Appendix B: Full Traffic Study

Lee Road Traffic Study and Corridor Plan

TRAFFIC STUDY REPORT

Prepared for the
City of Shaker Heights, Ohio

November 2012

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1.0 Project Background

The purpose of the Lee Road Traffic Study and Corridor Plan is to improve transportation access and circulation for all modes traveling the Lee Road corridor. The Lee Road corridor is one of Shaker Heights' few continuous north-south roadways. Lee Road transverses the community within three distinct character types:

- The northern section of the corridor (from North Park Boulevard to City Hall) is generally single-family residential with access to recreation facilities and natural features (Horseshoe Lake Park, the Nature Center at Shaker Lakes, and the Shaker Historical Society and Museum). This section provides access to schools and typically has good neighborhood connectivity. A challenge to traffic operations through the northern section of the corridor is the interface between the transit line (RTA's Green Line) and traffic operations at the intersection of Lee Road and Shaker Boulevard.
- The middle section of the corridor (from City Hall to Chagrin Boulevard) is civic and commercial in context. City Hall, the Police Department/Municipal Court Building, Public Library and Stephanie Tubbs Jones Community Building are all found within this section. Additionally, the Shaker Town Center commercial district is located within this section and serves as a hub of commercial activity for the municipality. Similar to the northern section, the middle section is also faced with the challenge of interfacing transit and vehicle traffic; RTA's Blue Line Van Aken station is located below grade at the intersection of Lee Road and Van Aken Boulevard.
- The southern section of the corridor (Chagrin Boulevard to Scottsdale Boulevard) is primarily commercial with a history of underutilized business capacity. In general, the buildings are set back toward the rear of the property with parking in front. The Shaker Heights School Bus Garage is located within this section. This commercial area is bordered by dense residential neighborhoods to the east (Lomond) and to the west (Moreland).

This traffic study began with evaluation of the existing traffic operations along the Lee Road corridor. It then evaluated potential improvements to enhance safety and mobility, and identified where conversion from the existing 4-lane roadway to a 3-lane roadway may be feasible. This would enable provision of bicycle facilities (wide shoulder or bike lane) along the corridor to enhance corridor operations for all modes of travel. Conversion to a 3-lane section has the added benefit of reducing accident potential for turning vehicles.

2.0 Project Purpose and Methodology

The purpose of the traffic study is to evaluate the existing conditions along the Lee Road corridor and identify sections where conversion from the existing 4-lane roadway to a 3-lane roadway may be feasible. This would enable the provision of bicycle accommodations along the corridor. The area evaluated for the traffic study begins on the northern end of the corridor at the intersection of Lee Road and Fairmount Boulevard. Although Fairmount Boulevard and North Park Boulevard are located in Cleveland Heights, they are included in the analysis due to their proximity and the effect that those signals have on corridor operations. The southern terminus of the traffic study is the intersection of Lee Road and Scottsdale Boulevard, at the southern border of Shaker Heights and the City of Cleveland. A total of twelve signalized intersections along Lee Road are included in the traffic study.

- Fairmount Boulevard
- North Park Boulevard
- South Park Boulevard
- Shaker Boulevard
- South Woodland Road
- Parkland Drive
- Aldersyde Drive
- Van Aken Boulevard
- Library/Shaker Town Center
- Chagrin Boulevard -Kenyon Road
- Lomond Boulevard
- Scottsdale Boulevard

The traffic analysis evaluates traffic operations in the existing condition and traffic operations with potential improvements. To evaluate the existing conditions at the project intersections, traffic volume counts were collected in December 2011. Peak hour traffic operations were assessed based upon levels of service (LOS) and average delays.

The results of the existing conditions analysis were used to set a benchmark to assess performance of the proposed improvement scenarios. This was followed by an analysis of future conditions. Traffic volumes for the future traffic conditions were projected and analyzed to assist with the evaluation of the alternatives as part of the study process. NOACA provided future background growth rates for the study area. The NOACA travel demand model shows no increase in traffic in the 20-year design horizon within the study area.

Figure 1:
Lee Road Corridor

3.0 Existing Traffic Conditions and Analysis

The twelve signalized intersections in the study area are illustrated in Figure 2 below:

Figure 2: Study Area Signalized Intersections (north at top of photos)

Lee & Fairmount

Lee & North Park

Lee & South Park

Lee & Shaker

Lee & South Woodland

Lee & Parkland

Lee & Aldersyde

Lee & Van Aken

Lee & Town Center-Library

Lee & Chagrin-Kenyon

Lee & Lomond

Lee & Scottsdale

Peak period turning movement volumes were collected at the study area intersections on December 6, 2011 and December 8, 2011 from 7:00 AM to 10:00 AM, 12:00 PM to 1:00 PM, and 2:00 PM to 7:00 PM. The intersection of Lee Rd. with the Library-Town Center was under construction at the time of the traffic counts, so it was not counted. A historic count at that location was used in combination with the upstream and downstream counts that were collected to estimate peak hour turning movement volumes at that intersection. Existing signal timing directives for the study area intersections were obtained from Shaker Heights and Cleveland Heights to accurately model the existing conditions.

Average Daily Traffic Volumes (ADTs) were calculated using factors provided by the Ohio Department of Transportation (ODOT) which are based on roadway functional classification and adjust hourly count data for day of the week and month of the year. The ADTs throughout the corridor are displayed in Figure 3. Based on guidance provided by the Federal Highway Administration (FHWA), roadways with an ADT of 20,000 vehicles per day (vpd) or less may be good candidates for a road diet, with an ADT of less than 15,000 vpd having very good results. Between 15,000 vpd to 20,000 vpd, additional studies are needed to determine feasibility.

A road diet in the context of the Lee Road corridor is a conversion of two lanes in each direction to one lane in each direction with a center turn lane. A road diet can increase safety and provide benefits to all users of the roadway. Figure 3 illustrates both the ADT's as well as highlights in green the sections where a road diet is anticipated to be feasible based on the ADT.

The peak hour traffic volumes were used to analyze intersection operations and to determine the base (background) condition. The AM and PM peak hour traffic volumes are illustrated in Figure 4, and included in the Appendix. NOACA provided future background growth rates for the study area traffic. The NOACA travel demand model shows no increase in traffic in the 20-year design horizon within the study area. In fact, the model actually shows a decrease in traffic volumes without redevelopment within the Lee Road corridor. As such, the 20-year horizon volumes were assumed to be the same as the existing year traffic volumes and a separate future year analysis was not completed.

The northern section of the corridor is approximately 40 feet wide and is striped as two wide lanes. Each of those lanes typically carries two lanes of traffic, resulting in a roadway that functions as a four-lane roadway. The middle section of the corridor varies between 56 feet to 66 feet wide. It is striped with four travel lanes and turn lanes. There is on-

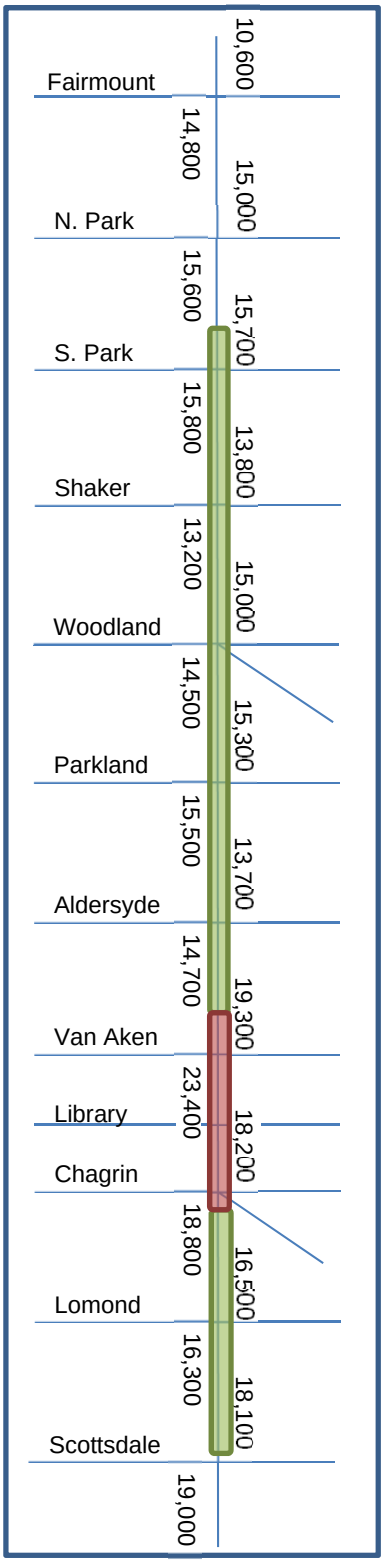

Figure 3: Existing Average Daily Traffic (ADT) 2-way

street parking in specified areas and sidewalks. The southern section varies between 48 feet to 52 feet wide, with four travel lanes and sidewalks.

Shaker Heights is well-served by the Greater Cleveland Regional Transit Authority (GCRTA) along the Lee Rd. corridor. Both the Blue Line and the Green Line light rail transit lines traverse the city, running east-west along Van Aken Blvd. and Shaker Blvd., respectively. Additionally, bus Routes 37 and 40 travel on Lee Rd., with Route 37 (E.185-Taylor) traveling on Lee Rd. between Fairmount Blvd. (east) and Chagrin Blvd. (west) and Route 40 (Lakeview-Lee) traveling the entire corridor through Shaker Heights. Rout 14 (Kinsman) intersects Lee Rd., traveling on Chagrin Blvd. from Warrensville/Van Aken west to E.66th St. and into downtown Cleveland.

The Lee Road corridor does not display typical commuter peak period directional traffic pattern trends. A typical commuter corridor would display a distinct directional flow higher in one direction during the AM peak hour, with the mirroring opposite directional preference during the PM peak hour. Directionally, Lee Road is nearly balanced between northbound and southbound flows during both the AM and PM peak hours. During the AM peak hour, there is a slight increase in northbound traffic over southbound traffic through the corridor, but it is only a slight increase. During the PM peak hour, most of the corridor has slightly higher flows in the southbound direction, except for the area between Van Aken Blvd. and Chagrin Blvd. Additionally, the difference is not significant between the AM peak hour volumes and the PM peak hour volumes, north of Van Aken Blvd. South of Van Aken Blvd., the PM peak hour volumes are higher than the AM peak hour volumes.

Consideration was given to the future impact to traffic on the Lee Road corridor by the development of the Warransville/Van Aken Transit-Oriented Development (TOD). A study was conducted in 2008 for the TOD, which evaluated alternatives for the area and related traffic impacts. That study did not specifically address the intersections along the Lee Rd. corridor. However, based on the change in volume depicted in the TOD study at the project limits (Van Aken Blvd., west of Farnsleigh Rd., or on Chagrin Blvd., west of Lynnfield Rd.), from the No-Build to the Build condition was not significant. Based on the information provided, it does not appear that there will be significant impact to the Lee Rd. corridor by the TOD.

The traffic data was analyzed using Synchro Version 8, a microsimulation traffic model, to determine the traffic performance and operational efficiency of each intersection. The results of the analysis include the approach delay (measured in seconds) level of service, and volume-capacity (v/c) ratio for each movement, as well the approach delay and level of service by approach and overall intersection delay for both the AM and PM Peak Hours. Average delay is an indication of the expected delay that would typically be experienced in each intersection approach lane, on the total approach, or at the entire intersection. Level of service (LOS) is a grading scale based upon average delay, with LOS A representing free-flow conditions, LOS E representing operational capacity, and LOS F being over-capacity. The specific delay thresholds for both signalized and unsignalized intersections are provided by the Transportation Research Board in the Highway Capacity Manual and are given in the table below. A v/c ratio that is less than 1.0 indicates that the lane is operating below capacity. A v/c ratio of 1.0 indicates that the lane is operating at capacity and a v/c greater than one indicates over-capacity conditions.

Figure 4: Existing Traffic Volumes – AM/PM Peak Hours

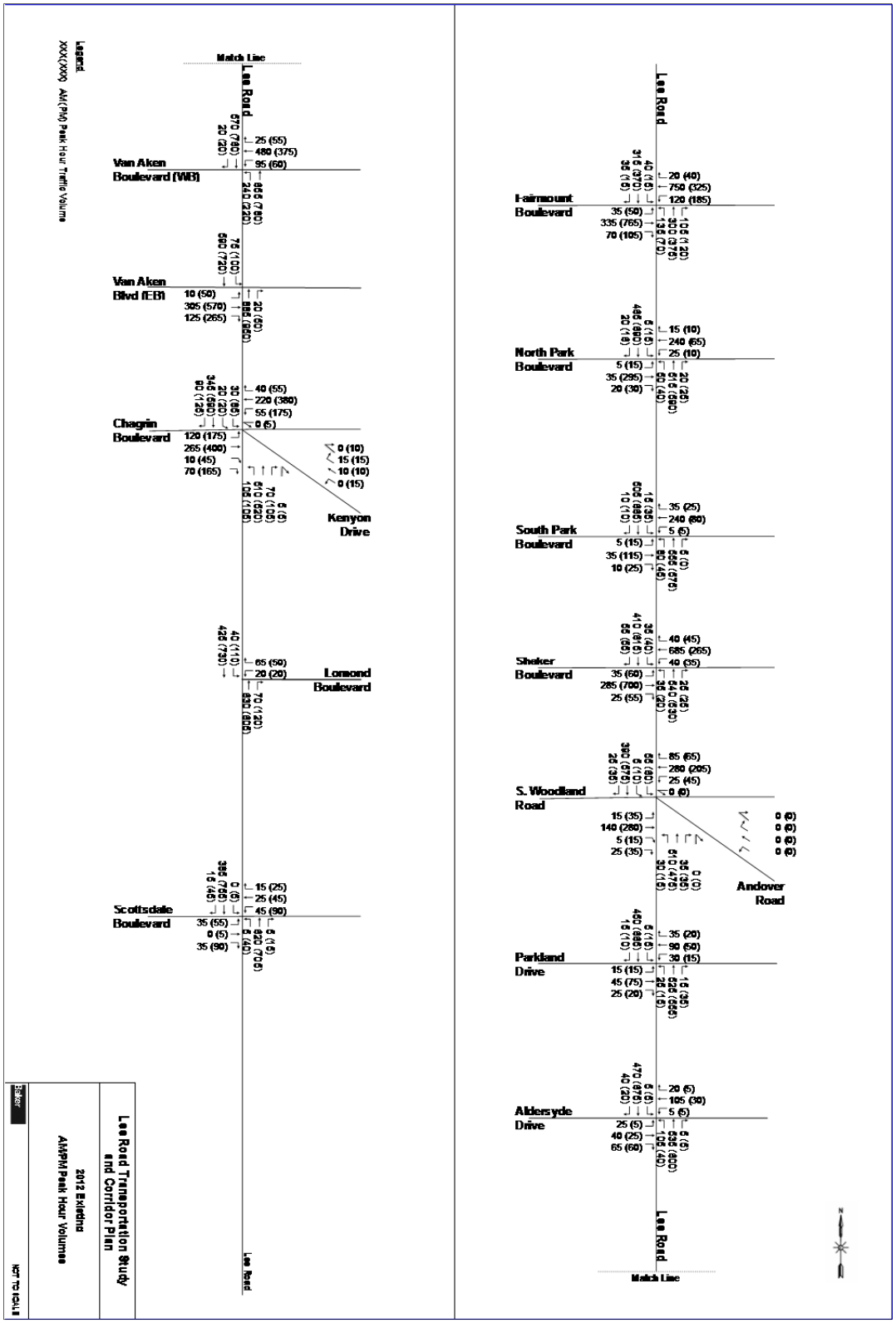

Table 1: Highway Capacity Manual Levels of Service

LEVEL OF SERVICE (LOS)		
LOS	Signalized Intersection Average Delay (sec/veh)	Unsignalized Intersection Average Delay (sec/veh)
A	x < 10	x < 10
B	10 < x < 20	10 < x < 15
C	20 < x < 35	15 < x < 25
D	35 < x < 55	25 < x < 35
E	55 < x < 80	35 < x < 50
F	80 < x	50 < x

The AM and PM peak hour traffic volumes were analyzed to assess intersection operations in the existing conditions. The traffic analysis used the existing traffic volumes, as recorded by the traffic data collection, and existing signal timing and phasing, as provided by Shaker Heights.

An overview of the existing capacity analysis results are shown in Table 2. A detailed table that shows the analysis results by movement for each intersection is provided in the Appendix. The results of the existing capacity analysis are used as a benchmark to assess the impact of proposed changes on the corridor, including conversion to a 3-lane roadway. The results indicate that all study area intersections are currently operating at acceptable levels of service.

Table 2: Capacity Analysis Results for Existing Conditions

	Fairmount	North Park	South Park	Shaker	Woodland	Parkland	Aldersyde	Van Aken	Town Center	Chagrin	Lomond	Scottsdale
AM PEAK												
LOS	C	C	B	C	C	B	B	D	A	C	A	B
Average Delay(sec.)	33	20	14	30	21	15	11	44	3	25	5	11
v/c	0.83	0.62	0.75	0.81	0.76	0.77	0.49	0.84	0.30	0.65	0.56	0.61
PM PEAK												
LOS	D	B	B	C	C	A	A	D	A	C	A	B
Average Delay(sec.)	39	20	12	30	22	9	4	48	7	30	4	14
v/c	0.90	0.69	0.69	0.82	0.82	0.62	0.36	0.90	0.68	0.81	0.52	0.73

4.0 Three-Lane Capacity Analysis

Synchro, Version 8, was used to determine the traffic performance and operational efficiency of each intersection for the configurations that were evaluated. The performance of each of the configurations was then compared to the intersection performance of the existing conditions. The first configuration that was evaluated included conversion to a 3-lane roadway was for the entire Lee Road corridor, converting from generally two travel lanes in each direction to one travel lane in each direction with a center two-way left turn lane (*Road Diet*). The analysis results indicated that conversion is feasible in the northern and southern sections. Conversion of the middle section, between Van Aken and Chagrin, is predicted to result in over-capacity conditions during peak hours.

The recommended corridor configuration consists of conversion of the north and south sections to a 3-lane roadway, with the existing configuration retained from Van Aken Boulevard to south of Chagrin Boulevard. Transitions between the 3-lane and existing configurations are accommodated to the north of Van Aken, to the south of Lomond, and to the north of Scottsdale. In addition, adjustments were made to signal timing and phasing to improve the overall corridor performance. The following modifications were made the intersection configurations and/or signal phasing:

- Fairmount Boulevard Intersection: Provide protected only eastbound and westbound left turn phases (lead/lag) with simultaneous through movements to improve intersection operations. The signal currently operates with split phasing for the eastbound and westbound approaches.
- Shaker Boulevard Intersection: Provide northbound and southbound lead/lag protected only left turn phasing to accommodate the proposed 3-lane roadway. This is a necessary change due to the modified roadway cross-section. Because this intersection is bisected by RTA's Green Line, the northbound and southbound left turn movements will occupy the same pavement in the middle of the intersections (where the left turn crosses the tracks); simultaneous left turns cannot be accommodated.
- South Woodland Road Intersection: Reconfigure the east and west legs of the intersection to provide two approach lanes (exclusive left, through/right) and one downstream receiving lane. These modifications would narrow the pedestrian crossing distance across Woodland and remove the opportunity for downstream "jockeying" that occurs on the far sides of the intersection where the two existing receiving lanes merge to one.
- Chagrin Boulevard Intersection: Convert Kenyon to one-way southeast to improve intersection operations. This would create an "enter only" condition to Kenyon at the Chagrin/Lee intersection, allowing vehicles to enter Kenyon from the intersection; vehicles would exit the area via one of several alternate routes. This modification would improve intersection operations and it would significantly reduce the pedestrian crossing distance across Kenyon.

An overview of the existing capacity analysis results is shown in Table 3. It includes the overall intersection delay (measured in seconds) and level of service for both the AM and PM Peak Hours. A detailed table that shows the analysis results by movement for each intersection is provided in the Appendix. The capacity analysis predicts acceptable performance with implementation of a 3-lane cross-section for the north and south sections of Lee Road. The recommended configuration varies slightly from the existing operation. The intersection of Lee and Shaker does experience a slight degradation in performance (from LOS C to LOS D), due to the change in phasing that is required with the narrowed cross-section to safely accommodate northbound and southbound left turns. For an

urban environment, an LOS D is acceptable, indicating that the intersection is expected to operate below capacity. The change in phasing is also likely to improve safety at this intersection. Traffic operations for the middle section are expected to perform poorly as a 3-lane roadway and as such, the existing roadway configuration should be maintained from Van Aken to Chagrin.

The conversion from a 4-lane to a 3 lane roadway cross-section will put the through moving traffic into one lane in each direction, which could create fewer gaps for traffic entering Lee Rd. from sidestreets and driveways. However, due to the concentration of traffic signals along the corridor, gaps will naturally be created between signal phases, creating a platoon of traffic, but between those platoons there will be gaps for vehicles to enter Lee Rd. The two-way left turn lane will also provide a shelter for vehicles to wait to enter the traffic flow after crossing one direction of traffic before entering the other.

Table 3: Capacity Analysis Results for Existing Conditions & 3-Lane Scenario

		Fairmount	North Park	South Park	Shaker	S. Woodland	Parkland	Aldersyde	Van Aken	Town Center	Chagrin	Lomond	Scottsdale
AM PEAK													
Existing	LOS	C	C	B	C	C	B	B	D	A	C	A	B
	Delay	33	20	14	30	21	15	11	44	3	25	5	11
3-Lanes (Road Diet)	LOS	C	C	B	D	C	B	B	**F**	A	C	A	B
	Delay	33	20	15	47	21	17	11	**123**	10	29	5	12
Recommended	LOS	C	C	B	D	C	B	B	D	A	C	A	B
	Delay	30	20	13	41	22	15	14	45	4	21	4	10
PM PEAK													
Existing	LOS	D	B	B	C	C	A	A	D	A	C	A	B
	Delay	39	20	12	30	22	9	4	48	7	30	4	14
3-Lanes (Road Diet)	LOS	D	B	B	D	C	B	A	**F**	**E**	**F**	A	B
	Delay	39	20	13	46	23	13	6	**197**	**57**	**93**	7	16
Recommended	LOS	D	B	A	D	C	A	A	D	A	C	A	B
	Delay	44	15	10	44	20	9	10	50	7	21	5	14

Since redevelopment of the southern section is a consideration, a very general analysis was conducted to look at the amount of growth in traffic that could be accommodated within the corridor. The analysis evaluated the amount of increase in traffic in the southern section that could be tolerated before

performance was unacceptable at the corridor intersections by modifying the growth percentage. This value was determined to be an approximate 25% growth in overall traffic volume. This analysis assumed that the existing distribution of traffic would be maintained and the 25% growth was distributed according to those existing patterns.

Implementation of bike lanes on Lee Rd. would require a prohibition of on-street parking in sections where the width does not adequately support both the parking and the bike lanes.

5.0 Crash Data Summary

When a corridor is being evaluated for operational improvements, improving safety is also an important consideration. According to the "2009 Crash Repot", published by NOACA, the intersection of Lee Rd. and Van Aken Rd. ranked as the 7th highest crash intersection in the NOACA region for the years 2007 through 2009. As part of this study, crash data was provided by Shaker Heights Police Department for the years 2009 through 2011. The data provided summarized by intersection the number of crashes by type. This study did not evaluate the individual crash details but only the summary provided for each location. Table 4 summarizes the number of crashes per intersection for the corridor. A breakdown by type is included in the Appendix.

Table 4: Crash Data (2009 – 2011)

	South Park	Shaker	Woodland	Parkland	Aldersyde	Fernway	Van Aken	Chagrin	Lomond	Scottsdale
Number of Crashes	20	41	22	6	6	12	69	54	2	19

The Van Aken, Chagrin, and Shaker intersections experienced the highest number of crashes on the Lee Road corridor during the 2009 to 2011 time period. The Van Aken intersection is fairly complex, as eastbound and westbound Van Aken is split by RTA's Blue Line, creating what feels like two intersections to drivers. In addition, Chalfant Road intersects the westbound Van Aken/Lee intersection, creating an additional leg on the northeast quadrant. The majority of crashes as the Van Aken intersection were caused by red light violations. This could be due to signal head type, signal head placement, length of clearance interval, and/or confusion with signal operations. Intersection operations and the associated traffic safety issues at the Lee/Van Aken intersection are complicated and should undergo additional study to identify, assess and recommend mitigating measures for the observed crash history and associated operational safety issues. Additional study efforts should also include evaluating the crash data prior to the traffic signal upgrade, to determine whether the current signal could be a contributing factor.

The predominant crash type at both the Chagrin and Shaker intersections was assured clear distance (rear-end collisions). The Shaker intersection also experienced a significant number of crashes involving improper lane changes. Given the combination of assured clear distance and improper lane changes cited, crashes may result from vehicles changing lanes at the last moment to go around vehicles blocking

the left through lane waiting to turn left. Implementation of 3-lane cross-section is expected to improve operational safety at the Shaker intersection by creating exclusive northbound and southbound left turn lanes which will remove left turning vehicles from the through traffic stream. Additionally, changing the signal phasing at the Shaker intersection to north-south split phasing may further reduce the number of crashes by avoiding a permissive left turn operations.

6.0 Recommendations

The Lee Road corridor is an important north-south connector within Shaker Heights and for the surrounding region. It provides one of three roadways within the city to accommodate all travel modes, including pedestrians, bicyclists, motorists, and transit riders. It connects neighborhoods to schools, transit, and community services, and has the potential to bring a strong economic engine to the community in the south section. Based on the results of the operational analysis, a 3-lane roadway would operate effectively in both the northern and southern sections of the corridor. As such, to the north of Van Aken and south of Chagrin, Lee Road would consist of a single travel lane in each direction with a center turn lane to provide refuge for left turning vehicles. Reconstructing the north and south sections of Lee Road to this 3-lane cross-section is expected to improve overall safety for traffic operations as well as enhance the quality of life for all of the users of the corridor by enabling the provision of bicycle-friendly accommodations. With implementation of the recommended 3-lane roadway, additional changes to roadway configuration and signal operations are recommended at:

- Fairmount Boulevard Intersection: Provide protected only eastbound and westbound left turn phases (lead/lag) with simultaneous through movements to improve intersection operations. The signal currently operates with split phasing for the eastbound and westbound approaches.
- Shaker Boulevard Intersection: Provide northbound and southbound lead/lag protected only left turn phasing to accommodate the proposed 3-lane roadway. This is a necessary change due to the modified roadway cross-section. Because this intersection is bisected by RTA's Green Line, the northbound and southbound left turn movements will occupy the same pavement in the middle of the intersections (where the left turn crosses the tracks); simultaneous left turns cannot be accommodated.
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- Chagrin Boulevard Intersection: Convert Kenyon to one-way southeast to improve intersection operations. This would create an "enter only" condition to Kenyon at the Chagrin/Lee intersection, allowing vehicles to enter Kenyon from the intersection; vehicles would exit the area via one of several alternate routes. This modification would improve intersection operations and it would significantly reduce the pedestrian crossing distance across Kenyon.

