	2.73	3.02	3.44
50th-Percentile Queue Length [ft/ln]	69.13	174.13	125.80	85.65	148.80	61.69	100.48	224.42	137.74	68.37	75.61	86.03
95th-Percentile Queue Length [veh/ln]	4.98	11.29	8.71	6.17	9.95	4.44	7.23	13.89	9.36	4.92	5.44	6.19
95th-Percentile Queue Length [ft/ln]	124.43	282.33	217.77	154.18	248.82	111.04	180.86	347.26	233.98	123.06	136.11	154.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.86	21.97	21.73	26.02	20.87	18.01	23.63	36.42	31.96	44.99	26.17	27.63
Movement LOS	B	C	C	C	C	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	21.43			21.47			31.73			33.97		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.53											
Intersection LOS	C											
Intersection V/C	0.624											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.131			3.189			2.649			2.770		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			867			912		
d_b, Bicycle Delay [s]	25.65			25.65			14.42			13.30		
I_b,int, Bicycle LOS Score for Intersection	2.762			2.579			3.116			2.563		
Bicycle LOS	C			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 7th Edition
15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

22.4
C
0.529

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	2	1	5	4	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	201	9	19	615	155	99	294	288	22	297	67
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	58	8	9	192	52	32	141	84	12	96	21
Total Analysis Volume [veh/h]	197	234	31	35	769	207	129	565	335	47	386	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	22	26	0	22	26	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	39	39	46	37	37	36	36	36	36	36	36
g / C, Green / Cycle	0.51	0.43	0.43	0.51	0.41	0.41	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.02	0.03	0.22	0.13	0.14	0.30	0.21	0.07	0.21	0.05
s, saturation flow rate [veh/h]	859	3527	1615	1198	3576	1594	917	1880	1581	629	1880	1615
c, Capacity [veh/h]	377	1521	696	590	1462	651	276	757	636	148	757	650
d1, Uniform Delay [s]	28.86	15.60	14.85	14.01	20.04	18.08	32.40	22.96	20.38	38.67	20.21	16.96
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.09	0.22	0.12	0.19	0.30	1.28	1.23	1.49	0.68	1.22	0.53	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.15	0.04	0.06	0.53	0.32	0.47	0.75	0.53	0.32	0.51	0.13
d, Delay for Lane Group [s/veh]	33.95	15.81	14.97	14.21	20.34	19.36	33.63	24.45	21.05	39.89	20.74	17.05
Lane Group LOS	C	B	B	B	C	B	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.57	1.44	0.37	0.36	5.78	3.01	2.65	10.22	5.33	1.05	6.07	1.13
50th-Percentile Queue Length [ft/ln]	64.29	35.97	9.37	9.00	144.57	75.29	66.13	255.45	133.30	26.17	151.70	28.26
95th-Percentile Queue Length [veh/ln]	4.63	2.59	0.67	0.65	9.73	5.42	4.76	15.46	9.12	1.88	10.11	2.03
95th-Percentile Queue Length [ft/ln]	115.72	64.75	16.86	16.20	243.17	135.52	119.04	386.51	227.98	47.10	252.69	50.86

Movement, Approach, & Intersection Results

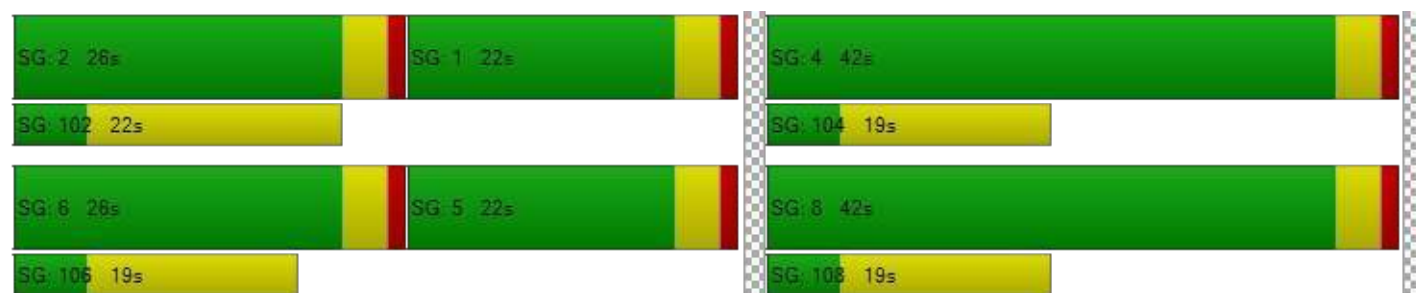
d_M, Delay for Movement [s/veh]	33.95	15.81	14.97	14.21	20.34	19.36	33.63	24.45	21.05	39.89	20.74	17.05
Movement LOS	C	B	B	B	C	B	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	23.49			19.93			24.49			21.86		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	22.36											
Intersection LOS	C											
Intersection V/C	0.529											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.827			2.915			2.748			2.411		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			844			844		
d_b, Bicycle Delay [s]	25.69			25.69			15.02			15.02		
I_b,int, Bicycle LOS Score for Intersection	1.941			2.394			3.257			2.416		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	1	17	1	1	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	916	13	39	1028	37	81	0	42	36	0	63
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	241	5	14	271	11	27	0	14	12	0	22
Total Analysis Volume [veh/h]	20	964	21	57	1082	42	108	0	56	46	0	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.01	0.10	0.31	0.03	0.08	0.00	0.04	0.03	0.00	0.06
s, saturation flow rate [veh/h]	509	3548	1615	580	3542	1615	1329	1900	1576	1369	1900	1535
c, Capacity [veh/h]	318	1422	647	346	1419	647	571	530	439	579	530	428
d1, Uniform Delay [s]	11.51	6.15	4.54	11.22	6.45	4.60	8.43	0.00	6.73	8.01	0.00	6.89
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.57	0.02	0.22	0.87	0.04	0.16	0.00	0.13	0.06	0.00	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.68	0.03	0.16	0.76	0.06	0.19	0.00	0.13	0.08	0.00	0.21
d, Delay for Lane Group [s/veh]	11.59	6.73	4.56	11.44	7.32	4.64	8.59	0.00	6.86	8.07	0.00	7.13
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.07	0.49	0.02	0.19	0.61	0.03	0.35	0.00	0.15	0.14	0.00	0.25
50th-Percentile Queue Length [ft/ln]	1.71	12.21	0.39	4.73	15.33	0.80	8.87	0.00	3.79	3.57	0.00	6.24
95th-Percentile Queue Length [veh/ln]	0.12	0.88	0.03	0.34	1.10	0.06	0.64	0.00	0.27	0.26	0.00	0.45
95th-Percentile Queue Length [ft/ln]	3.08	21.97	0.71	8.51	27.59	1.44	15.96	0.00	6.83	6.42	0.00	11.23

Movement, Approach, & Intersection Results

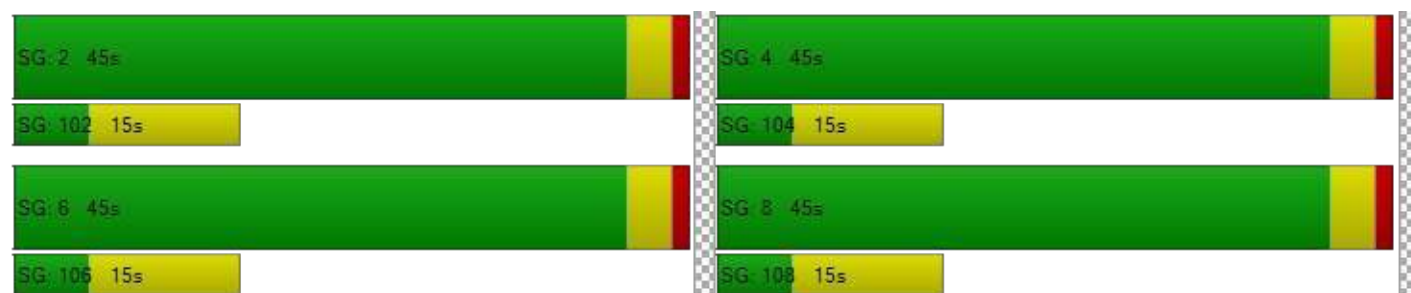
d_M, Delay for Movement [s/veh]	11.59	6.73	4.56	11.44	7.32	4.64	8.59	0.00	6.86	8.07	0.00	7.13
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.78			7.43			8.00			7.45		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.20											
Intersection LOS	A											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.07			5.07			5.07			5.07		
I_p,int, Pedestrian LOS Score for Intersectio	2.974			3.100			2.128			2.178		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3297			3297			3297			3297		
d_b, Bicycle Delay [s]	5.23			5.23			5.23			5.23		
I_b,int, Bicycle LOS Score for Intersection	2.389			2.534			1.830			1.782		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 116.6
 Level Of Service: F
 Volume to Capacity (v/c): 0.940

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	1	19	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1086	5	21	1040	59	108	3	69	11	3	34
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	286	4	8	274	17	36	2	27	5	2	13
Total Analysis Volume [veh/h]	60	1143	15	31	1095	67	142	6	108	20	6	54
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.05	0.01	0.00	0.94	0.04	0.23	0.15	0.05	0.12
d_M, Delay for Movement [s/veh]	11.56	0.00	0.00	11.21	0.00	0.00	116.57	33.86	16.09	38.44	38.36	18.91
Movement LOS	B	A	A	B	A	A	F	D	C	E	E	C
95th-Percentile Queue Length [veh/ln]	0.33	0.00	0.00	0.16	0.00	0.00	6.75	1.11	1.11	1.28	1.28	1.28
95th-Percentile Queue Length [ft/ln]	8.17	0.00	0.00	4.00	0.00	0.00	168.77	27.81	27.81	32.09	32.09	32.09
d_A, Approach Delay [s/veh]	0.57			0.29			72.24			25.25		
Approach LOS	A			A			F			D		
d_I, Intersection Delay [s/veh]	7.85											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	20.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	946	2	3	877	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.11	0.00	0.00	3.19	2.00	2.00	2.00	2.00	0.25	2.00	0.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2729	1.2729	1.2729	1.2729	1.0000	1.0000	1.0000	1.0000	1.2729	1.0000	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	76	0	0	0	0	0	20	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-16	16	38	-38	0	0	0	0	38	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1188	50	118	1078	0	0	0	0	59	0	69
Peak Hour Factor	1.0000	0.9500	0.9200	0.9200	0.9500	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	313	14	32	284	0	0	0	0	16	0	19
Total Analysis Volume [veh/h]	0	1251	54	128	1135	0	0	0	0	64	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	72	0	0	72	0	0	18	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	C	L	C
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.35	0.35	0.30	0.32	0.00	0.00	0.04	0.05
s, saturation flow rate [veh/h]	496	1868	1841	428	3526	1589	1870	1437	1589
c, Capacity [veh/h]	323	773	761	303	1458	657	627	561	406
d1, Uniform Delay [s]	0.00	6.41	6.42	12.09	6.13	0.00	0.00	7.03	7.03
k, delay calibration	0.11	0.27	0.27	0.19	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	6.54	6.71	1.62	0.93	0.00	0.00	0.09	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.85	0.85	0.42	0.78	0.00	0.00	0.11	0.18
d, Delay for Lane Group [s/veh]	0.00	12.95	13.13	13.71	7.06	0.00	0.00	7.12	7.25
Lane Group LOS	A	B	B	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	1.77	1.78	0.64	0.49	0.00	0.00	0.16	0.19
50th-Percentile Queue Length [ft/ln]	0.00	44.17	44.47	15.97	12.21	0.00	0.00	3.90	4.77
95th-Percentile Queue Length [veh/ln]	0.00	3.18	3.20	1.15	0.88	0.00	0.00	0.28	0.34
95th-Percentile Queue Length [ft/ln]	0.00	79.50	80.04	28.75	21.98	0.00	0.00	7.02	8.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.04	13.13	13.71	7.06	0.00	0.00	0.00	0.00	7.12	7.25	7.25
Movement LOS	A	B	B	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	13.04			7.74			0.00			7.19		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	10.27											
Intersection LOS	B											
Intersection V/C	0.399											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			4.74			4.74		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.635			2.146		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5637			5637			1161			1161		
d_b, Bicycle Delay [s]	39.89			39.89			2.13			2.13		
I_b,int, Bicycle LOS Score for Intersection	2.636			2.602			1.560			1.789		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 22: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	24.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	3	4	1120	6	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	1	1	280	2	3
Total Analysis Volume [veh/h]	1130	3	4	1120	6	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	10.92	0.00	24.10	13.40
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.49	0.00	4.64	4.64
d_A, Approach Delay [s/veh]	0.00		0.04		16.77	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

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Report File: C:\...\14 - 2030 PM + Pro Summarized.pdf

Scenario 12 2030 PM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.765	46.6	D
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.372	20.9	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Thru	0.481	18.3	B
4	575 South & Geneva Road	Two-way stop	HCM 7th Edition	EB Left	2.993	1,114.2	F
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.755	11.6	B
23	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.030	32.4	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	59	30	0	59	0	0	0	51	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1025	225	193	1361	238	94	126	163	315	281	224
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	267	68	64	354	79	27	36	46	94	82	67
Total Analysis Volume [veh/h]	333	1068	271	257	1418	317	107	143	185	375	327	270
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	67	0	14	61	0	9	30	0	19	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	77	64	64	77	57	57	45	25	25	16	25	25
g / C, Green / Cycle	0.59	0.49	0.49	0.59	0.43	0.43	0.35	0.20	0.20	0.12	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.46	0.30	0.17	0.38	0.40	0.20	0.08	0.08	0.11	0.11	0.17	0.17
s, saturation flow rate [veh/h]	722	3588	1598	669	3590	1615	1310	1900	1615	3464	1886	1579
c, Capacity [veh/h]	344	1773	790	327	1563	703	336	372	316	426	366	306
d1, Uniform Delay [s]	50.63	23.67	20.02	45.93	34.25	25.78	45.09	45.47	47.49	56.05	51.05	50.91
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.50	0.17
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.79	1.53	1.19	17.15	9.24	2.08	0.54	0.65	1.77	6.03	26.49	12.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.60	0.34	0.79	0.91	0.45	0.32	0.38	0.59	0.88	0.89	0.88
d, Delay for Lane Group [s/veh]	91.42	25.20	21.21	63.08	43.50	27.87	45.63	46.13	49.27	62.08	77.54	63.25
Lane Group LOS	F	C	C	E	D	C	D	D	D	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.51	11.55	5.06	4.95	21.75	7.05	2.39	4.11	5.62	6.41	13.06	9.59
50th-Percentile Queue Length [ft/ln]	212.75	288.79	126.42	123.65	543.68	176.27	59.79	102.76	140.45	160.19	326.55	239.68
95th-Percentile Queue Length [veh/ln]	13.29	17.13	8.74	8.59	29.40	11.41	4.31	7.40	9.51	10.56	18.99	14.67
95th-Percentile Queue Length [ft/ln]	332.35	428.14	218.62	214.83	734.88	285.14	107.63	184.97	237.63	263.97	474.73	366.63

Movement, Approach, & Intersection Results

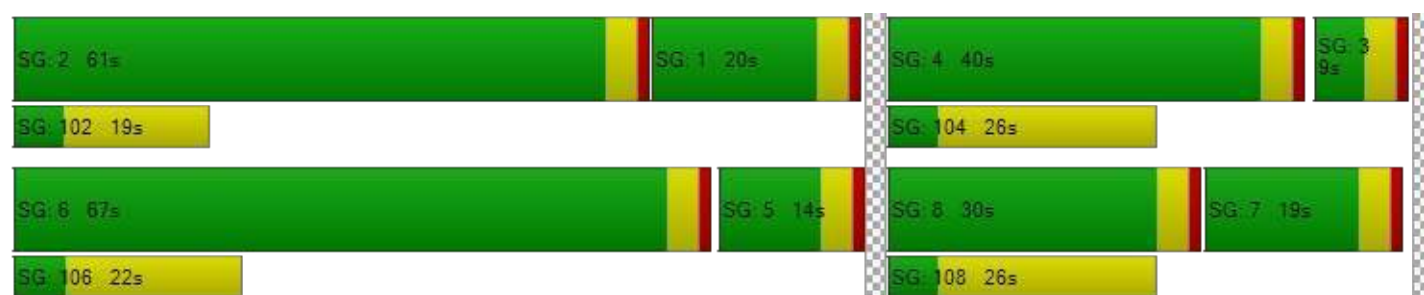
d_M, Delay for Movement [s/veh]	91.42	25.20	21.21	63.08	43.50	27.87	45.63	46.13	49.27	62.08	77.54	63.25
Movement LOS	F	C	C	E	D	C	D	D	D	E	E	E
d_A, Approach Delay [s/veh]	37.74			43.53			47.34			67.61		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	46.57											
Intersection LOS	D											
Intersection V/C	0.765											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	56.30			56.30			56.30			56.30		
I_p,int, Pedestrian LOS Score for Intersection	3.361			3.389			2.588			2.862		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	969			877			400			554		
d_b, Bicycle Delay [s]	17.26			20.49			41.59			33.98		
I_b,int, Bicycle LOS Score for Intersection	2.939			3.203			2.277			3.163		
Bicycle LOS	C			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	4	4	14	12	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	410	27	71	448	115	97	288	301	28	339	66
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	118	10	20	129	34	37	73	85	13	87	23
Total Analysis Volume [veh/h]	273	471	41	81	515	137	149	294	338	51	349	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	21	37	0	10	26	0	0	43	0	0	43	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	41	41	50	41	41	32	32	32	32	32	32
g / C, Green / Cycle	0.55	0.46	0.46	0.55	0.45	0.45	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.27	0.13	0.03	0.07	0.14	0.09	0.16	0.15	0.21	0.06	0.19	0.06
s, saturation flow rate [veh/h]	1004	3609	1615	1091	3601	1556	942	1900	1604	804	1885	1606
c, Capacity [veh/h]	502	1654	740	545	1624	702	265	684	578	260	679	578
d1, Uniform Delay [s]	22.18	15.19	13.55	15.27	15.83	14.88	34.55	21.79	23.34	28.93	22.60	19.54
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.19	0.43	0.14	0.58	0.11	0.62	1.87	0.43	0.94	0.36	0.60	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.28	0.06	0.15	0.32	0.20	0.56	0.43	0.59	0.20	0.51	0.16
d, Delay for Lane Group [s/veh]	26.37	15.62	13.70	15.84	15.94	15.50	36.43	22.22	24.28	29.30	23.21	19.67
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.19	2.92	0.47	0.77	3.21	1.71	3.23	4.73	5.87	0.94	5.84	1.32
50th-Percentile Queue Length [ft/ln]	79.82	72.98	11.68	19.34	80.20	42.81	80.72	118.20	146.82	23.48	145.89	33.10
95th-Percentile Queue Length [veh/ln]	5.75	5.25	0.84	1.39	5.77	3.08	5.81	8.29	9.85	1.69	9.80	2.38
95th-Percentile Queue Length [ft/ln]	143.68	131.36	21.03	34.81	144.35	77.06	145.29	207.35	246.18	42.27	244.93	59.59

