FINAL TECHNICAL MEMORANDUM

February 2, 2018

TO: Brad Bingham
AMAFCA
2600 Prospect Avenue NE
Albuquerque, NM 87107

RE: Gibson Gate Modifications

CC: Racquel Michel PE, Traffic Engineer, City of Albuquerque

At the request of Albuquerque Metropolitan Arroyo Flood Control, Lee Engineering has completed a study to investigate modifications to the Gibson Gate of Kirtland AFB to minimize unauthorized entrances to the base via the current east leg of the Gibson Boulevard/Louisiana Boulevard intersection. Lee Engineering's analysis includes turning movement count and roadway count collection, field review, and traffic/queue capacity analyses of existing proposed and alternative geometries. Traffic capacity with queuing analyses was performed using VISTRO 5.0 software, which adheres to the procedures and methodologies of the Highway Capacity Manual, 6th Edition and the 2009 MUTCD.

Existing Conditions

The Gibson Gate entrance and exit of Kirtland AFB are located at the east end of Gibson Boulevard, just to the east of the Gibson Boulevard and Louisiana Boulevard intersection. For the purposes of this memo, study intersections include the intersection of Gibson Boulevard and Louisiana Boulevard; the Kirtland Federal Credit Union access driveway on Louisiana Boulevard; and any new access points on Louisiana Boulevard created by geometry modifications to the Gibson Gate entrance and exit routes.

Figure 1 shows a vicinity map of the study area as well as the study intersections. As shown, major land use in the area includes Kirtland AFB to the east, of Louisiana Boulevard, New Mexico Veteran's Memorial Hospital at the northeast quadrant of the Gibson Boulevard/Louisiana Boulevard intersect, the Kirtland Federal Credit Union at the southwest quadrant of the Gibson Boulevard/Louisiana Boulevard intersection and residential subdivisions on the northwest quadrant.

Gibson Boulevard is a City of Albuquerque maintained 6 lane roadway that is classified as a Principal Arterial by the Mid Region Council of Governments (MRCOG). The roadway runs east-west and incorporates typical curb, gutter, and sidewalk on each side of the roadway. Three lanes are present in each direction. The road is signed for a speed limit of 40 MPH and the curb to curb width of the roadway is 80 feet. The Gibson Boulevard cross-section includes 10 to 11-foot wide travel lanes and a 20-foot-wide raised median that facilitates dedicated median left turn lanes throughout the corridor. Driveways are closely spaced throughout the roadway with the closest observed spacing, near the Gibson Boulevard & Louisiana Intersection, at 25 feet. East of the Gibson Boulevard and Louisiana Boulevard intersection,

Gibson Boulevard is reduced to a 5-lane roadway with 3 lanes designated for westbound travel, leaving the Gibson Gate, and two lanes designated for eastbound travel, towards the Gibson Gate.

Louisiana Boulevard, north of Gibson Boulevard, is a City of Albuquerque maintained 5 lane roadway that is classified as a Principal Arterial by MRCOG. The roadway runs north-south and incorporates typical curb, gutter, and sidewalk on each side of the roadway. Two lanes are designated for northbound travel and three lanes are designated for southbound travel. An additional northbound lane is added to the roadway at Lomas Boulevard which is located two miles from the intersection of Gibson Boulevard and Louisiana Boulevard. The road is signed for a speed limit of 40 MPH and the curb to curb width of the roadway is 66 feet. Travel lanes are 11 feet wide, and an 11-foot-wide striped central two-way left turn lane is present. Driveways are closely spaced throughout the roadway with the closest observed spacing, near the Gibson Boulevard & Louisiana Intersection, at 40 feet.

Louisiana Boulevard, south of Gibson Boulevard, is a City of Albuquerque maintained 2 lane roadway that is classified as a local road by MRCOG. The roadway runs north-south and only incorporates sidewalk on the west side of the roadway running the extent of the Kirtland Federal Credit Union development. Speed limit signs could not be located on the roadway and therefore, as per the City of Albuquerque's Development Process Manual chapter 8, article 2, part 4, section 2, a 25 MPH speed limit was assumed. The curb to curb width is 24 feet, and travel lanes are 12 feet wide except on the approach to the Gibson Boulevard signal where the cross-section widens to accommodate a left and right-turn lanes and a striped median present. Driveway access is limited to those present for the Kirtland Federal Credit Union development.

The Gibson & Louisiana Intersection is a signalized intersection present at the crossing of Gibson Boulevard and Louisiana Boulevard, maintained by the City of Albuquerque. The northbound approach of the intersection is currently configured as a split phase movement with the southbound approach. This approach incorporates a pocketed single left turn lane, a single through lane and a single pocketed right turn lane. The southbound approach to the intersection, as mentioned is configured to operate as a split phase movement. This approach incorporates a single left turn lane, a shared left-through lane, and a dedicated left turn lane. The eastbound approach to the intersection incorporates a pocketed, protected permitted single left turn lane, two through lanes and a right turn lane with an overlap phase. The westbound approach to the intersection incorporates a large un-controlled channelized right turn lane, three through lanes, and a permitted pocketed left turn lane.

Known Adjacent Projects

Currently, a project to bypass Gibson Boulevard from the Gibson & Louisiana intersection to the eastern edge of Kirtland AFB has been discussed. This project would re-align Gibson Boulevard to run along the northern fence of Kirtland AFB and bypass the current Gibson Gate entrance/exit to Kirtland AFB. The timeframe for the study, design, and construction of this project has not been determined.

Data Collection

Data was collected for the intersection of Louisiana Boulevard and Gibson Boulevard, and for Louisiana Boulevard south of the Louisiana Boulevard and Gibson Boulevard intersection. From conversations with Kirkland Air Force Staff, it was understood that the AFB experiences earlier than typical AM and PM peak hours. Therefore, turning movement counts were collected at the Louisiana Boulevard and Gibson

Boulevard intersection on October 24, 2017, from 6:00 AM to 6:00 PM to capture conditions during the AM and PM peak hours. Review of the turning movement counts shows an urban distribution with a typical AM peak hour and an earlier than typical PM peak hour. The AM and PM peak hours were observed to occur from 7:15 AM to 8:15 AM for the AM peak hour and from 3:45 PM to 4:45 PM for the PM peak hour.

24-hour bi-directional traffic counts were collected on October 24, 2017, from 12:00 AM to the following 12:00 AM on Louisiana Boulevard just south of the Kirtland Federal Credit Union. ADT observed for Louisiana Boulevard was found to be 943 vehicles per day. Daily directional traffic volumes and 85th percentile speeds collected on Louisiana Boulevard are shown below in. Summarized output sheets are included in the attachments of this memo. As shown, observed speeds appear to indicate that there is a lack of compliance with the 25-mph speed limit. This could be due to the fact that this street is currently not signed with a speed limit.

Table 1. Summarized output sheets are included in the attachments of this memo. As shown, observed speeds appear to indicate that there is a lack of compliance with the 25-mph speed limit. This could be due to the fact that this street is currently not signed with a speed limit.

Table 1: Louisiana Directional Volumes & 85th Percentile Speeds

Direction	Daily Directional Volume	Speed Limit	85th Percentile Speed
Northbound	554 (vpd)	25 MPH	43 MPH
Southbound	389 (vpd)	25 MPH	38 MPH

The turning movement counts collected at the Louisiana Boulevard and Gibson Boulevard intersection and directional volumes collected on Louisiana Boulevard are shown below in Figure 2. A comparison of turning movement counts at the Gibson Boulevard/Louisiana Boulevard intersection and data collected on Louisiana Boulevard was completed to determine volumes entering and leaving Kirkland Federal Credit Union from the access driveway on Louisiana Boulevard.

Figure 1: Vicinity Map

Figure 2: Existing Traffic Volumes & Lane Geometry

Existing Conditions Capacity Analysis

Existing conditions for the intersection of Gibson Boulevard and Louisiana Boulevard and the intersection of Louisiana Boulevard and the Kirtland Federal Credit Union access was analyzed using the traffic counts collected on October 24, 2017. Existing traffic signal timing input data was obtained from the City of Albuquerque and used in the Existing Conditions Analysis. Vistro 5.0 software was used to conduct the analysis. Detailed output sheets for the existing conditions capacity analysis and all alternatives capacity analysis are included in the attachments of this memo. Peak hour factors obtained from traffic counts were used in the existing conditions analysis. Intersection Capacity, Level of Service (LOS), and 95th percentile queues for existing conditions are summarized in Table 2 below.

Table 2: Existing Conditions Capacity Analysis

Study Intersection	Scenario	Movement	Storage Length (ft)	Queue, Delay, V/C, and LOS								Intersection LOS			
				AM				PM				AM		PM	
				Queue (95th Percentile ft)	Delay[1]	V/C	LOS[2]	Queue (95th Percentile ft)	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
Gibson Blvd & Louisiana Blvd	Existing 2017	NBL	70	<20	54.5	0.09	D	42	56.2	0.30	E	20.5	C	15.7	B
		NBT	-	<20	54.3	0.09	D	179	59.2	0.70	E				
		NBR	200	<20	54.0	0.03	D	7	53.8	0.03	D				
		SBL	-	174	50.6	0.62	D	40	57.0	0.28	E				
		SBT	-	240	52.3	0.71	D	135	58.9	0.53	E				
		SBR	-	237	25.5	0.45	C	156	23.4	0.26	C				
		EBL	150	136	9.8	0.33	A	284	13.4	0.66	B				
		EBT	-	91	8.7	0.2	A	32	6.5	0.07	A				
		EBR	-	<20	3.8	0	A	2	2.0	0.01	A				
		WBL	130	<20	4.2	0.01	A	8	6.6	0.03	A				
		WBT	-	<20	2.3	0.05	A	49	4.0	0.14	A				
		WBR	-	<20	2.4	0.05	A	110	5.1	0.28	A				
Louisiana Blvd & Kirkland FCU Access	Existing 2017	NBL	-	<20	7.4	0.01	A	<20	0.0	7.34	A	9.1	A	10.0	B
		NBT	-	<20	-	-	A	<20	-	-	A				
		SBT	-	<20	-	-	A	<20	-	-	A				
		SBR	-	<20	-	-	A	<20	-	-	A				
		EBL	-	<20	9.1	0.01	A	<20	0.1	10.02	B				
		EBR	-	<20	8.7	0.01	A	<20	0.0	8.94	A				

[1]Average delay in seconds per vehicle.

[2]LOS stands for Level of Service.

The following conclusions are noted based on the existing conditions capacity analysis summary table above:

- Gibson & Louisiana is observed to operate with acceptable delays, levels of service, v/c ratios, and 95th percentile queue lengths for the AM peak hour.
- Gibson & Louisiana is observed to see LOS E (greater than acceptable delays) for northbound and southbound movements in the PM peak hour. These long delays are likely due to constraints generated by the split phasing configuration northbound and southbound that the signal is currently operating under. Generally, split phasing reduces the overall capacity of an intersection and is a less desirable operating condition than traditional signal phasing and operations.
    - 95th percentile queue length for the eastbound left turn is observed to exceed existing storage capacities for this movement during the PM peak hour.

    - All other movements for the PM peak hour are observed to operate with acceptable levels of service, queues, v/c ratios, and delays.
- Louisiana Boulevard and Kirtland Federal Credit Union access are observed to operate with acceptable levels of service, queues, v/c ratios, and delays for all movements under both the AM and PM peak hours.

Alternatives Analysis: Alternatives Summary & Descriptions

Three alternatives have been developed for analysis. Alternative 1 was developed by AMAFCA and provided for initial analysis. Alternative 2 was developed by refining the lane geometry of Alternative 1 based on analysis while retaining the structure and routing of Alternative 1. Alternative 3 proposes a roundabout configuration south of Kirtland Federal Credit Union. The sections below describe these alternatives in detail and provide a capacity analysis of each alternative.

Capacity analysis for each alternative is subsequently summarized and condensed into one overall section that provides a comparison of each alternative with observations and conclusions for each. For the purposes of this report, only the worst-case movements are reported and discussed. Detailed capacity output sheets showing all movements analyzed at each intersection can be found in the attachments.

Alternative 1

Alternative 1 was an initial concept provided to Lee Engineering by AMAFCA. Existing turning movement counts were re-assigned to the network based upon the proposed geometry of this alternative. Figure 3 below shows the alternative's lane geometry, traffic control, and re-assigned turning movements.

As shown, Alternative 1 re-aligns the existing east leg of the Gibson & Louisiana intersection to form a new T-intersection on Louisiana Boulevard on the south side of Gibson Boulevard. The entrance and exit of the Kirtland AFB Gibson Gate are separated to create two intersections on Louisiana on either side of the existing Kirtland Federal Credit Union's Louisiana Boulevard driveway. A future visitor's center and visitor's parking lot is proposed between the new base entrance and exit.

This alternative reduces access to Louisiana by restricting movements at both proposed intersections (Gibson Gate entrance & exit), and at the Kirtland Federal Credit Union's Louisiana driveway. In this alternative, it is proposed that the Gibson Gate's exit road be restricted to right-out access that directs traffic to the Gibson & Louisiana intersection's northbound approach. It is also proposed that the access to the Kirtland Federal Credit Union on Louisiana Boulevard be restricted to right-in and right-out access only. It should be noted that Kirtland Federal Credit Union does have full movement alternative access onto Gibson Boulevard. The Gibson Gate's entrance road would retain full access from northbound and southbound Louisiana Boulevard. Proposed lane geometry and traffic control at all study intersections are shown in Figure 3. In this alternative, it is proposed that the Gibson Gate entrance and exit roadways incorporate two lanes each. It should be noted that the proposed stop sign on the south leg (northbound approach) of the Gibson Gate entrance intersection is not typical and may violate driver expectations and therefore increase the risk of stop sign running. It should also be noted that uncontrolled or stop-controlled dual left-turns with conflicting vehicles/pedestrian movements are generally not considered from a traffic engineering perspective due to safety issues that arise from lane utilization and the potential for sight occlusion.

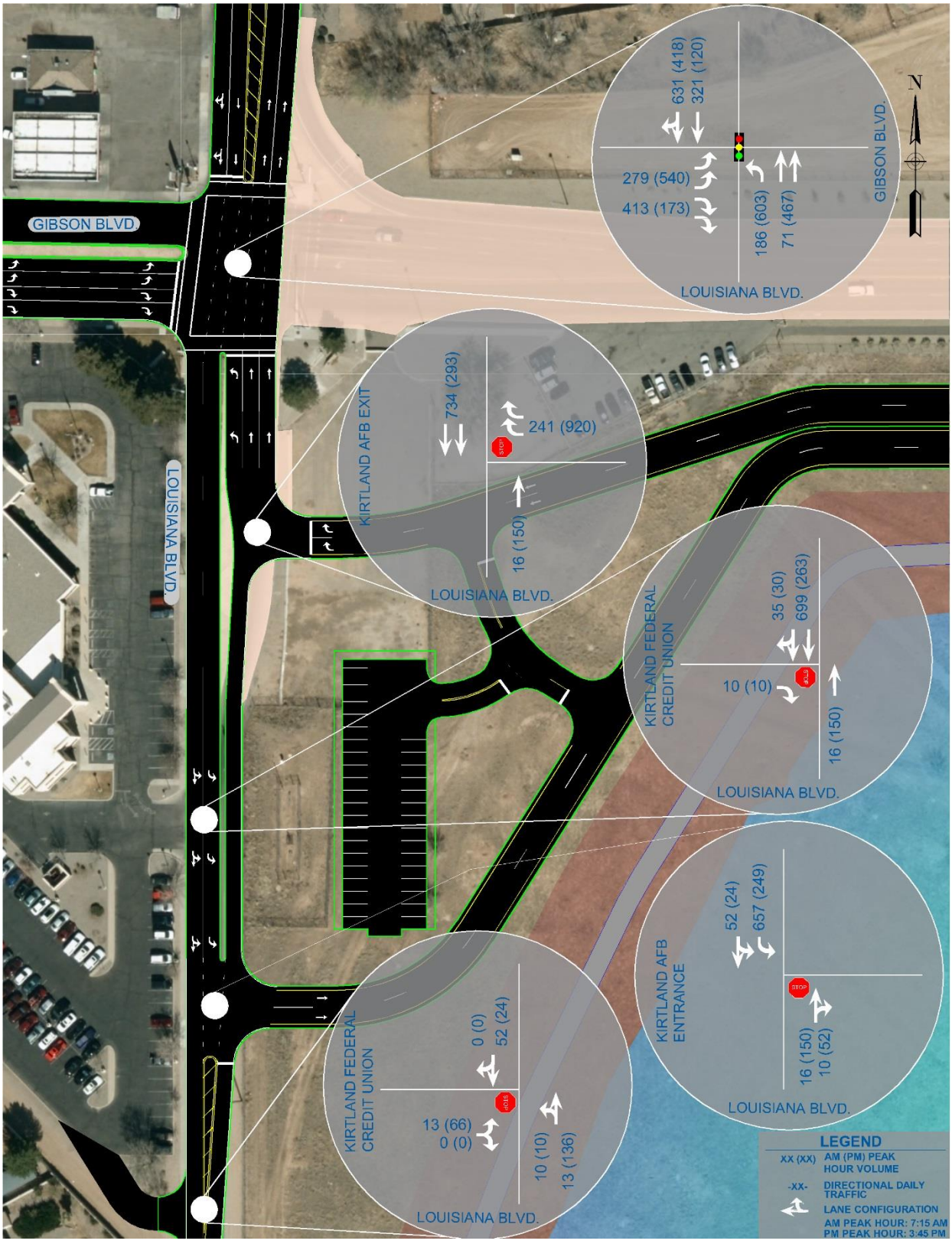

Figure 3: Alternative 1 Layout, Geometry, and Turning Movements

Alternative 2

Alternative 2 was developed using the roadway and intersection layout of Alternative 1. Figure 4 below shows the alternative's lane geometry, traffic control, and assigned turning movements.

Similar to Alternative 1, Alternative 2 re-aligns the east side of the Gibson & Louisiana intersection to Louisiana Boulevard on the south side of Gibson Boulevard. However, the exit road to the Gibson gate has been shifted further to the south better accommodate northbound queuing. Ideally, the exit driveway would have been located at the entry driveway. However, this layout did not accommodate Kirtland AFB onsite visitor center plans.

This alternative reduces access to/from Louisiana the same as Alternative 1 by restricting left-out movements at the Kirtland Federal Credit Union's Louisiana driveway. However, it was also determined that geometry presented in Alternative 1 creates significant queues on the northbound approach to Gibson & Louisiana. Therefore, the Gibson Gate exit roadway be located as far south of the Gibson Boulevard/Louisiana Boulevard intersection as possible to avoid conflict with northbound queues. In this alternative, the northbound approach of the Gibson and Louisiana intersection is also proposed to incorporate a dual-left turn lane to accommodate additional demands now exiting the Gibson Gate and making a left-turn onto Gibson Boulevard. As shown in Figure 4, an additional left-turn lane could be accommodated by converting the northbound inside through lane into a left-turn drop lane.

It should be noted that the proposed stop sign on the south leg (northbound approach) of both Gibson Gate entrance/exit intersections is not typical and may violate driver expectations and therefore increase the risk of stop sign running. To mitigate this condition, it is recommended that the Louisiana Boulevard be aligned such that it turns into/out of the entrance/exit road to Kirtland Air Force Base and Louisiana Boulevard south of the base entrance would now become the minor approach as a T-intersection (see Figure 4). This configuration presents drivers with a more natural stop controlled approach. Unfortunately, this treatment is not feasible at the exit driveway if it is located north of the entrance driveway.