Additionally, a more thorough safety analysis and further study should be conducted for the Lee/Van Aken intersection based on the high number of crashes and ranking by NOACA as the 7th highest crash intersection in the region.

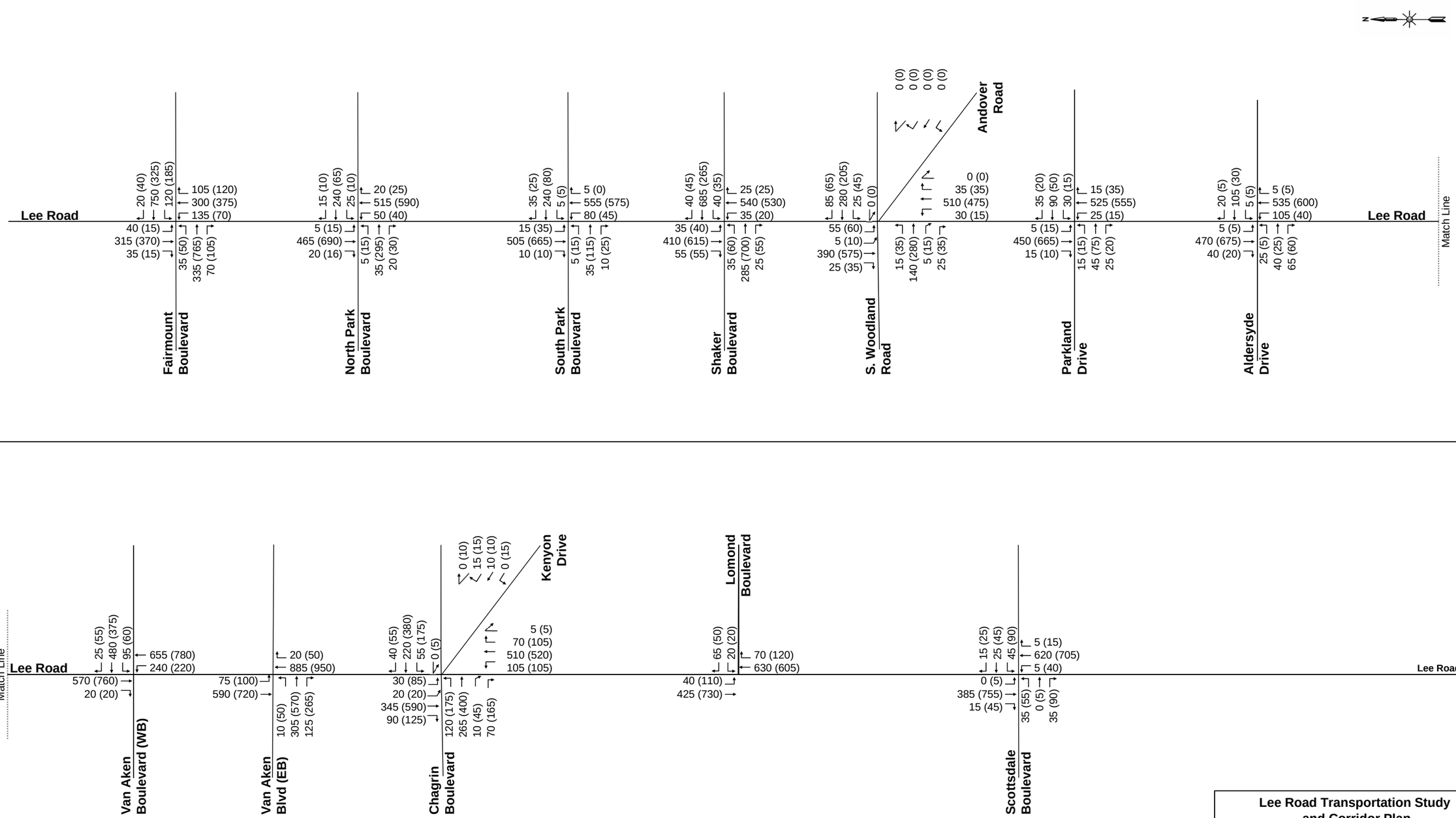
7.0 Appendix

1. **Peak Hour Volume Diagram**

2. **Detailed LOS Results Table**
   - AM Peak
   - PM Peak

3. **Synchro Capacity Analysis Output**
   - Existing
   - 3-Lane
   - Recommended

4. **Crash Data**



Legend

XXX (XXX) AM (PM) Peak Hour Traffic Volume

Lee Road Transportation Study and Corridor Plan

2012 Existing

AM/PM Peak Hour Volumes

Baker

NOT TO SCALE

Lee Road TLCI Study

Synchro Analysis Results

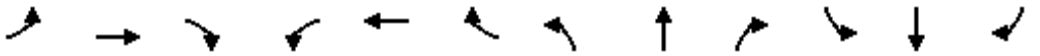
Intersection	Traffic Control Type	Direction / Movement		EXISTING CORRIDOR CONFIGURATION				ROAD DIET (3-LANE CORRIDOR)				RECOMMENDED CORRIDOR CONFIGURATION			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Lee & Fairmount	Signal	EB (Fairmount)	Left	C	33	C	24	C	33	C	24	D	36	C	31
			Thru/Rt	D	42	D	42	D	42	D	42	C	30	D	53
		WB (Fairmount)	Left	C	27	D	54	C	27	D	54	D	40	D	55
			Thru/Rt	D	39	D	43	D	39	D	43	C	34	C	27
		NB (Lee)	Left	C	30	C	28	C	30	C	28	B	18	C	23
			Thru/Rt	C	26	D	37	C	26	D	37	C	26	D	44
		SB (Lee)	Left	C	22	C	23	C	22	C	23	B	15	B	19
			Thru/Rt	C	24	C	29	C	24	C	29	C	28	D	41
		Overall		**C**	**33**	**D**	**39**	**C**	**33**	**D**	**39**	**C**	**30**	**D**	**44**
		Max v/c		0.83		0.90		0.83		0.90		0.79		0.96	
		Cycle Length		90		90		90		90		90		90	
Lee & North Park	Signal	EB (North Park)	Left/Thru	B	19	C	33	B	19	C	33	B	19	C	31
			Right	A	8	B	15	A	8	B	15	A	8	B	12
		WB (North Park)	L/Th/Rt	C	28	C	22	C	28	C	22	C	28	C	22
		NB (Lee)	Left	B	13	B	11	B	13	B	11	B	13	A	3
			Thru/Rt	B	19	B	17	B	19	B	17	B	19	A	4
		SB (Lee)	Left	B	11	A	9	B	11	A	9	B	11	A	9
			Thru/Rt	B	17	B	17	B	17	B	17	B	17	B	17
		Overall		**C**	**20**	**B**	**20**	**C**	**20**	**B**	**20**	**C**	**20**	**B**	**15**
		Max v/c		0.62		0.69		0.62		0.69		0.62		0.69	
		Cycle Length		90		90		90		90		90		90	
Lee & South Park	Signal	EB (South Park)	L/Th/Rt	C	33	**E**	61	C	34	**E**	61	C	24	D	44
		WB (South Park)	Lt/Thru	**E**	59	D	51	**E**	59	D	51	D	43	D	37
			Right	C	23	B	15	C	24	B	15	B	15	B	12
		NB (Lee)	L/Th/Rt	A	2	A	2	A	2	A	1	A	7	A	4
			TH/RT (diet)					A	2	A	2	A	10	A	4
		SB (Lee)	L/Th/Rt	A	6	A	5	A	6	A	4	A	3	A	2
			TH/RT (diet)					A	9	A	8	A	3	A	3
		Overall		**B**	**14**	**B**	**12**	**B**	**15**	**B**	**13**	**B**	**13**	**A**	**10**
		Max v/c		0.75		0.69		0.76		0.69		0.71		0.63	
		Cycle Length		120		120		120		120		90		90	
Lee & Shaker	Signal	EB (Shaker)	Left	**E**	66	**E**	70	**F**	81	**E**	67	D	53	**E**	60
			Thru/Rt	D	47	D	47	D	47	**E**	59	C	28	D	49
		EB (Shaker)	Left	D	40	**E**	65	D	47	**F**	89	D	48	**E**	58
			Thru/Rt	D	44	C	34	**E**	56	D	42	D	44	C	32
		NB (Lee)	L/Th/Rt	B	10	A	8	**E**	67	**E**	67	**E**	66	D	44
			TH/RT (diet)					D	44	D	42	D	42	D	36
		SB (Lee)	L/Th/Rt	B	17	C	20	**F**	88	**E**	68	**E**	62	**E**	70
			TH/RT (diet)					C	25	C	28	D	39	D	46
		Overall		**C**	**30**	**C**	**30**	**D**	**47**	**D**	**46**	**D**	**41**	**D**	**44**
		Max v/c		0.81		0.82		0.91		0.92		0.88		0.91	
		Cycle Length		120		120		120		120		90		90	
Lee & Woodland	Signal	EB (Woodland)	L/Th/Rt	D	42	**E**	60	D	43	**E**	61	C	24	C	27
			TH/RT(IMPROV)									C	25	D	42
		WB (Woodland)	L/Th/Rt	D	50	**E**	56	D	51	**E**	58	C	21	D	38
			TH/RT(IMPROV)									D	39	C	33
		NB (Lee)	L/Th/Rt	A	5	A	2	A	3	A	2	B	11	A	9
			TH/RT (diet)					A	4	A	2	B	15	A	10
		NB (Lee)	L/Th/Rt	A	2	A	2	A	3	A	2	B	14	A	10
			TH/RT (diet)					A	3	A	2	B	13	B	11
		Overall		**C**	**21**	**C**	**22**	**C**	**21**	**C**	**23**	**C**	**22**	**C**	**20**
		Max v/c		0.76		0.82		0.77		0.83		0.81		0.78	
		Cycle Length		120		120		120		120		90		90	
Lee & Parkland	Signal	EB (Parkland)	L/Th/Rt	D	39	**E**	60	D	41	**E**	61	C	28	D	41
		WB (Parkland)	L/Th/Rt	**E**	61	D	53	**E**	62	D	53	D	43	D	35
		NB (Lee)	L/Th/Rt	A	2	A	1	A	3	A	0	A	6	A	3
			TH/RT (diet)					A	3	A	1	A	9	A	3
		SB (Lee)	L/Th/Rt	A	6	A	2	A	4	A	6	A	7	A	3
			TH/RT (diet)					A	9	B	11	A	7	A	4
		Overall		**B**	**15**	**A**	**9**	**B**	**17**	**B**	**13**	**B**	**15**	**A**	**9**
		Max v/c		0.77		0.62		0.77		0.62		0.70		0.53	
		Cycle Length		120		120		120		120		90		90	
Lee & Aldersyde	Signal	EB (Aldersyde)	L/Th/Rt	C	30	B	16	C	33	C	24	C	25	B	16
		WB (Aldersyde)	L/Th/Rt	D	36	C	32	D	39	D	40	C	32	C	28
		NB (Lee)	L/Th/Rt	A	5	A	1	A	1	A	0	A	9	A	6
			TH/RT (diet)					A	2	A	1	B	11	A	9
		SB (Lee)	L/Th/Rt	A	5	A	4	A	3	A	2	A	6	A	5
			TH/RT (diet)					A	6	A	7	A	9	A	9
		Overall		**B**	**11**	**A**	**4**	**B**	**11**	**A**	**6**	**B**	**14**	**A**	**10**
		Max v/c		0.49		0.36		0.55		0.55		0.55		0.60	
		Cycle Length		120		120		120		120		90		90	

Intersection	Traffic Control Type	Direction / Movement		EXISTING CORRIDOR CONFIGURATION				ROAD DIET (3-LANE CORRIDOR)				RECOMMENDED CORRIDOR CONFIGURATION			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Lee & VanAken	Signal	EB (VanAken)	Left/Thru	C	33	D	53	D	47	F	185	C	33	D	53
			Right	C	34	D	46	D	46	F	111	C	34	D	46
		WB (VanAken)	Left/Thru	D	44	D	49	F	139	F	191	D	44	D	49
			Right	C	30	C	34	D	39	D	42	C	30	C	34
		NB (Lee)	Left	D	39	C	35	C	28	C	34	D	41	D	38
			Thru/Rt	D	43	D	44	F	172	F	263	D	45	D	48
		SB (Lee)	Left	D	43	D	38	D	38	C	35	D	41	D	40
			Thru/Rt	E	56	D	54	F	165	F	250	E	58	E	61
		Overall		D	44	D	48	F	123	F	197	D	45	D	50
		Max v/c		0.84		0.90		1.25		1.48		0.84		0.90	
		Cycle Length		120		120		120		120		120		120	
Lee & Library/ Shaker Towne Center	Signal	EB (Library)	Left/Thru	E	56	E	78	E	56	F	97	E	56	E	79
			Right	C	31	B	18	C	31	F	651	A	1	A	1
		WB (Shaker Towne Center)	Lt/Th/Rt	D	38	C	22	D	39	F	696	D	38	C	22
		NB (Lee)	Left	A	1	A	1	A	1	A	1	A	1	A	1
			Thru/Rt	A	2	A	3	A	7	A	7	A	4	A	2
		SB (Lee)	Left	A	1	A	1	A	3	A	3	A	1	A	1
			Thru/Rt	A	2	A	3	B	11	C	30	A	2	A	4
		Overall		A	3	A	7	A	10	E	57	A	4	A	7
		Max v/c		0.30		0.68		0.56		0.65		0.30		0.69	
		Cycle Length		120		120		120		120		120		120	
Lee & Chagrin & Kenyon	Signal	EB (Chagrin)	Left	D	42	C	32	D	45	D	37	D	39	C	26
			Through	D	48	C	33	D	48	D	36	D	45	C	28
			Right	D	36	C	28	D	37	C	31	D	35	C	24
		WB (Chagrin)	Left/Left	D	54	E	66	D	53	F	94	E	58	D	48
			Thru/Right	D	53	C	34	D	48	D	36	E	56	C	30
		NB (Lee)	Left	A	8	C	29	A	9	C	31	A	4	B	20
			Thru/Rt	A	10	C	22	B	16	D	41	A	5	B	20
		SB (Lee)	Left/Left	A	8	C	25	B	13	F	203	A	3	B	11
			Thru/Rt	A	8	C	24	C	21	F	228	A	2	B	10
		NWB (Kenyon)	Lt/Th/Rt	E	59	E	61	E	59	E	61	-	-	-	-
		Overall		C	25	C	30	C	29	F	93	C	21	C	21
		Max v/c		0.65		0.81		0.66		1.28		0.65		0.71	
		Cycle Length		120		120		120		120		120		120	
Lee & Lomond	Signal	NB (Lee)	Thru/Right	A	4	A	5	A	3	A	4	A	2	A	4
		SB (Lee)	Left	A	1	A	1	A	1	A	2	A	1	A	3
			Through	A	1	A	1	A	3	A	9				
		NWB (Lomond)	Left/Rt	C	29	C	31	C	29	C	31	C	29	C	31
		Overall		A	5	A	4	A	5	A	7	A	4	A	5
		Max v/c		0.56		0.52		0.56		0.60		0.57		0.54	
		Cycle Length		120		120		120		120		120		120	
Lee & Scottsdale	Signal	EB (Scottsdale)	L/Th/Rt	D	47	D	48	D	48	D	49	C	30	C	23
		WB (Scottsdale)	Left	D	39	D	41	D	44	D	44	D	52	D	51
			Thru/Rt	C	27	C	27	C	29	C	29				
		NB (Lee)	L/Th/Rt	A	7	A	9	A	5	A	9	A	4	A	9
			TH/RT (diet)					A	8	B	13	-	-	-	-
		SB (Lee)	L/Th/Rt	A	1	A	4	A	0	A	2	A	4	A	8
			TH/RT (diet)					A	3	A	7	-	-	-	-
		Overall		B	11	B	14	B	12	B	16	B	10	B	14
		Max v/c		0.61		0.73		0.61		0.73		0.65		0.77	
		Cycle Length		120		120		120		120		100		100	

Levels of Service (LOS)
for Signalized Intersections

LOS	Avg Delay (s/veh)
A	x < 10
B	10 < x < 20
C	20 < x < 35
D	35 < x < 55
E	55 < x < 80
F	80 < x

	LOS E or LOS F
	<150 sec delay
	150-250 sec delay
	> 250 sec delay

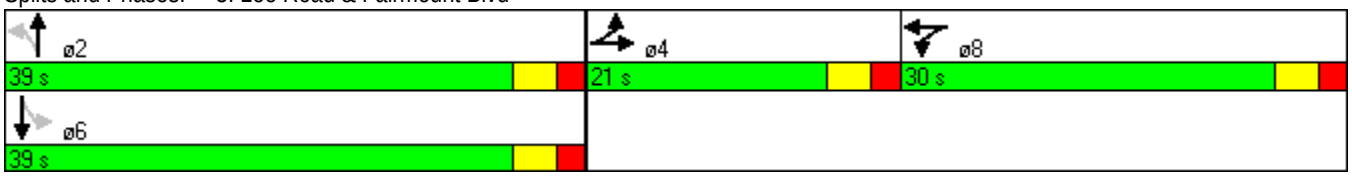


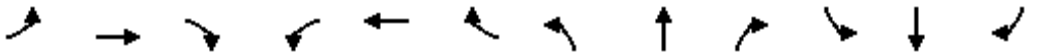
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	335	70	120	750	20	135	300	105	40	315	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3481	0	1787	3560	0	1752	1773	0	1770	1835	0
Flt Permitted	0.950			0.950			0.401			0.311		
Satd. Flow (perm)	1787	3481	0	1787	3560	0	740	1773	0	579	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			3			23			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.89	0.89	0.89	0.97	0.97	0.97	0.89	0.89	0.89	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	455	0	124	794	0	152	455	0	43	372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0		30.0	30.0		39.0	39.0		39.0	39.0	
Total Split (%)	23.3%	23.3%		33.3%	33.3%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	16.0	16.0		25.0	25.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	14.6	14.6		23.4	23.4		34.1	34.1		34.1	34.1	
Actuated g/C Ratio	0.17	0.17		0.27	0.27		0.39	0.39		0.39	0.39	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.75		0.26	0.83		0.52	0.64		0.19	0.51	
Control Delay	32.5	41.5		26.9	38.7		29.5	26.3		21.6	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.5	41.5		26.9	38.7		29.5	26.3		21.6	23.7	
LOS	C	D		C	D		C	C		C	C	
Approach Delay		40.8			37.1			27.1			23.5	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	19	122		55	219		66	200		16	159	
Queue Length 95th (ft)	46	173		101	290		130	304		42	246	
Internal Link Dist (ft)		713			577			650			522	
Turn Bay Length (ft)	145			145			120			120		
Base Capacity (vph)	329	661		514	1026		290	708		227	723	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.69		0.24	0.77		0.52	0.64		0.19	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.1			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Lee Road & Fairmount Blvd



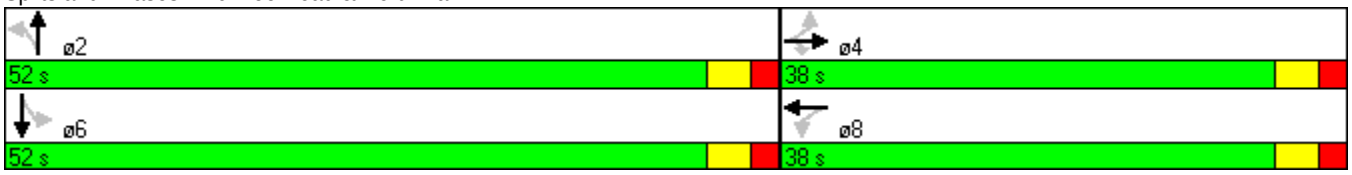


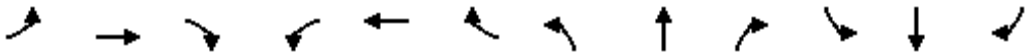
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	20	25	240	15	50	515	20	5	465	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1834	1568	0	1842	0	1770	1853	0	1770	1852	0
Flt Permitted		0.954			0.973		0.336			0.283		
Satd. Flow (perm)	0	1760	1568	0	1800	0	626	1853	0	527	1852	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24		3			3			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	24	0	400	0	56	601	0	5	533	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		52.0	52.0		52.0	52.0	
Total Split (%)	42.2%	42.2%	42.2%	42.2%	42.2%		57.8%	57.8%		57.8%	57.8%	
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		33.0	33.0		33.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.37	0.37		0.37		0.52	0.52		0.52	0.52	
v/c Ratio		0.07	0.04		0.60		0.17	0.62		0.02	0.55	
Control Delay		19.1	7.7		27.7		13.0	18.6		10.8	17.0	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.0	
Total Delay		19.1	7.7		27.7		13.0	19.4		10.8	17.0	
LOS		B	A		C		B	B		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.2			27.7			18.8			16.9	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)		17	0		181		16	227		1	191	
Queue Length 95th (ft)		38	15		196		38	331		7	285	
Internal Link Dist (ft)		384			471			182			650	
Turn Bay Length (ft)			50				60			150		
Base Capacity (vph)		645	590		662		327	969		275	969	
Starvation Cap Reductn		0	0		0		0	132		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.07	0.04		0.60		0.17	0.72		0.02	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 20.2		Intersection LOS: C	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Lee Road & North Park





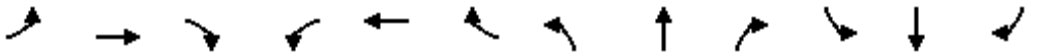
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	10	5	240	35	80	555	5	15	505	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1823	0	0	1879	1599	0	3480	0	0	3525	0
Flt Permitted		0.952			0.996			0.785			0.925	
Satd. Flow (perm)	0	1744	0	0	1874	1599	0	2749	0	0	3264	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				19		1			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.80	0.80	0.80	0.91	0.91	0.91	0.85	0.85	0.85	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	269	38	0	753	0	0	570	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	45.0	45.0		45.0	45.0	45.0	75.0	75.0		75.0	75.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	70.0	70.0		70.0	70.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		22.9			22.9	22.9		87.1			87.1	
Actuated g/C Ratio		0.19			0.19	0.19		0.73			0.73	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.18			0.75	0.12		0.38			0.24	
Control Delay		33.0			58.8	23.0		2.3			6.3	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		33.0			58.8	23.0		2.3			6.3	
LOS		C			E	C		A			A	
Approach Delay		33.0			54.4			2.3			6.3	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		33			199	12		27			66	
Queue Length 95th (ft)		58			271	40		37			114	
Internal Link Dist (ft)		448			525			724			218	
Turn Bay Length (ft)						50						
Base Capacity (vph)		589			625	546		1997			2371	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.11			0.43	0.07		0.38			0.24	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 67.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Lee Road & South Park



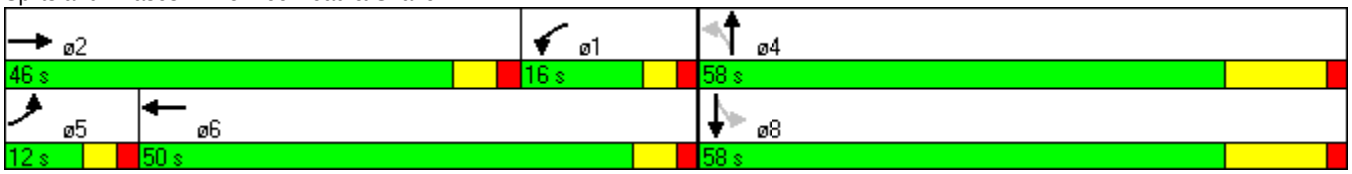
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	285	25	40	685	40	35	540	25	35	410	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3531	0	1787	3546	0	0	3507	0	0	3503	0
Flt Permitted	0.950			0.950				0.875			0.841	
Satd. Flow (perm)	1787	3531	0	1787	3546	0	0	3078	0	0	2958	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			6			4			13	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.88	0.88	0.88	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	348	0	50	906	0	0	682	0	0	526	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4			8		
Detector Phase	5	2		1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		39.0	39.0		39.0	39.0	
Total Split (s)	12.0	46.0		16.0	50.0		58.0	58.0		58.0	58.0	
Total Split (%)	10.0%	38.3%		13.3%	41.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	7.0	40.0		11.0	44.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		9.0	9.0		9.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0			11.0			11.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		4.0			4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.7	22.4		19.6	37.7			58.1			58.1	
Actuated g/C Ratio	0.06	0.19		0.16	0.31			0.48			0.48	

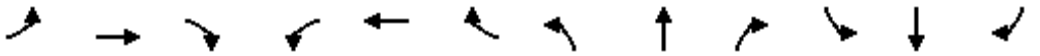
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.39	0.52		0.17	0.81			0.46			0.37	
Control Delay	66.4	46.9		39.8	43.6			10.1			16.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	66.4	46.9		39.8	43.6			10.1			16.6	
LOS	E	D		D	D			B			B	
Approach Delay		48.9			43.4			10.1			16.6	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	30	129		32	334			54			62	
Queue Length 95th (ft)	66	175		56	326			132			78	
Internal Link Dist (ft)		1072			533			1388			724	
Turn Bay Length (ft)	90			90								
Base Capacity (vph)	104	1182		314	1304			1492			1438	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.38	0.29		0.16	0.69			0.46			0.37	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 84.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 15: Lee Road & Shaker



