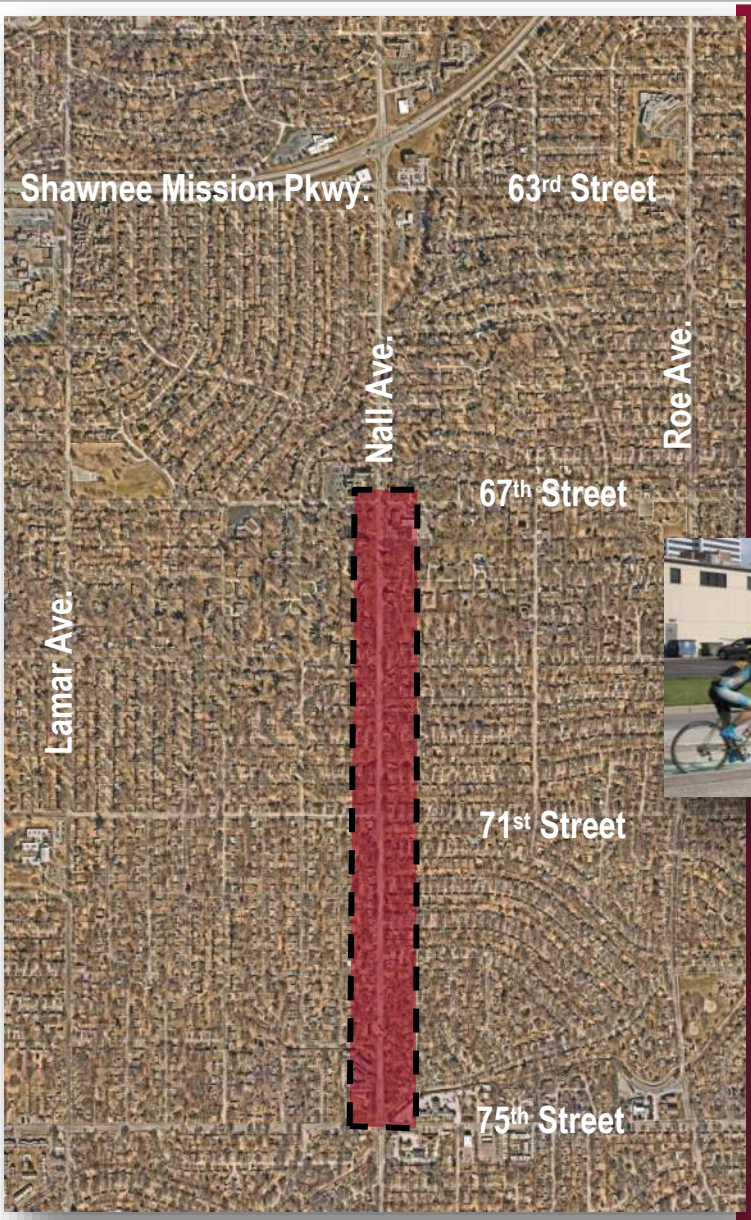
Nall Corridor Study Update



Nall Avenue, 67th to 75th Street
Prairie Village, Kansas

Prepared for:
City of Prairie Village

Prepared by TranSystems
July 2022

TranSystems
EXPERIENCE | Transportation

TranSystems
2400 Pershing Road
Suite 400
Kansas City, MO 64108
Tel 816 329 8600
www.transystems.com

August 2, 2022

Ms. Melissa Prenger, P.E.
Sr. Project Manager
City of Prairie Village – Public Works
3535 Somerset Drive
Prairie Village, KS 66208

Re: Nall Corridor Study Update – 67th to 75th Street

Dear Ms. Prenger:

TranSystems Corporation has completed the review and study update for Nall Avenue from 67th Street to 75th Street. This study reviewed the 2010 report and determined if a "road diet" can be implemented in the corridor, including bike lanes, with minimum impacts to traffic operations.

Included in this study is a discussion of the anticipated impact on the adjacent street network and a conceptual plan for the proposed improvements. This study provides:

- Study Area and Data Collection
- Improvement Concepts
- Analysis

We trust that the enclosed information proves beneficial to you in this phase of the development process. We appreciate the opportunity to be of service to you and will be available to review this study with you at your convenience.

Sincerely,

By: _____
Chad C. Banka, PE, PTOE

CCB: P101220154

Introduction

TranSystems has completed the study update for the Nall Avenue corridor from 67th to 75th Streets in Prairie Village, Kansas. The purpose of this project was to review a completed 2010 study to determine any updates or changes to previous recommendations. The 2010 study developed a conceptual level plan from 67th Street to 91st Street for narrowing Nall Avenue and provided an analysis of traffic operations on Nall Avenue from Shawnee Mission Parkway to 75th Street. These studies review the corridor to help determine the feasibility of implementing a "road diet," reducing the lanes from a four-lane to a three-lane section with bike lanes while maintaining roadway operations. Road diets are commonly used both locally and nationally to help improve multi-modal transportation systems and community access. One of the key benefits is improving safety by reducing the potential of collisions between turning vehicles and thru traffic while providing a designated location for cyclists. Mission Road, located one mile east of Nall Avenue with similar traffic volumes, successfully implemented a road diet, from four to three lanes around 2017. Although the previous study reviewed several options, the scope of this update is focused on the addition of bike lanes, conceptualizing the layout, and transitions at intersections. The study area is shown on ***Figure 1***.

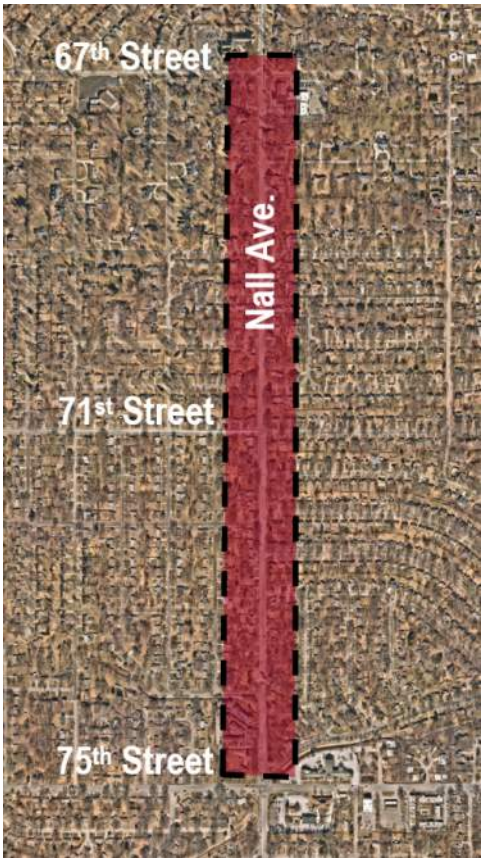


Figure 1: Nall Avenue Study Area

Study Area and Data Collection

Surrounding Street Network and Land Uses

Nall Avenue from 67th Street to 75th Street is a one-mile section in an area with primarily single-family residential land use. A church is located on the southeast corner of 67th and Nall and a condominium complex is located near the NW corner of 75th and Nall. Ingress to the condominium complex is from 75th Street. A waste treatment and disposal site are located on the NW corner of 75th and Nall but does not experience a heavy industrial traffic volume.

Nall Aveue is classified as a minor arterial/thoroughfare and is currently an undivided four-lane roadway with turn lanes at the signalized intersections. Additionally, Nall Avenue is identifed as a "preferred" truck route with a posted speed limit of 35 mph. The corridor includes numerous local streets, residential driveway access, and sidewalk located on both sides of the street. The asphalt roadway is generally 48 feet from back-of-curb to back-of-curb with 2-foot concrete curb and gutter on both sides, widening for turn lanes at the traffic signal locations. The alignment of the street is generally level and straight.

Traffic Counts

Turning-movement traffic volume counts were collected at the study intersections of 67th Street, 71st Street, and 75th Street on Tuesday, May 10, 2022. Local schools were in session during the intersection traffic counts. Counts were collected for a full day between 12:00 AM and 11:59 PM. At all three (3) intersections, the AM peak hour occurred between 7:30 AM and 8:30 AM, while the PM peak hour occurred between 4:45 P.M. and 5:45 PM. The existing lane configurations, traffic control devices, and peak hour traffic volumes used for the analysis have been illustrated in ***Appendix B***.

Machine Traffic Data Collection

TranSystems placed machine traffic volume counters on Nall Avenue just north of 74th Street and south of 68th Street to determine the 24-hour daily volumes on these streets over a typical weekday. The counters were in place between Wednesday, June 29, 2022 and Thursday, June 30, 2022 but local schools were not in session. The counts were binned in 15-minute intervals and are included in the ***Appendix B***. The 24-hour traffic volumes recorded at these locations are summarized in ***Table 1***. The table as shows historic counts from 2006 and 2018 that were previously collected.

Table 1
Average Daily Traffic (ADT) Volumes

Location	2022 %Trucks	2022 ADT	2018 ADT	2006 ADT
Nall Ave. – South of 68th Street	1.2%	11,446	14,930	12,451
Nall Ave. – North of 74th Street	1.2%	12,748	15,229	12,586

The 2022 machine collected data indicates that approximately 1.2% of vehicles were trucks (FHWA Classes 4-13); this percentage seems reasonable given that Nall Avenue is in a generally residential area with low commercial development. The historic 24-hour volumes were similar compared to 2006 and 2018 volumes indicating a generally stable traffic volume. Mission Road, located one mile east of Nall Avenue, has similar traffic volumes between 75th Street and 68th Streets, with certain locations experiencing slightly higher volumes than Nall Avenue.

Nall Avenue within the study area is considered a minor arterial which serves as a connector street within the City. Compared to major arterials which serve dense development areas (such as shopping centers, industrial, etc.), minor arterials serve less dense development areas (such as residential, light commercial) but have moderate speeds and traffic volumes. Minor arterials primary role is for traffic movement, but access control is not as high a concern as with major arterials. Generally, minor arterials experience 10,000 to 25,000 ADT, while major arterials are 20,000 ADT or greater. Therefore, Nall Avenue is at the lower end of minor arterial traffic volumes.

Pedestrian Counts

Pedestrian volume counts were also collected with the 2022 turning movement traffic counts at the study intersections and are included in the peak hour traffic counts shown in ***Appendix B***. Each signalized intersection includes marked crosswalks on each leg of the intersection. During the 24-hour count,

pedestrian volumes were low with six (6) or fewer at any single crossing. The largest observed number of pedestrian crossings occurred during the PM peak period with six (6) observed pedestrians on the west leg at 71st Street and six (6) on the south leg at 67th Street.

Sight Distance

Figure 2: 73rd Street Visibility Blockage

Sight distances and methods for measurement are provided in *A Policy on Geometric Design of Highways and Streets (7th Edition)*, also referred to as the AASHTO Green Book published by the American Association of State Highway and Transportation Officials (AASHTO). Intersection sight distance (ISD) is provided at intersections to allow drivers to depart from their approach and enter, or cross, the street. Generally defined, ISD is the distance a stopped motorist at the minor road can see approaching vehicles from the major before their line of sight is blocked. These distances are generous, allowing enough distance for the stopped driver to complete their turning or crossing movement without requiring through traffic to reduce their speed. Another common term is stopping sight distance (SSD) which is the minimum distance required to allow a vehicle to stop before reaching a stationary object in its path. In our case, this is the distance the major road vehicle needs to stop or slow to accommodate the movement from the minor road vehicle. In all cases, the ISD criteria for stop-controlled intersections are greater than the SSD to ensure intersection operations.

Table 2
Nall Avenue
Intersection Sight Distance (ISD) Measurements

Location - Approach	Direction Looking Along Nall	Intersection Sight Distance (Feet)		Notes
		Measured	Recommended	
*67th St.- EB	North (Left)	500+	334.4	
	South (Right)	500+	463.1	
*67th St.- WB	North (Right)	500+	463.1	
	South (Left)	205'	334.4	Sign Blockage
68th St. WB	North (Right)	500+	437.3	
	South (Left)	500+	334.4	
69th St. EB	North (Left)	150'	334.4	Hedge Blockage
	South (Right)	500+	437.3	
69th St. WB	North (Right)	500+	437.3	
	South (Left)	95'	334.4	Shrub Blockage
69th Ter. EB	North (Left)	500+	334.4	500+ slightly closer to Nall
	South (Right)	500+	437.3	
69th Ter. WB	North (Right)	500+	437.3	
	South (Left)	500+	334.4	

Table 2 *(Continued)*
Nall Avenue
Intersection Sight Distance (ISD) Measurements

Location - Approach	Direction Looking Along Nall	Intersection Sight Distance (Feet)		Notes
		Measured	Recommended	
70th St. EB	North (Left)	500+	334.4	
	South (Right)	500+	437.3	
70th Ter. EB	North (Left)	500+	334.4	
	South (Right)	500+	437.3	
70th Ter. WB	North (Right)	500+	437.3	
	South (Left)	430'	334.4	Shrub Blockage
71st Ter. WB	North (Right)	500+	463.1	
	South (Left)	368'	334.4	Fence, poles, bush
*71st. St. EB	North (Left)	160'	334.4	Retaining Wall
	South (Right)	500+	463.1	
*71st. St. WB	North (Right)	500+	463.1	
	South (Left)	500+	334.4	
72nd St. EB	North (Left)	500+	334.4	
	South (Right)	500+	437.3	
72nd St. WB	North (Right)	500+	437.3	
	South (Left)	500+	334.4	
72nd Ter. WB	North (Right)	500+	437.3	
	South (Left)	288	334.4	Fence
73rd St. EB	North (Left)	140'	334.4	Flowers (See Picture)
	South (Right)	500+	437.3	
73rd St. WB	North (Right)	500+	437.3	
	South (Left)	500+	334.4	
74th St. EB	North (Left)	500+	334.4	
	South (Right)	500+	437.3	
Tomahawk WB	North (Right)	N/A	N/A	Right Turn Only
	South (Left)	500+	334.4	
*75th St. EB	North (Left)	500+	334.4	
	South (Right)	500+	463.1	
*75th St. WB	North (Right)	500+	463.1	
	South (Left)	500+	334.4	

**Signalized intersection. Sight distance for information only but is not required*

Per the AASHTO Green Book, sight distance is measured approximately 15 feet from the edge of the major road traveled way. Field measurements along Nall Avenue indicate that the existing intersection sight distance (ISD) is adequate for most of the corridor. Of the eight (8) locations with visibility concerns, half of them can be improved with landscape trimming or removal. For the other locations, vehicles can pull forward for better visibility of approaching traffic. ***Figures 2 & 3*** illustrate landscaping placed within the sight triangle that should be removed or shortened to increase visibility. Although visibility is generally adequate when vehicles pull forward, future consideration should be given for sight distances.

Figure 3: Intersection Sight Distance Blockage

Improvement Concepts

As part of the overall study, the goal is to determine the operational feasibility of implementing a "road diet" to change Nall Avenue from 67th Street to 75th Street from a four-lane roadway to a three-lane roadway with bike lanes. Generally, a "road diet" is described as a reduction of the number of vehicle lanes on a roadway. On Nall Avenue, this reduction is from four-lanes to three-lanes, with the center lane being a two-way left-turn lane (TWLTL) as shown on ***Figure 4***. Although there are several benefits to this operation, the key benefit is to improve safety by reducing the potential of collisions between turning vehicles and thru traffic. Because the corridor has a high number of access points from both local streets and residential driveways, the TWLTL allows turning vehicles to reduce speed or stop before turning without directly affecting through traffic. In addition, the reduction of lanes provides additional space for bike lanes. Around 2017, Mission Road, located one mile east of Nall Avenue, was converted from a four-lane to a three-lane section. Although it does not include bike lines, Mission Road has similar traffic volumes compared to Nall Avenue. To our knowledge, no major concerns or degradation of traffic operations have occurred with the implementation of the road diet on Mission Road.

