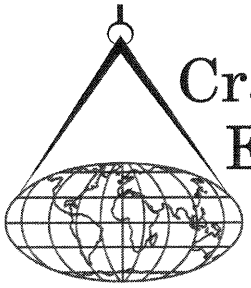
Flowing Wells Road Transportation Study

prepared for

Blanchard & Calhoun Commercial Corporation



Cranston Engineering Group, P.C.

ENGINEERS - PLANNERS - SURVEYORS

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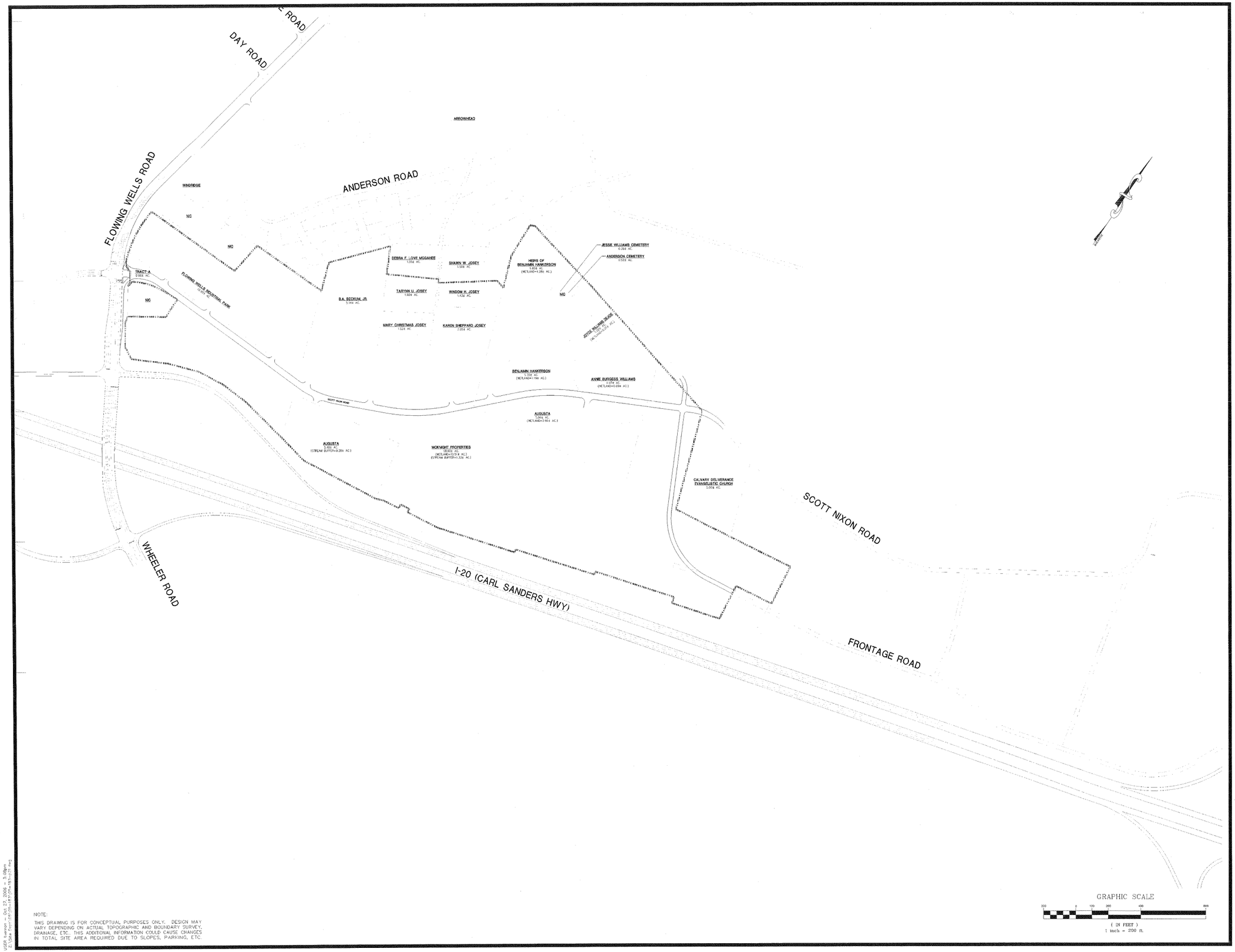
Introduction