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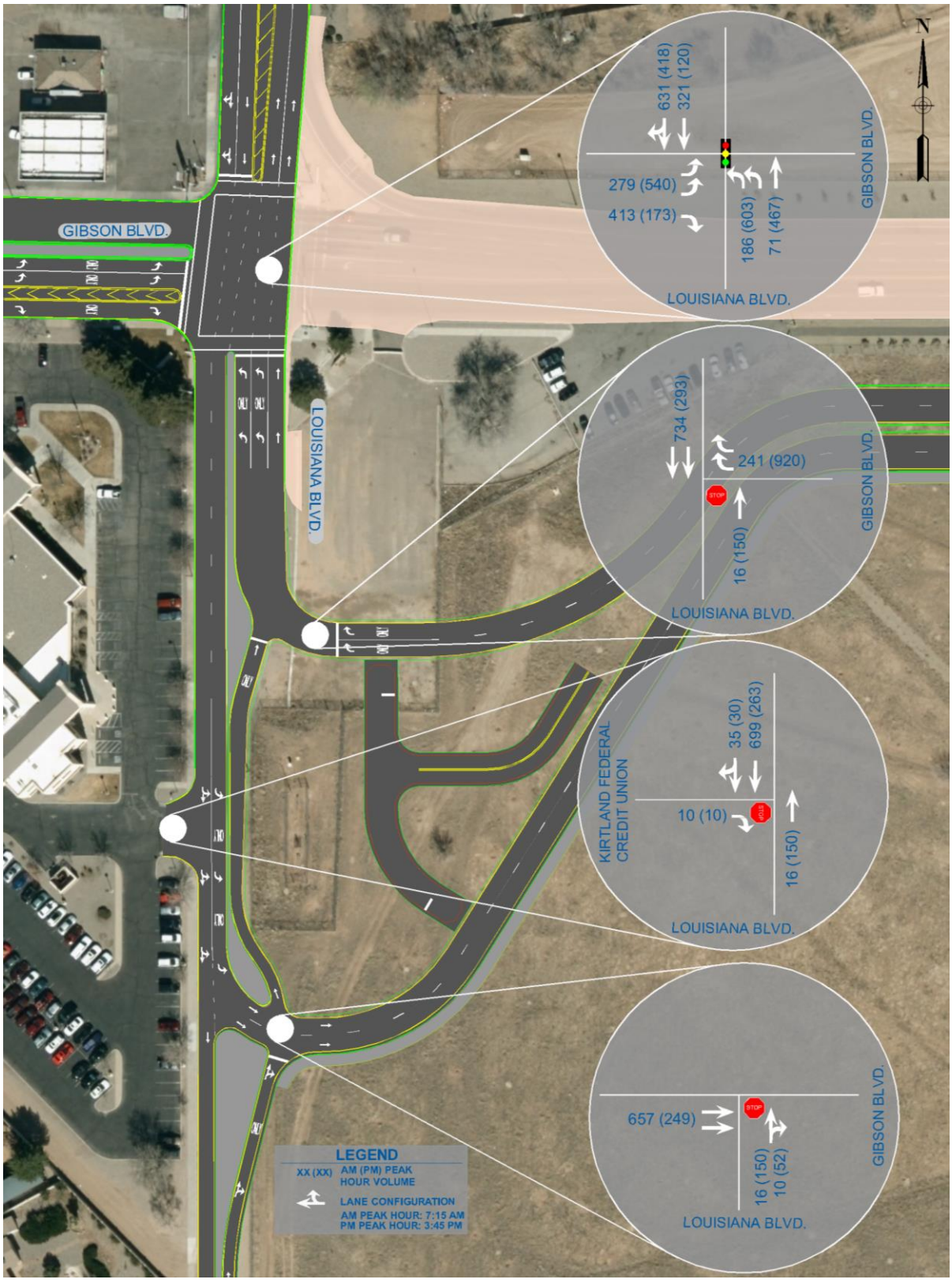


Figure 4: Alternative 2 Lane Geometry, Traffic Control, and Turning Movements

Alternative 3

Alternative 3 was developed to minimize required modifications to the intersection of Gibson and Louisiana, as well as Louisiana Boulevard itself. This alternative provides adequate capacity to accommodate required turning movement volumes but also provides a significant reduction in required modifications compared to Alternatives 1 & 2. Furthermore, this alternative will provide a greater impediment to unauthorized entrances to the Gibson Gate while still providing access to the south leg of Gibson & Louisiana for Kirtland Federal Credit Union users. This alternative's layout, geometry, and assigned traffic volumes are shown in Figure 5.

In this alternative, the westbound approach to the Gibson & Louisiana intersection is to remain as it currently operates. Similar to Alternatives 1 & 2, all entering traffic is directed south on Louisiana. However, instead of constructing an entirely new roadway to serve as the Gibson Gate's entrance, a single lane roundabout is constructed south of Kirtland Federal Credit Union. Traffic is then turned-around around via the roundabout to travel north on Louisiana Boulevard where a channelized right turn is constructed to connect with the existing Gibson Gate's entrance. Also shown in alternative 2, the eastbound and northbound left turns are proposed to incorporate dual-left turn lanes.

This alternative provides an opportunity to use existing infrastructure present at the Gibson & Louisiana intersection and on Louisiana Boulevard while maintaining adequate capacity and reducing the occurrence of mistaken entry to the Gibson Gate.

This alternative could be implemented as an interim solution until the Gibson Boulevard/Wyoming Boulevard re-alignment project, is designed. With future adjacent projects such as the Gibson bypass project, this alternative could be modified to alter the Gibson Gate entrance/exit roadways similar to Alternatives 1 & 2. Again, to satisfy Kirtland AFB's desire to accommodate future traffic growth demand, the additional width could be provided southbound on Louisiana Boulevard, on Gibson Gate entrance roadway, and within the circulatory roadway of the roundabout to accommodate future lanes. In the interim, this pavement width would be marked as a shoulder with pavement markings and reflective delineators on Louisiana Boulevard, and with reflective delineators or expansion central median island within the roundabout.

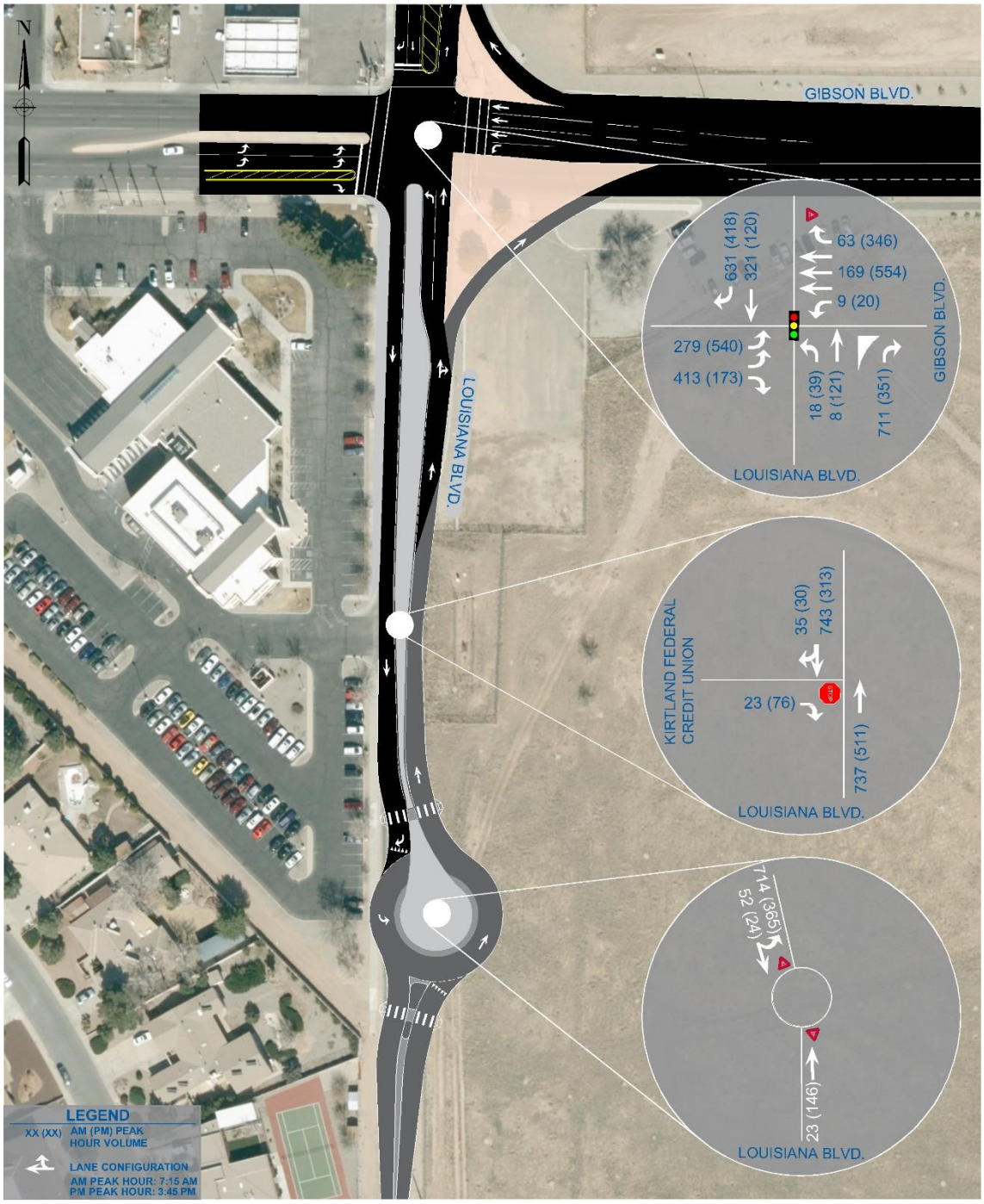


Figure 5: Alternative 3 Layout, Geometry, and Turning Movements

Alternatives Analysis: Capacity Analysis

A capacity analysis was performed for all scenarios discussed above. Capacity output sheets, provided in the attachments, detail the capacity analysis for all movements of all alternatives. Table 3 below shows a summary of the critical movement's capacity analysis for each alternative.

Table 3: Capacity Analysis Summary

Study Intersection	Scenario	Movement	Storage Length	Queue, Delay, V/C, and LOS								Intersection LOS			
				AM				PM				AM		PM	
				Queue (95th Percentile)	Delay[1]	V/C	LOS[2]	Queue (95th Percentile)	Delay[1]	V/C	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
Gibson Blvd & Louisiana Blvd	Existing 2017	NBL	70	<20	54.5	0.09	D	42	56.2	0.30	E	20.5	C	15.7	B
		NBT	-	<20	54.3	0.09	D	179	59.2	0.70	E				
		SBT	-	240	52.3	0.71	D	135	58.9	0.53	E				
		SBR	-	237	25.5	0.45	C	156	23.4	0.26	C				
		EBL	150	136	9.8	0.33	A	284	13.4	0.66	B				
		EBR	-	<20	3.8	0	A	2	2.0	0.01	A				
	Alternative 1	NBL	70	180	31.6	0.55	C	564	34.7	0.79	C	41.6	D	35.2	D
		NBT	-	29	23.1	0.06	C	192	19.8	0.27	B				
		SBT	-	347	50.7	0.70	D	111	41.4	0.21	D				
		SBR	-	387	63.2	0.82	E	113	41.9	0.23	D				
		EBL	-	155	38.4	0.36	D	327	50.4	0.68	D				
		EBR	-	34	13.5	0.20	B	<20	9.9	0.06	A				
	Alternative 2	NBL	-	<20	61.5	0.27	E	276	27.8	0.52	C	40.5	D	36.4	D
		NBT	-	77	35.4	0.16	D	448	33.6	0.61	C				
		SBT	-	413	66.8	0.90	E	149	42.5	0.28	D				
		SBR	-	201	18.4	0.38	B	75	40.9	0.17	D				
		EBL	-	157	38.0	0.35	D	326	50.0	0.67	D				
		EBR	-	112	33.5	0.47	C	30	13.0	0.13	B				
	Alternative 3	NBL	-	<20	13.6	0.03	B	31	33.0	0.06	C	26.7	C	33.9	C
		NBT	-	<20	4.6	0.01	B	138	35.4	0.22	D				
		NBR	-	-	-	-	-	-	-	-	-				
		SBT	-	250	22.3	0.41	C	30	38.4	0.06	D				
		SBR	-	91	5.7	0.26	A	95	10.3	0.18	B				
		EBL	-	164	41.8	0.41	D	272	33.7	0.45	C				
		EBR	-	155	24.3	0.31	C	<20	8.7	0.01	A				
		WBL	130	<20	23.6	0.02	C	<20	9.3	0.02	A				
		WBT	-	72	48.9	0.29	D	219	42.5	0.44	D				
Louisiana Blvd & Kirkland AFB Exit	Existing 2017	WBR	-	-	-	-	-	-	-	-	-	-	-	-	-
	Alternative 1	WBR	-	<20	8.8	0.23	A	77.9	13.2	1.03	F	2.1	A	8.9	F
	Alternative 2	WBR	-	<20	8.8	0.23	A	77.9	13.2	1.03	F	2.1	A	8.9	F
Louisiana Blvd & Kirkland FCU North Access	Existing 2017	EBR	-	<20	8.7	0.01	A	<20	8.9	0.00	A	9.1	A	10.0	B
	Alternative 1	EBR	-	<20	13.5	0.02	B	<20	9.8	0.01	A	0.2	A	0.2	A
	Alternative 2	EBR	-	<20	13.5	0.02	B	<20	9.8	0.01	A	0.2	A	0.1	A
	Alternative 3	EBR	-	<20	14.2	0.06	B	<20	10.5	0.10	B	0.2	A	0.9	A
Louisiana Blvd & Kirkland AFB Entrance	Existing 2017	NBT/R	-	-	-	-	-	-	-	-	-	-	-	-	-
	Alternative 1	NBT/R	-	<20	14.7	0.04	B	<20	12.7	0.23	B	0.5	A	5.4	A
	Alternative 2	NBT/R	-	<20	14.7	0.04	B	<20	12.7	0.23	B	0.5	A	5.4	A
Louisiana Blvd & Roundabout	Alternative 3	NB	-	<20	6.0	0.04	A	<20	5.4	0.16	A	8.9	A	5.2	A
		SB	-	<30	9.0	0.57	A	<20	5.2	0.29	A				

[1]Average delay in seconds per vehicle.

[2]LOS stands for Level of Service.

For Alternative 1, the following conclusions are made based on the capacity analysis:

- The overall Level of Service (LOS) for the Gibson & Louisiana intersection decreases from a LOS C and B under existing conditions for the AM and PM peak hours, respectively, to a LOS D for both the AM and PM peak hours, due to changes in lane geometry. However, these LOS's are within an acceptable range.
- While the Gibson & Louisiana intersection appears to operate at an acceptable level of service as a whole, the southbound right turn sees a LOS E in the AM peak hour. All other movements operate acceptably in the AM and PM peak hours.
- Northbound left turn queue lengths, under the single left turn lane configuration of Alternative 1, appear to exceed existing queue storage lengths and exceed the provided space between the Gibson & Louisiana intersection and the proposed dual-lane Gibson Gate exit roadway. This queue is expected to extend approximately 564 feet from the stop bar at the intersection.
- Due to queues generated at the northbound approach of Gibson & Louisiana, the proximity of the Gibson Gate exit roadway to the Gibson & Louisiana intersection, and the presence of stop control at the exit approach, the westbound dual-right turn of the Gibson Gate exit roadway is expected to operate at a LOS F during the PM peak hour. If the stop sign were to be moved from the exit approach to the northbound approach, the northbound approach is also predicted to operate at LOS F for the PM peak hour.
- Although the southbound dual-left turn and northbound approach to the Gibson Gate entrance roadway appear to operate with acceptable levels of service, it is recommended that the south side of Louisiana Boulevard be closed if this alternative is selected. This is due to safety issues caused by an option of either applying un-controlled dual left-turns or the installation of non-standard stop control of the northbound approach at this location. Furthermore, if Louisiana Boulevard is closed to the south, this would provide an opportunity to remove the stop control proposed on the Gibson Gate exit roadway. The removal of this stop control would not only eliminate the high delays and poor LOS for this movement but would provide continuous storage for the northbound approach at the Gibson & Louisiana intersection.
- If Louisiana Boulevard is considered to be closed, the impact of this closure should be studied as both the Gibson Boulevard intersections with San Mateo and San Pedro will absorb demands that were accessing the Louisiana Boulevard to/from the residences south of the Federal Credit Union. Also, there may be public resistance form these neighborhoods to this reduction in access.
- All other movements and the Kirtland Federal Credit Union access appear to operate at an acceptable LOS.
- If this alternative is selected, modifications to the traffic signal at Gibson & Louisiana would be required. These modifications would include:
    - Construction of new two-lane entrance and exit roads to the Gibson Gate aligned south of the Gibson & Louisiana intersection.
    - Modifications to signing and striping on all approach lanes to match the proposed geometry.
    - Addition of new signal heads to match the proposed geometry.
    - Re-wiring of the traffic signal to accommodate protected/permitted phasing of the northbound turn arrows.
    - Re-design of pedestrian crosswalks to accommodate additional lane geometry.

- The construction of east to north dual left-turn lanes and the construction of two receiving lanes on the north leg of the Gibson Boulevard/Louisiana Boulevard.

For Alternative 2, the following conclusions are made based on the capacity analysis:

- The overall LOS for the Gibson & Louisiana intersection decreases from a LOS C and B under existing conditions for the AM and PM peak hours, respectively, to a LOS D for both the AM and PM peak hours, due to changes in lane geometry. However, these LOS's are within an acceptable range.
- While the Gibson & Louisiana intersection appears to operate at an acceptable LOS as a whole, the northbound left-turn and southbound through movements appear to operate at a LOS E for the AM peak hour. This is likely caused by reductions in lane geometry and the re-allocation of green time to heavier or more critical movements, specifically the southbound right-turn movement. All other movements operate acceptably in the AM and PM peak hours.
- Extensive queues observed for the northbound left-turn at the Gibson Boulevard/Louisiana Boulevard intersection under Alternative 1 are mitigated by the additional left turn lane and the relocation of the Gibson Gate exit roadway to either align with the Gibson Gate entrance roadway or locate as far south of the Gibson Boulevard to avoid northbound queuing on the approach to Gibson Boulevard.
- Similar to Alternative 1, the northbound approach to the Gibson Gate exit intersection appears to operate at a LOS F as a whole for both the AM and PM peak hour.
- In order to mitigate the expected LOS F for the northbound movement at the new Kirtland AFB exit the following options could be looked at:
    - Similar to conclusions and recommendations detailed above for Alternative 1, Louisiana Boulevard could be closed if this alternative is selected. This is due to the poor LOS experienced by vehicles traveling northbound at the Gibson Gate entrance/exit roadway and also due to the non-standard stop control proposed for the northbound approach of this intersection. As similarly stated above, the closure of Louisiana Boulevard to the south would provide an opportunity to remove all restrictions on Louisiana for the Gibson Gate entrance/exit roadway. The closure of south Louisiana Boulevard would also allow the Gibson Gate entrance/exit road to be relocated farther north, closer the Gibson & Louisiana. This would allow south leg queue demands at Gibson & Louisiana to extend back onto the exit access roadway as there would be no conflict from other traffic demands.
    - As an alternative to mitigate the failing stop-controlled northbound movement at the entrance/exit intersection, a traffic signal could be installed at this location. Analysis indicates that MUTCD 2009 Warrant 3 (Peak Hour Warrant) is marginally satisfied for the PM peak hour. If installed, this signal would be recommended to be in operation only during peak ingress & egress periods and operate in flash mode (all-way stop control) during the remaining hours of the day. Although a traffic signal would allow south Louisiana Boulevard to remain in operation, there are several issues that arise if a traffic signal is installed at this location and therefore is not recommended:
        - Generally, traffic signal spacing is preferred to be half-mile intervals with quarter-mile intervals a minimum acceptable spacing. The distance between this traffic signal and the traffic signal at Gibson & Louisiana would only be approximately

500-600 feet. Closely spaced signalized intersections tend to lead to the following issues:
        - Coordination challenges which can lead to…
        - The risk for intersection queues encroaching into the adjacent intersection increasing crash risks.
    - It should be mentioned that vehicles currently accessing Gibson Boulevard from south Louisiana Boulevard have alternative access options. These include accessing Gibson Boulevard via Ridgecrest Drive and either San Mateo Boulevard or San Pedro Drive.
- If this alternative is selected, modifications to the traffic signal at Gibson & Louisiana would be required. These modifications would include:
    - Construction of a new entrance and exit road to the Gibson Gate aligned south of the Gibson & Louisiana intersection.
    - Modifications to signing and striping on all approach lanes to match the proposed geometry.
    - Addition of new signal heads to match the proposed geometry.
    - Re-wiring of the traffic signal to accommodate protected/permitted phasing of the northbound turn arrows.
    - Geometry modifications to the north-east corner to receive dual-left turn movements.
    - Re-design of pedestrian crosswalks to accommodate additional lane geometry.
    - The construction of east to north dual left-turn lanes and the construction of two receiving lanes on the north leg of the Gibson Boulevard/Louisiana Boulevard.

For Alternative 3, the following conclusions are made based on the capacity analysis:

- Under this alternative, overall levels of service at the Gibson & Louisiana intersection are observed to be LOS C for both the AM and PM peak hours.
- All movements at the Gibson & Louisiana intersection appear to operate at LOS D or better for both the AM and PM peak hours.
- All issues regarding queuing and poor levels of service discussed in Alternatives 1 & 2 are mitigated by the proposed roundabout and the proposed configuration of westbound Gibson Boulevard.
- Northbound movements at the roundabout are expected to operate at a LOS A for the AM and PM peak hours and this eliminates the need to close Louisiana Boulevard to the south.
- Furthermore, it is expected that if the Gibson Bypass project were constructed, the entrance/exit road to the Gibson Gate could be realigned with the proposed roundabout and operate at acceptable LOS.
- If this alternative is constructed the following modifications at Gibson & Louisiana would be required:
    - Construction of a small roundabout south of the Gibson & Louisiana intersection.
    - Re-striping of the approaches to accommodate the proposed geometry.
    - Construction of the channelized northbound-right turn.
    - Geometry modifications to the north-east corner to receive dual-left turn movements.
    - The construction of east to north dual left-turn lanes and the construction of two receiving lanes on the north leg of the Gibson Boulevard/Louisiana Boulevard.