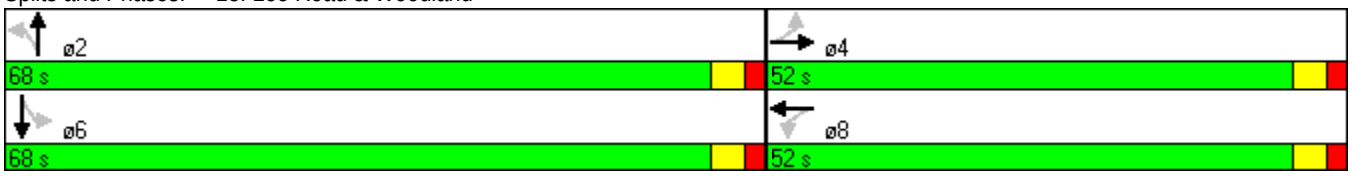


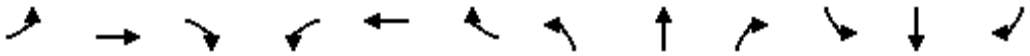
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	145	25	25	280	85	30	510	35	60	390	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3203	0	0	3379	0	0	3497	0	0	3490	0
Flt Permitted		0.822			0.915			0.905			0.798	
Satd. Flow (perm)	0	2644	0	0	3101	0	0	3174	0	0	2802	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			35			8			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.76	0.76	0.76	0.82	0.82	0.82	0.92	0.92	0.92	0.98	0.98	0.98
Heavy Vehicles (%)	10%	10%	10%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	0	475	0	0	625	0	0	485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	52.0	52.0		52.0	52.0		68.0	68.0		68.0	68.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	47.0	47.0		47.0	47.0		63.0	63.0		63.0	63.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		23.2			23.2			86.8			86.8	
Actuated g/C Ratio		0.19			0.19			0.72			0.72	
v/c Ratio		0.47			0.76			0.27			0.24	
Control Delay		41.9			50.0			4.6			1.6	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		41.9			50.0			4.6			1.6	
LOS		D			D			A			A	
Approach Delay		41.9			50.0			4.6			1.6	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		82			172			43			13	
Queue Length 95th (ft)		95			191			53			17	
Internal Link Dist (ft)		394			33			801			1388	
Turn Bay Length (ft)												
Base Capacity (vph)		1046			1236			2299			2029	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.23			0.38			0.27			0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 15 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 18: Lee Road & Woodland



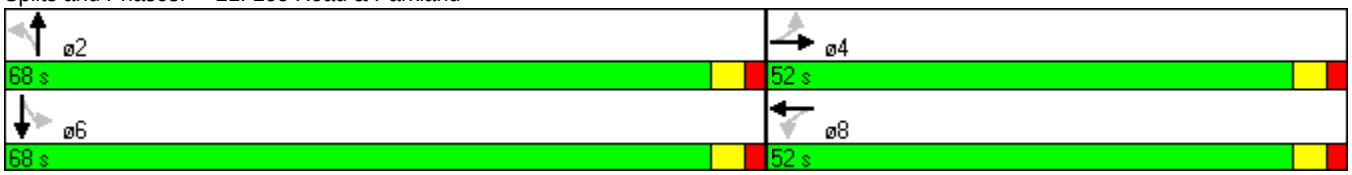


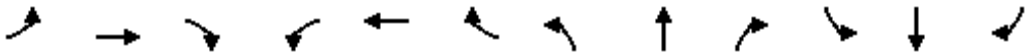
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	45	25	30	90	35	25	525	15	5	450	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1772	0	0	1754	0	0	3417	0	0	3357	0
Flt Permitted		0.863			0.897			0.915			0.950	
Satd. Flow (perm)	0	1543	0	0	1590	0	0	3133	0	0	3189	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			14			3			4	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	0	0	222	0	0	620	0	0	516	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	52.0	52.0		52.0	52.0		68.0	68.0		68.0	68.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	47.0	47.0		47.0	47.0		63.0	63.0		63.0	63.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.0			21.0			89.0			89.0	
Actuated g/C Ratio		0.18			0.18			0.74			0.74	
v/c Ratio		0.42			0.77			0.27			0.22	
Control Delay		39.2			60.5			1.6			5.7	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		39.2			60.5			1.6			5.7	
LOS		D			E			A			A	
Approach Delay		39.2			60.5			1.6			5.7	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		69			155			7			40	
Queue Length 95th (ft)		86			164			67			108	
Internal Link Dist (ft)		561			16			516			801	
Turn Bay Length (ft)												
Base Capacity (vph)		617			631			2324			2366	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.35			0.27			0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Lee Road & Parkland



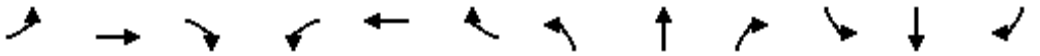


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	40	65	5	105	20	105	535	5	5	470	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1719	0	0	1820	0	0	3375	0	0	3333	0
Flt Permitted		0.919			0.989			0.730			0.949	
Satd. Flow (perm)	0	1595	0	0	1804	0	0	2484	0	0	3163	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			8			1			15	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.83	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	186	0	0	778	0	0	565	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		82.0	82.0		82.0	82.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		68.3%	68.3%		68.3%	68.3%	
Maximum Green (s)	33.0	33.0		33.0	33.0		77.0	77.0		77.0	77.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		33.0			33.0			77.0			77.0	
Actuated g/C Ratio		0.28			0.28			0.64			0.64	
v/c Ratio		0.40			0.37			0.49			0.28	
Control Delay		30.2			36.1			5.0			5.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.2			36.1			5.0			5.1	
LOS		C			D			A			A	
Approach Delay		30.2			36.1			5.0			5.1	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		90			111			62			37	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		112			133			32			50	
Internal Link Dist (ft)		405			555			422			516	
Turn Bay Length (ft)												
Base Capacity (vph)		468			502			1594			2035	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.37			0.49			0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 11.1		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 24: Lee Road & Aldersyde

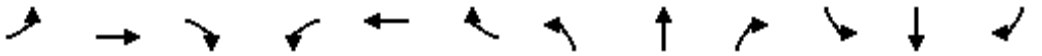


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	305	125	95	480	25	240	645	20	75	495	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3498	1568	0	3443	1553	1719	3424	0	1687	3354	0
Flt Permitted		0.922			0.791		0.950			0.950		
Satd. Flow (perm)	0	3231	1568	0	2746	1553	1719	3424	0	1687	3354	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			1746	
Travel Time (s)		14.8			10.1			9.6			34.0	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Parking (#/hr)									0			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	343	136	0	653	28	267	739	0	83	572	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	42.0	42.0		34.0	34.0	
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	35.0%	35.0%		28.3%	28.3%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	36.0	34.0	34.0		26.0	26.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		37.6	37.6		37.6	37.6	34.0	34.0		24.4	24.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.28	0.28		0.20	0.20	
v/c Ratio		0.34	0.28		0.76	0.06	0.55	0.76		0.24	0.84	
Control Delay		33.3	33.6		44.3	30.4	39.3	43.3		42.8	55.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		33.3	33.6		44.3	30.4	39.3	43.3		42.8	55.9	
LOS		C	C		D	C	D	D		D	E	
Approach Delay		33.4			43.7			42.2			54.3	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)		109	81		244	16	178	268		47	175	
Queue Length 95th (ft)		152	136		308	38	263	350		100	296	
Internal Link Dist (ft)		679			440			412			1666	
Turn Bay Length (ft)			150			150	100			115		
Base Capacity (vph)		1013	492		862	487	487	970		366	727	
Starvation Cap Reductn		0	0		0	0	0	5		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.34	0.28		0.76	0.06	0.55	0.77		0.23	0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 39 (33%), Referenced to phase 4:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 43.9		Intersection LOS: D	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 32: Lee Road & Van Aken



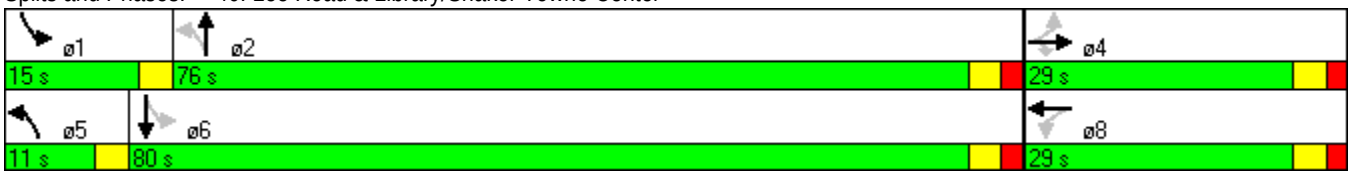
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	5	10	5	15	15	770	10	60	475	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1801	1583	0	1707	0	1719	3431	0	1703	3372	0
Flt Permitted		0.775			0.879		0.445			0.316		
Satd. Flow (perm)	0	1435	1536	0	1526	0	805	3431	0	566	3372	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			5		16			2			12	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Confl. Peds. (#/hr)	5		10									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	6%	6%	6%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	5	0	32	0	16	848	0	65	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	29.0	29.0	29.0	29.0	29.0		11.0	76.0		15.0	80.0	
Total Split (%)	24.2%	24.2%	24.2%	24.2%	24.2%		9.2%	63.3%		12.5%	66.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0		8.0	71.0		12.0	75.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		8.3	8.3		8.3		106.2	100.4		107.9	105.3	
Actuated g/C Ratio		0.07	0.07		0.07		0.88	0.84		0.90	0.88	
v/c Ratio		0.16	0.05		0.26		0.02	0.30		0.11	0.19	
Control Delay		56.1	31.4		38.0		0.5	2.1		0.4	1.5	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.0	
Total Delay		56.1	31.4		38.0		0.5	2.3		0.4	1.5	
LOS		E	C		D		A	A		A	A	
Approach Delay		50.2			38.0			2.2			1.4	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		12	0		12		1	128		0	0	
Queue Length 95th (ft)		35	13		45		m1	32		m0	70	
Internal Link Dist (ft)		179			273			204			412	
Turn Bay Length (ft)							60			150		
Base Capacity (vph)		287	311		318		784	2872		627	2960	
Starvation Cap Reductn		0	0		0		0	1074		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	108	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.06	0.02		0.10		0.02	0.47		0.10	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 3.3		Intersection LOS: A	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center



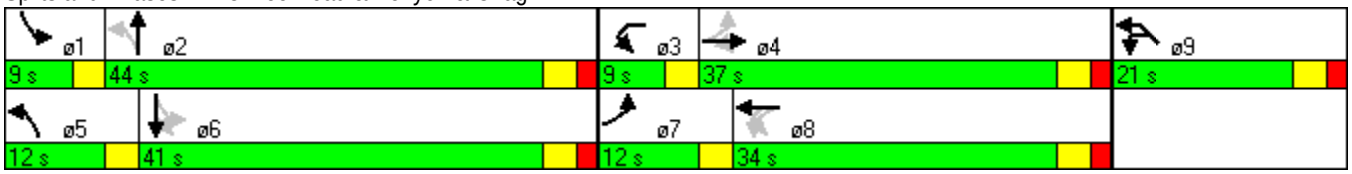
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	120	265	10	70	5	55	220	40	105	510	70	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1703	1792	1524	0	0	1703	3327	0	1719	3373	0	0
Flt Permitted	0.367					0.579			0.392			
Satd. Flow (perm)	658	1792	1524	0	0	1038	3327	0	709	3373	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			503		
Travel Time (s)		16.8					16.9			9.8		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	285	86	0	0	65	286	0	114	635	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	9
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	12.0	37.0	37.0		9.0	34.0	34.0		12.0	44.0		
Total Split (%)	10.0%	30.8%	30.8%		7.5%	28.3%	28.3%		10.0%	36.7%		
Maximum Green (s)	9.0	32.0	32.0		6.0	29.0	29.0		9.0	39.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	31.2	29.2	29.2			17.3	17.3		74.1	72.1		
Actuated g/C Ratio	0.26	0.24	0.24			0.14	0.14		0.62	0.60		

Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Volume (vph)	30	20	345	90	5	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		0		0	0	
Storage Lanes		1		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	1703	3300	0	0	1700	0	0
Flt Permitted		0.411				0.979		
Satd. Flow (perm)	0	737	3300	0	0	1700	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			35			25		
Link Distance (ft)			284			735		
Travel Time (s)			5.5			20.0		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	6%	6%	6%	6%	1%	1%	1%	1%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	60	518	0	0	37	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)			12			12		
Link Offset(ft)			0			0		
Crosswalk Width(ft)			16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15	15	9	9
Turn Type	pm+pt	Perm	NA		Split	NA		
Protected Phases	1		6		9	9		
Permitted Phases	6	6						
Detector Phase	1	6	6		9	9		
Switch Phase								
Minimum Initial (s)	3.0	20.0	20.0		8.0	8.0		
Minimum Split (s)	9.0	26.0	26.0		21.0	21.0		
Total Split (s)	9.0	41.0	41.0		21.0	21.0		
Total Split (%)	7.5%	34.2%	34.2%		17.5%	17.5%		
Maximum Green (s)	6.0	36.0	36.0		16.0	16.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0		
Lost Time Adjust (s)		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	C-Max	C-Max		None	None		
Walk Time (s)		4.0	4.0					
Flash Dont Walk (s)		17.0	17.0					
Pedestrian Calls (#/hr)		0	0					
Act Effct Green (s)		60.0	60.0			8.8		
Actuated g/C Ratio		0.50	0.50			0.07		

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
v/c Ratio	0.52	0.65	0.23			0.43	0.60		0.22	0.31		
Control Delay	42.0	47.6	36.4			54.2	52.5		8.3	9.5		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Delay	42.0	47.6	36.4			54.2	52.5		8.3	9.5		
LOS	D	D	D			D	D		A	A		
Approach Delay		44.2					52.8			9.3		
Approach LOS		D					D			A		
Queue Length 50th (ft)	81	203	55			47	112		20	134		
Queue Length 95th (ft)	122	266	90			86	144		66	197		
Internal Link Dist (ft)		537					539			423		
Turn Bay Length (ft)	225					370			130			
Base Capacity (vph)	250	495	421			251	804		523	2028		
Starvation Cap Reductn	0	0	0			0	0		0	0		
Spillback Cap Reductn	0	0	0			0	0		0	0		
Storage Cap Reductn	0	0	0			0	0		0	0		
Reduced v/c Ratio	0.52	0.58	0.20			0.26	0.36		0.22	0.31		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 43: Lee Road & Kenyon & Chagrin



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
v/c Ratio		0.16	0.31			0.30		
Control Delay		8.1	7.1			58.5		
Queue Delay		0.0	0.4			0.0		
Total Delay		8.1	7.5			58.5		
LOS		A	A			E		
Approach Delay			7.6			58.5		
Approach LOS			A			E		
Queue Length 50th (ft)		4	18			28		
Queue Length 95th (ft)		68	200			62		
Internal Link Dist (ft)			204			655		
Turn Bay Length (ft)		100						
Base Capacity (vph)		368	1649			227		
Starvation Cap Reductn		0	604			0		
Spillback Cap Reductn		0	0			0		
Storage Cap Reductn		0	0			0		
Reduced v/c Ratio		0.16	0.50			0.16		

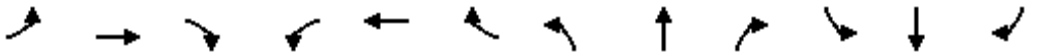
Intersection Summary

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	630	70	40	425	20	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	3387	0	1687	3374	1589	0
Flt Permitted			0.353		0.988	
Satd. Flow (perm)	3387	0	627	3374	1589	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	16				80	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			503	605	
Travel Time (s)	14.7			9.8	16.5	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	5%	5%	7%	7%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	43	452	105	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	73.0		15.0	88.0	32.0	
Total Split (%)	60.8%		12.5%	73.3%	26.7%	
Maximum Green (s)	68.0		12.0	83.0	27.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.0		3.0	5.0	5.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	92.8		103.6	101.6	8.4	
Actuated g/C Ratio	0.77		0.86	0.85	0.07	

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.28		0.07	0.16	0.56	
Control Delay	4.3		0.4	0.6	29.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	4.3		0.4	0.6	29.3	
LOS	A		A	A	C	
Approach Delay	4.3			0.6	29.3	
Approach LOS	A			A	C	
Queue Length 50th (ft)	68		0	0	19	
Queue Length 95th (ft)	106		0	0	59	
Internal Link Dist (ft)	676			423	525	
Turn Bay Length (ft)			75			
Base Capacity (vph)	2623		647	2856	420	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.28		0.07	0.16	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 4.9		Intersection LOS: A	
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 47: Lee Road & Lomond



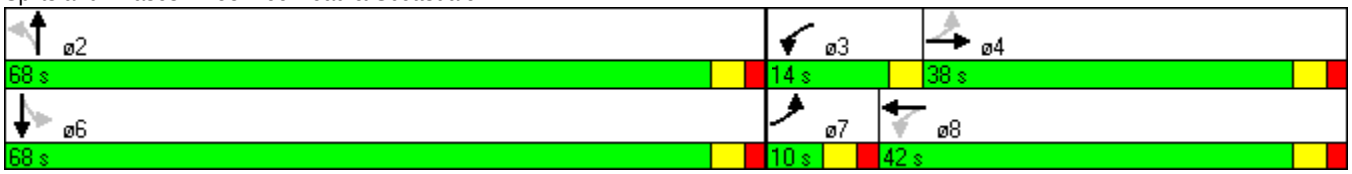
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	5	35	45	25	15	5	620	5	5	385	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1689	0	1626	1618	0	0	3435	0	0	3514	0
Flt Permitted		0.823		0.559				0.952			0.948	
Satd. Flow (perm)	0	1423	0	957	1618	0	0	3270	0	0	3335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			21			1			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.94	0.94	0.94	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	11%	11%	11%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	0	64	57	0	0	670	0	0	451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	10.0	38.0		14.0	42.0		68.0	68.0		68.0	68.0	
Total Split (%)	8.3%	31.7%		11.7%	35.0%		56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	5.0	33.0		11.0	37.0		63.0	63.0		63.0	63.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0		3.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)		11.8		24.1	22.1			87.9			87.9	
Actuated g/C Ratio		0.10		0.20	0.18			0.73			0.73	

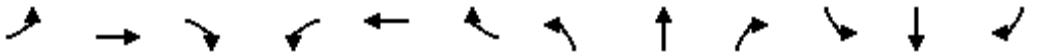
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.61		0.26	0.18			0.28			0.18	
Control Delay		47.2		39.2	26.5			6.7			1.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.2		39.2	26.5			6.7			1.3	
LOS		D		D	C			A			A	
Approach Delay		47.2			33.2			6.7			1.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		51		41	23			84			5	
Queue Length 95th (ft)		73		56	40			141			15	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)				60								
Base Capacity (vph)		420		255	513			2394			2443	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.25		0.25	0.11			0.28			0.18	

Intersection Summary

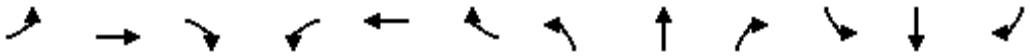
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 56 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 40.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 53: Lee Road & Scottsdale





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	765	105	185	325	42	70	375	120	15	370	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3510	0	1787	3513	0	1770	1796	0	1752	1834	0
Flt Permitted	0.950			0.950			0.305			0.187		
Satd. Flow (perm)	1787	3510	0	1787	3513	0	568	1796	0	345	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			14			20			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	946	0	237	471	0	76	538	0	17	433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		21.0	21.0		37.0	37.0		37.0	37.0	
Total Split (%)	35.6%	35.6%		23.3%	23.3%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	27.0	27.0		16.0	16.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	26.3	26.3		15.2	15.2		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.30	0.30		0.17	0.17		0.36	0.36		0.36	0.36	

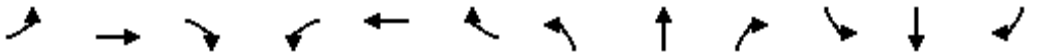


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.10	0.90		0.77	0.77		0.37	0.81		0.14	0.65	
Control Delay	23.5	41.9		53.5	43.3		28.2	36.6		23.2	29.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.5	41.9		53.5	43.3		28.2	36.6		23.2	29.4	
LOS	C	D		D	D		C	D		C	C	
Approach Delay		41.0			46.7			35.6			29.2	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	22	264		129	131		32	266		7	203	
Queue Length 95th (ft)	50	#378		177	155		74	#442		23	303	
Internal Link Dist (ft)		713			577			650			522	
Turn Bay Length (ft)	145			145			120			120		
Base Capacity (vph)	546	1084		324	647		206	662		125	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.87		0.73	0.73		0.37	0.81		0.14	0.65	

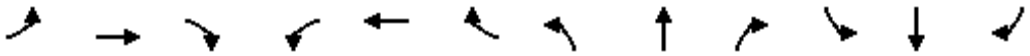
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 88.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 39.3		Intersection LOS: D	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Lee Road & Fairmount Blvd



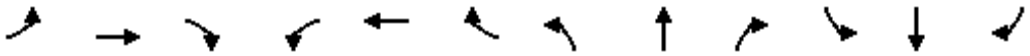
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	295	30	10	65	10	40	590	25	15	690	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1877	1599	0	1840	0	1770	1852	0	1770	1857	0
Flt Permitted		0.986			0.947		0.227			0.261		
Satd. Flow (perm)	0	1855	1599	0	1753	0	423	1852	0	486	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16		8			4			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	33	0	91	0	45	698	0	16	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		58.0	58.0		58.0	58.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%		64.4%	64.4%		64.4%	64.4%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		27.0	27.0		27.0		53.0	53.0		53.0	53.0	
Actuated g/C Ratio		0.30	0.30		0.30		0.59	0.59		0.59	0.59	
v/c Ratio		0.62	0.07		0.17		0.18	0.64		0.06	0.69	
Control Delay		32.9	15.1		22.2		10.8	15.5		8.6	16.8	
Queue Delay		0.0	0.0		0.0		0.0	1.2		0.0	0.0	
Total Delay		32.9	15.1		22.2		10.8	16.7		8.6	16.8	
LOS		C	B		C		B	B		A	B	



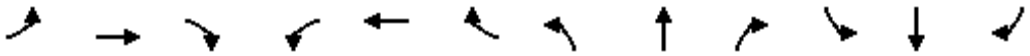
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.3			22.2			16.3			16.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		168	7		35		11	240		4	271	
Queue Length 95th (ft)		259	28		71		29	341		13	402	
Internal Link Dist (ft)		384			471			182			650	
Turn Bay Length (ft)			50				60			150		
Base Capacity (vph)		557	491		532		249	1092		286	1094	
Starvation Cap Reductn		0	0		0		0	193		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.62	0.07		0.17		0.18	0.78		0.06	0.69	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Lee Road & North Park



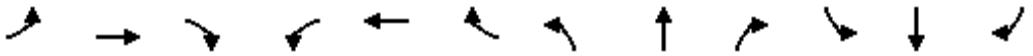
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	115	25	5	80	25	45	575	5	35	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1831	0	0	1876	1599	0	3522	0	0	3525	0
Flt Permitted		0.962			0.977			0.838			0.886	
Satd. Flow (perm)	0	1770	0	0	1838	1599	0	2963	0	0	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				32		1			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79	0.90	0.90	0.90	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	107	32	0	695	0	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	41.0	41.0		41.0	41.0	41.0	79.0	79.0		79.0	79.0	
Total Split (%)	34.2%	34.2%		34.2%	34.2%	34.2%	65.8%	65.8%		65.8%	65.8%	
Maximum Green (s)	36.0	36.0		36.0	36.0	36.0	74.0	74.0		74.0	74.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		16.6			16.6	16.6		93.4			93.4	
Actuated g/C Ratio		0.14			0.14	0.14		0.78			0.78	



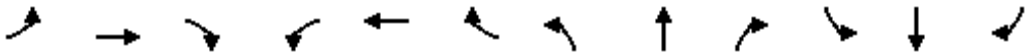
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.69			0.42	0.13		0.30			0.31	
Control Delay		60.6			51.1	14.7		1.5			4.6	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		60.6			51.1	14.7		1.5			4.6	
LOS		E			D	B		A			A	
Approach Delay		60.6			42.8			1.5			4.6	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		124			77	0		22			74	
Queue Length 95th (ft)		187			109	22		32			124	
Internal Link Dist (ft)		448			525			724			218	
Turn Bay Length (ft)						50						
Base Capacity (vph)		537			551	502		2306			2436	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.32			0.19	0.06		0.30			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 7 (6%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Lee Road & South Park



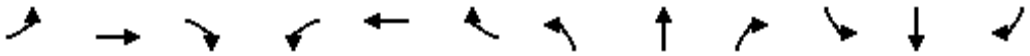
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	700	55	35	265	45	20	530	25	40	615	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3535	0	1787	3496	0	0	3542	0	0	3521	0
Flt Permitted	0.950			0.950				0.900			0.863	
Satd. Flow (perm)	1787	3535	0	1787	3496	0	0	3194	0	0	3048	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			17			5			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	829	0	47	413	0	0	612	0	0	771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4			8		
Detector Phase	5	2		1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		39.0	39.0		39.0	39.0	
Total Split (s)	14.0	45.0		13.0	44.0		62.0	62.0		62.0	62.0	
Total Split (%)	11.7%	37.5%		10.8%	36.7%		51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	9.0	39.0		8.0	38.0		51.0	51.0		51.0	51.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		9.0	9.0		9.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0			11.0			11.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		4.0			4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.3	34.2		7.7	33.7			58.2			58.2	
Actuated g/C Ratio	0.07	0.28		0.06	0.28			0.48			0.48	



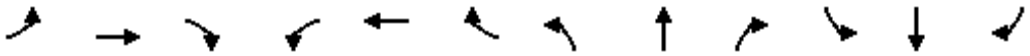
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.54	0.82		0.41	0.42			0.39			0.52	
Control Delay	70.0	46.7		64.6	34.3			8.1			20.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	70.0	46.7		64.6	34.3			8.1			20.3	
LOS	E	D		E	C			A			C	
Approach Delay		48.4			37.4			8.1			20.3	
Approach LOS		D			D			A			C	
Queue Length 50th (ft)	50	311		35	130			53			148	
Queue Length 95th (ft)	98	368		63	136			100			177	
Internal Link Dist (ft)		1072			533			1388			724	
Turn Bay Length (ft)	90			90								
Base Capacity (vph)	134	1154		124	1119			1552			1484	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.49	0.72		0.38	0.37			0.39			0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 116 (97%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 15: Lee Road & Shaker



