BEATRICE ELEMENTARY/MIDDLE SCHOOL
US-136 & ORANGE BOULEVARD
BEATRICE, NE

TRAFFIC IMPACT STUDY

PREPARED FOR
Beatrice Public Schools
320 N 5th Street
Beatrice, Nebraska

JULY 2015

OA PROJECT NO. 015-1225

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1.0 INTRODUCTION AND OBJECTIVE

This report documents results of traffic analyses conducted for Beatrice Public Schools (BPS) regarding a proposed Beatrice Elementary School and Middle School site west of 33rd Street between Lincoln Street and US-136 in Beatrice, Nebraska. A map showing the general location of the proposed Elementary and Middle School site is illustrated in **Figure 1**.

This traffic study was conducted to identify the expected trips that would be generated by the schools and to determine the effects of the proposed site on the surrounding roadway network. This study evaluates a scenario where the North leg of the US-136 and Orange Boulevard intersection is converted from a private drive into an access road for the proposed schools. Additionally, the proposed site plan assumes an access drive on Lincoln Street and two access drives on 33rd Street. Recommendations are included at the end of this report that help mitigate the traffic impacts.

2.0 DATA COLLECTION

The data collection effort included coordinating peak hour turning movement counts and documentation of current roadway geometrics and traffic control.

Intersection turning movement counts were conducted on Tuesday May 12th and Wednesday May 13th, 2015 at the following intersections:

- US-136 & Orange Boulevard
- US-136 & 33rd Street
- Lincoln Street/Kennedy Street & 33rd Street

The counts were conducted during the AM and PM peak periods of traffic flow (7:00 - 9:00 a.m. and 2:00 - 5:00 p.m.). The AM and PM peak hours of traffic at the intersection of US-136 & Orange Boulevard are 7:15 - 8:15 a.m. and 2:15 - 3:15 p.m., respectively. Average Daily Traffic (ADT) volumes from 2013 were obtained from the Nebraska Department of Roads (NDOR).

The High School senior students were already out of school as of data collection. In an effort to consider the additional student population not captured, peak hour volumes entering and exiting the school at Orange Boulevard were increased by 20%.

Existing Traffic Volumes (with the 20% increase) are shown on **Figure 2** and raw count data can be found in **Appendix A**.

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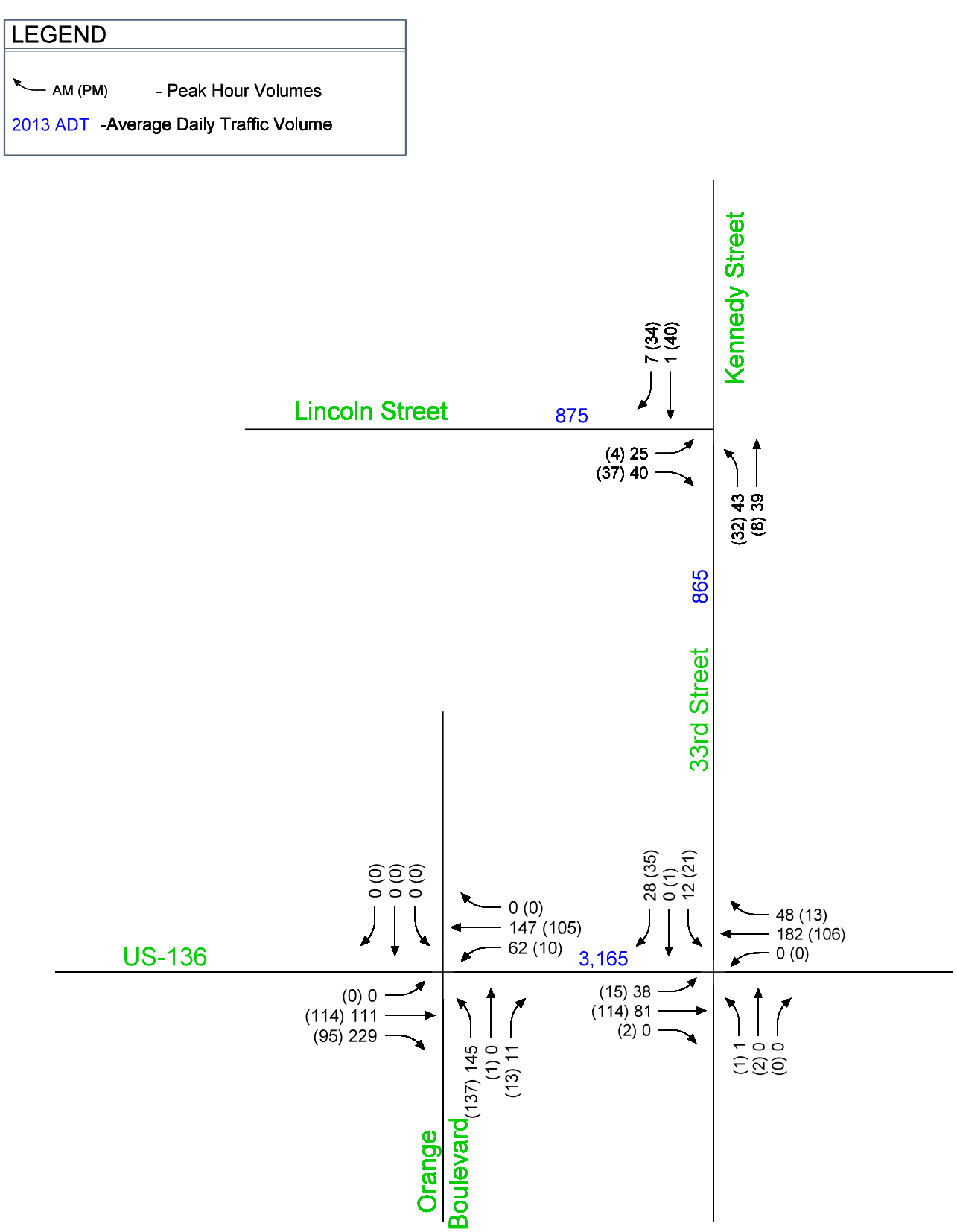
Vicinity Map

FIGURE 1



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Existing Peak Hour Volumes

FIGURE 2

3.0 EXISTING CONDITIONS

Year 2015 traffic conditions were evaluated to identify any existing deficiencies and to provide a baseline for comparison purposes.

3.1 Network Characteristics

There are four roadways within the study area: US-136, Lincoln Street, 33rd Street, and Kennedy Street. Current network characteristics are summarized in **Table 1** below. Data in this table was acquired from aerial photography and the NDOR Functional Classification Map for Gage County.

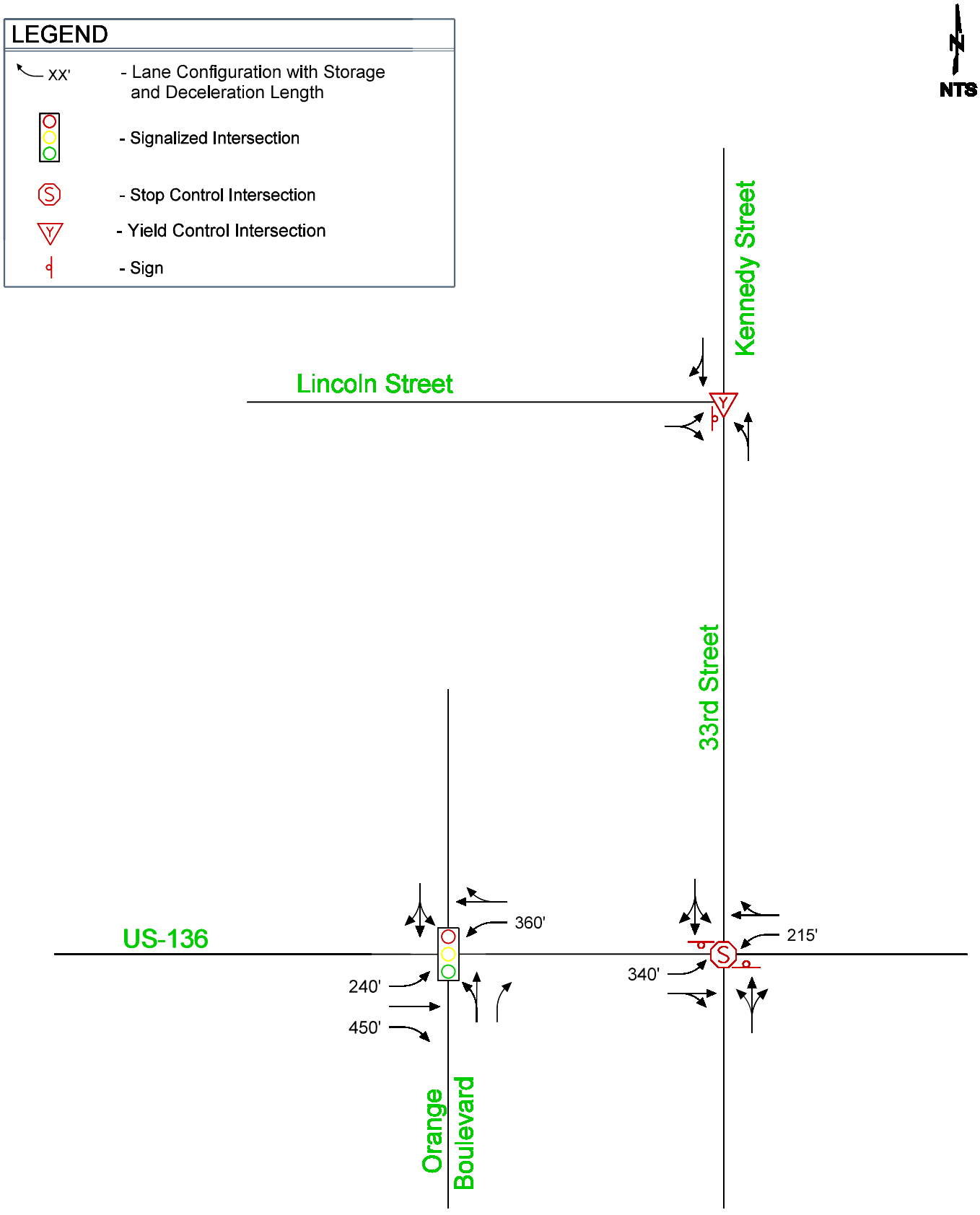
TABLE 1: EXISTING NETWORK SUMMARY

Roadway	Section	Median Type	Posted Speed	Functional Classification
US-136	2-Lane	None	45 mph	Major Arterial
Lincoln Street	2-Lane	None	35 mph	Other Arterial
33rd Street	2-Lane	None	None Posted	Local Road
Kennedy Street	2-Lane	None	15 mph	Local Road

The intersection of Orange Boulevard & US-136 operates under traffic signal control with exclusive lanes for eastbound left- and right-turning movements on US-136, northbound right-turning movements on Orange Boulevard, and westbound left-turning movements on US-136. The North side of the intersection is currently a drive to a private residence. Pedestrians are accommodated only by ramps and sidewalks on the west side of Orange Boulevard. Pedestrian push buttons and pedestrian signal heads exist for the crossing of US-136 on the west side of Orange Boulevard. However, no receiving ramps currently exist on the north side of US-136.

The intersection of US-136 & 33rd Street operates under stop control for 33rd Street with exclusive left-turn lanes on US-136. Neither US-136 nor 33rd Street have any pedestrian accommodations. The "T" intersection of 33rd Street & Lincoln Street operates under yield control and does not have any exclusive turn lanes or pedestrian accommodations.

Existing lane configurations and traffic control for the study network are illustrated in **Figure 3**.



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Existing Lane Configurations and Traffic Control

FIGURE 3

3.2 Existing Capacity Analysis Summary

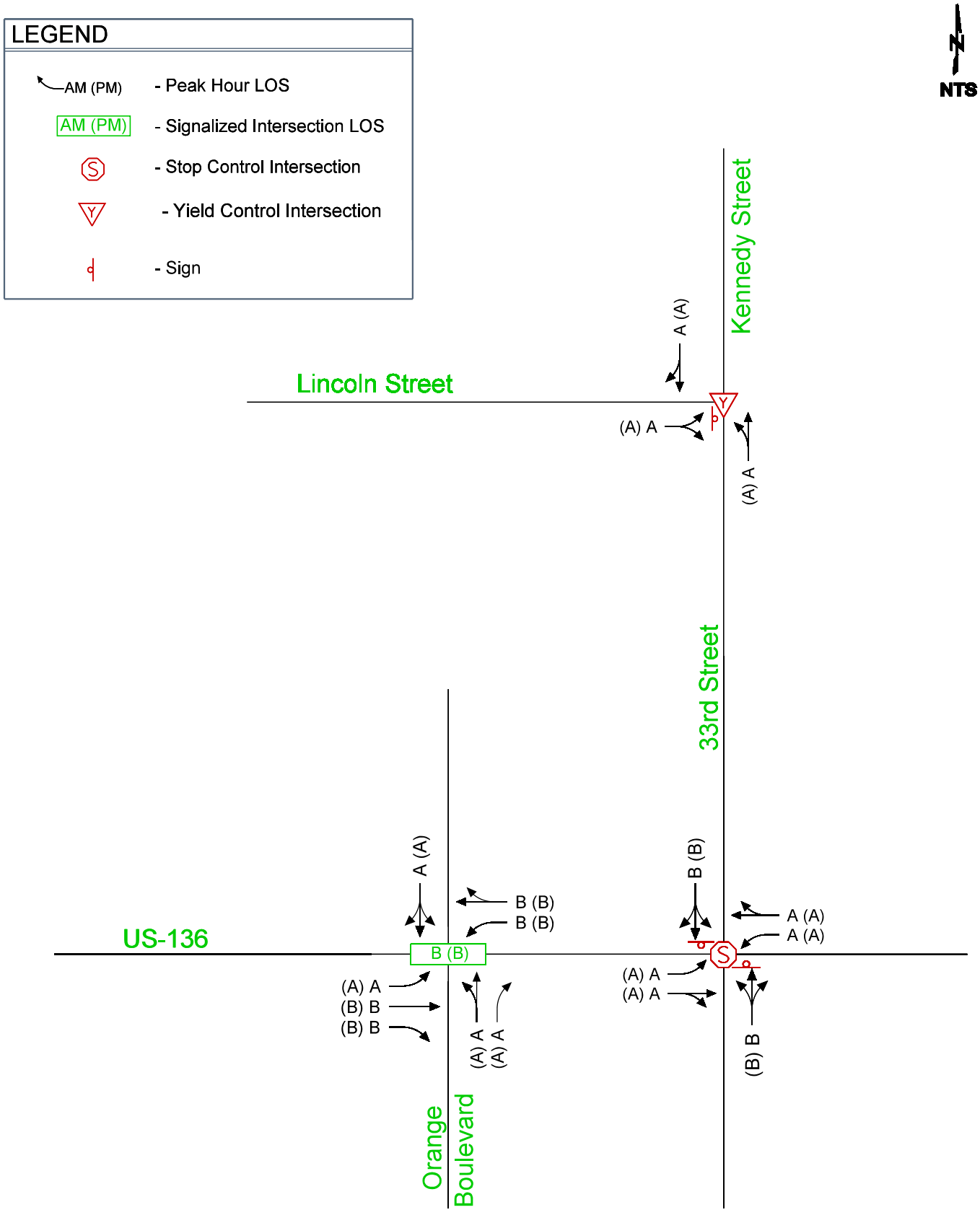
Capacity analyses were performed for all study intersections utilizing the existing lane configurations and traffic control. Analyses were conducted using Synchro, Version 9.0 which is based on the Highway Capacity Manual (HCM) delay methodologies. For simplicity, the amount of control delay is equated to a grade or Level of Service (LOS) based on thresholds of driver acceptance. The amount of delay is assigned a letter grade A through F, LOS A representing little or no delay and LOS F representing very high delay. **Table 2** shows the delays associated with each LOS grade for signalized and unsignalized intersections, respectively.

TABLE 2: INTERSECTION LOS CRITERIA

Level-of-Service	Average Control Delay (sec)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50
Highway Capacity Manual (HCM 2010)		

Results of the capacity analysis indicate that the signalized intersection of US-136 & Orange Boulevard operates at LOS B in the AM and PM peak hours. All individual movements at the intersection operate at LOS B or better in both peak hours. The 95th percentile queue length does not exceed available storage for any movement in both peak hours. For analysis purposes, a 60 second cycle was assumed with optimized phasing splits.

All movements at unsignalized intersections operate at LOS B or better during both peak hour periods. The Existing Conditions capacity analysis summary is illustrated in **Figure 4**. Detailed results are found in **Appendix B**.



OLSSON ASSOCIATES	Existing Conditions Capacity Analysis Summary	FIGURE 4

4.0 SITE CHARACTERISTICS

A single preferred site plan/layout was evaluated as part of this traffic study. At build-out the site would contain an Elementary School, Middle School, and multiple sports field facilities. The initial build plans for an Elementary School. This study however, looks at the conditions with both schools incorporated into the site.

The site plan includes four access points to the schools: a north leg to the US-136 & Orange Boulevard intersection, two full access driveways on 33rd Street, and a full access driveway on Lincoln Street. The site plan also includes a preliminary plan for access utilization, parking, and parent drop-off for the schools.

To determine the impact of potential site traffic on the roadway network, trips expected to be associated with the schools were generated and applied to the study network. The proposed site plan can be found in **Figure 5.**

4.1 Trip Generation

Based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual (9th Edition)*, trip generation characteristics were developed for the proposed site. The proposed site plan includes an Elementary School (ITE *Trip Generation Manual, 9th Edition* code 520) with 1,000 students and a Middle School (ITE *Trip Generation Manual, 9th Edition* code 522) with 430 students.

The Elementary School and Middle School combined are expected to generate 682 AM peak hour trips, 409 PM peak hour trips, and 1,987 daily trips. A summary of the expected number of daily, AM peak hour, and PM peak hour trips are shown in **Table 3**.