Final Recommendations

Based on the capacity analysis presented above, all alternatives could be viable. However, alternative 1 is only viable if Louisiana Boulevard south of the proposed exit/entrance is closed. Alternative 2 is only viable if either Louisiana Boulevard south of the proposed exit/entrance is closed or the City of Albuquerque is accepting of a potentially poor LOS for the minor street northbound movement on Louisiana Boulevard the proposed exit/entrance. All alternatives have positive and negative impacts. The pros of each include:

The pros of Alternative 1 include:

- Provides adequate capacity for most movements and intersections and accommodate future growth.
- Inhibits wrongful entry into the Kirtland AFB.

The cons of Alternative 1 include:

- Due to anticipated northbound queues at the south leg of Gibson Boulevard/Louisiana Boulevard and the safety/operational implications of uncontrolled and/or stop-controlled turn movements, Louisana Boulevard would need to be closed south of the proposed new exit/entrance.
- Left-out maneuvers from the existing Kirtland Federal Credit Union driveway on Louisiana Boulevard would be restricted.
- Greater construction costs when compared to Alternative 3, including the construction of dual left-turns at the south leg of the Gibson Boulevard/Louisiana Boulevard intersection and a traffic signal at the entrance/exit intersection, if desired.

The pros of Alternative 2 include:

- Provides adequate capacity for most movements and intersections.
- Inhibits wrongful entry into the Kirtland AFB.
- .

The cons of Alternative 2 include:

- The northbound through movement at the Gibson Gate exit intersection would be required to operate under stop control, which tends to violate driver expectation. This movement is also projected to operate at LOS F with high delays during the PM peak hour. Mitigation of this movement, under this alternative, would be to close Louisiana Boulevard south of the proposed entrance/exit intersection or to install a traffic signal, as discussed in the previous section. There could be resistance to closing south Louisiana from the adjoining neighborhoods; however, there is alternative access to Gibson Boulevard for this residential area via Ridgecrest Drive and San Pedro Drive. As mentioned, if this movement is not mitigated, there are alternative routes available, which are not significantly out of direction to avoid delays on Louisiana Boulevard.
- Left-out maneuvers from the existing Kirtland Federal Credit Union driveway on Louisiana Boulevard would be restricted.
- Greater construction costs when compared to Alternative 3, including the construction of dual left-turns at the south leg of the Gibson Boulevard/Louisiana Boulevard intersection and a traffic signal at the entrance/exit intersection, if desired.

- If a signal is opted for at the proposed exit/entrance to mitigate failing movements, the signal spacing is considered too close, which typically negatively impacts signal operation.

The pros of Alternative 3 include

- Construction costs are relatively low, compared to Alternative 2, as a large area of pavement would be re-purposed for this alternative. Also, dual left-turns on the south leg of the Gibson Boulevard/Louisiana Boulevard intersection would not be required until the Gibson By-pass project.
- Provides adequate capacity for the traffic volumes present in the study area.
- Eliminates the delays associated with the northbound stop control of Alternative 2.
- South Louisiana Boulevard could remain open as it is today without poor LOS and delay on the northbound movements on Louisiana Boulevard.
- One could argue that this alternative better inhibits wrongful entry to Kirtland AFB, as movements must turn around within a roundabout intersection.
- As was mentioned, speeds appeared to exceed speed limits on Louisiana Boulevard. The installation of a roundabout would reduce these operating speeds and provide better speed limit compliance.
- Crashes at roundabouts tend to be less severe than traditional intersections due to the fact that angle crashes are much less likely and conflict points between vehicles are reduced.
- Kirtland Federal Credit Union would retain east to north access to Louisiana Boulevard by using the roundabout.
- This option can accommodate the re-alignment of the Gibson Gate entrance/exit if and when the Gibson By-pass Project is constructed.

The cons of Alternative 3 include

- Roundabouts are still new to the driver population within the region and can have local opposition.
- Expanding to accommodate future traffic demands, while feasible, will require potentially more complex interim striping and delineation.

Therefore, based on the above comparison and contrast of the pros and cons of each alternative, Alternative 3 appears to provide the greatest benefit from a traffic operations perspective, requires fewer construction costs, and most-closely satisfies the goal of eliminating unauthorized entries onto the Kirtland AFB at the Gibson Boulevard Gate. Alternative 2 would be the next most desirable alternative if a roundabout was not desired by the Kirtland AFB or the adjacent community; however as mentioned there may be long delays for northbound traffic on Louisiana Boulevard during the PM peak hour.

Please let me know if you have any questions.

Sincerely,

Patrick Byrd, P.E. PTOE
505-338-0988

Attachments

A. **Traffic Counts**
B. **Detailed Capacity Analysis Sheets**

Attachment A: Traffic Counts

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
jkruse@lee-eng.com

Count Name: NM249.01 - Gibson Gate Study
Site Code: Gibson & Louisiana
Start Date: 10/24/2017

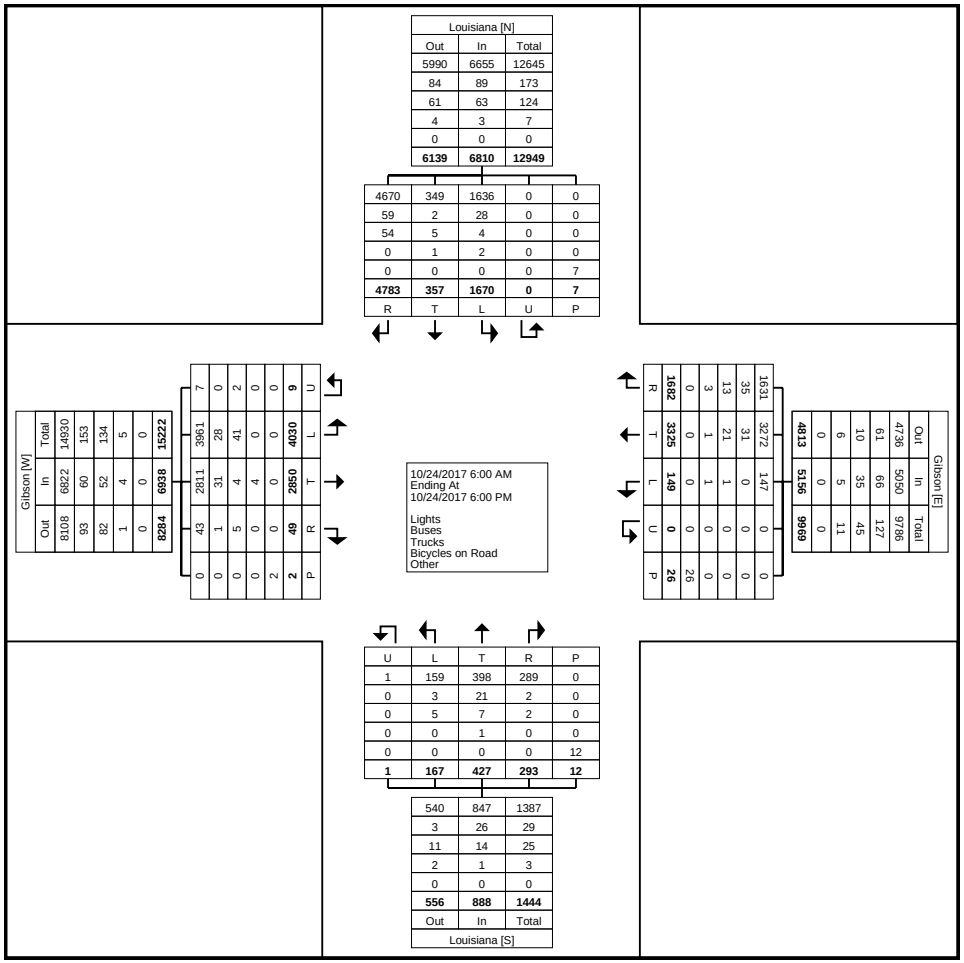
Turning Movement Data

Start Time	Louisiana Southbound							Gibson Westbound						Louisiana Northbound							Gibson Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	8	47	1	31	0	0	87	4	12	1	0	0	17	0	0	0	0	0	0	0	1	0	63	23	0	0	87	191
6:15 AM	16	68	2	42	0	0	128	1	15	0	0	0	16	0	0	2	0	0	0	2	0	0	72	27	0	0	99	245
6:30 AM	51	76	5	41	0	0	173	9	22	5	0	0	36	0	1	0	0	0	0	1	0	0	83	33	0	0	116	326
6:45 AM	49	91	6	65	0	0	211	6	40	6	0	0	52	1	2	1	0	0	0	4	0	0	107	39	0	0	146	413
Hourly Total	124	282	14	179	0	0	599	20	89	12	0	0	121	1	3	3	0	0	0	7	1	0	325	122	0	0	448	1175
7:00 AM	41	95	8	67	0	0	211	6	50	3	0	1	59	2	4	1	0	0	0	7	0	0	98	44	0	0	142	419
7:15 AM	79	98	15	97	0	0	289	8	39	2	0	0	49	1	2	1	1	0	0	5	0	0	108	43	0	0	151	494
7:30 AM	43	89	13	49	0	0	194	16	42	3	0	0	61	0	5	3	1	0	0	9	2	1	116	65	0	0	184	448
7:45 AM	92	79	31	53	0	2	255	12	52	2	0	0	66	0	1	0	3	0	1	4	2	0	104	80	0	0	186	511
Hourly Total	255	361	67	266	0	2	949	42	183	10	0	1	235	3	12	5	5	0	1	25	4	1	426	232	0	0	663	1872
8:00 AM	61	90	14	49	0	0	214	17	36	2	0	0	55	1	0	4	3	0	0	8	0	0	80	91	0	0	171	448
8:15 AM	50	78	6	42	0	0	176	12	50	1	0	2	63	1	2	2	1	0	0	6	0	0	96	81	0	0	177	422
8:30 AM	38	84	11	64	0	0	197	25	45	1	0	0	71	2	1	4	2	0	1	9	0	0	97	71	0	0	168	445
8:45 AM	50	57	9	71	0	0	187	63	61	3	0	3	127	2	1	1	1	0	0	5	1	0	96	62	0	0	159	478
Hourly Total	199	309	40	226	0	0	774	117	192	7	0	5	316	6	4	11	7	0	1	28	1	0	369	305	0	0	675	1793
9:00 AM	33	49	7	34	0	0	123	44	50	4	0	3	98	1	4	3	5	0	0	13	1	0	48	51	0	0	100	334
9:15 AM	15	61	6	15	0	1	97	25	32	2	0	0	59	0	4	7	3	0	0	14	0	0	46	59	0	0	105	275
9:30 AM	17	68	8	21	0	0	114	18	42	3	0	0	63	3	3	8	2	0	0	16	0	0	46	58	1	0	105	298
9:45 AM	20	50	3	14	0	0	87	19	43	5	0	0	67	3	5	2	1	0	0	11	2	0	49	57	1	0	109	274
Hourly Total	85	228	24	84	0	1	421	106	167	14	0	3	287	7	16	20	11	0	0	54	3	0	189	225	2	0	419	1181
10:00 AM	16	61	3	12	0	0	92	23	35	4	0	0	62	3	4	1	3	1	0	12	1	1	31	62	1	0	96	262
10:15 AM	15	46	10	12	0	0	83	27	52	4	0	0	83	1	2	5	4	0	1	12	1	0	50	69	0	0	120	298
10:30 AM	30	53	11	9	0	0	103	29	49	2	0	0	80	2	7	12	1	0	0	22	0	0	55	69	1	0	125	330
10:45 AM	20	58	9	26	0	0	113	31	59	0	0	0	90	3	3	8	2	0	1	16	0	1	41	84	1	0	127	346
Hourly Total	81	218	33	59	0	0	391	110	195	10	0	0	315	9	16	26	10	1	2	62	2	2	177	284	3	0	468	1236
11:00 AM	17	64	5	25	0	0	111	45	78	1	0	0	124	4	5	13	4	0	0	26	1	3	54	71	0	0	129	390
11:15 AM	37	38	5	34	0	0	114	57	91	1	0	2	149	0	4	7	6	0	1	17	1	0	73	93	0	0	167	447
11:30 AM	23	49	3	39	0	0	114	41	72	2	0	0	115	0	5	9	4	0	0	18	0	0	53	88	0	0	141	388
11:45 AM	37	60	12	38	0	0	147	28	93	2	0	1	123	3	2	6	6	0	0	17	1	0	64	83	0	0	148	435
Hourly Total	114	211	25	136	0	0	486	171	334	6	0	3	511	7	16	35	20	0	1	78	3	3	244	335	0	0	585	1660
12:00 PM	28	46	12	45	0	1	131	28	83	5	0	0	116	4	9	10	5	0	0	28	0	0	60	69	0	0	129	404
12:15 PM	30	72	8	42	0	0	152	34	71	6	0	0	111	4	8	10	4	0	0	26	1	0	72	83	0	0	156	445
12:30 PM	37	63	8	54	0	1	162	26	64	6	0	0	96	3	2	6	1	0	1	12	2	0	71	53	0	0	126	396
12:45 PM	34	76	6	52	0	0	168	26	49	4	0	0	79	3	5	8	2	0	0	18	0	1	73	79	0	0	153	418
Hourly Total	129	257	34	193	0	2	613	114	267	21	0	0	402	14	24	34	12	0	1	84	3	1	276	284	0	0	564	1663
1:00 PM	18	52	4	36	0	0	110	30	63	6	0	0	99	3	2	3	5	0	0	13	2	0	51	68	0	0	121	343
1:15 PM	23	41	7	27	0	0	98	24	59	3	0	0	86	0	5	7	1	0	1	13	0	0	62	87	0	1	149	346

1:30 PM	46	54	7	28	0	0	135	38	62	4	0	2	104	3	2	8	6	0	1	19	3	0	50	78	0	1	131	389
1:45 PM	22	72	7	27	0	0	128	26	53	4	0	0	83	0	2	4	4	0	0	10	1	0	42	87	0	0	130	351
Hourly Total	109	219	25	118	0	0	471	118	237	17	0	2	372	6	11	22	16	0	2	55	6	0	205	320	0	2	531	1429
2:00 PM	19	53	10	34	0	0	116	33	60	4	0	2	97	1	8	9	6	0	0	24	0	1	40	72	0	0	113	350
2:15 PM	16	57	6	22	0	0	101	15	68	0	0	0	83	2	6	6	2	0	0	16	1	0	41	97	1	0	140	340
2:30 PM	37	57	9	29	0	0	132	39	83	2	0	0	124	2	6	3	7	0	0	18	0	0	50	86	0	0	136	410
2:45 PM	19	66	4	23	0	0	112	37	72	4	0	0	113	1	5	9	5	0	0	20	0	0	43	94	0	0	137	382
Hourly Total	91	233	29	108	0	0	461	124	283	10	0	2	417	6	25	27	20	0	0	78	1	1	174	349	1	0	526	1482
3:00 PM	35	66	7	32	0	0	140	31	83	4	0	1	118	0	9	11	2	0	0	22	0	0	34	91	0	0	125	405
3:15 PM	39	58	7	53	0	0	157	47	95	5	0	1	147	1	5	5	2	0	0	13	0	0	33	113	0	0	146	463
3:30 PM	31	51	4	41	0	0	127	68	113	2	0	0	183	5	6	21	2	0	0	34	0	1	46	115	0	0	162	506
3:45 PM	55	47	8	35	0	2	145	113	149	5	0	7	267	0	4	21	7	0	1	32	1	0	50	121	0	0	172	616
Hourly Total	160	222	26	161	0	2	569	259	440	16	0	9	715	6	24	58	13	0	1	101	1	1	163	440	0	0	605	1990
4:00 PM	38	59	11	21	0	0	129	81	138	7	0	0	226	3	21	47	6	0	2	77	3	0	43	132	0	0	178	610
4:15 PM	41	61	5	20	0	0	127	74	136	5	0	1	215	1	11	31	9	0	0	52	1	0	32	148	0	0	181	575
4:30 PM	44	73	2	18	0	0	137	78	131	3	0	0	212	1	11	22	7	0	0	41	3	0	40	139	0	0	182	572
4:45 PM	51	61	3	18	0	0	133	65	123	3	0	0	191	4	8	26	7	0	1	45	2	1	46	147	1	0	197	566
Hourly Total	174	254	21	77	0	0	526	298	528	18	0	1	844	9	51	126	29	0	3	215	9	1	161	566	1	0	738	2323
5:00 PM	35	78	7	15	0	0	135	58	106	3	0	0	167	1	4	33	10	0	0	48	1	1	37	160	1	0	200	550
5:15 PM	35	98	4	16	0	0	153	63	125	3	0	0	191	6	2	13	10	0	0	31	0	0	39	157	0	0	196	571
5:30 PM	24	85	4	11	0	0	124	40	106	1	0	0	147	1	2	8	2	0	0	13	1	0	33	130	0	0	164	448
5:45 PM	48	65	4	21	0	0	138	42	73	1	0	0	116	0	1	6	2	0	0	9	1	1	32	121	1	0	156	419
Hourly Total	142	326	19	63	0	0	550	203	410	8	0	0	621	8	9	60	24	0	0	101	3	2	141	568	2	0	716	1988
Grand Total	1663	3120	357	1670	0	7	6810	1682	3325	149	0	26	5156	82	211	427	167	1	12	888	37	12	2850	4030	9	2	6938	19792
Approach %	24.4	45.8	5.2	24.5	0.0	-	-	32.6	64.5	2.9	0.0	-	-	9.2	23.8	48.1	18.8	0.1	-	-	0.5	0.2	41.1	58.1	0.1	-	-	-
Total %	8.4	15.8	1.8	8.4	0.0	-	34.4	8.5	16.8	0.8	0.0	-	26.1	0.4	1.1	2.2	0.8	0.0	-	4.5	0.2	0.1	14.4	20.4	0.0	-	35.1	-
Lights	1608	3062	349	1636	0	-	6655	1631	3272	147	0	-	5050	81	208	398	159	1	-	847	34	9	2811	3961	7	-	6822	19374
% Lights	96.7	98.1	97.8	98.0	-	-	97.7	97.0	98.4	98.7	-	-	97.9	98.8	98.6	93.2	95.2	100.0	-	95.4	91.9	75.0	98.6	98.3	77.8	-	98.3	97.9
Buses	37	22	2	28	0	-	89	35	31	0	0	-	66	1	1	21	3	0	-	26	1	0	31	28	0	-	60	241
% Buses	2.2	0.7	0.6	1.7	-	-	1.3	2.1	0.9	0.0	-	-	1.3	1.2	0.5	4.9	1.8	0.0	-	2.9	2.7	0.0	1.1	0.7	0.0	-	0.9	1.2
Trucks	18	36	5	4	0	-	63	13	21	1	0	-	35	0	2	7	5	0	-	14	2	3	4	41	2	-	52	164
% Trucks	1.1	1.2	1.4	0.2	-	-	0.9	0.8	0.6	0.7	-	-	0.7	0.0	0.9	1.6	3.0	0.0	-	1.6	5.4	25.0	0.1	1.0	22.2	-	0.7	0.8
Bicycles on Road	0	0	1	2	0	-	3	3	1	1	0	-	5	0	0	1	0	0	-	1	0	0	4	0	0	-	4	13
% Bicycles on Road	0.0	0.0	0.3	0.1	-	-	0.0	0.2	0.0	0.7	-	-	0.1	0.0	0.0	0.2	0.0	0.0	-	0.1	0.0	0.0	0.1	0.0	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	33.3	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	26	-	-	-	-	-	-	8	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	66.7	-	-	-	-	-	-	100.0	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
jkruse@lee-eng.com

Count Name: NM249.01 - Gibson Gate Study
Site Code: Gibson & Louisiana
Start Date: 10/24/2017



Turning Movement Data Plot

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States
jkruse@lee-eng.com

Count Name: NM249.01 - Gibson Gate Study
Site Code: Gibson & Louisiana
Start Date: 10/24/2017

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Louisiana Southbound							Gibson Westbound						Louisiana Northbound							Gibson Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	79	98	15	97	0	0	289	8	39	2	0	0	49	1	2	1	1	0	0	5	0	0	108	43	0	0	151	494
7:30 AM	43	89	13	49	0	0	194	16	42	3	0	0	61	0	5	3	1	0	0	9	2	1	116	65	0	0	184	448
7:45 AM	92	79	31	53	0	2	255	12	52	2	0	0	66	0	1	0	3	0	1	4	2	0	104	80	0	0	186	511
8:00 AM	61	90	14	49	0	0	214	17	36	2	0	0	55	1	0	4	3	0	0	8	0	0	80	91	0	0	171	448
Total	275	356	73	248	0	2	952	53	169	9	0	0	231	2	8	8	8	0	1	26	4	1	408	279	0	0	692	1901
Approach %	28.9	37.4	7.7	26.1	0.0	-	-	22.9	73.2	3.9	0.0	-	-	7.7	30.8	30.8	30.8	0.0	-	-	0.6	0.1	59.0	40.3	0.0	-	-	-
Total %	14.5	18.7	3.8	13.0	0.0	-	50.1	2.8	8.9	0.5	0.0	-	12.2	0.1	0.4	0.4	0.4	0.0	-	1.4	0.2	0.1	21.5	14.7	0.0	-	36.4	-
PHF	0.747	0.908	0.589	0.639	0.000	-	0.824	0.779	0.813	0.750	0.000	-	0.875	0.500	0.400	0.500	0.667	0.000	-	0.722	0.500	0.250	0.879	0.766	0.000	-	0.930	0.930
Lights	270	352	72	243	0	-	937	48	161	9	0	-	218	2	7	7	7	0	-	23	4	1	401	272	0	-	678	1856
% Lights	98.2	98.9	98.6	98.0	-	-	98.4	90.6	95.3	100.0	-	-	94.4	100.0	87.5	87.5	87.5	-	-	88.5	100.0	100.0	98.3	97.5	-	-	98.0	97.6
Buses	4	0	0	4	0	-	8	4	5	0	0	-	9	0	1	0	1	0	-	2	0	0	4	7	0	-	11	30
% Buses	1.5	0.0	0.0	1.6	-	-	0.8	7.5	3.0	0.0	-	-	3.9	0.0	12.5	0.0	12.5	-	-	7.7	0.0	0.0	1.0	2.5	-	-	1.6	1.6
Trucks	1	4	0	0	0	-	5	1	3	0	0	-	4	0	0	1	0	0	-	1	0	0	1	0	0	-	1	11
% Trucks	0.4	1.1	0.0	0.0	-	-	0.5	1.9	1.8	0.0	-	-	1.7	0.0	0.0	12.5	0.0	-	-	3.8	0.0	0.0	0.2	0.0	-	-	0.1	0.6
Bicycles on Road	0	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	2	0	0	-	2	4
% Bicycles on Road	0.0	0.0	1.4	0.4	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.5	0.0	-	-	0.3	0.2
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-