Figure 4: Road Diet - Before and After (Photo courtesy of Jennifer Selby)

Bicycle Friendly Community

The City of Prairie Village is a bicycle friendly community that strives to provide and implement safe bike routes throughout the city. A City-wide bicycle and pedestrian plan were completed in March 2018 and a copy of the full report can be found on the city website at: https://www.pvkansas.com/home/showpublisheddocument/11184/637157323023870000.

From the report, the existing Level of Service (LOS) for cyclists in the study area is LOS D. The report recommended implementation of a bike lanes on Nall Avenue from 67th Street to 95th Street to improve accessibility and rider comfort. These recommendations generally received positive responses and support through public involvement.

Lane Configuration

The Nall Avenue corridor is generally 48 feet from back-of-curb to back-of-curb with 2-foot concrete curb and gutter on both sides, widening for turn lanes at the traffic signal locations. The asphalt pavement is therefore 44 feet wide. ***Figure 5*** illistrates the existing and proposed conditions. The proposed conceptual figures and typical sections are showin in ***Appendix A*** and include:

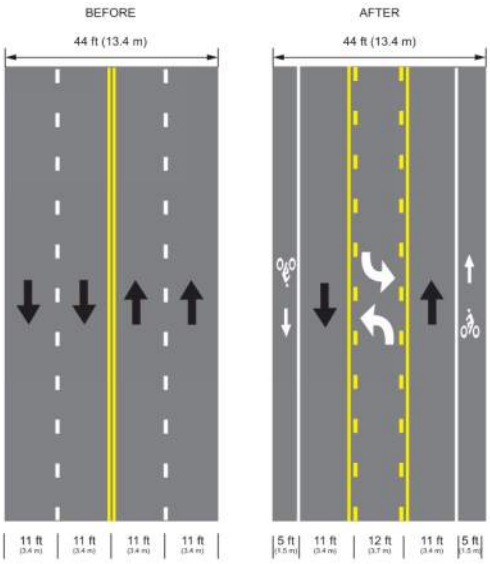


Figure 5: Lane Configurations

- General Lane Configuration
  - Two 11' through lanes
  - One 12' Two-Way Left-Turn Lane (TWLTL)
  - Two 5' bicycle lanes along curb
  - Thru traffic to generally remain aligned across the intersections
- 67th Street Intersection
  - NB includes a dedicated left, thru, and right turn lane
  - The NB bike lane will become a shared lane indicated by a sharrow symbol (see ***Figure 6***)
  - North of 67th Street continues to be aligned with the existing three-lane section
  - Today, drivers familiar with the area already move to the NB inside lane to transition to the existing three-lane section north of 67th Street. The proposed NB lane configuration therefore fits with current driver expectations
- 71st Street Intersection
  - NB will be shifted approximately 5' west to allow for a dedicated left, thru, bike lane, and right turn lane
  - The NB right turn lane is separated from thru lanes by the bike lane
  - To maintain thru traffic alignment, the southbound right-turn lane is eliminated
  - NB, north of 71st will include buffer space to maintain alignment through the intersection
- 75th Street Intersection
  - NB includes a dedicated left, thru, and right turn lane. North of 75th Street includes buffer space to maintain alignment through the intersection
  - SB pavement markings remain in the existing configuration, with the bike path ending in a sharded lane indicated with a sharrow

Figure 6: Bicycle Pavement Symbols

At 75th and 67th Streets (end of project), sharrows will be utilized to transition back to existing pavement markings. The associated symbols are shown on ***Figure 6***. The symbol within a shared lane is referred to as a "Sharrow." Final layout, signing, and transitions to existing at 67th and 75th Street should be reviewed prior to implementation. Although no major changes should be required, shifts to the existing traffic signal heads, repair of poor roadway sections, and signing should be considered.

Analysis

The scope of the analysis is to assess the existing and proposed three-lane "road diet" for the Nall Avenue corridor from 67th Street to 75th Street. The existing intersections at 67th, 71st, and 75th Streets are signalized, and the remaining local street locations operate as two-way stop control (TWSC), with Nall Avenue as the uncontrolled, major road. Capacity analysis and arterial level were evaluated for the AM and PM peak hour periods to refine the proposed improvements.

Traffic Operation Assessment

The study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual (HCM), 6th Edition, published by the Transportation Research Board. The operating conditions at an intersection are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F." LOS A represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. ***Table 3*** shows the upper limit of delay associated with each level of service for signalized and unsignalized intersections.

Table 3
Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Unsignalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

While one of the primary measurements of traffic operations, LOS, applies to both signalized and unsignalized intersections. There are significant differences between how these intersections operate and how they are evaluated. LOS for signalized intersections reflects the operation of the intersection as a whole. While the individual movements may operate with varying LOS ratings, that is largely a function of the signal timings and how the intersection is operating relative to other signals in the vicinity. As an example, in a coordinated system of multiple signalized intersections, some minor side-street approaches may have LOS ratings of D, E or even F. This can be the result of the length of time provided to the major movements and do not reflect a condition where the intersection is operating over capacity or is judged to be operating poorly.

In addition to delay (and the corresponding Level of Service), a secondary means of evaluation is often utilized to assess the overall capacity of the intersection or unsignalized movement. This evaluation is a

ratio of volume to capacity (*v/c*) that reflects, regardless of delay, the ability to accommodate the existing or projected traffic volumes over the course of a peak hour. A *v/c* ratio of 1.00 reflects the capacity of the intersection or movement.

The LOS rating deemed acceptable varies by community, facility type and traffic control device. In communities like Prairie Village, a LOS D for signalized intersections is often found to be acceptable. However, at unsignalized intersections LOS D, E and above are often accepted for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection or the location has been deemed undesirable for signalization for other reasons, e.g., the proximity of an existing traffic signal or the presence of a convenient alternative path.

The Synchro software package was used to evaluate signalized and stop controlled intersections. Documented results are based on HCM methodology and have been included in the ***Appendix D.***

Signalized Intersection Operational Analysis

The results of the intersection analyses are summarized in ***Table 4*** for the existing and proposed conditions. The existing intersection condition was evaluated with the existing lane configurations, signal phasing and traffic control devices. The proposed condition used the three-lane section but maintained the signal phasing. Both scenarios used the existing traffic volumes. The Synchro output files are included in ***Appendix D***.

Table 4
HCM Analysis Results
A.M. Peak Hour – Signalized Intersections

Intersection / Movement	Existing Condition			Proposed 3-Lane Condition		
	LOS[1]	Delay[2]	v/c[3]	LOS[1]	Delay[2]	v/c[3]
67th Street *Signalized (All Movements)*	*B*	*10.6*	*0.54*	*B*	*10.5*	*0.54*
71st Street *Signalized (All Movements)*	*B*	*11.6*	*0.65*	*B*	*12.7*	*0.67*
75th Street *Signalized (All Movements)*	*D*	*42.3*	*0.90*	*D*	*52.9*	*0.95*
P.M. Peak Hour – Signalized Intersections						
67th Street *Signalized (All Movements)*	*B*	*11.5*	*0.63*	*B*	*11.2*	*0.61*
71st Street *Signalized (All Movements)*	*B*	*11.8*	*0.72*	*B*	*13.1*	*0.72*
75th Street *Signalized (All Movements)*	*E*	*63.8*	*1.12*	*E*	*74.9*	*1.12*

1 – Level of Service
2 – Delay in seconds per vehicle
3 – Volume/Capacity Ratio

The peak hour analysis shows that the signalized intersections at 67th Street and 71st Street perform at acceptable levels during the peak hours under all conditions with minimal changes to operations between

the existing and proposed conditions. As shown in the intersection operational analysis, 75th Street experiences the lowest Level of Service (LOS) and exceeds a volume to capacity ratio. In both existing and proposed conditions, the 2010 study and this study both recommend future consideration for intersection improvements at 75th Street including signal phasing. Currently, the 75th Street intersection left turns use protected phasing for all approaches. Modifying phasing, including protective/permissive would improve intersection operations.

Generally, signalized intersection operations remain similar with the same level of service for the both the existing and proposed conditions.

Unsignalized Intersection Operational Analysis

Tables 5 and ***6*** summarize the unsignalized intersection operational analysis for the existing and proposed conditions during the AM and PM peak hours, respectively. While the reduction in through lanes causes some of the side streets to experience longer delays, the simulation model indicates that, in general, the traffic signals along the corridor produce sufficient gaps in traffic to allow the side streets to function without significant delay or backup. For a comparison purpose, the traffic volumes north of 75th Street, both on Nall Avenue and the side streets, are typical of the existing two-lane section south of 75th Street. This is provided similar results from the 2010 study. The unsignalized intersection operations maintain a similar LOS for both the existing and proposed conditions without any significant operational concerns with the proposed improvements. Delay increased for mostly eastbound and westbound movements, but volume to capacity ratios remained low.

Table 5
HCM Analysis Results
A.M. Peak Hour – Unsignalized Intersections

Intersection	Existing Condition			Proposed 3-Lane Condition		
Movement	LOS[1]	Delay[2]	v/c[3]	LOS[1]	Delay[2]	v/c[3]
68th Street						
Westbound	*C*	*16.2*	*0.08*	*C*	*15.9*	*0.08*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
69th Street						
Eastbound	*C*	*24.2*	*0.17*	*D*	*31.0*	*0.22*
Westbound	*D*	*25.3*	*0.18*	*D*	*31.8*	*0.22*
Northbound Left-Turn	*A*	*8.8*	*0.01*	*A*	*8.8*	*0.01*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
69th Terrace						
Eastbound	*C*	*23.3*	*0.18*	*D*	*29.8*	*0.23*
Westbound	*D*	*25.9*	*0.18*	*D*	*32.4*	*0.23*
Northbound Left-Turn	*A*	*8.8*	*0.01*	*A*	*8.8*	*0.01*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
70th Street						
Eastbound	*C*	*16.6*	*0.07*	*C*	*15.7*	*0.06*
Northbound Left-Turn	*A*	*8.9*	*0.01*	*A*	*8.9*	*0.01*
70th Terrace						
Eastbound	*D*	*27.1*	*0.17*	*D*	*34.8*	*0.21*
Westbound	*D*	*30.0*	*0.26*	*E*	*41.2*	*0.33*
Northbound Left-Turn	*A*	*8.9*	*0.01*	*A*	*8.9*	*0.01*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
71st Terrace						
Westbound	*C*	*20.0*	*0.08*	*C*	*16.9*	*0.07*
Southbound Left-Turn	*A*	*9.1*	*0.01*	*A*	*9.1*	*0.01*
72nd Street (East, WB Approach)						
Westbound	*C*	*23.5*	*0.18*	*C*	*18.5*	*0.14*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.1*	*0.01*
72nd Street (West, EB Approach)						
Eastbound	*C*	*16.8*	*0.14*	*C*	*16.2*	*0.13*
Northbound Left-Turn	*A*	*9.0*	*0.01*	*A*	*8.9*	*0.01*
72nd Terrace						
Westbound	*C*	*19.2*	*0.10*	*C*	*17.0*	*0.08*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
73rd Street (East, WB Approach)						
Westbound	*C*	*20.2*	*0.12*	*C*	*17.4*	*0.10*
Southbound Left-Turn	*A*	*9.1*	*0.01*	*A*	*9.1*	*0.01*
73rd Street (West, EB Approach)						
Eastbound	*C*	*20.0*	*0.12*	*C*	*17.3*	*0.10*
Northbound Left-Turn	*A*	*9.1*	*0.01*	*A*	*9.1*	*0.01*
74th Street						
Eastbound	*C*	*17.6*	*0.07*	*C*	*16.3*	*0.06*
Northbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.1*	*0.01*

1 – Level of Service 2 – Delay in seconds per vehicle 3 – Volume/Capacity Ratio

Table 6
HCM Analysis Results
P.M. Peak Hour – Unsignalized Intersections

Intersection	Existing Condition			Proposed 3-Lane Condition		
Movement	LOS[1]	Delay[2]	v/c[3]	LOS[1]	Delay[2]	v/c[3]
68th Street						
Westbound	*C*	*18.3*	*0.07*	*C*	*16.8*	*0.07*
Southbound Left-Turn	*A*	*9.1*	*0.01*	*A*	*9.1*	*0.01*
69th Street						
Eastbound	*D*	*32.0*	*0.25*	*E*	*43.0*	*0.32*
Westbound	*E*	*43.8*	*0.32*	*F*	*54.8*	*0.38*
Northbound Left-Turn	*A*	*9.5*	*0.01*	*A*	*9.4*	*0.01*
Southbound Left-Turn	*A*	*9.2*	*0.03*	*A*	*9.2*	*0.03*
69th Terrace						
Eastbound	*E*	*36.1*	*0.22*	*E*	*47.3*	*0.28*
Westbound	*D*	*34.5*	*0.21*	*E*	*46.3*	*0.27*
Northbound Left-Turn	*A*	*9.5*	*0.02*	*A*	*9.5*	*0.02*
Southbound Left-Turn	*A*	*9.2*	*0.01*	*A*	*9.2*	*0.01*
70th Street						
Eastbound	*C*	*19.7*	*0.08*	*C*	*17.7*	*0.07*
Northbound Left-Turn	*A*	*9.5*	*0.01*	*A*	*9.5*	*0.01*
70th Terrace						
Eastbound	*D*	*32.8*	*0.23*	*E*	*43.4*	*0.29*
Westbound	*D*	*34.8*	*0.21*	*E*	*47.3*	*0.28*
Northbound Left-Turn	*A*	*9.5*	*0.01*	*A*	*9.5*	*0.01*
Southbound Left-Turn	*A*	*9.3*	*0.01*	*A*	*9.2*	*0.01*
71st Terrace						
Westbound	*C*	*16.4*	*0.05*	*C*	*16.4*	*0.05*
Southbound Left-Turn	*A*	*9.4*	*0.01*	*A*	*9.4*	*0.01*
72nd Street (East, WB Approach)						
Westbound	*C*	*16.2*	*0.05*	*C*	*16.2*	*0.05*
Southbound Left-Turn	*A*	*9.3*	*0.01*	*A*	*9.3*	*0.01*
72nd Street (West, EB Approach)						
Eastbound	*D*	*26.6*	*0.14*	*C*	*19.8*	*0.10*
Northbound Left-Turn	*A*	*9.5*	*0.03*	*A*	*9.5*	*0.03*
72nd Terrace						
Westbound	*C*	*19.6*	*0.08*	*C*	*17.6*	*0.07*
Southbound Left-Turn	*A*	*9.4*	*0.01*	*A*	*9.4*	*0.01*
73rd Street (East, WB Approach)						
Westbound	*C*	*22.1*	*0.11*	*C*	*18.3*	*0.09*
Southbound Left-Turn	*A*	*9.4*	*0.03*	*A*	*9.4*	*0.03*
73rd Street (West, EB Approach)						
Eastbound	*C*	*22.2*	*0.14*	*C*	*18.6*	*0.11*
Northbound Left-Turn	*A*	*9.3*	*0.01*	*A*	*9.3*	*0.01*
74th Street						
Eastbound	*C*	*21.6*	*0.07*	*C*	*18.0*	*0.06*
Northbound Left-Turn	*A*	*9.4*	*0.01*	*A*	*9.3*	*0.01*

1 – Level of Service 2 – Delay in seconds per vehicle 3 – Volume/Capacity Ratio

Arterial Level of Service

The routes were evaluated for level of service (LOS) based on methodologies outlined in the Highway Capacity Manual (HCM), 6th Edition, published by the Transportation Research Board. The arterial LOS is a function of the vehicle speed for a given direction of travel along an urban street. The speed is influenced by overall travel time and delay on vehicles. LOS A is when the travel speed exceeds 80% of the base free-flow speed and LOS F is when the travel speed is 30% or less of the base free-flow speed. The volume-to-capacity ratio cannot exceed 1.0.