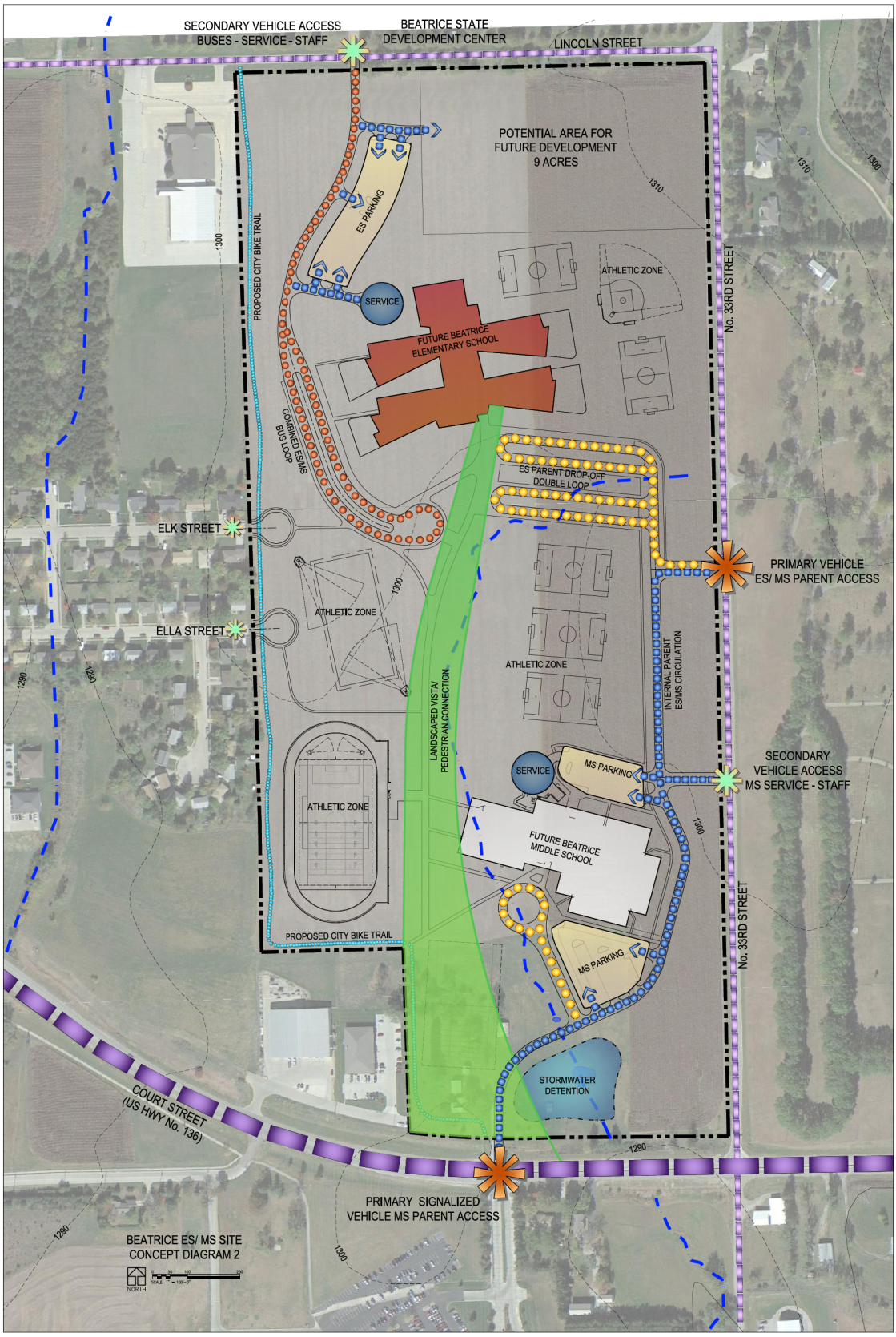
Pedestrian Trips

To achieve a conservative analysis, all trips are assumed by personal vehicle/bus. Some trips will come in the form of two other modes: walking and biking. Pedestrian connections will be made on the West side of the school property at Ella Street and Elk Street. A future bike trail along the south side of US-136 will also cross at the US-136 & Orange Boulevard traffic signal then meander north along the West side of the school property. Very minimal to non-existent pedestrian activity is expected along 33rd Street. At this time, BPS does not plan to require students to cross US-136 for any school related activities.

4.2 Trip Distribution

Existing traffic volumes and land use characteristics of the area were used to develop an external distribution of trips generated by the schools. Information from the site plan was then used to assign site trips to each access point to the schools. Due to different access utilization planned for each school, two separate trip distributions were developed. The trip distribution for the Elementary School is illustrated in **Figure 6**. The trip distribution for the Middle School is illustrated in **Figure 7**. The combined Elementary School and Middle School site trips are illustrated in **Figure 8**.

N
NTS



	Site Plan	FIGURE 5

Table 3
ITE TRIP GENERATION
BEATRICE PUBLIC SCHOOLS TIS
TRAFFIC IMPACT STUDY
Beatrice, Nebraska

Daily Trip Generation

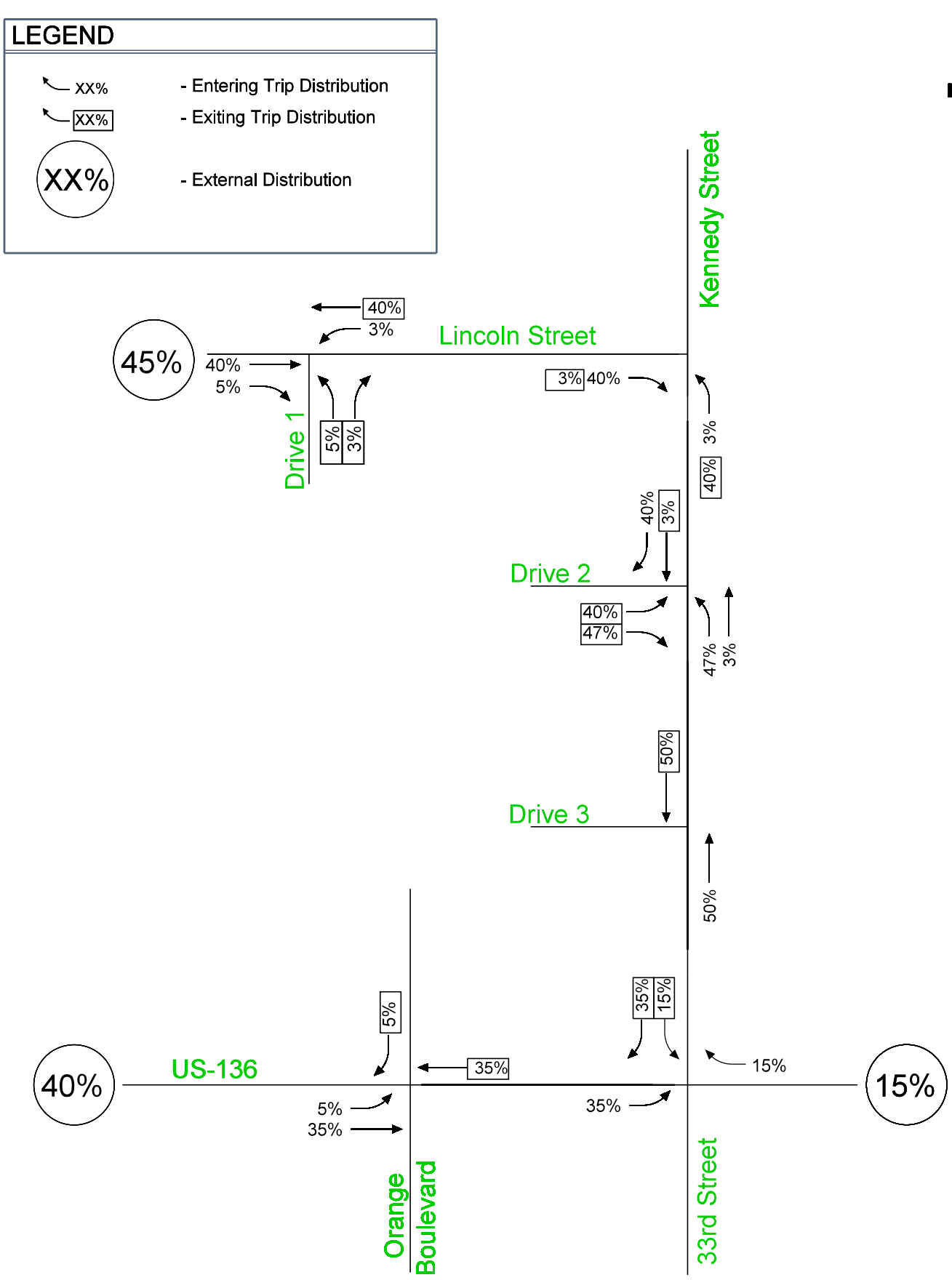
ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq.	Daily Trips	Mixed-Use Reduction	Net Daily Trips	Trip Distribution Enter	Trip Distribution Exit	Total Daily Trips Enter	Total Daily Trips Exit
520/979	Elementary School	1,000	Students	1.29	1290	0%	1,290	50%	50%	645	645
522/992	Middle School	430	Students	1.62	697	0%	697	50%	50%	349	349
Total					1987					994	994

AM Peak Hour Trips

ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq.	AM Peak Trips	Mixed-Use Reduction	Net AM Peak Trips	Trip Distribution Enter	Trip Distribution Exit	Total AM Trips Enter	Total AM Trips Exit
520/980	Elementary School	1,000	Students	0.45	450	0%	450	55%	45%	248	203
522/993	Middle School	430	Students	0.54	232	0%	232	55%	45%	128	104
Total					682					376	307

PM Peak Hour Trips

ITE Code/Page	Land Use	Size		Trip Gen. Avg. Rate/Eq.	PM Peak Trips	Mixed-Use Reduction	Net PM Peak Trips	Trip Distribution Enter	Trip Distribution Exit	Total PM Trips Enter	Total PM Trips Exit
520/982	Elementary School	1,000	Students	0.28	280	0%	280	45%	55%	126	154
522/995	Middle School	430	Students	0.30	129	0%	129	45%	55%	58	71
Total					409					184	225



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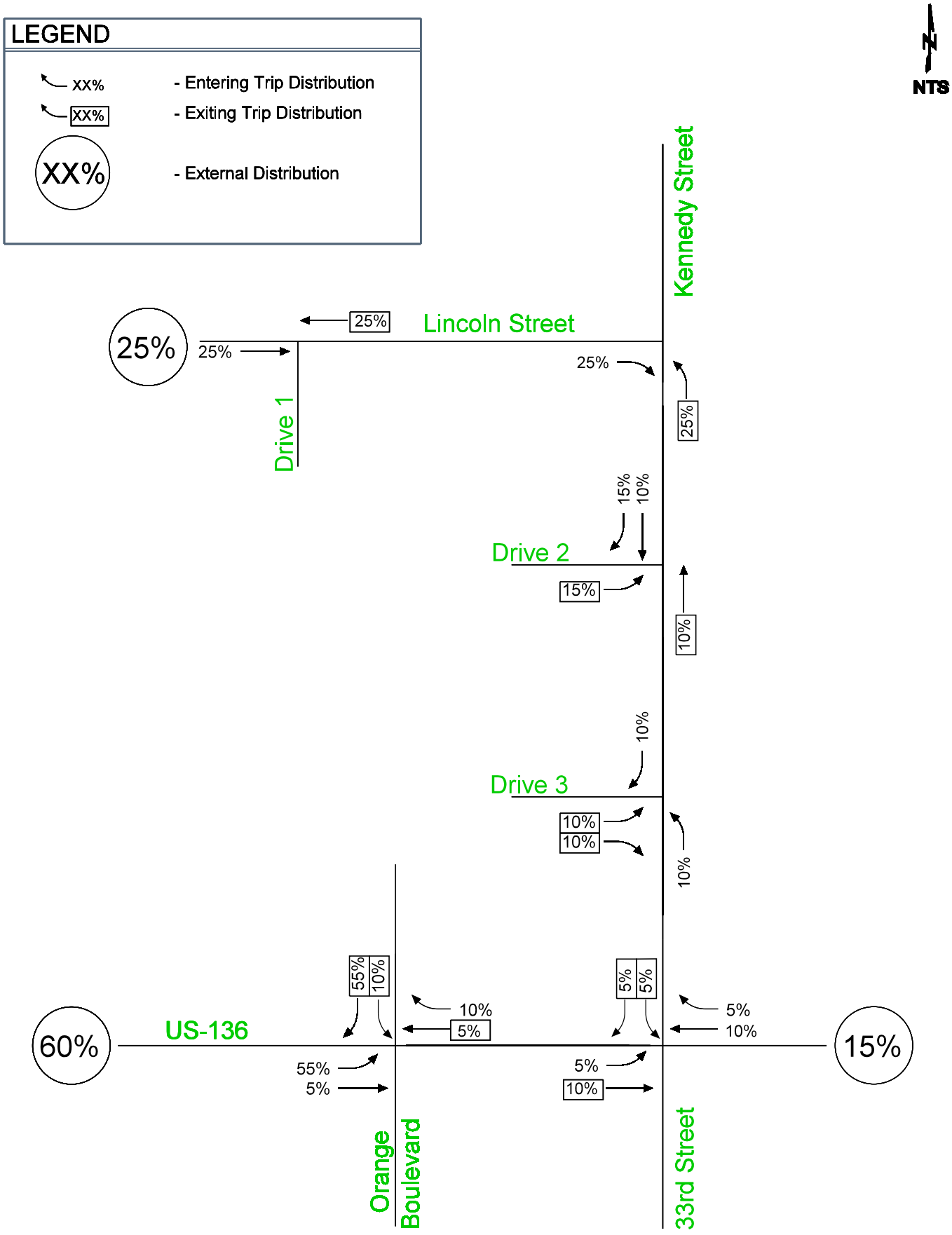
Elementary School Trip Distribution

FIGURE 6



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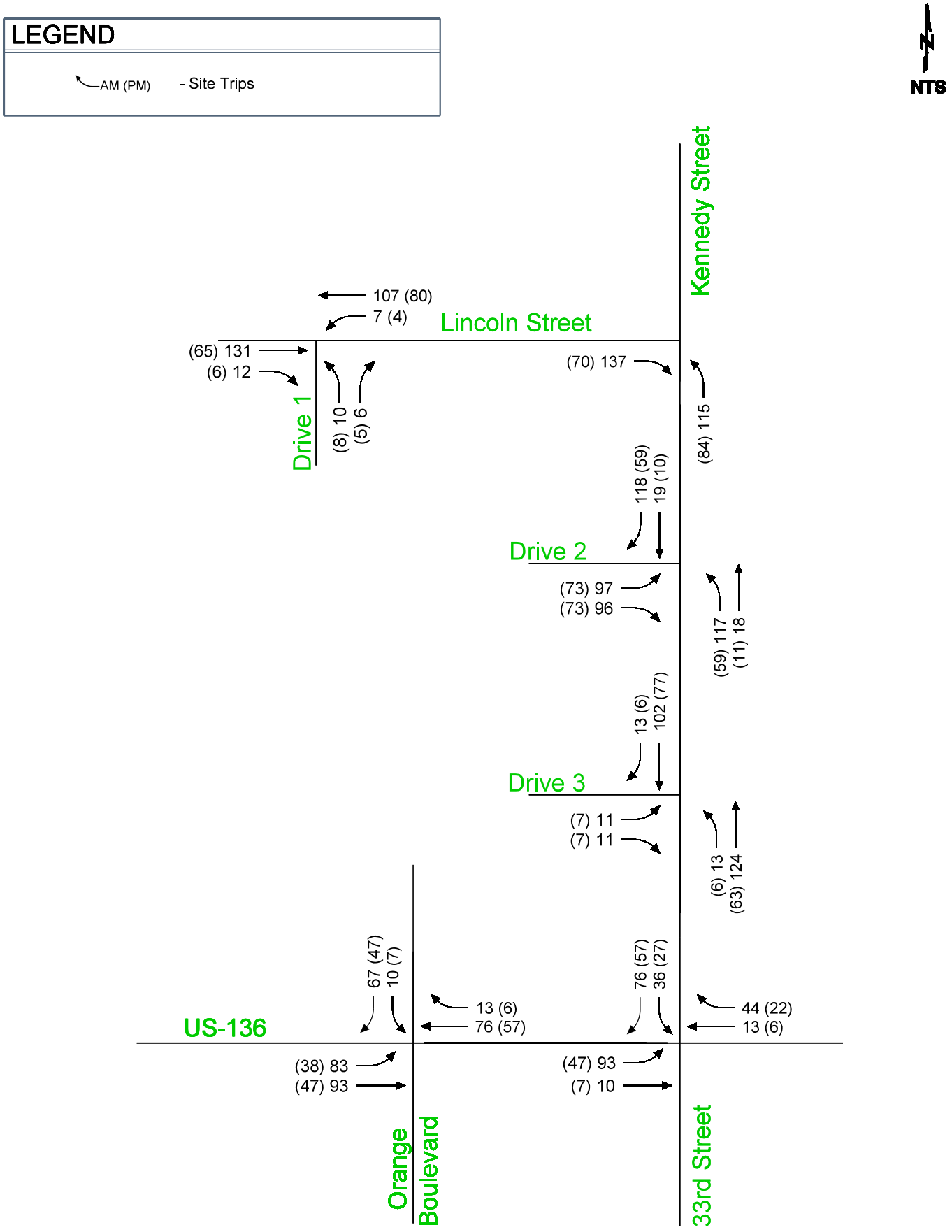
Middle School Trip Distribution

FIGURE 7



Combined Site Trips

FIGURE 8

5.0 BUILD OUT CONDITIONS ANALYSIS

The expected opening year for the Elementary School and Middle School is 2025. Background traffic volumes were calculated and combined with the proposed site trips to develop the Build Out volumes for capacity analysis purposes.

5.1 Year 2025 Traffic Volumes

Historical ADT volumes from 2002-2013 were examined in the vicinity of the study area. Trends in ADT volumes show decreasing traffic volumes in the study area since 2002. However, to provide a conservative analysis of future conditions, existing traffic volumes were grown at a 1 percent annual rate to obtain 2025 volumes. The 2025 Background volumes are shown in **Figure 9**. The combined site trips generated by the proposed schools were added to the 2025 Background volumes to obtain the Build Out traffic volumes. Build Out traffic volumes are illustrated in **Figure 10**.