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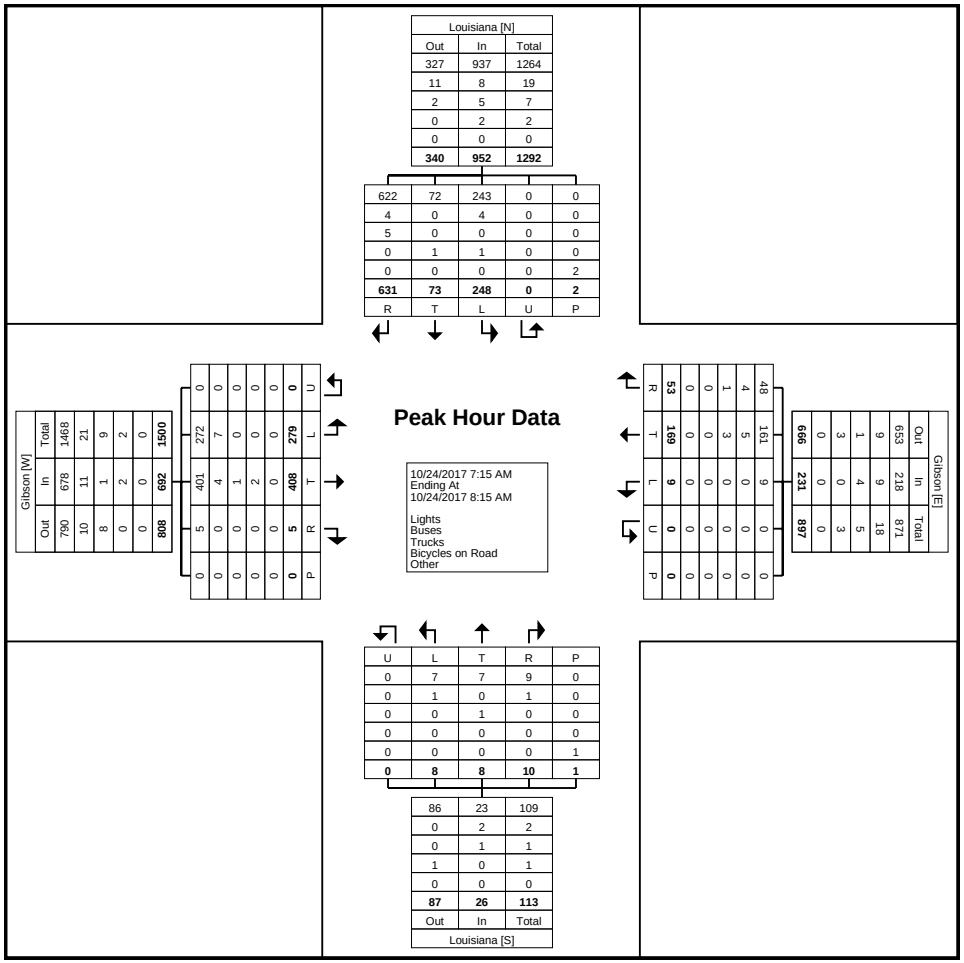

Turning Movement Peak Hour Data Plot (7:15 AM)

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jkruse@lee-eng.com

Count Name: NM249.01 - Gibson Gate Study
Site Code: Gibson & Louisiana
Start Date: 10/24/2017

Turning Movement Peak Hour Data (3:45 PM)

Start Time	Louisiana Southbound							Gibson Westbound						Louisiana Northbound							Gibson Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:45 PM	55	47	8	35	0	2	145	113	149	5	0	7	267	0	4	21	7	0	1	32	1	0	50	121	0	0	172	616
4:00 PM	38	59	11	21	0	0	129	81	138	7	0	0	226	3	21	47	6	0	2	77	3	0	43	132	0	0	178	610
4:15 PM	41	61	5	20	0	0	127	74	136	5	0	1	215	1	11	31	9	0	0	52	1	0	32	148	0	0	181	575
4:30 PM	44	73	2	18	0	0	137	78	131	3	0	0	212	1	11	22	7	0	0	41	3	0	40	139	0	0	182	572
Total	178	240	26	94	0	2	538	346	554	20	0	8	920	5	47	121	29	0	3	202	8	0	165	540	0	0	713	2373
Approach %	33.1	44.6	4.8	17.5	0.0	-	-	37.6	60.2	2.2	0.0	-	-	2.5	23.3	59.9	14.4	0.0	-	-	1.1	0.0	23.1	75.7	0.0	-	-	-
Total %	7.5	10.1	1.1	4.0	0.0	-	22.7	14.6	23.3	0.8	0.0	-	38.8	0.2	2.0	5.1	1.2	0.0	-	8.5	0.3	0.0	7.0	22.8	0.0	-	30.0	-
PHF	0.809	0.822	0.591	0.671	0.000	-	0.928	0.765	0.930	0.714	0.000	-	0.861	0.417	0.560	0.644	0.806	0.000	-	0.656	0.667	0.000	0.825	0.912	0.000	-	0.979	0.963
Lights	175	236	25	90	0	-	526	336	545	20	0	-	901	5	47	120	29	0	-	201	8	0	161	532	0	-	701	2329
% Lights	98.3	98.3	96.2	95.7	-	-	97.8	97.1	98.4	100.0	-	-	97.9	100.0	100.0	99.2	100.0	-	-	99.5	100.0	-	97.6	98.5	-	-	98.3	98.1
Buses	0	2	1	4	0	-	7	9	7	0	0	-	16	0	0	1	0	0	-	1	0	0	4	3	0	-	7	31
% Buses	0.0	0.8	3.8	4.3	-	-	1.3	2.6	1.3	0.0	-	-	1.7	0.0	0.0	0.8	0.0	-	-	0.5	0.0	-	2.4	0.6	-	-	1.0	1.3
Trucks	3	2	0	0	0	-	5	0	2	0	0	-	2	0	0	0	0	0	-	0	0	0	0	5	0	-	5	12
% Trucks	1.7	0.8	0.0	0.0	-	-	0.9	0.0	0.4	0.0	-	-	0.2	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.9	-	-	0.7	0.5
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	-	0.0	0.3	0.0	0.0	-	-	0.1	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	8	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-

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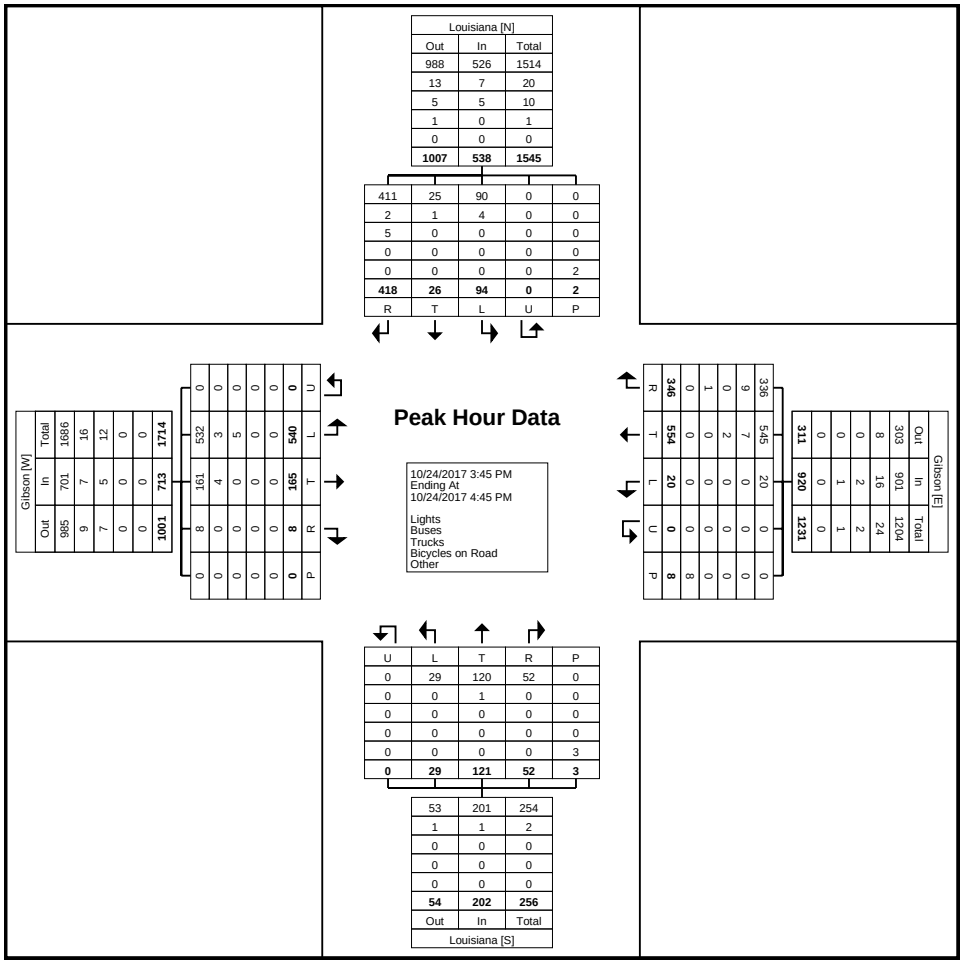


Turning Movement Peak Hour Data Plot (3:45 PM)

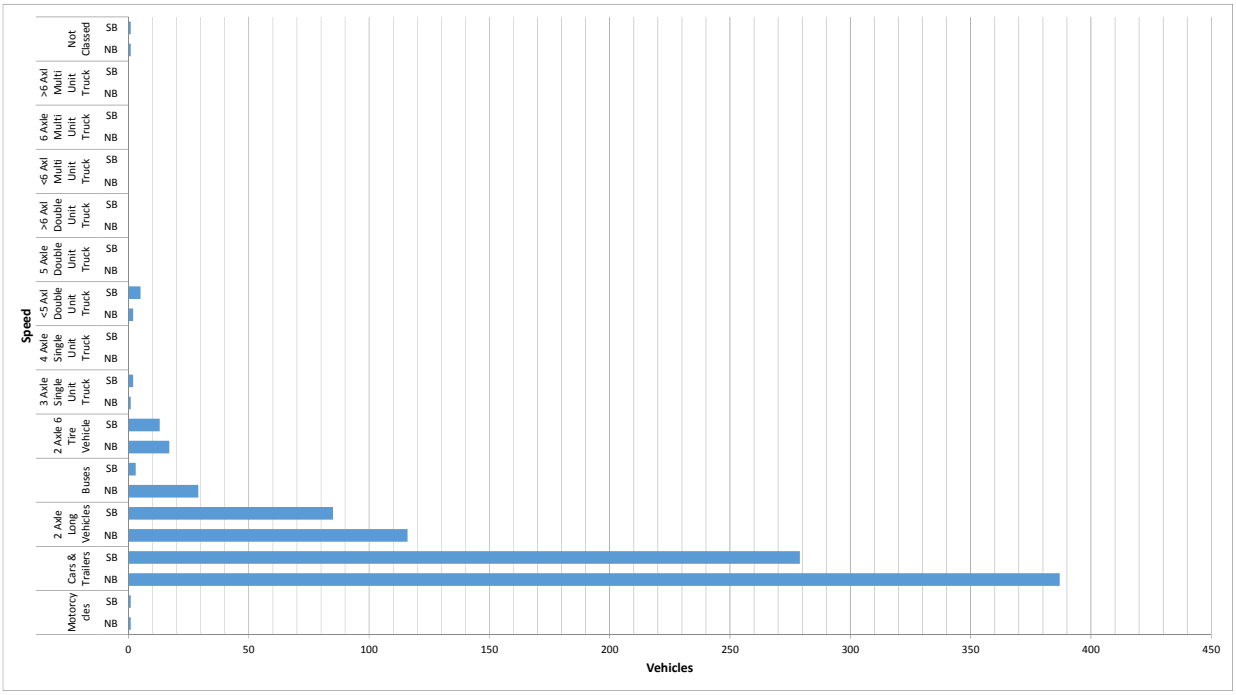
BI-DIRECTIONAL VEHICLE CLASSIFICATION

Count Location: Louisiana Boulevard south of Kirtland Federal Credit Unior
Study Date: 10/24/2017
Study Time: 12AM - 12AM

Vehicle Classification

TIME	Motorcycles		Cars & Trailers		2 Axle Long Vehicles		Buses		2 Axle 6 Tire Vehicle		3 Axle Single Unit Truck		4 Axle Single Unit Truck		<5 Axl Double Unit Truck		5 Axle Double Unit Truck		>6 Axl Double Unit Truck		<6 Axl Multi Unit Truck		6 Axle Multi Unit Truck		>6 Axl Multi Unit Truck		Not Classed	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
0:00	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	5	21	1	6	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	15	38	3	11	1	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	12	21	1	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	18	20	9	4	3	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	22	23	8	4	3	1	2	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	1	24	13	9	8	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00	0	0	20	27	14	12	3	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	13	23	6	4	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
14:00	1	0	32	18	12	7	3	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	58	16	14	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	107	20	23	5	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	29	15	9	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	12	7	6	4	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	8	6	1	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	5	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	3	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Motorcycles		Cars & Trailers		2 Axle Long Vehicles		Buses		2 Axle 6 Tire Vehicle		3 Axle Single Unit Truck		4 Axle Single Unit Truck		<5 Axl Double Unit Truck		5 Axle Double Unit Truck		>6 Axl Double Unit Truck		<6 Axl Multi Unit Truck		6 Axle Multi Unit Truck		>6 Axl Multi Unit Truck		Not Classed	
Totals	1	1	387	279	116	85	29	3	17	13	1	2	0	0	2	5	0	0	0	0	0	0	0	0	0	0	1	1
Percent	0.21%		70.63%		21.31%		3.39%		3.18%		0.32%		0.00%		0.74%		0.00%		0.00%		0.00%		0.00%		0.00%		0.21%	

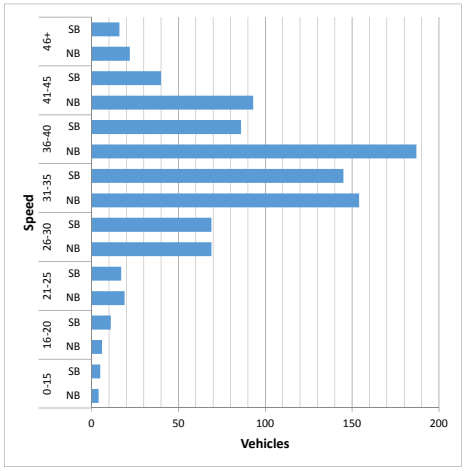


BI-DIRECTIONAL SPEED CLASSIFICATION

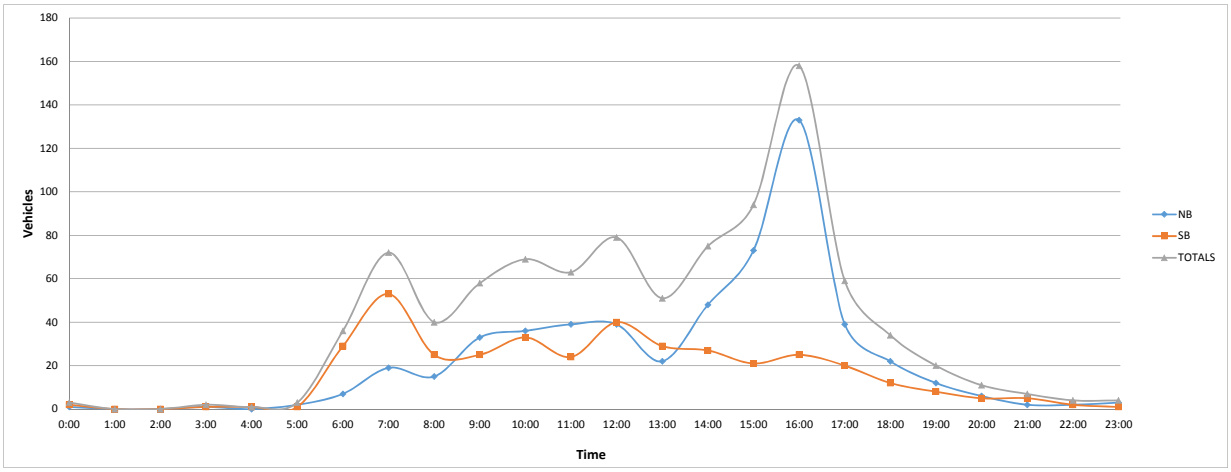
Count Location: Louisiana Boulevard south of Kirtland Federal Credit Union
Study Date: 10/24/2017
Study Time: 12AM - 12AM
Posted Speed Limit: N/A (25 MPH Assumed)

Speed Classification

TIME	0-15		16-20		21-25		26-30		31-35		36-40		41-45		46+		TOTALS		
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	TOT
0:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	2	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2
4:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
5:00	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	2	1	3
6:00	0	0	0	0	0	0	1	2	2	8	4	14	0	2	0	3	7	29	36
7:00	0	0	0	0	0	0	4	6	6	17	5	19	4	8	0	3	19	53	72
8:00	0	0	0	0	0	0	5	2	5	8	4	7	1	4	0	4	15	25	40
9:00	0	0	0	0	0	0	7	2	12	10	10	10	3	2	1	1	33	25	58
10:00	0	1	0	0	1	1	5	6	14	14	10	3	6	5	0	3	36	33	69
11:00	4	3	4	8	7	4	7	4	5	4	8	1	3	0	1	0	39	24	63
12:00	0	1	0	2	5	7	9	11	7	10	8	6	7	3	3	0	39	40	79
13:00	0	0	0	0	0	0	5	9	7	13	8	4	2	3	0	0	22	29	51
14:00	0	0	0	0	2	1	6	5	15	12	18	6	6	3	1	0	48	27	75
15:00	0	0	0	0	0	1	4	3	18	6	30	6	15	5	6	0	73	21	94
16:00	0	0	2	1	3	0	2	6	25	13	59	4	36	0	6	1	133	25	158
17:00	0	0	0	0	0	2	3	5	16	7	11	1	6	4	3	1	39	20	59
18:00	0	0	0	0	1	1	5	3	10	6	4	2	2	0	0	0	22	12	34
19:00	0	0	0	0	0	0	3	1	4	7	4	0	1	0	0	0	12	8	20
20:00	0	0	0	0	0	0	1	2	3	2	2	1	0	0	0	0	6	5	11
21:00	0	0	0	0	0	0	0	1	1	2	0	2	1	0	0	0	2	5	7
22:00	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	2	2	4
23:00	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	3	1	4
Totals	4	5	6	11	19	17	69	69	154	145	187	86	93	40	22	16	554	389	943



Volume Summary



Volume Summary

Northbound Volume:	554	Northbound Peak Hour:	4:00 PM
Southbound Volume:	389	Southbound Peak Hour:	7:00 AM
Bi-Directional Volume:	943	Bi-directional Peak hour:	4:00 PM

Percentile Speed Summary

Northbound 85th Percentile Speed:	43 MPH
Southbound 85th Percentile Speed:	38 MPH

AM Peak Hour:	7:00 AM
AM Peak Hour Volume NB:	19 Vehicles
AM Peak Hour Volume SB:	53 Vehicles
PM Peak Hour:	4:00 PM
PM Peak Hour Volume NB:	133 Vehicles
PM Peak Hour Volume SB:	25 Vehicles