Table 7
HCM Analysis Results
Arterial Level of Service (LOS)

Route Direction / Peak Hour	Existing Condition		Proposed 3-Lane Condition	
	LOS[1]	Arterial Speed[2]	LOS[1]	Arterial Speed[2]
Northbound Direction				
75th Street to 71st Street				
A.M. Peak Hour	*B*	*27.4*	*B*	*26.3*
P.M. Peak Hour	*B*	*27.0*	*B*	*25.6*
71st Street to 67th Street				
A.M. Peak Hour	*B*	*26.7*	*B*	*27.3*
P.M. Peak Hour	*B*	*27.2*	*B*	*27.8*
Southbound Direction				
67th Street to 71st Street				
A.M. Peak Hour	*B*	*28.4*	*B*	*27.5*
P.M. Peak Hour	*B*	*27.6*	*B*	*26.9*
71st Street to 75th Street				
A.M. Peak Hour	*C*	*18.3*	*C*	*19.6*
P.M. Peak Hour	*D*	*15.2*	*D*	*15.2*

1 – Level of Service 2 – Delay in seconds per vehicle 3 – Volume/Capacity Ratio

The results of the arterial LOS are summarized in ***Table 7***. Detailed results can be found in ***Appendix C*** and ***D.*** The results show that most of the Nall Avenue arterial speeds are expected to slightly decrease with the three-lane section, but overall maintain the same level of service for drivers.

Summary

TranSystems has completed a review and update to the 2010 concept report along Nall Avenue from 67th Street to 75th Street. The purpose of this study was to review, analyze, and recommend changes for the corridor to include a road diet with a three-lane section and bike lanes. Concept figures can be found in ***Appendix A.*** The information below summarizes the report findings:

Existing System

- Traffic Counts – The peak hours occurred from 7:30AM to 8:30AM and 4:45PM to 5:45PM.
- The corridor ADT is approximately 12,000 vehicles and 1.2% trucks.
- Traffic along Nall Avenue within the study area has fluctuated slightly, but generally remained the same for more than 15 years.

- Mission Road located one mile east of Nall Avenue has similar traffic volumes and was successfully converted from a four-lane to three-lane section around early 2017.
- Sight Distance - The sight distance measurements indicate that the existing sight distance is adequate for most of the corridor. There are a few locations with limited sights distances, of which half can be improved with landscape trimming or removal. Although visibility is generally adequate when vehicles pull forward, future consideration should be given for sight distances at location with deficiencies.

Improvement Concepts

- The proposed improvements include implementation of a road diet, reducing the existing four-lane roadway to a three-lane roadway with a center two-way left-turn lane (TWLTL) and bike lanes.
- The proposed lane configurations vary slightly throughout the corridor but are generally include a 44' section comprised of a 12' TWLTL, two-11' thru lanes, and two-5' bike lanes with thru traffic generally aligned across the intersections.
- The full concept with lane configurations, transitions, and alignments is shown in ***Appendix A.***
- At 75th and 67th Streets (end of project), sharrows will be utilized to transition back to existing pavement markings.
- Final layout, signing, and transitions existing at 67th and 75th Street should be reviewed prior to implementation. Although no major changes should be required, shifts to the existing traffic signal heads, repair of poor roadway sections, and signing should be considered.

Operational Analysis

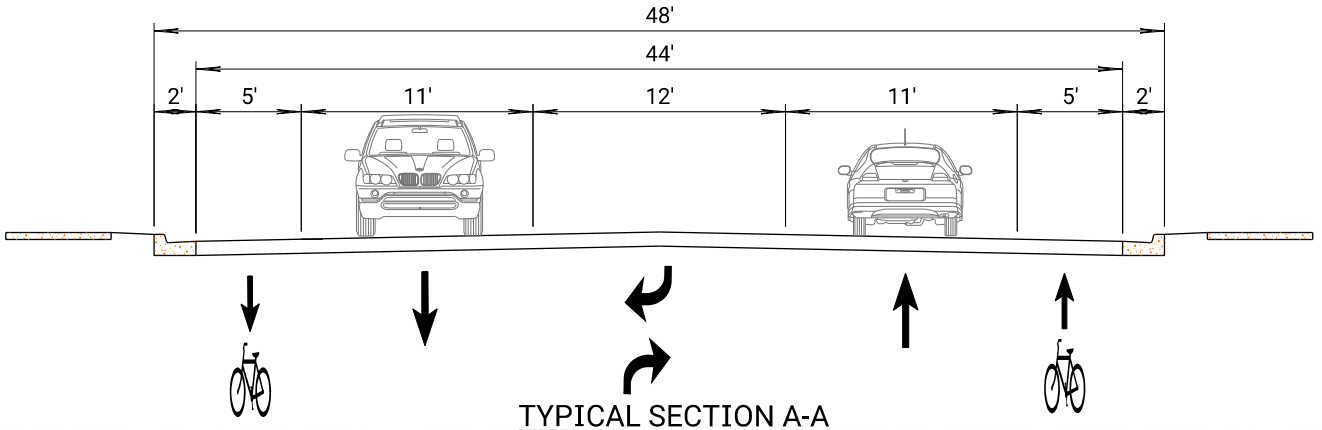
- Signalized Intersections
    - The signalized intersections at 67th and 71st Street remained at LOS B for all conditions.
    - At 75th Street, the existing AM and PM peak hour is LOS D and LOS E, respectively, and exceed the volume to capacity ratio. With the proposed concept plan, the intersection delay at 75th Street is further diminished, but the LOS and volume to capacity ratios remain the same.
    - The 2010 study and this study both recommend future consideration for intersection improvements at 75th Street including signal phasing.
- Unsignalized Intersections
    - The unsignalized intersection operations maintain a similar LOS for both the existing and proposed conditions without any significant operational concerns with the proposed improvements. Delay increased for mostly eastbound and westbound movements, but volume to capacity ratios remained low. These results are similar to the 2010 study results.
- Arterial Level of Service
    - The arterial LOS is a function of the vehicle speed for a given direction of travel along an urban street and speed is influenced by overall travel time and delay on vehicles. The LOS remained the same for both the existing and proposed conditions. Analysis results show

LOS B for the corridor, except southbound from 71st Street to 75th Street, resulting in LOS C and D respectively for the AM and PM peak hours.

Review of the corridor between the existing and proposed three-lane improvements did not result in any significant impacts to operational efficiencies. A conversion from four lanes to three lanes, like the proposed improvements on Nall Avenue, was successfully implemented on Mission Road in 2017 without any known major impacts. Mission Road shares similar traffic volumes and land types as Nall Avenue within the study areas. Overall, the current analysis reflected similar results and recommendations from the 2010 study.

Appendix A – Figures

P101220154

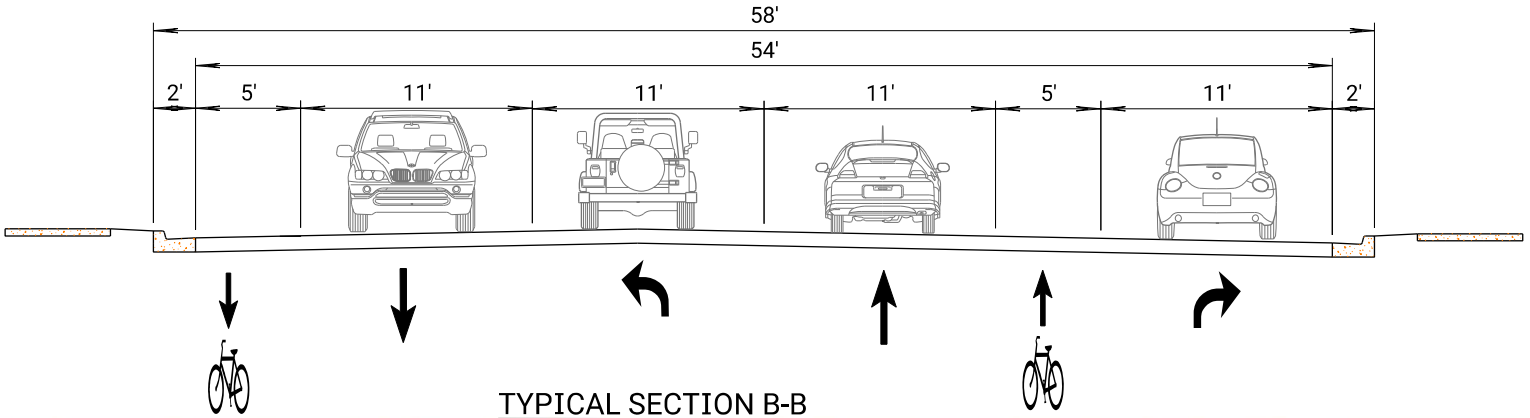


TYPICAL SECTION A-A

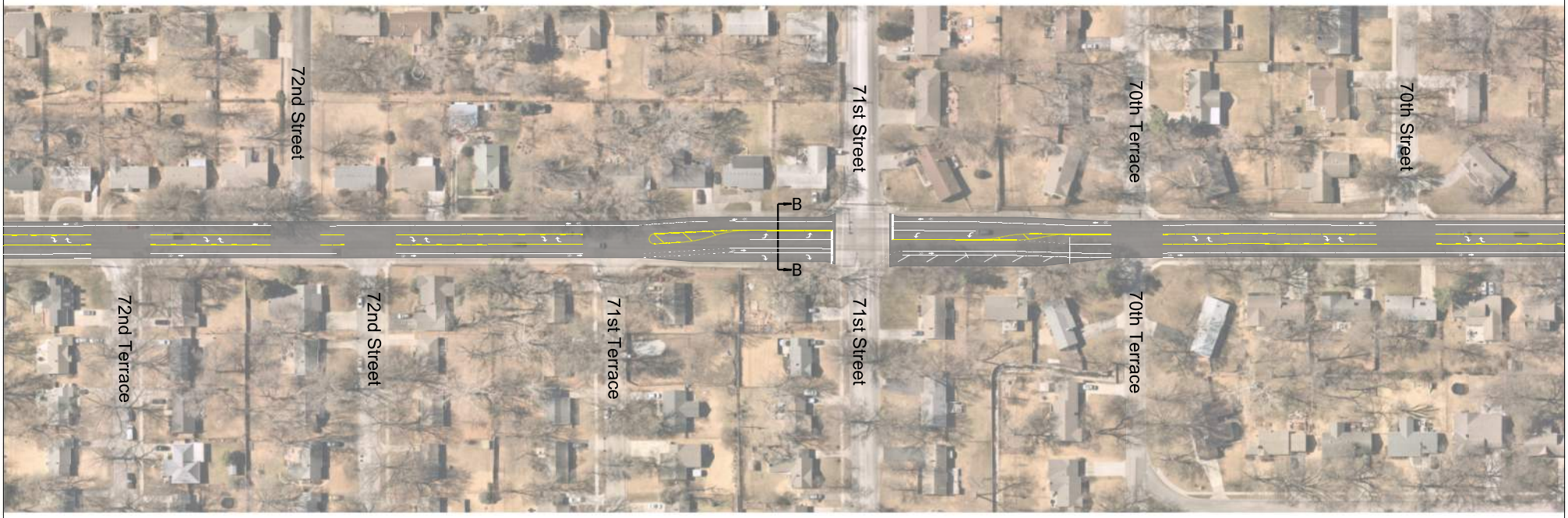
NORTH

TranSystems	PROPOSED CONCEPT	Nall Avenue Prairie Village, Kansas	July 2022 No Scale	Sheet 1 of 3

PI01220154



TYPICAL SECTION B-B



NORTH

TranSystems	PROPOSED CONCEPT	Nall Avenue Prairie Village, Kansas	July 2022 No Scale	Sheet 2 of 3

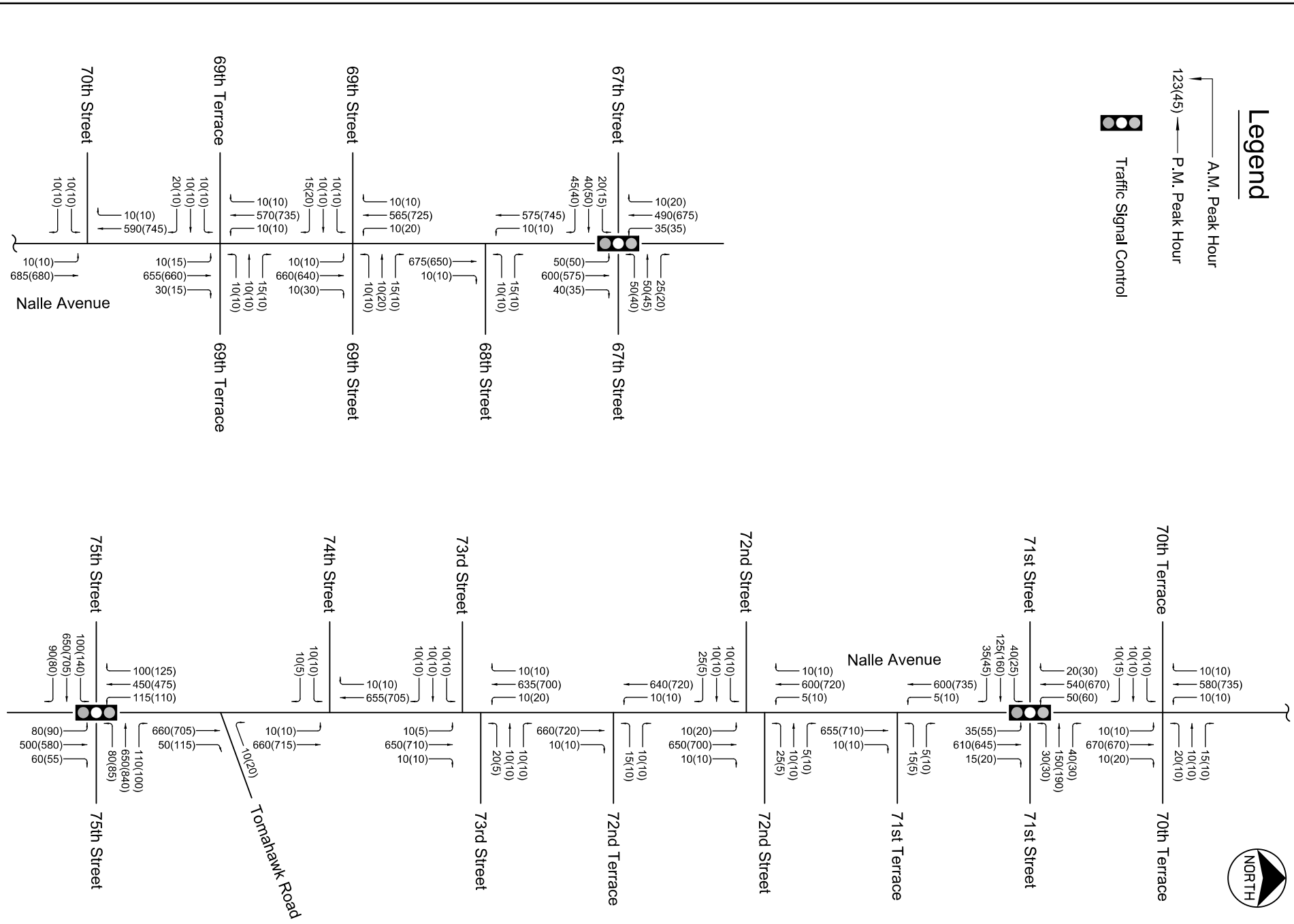
P101220154

NORTH

TranSystems	PROPOSED CONCEPT	Nall Avenue Prairie Village, Kansas	July 2022 No Scale	Sheet 3 of 3

Appendix B – Existing Traffic Counts

PIOI220I54



TranSystems	2022 EXISTING TRAFFIC VOLUMES	Nall Avenue Simulation Analysis Johnson County, Kansas	July 2022 No Scale	Figure 1