5.2 Intersection Control Evaluation

The *Manual on Uniform Traffic Control Devices, 2009 Edition* (MUTCD) provides nine signal warrants for evaluation of signalization at intersections. Typically, the preliminary need for signalization is based on the Eight-Hour Volume and Peak Hour Volume Warrants (Warrant 1 and 3) contained in the MUTCD. Other MUTCD signal warrants include reviews of pedestrians, crash experience, traffic progression, and at-grade railroad crossings.

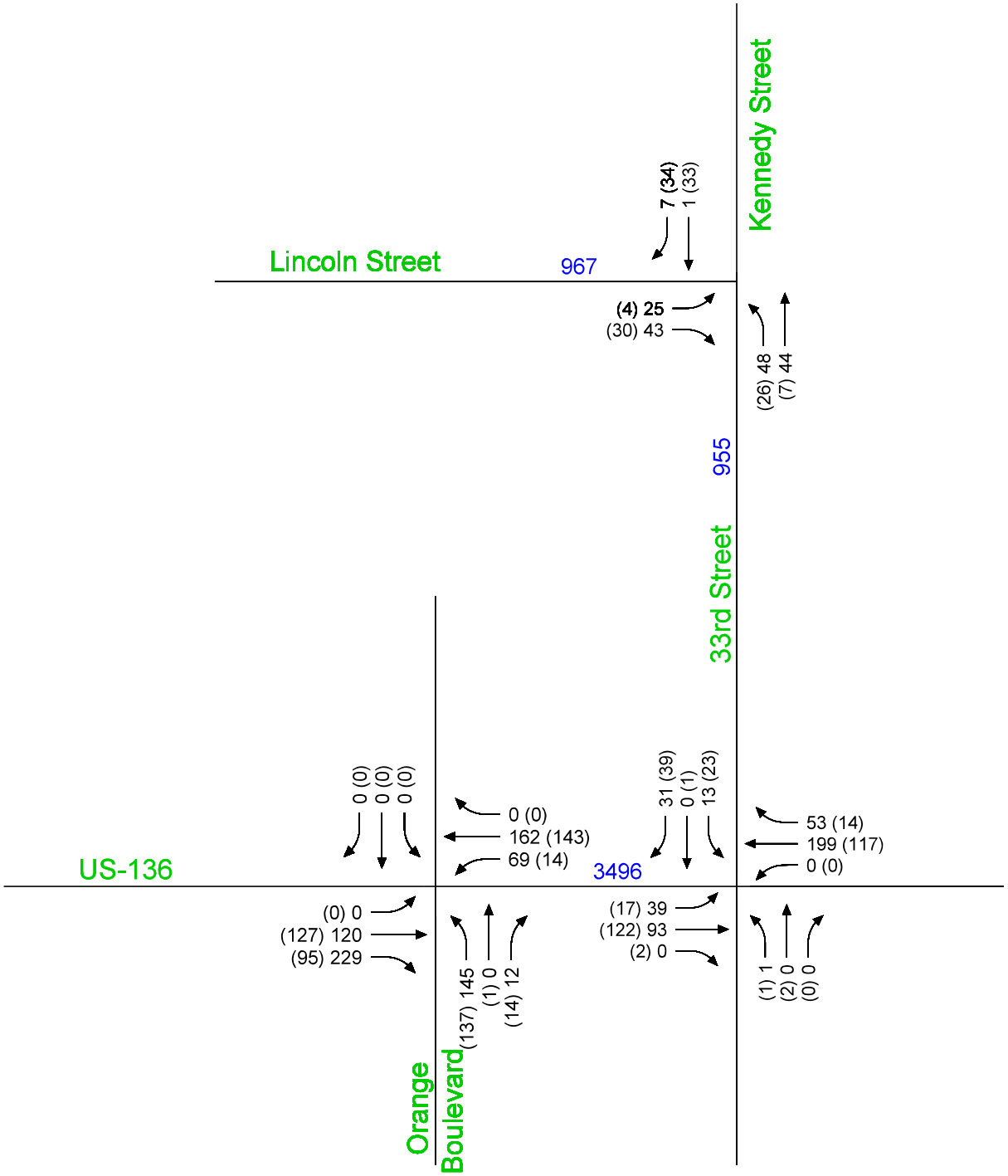
For the study intersections involved in this analysis, traffic volumes at Lincoln Street & Drive 1, 33rd Street & Drive 2, and 33rd Street & Drive 3 are expected to be far too low to satisfy signalization warrants. Other warrants would fall well below thresholds or are not applicable. The intersection of US-136 & 33rd Street will not be signalized due to its proximity to the signalized intersection of US-136 & Orange Boulevard. The center-to-center intersection spacing between US-136 & Orange Boulevard and US-136 & 33rd Street is approximately 680 feet.

LEGEND

AM (PM) - Peak Hour Volumes

ADT -Average Daily Traffic Volume

NTS



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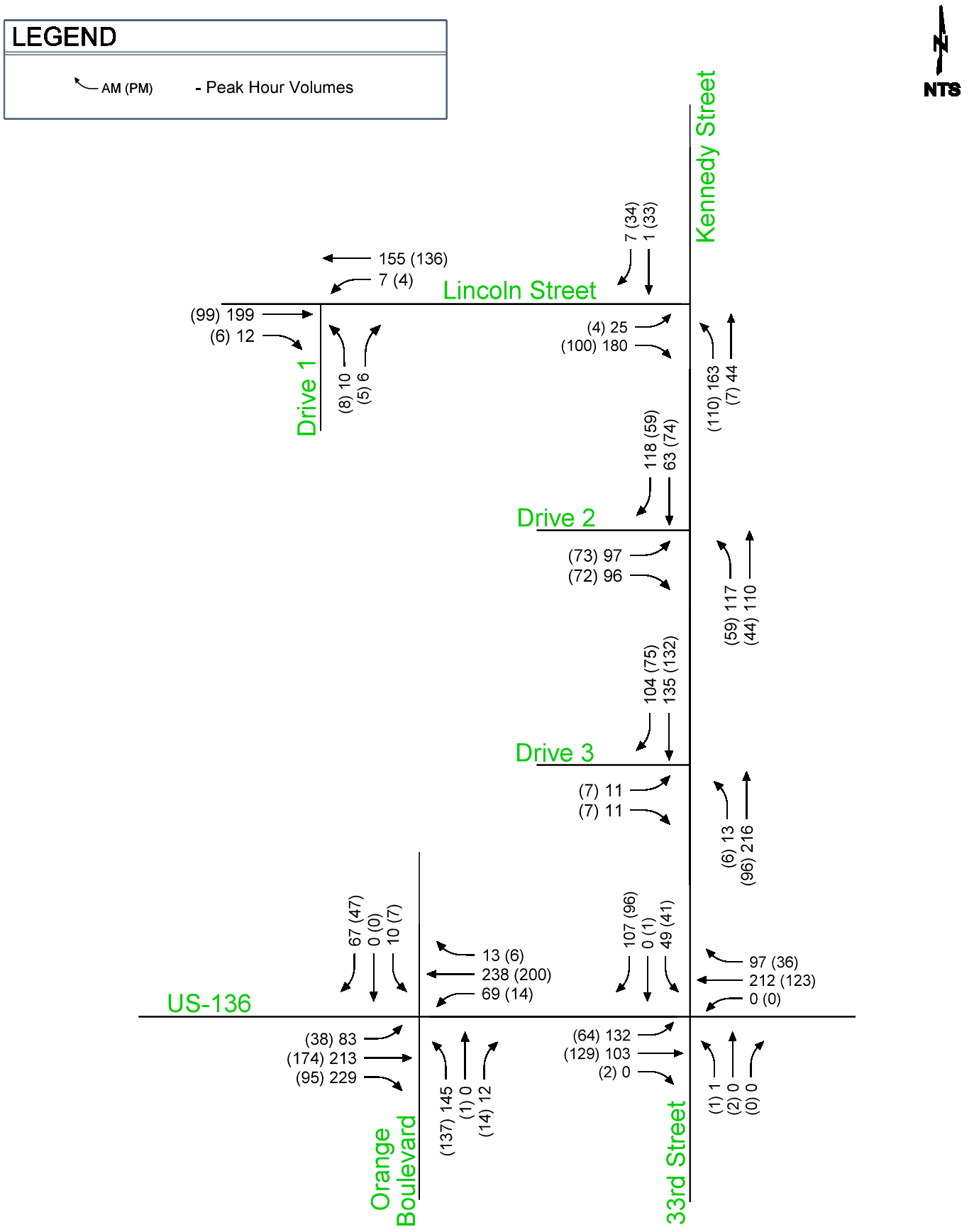
2025 Background Volumes

FIGURE 9



Build Out Volumes

FIGURE 10

5.3 Build Out Conditions Geometric Evaluation

Build Out traffic volumes were applied to the study network for capacity analysis purposes. Due to the expected northbound left-turning traffic into the school site at Drive 2 and Drive 3, the study network for this analysis assumes 33rd Street to be a three-lane section from US-136 through Drive 2. The roadway is assumed to taper to a two-lane section north of Drive 2 before it intersects Lincoln Street. Minimal through traffic from 33rd Street to Kennedy Street is expected with current land-use north of the intersection. For this reason, a two-lane northbound approach at 33rd Street & Lincoln Street/Kennedy Street is not warranted at this time. Should land-use north of the intersection change in the future, a three-lane section extending north to and through the intersection may be warranted.

While width for two southbound lanes on 33rd Street will be provided at the US-136 intersection, this condition presents the potential for sight line conflicts between vehicles stopped adjacent to one another. Until significant area characteristics change, the recommended utilization is for a single southbound lane serving all three movements (left-thru-right).

The analysis also assumes southbound right-turn lanes at Drive 2 and Drive 3 to accommodate southbound right turning movements, which are anticipated to be over 100 vehicles per hour during peak periods of traffic. The addition of a right-turn storage bay on the major road to a two-way stop controlled intersection can result in improved operations and safety at the intersection. By removing slowing vehicles preparing to turn from the vehicles in the through traffic lanes, the potential of turn related collisions (rear-end) is minimized and delays are reduced for through vehicles.

In the vicinity of the study area, US-136 has a posted speed limit of 45 mph. Due to the posted speed and anticipated turning volumes, 250' of deceleration length plus the necessary storage length is recommended for turning lanes. Adequate storage and deceleration length exists for each turning lane with the exception of the eastbound left-turn lane at US-136 & Orange Boulevard, which should be extended to a combined deceleration and storage length of 300 feet.

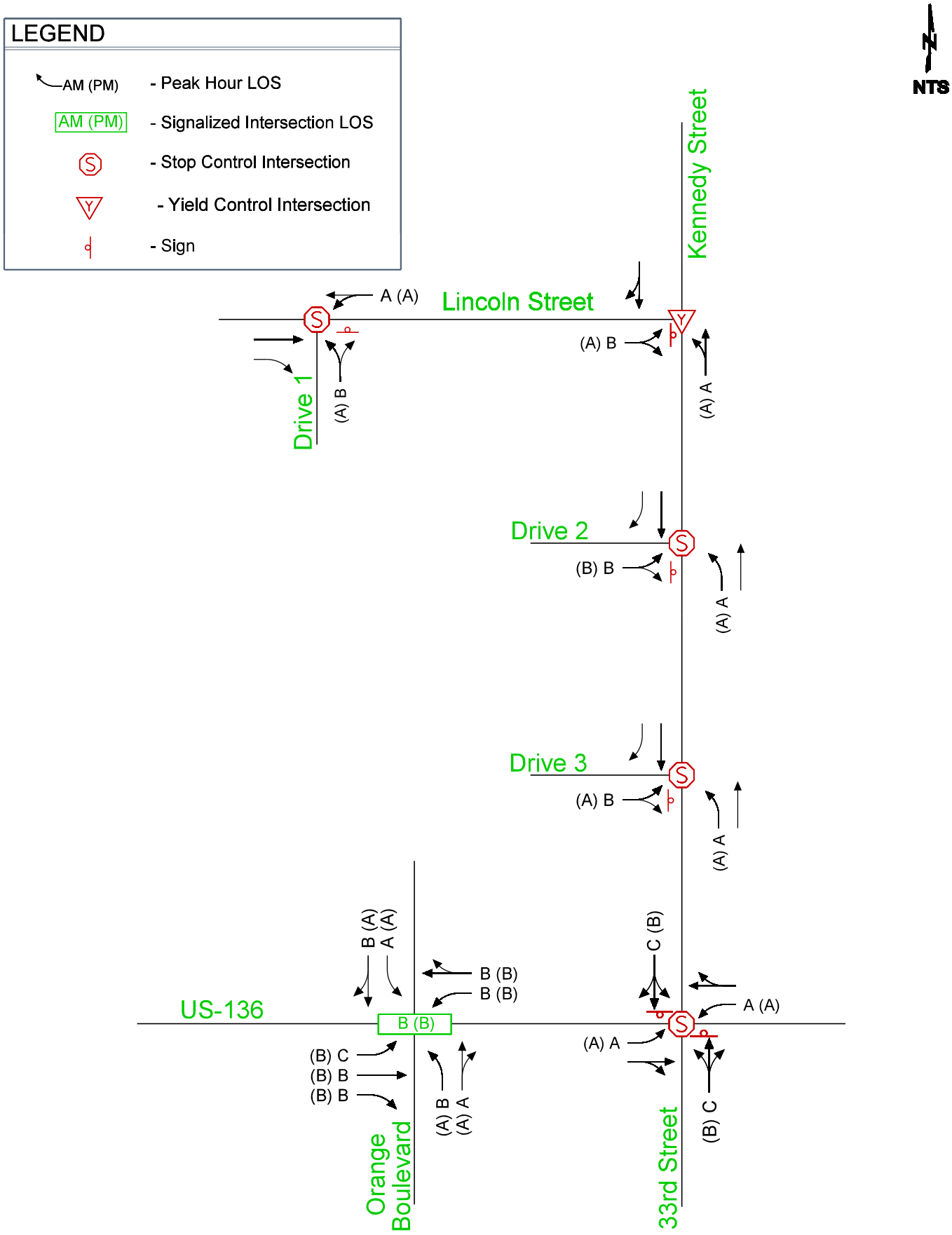
Projected westbound right-turn volumes at US-136 & 33rd Street may approach 100 vph based on the assumed distribution. Given the high percentage of right-turning vs. through movements and highway speed, a right-turn lane would be warranted. Caution should be used however, in the planning for this auxiliary lane. Some drivers favor making turning movements at traffic signals even if that takes them out of the most direct route to their destination. This means that the westbound right-turn volume at 33rd Street may actually be lower and the same movement at Orange Boulevard may be higher than shown in this study. To provide a conservative look at LOS, a right-turn lane is not shown at either location in the capacity analysis. However, the recommendations section addresses this in further detail.

5.4 Build Out Conditions Capacity Analysis

Results of the capacity analysis indicate that the signalized intersection of US-136 & Orange Boulevard is expected to operate at LOS B during the AM and PM peak hours. All movements at the intersection are expected to operate at LOS C or better during both peak hours. The 95th percentile queues for all movements at the intersection are expected to be contained within existing turn lane storage.

The northbound and southbound movements at US-136 & 33rd Street are expected to operate at LOS C during the AM peak hour. This level of delay is not uncommon during peak hours of traffic for minor street movements. All other movements at unsignalized intersections are expected to operate at LOS B or better during both peak hour periods.

The Build Out capacity analysis summary is shown in **Figure 11**. Detailed results are found in **Appendix C**.



OLSSON ASSOCIATES	Build Out Capacity Analysis Summary	FIGURE 11

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on projected traffic conditions and traffic analysis results, modifications to the existing roadway network have been identified to accommodate build out traffic volumes for the proposed Elementary School and Middle School. Recommendations are listed below for intersections and roadways in the study area. A summary of the Recommended Lane Configurations and Traffic Control is illustrated in **Figure 12**.

33rd Street

- Widen to a three-lane section with a two-way left-turn lane from US-136 through Drive 2 (tapering to two-lane north of the drive).
- Construct a southbound right-turn lane with 155' of deceleration plus 50' of storage at Drive 2.
- Construct a southbound right-turn lane with 155' of deceleration plus 50' of storage at Drive 3.
- At the intersection with US-136, construct a raised, temporary median, or utilize other traffic control methods to restrict the southbound approach to a single lane.
- Consider School Zone speed limit implementation.

Lincoln Street

- Construct an eastbound right-turn lane with 155' of deceleration plus 50' of storage at Drive 1.
- Consider School Zone speed limit implementation.

Orange Boulevard

- The City may want to consider pavement markings to help delineate movements due to roadway width.

US-136

- A westbound right-turn lane is recommended given the projected volumes to turn north destined for the school property.
    - Since this recommendation is based largely on a distribution that is split between 33rd Street and the North leg of Orange Boulevard, it is recommended that traffic volumes are collected AFTER the opening of the Elementary School to more accurately assess the situation and proper location(s).

Site Drives

- Stop control for all access locations.

US-136 & Orange Boulevard

*** Improvements to this intersection are not necessary for the initial build of an Elementary School only. Should BPS construct this connection prior to a Middle School project, it is not expected to create operational concerns. The improvements listed below should however, be complete prior to opening a Middle School on the site.

- Construct a north leg with a two-lane approach to the existing signalized intersection.
- Modify the south leg so that opposing left-turn lanes (NBL and SBL) are aligned.
- Re-stripe the eastbound left-turn lane to provide 250' of deceleration plus 50' of storage.

NDOR has communicated that it reserves the right to request updated traffic counts and to review area pavement conditions prior to Middle School construction. Also, all design plans relating to US-136 are subject to NDOR review and approval.

Other

Upon closure (or altered land-use) of existing Elementary Schools in Beatrice, the City/BPS should review any existing signing and traffic control measures in the vicinity and modify and/or remove traffic control devices as necessary.