Attachment B: Detailed Capacity Output Sheets

Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.304

Intersection Setup

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
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 Pocket	1	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	70.00	100.00	200.00	100.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
Base Volume Input [veh/h]	8	8	10	248	73	631	279	408	5	9	169	63
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	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	8	0	0	356	0	0	1	0	0	0
Total Hourly Volume [veh/h]	8	8	2	248	73	275	279	408	4	9	169	63
Peak Hour Factor	0.6670	0.5000	0.5000	0.6390	0.5890	0.7470	0.7660	0.8790	0.5000	0.7500	0.8130	0.7790
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]	3	4	1	97	31	92	91	116	2	3	52	20
Total Analysis Volume [veh/h]	12	16	4	388	124	368	364	464	8	12	208	81
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	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Overlap	Permiss	Permiss	Unsigna
Signal group	0	4	0	0	8	5	5	2	4	0	6	0
Auxiliary Signal Groups						5,8			2,4			
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	12	0	0	12	3	3	16	12	0	16	0
Maximum Green [s]	0	16	0	0	30	30	30	30	16	0	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	3.0	3.0	4.0	4.0	0.0	4.0	0.0
All red [s]	0.0	1.5	0.0	0.0	1.5	0.5	0.5	1.0	1.5	0.0	1.0	0.0
Split [s]	0	28	0	0	29	18	18	43	28	0	25	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	3.0	3.0	3.0	3.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	21	0	0	22	0	0	16	21	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	1.5	1.5	3.0	3.5	0.0	3.0	0.0
Minimum Recall		No			No	No	No	No	No		No	
Maximum Recall		No			No	No	No	Yes	No		Yes	
Pedestrian Recall		No			No	No	No	No	No		No	
Detector Location [ft]	0.0	5.0	0.0	0.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	40.0	40.0	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
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.50	3.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.50	0.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	6	6	6	20	20	52	78	78	90	60	60
g / C, Green / Cycle	0.05	0.05	0.05	0.16	0.16	0.43	0.65	0.65	0.75	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.00	0.10	0.10	0.19	0.23	0.13	0.00	0.01	0.04
s, saturation flow rate [veh/h]	1275	1683	1431	1603	1638	1431	1199	3204	1431	880	4584
c, Capacity [veh/h]	108	88	75	263	269	615	840	2081	1071	436	2289
d1, Uniform Delay [s]	54.22	54.12	53.94	46.53	46.53	24.15	8.97	8.45	3.81	19.89	15.61
k, delay calibration	0.04	0.04	0.04	0.11	0.11	0.29	0.41	0.50	0.50	0.50	0.50
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
d2, Incremental Delay [s]	0.11	0.16	0.05	2.25	2.19	1.37	0.88	0.21	0.01	0.09	0.06
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
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
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

Lane Group Results

X, volume / capacity	0.07	0.09	0.03	0.60	0.60	0.45	0.33	0.20	0.00	0.02	0.07
d, Delay for Lane Group [s/veh]	54.33	54.29	53.99	48.78	48.72	25.53	9.85	8.66	3.82	19.98	15.67
Lane Group LOS	D	D	D	D	D	C	A	A	A	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh]	0.23	0.23	0.06	4.49	4.57	5.57	3.02	2.01	0.02	0.15	0.79
50th-Percentile Queue Length [ft]	5.86	5.87	1.46	112.14	114.37	139.27	75.58	50.29	0.55	3.84	19.85
95th-Percentile Queue Length [veh]	0.42	0.42	0.11	7.96	8.08	9.44	5.44	3.62	0.04	0.28	1.43
95th-Percentile Queue Length [ft]	10.55	10.56	2.64	198.98	202.06	236.04	136.04	90.53	1.00	6.92	35.72

Movement, Approach, & Intersection Results

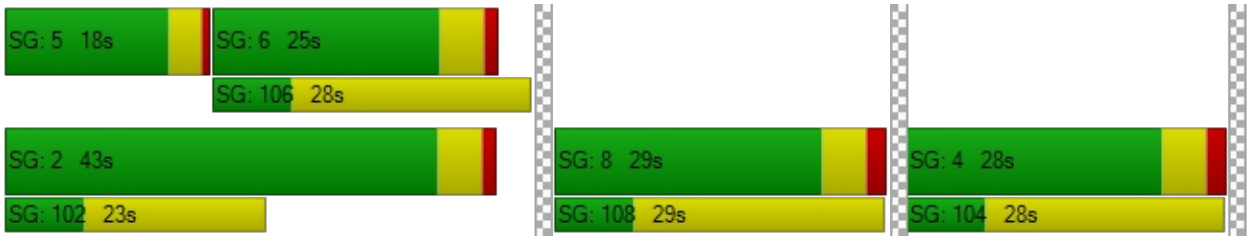
d_M, Delay for Movement [s/veh]	54.33	54.29	53.99	48.76	48.72	25.53	9.85	8.66	3.82	19.98	15.67	0.00
Movement LOS	D	D	D	D	D	C	A	A	A	B	B	
d_A, Approach Delay [s/veh]	54.27			38.03			9.11			15.89		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	22.10											
Intersection LOS	C											
Intersection V/C	0.304											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.197	3.259	2.899	2.878
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	375	392	633	333
d_b, Bicycle Delay [s]	39.61	38.80	28.02	41.67
l_b,int, Bicycle LOS Score for Intersection	1.603	3.130	2.131	1.658
Bicycle LOS	A	C	B	A

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.015

Intersection Setup

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

Volumes

Name	Louisiana Blvd		Louisiana Blvd			
Base Volume Input [veh/h]	10	13	52	35	13	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	13	52	35	13	10
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]	3	3	13	9	3	3
Total Analysis Volume [veh/h]	10	13	52	35	13	10
Pedestrian Volume [ped/h]	0		0		0	

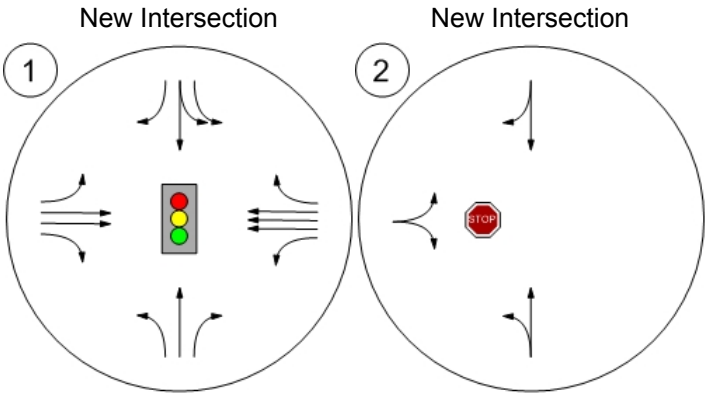
Intersection Settings

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

Movement, Approach, & Intersection Results

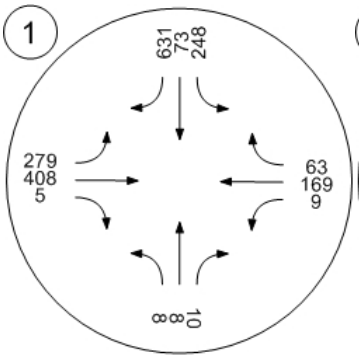
V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	9.14	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft]	1.16	1.16	0.00	0.00	1.90	1.90
d_A, Approach Delay [s/veh]	3.22		0.00		8.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.11					
Intersection LOS	A					

Lane Configuration and Traffic Control

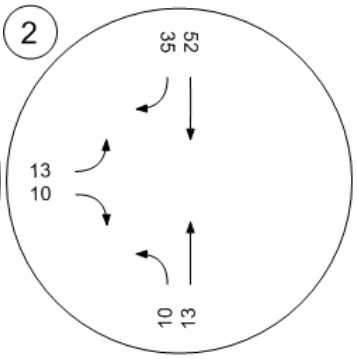


Traffic Volume - Base Volume

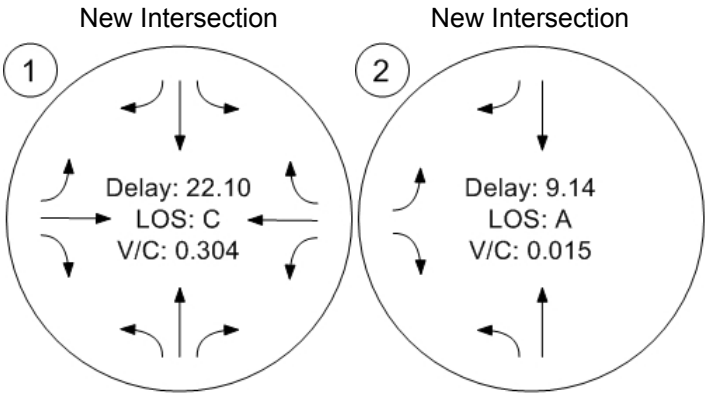
New Intersection



New Intersection



Traffic Conditions



Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
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 Pocket	1	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
Base Volume Input [veh/h]	29	121	52	94	26	418	540	165	8	20	554	346
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	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	47	0	0	240	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	121	5	94	26	178	540	165	8	20	554	346
Peak Hour Factor	0.8060	0.6440	0.4170	0.6710	0.5910	0.8090	0.9120	0.8250	0.6670	0.7140	0.9300	0.7650
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]	9	47	3	35	11	55	148	50	3	7	149	113
Total Analysis Volume [veh/h]	36	188	12	140	44	220	592	200	12	28	596	452
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	13.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Overlap	Permiss	Permiss	Unsigna
Signal group	0	4	0	0	8	5	5	2	4	0	6	0
Auxiliary Signal Groups						5,8			2,4			
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	12	0	0	12	3	3	16	12	0	16	0
Maximum Green [s]	0	16	0	0	30	30	30	30	16	0	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	3.0	3.0	4.0	4.0	0.0	4.0	0.0
All red [s]	0.0	1.5	0.0	0.0	1.5	0.5	0.5	1.0	1.5	0.0	1.0	0.0
Split [s]	0	33	0	0	33	34	34	64	33	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	3.0	3.0	3.0	3.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	7	0	7	0
Pedestrian Clearance [s]	0	21	0	0	22	0	0	16	21	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	1.5	1.5	3.0	3.5	0.0	3.0	0.0
Minimum Recall		No			No	No	No	No	No		No	
Maximum Recall		No			No	No	No	Yes	No		Yes	
Pedestrian Recall		No			No	No	No	No	No		No	
Detector Location [ft]	0.0	5.0	0.0	0.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	40.0	0.0	0.0	40.0	40.0	40.0	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
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.50	3.50	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.50	0.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	12	12	12	12	12	57	90	90	107	65	65
g / C, Green / Cycle	0.09	0.09	0.09	0.09	0.09	0.44	0.69	0.69	0.83	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.00	0.03	0.03	0.11	0.49	0.05	0.01	0.02	0.11
s, saturation flow rate [veh/h]	1417	1870	1589	1781	1818	1589	1095	3560	1589	1220	5094
c, Capacity [veh/h]	165	173	147	166	169	697	783	2462	1313	618	2527
d1, Uniform Delay [s]	54.73	57.26	53.73	55.30	55.29	23.08	9.68	6.49	1.98	19.21	18.52
k, delay calibration	0.04	0.04	0.04	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
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
d2, Incremental Delay [s]	0.19	1.96	0.03	1.31	1.28	0.19	5.07	0.05	0.01	0.10	0.20
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
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
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

Lane Group Results

X, volume / capacity	0.18	0.70	0.03	0.36	0.36	0.26	0.69	0.07	0.01	0.03	0.22
d, Delay for Lane Group [s/veh]	54.91	59.22	53.76	56.61	56.57	23.27	14.75	6.54	1.98	19.31	18.72
Lane Group LOS	D	E	D	E	E	C	B	A	A	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh]	0.89	3.96	0.15	1.87	1.90	3.44	7.15	0.69	0.03	0.34	3.12
50th-Percentile Queue Length [ft]	22.36	99.05	3.78	46.73	47.53	85.92	178.76	17.33	0.67	8.61	78.02
95th-Percentile Queue Length [veh]	1.61	7.13	0.27	3.36	3.42	6.19	11.54	1.25	0.05	0.62	5.62
95th-Percentile Queue Length [ft]	40.25	178.28	6.81	84.12	85.55	154.66	288.39	31.19	1.20	15.49	140.44

Movement, Approach, & Intersection Results

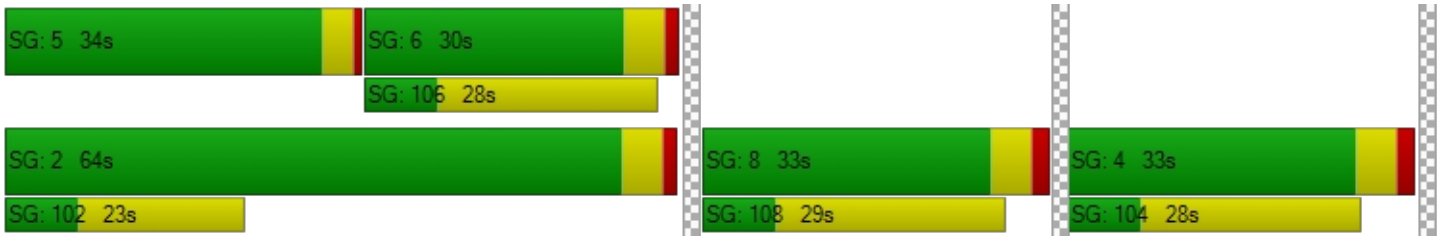
d_M, Delay for Movement [s/veh]	54.91	59.22	53.76	56.61	56.57	23.27	14.75	6.54	1.98	19.31	18.72	0.00
Movement LOS	D	E	D	E	E	C	B	A	A	B	B	
d_A, Approach Delay [s/veh]	58.24			36.68			12.71			18.74		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	22.86											
Intersection LOS	C											
Intersection V/C	0.480											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
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]	54.47	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersection	2.306	3.273	2.971	2.885
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	423	423	908	385
d_b, Bicycle Delay [s]	40.41	40.41	19.39	42.40
l_b,int, Bicycle LOS Score for Intersection	1.893	2.447	2.148	1.875
Bicycle LOS	A	B	B	A

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.084

Intersection Setup

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

Volumes

Name	Louisiana Blvd		Louisiana Blvd			
Base Volume Input [veh/h]	10	136	24	30	66	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	136	24	30	66	10
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]	3	34	6	8	17	3
Total Analysis Volume [veh/h]	10	136	24	30	66	10
Pedestrian Volume [ped/h]	0		0		0	

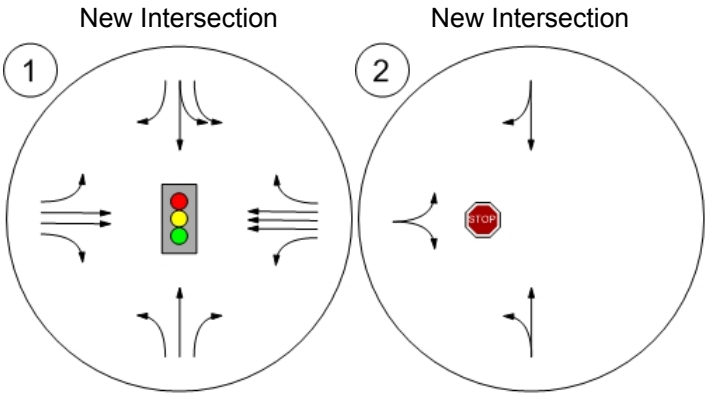
Intersection Settings

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

Movement, Approach, & Intersection Results

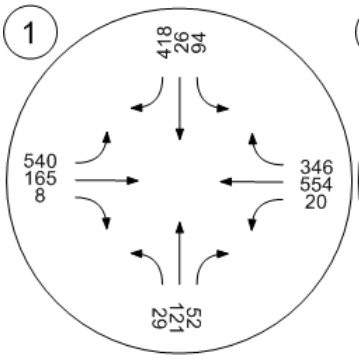
V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.08	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	10.02	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft]	7.79	7.79	0.00	0.00	7.72	7.72
d_A, Approach Delay [s/veh]	0.50		0.00		9.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.99					
Intersection LOS	B					

Lane Configuration and Traffic Control

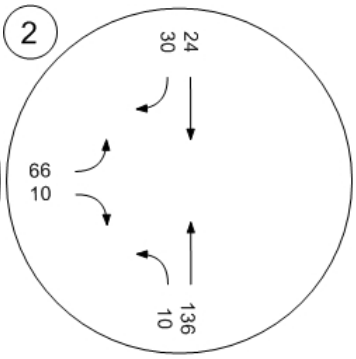


Traffic Volume - Base Volume

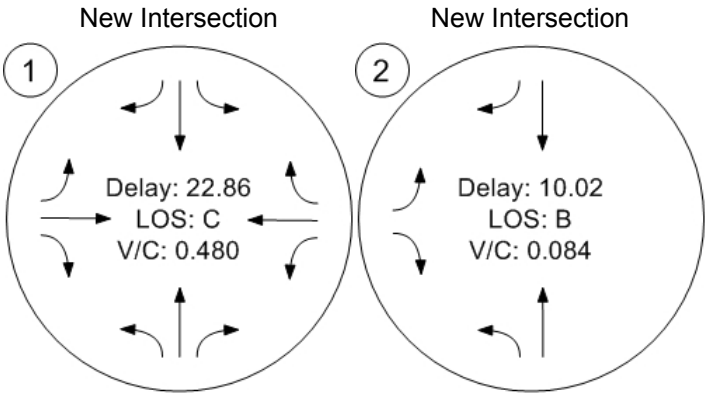
New Intersection



New Intersection



Traffic Conditions



Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	150.00	100.00	100.00	100.00	150.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Base Volume Input [veh/h]	186	71	321	631	279	413
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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
Right-Turn on Red Volume [veh/h]	0	0	0	356	0	231
Total Hourly Volume [veh/h]	186	71	321	275	279	182
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	51	19	87	75	76	49
Total Analysis Volume [veh/h]	202	77	349	299	303	198
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtectedPermissi	Permissive	Permissive	Permissive	Permissive	Overlap
Signal group	7	4	8	5	5	2
Auxiliary Signal Groups				5,8		2,5,7
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	12	12	16	16	5
Maximum Green [s]	30	16	30	30	30	30
Amber [s]	3.0	4.0	4.0	3.0	3.0	3.0
All red [s]	0.5	1.5	1.5	0.5	0.5	1.0
Split [s]	28	89	61	31	31	31
Vehicle Extension [s]	3.0	2.0	3.0	3.0	3.0	3.0
Walk [s]	0	7	7	0	0	0
Pedestrian Clearance [s]	0	21	22	0	0	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	1.5	3.5	3.5	1.5	1.5	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	Yes	Yes		Yes	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	10.0	0.0	0.0	0.0	10.0	10.0
Detector Length [ft]	40.0	0.0	0.0	0.0	40.0	40.0
I, Upstream Filtering Factor	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	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.50	3.50	3.50	1.50	0.00
g_i, Effective Green Time [s]	46	46	30	30	30	43
g / C, Green / Cycle	0.39	0.39	0.25	0.25	0.25	0.36
(v / s)_i Volume / Saturation Flow Rate	0.19	0.02	0.18	0.21	0.09	0.07
s, saturation flow rate [veh/h]	1005	3204	1683	1447	3113	2532
c, Capacity [veh/h]	339	1242	424	364	778	903
d1, Uniform Delay [s]	28.21	23.02	40.83	42.31	37.09	13.39
k, delay calibration	0.27	0.50	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.45	0.09	9.90	20.90	1.29	0.11
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.06	0.70	0.82	0.36	0.20
d, Delay for Lane Group [s/veh]	31.66	23.11	50.73	63.22	38.38	13.50
Lane Group LOS	C	C	D	E	D	B
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	4.02	0.65	9.00	10.23	3.46	0.75
50th-Percentile Queue Length [ft]	100.45	16.31	224.99	255.84	86.49	18.78
95th-Percentile Queue Length [veh]	7.23	1.17	13.92	15.48	6.23	1.35
95th-Percentile Queue Length [ft]	180.82	29.36	347.99	387.00	155.68	33.81

Movement, Approach, & Intersection Results

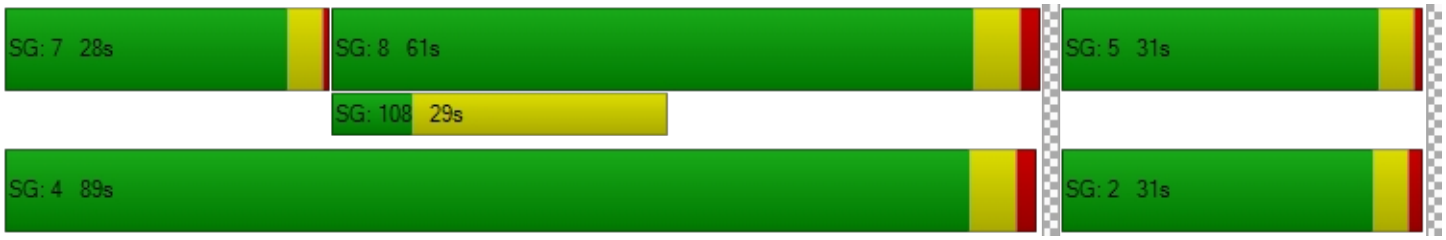
d_M, Delay for Movement [s/veh]	31.66	23.11	51.63	63.22	38.38	13.50
Movement LOS	C	C	D	E	D	B
d_A, Approach Delay [s/veh]	29.30		56.98		28.56	
Approach LOS	C		E		C	
d_I, Intersection Delay [s/veh]	41.59					
Intersection LOS	D					
Intersection V/C	0.381					