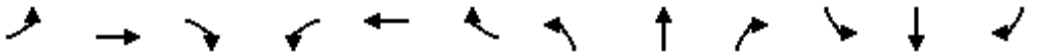
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	300	35	45	205	65	15	475	35	70	575	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	3507	0	0	3405	0	0	3500	0	0	3493	0
Flt Permitted		0.795			0.678			0.924			0.809	
Satd. Flow (perm)	0	2802	0	0	2325	0	0	3238	0	0	2840	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			29			11			8	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	0	0	350	0	0	597	0	0	756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	44.0	44.0		44.0	44.0		76.0	76.0		76.0	76.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		63.3%	63.3%		63.3%	63.3%	
Maximum Green (s)	39.0	39.0		39.0	39.0		71.0	71.0		71.0	71.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.6			21.6			88.4			88.4	
Actuated g/C Ratio		0.18			0.18			0.74			0.74	
v/c Ratio		0.82			0.79			0.25			0.36	
Control Delay		59.5			56.1			2.0			1.7	
Queue Delay		0.0			0.0			0.0			0.0	



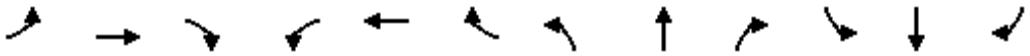
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		59.5			56.1			2.0			1.7	
LOS		E			E			A			A	
Approach Delay		59.5			56.1			2.0			1.7	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		163			127			17			20	
Queue Length 95th (ft)		203			171			28			25	
Internal Link Dist (ft)		394			33			801			1388	
Turn Bay Length (ft)												
Base Capacity (vph)		917			775			2388			2094	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.46			0.45			0.25			0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 22.2		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 18: Lee Road & Woodland



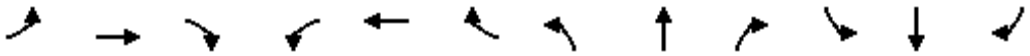
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	75	20	15	50	20	15	555	35	15	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1823	0	0	1805	0	0	3504	0	0	3564	0
Flt Permitted		0.941			0.877			0.927			0.935	
Satd. Flow (perm)	0	1728	0	0	1597	0	0	3251	0	0	3335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13			10			2	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.96	0.96	0.96	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	97	0	0	630	0	0	775	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		83.0	83.0		83.0	83.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%		69.2%	69.2%		69.2%	69.2%	
Maximum Green (s)	32.0	32.0		32.0	32.0		78.0	78.0		78.0	78.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.2			13.2			96.8			96.8	
Actuated g/C Ratio		0.11			0.11			0.81			0.81	
v/c Ratio		0.62			0.52			0.24			0.29	
Control Delay		60.1			52.5			1.4			1.8	
Queue Delay		0.0			0.0			0.0			0.0	



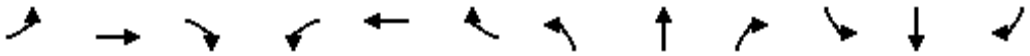
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		60.1			52.5			1.4			1.8	
LOS		E			D			A			A	
Approach Delay		60.1			52.5			1.4			1.8	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		85			62			8			10	
Queue Length 95th (ft)		141			109			38			38	
Internal Link Dist (ft)		561			16			516			801	
Turn Bay Length (ft)												
Base Capacity (vph)		467			435			2624			2691	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.26			0.22			0.24			0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Lee Road & Parkland



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	25	60	5	30	5	40	600	5	5	675	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1713	0	0	1804	0	0	3560	0	0	3560	0
Flt Permitted		0.975			0.974			0.851			0.950	
Satd. Flow (perm)	0	1678	0	0	1768	0	0	3039	0	0	3382	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			5			1			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.89	0.89	0.89	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	51	0	0	725	0	0	778	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	36.0	36.0		36.0	36.0		84.0	84.0		84.0	84.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		79.0	79.0		79.0	79.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		31.0			31.0			79.0			79.0	
Actuated g/C Ratio		0.26			0.26			0.66			0.66	
v/c Ratio		0.23			0.11			0.36			0.35	
Control Delay		16.3			32.0			0.6			4.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.3			32.0			0.6			4.4	
LOS		B			C			A			A	
Approach Delay		16.3			32.0			0.6			4.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		25			27			3			71	

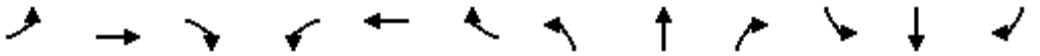


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		67			51			m3			39	
Internal Link Dist (ft)		405			555			422			516	
Turn Bay Length (ft)												
Base Capacity (vph)		485			460			2001			2228	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.23			0.11			0.36			0.35	

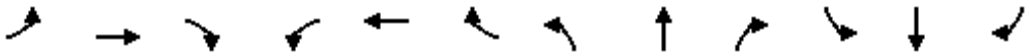
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 41 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 24: Lee Road & Aldersyde



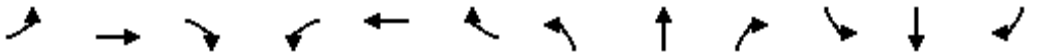
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	570	265	60	375	55	220	730	50	100	655	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3560	1599	0	3549	1599	1770	3504	0	1787	3560	0
Flt Permitted		0.791			0.608		0.950			0.950		
Satd. Flow (perm)	0	2827	1599	0	2173	1599	1770	3504	0	1787	3560	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			1746	
Travel Time (s)		14.8			10.1			9.6			34.0	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)									0			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	674	288	0	458	58	237	839	0	109	734	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	41.0	41.0	41.0	41.0	41.0	41.0	43.0	43.0		36.0	36.0	
Total Split (%)	34.2%	34.2%	34.2%	34.2%	34.2%	34.2%	35.8%	35.8%		30.0%	30.0%	
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	35.0	35.0		28.0	28.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		33.6	33.6		33.6	33.6	35.0	35.0		27.4	27.4	



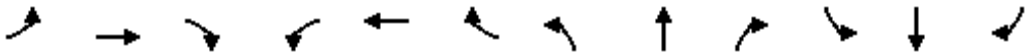
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.29	0.29		0.23	0.23	
v/c Ratio		0.85	0.64		0.75	0.13	0.46	0.82		0.27	0.90	
Control Delay		52.8	46.0		48.7	33.8	34.6	44.0		37.6	53.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay		52.8	46.0		48.7	33.8	34.6	44.4		37.6	53.6	
LOS		D	D		D	C	C	D		D	D	
Approach Delay		50.7			47.0			42.3			51.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)		262	198		172	34	155	312		46	223	
Queue Length 95th (ft)		#363	297		237	69	239	404		92	#382	
Internal Link Dist (ft)		679			440			412			1666	
Turn Bay Length (ft)			150			150	100			115		
Base Capacity (vph)		791	448		608	448	516	1022		417	831	
Starvation Cap Reductn		0	0		0	0	0	28		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.85	0.64		0.75	0.13	0.46	0.84		0.26	0.88	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 37 (31%), Referenced to phase 4:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 47.7		Intersection LOS: D	
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 32: Lee Road & Van Aken



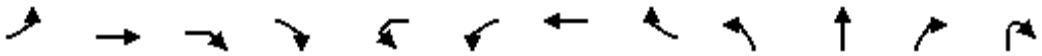
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	10	25	15	5	60	25	720	15	120	825	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1786	1583	0	1658	0	1770	3529	0	1787	3539	0
Flt Permitted		0.609			0.924		0.290			0.321		
Satd. Flow (perm)	0	1134	1583	0	1546	0	540	3529	0	604	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27		65			2			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	27	0	86	0	27	799	0	130	962	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	34.0	34.0	34.0	34.0	34.0		11.0	68.0		18.0	75.0	
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%		9.2%	56.7%		15.0%	62.5%	
Maximum Green (s)	29.0	29.0	29.0	29.0	29.0		8.0	63.0		15.0	70.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		12.7	12.7		12.7		97.8	89.7		101.2	95.4	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.11	0.11		0.11		0.82	0.75		0.84	0.80	
v/c Ratio		0.68	0.14		0.39		0.05	0.30		0.22	0.34	
Control Delay		78.4	17.5		22.0		1.3	2.3		0.7	3.1	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.4	
Total Delay		78.4	17.5		22.0		1.3	2.5		0.7	3.4	
LOS		E	B		C		A	A		A	A	
Approach Delay		63.3			22.0			2.5			3.1	
Approach LOS		E			C			A			A	
Queue Length 50th (ft)		62	0		15		1	23		0	1	
Queue Length 95th (ft)		114	27		62		m4	51		m1	m318	
Internal Link Dist (ft)		179			273			204			412	
Turn Bay Length (ft)							60			150		
Base Capacity (vph)		274	403		423		530	2638		661	2817	
Starvation Cap Reductn		0	0		0		0	844		0	1181	
Spillback Cap Reductn		0	4		9		0	94		0	499	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.30	0.07		0.21		0.05	0.45		0.20	0.59	

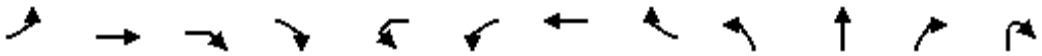
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 6.7		Intersection LOS: A	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	175	400	45	165	5	175	380	55	105	520	105	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1787	1881	1599	0	0	1770	3472	0	1787	3481	0	0
Flt Permitted	0.368					0.386			0.145			
Satd. Flow (perm)	692	1881	1599	0	0	719	3472	0	273	3481	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			503		
Travel Time (s)		16.8					16.9			9.8		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.97	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	435	228	0	0	185	449	0	117	701	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	9
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	9.0	43.0	43.0		9.0	43.0	43.0		9.0	38.0		
Total Split (%)	7.5%	35.8%	35.8%		7.5%	35.8%	35.8%		7.5%	31.7%		
Maximum Green (s)	6.0	38.0	38.0		6.0	38.0	38.0		6.0	33.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	49.0	47.0	47.0			38.0	38.0		52.6	50.6		
Actuated g/C Ratio	0.41	0.39	0.39			0.32	0.32		0.44	0.42		

Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Volume (vph)	85	20	590	125	15	10	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		0		0	0	
Storage Lanes		1		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	1787	3481	0	0	1711	0	0
Flt Permitted		0.378				0.976		
Satd. Flow (perm)	0	711	3481	0	0	1711	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			35			25		
Link Distance (ft)			284			735		
Travel Time (s)			5.5			20.0		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	118	803	0	0	60	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)			12			12		
Link Offset(ft)			0			0		
Crosswalk Width(ft)			16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15	15	9	9
Turn Type	pm+pt	Perm	NA		Split	NA		
Protected Phases	1		6		9	9		
Permitted Phases	6	6						
Detector Phase	1	6	6		9	9		
Switch Phase								
Minimum Initial (s)	3.0	20.0	20.0		8.0	8.0		
Minimum Split (s)	9.0	26.0	26.0		21.0	21.0		
Total Split (s)	9.0	38.0	38.0		21.0	21.0		
Total Split (%)	7.5%	31.7%	31.7%		17.5%	17.5%		
Maximum Green (s)	6.0	33.0	33.0		16.0	16.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0		
Lost Time Adjust (s)		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	C-Max	C-Max		None	None		
Walk Time (s)		4.0	4.0					
Flash Dont Walk (s)		17.0	17.0					
Pedestrian Calls (#/hr)		0	0					
Act Effct Green (s)		38.1	38.1			10.0		
Actuated g/C Ratio		0.32	0.32			0.08		



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
v/c Ratio	0.56	0.59	0.36			0.81	0.41		0.49	0.48		
Control Delay	32.0	32.9	28.0			65.6	33.6		29.2	21.5		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Delay	32.0	32.9	28.0			65.6	33.6		29.2	21.5		
LOS	C	C	C			E	C		C	C		
Approach Delay		31.4					42.9			22.6		
Approach LOS		C					D			C		
Queue Length 50th (ft)	96	263	124			132	143		58	204		
Queue Length 95th (ft)	152	372	192			#263	192		123	254		
Internal Link Dist (ft)		537					539			423		
Turn Bay Length (ft)	225					370			130			
Base Capacity (vph)	337	737	626			228	1099		240	1467		
Starvation Cap Reductn	0	0	0			0	0		0	0		
Spillback Cap Reductn	0	0	0			0	0		0	0		
Storage Cap Reductn	0	0	0			0	0		0	0		
Reduced v/c Ratio	0.56	0.59	0.36			0.81	0.41		0.49	0.48		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 43: Lee Road & Kenyon & Chagrin

Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
v/c Ratio		0.52	0.73			0.42		
Control Delay		24.6	21.3			60.6		
Queue Delay		0.0	2.8			0.0		
Total Delay		24.6	24.1			60.6		
LOS		C	C			E		
Approach Delay			24.2			60.6		
Approach LOS			C			E		
Queue Length 50th (ft)		70	261			45		
Queue Length 95th (ft)		143	372			81		
Internal Link Dist (ft)			204			655		
Turn Bay Length (ft)		100						
Base Capacity (vph)		226	1104			228		
Starvation Cap Reductn		0	193			0		
Spillback Cap Reductn		0	0			0		
Storage Cap Reductn		0	0			0		
Reduced v/c Ratio		0.52	0.88			0.26		

Intersection Summary

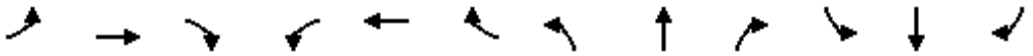
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	610	120	110	730	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	3485	0	1787	3574	1677	0
Flt Permitted			0.309		0.986	
Satd. Flow (perm)	3485	0	581	3574	1677	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	31				64	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			503	605	
Travel Time (s)	14.7			9.8	16.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.78	0.78
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	0	126	839	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	73.0		17.0	90.0	30.0	
Total Split (%)	60.8%		14.2%	75.0%	25.0%	
Maximum Green (s)	68.0		14.0	85.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.0		3.0	5.0	5.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	90.8		103.8	101.8	8.2	
Actuated g/C Ratio	0.76		0.86	0.85	0.07	

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.32		0.22	0.28	0.52	
Control Delay	4.5		0.9	0.5	30.5	
Queue Delay	0.0		0.0	0.2	0.0	
Total Delay	4.5		0.9	0.8	30.5	
LOS	A		A	A	C	
Approach Delay	4.5			0.8	30.5	
Approach LOS	A			A	C	
Queue Length 50th (ft)	77		2	6	20	
Queue Length 95th (ft)	111		m2	7	54	
Internal Link Dist (ft)	676			423	525	
Turn Bay Length (ft)			75			
Base Capacity (vph)	2645		644	3033	400	
Starvation Cap Reductn	0		0	1345	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.32		0.20	0.50	0.23	

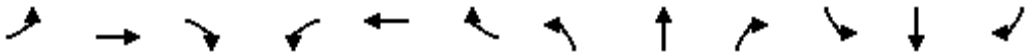
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 3.9		Intersection LOS: A	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 47: Lee Road & Lomond



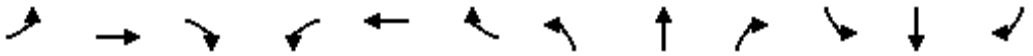
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	5	90	90	45	25	40	705	15	5	755	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1649	0	1703	1697	0	0	3518	0	0	3542	0
Flt Permitted		0.841		0.440				0.863			0.951	
Satd. Flow (perm)	0	1412	0	789	1697	0	0	3045	0	0	3369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			23			3			8	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.84	0.84	0.84	0.75	0.75	0.75	0.95	0.95	0.95	0.98	1.00	0.98
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	120	93	0	0	800	0	0	806	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	10.0	38.0		12.0	40.0		70.0	70.0		70.0	70.0	
Total Split (%)	8.3%	31.7%		10.0%	33.3%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	5.0	33.0		9.0	35.0		65.0	65.0		65.0	65.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0		3.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)		15.8		29.6	27.6			82.4			82.4	
Actuated g/C Ratio		0.13		0.25	0.23			0.69			0.69	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.73		0.46	0.23			0.38			0.35	
Control Delay		47.6		40.8	27.4			9.4			4.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.6		40.8	27.4			9.4			4.3	
LOS		D		D	C			A			A	
Approach Delay		47.6			34.9			9.4			4.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		84		76	44			124			48	
Queue Length 95th (ft)		136		95	65			203			67	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)				60								
Base Capacity (vph)		436		263	515			2092			2315	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.41		0.46	0.18			0.38			0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 53: Lee Road & Scottsdale



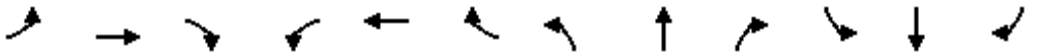
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	10	5	240	35	80	555	5	15	505	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1823	0	0	1879	1599	1752	1843	0	1770	1857	0
Flt Permitted		0.944			0.996		0.407			0.349		
Satd. Flow (perm)	0	1730	0	0	1874	1599	751	1843	0	650	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				18		1			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.80	0.80	0.80	0.91	0.91	0.91	0.85	0.85	0.85	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	269	38	94	659	0	16	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	41.0	41.0		41.0	41.0	41.0	79.0	79.0		79.0	79.0	
Total Split (%)	34.2%	34.2%		34.2%	34.2%	34.2%	65.8%	65.8%		65.8%	65.8%	
Maximum Green (s)	36.0	36.0		36.0	36.0	36.0	74.0	74.0		74.0	74.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		22.7			22.7	22.7	87.3	87.3		87.3	87.3	
Actuated g/C Ratio		0.19			0.19	0.19	0.73	0.73		0.73	0.73	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.18			0.76	0.12	0.17	0.49		0.03	0.41	
Control Delay		33.7			59.3	23.9	1.7	2.2		6.3	8.2	
Queue Delay		0.0			0.0	0.0	0.0	0.1		0.0	0.9	
Total Delay		33.7			59.3	23.9	1.7	2.3		6.3	9.1	
LOS		C			E	C	A	A		A	A	
Approach Delay		33.7			54.9			2.2			9.0	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		34			199	13	5	38		3	146	
Queue Length 95th (ft)		59			272	41	m9	m58		12	262	
Internal Link Dist (ft)		448			525			724			218	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		526			562	492	546	1341		473	1351	
Starvation Cap Reductn		0			0	0	0	66		0	501	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.12			0.48	0.08	0.17	0.52		0.03	0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 65 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 76.5%		ICU Level of Service D	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Lee Road & South Park

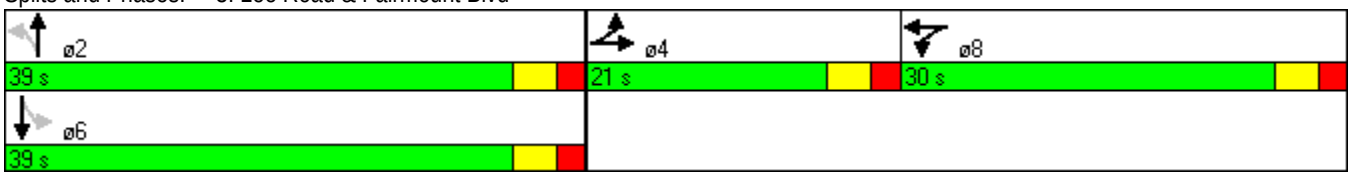


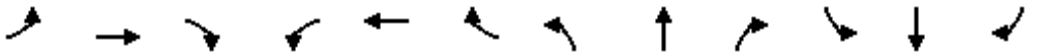
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	335	70	120	750	20	135	300	105	40	315	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3481	0	1787	3560	0	1752	1773	0	1770	1835	0
Flt Permitted	0.950			0.950			0.401			0.311		
Satd. Flow (perm)	1787	3481	0	1787	3560	0	740	1773	0	579	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			3			23			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.89	0.89	0.89	0.97	0.97	0.97	0.89	0.89	0.89	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	455	0	124	794	0	152	455	0	43	372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	21.0	21.0		30.0	30.0		39.0	39.0		39.0	39.0	
Total Split (%)	23.3%	23.3%		33.3%	33.3%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	16.0	16.0		25.0	25.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	14.6	14.6		23.4	23.4		34.1	34.1		34.1	34.1	
Actuated g/C Ratio	0.17	0.17		0.27	0.27		0.39	0.39		0.39	0.39	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.75		0.26	0.83		0.52	0.64		0.19	0.51	
Control Delay	32.5	41.5		26.9	38.7		29.5	26.3		21.6	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.5	41.5		26.9	38.7		29.5	26.3		21.6	23.7	
LOS	C	D		C	D		C	C		C	C	
Approach Delay		40.8			37.1			27.1			23.5	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	19	122		55	219		66	200		16	159	
Queue Length 95th (ft)	46	173		101	290		130	304		42	246	
Internal Link Dist (ft)		713			577			650			522	
Turn Bay Length (ft)	145			145			120			120		
Base Capacity (vph)	329	661		514	1026		290	708		227	723	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.69		0.24	0.77		0.52	0.64		0.19	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.1			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Lee Road & Fairmount Blvd



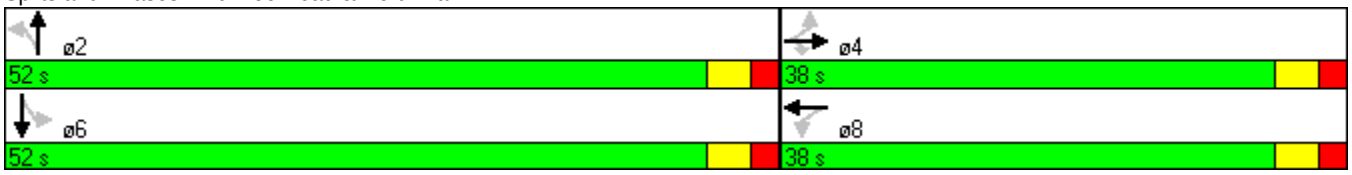


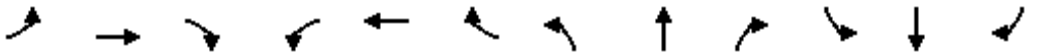
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	20	25	240	15	50	515	20	5	465	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1834	1568	0	1842	0	1770	1853	0	1770	1852	0
Flt Permitted		0.954			0.973		0.336			0.283		
Satd. Flow (perm)	0	1760	1568	0	1800	0	626	1853	0	527	1852	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24		3			3			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	24	0	400	0	56	601	0	5	533	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		52.0	52.0		52.0	52.0	
Total Split (%)	42.2%	42.2%	42.2%	42.2%	42.2%		57.8%	57.8%		57.8%	57.8%	
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		33.0	33.0		33.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.37	0.37		0.37		0.52	0.52		0.52	0.52	
v/c Ratio		0.07	0.04		0.60		0.17	0.62		0.02	0.55	
Control Delay		19.1	7.7		27.7		13.0	18.6		10.8	17.0	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.0	
Total Delay		19.1	7.7		27.7		13.0	19.4		10.8	17.0	
LOS		B	A		C		B	B		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.2			27.7			18.8			16.9	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)		17	0		181		16	227		1	191	
Queue Length 95th (ft)		38	15		196		38	331		7	285	
Internal Link Dist (ft)		384			471			182			650	
Turn Bay Length (ft)			50				60			150		
Base Capacity (vph)		645	590		662		327	969		275	969	
Starvation Cap Reductn		0	0		0		0	132		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.07	0.04		0.60		0.17	0.72		0.02	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 20.2		Intersection LOS: C	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Lee Road & North Park





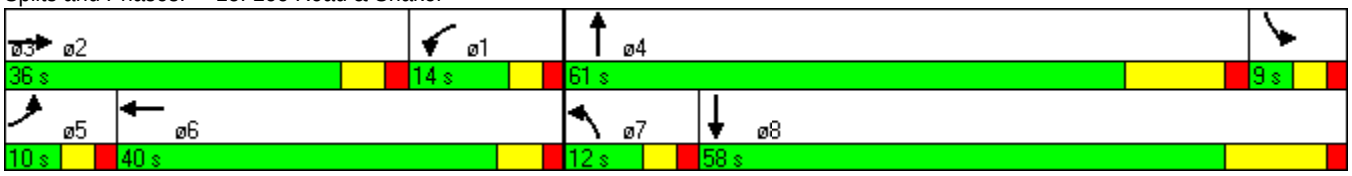
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	285	25	40	685	40	35	540	25	35	410	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3531	0	1787	3546	0	1770	1850	0	1787	1849	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3531	0	1787	3546	0	1770	1850	0	1787	1849	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			2			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.88	0.88	0.88	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	348	0	50	906	0	40	642	0	37	489	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		9.0	39.0		9.0	39.0	
Total Split (s)	10.0	36.0		14.0	40.0		12.0	61.0		9.0	58.0	
Total Split (%)	8.3%	30.0%		11.7%	33.3%		10.0%	50.8%		7.5%	48.3%	
Maximum Green (s)	5.0	30.0		9.0	34.0		7.0	50.0		4.0	47.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	9.0		3.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	11.0		5.0	11.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0			4.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			21.0			21.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.0	22.5		16.0	33.4		6.7	54.4		4.0	52.0	
Actuated g/C Ratio	0.04	0.19		0.13	0.28		0.06	0.45		0.03	0.43	

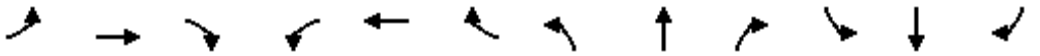
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.53	0.52		0.21	0.91		0.41	0.77		0.62	0.61	
Control Delay	81.3	47.0		46.8	56.1		66.5	44.1		88.3	24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.3	47.0		46.8	56.1		66.5	44.1		88.3	24.8	
LOS	F	D		D	E		E	D		F	C	
Approach Delay		50.5			55.6			45.4			29.3	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	30	130		34	353		29	480		29	307	
Queue Length 95th (ft)	#77	175		64	373		m66	591		#87	431	
Internal Link Dist (ft)		1072			533			1388			724	
Turn Bay Length (ft)	90			90			100			100		
Base Capacity (vph)	74	894		249	1008		103	839		60	805	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.39		0.20	0.90		0.39	0.77		0.62	0.61	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 4:NBT and 8:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 46.7 Intersection LOS: D
Intersection Capacity Utilization 72.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Lee Road & Shaker