Movement, Approach, & Intersection Results

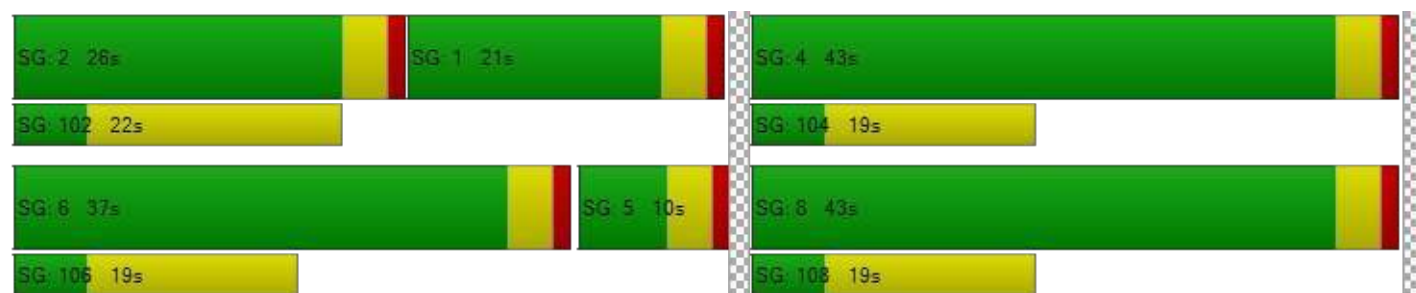
d_M, Delay for Movement [s/veh]	26.37	15.62	13.70	15.84	15.94	15.50	36.43	22.22	24.28	29.30	23.21	19.67
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	19.26			15.85			25.82			23.18		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.89											
Intersection LOS	C											
Intersection V/C	0.372											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.847			2.940			2.786			2.419		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			489			867			867		
d_b, Bicycle Delay [s]	18.05			25.69			14.45			14.45		
I_b,int, Bicycle LOS Score for Intersection	2.207			2.164			2.848			2.371		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.481

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	4	48	2	2	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1217	64	113	1388	82	53	0	29	46	5	89
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	317	21	30	361	33	21	0	9	15	4	32
Total Analysis Volume [veh/h]	82	1268	82	122	1446	130	84	0	35	61	15	127
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.25	0.35	0.05	0.30	0.40	0.08	0.07	0.00	0.02	0.04	0.01	0.08
s, saturation flow rate [veh/h]	330	3583	1615	403	3596	1615	1266	1900	1615	1395	1900	1615
c, Capacity [veh/h]	281	1390	626	282	1395	626	569	573	487	606	573	487
d1, Uniform Delay [s]	12.89	7.47	5.09	12.89	7.89	5.25	8.20	0.00	6.42	7.90	6.33	6.82
k, delay calibration	0.13	0.11	0.11	0.23	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	2.72	0.09	2.17	22.31	0.16	0.12	0.00	0.06	0.07	0.02	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.91	0.13	0.43	1.04	0.21	0.15	0.00	0.07	0.10	0.03	0.26
d, Delay for Lane Group [s/veh]	13.60	10.19	5.18	15.06	30.20	5.41	8.32	0.00	6.49	7.97	6.35	7.10
Lane Group LOS	B	B	A	B	F	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.41	1.31	0.09	0.70	5.24	0.14	0.28	0.00	0.09	0.19	0.04	0.36
50th-Percentile Queue Length [ft/ln]	10.33	32.79	2.14	17.58	130.89	3.54	6.90	0.00	2.30	4.80	0.96	9.02
95th-Percentile Queue Length [veh/ln]	0.74	2.36	0.15	1.27	9.17	0.25	0.50	0.00	0.17	0.35	0.07	0.65
95th-Percentile Queue Length [ft/ln]	18.60	59.03	3.85	31.64	229.28	6.37	12.43	0.00	4.15	8.65	1.72	16.24

Movement, Approach, & Intersection Results

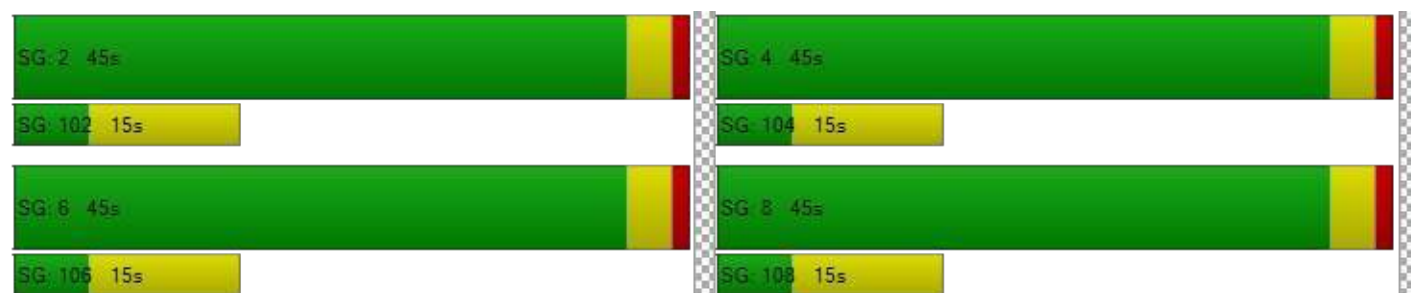
d_M, Delay for Movement [s/veh]	13.60	10.19	5.18	15.06	30.20	5.41	8.32	0.00	6.49	7.97	6.35	7.10
Movement LOS	B	B	A	B	F	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	10.10			27.21			7.78			7.31		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	18.27											
Intersection LOS	B											
Intersection V/C	0.481											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.43			5.43			5.43			5.43		
I_p,int, Pedestrian LOS Score for Intersection	3.190			3.302			2.243			2.312		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3188			3188			3188			3188		
d_b, Bicycle Delay [s]	4.54			4.54			4.54			4.54		
I_b,int, Bicycle LOS Score for Intersection	2.741			2.960			1.756			1.895		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	1,114.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.993

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	4	54	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1276	20	31	1564	154	94	0	61	8	1	29
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	332	9	13	407	46	29	0	21	3	0	13
Total Analysis Volume [veh/h]	77	1329	35	53	1629	183	118	0	86	11	1	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.01	0.00	0.20	0.02	0.00	2.99	0.00	0.35	0.19	0.07	0.15
d_M, Delay for Movement [s/veh]	18.47	0.00	0.00	21.95	0.00	0.00	1114.15	70.96	27.76	82.87	258.91	30.25
Movement LOS	C	A	A	C	A	A	F	F	D	F	F	D
95th-Percentile Queue Length [veh/ln]	0.84	0.00	0.00	0.73	0.00	0.00	13.18	1.53	1.53	1.79	1.79	1.79
95th-Percentile Queue Length [ft/ln]	21.12	0.00	0.00	18.25	0.00	0.00	329.49	38.18	38.18	44.72	44.72	44.72
d_A, Approach Delay [s/veh]	0.99			0.62			656.16			42.86		
Approach LOS	A			A			F			E		
d_I, Intersection Delay [s/veh]	38.94											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	20.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1071	3	6	1330	0	0	0	0	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.65	0.00	0.00	1.05	2.00	2.00	2.00	2.00	0.00	2.00	12.50
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2729	1.2729	1.2729	1.2729	1.0000	1.0000	1.0000	1.0000	1.2729	1.0000	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	140	0	0	0	0	0	58	0	140
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-26	26	61	-61	0	0	0	0	61	0	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1337	87	209	1632	0	0	0	0	123	0	180
Peak Hour Factor	1.0000	0.9600	0.9200	0.9200	0.9600	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	348	24	57	425	0	0	0	0	33	0	49
Total Analysis Volume [veh/h]	0	1393	95	227	1700	0	0	0	0	134	0	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	21	0	0	21	0	0	61	0	0	61	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	51	0	0	51	0	0	39	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	68	68	68	68	68	68	14	14	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.76	0.76	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.40	0.63	0.45	0.45	0.00	0.09	0.12
s, saturation flow rate [veh/h]	288	1890	1848	360	1884	1884	1870	1440	1589
c, Capacity [veh/h]	228	1435	1403	280	1430	1430	324	276	242
d1, Uniform Delay [s]	0.00	4.33	4.34	23.01	4.76	4.76	0.00	35.74	36.92
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	1.36	1.41	22.01	1.82	1.82	0.00	1.32	6.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.52	0.53	0.81	0.59	0.59	0.00	0.49	0.81
d, Delay for Lane Group [s/veh]	0.00	5.69	5.76	45.02	6.58	6.58	0.00	37.06	43.36
Lane Group LOS	A	A	A	D	A	A	A	D	D
Critical Lane Group	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	3.57	3.54	6.34	4.49	4.49	0.00	2.81	4.53
50th-Percentile Queue Length [ft/ln]	0.00	89.25	88.52	158.62	112.34	112.34	0.00	70.34	113.31
95th-Percentile Queue Length [veh/ln]	0.00	6.43	6.37	10.48	7.97	7.97	0.00	5.06	8.02
95th-Percentile Queue Length [ft/ln]	0.00	160.65	159.33	261.89	199.25	199.25	0.00	126.62	200.60

Movement, Approach, & Intersection Results

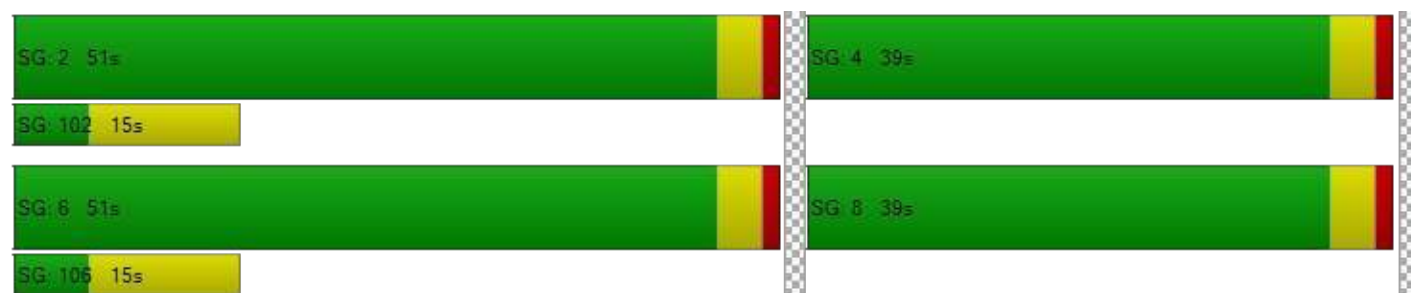
d_M, Delay for Movement [s/veh]	0.00	5.72	5.76	45.02	6.58	6.58	0.00	0.00	0.00	37.06	43.36	43.36
Movement LOS	A	A	A	D	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	5.73			11.11			0.00			40.80		
Approach LOS	A			B			A			D		
d_I, Intersection Delay [s/veh]	11.59											
Intersection LOS	B											
Intersection V/C	0.755											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			1.716			2.614		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1044			1044			778			778		
d_b, Bicycle Delay [s]	10.27			10.27			16.81			16.81		
I_b,int, Bicycle LOS Score for Intersection	2.787			3.149			1.560			2.104		
Bicycle LOS	C			C			A			B		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 23: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	0	0	58	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1359	8	14	1621	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	340	2	4	405	1	2
Total Analysis Volume [veh/h]	1359	8	14	1621	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.02	0.03	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	12.43	0.00	32.42	14.99
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.17	0.00	3.93	3.93
d_A, Approach Delay [s/veh]	0.00		0.11		20.80	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 13 2030 AM + Pro + Mit

Report File: C:\...\15 - 2030 AM + Pro + Mit Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.624	25.5	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	WB Left	0.529	22.4	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.387	7.2	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	SB Right	0.417	10.0	A
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.399	10.9	B
24	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.031	24.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	23	10	0	32	0	0	0	28	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	857	237	221	763	111	206	241	223	173	148	162
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	226	82	62	201	46	62	104	70	59	45	48
Total Analysis Volume [veh/h]	227	902	329	248	803	185	248	416	279	237	178	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	26	0	9	26	0	10	43	0	12	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	47	38	38	47	38	38	35	23	23	8	25	25
g / C, Green / Cycle	0.52	0.42	0.42	0.52	0.42	0.42	0.39	0.26	0.26	0.09	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.30	0.25	0.21	0.39	0.23	0.11	0.21	0.22	0.17	0.07	0.09	0.13
s, saturation flow rate [veh/h]	758	3565	1572	638	3553	1615	1200	1884	1607	3356	1887	1494
c, Capacity [veh/h]	419	1500	661	365	1495	679	507	484	413	298	526	417
d1, Uniform Delay [s]	13.89	20.18	19.06	16.24	19.48	17.02	20.27	31.83	30.02	40.14	25.79	26.83
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.97	1.79	2.66	9.79	1.39	0.99	3.36	4.58	1.94	4.85	0.38	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.60	0.50	0.68	0.54	0.27	0.49	0.86	0.68	0.80	0.34	0.46
d, Delay for Lane Group [s/veh]	18.86	21.97	21.73	26.02	20.87	18.01	23.63	36.42	31.96	44.99	26.17	27.63
Lane Group LOS	B	C	C	C	C	B	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.77	6.97	5.03	3.43	5.95	2.47	4.02	8.98	5.51	2.73	3.02	3.44
50th-Percentile Queue Length [ft/ln]	69.13	174.13	125.80	85.65	148.80	61.69	100.48	224.42	137.74	68.37	75.61	86.03
95th-Percentile Queue Length [veh/ln]	4.98	11.29	8.71	6.17	9.95	4.44	7.23	13.89	9.36	4.92	5.44	6.19
95th-Percentile Queue Length [ft/ln]	124.43	282.33	217.77	154.18	248.82	111.04	180.86	347.26	233.98	123.06	136.11	154.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.86	21.97	21.73	26.02	20.87	18.01	23.63	36.42	31.96	44.99	26.17	27.63
Movement LOS	B	C	C	C	C	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	21.43			21.47			31.73			33.97		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.53											
Intersection LOS	C											
Intersection V/C	0.624											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersection	3.131			3.189			2.649			2.770		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			867			912		
d_b, Bicycle Delay [s]	25.65			25.65			14.42			13.30		
I_b,int, Bicycle LOS Score for Intersection	2.762			2.579			3.116			2.563		
Bicycle LOS	C			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	2	1	5	4	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	201	9	19	615	155	99	294	288	22	297	67
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	58	8	9	192	52	32	141	84	12	96	21
Total Analysis Volume [veh/h]	197	234	31	35	769	207	129	565	335	47	386	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	22	26	0	22	26	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	39	39	46	37	37	36	36	36	36	36	36
g / C, Green / Cycle	0.51	0.43	0.43	0.51	0.41	0.41	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.02	0.03	0.22	0.13	0.14	0.30	0.21	0.07	0.21	0.05
s, saturation flow rate [veh/h]	859	3527	1615	1198	3576	1594	917	1880	1581	629	1880	1615
c, Capacity [veh/h]	377	1521	696	590	1462	651	276	757	636	148	757	650
d1, Uniform Delay [s]	28.86	15.60	14.85	14.01	20.04	18.08	32.40	22.96	20.38	38.67	20.21	16.96
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.09	0.22	0.12	0.19	0.30	1.28	1.23	1.49	0.68	1.22	0.53	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.15	0.04	0.06	0.53	0.32	0.47	0.75	0.53	0.32	0.51	0.13
d, Delay for Lane Group [s/veh]	33.95	15.81	14.97	14.21	20.34	19.36	33.63	24.45	21.05	39.89	20.74	17.05
Lane Group LOS	C	B	B	B	C	B	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	2.57	1.44	0.37	0.36	5.78	3.01	2.65	10.22	5.33	1.05	6.07	1.13
50th-Percentile Queue Length [ft/ln]	64.29	35.97	9.37	9.00	144.57	75.29	66.13	255.45	133.30	26.17	151.70	28.26
95th-Percentile Queue Length [veh/ln]	4.63	2.59	0.67	0.65	9.73	5.42	4.76	15.46	9.12	1.88	10.11	2.03
95th-Percentile Queue Length [ft/ln]	115.72	64.75	16.86	16.20	243.17	135.52	119.04	386.51	227.98	47.10	252.69	50.86

Movement, Approach, & Intersection Results

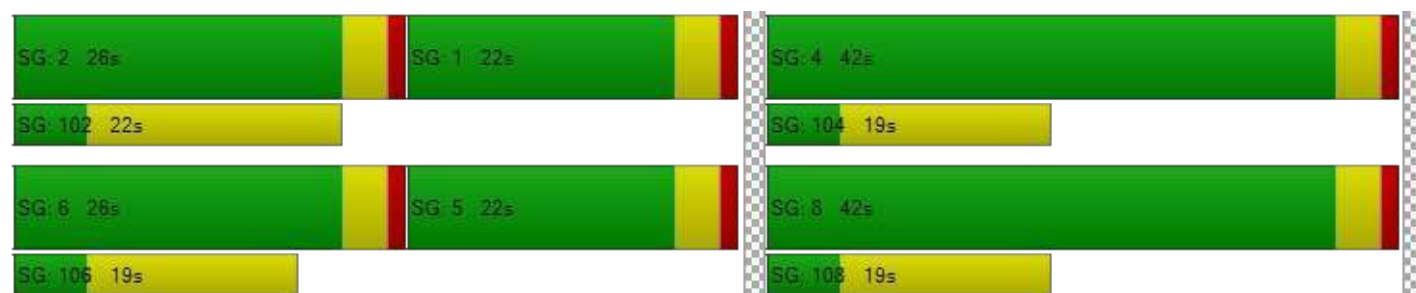
d_M, Delay for Movement [s/veh]	33.95	15.81	14.97	14.21	20.34	19.36	33.63	24.45	21.05	39.89	20.74	17.05
Movement LOS	C	B	B	B	C	B	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	23.49			19.93			24.49			21.86		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	22.36											
Intersection LOS	C											
Intersection V/C	0.529											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.827			2.915			2.748			2.411		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			844			844		
d_b, Bicycle Delay [s]	25.69			25.69			15.02			15.02		
I_b,int, Bicycle LOS Score for Intersection	1.941			2.394			3.257			2.416		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	1	17	1	1	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	916	13	39	1028	37	81	0	42	36	0	63
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	241	5	14	271	11	27	0	14	12	0	22
Total Analysis Volume [veh/h]	20	964	21	57	1082	42	108	0	56	46	0	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.01	0.10	0.31	0.03	0.08	0.00	0.04	0.03	0.00	0.06
s, saturation flow rate [veh/h]	509	3548	1615	580	3542	1615	1329	1900	1576	1369	1900	1535
c, Capacity [veh/h]	318	1422	647	346	1419	647	571	530	439	579	530	428
d1, Uniform Delay [s]	11.51	6.15	4.54	11.22	6.45	4.60	8.43	0.00	6.73	8.01	0.00	6.89
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.57	0.02	0.22	0.87	0.04	0.16	0.00	0.13	0.06	0.00	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.68	0.03	0.16	0.76	0.06	0.19	0.00	0.13	0.08	0.00	0.21
d, Delay for Lane Group [s/veh]	11.59	6.73	4.56	11.44	7.32	4.64	8.59	0.00	6.86	8.07	0.00	7.13
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.07	0.49	0.02	0.19	0.61	0.03	0.35	0.00	0.15	0.14	0.00	0.25
50th-Percentile Queue Length [ft/ln]	1.71	12.21	0.39	4.73	15.33	0.80	8.87	0.00	3.79	3.57	0.00	6.24
95th-Percentile Queue Length [veh/ln]	0.12	0.88	0.03	0.34	1.10	0.06	0.64	0.00	0.27	0.26	0.00	0.45
95th-Percentile Queue Length [ft/ln]	3.08	21.97	0.71	8.51	27.59	1.44	15.96	0.00	6.83	6.42	0.00	11.23