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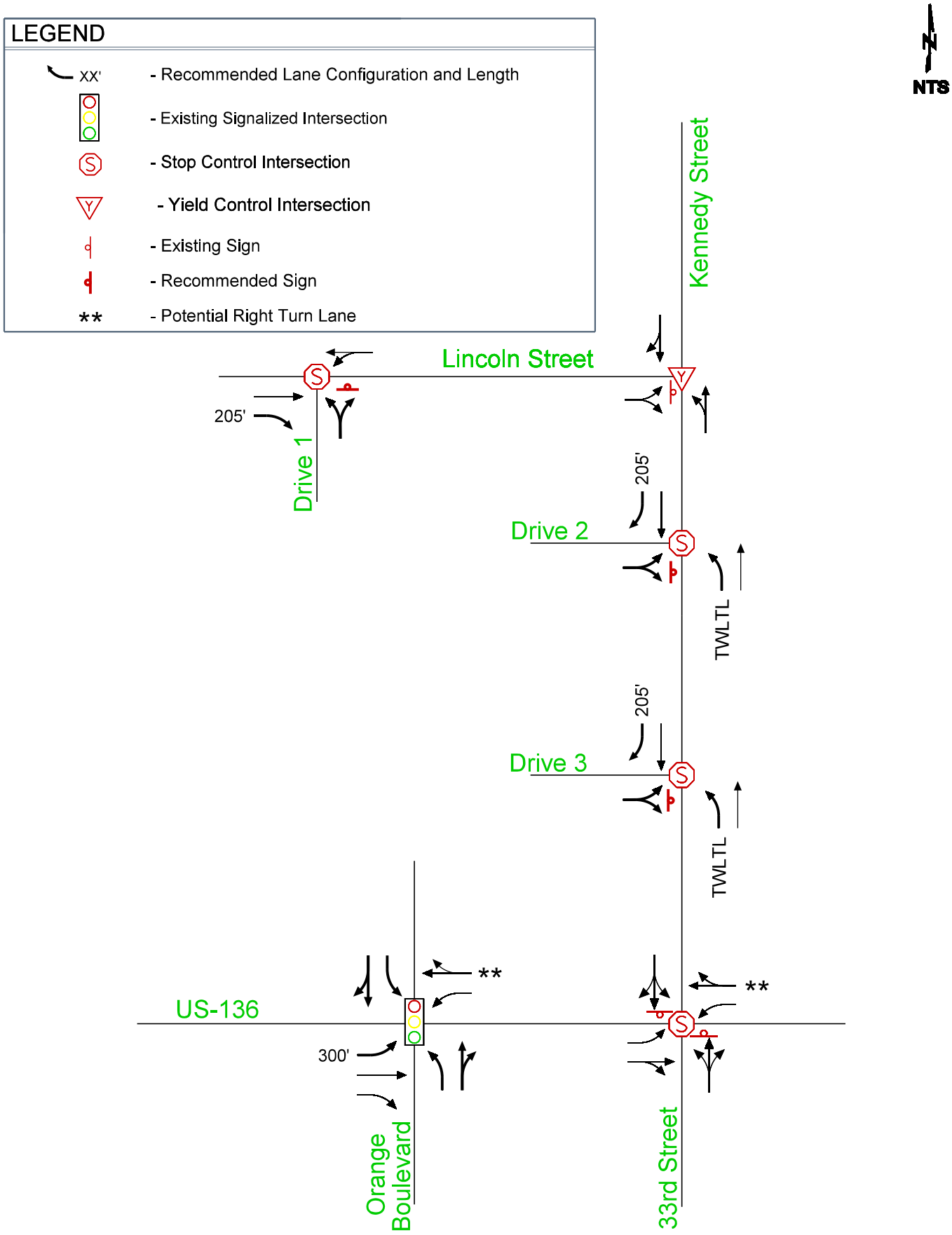

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Recommended Lane Configurations and Traffic Control

FIGURE 12

APPENDIX A

Existing Turning Movement Count Data

City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln
Weather-66 Clear

File Name : 10th & Lincoln - PM
Site Code : 00000000
Start Date : 5/12/2015
Page No : 1

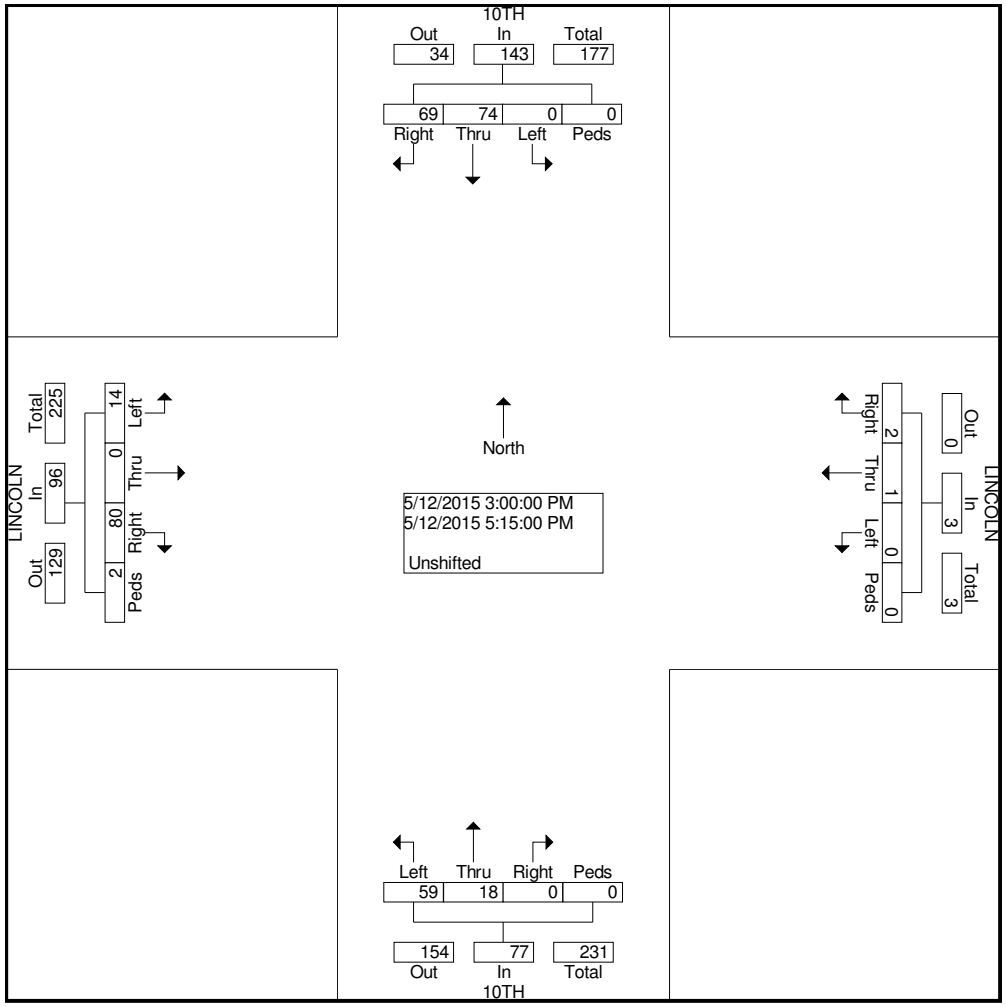
Groups Printed- Unshifted

	10TH From North					LINCOLN From East					10TH From South					LINCOLN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	8	11	0	0	19	0	0	0	0	0	0	6	6	0	12	6	0	3	0	9	40
03:15 PM	7	4	0	0	11	0	0	0	0	0	0	0	4	0	4	8	0	0	0	8	23
03:30 PM	6	9	0	0	15	0	1	0	0	1	0	1	6	0	7	4	0	2	1	7	30
03:45 PM	4	2	0	0	6	0	0	0	0	0	0	2	11	0	13	10	0	2	0	12	31
Total	25	26	0	0	51	0	1	0	0	1	0	9	27	0	36	28	0	7	1	36	124
04:00 PM	10	8	0	0	18	0	0	0	0	0	0	3	10	0	13	8	0	1	0	9	40
04:15 PM	1	8	0	0	9	0	0	0	0	0	0	1	6	0	7	7	0	1	0	8	24
04:30 PM	19	22	0	0	41	0	0	0	0	0	0	2	5	0	7	12	0	0	0	12	60
04:45 PM	6	7	0	0	13	1	0	0	0	1	0	0	4	0	4	8	0	2	1	11	29
Total	36	45	0	0	81	1	0	0	0	1	0	6	25	0	31	35	0	4	1	40	153
05:00 PM	6	1	0	0	7	1	0	0	0	1	0	2	5	0	7	7	0	2	0	9	24
05:15 PM	2	2	0	0	4	0	0	0	0	0	0	1	2	0	3	10	0	1	0	11	18
Grand Total	69	74	0	0	143	2	1	0	0	3	0	18	59	0	77	80	0	14	2	96	319
Apprch %	48.3	51.7	0.0	0.0		66.7	33.3	0.0	0.0		0.0	23.4	76.6	0.0		83.3	0.0	14.6	2.1		
Total %	21.6	23.2	0.0	0.0	44.8	0.6	0.3	0.0	0.0	0.9	0.0	5.6	18.5	0.0	24.1	25.1	0.0	4.4	0.6	30.1	

City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln
Weather-66 Clear

File Name : 10th & Lincoln - PM
Site Code : 00000000
Start Date : 5/12/2015
Page No : 2



City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln
Weather-66 Clear

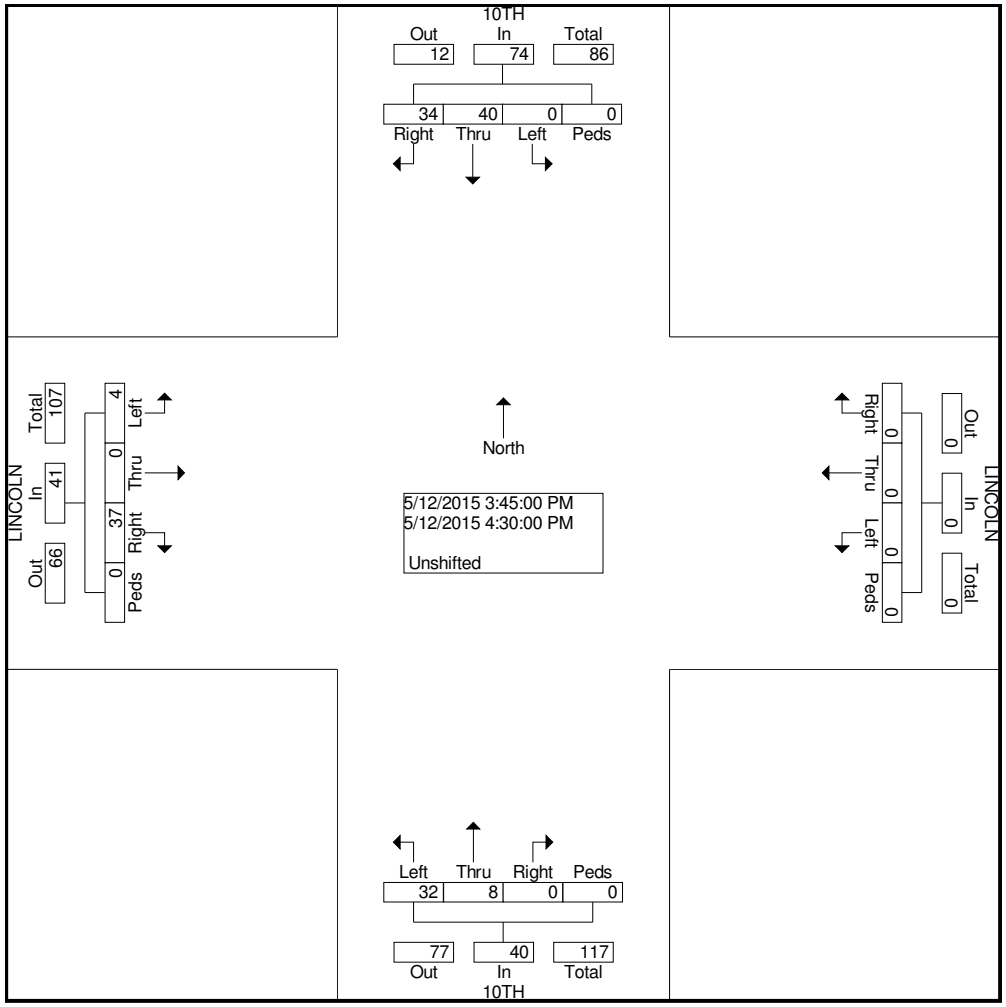
File Name : 10th & Lincoln - PM
Site Code : 00000000
Start Date : 5/12/2015

	10TH From North					LINCOLN From East					10TH From South					LINCOLN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 03:00 PM to 05:15 PM - Peak 1 of 1																					
Intersection	03:45 PM																				
Volume	34	40	0	0	74	0	0	0	0	0	0	8	32	0	40	37	0	4	0	41	155
Percent	45.9	54.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	20.0	80.0	0.0		90.2	0.0	9.8	0.0		
04:30 Volume	19	22	0	0	41	0	0	0	0	0	0	2	5	0	7	12	0	0	0	12	60
Peak Factor																					0.646
High Int.	04:30 PM					2:45:00 PM					03:45 PM					03:45 PM					
Volume	19	22	0	0	41	0	0	0	0	0	0	2	11	0	13	10	0	2	0	12	
Peak Factor					0.451										0.769					0.854	

City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln
Weather-66 Clear

File Name : 10th & Lincoln - PM
Site Code : 00000000
Start Date : 5/12/2015
Page No : 4



City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln - AM
Weather-52 Clear

File Name : 10th & Lincoln - AM
Site Code : 00000000
Start Date : 5/13/2015
Page No : 1

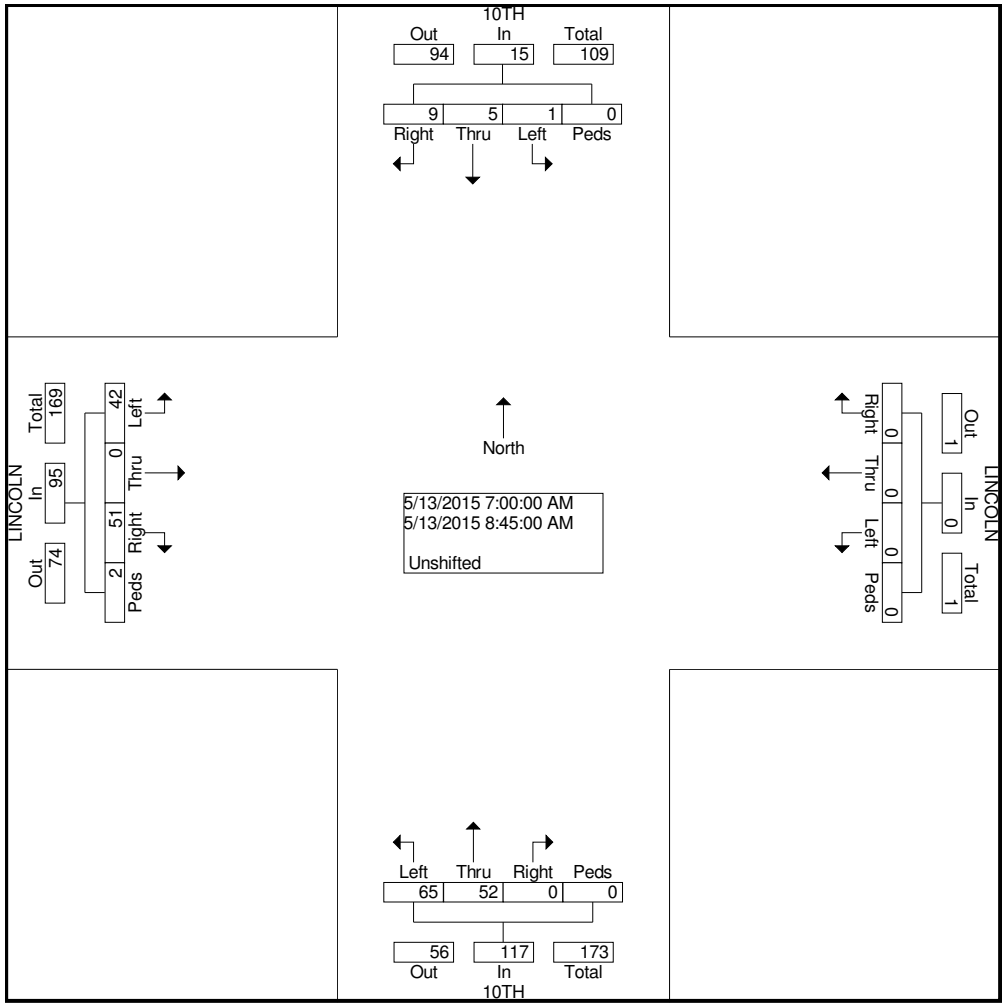
Groups Printed- Unshifted

	10TH From North					LINCOLN From East					10TH From South					LINCOLN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	5	4	0	9	1	0	2	0	3	15
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	3	7	0	10	4	0	10	0	14	25
07:30 AM	3	0	0	0	3	0	0	0	0	0	0	10	9	0	19	5	0	4	1	10	32
07:45 AM	2	0	0	0	2	0	0	0	0	0	0	21	12	0	33	16	0	9	0	25	60
Total	5	3	1	0	9	0	0	0	0	0	0	39	32	0	71	26	0	25	1	52	132
08:00 AM	1	1	0	0	2	0	0	0	0	0	0	5	13	0	18	12	0	6	0	18	38
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	3	9	0	12	7	0	6	1	14	27
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	5	0	8	2	0	3	0	5	14
08:45 AM	2	0	0	0	2	0	0	0	0	0	0	2	6	0	8	4	0	2	0	6	16
Total	4	2	0	0	6	0	0	0	0	0	0	13	33	0	46	25	0	17	1	43	95
Grand Total	9	5	1	0	15	0	0	0	0	0	0	52	65	0	117	51	0	42	2	95	227
Apprch %	60.0	33.3	6.7	0.0		0.0	0.0	0.0	0.0		0.0	44.4	55.6	0.0		53.7	0.0	44.2	2.1		
Total %	4.0	2.2	0.4	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	22.9	28.6	0.0	51.5	22.5	0.0	18.5	0.9	41.9	

City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln - AM
Weather-52 Clear

File Name : 10th & Lincoln - AM
Site Code : 00000000
Start Date : 5/13/2015
Page No : 2



City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln - AM
Weather-52 Clear