Peak Hour Traffic Count

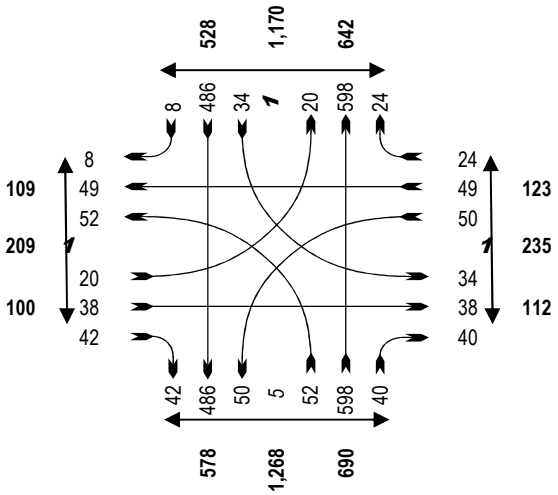
Nall Corridor Study from 67th to 75th St

Prairie Village, KS

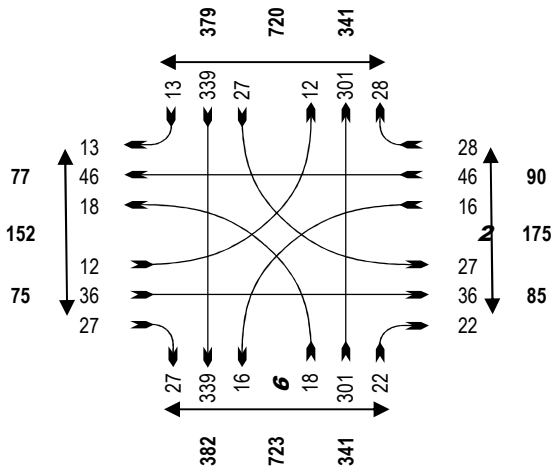
Location: **Nall Ave and 67th St**

Count Date: Wednesday 05/10/2022

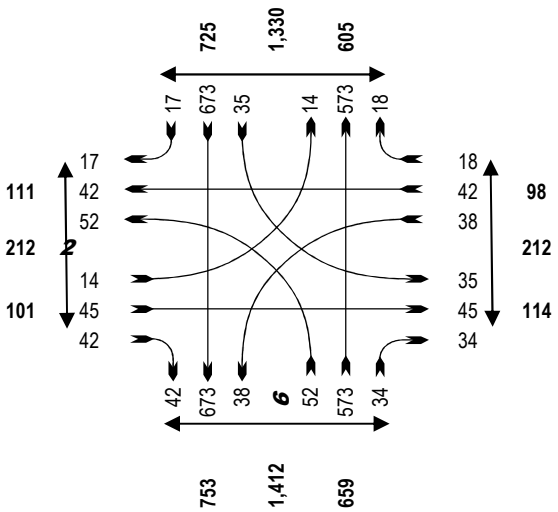
7:30a-8:30a



11:15a-12:15p



4:45p-5:45p



TranSystems

TranSystems Corporation

2400 Pershing Road, Suite 400, Kansas City, MO 64108 - (816) 329-8600

Project No.: P101220154

Peak Hour Traffic Count

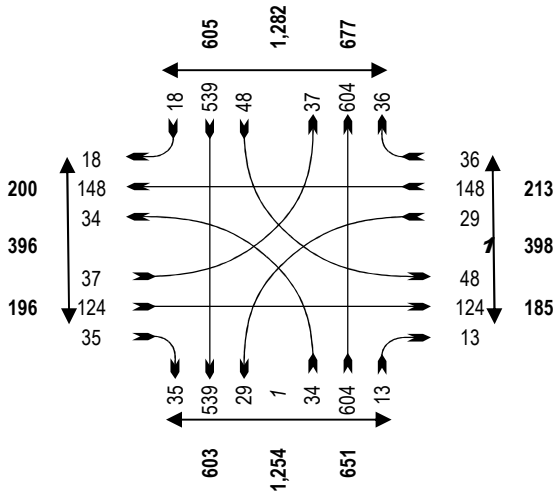
Nall Corridor Study from 67th to 75th St

Prairie Village, KS

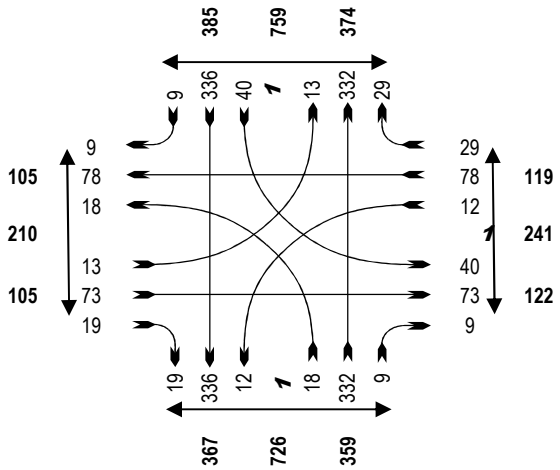
Location: **Nall Ave and 71st St**

Count Date: Wednesday 05/10/2022

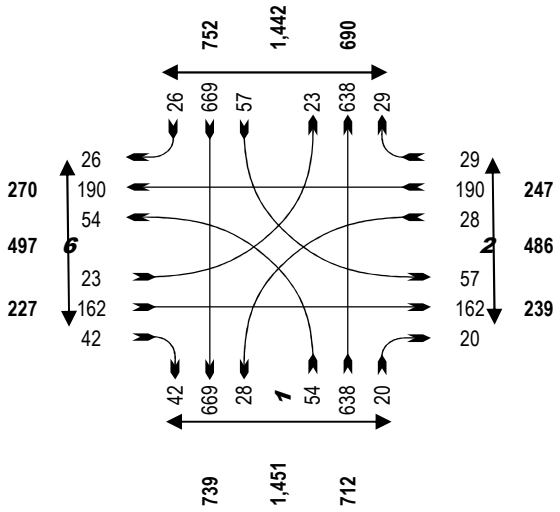
7:30a-8:30a



11:30a-12:30p



4:45p-5:45p



TranSystems

TranSystems Corporation

2400 Pershing Road, Suite 400, Kansas City, MO 64108 - (816) 329-8600

Project No.: P101220154

Peak Hour Traffic Count

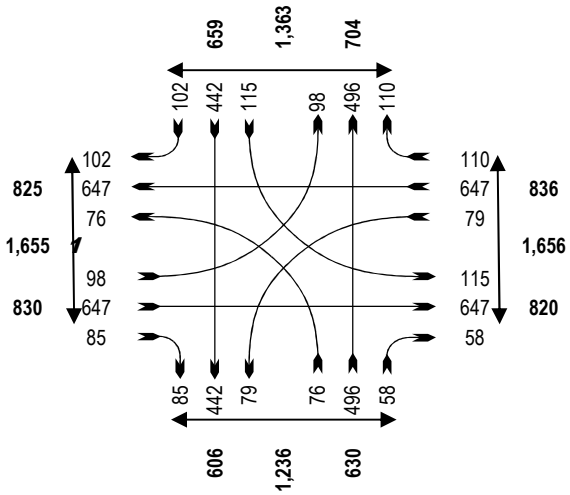
Nall Corridor Study from 67th to 75th St

Prairie Village, KS

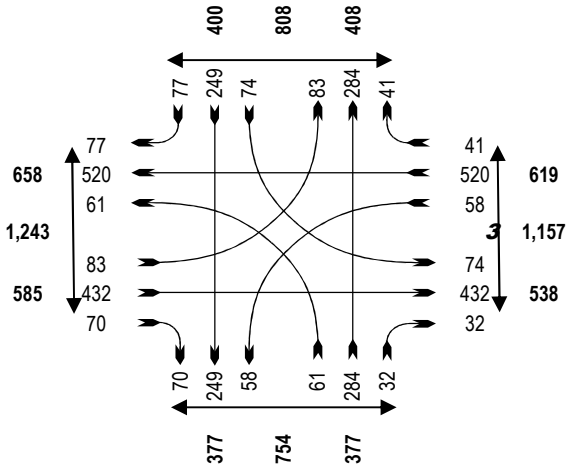
Location: **Nall Ave and 75th St**

Count Date: Wednesday 05/10/2022

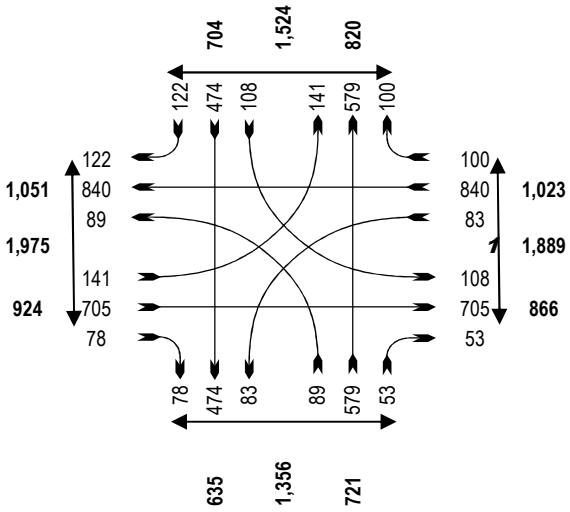
7:30a-8:30a



12:00p-1:00p



4:45p-5:45p



TranSystems

TranSystems Corporation

2400 Pershing Road, Suite 400, Kansas City, MO 64108 - (816) 329-8600

Project No.: P101220154

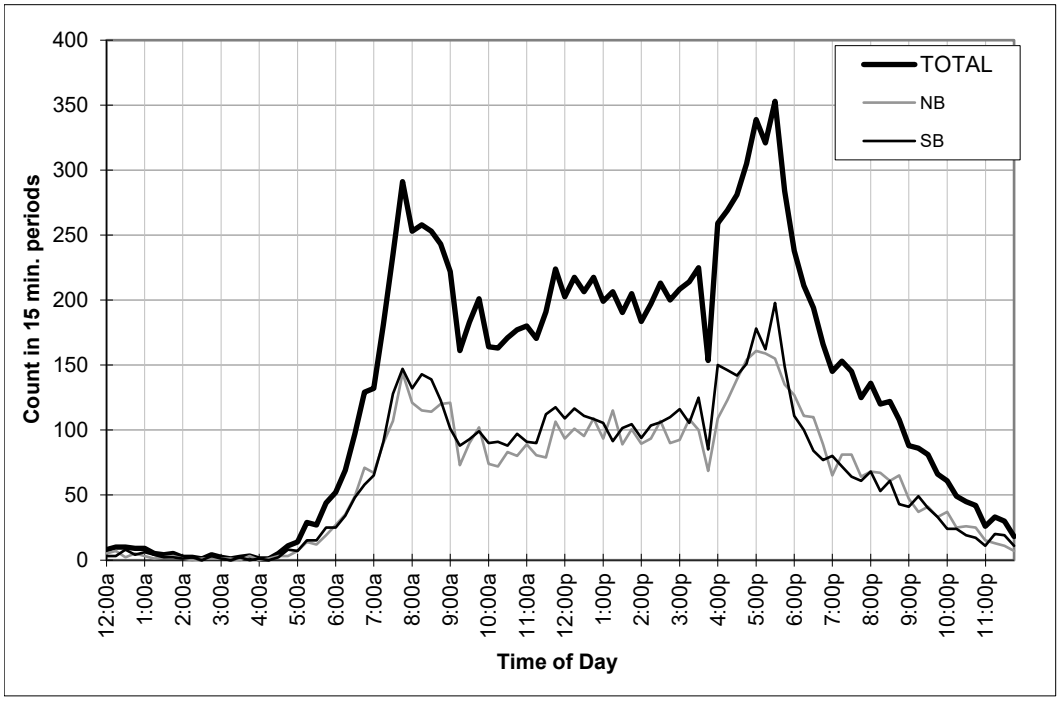
Daily Traffic Count

Nall - 67th to 75th Street

Prairie Village, Kansas

Location: **Nall, North of 74th Street**

Period Start	NB	SB	TOTAL
12:00a	5	3	8
12:15a	7	3	10
12:30a	2	8	10
12:45a	5	4	9
1:00a	3	6	9
1:15a	1	4	5
1:30a	2	2	4
1:45a	3	2	5
2:00a	1	1	2
2:15a	0	2	2
2:30a	1	0	1
2:45a	1	3	4
3:00a	1	1	2
3:15a	1	0	1
3:30a	0	2	2
3:45a	3	0	3
4:00a	0	1	1
4:15a	1	0	1
4:30a	3	2	5
4:45a	3	8	11
5:00a	7	7	14
5:15a	14	15	29
5:30a	12	15	27
5:45a	19	25	44
6:00a	27	25	52
6:15a	35	34	69
6:30a	49	48	97
6:45a	71	58	129
7:00a	67	65	132
7:15a	90	91	181
7:30a	107	128	235
7:45a	144	147	291
8:00a	121	132	253
8:15a	115	143	258
8:30a	114	139	253
8:45a	120	123	243
9:00a	121	101	222
9:15a	73	88	161
9:30a	90	93	183
9:45a	102	99	201
10:00a	74	90	164
10:15a	72	91	163
10:30a	83	88	171
10:45a	80	97	177
11:00a	89	91	180
11:15a	81	90	171
11:30a	79	112	191
11:45a	107	118	224
12:00p	94	109	203
12:15p	101	117	218
12:30p	96	111	207
12:45p	109	109	218
1:00p	94	106	199
1:15p	115	92	207
1:30p	89	102	191
1:45p	101	105	205
2:00p	90	94	184
2:15p	94	104	197
2:30p	107	106	213
2:45p	90	110	200
3:00p	93	116	209
3:15p	109	106	214
3:30p	100	125	225
3:45p	69	85	154
4:00p	109	150	259
4:15p	123	146	269
4:30p	139	142	281
4:45p	154	151	305
5:00p	161	178	339
5:15p	159	162	321
5:30p	155	198	353
5:45p	135	149	284
6:00p	127	111	238
6:15p	111	100	211
6:30p	110	84	194
6:45p	89	77	166
7:00p	65	80	145
7:15p	81	72	153
7:30p	81	64	145
7:45p	64	61	125
8:00p	68	68	136
8:15p	67	53	120
8:30p	61	61	122
8:45p	65	43	108
9:00p	47	41	88
9:15p	37	49	86
9:30p	41	40	81
9:45p	33	33	66
10:00p	37	24	61
10:15p	25	24	49
10:30p	26	19	45
10:45p	25	17	42
11:00p	15	11	26
11:15p	13	20	33
11:30p	11	19	30
11:45p	7	11	18



HOURLY TOTALS

Period Start	NB	SB	TOTAL
12:00a	19	18	37
1:00a	9	14	23
2:00a	3	6	9
3:00a	5	3	8
4:00a	7	11	18
5:00a	52	62	114
6:00a	182	165	347
7:00a	408	431	839
8:00a	470	537	1007
9:00a	386	381	767
10:00a	309	366	675
11:00a	355	411	766
12:00p	399	445	844
1:00p	398	403	801
2:00p	380	414	794
3:00p	370	432	801
4:00p	525	589	1114
5:00p	610	687	1297
6:00p	437	372	809
7:00p	291	277	568
8:00p	261	225	486
9:00p	158	163	321
10:00p	113	84	197
11:00p	46	61	107

Approach	Count Start Date	AM Peak 7:45a - 8:45a	Mid-day Peak 11:45a - 12:45p	PM Peak 4:45p - 5:45p	Totals
Northbound	Wed 6/29/22 10:45 AM	494	397	629	**6,193**
Southbound	Wed 6/29/22 11:22 AM	561	454	689	**6,556**
TOTAL		1,055	851	1,318	**12,748**

TranSystems Corporation
2400 Pershing Road, Suite 400, Kansas City, MO 64108 - (816) 329-8600