Cranston Engineering Group, PC was contracted by Blanchard & Calhoun Commercial to perform a traffic impact study for a proposed development to be located along a proposed new roadway in Columbia County. The proposed development will consist of a discount store measuring approximately 125,000 SF in size, a hotel with approximately 100 rooms, as well as five restaurants. The purpose of this study is to evaluate both the existing as well as proposed traffic conditions in the study area after the proposed development has been constructed. The study will determine what impacts, if any, the proposed development is projected to have on traffic flow in the study area.

The proposed development will be located along a proposed roadway which will connect Scott Nixon Memorial Parkway to the current Wellsbo Court roadway which intersects with Wheeler Road just to the north of the existing I-20 Interchange. Figure 1 shows the location of the proposed development along with the proposed new roadway to be constructed as part of this development.

The area studied as a part of this traffic impact assessment includes the intersections of Wheeler Road with the I-20 EB Ramps, the I-20 WB Ramps, and Wellsbo Court/Flowing Wells Road. In addition the proposed intersection of the proposed roadway and Scott Nixon Memorial Parkway was also studied. The existing intersections located along Wheeler Road currently operate using traffic signals. A signal warrant analysis was conducted at the proposed intersection of Scott Nixon Memorial Parkway and the new roadway in order to determine if a traffic signal should be constructed at this location. Capacity analyses were performed at each of the intersections within the study area for both the existing and proposed conditions in order to determine what impacts the proposed development would have on the flow of traffic near the proposed development.

Other items which were considered in this study include the westbound approach to the intersection of Wheeler Road and Wellsbo Court (Future New Roadway). Since Wellsbo Court currently only provides access to a gas station located in the southeast corner of this intersection very little traffic uses this approach. However, once the new roadway is extended to intersect with Scott Nixon Memorial Parkway it is anticipated that this approach will experience a significant increase in the traffic it carries, due both to the change in the roadway network as well as the additional traffic generated by the proposed development.



NOTE:

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. DESIGN MAY VARY DEPENDING ON ACTUAL TOPOGRAPHIC AND BOUNDARY SURVEY, DRAINAGE, ETC. THIS ADDITIONAL INFORMATION COULD CAUSE CHANGES IN TOTAL SITE AREA REQUIRED DUE TO SLOPES, PARKING, ETC.

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Project Title
PROPOSED COMMERCIAL DEVELOPMENT
AUGUSTA, GEORGIA
BLANCHARD CALHOUN COMMERCIAL
AUGUSTA, GA

REVISIONS	BY

DRAWN BY	SC
CHECKED BY	JC
DATE:	6/6/06
SCALE:	1"= 200'
JOB No.	05-183

SHEET NUMBER
P-21
OF SHEETS

05-183-P21.DWG

Executive Summary

This study examined the impacts a proposed development located along a new roadway to be constructed connecting Wheeler Road and Scott Nixon Memorial Parkway will have on the flow of traffic in the area. The existing traffic patterns were compared to those projected following the opening of the development. Intersection Capacity analyses were performed for the Noon Peak period, the PM peak period, as well as the Saturday peak period for the intersections of Wheeler Road with Wellsbo Court (Proposed Roadway), the I-20 WB ramps, and the I-20 EB Ramps. In addition, a traffic signal warrant analysis was conducted at the proposed intersection of Scott Nixon Memorial Parkway and the proposed new roadway in order to determine if a traffic signal should be constructed at this intersection.

This study found that the traffic generated by the proposed development will not negatively impact the flow of traffic at the intersections of Wheeler Road with the I-20 EB and WB ramps. All movements at these intersections currently operate at a LOS D or better during the peak periods studied. Following the construction of the proposed development all movements are projected to continue to operate at an acceptable LOS during the peak periods. Therefore, no improvements will be required at the intersections of Wheeler Road with the I-20 EB and WB ramps.