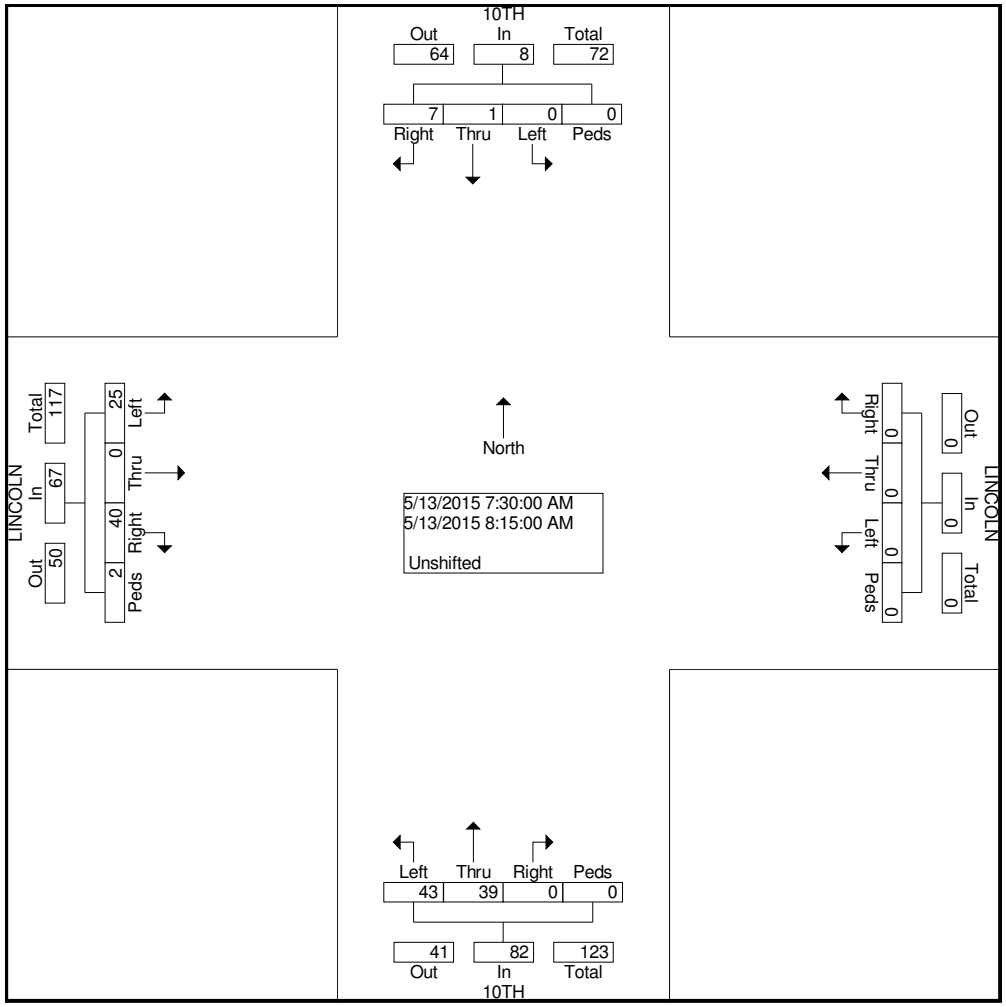
File Name : 10th & Lincoln - AM
Site Code : 00000000
Start Date : 5/13/2015
Page No : 3

	10TH From North					LINCOLN From East					10TH From South					LINCOLN From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	7	1	0	0	8	0	0	0	0	0	0	39	43	0	82	40	0	25	2	67	157
Percent	87.5	12.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	47.6	52.4	0.0		59.7	0.0	37.3	3.0		
07:45 Volume	2	0	0	0	2	0	0	0	0	0	0	21	12	0	33	16	0	9	0	25	60
Peak Factor																					0.654
High Int.	07:30 AM					6:45:00 AM					07:45 AM					07:45 AM					
Volume	3	0	0	0	3	0	0	0	0	0	0	21	12	0	33	16	0	9	0	25	
Peak Factor					0.667										0.621					0.670	

City of Beatrice, Nebraska
Olsson Associates
Turning Movement Counts

10th & Lincoln - AM
Weather-52 Clear

File Name : 10th & Lincoln - AM
Site Code : 00000000
Start Date : 5/13/2015
Page No : 4



Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 AM
Site Code:
Start Date: 05/13/2015

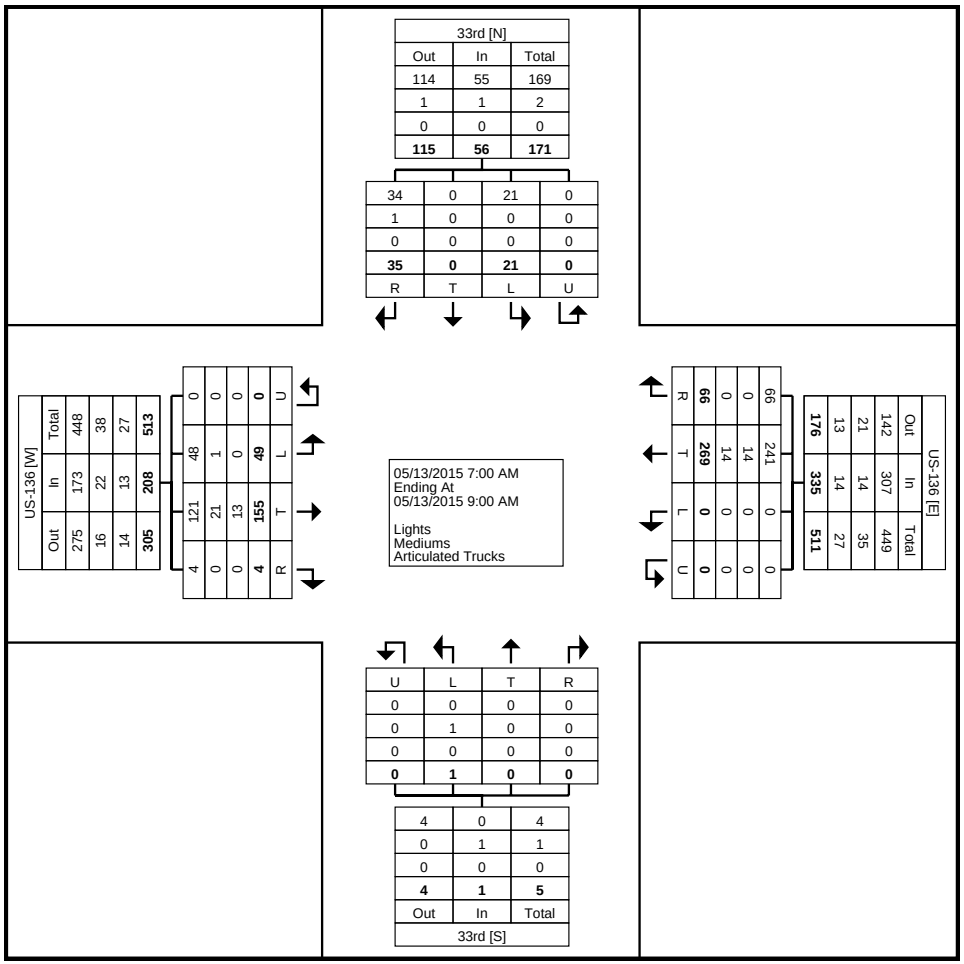
Turning Movement Data

Start Time	33rd Southbound					US-136 Westbound					33rd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	3	0	1	0	4	5	28	0	0	33	0	0	0	0	0	0	18	3	0	21	58
7:15 AM	1	0	1	0	2	8	32	0	0	40	0	0	0	0	0	0	21	5	0	26	68
7:30 AM	2	0	5	0	7	11	54	0	0	65	0	0	0	0	0	0	16	12	0	28	100
7:45 AM	13	0	5	0	18	19	48	0	0	67	0	0	0	0	0	0	21	14	0	35	120
Hourly Total	19	0	12	0	31	43	162	0	0	205	0	0	0	0	0	0	76	34	0	110	346
8:00 AM	12	0	1	0	13	10	38	0	0	48	0	0	1	0	1	0	21	7	0	28	90
8:15 AM	1	0	5	0	6	4	24	0	0	28	0	0	0	0	0	1	19	3	0	23	57
8:30 AM	2	0	2	0	4	3	20	0	0	23	0	0	0	0	0	0	19	2	0	21	48
8:45 AM	1	0	1	0	2	6	25	0	0	31	0	0	0	0	0	3	20	3	0	26	59
Hourly Total	16	0	9	0	25	23	107	0	0	130	0	0	1	0	1	4	79	15	0	98	254
Grand Total	35	0	21	0	56	66	269	0	0	335	0	0	1	0	1	4	155	49	0	208	600
Approach %	62.5	0.0	37.5	0.0	-	19.7	80.3	0.0	0.0	-	0.0	0.0	100.0	0.0	-	1.9	74.5	23.6	0.0	-	-
Total %	5.8	0.0	3.5	0.0	9.3	11.0	44.8	0.0	0.0	55.8	0.0	0.0	0.2	0.0	0.2	0.7	25.8	8.2	0.0	34.7	-
Lights	34	0	21	0	55	66	241	0	0	307	0	0	0	0	0	4	121	48	0	173	535
% Lights	97.1	-	100.0	-	98.2	100.0	89.6	-	-	91.6	-	-	0.0	-	0.0	100.0	78.1	98.0	-	83.2	89.2
Mediums	1	0	0	0	1	0	14	0	0	14	0	0	1	0	1	0	21	1	0	22	38
% Mediums	2.9	-	0.0	-	1.8	0.0	5.2	-	-	4.2	-	-	100.0	-	100.0	0.0	13.5	2.0	-	10.6	6.3
Articulated Trucks	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	13	0	0	13	27
% Articulated Trucks	0.0	-	0.0	-	0.0	0.0	5.2	-	-	4.2	-	-	0.0	-	0.0	0.0	8.4	0.0	-	6.3	4.5

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 AM
Site Code:
Start Date: 05/13/2015



Turning Movement Data Plot

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 AM
Site Code:
Start Date: 05/13/2015

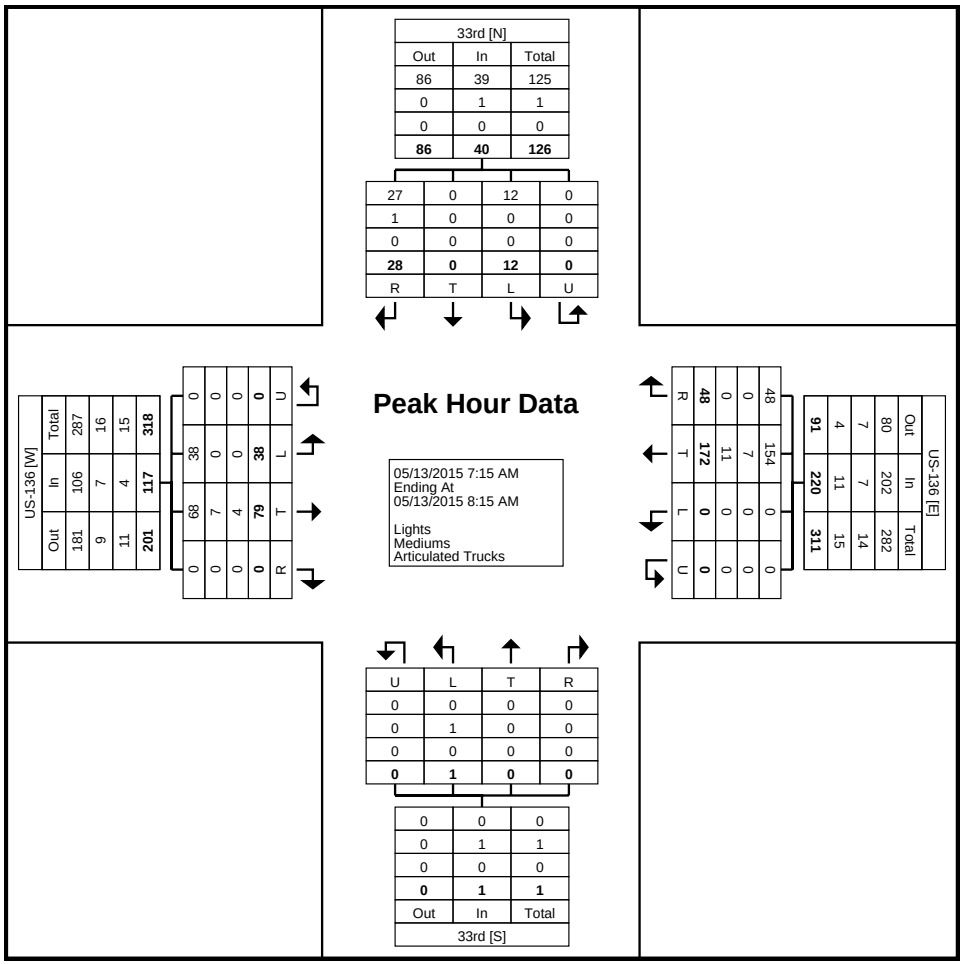
Turning Movement Peak Hour Data (7:15 AM)

Start Time	33rd Southbound					US-136 Westbound					33rd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:15 AM	1	0	1	0	2	8	32	0	0	40	0	0	0	0	0	0	21	5	0	26	68
7:30 AM	2	0	5	0	7	11	54	0	0	65	0	0	0	0	0	0	16	12	0	28	100
7:45 AM	13	0	5	0	18	19	48	0	0	67	0	0	0	0	0	0	21	14	0	35	120
8:00 AM	12	0	1	0	13	10	38	0	0	48	0	0	1	0	1	0	21	7	0	28	90
Total	28	0	12	0	40	48	172	0	0	220	0	0	1	0	1	0	79	38	0	117	378
Approach %	70.0	0.0	30.0	0.0	-	21.8	78.2	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	67.5	32.5	0.0	-	-
Total %	7.4	0.0	3.2	0.0	10.6	12.7	45.5	0.0	0.0	58.2	0.0	0.0	0.3	0.0	0.3	0.0	20.9	10.1	0.0	31.0	-
PHF	0.538	0.000	0.600	0.000	0.556	0.632	0.796	0.000	0.000	0.821	0.000	0.000	0.250	0.000	0.250	0.000	0.940	0.679	0.000	0.836	0.788
Lights	27	0	12	0	39	48	154	0	0	202	0	0	0	0	0	0	68	38	0	106	347
% Lights	96.4	-	100.0	-	97.5	100.0	89.5	-	-	91.8	-	-	0.0	-	0.0	-	86.1	100.0	-	90.6	91.8
Mediums	1	0	0	0	1	0	7	0	0	7	0	0	1	0	1	0	7	0	0	7	16
% Mediums	3.6	-	0.0	-	2.5	0.0	4.1	-	-	3.2	-	-	100.0	-	100.0	-	8.9	0.0	-	6.0	4.2
Articulated Trucks	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	4	0	0	4	15
% Articulated Trucks	0.0	-	0.0	-	0.0	0.0	6.4	-	-	5.0	-	-	0.0	-	0.0	-	5.1	0.0	-	3.4	4.0

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 AM
Site Code:
Start Date: 05/13/2015



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

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 PM
Site Code:
Start Date: 05/13/2015

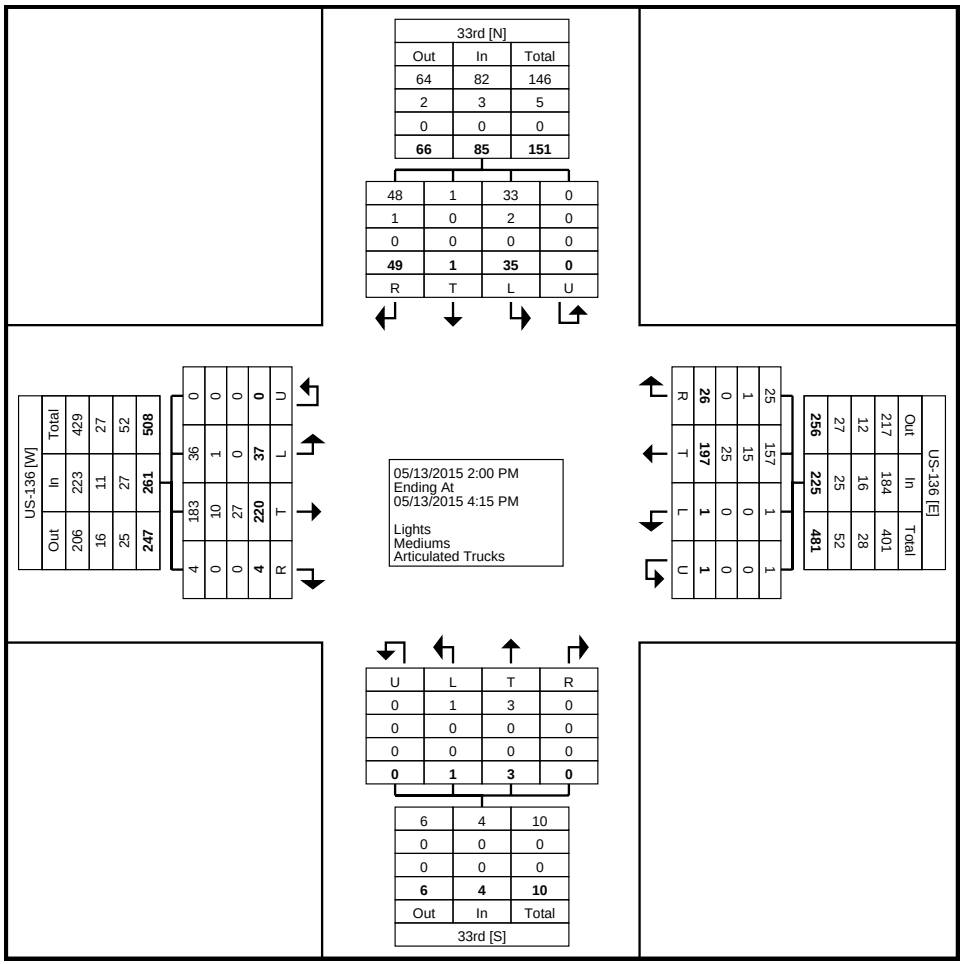
Turning Movement Data

Start Time	33rd Southbound					US-136 Westbound					33rd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
2:00 PM	4	0	4	0	8	1	24	0	0	25	0	0	0	0	0	0	21	5	0	26	59
2:15 PM	5	0	5	0	10	4	25	0	0	29	0	1	0	0	1	1	28	4	0	33	73
2:30 PM	4	0	2	0	6	4	22	0	1	27	0	0	0	0	0	0	30	7	0	37	70
2:45 PM	1	0	3	0	4	4	22	1	0	27	0	0	0	0	0	1	29	6	0	36	67
Hourly Total	14	0	14	0	28	13	93	1	1	108	0	1	0	0	1	2	108	22	0	132	269
3:00 PM	11	1	1	0	13	4	24	0	0	28	0	2	0	0	2	0	19	2	0	21	64
3:15 PM	11	0	6	0	17	2	26	0	0	28	0	0	0	0	0	0	25	3	0	28	73
3:30 PM	9	0	9	0	18	2	28	0	0	30	0	0	1	0	1	0	32	3	0	35	84
3:45 PM	4	0	5	0	9	5	26	0	0	31	0	0	0	0	0	2	36	7	0	45	85
Hourly Total	35	1	21	0	57	13	104	0	0	117	0	2	1	0	3	2	112	15	0	129	306
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	49	1	35	0	85	26	197	1	1	225	0	3	1	0	4	4	220	37	0	261	575
Approach %	57.6	1.2	41.2	0.0	-	11.6	87.6	0.4	0.4	-	0.0	75.0	25.0	0.0	-	1.5	84.3	14.2	0.0	-	-
Total %	8.5	0.2	6.1	0.0	14.8	4.5	34.3	0.2	0.2	39.1	0.0	0.5	0.2	0.0	0.7	0.7	38.3	6.4	0.0	45.4	-
Lights	48	1	33	0	82	25	157	1	1	184	0	3	1	0	4	4	183	36	0	223	493
% Lights	98.0	100.0	94.3	-	96.5	96.2	79.7	100.0	100.0	81.8	-	100.0	100.0	-	100.0	100.0	83.2	97.3	-	85.4	85.7
Mediums	1	0	2	0	3	1	15	0	0	16	0	0	0	0	0	0	10	1	0	11	30
% Mediums	2.0	0.0	5.7	-	3.5	3.8	7.6	0.0	0.0	7.1	-	0.0	0.0	-	0.0	0.0	4.5	2.7	-	4.2	5.2
Articulated Trucks	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	27	0	0	27	52
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	12.7	0.0	0.0	11.1	-	0.0	0.0	-	0.0	0.0	12.3	0.0	-	10.3	9.0