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	145	25	25	280	85	30	510	35	60	390	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3203	0	0	3379	0	1770	1844	0	1770	1846	0
Flt Permitted		0.819			0.915		0.484			0.384		
Satd. Flow (perm)	0	2634	0	0	3101	0	902	1844	0	715	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			31			5			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.76	0.76	0.76	0.82	0.82	0.82	0.92	0.92	0.92	0.98	0.98	0.98
Heavy Vehicles (%)	10%	10%	10%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	0	475	0	33	592	0	61	424	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	41.0	41.0		41.0	41.0		79.0	79.0		79.0	79.0	
Total Split (%)	34.2%	34.2%		34.2%	34.2%		65.8%	65.8%		65.8%	65.8%	
Maximum Green (s)	36.0	36.0		36.0	36.0		74.0	74.0		74.0	74.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		23.0			23.0		87.0	87.0		87.0	87.0	
Actuated g/C Ratio		0.19			0.19		0.72	0.72		0.72	0.72	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.47			0.77		0.05	0.44		0.12	0.32	
Control Delay		42.6			51.1		3.3	4.2		3.3	3.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		42.6			51.1		3.3	4.2		3.3	3.3	
LOS		D			D		A	A		A	A	
Approach Delay		42.6			51.1			4.2			3.3	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		83			174		3	60		5	38	
Queue Length 95th (ft)		96			194		m16	169		m12	62	
Internal Link Dist (ft)		394			33			801			1388	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		801			952		654	1338		518	1340	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.30			0.50		0.05	0.44		0.12	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.3		Intersection LOS: C	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Lee Road & Woodland

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	45	25	30	90	35	25	525	15	5	450	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1772	0	0	1754	0	1719	1802	0	1687	1767	0
Flt Permitted		0.863			0.897		0.436			0.390		
Satd. Flow (perm)	0	1543	0	0	1590	0	789	1802	0	693	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			12			2			3	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	0	0	222	0	27	593	0	5	511	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	41.0	41.0		41.0	41.0		79.0	79.0		79.0	79.0	
Total Split (%)	34.2%	34.2%		34.2%	34.2%		65.8%	65.8%		65.8%	65.8%	
Maximum Green (s)	36.0	36.0		36.0	36.0		74.0	74.0		74.0	74.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.0			21.0		89.0	89.0		89.0	89.0	
Actuated g/C Ratio		0.18			0.18		0.74	0.74		0.74	0.74	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43			0.77		0.05	0.44		0.01	0.39	
Control Delay		40.6			61.8		3.0	3.2		4.4	9.4	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		40.6			61.8		3.0	3.3		4.4	9.4	
LOS		D			E		A	A		A	A	
Approach Delay		40.6			61.8			3.3			9.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		71			157		2	38		1	256	
Queue Length 95th (ft)		89			166		m8	113		m4	359	
Internal Link Dist (ft)		561			16			516			801	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		476			485		585	1338		514	1312	
Starvation Cap Reductn		0			0		0	119		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.25			0.46		0.05	0.49		0.01	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 41 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 48.7% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

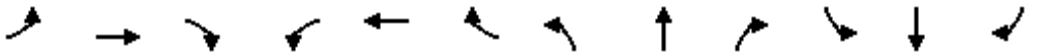
Splits and Phases: 21: Lee Road & Parkland

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	40	65	5	105	20	105	535	5	5	470	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1719	0	0	1820	0	1703	1791	0	1687	1754	0
Flt Permitted		0.911			0.989		0.380			0.325		
Satd. Flow (perm)	0	1582	0	0	1804	0	681	1791	0	577	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			7			1			8	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.83	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	186	0	127	651	0	5	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	35.0	35.0		35.0	35.0		85.0	85.0		85.0	85.0	
Total Split (%)	29.2%	29.2%		29.2%	29.2%		70.8%	70.8%		70.8%	70.8%	
Maximum Green (s)	30.0	30.0		30.0	30.0		80.0	80.0		80.0	80.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		30.0			30.0		80.0	80.0		80.0	80.0	
Actuated g/C Ratio		0.25			0.25		0.67	0.67		0.67	0.67	
v/c Ratio		0.44			0.41		0.28	0.55		0.01	0.48	
Control Delay		33.2			39.3		1.0	2.4		2.6	6.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		33.2			39.3		1.0	2.4		2.6	6.1	
LOS		C			D		A	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		33.2			39.3			2.2			6.1	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		95			116		3	32		1	66	
Queue Length 95th (ft)		117			138		m3	m15		m1	90	
Internal Link Dist (ft)		405			555			422			516	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		426			456		454	1194		385	1172	
Starvation Cap Reductn		0			0		0	0		0	134	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.44			0.41		0.28	0.55		0.01	0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 32 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 24: Lee Road & Aldersyde



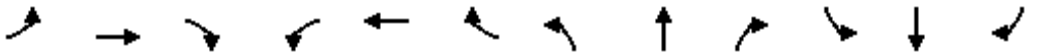
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	305	125	95	480	25	240	645	20	75	495	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3498	1568	0	3443	1553	1719	1802	0	1687	1765	0
Flt Permitted		0.806			0.768		0.950			0.950		
Satd. Flow (perm)	0	2825	1568	0	2666	1553	1719	1802	0	1687	1765	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			1746	
Travel Time (s)		14.8			10.1			9.6			34.0	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Parking (#/hr)									0			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	343	136	0	653	28	267	739	0	83	572	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	48.0	48.0		39.0	39.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	40.0%	40.0%		32.5%	32.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	40.0	40.0		31.0	31.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		25.0	25.0		25.0	25.0	40.0	40.0		31.0	31.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.33	0.33		0.26	0.26	
v/c Ratio		0.58	0.42		1.18	0.09	0.47	1.23		0.19	1.25	
Control Delay		47.4	45.8		139.1	39.3	28.2	148.3		38.2	165.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	23.5		0.0	0.0	
Total Delay		47.4	45.8		139.1	39.3	28.2	171.8		38.2	165.3	
LOS		D	D		F	D	C	F		D	F	
Approach Delay		46.9			135.0			133.7			149.2	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)		126	92		~318	18	124	~715		41	~535	
Queue Length 95th (ft)		178	156		#423	43	187	#938		94	#763	
Internal Link Dist (ft)		679			440			412			1666	
Turn Bay Length (ft)			150			150	100			115		
Base Capacity (vph)		589	327		555	324	573	601		436	456	
Starvation Cap Reductn		0	0		0	0	0	25		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.58	0.42		1.18	0.09	0.47	1.28		0.19	1.25	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 16 (13%), Referenced to phase 4:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 122.9 Intersection LOS: F
Intersection Capacity Utilization 94.9% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 32: Lee Road & Van Aken



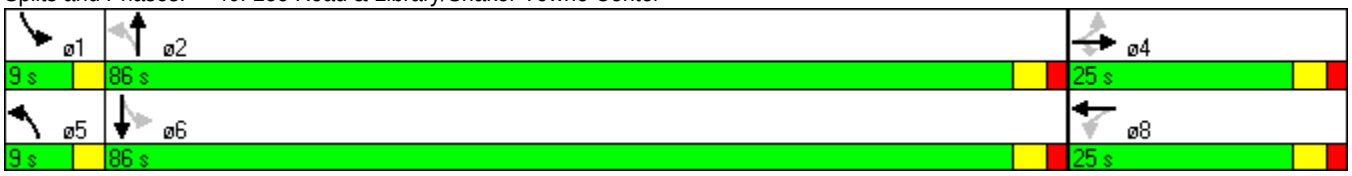
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	5	10	5	15	15	770	10	60	475	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1801	1583	0	1707	0	1719	1806	0	1703	1775	0
Flt Permitted		0.775			0.879		0.450			0.284		
Satd. Flow (perm)	0	1429	1505	0	1526	0	814	1806	0	509	1775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			5		16			1			7	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Confl. Peds. (#/hr)	5		10									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	6%	6%	6%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	5	0	32	0	16	848	0	65	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	86.0		9.0	86.0	
Total Split (%)	20.8%	20.8%	20.8%	20.8%	20.8%		7.5%	71.7%		7.5%	71.7%	
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0		6.0	81.0		6.0	81.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	

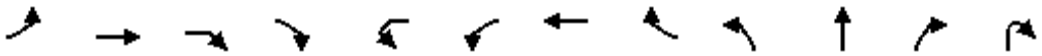
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		8.3	8.3		8.3		106.2	100.4		107.9	105.3	
Actuated g/C Ratio		0.07	0.07		0.07		0.88	0.84		0.90	0.88	
v/c Ratio		0.16	0.05		0.26		0.02	0.56		0.12	0.36	
Control Delay		56.2	31.4		38.0		0.5	6.6		2.8	8.9	
Queue Delay		0.0	0.0		0.6		0.0	0.9		0.0	1.9	
Total Delay		56.2	31.4		38.7		0.5	7.4		2.8	10.8	
LOS		E	C		D		A	A		A	B	
Approach Delay		50.3			38.7			7.3			9.9	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		12	0		12		1	413		13	150	
Queue Length 95th (ft)		35	13		45		m1	409		m15	m241	
Internal Link Dist (ft)		179			273			204			412	
Turn Bay Length (ft)							60			150		
Base Capacity (vph)		238	255		268		766	1512		520	1558	
Starvation Cap Reductn		0	0		0		0	278		0	813	
Spillback Cap Reductn		0	0		111		0	365		0	204	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.07	0.02		0.20		0.02	0.74		0.13	0.74	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 9.6 Intersection LOS: A
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center





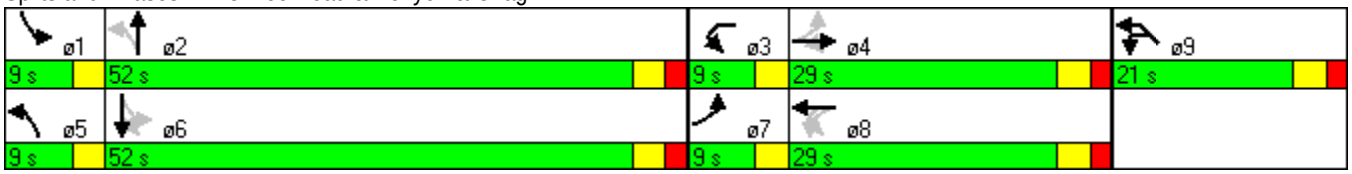
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	120	265	10	70	5	55	220	40	105	510	70	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1703	1792	1524	0	0	1703	3327	0	1719	1775	0	0
Flt Permitted	0.398					0.494			0.297			
Satd. Flow (perm)	713	1792	1524	0	0	885	3327	0	537	1775	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			244		
Travel Time (s)		16.8					16.9			4.8		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	285	86	0	0	65	286	0	114	635	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	9
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	52.0		
Total Split (%)	7.5%	24.2%	24.2%		7.5%	24.2%	24.2%		7.5%	43.3%		
Maximum Green (s)	6.0	24.0	24.0		6.0	24.0	24.0		6.0	47.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	31.0	29.0	29.0			20.0	20.0		74.4	72.4		
Actuated g/C Ratio	0.26	0.24	0.24			0.17	0.17		0.62	0.60		

Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Volume (vph)	30	20	345	90	5	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		0		0	0	
Storage Lanes		1		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	1703	1737	0	0	1700	0	0
Flt Permitted		0.350				0.979		
Satd. Flow (perm)	0	627	1737	0	0	1700	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			35			25		
Link Distance (ft)			284			735		
Travel Time (s)			5.5			20.0		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	6%	6%	6%	6%	1%	1%	1%	1%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	60	518	0	0	37	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)			12			12		
Link Offset(ft)			0			0		
Crosswalk Width(ft)			16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15	15	9	9
Turn Type	pm+pt	Perm	NA		Split	NA		
Protected Phases	1		6		9	9		
Permitted Phases	6	6						
Detector Phase	1	6	6		9	9		
Switch Phase								
Minimum Initial (s)	3.0	20.0	20.0		8.0	8.0		
Minimum Split (s)	9.0	26.0	26.0		21.0	21.0		
Total Split (s)	9.0	52.0	52.0		21.0	21.0		
Total Split (%)	7.5%	43.3%	43.3%		17.5%	17.5%		
Maximum Green (s)	6.0	47.0	47.0		16.0	16.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0		
Lost Time Adjust (s)		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	C-Max	C-Max		None	None		
Walk Time (s)		4.0	4.0					
Flash Dont Walk (s)		17.0	17.0					
Pedestrian Calls (#/hr)		0	0					
Act Effct Green (s)		60.6	60.6			8.8		
Actuated g/C Ratio		0.50	0.50			0.07		

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
v/c Ratio	0.55	0.66	0.23			0.44	0.52		0.27	0.59		
Control Delay	44.7	48.2	36.8			53.2	48.2		9.0	15.5		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	0.6		
Total Delay	44.7	48.2	36.8			53.2	48.2		9.0	16.1		
LOS	D	D	D			D	D		A	B		
Approach Delay		45.3					49.2			15.0		
Approach LOS		D					D			B		
Queue Length 50th (ft)	78	193	52			44	104		26	359		
Queue Length 95th (ft)	130	283	96			90	146		43	538		
Internal Link Dist (ft)		537					539			164		
Turn Bay Length (ft)	225					370			130			
Base Capacity (vph)	233	443	377			177	665		419	1071		
Starvation Cap Reductn	0	0	0			0	0		0	91		
Spillback Cap Reductn	0	0	0			0	0		0	151		
Storage Cap Reductn	0	0	0			0	0		0	0		
Reduced v/c Ratio	0.55	0.64	0.23			0.37	0.43		0.27	0.69		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 43: Lee Road & Kenyon & Chagrin



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
v/c Ratio		0.19	0.59			0.30		
Control Delay		13.2	19.5			58.5		
Queue Delay		0.0	1.0			0.0		
Total Delay		13.2	20.5			58.5		
LOS		B	C			E		
Approach Delay			19.7			58.5		
Approach LOS			B			E		
Queue Length 50th (ft)		20	423			28		
Queue Length 95th (ft)		34	483			62		
Internal Link Dist (ft)			204			655		
Turn Bay Length (ft)		100						
Base Capacity (vph)		317	877			227		
Starvation Cap Reductn		0	159			0		
Spillback Cap Reductn		0	0			0		
Storage Cap Reductn		0	0			0		
Reduced v/c Ratio		0.19	0.72			0.16		

Intersection Summary

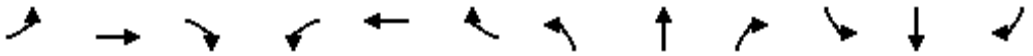
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	630	70	40	425	20	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	1784	0	1687	1776	1589	0
Flt Permitted			0.319		0.988	
Satd. Flow (perm)	1784	0	566	1776	1589	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9				80	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			259	605	
Travel Time (s)	14.7			5.0	16.5	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	5%	5%	7%	7%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	43	452	105	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	81.0		13.0	94.0	26.0	
Total Split (%)	67.5%		10.8%	78.3%	21.7%	
Maximum Green (s)	76.0		10.0	89.0	21.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.0		3.0	5.0	5.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	92.8		103.6	101.6	8.4	
Actuated g/C Ratio	0.77		0.86	0.85	0.07	

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.53		0.08	0.30	0.56	
Control Delay	3.1		1.4	2.3	29.3	
Queue Delay	0.1		0.0	0.4	0.0	
Total Delay	3.2		1.4	2.7	29.3	
LOS	A		A	A	C	
Approach Delay	3.2			2.5	29.3	
Approach LOS	A			A	C	
Queue Length 50th (ft)	43		3	42	19	
Queue Length 95th (ft)	61		m8	107	59	
Internal Link Dist (ft)	676			179	525	
Turn Bay Length (ft)			75			
Base Capacity (vph)	1381		582	1503	344	
Starvation Cap Reductn	0		0	553	0	
Spillback Cap Reductn	70		0	0	3	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.56		0.07	0.48	0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 98 (82%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 5.0		Intersection LOS: A	
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 47: Lee Road & Lomond



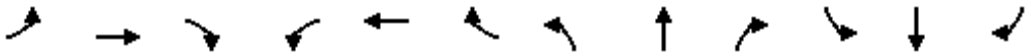
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	5	35	45	25	15	5	620	5	5	385	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1689	0	1626	1618	0	1719	1808	0	1770	1852	0
Flt Permitted		0.823		0.562			0.478			0.355		
Satd. Flow (perm)	0	1423	0	962	1618	0	865	1808	0	661	1852	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			21			1			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.94	0.94	0.94	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	11%	11%	11%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	0	64	57	0	5	665	0	6	445	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	10.0	32.0		9.0	31.0		79.0	79.0		79.0	79.0	
Total Split (%)	8.3%	26.7%		7.5%	25.8%		65.8%	65.8%		65.8%	65.8%	
Maximum Green (s)	5.0	27.0		6.0	26.0		74.0	74.0		74.0	74.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)		12.1		21.3	19.3		90.7	90.7		90.7	90.7	
Actuated g/C Ratio		0.10		0.18	0.16		0.76	0.76		0.76	0.76	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.61		0.31	0.21		0.01	0.49		0.01	0.32	
Control Delay		48.3		43.8	29.3		5.2	8.0		0.4	3.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		48.3		43.8	29.3		5.2	8.0		0.4	3.3	
LOS		D		D	C		A	A		A	A	
Approach Delay		48.3			37.0			8.0			3.2	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		53		42	24		1	178		0	6	
Queue Length 95th (ft)		75		60	42		5	314		m0	7	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)				60			100			100		
Base Capacity (vph)		348		204	370		654	1367		500	1401	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.31		0.31	0.15		0.01	0.49		0.01	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 61 (51%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 53: Lee Road & Scottsdale



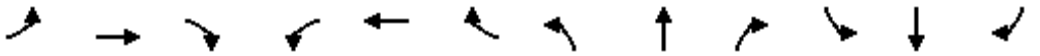
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	115	25	5	80	25	45	575	5	35	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1831	0	0	1876	1599	1770	1861	0	1770	1859	0
Flt Permitted		0.962			0.977		0.339			0.376		
Satd. Flow (perm)	0	1770	0	0	1838	1599	631	1861	0	700	1859	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				32		1			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79	0.90	0.90	0.90	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	107	32	50	645	0	37	718	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	32.0	32.0		32.0	32.0	32.0	88.0	88.0		88.0	88.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%	26.7%	73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	27.0	27.0		27.0	27.0	27.0	83.0	83.0		83.0	83.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		16.6			16.6	16.6	93.4	93.4		93.4	93.4	
Actuated g/C Ratio		0.14			0.14	0.14	0.78	0.78		0.78	0.78	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.69			0.42	0.13	0.10	0.45		0.07	0.50	
Control Delay		61.2			51.2	14.8	1.0	1.6		4.3	6.7	
Queue Delay		0.0			0.0	0.0	0.0	0.1		0.0	1.3	
Total Delay		61.2			51.2	14.8	1.0	1.6		4.3	8.0	
LOS		E			D	B	A	A		A	A	
Approach Delay		61.2			42.8			1.6			7.8	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		125			77	0	0	5		6	166	
Queue Length 95th (ft)		189			110	22	m6	64		17	298	
Internal Link Dist (ft)		448			525			724			218	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		404			414	385	491	1449		545	1448	
Starvation Cap Reductn		0			0	0	0	81		0	492	
Spillback Cap Reductn		0			0	0	0	0		0	62	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.43			0.26	0.08	0.10	0.47		0.07	0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 18 (15%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 60.8%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Lee Road & South Park



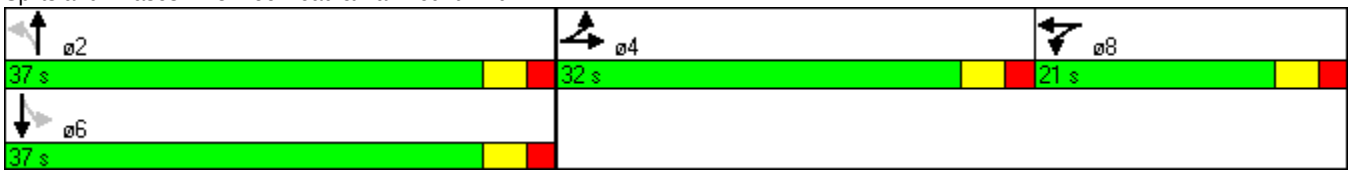
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	765	105	185	325	42	70	375	120	15	370	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3510	0	1787	3513	0	1770	1796	0	1752	1834	0
Flt Permitted	0.950			0.950			0.305			0.187		
Satd. Flow (perm)	1787	3510	0	1787	3513	0	568	1796	0	345	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			14			20			3	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	946	0	237	471	0	76	538	0	17	433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		21.0	21.0		37.0	37.0		37.0	37.0	
Total Split (%)	35.6%	35.6%		23.3%	23.3%		41.1%	41.1%		41.1%	41.1%	
Maximum Green (s)	27.0	27.0		16.0	16.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	26.3	26.3		15.2	15.2		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.30	0.30		0.17	0.17		0.36	0.36		0.36	0.36	

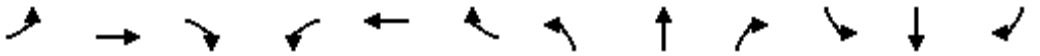
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.10	0.90		0.77	0.77		0.37	0.81		0.14	0.65	
Control Delay	23.5	41.9		53.5	43.3		28.2	36.6		23.2	29.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.5	41.9		53.5	43.3		28.2	36.6		23.2	29.4	
LOS	C	D		D	D		C	D		C	C	
Approach Delay		41.0			46.7			35.6			29.2	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	22	264		129	131		32	266		7	203	
Queue Length 95th (ft)	50	#378		177	155		74	#442		23	303	
Internal Link Dist (ft)		713			577			650			522	
Turn Bay Length (ft)	145			145			120			120		
Base Capacity (vph)	546	1084		324	647		206	662		125	666	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.87		0.73	0.73		0.37	0.81		0.14	0.65	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 39.3 Intersection LOS: D
Intersection Capacity Utilization 81.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Lee Road & Fairmount Blvd



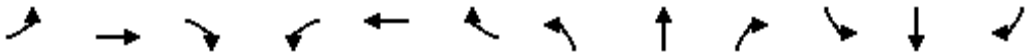


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	295	30	10	65	10	40	590	25	15	690	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1877	1599	0	1840	0	1770	1852	0	1770	1857	0
Flt Permitted		0.986			0.947		0.227			0.261		
Satd. Flow (perm)	0	1855	1599	0	1753	0	423	1852	0	486	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16		8			4			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	33	0	91	0	45	698	0	16	750	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		58.0	58.0		58.0	58.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%		64.4%	64.4%		64.4%	64.4%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		27.0	27.0		27.0		53.0	53.0		53.0	53.0	
Actuated g/C Ratio		0.30	0.30		0.30		0.59	0.59		0.59	0.59	
v/c Ratio		0.62	0.07		0.17		0.18	0.64		0.06	0.69	
Control Delay		32.9	15.1		22.2		10.8	15.5		8.6	16.8	
Queue Delay		0.0	0.0		0.0		0.0	1.2		0.0	0.0	
Total Delay		32.9	15.1		22.2		10.8	16.7		8.6	16.8	
LOS		C	B		C		B	B		A	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.3			22.2			16.3			16.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		168	7		35		11	240		4	271	
Queue Length 95th (ft)		259	28		71		29	341		13	402	
Internal Link Dist (ft)		384			471			182			650	
Turn Bay Length (ft)			50				60			150		
Base Capacity (vph)		557	491		532		249	1092		286	1094	
Starvation Cap Reductn		0	0		0		0	193		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.62	0.07		0.17		0.18	0.78		0.06	0.69	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Lee Road & North Park



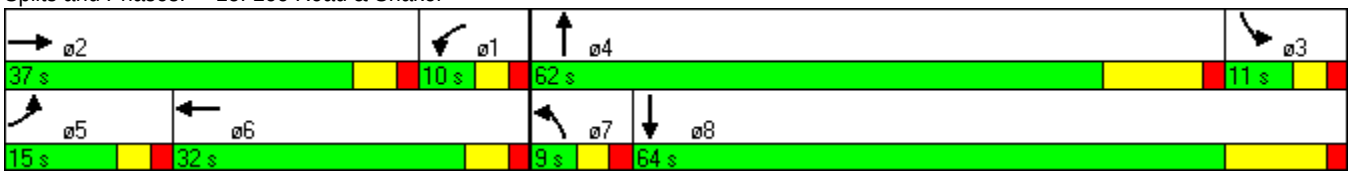
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	700	55	35	265	45	20	530	25	40	615	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3535	0	1787	3496	0	1787	1868	0	1787	1859	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3535	0	1787	3496	0	1787	1868	0	1787	1859	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			15			2			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	829	0	47	413	0	21	591	0	43	728	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		9.0	39.0		9.0	39.0	
Total Split (s)	15.0	37.0		10.0	32.0		9.0	62.0		11.0	64.0	
Total Split (%)	12.5%	30.8%		8.3%	26.7%		7.5%	51.7%		9.2%	53.3%	
Maximum Green (s)	10.0	31.0		5.0	26.0		4.0	51.0		6.0	53.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	9.0		3.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	11.0		5.0	11.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0			4.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			21.0			21.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	8.8	30.4		5.2	26.8		4.3	55.8		5.9	61.0	
Actuated g/C Ratio	0.07	0.25		0.04	0.22		0.04	0.46		0.05	0.51	

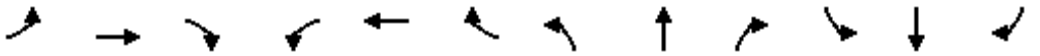
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.50	0.92		0.62	0.52		0.33	0.68		0.49	0.77	
Control Delay	66.5	59.4		89.1	42.3		66.7	41.8		67.5	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	66.5	59.4		89.1	42.3		66.7	41.8		67.5	27.8	
LOS	E	E		F	D		E	D		E	C	
Approach Delay		59.9			47.1			42.6			30.1	
Approach LOS		E			D			D			C	
Queue Length 50th (ft)	50	326		37	144		17	427		33	439	
Queue Length 95th (ft)	97	#440		#72	158		m38	517		m69	#744	
Internal Link Dist (ft)		1072			533			1388			724	
Turn Bay Length (ft)	90			90			100			100		
Base Capacity (vph)	149	918		76	793		64	869		89	947	
Starvation Cap Reductn	0	0		0	0		0	0		0	4	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.90		0.62	0.52		0.33	0.68		0.48	0.77	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 42 (35%), Referenced to phase 4:NBT and 8:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 45.5 Intersection LOS: D
Intersection Capacity Utilization 79.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Lee Road & Shaker