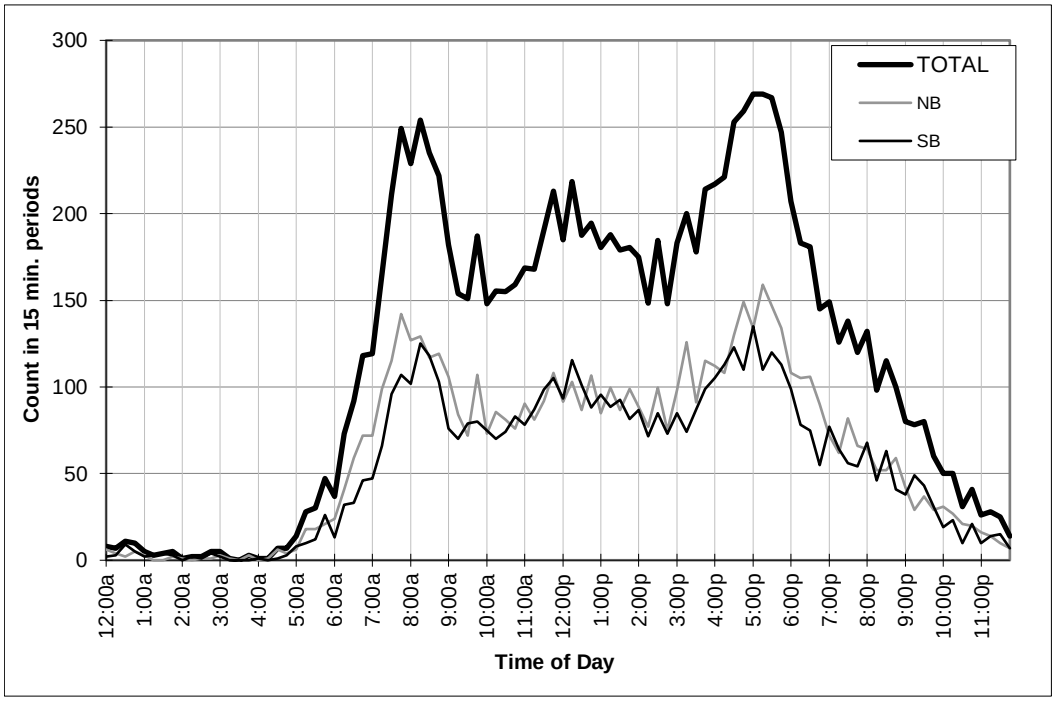
Daily Traffic Count

Nall - 67th to 75th Street

Prairie Village, Kansas

Location: **Nall, South of 68th Street**

Period Start	NB	SB	TOTAL
12:00a	6	2	8
12:15a	4	3	7
12:30a	2	9	11
12:45a	5	5	10
1:00a	3	2	5
1:15a	0	3	3
1:30a	0	4	4
1:45a	2	3	5
2:00a	1	0	1
2:15a	0	2	2
2:30a	1	1	2
2:45a	1	4	5
3:00a	3	2	5
3:15a	1	0	1
3:30a	0	0	0
3:45a	3	0	3
4:00a	0	1	1
4:15a	1	0	1
4:30a	6	1	7
4:45a	4	3	7
5:00a	6	8	14
5:15a	18	10	28
5:30a	18	12	30
5:45a	21	26	47
6:00a	24	13	37
6:15a	41	32	73
6:30a	59	33	92
6:45a	72	46	118
7:00a	72	47	119
7:15a	99	66	165
7:30a	115	96	211
7:45a	142	107	249
8:00a	127	102	229
8:15a	129	125	254
8:30a	117	118	235
8:45a	119	103	222
9:00a	106	76	182
9:15a	84	70	154
9:30a	72	79	151
9:45a	107	80	187
10:00a	73	75	148
10:15a	86	70	156
10:30a	81	74	155
10:45a	76	83	159
11:00a	91	78	169
11:15a	81	87	168
11:30a	92	99	191
11:45a	108	105	213
12:00p	92	94	185
12:15p	103	116	219
12:30p	87	101	188
12:45p	107	88	195
1:00p	85	96	181
1:15p	100	89	188
1:30p	87	93	179
1:45p	99	82	181
2:00p	89	87	175
2:15p	77	72	149
2:30p	100	85	185
2:45p	75	73	148
3:00p	98	85	183
3:15p	126	74	200
3:30p	91	87	178
3:45p	115	99	214
4:00p	112	105	217
4:15p	108	113	221
4:30p	130	123	253
4:45p	149	110	259
5:00p	134	135	269
5:15p	159	110	269
5:30p	147	120	267
5:45p	134	113	247
6:00p	108	99	207
6:15p	105	78	183
6:30p	106	75	181
6:45p	90	55	145
7:00p	72	77	149
7:15p	62	64	126
7:30p	82	56	138
7:45p	66	54	120
8:00p	64	68	132
8:15p	52	46	98
8:30p	52	63	115
8:45p	59	41	100
9:00p	42	38	80
9:15p	29	49	78
9:30p	37	43	80
9:45p	29	31	60
10:00p	31	19	50
10:15p	27	23	50
10:30p	21	10	31
10:45p	20	21	41
11:00p	16	10	26
11:15p	14	14	28
11:30p	10	15	25
11:45p	7	7	14



HOURLY TOTALS

Period Start	NB	SB	TOTAL
12:00a	17	19	36
1:00a	5	12	17
2:00a	3	7	10
3:00a	7	2	9
4:00a	11	5	16
5:00a	63	56	119
6:00a	196	124	320
7:00a	428	316	744
8:00a	492	448	940
9:00a	369	305	674
10:00a	316	302	618
11:00a	372	369	740
12:00p	388	398	786
1:00p	370	358	728
2:00p	340	316	656
3:00p	430	345	775
4:00p	499	451	950
5:00p	574	478	1052
6:00p	409	307	716
7:00p	282	251	533
8:00p	227	218	445
9:00p	137	161	298
10:00p	99	73	172
11:00p	47	46	93

Approach	Count Start Date	AM Peak 7:45a - 8:45a	Mid-day Peak 11:30a - 12:30p	PM Peak 4:45p - 5:45p	Totals
Northbound	Wed 6/29/22 10:00 AM	515	395	589	**6,080**
Southbound	Wed 6/29/22 11:22 AM	452	413	475	**5,367**
TOTAL		967	807	1,064	**11,446**

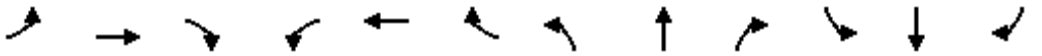
TranSystems Corporation

2400 Pershing Road, Suite 400, Kansas City, MO 64108 - (816) 329-8600

Appendix C – Existing Corridor Reports

See attached reports.

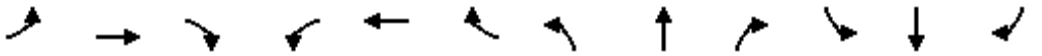
- Signalized Intersections
- Two-Way Stop Control (TWSC) Intersections
- Arterial LOS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	650	90	80	650	110	80	500	60	115	450	100
Future Volume (veh/h)	100	650	90	80	650	110	80	500	60	115	450	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	707	98	87	707	120	87	543	65	125	489	109
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	854	118	111	782	133	111	993	119	156	628	533
Arrive On Green	0.08	0.27	0.27	0.06	0.26	0.26	0.06	0.31	0.31	0.09	0.34	0.34
Sat Flow, veh/h	1781	3135	434	1781	3039	515	1781	3197	382	1781	1870	1585
Grp Volume(v), veh/h	109	401	404	87	413	414	87	301	307	125	489	109
Grp Sat Flow(s),veh/h/ln	1781	1777	1792	1781	1777	1778	1781	1777	1802	1781	1870	1585
Q Serve(g_s), s	5.4	19.1	19.1	4.3	20.3	20.3	4.3	12.7	12.7	6.2	21.2	4.4
Cycle Q Clear(g_c), s	5.4	19.1	19.1	4.3	20.3	20.3	4.3	12.7	12.7	6.2	21.2	4.4
Prop In Lane	1.00		0.24	1.00		0.29	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	138	484	488	111	457	457	111	552	560	156	628	533
V/C Ratio(X)	0.79	0.83	0.83	0.78	0.90	0.90	0.78	0.55	0.55	0.80	0.78	0.20
Avail Cap(c_a), veh/h	218	553	558	139	474	474	119	552	560	198	628	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	30.7	30.8	41.6	32.3	32.4	41.6	25.7	25.8	40.3	26.9	21.3
Incr Delay (d2), s/veh	9.5	9.0	9.1	20.1	20.2	20.3	26.7	3.8	3.8	16.6	9.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.0	9.1	2.5	10.9	10.9	2.7	5.7	5.8	3.4	10.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	39.8	39.8	61.6	52.5	52.7	68.3	29.6	29.6	56.9	36.1	22.2
LnGrp LOS	D	D	D	E	D	D	E	C	C	E	D	C
Approach Vol, veh/h		914			914			695			723	
Approach Delay, s/veh		41.1			53.4			34.4			37.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	34.0	11.6	30.5	11.6	36.2	13.0	29.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	21.0	7.0	28.0	6.0	25.0	11.0	24.0
Max Q Clear Time (g_c+I1), s	8.2	14.7	6.3	21.1	6.3	23.2	7.4	22.3
Green Ext Time (p_c), s	0.0	1.9	0.0	2.8	0.0	0.7	0.1	0.9

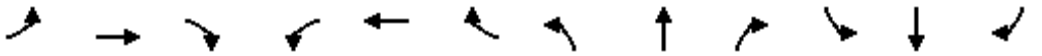
Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	125	35	30	150	40	35	610	15	50	540	20
Future Volume (veh/h)	40	125	35	30	150	40	35	610	15	50	540	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	136	38	33	163	43	38	663	16	54	587	22
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	246	69	185	250	66	642	2453	59	552	2416	90
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.69	0.69	0.69	1.00	1.00	1.00
Sat Flow, veh/h	1176	1407	393	1211	1426	376	812	3546	86	761	3493	131
Grp Volume(v), veh/h	43	0	174	33	0	206	38	332	347	54	298	311
Grp Sat Flow(s),veh/h/ln	1176	0	1800	1211	0	1803	812	1777	1855	761	1777	1847
Q Serve(g_s), s	3.2	0.0	7.9	2.3	0.0	9.6	1.4	6.4	6.4	0.7	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	7.9	10.3	0.0	9.6	1.4	6.4	6.4	7.1	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.21	1.00		0.05	1.00		0.07
Lane Grp Cap(c), veh/h	161	0	315	185	0	316	642	1229	1283	552	1229	1277
V/C Ratio(X)	0.27	0.00	0.55	0.18	0.00	0.65	0.06	0.27	0.27	0.10	0.24	0.24
Avail Cap(c_a), veh/h	373	0	640	404	0	641	642	1229	1283	552	1229	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	33.9	38.6	0.0	34.6	4.5	5.3	5.3	0.4	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.5	0.0	2.3	0.2	0.5	0.5	0.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.5	0.7	0.0	4.3	0.2	2.1	2.2	0.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	35.4	39.0	0.0	36.9	4.7	5.8	5.8	0.7	0.5	0.5
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		217			239			717			663	
Approach Delay, s/veh		36.6			37.2			5.7			0.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.2		21.8		68.2		21.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		46.0		32.0		46.0		32.0				
Max Q Clear Time (g_c+I1), s		8.4		14.8		9.1		12.3				
Green Ext Time (p_c), s		4.8		1.0		4.4		1.2				

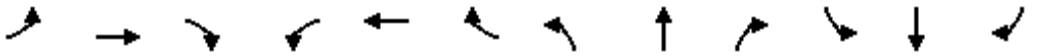
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	45	50	50	25	50	600	40	35	490	10
Future Volume (veh/h)	20	40	45	50	50	25	50	600	40	35	490	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	43	49	54	54	27	54	652	43	38	533	11
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	94	107	168	138	69	583	1200	1017	627	1156	24
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.10	1.00	1.00	0.04	0.63	0.63
Sat Flow, veh/h	1317	798	909	1304	1176	588	1781	1870	1585	1781	1826	38
Grp Volume(v), veh/h	22	0	92	54	0	81	54	652	43	38	0	544
Grp Sat Flow(s),veh/h/ln	1317	0	1707	1304	0	1764	1781	1870	1585	1781	0	1864
Q Serve(g_s), s	1.4	0.0	4.5	3.6	0.0	3.8	0.9	0.0	0.0	0.6	0.0	13.6
Cycle Q Clear(g_c), s	5.2	0.0	4.5	8.2	0.0	3.8	0.9	0.0	0.0	0.6	0.0	13.6
Prop In Lane	1.00		0.53	1.00		0.33	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	179	0	201	168	0	207	583	1200	1017	627	0	1180
V/C Ratio(X)	0.12	0.00	0.46	0.32	0.00	0.39	0.09	0.54	0.04	0.06	0.00	0.46
Avail Cap(c_a), veh/h	375	0	455	362	0	471	693	1200	1017	713	0	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	37.0	40.8	0.0	36.7	5.5	0.0	0.0	4.9	0.0	8.6
Incr Delay (d2), s/veh	0.3	0.0	1.6	1.1	0.0	1.2	0.1	1.8	0.1	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.0	1.2	0.0	1.7	0.3	0.6	0.0	0.2	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	38.7	41.9	0.0	37.9	5.5	1.8	0.1	4.9	0.0	9.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		114			135			749			582	
Approach Delay, s/veh		38.8			39.5			1.9			9.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	63.7		16.6	10.4	63.0		16.6				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	40.0		24.0	10.0	38.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	2.0		7.2	2.9	15.6		10.2				
Green Ext Time (p_c), s	0.0	5.1		0.5	0.0	3.5		0.4				

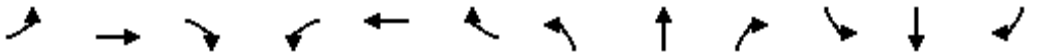
Intersection Summary			
HCM 6th Ctrl Delay		10.6	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	705	80	85	840	100	90	580	55	110	475	125
Future Volume (veh/h)	140	705	80	85	840	100	90	580	55	110	475	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	766	87	92	913	109	98	630	60	120	516	136
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	945	107	117	817	98	125	1007	96	119	568	481
Arrive On Green	0.10	0.29	0.29	0.07	0.26	0.26	0.07	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	1781	3216	365	1781	3197	382	1781	3279	312	1781	1870	1585
Grp Volume(v), veh/h	152	423	430	92	507	515	98	341	349	120	516	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1805	1781	1777	1802	1781	1777	1814	1781	1870	1585
Q Serve(g_s), s	7.5	19.9	19.9	4.6	23.0	23.0	4.9	14.8	14.9	6.0	23.9	5.9
Cycle Q Clear(g_c), s	7.5	19.9	19.9	4.6	23.0	23.0	4.9	14.8	14.9	6.0	23.9	5.9
Prop In Lane	1.00		0.20	1.00		0.21	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	185	522	530	117	454	460	125	546	557	119	568	481
V/C Ratio(X)	0.82	0.81	0.81	0.78	1.12	1.12	0.79	0.62	0.63	1.01	0.91	0.28
Avail Cap(c_a), veh/h	218	533	541	139	454	460	158	546	557	119	568	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	29.5	29.5	41.4	33.5	33.5	41.2	26.7	26.8	42.0	30.1	23.9
Incr Delay (d2), s/veh	18.9	9.0	8.9	21.6	78.3	78.1	18.0	5.3	5.3	85.4	20.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	9.4	9.5	2.7	19.3	19.6	2.7	6.8	7.0	5.4	13.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	38.5	38.4	63.0	111.8	111.6	59.2	32.1	32.0	127.4	51.0	25.3
LnGrp LOS	E	D	D	E	F	F	E	C	C	F	D	C
Approach Vol, veh/h		1005			1114			788			772	
Approach Delay, s/veh		41.5			107.7			35.4			58.3	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.6	11.9	32.4	12.3	33.3	15.4	29.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	26.0	7.0	27.0	8.0	24.0	11.0	23.0
Max Q Clear Time (g_c+I1), s	8.0	16.9	6.6	21.9	6.9	25.9	9.5	25.0
Green Ext Time (p_c), s	0.0	2.8	0.0	2.3	0.0	0.0	0.1	0.0