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 PM
Site Code:
Start Date: 05/13/2015



Turning Movement Data Plot

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 PM
Site Code:
Start Date: 05/13/2015

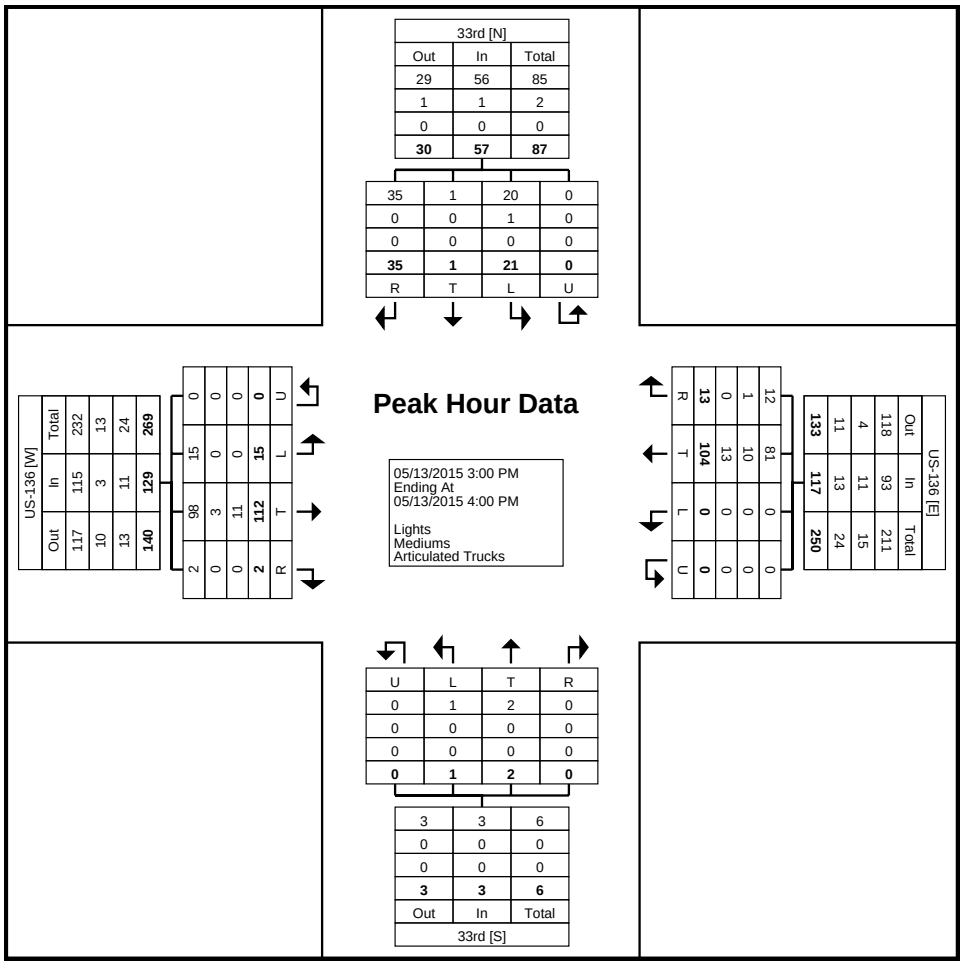
Turning Movement Peak Hour Data (3:00 PM)

Start Time	33rd Southbound					US-136 Westbound					33rd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
3:00 PM	11	1	1	0	13	4	24	0	0	28	0	2	0	0	2	0	19	2	0	21	64
3:15 PM	11	0	6	0	17	2	26	0	0	28	0	0	0	0	0	0	25	3	0	28	73
3:30 PM	9	0	9	0	18	2	28	0	0	30	0	0	1	0	1	0	32	3	0	35	84
3:45 PM	4	0	5	0	9	5	26	0	0	31	0	0	0	0	0	2	36	7	0	45	85
Total	35	1	21	0	57	13	104	0	0	117	0	2	1	0	3	2	112	15	0	129	306
Approach %	61.4	1.8	36.8	0.0	-	11.1	88.9	0.0	0.0	-	0.0	66.7	33.3	0.0	-	1.6	86.8	11.6	0.0	-	-
Total %	11.4	0.3	6.9	0.0	18.6	4.2	34.0	0.0	0.0	38.2	0.0	0.7	0.3	0.0	1.0	0.7	36.6	4.9	0.0	42.2	-
PHF	0.795	0.250	0.583	0.000	0.792	0.650	0.929	0.000	0.000	0.944	0.000	0.250	0.250	0.000	0.375	0.250	0.778	0.536	0.000	0.717	0.900
Lights	35	1	20	0	56	12	81	0	0	93	0	2	1	0	3	2	98	15	0	115	267
% Lights	100.0	100.0	95.2	-	98.2	92.3	77.9	-	-	79.5	-	100.0	100.0	-	100.0	100.0	87.5	100.0	-	89.1	87.3
Mediums	0	0	1	0	1	1	10	0	0	11	0	0	0	0	0	0	3	0	0	3	15
% Mediums	0.0	0.0	4.8	-	1.8	7.7	9.6	-	-	9.4	-	0.0	0.0	-	0.0	0.0	2.7	0.0	-	2.3	4.9
Articulated Trucks	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	11	0	0	11	24
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	12.5	-	-	11.1	-	0.0	0.0	-	0.0	0.0	9.8	0.0	-	8.5	7.8

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: 33rd & US-136 PM
Site Code:
Start Date: 05/13/2015



Turning Movement Peak Hour Data Plot (3:00 PM)

Olsson Associates : Lincoln
1111 Lincoln Mall

Lincoln, Nebraska, United States 68508
402.474.6311 sking@olssonassociates.com

Count Name: Orange Blvd & US-136 PM
Site Code:
Start Date: 05/13/2015

Turning Movement Data

Start Time	Drive Southbound					US-136 Westbound					Orange Blvd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
2:00 PM	0	0	0	0	0	0	31	0	0	31	0	0	13	0	13	11	27	0	0	38	82
2:15 PM	0	0	0	0	0	0	25	3	0	28	0	0	4	0	4	25	30	0	0	55	87
2:30 PM	0	0	0	0	0	0	25	2	0	27	7	0	63	0	70	30	32	0	0	62	159
2:45 PM	0	0	0	0	0	0	23	1	0	24	2	1	29	0	32	14	33	0	1	48	104
Hourly Total	0	0	0	0	0	0	104	6	0	110	9	1	109	0	119	80	122	0	1	203	432
3:00 PM	0	0	0	0	0	0	32	2	0	34	2	0	18	0	20	10	19	0	0	29	83
3:15 PM	0	0	0	0	0	0	30	2	0	32	2	0	12	0	14	14	24	0	0	38	84
3:30 PM	0	0	0	0	0	0	38	2	0	40	1	0	17	0	18	18	36	0	0	54	112
3:45 PM	0	0	0	0	0	0	32	1	0	33	3	0	27	0	30	9	41	0	0	50	113
Hourly Total	0	0	0	0	0	0	132	7	0	139	8	0	74	0	82	51	120	0	0	171	392
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	237	13	0	250	17	1	183	0	201	131	242	0	1	374	825
Approach %	NaN	NaN	NaN	NaN	-	0.0	94.8	5.2	0.0	-	8.5	0.5	91.0	0.0	-	35.0	64.7	0.0	0.3	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	28.7	1.6	0.0	30.3	2.1	0.1	22.2	0.0	24.4	15.9	29.3	0.0	0.1	45.3	-
Lights	0	0	0	0	0	0	194	13	0	207	17	1	178	0	196	130	203	0	1	334	737
% Lights	-	-	-	-	-	-	81.9	100.0	-	82.8	100.0	100.0	97.3	-	97.5	99.2	83.9	-	100.0	89.3	89.3
Mediums	0	0	0	0	0	0	21	0	0	21	0	0	5	0	5	1	10	0	0	11	37
% Mediums	-	-	-	-	-	-	8.9	0.0	-	8.4	0.0	0.0	2.7	-	2.5	0.8	4.1	-	0.0	2.9	4.5
Articulated Trucks	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	29	0	0	29	51
% Articulated Trucks	-	-	-	-	-	-	9.3	0.0	-	8.8	0.0	0.0	0.0	-	0.0	0.0	12.0	-	0.0	7.8	6.2

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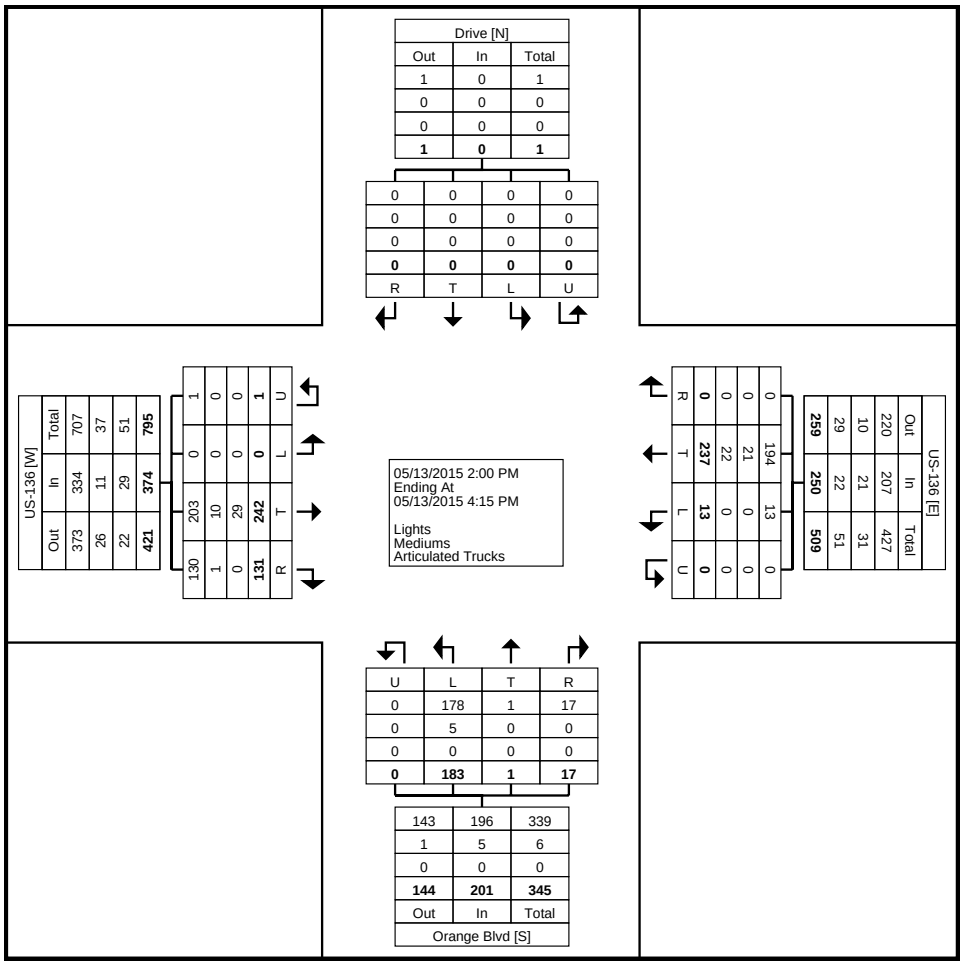
Count Name: Orange Blvd & US-136 PM
Site Code:
Start Date: 05/13/2015



Turning Movement Data Plot

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Count Name: Orange Blvd & US-136 PM
Site Code:
Start Date: 05/13/2015

Turning Movement Peak Hour Data (2:15 PM)

Start Time	Drive Southbound					US-136 Westbound					Orange Blvd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
2:15 PM	0	0	0	0	0	0	25	3	0	28	0	0	4	0	4	25	30	0	0	55	87
2:30 PM	0	0	0	0	0	0	25	2	0	27	7	0	63	0	70	30	32	0	0	62	159
2:45 PM	0	0	0	0	0	0	23	1	0	24	2	1	29	0	32	14	33	0	1	48	104
3:00 PM	0	0	0	0	0	0	32	2	0	34	2	0	18	0	20	10	19	0	0	29	83
Total	0	0	0	0	0	0	105	8	0	113	11	1	114	0	126	79	114	0	1	194	433
Approach %	NaN	NaN	NaN	NaN	-	0.0	92.9	7.1	0.0	-	8.7	0.8	90.5	0.0	-	40.7	58.8	0.0	0.5	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	24.2	1.8	0.0	26.1	2.5	0.2	26.3	0.0	29.1	18.2	26.3	0.0	0.2	44.8	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.820	0.667	0.000	0.831	0.393	0.250	0.452	0.000	0.450	0.658	0.864	0.000	0.250	0.782	0.681
Lights	0	0	0	0	0	0	85	8	0	93	11	1	113	0	125	79	93	0	1	173	391
% Lights	-	-	-	-	-	-	81.0	100.0	-	82.3	100.0	100.0	99.1	-	99.2	100.0	81.6	-	100.0	89.2	90.3
Mediums	0	0	0	0	0	0	11	0	0	11	0	0	1	0	1	0	5	0	0	5	17
% Mediums	-	-	-	-	-	-	10.5	0.0	-	9.7	0.0	0.0	0.9	-	0.8	0.0	4.4	-	0.0	2.6	3.9
Articulated Trucks	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	16	0	0	16	25
% Articulated Trucks	-	-	-	-	-	-	8.6	0.0	-	8.0	0.0	0.0	0.0	-	0.0	0.0	14.0	-	0.0	8.2	5.8

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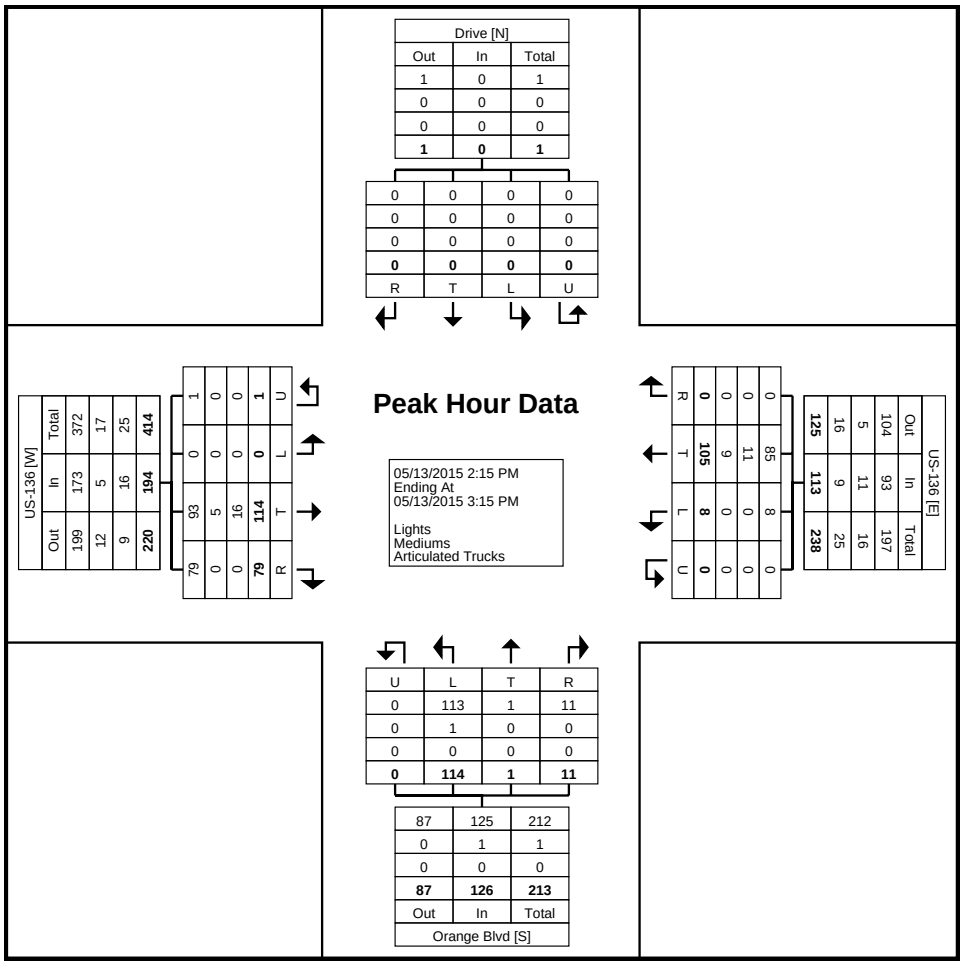
Count Name: Orange Blvd & US-136 PM
Site Code:
Start Date: 05/13/2015