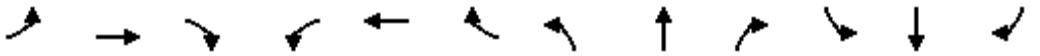
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	300	35	45	205	65	15	475	35	70	575	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3507	0	0	3405	0	1770	1844	0	1770	1846	0
Flt Permitted		0.792			0.675		0.343			0.396		
Satd. Flow (perm)	0	2791	0	0	2315	0	639	1844	0	738	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			26			7			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	0	0	350	0	17	580	0	78	678	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		84.0	84.0		84.0	84.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		79.0	79.0		79.0	79.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.4			21.4		88.6	88.6		88.6	88.6	
Actuated g/C Ratio		0.18			0.18		0.74	0.74		0.74	0.74	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.83			0.80		0.04	0.43		0.14	0.50	
Control Delay		60.8			57.8		1.5	2.1		1.9	2.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		60.8			57.8		1.5	2.1		1.9	2.3	
LOS		E			E		A	A		A	A	
Approach Delay		60.8			57.8			2.1			2.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		164			128		1	17		3	30	
Queue Length 95th (ft)		204			174		m3	70		m8	m66	
Internal Link Dist (ft)		394			33			801			1388	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		728			617		472	1363		545	1364	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.58			0.57		0.04	0.43		0.14	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Lee Road & Woodland



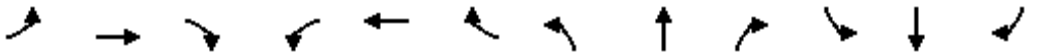
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	75	20	15	50	20	15	555	35	15	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1823	0	0	1805	0	1770	1846	0	1787	1877	0
Flt Permitted		0.941			0.877		0.332			0.401		
Satd. Flow (perm)	0	1728	0	0	1597	0	618	1846	0	754	1877	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			12			7			2	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.96	0.96	0.96	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	97	0	16	614	0	17	758	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	28.0	28.0		28.0	28.0		92.0	92.0		92.0	92.0	
Total Split (%)	23.3%	23.3%		23.3%	23.3%		76.7%	76.7%		76.7%	76.7%	
Maximum Green (s)	23.0	23.0		23.0	23.0		87.0	87.0		87.0	87.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.2			13.2		96.8	96.8		96.8	96.8	
Actuated g/C Ratio		0.11			0.11		0.81	0.81		0.81	0.81	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.62			0.52		0.03	0.41		0.03	0.50	
Control Delay		60.7			53.1		0.3	0.9		5.5	11.2	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		60.7			53.1		0.3	0.9		5.5	11.3	
LOS		E			D		A	A		A	B	
Approach Delay		60.7			53.1			0.9			11.1	
Approach LOS		E			D			A			B	
Queue Length 50th (ft)		86			63		0	4		4	289	
Queue Length 95th (ft)		142			110		m0	8		m10	509	
Internal Link Dist (ft)		561			16			516			801	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		338			316		498	1490		608	1514	
Starvation Cap Reductn		0			0		0	102		0	38	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.36			0.31		0.03	0.44		0.03	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 7 (6%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Lee Road & Parkland

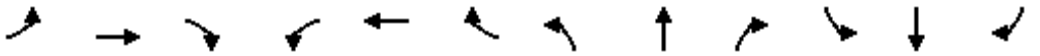


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	25	60	5	30	5	40	600	5	5	675	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1713	0	0	1804	0	1787	1879	0	1787	1874	0
Flt Permitted		0.971			0.969		0.296			0.343		
Satd. Flow (perm)	0	1671	0	0	1759	0	557	1879	0	645	1874	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			5			1			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.89	0.89	0.89	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	51	0	45	680	0	6	772	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		26.0	26.0		94.0	94.0		94.0	94.0	
Total Split (%)	21.7%	21.7%		21.7%	21.7%		78.3%	78.3%		78.3%	78.3%	
Maximum Green (s)	21.0	21.0		21.0	21.0		89.0	89.0		89.0	89.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.0			21.0		89.0	89.0		89.0	89.0	
Actuated g/C Ratio		0.18			0.18		0.74	0.74		0.74	0.74	
v/c Ratio		0.32			0.16		0.11	0.49		0.01	0.55	
Control Delay		23.5			40.2		0.2	1.2		2.0	6.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		23.5			40.2		0.2	1.2		2.0	6.5	
LOS		C			D		A	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.5			40.2			1.1			6.5	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		33			31		0	4		1	181	
Queue Length 95th (ft)		80			57		m0	m3		m1	95	
Internal Link Dist (ft)		405			555			422			516	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		344			312		413	1394		478	1391	
Starvation Cap Reductn		0			0		0	0		0	23	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.32			0.16		0.11	0.49		0.01	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 115 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 24: Lee Road & Aldersyde

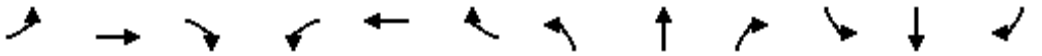


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	570	265	60	375	55	220	730	50	100	655	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3560	1599	0	3549	1599	1681	1752	0	1787	1874	0
Flt Permitted		0.729			0.539		0.950	0.999		0.950		
Satd. Flow (perm)	0	2606	1599	0	1927	1599	1681	1752	0	1787	1874	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			1746	
Travel Time (s)		14.8			10.1			9.6			34.0	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)									0			
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	674	288	0	458	58	213	863	0	109	734	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		48			48			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	48.0	48.0		40.0	40.0	
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%	40.0%	40.0%		33.3%	33.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	40.0	40.0		32.0	32.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		24.0	24.0		24.0	24.0	40.0	40.0		32.0	32.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.33	0.33		0.27	0.27	
v/c Ratio		1.29	0.90		1.19	0.18	0.38	1.48		0.23	1.47	
Control Delay		185.1	77.8		150.4	41.7	33.6	253.5		34.6	250.1	
Queue Delay		0.0	33.4		40.5	0.0	0.0	9.2		0.0	0.0	
Total Delay		185.1	111.2		190.9	41.7	33.6	262.7		34.6	250.1	
LOS		F	F		F	D	C	F		C	F	
Approach Delay		163.0			174.1			217.3			222.3	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)		~350	220		~225	38	105	~957		38	~764	
Queue Length 95th (ft)		#472	#382		#333	77	201	#1222		109	#1010	
Internal Link Dist (ft)		679			440			412			1666	
Turn Bay Length (ft)			150			150	100			115		
Base Capacity (vph)		521	320		385	320	560	584		477	500	
Starvation Cap Reductn		0	0		0	0	0	8		0	0	
Spillback Cap Reductn		0	47		28	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		1.29	1.05		1.28	0.18	0.38	1.50		0.23	1.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 111 (93%), Referenced to phase 4:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay: 196.6		Intersection LOS: F	
Intersection Capacity Utilization 130.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 32: Lee Road & Van Aken

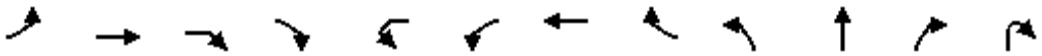


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	10	25	15	5	60	25	720	15	120	825	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1786	1583	0	1658	0	1770	1857	0	1787	1862	0
Flt Permitted		0.616			0.926		0.227			0.270		
Satd. Flow (perm)	0	1147	1583	0	1549	0	423	1857	0	508	1862	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27		65			2			7	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	27	0	86	0	27	799	0	130	962	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	83.0		12.0	86.0	
Total Split (%)	20.8%	20.8%	20.8%	20.8%	20.8%		7.5%	69.2%		10.0%	71.7%	
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0		6.0	78.0		9.0	81.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		13.3	13.3		13.3		97.1	89.0		100.6	94.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.74		0.84	0.79	
v/c Ratio		0.65	0.14		0.37		0.07	0.58		0.26	0.65	
Control Delay		72.7	17.0		21.2		1.1	5.1		2.8	18.2	
Queue Delay		24.7	634.1		674.3		0.0	2.2		0.0	12.1	
Total Delay		97.4	651.2		695.6		1.1	7.3		2.8	30.3	
LOS		F	F		F		A	A		A	C	
Approach Delay		234.6			695.6			7.1			27.0	
Approach LOS		F			F			A			C	
Queue Length 50th (ft)		62	0		15		1	31		18	376	
Queue Length 95th (ft)		112	27		62		m2	m562		m21	m229	
Internal Link Dist (ft)		179			273			204			412	
Turn Bay Length (ft)							60			150		
Base Capacity (vph)		191	286		312		411	1377		525	1472	
Starvation Cap Reductn		0	0		0		0	418		0	414	
Spillback Cap Reductn		97	274		283		0	389		0	496	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.87	2.25		2.97		0.07	0.83		0.25	0.99	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 3 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	175	400	45	165	5	175	380	55	105	520	105	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1787	1881	1599	0	0	1770	3472	0	1787	1832	0	0
Flt Permitted	0.352					0.361			0.093			
Satd. Flow (perm)	662	1881	1599	0	0	672	3472	0	175	1832	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			239		
Travel Time (s)		16.8					16.9			4.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.97	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	435	228	0	0	185	449	0	117	701	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	9
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	9.0	40.0	40.0		9.0	40.0	40.0		9.0	41.0		
Total Split (%)	7.5%	33.3%	33.3%		7.5%	33.3%	33.3%		7.5%	34.2%		
Maximum Green (s)	6.0	35.0	35.0		6.0	35.0	35.0		6.0	36.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	46.0	44.0	44.0			35.0	35.0		55.6	53.6		
Actuated g/C Ratio	0.38	0.37	0.37			0.29	0.29		0.46	0.45		

Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Volume (vph)	85	20	590	125	15	10	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100		0		0	0	
Storage Lanes		1		0		1	0	
Taper Length (ft)		25				25		
Satd. Flow (prot)	0	1787	1832	0	0	1711	0	0
Flt Permitted		0.145				0.976		
Satd. Flow (perm)	0	273	1832	0	0	1711	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			35			25		
Link Distance (ft)			284			735		
Travel Time (s)			5.5			20.0		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	118	803	0	0	60	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)			12			12		
Link Offset(ft)			0			0		
Crosswalk Width(ft)			16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15	15	9	9
Turn Type	pm+pt	Perm	NA		Split	NA		
Protected Phases	1		6		9	9		
Permitted Phases	6	6						
Detector Phase	1	6	6		9	9		
Switch Phase								
Minimum Initial (s)	3.0	20.0	20.0		8.0	8.0		
Minimum Split (s)	9.0	26.0	26.0		21.0	21.0		
Total Split (s)	9.0	41.0	41.0		21.0	21.0		
Total Split (%)	7.5%	34.2%	34.2%		17.5%	17.5%		
Maximum Green (s)	6.0	36.0	36.0		16.0	16.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0		
Lost Time Adjust (s)		0.0	0.0			0.0		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	C-Max	C-Max		None	None		
Walk Time (s)		4.0	4.0					
Flash Dont Walk (s)		17.0	17.0					
Pedestrian Calls (#/hr)		0	0					
Act Effct Green (s)		41.2	41.2			10.0		
Actuated g/C Ratio		0.34	0.34			0.08		

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
v/c Ratio	0.61	0.63	0.39			0.94	0.44		0.57	0.86		
Control Delay	36.6	36.3	30.5			94.1	36.3		31.4	34.2		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	6.8		
Total Delay	36.6	36.3	30.5			94.1	36.3		31.4	41.0		
LOS	D	D	C			F	D		C	D		
Approach Delay		34.8					53.2			39.6		
Approach LOS		C					D			D		
Queue Length 50th (ft)	100	275	129			140	148		35	506		
Queue Length 95th (ft)	159	389	201			#289	199		#101	#768		
Internal Link Dist (ft)		537					539			159		
Turn Bay Length (ft)	225					370			130			
Base Capacity (vph)	310	690	586			196	1013		207	818		
Starvation Cap Reductn	0	0	0			0	0		0	66		
Spillback Cap Reductn	0	0	0			0	0		0	85		
Storage Cap Reductn	0	0	0			0	0		0	0		
Reduced v/c Ratio	0.61	0.63	0.39			0.94	0.44		0.57	0.96		

Intersection Summary

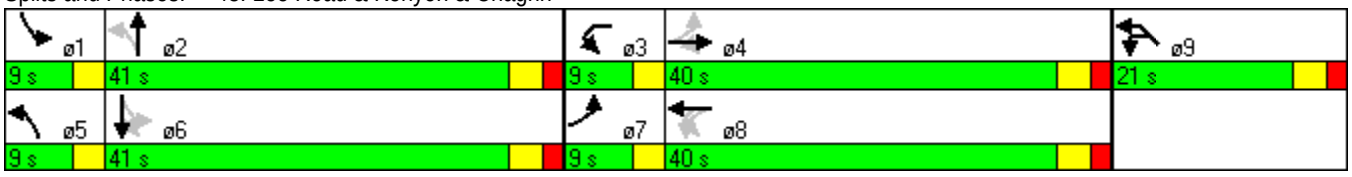
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.28
Intersection Signal Delay: 93.2 Intersection LOS: F
Intersection Capacity Utilization 109.2% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 43: Lee Road & Kenyon & Chagrin



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
v/c Ratio		1.26	1.28			0.42		
Control Delay		203.1	169.9			60.6		
Queue Delay		0.0	57.9			0.0		
Total Delay		203.1	227.8			60.6		
LOS		F	F			E		
Approach Delay			224.7			60.6		
Approach LOS			F			E		
Queue Length 50th (ft)		~125	~858			45		
Queue Length 95th (ft)		m#225	#1073			81		
Internal Link Dist (ft)			204			655		
Turn Bay Length (ft)		100						
Base Capacity (vph)		94	628			228		
Starvation Cap Reductn		0	58			0		
Spillback Cap Reductn		0	0			0		
Storage Cap Reductn		0	0			0		
Reduced v/c Ratio		1.26	1.41			0.26		

Intersection Summary

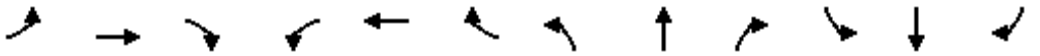
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	610	120	110	730	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	1840	0	1787	1881	1677	0
Flt Permitted			0.263		0.986	
Satd. Flow (perm)	1840	0	495	1881	1677	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17				64	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			264	605	
Travel Time (s)	14.7			5.1	16.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.78	0.78
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	0	126	839	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	83.0		13.0	96.0	24.0	
Total Split (%)	69.2%		10.8%	80.0%	20.0%	
Maximum Green (s)	78.0		10.0	91.0	19.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.0		3.0	5.0	5.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	90.8		103.8	101.8	8.2	
Actuated g/C Ratio	0.76		0.86	0.85	0.07	

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.60		0.24	0.53	0.52	
Control Delay	3.4		1.8	3.8	30.5	
Queue Delay	0.7		0.0	5.1	0.0	
Total Delay	4.1		1.8	8.9	30.6	
LOS	A		A	A	C	
Approach Delay	4.1			8.0	30.6	
Approach LOS	A			A	C	
Queue Length 50th (ft)	61		11	126	20	
Queue Length 95th (ft)	77		m16	m149	54	
Internal Link Dist (ft)	676			184	525	
Turn Bay Length (ft)			75			
Base Capacity (vph)	1397		536	1596	319	
Starvation Cap Reductn	0		0	678	0	
Spillback Cap Reductn	257		0	0	8	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.74		0.24	0.91	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 47: Lee Road & Lomond



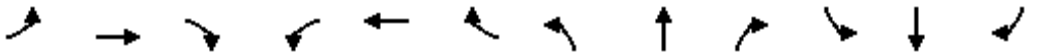
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	5	90	90	45	25	40	705	15	5	755	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1649	0	1703	1697	0	1770	1857	0	1787	1864	0
Flt Permitted		0.841		0.445			0.259			0.282		
Satd. Flow (perm)	0	1412	0	798	1697	0	482	1857	0	530	1864	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			21			2			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.84	0.84	0.84	0.75	0.75	0.75	0.95	0.95	0.95	0.98	1.00	0.98
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	120	93	0	42	758	0	5	801	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	8.0		5.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	10.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	10.0	30.0		10.0	30.0		80.0	80.0		80.0	80.0	
Total Split (%)	8.3%	25.0%		8.3%	25.0%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	5.0	25.0		7.0	25.0		75.0	75.0		75.0	75.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)		16.2		28.2	26.2		83.8	83.8		83.8	83.8	
Actuated g/C Ratio		0.14		0.24	0.22		0.70	0.70		0.70	0.70	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.73		0.50	0.24		0.12	0.58		0.01	0.61	
Control Delay		49.3		43.7	29.3		8.8	12.6		2.4	7.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		49.3		43.7	29.3		8.8	12.6		2.4	7.3	
LOS		D		D	C		A	B		A	A	
Approach Delay		49.3			37.5			12.4			7.3	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)		89		77	46		10	268		0	16	
Queue Length 95th (ft)		140		97	67		30	475		m1	579	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)				60			100			100		
Base Capacity (vph)		342		241	414		337	1297		370	1303	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.52		0.50	0.22		0.12	0.58		0.01	0.61	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 60 (50%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.3 Intersection LOS: B
Intersection Capacity Utilization 66.3% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 53: Lee Road & Scottsdale

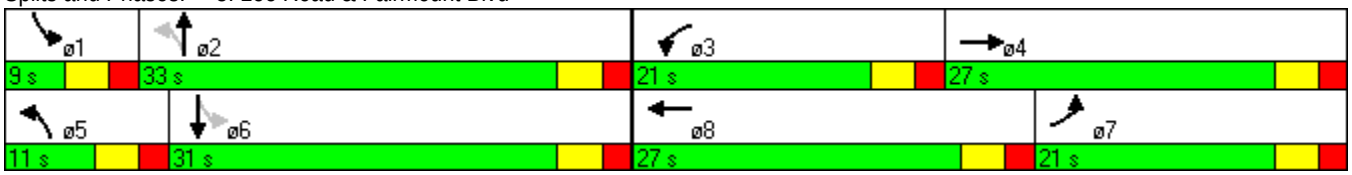


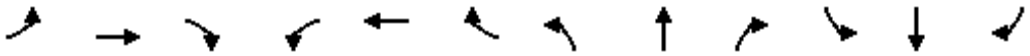
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	335	70	120	750	20	135	300	105	40	315	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3481	0	1787	3560	0	1752	1773	0	1770	1835	0
Flt Permitted	0.950			0.950			0.324			0.359		
Satd. Flow (perm)	1787	3481	0	1787	3560	0	598	1773	0	669	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			3			20			6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.89	0.89	0.89	0.97	0.97	0.97	0.89	0.89	0.89	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	455	0	124	794	0	152	455	0	43	372	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	21.0	27.0		21.0	27.0		11.0	33.0		9.0	31.0	
Total Split (%)	23.3%	30.0%		23.3%	30.0%		12.2%	36.7%		10.0%	34.4%	
Maximum Green (s)	16.0	22.0		16.0	22.0		6.0	28.0		4.0	26.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.3	17.6		10.8	22.2		35.8	32.4		30.4	26.3	
Actuated g/C Ratio	0.11	0.23		0.14	0.28		0.46	0.41		0.39	0.34	
v/c Ratio	0.21	0.57		0.50	0.79		0.42	0.61		0.14	0.60	
Control Delay	35.7	29.5		39.9	34.0		18.4	25.5		15.1	28.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.7	29.5		39.9	34.0		18.4	25.5		15.1	28.1	
LOS	D	C		D	C		B	C		B	C	
Approach Delay		30.0			34.8			23.7			26.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Lee Road & Fairmount Blvd



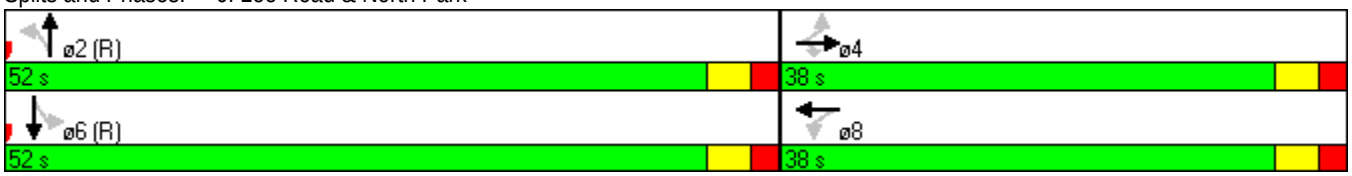


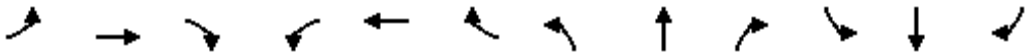
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	20	25	240	15	50	515	20	5	465	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1834	1568	0	1842	0	1770	1853	0	1770	1852	0
Flt Permitted		0.954			0.973		0.336			0.283		
Satd. Flow (perm)	0	1760	1568	0	1800	0	626	1853	0	527	1852	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24		3			3			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.70	0.70	0.70	0.89	0.89	0.89	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	24	0	400	0	56	601	0	5	533	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		52.0	52.0		52.0	52.0	
Total Split (%)	42.2%	42.2%	42.2%	42.2%	42.2%		57.8%	57.8%		57.8%	57.8%	
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		33.0	33.0		33.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.37	0.37		0.37		0.52	0.52		0.52	0.52	
v/c Ratio		0.07	0.04		0.61		0.17	0.62		0.02	0.55	
Control Delay		19.1	7.7		27.7		13.1	18.6		10.8	17.0	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.0	
Total Delay		19.1	7.7		27.7		13.1	19.4		10.8	17.0	
LOS		B	A		C		B	B		B	B	
Approach Delay		15.2			27.7			18.8			16.9	
Approach LOS		B			C			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	

Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Lee Road & North Park



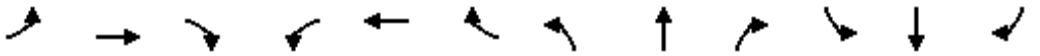


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	35	10	5	240	35	80	555	5	15	505	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1823	0	0	1879	1599	1752	1843	0	1770	1857	0
Flt Permitted		0.963			0.996		0.401			0.338		
Satd. Flow (perm)	0	1764	0	0	1874	1599	740	1843	0	630	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				24		1			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.80	0.80	0.80	0.91	0.91	0.91	0.85	0.85	0.85	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	269	38	94	659	0	16	554	0
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	31.0	31.0		31.0	31.0	31.0	59.0	59.0		59.0	59.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%	34.4%	65.6%	65.6%		65.6%	65.6%	
Maximum Green (s)	26.0	26.0		26.0	26.0	26.0	54.0	54.0		54.0	54.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		18.3			18.3	18.3	61.7	61.7		61.7	61.7	
Actuated g/C Ratio		0.20			0.20	0.20	0.69	0.69		0.69	0.69	
v/c Ratio		0.17			0.71	0.11	0.19	0.52		0.04	0.43	
Control Delay		24.1			43.2	15.0	7.4	9.7		2.6	3.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.1			43.2	15.0	7.4	9.7		2.6	3.2	
LOS		C			D	B	A	A		A	A	
Approach Delay		24.1			39.7			9.4			3.1	
Approach LOS		C			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 76.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Lee Road & South Park

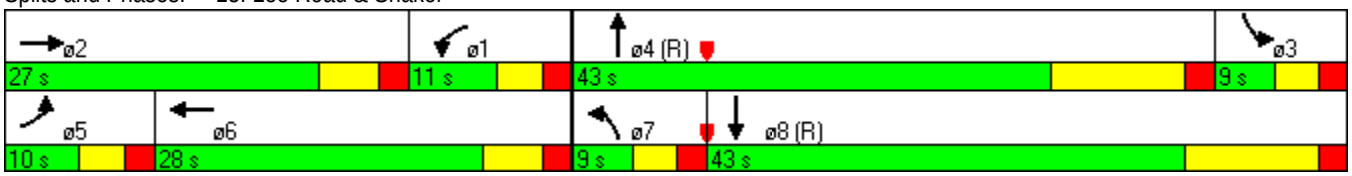


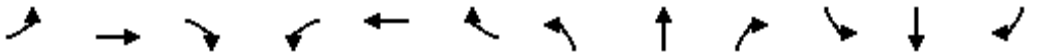
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	285	25	40	685	40	35	540	25	35	410	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3531	0	1787	3546	0	1770	1850	0	1787	1849	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3531	0	1787	3546	0	1770	1850	0	1787	1849	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			6			3			8	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.88	0.88	0.88	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	348	0	50	906	0	40	642	0	37	489	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		9.0	39.0		9.0	39.0	
Total Split (s)	10.0	27.0		11.0	28.0		9.0	43.0		9.0	43.0	
Total Split (%)	11.1%	30.0%		12.2%	31.1%		10.0%	47.8%		10.0%	47.8%	
Maximum Green (s)	5.0	21.0		6.0	22.0		4.0	32.0		4.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	9.0		3.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	11.0		5.0	11.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead		Lag	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0			4.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			21.0			21.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.0	24.8		6.7	26.0		4.0	35.6		4.0	35.6	
Actuated g/C Ratio	0.06	0.28		0.07	0.29		0.04	0.40		0.04	0.40	
v/c Ratio	0.39	0.36		0.38	0.88		0.51	0.88		0.47	0.66	
Control Delay	53.0	28.2		48.1	43.8		65.6	41.8		61.5	38.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.0	28.2		48.1	43.8		65.6	41.8		61.5	38.7	
LOS	D	C		D	D		E	D		E	D	
Approach Delay		30.7			44.0			43.2			40.3	
Approach LOS		C			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:NBT and 8:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 41.0		Intersection LOS: D	
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Lee Road & Shaker



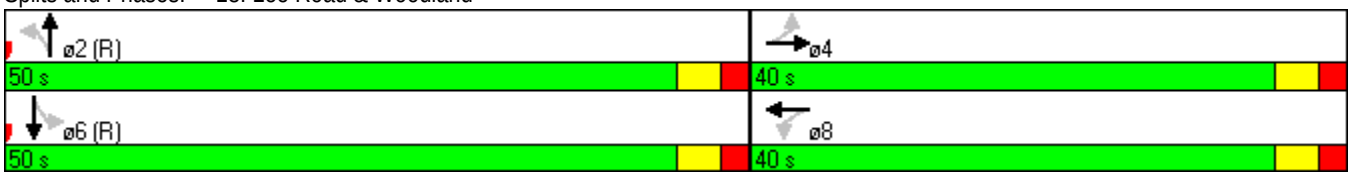


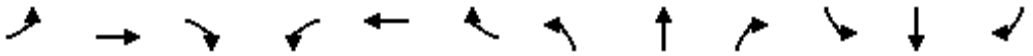
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	145	25	25	280	85	30	510	35	60	390	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1641	1689	0	1752	1780	0	1770	1844	0	1770	1846	0
Flt Permitted	0.215			0.529			0.452			0.331		
Satd. Flow (perm)	371	1689	0	976	1780	0	842	1844	0	617	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			20			5			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.76	0.76	0.76	0.82	0.82	0.82	0.92	0.92	0.92	0.98	0.98	0.98
Heavy Vehicles (%)	10%	10%	10%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	224	0	30	445	0	33	592	0	61	424	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	40.0	40.0		40.0	40.0		50.0	50.0		50.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		55.6%	55.6%		55.6%	55.6%	
Maximum Green (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	27.2	27.2		27.2	27.2		52.8	52.8		52.8	52.8	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.59	0.59		0.59	0.59	
v/c Ratio	0.18	0.43		0.10	0.81		0.07	0.55		0.17	0.39	
Control Delay	24.4	25.4		20.7	38.9		10.7	15.0		13.8	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.4	25.4		20.7	38.9		10.7	15.0		13.8	12.5	
LOS	C	C		C	D		B	B		B	B	
Approach Delay		25.3			37.8			14.8			12.7	
Approach LOS		C			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 18: Lee Road & Woodland