Movement, Approach, & Intersection Results

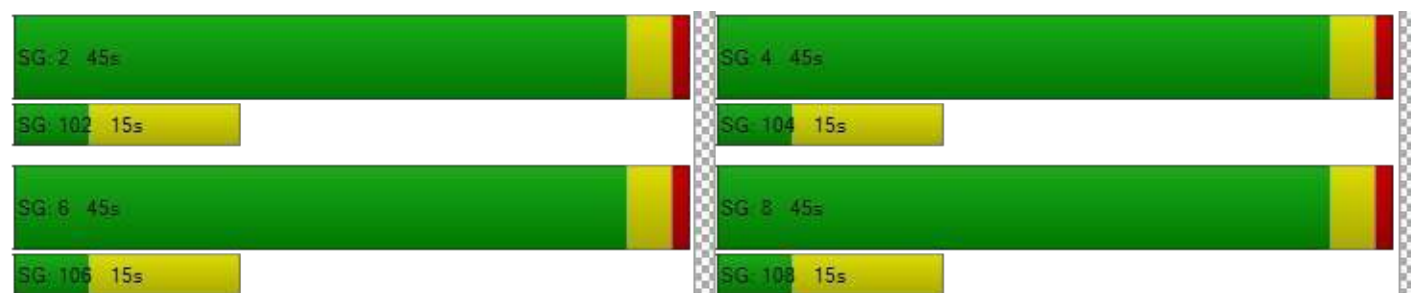
d_M, Delay for Movement [s/veh]	11.59	6.73	4.56	11.44	7.32	4.64	8.59	0.00	6.86	8.07	0.00	7.13
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.78			7.43			8.00			7.45		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.20											
Intersection LOS	A											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.07			5.07			5.07			5.07		
I_p,int, Pedestrian LOS Score for Intersection	2.974			3.159			2.128			2.178		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3297			3297			3297			3297		
d_b, Bicycle Delay [s]	5.23			5.23			5.23			5.23		
I_b,int, Bicycle LOS Score for Intersection	2.389			2.534			1.830			1.782		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	1	19	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1086	5	21	1040	59	108	3	69	11	3	34
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	286	4	8	274	17	36	2	27	5	2	13
Total Analysis Volume [veh/h]	60	1143	15	31	1095	67	142	6	108	20	6	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	62	0	0	62	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	9	9	9
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.12	0.22	0.01	0.06	0.31	0.31	0.10	0.07	0.05
s, saturation flow rate [veh/h]	491	5161	1615	493	1876	1838	1364	1628	1617
c, Capacity [veh/h]	287	1939	607	337	705	690	584	527	693
d1, Uniform Delay [s]	13.19	6.66	5.24	10.62	7.55	7.55	6.83	6.54	6.39
k, delay calibration	0.11	0.11	0.11	0.11	0.26	0.26	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	0.29	0.02	0.12	6.11	6.27	0.21	0.20	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.59	0.02	0.09	0.83	0.83	0.24	0.22	0.12
d, Delay for Lane Group [s/veh]	13.55	6.95	5.25	10.73	13.66	13.82	7.05	6.75	6.46
Lane Group LOS	B	A	A	B	B	B	A	A	A
Critical Lane Group	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.27	0.56	0.02	0.10	2.08	2.07	0.41	0.32	0.21
50th-Percentile Queue Length [ft/ln]	6.80	13.94	0.46	2.60	51.95	51.72	10.20	7.92	5.27
95th-Percentile Queue Length [veh/ln]	0.49	1.00	0.03	0.19	3.74	3.72	0.73	0.57	0.38
95th-Percentile Queue Length [ft/ln]	12.24	25.10	0.83	4.68	93.52	93.09	18.36	14.26	9.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.55	6.95	5.25	10.73	13.73	13.82	7.05	6.75	6.75	6.46	6.46	6.46
Movement LOS	B	A	A	B	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.26			13.66			6.91			6.46		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	9.98											
Intersection LOS	A											
Intersection V/C	0.417											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			5.80			5.80		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			2.059			1.740		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4368			4368			1807			1807		
d_b, Bicycle Delay [s]	18.61			18.61			0.12			0.12		
I_b,int, Bicycle LOS Score for Intersection	2.230			2.544			1.982			1.692		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	20.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	946	2	3	877	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.11	0.00	0.00	3.19	2.00	2.00	2.00	2.00	0.25	2.00	0.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2729	1.2729	1.2729	1.2729	1.0000	1.0000	1.0000	1.0000	1.2729	1.0000	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	76	0	0	0	0	0	20	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-16	16	38	-38	0	0	0	0	38	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1188	50	118	1078	0	0	0	0	59	0	69
Peak Hour Factor	1.0000	0.9500	0.9200	0.9200	0.9500	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	313	14	32	284	0	0	0	0	16	0	19
Total Analysis Volume [veh/h]	0	1251	54	128	1135	0	0	0	0	64	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	82	0	0	82	0	0	18	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.35	0.35	0.30	0.31	0.31	0.00	0.04	0.05
s, saturation flow rate [veh/h]	496	1868	1841	428	1852	1852	1870	1437	1589
c, Capacity [veh/h]	332	772	761	303	766	766	627	561	407
d1, Uniform Delay [s]	0.00	6.42	6.42	12.09	6.00	6.00	0.00	7.03	7.03
k, delay calibration	0.11	0.27	0.27	0.19	0.20	0.20	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	6.54	6.72	1.62	2.63	2.63	0.00	0.09	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.85	0.85	0.42	0.74	0.74	0.00	0.11	0.18
d, Delay for Lane Group [s/veh]	0.00	12.96	13.14	13.71	8.63	8.63	0.00	7.12	7.25
Lane Group LOS	A	B	B	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	1.77	1.78	0.64	0.85	0.85	0.00	0.16	0.19
50th-Percentile Queue Length [ft/ln]	0.00	44.19	44.49	15.97	21.36	21.36	0.00	3.90	4.77
95th-Percentile Queue Length [veh/ln]	0.00	3.18	3.20	1.15	1.54	1.54	0.00	0.28	0.34
95th-Percentile Queue Length [ft/ln]	0.00	79.55	80.09	28.75	38.45	38.45	0.00	7.02	8.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	13.04	13.14	13.71	8.63	8.63	0.00	0.00	0.00	7.12	7.25	7.25
Movement LOS	A	B	B	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	13.05			9.15			0.00			7.19		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	10.93											
Intersection LOS	B											
Intersection V/C	0.399											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			4.74			4.74		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.635			2.146		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	6465			6465			1160			1160		
d_b, Bicycle Delay [s]	60.14			60.14			2.13			2.13		
I_b,int, Bicycle LOS Score for Intersection	2.636			2.602			1.560			1.789		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 24: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	24.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	3	4	1120	6	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	1	1	280	2	3
Total Analysis Volume [veh/h]	1130	3	4	1120	6	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	10.92	0.00	24.10	13.40
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.49	0.00	4.64	4.64
d_A, Approach Delay [s/veh]	0.00		0.04		16.77	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 14 2030 PM + Pro + Mit

Report File: C:\...\16 - 2030 PM + Pro + Mit Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.762	42.3	D
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.372	20.9	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Thru	0.481	18.3	B
4	575 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.979	38.2	D
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	WB Right	0.755	11.5	B
25	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.030	32.4	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	42.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	59	30	0	59	0	0	0	51	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1025	225	193	1361	238	94	126	163	315	281	224
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	267	68	64	354	79	27	36	46	94	82	67
Total Analysis Volume [veh/h]	333	1068	271	257	1418	317	107	143	185	375	327	270
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	49	0	11	44	0	10	30	0	10	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	56	45	45	56	40	40	36	20	20	12	20	20
g / C, Green / Cycle	0.56	0.45	0.45	0.56	0.40	0.40	0.36	0.20	0.20	0.12	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.43	0.30	0.17	0.35	0.40	0.20	0.08	0.08	0.11	0.11	0.17	0.17
s, saturation flow rate [veh/h]	773	3588	1598	729	3590	1615	1326	1900	1615	3464	1886	1579
c, Capacity [veh/h]	362	1619	721	342	1437	647	364	389	331	397	374	313
d1, Uniform Delay [s]	37.73	21.44	18.13	36.02	29.71	22.36	33.58	34.18	35.70	43.94	38.87	38.76
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.03	2.13	1.49	14.09	20.75	2.65	0.44	0.58	1.48	11.30	23.56	6.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.66	0.38	0.75	0.99	0.49	0.29	0.37	0.56	0.94	0.87	0.86
d, Delay for Lane Group [s/veh]	68.76	23.57	19.63	50.12	50.46	25.01	34.03	34.76	37.18	55.24	62.43	45.75
Lane Group LOS	E	C	B	D	D	C	C	C	D	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.65	9.38	4.12	3.94	19.50	5.64	1.74	3.03	4.15	5.18	10.12	6.92
50th-Percentile Queue Length [ft/ln]	166.25	234.44	102.97	98.45	487.49	141.09	43.46	75.81	103.72	129.61	252.91	173.02
95th-Percentile Queue Length [veh/ln]	10.88	14.40	7.41	7.09	26.74	9.54	3.13	5.46	7.47	8.92	15.33	11.24
95th-Percentile Queue Length [ft/ln]	271.98	359.99	185.35	177.21	668.53	238.49	78.23	136.46	186.69	222.96	383.31	280.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.76	23.57	19.63	50.12	50.46	25.01	34.03	34.76	37.18	55.24	62.43	45.75
Movement LOS	E	C	B	D	D	C	C	C	D	E	E	D
d_A, Approach Delay [s/veh]	31.93			46.37			35.61			55.02		
Approach LOS	C			D			D			E		
d_I, Intersection Delay [s/veh]	42.34											
Intersection LOS	D											
Intersection V/C	0.762											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.40			41.40			41.40			41.40		
I_p,int, Pedestrian LOS Score for Intersection	3.349			3.400			2.584			2.835		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	900			800			520			520		
d_b, Bicycle Delay [s]	15.12			18.00			27.38			27.38		
I_b,int, Bicycle LOS Score for Intersection	2.939			3.203			2.277			3.163		
Bicycle LOS	C			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	4	4	14	12	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	410	27	71	448	115	97	288	301	28	339	66
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	118	10	20	129	34	37	73	85	13	87	23
Total Analysis Volume [veh/h]	273	471	41	81	515	137	149	294	338	51	349	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	21	37	0	10	26	0	0	43	0	0	43	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	41	41	50	41	41	32	32	32	32	32	32
g / C, Green / Cycle	0.55	0.46	0.46	0.55	0.45	0.45	0.36	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.27	0.13	0.03	0.07	0.14	0.09	0.16	0.15	0.21	0.06	0.19	0.06
s, saturation flow rate [veh/h]	1004	3609	1615	1091	3601	1556	942	1900	1604	804	1885	1606
c, Capacity [veh/h]	502	1654	740	545	1624	702	265	684	578	260	679	578
d1, Uniform Delay [s]	22.18	15.19	13.55	15.27	15.83	14.88	34.55	21.79	23.34	28.93	22.60	19.54
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.19	0.43	0.14	0.58	0.11	0.62	1.87	0.43	0.94	0.36	0.60	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.28	0.06	0.15	0.32	0.20	0.56	0.43	0.59	0.20	0.51	0.16
d, Delay for Lane Group [s/veh]	26.37	15.62	13.70	15.84	15.94	15.50	36.43	22.22	24.28	29.30	23.21	19.67
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.19	2.92	0.47	0.77	3.21	1.71	3.23	4.73	5.87	0.94	5.84	1.32
50th-Percentile Queue Length [ft/ln]	79.82	72.98	11.68	19.34	80.20	42.81	80.72	118.20	146.82	23.48	145.89	33.10
95th-Percentile Queue Length [veh/ln]	5.75	5.25	0.84	1.39	5.77	3.08	5.81	8.29	9.85	1.69	9.80	2.38
95th-Percentile Queue Length [ft/ln]	143.68	131.36	21.03	34.81	144.35	77.06	145.29	207.35	246.18	42.27	244.93	59.59

Movement, Approach, & Intersection Results

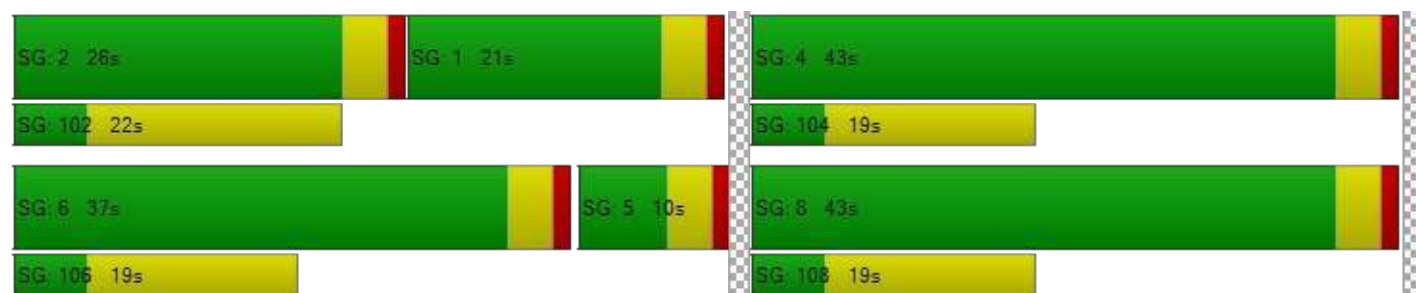
d_M, Delay for Movement [s/veh]	26.37	15.62	13.70	15.84	15.94	15.50	36.43	22.22	24.28	29.30	23.21	19.67
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	19.26			15.85			25.82			23.18		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	20.89											
Intersection LOS	C											
Intersection V/C	0.372											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersectio	2.847	2.940	2.786	2.419
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	489	867	867
d_b, Bicycle Delay [s]	18.05	25.69	14.45	14.45
I_b,int, Bicycle LOS Score for Intersection	2.207	2.164	2.848	2.371
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.481

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	4	48	2	2	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	1217	64	113	1388	82	53	0	29	46	5	89
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	317	21	30	361	33	21	0	9	15	4	32
Total Analysis Volume [veh/h]	82	1268	82	122	1446	130	84	0	35	61	15	127
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	45	0	0	45	0	0	45	0	0	45	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.25	0.35	0.05	0.30	0.40	0.08	0.07	0.00	0.02	0.04	0.01	0.08
s, saturation flow rate [veh/h]	330	3583	1615	403	3596	1615	1266	1900	1615	1395	1900	1615
c, Capacity [veh/h]	281	1390	626	282	1395	626	569	573	487	606	573	487
d1, Uniform Delay [s]	12.89	7.47	5.09	12.89	7.89	5.25	8.20	0.00	6.42	7.90	6.33	6.82
k, delay calibration	0.13	0.11	0.11	0.23	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	2.72	0.09	2.17	22.31	0.16	0.12	0.00	0.06	0.07	0.02	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.91	0.13	0.43	1.04	0.21	0.15	0.00	0.07	0.10	0.03	0.26
d, Delay for Lane Group [s/veh]	13.60	10.19	5.18	15.06	30.20	5.41	8.32	0.00	6.49	7.97	6.35	7.10
Lane Group LOS	B	B	A	B	F	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.41	1.31	0.09	0.70	5.24	0.14	0.28	0.00	0.09	0.19	0.04	0.36
50th-Percentile Queue Length [ft/ln]	10.33	32.79	2.14	17.58	130.89	3.54	6.90	0.00	2.30	4.80	0.96	9.02
95th-Percentile Queue Length [veh/ln]	0.74	2.36	0.15	1.27	9.17	0.25	0.50	0.00	0.17	0.35	0.07	0.65
95th-Percentile Queue Length [ft/ln]	18.60	59.03	3.85	31.64	229.28	6.37	12.43	0.00	4.15	8.65	1.72	16.24

Movement, Approach, & Intersection Results

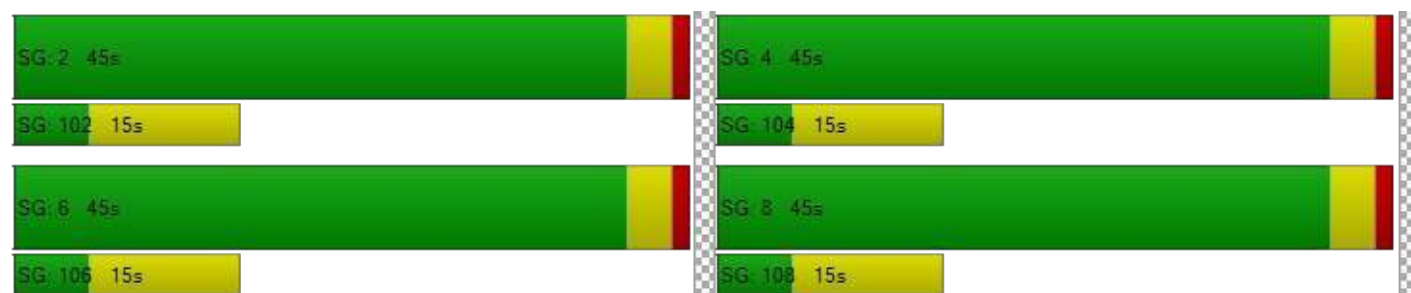
d_M, Delay for Movement [s/veh]	13.60	10.19	5.18	15.06	30.20	5.41	8.32	0.00	6.49	7.97	6.35	7.10
Movement LOS	B	B	A	B	F	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	10.10			27.21			7.78			7.31		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	18.27											
Intersection LOS	B											
Intersection V/C	0.481											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.43			5.43			5.43			5.43		
I_p,int, Pedestrian LOS Score for Intersectio	3.190			3.302			2.243			2.312		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	3188			3188			3188			3188		
d_b, Bicycle Delay [s]	4.54			4.54			4.54			4.54		
I_b,int, Bicycle LOS Score for Intersection	2.741			2.960			1.756			1.895		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	38.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.979

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	4	54	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1276	20	31	1564	154	94	0	61	8	1	29
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	332	9	13	407	46	29	0	21	3	0	13
Total Analysis Volume [veh/h]	77	1329	35	53	1629	183	118	0	86	11	1	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	123	0	0	123	0	5	19	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	125	0	0	125	0	11	25	0	0	14	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	126	126	126	126	126	126	16	16	12
g / C, Green / Cycle	0.84	0.84	0.84	0.84	0.84	0.84	0.10	0.10	0.08
(v / s)_i Volume / Saturation Flow Rate	0.29	0.91	0.02	0.13	0.48	0.50	0.13	0.05	0.07
s, saturation flow rate [veh/h]	263	1455	1615	405	1886	1821	886	1615	982
c, Capacity [veh/h]	224	1224	1359	50	1587	1532	113	170	105
d1, Uniform Delay [s]	11.69	11.89	1.93	74.98	3.64	3.74	68.41	63.43	66.90
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.11	0.12
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	52.24	0.04	142.09	1.51	1.67	87.84	2.32	6.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	1.09	0.03	1.05	0.57	0.59	1.04	0.51	0.61
d, Delay for Lane Group [s/veh]	15.86	64.13	1.96	217.07	5.14	5.41	156.24	65.76	73.31
Lane Group LOS	B	F	A	F	A	A	F	E	E
Critical Lane Group	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.37	13.69	0.12	3.91	5.95	6.12	6.93	3.26	2.65
50th-Percentile Queue Length [ft/ln]	34.36	342.18	3.03	97.75	148.82	153.02	173.27	81.43	66.35
95th-Percentile Queue Length [veh/ln]	2.47	21.13	0.22	7.04	9.95	10.18	11.44	5.86	4.78
95th-Percentile Queue Length [ft/ln]	61.85	528.21	5.45	175.95	248.85	254.45	285.95	146.57	119.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.86	64.13	1.96	217.07	5.26	5.41	156.24	65.76	65.76	73.31	73.31	73.31
Movement LOS	B	F	A	F	A	A	F	E	E	E	E	E
d_A, Approach Delay [s/veh]	60.04			11.30			118.10			73.31		
Approach LOS	E			B			F			E		
d_I, Intersection Delay [s/veh]	38.16											
Intersection LOS	D											
Intersection V/C	0.979											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			66.27			66.27		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.201			1.877		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1613			1613			280			133		
d_b, Bicycle Delay [s]	2.80			2.80			55.47			65.33		
I_b,int, Bicycle LOS Score for Intersection	2.352			3.098			1.896			1.665		
Bicycle LOS	B			C			A			A		