Turning Movement Peak Hour Data Plot (2:15 PM)

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Count Name: Orange Blvd & US-136 AM
Site Code:
Start Date: 05/13/2015

Turning Movement Data

Start Time	Drive Southbound					US-136 Westbound					Orange Blvd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	31	1	0	32	1	0	1	0	2	10	20	0	0	30	64
7:15 AM	0	0	0	0	0	0	24	3	0	27	0	0	7	0	7	18	27	0	0	45	79
7:30 AM	0	0	0	0	0	0	53	7	0	60	0	0	19	0	19	44	29	0	0	73	152
7:45 AM	0	0	0	0	0	0	37	24	0	61	5	0	50	0	55	75	30	0	0	105	221
Hourly Total	0	0	0	0	0	0	145	35	0	180	6	0	77	0	83	147	106	0	0	253	516
8:00 AM	0	0	0	0	0	0	33	18	0	51	4	0	45	0	49	54	25	0	0	79	179
8:15 AM	0	0	0	0	0	0	25	0	0	25	1	0	6	0	7	5	22	0	0	27	59
8:30 AM	0	0	0	0	0	0	24	0	0	24	2	0	2	0	4	4	19	0	0	23	51
8:45 AM	0	0	0	0	0	0	21	0	0	21	0	0	3	0	3	4	26	0	0	30	54
Hourly Total	0	0	0	0	0	0	103	18	0	121	7	0	56	0	63	67	92	0	0	159	343
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	248	53	0	301	13	0	133	0	146	214	198	0	0	412	859
Approach %	NaN	NaN	NaN	NaN	-	0.0	82.4	17.6	0.0	-	8.9	0.0	91.1	0.0	-	51.9	48.1	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	28.9	6.2	0.0	35.0	1.5	0.0	15.5	0.0	17.0	24.9	23.1	0.0	0.0	48.0	-
Lights	0	0	0	0	0	0	219	52	0	271	13	0	131	0	144	212	162	0	0	374	789
% Lights	-	-	-	-	-	-	88.3	98.1	-	90.0	100.0	-	98.5	-	98.6	99.1	81.8	-	-	90.8	91.9
Mediums	0	0	0	0	0	0	13	1	0	14	0	0	2	0	2	2	22	0	0	24	40
% Mediums	-	-	-	-	-	-	5.2	1.9	-	4.7	0.0	-	1.5	-	1.4	0.9	11.1	-	-	5.8	4.7
Articulated Trucks	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	14	0	0	14	30
% Articulated Trucks	-	-	-	-	-	-	6.5	0.0	-	5.3	0.0	-	0.0	-	0.0	0.0	7.1	-	-	3.4	3.5

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Count Name: Orange Blvd & US-136 AM
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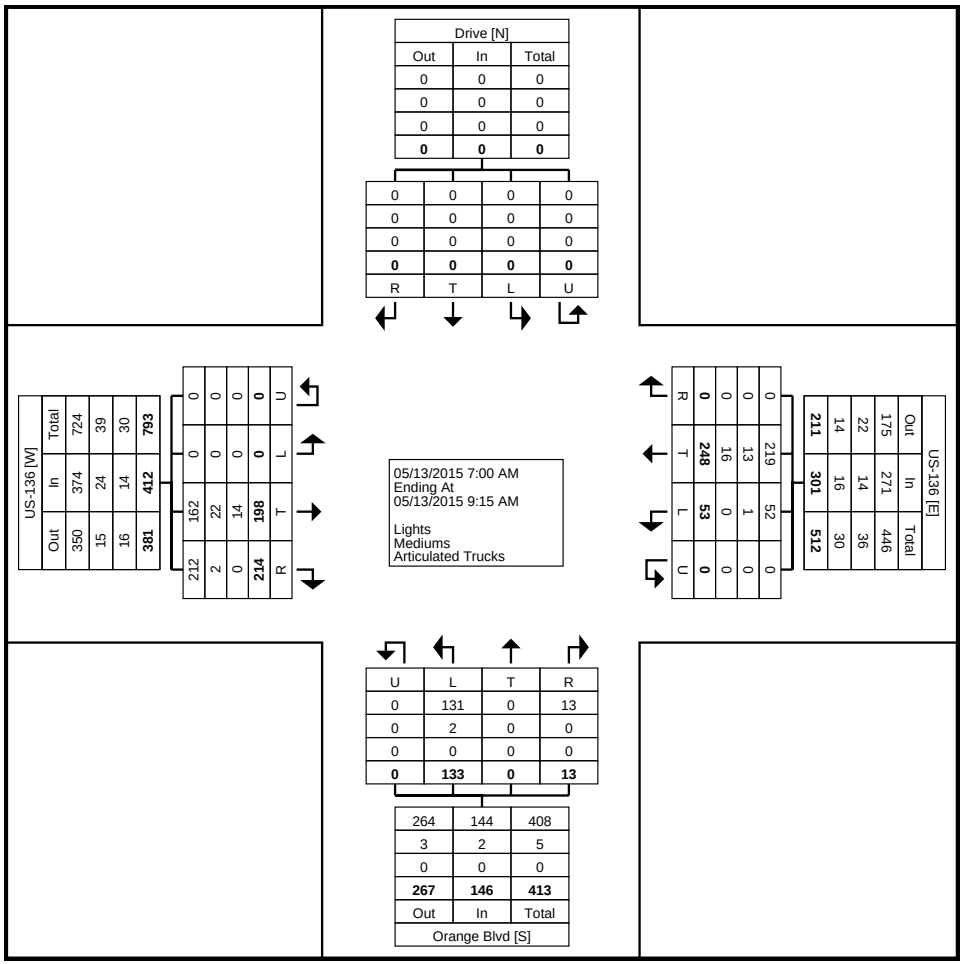

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Count Name: Orange Blvd & US-136 AM
Site Code:
Start Date: 05/13/2015

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Drive Southbound					US-136 Westbound					Orange Blvd Northbound					US-136 Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:15 AM	0	0	0	0	0	0	24	3	0	27	0	0	7	0	7	18	27	0	0	45	79
7:30 AM	0	0	0	0	0	0	53	7	0	60	0	0	19	0	19	44	29	0	0	73	152
7:45 AM	0	0	0	0	0	0	37	24	0	61	5	0	50	0	55	75	30	0	0	105	221
8:00 AM	0	0	0	0	0	0	33	18	0	51	4	0	45	0	49	54	25	0	0	79	179
Total	0	0	0	0	0	0	147	52	0	199	9	0	121	0	130	191	111	0	0	302	631
Approach %	NaN	NaN	NaN	NaN	-	0.0	73.9	26.1	0.0	-	6.9	0.0	93.1	0.0	-	63.2	36.8	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	23.3	8.2	0.0	31.5	1.4	0.0	19.2	0.0	20.6	30.3	17.6	0.0	0.0	47.9	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.693	0.542	0.000	0.816	0.450	0.000	0.605	0.000	0.591	0.637	0.925	0.000	0.000	0.719	0.714
Lights	0	0	0	0	0	0	128	51	0	179	9	0	119	0	128	190	100	0	0	290	597
% Lights	-	-	-	-	-	-	87.1	98.1	-	89.9	100.0	-	98.3	-	98.5	99.5	90.1	-	-	96.0	94.6
Mediums	0	0	0	0	0	0	7	1	0	8	0	0	2	0	2	1	7	0	0	8	18
% Mediums	-	-	-	-	-	-	4.8	1.9	-	4.0	0.0	-	1.7	-	1.5	0.5	6.3	-	-	2.6	2.9
Articulated Trucks	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	16
% Articulated Trucks	-	-	-	-	-	-	8.2	0.0	-	6.0	0.0	-	0.0	-	0.0	0.0	3.6	-	-	1.3	2.5

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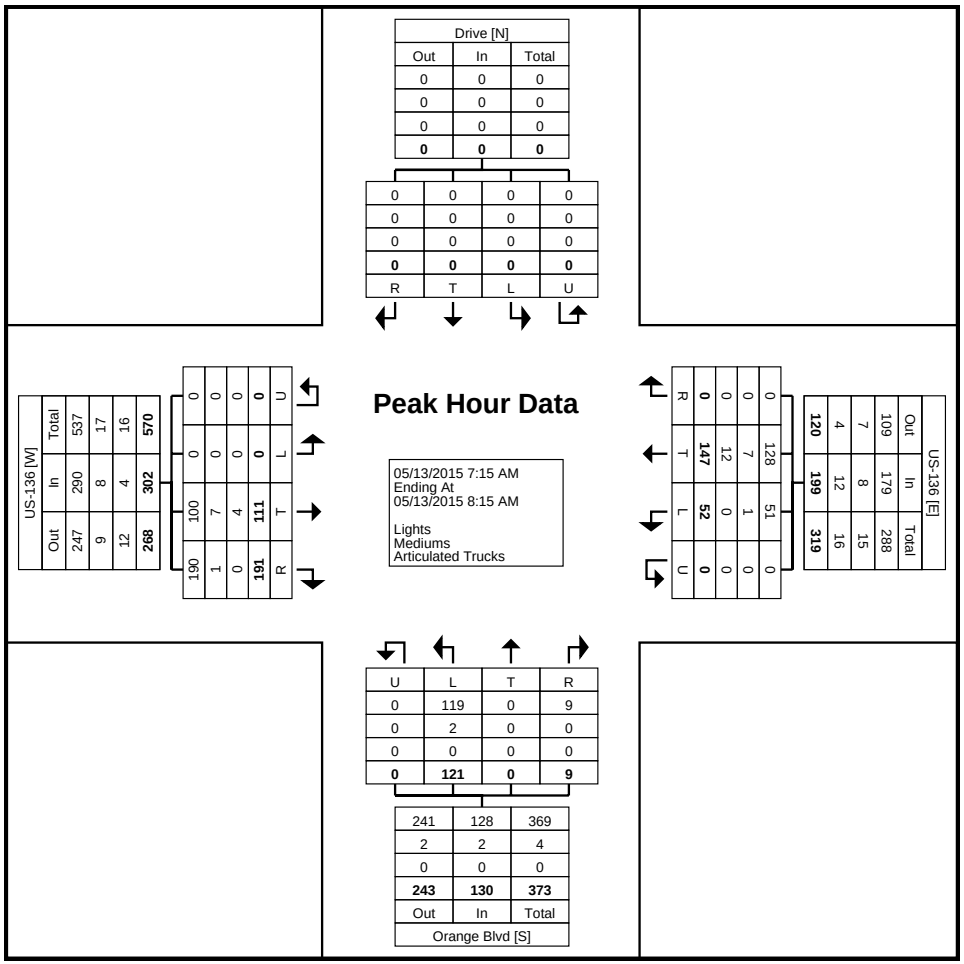
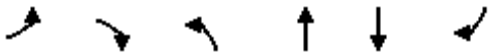


Turning Movement Peak Hour Data Plot (7:15 AM)

APPENDIX B

Existing Capacity Analysis Results



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	40	43	39	1	7
Future Volume (Veh/h)	25	40	43	39	1	7
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.62	0.62	0.67	0.67
Hourly flow rate (vph)	37	60	69	63	1	10
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	207	8	11			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207	8	11			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	96			
cM capacity (veh/h)	752	1066	1621			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	97	132	11
Volume Left	37	69	0
Volume Right	60	0	10
cSH	920	1621	1700
Volume to Capacity	0.11	0.04	0.01
Queue Length 95th (ft)	9	3	0
Control Delay (s)	9.4	4.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	4.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	38	81	0	0	182	48	1	0	0	12	0	28
Future Vol, veh/h	38	81	0	0	182	48	1	0	0	12	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	270	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	82	82	82	25	25	25	56	56	56
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	45	96	0	0	222	59	4	0	0	21	0	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	96	0	0	463	467	96	438	438	251
Stage 1	-	-	-	-	-	-	187	187	-	251	251	-
Stage 2	-	-	-	-	-	-	276	280	-	187	187	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1294	-	-	1510	-	-	513	496	966	532	515	793
Stage 1	-	-	-	-	-	-	819	749	-	758	703	-
Stage 2	-	-	-	-	-	-	735	683	-	819	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1294	-	-	1510	-	-	468	479	966	518	497	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	468	479	-	518	497	-
Stage 1	-	-	-	-	-	-	791	723	-	732	703	-
Stage 2	-	-	-	-	-	-	689	683	-	791	723	-

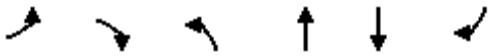
Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	12.8	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	468	1294	-	-	1510	-	-	684
HCM Lane V/C Ratio	0.009	0.035	-	-	-	-	-	0.104
HCM Control Delay (s)	12.8	7.9	-	-	0	-	-	10.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	111	229	62	147	0	145	0	11	0	0	0
Future Volume (veh/h)	0	111	229	62	147	0	145	0	11	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1759	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	154	318	76	179	0	246	0	19	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Peak Hour Factor	0.72	0.72	0.72	0.82	0.82	0.82	0.59	0.59	0.59	0.25	0.25	0.25
Percent Heavy Veh, %	0	4	0	0	8	8	0	0	0	0	0	0
Cap, veh/h	147	502	444	342	484	0	926	0	874	0	1028	0
Arrive On Green	0.00	0.28	0.28	0.28	0.28	0.00	0.54	0.00	0.54	0.00	0.00	0.00
Sat Flow, veh/h	1224	1827	1615	936	1759	0	1440	0	1615	0	1900	0
Grp Volume(v), veh/h	0	154	318	76	179	0	246	0	19	0	0	0
Grp Sat Flow(s),veh/h/ln	1224	1827	1615	936	1759	0	1440	0	1615	0	1900	0
Q Serve(g_s), s	0.0	3.3	8.7	3.4	4.0	0.0	4.6	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.3	8.7	6.7	4.0	0.0	4.6	0.0	0.3	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	147	502	444	342	484	0	926	0	874	0	1028	0
V/C Ratio(X)	0.00	0.31	0.72	0.22	0.37	0.00	0.27	0.00	0.02	0.00	0.00	0.00
Avail Cap(c_a), veh/h	423	914	808	553	880	0	926	0	874	0	1028	0
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	14.1	16.0	16.7	14.3	0.0	6.2	0.0	5.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	2.2	0.3	0.5	0.0	0.7	0.0	0.0	0.0	0.0	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	0.0	1.7	4.1	0.9	2.0	0.0	2.0	0.0	0.1	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	14.4	18.2	17.0	14.8	0.0	6.9	0.0	5.3	0.0	0.0	0.0
LnGrp LOS		B	B	B	B		A		A			
Approach Vol, veh/h		472			255			265			0	
Approach Delay, s/veh		17.0			15.5			6.8			0.0	
Approach LOS		B			B			A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		18.0		31.0		18.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		26.5		24.5		26.5		24.5
Max Q Clear Time (g_c+I1), s		6.6		10.7		0.0		8.7
Green Ext Time (p_c), s		1.5		2.8		0.0		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	37	32	8	40	34
Future Volume (Veh/h)	4	37	32	8	40	34
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.77	0.77	0.45	0.45
Hourly flow rate (vph)	5	44	42	10	89	76
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	221	129	165			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	221	129	165			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	95	97			
cM capacity (veh/h)	749	916	1426			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	49	52	165
Volume Left	5	42	0
Volume Right	44	0	76
cSH	896	1426	1700
Volume to Capacity	0.05	0.03	0.10
Queue Length 95th (ft)	4	2	0
Control Delay (s)	9.3	6.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	6.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	114	2	0	106	13	1	2	0	21	1	35
Future Vol, veh/h	15	114	2	0	106	13	1	2	0	21	1	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	270	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	94	94	94	38	38	38	79	79	79
Heavy Vehicles, %	0	10	0	0	12	0	0	0	0	0	0	0
Mvmt Flow	21	158	3	0	113	14	3	5	0	27	1	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	127	0	0	161	0	0	343	328	160	324	323	120
Stage 1	-	-	-	-	-	-	201	201	-	120	120	-
Stage 2	-	-	-	-	-	-	142	127	-	204	203	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1472	-	-	1430	-	-	615	594	890	633	598	937
Stage 1	-	-	-	-	-	-	805	739	-	889	800	-
Stage 2	-	-	-	-	-	-	866	795	-	803	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1472	-	-	1430	-	-	579	586	890	622	589	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	586	-	622	589	-
Stage 1	-	-	-	-	-	-	794	728	-	876	800	-
Stage 2	-	-	-	-	-	-	824	795	-	786	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	11.2	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	584	1472	-	-	1430	-	-	783
HCM Lane V/C Ratio	0.014	0.014	-	-	-	-	-	0.092
HCM Control Delay (s)	11.2	7.5	-	-	0	-	-	10.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	114	95	10	105	0	137	1	13	0	0	0
Future Volume (veh/h)	0	114	95	10	105	0	137	1	13	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Adj Sat Flow, veh/h/ln	1900	1667	1900	1900	1743	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	146	122	12	127	0	304	2	29	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.45	0.45	0.45	0.92	0.92	0.92
Percent Heavy Veh, %	0	14	0	0	9	9	0	0	0	0	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	156	277	269	253	290	0	1070	7	1031	0	1213	0
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
Prop Arrive On Green	0.00	0.17	0.17	0.17	0.17	0.00	0.64	0.64	0.64	0.00	0.00	0.00
Ln Grp Delay, s/veh	0.0	19.1	18.6	19.6	18.3	0.0	4.5	0.0	3.1	0.0	0.0	0.0
Ln Grp LOS		B	B	B	B		A		A			
Approach Vol, veh/h		268			139			335			0	
Approach Delay, s/veh		18.9			18.4			4.4			0.0	
Approach LOS		B			B			A				