Other Modes

g_Walk,mi, Effective Walk Time [s]	27.5	27.5	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	35.65	35.65	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.494	3.061	3.105
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	60.00	60.00	60.00
l_b,int, Bicycle LOS Score for Intersection	4.344	4.918	4.132
Bicycle LOS	E	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Base Volume Input [veh/h]	10	16	699	35	13	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	16	699	35	13	10
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	190	10	3	3
Total Analysis Volume [veh/h]	10	17	760	38	13	11
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.57
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.07
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	1.79
d_A, Approach Delay [s/veh]	0.00		0.00		13.57	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.227

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Exit	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Exit	
Base Volume Input [veh/h]	16	0	0	734	0	241
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	16	0	0	734	0	241
Peak Hour Factor	0.9200	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
Total 15-Minute Volume [veh/h]	4	0	0	199	0	65
Total Analysis Volume [veh/h]	17	0	0	798	0	262
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.23
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.82
Movement LOS	A			A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.38
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	9.58
d_A, Approach Delay [s/veh]	0.00		0.00		8.82	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.14					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
Base Volume Input [veh/h]	16	10	657	52	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	16	10	657	52	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	4	3	179	14	0	0
Total Analysis Volume [veh/h]	17	11	714	57	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.02	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.39	13.65	0.00	0.00	0.00	0.00
Movement LOS	C	B	A	A		
95th-Percentile Queue Length [veh]	0.21	0.21	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.26	5.26	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.72		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland FCU South	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland FCU South	
Base Volume Input [veh/h]	10	13	52	0	13	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	13	52	0	13	0
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]	3	3	13	0	3	0
Total Analysis Volume [veh/h]	10	13	52	0	13	0
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			No
Number of Storage Spaces in Median	0	0	0

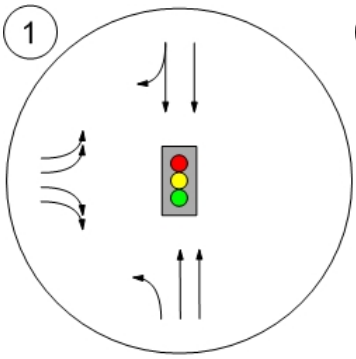
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.01	8.60
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft]	1.13	1.13	0.00	0.00	1.09	1.09
d_A, Approach Delay [s/veh]	3.19		0.00		9.01	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.16					
Intersection LOS	A					

Lane Configuration and Traffic Control

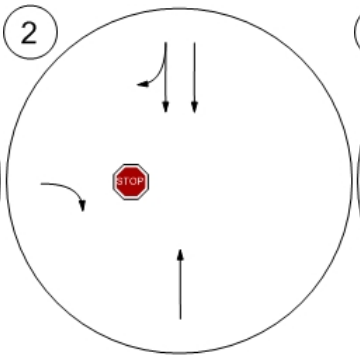
New Intersection

1



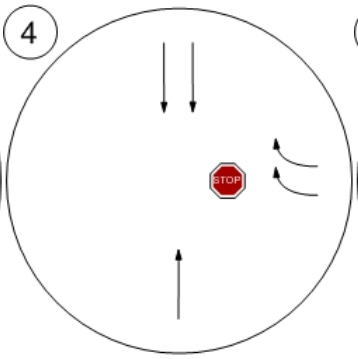
New Intersection

2



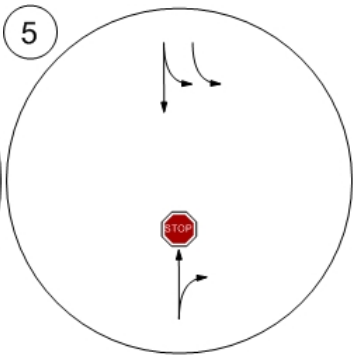
New Intersection

4



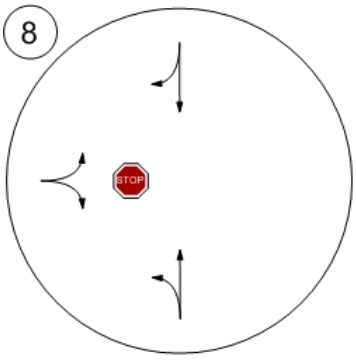
New Intersection

5



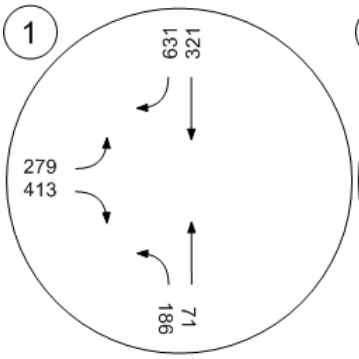
New Intersection

8



Traffic Volume - Base Volume

New Intersection



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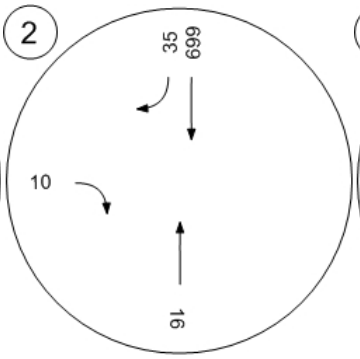
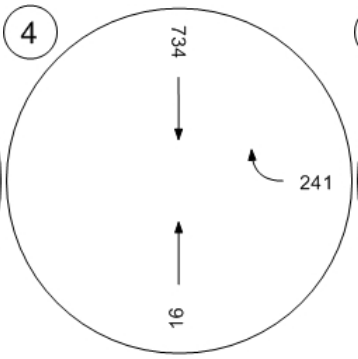
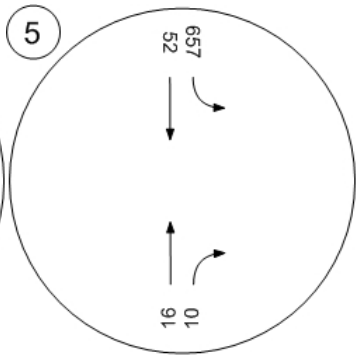


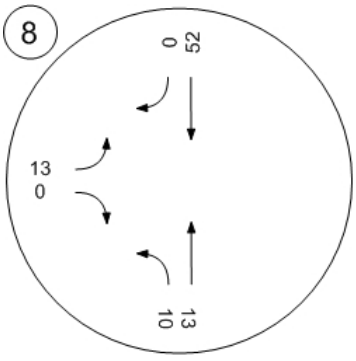
New Intersection



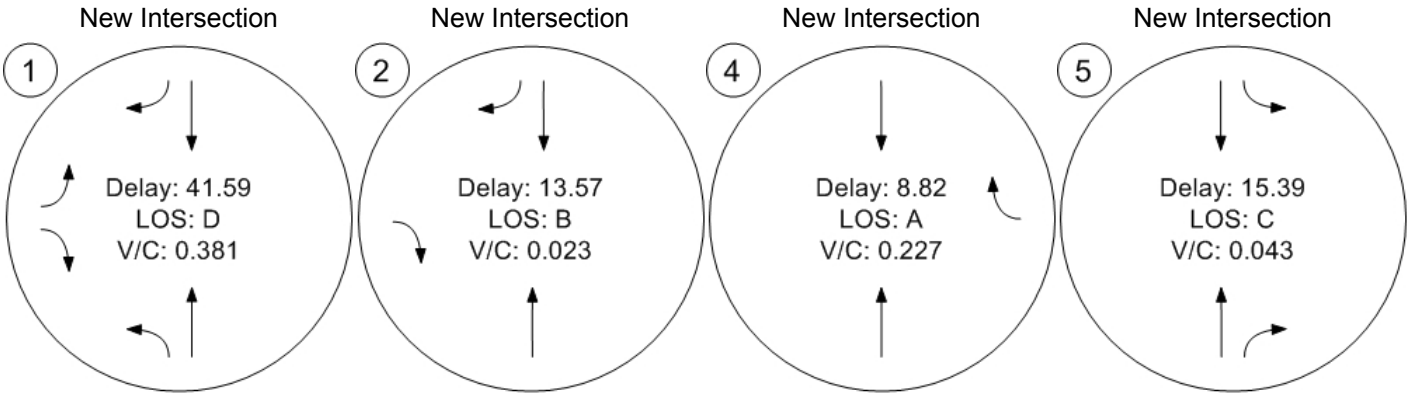
New Intersection

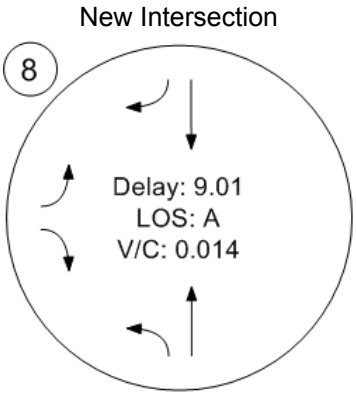


New Intersection



Traffic Conditions





Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	150.00	100.00	100.00	100.00	150.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Base Volume Input [veh/h]	603	467	120	418	540	173
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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
Right-Turn on Red Volume [veh/h]	0	0	0	356	0	96
Total Hourly Volume [veh/h]	603	467	120	62	540	77
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	164	127	33	17	147	21
Total Analysis Volume [veh/h]	655	508	130	67	587	84
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	13.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtectedPermissi	Permissive	Permissive	Permissive	Permissive	Overlap
Signal group	7	4	8	5	5	2
Auxiliary Signal Groups				5,8		2,5,7
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	12	12	16	16	5
Maximum Green [s]	30	16	30	30	30	30
Amber [s]	3.0	4.0	4.0	3.0	3.0	3.0
All red [s]	0.5	1.5	1.5	0.5	0.5	1.0
Split [s]	45	106	61	24	24	24
Vehicle Extension [s]	3.0	2.0	3.0	3.0	3.0	3.0
Walk [s]	0	7	7	0	0	0
Pedestrian Clearance [s]	0	21	22	0	0	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	1.5	3.5	3.5	1.5	1.5	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	Yes	Yes		Yes	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	10.0	0.0	0.0	0.0	10.0	10.0
Detector Length [ft]	40.0	0.0	0.0	0.0	40.0	40.0
I, Upstream Filtering Factor	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	C	L	R
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	3.50	3.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.50	3.50	3.50	1.50	0.00
g_i, Effective Green Time [s]	64	64	30	30	30	60
g / C, Green / Cycle	0.49	0.49	0.23	0.23	0.23	0.46
(v / s)_i Volume / Saturation Flow Rate	0.41	0.13	0.05	0.05	0.16	0.03
s, saturation flow rate [veh/h]	1488	3560	1870	1669	3459	2813
c, Capacity [veh/h]	765	1745	434	388	796	1297
d1, Uniform Delay [s]	26.17	19.46	40.27	40.52	45.65	9.85
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.54	0.38	1.10	1.42	4.73	0.02
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.27	0.21	0.23	0.68	0.06
d, Delay for Lane Group [s/veh]	34.71	19.84	41.37	41.94	50.37	9.86
Lane Group LOS	C	B	D	D	D	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh]	16.00	4.27	2.47	2.50	8.35	0.30
50th-Percentile Queue Length [ft]	400.03	106.83	61.69	62.57	208.64	7.53
95th-Percentile Queue Length [veh]	22.56	7.66	4.44	4.50	13.08	0.54
95th-Percentile Queue Length [ft]	564.04	191.58	111.04	112.62	327.09	13.55

Movement, Approach, & Intersection Results

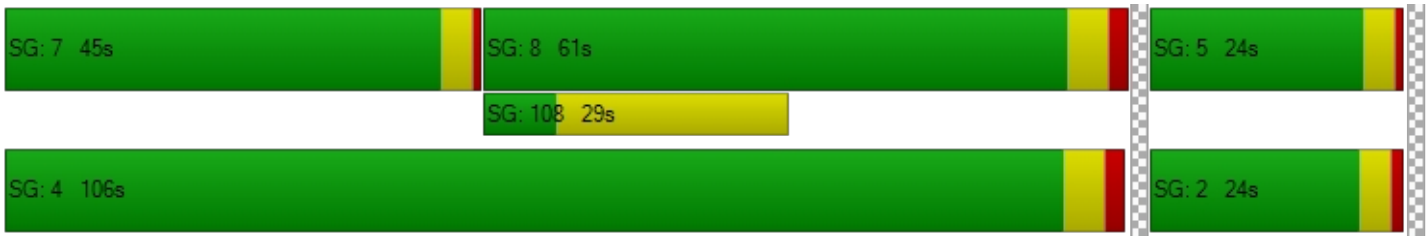
d_M, Delay for Movement [s/veh]	34.71	19.84	41.50	41.94	50.37	9.86
Movement LOS	C	B	D	D	D	A
d_A, Approach Delay [s/veh]	28.22		41.65		45.32	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	35.17					
Intersection LOS	D					
Intersection V/C	0.466					

Other Modes

g_Walk,mi, Effective Walk Time [s]	20.5	20.5	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.12	46.12	54.47
l_p,int, Pedestrian LOS Score for Intersection	2.577	3.151	3.117
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	65.00	65.00	65.00
l_b,int, Bicycle LOS Score for Intersection	5.015	4.576	4.132
Bicycle LOS	F	E	D

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Base Volume Input [veh/h]	10	150	263	30	13	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	150	263	30	13	10
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	41	71	8	3	3
Total Analysis Volume [veh/h]	10	163	286	33	13	11
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.79
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.04
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	1.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.026

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Exit	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Exit	
Base Volume Input [veh/h]	150	0	0	293	0	920
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	150	0	0	293	0	920
Peak Hour Factor	0.9200	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
Total 15-Minute Volume [veh/h]	41	0	0	80	0	250
Total Analysis Volume [veh/h]	163	0	0	318	0	1000
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	1.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.23
Movement LOS	A			A		F
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	3.12
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	77.93
d_A, Approach Delay [s/veh]	0.00		0.00		13.23	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	8.93					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 5: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.234

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
Base Volume Input [veh/h]	150	52	249	24	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	150	52	249	24	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	41	14	68	7	0	0
Total Analysis Volume [veh/h]	163	57	271	26	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.07	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.90	11.93	0.00	0.00	0.00	0.00
Movement LOS	B	B	A	A		
95th-Percentile Queue Length [veh]	1.28	1.28	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	32.04	32.04	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.65		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.38					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 9: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland FCU South	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland FCU South	
Base Volume Input [veh/h]	10	136	24	0	66	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	136	24	0	66	0
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]	3	34	6	0	17	0
Total Analysis Volume [veh/h]	10	136	24	0	66	0
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			No
Number of Storage Spaces in Median	0	0	0

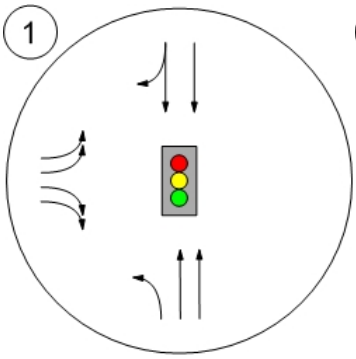
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	0.00	9.88	8.82
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft]	7.58	7.58	0.00	0.00	6.70	6.70
d_A, Approach Delay [s/veh]	0.50		0.00		9.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.07					
Intersection LOS	A					

Lane Configuration and Traffic Control

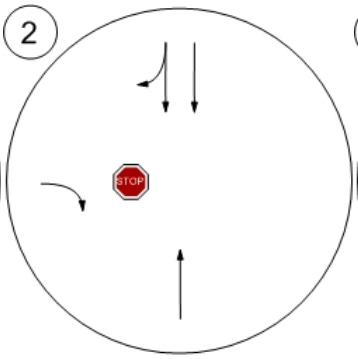
New Intersection

1



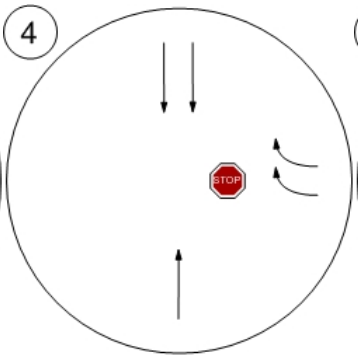
New Intersection

2



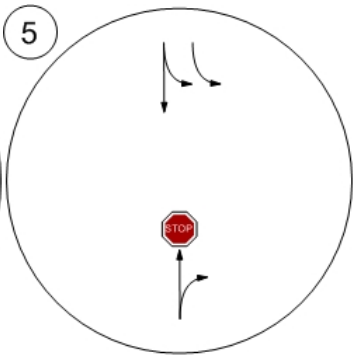
New Intersection

4



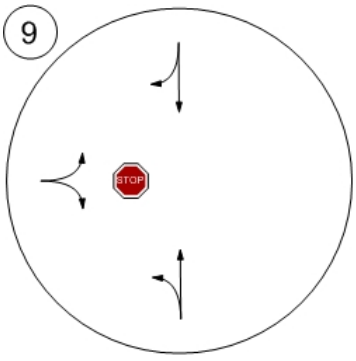
New Intersection

5



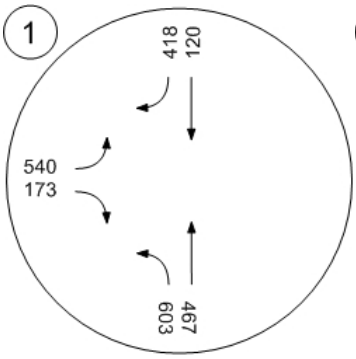
New Intersection

9



Traffic Volume - Base Volume

New Intersection



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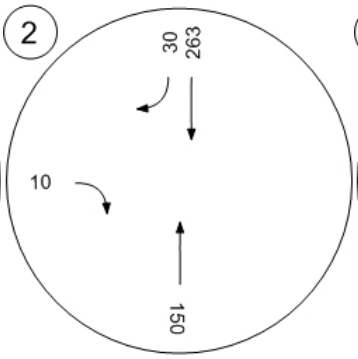
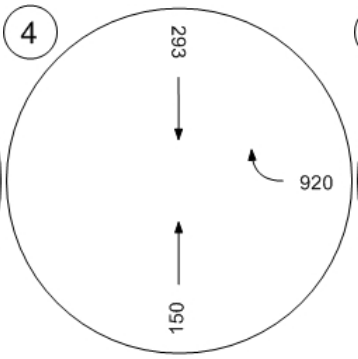


New Intersection



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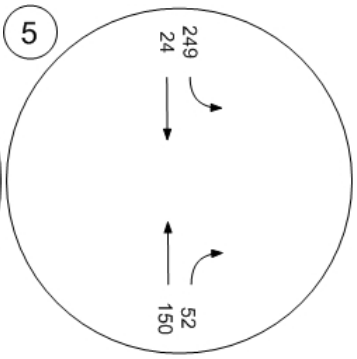
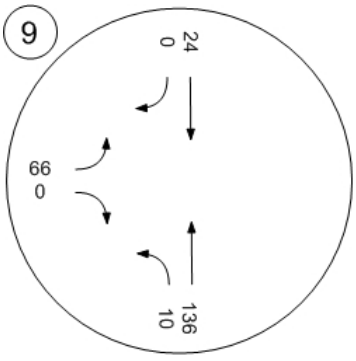
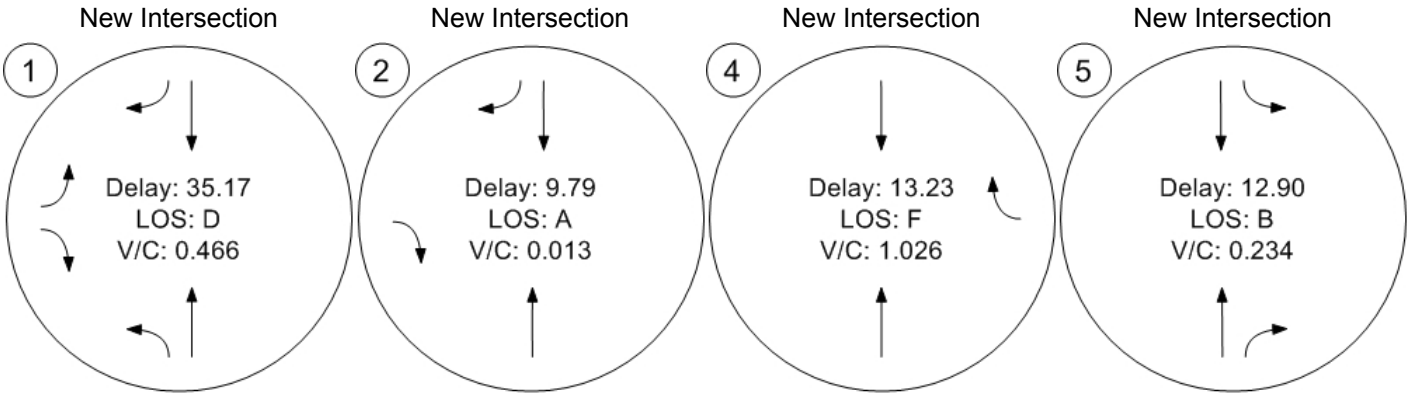
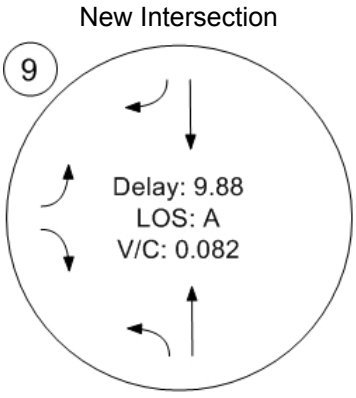