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1071	3	6	1330	0	0	0	0	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.65	0.00	0.00	1.05	2.00	2.00	2.00	2.00	0.00	2.00	12.50
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.2729	1.2729	1.2729	1.2729	1.0000	1.0000	1.0000	1.0000	1.2729	1.0000	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	140	0	0	0	0	0	58	0	140
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-26	26	61	-61	0	0	0	0	61	0	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1337	87	209	1632	0	0	0	0	123	0	180
Peak Hour Factor	1.0000	0.9600	0.9200	0.9200	0.9600	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	348	24	57	425	0	0	0	0	33	0	49
Total Analysis Volume [veh/h]	0	1393	95	227	1700	0	0	0	0	134	0	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	70	0	0	70	0	0	12	0	0	12	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	74	0	0	74	0	0	16	0	0	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	7	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	70	70	70	70	70	70	12	12	12
g / C, Green / Cycle	0.78	0.78	0.78	0.78	0.78	0.78	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.40	0.63	0.45	0.45	0.00	0.09	0.12
s, saturation flow rate [veh/h]	288	1890	1848	360	1884	1884	1578	1440	1589
c, Capacity [veh/h]	245	1470	1438	299	1466	1466	250	240	212
d1, Uniform Delay [s]	0.00	3.68	3.70	18.48	4.05	4.05	0.00	37.35	38.55
k, delay calibration	0.11	0.11	0.11	0.33	0.16	0.16	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.28	0.29	11.43	0.53	0.53	0.00	9.07	44.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.51	0.51	0.76	0.58	0.58	0.00	0.56	0.92
d, Delay for Lane Group [s/veh]	0.00	3.96	3.98	29.90	4.58	4.58	0.00	46.42	83.45
Lane Group LOS	A	A	A	C	A	A	A	D	F
Critical Lane Group	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	2.59	2.56	4.76	3.30	3.30	0.00	3.38	6.84
50th-Percentile Queue Length [ft/ln]	0.00	64.68	63.98	118.95	82.50	82.50	0.00	84.59	171.06
95th-Percentile Queue Length [veh/ln]	0.00	4.66	4.61	8.34	5.94	5.94	0.00	6.09	11.13
95th-Percentile Queue Length [ft/ln]	0.00	116.43	115.16	208.38	148.51	148.51	0.00	152.26	278.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.97	3.98	29.90	4.58	4.58	0.00	0.00	0.00	46.42	83.45	83.45
Movement LOS	A	A	A	C	A	A	A	A	A	D	F	F
d_A, Approach Delay [s/veh]	3.97			7.57			0.00			68.41		
Approach LOS	A			A			A			E		
d_I, Intersection Delay [s/veh]	11.50											
Intersection LOS	B											
Intersection V/C	0.755											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			1.716			2.614		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1556			1556			267			267		
d_b, Bicycle Delay [s]	2.22			2.22			33.80			33.80		
I_b,int, Bicycle LOS Score for Intersection	2.787			3.149			1.560			2.104		
Bicycle LOS	C			C			A			B		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 25: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2729	1.2729	1.2729	1.2729	1.2729	1.2729
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	0	0	58	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1359	8	14	1621	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	340	2	4	405	1	2
Total Analysis Volume [veh/h]	1359	8	14	1621	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.02	0.03	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	12.43	0.00	32.42	14.99
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.17	0.00	3.93	3.93
d_A, Approach Delay [s/veh]	0.00		0.11		20.80	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

2045 BACKGROUND

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 15 2045 AM

Report File: C:\...\17 - 2045 AM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.617	25.4	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	NB Left	0.583	23.0	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.317	6.4	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.349	7.5	A
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.007	31.9	D
26	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.043	28.4	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	25.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	909	247	241	796	121	225	262	212	171	161	176
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	239	86	68	209	50	68	113	66	59	48	52
Total Analysis Volume [veh/h]	222	957	343	271	838	202	271	452	265	234	194	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	26	0	9	26	0	14	43	0	12	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	36	36	45	36	36	37	25	25	8	23	23
g / C, Green / Cycle	0.50	0.40	0.40	0.50	0.40	0.40	0.41	0.28	0.28	0.09	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.30	0.19	0.22	0.44	0.16	0.13	0.22	0.24	0.16	0.07	0.10	0.14
s, saturation flow rate [veh/h]	742	5101	1572	621	5083	1615	1255	1884	1607	3356	1887	1494
c, Capacity [veh/h]	429	2050	632	374	2043	649	544	519	443	297	478	379
d1, Uniform Delay [s]	13.72	19.78	20.55	18.34	19.24	18.36	18.98	31.00	28.22	40.10	27.91	29.14
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.13	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.41	0.77	3.33	11.53	0.61	1.25	3.24	5.41	1.30	4.61	0.55	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.47	0.54	0.72	0.41	0.31	0.50	0.87	0.60	0.79	0.41	0.55
d, Delay for Lane Group [s/veh]	18.13	20.54	23.88	29.87	19.85	19.61	22.21	36.41	29.51	44.71	28.47	30.41
Lane Group LOS	B	C	C	C	B	B	C	D	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.78	4.62	5.58	4.05	3.92	2.85	4.27	9.81	4.98	2.69	3.48	3.98
50th-Percentile Queue Length [ft/ln]	69.41	115.43	139.51	101.27	98.12	71.36	106.82	245.33	124.49	67.25	86.96	99.53
95th-Percentile Queue Length [veh/ln]	5.00	8.14	9.45	7.29	7.06	5.14	7.66	14.95	8.64	4.84	6.26	7.17
95th-Percentile Queue Length [ft/ln]	124.94	203.53	236.37	182.29	176.61	128.44	191.57	373.76	215.99	121.05	156.53	179.15

Movement, Approach, & Intersection Results

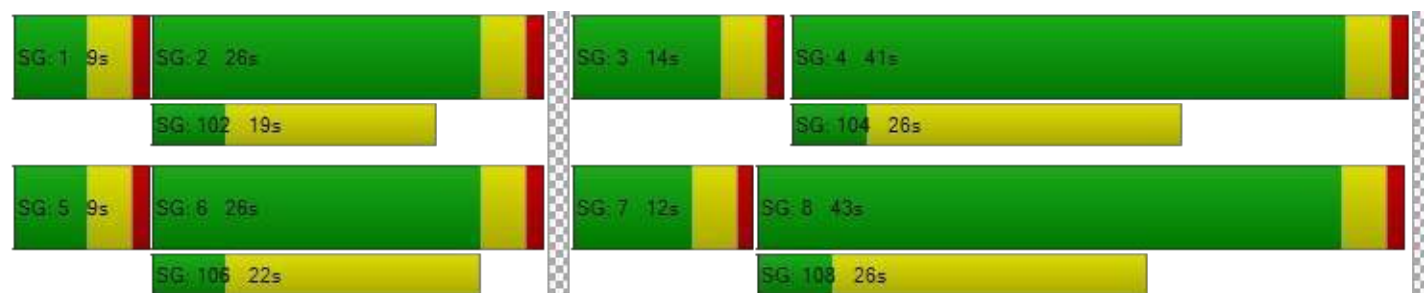
d_M, Delay for Movement [s/veh]	18.13	20.54	23.88	29.87	19.85	19.61	22.21	36.41	29.51	44.71	28.47	30.41
Movement LOS	B	C	C	C	B	B	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	20.94			21.88			30.67			35.06		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	25.40											
Intersection LOS	C											
Intersection V/C	0.617											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.41			36.41			36.41			36.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.250			3.336			2.658			2.797		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			867			823		
d_b, Bicycle Delay [s]	25.65			25.65			14.42			15.57		
I_b,int, Bicycle LOS Score for Intersection	2.397			2.281			3.190			2.612		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	219	10	21	670	167	107	315	309	24	315	74
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	64	9	10	209	56	35	151	90	13	102	24
Total Analysis Volume [veh/h]	206	255	34	39	838	223	139	606	359	51	409	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	22	23	0	25	26	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	36	36	43	34	34	39	39	39	39	39	39
g / C, Green / Cycle	0.48	0.40	0.40	0.48	0.38	0.38	0.43	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.24	0.07	0.02	0.03	0.23	0.14	0.16	0.32	0.23	0.09	0.22	0.06
s, saturation flow rate [veh/h]	845	3527	1615	1190	3576	1594	890	1880	1581	591	1880	1615
c, Capacity [veh/h]	338	1415	648	544	1361	606	290	808	679	151	808	694
d1, Uniform Delay [s]	32.02	17.39	16.48	16.09	22.55	20.08	31.14	21.59	18.93	38.14	18.70	15.55
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.93	0.28	0.15	0.26	0.55	1.72	1.23	1.45	0.64	1.31	0.49	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.18	0.05	0.07	0.62	0.37	0.48	0.75	0.53	0.34	0.51	0.14
d, Delay for Lane Group [s/veh]	39.95	17.67	16.63	16.34	23.10	21.79	32.37	23.04	19.57	39.45	19.19	15.63
Lane Group LOS	D	B	B	B	C	C	C	C	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.05	1.69	0.44	0.43	6.88	3.50	2.81	10.68	5.50	1.13	6.16	1.19
50th-Percentile Queue Length [ft/ln]	76.17	42.13	10.99	10.82	171.93	87.46	70.13	267.05	137.50	28.34	154.10	29.65
95th-Percentile Queue Length [veh/ln]	5.48	3.03	0.79	0.78	11.18	6.30	5.05	16.04	9.35	2.04	10.24	2.13
95th-Percentile Queue Length [ft/ln]	137.11	75.83	19.78	19.47	279.45	157.44	126.23	401.05	233.65	51.01	255.89	53.37

Movement, Approach, & Intersection Results

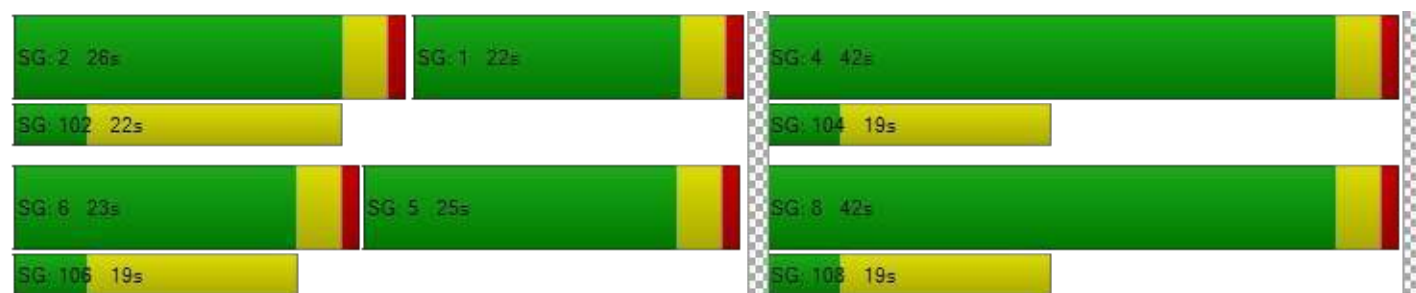
d_M, Delay for Movement [s/veh]	39.95	17.67	16.63	16.34	23.10	21.79	32.37	23.04	19.57	39.45	19.19	15.63
Movement LOS	D	B	B	B	C	C	C	C	B	D	B	B
d_A, Approach Delay [s/veh]	26.87			22.60			23.09			20.44		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.05											
Intersection LOS	C											
Intersection V/C	0.583											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	2.857			2.953			2.755			2.433		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	422			489			844			844		
d_b, Bicycle Delay [s]	28.01			25.69			15.02			15.02		
I_b,int, Bicycle LOS Score for Intersection	1.968			2.467			3.381			2.475		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.317

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	970	14	42	1102	39	87	0	46	39	0	67
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	255	6	15	290	11	29	0	15	13	0	24
Total Analysis Volume [veh/h]	22	1021	22	62	1160	44	116	0	61	50	0	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	69	0	0	69	0	0	21	0	0	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.29	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.01	0.11	0.23	0.03	0.09	0.00	0.04	0.04	0.00	0.06
s, saturation flow rate [veh/h]	472	5076	1615	550	5068	1615	1323	1900	1576	1363	1900	1535
c, Capacity [veh/h]	351	2009	639	377	2006	639	577	546	453	586	546	441
d1, Uniform Delay [s]	9.79	5.77	4.67	9.87	5.98	4.74	8.40	0.00	6.67	7.96	0.00	6.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.20	0.02	0.20	0.27	0.04	0.17	0.00	0.13	0.06	0.00	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.51	0.03	0.16	0.58	0.07	0.20	0.00	0.13	0.09	0.00	0.21
d, Delay for Lane Group [s/veh]	9.86	5.97	4.70	10.07	6.24	4.78	8.57	0.00	6.80	8.02	0.00	7.07
Lane Group LOS	A	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.32	0.02	0.18	0.38	0.04	0.38	0.00	0.17	0.16	0.00	0.26
50th-Percentile Queue Length [ft/ln]	1.59	7.89	0.46	4.47	9.42	0.94	9.61	0.00	4.13	3.90	0.00	6.59
95th-Percentile Queue Length [veh/ln]	0.11	0.57	0.03	0.32	0.68	0.07	0.69	0.00	0.30	0.28	0.00	0.47
95th-Percentile Queue Length [ft/ln]	2.86	14.20	0.83	8.05	16.96	1.69	17.29	0.00	7.44	7.01	0.00	11.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.86	5.97	4.70	10.07	6.24	4.78	8.57	0.00	6.80	8.02	0.00	7.07
Movement LOS	A	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.02			6.38			7.96			7.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.40											
Intersection LOS	A											
Intersection V/C	0.317											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.20			5.20			5.20			5.20		
I_p,int, Pedestrian LOS Score for Intersectio	3.147			3.270			2.135			2.189		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5161			5161			1350			1350		
d_b, Bicycle Delay [s]	31.47			31.47			1.33			1.33		
I_b,int, Bicycle LOS Score for Intersection	2.145			2.256			1.852			1.797		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1152	6	22	1113	64	118	3	75	12	3	35
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	303	5	8	293	18	39	2	29	5	2	14
Total Analysis Volume [veh/h]	67	1213	18	33	1172	73	155	6	117	21	6	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	62	0	0	62	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	9	9	9
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.37	0.37	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.01	0.07	0.23	0.23	0.11	0.08	0.05
s, saturation flow rate [veh/h]	454	5161	1615	460	3571	1820	1362	1627	1612
c, Capacity [veh/h]	330	1916	599	329	1326	676	602	540	703
d1, Uniform Delay [s]	11.75	6.96	5.39	10.90	6.92	6.93	6.83	6.51	6.32
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.12	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.35	0.02	0.13	0.48	1.07	0.22	0.21	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.63	0.03	0.10	0.62	0.62	0.26	0.23	0.12
d, Delay for Lane Group [s/veh]	12.05	7.31	5.41	11.03	7.41	8.00	7.05	6.72	6.40
Lane Group LOS	B	A	A	B	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.25	0.65	0.02	0.11	0.69	0.81	0.45	0.34	0.22
50th-Percentile Queue Length [ft/ln]	6.32	16.27	0.59	2.87	17.15	20.24	11.24	8.59	5.47
95th-Percentile Queue Length [veh/ln]	0.46	1.17	0.04	0.21	1.23	1.46	0.81	0.62	0.39
95th-Percentile Queue Length [ft/ln]	11.38	29.29	1.06	5.17	30.86	36.44	20.24	15.46	9.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.05	7.31	5.41	11.03	7.58	8.00	7.05	6.72	6.72	6.40	6.40	6.40
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.53			7.69			6.91			6.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.51											
Intersection LOS	A											
Intersection V/C	0.349											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			5.93			5.93		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.079			1.747		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4321			4321			1788			1788		
d_b, Bicycle Delay [s]	18.08			18.08			0.15			0.15		
I_b,int, Bicycle LOS Score for Intersection	2.274			2.263			2.018			1.697		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration	III		IIII		II	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	946	2	3	877	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	0.00	3.19	0.25	0.25
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1313	3	4	1217	1	1
Peak Hour Factor	0.9500	0.9200	0.9200	0.9500	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	346	1	1	320	0	0
Total Analysis Volume [veh/h]	1382	3	4	1281	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	19.13	0.00	31.91	15.80
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.00	0.02	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.18	0.00	0.56	0.22
d_A, Approach Delay [s/veh]	0.00		0.06		23.85	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 26: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	28.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1197	3	4	1199	7	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	299	1	1	300	2	4
Total Analysis Volume [veh/h]	1197	3	4	1199	7	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.04	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	16.65	0.00	28.40	15.65
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.97	0.00	6.46	6.46
d_A, Approach Delay [s/veh]	0.00		0.06		19.90	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	D					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro

Scenario 16 2045 PM

Report File: C:\...\18 - 2045 PM Summarized.pdf

11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Thru	0.612	32.6	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.396	21.4	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.421	7.7	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	1.023	43.4	D
5	Geneva Road & Center Access	Two-way stop	HCM 7th Edition	WB Left	0.032	35.0	D
27	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.031	34.3	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	32.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	239	1053	212	211	1420	259	103	137	122	311	307	244
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	274	64	70	370	86	29	39	35	93	89	73
Total Analysis Volume [veh/h]	295	1097	255	281	1479	345	117	156	139	370	357	294
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	35	0	11	31	0	9	30	0	14	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	35	35	46	31	31	36	20	20	12	20	20
g / C, Green / Cycle	0.51	0.39	0.39	0.51	0.34	0.34	0.40	0.23	0.23	0.13	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.35	0.21	0.16	0.35	0.29	0.21	0.09	0.08	0.09	0.11	0.19	0.19
s, saturation flow rate [veh/h]	836	5133	1598	799	5136	1615	1310	1900	1615	3464	1886	1579
c, Capacity [veh/h]	388	1979	616	368	1753	551	412	433	368	453	416	348
d1, Uniform Delay [s]	31.92	21.60	20.21	31.95	27.43	24.83	28.47	29.22	29.34	38.06	33.73	33.61
k, delay calibration	0.50	0.50	0.50	0.50	0.24	0.50	0.11	0.11	0.11	0.11	0.45	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.06	1.12	2.04	14.00	2.54	5.30	0.38	0.50	0.64	3.65	18.39	5.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.55	0.41	0.76	0.84	0.63	0.28	0.36	0.38	0.82	0.86	0.84
d, Delay for Lane Group [s/veh]	44.98	22.72	22.25	45.95	29.97	30.13	28.84	29.72	29.98	41.72	52.12	39.24
Lane Group LOS	D	C	C	D	C	C	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.48	5.69	3.92	4.34	9.34	6.47	1.55	2.85	2.56	4.13	9.44	6.54
50th-Percentile Queue Length [ft/ln]	112.12	142.14	98.12	108.48	233.48	161.69	38.74	71.33	64.11	103.31	235.90	163.60
95th-Percentile Queue Length [veh/ln]	7.96	9.60	7.06	7.76	14.35	10.64	2.79	5.14	4.62	7.44	14.47	10.74
95th-Percentile Queue Length [ft/ln]	198.95	239.90	176.62	193.88	358.78	265.96	69.74	128.40	115.40	185.96	361.84	268.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.98	22.72	22.25	45.95	29.97	30.13	28.84	29.72	29.98	41.72	52.12	39.24
Movement LOS	D	C	C	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	26.64			32.13			29.56			44.64		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.64											
Intersection LOS	C											
Intersection V/C	0.612											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersectio	3.391	3.502	2.600	2.847
Crosswalk LOS	C	D	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	600	578	689
d_b, Bicycle Delay [s]	19.34	22.05	22.76	19.34
I_b,int, Bicycle LOS Score for Intersection	2.465	2.717	2.239	3.244
Bicycle LOS	B	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	447	29	78	488	121	101	298	315	31	354	72
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	128	11	22	140	36	39	76	88	14	91	25
Total Analysis Volume [veh/h]	282	514	44	89	561	144	155	304	354	56	365	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	25	41	0	12	28	0	0	37	0	0	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	49	40	40	49	40	40	33	33	33	33	33	33
g / C, Green / Cycle	0.54	0.45	0.45	0.54	0.44	0.44	0.37	0.37	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.29	0.14	0.03	0.08	0.16	0.09	0.17	0.16	0.22	0.07	0.19	0.06
s, saturation flow rate [veh/h]	980	3609	1615	1068	3601	1556	922	1900	1604	785	1885	1606
c, Capacity [veh/h]	474	1607	719	516	1582	683	264	706	596	261	701	597
d1, Uniform Delay [s]	24.77	16.15	14.23	16.65	16.77	15.60	34.68	21.15	22.80	28.70	22.03	18.94
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.12	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.43	0.53	0.16	0.73	0.14	0.70	2.08	0.42	1.06	0.41	0.60	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.32	0.06	0.17	0.35	0.21	0.59	0.43	0.59	0.21	0.52	0.17
d, Delay for Lane Group [s/veh]	30.20	16.67	14.40	17.38	16.90	16.30	36.76	21.56	23.85	29.11	22.63	19.07
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.52	3.33	0.52	0.89	3.65	1.86	3.39	4.81	6.11	1.03	6.03	1.42
50th-Percentile Queue Length [ft/ln]	88.06	83.36	12.95	22.22	91.17	46.52	84.77	120.29	152.80	25.77	150.82	35.39
95th-Percentile Queue Length [veh/ln]	6.34	6.00	0.93	1.60	6.56	3.35	6.10	8.41	10.17	1.86	10.06	2.55
95th-Percentile Queue Length [ft/ln]	158.51	150.05	23.32	39.99	164.10	83.73	152.58	210.22	254.16	46.38	251.52	63.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.20	16.67	14.40	17.38	16.90	16.30	36.76	21.56	23.85	29.11	22.63	19.07
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	21.09			16.85			25.46			22.64		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	21.42											
Intersection LOS	C											
Intersection V/C	0.396											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	2.877			2.971			2.810			2.439		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	822			533			733			733		
d_b, Bicycle Delay [s]	15.61			24.20			18.05			18.05		
I_b,int, Bicycle LOS Score for Intersection	2.253			2.215			2.901			2.419		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	1275	69	119	1461	87	56	0	32	50	6	93
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	332	22	32	380	35	22	0	10	17	5	33
Total Analysis Volume [veh/h]	89	1328	88	128	1522	138	89	0	39	67	18	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	0	67	0	0	23	0	0	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.29	0.26	0.05	0.34	0.30	0.09	0.07	0.00	0.02	0.05	0.01	0.08
s, saturation flow rate [veh/h]	305	5127	1615	378	5145	1615	1256	1900	1615	1390	1900	1615
c, Capacity [veh/h]	294	1962	618	315	1969	618	581	591	502	622	591	502
d1, Uniform Delay [s]	12.89	6.71	5.26	12.65	7.07	5.44	8.05	0.00	6.35	7.73	6.26	6.76
k, delay calibration	0.21	0.11	0.11	0.29	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.41	0.10	2.28	0.67	0.18	0.12	0.00	0.07	0.08	0.02	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.68	0.14	0.41	0.77	0.22	0.15	0.00	0.08	0.11	0.03	0.26
d, Delay for Lane Group [s/veh]	14.03	7.13	5.37	14.94	7.73	5.62	8.17	0.00	6.42	7.80	6.28	7.04
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	0.61	0.10	0.76	0.76	0.17	0.29	0.00	0.10	0.21	0.05	0.38
50th-Percentile Queue Length [ft/ln]	12.23	15.15	2.52	19.11	19.05	4.13	7.27	0.00	2.57	5.23	1.15	9.46
95th-Percentile Queue Length [veh/ln]	0.88	1.09	0.18	1.38	1.37	0.30	0.52	0.00	0.18	0.38	0.08	0.68
95th-Percentile Queue Length [ft/ln]	22.01	27.27	4.53	34.40	34.29	7.43	13.09	0.00	4.62	9.42	2.07	17.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.03	7.13	5.37	14.94	7.73	5.62	8.17	0.00	6.42	7.80	6.28	7.04
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.43			8.09			7.64			7.21		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.75											
Intersection LOS	A											
Intersection V/C	0.421											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.57			5.57			5.57			5.57		
I_p,int, Pedestrian LOS Score for Intersection	3.320			3.388			2.260			2.328		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4840			4840			1460			1460		
d_b, Bicycle Delay [s]	26.25			26.25			0.95			0.95		
I_b,int, Bicycle LOS Score for Intersection	2.387			2.543			1.771			1.919		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	43.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.023

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1333	22	29	1646	168	103	0	67	8	1	28
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8000	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	347	10	13	429	50	32	0	24	3	0	12
Total Analysis Volume [veh/h]	83	1389	39	50	1715	200	129	0	94	11	1	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	0	10	0
Maximum Green [s]	0	123	0	0	123	0	5	19	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	91	0	0	91	0	25	39	0	0	14	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	108	108	108	108	108	108	14	14	10
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.83	0.83	0.11	0.11	0.08
(v / s)_i Volume / Saturation Flow Rate	0.35	0.95	0.02	0.13	0.36	0.36	0.14	0.06	0.07
s, saturation flow rate [veh/h]	238	1455	1615	381	3590	1787	928	1615	910
c, Capacity [veh/h]	225	1203	1335	57	2969	1478	129	180	106
d1, Uniform Delay [s]	8.18	11.27	2.00	65.07	3.03	3.04	59.11	54.53	57.37
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.60	79.37	0.04	88.54	0.46	0.93	36.58	2.32	5.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	1.15	0.03	0.88	0.43	0.43	1.00	0.52	0.59
d, Delay for Lane Group [s/veh]	12.78	90.63	2.04	153.61	3.48	3.96	95.69	56.86	62.42
Lane Group LOS	B	F	A	F	A	A	F	E	E
Critical Lane Group	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	15.03	0.12	3.02	2.83	3.04	5.40	3.06	2.12
50th-Percentile Queue Length [ft/ln]	28.73	375.85	3.05	75.60	70.85	75.99	135.10	76.42	52.94
95th-Percentile Queue Length [veh/ln]	2.07	23.93	0.22	5.44	5.10	5.47	9.22	5.50	3.81
95th-Percentile Queue Length [ft/ln]	51.72	598.26	5.49	136.08	127.54	136.78	230.40	137.55	95.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.78	90.63	2.04	153.61	3.60	3.96	95.69	56.86	56.86	62.42	62.42	62.42
Movement LOS	B	F	A	F	A	A	F	E	E	E	E	E
d_A, Approach Delay [s/veh]	84.07			7.46			79.32			62.42		
Approach LOS	F			A			E			E		
d_I, Intersection Delay [s/veh]	43.40											
Intersection LOS	D											
Intersection V/C	1.023											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			56.35			56.35		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.215			1.866		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1338			1338			538			154		
d_b, Bicycle Delay [s]	7.13			7.13			34.75			55.42		
I_b,int, Bicycle LOS Score for Intersection	2.391			2.640			1.928			1.662		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Two-way stop	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1071	3	5	1330	3	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.65	0.00	0.00	1.05	0.00	12.50
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1486	4	7	1846	4	11
Peak Hour Factor	0.9600	0.9200	0.9200	0.9600	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	387	1	2	481	1	3
Total Analysis Volume [veh/h]	1548	4	8	1923	4	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	3

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.04	0.02	0.03	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	22.45	0.00	34.98	19.50
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.90	0.00	6.07	6.07
d_A, Approach Delay [s/veh]	0.00		0.09		23.37	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 27: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	34.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1420	8	15	1704	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	355	2	4	426	1	2
Total Analysis Volume [veh/h]	1420	8	15	1704	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	3

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.02	0.03	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	20.87	0.00	34.26	17.24
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.92	0.00	4.45	4.45
d_A, Approach Delay [s/veh]	0.00		0.18		22.91	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	D					

2045 BACKGROUND PLUS PROJECT

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\19 - 2045 AM + Pro Summarized.pdf

Scenario 17 2045 AM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	WB Left	0.682	28.3	C
2	400 South & 1200 West	Signalized	HCM 7th Edition	NB Left	0.593	23.3	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.321	6.4	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.355	7.6	A
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.380	6.5	A
28	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.045	29.5	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	131	655	178	174	574	87	162	189	153	123	116	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.76	1.83	3.37	4.60	2.26	0.00	0.62	1.06	0.65	5.69	0.86	9.45
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	23	10	0	32	0	0	0	28	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	201	932	257	241	828	121	225	262	240	187	161	176
Peak Hour Factor	0.8200	0.9500	0.7200	0.8900	0.9500	0.6000	0.8300	0.5800	0.8000	0.7300	0.8300	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	245	89	68	218	50	68	113	75	64	48	52
Total Analysis Volume [veh/h]	245	981	357	271	872	202	271	452	300	256	194	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	26	0	9	26	0	10	42	0	13	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	44	35	35	44	35	35	38	25	25	9	28	28
g / C, Green / Cycle	0.49	0.39	0.39	0.49	0.39	0.39	0.42	0.28	0.28	0.10	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.34	0.28	0.23	0.44	0.25	0.13	0.23	0.24	0.19	0.08	0.10	0.14
s, saturation flow rate [veh/h]	731	3565	1572	612	3553	1615	1164	1884	1607	3356	1887	1494
c, Capacity [veh/h]	377	1400	617	330	1396	634	525	522	445	324	579	459
d1, Uniform Delay [s]	17.01	22.87	21.45	22.18	21.97	18.95	19.22	30.90	28.88	39.73	24.07	25.12
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.14	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.44	2.94	3.92	20.19	2.12	1.32	3.61	5.49	1.78	4.33	0.34	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.70	0.58	0.82	0.62	0.32	0.52	0.87	0.67	0.79	0.33	0.46
d, Delay for Lane Group [s/veh]	25.45	25.81	25.36	42.38	24.09	20.27	22.83	36.40	30.66	44.06	24.41	25.84
Lane Group LOS	C	C	C	D	C	C	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.47	8.43	6.04	4.77	7.12	2.91	4.24	9.82	5.82	2.92	3.17	3.61
50th-Percentile Queue Length [ft/ln]	86.73	210.86	150.95	119.35	178.11	72.87	106.00	245.45	145.40	73.07	79.31	90.36
95th-Percentile Queue Length [veh/ln]	6.24	13.20	10.07	8.36	11.50	5.25	7.62	14.96	9.77	5.26	5.71	6.51
95th-Percentile Queue Length [ft/ln]	156.11	329.93	251.69	208.93	287.54	131.17	190.42	373.91	244.28	131.53	142.76	162.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.45	25.81	25.36	42.38	24.09	20.27	22.83	36.40	30.66	44.06	24.41	25.84
Movement LOS	C	C	C	D	C	C	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	25.65			27.20			31.12			32.48		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.30											
Intersection LOS	C											
Intersection V/C	0.682											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.43			36.43			36.43			36.43		
I_p,int, Pedestrian LOS Score for Intersectio	3.188			3.266			2.683			2.800		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	489			489			845			912		
d_b, Bicycle Delay [s]	25.67			25.67			15.00			13.32		
I_b,int, Bicycle LOS Score for Intersection	2.866			2.669			3.248			2.649		
Bicycle LOS	C			B			C			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type: Signalized
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 23.3
 Level Of Service: C
 Volume to Capacity (v/c): 0.593

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	104	158	7	15	483	120	77	227	223	17	227	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.88	3.16	0.00	6.67	1.45	1.67	2.60	1.32	2.69	0.00	1.32	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	2	1	5	4	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	219	10	21	670	169	108	320	313	24	323	74
Peak Hour Factor	0.7000	0.8600	0.2900	0.5400	0.8000	0.7500	0.7700	0.5200	0.8600	0.4700	0.7700	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	64	9	10	209	56	35	154	91	13	105	24
Total Analysis Volume [veh/h]	214	255	34	39	838	225	140	615	364	51	419	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	5	40	0	6	41	0	0	32	0	0	32	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	23	0	25	30	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	36	36	43	34	34	39	39	39	39	39	39
g / C, Green / Cycle	0.48	0.40	0.40	0.48	0.38	0.38	0.43	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.25	0.07	0.02	0.03	0.23	0.14	0.16	0.33	0.23	0.09	0.22	0.06
s, saturation flow rate [veh/h]	847	3527	1615	1192	3576	1594	882	1880	1581	584	1880	1615
c, Capacity [veh/h]	336	1401	641	538	1346	600	289	816	686	151	816	701
d1, Uniform Delay [s]	32.33	17.63	16.71	16.36	22.85	20.37	31.16	21.42	18.73	38.11	18.55	15.32
k, delay calibration	0.50	0.50	0.50	0.50	0.23	0.50	0.11	0.12	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.94	0.29	0.16	0.26	1.02	1.79	1.26	1.54	0.64	1.32	0.50	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.18	0.05	0.07	0.62	0.38	0.48	0.75	0.53	0.34	0.51	0.14
d, Delay for Lane Group [s/veh]	41.28	17.92	16.87	16.62	23.87	22.16	32.42	22.97	19.37	39.43	19.05	15.40
Lane Group LOS	D	B	B	B	C	C	C	C	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.26	1.70	0.44	0.44	7.01	3.56	2.83	10.86	5.56	1.14	6.31	1.18
50th-Percentile Queue Length [ft/ln]	81.44	42.43	11.07	10.91	175.23	89.06	70.87	271.47	138.98	28.38	157.82	29.44
95th-Percentile Queue Length [veh/ln]	5.86	3.05	0.80	0.79	11.35	6.41	5.10	16.26	9.43	2.04	10.43	2.12
95th-Percentile Queue Length [ft/ln]	146.59	76.37	19.93	19.63	283.78	160.31	127.57	406.57	235.65	51.08	260.84	52.99

Movement, Approach, & Intersection Results

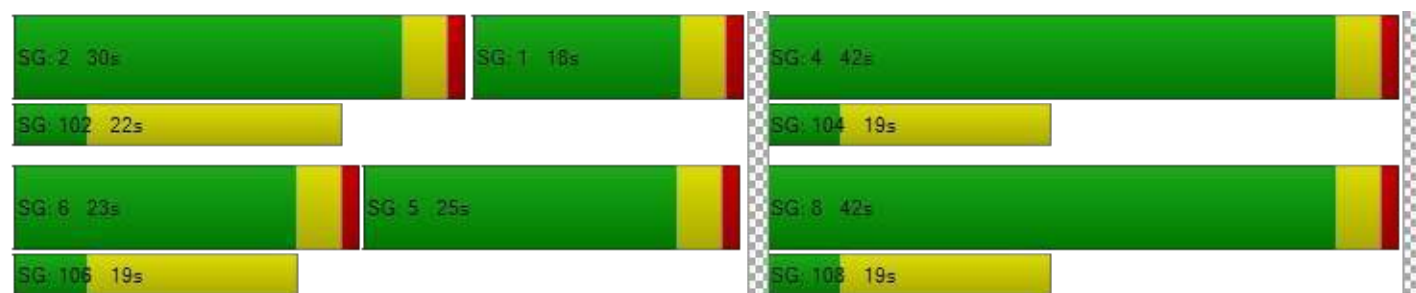
d_M, Delay for Movement [s/veh]	41.28	17.92	16.87	16.62	23.87	22.16	32.42	22.97	19.37	39.43	19.05	15.40
Movement LOS	D	B	B	B	C	C	C	C	B	D	B	B
d_A, Approach Delay [s/veh]	27.78			23.26			22.98			20.28		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	23.35											
Intersection LOS	C											
Intersection V/C	0.593											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.860			2.955			2.759			2.437		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	422			578			844			844		
d_b, Bicycle Delay [s]	28.01			22.76			15.02			15.02		
I_b,int, Bicycle LOS Score for Intersection	1.975			2.469			3.406			2.492		
Bicycle LOS	A			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.321