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		7.0		5.0		8.0		6.0
Phs Duration (G+Y+Rc), s		34.0		12.2		34.0		12.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		29.5		21.5		29.5		21.5
Max Allow Headway (MAH), s		5.3		4.6		0.0		4.6
Max Q Clear (g_c+I1), s		6.5		5.7		0.0		6.1
Green Ext Time (g_e), s		2.0		1.6		0.0		1.6
Prob of Phs Call (p_c)		1.00		0.99		1.00		0.99
Prob of Max Out (p_x)		0.00		0.01		0.00		0.02

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1432		1284		0		1129

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		10		1667		1900		1743

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1615		1615		0		0

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment		L+T						

Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	306	0	0	0	0	0	12
Grp Sat Flow (s), veh/h/ln	0	1442	0	1284	0	0	0	1129
Q Serve Time (g_s), s	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	0.0	0.0	0.0	0.0	4.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1440	0	1284	0	0	0	1129
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	29.5	0.0	0.0	0.0	0.0	0.0	7.7
Perm LT Serve Time (g_u), s	0.0	29.5	0.0	0.0	0.0	0.0	0.0	4.0
Perm LT Q Serve Time (g_ps), s	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	29.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.99	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1077	0	156	0	0	0	253
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.05
Avail Cap (c_a), veh/h	0	1077	0	540	0	0	0	591
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.8	0.0	0.0	0.0	0.0	0.0	19.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.5	0.0	0.0	0.0	0.0	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	146	0	0	0	127
Grp Sat Flow (s), veh/h/ln	0	0	0	1667	0	1900	0	1743
Q Serve Time (g_s), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.0
Lane Grp Cap (c), veh/h	0	0	0	277	0	1213	0	290
V/C Ratio (X)	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	0	0	776	0	1213	0	811
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.6	0.0	0.0	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	19.1	0.0	0.0	0.0	18.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	0.0	0.0	1.4

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	29	0	122	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1615	0	1615	0	0	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	3.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	3.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1031	0	269	0	0	0	0
V/C Ratio (X)	0.00	0.03	0.00	0.45	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1031	0	752	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.1	0.0	17.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.1	0.0	18.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	1.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	1.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.11	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

APPENDIX C

Build Out Capacity Analysis Results

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	97	96	117	110	63	118
Future Vol, veh/h	97	96	117	110	63	118
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	-	-	-	-	150
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	105	104	127	120	68	128

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	442	68	68	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	374	-	-	-	-	-
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	573	995	1533	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	522	995	1533	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	634	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	3.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1533	-	714	-	-
HCM Lane V/C Ratio	0.083	-	0.294	-	-
HCM Control Delay (s)	7.6	0	12.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	10	5	13	216	135	104
Future Vol, veh/h	10	5	13	216	135	104
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	-	-	-	-	150
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	14	235	147	113

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	410	147	147	0	-	0
Stage 1	147	-	-	-	-	-
Stage 2	263	-	-	-	-	-
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	598	900	1435	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	591	900	1435	-	-	-
Mov Cap-2 Maneuver	641	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1435	-	709	-	-
HCM Lane V/C Ratio	0.01	-	0.023	-	-
HCM Control Delay (s)	7.5	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

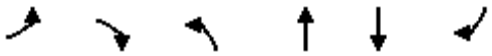
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	199	12	7	155	10	6
Future Vol, veh/h	199	12	7	155	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	-	-	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	216	13	8	168	11	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	400	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1354	-	606	824
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	602	824
Mov Cap-2 Maneuver	-	-	-	-	602	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	670	-	-	1354	-
HCM Lane V/C Ratio	0.026	-	-	0.006	-
HCM Control Delay (s)	10.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	180	163	44	1	7
Future Volume (Veh/h)	25	180	163	44	1	7
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.62	0.62	0.67	0.67
Hourly flow rate (vph)	37	269	263	71	1	10
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	603	8	11			
vC1, stage 1 conf vol	6					
vC2, stage 2 conf vol	597					
vCu, unblocked vol	603	8	11			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	75	84			
cM capacity (veh/h)	452	1066	1621			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	306	334	11
Volume Left	37	263	0
Volume Right	269	0	10
cSH	916	1621	1700
Volume to Capacity	0.33	0.16	0.01
Queue Length 95th (ft)	37	14	0
Control Delay (s)	10.9	6.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.9	6.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	132	103	0	0	212	97	1	0	0	49	0	107
Future Vol, veh/h	132	103	0	0	212	97	1	0	0	49	0	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	270	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	82	82	82	25	25	25	56	56	56
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	157	123	0	0	259	118	4	0	0	88	0	191

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	123	0	0	850	814	123	755	755	318
Stage 1	-	-	-	-	-	-	437	437	-	318	318	-
Stage 2	-	-	-	-	-	-	413	377	-	437	437	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1193	-	-	1477	-	-	283	315	933	328	340	727
Stage 1	-	-	-	-	-	-	602	583	-	698	657	-
Stage 2	-	-	-	-	-	-	620	619	-	602	583	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1193	-	-	1477	-	-	188	274	933	295	295	727
Mov Cap-2 Maneuver	-	-	-	-	-	-	188	274	-	295	295	-
Stage 1	-	-	-	-	-	-	523	506	-	606	657	-
Stage 2	-	-	-	-	-	-	457	619	-	523	506	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.8	0	24.6	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	188	1193	-	-	1477	-	-	498
HCM Lane V/C Ratio	0.021	0.132	-	-	-	-	-	0.559
HCM Control Delay (s)	24.6	8.5	-	-	0	-	-	21
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	213	229	69	238	13	145	0	12	10	0	67
Future Volume (veh/h)	83	213	229	69	238	13	145	0	12	10	0	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1766	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	115	296	318	84	290	16	246	0	20	40	0	268
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.72	0.72	0.72	0.82	0.82	0.82	0.59	0.59	0.59	0.25	0.25	0.25
Percent Heavy Veh, %	0	4	0	0	8	8	0	0	0	0	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	323	591	522	285	537	30	603	0	837	851	0	837
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
Prop Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.00	0.52	0.52	0.00	0.52
Ln Grp Delay, s/veh	22.0	16.2	17.5	21.2	0.0	16.6	14.2	0.0	6.7	7.1	0.0	8.9
Ln Grp LOS	C	B	B	C		B	B		A	A		A
Approach Vol, veh/h		729			390			266			308	
Approach Delay, s/veh		17.7			17.6			13.6			8.7	
Approach LOS		B			B			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		6.0		5.0		6.0		6.0
Phs Duration (G+Y+Rc), s		34.0		22.9		34.0		22.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		29.5		21.5		29.5		21.5
Max Allow Headway (MAH), s		5.0		4.6		5.0		4.6
Max Q Clear (g_c+I1), s		16.6		15.7		7.5		14.7
Green Ext Time (g_e), s		2.6		2.8		3.2		3.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.85		0.00		0.75

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1129		1090		1414		821

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		0		1827		0		1658

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1615		1615		1615		92

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	246	0	115	0	40	0	84
Grp Sat Flow (s), veh/h/ln	0	1129	0	1090	0	1414	0	821
Q Serve Time (g_s), s	0.0	9.2	0.0	5.5	0.0	0.8	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	14.6	0.0	13.7	0.0	1.2	0.0	12.7
Perm LT Sat Flow (s_l), veh/h/ln	0	1129	0	1090	0	1414	0	821
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	29.5	0.0	18.4	0.0	29.5	0.0	18.4
Perm LT Serve Time (g_u), s	0.0	24.0	0.0	10.3	0.0	29.2	0.0	11.0
Perm LT Q Serve Time (g_ps), s	0.0	9.2	0.0	5.5	0.0	0.8	0.0	5.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	323	0	851	0	285
V/C Ratio (X)	0.00	0.41	0.00	0.36	0.00	0.05	0.00	0.30
Avail Cap (c_a), veh/h	0	603	0	382	0	851	0	329
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.1	0.0	21.4	0.0	7.0	0.0	20.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.7	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.2	0.0	22.0	0.0	7.1	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.7	0.0	0.3	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	1.7	0.0	0.3	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.31	0.00	0.06	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	296	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1827	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	591	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	690	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	20	0	318	0	268	0	306
Grp Sat Flow (s), veh/h/ln	0	1615	0	1615	0	1615	0	1750
Q Serve Time (g_s), s	0.0	0.3	0.0	9.4	0.0	5.5	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	9.4	0.0	5.5	0.0	8.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.05
Lane Grp Cap (c), veh/h	0	837	0	522	0	837	0	566
V/C Ratio (X)	0.00	0.02	0.00	0.61	0.00	0.32	0.00	0.54
Avail Cap (c_a), veh/h	0	837	0	610	0	837	0	661
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.7	0.0	16.2	0.0	7.9	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	1.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.7	0.0	17.5	0.0	8.9	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.2	0.0	2.4	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	4.3	0.0	2.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.31	0.00	0.44	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	213	229	69	238	13	145	0	12	10	0	67
Future Volume (veh/h)	83	213	229	69	238	13	145	0	12	10	0	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1766	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	115	296	318	84	290	16	246	0	20	40	0	268
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.72	0.72	0.72	0.82	0.82	0.82	0.59	0.59	0.59	0.25	0.25	0.25
Percent Heavy Veh, %	0	4	0	0	8	8	0	0	0	0	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	323	591	522	285	537	30	603	0	837	851	0	837
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
Prop Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.00	0.52	0.52	0.00	0.52
Ln Grp Delay, s/veh	22.0	16.2	17.5	21.2	0.0	16.6	14.2	0.0	6.7	7.1	0.0	8.9
Ln Grp LOS	C	B	B	C		B	B		A	A		A
Approach Vol, veh/h		729			390			266			308	
Approach Delay, s/veh		17.7			17.6			13.6			8.7	
Approach LOS		B			B			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		6.0		5.0		6.0		6.0
Phs Duration (G+Y+Rc), s		34.0		22.9		34.0		22.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		29.5		21.5		29.5		21.5
Max Allow Headway (MAH), s		5.0		4.6		5.0		4.6
Max Q Clear (g_c+I1), s		16.6		15.7		7.5		14.7
Green Ext Time (g_e), s		2.6		2.8		3.2		3.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.85		0.00		0.75

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1129		1090		1414		821

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		0		1827		0		1658

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1615		1615		1615		92

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	246	0	115	0	40	0	84
Grp Sat Flow (s), veh/h/ln	0	1129	0	1090	0	1414	0	821
Q Serve Time (g_s), s	0.0	9.2	0.0	5.5	0.0	0.8	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	14.6	0.0	13.7	0.0	1.2	0.0	12.7
Perm LT Sat Flow (s_l), veh/h/ln	0	1129	0	1090	0	1414	0	821
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	29.5	0.0	18.4	0.0	29.5	0.0	18.4
Perm LT Serve Time (g_u), s	0.0	24.0	0.0	10.3	0.0	29.2	0.0	11.0
Perm LT Q Serve Time (g_ps), s	0.0	9.2	0.0	5.5	0.0	0.8	0.0	5.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	323	0	851	0	285
V/C Ratio (X)	0.00	0.41	0.00	0.36	0.00	0.05	0.00	0.30
Avail Cap (c_a), veh/h	0	603	0	382	0	851	0	329
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.1	0.0	21.4	0.0	7.0	0.0	20.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.7	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.2	0.0	22.0	0.0	7.1	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.7	0.0	0.3	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	1.7	0.0	0.3	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.31	0.00	0.06	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	296	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1827	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	591	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	690	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	15.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	20	0	318	0	268	0	306
Grp Sat Flow (s), veh/h/ln	0	1615	0	1615	0	1615	0	1750
Q Serve Time (g_s), s	0.0	0.3	0.0	9.4	0.0	5.5	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	9.4	0.0	5.5	0.0	8.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.05
Lane Grp Cap (c), veh/h	0	837	0	522	0	837	0	566
V/C Ratio (X)	0.00	0.02	0.00	0.61	0.00	0.32	0.00	0.54
Avail Cap (c_a), veh/h	0	837	0	610	0	837	0	661
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.7	0.0	16.2	0.0	7.9	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	1.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.7	0.0	17.5	0.0	8.9	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.2	0.0	2.4	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	4.3	0.0	2.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.31	0.00	0.44	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	7	7	6	96	132	75
Future Vol, veh/h	7	7	6	96	132	75
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	-	-	-	-	150
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	8	8	7	104	143	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	260	143	143	0	-	0
Stage 1	143	-	-	-	-	-
Stage 2	117	-	-	-	-	-
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	729	905	1440	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	725	905	1440	-	-	-
Mov Cap-2 Maneuver	738	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1440	-	813	-	-
HCM Lane V/C Ratio	0.005	-	0.019	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

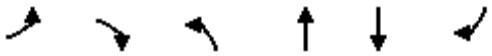
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	99	6	4	136	8	5
Future Vol, veh/h	99	6	4	136	8	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	-	-	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	108	7	4	148	9	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	108	0	265	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1483	-	724	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1483	-	722	946
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	868	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	794	-	-	1483	-
HCM Lane V/C Ratio	0.018	-	-	0.003	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	100	110	7	33	34
Future Volume (Veh/h)	4	100	110	7	33	34
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.62	0.62	0.67	0.67
Hourly flow rate (vph)	6	149	177	11	49	51
Pedestrians				2		
Lane Width (ft)				12.0		
Walking Speed (ft/s)				3.5		
Percent Blockage				0		
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	440	76	100			
vC1, stage 1 conf vol	74					
vC2, stage 2 conf vol	365					
vCu, unblocked vol	440	76	100			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	85	88			
cM capacity (veh/h)	603	977	1505			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	155	188	100
Volume Left	6	177	0
Volume Right	149	0	51
cSH	954	1505	1700
Volume to Capacity	0.16	0.12	0.06
Queue Length 95th (ft)	14	10	0
Control Delay (s)	9.5	7.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.5	7.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	64	129	2	0	123	36	1	2	0	41	1	96
Future Vol, veh/h	64	129	2	0	123	36	1	2	0	41	1	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	270	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	82	82	82	25	25	25	56	56	56
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	76	154	2	0	150	44	4	8	0	73	2	171

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	194	0	0	156	0	0	566	501	155	483	480	172
Stage 1	-	-	-	-	-	-	307	307	-	172	172	-
Stage 2	-	-	-	-	-	-	259	194	-	311	308	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1391	-	-	1436	-	-	438	475	896	497	488	877
Stage 1	-	-	-	-	-	-	707	665	-	835	760	-
Stage 2	-	-	-	-	-	-	750	744	-	704	664	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1391	-	-	1436	-	-	337	449	896	470	461	877
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	449	-	470	461	-
Stage 1	-	-	-	-	-	-	668	629	-	789	760	-
Stage 2	-	-	-	-	-	-	602	744	-	657	628	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	14.2	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	404	1391	-	-	1436	-	-	694
HCM Lane V/C Ratio	0.03	0.055	-	-	-	-	-	0.355
HCM Control Delay (s)	14.2	7.7	-	-	0	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	174	95	14	200	6	137	1	14	41	1	96
Future Volume (veh/h)	38	174	95	14	200	6	137	1	14	41	1	96
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1763	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	53	242	132	17	244	7	232	2	24	164	4	384
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.72	0.72	0.72	0.82	0.82	0.82	0.59	0.59	0.59	0.25	0.25	0.25
Percent Heavy Veh, %	0	4	0	0	8	8	0	0	0	0	0	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	297	472	417	291	441	13	573	71	850	925	9	902
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
Prop Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	0.56	0.56	0.56	0.56
Ln Grp Delay, s/veh	20.1	16.9	15.6	18.9	0.0	17.3	12.9	0.0	5.0	6.0	0.0	7.8
Ln Grp LOS	C	B	B	B		B	B		A	A		A
Approach Vol, veh/h		427			268			258			552	
Approach Delay, s/veh		16.9			17.4			12.1			7.3	
Approach LOS		B			B			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		6.0		5.0		6.0		6.0
Phs Duration (G+Y+Rc), s		33.0		17.6		33.0		17.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		28.5		22.5		28.5		22.5
Max Allow Headway (MAH), s		5.1		4.7		5.1		4.7
Max Q Clear (g_c+I1), s		17.6		10.4		9.0		8.5
Green Ext Time (g_e), s		3.5		2.7		4.6		2.9
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.18		0.00		0.11

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1011		1147		1407		1024

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		126		1827		17		1705

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1508		1615		1601		49

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	232	0	53	0	164	0	17
Grp Sat Flow (s), veh/h/ln	0	1011	0	1147	0	1407	0	1024
Q Serve Time (g_s), s	0.0	8.6	0.0	2.1	0.0	3.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	15.6	0.0	8.4	0.0	3.3	0.0	6.5
Perm LT Sat Flow (s_l), veh/h/ln	0	1011	0	1147	0	1407	0	1024
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	28.5	0.0	13.1	0.0	28.5	0.0	13.1
Perm LT Serve Time (g_u), s	0.0	21.5	0.0	6.8	0.0	28.1	0.0	7.3
Perm LT Q Serve Time (g_ps), s	0.0	8.6	0.0	2.1	0.0	3.0	0.0	0.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	573	0	297	0	925	0	291
V/C Ratio (X)	0.00	0.40	0.00	0.18	0.00	0.18	0.00	0.06
Avail Cap (c_a), veh/h	0	573	0	511	0	925	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.8	0.0	19.9	0.0	5.6	0.0	18.8
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.3	0.0	0.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	20.1	0.0	6.0	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.7	0.0	1.1	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.7	0.0	1.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.12	0.00	0.21	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				
Lanes in Grp	0	0	0	1	0	0	0	0
Grp Vol (v), veh/h	0	0	0	242	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1827	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	472	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	813	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	26	0	132	0	388	0	251
Grp Sat Flow (s), veh/h/ln	0	1634	0	1615	0	1618	0	1754
Q Serve Time (g_s), s	0.0	0.4	0.0	3.3	0.0	7.0	0.0	6.3
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	3.3	0.0	7.0	0.0	6.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.92	0.00	1.00	0.00	0.99	0.00	0.03
Lane Grp Cap (c), veh/h	0	921	0	417	0	912	0	453
V/C Ratio (X)	0.00	0.03	0.00	0.32	0.00	0.43	0.00	0.55
Avail Cap (c_a), veh/h	0	921	0	719	0	912	0	780
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	4.9	0.0	15.1	0.0	6.3	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	1.5	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.0	0.0	15.6	0.0	7.8	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	1.5	0.0	3.0	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	1.5	0.0	3.4	0.0	3.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.11	0.00	0.57	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B