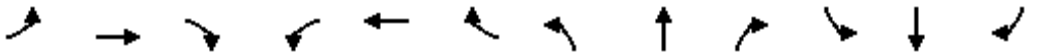
Intersection Summary	
HCM 6th Ctrl Delay	63.8
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	160	45	30	190	30	55	645	20	60	670	30
Future Volume (veh/h)	25	160	45	30	190	30	55	645	20	60	670	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	174	49	33	207	33	60	701	22	65	728	33
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	255	72	156	286	46	563	2409	76	523	2371	107
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	1140	1404	395	1158	1574	251	705	3517	110	730	3462	157
Grp Volume(v), veh/h	27	0	223	33	0	240	60	354	369	65	374	387
Grp Sat Flow(s),veh/h/ln	1140	0	1799	1158	0	1825	705	1777	1850	730	1777	1842
Q Serve(g_s), s	2.1	0.0	10.4	2.5	0.0	11.1	2.6	7.1	7.1	1.1	0.0	0.0
Cycle Q Clear(g_c), s	13.2	0.0	10.4	12.9	0.0	11.1	2.6	7.1	7.1	8.1	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.14	1.00		0.06	1.00		0.09
Lane Grp Cap(c), veh/h	146	0	327	156	0	332	563	1217	1267	523	1217	1262
V/C Ratio(X)	0.18	0.00	0.68	0.21	0.00	0.72	0.11	0.29	0.29	0.12	0.31	0.31
Avail Cap(c_a), veh/h	319	0	600	332	0	608	563	1217	1267	523	1217	1262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	34.4	40.4	0.0	34.7	4.9	5.6	5.6	0.5	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	2.5	0.7	0.0	3.0	0.4	0.6	0.6	0.5	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.7	0.7	0.0	5.1	0.4	2.3	2.4	0.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	0.0	36.9	41.1	0.0	37.7	5.3	6.2	6.2	1.0	0.7	0.6
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		250			273			783			826	
Approach Delay, s/veh		37.4			38.1			6.1			0.7	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.6		22.4		67.6		22.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		48.0		30.0		48.0		30.0				
Max Q Clear Time (g_c+I1), s		9.1		15.2		10.1		14.9				
Green Ext Time (p_c), s		5.5		1.2		5.9		1.3				

Intersection Summary												
HCM 6th Ctrl Delay			11.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	50	40	40	45	20	50	575	35	35	675	20
Future Volume (veh/h)	15	50	40	40	45	20	50	575	35	35	675	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	54	43	43	49	22	54	625	38	38	734	22
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	106	84	154	134	60	448	1215	1030	648	1158	35
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.10	1.00	1.00	0.04	0.64	0.64
Sat Flow, veh/h	1329	964	768	1298	1223	549	1781	1870	1585	1781	1806	54
Grp Volume(v), veh/h	16	0	97	43	0	71	54	625	38	38	0	756
Grp Sat Flow(s),veh/h/ln	1329	0	1732	1298	0	1772	1781	1870	1585	1781	0	1861
Q Serve(g_s), s	1.0	0.0	4.8	2.9	0.0	3.3	0.9	0.0	0.0	0.6	0.0	22.1
Cycle Q Clear(g_c), s	4.4	0.0	4.8	7.7	0.0	3.3	0.9	0.0	0.0	0.6	0.0	22.1
Prop In Lane	1.00		0.44	1.00		0.31	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	176	0	190	154	0	194	448	1215	1030	648	0	1193
V/C Ratio(X)	0.09	0.00	0.51	0.28	0.00	0.37	0.12	0.51	0.04	0.06	0.00	0.63
Avail Cap(c_a), veh/h	282	0	327	257	0	335	736	1215	1030	753	0	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	37.8	41.4	0.0	37.2	7.0	0.0	0.0	4.7	0.0	9.8
Incr Delay (d2), s/veh	0.2	0.0	2.1	1.0	0.0	1.2	0.1	1.6	0.1	0.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.1	1.0	0.0	1.5	0.3	0.5	0.0	0.2	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	0.0	39.9	42.4	0.0	38.3	7.1	1.6	0.1	4.7	0.0	12.3
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	B
Approach Vol, veh/h		113			114			717			794	
Approach Delay, s/veh		39.9			39.9			1.9			12.0	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	64.5		15.9	10.4	63.7		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	46.0		17.0	19.0	36.0		17.0				
Max Q Clear Time (g_c+I1), s	2.6	2.0		6.8	2.9	24.1		9.7				
Green Ext Time (p_c), s	0.0	4.8		0.3	0.1	4.1		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		11.5	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	660	655	10
Future Vol, veh/h	10	10	10	660	655	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	717	712	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1099	362	723	0	-	0
Stage 1	718	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	207	635	875	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	635	875	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	875	-	308	-	-
HCM Lane V/C Ratio	0.012	-	0.071	-	-
HCM Control Delay (s)	9.2	0.1	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	10	650	635	10
Future Vol, veh/h	20	10	10	650	635	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	11	707	690	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1072	351	701	0	-	0
Stage 1	696	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	215	645	892	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	645	892	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	892	-	272	-	-
HCM Lane V/C Ratio	0.012	-	0.12	-	-
HCM Control Delay (s)	9.1	0.1	20	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	650	10	10	635
Future Vol, veh/h	20	10	650	10	10	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	707	11	11	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1080	359	0	0	718	0
Stage 1	713	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	213	638	-	-	879	-
Stage 1	447	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	209	638	-	-	879	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	269	879	-
HCM Lane V/C Ratio	-	-	0.121	0.012	-
HCM Control Delay (s)	-	-	20.2	9.1	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	660	10	10	640
Future Vol, veh/h	15	10	660	10	10	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	11	717	11	11	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1093	364	0	0	728	0
Stage 1	723	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	209	633	-	-	871	-
Stage 1	441	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	633	-	-	871	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	281	871	-
HCM Lane V/C Ratio	-	-	0.097	0.012	-
HCM Control Delay (s)	-	-	19.2	9.2	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	10	650	600	10
Future Vol, veh/h	20	25	10	650	600	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	27	11	707	652	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1034	332	663	0	-	0
Stage 1	658	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	228	664	922	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	664	922	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	922	-	353	-	-
HCM Lane V/C Ratio	0.012	-	0.139	-	-
HCM Control Delay (s)	9	0.1	16.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	5	650	20	5	600
Future Vol, veh/h	35	5	650	20	5	600
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	5	707	22	5	652

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1054	365	0	0	729	0
Stage 1	718	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	221	632	-	-	871	-
Stage 1	444	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	632	-	-	871	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	238	871	-
HCM Lane V/C Ratio	-	-	0.183	0.006	-
HCM Control Delay (s)	-	-	23.5	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	5	655	10	5	600
Future Vol, veh/h	15	5	655	10	5	600
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	5	712	11	5	652

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1054	362	0	0	723	0
Stage 1	718	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	221	635	-	-	875	-
Stage 1	444	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	635	-	-	875	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	262	875	-
HCM Lane V/C Ratio	-	-	0.083	0.006	-
HCM Control Delay (s)	-	-	20	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	20	10	15	10	670	10	10	580	10
Future Vol, veh/h	10	10	10	20	10	15	10	670	10	10	580	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	22	11	16	11	728	11	11	630	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1050	1419	321	1099	1419	370	641	0	0	739	0	0
Stage 1	658	658	-	756	756	-	-	-	-	-	-	-
Stage 2	392	761	-	343	663	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	181	136	675	167	136	627	939	-	-	863	-	-
Stage 1	420	459	-	366	414	-	-	-	-	-	-	-
Stage 2	604	412	-	646	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	160	131	675	149	131	627	939	-	-	863	-	-
Mov Cap-2 Maneuver	160	131	-	149	131	-	-	-	-	-	-	-
Stage 1	412	450	-	359	406	-	-	-	-	-	-	-
Stage 2	561	404	-	608	448	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.1	30	0.2	0.3
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	195	192	863	-	-
HCM Lane V/C Ratio	0.012	-	-	0.167	0.255	0.013	-	-
HCM Control Delay (s)	8.9	0.1	-	27.1	30	9.2	0.1	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	685	590	10
Future Vol, veh/h	10	10	10	685	590	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	745	641	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1042	326	652	0	-	0
Stage 1	647	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	225	670	930	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	221	670	930	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	930	-	332	-	-
HCM Lane V/C Ratio	0.012	-	0.065	-	-
HCM Control Delay (s)	8.9	0.1	16.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	20	10	10	15	10	655	30	10	570	10
Future Vol, veh/h	10	10	20	10	10	15	10	655	30	10	570	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	11	11	16	11	712	33	11	620	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1032	1415	316	1089	1404	373	631	0	0	745	0	0
Stage 1	648	648	-	751	751	-	-	-	-	-	-	-
Stage 2	384	767	-	338	653	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	187	136	680	170	138	624	947	-	-	859	-	-
Stage 1	425	464	-	369	416	-	-	-	-	-	-	-
Stage 2	611	410	-	650	462	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	165	131	680	150	132	624	947	-	-	859	-	-
Mov Cap-2 Maneuver	165	131	-	150	132	-	-	-	-	-	-	-
Stage 1	417	455	-	362	408	-	-	-	-	-	-	-
Stage 2	568	402	-	602	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.3	25.9	0.2	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	947	-	-	240	210	859	-	-
HCM Lane V/C Ratio	0.011	-	-	0.181	0.181	0.013	-	-
HCM Control Delay (s)	8.8	0.1	-	23.3	25.9	9.2	0.1	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.6	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	10	10	15	10	10	15	10	660	10	10	565	10
Future Vol, veh/h	10	10	15	10	10	15	10	660	10	10	565	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	16	11	11	16	11	717	11	11	614	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1028	1392	313	1080	1392	364	625	0	0	728	0	0
Stage 1	642	642	-	745	745	-	-	-	-	-	-	-
Stage 2	386	750	-	335	647	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	188	141	683	172	141	633	952	-	-	871	-	-
Stage 1	429	467	-	372	419	-	-	-	-	-	-	-
Stage 2	609	417	-	653	465	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	167	136	683	153	136	633	952	-	-	871	-	-
Mov Cap-2 Maneuver	167	136	-	153	136	-	-	-	-	-	-	-
Stage 1	421	458	-	365	411	-	-	-	-	-	-	-
Stage 2	567	409	-	610	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.2	25.3	0.2	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	952	-	-	225	215	871	-	-
HCM Lane V/C Ratio	0.011	-	-	0.169	0.177	0.012	-	-
HCM Control Delay (s)	8.8	0.1	-	24.2	25.3	9.2	0.1	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	15	675	10	10	575
Future Vol, veh/h	10	15	675	10	10	575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	16	734	11	11	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1075	373	0	0	745	0
Stage 1	740	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	214	624	-	-	859	-
Stage 1	433	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	210	624	-	-	859	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	349	859	-
HCM Lane V/C Ratio	-	-	0.078	0.013	-
HCM Control Delay (s)	-	-	16.2	9.2	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	5	10	715	705	10
Future Vol, veh/h	10	5	10	715	705	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	5	11	777	766	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1183	389	777	0	-	0
Stage 1	772	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	182	610	835	-	-	-
Stage 1	416	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	178	610	835	-	-	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	835	-	233	-	-
HCM Lane V/C Ratio	0.013	-	0.07	-	-
HCM Control Delay (s)	9.4	0.1	21.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	5	710	700	10
Future Vol, veh/h	20	10	5	710	700	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	5	772	761	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1163	386	772	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	188	612	839	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	186	612	839	-	-	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	839	-	242	-	-
HCM Lane V/C Ratio	0.006	-	0.135	-	-
HCM Control Delay (s)	9.3	0	22.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	710	10	20	700
Future Vol, veh/h	15	10	710	10	20	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	11	772	11	22	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1203	392	0	0	783	0
Stage 1	778	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	177	607	-	-	831	-
Stage 1	413	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	607	-	-	831	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	238	831	-
HCM Lane V/C Ratio	-	-	0.114	0.026	-
HCM Control Delay (s)	-	-	22.1	9.4	0.2
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	720	10	10	720
Future Vol, veh/h	10	10	720	10	10	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	783	11	11	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1203	397	0	0	794	0
Stage 1	789	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	177	602	-	-	823	-
Stage 1	408	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	173	602	-	-	823	-
Mov Cap-2 Maneuver	173	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.6	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	269	823	-
HCM Lane V/C Ratio	-	-	0.081	0.013	-
HCM Control Delay (s)	-	-	19.6	9.4	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	5	20	700	720	10
Future Vol, veh/h	20	5	20	700	720	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	5	22	761	783	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1214	397	794	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	174	602	823	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	166	602	823	-	-	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	389	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	823	-	194	-	-
HCM Lane V/C Ratio	0.026	-	0.14	-	-
HCM Control Delay (s)	9.5	0.2	26.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	700	10	10	720
Future Vol, veh/h	5	10	700	10	10	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	761	11	11	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1181	386	0	0	772	0
Stage 1	767	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	183	612	-	-	839	-
Stage 1	419	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	179	612	-	-	839	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	839	-
HCM Lane V/C Ratio	-	-	0.048	0.013	-
HCM Control Delay (s)	-	-	16.2	9.3	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	710	10	10	735
Future Vol, veh/h	5	10	710	10	10	735
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	772	11	11	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1200	392	0	0	783	0
Stage 1	778	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	178	607	-	-	831	-
Stage 1	413	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	174	607	-	-	831	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	332	831	-
HCM Lane V/C Ratio	-	-	0.049	0.013	-
HCM Control Delay (s)	-	-	16.4	9.4	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	10	10	15	10	10	10	10	670	20	10	735	10
Future Vol, veh/h	10	10	15	10	10	10	10	670	20	10	735	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	16	11	11	11	11	728	22	11	799	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1219	1599	405	1188	1593	375	810	0	0	750	0	0
Stage 1	827	827	-	761	761	-	-	-	-	-	-	-
Stage 2	392	772	-	427	832	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	136	105	595	144	106	623	812	-	-	855	-	-
Stage 1	332	384	-	364	412	-	-	-	-	-	-	-
Stage 2	604	407	-	576	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	100	595	124	101	623	812	-	-	855	-	-
Mov Cap-2 Maneuver	118	100	-	124	101	-	-	-	-	-	-	-
Stage 1	324	375	-	356	403	-	-	-	-	-	-	-
Stage 2	564	398	-	531	373	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.8	34.8	0.2	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	812	-	-	167	153	855	-	-
HCM Lane V/C Ratio	0.013	-	-	0.228	0.213	0.013	-	-
HCM Control Delay (s)	9.5	0.1	-	32.8	34.8	9.3	0.1	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	680	745	10
Future Vol, veh/h	10	10	10	680	745	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	739	810	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1208	411	821	0	-	0
Stage 1	816	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	176	590	804	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	172	590	804	-	-	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	386	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	804	-	266	-	-
HCM Lane V/C Ratio	0.014	-	0.082	-	-
HCM Control Delay (s)	9.5	0.1	19.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	10	15	660	15	10	735	10
Future Vol, veh/h	10	10	10	10	10	10	15	660	15	10	735	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	11	11	11	16	717	16	11	799	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1223	1592	405	1184	1589	367	810	0	0	733	0	0
Stage 1	827	827	-	757	757	-	-	-	-	-	-	-
Stage 2	396	765	-	427	832	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	135	106	595	145	107	630	812	-	-	868	-	-
Stage 1	332	384	-	366	414	-	-	-	-	-	-	-
Stage 2	601	410	-	576	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	100	595	125	101	630	812	-	-	868	-	-
Mov Cap-2 Maneuver	117	100	-	125	101	-	-	-	-	-	-	-
Stage 1	321	375	-	354	400	-	-	-	-	-	-	-
Stage 2	556	396	-	536	373	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.1	34.5	0.4	0.2
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	812	-	-	148	154	868	-	-
HCM Lane V/C Ratio	0.02	-	-	0.22	0.212	0.013	-	-
HCM Control Delay (s)	9.5	0.2	-	36.1	34.5	9.2	0.1	-
HCM Lane LOS	A	A	-	E	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.8	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	20	10	20	10	10	640	30	20	725	10
Future Vol, veh/h	10	10	20	10	20	10	10	640	30	20	725	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	11	22	11	11	696	33	22	788	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1219	1589	400	1179	1578	365	799	0	0	729	0	0
Stage 1	838	838	-	735	735	-	-	-	-	-	-	-
Stage 2	381	751	-	444	843	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	136	107	600	146	108	632	819	-	-	871	-	-
Stage 1	327	380	-	377	424	-	-	-	-	-	-	-
Stage 2	613	416	-	563	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	106	100	600	122	101	632	819	-	-	871	-	-
Mov Cap-2 Maneuver	106	100	-	122	101	-	-	-	-	-	-	-
Stage 1	319	363	-	368	414	-	-	-	-	-	-	-
Stage 2	558	406	-	502	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32	43.8	0.2	0.4
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	819	-	-	176	135	871	-	-
HCM Lane V/C Ratio	0.013	-	-	0.247	0.322	0.025	-	-
HCM Control Delay (s)	9.5	0.1	-	32	43.8	9.2	0.2	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	1.3	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	650	10	10	745
Future Vol, veh/h	10	10	650	10	10	745
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	707	11	11	810