The intersection of Wheeler Road, Flowing Wells Road, and Wellsbo Court currently requires improvements to adequately handle the existing flow of traffic at the intersection. The Georgia Department of Transportation currently has plans for the widening of Flowing Wells Road to the north of this intersection. As part of this project, dual northbound left turn lanes will be installed on Wheeler Road at the intersection of Wheeler Road and Wellsbo Court (Proposed Roadway). These northbound left turn lanes are needed to handle the high left turn volume during the PM peak period. In addition, there is a need for an exclusive eastbound right turn lane under the existing conditions. A large eastbound right turn volume exists at this intersection during the peak periods of traffic. An exclusive right turn lane would improve the flow of this traffic which currently operates at an unacceptable LOS during several of the peak traffic periods.

The study also found that the improvements to the westbound approach of this intersection which are associated with the proposed development will improve the operation at this intersection on an interim basis until the Flowing Wells Road Improvements are constructed. However, several movements, including the northbound left turn movement and the eastbound right turn movement, will continue to operate at an unacceptable LOS during the PM peak period. This traffic is an existing condition which is not affected by the proposed development.

In addition to the improvements listed above to improve the flow of the existing traffic at the intersection, several improvements should be made on the westbound approach following the construction of the proposed development. A second westbound left turn lane should be constructed along with an exclusive right turn lane on this approach.

These improvements along with the required improvements for the existing conditions will improve the intersection so that it can adequately handle the projected traffic volumes following the construction of the proposed development.

The traffic signal warrant analysis which was performed at the proposed intersection of the new roadway and Scott Nixon Memorial Parkway found that a traffic signal should not be constructed at this location. The projected traffic volumes at the intersection do not warrant the installation of a traffic signal at this location.

Existing Traffic Conditions

Figure 2 shows the existing traffic volumes which were counted in the study area which includes the intersections of Wheeler Road with the I-20 EB Ramps, the I-20 WB Ramps, and Wellsbo Court.

The intersections located along Wheeler Road are currently signalized and are operated by the Georgia Department of Transportation. The three traffic signals are operated as part of a signalized system which provides for the progression of traffic along Wheeler Road. Capacity analyses were performed for each of the three intersections listed above using the Highway Capacity Software (HCS 2000). These analyses were performed in accordance with the procedures listed in the Highway Capacity Manual which is published by the Transportation Research Board. The results of the capacity analyses performed for the existing conditions are listed in Appendix C.

Existing Conditions Traffic Issues

Listed below are the movements at intersections within the study area that operate with an unacceptable LOS (E or F) under the existing traffic conditions:

Noon Peak:

- Wheeler Road and Wellsbo Court – Eastbound Through –Right Movements

PM Peak:

- Wheeler Road and Wellsbo Court – Eastbound Through-Right Movements
- Wheeler Road and Wellsbo Court – Northbound Left Turn Movement

Proposed Traffic Conditions

The proposed traffic conditions are the projected traffic conditions which will be present within the study area after the construction of the proposed development has been completed. The proposed traffic conditions were developed by projecting the amount of traffic the proposed development will create and then distributing this traffic to the roadway network. In addition, since the access roadway for this development will affect the local traffic flow patterns, these effects were also taken into account. The following sections discuss how these additional trips were generated and how they were distributed to the existing roadway network.

Figure 2. Existing Conditions Traffic Volumes
(Noon, PM, and Saturday Peak Periods)

Wheeler Road

Wheeler Road

Flowing Wells Road

Wellsbo Court

To Proposed Site

N

828(1299)[708] →
100(211)[87] ↴

← 691(868)[657]
↴ 82(182)[81]

182(356)[15] ↰
695(1078)[55] →

↳ 74(294)[75]
← 143(177)[94]

↳ 33(68)[42]
← 609(811)[602]

201(498)[162] ↰
569(893)[448] →
0(3)[1] ↴

183(239)[185] ↲ ↳ 26(66)[35]

169(209)[202] ↲ ↓ ↳ 75(93)[88] 10(12)[5]

↳ 88(129)[68]
← 481(637)[418]
↴ 12(18)[9]

↰ 15(24)[16]
↑ 5(24)[1]
↳ 14(29)[17]

Noon (PM) [Saturday] →

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Trip Generation

The amount of traffic a development will generate can be estimated using the Trip Generation Manual, 7th Edition which is published by the Institute of Transportation Engineers. This manual is a compilation of multiple trip generation studies for different types of developments performed throughout the country.