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	8	699	10	30	794	28	63	0	33	28	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.43	0.00	0.00	2.64	0.00	0.00	0.00	3.03	0.00	0.00	6.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	1	17	1	1	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	996	14	43	1119	40	88	0	46	39	0	69
Peak Hour Factor	0.5000	0.9500	0.6300	0.6800	0.9500	0.8800	0.7500	0.8600	0.7500	0.7800	0.8600	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	262	6	16	294	11	29	0	15	13	0	24
Total Analysis Volume [veh/h]	22	1048	22	63	1178	45	117	0	61	50	0	97
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	71	0	0	71	0	0	19	0	0	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	25	25	25	25	25	25	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	7	7	7	7	7	7
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.29	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.01	0.12	0.23	0.03	0.09	0.00	0.04	0.04	0.00	0.06
s, saturation flow rate [veh/h]	463	5076	1615	536	5068	1615	1319	1900	1576	1363	1900	1535
c, Capacity [veh/h]	348	2008	639	372	2004	639	577	547	454	587	547	442
d1, Uniform Delay [s]	9.90	5.82	4.68	10.06	6.02	4.75	8.41	0.00	6.67	7.95	0.00	6.84
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.21	0.02	0.21	0.28	0.05	0.17	0.00	0.13	0.06	0.00	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.52	0.03	0.17	0.59	0.07	0.20	0.00	0.13	0.09	0.00	0.22
d, Delay for Lane Group [s/veh]	9.97	6.03	4.70	10.27	6.29	4.80	8.58	0.00	6.80	8.01	0.00	7.09
Lane Group LOS	A	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.33	0.02	0.19	0.39	0.04	0.39	0.00	0.17	0.16	0.00	0.27
50th-Percentile Queue Length [ft/ln]	1.61	8.24	0.46	4.65	9.72	0.97	9.70	0.00	4.13	3.90	0.00	6.82
95th-Percentile Queue Length [veh/ln]	0.12	0.59	0.03	0.34	0.70	0.07	0.70	0.00	0.30	0.28	0.00	0.49
95th-Percentile Queue Length [ft/ln]	2.90	14.84	0.84	8.38	17.49	1.74	17.47	0.00	7.44	7.01	0.00	12.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.97	6.03	4.70	10.27	6.29	4.80	8.58	0.00	6.80	8.01	0.00	7.09
Movement LOS	A	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.09			6.44			7.97			7.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.45											
Intersection LOS	A											
Intersection V/C	0.321											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.21			5.21			5.21			5.21		
I_p,int, Pedestrian LOS Score for Intersection	3.155			3.281			2.136			2.191		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5316			5316			1190			1190		
d_b, Bicycle Delay [s]	34.64			34.64			2.07			2.07		
I_b,int, Bicycle LOS Score for Intersection	2.160			2.267			1.853			1.802		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	20.00	100.00	65.00	20.00	100.00	440.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	30	830	4	16	802	46	85	2	54	9	2	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.36	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	1	19	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	1181	6	23	1132	64	118	3	75	12	3	37
Peak Hour Factor	0.6300	0.9500	0.3300	0.6700	0.9500	0.8800	0.7600	0.5000	0.6400	0.5600	0.5000	0.6300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	311	5	9	298	18	39	2	29	5	2	15
Total Analysis Volume [veh/h]	67	1243	18	34	1192	73	155	6	117	21	6	59
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	62	0	0	62	0	0	28	0	0	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	9	9	9
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.37	0.37	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.01	0.08	0.23	0.23	0.11	0.08	0.05
s, saturation flow rate [veh/h]	445	5161	1615	447	3571	1821	1358	1627	1614
c, Capacity [veh/h]	327	1916	599	324	1326	676	599	540	702
d1, Uniform Delay [s]	11.87	7.02	5.39	11.09	6.96	6.96	6.83	6.51	6.33
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.13	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.37	0.02	0.14	0.50	1.17	0.23	0.21	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.65	0.03	0.10	0.63	0.63	0.26	0.23	0.12
d, Delay for Lane Group [s/veh]	12.18	7.39	5.41	11.23	7.46	8.13	7.06	6.72	6.41
Lane Group LOS	B	A	A	B	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.26	0.67	0.02	0.12	0.70	0.84	0.45	0.34	0.23
50th-Percentile Queue Length [ft/ln]	6.40	16.86	0.59	3.02	17.55	21.05	11.25	8.59	5.68
95th-Percentile Queue Length [veh/ln]	0.46	1.21	0.04	0.22	1.26	1.52	0.81	0.62	0.41
95th-Percentile Queue Length [ft/ln]	11.52	30.35	1.06	5.43	31.60	37.90	20.25	15.46	10.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.18	7.39	5.41	11.23	7.66	8.13	7.06	6.72	6.72	6.41	6.41	6.41
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.60			7.78			6.91			6.41		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.58											
Intersection LOS	A											
Intersection V/C	0.355											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			5.93			5.93		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			2.079			1.750		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4321			4321			1788			1788		
d_b, Bicycle Delay [s]	18.08			18.08			0.15			0.15		
I_b,int, Bicycle LOS Score for Intersection	2.290			2.274			2.018			1.702		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	6.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	20.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	946	2	3	877	0	0	0	0	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.11	0.00	0.00	3.19	2.00	2.00	2.00	2.00	0.25	2.00	0.25
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	76	0	0	0	0	0	20	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-16	16	38	-38	0	0	0	0	38	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1297	50	118	1179	0	0	0	0	59	0	69
Peak Hour Factor	1.0000	0.9500	0.9200	0.9200	0.9500	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	341	14	32	310	0	0	0	0	16	0	19
Total Analysis Volume [veh/h]	0	1365	54	128	1241	0	0	0	0	64	0	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	82	0	0	82	0	0	18	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C
C, Cycle Length [s]	24	24	24	24	24	24	24	24	24
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	6	6	6
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.00	0.26	0.26	0.33	0.23	0.23	0.00	0.04	0.05
s, saturation flow rate [veh/h]	448	3557	1832	384	3526	1852	1870	1437	1589
c, Capacity [veh/h]	367	1471	758	344	1458	766	627	561	407
d1, Uniform Delay [s]	0.00	5.65	5.65	11.57	5.41	5.41	0.00	7.03	7.03
k, delay calibration	0.11	0.11	0.13	0.24	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.46	1.09	1.50	0.34	0.64	0.00	0.09	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.64	0.64	0.37	0.56	0.56	0.00	0.11	0.18
d, Delay for Lane Group [s/veh]	0.00	6.11	6.74	13.07	5.74	6.05	0.00	7.12	7.25
Lane Group LOS	A	A	A	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.32	0.47	0.59	0.26	0.34	0.00	0.16	0.19
50th-Percentile Queue Length [ft/ln]	0.00	8.07	11.64	14.76	6.45	8.39	0.00	3.90	4.77
95th-Percentile Queue Length [veh/ln]	0.00	0.58	0.84	1.06	0.46	0.60	0.00	0.28	0.34
95th-Percentile Queue Length [ft/ln]	0.00	14.53	20.94	26.57	11.62	15.10	0.00	7.02	8.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	6.31	6.74	13.07	5.85	6.05	0.00	0.00	0.00	7.12	7.25	7.25
Movement LOS	A	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.32			6.52			0.00			7.19		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.46											
Intersection LOS	A											
Intersection V/C	0.380											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			4.74			4.74		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.635			2.146		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	6465			6465			1160			1160		
d_b, Bicycle Delay [s]	60.14			60.14			2.13			2.13		
I_b,int, Bicycle LOS Score for Intersection	2.340			2.313			1.560			1.789		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 28: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	29.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	863	2	3	864	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1228	3	4	1219	7	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	307	1	1	305	2	4
Total Analysis Volume [veh/h]	1228	3	4	1219	7	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.05	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	17.07	0.00	29.47	15.96
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.00	0.00	6.71	6.71
d_A, Approach Delay [s/veh]	0.00		0.06		20.46	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	D					

Vistro File: C:\...\Vineyard Vistro with 525 S.vistro
Report File: C:\...\20 - 2045 PM + Pro Summarized.pdf

Scenario 18 2045 PM + Pro
11/28/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	400 South & Geneva Road	Signalized	HCM 7th Edition	NB Left	0.691	35.5	D
2	400 South & 1200 West	Signalized	HCM 7th Edition	EB Left	0.405	21.9	C
3	800 South & Geneva Road	Signalized	HCM 7th Edition	SB Left	0.452	8.0	A
4	575 South & Geneva Road	Signalized	HCM 7th Edition	EB Left	1.080	52.5	D
5	Geneva Road & Center Access	Signalized	HCM 7th Edition	SB Left	0.838	13.9	B
29	525 South & Geneva Road	Two-way stop	HCM 7th Edition	WB Left	0.031	34.2	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 400 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	330.00	100.00	100.00	400.00	100.00	440.00	240.00	100.00	200.00	160.00	100.00	170.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	172	759	153	152	1023	187	74	99	88	224	221	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.05	1.31	1.32	0.98	0.00	0.00	0.00	0.00	1.79	0.90	2.84
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	59	30	0	59	0	0	0	51	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	290	1112	242	211	1479	259	103	137	173	341	307	244
Peak Hour Factor	0.8100	0.9600	0.8300	0.7500	0.9600	0.7500	0.8800	0.8800	0.8800	0.8400	0.8600	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	290	73	70	385	86	29	39	49	101	89	73
Total Analysis Volume [veh/h]	358	1158	292	281	1541	345	117	156	197	406	357	294
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	7	22	0	5	20	0	11	26	0	21	36	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	37	0	13	35	0	9	30	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	21	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	33	33	45	30	30	37	20	20	12	20	20
g / C, Green / Cycle	0.50	0.37	0.37	0.50	0.34	0.34	0.41	0.23	0.23	0.14	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.43	0.23	0.18	0.35	0.30	0.21	0.09	0.08	0.12	0.12	0.19	0.19
s, saturation flow rate [veh/h]	832	5133	1598	814	5136	1615	1320	1900	1615	3464	1886	1579
c, Capacity [veh/h]	384	1889	588	375	1729	544	423	431	367	472	412	345
d1, Uniform Delay [s]	33.34	23.21	21.99	31.90	28.30	25.19	28.00	29.29	30.62	38.02	33.90	33.77
k, delay calibration	0.50	0.50	0.50	0.50	0.26	0.50	0.11	0.11	0.11	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.55	1.50	2.98	12.93	4.09	5.56	0.35	0.51	1.22	4.69	20.96	5.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.61	0.50	0.75	0.89	0.63	0.28	0.36	0.54	0.86	0.87	0.85
d, Delay for Lane Group [s/veh]	64.89	24.70	24.96	44.83	32.39	30.75	28.36	29.80	31.84	42.72	54.85	39.74
Lane Group LOS	E	C	C	D	C	C	C	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.32	6.37	4.86	4.30	10.21	6.55	1.53	2.86	3.81	4.61	9.73	6.59
50th-Percentile Queue Length [ft/ln]	183.03	159.23	121.60	107.46	255.35	163.87	38.29	71.38	95.34	115.19	243.31	164.71
95th-Percentile Queue Length [veh/ln]	11.76	10.51	8.48	7.70	15.46	10.75	2.76	5.14	6.86	8.13	14.85	10.80
95th-Percentile Queue Length [ft/ln]	293.97	262.70	212.02	192.47	386.38	268.85	68.92	128.49	171.61	203.20	371.22	269.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.89	24.70	24.96	44.83	32.39	30.75	28.36	29.80	31.84	42.72	54.85	39.74
Movement LOS	E	C	C	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	32.70			33.74			30.29			45.99		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	35.46											
Intersection LOS	D											
Intersection V/C	0.691											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersectio	3.449			3.524			2.623			2.838		
Crosswalk LOS	C			D			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			689			578			600		
d_b, Bicycle Delay [s]	18.05			19.34			22.76			22.05		
I_b,int, Bicycle LOS Score for Intersection	2.554			2.751			2.335			3.304		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: 400 South & 1200 West

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	173	322	21	56	352	87	73	215	227	22	255	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.73	0.31	0.00	0.00	0.57	4.60	2.74	0.00	0.88	0.55	0.97	0.72
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	4	4	14	12	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	252	447	29	78	488	125	105	312	327	31	368	72
Peak Hour Factor	0.8500	0.8700	0.6600	0.8800	0.8700	0.8400	0.6500	0.9800	0.8900	0.5500	0.9700	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	128	11	22	140	37	40	80	92	14	95	25
Total Analysis Volume [veh/h]	296	514	44	89	561	149	162	318	367	56	379	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Maximum Green [s]	11	40	0	7	36	0	0	31	0	0	31	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	28	43	0	11	26	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	48	39	39	48	39	39	34	34	34	34	34	34
g / C, Green / Cycle	0.53	0.44	0.44	0.53	0.43	0.43	0.38	0.38	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.30	0.14	0.03	0.08	0.16	0.10	0.18	0.17	0.23	0.07	0.20	0.06
s, saturation flow rate [veh/h]	985	3609	1615	1072	3601	1556	910	1900	1604	765	1885	1606
c, Capacity [veh/h]	465	1574	704	511	1545	667	259	723	610	255	717	611
d1, Uniform Delay [s]	26.02	16.68	14.71	17.00	17.39	16.23	35.31	20.74	22.39	28.89	21.61	18.42
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.50	0.11	0.11	0.16	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.51	0.55	0.17	0.74	0.14	0.77	2.46	0.42	1.40	0.43	0.61	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.33	0.06	0.17	0.36	0.22	0.62	0.44	0.60	0.22	0.53	0.16
d, Delay for Lane Group [s/veh]	32.52	17.24	14.88	17.74	17.53	17.00	37.77	21.16	23.80	29.32	22.22	18.54
Lane Group LOS	C	B	B	B	B	B	D	C	C	C	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.90	3.41	0.53	0.91	3.74	1.98	3.61	4.98	6.34	1.03	6.20	1.39
50th-Percentile Queue Length [ft/ln]	97.60	85.34	13.26	22.83	93.41	49.53	90.22	124.54	158.49	25.86	155.06	34.71
95th-Percentile Queue Length [veh/ln]	7.03	6.14	0.95	1.64	6.73	3.57	6.50	8.64	10.47	1.86	10.29	2.50
95th-Percentile Queue Length [ft/ln]	175.68	153.62	23.86	41.09	168.14	89.15	162.40	216.04	261.72	46.55	257.17	62.48

Movement, Approach, & Intersection Results

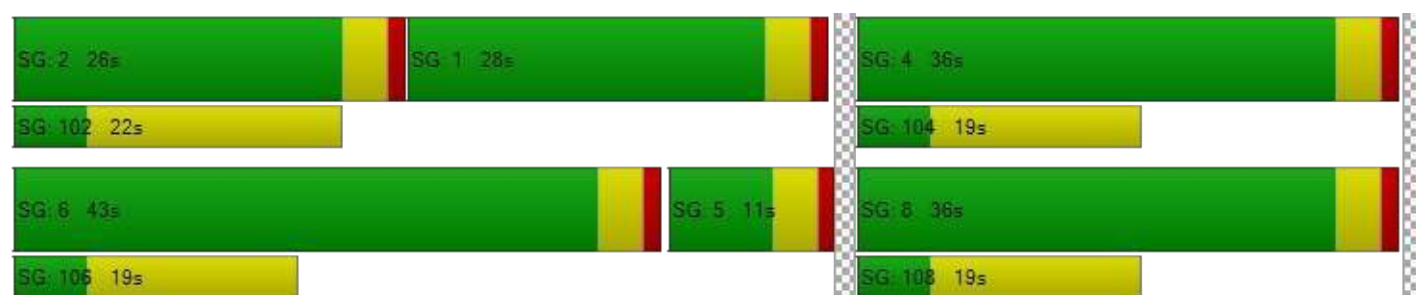
d_M, Delay for Movement [s/veh]	32.52	17.24	14.88	17.74	17.53	17.00	37.77	21.16	23.80	29.32	22.22	18.54
Movement LOS	C	B	B	B	B	B	D	C	C	C	C	B
d_A, Approach Delay [s/veh]	22.41			17.46			25.48			22.27		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	21.94											
Intersection LOS	C											
Intersection V/C	0.405											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	2.882			2.983			2.841			2.445		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	867			489			711			711		
d_b, Bicycle Delay [s]	14.45			25.69			18.69			18.69		
I_b,int, Bicycle LOS Score for Intersection	2.264			2.219			2.957			2.442		
Bicycle LOS	B			B			C			B		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: 800 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	170.00	150.00	100.00	150.00	75.00	100.00	75.00	60.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	919	50	86	1053	63	40	0	23	36	4	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.20	0.00	2.33	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	4	48	2	2	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	1322	69	123	1509	89	58	0	32	50	6	97
Peak Hour Factor	0.6100	0.9600	0.7800	0.9300	0.9600	0.6300	0.6300	0.9300	0.8200	0.7500	0.3300	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	344	22	33	393	35	23	0	10	17	5	35
Total Analysis Volume [veh/h]	89	1377	88	132	1572	141	92	0	39	67	18	139
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	70	0	0	70	0	0	20	0	0	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	26	26	26	26	26	26	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	8	8	8	8	8	8
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.31	0.27	0.05	0.37	0.31	0.09	0.07	0.00	0.02	0.05	0.01	0.09
s, saturation flow rate [veh/h]	289	5127	1615	361	5145	1615	1249	1900	1615	1390	1900	1615
c, Capacity [veh/h]	289	1956	616	308	1963	616	581	595	506	625	595	506
d1, Uniform Delay [s]	13.01	6.86	5.30	12.81	7.22	5.49	8.05	0.00	6.33	7.71	6.24	6.76
k, delay calibration	0.24	0.11	0.11	0.34	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.35	0.47	0.11	2.98	0.79	0.19	0.13	0.00	0.06	0.07	0.02	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.70	0.14	0.43	0.80	0.23	0.16	0.00	0.08	0.11	0.03	0.27
d, Delay for Lane Group [s/veh]	14.35	7.33	5.41	15.79	8.01	5.68	8.18	0.00	6.40	7.79	6.26	7.05
Lane Group LOS	B	A	A	B	A	A	A	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.51	0.66	0.10	0.85	0.83	0.17	0.30	0.00	0.10	0.21	0.05	0.40
50th-Percentile Queue Length [ft/ln]	12.66	16.49	2.58	21.15	20.85	4.33	7.55	0.00	2.57	5.24	1.15	9.93
95th-Percentile Queue Length [veh/ln]	0.91	1.19	0.19	1.52	1.50	0.31	0.54	0.00	0.18	0.38	0.08	0.71
95th-Percentile Queue Length [ft/ln]	22.79	29.68	4.64	38.06	37.53	7.80	13.59	0.00	4.62	9.42	2.07	17.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.35	7.33	5.41	15.79	8.01	5.68	8.18	0.00	6.40	7.79	6.26	7.05
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.62			8.39			7.65			7.21		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.97											
Intersection LOS	A											
Intersection V/C	0.452											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	5.61			5.61			5.61			5.61		
I_p,int, Pedestrian LOS Score for Intersection	3.338			3.414			2.261			2.336		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	5052			5052			1225			1225		
d_b, Bicycle Delay [s]	30.42			30.42			1.96			1.96		
I_b,int, Bicycle LOS Score for Intersection	2.414			2.574			1.776			1.929		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 575 South & Geneva Road

Control Type:	Signalized	Delay (sec / veh):	52.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.080

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	961	16	21	1186	121	74	0	48	6	1	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	91.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	4	54	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1386	22	33	1700	168	103	0	67	8	1	32
Peak Hour Factor	0.7800	0.9600	0.5700	0.5800	0.9600	0.8400	0.8600	0.9300	0.7100	0.7500	0.9200	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	361	10	14	443	50	30	0	24	3	0	14
Total Analysis Volume [veh/h]	83	1444	39	57	1771	200	120	0	94	11	1	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	124	0	0	124	0	0	18	0	0	18	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	128	0	0	128	0	0	22	0	0	22	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	124	124	124	124	124	124	18	18	18
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.83	0.83	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.37	0.99	0.02	0.16	0.37	0.37	0.09	0.06	0.05
s, saturation flow rate [veh/h]	225	1455	1615	361	3590	1790	1366	1615	1463
c, Capacity [veh/h]	209	1203	1335	82	2968	1480	115	194	203
d1, Uniform Delay [s]	9.64	13.00	2.31	70.77	3.55	3.57	68.61	61.67	60.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.23	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.56	98.50	0.04	38.86	0.48	0.97	68.31	1.87	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	1.20	0.03	0.69	0.44	0.45	1.04	0.49	0.34
d, Delay for Lane Group [s/veh]	15.20	111.50	2.35	109.63	4.03	4.54	136.92	63.54	61.59
Lane Group LOS	B	F	A	F	A	A	F	E	E
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.41	19.43	0.16	3.06	3.98	4.22	6.68	3.50	2.50
50th-Percentile Queue Length [ft/ln]	35.36	485.69	4.03	76.45	99.45	105.39	167.07	87.38	62.59
95th-Percentile Queue Length [veh/ln]	2.55	30.73	0.29	5.50	7.16	7.58	11.10	6.29	4.51
95th-Percentile Queue Length [ft/ln]	63.66	768.26	7.25	137.60	179.01	189.57	277.49	157.29	112.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.20	111.50	2.35	109.63	4.16	4.54	136.92	63.54	63.54	61.59	61.59	61.59
Movement LOS	B	F	A	F	A	A	F	E	E	E	E	E
d_A, Approach Delay [s/veh]	103.68			7.16			104.69			61.59		
Approach LOS	F			A			F			E		
d_I, Intersection Delay [s/veh]	52.50											
Intersection LOS	D											
Intersection V/C	1.080											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			66.27			66.27		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.219			1.888		
Crosswalk LOS	F			F			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1653			1653			240			240		
d_b, Bicycle Delay [s]	2.25			2.25			58.08			58.08		
I_b,int, Bicycle LOS Score for Intersection	2.421			2.675			1.913			1.673		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Geneva Road & Center Access