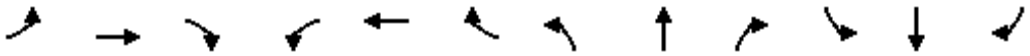


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	45	25	30	90	35	25	525	15	5	450	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1772	0	0	1754	0	1719	1802	0	1687	1767	0
Flt Permitted		0.897			0.921		0.433			0.384		
Satd. Flow (perm)	0	1604	0	0	1632	0	784	1802	0	682	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			16			3			3	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	0	0	222	0	27	593	0	5	511	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		59.0	59.0		59.0	59.0	
Total Split (%)	34.4%	34.4%		34.4%	34.4%		65.6%	65.6%		65.6%	65.6%	
Maximum Green (s)	26.0	26.0		26.0	26.0		54.0	54.0		54.0	54.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.7			16.7		63.3	63.3		63.3	63.3	
Actuated g/C Ratio		0.19			0.19		0.70	0.70		0.70	0.70	
v/c Ratio		0.38			0.70		0.05	0.47		0.01	0.41	
Control Delay		27.7			43.4		5.7	8.2		7.2	7.3	
Queue Delay		0.0			0.0		0.0	0.4		0.0	0.0	
Total Delay		27.7			43.4		5.7	8.6		7.2	7.3	
LOS		C			D		A	A		A	A	
Approach Delay		27.7			43.4			8.5			7.3	
Approach LOS		C			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 48.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 21: Lee Road & Parkland

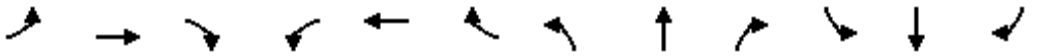


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	40	65	5	105	20	105	535	5	5	470	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1719	0	0	1820	0	1703	1791	0	1687	1754	0
Flt Permitted		0.916			0.988		0.385			0.329		
Satd. Flow (perm)	0	1590	0	0	1802	0	690	1791	0	584	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			10			1			10	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.83	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	186	0	127	651	0	5	560	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		26.0	26.0		64.0	64.0		64.0	64.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		71.1%	71.1%		71.1%	71.1%	
Maximum Green (s)	21.0	21.0		21.0	21.0		59.0	59.0		59.0	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		21.0			21.0		59.0	59.0		59.0	59.0	
Actuated g/C Ratio		0.23			0.23		0.66	0.66		0.66	0.66	
v/c Ratio		0.45			0.43		0.28	0.55		0.01	0.49	
Control Delay		25.1			31.6		8.5	10.6		5.6	8.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.1			31.6		8.5	10.6		5.6	8.9	
LOS		C			C		A	B		A	A	
Approach Delay		25.1			31.6			10.3			8.9	
Approach LOS		C			C			B			A	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	

Natural Cycle: 55	
Control Type: Pretimed	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Lee Road & Aldersyde

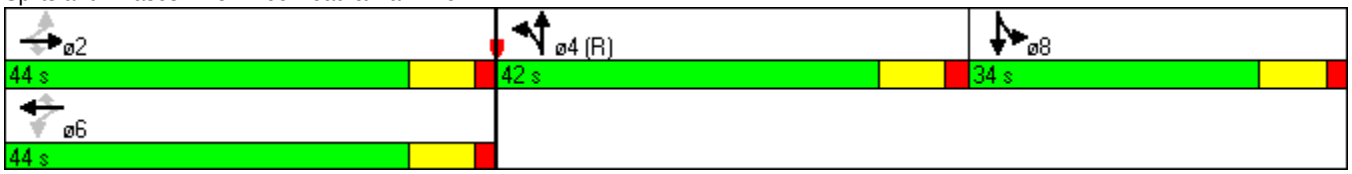


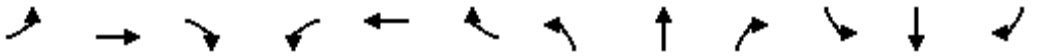
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	305	125	95	480	25	240	645	20	75	495	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3498	1568	0	3443	1553	1719	3424	0	1687	3354	0
Flt Permitted		0.922			0.791		0.950			0.950		
Satd. Flow (perm)	0	3231	1568	0	2746	1553	1719	3424	0	1687	3354	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			476	
Travel Time (s)		14.8			10.1			9.6			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Parking (#/hr)									0			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	343	136	0	653	28	267	739	0	83	572	0
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	42.0	42.0		34.0	34.0	
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	35.0%	35.0%		28.3%	28.3%	
Maximum Green (s)	36.0	36.0	36.0	36.0	36.0	36.0	34.0	34.0		26.0	26.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		37.6	37.6		37.6	37.6	34.0	34.0		24.4	24.4	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.28	0.28		0.20	0.20	
v/c Ratio		0.34	0.28		0.76	0.06	0.55	0.76		0.24	0.84	
Control Delay		33.3	33.6		44.3	30.4	40.9	44.7		41.4	57.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.1		0.0	0.0	
Total Delay		33.3	33.6		44.3	30.4	40.9	44.8		41.4	57.9	
LOS		C	C		D	C	D	D		D	E	
Approach Delay		33.4			43.7			43.7			55.8	
Approach LOS		C			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 36 (30%), Referenced to phase 4:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 44.8		Intersection LOS: D	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 32: Lee Road & Van Aken



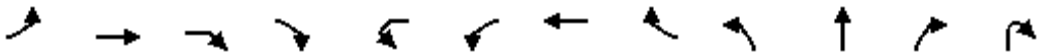


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	5	10	5	15	15	770	10	60	475	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1801	1583	0	1707	0	1719	3431	0	1703	3372	0
Flt Permitted		0.775			0.879		0.445			0.316		
Satd. Flow (perm)	0	1435	1536	0	1526	0	805	3431	0	566	3372	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		16			2			12	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Confl. Peds. (#/hr)	5		10									
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	6%	6%	6%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	5	0	32	0	16	848	0	65	554	0
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	29.0	29.0	29.0	29.0	29.0		11.0	76.0		15.0	80.0	
Total Split (%)	24.2%	24.2%	24.2%	24.2%	24.2%		9.2%	63.3%		12.5%	66.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0		8.0	71.0		12.0	75.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	

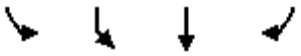
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		8.3	8.3		8.3		106.2	100.4		107.9	105.3	
Actuated g/C Ratio		0.07	0.07		0.07		0.88	0.84		0.90	0.88	
v/c Ratio		0.16	0.03		0.27		0.02	0.30		0.11	0.19	
Control Delay		56.2	0.4		38.1		1.0	3.7		0.5	1.9	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.0	
Total Delay		56.2	0.4		38.1		1.0	3.9		0.5	1.9	
LOS		E	A		D		A	A		A	A	
Approach Delay		42.9			38.1			3.9			1.7	
Approach LOS		D			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 118 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 4.2		Intersection LOS: A	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	120	265	10	70	5	55	220	40	105	510	70	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1703	1792	1524	0	0	1703	3327	0	1719	3373	0	0
Flt Permitted	0.348					0.585			0.413			
Satd. Flow (perm)	624	1792	1524	0	0	1049	3327	0	747	3373	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			244		
Travel Time (s)		16.8					16.9			4.8		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	285	86	0	0	65	286	0	114	635	0	0
Number of Detectors	1	2	1		1	1	2		1	2		
Detector Template	Left	Thru	Right		Left	Left	Thru		Left	Thru		
Leading Detector (ft)	20	100	20		20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		
Detector 1 Size(ft)	20	6	20		20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	16.0	48.0	48.0		9.0	41.0	41.0		16.0	54.0		
Total Split (%)	13.3%	40.0%	40.0%		7.5%	34.2%	34.2%		13.3%	45.0%		
Maximum Green (s)	13.0	43.0	43.0		6.0	36.0	36.0		13.0	49.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		

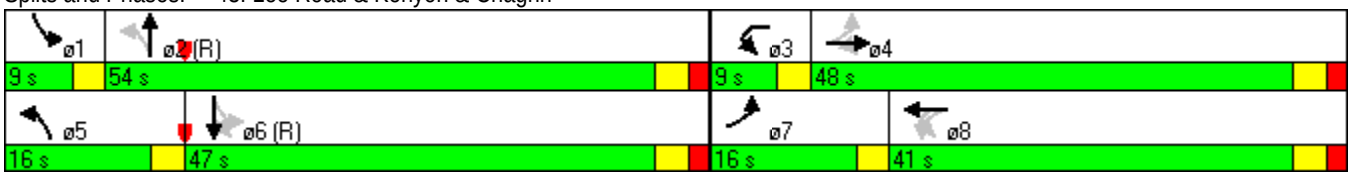


Lane Group	SBL2	SBL	SBT	SBR
Lane Configurations				
Volume (vph)	30	20	345	90
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		100		0
Storage Lanes		1		0
Taper Length (ft)		25		
Satd. Flow (prot)	0	1703	3300	0
Flt Permitted		0.411		
Satd. Flow (perm)	0	737	3300	0
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			35	
Link Distance (ft)			284	
Travel Time (s)			5.5	
Peak Hour Factor	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	6%	6%	6%	6%
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	60	518	0
Number of Detectors	1	1	2	
Detector Template	Left	Left	Thru	
Leading Detector (ft)	20	20	100	
Trailing Detector (ft)	0	0	0	
Detector 1 Position(ft)	0	0	0	
Detector 1 Size(ft)	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	
Detector 2 Position(ft)			94	
Detector 2 Size(ft)			6	
Detector 2 Type			Cl+Ex	
Detector 2 Channel				
Detector 2 Extend (s)			0.0	
Turn Type	pm+pt	Perm	NA	
Protected Phases	1		6	
Permitted Phases	6	6		
Detector Phase	1	6	6	
Switch Phase				
Minimum Initial (s)	3.0	20.0	20.0	
Minimum Split (s)	9.0	26.0	26.0	
Total Split (s)	9.0	47.0	47.0	
Total Split (%)	7.5%	39.2%	39.2%	
Maximum Green (s)	6.0	42.0	42.0	
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	
Total Lost Time (s)		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	32.7	30.7	30.7			15.9	15.9		81.3	79.3		
Actuated g/C Ratio	0.27	0.26	0.26			0.13	0.13		0.68	0.66		
v/c Ratio	0.47	0.62	0.22			0.47	0.65		0.20	0.28		
Control Delay	38.9	45.1	35.1			58.3	56.0		4.0	5.0		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Delay	38.9	45.1	35.1			58.3	56.0		4.0	5.0		
LOS	D	D	D			E	E		A	A		
Approach Delay		41.8					56.4			4.8		
Approach LOS		D					E			A		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 43: Lee Road & Kenyon & Chagrin



Lane Group	SBL2	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	
Walk Time (s)		4.0	4.0	
Flash Dont Walk (s)		17.0	17.0	
Pedestrian Calls (#/hr)		0	0	
Act Effct Green (s)		67.9	67.9	
Actuated g/C Ratio		0.57	0.57	
v/c Ratio		0.14	0.28	
Control Delay		2.5	2.1	
Queue Delay		0.0	0.4	
Total Delay		2.5	2.5	
LOS		A	A	
Approach Delay			2.5	
Approach LOS			A	

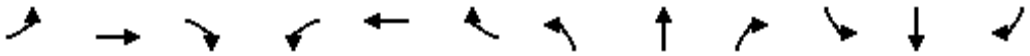
Intersection Summary

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	630	70	40	425	20	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	1784	0	0	3360	1589	0
Flt Permitted				0.842	0.988	
Satd. Flow (perm)	1784	0	0	2841	1589	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9				80	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			259	605	
Travel Time (s)	14.7			5.0	16.5	
Peak Hour Factor	0.96	0.96	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	5%	5%	7%	7%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	0	495	105	0
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	81.0		13.0	94.0	26.0	
Total Split (%)	67.5%		10.8%	78.3%	21.7%	
Maximum Green (s)	76.0		10.0	89.0	21.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag	Lag		Lead			

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	101.6			101.6	8.4	
Actuated g/C Ratio	0.85			0.85	0.07	
v/c Ratio	0.48			0.21	0.57	
Control Delay	1.7			0.9	29.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	1.7			0.9	29.3	
LOS	A			A	C	
Approach Delay	1.7			0.9	29.3	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 80 (67%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 3.6		Intersection LOS: A	
Intersection Capacity Utilization 56.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 47: Lee Road & Lomond

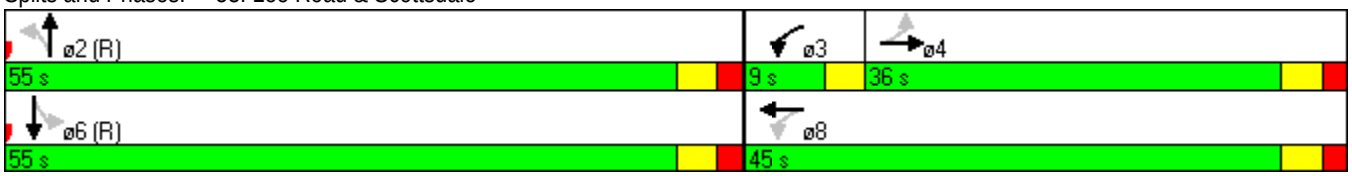


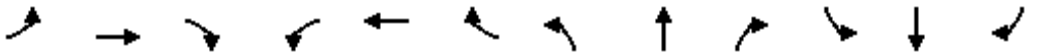
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	5	35	45	25	15	5	620	5	5	385	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1689	0	0	1629	0	0	3435	0	0	3514	0
Flt Permitted		0.779			0.766			0.953			0.948	
Satd. Flow (perm)	0	1346	0	0	1281	0	0	3273	0	0	3335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			13			1			6	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.94	0.94	0.94	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	11%	11%	11%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	0	0	121	0	0	670	0	0	451	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		5.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	36.0	36.0		9.0	45.0		55.0	55.0		55.0	55.0	
Total Split (%)	36.0%	36.0%		9.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	31.0	31.0		6.0	40.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag	Lag	Lag		Lead								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		13.6			13.6			76.4			76.4	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.48			0.65			0.27			0.18	
Control Delay		30.1			52.2			4.2			3.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.1			52.2			4.2			3.8	
LOS		C			D			A			A	
Approach Delay		30.1			52.2			4.2			3.8	
Approach LOS		C			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 53: Lee Road & Scottsdale



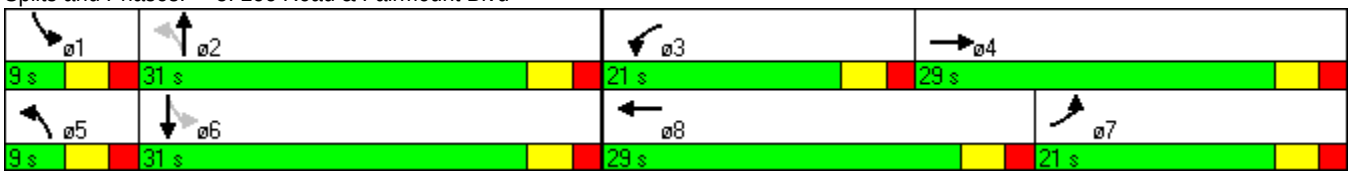


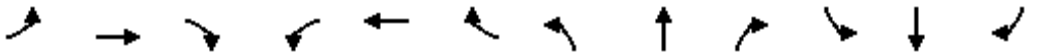
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	765	105	185	325	42	70	375	120	15	370	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	145		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3510	0	1787	3513	0	1770	1796	0	1752	1834	0
Flt Permitted	0.950			0.950			0.220			0.143		
Satd. Flow (perm)	1787	3510	0	1787	3513	0	410	1796	0	264	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			15			18			2	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		793			657			730			602	
Travel Time (s)		15.4			12.8			14.2			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	946	0	237	471	0	76	538	0	17	433	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	21.0	29.0		21.0	29.0		9.0	31.0		9.0	31.0	
Total Split (%)	23.3%	32.2%		23.3%	32.2%		10.0%	34.4%		10.0%	34.4%	
Maximum Green (s)	16.0	24.0		16.0	24.0		4.0	26.0		4.0	26.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.4	24.1		14.6	29.0		31.2	29.6		29.2	26.1	
Actuated g/C Ratio	0.17	0.28		0.17	0.33		0.36	0.34		0.34	0.30	
v/c Ratio	0.18	0.96		0.79	0.40		0.36	0.86		0.11	0.78	
Control Delay	31.2	53.1		54.9	26.5		23.3	43.8		18.7	40.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.2	53.1		54.9	26.5		23.3	43.8		18.7	40.6	
LOS	C	D		D	C		C	D		B	D	
Approach Delay		51.9			36.0			41.2			39.7	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	24	278		129	128		27	252		6	227	
Queue Length 95th (ft)	57	#417		177	141		56	#517		19	#374	
Internal Link Dist (ft)		713			577			650			522	
Turn Bay Length (ft)	145			145			120			120		
Base Capacity (vph)	383	985		330	1286		209	623		157	552	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.96		0.72	0.37		0.36	0.86		0.11	0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 86.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Lee Road & Fairmount Blvd



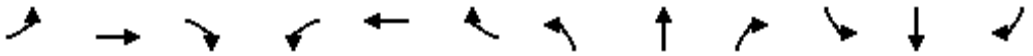


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	295	30	10	65	10	40	590	25	15	690	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1877	1599	0	1840	0	1770	1852	0	1770	1857	0
Flt Permitted		0.986			0.947		0.227			0.261		
Satd. Flow (perm)	0	1855	1599	0	1753	0	423	1852	0	486	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24		8			4			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		464			551			262			730	
Travel Time (s)		12.7			15.0			5.1			14.2	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	33	0	91	0	45	698	0	16	750	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		58.0	58.0		58.0	58.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%		64.4%	64.4%		64.4%	64.4%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)		27.0	27.0		27.0		53.0	53.0		53.0	53.0	
Actuated g/C Ratio		0.30	0.30		0.30		0.59	0.59		0.59	0.59	
v/c Ratio		0.62	0.07		0.17		0.18	0.64		0.06	0.69	
Control Delay		32.9	12.0		22.2		2.9	4.3		8.6	16.8	
Queue Delay		0.0	0.0		0.0		0.0	0.1		0.0	0.0	
Total Delay		32.9	12.0		22.2		2.9	4.4		8.6	16.8	
LOS		C	B		C		A	A		A	B	
Approach Delay		31.1			22.2			4.3			16.6	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		168	4		35		2	29		4	271	
Queue Length 95th (ft)		259	25		71		m5	42		13	402	
Internal Link Dist (ft)		384			471			182			650	
Turn Bay Length (ft)			50				60			150		
Base Capacity (vph)		556	496		531		249	1092		286	1094	
Starvation Cap Reductn		0	0		0		0	23		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.62	0.07		0.17		0.18	0.65		0.06	0.69	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: Lee Road & North Park



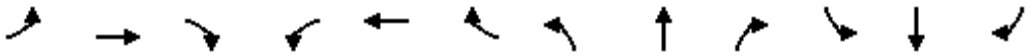
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	115	25	5	80	25	45	575	5	35	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	100		0	100		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1831	0	0	1876	1599	1770	1861	0	1770	1859	0
Flt Permitted		0.962			0.984		0.329			0.368		
Satd. Flow (perm)	0	1770	0	0	1851	1599	613	1861	0	685	1859	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				32		1			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		528			605			804			298	
Travel Time (s)		14.4			16.5			15.7			5.8	
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79	0.90	0.90	0.90	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	107	32	50	645	0	37	718	0
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	30.0	30.0		30.0	30.0	
Total Split (s)	26.0	26.0		26.0	26.0	26.0	64.0	64.0		64.0	64.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%	28.9%	71.1%	71.1%		71.1%	71.1%	
Maximum Green (s)	21.0	21.0		21.0	21.0	21.0	59.0	59.0		59.0	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0	4.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		13.6			13.6	13.6	66.4	66.4		66.4	66.4	
Actuated g/C Ratio		0.15			0.15	0.15	0.74	0.74		0.74	0.74	
v/c Ratio		0.63			0.38	0.12	0.11	0.47		0.07	0.52	
Control Delay		43.6			37.3	12.0	3.5	4.0		2.0	2.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay		43.6			37.3	12.0	3.5	4.0		2.0	2.8	
LOS		D			D	B	A	A		A	A	
Approach Delay		43.6			31.4			3.9			2.8	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		89			56	0	5	70		2	35	
Queue Length 95th (ft)		143			85	19	m0	93		m3	53	
Internal Link Dist (ft)		448			525			724			218	
Turn Bay Length (ft)						50	100			100		
Base Capacity (vph)		420			431	397	452	1373		505	1372	
Starvation Cap Reductn		0			0	0	0	0		0	54	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.41			0.25	0.08	0.11	0.47		0.07	0.54	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 60.8% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Lee Road & South Park



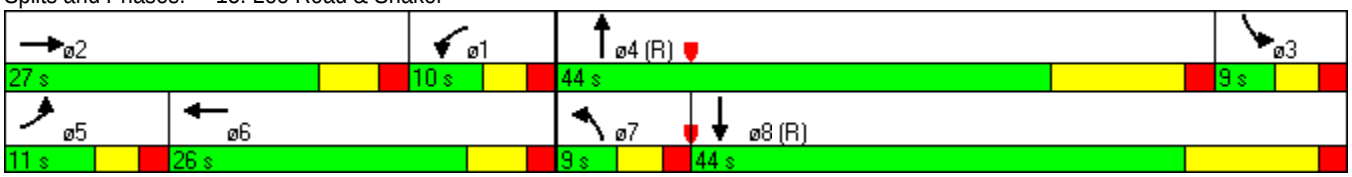
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	700	55	35	265	45	20	530	25	40	615	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	3535	0	1787	3496	0	1787	1868	0	1787	1859	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3535	0	1787	3496	0	1787	1868	0	1787	1859	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			20			3			6	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1152			613			1468			804	
Travel Time (s)		22.4			11.9			28.6			15.7	
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	829	0	47	413	0	21	591	0	43	728	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	10.0	26.0		10.0	26.0		9.0	39.0		9.0	39.0	
Total Split (s)	11.0	27.0		10.0	26.0		9.0	44.0		9.0	44.0	
Total Split (%)	12.2%	30.0%		11.1%	28.9%		10.0%	48.9%		10.0%	48.9%	
Maximum Green (s)	6.0	21.0		5.0	20.0		4.0	33.0		4.0	33.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	9.0		3.0	9.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	6.0		5.0	6.0		5.0	11.0		5.0	11.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead		Lag	Lag	

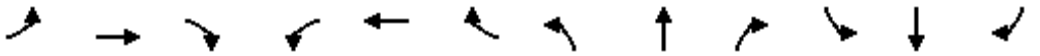
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0			4.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			21.0			21.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.9	23.0		5.0	20.2		4.3	38.6		4.0	40.4	
Actuated g/C Ratio	0.07	0.26		0.06	0.22		0.05	0.43		0.04	0.45	
v/c Ratio	0.56	0.91		0.47	0.52		0.25	0.74		0.54	0.87	
Control Delay	60.0	49.0		57.5	31.8		44.4	36.2		70.4	46.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	60.0	49.0		57.5	31.8		44.4	36.2		70.4	46.4	
LOS	E	D		E	C		D	D		E	D	
Approach Delay		49.8			34.4			36.5			47.7	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	37	246		27	103		12	344		21	376	
Queue Length 95th (ft)	#91	#378		51	120		m26	#518		m#51	#661	
Internal Link Dist (ft)		1072			533			1388			724	
Turn Bay Length (ft)	90			90			100			100		
Base Capacity (vph)	119	908		99	800		85	802		79	837	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.55	0.91		0.47	0.52		0.25	0.74		0.54	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBT and 8:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 43.7 Intersection LOS: D
Intersection Capacity Utilization 79.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Lee Road & Shaker





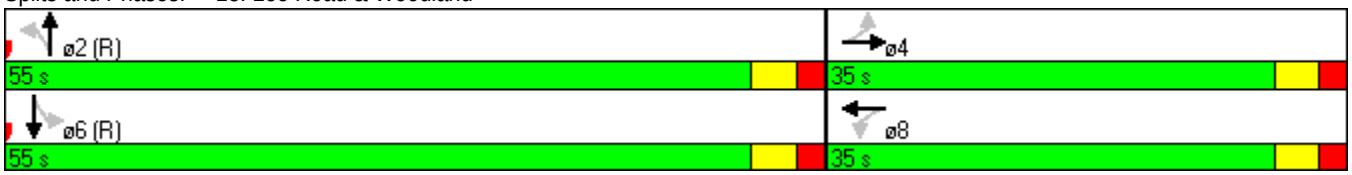
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	300	35	45	205	65	15	475	35	70	575	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	1851	0	1770	1796	0	1770	1844	0	1770	1846	0
Flt Permitted	0.372			0.241			0.298			0.360		
Satd. Flow (perm)	700	1851	0	449	1796	0	555	1844	0	671	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			19			7			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		474			113			881			1468	
Travel Time (s)		9.2			2.2			17.2			28.6	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	381	0	50	300	0	17	580	0	78	678	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0		28.0	28.0		28.0	28.0		28.0	28.0	
Total Split (s)	35.0	35.0		35.0	35.0		55.0	55.0		55.0	55.0	
Total Split (%)	38.9%	38.9%		38.9%	38.9%		61.1%	61.1%		61.1%	61.1%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												