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1140	359	0	0	718	0
Stage 1	713	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	194	638	-	-	879	-
Stage 1	447	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	190	638	-	-	879	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	293	879	-
HCM Lane V/C Ratio	-	-	0.074	0.012	-
HCM Control Delay (s)	-	-	18.3	9.1	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Arterial Level of Service: NB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
75th St	III	35	5.0	32.4	37.4	0.03	3.3	F
71st St	III	35	60.8	5.8	66.6	0.51	27.4	B
67th St	III	35	61.1	7.6	68.7	0.51	26.7	B
Total	III		126.9	45.8	172.7	1.05	21.9	C

Arterial Level of Service: SB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
67th St	III	35	35.0	10.0	45.0	0.29	23.3	C
71st St	III	35	61.1	3.5	64.6	0.51	28.4	B
75th St	III	35	60.8	39.1	99.9	0.51	18.3	C
Total	III		156.9	52.6	209.5	1.31	22.5	C

Arterial Level of Service: NB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
75th St	III	35	5.0	31.8	36.8	0.03	3.4	F
71st St	III	35	60.8	6.7	67.5	0.51	27.0	B
67th St	III	35	61.1	6.3	67.4	0.51	27.2	B
Total	III		126.9	44.8	171.7	1.05	22.0	C

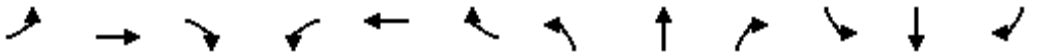
Arterial Level of Service: SB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
67th St	III	35	35.0	12.4	47.4	0.29	22.1	C
71st St	III	35	61.1	5.3	66.4	0.51	27.6	B
75th St	III	35	60.8	58.8	119.6	0.51	15.2	D
Total	III		156.9	76.5	233.4	1.31	20.2	C

Appendix D – Proposed 3-Lane Corridor Reports

See attached reports.

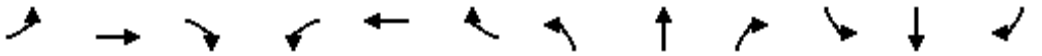
- Signalized Intersections
- Two-Way Stop Control (TWSC) Intersections
- Arterial LOS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	650	90	80	650	110	80	500	60	115	450	100
Future Volume (veh/h)	100	650	90	80	650	110	80	500	60	115	450	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	707	98	87	707	120	87	543	65	125	489	109
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	780	108	111	743	126	111	644	546	139	673	570
Arrive On Green	0.07	0.25	0.25	0.06	0.24	0.24	0.06	0.34	0.34	0.08	0.36	0.36
Sat Flow, veh/h	1781	3135	434	1781	3039	515	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	109	401	404	87	413	414	87	543	65	125	489	109
Grp Sat Flow(s),veh/h/ln	1781	1777	1792	1781	1777	1778	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.5	19.7	19.7	4.3	20.6	20.6	4.3	24.1	2.5	6.3	20.4	4.3
Cycle Q Clear(g_c), s	5.5	19.7	19.7	4.3	20.6	20.6	4.3	24.1	2.5	6.3	20.4	4.3
Prop In Lane	1.00		0.24	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	442	446	111	434	435	111	644	546	139	673	570
V/C Ratio(X)	0.92	0.91	0.91	0.78	0.95	0.95	0.78	0.84	0.12	0.90	0.73	0.19
Avail Cap(c_a), veh/h	119	442	446	119	434	435	139	644	546	139	673	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	32.8	32.8	41.6	33.5	33.5	41.6	27.3	20.2	41.2	25.0	19.8
Incr Delay (d2), s/veh	57.7	22.0	22.1	26.7	31.0	31.2	20.1	12.7	0.4	48.4	6.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	10.8	10.9	2.7	12.2	12.3	2.5	12.4	1.0	4.5	9.8	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.4	54.8	54.9	68.3	64.5	64.7	61.6	40.0	20.6	89.5	31.7	20.6
LnGrp LOS	F	D	D	E	E	E	E	D	C	F	C	C
Approach Vol, veh/h		914			914			695			723	
Approach Delay, s/veh		60.2			64.9			40.9			40.0	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	37.0	11.6	28.4	11.6	38.4	12.0	28.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	31.0	6.0	22.0	7.0	31.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	8.3	26.1	6.3	21.7	6.3	22.4	7.5	22.6
Green Ext Time (p_c), s	0.0	1.6	0.0	0.2	0.0	2.2	0.0	0.0

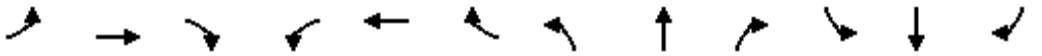
Intersection Summary	
HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	125	35	30	150	40	35	610	15	50	540	20
Future Volume (veh/h)	40	125	35	30	150	40	35	610	15	50	540	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	136	38	33	163	43	38	663	16	54	587	22
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	240	67	179	243	64	645	1302	1103	483	1302	1103
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	1176	1407	393	1211	1426	376	812	1870	1585	761	1870	1585
Grp Volume(v), veh/h	43	0	174	33	0	206	38	663	16	54	587	22
Grp Sat Flow(s),veh/h/ln	1176	0	1800	1211	0	1803	812	1870	1585	761	1870	1585
Q Serve(g_s), s	3.2	0.0	8.0	2.3	0.0	9.6	1.3	15.0	0.3	1.7	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	8.0	10.3	0.0	9.6	1.3	15.0	0.3	16.7	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	307	179	0	308	645	1302	1103	483	1302	1103
V/C Ratio(X)	0.28	0.00	0.57	0.18	0.00	0.67	0.06	0.51	0.01	0.11	0.45	0.02
Avail Cap(c_a), veh/h	229	0	420	255	0	421	645	1302	1103	483	1302	1103
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	34.3	39.0	0.0	34.9	4.4	6.4	4.2	2.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.6	0.5	0.0	2.5	0.2	1.4	0.0	0.5	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	3.6	0.7	0.0	4.4	0.2	5.1	0.1	0.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	35.9	39.5	0.0	37.5	4.5	7.9	4.2	2.5	1.1	0.0
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		217			239			717			663	
Approach Delay, s/veh		37.1			37.7			7.6			1.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.6		21.4		68.6		21.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		57.0		21.0		57.0		21.0				
Max Q Clear Time (g_c+I1), s		17.0		14.8		18.7		12.3				
Green Ext Time (p_c), s		5.5		0.5		4.8		0.8				

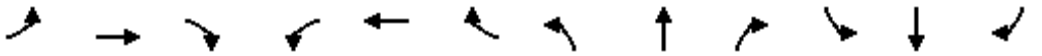
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	40	45	50	50	25	50	600	40	35	490	10
Future Volume (veh/h)	20	40	45	50	50	25	50	600	40	35	490	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	43	49	54	54	27	54	652	43	38	533	11
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	89	101	159	131	65	596	1212	1027	632	1196	1014
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.10	1.00	1.00	0.04	0.64	0.64
Sat Flow, veh/h	1317	798	909	1304	1176	588	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	22	0	92	54	0	81	54	652	43	38	533	11
Grp Sat Flow(s),veh/h/ln	1317	0	1707	1304	0	1764	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.4	0.0	4.6	3.7	0.0	3.8	0.9	0.0	0.0	0.6	12.9	0.2
Cycle Q Clear(g_c), s	5.3	0.0	4.6	8.2	0.0	3.8	0.9	0.0	0.0	0.6	12.9	0.2
Prop In Lane	1.00		0.53	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	0	190	159	0	196	596	1212	1027	632	1196	1014
V/C Ratio(X)	0.13	0.00	0.49	0.34	0.00	0.41	0.09	0.54	0.04	0.06	0.45	0.01
Avail Cap(c_a), veh/h	170	0	190	159	0	196	626	1212	1027	678	1196	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	37.6	41.4	0.0	37.3	5.2	0.0	0.0	4.7	8.2	5.9
Incr Delay (d2), s/veh	0.3	0.0	1.9	1.3	0.0	1.4	0.1	1.7	0.1	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.0	1.2	0.0	1.7	0.3	0.6	0.0	0.2	4.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	0.0	39.5	42.7	0.0	38.7	5.3	1.7	0.1	4.7	9.4	5.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		114			135			749			582	
Approach Delay, s/veh		39.6			40.3			1.9			9.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	64.3		16.0	10.4	63.6		16.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	56.0		10.0	6.0	56.0		10.0				
Max Q Clear Time (g_c+I1), s	2.6	2.0		7.3	2.9	14.9		10.2				
Green Ext Time (p_c), s	0.0	5.2		0.1	0.0	3.8		0.0				

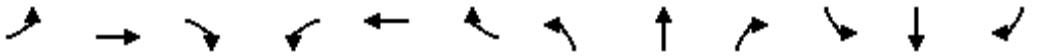
Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	705	80	85	840	100	90	580	55	110	475	125
Future Volume (veh/h)	140	705	80	85	840	100	90	580	55	110	475	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	766	87	92	913	109	98	630	60	120	516	136
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	945	107	117	817	98	125	574	487	119	568	481
Arrive On Green	0.10	0.29	0.29	0.07	0.26	0.26	0.07	0.31	0.31	0.07	0.30	0.30
Sat Flow, veh/h	1781	3216	365	1781	3197	382	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	152	423	430	92	507	515	98	630	60	120	516	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1805	1781	1777	1802	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.5	19.9	19.9	4.6	23.0	23.0	4.9	27.6	2.5	6.0	23.9	5.9
Cycle Q Clear(g_c), s	7.5	19.9	19.9	4.6	23.0	23.0	4.9	27.6	2.5	6.0	23.9	5.9
Prop In Lane	1.00		0.20	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	522	530	117	454	460	125	574	487	119	568	481
V/C Ratio(X)	0.82	0.81	0.81	0.78	1.12	1.12	0.79	1.10	0.12	1.01	0.91	0.28
Avail Cap(c_a), veh/h	218	533	541	139	454	460	158	574	487	119	568	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	29.5	29.5	41.4	33.5	33.5	41.2	31.2	22.5	42.0	30.1	23.9
Incr Delay (d2), s/veh	18.9	9.0	8.9	21.6	78.3	78.1	18.0	66.8	0.5	85.4	20.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	9.4	9.5	2.7	19.3	19.6	2.7	22.4	1.0	5.4	13.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	38.5	38.4	63.0	111.8	111.6	59.2	97.9	23.0	127.4	51.0	25.3
LnGrp LOS	E	D	D	E	F	F	E	F	C	F	D	C
Approach Vol, veh/h		1005			1114			788			772	
Approach Delay, s/veh		41.5			107.7			87.4			58.3	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.6	11.9	32.4	12.3	33.3	15.4	29.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	6.0	26.0	7.0	27.0	8.0	24.0	11.0	23.0
Max Q Clear Time (g_c+I1), s	8.0	29.6	6.6	21.9	6.9	25.9	9.5	25.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	0.0	0.1	0.0

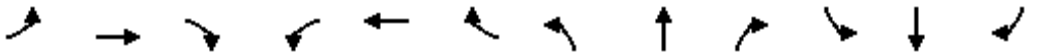
Intersection Summary	
HCM 6th Ctrl Delay	74.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	160	45	30	190	30	55	645	20	60	670	30
Future Volume (veh/h)	25	160	45	30	190	30	55	645	20	60	670	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	174	49	33	207	33	60	701	22	65	728	33
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	255	72	156	286	46	563	1281	1086	442	1281	1086
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.68	0.68	0.68	1.00	1.00	1.00
Sat Flow, veh/h	1140	1404	395	1158	1574	251	705	1870	1585	730	1870	1585
Grp Volume(v), veh/h	27	0	223	33	0	240	60	701	22	65	728	33
Grp Sat Flow(s),veh/h/ln	1140	0	1799	1158	0	1825	705	1870	1585	730	1870	1585
Q Serve(g_s), s	2.1	0.0	10.4	2.5	0.0	11.1	2.6	17.0	0.4	2.5	0.0	0.0
Cycle Q Clear(g_c), s	13.2	0.0	10.4	12.9	0.0	11.1	2.6	17.0	0.4	19.5	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	0	327	156	0	332	563	1281	1086	442	1281	1086
V/C Ratio(X)	0.18	0.00	0.68	0.21	0.00	0.72	0.11	0.55	0.02	0.15	0.57	0.03
Avail Cap(c_a), veh/h	319	0	600	332	0	608	563	1281	1086	442	1281	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	34.4	40.4	0.0	34.7	4.9	7.1	4.5	2.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	2.5	0.7	0.0	3.0	0.4	1.7	0.0	0.7	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.7	0.7	0.0	5.1	0.4	6.0	0.1	0.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	0.0	36.9	41.1	0.0	37.7	5.3	8.8	4.6	3.4	1.8	0.1
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		250			273			783			826	
Approach Delay, s/veh		37.4			38.1			8.4			1.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.6		22.4		67.6		22.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		48.0		30.0		48.0		30.0				
Max Q Clear Time (g_c+I1), s		19.0		15.2		21.5		14.9				
Green Ext Time (p_c), s		5.9		1.2		6.2		1.3				