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	1071	3	6	1330	0	0	0	0	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.65	0.00	0.00	1.05	2.00	2.00	2.00	2.00	0.00	2.00	12.50
Proportion of CAVs [%]	0.00											
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	140	0	0	0	0	0	58	0	140
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-26	26	61	-61	0	0	0	0	61	0	26
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1460	87	209	1785	0	0	0	0	123	0	181
Peak Hour Factor	1.0000	0.9600	0.9200	0.9200	0.9600	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	24	57	465	0	0	0	0	33	0	49
Total Analysis Volume [veh/h]	0	1521	95	227	1859	0	0	0	0	134	0	197
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	61	0	0	61	0	0	29	0	0	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	L	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	10	10	10	9	9	9
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.37	0.37	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.00	0.30	0.30	0.71	0.34	0.34	0.00	0.09	0.12
s, saturation flow rate [veh/h]	247	3599	1834	318	3588	1884	1870	1440	1589
c, Capacity [veh/h]	275	1318	672	284	1314	690	769	670	542
d1, Uniform Delay [s]	0.00	7.81	7.81	13.57	8.31	8.31	0.00	6.57	6.77
k, delay calibration	0.11	0.11	0.25	0.50	0.11	0.32	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	1.26	5.38	20.57	3.43	14.81	0.00	0.14	0.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.81	0.81	0.80	0.93	0.93	0.00	0.20	0.36
d, Delay for Lane Group [s/veh]	0.00	9.06	13.19	34.14	11.74	23.12	0.00	6.72	7.18
Lane Group LOS	A	A	B	C	B	C	A	A	A
Critical Lane Group	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	1.16	1.96	2.71	1.76	4.03	0.00	0.34	0.54
50th-Percentile Queue Length [ft/ln]	0.00	29.09	48.91	67.75	43.95	100.69	0.00	8.53	13.44
95th-Percentile Queue Length [veh/ln]	0.00	2.09	3.52	4.88	3.16	7.25	0.00	0.61	0.97
95th-Percentile Queue Length [ft/ln]	0.00	52.36	88.04	121.94	79.11	181.24	0.00	15.35	24.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.28	13.19	34.14	15.66	23.12	0.00	0.00	0.00	6.72	7.18	7.18
Movement LOS	A	B	B	C	B	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	10.46			17.67			0.00			6.99		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	13.90											
Intersection LOS	B											
Intersection V/C	0.838											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			6.11			6.11		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			1.645			2.543		
Crosswalk LOS	F			F			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	4184			4184			1835			1835		
d_b, Bicycle Delay [s]	16.25			16.25			0.09			0.09		
I_b,int, Bicycle LOS Score for Intersection	2.448			2.707			1.560			2.106		
Bicycle LOS	B			B			A			B		

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 29: 525 South & Geneva Road

Control Type:	Two-way stop	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1023	6	11	1228	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3876	1.3876	1.3876	1.3876	1.3876	1.3876
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	0	0	58	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1477	8	15	1762	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	369	2	4	441	1	2
Total Analysis Volume [veh/h]	1477	8	15	1762	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	4

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.07	0.02	0.03	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	22.00	0.00	34.21	17.77
Movement LOS	A	A	C	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.21	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.27	0.00	4.53	4.53
d_A, Approach Delay [s/veh]	0.00		0.19		23.25	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	D					

SIGNAL WARRANTS

Signal Warrants Report For Intersection 4: 575 South & Geneva Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1150	1481	32	130
2	1116	1437	31	126
3	1093	1407	30	124
4	1024	1318	28	116
5	909	1170	25	103
6	897	1155	25	101
7	886	1140	25	100
8	805	1037	22	91
9	793	1022	22	90
10	782	1007	22	88
11	679	874	19	77
12	633	815	18	72
13	621	800	17	70
14	460	592	13	52
15	460	592	13	52
16	322	415	9	36
17	184	237	5	21
18	184	237	5	21
19	104	133	3	12
20	58	74	2	7
21	35	44	1	4
22	12	15	0	1
23	12	15	0	1
24	12	15	0	1

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	4	2631	2	130	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	4	2553	2	126	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	4	2500	2	124	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	4	2342	2	116	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	4	2079	2	103	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
6	4	2052	2	101	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
7	4	2026	2	100	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No
8	4	1842	2	91	No	No	No	No	No	Yes	Yes	Yes	Yes	No
9	4	1815	2	90	No	No	No	No	No	Yes	Yes	Yes	Yes	No
10	4	1789	2	88	No	No	No	No	No	Yes	Yes	Yes	Yes	No
11	4	1553	2	77	No	No	No	No	No	No	Yes	Yes	No	No
12	4	1448	2	72	No	No	No	No	No	No	Yes	Yes	No	No
13	4	1421	2	70	No	No	No	No	No	No	Yes	Yes	No	No
14	4	1052	2	52	No	No	No	No	No	No	No	No	No	No
15	4	1052	2	52	No	No	No	No	No	No	No	No	No	No
16	4	737	2	36	No	No	No	No	No	No	No	No	No	No
17	4	421	2	21	No	No	No	No	No	No	No	No	No	No
18	4	421	2	21	No	No	No	No	No	No	No	No	No	No
19	4	237	2	12	No	No	No	No	No	No	No	No	No	No
20	4	132	2	7	No	No	No	No	No	No	No	No	No	No
21	4	79	2	4	No	No	No	No	No	No	No	No	No	No
22	4	27	2	1	No	No	No	No	No	No	No	No	No	No
23	4	27	2	1	No	No	No	No	No	No	No	No	No	No
24	4	27	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	4	7	10	13	13	10	6

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.3	107.6
Number of Lanes on Minor Street Approach	1	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:10	3:53
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	32	130
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	2793	2793
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	

Signal Warrants Report For Intersection 5: Geneva Road & Center Access

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1207	1571	300	0
2	1171	1524	291	0
3	1147	1492	285	0
4	1074	1398	267	0
5	954	1241	237	0
6	941	1225	234	0
7	929	1210	231	0
8	845	1100	210	0
9	833	1084	207	0
10	821	1068	204	0
11	712	927	177	0
12	664	864	165	0
13	652	848	162	0
14	483	628	120	0
15	483	628	120	0
16	338	440	84	0
17	193	251	48	0
18	193	251	48	0
19	109	141	27	0
20	60	79	15	0
21	36	47	9	0
22	12	16	3	0
23	12	16	3	0
24	12	16	3	0

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	2778	2	300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	2695	2	291	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	2639	2	285	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	2472	2	267	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	2195	2	237	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	2166	2	234	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	2139	2	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	3	1945	2	210	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	3	1917	2	207	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	3	1889	2	204	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	3	1639	2	177	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	3	1528	2	165	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	3	1500	2	162	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3	1111	2	120	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
15	3	1111	2	120	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
16	3	778	2	84	No	No	No	No	No	Yes	Yes	Yes	No	No
17	3	444	2	48	No	No	No	No	No	No	No	No	No	No
18	3	444	2	48	No	No	No	No	No	No	No	No	No	No
19	3	250	2	27	No	No	No	No	No	No	No	No	No	No
20	3	139	2	15	No	No	No	No	No	No	No	No	No	No
21	3	83	2	9	No	No	No	No	No	No	No	No	No	No
22	3	28	2	3	No	No	No	No	No	No	No	No	No	No
23	3	28	2	3	No	No	No	No	No	No	No	No	No	No
24	3	28	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					10	13	13	15	15	16	16	16	15	13

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	105.7	438.7
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	8:48	0:00
Delay Condition Met	Yes	No
Volume on Minor Street Approach During Same Hour	300	0
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	3078	3078
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	No
Warrant Met for Intersection	Yes	

Signal Warrants Report For Intersection 5: Geneva Road & Center Access

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	213	0	1052	1036
2	207	0	1020	1005
3	202	0	999	984
4	190	0	936	922
5	168	0	831	818
6	166	0	821	808
7	164	0	810	798
8	149	0	736	725
9	147	0	726	715
10	145	0	715	704
11	126	0	621	611
12	117	0	579	570
13	115	0	568	559
14	85	0	421	414
15	85	0	421	414
16	60	0	295	290
17	34	0	168	166
18	34	0	168	166
19	19	0	95	93
20	11	0	53	52
21	6	0	32	31
22	2	0	11	10
23	2	0	11	10
24	2	0	11	10

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	213	2	1052	No	No	No	No	No	No	No	No	Yes	Yes
2	3	207	2	1020	No	No	No	No	No	No	No	No	Yes	Yes
3	3	202	2	999	No	No	No	No	No	No	No	No	Yes	Yes
4	3	190	2	936	No	No	No	No	No	No	No	No	Yes	Yes
5	3	168	2	831	No	No	No	No	No	No	No	No	Yes	Yes
6	3	166	2	821	No	No	No	No	No	No	No	No	Yes	Yes
7	3	164	2	810	No	No	No	No	No	No	No	No	Yes	Yes
8	3	149	2	736	No	No	No	No	No	No	No	No	Yes	Yes
9	3	147	2	726	No	No	No	No	No	No	No	No	Yes	Yes
10	3	145	2	715	No	No	No	No	No	No	No	No	Yes	Yes
11	3	126	2	621	No	No	No	No	No	No	No	No	Yes	Yes
12	3	117	2	579	No	No	No	No	No	No	No	No	Yes	No
13	3	115	2	568	No	No	No	No	No	No	No	No	Yes	No
14	3	85	2	421	No	No	No	No	No	No	No	No	No	No
15	3	85	2	421	No	No	No	No	No	No	No	No	No	No
16	3	60	2	295	No	No	No	No	No	No	No	No	No	No
17	3	34	2	168	No	No	No	No	No	No	No	No	No	No
18	3	34	2	168	No	No	No	No	No	No	No	No	No	No
19	3	19	2	95	No	No	No	No	No	No	No	No	No	No
20	3	11	2	53	No	No	No	No	No	No	No	No	No	No
21	3	6	2	32	No	No	No	No	No	No	No	No	No	No
22	3	2	2	11	No	No	No	No	No	No	No	No	No	No
23	3	2	2	11	No	No	No	No	No	No	No	No	No	No
24	3	2	2	11	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	13	11

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	139.4	29.4
Number of Lanes on Minor Street Approach	2	3
VehicleHours of Stopped Delay on Minor Approach (h:mm)	40:43	8:27
Delay Condition Met	Yes	Yes
Volume on Minor Street Approach During Same Hour	1052	1036
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	2301	2301
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	Yes	Yes
Warrant Met for Intersection	Yes	

Signal Warrants Report For Intersection 4: 575 South & Geneva Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	1356	1749	38	155
2	1315	1697	37	150
3	1288	1662	36	147
4	1207	1557	34	138
5	1071	1382	30	122
6	1058	1364	30	121
7	1044	1347	29	119
8	949	1224	27	109
9	936	1207	26	107
10	922	1189	26	105
11	800	1032	22	91
12	746	962	21	85
13	732	944	21	84
14	542	700	15	62
15	542	700	15	62
16	380	490	11	43
17	217	280	6	25
18	217	280	6	25
19	122	157	3	14
20	68	87	2	8
21	41	52	1	5
22	14	17	0	2
23	14	17	0	2
24	14	17	0	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	5	3105	2	155	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	5	3012	2	150	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	5	2950	2	147	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	5	2764	2	138	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	5	2453	2	122	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	5	2422	2	121	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	5	2391	2	119	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	5	2173	2	109	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
9	5	2143	2	107	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
10	5	2111	2	105	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
11	5	1832	2	91	No	No	No	No	No	Yes	Yes	Yes	Yes	No
12	5	1708	2	85	No	No	No	No	No	Yes	Yes	Yes	Yes	No
13	5	1676	2	84	No	No	No	No	No	Yes	Yes	Yes	Yes	No
14	5	1242	2	62	No	No	No	No	No	No	No	Yes	No	No
15	5	1242	2	62	No	No	No	No	No	No	No	Yes	No	No
16	5	870	2	43	No	No	No	No	No	No	No	No	No	No
17	5	497	2	25	No	No	No	No	No	No	No	No	No	No
18	5	497	2	25	No	No	No	No	No	No	No	No	No	No
19	5	279	2	14	No	No	No	No	No	No	No	No	No	No
20	5	155	2	8	No	No	No	No	No	No	No	No	No	No
21	5	93	2	5	No	No	No	No	No	No	No	No	No	No
22	5	31	2	2	No	No	No	No	No	No	No	No	No	No
23	5	31	2	2	No	No	No	No	No	No	No	No	No	No
24	5	31	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	10	13	13	15	13	10

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	42.9	656.2
Number of Lanes on Minor Street Approach	1	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:27	28:15
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	38	155
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	3298	3298
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	Yes	

DRAFT

ORDINANCE NO. _____

AN ORDINANCE BY THE OREM CITY COUNCIL AMENDING ARTICLE 22-5-3(A) AND THE ZONING MAP OF THE CITY OF OREM BY REZONING THE PROPERTY LOCATED GENERALLY AT 519 SOUTH GENEVA ROAD FROM THE R20 ZONE TO THE C2 ZONE (APPROXIMATELY 3.49 ACRES).

WHEREAS on October 17, 2023, Jonathan Holdaway filed an application with the City of Orem requesting the city amend Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres); and

WHEREAS a public hearing considering the subject application was held by the Planning Commission on February 7, 2024; and

WHEREAS a public hearing considering the subject application was held by the City Council on February 27, 2024; and

WHEREAS one hundred notices (100) were mailed to property owners within five hundred (500) feet of the property; and

WHEREAS the matter having been submitted and the City Council having fully considered the request as it relates to the health, safety and general welfare of the City; the orderly development of land in the City; the effect upon surrounding neighborhoods; the compliance of the request with all applicable City ordinances; and the special conditions applicable to the request.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF OREM, UTAH, as follows:

1. The City Council finds this request will be in the best interest and general welfare of the City.
2. The City Council hereby amends Article 22-5-3(A) and the zoning map of the City of Orem by rezoning the property located generally at 519 South Geneva Road from the R20 zone to the C2 zone (approximately 3.49 acres), as shown in Exhibit “A” which is attached hereto and incorporated herein by reference.
3. If any part of this ordinance shall be declared invalid, such decision shall not affect the validity of the remainder of this ordinance.
4. This ordinance shall take effect immediately upon passage and publication in a newspaper of general circulation in the City of Orem.

DRAFT

5. All other ordinances and policies in conflict herewith, either in whole or part, are hereby repealed.

PASSED, APPROVED and ORDERED PUBLISHED this **27th day of February 2024.**

David A. Young, Mayor

ATTEST:

Teresa McKitrick, City Recorder

COUNCILMEMBER	AYE	NAY	ABSTAIN
Mayor David A. Young	☐	☐	☐
Jenn Gale	☐	☐	☐
Chris Killpack	☐	☐	☐
Jeff Lambson	☐	☐	☐
Tom Macdonald	☐	☐	☐
LaNae Millett	☐	☐	☐
David Spencer	☐	☐	☐

DRAFT

EXHIBIT A



**CITY OF OREM
CITY COUNCIL
MEETING
FEBRUARY 27, 2024**

REQUEST:	PUBLIC HEARING - Ordinance Amending Fiscal Year 2023-2024 Budget
APPLICANT:	Brandon Nelson
NOTICES:	
SITE INFORMATION:	
PREPARED BY:	Brandon Nelson, Finance Director

REQUEST:

BACKGROUND:

The Fiscal Year 2023-2024 City of Orem budget has many adjustments that occur throughout the fiscal year.

RECOMMENDATION:

The City Manager recommends the City Council hold a public hearing to discuss amending the current Fiscal Year 2023-2024 Budget and, by ordinance, amend the Fiscal Year 2023-2024 Budget.

DRAFT

ORDINANCE NO. _____

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY
OF OREM, UTAH, AMENDING THE FISCAL YEAR 2023-
2024 BUDGET.

WHEREAS On June 13, 2023, the City Council adopted a final budget following State law; and

WHEREAS the City Council held a public hearing on February 27, 2024, to receive input from the public regarding proposed amendments to the Fiscal Year 2023-2024 budget; and

WHEREAS the budget has been revised as deemed appropriate to accommodate new revenues and expenses.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF OREM, UTAH, as follows:

1. The Council hereby amends the Fiscal Year 2023-2024 Budget as shown in Exhibit "A" which is attached hereto and incorporated herein by reference.

2. The City Manager is directed to implement these budget amendments in accordance with State laws and appropriate City procedures.

3. This ordinance shall take effect immediately upon publication.

PASSED AND APPROVED this 27th day of February 2024.