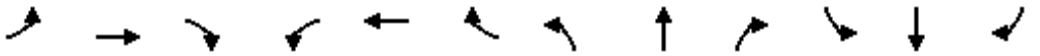
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	23.4	23.4		23.4	23.4		56.6	56.6		56.6	56.6	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.63	0.63		0.63	0.63	
v/c Ratio	0.22	0.78		0.43	0.62		0.05	0.50		0.19	0.58	
Control Delay	27.1	41.7		37.9	32.6		8.7	9.8		9.6	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.1	41.7		37.9	32.6		8.7	9.8		9.6	11.0	
LOS	C	D		D	C		A	A		A	B	
Approach Delay		40.3			33.4			9.8			10.9	
Approach LOS		D			C			A			B	
Queue Length 50th (ft)	18	198		24	141		3	122		8	76	
Queue Length 95th (ft)	40	263		56	203		m9	181		m21	m186	
Internal Link Dist (ft)		394			33			801			1388	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	233	621		149	611		349	1162		421	1162	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.61		0.34	0.49		0.05	0.50		0.19	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Lee Road & Woodland





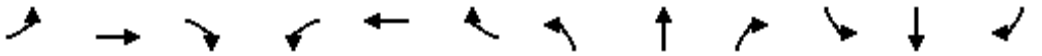
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	75	20	15	50	20	15	555	35	15	665	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1823	0	0	1805	0	1770	1846	0	1787	1877	0
Flt Permitted		0.957			0.926		0.320			0.394		
Satd. Flow (perm)	0	1757	0	0	1686	0	596	1846	0	741	1877	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			8			2	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		641			96			596			881	
Travel Time (s)		17.5			1.9			11.6			17.2	
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.96	0.96	0.96	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	97	0	16	614	0	17	758	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		66.0	66.0		66.0	66.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	19.0	19.0		19.0	19.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.4			11.4		68.6	68.6		68.6	68.6	
Actuated g/C Ratio		0.13			0.13		0.76	0.76		0.76	0.76	
v/c Ratio		0.53			0.43		0.04	0.44		0.03	0.53	
Control Delay		41.3			35.2		2.7	3.4		3.4	4.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		41.3			35.2		2.7	3.4		3.4	4.4	
LOS		D			D		A	A		A	A	
Approach Delay		41.3			35.3			3.4			4.4	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		61			43		1	55		2	99	
Queue Length 95th (ft)		108			82		m3	73		m3	135	
Internal Link Dist (ft)		561			16			516			801	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		379			368		454	1409		564	1431	
Starvation Cap Reductn		0			0		0	56		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.32			0.26		0.04	0.45		0.03	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 51.4% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Lee Road & Parkland

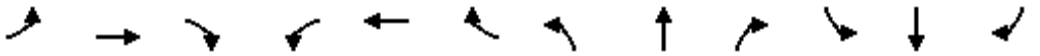


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	25	60	5	30	5	40	600	5	5	675	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1713	0	0	1804	0	1787	1879	0	1787	1874	0
Flt Permitted		0.972			0.969		0.277			0.328		
Satd. Flow (perm)	0	1673	0	0	1759	0	521	1879	0	617	1874	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			6			1			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		485			635			502			596	
Travel Time (s)		13.2			17.3			9.8			11.6	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.89	0.89	0.89	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	51	0	45	680	0	6	772	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		33.0	33.0		33.0	33.0	
Total Split (s)	23.0	23.0		23.0	23.0		67.0	67.0		67.0	67.0	
Total Split (%)	25.6%	25.6%		25.6%	25.6%		74.4%	74.4%		74.4%	74.4%	
Maximum Green (s)	18.0	18.0		18.0	18.0		62.0	62.0		62.0	62.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0		4.0	4.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio		0.20			0.20		0.69	0.69		0.69	0.69	
v/c Ratio		0.28			0.14		0.13	0.53		0.01	0.60	
Control Delay		15.5			28.2		5.8	8.6		5.4	9.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.5			28.2		5.8	8.6		5.4	9.4	
LOS		B			C		A	A		A	A	
Approach Delay		15.5			28.2			8.4			9.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		19			21		8	163		1	121	
Queue Length 95th (ft)		59			44		20	236		m2	147	
Internal Link Dist (ft)		405			555			422			516	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		390			356		358	1294		425	1292	
Starvation Cap Reductn		0			0		0	0		0	14	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.28			0.14		0.13	0.53		0.01	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 24: Lee Road & Aldersyde

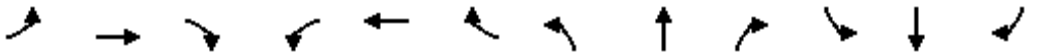


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	570	265	60	375	55	220	730	50	100	655	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		150	100		0	115		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3560	1599	0	3549	1599	1770	3504	0	1787	3560	0
Flt Permitted		0.791			0.608		0.950			0.950		
Satd. Flow (perm)	0	2827	1599	0	2173	1599	1770	3504	0	1787	3560	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		759			520			492			793	
Travel Time (s)		14.8			10.1			9.6			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)									0			
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	674	288	0	458	58	237	839	0	109	734	0
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	2	2	2	6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0		29.0	29.0	
Total Split (s)	41.0	41.0	41.0	41.0	41.0	41.0	43.0	43.0		36.0	36.0	
Total Split (%)	34.2%	34.2%	34.2%	34.2%	34.2%	34.2%	35.8%	35.8%		30.0%	30.0%	
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	35.0	35.0		28.0	28.0	
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		8.0	8.0		8.0	8.0	8.0	8.0		8.0	8.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	None	None	C-Max	C-Max		None	None	
Walk Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		33.6	33.6		33.6	33.6	35.0	35.0		27.4	27.4	
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.29	0.29		0.23	0.23	
v/c Ratio		0.85	0.64		0.75	0.13	0.46	0.82		0.27	0.90	
Control Delay		52.8	46.0		48.7	33.8	38.4	47.6		39.8	60.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay		52.8	46.0		48.7	33.8	38.4	48.1		39.8	60.5	
LOS		D	D		D	C	D	D		D	E	
Approach Delay		50.8			47.0			45.9			57.8	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)		262	198		172	34	157	312		69	290	
Queue Length 95th (ft)		#363	297		237	69	240	404		122	#394	
Internal Link Dist (ft)		679			440			412			713	
Turn Bay Length (ft)			150			150	100			115		
Base Capacity (vph)		791	447		608	447	516	1022		416	830	
Starvation Cap Reductn		0	0		0	0	0	28		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.85	0.64		0.75	0.13	0.46	0.84		0.26	0.88	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 47 (39%), Referenced to phase 4:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 50.4		Intersection LOS: D	
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 32: Lee Road & Van Aken

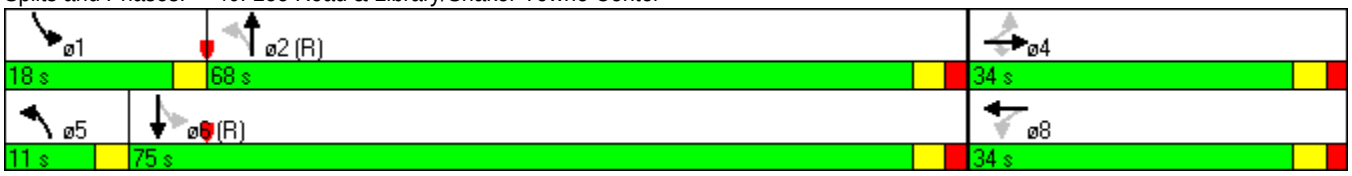


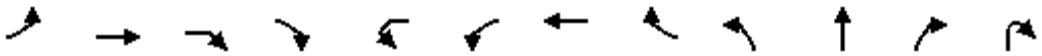
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	10	25	15	5	60	25	720	15	120	825	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	150		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1786	1583	0	1658	0	1770	3529	0	1787	3539	0
Flt Permitted		0.609			0.924		0.290			0.321		
Satd. Flow (perm)	0	1134	1583	0	1546	0	540	3529	0	604	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		65			2			11	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		259			353			284			492	
Travel Time (s)		7.1			9.6			5.5			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Parking (#/hr)												0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	27	0	86	0	27	799	0	130	962	0
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		6.0	40.0		6.0	40.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		9.0	45.0		9.0	45.0	
Total Split (s)	34.0	34.0	34.0	34.0	34.0		11.0	68.0		18.0	75.0	
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%		9.2%	56.7%		15.0%	62.5%	
Maximum Green (s)	29.0	29.0	29.0	29.0	29.0		8.0	63.0		15.0	70.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		3.0	5.0		3.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0			21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		12.7	12.7		12.7		97.8	89.7		101.2	95.4	
Actuated g/C Ratio		0.11	0.11		0.11		0.82	0.75		0.84	0.80	
v/c Ratio		0.69	0.12		0.39		0.05	0.30		0.22	0.34	
Control Delay		78.7	1.0		22.0		1.1	2.1		0.7	3.5	
Queue Delay		0.0	0.0		0.0		0.0	0.2		0.0	0.4	
Total Delay		78.7	1.0		22.0		1.1	2.3		0.7	3.9	
LOS		E	A		C		A	A		A	A	
Approach Delay		59.5			22.0			2.3			3.5	
Approach LOS		E			C			A			A	
Queue Length 50th (ft)		62	0		15		1	25		0	8	
Queue Length 95th (ft)		114	0		62		m4	51		m1	m318	
Internal Link Dist (ft)		179			273			204			412	
Turn Bay Length (ft)							60			150		
Base Capacity (vph)		274	437		422		530	2637		660	2817	
Starvation Cap Reductn		0	0		0		0	942		0	1195	
Spillback Cap Reductn		0	3		3		0	94		0	194	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.30	0.06		0.21		0.05	0.47		0.20	0.59	

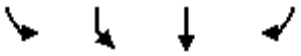
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 11 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 6.7		Intersection LOS: A	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 40: Lee Road & Library/Shaker Towne Center





Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Volume (vph)	175	400	45	165	5	175	380	55	105	520	105	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0			370		0	130		0	
Storage Lanes	1		1			1		0	1		0	
Taper Length (ft)	25					25			25			
Satd. Flow (prot)	1787	1881	1599	0	0	1770	3472	0	1787	3481	0	0
Flt Permitted	0.382					0.408			0.220			
Satd. Flow (perm)	719	1881	1599	0	0	760	3472	0	414	3481	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		25					25			35		
Link Distance (ft)		617					619			239		
Travel Time (s)		16.8					16.9			4.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.97	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	435	228	0	0	185	449	0	117	701	0	0
Number of Detectors	1	2	1		1	1	2		1	2		
Detector Template	Left	Thru	Right		Left	Left	Thru		Left	Thru		
Leading Detector (ft)	20	100	20		20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		
Detector 1 Size(ft)	20	6	20		20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	pm+pt	NA	Perm		pm+pt	Perm	NA		pm+pt	NA		
Protected Phases	7	4			3		8		5	2		
Permitted Phases	4		4		8	8			2			
Detector Phase	7	4	4		3	8	8		5	2		
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0		3.0	8.0	8.0		3.0	20.0		
Minimum Split (s)	9.0	29.0	29.0		9.0	29.0	29.0		9.0	26.0		
Total Split (s)	9.0	53.0	53.0		9.0	53.0	53.0		9.0	49.0		
Total Split (%)	7.5%	44.2%	44.2%		7.5%	44.2%	44.2%		7.5%	40.8%		
Maximum Green (s)	6.0	48.0	48.0		6.0	48.0	48.0		6.0	44.0		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	0.0	2.0	2.0		0.0	2.0	2.0		0.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Lost Time (s)	3.0	5.0	5.0			5.0	5.0		3.0	5.0		
Lead/Lag	Lead	Lag	Lag		Lead	Lag	Lag		Lead	Lag		

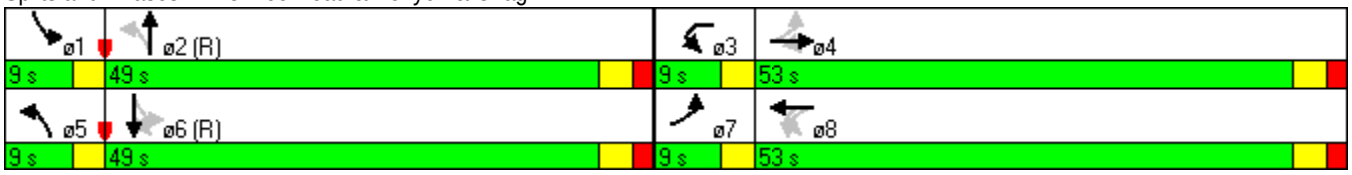


Lane Group	SBL2	SBL	SBT	SBR
Lane Configurations				
Volume (vph)	85	20	590	125
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)		100		0
Storage Lanes		1		0
Taper Length (ft)		25		
Satd. Flow (prot)	0	1787	3481	0
Flt Permitted		0.380		
Satd. Flow (perm)	0	715	3481	0
Right Turn on Red				No
Satd. Flow (RTOR)				
Link Speed (mph)			35	
Link Distance (ft)			284	
Travel Time (s)			5.5	
Peak Hour Factor	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	118	803	0
Number of Detectors	1	1	2	
Detector Template	Left	Left	Thru	
Leading Detector (ft)	20	20	100	
Trailing Detector (ft)	0	0	0	
Detector 1 Position(ft)	0	0	0	
Detector 1 Size(ft)	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	
Detector 2 Position(ft)			94	
Detector 2 Size(ft)			6	
Detector 2 Type			Cl+Ex	
Detector 2 Channel				
Detector 2 Extend (s)			0.0	
Turn Type	pm+pt	Perm	NA	
Protected Phases	1		6	
Permitted Phases	6	6		
Detector Phase	1	6	6	
Switch Phase				
Minimum Initial (s)	3.0	20.0	20.0	
Minimum Split (s)	9.0	26.0	26.0	
Total Split (s)	9.0	49.0	49.0	
Total Split (%)	7.5%	40.8%	40.8%	
Maximum Green (s)	6.0	44.0	44.0	
Yellow Time (s)	3.0	3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	
Total Lost Time (s)		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	None		None	None	None		None	C-Max		
Walk Time (s)		7.0	7.0			7.0	7.0			4.0		
Flash Dont Walk (s)		17.0	17.0			17.0	17.0			17.0		
Pedestrian Calls (#/hr)		0	0			0	0			0		
Act Effct Green (s)	52.2	50.2	50.2			41.2	41.2		61.8	59.8		
Actuated g/C Ratio	0.44	0.42	0.42			0.34	0.34		0.52	0.50		
v/c Ratio	0.52	0.55	0.34			0.71	0.38		0.40	0.40		
Control Delay	26.0	28.3	23.9			48.4	29.6		19.5	19.5		
Queue Delay	0.0	0.0	0.0			0.0	0.0		0.0	0.0		
Total Delay	26.0	28.3	23.9			48.4	29.6		19.5	19.5		
LOS	C	C	C			D	C		B	B		
Approach Delay		26.6					35.1			19.5		
Approach LOS		C					D			B		
Queue Length 50th (ft)	84	232	109			116	127		51	192		
Queue Length 95th (ft)	128	317	163			200	166		93	256		
Internal Link Dist (ft)		537					539			159		
Turn Bay Length (ft)	225					370			130			
Base Capacity (vph)	366	830	706			304	1388		292	1733		
Starvation Cap Reductn	0	0	0			0	0		0	0		
Spillback Cap Reductn	0	0	0			0	0		0	0		
Storage Cap Reductn	0	0	0			0	0		0	0		
Reduced v/c Ratio	0.52	0.52	0.32			0.61	0.32		0.40	0.40		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 21.8		Intersection LOS: C	
Intersection Capacity Utilization 82.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 43: Lee Road & Kenyon & Chagrin



Lane Group	SBL2	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	
Walk Time (s)		4.0	4.0	
Flash Dont Walk (s)		17.0	17.0	
Pedestrian Calls (#/hr)		0	0	
Act Effct Green (s)		49.8	49.8	
Actuated g/C Ratio		0.42	0.42	
v/c Ratio		0.40	0.56	
Control Delay		11.4	9.5	
Queue Delay		0.0	0.6	
Total Delay		11.4	10.2	
LOS		B	B	
Approach Delay			10.3	
Approach LOS			B	
Queue Length 50th (ft)		36	247	
Queue Length 95th (ft)		39	101	
Internal Link Dist (ft)			204	
Turn Bay Length (ft)		100		
Base Capacity (vph)		296	1445	
Starvation Cap Reductn		0	303	
Spillback Cap Reductn		0	0	
Storage Cap Reductn		0	0	
Reduced v/c Ratio		0.40	0.70	

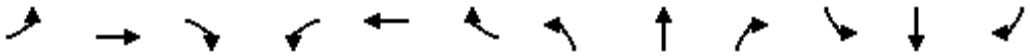
Intersection Summary

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (vph)	610	120	110	730	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	1840	0	0	3553	1677	0
Flt Permitted				0.686	0.986	
Satd. Flow (perm)	1840	0	0	2452	1677	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17				64	
Link Speed (mph)	35			35	25	
Link Distance (ft)	756			264	605	
Travel Time (s)	14.7			5.1	16.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.78	0.78
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	0	0	965	90	0
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (ft)	100		20	100	20	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	6		20	6	20	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	NA	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	49.0		8.0	49.0	6.0	
Minimum Split (s)	54.0		13.0	54.0	24.0	
Total Split (s)	83.0		13.0	96.0	24.0	
Total Split (%)	69.2%		10.8%	80.0%	20.0%	
Maximum Green (s)	78.0		10.0	91.0	19.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag	Lag		Lead			

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		None	C-Max	None	
Walk Time (s)	7.0			7.0	4.0	
Flash Dont Walk (s)	21.0			21.0	15.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	101.8			101.8	8.2	
Actuated g/C Ratio	0.85			0.85	0.07	
v/c Ratio	0.54			0.46	0.52	
Control Delay	4.1			2.7	30.6	
Queue Delay	0.0			0.1	0.0	
Total Delay	4.1			2.8	30.6	
LOS	A			A	C	
Approach Delay	4.1			2.8	30.6	
Approach LOS	A			A	C	
Queue Length 50th (ft)	118			45	20	
Queue Length 95th (ft)	220			80	54	
Internal Link Dist (ft)	676			184	525	
Turn Bay Length (ft)						
Base Capacity (vph)	1563			2081	319	
Starvation Cap Reductn	0			242	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.54			0.52	0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 94 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 4.7		Intersection LOS: A	
Intersection Capacity Utilization 99.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 47: Lee Road & Lomond

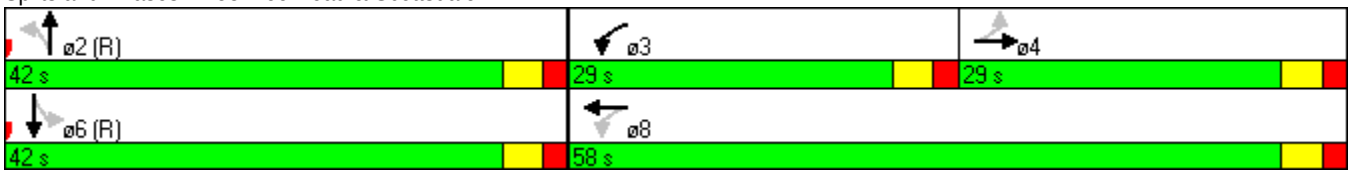


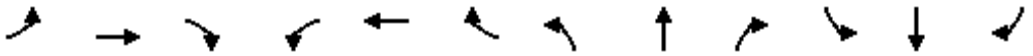
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	5	90	90	45	25	40	705	15	5	755	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1649	0	0	1707	0	0	3518	0	0	3542	0
Flt Permitted		0.805			0.678			0.870			0.951	
Satd. Flow (perm)	0	1352	0	0	1190	0	0	3070	0	0	3369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			14			2			7	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.84	0.84	0.84	0.75	0.75	0.75	0.95	0.95	0.95	0.98	1.00	0.98
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	0	213	0	0	800	0	0	806	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	29.0	29.0		29.0	58.0		42.0	42.0		42.0	42.0	
Total Split (%)	29.0%	29.0%		29.0%	58.0%		42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	24.0	24.0		24.0	53.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag	Lag	Lag		Lead								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.4			22.4			67.6			67.6	
Actuated g/C Ratio		0.22			0.22			0.68			0.68	
v/c Ratio		0.50			0.77			0.39			0.35	
Control Delay		23.1			50.8			8.8			8.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.1			50.8			8.8			8.4	
LOS		C			D			A			A	
Approach Delay		23.1			50.8			8.8			8.4	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		58			120			103			101	
Queue Length 95th (ft)		96			139			190			182	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)												
Base Capacity (vph)		406			637			2074			2278	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.44			0.33			0.39			0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 53: Lee Road & Scottsdale





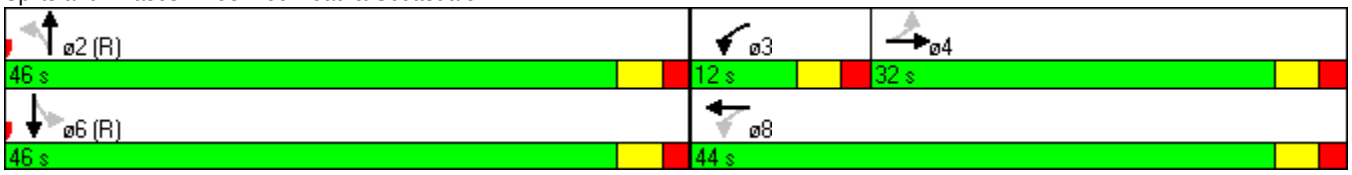
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	5	90	90	45	25	40	705	15	5	755	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	60		0	100		0	100		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1649	0	1703	1697	0	0	3518	0	0	3542	0
Flt Permitted		0.841		0.443				0.873			0.951	
Satd. Flow (perm)	0	1412	0	794	1697	0	0	3080	0	0	3369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86			33			3			9	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		775			450			1960			607	
Travel Time (s)		21.1			12.3			38.2			11.8	
Peak Hour Factor	0.84	0.84	0.84	0.75	0.75	0.75	0.95	0.95	0.95	0.98	1.00	0.98
Heavy Vehicles (%)	4%	4%	4%	6%	6%	6%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	120	93	0	0	800	0	0	806	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		4.0	8.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.0	29.0		9.0	29.0		33.0	33.0		33.0	33.0	
Total Split (s)	32.0	32.0		12.0	44.0		46.0	46.0		46.0	46.0	
Total Split (%)	35.6%	35.6%		13.3%	48.9%		51.1%	51.1%		51.1%	51.1%	
Maximum Green (s)	27.0	27.0		7.0	39.0		41.0	41.0		41.0	41.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag		Lead								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0			17.0		21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		12.1		24.1	24.1			55.9			55.9	
Actuated g/C Ratio		0.13		0.27	0.27			0.62			0.62	
v/c Ratio		0.67		0.43	0.19			0.42			0.38	
Control Delay		31.7		29.6	16.9			10.2			9.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		31.7		29.6	16.9			10.2			9.7	
LOS		C		C	B			B			A	
Approach Delay		31.7			24.1			10.2			9.7	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		50		54	26			107			104	
Queue Length 95th (ft)		97		73	45			182			175	
Internal Link Dist (ft)		695			370			1880			527	
Turn Bay Length (ft)				60								
Base Capacity (vph)		483		283	754			1914			2096	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.37		0.42	0.12			0.42			0.38	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 53: Lee Road & Scottsdale



Crash Data Summary (2009-2011)

	Intersection																					
Crash Type	**South Park**		**Shaker**		**Woodland**		**Parkland**		**Aldersyde**		**Fernway**		**Van Aken**		**Towne Center**		**Chagrin**		**Lomond**		**Scottsdale**	
Total	**20**		**41**		**22**		**6**		**6**		**12**		**69**				**54**		**2**		**19**	
Assured Clear Distance	10	50%	15	37%	6	27%	3	50%	4	67%	3	25%	17	25%		###	24	44%	2	100%	9	47%
Improper Lane Change	3	15%	**12**	29%	4	18%	1	17%	1	17%	1	8%	3	4%		###	12	22%		0%	4	21%
Red Light Violation	2	10%	8	20%	4	18%	1	17%	1	17%		0%	**41**	59%		###	5	9%		0%	2	11%
Failure to yieild LT	3	15%	3	7%	6	27%		0%		0%	3	25%	2	3%		###	2	4%		0%	2	11%
Failure to Control	1	5%	1	2%	1	5%	1	17%		0%	1	8%	2	3%		###	3	6%		0%	1	5%
Failure to yield entering roadway		0%	1	2%		0%		0%		0%		0%		0%		###	1	2%		0%		0%
Improper Backing		0%	1	2%		0%		0%		0%		0%		0%		###		0%		0%		0%
Right turn vehicle struck bicycle	1	5%		0%		0%		0%		0%		0%		0%		###		0%		0%		0%
Left of Center		0%		0%	1	5%		0%		0%		0%		0%		###	2	4%		0%		0%
Stop Sign Violation		0%		0%		0%		0%		0%	4	33%		0%		###		0%		0%		0%
Failure to Yield funeral procession		0%		0%		0%		0%		0%		0%	1	1%		###		0%		0%		0%
Jaywalking		0%		0%		0%		0%		0%		0%	1	1%		###		0%		0%	1	5%
Improper Left Turn		0%		0%		0%		0%		0%		0%	1	1%		###		0%		0%		0%
Failure to Yield public safety vehicle		0%		0%		0%		0%		0%		0%	1	1%		###		0%		0%		0%
Improper Lane Use (straight from left)		0%		0%		0%		0%		0%		0%		0%		###	1	2%		0%		0%
FTY pedestrian in crosswalk		0%		0%		0%		0%		0%		0%		0%		###	1	2%		0%		0%
Improper passing		0%		0%		0%		0%		0%		0%		0%		###	2	4%		0%		0%
Improper starting		0%		0%		0%		0%		0%		0%		0%		###	1	2%		0%		0%

-Top crash locations - Van Aken, Chagrin, Shaker

Notes: -High incidence of improper lane change at Shaker. Likely due to LT vehicles blocking TH, then TH changing lanes to bypass. Could improve with road diet, also, consider split phasing N-S to avoid permissive LT

-High incidence of Red Light Violation at VanAken. Could be placement of heads, too short clearance interval, or confusion of signal operation. Recommend lengthening clearance or all red phase, improve head visibility, possibly red light cameras.