New Intersection



Traffic Conditions





Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	40.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.206

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Base Volume Input [veh/h]	13	71	321	631	279	413
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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
Right-Turn on Red Volume [veh/h]	0	0	0	356	0	231
Total Hourly Volume [veh/h]	13	71	321	275	279	182
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	4	19	87	75	76	49
Total Analysis Volume [veh/h]	14	77	349	299	303	198
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Permissive	Overlap
Signal group	7	4	8	5	5	2
Auxiliary Signal Groups				5,8		2,5,7
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	12	12	16	16	5
Maximum Green [s]	30	16	30	30	30	30
Amber [s]	3.0	4.0	4.0	3.0	3.0	3.0
All red [s]	0.5	1.5	1.5	0.5	0.5	1.0
Split [s]	9	100	91	20	20	20
Vehicle Extension [s]	3.0	2.0	3.0	3.0	3.0	3.0
Walk [s]	0	7	7	0	0	0
Pedestrian Clearance [s]	0	21	22	0	0	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	1.5	3.5	3.5	1.5	1.5	2.0
Minimum Recall	No	No	No	No	No	No
Maximum Recall	No	Yes	No	Yes	Yes	Yes
Pedestrian Recall	No	No	No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	40.0	0.0	40.0	40.0	0.0	0.0
I, Upstream Filtering Factor	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	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	3.50	5.50	5.50	3.50	3.50	3.75
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.50	3.50	3.50	0.00	1.50	1.50
g_i, Effective Green Time [s]	2	31	26	61	30	32
g / C, Green / Cycle	0.01	0.26	0.21	0.51	0.25	0.27
(v / s)_i Volume / Saturation Flow Rate	0.00	0.04	0.19	0.19	0.09	0.13
s, saturation flow rate [veh/h]	3113	1683	1683	1431	3113	1431
c, Capacity [veh/h]	48	433	358	733	790	385
d1, Uniform Delay [s]	58.42	34.56	45.95	17.67	36.71	32.58
k, delay calibration	0.11	0.50	0.25	0.26	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.05	0.82	19.81	0.75	1.24	0.91
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.16	0.90	0.38	0.35	0.47
d, Delay for Lane Group [s/veh]	61.47	35.38	65.76	18.42	37.95	33.48
Lane Group LOS	E	D	E	B	D	C
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	0.22	1.72	11.06	4.55	3.44	2.48
50th-Percentile Queue Length [ft]	5.39	43.02	276.45	113.78	85.89	62.09
95th-Percentile Queue Length [veh]	0.39	3.10	16.51	8.05	6.18	4.47
95th-Percentile Queue Length [ft]	9.71	77.44	412.79	201.25	154.61	111.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.47	35.38	65.76	18.42	37.95	33.48
Movement LOS	E	D	E	B	D	C
d_A, Approach Delay [s/veh]	39.41		43.92		36.19	
Approach LOS	D		D		D	
d_I, Intersection Delay [s/veh]	40.46					
Intersection LOS	D					
Intersection V/C	0.206					

Other Modes

g_Walk,mi, Effective Walk Time [s]	16.5	16.5	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.63	44.63	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.340	3.070	2.990
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	60.00	60.00	60.00
l_b,int, Bicycle LOS Score for Intersection	4.271	5.703	4.132
Bicycle LOS	E	F	D

Sequence

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

Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	75.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Base Volume Input [veh/h]	10	13	708	35	13	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	13	708	35	13	10
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	192	10	3	3
Total Analysis Volume [veh/h]	10	14	770	38	13	11
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.48
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.07
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	1.77
d_A, Approach Delay [s/veh]	0.00		0.00		13.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	863.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.411

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
Base Volume Input [veh/h]	257	10	656	52	0	241
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	257	10	656	52	0	241
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	70	3	178	14	0	60
Total Analysis Volume [veh/h]	279	11	713	57	0	241
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.41	0.02	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	863.28	851.52	0.00	0.00	0.00	0.00
Movement LOS	F	F	A	A		A
95th-Percentile Queue Length [veh]	48.57	48.57	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	1214.33	1214.33	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	862.84		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	189.46					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 11: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd			
Base Volume Input [veh/h]	10	13	52	0	13	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	13	52	0	13	0
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]	3	3	13	0	3	0
Total Analysis Volume [veh/h]	10	13	52	0	13	0
Pedestrian Volume [ped/h]	0		0		0	

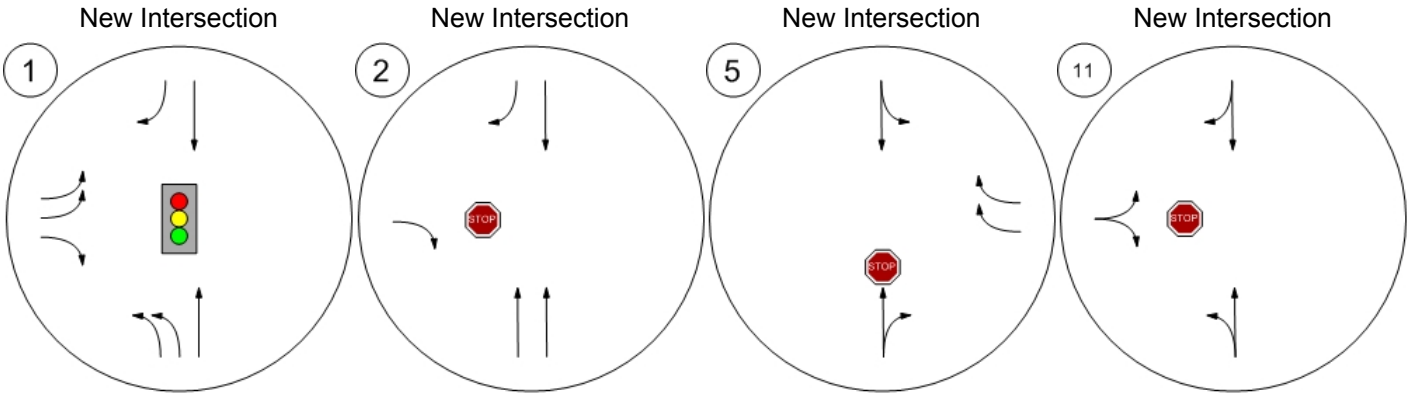
Intersection Settings

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

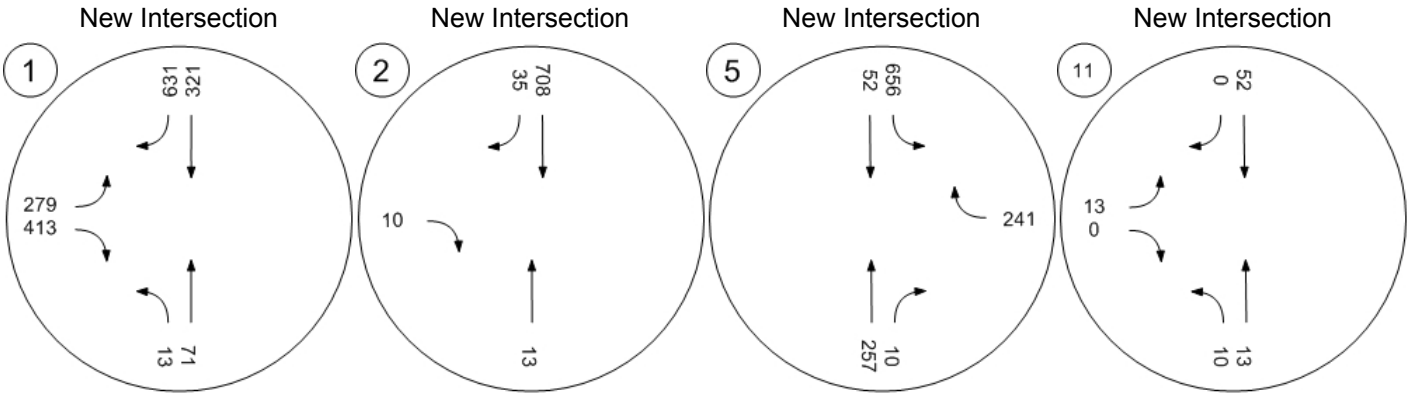
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.01	8.60
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft]	1.13	1.13	0.00	0.00	1.09	1.09
d_A, Approach Delay [s/veh]	3.19		0.00		9.01	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.16					
Intersection LOS	A					

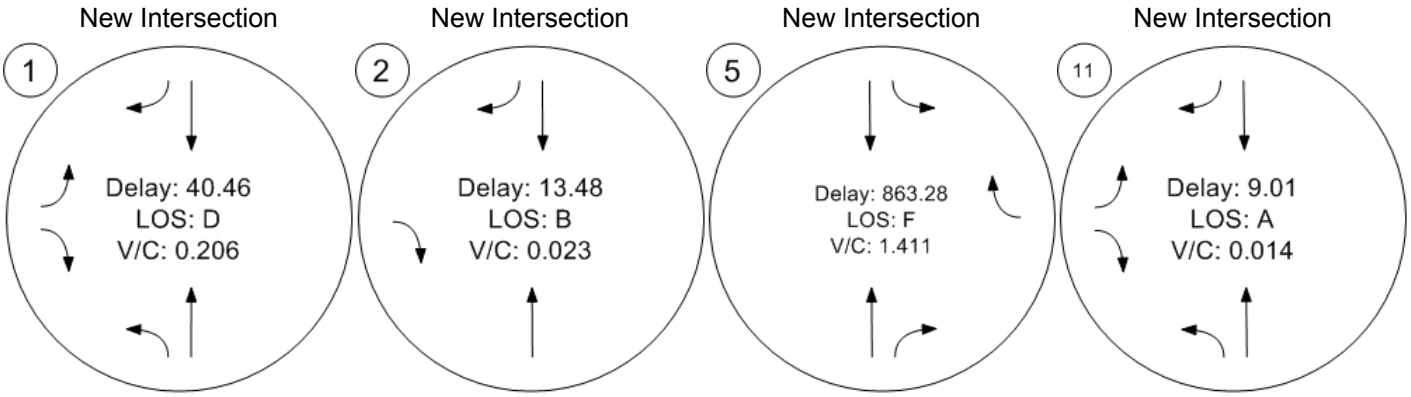
Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Traffic Conditions



Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	36.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0
Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Gibson Blvd	
Base Volume Input [veh/h]	603	467	120	418	540	173
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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
Right-Turn on Red Volume [veh/h]	0	0	0	356	0	96
Total Hourly Volume [veh/h]	603	467	120	62	540	77
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	164	127	33	17	147	21
Total Analysis Volume [veh/h]	655	508	130	67	587	84
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	13.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtectedPermissi	Permissive	Permissive	Permissive	Permissive	Overlap
Signal group	7	4	8	5	5	2
Auxiliary Signal Groups				5,8		2,5,7
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	12	12	16	16	5
Maximum Green [s]	30	16	30	30	30	30
Amber [s]	3.0	4.0	4.0	3.0	3.0	3.0
All red [s]	0.5	1.5	1.5	0.5	0.5	1.0
Split [s]	36	84	48	46	46	46
Vehicle Extension [s]	3.0	2.0	3.0	3.0	3.0	3.0
Walk [s]	0	7	7	0	0	0
Pedestrian Clearance [s]	0	21	22	0	0	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	1.5	3.5	3.5	1.5	1.5	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	Yes	Yes		Yes	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	L	R
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	3.50	3.75
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.50	3.50	3.50	1.50	1.50
g_i, Effective Green Time [s]	53	53	30	30	30	50
g / C, Green / Cycle	0.41	0.41	0.23	0.23	0.23	0.38
(v / s)_i Volume / Saturation Flow Rate	0.21	0.25	0.06	0.04	0.16	0.05
s, saturation flow rate [veh/h]	2863	1870	1870	1589	3459	1589
c, Capacity [veh/h]	1170	770	434	369	803	611
d1, Uniform Delay [s]	27.45	30.00	40.94	39.87	45.40	12.94
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	3.59	1.58	0.98	4.56	0.09
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.61	0.28	0.17	0.67	0.13
d, Delay for Lane Group [s/veh]	27.81	33.59	42.52	40.85	49.96	13.03
Lane Group LOS	C	C	D	D	D	B
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.77	12.21	3.32	1.68	8.32	0.67
50th-Percentile Queue Length [ft]	169.24	305.23	83.03	41.90	207.99	16.65
95th-Percentile Queue Length [veh]	11.04	17.94	5.98	3.02	13.05	1.20
95th-Percentile Queue Length [ft]	275.92	448.49	149.45	75.41	326.26	29.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.81	33.59	42.52	40.85	49.96	13.03
Movement LOS	C	C	D	D	D	B
d_A, Approach Delay [s/veh]	30.33		41.95		45.35	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	36.42					
Intersection LOS	D					
Intersection V/C	0.406					

Other Modes

g_Walk,mi, Effective Walk Time [s]	42.5	42.5	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.45	29.45	54.47
l_p,int, Pedestrian LOS Score for Intersection	2.456	3.133	3.117
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	65.00	65.00	65.00
l_b,int, Bicycle LOS Score for Intersection	5.898	5.020	4.132
Bicycle LOS	F	F	D

Sequence

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

Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	75.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Base Volume Input [veh/h]	10	1070	283	30	13	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	1070	283	30	13	10
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	291	77	8	3	3
Total Analysis Volume [veh/h]	10	1163	308	33	13	11
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.83
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.04
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	1.01
d_A, Approach Delay [s/veh]	0.00		0.00		9.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	76.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland AFB Entrance	
Base Volume Input [veh/h]	136	52	259	24	0	920
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	136	52	259	24	0	920
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	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]	37	14	70	7	0	230
Total Analysis Volume [veh/h]	148	57	282	26	0	920
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.73	0.07	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	76.22	61.65	0.00	0.00	0.00	0.00
Movement LOS	F	F	A	A		A
95th-Percentile Queue Length [veh]	8.61	8.61	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	215.20	215.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	72.19		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	9.76					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 12: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Louisiana Blvd		Louisiana Blvd			
Base Volume Input [veh/h]	10	136	24	0	66	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	136	24	0	66	0
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]	3	34	6	0	17	0
Total Analysis Volume [veh/h]	10	136	24	0	66	0
Pedestrian Volume [ped/h]	0		0		0	

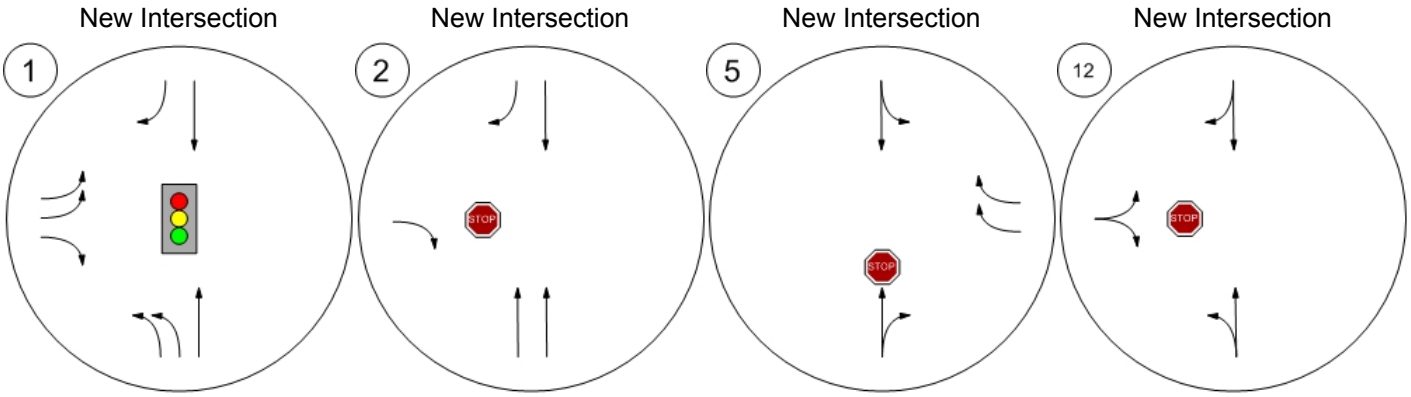
Intersection Settings

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

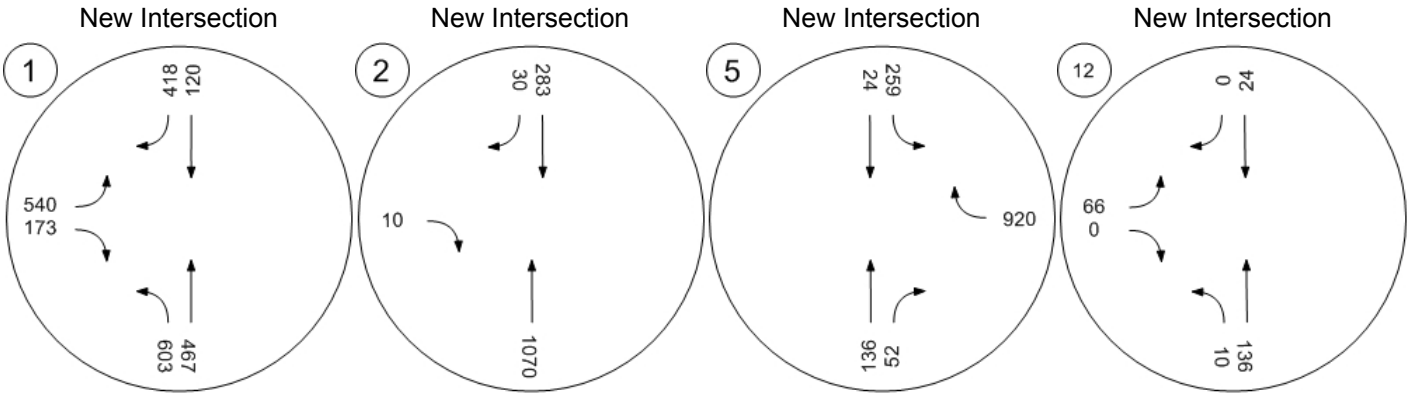
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	0.00	9.88	8.82
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft]	7.58	7.58	0.00	0.00	6.70	6.70
d_A, Approach Delay [s/veh]	0.50		0.00		9.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.07					
Intersection LOS	A					

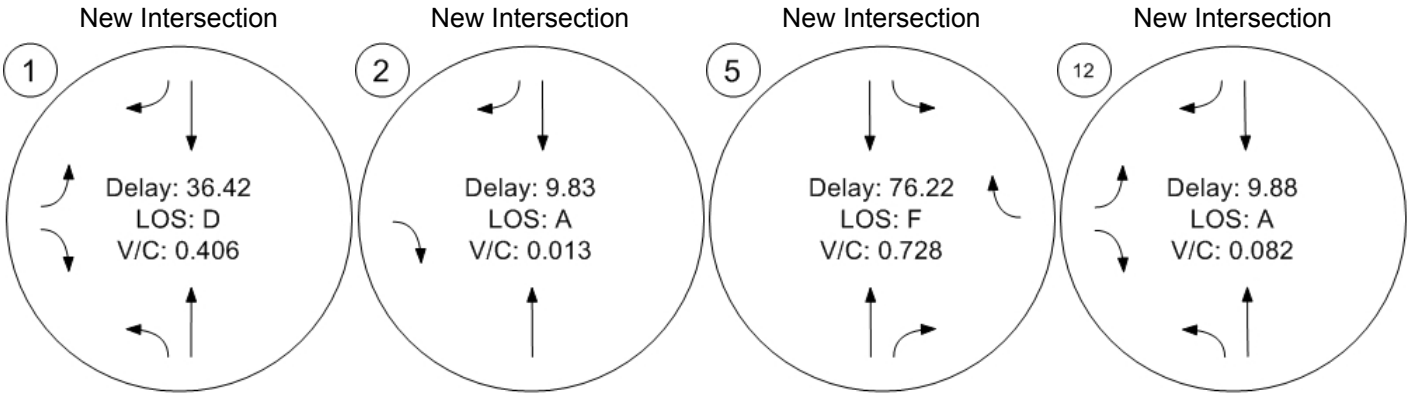
Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Traffic Conditions



Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	26.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd					
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 Pocket	1	0	0	0	0	0	0	0	0	1	0	0
Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd					
Base Volume Input [veh/h]	18	8	711	0	321	631	279	0	413	9	169	63
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	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	356	0	0	231	0	0	0
Total Hourly Volume [veh/h]	18	8	711	0	321	275	279	0	182	9	169	63
Peak Hour Factor	0.9200	0.9200	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	0.7500	0.8130	0.7790
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	2	178	0	87	75	76	0	49	3	52	20
Total Analysis Volume [veh/h]	20	9	711	0	349	299	303	0	198	12	208	81
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	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Unsigna	Permiss	Permiss	Overlap	Permiss	Permiss	Overlap	Protecte	Permiss	Unsigna
Signal group	7	4	0	0	8	5	5	0	2	1	6	0
Auxiliary Signal Groups						5,8			2,7			
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	12	0	0	12	16	16	0	5	5	5	0
Maximum Green [s]	30	16	0	0	30	30	30	0	30	30	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	0.5	1.5	0.0	0.0	1.5	0.5	0.5	0.0	1.0	1.0	1.0	0.0
Split [s]	9	71	0	0	62	30	30	0	40	9	19	0
Vehicle Extension [s]	3.0	2.0	0.0	0.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	22	0	0	0	0	0	10	0
Rest In Walk		No			No		No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	1.5	3.5	0.0	0.0	3.5	1.5	1.5	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No			No	No	No		No	No	No	
Maximum Recall	No	Yes			Yes	Yes	Yes		No	No	Yes	
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]	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	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	R	L	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	3.50	3.50	3.50	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
l2, Clearance Lost Time [s]	0.00	3.50	3.50	0.00	1.50	0.00	0.00	2.00
g_i, Effective Green Time [s]	66	66	57	89	27	49	45	15
g / C, Green / Cycle	0.55	0.55	0.47	0.74	0.22	0.41	0.38	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.00	0.19	0.19	0.09	0.13	0.01	0.04
s, saturation flow rate [veh/h]	1022	1683	1683	1431	3113	1431	1320	4658
c, Capacity [veh/h]	526	919	792	1055	687	586	581	582
d1, Uniform Delay [s]	13.47	12.44	20.76	5.12	40.01	23.95	23.57	47.67
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.02	1.54	0.60	1.79	0.30	0.01	1.26
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	0.03	0.01	0.41	0.26	0.41	0.31	0.02	0.29
d, Delay for Lane Group [s/veh]	13.59	12.45	22.31	5.72	41.80	24.25	23.58	48.93
Lane Group LOS	B	B	C	A	D	C	C	D
Critical Lane Group	No	No	Yes	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh]	0.24	0.10	6.01	2.02	3.64	3.45	0.16	1.60
50th-Percentile Queue Length [ft]	6.02	2.57	150.32	50.47	90.97	86.36	4.10	40.11
95th-Percentile Queue Length [veh]	0.43	0.19	10.03	3.63	6.55	6.22	0.30	2.89
95th-Percentile Queue Length [ft]	10.84	4.63	250.85	90.85	163.75	155.44	7.39	72.20

Movement, Approach, & Intersection Results

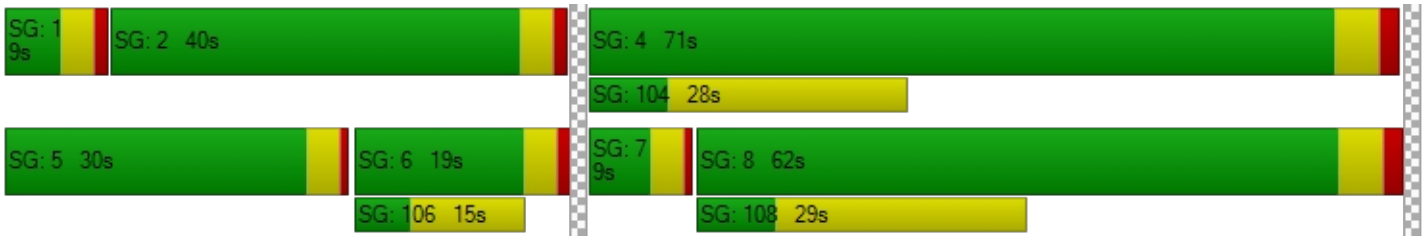
d_M, Delay for Movement [s/veh]	13.59	12.45	0.00	0.00	22.31	5.72	41.80	0.00	24.25	23.58	48.93	0.00
Movement LOS	B	B			C	A	D		C	C	D	
d_A, Approach Delay [s/veh]	13.24			14.65			34.87			47.65		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	26.67											
Intersection LOS	C											
Intersection V/C	0.325											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	11.0	11.0
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	51.34	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	3.055	3.135	2.496
Crosswalk LOS	F	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]	1092	942	0	250
d_b, Bicycle Delay [s]	12.38	16.80	60.00	45.94
l_b,int, Bicycle LOS Score for Intersection	1.603	3.130	4.132	1.658
Bicycle LOS	A	C	D	A

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.055

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd		Kirtland Federal Credit Union	
Base Volume Input [veh/h]	10	737	743	35	13	23
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	737	743	35	13	23
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	200	202	10	3	6
Total Analysis Volume [veh/h]	10	801	808	38	13	25
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.18
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.18
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	4.40
d_A, Approach Delay [s/veh]	0.00		0.00		14.18	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: New Intersection

Control Type:	Roundabout	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour		

Intersection Setup

Name	Louisiana Blvd	Louisiana Blvd	
Approach	Northbound	Southbound	
Lane Configuration			
Turning Movement	Thru	U-turn	Thru
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	100.00	100.00	100.00
Speed [mph]	25.00	30.00	
Grade [%]	0.00	0.00	
Crosswalk	Yes	Yes	

Volumes

Name	Louisiana Blvd	Louisiana Blvd	
Base Volume Input [veh/h]	23	714	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	0	0	0
Diverted Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	23	714	52
Peak Hour Factor	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	179	13
Total Analysis Volume [veh/h]	23	714	52
Pedestrian Volume [ped/h]	0	0	

Intersection Settings

Number of Conflicting Circulating Lanes	1	1	
Circulating Flow Rate [veh/h]	728	0	
Exiting Flow Rate [veh/h]	0	728	
Demand Flow Rate [veh/h]	23	714	52
Adjusted Demand Flow Rate [veh/h]	23	714	52

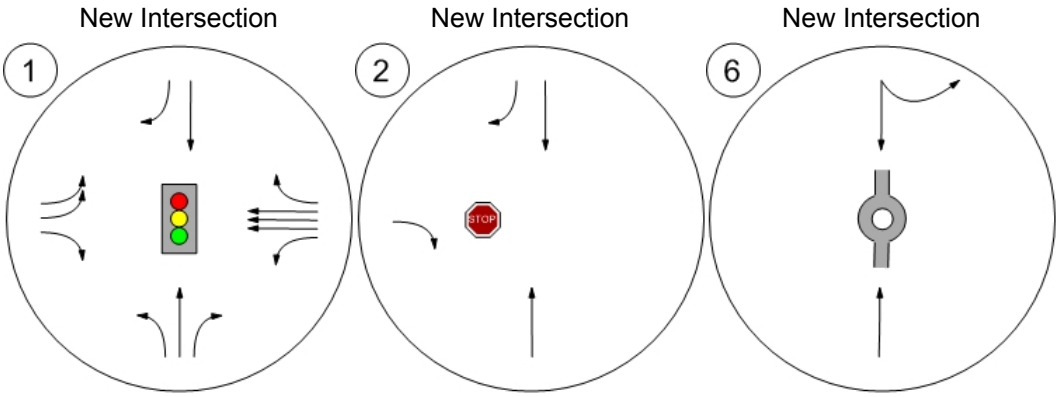
Lanes

Overwrite Calculated Critical Headway	No	No
User-Defined Critical Headway [s]	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No
User-Defined Follow-Up Time [s]	3.00	3.00
A (intercept)	1380.00	1380.00
B (coefficient)	0.00102	0.00102
HV Adjustment Factor	0.98	0.98
Entry Flow Rate [veh/h]	24	782
Capacity of Entry and Bypass Lanes [veh/h]	657	1380
Pedestrian Impedance	1.00	1.00
Capacity per Entry Lane [veh/h]	644	1353
X, volume / capacity	0.04	0.57

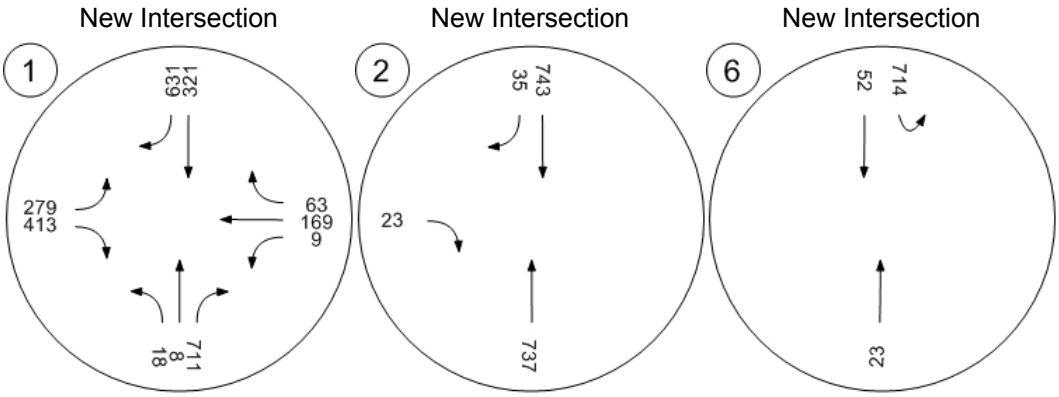
Movement, Approach, & Intersection Results

Lane LOS	A	A
95th-Percentile Queue Length [veh]	0.11	3.86
95th-Percentile Queue Length [ft]	2.78	96.61
Approach Delay [s/veh]	5.98	8.95
Approach LOS	A	A
Intersection Delay [s/veh]	8.86	
Intersection LOS	A	

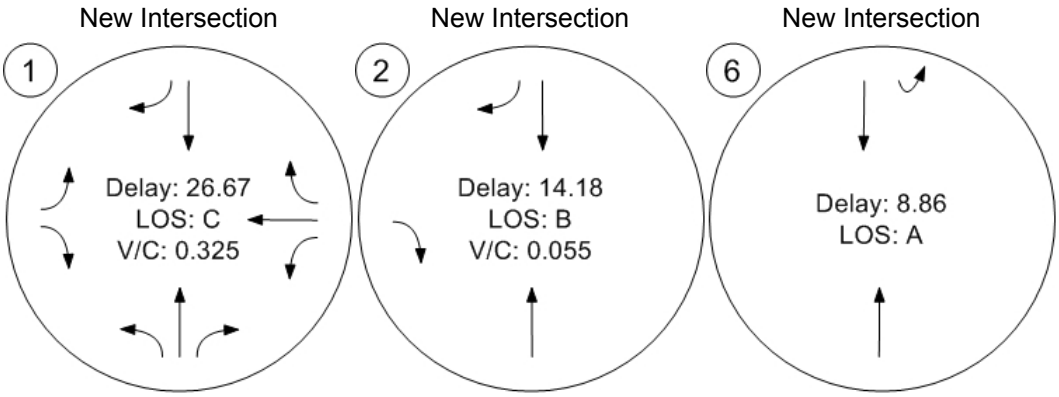
Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Traffic Conditions



Intersection Level Of Service Report
Intersection 1: New Intersection

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.348

Intersection Setup

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
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 Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Louisiana Blvd			Louisiana Blvd			Gibson Blvd			Gibson Blvd		
Base Volume Input [veh/h]	29	121	52	94	26	418	540	165	8	20	554	346
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	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	47	0	0	240	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	121	5	94	26	178	540	165	8	20	554	346
Peak Hour Factor	0.8060	0.6440	0.4170	0.6710	0.5910	0.8090	0.9120	0.8250	0.6670	0.7140	0.9300	0.7650
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]	9	47	3	35	11	55	148	50	3	7	149	113
Total Analysis Volume [veh/h]	36	188	12	140	44	220	592	200	12	28	596	452
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	13.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Unsigna	Permiss	Permiss	Overlap	Permiss	Permiss	Overlap	Protecte	Permiss	Unsigna
Signal group	7	4	0	0	8	5	5	2	2	1	6	0
Auxiliary Signal Groups						5,8			2,7			
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	12	0	0	12	3	3	5	5	5	16	0
Maximum Green [s]	30	16	0	0	30	30	30	30	30	30	30	0
Amber [s]	3.0	4.0	0.0	0.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0	0.0
All red [s]	1.0	1.5	0.0	0.0	1.5	0.5	0.5	1.0	1.0	1.0	1.0	0.0
Split [s]	9	44	0	0	35	49	49	69	69	17	37	0
Vehicle Extension [s]	3.0	2.0	0.0	0.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	22	0	0	0	0	0	21	0
Rest In Walk		No			No		No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.5	0.0	0.0	3.5	1.5	1.5	2.0	2.0	2.0	3.0	0.0
Minimum Recall	No	No			No	No	No		No	No	No	
Maximum Recall	No	Yes			Yes	Yes	Yes		No	No	Yes	
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]	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	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	R	L	R	L	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	3.50	3.50	4.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.50	3.50	0.00	1.50	0.00	0.00	3.00
g_i, Effective Green Time [s]	38	38	31	82	46	83	81	32
g / C, Green / Cycle	0.30	0.30	0.24	0.63	0.35	0.64	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.01	0.11	0.16	0.01	0.01	0.11
s, saturation flow rate [veh/h]	1439	1870	1870	1589	3459	1589	1438	5094
c, Capacity [veh/h]	491	552	448	1004	1211	1011	978	1258
d1, Uniform Delay [s]	32.81	34.50	38.12	9.92	32.54	8.65	9.30	41.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.91	0.25	0.39	1.20	0.00	0.01	1.13
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	0.06	0.22	0.06	0.18	0.45	0.01	0.02	0.44
d, Delay for Lane Group [s/veh]	33.04	35.41	38.36	10.30	33.74	8.65	9.31	42.49
Lane Group LOS	C	D	D	B	C	A	A	D
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	0.70	3.06	0.67	2.10	6.64	0.08	0.21	5.08
50th-Percentile Queue Length [ft]	17.40	76.43	16.66	52.51	166.08	1.99	5.24	126.92
95th-Percentile Queue Length [veh]	1.25	5.50	1.20	3.78	10.87	0.14	0.38	8.77
95th-Percentile Queue Length [ft]	31.32	137.57	29.99	94.52	271.76	3.59	9.44	219.30

Movement, Approach, & Intersection Results

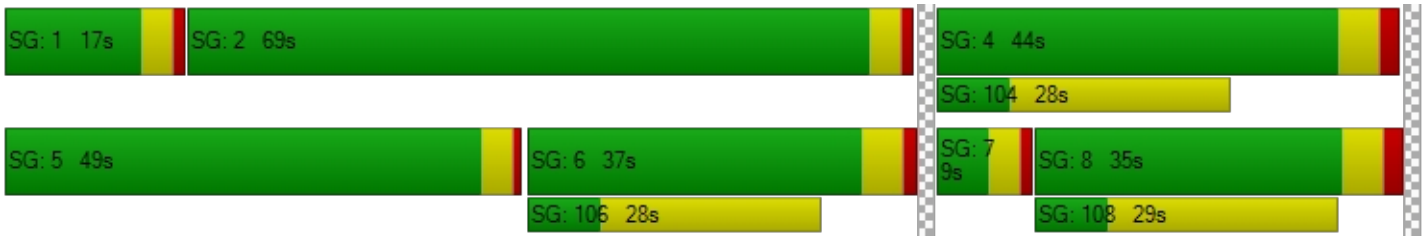
d_M, Delay for Movement [s/veh]	33.04	35.41	0.00	0.00	38.36	10.30	33.74	0.00	8.65	9.31	42.49	0.00
Movement LOS	C	D			D	B	C		A	A	D	
d_A, Approach Delay [s/veh]	34.96			13.88			33.37			41.33		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	33.94											
Intersection LOS	C											
Intersection V/C	0.348											

Other Modes

g_Walk,mi, Effective Walk Time [s]	45.5	11.0	11.0	11.0
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]	27.46	54.47	54.47	54.47
l_p,int, Pedestrian LOS Score for Intersection	2.188	2.849	2.817	2.725
Crosswalk LOS	B	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]	592	454	0	492
d_b, Bicycle Delay [s]	32.20	38.85	65.00	36.94
l_b,int, Bicycle LOS Score for Intersection	1.807	2.292	4.132	1.875
Bicycle LOS	A	B	D	A

Sequence

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



Intersection Level Of Service Report
Intersection 2: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.104

Intersection Setup

Name	Louisiana Blvd		Louisiana Blvd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Louisiana Blvd		Louisiana Blvd			
Base Volume Input [veh/h]	10	511	313	30	66	76
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	10	511	313	30	66	76
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]	3	128	78	8	17	19
Total Analysis Volume [veh/h]	10	511	313	30	66	76
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			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.53
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.74
d_A, Approach Delay [s/veh]	0.00		0.00		10.53	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.86					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: New Intersection

Control Type:	Roundabout	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	1 hour		

Intersection Setup

Name	Louisiana Blvd	Louisiana Blvd	
Approach	Northbound	Southbound	
Lane Configuration			
Turning Movement	Thru	U-turn	Thru
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	100.00	100.00	100.00
Speed [mph]	30.00	30.00	
Grade [%]	0.00	0.00	
Crosswalk	Yes	Yes	

Volumes

Name	Louisiana Blvd	Louisiana Blvd	
Base Volume Input [veh/h]	146	365	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	0	0	0
Diverted Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	146	365	24
Peak Hour Factor	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	91	6
Total Analysis Volume [veh/h]	146	365	24
Pedestrian Volume [ped/h]	0	0	

Intersection Settings

Number of Conflicting Circulating Lanes	1	1	
Circulating Flow Rate [veh/h]	372	0	
Exiting Flow Rate [veh/h]	0	372	
Demand Flow Rate [veh/h]	146	365	24
Adjusted Demand Flow Rate [veh/h]	146	365	24

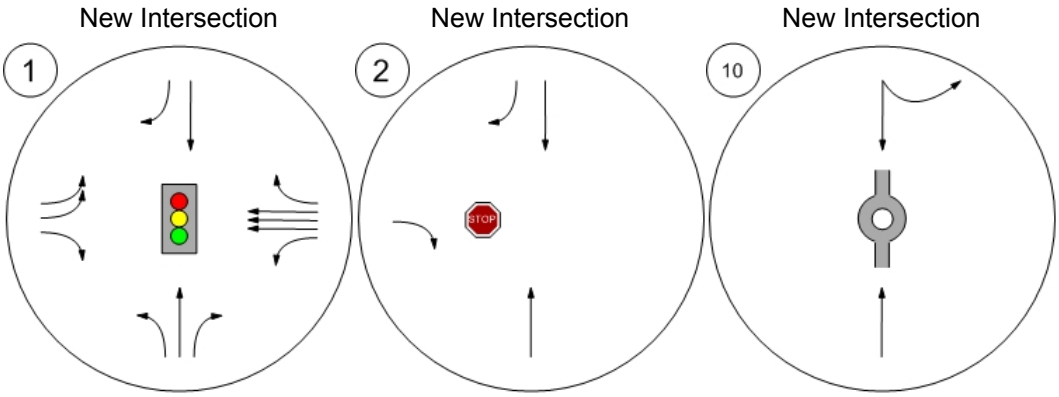
Lanes

Overwrite Calculated Critical Headway	No	No
User-Defined Critical Headway [s]	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No
User-Defined Follow-Up Time [s]	3.00	3.00
A (intercept)	1380.00	1380.00
B (coefficient)	0.00102	0.00102
HV Adjustment Factor	0.98	0.98
Entry Flow Rate [veh/h]	149	397
Capacity of Entry and Bypass Lanes [veh/h]	944	1380
Pedestrian Impedance	1.00	1.00
Capacity per Entry Lane [veh/h]	926	1353
X, volume / capacity	0.16	0.29

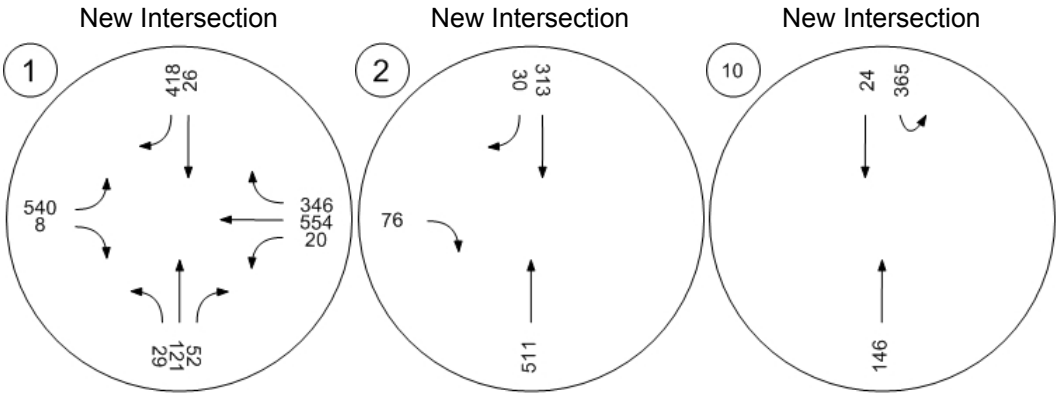
Movement, Approach, & Intersection Results

Lane LOS	A	A
95th-Percentile Queue Length [veh]	0.56	1.21
95th-Percentile Queue Length [ft]	14.03	30.19
Approach Delay [s/veh]	5.41	5.17
Approach LOS	A	A
Intersection Delay [s/veh]	5.24	
Intersection LOS	A	

Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Traffic Conditions