CITY OF OREM, by
David A. Young, Mayor

ATTEST:

Teresa McKittrick, City Recorder

COUNCIL MEMBERS	AYE	NAY	ABSTAIN
Mayor David A. Young	☐	☐	☐
Jenn Gale	☐	☐	☐
Chris Killpack	☐	☐	☐
Jeff Lambson	☐	☐	☐
Tom W. Macdonald	☐	☐	☐
LaNae Millett	☐	☐	☐
David M. Spencer	☐	☐	☐

EXHIBIT "A"
BUDGET AMENDMENTS
FISCAL YEAR 2023-2024

REVENUES

Account Number	Note	Description	Previous Budget	Current Budget
GENERAL FUND				
10-3316-001	1	Library - UAC Onstage Utah Grant	\$ -	\$ 6,800.00
10-3316-002	1	Library - Westaf - TourWest Grant	-	3,750.00
10-3316-003	1	Grant - Various - Misc. Grantors	5,000.00	7,750.00
10-3316-015	1	Grant - State Library - Lender Support	-	3,000.00
10-3318-005	1	Grant - Police Early Intervention	-	8,869.00
10-3318-010	1	Grant - OJP - 2023 BJA Local Solicitation	-	19,467.00
10-3318-030	1	Grant - DOJ - COPS Hiring Program - Mental Health	-	132,704.00
10-3429-006	7	Fees - Victim Advocates - Lindon - Police	-	8,000.00
10-3620	6	Rental And Lease Revenues	25,000.00	55,000.00
10-3690-003	1	Misc. Revenues - PS Donations/Contributions	-	5,000.00
10-3698	1	Donations - Library	-	33,600.00
10-3995-013	1	Cont. From - Fund 73 - Orem Foundation	17,500.00	26,737.50
10-3997-004	2	App. Surp - CIP Projects - Northridge Park	-	250,000.00
Total			<u>\$ 47,500.00</u>	<u>\$ 560,677.50</u>
Net Fund Increase				<u>\$ 513,177.50</u>
MAJOR CRIMES TASK FORCE (MCTF)				
25-3318-005-002	1	HIDTA Grant - Calendar Yr 2024	\$ -	\$ 298,756.00
25-3424-004-003	1	MCTF - Forfeitures Revenues - Federal (Justice-Safe St)	-	50,000.00
Total			<u>\$ -</u>	<u>\$ 348,756.00</u>
Net Fund Increase				<u>\$ 348,756.00</u>
DEVELOPMENT FEES FUND				
26-3995-031	4	Cont From - Fund 63 - Wrecked Vehicles	\$ -	\$ 31,500.00
Total			<u>\$ -</u>	<u>\$ 31,500.00</u>
Net Fund Increase				<u>\$ 31,500.00</u>
CIP FUND - PARKS IMPACT FEES				
43-3997-005	5	App Surp - Hillcrest Property	\$ -	\$ 943,459.88
Total			<u>\$ -</u>	<u>\$ 943,459.88</u>
Net Fund Increase				<u>\$ 943,459.88</u>
CAPITAL IMPROVEMENT PROJECT FUND				
45-3995-001	2	Cont. From - Fund 10 - CIP - Northridge Park	\$ -	\$ 250,000.00
Total			<u>\$ -</u>	<u>\$ 250,000.00</u>
Net Fund Increase				<u>\$ 250,000.00</u>
VEHICLE MAINTENANCE FUND				
61-3997-018	3	App Surp - Operations	\$ -	\$ 151,000.00
Total			<u>\$ -</u>	<u>\$ 151,000.00</u>
Net Fund Increase				<u>\$ 151,000.00</u>
SELF INSURANCE FUND				
63-3997-007	4	App Surp - Vehicle Replacements	\$ -	\$ 50,000.00
Total			<u>\$ -</u>	<u>\$ 50,000.00</u>
Net Fund Increase				<u>\$ 50,000.00</u>
OREM COMMUNITY FOUNDATION FUND				
73-3910-004	1	Donations - Orem City	17,500.00	26,737.50
Total			<u>\$ 17,500.00</u>	<u>\$ 26,737.50</u>
Net Fund Increase				<u>\$ 9,237.50</u>
Total City Funds			<u>\$ 65,000.00</u>	<u>\$ 2,362,130.88</u>
Net City Funds Increase				<u>\$ 2,297,130.88</u>

EXHIBIT "A"
BUDGET AMENDMENTS
FISCAL YEAR 2023-2024

EXPENDITURES

Account Number	Note	Description	Previous Budget	Current Budget
GENERAL FUND				
Neighborhoods in Action				
10-4020-540-013	1	Cultural Arts Commission	\$ 10,000.00	\$ 15,000.00
Public Safety Administration				
10-6510-230-010	1	Employee Development - Fundraising	-	100.00
Investigation Services				
10-6530-250-010	1	Equipment - 2023 BJA Local Solicitation Grant	-	19,467.00
Victims/Childrens Assistance				
10-6532-230	7	Employee Development	-	8,000.00
10-6532-450-004	1	Public Safety Supplies - Support Dog - ASEA	-	5,000.00
Support Services				
10-6550-110	1	Salaries & Wages - Permanent	1,121,996.00	1,186,637.00
10-6550-150	1	Fringe Benefits	640,626.00	668,326.00
10-6550-230-036	1	Emp Dev - COPS Grant - Mental Health Advocate	-	2,685.00
10-6550-240-036	1	Supplies - COPS Grant - Mental Health Advocate	-	1,570.00
10-6550-245-036	1	Uniforms - COPS Grant - Mental Health Advocate	-	700.00
10-6550-250-033	1	Equipment - Software - Early Intervention Grant	-	8,869.00
10-6550-623	1	VIPS Vehicle Lease	-	9,137.50
10-6550-742-036	1	New Vehicle #3342 - COPS Grant - Mental Health Advocate	-	35,408.00
Public Works Administration				
10-7510-600	6	Miscellaneous Expense - UPS Parking Lot Rental	15,553.33	30,553.33
Library Administration				
10-8510-310-000	1	Professional & Technical Services	1,500.00	28,600.00
10-8510-310-001	1	Prof. & Technical Services - UAC Onstage Utah Grant	-	1,800.00
10-8510-310-002	1	Prof. & Technical Services - Westaf - TourWest Grant	-	3,750.00
Technical Services				
10-8520-210	1	Subscriptions, Memberships, & Publications	19,000.00	22,000.00
Patron Services				
10-8530-310	1	Professional & Technical Services	8,415.00	8,715.00
10-8530-480-002	1	Special Dept. Supplies - Outreach	1,387.00	8,337.00
10-8530-480-006	1	Special Dept. Supplies - UHC - Book Festival Grant	-	2,000.00
Non-Departmental Expenditures				
10-9910-600	6	Miscellaneous Expense - UPS Parking Lot Rental	12,676.75	27,676.75
10-9910-920-001	2	Cont. To - Fund 45 - CIP - Northridge Park	-	250,000.00
Total			<u>\$ 1,831,154.08</u>	<u>\$ 2,344,331.58</u>
Net Fund Increase				<u>\$ 513,177.50</u>
MAJOR CRIMES TASK FORCE (MCTF)				
25-6531-140-003	1	Overtime - HIDTA - Jan-June	\$ -	\$ 80,000.00
25-6531-230-003	1	Employee Development - HIDTA - Jan-June	-	2,000.00
25-6531-250-004	1	Equipment - Forfeiture (Justice)	-	50,000.00
25-6531-290-003	1	Maintenance & Repairs - HIDTA - Jan-June	-	19,289.00
25-6531-600-003	1	C.I. Funds - HIDTA - Jan-June	-	58,400.00
25-6531-623-003	1	Equip/Facility Lease/Rent - HIDTA - Jan-June	-	103,067.00
25-6531-623-023	1	Vehicle Lease/Rent - HIDTA Jan-June	-	36,000.00
			<u>\$ -</u>	<u>\$ 348,756.00</u>
Net Fund Increase				<u>\$ 348,756.00</u>

EXHIBIT "A"
BUDGET AMENDMENTS
FISCAL YEAR 2023-2024

EXPENDITURES

<u>Account Number</u>	<u>Note</u>	<u>Description</u>	<u>Previous Budget</u>	<u>Current Budget</u>
DEVELOPMENT FEES FUND				
26-6040-792-002	4	Vehicle #1608 - Replace Vehicle #1607	\$ -	\$ 31,500.00
Total			<u>\$ -</u>	<u>\$ 31,500.00</u>
Net Fund Increase				<u>\$ 31,500.00</u>
CIP FUND - PARKS IMPACT FEES				
43-7557-710-600	5	Hillcrest Elementary Property Purchase	\$ 550,000.00	\$ 1,493,459.88
Total			<u>\$ 550,000.00</u>	<u>\$ 1,493,459.88</u>
Net Fund Increase				<u>\$ 943,459.88</u>
CAPITAL IMPROVEMENT PROJECT FUND				
45-6034-732-300	2	Northridge Park - Playground Replacement	\$ -	\$ 250,000.00
Total			<u>\$ -</u>	<u>\$ 250,000.00</u>
Net Fund Increase				<u>\$ 250,000.00</u>
VEHICLE MAINTENANCE FUND				
61-7542-741-660	3	Column Jacks	\$ -	\$ 151,000.00
Total			<u>\$ -</u>	<u>\$ 151,000.00</u>
Net Fund Increase				<u>\$ 151,000.00</u>
SELF INSURANCE FUND				
63-4260-792-001	4	Vehicle Replacement	\$ -	\$ 50,000.00
Total			<u>\$ -</u>	<u>\$ 50,000.00</u>
Net Fund Increase				<u>\$ 50,000.00</u>
OREM COMMUNITY FOUNDATION FUND				
73-8591-920-004	1	Cont. To - Fund 10 - Orem City	\$ 17,500.00	\$ 26,737.50
Total			<u>\$ 17,500.00</u>	<u>\$ 26,737.50</u>
Net Fund Increase				<u>\$ 9,237.50</u>
Total City Funds			<u>\$ 2,398,654.08</u>	<u>\$ 4,695,784.96</u>
Net City Funds Increase				<u>\$ 2,297,130.88</u>

**BUDGET AMENDMENTS
FISCAL YEAR 2023-2024**

NOTES

These notes are attached to the budget amendments summary to describe the more unusual or extraordinary amendments to the Fiscal Year 2023-2024 City of Orem Budget that have been necessitated to this point in the fiscal year. Many of the amendments listed in the summary are immaterial and/or are technical corrections that any organization of this size would expect to encounter during an operating year and therefore, no specific note has been given for these items. Please contact Brandon C. Nelson, CPA, Finance Director, at 801-229-7010, if you have any questions or concerns.

- 1) The City receives grant or donation funds during the year to aid many different operations such as the Police Department (Major Crimes Task Force Grants, Support Dog donations, VIPs, COPS Hiring Program), and the Library (UAC, Westaf, State Library). The funds are received from Federal, State, and other governmental (or private) entities. These entries represent the adjustments necessary to adjust the appropriate budgets.
- 2) The City had an opportunity to take advantage of better pricing by accelerating a playground equipment order for Northridge Park. The City has elected to use excess FY 2023 General Fund funds to accommodate this project funding.
- 3) The City had set aside fund balance in the Fleet Maintenance Fund for the eventual purchase of new column jacks for the fleet shop. The City now wishes to use these funds to purchase the needed equipment.
- 4) A building inspector vehicle was wrecked and a replacement vehicle is needed. The City would like to replace it using Self-Insurance Fund reserves.
- 5) The City originally used Capital Project (CIP) Fund money to pay for a portion of the Hillcrest Park property purchase because there were not enough park impact fee funds available at the time of the purchase. The City is allowed under state impact fee law to reimburse these CIP Fund funds since this is an eligible impact fee project. Therefore, the City has accumulated additional park impact fee funds and wishes to reimburse the CIP Fund at this time.
- 6) The Public Works Department rents the facilities parking lot to UPS during the Christmas season. This amendment adds these funds to the budget for various purposes.
- 7) The Police Department provides Victim Advocate services to Lindon City and they have agreed to pay the City a fee for providing these additional services.



**CITY OF OREM
CITY COUNCIL
MEETING
FEBRUARY 27, 2024**

REQUEST:	DISCUSSION AND RESOLUTION - Regarding Status of Legislative Counsel
APPLICANT:	
NOTICES:	
SITE INFORMATION:	
PREPARED BY:	

REQUEST:

BACKGROUND:

RECOMMENDATION:

CITY OF OREM
BUDGET REPORT FOR THE MONTH ENDED JANUARY 2024

Percent of Year Expired: 58%

Fund	Current Appropriation	Monthly Total	Year-To-Date Total	Encumbrances	Balance	% To Date FY 2024	% To Date FY 2023	Notes
10 GENERAL FUND								
Revenues	70,872,003	7,513,866	47,295,432			67%	62%	
Appr. Surplus - Current	250,000		250,000			100%		
Appr. Surplus - Prior Year	22,235,001		22,235,001			100%		
Std. Interfund Transactions	5,744,060		5,744,060			100%		
Total Resources	99,101,064	7,513,866	75,524,493		23,576,571	76%	75%	
Expenditures	99,101,064	5,797,499	55,767,322	3,722,625	39,611,117	60%	46%	
20 ROAD FUND								
Revenues	3,800,000	691,675	1,908,753			50%	52%	
Appr. Surplus - Current	620,000		620,000			100%		
Appr. Surplus - Prior Year	2,627,058		2,627,058			100%		
Total Resources	7,047,058	691,675	5,155,811		1,891,247	73%	75%	
Expenditures	7,047,058	130,037	2,505,575	877,680	3,663,803	48%	52%	
21 CARE TAX FUND								
Revenues	3,380,000	326,736	1,453,705			43%	49%	
Appr. Surplus - Current	200,000		200,000			100%		
Appr. Surplus - Prior Year	2,297,383		2,297,383			100%		
Total Resources	5,877,383	326,736	3,951,088		1,926,295	67%	68%	
Expenditures	5,877,383	34,256	1,536,040	3,161,742	1,179,601	80%	47%	1
24 TRANSPORTATION SALES TAX FUND								
Revenues	3,090,000	298,811	1,311,818			42%	46%	
Appr. Surplus - Current	250,000		250,000			100%		
Appr. Surplus - Prior Year	2,816,080		2,816,080			100%		
Total Resources	6,156,080	298,811	4,377,898		1,778,182	71%	70%	
Expenditures	6,156,080	124,135	2,516,232	1,026,934	2,612,914	58%	33%	2
30 DEBT SERVICE FUND								
Revenues	6,326,740		3,969,782			63%	60%	
Total Resources	6,326,740		3,969,782		2,356,958	63%	60%	
Expenditures	6,326,740	46,630	1,995,671		4,331,069	32%	30%	
45 CIP FUND								
Revenues	775,000	56,465	481,056			62%	20%	
Appr. Surplus - Prior Year	28,080,901		28,080,901			100%		
Total Resources	28,855,901	56,465	28,561,957		293,944	99%	93%	
Expenditures	28,855,901	-1,480,013	-138,342	23,089,239	5,905,004	80%	12%	3
51 WATER FUND								
Revenues	19,980,034	1,228,811	13,922,156			70%	63%	
Appr. Surplus - Prior Year	47,331,789		47,331,789			100%		
Total Resources	67,311,823	1,228,811	61,253,945		6,057,878	91%	88%	
Expenditures	67,311,823	2,020,327	20,364,430	20,891,349	26,056,044	61%	27%	4
52 WATER RECLAMATION FUND								
Revenues	13,248,423	1,137,292	8,135,074			61%	56%	
Appr. Surplus - Prior Year	25,420,126		25,420,126			100%		
Total Resources	38,668,549	1,137,292	33,555,200		5,113,349	87%	84%	
Expenditures	38,668,549	539,791	5,334,565	6,716,053	26,617,931	31%	23%	
55 STORM WATER FUND								
Revenues	5,856,002	540,025	3,841,871			66%	64%	
Appr. Surplus - Prior Year	8,972,270		8,972,270			100%		
Total Resources	14,828,272	540,025	12,814,141		2,014,131	86%	86%	
Expenditures	14,828,272	193,176	3,446,706	1,308,557	10,073,009	32%	20%	5
56 RECREATION FUND								
Revenues	3,775,040	292,494	2,010,681			53%	51%	
Appr. Surplus - Prior Year	147,409		147,409			100%		
Total Resources	3,922,449	292,494	2,158,090		1,764,359	55%	52%	
Expenditures	3,922,449	160,227	2,387,420	274,866	1,260,163	68%	69%	

CITY OF OREM
BUDGET REPORT FOR THE MONTH ENDED JANUARY 2024

Percent of Year Expired: 58%

Fund	Current Appropriation	Monthly Total	Year-To-Date Total	Encumbrances	Balance	% To Date FY 2024	% To Date FY 2023	Notes
57 SOLID WASTE FUND								
Revenues	5,184,000	438,980	3,072,693			59%	62%	
Appr. Surplus - Prior Year	142,230		142,230			100%		
Total Resources	5,326,230	438,980	3,214,923		2,111,307	60%	63%	
Expenditures	5,326,230	325,422	2,785,173	257,500	2,283,557	57%	54%	
58 STREET LIGHTING FUND								
Revenues	1,065,000	100,322	649,575			61%	59%	
Appr. Surplus - Current	320,000		320,000			100%		
Appr. Surplus - Prior Year	373,612		373,612			100%		
Total Resources	1,758,612	100,322	1,343,187		415,425	76%	79%	
Expenditures	1,758,612	12,655	806,043	276,175	676,394	62%	53%	
61 FLEET MAINTENANCE FUND								
Revenues			760			100%		
Appr. Surplus - Prior Year	208,445		208,445			100%		
Std. Interfund Transactions	1,075,000		1,075,000			100%		
Total Resources	1,283,445		1,284,205		-760	100%	100%	
Expenditures	1,283,445	63,574	806,212	66,421	410,812	68%	64%	
62 PURCHASING/WAREHOUSING FUND								
Appr. Surplus - Prior Year	5,543		5,543			100%		
Std. Interfund Transactions	450,000		450,000			100%		
Total Resources	455,543		455,543			100%	100%	
Expenditures	455,543	26,868	306,143	1,295	148,105	67%	69%	
63 SELF INSURANCE FUND								
Revenues	790,000	64,352	484,366			61%	64%	
Appr. Surplus - Current Year	225,000	50,000	225,000			100%		
Appr. Surplus - Prior Year	22,301		22,301			100%		
Std. Interfund Transactions	1,585,000		1,585,000			100%		
Total Resources	2,622,301	114,352	2,316,667		305,634	88%	89%	
Expenditures	2,622,301	132,871	1,942,911	18,660	660,730	75%	82%	
64 INFORMATION TECH FUND								
Revenues	9,336	678	5,424			100%		
Appr. Surplus - Prior Year	442,422		442,422			100%		
Std. Interfund Transactions	3,410,000		3,410,000			100%		
Total Resources	3,861,758	678	3,857,846		3,912	100%	100%	
Expenditures	3,861,758	193,173	1,833,277	198,877	1,829,604	53%	55%	
65 FACILITIES MAINTENANCE FUND								
Appr. Surplus - Prior Year	5,410		5,410			100%		
Std. Interfund Transactions	2,250,000		2,250,000			100%		
Total Resources	2,255,410		2,255,410			100%	100%	
Expenditures	2,255,410	162,755	1,358,854	334,496	562,060	75%	74%	
74 CDBG FUND								
Revenues	742,646	2,536	367,793			50%	66%	
Appr. Surplus - Prior Year	336,744		336,744			100%		
Total Resources	1,079,390	2,536	704,537			65%	79%	
Expenditures	1,079,390	17,061	503,038	34,231	542,121	50%	44%	
CITY TOTAL RESOURCES	296,738,008	12,743,043	246,754,723		49,608,432	83%	81%	
CITY TOTAL EXPENDITURES	296,738,008	8,500,444	106,057,270	62,256,700	128,424,038	57%	35%	

CITY OF OREM
BUDGET REPORT FOR THE MONTH ENDED JANUARY 2024

Percent of Year Expired: 58%

Fund	Current Appropriation	Monthly Total	Year-To-Date Total	Encumbrances	Balance	% To Date FY 2024	% To Date FY 2023	Notes

NOTES TO THE BUDGET REPORT FOR THE MONTH ENDED JANUARY 2024:

- 1) The current year expenditures are higher in comparison to the prior year due to the current year encumbrances (\$3,161,742) being significantly higher than in the prior fiscal year (\$845,516) at this date in time. The majority of this change is due to the Hillcrest Park construction project and associated payments which had not yet begun in the prior fiscal year.
- 2) The current year expenditures are higher in comparison to the prior year due to the current year encumbrances (\$1,026,934) being significantly higher than in the prior fiscal year (\$119,770) at this date in time. This change is primarily related to the Lakeview Parkway project which did not exist in the prior fiscal year.
- 3) The current year expenditures are higher in comparison to the prior year due to the current year encumbrances (\$23,089,239) being significantly higher than in the prior fiscal year (\$2,287,768) at this date in time. The majority of this change is due to the new City Center construction project which had not yet begun in the prior fiscal year.
- 4) The current year expenditures are higher in comparison to the prior year due to the current year encumbrances (\$20,891,349) being significantly higher than in the prior fiscal year (\$4,501,053) at this date in time. The majority of this change is due to the Storage Tank, Water Reuse and 800 South Utility Pipeline projects and associated payments which had not yet begun in the prior fiscal year.
- 5) The current year expenditures are higher in comparison to the prior year due to the current year encumbrances (\$1,308,557) being significantly higher than in the prior fiscal year (\$129,622) at this date in time. The majority of this change is due to the 800 South Utility Pipeline project and the purchase of a Vactor 2100 truck. These two items had either not yet begun or had no similar purchase in the prior fiscal year.

Note: In earlier parts of a fiscal year, expenditures may be greater than the collected revenues in a fund. The City has accumulated sufficient reserves to service all obligations during such periods and does not need to issue tax anticipation notes or obtain funds in any similar manner. If you have questions about this report, please contact Brandon Nelson (229-7010).