Intersection Summary												
HCM 6th Ctrl Delay			13.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	50	40	40	45	20	50	575	35	35	675	20
Future Volume (veh/h)	15	50	40	40	45	20	50	575	35	35	675	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	54	43	43	49	22	54	625	38	38	734	22
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	106	84	154	134	60	458	1215	1030	648	1199	1016
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.10	1.00	1.00	0.04	0.64	0.64
Sat Flow, veh/h	1329	964	768	1298	1223	549	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	16	0	97	43	0	71	54	625	38	38	734	22
Grp Sat Flow(s),veh/h/ln	1329	0	1732	1298	0	1772	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.0	0.0	4.8	2.9	0.0	3.3	0.9	0.0	0.0	0.6	20.9	0.5
Cycle Q Clear(g_c), s	4.4	0.0	4.8	7.7	0.0	3.3	0.9	0.0	0.0	0.6	20.9	0.5
Prop In Lane	1.00		0.44	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	0	190	154	0	194	458	1215	1030	648	1199	1016
V/C Ratio(X)	0.09	0.00	0.51	0.28	0.00	0.37	0.12	0.51	0.04	0.06	0.61	0.02
Avail Cap(c_a), veh/h	282	0	327	257	0	335	746	1215	1030	753	1199	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	37.8	41.4	0.0	37.2	6.7	0.0	0.0	4.7	9.5	5.9
Incr Delay (d2), s/veh	0.2	0.0	2.1	1.0	0.0	1.2	0.1	1.6	0.1	0.0	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.1	1.0	0.0	1.5	0.3	0.5	0.0	0.2	7.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	0.0	39.9	42.4	0.0	38.3	6.8	1.6	0.1	4.7	11.9	5.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	B	A
Approach Vol, veh/h		113			114			717			794	
Approach Delay, s/veh		39.9			39.9			1.9			11.4	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	64.5		15.9	10.4	63.7		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	46.0		17.0	19.0	36.0		17.0				
Max Q Clear Time (g_c+I1), s	2.6	2.0		6.8	2.9	22.9		9.7				
Green Ext Time (p_c), s	0.0	4.8		0.3	0.1	4.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		11.2	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	660	655	10
Future Vol, veh/h	10	10	10	660	655	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	717	712	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1457	718	723	0	-	0
Stage 1	718	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	143	429	879	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	141	429	879	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	879	-	340	-	-
HCM Lane V/C Ratio	0.012	-	0.064	-	-
HCM Control Delay (s)	9.1	-	16.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	10	650	635	10
Future Vol, veh/h	20	10	10	650	635	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	11	707	690	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1425	696	701	0	-	0
Stage 1	696	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	149	442	896	-	-	-
Stage 1	495	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	147	442	896	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	896	-	325	-	-
HCM Lane V/C Ratio	0.012	-	0.1	-	-
HCM Control Delay (s)	9.1	-	17.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	650	10	10	635
Future Vol, veh/h	20	10	650	10	10	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	707	11	11	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1425	713	0	0	718	0
Stage 1	713	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	149	432	-	-	883	-
Stage 1	486	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	147	432	-	-	883	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.4	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	324	883	-
HCM Lane V/C Ratio	-	-	0.101	0.012	-
HCM Control Delay (s)	-	-	17.4	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	660	10	10	640
Future Vol, veh/h	15	10	660	10	10	640
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	11	717	11	11	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1441	723	0	0	728	0
Stage 1	723	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	146	426	-	-	876	-
Stage 1	481	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	144	426	-	-	876	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	328	876	-
HCM Lane V/C Ratio	-	-	0.083	0.012	-
HCM Control Delay (s)	-	-	17	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	10	650	600	10
Future Vol, veh/h	20	25	10	650	600	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	27	11	707	652	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1387	658	663	0	-	0
Stage 1	658	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	158	464	926	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	156	464	926	-	-	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	926	-	371	-	-
HCM Lane V/C Ratio	0.012	-	0.132	-	-
HCM Control Delay (s)	8.9	-	16.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	5	650	20	5	600
Future Vol, veh/h	35	5	650	20	5	600
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	5	707	22	5	652

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1380	718	0	0	729	0
Stage 1	718	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	159	429	-	-	875	-
Stage 1	483	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	158	429	-	-	875	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	310	875	-
HCM Lane V/C Ratio	-	-	0.14	0.006	-
HCM Control Delay (s)	-	-	18.5	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	5	655	10	5	600
Future Vol, veh/h	15	5	655	10	5	600
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	5	712	11	5	652

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1380	718	0	0	723	0
Stage 1	718	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	159	429	-	-	879	-
Stage 1	483	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	158	429	-	-	879	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	323	879	-
HCM Lane V/C Ratio	-	-	0.067	0.006	-
HCM Control Delay (s)	-	-	16.9	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	10	20	10	15	10	670	10	10	580	10
Future Vol, veh/h	10	10	10	20	10	15	10	670	10	10	580	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	22	11	16	11	728	11	11	630	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1427	1419	636	1425	1419	734	641	0	0	739	0	0
Stage 1	658	658	-	756	756	-	-	-	-	-	-	-
Stage 2	769	761	-	669	663	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	113	137	478	113	137	420	943	-	-	867	-	-
Stage 1	453	461	-	400	416	-	-	-	-	-	-	-
Stage 2	394	414	-	447	459	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	100	134	478	102	134	420	943	-	-	867	-	-
Mov Cap-2 Maneuver	100	134	-	102	134	-	-	-	-	-	-	-
Stage 1	448	455	-	395	411	-	-	-	-	-	-	-
Stage 2	364	409	-	421	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.8	41.2	0.1	0.2
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	943	-	-	153	147	867	-	-
HCM Lane V/C Ratio	0.012	-	-	0.213	0.333	0.013	-	-
HCM Control Delay (s)	8.9	-	-	34.8	41.2	9.2	-	-
HCM Lane LOS	A	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	1.3	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	685	590	10
Future Vol, veh/h	10	10	10	685	590	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	745	641	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1414	647	652	0	-	0
Stage 1	647	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	152	471	935	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	150	471	935	-	-	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	358	-	-
HCM Lane V/C Ratio	0.012	-	0.061	-	-
HCM Control Delay (s)	8.9	-	15.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	10	10	20	10	10	15	10	655	30	10	570	10
Future Vol, veh/h	10	10	20	10	10	15	10	655	30	10	570	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	11	11	16	11	712	33	11	620	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1412	1415	626	1415	1404	729	631	0	0	745	0	0
Stage 1	648	648	-	751	751	-	-	-	-	-	-	-
Stage 2	764	767	-	664	653	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	137	484	115	140	423	951	-	-	863	-	-
Stage 1	459	466	-	403	418	-	-	-	-	-	-	-
Stage 2	396	411	-	450	464	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	134	484	101	137	423	951	-	-	863	-	-
Mov Cap-2 Maneuver	103	134	-	101	137	-	-	-	-	-	-	-
Stage 1	453	460	-	398	413	-	-	-	-	-	-	-
Stage 2	366	406	-	414	458	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.8	32.4	0.1	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	951	-	-	188	169	863	-	-
HCM Lane V/C Ratio	0.011	-	-	0.231	0.225	0.013	-	-
HCM Control Delay (s)	8.8	-	-	29.8	32.4	9.2	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.8	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	15	10	10	15	10	660	10	10	565	10
Future Vol, veh/h	10	10	15	10	10	15	10	660	10	10	565	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	16	11	11	16	11	717	11	11	614	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1400	1392	620	1400	1392	723	625	0	0	728	0	0
Stage 1	642	642	-	745	745	-	-	-	-	-	-	-
Stage 2	758	750	-	655	647	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	118	142	488	118	142	426	956	-	-	876	-	-
Stage 1	463	469	-	406	421	-	-	-	-	-	-	-
Stage 2	399	419	-	455	467	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	138	488	105	138	426	956	-	-	876	-	-
Mov Cap-2 Maneuver	105	138	-	105	138	-	-	-	-	-	-	-
Stage 1	457	463	-	401	416	-	-	-	-	-	-	-
Stage 2	369	414	-	424	461	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31	31.8	0.1	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	176	172	876	-	-
HCM Lane V/C Ratio	0.011	-	-	0.216	0.221	0.012	-	-
HCM Control Delay (s)	8.8	-	-	31	31.8	9.2	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	15	675	10	10	575
Future Vol, veh/h	10	15	675	10	10	575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	16	734	11	11	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1387	740	0	0	745	0
Stage 1	740	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	158	417	-	-	863	-
Stage 1	472	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	156	417	-	-	863	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	472	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	358	863	-
HCM Lane V/C Ratio	-	-	0.076	0.013	-
HCM Control Delay (s)	-	-	15.9	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	5	10	715	705	10
Future Vol, veh/h	10	5	10	715	705	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	5	11	777	766	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1571	772	777	0	-	0
Stage 1	772	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	122	400	839	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	400	839	-	-	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	443	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	839	-	293	-	-
HCM Lane V/C Ratio	0.013	-	0.056	-	-
HCM Control Delay (s)	9.3	-	18	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	10	5	710	700	10
Future Vol, veh/h	20	10	5	710	700	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	5	772	761	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1549	767	772	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	125	402	843	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	124	402	843	-	-	-
Mov Cap-2 Maneuver	263	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	843	-	297	-	-
HCM Lane V/C Ratio	0.006	-	0.11	-	-
HCM Control Delay (s)	9.3	-	18.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	710	10	20	700
Future Vol, veh/h	15	10	710	10	20	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	11	772	11	22	761

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1583	778	0	0	783	0
Stage 1	778	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	120	396	-	-	835	-
Stage 1	453	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	396	-	-	835	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	297	835	-
HCM Lane V/C Ratio	-	-	0.091	0.026	-
HCM Control Delay (s)	-	-	18.3	9.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	720	10	10	720
Future Vol, veh/h	10	10	720	10	10	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	783	11	11	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1594	789	0	0	794	0
Stage 1	789	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	118	391	-	-	827	-
Stage 1	448	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	391	-	-	827	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	827	-
HCM Lane V/C Ratio	-	-	0.071	0.013	-
HCM Control Delay (s)	-	-	17.6	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	5	20	700	720	10
Future Vol, veh/h	20	5	20	700	720	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	5	22	761	783	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1594	789	794	0	-	0
Stage 1	789	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	118	391	827	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	115	391	827	-	-	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	827	-	271	-	-
HCM Lane V/C Ratio	0.026	-	0.1	-	-
HCM Control Delay (s)	9.5	-	19.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	700	10	10	720
Future Vol, veh/h	5	10	700	10	10	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	761	11	11	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1572	767	0	0	772	0
Stage 1	767	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	121	402	-	-	843	-
Stage 1	458	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	119	402	-	-	843	-
Mov Cap-2 Maneuver	258	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	843	-
HCM Lane V/C Ratio	-	-	0.048	0.013	-
HCM Control Delay (s)	-	-	16.2	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	10	710	10	10	735
Future Vol, veh/h	5	10	710	10	10	735
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	772	11	11	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1599	778	0	0	783	0
Stage 1	778	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	117	396	-	-	835	-
Stage 1	453	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	115	396	-	-	835	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	426	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	835	-
HCM Lane V/C Ratio	-	-	0.049	0.013	-
HCM Control Delay (s)	-	-	16.4	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑		↰	↑	
Traffic Vol, veh/h	10	10	15	10	10	10	10	670	20	10	735	10
Future Vol, veh/h	10	10	15	10	10	10	10	670	20	10	735	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	16	11	11	11	11	728	22	11	799	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1599	1599	805	1601	1593	739	810	0	0	750	0	0
Stage 1	827	827	-	761	761	-	-	-	-	-	-	-
Stage 2	772	772	-	840	832	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	86	106	382	85	107	417	816	-	-	859	-	-
Stage 1	366	386	-	398	414	-	-	-	-	-	-	-
Stage 2	392	409	-	360	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	76	103	382	73	104	417	816	-	-	859	-	-
Mov Cap-2 Maneuver	76	103	-	73	104	-	-	-	-	-	-	-
Stage 1	361	381	-	393	409	-	-	-	-	-	-	-
Stage 2	367	404	-	331	379	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	43.4	47.3	0.1	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	816	-	-	131	117	859	-	-
HCM Lane V/C Ratio	0.013	-	-	0.29	0.279	0.013	-	-
HCM Control Delay (s)	9.5	-	-	43.4	47.3	9.2	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1.1	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	10	680	745	10
Future Vol, veh/h	10	10	10	680	745	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	11	739	810	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1577	816	821	0	-	0
Stage 1	816	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	121	377	808	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	119	377	808	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	461	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	808	-	306	-	-
HCM Lane V/C Ratio	0.013	-	0.071	-	-
HCM Control Delay (s)	9.5	-	17.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	10	10	10	10	15	660	15	10	735	10
Future Vol, veh/h	10	10	10	10	10	10	15	660	15	10	735	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	11	11	11	11	16	717	16	11	799	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1595	1592	805	1595	1589	725	810	0	0	733	0	0
Stage 1	827	827	-	757	757	-	-	-	-	-	-	-
Stage 2	768	765	-	838	832	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	86	107	382	86	108	425	816	-	-	872	-	-
Stage 1	366	386	-	400	416	-	-	-	-	-	-	-
Stage 2	394	412	-	361	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	103	382	75	104	425	816	-	-	872	-	-
Mov Cap-2 Maneuver	75	103	-	75	104	-	-	-	-	-	-	-
Stage 1	359	381	-	392	408	-	-	-	-	-	-	-
Stage 2	366	404	-	336	379	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.3	46.3	0.2	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	816	-	-	117	119	872	-	-
HCM Lane V/C Ratio	0.02	-	-	0.279	0.274	0.012	-	-
HCM Control Delay (s)	9.5	-	-	47.3	46.3	9.2	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	1	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	10	20	10	20	10	10	640	30	20	725	10
Future Vol, veh/h	10	10	20	10	20	10	10	640	30	20	725	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	22	11	22	11	11	696	33	22	788	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1589	1589	794	1589	1578	713	799	0	0	729	0	0
Stage 1	838	838	-	735	735	-	-	-	-	-	-	-
Stage 2	751	751	-	854	843	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	87	108	388	87	109	432	824	-	-	875	-	-
Stage 1	361	382	-	411	425	-	-	-	-	-	-	-
Stage 2	403	418	-	353	380	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	69	104	388	73	105	432	824	-	-	875	-	-
Mov Cap-2 Maneuver	69	104	-	73	105	-	-	-	-	-	-	-
Stage 1	356	372	-	406	419	-	-	-	-	-	-	-
Stage 2	368	413	-	315	371	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	43	54.8	0.1	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	824	-	-	137	114	875	-	-
HCM Lane V/C Ratio	0.013	-	-	0.317	0.381	0.025	-	-
HCM Control Delay (s)	9.4	-	-	43	54.8	9.2	-	-
HCM Lane LOS	A	-	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	1.6	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	650	10	10	745
Future Vol, veh/h	10	10	650	10	10	745
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	707	11	11	810

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1545	713	0	0	718	0
Stage 1	713	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	126	432	-	-	883	-
Stage 1	486	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	432	-	-	883	-
Mov Cap-2 Maneuver	262	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	422	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	326	883	-
HCM Lane V/C Ratio	-	-	0.067	0.012	-
HCM Control Delay (s)	-	-	16.8	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Arterial Level of Service: NB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
75th St	III	35	5.0	41.6	46.6	0.03	2.7	F
71st St	III	35	60.2	8.6	68.8	0.50	26.3	B
67th St	III	35	60.3	5.8	66.1	0.50	27.3	B
Total	III		125.5	56.0	181.5	1.04	20.6	C

Arterial Level of Service: SB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
67th St	III	35	34.9	8.9	43.8	0.29	23.9	C
71st St	III	35	60.3	5.4	65.7	0.50	27.5	B
75th St	III	35	60.2	31.9	92.1	0.50	19.6	C
Total	III		155.4	46.2	201.6	1.29	23.1	C

Arterial Level of Service: NB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
75th St	III	35	5.0	126.8	131.8	0.03	0.9	F
71st St	III	35	60.2	10.4	70.6	0.50	25.6	B
67th St	III	35	60.3	4.7	65.0	0.50	27.8	B
Total	III		125.5	141.9	267.4	1.04	14.0	E

Arterial Level of Service: SB Nall Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
67th St	III	35	34.9	12.0	46.9	0.29	22.3	C
71st St	III	35	60.3	7.0	67.3	0.50	26.9	B
75th St	III	35	60.2	58.8	119.0	0.50	15.2	D
Total	III		155.4	77.8	233.2	1.29	20.0	C