The Trip Generation Manual provides the methodology to calculate the volume of traffic the new development will generate on a daily basis, during the PM peak period, and the Saturday Peak Period. Since the proposed development for this project is a mixture of several different uses, different land uses were used from the Trip Generation Manual. The proposed development consists of a discount store of approximately 125,000 SF, a hotel which will have approximately 100 rooms as well as five proposed restaurants. All of the trips generated by this development will be new trips and not pass-by trips. Table 1 below shows the number of trips generated by the proposed development for each of the peak periods studied as wells as the daily traffic generated.

Table 1. Additional Trips Generated by the Proposed Development

Land Use	Daily Traffic		Noon Peak		PM Peak		Saturday Peak	
	In	Out	In	Out	In	Out	In	Out
Discount Store (125,000 SF)	2,644 vdp	2,644 vpd	201 vph	216 vph	231 vph	240 vph	299 vph	287 vph
Hotel (100 Rooms)	446 vpd	446 vpd	45 vph	45 vph	26 vph	27 vph	44 vph	43 vph
Restaurants (5 – Average Size)	1,907 vpd	1,907 vpd	190 vph	190 vph	200 vph	128 vph	378 vph	222 vph
Total New Trips	**4,997 vpd**	**4,997 vpd**	**436 vph**	**451 vph**	**457 vph**	**395 vph**	**721 vph**	**552 vph**

The amount of traffic shown on the last line of table 1 was added to the existing traffic volumes within the study area in order to develop the proposed traffic conditions for the study area.

Trip Distribution

The traffic generated by the proposed development was distributed to the existing and proposed roadway network based upon the existing traffic patterns in the study area. In addition, the proposed development will be provided access via a new roadway to be constructed which will connect Scott Nixon Memorial Parkway with Wheeler Road just to the north of the interchange of Wheeler Road with I-20.

It is anticipated that some of the current traffic traveling westbound on Scott Nixon Memorial Parkway will divert to this new roadway and will then travel through the intersection of Wheeler Road and the new roadway. Traffic counts were conducted at the intersection of Scott Nixon Memorial Parkway and Flowing Wells Drive in order to determine what percentage of traffic on Scott Nixon travels to the south along Flowing Wells once it reaches this intersection. This percentage was used in order to determine

what percentage of the Scott Nixon Memorial Parkway traffic may be diverted to the new roadway.

Figure 3 shows the distribution of the proposed traffic that was assumed for this project. As the figure shows, approximately 80% of the traffic which travels to the proposed development will do so on Wheeler Road . Another 10% of the traffic traveling to the proposed site will travel eastbound along Wheeler Road and then travel straight through the intersection of Wheeler Road with the new roadway. The remaining 10% of traffic which travels to the development will do so either along Scott Nixon Memorial Parkway or along the frontage road which will also be connected to the new roadway. It was assumed that all traffic which travels to the site will leave the site and travel back to the same area from which it came. Figure 4 shows the additional traffic which will be generated by the development which is added to the existing traffic counts in order to develop the proposed traffic conditions, while figure 5 shows the proposed conditions traffic volumes.

Proposed Conditions Traffic Issues

There are several movements which are projected to operate at an unacceptable LOS under the proposed traffic conditions which are not currently operating at an unacceptable LOS. These movements are listed below:

Noon Peak:

- Wheeler Road and Wellsbo Court – Westbound Through-Right Movement

PM Peak:

- Wheeler Road and Wellsbo Court – Westbound Left Turn Movement
- Wheeler Road and Wellsbo Court – Westbound Through-Right Movement

Saturday Peak:

- Wheeler Road and Wellsbo Court – Northbound Right Turn Movement
- Wheeler Road and Wellsbo Court – Southbound Left Turn Movement

Capacity Analysis

A capacity analysis performed at a signalized intersection calculates the amount of delay an average vehicle experiences during the peak hour. Once the amount of delay is computed, a Level of Service is determined based upon the criteria listed in the Highway Capacity Manual, 2000 Edition. The LOS may be defined as a measure of the operational conditions within a traffic stream and the perception of the condition by

Figure 3. Trip Distribution Percentages

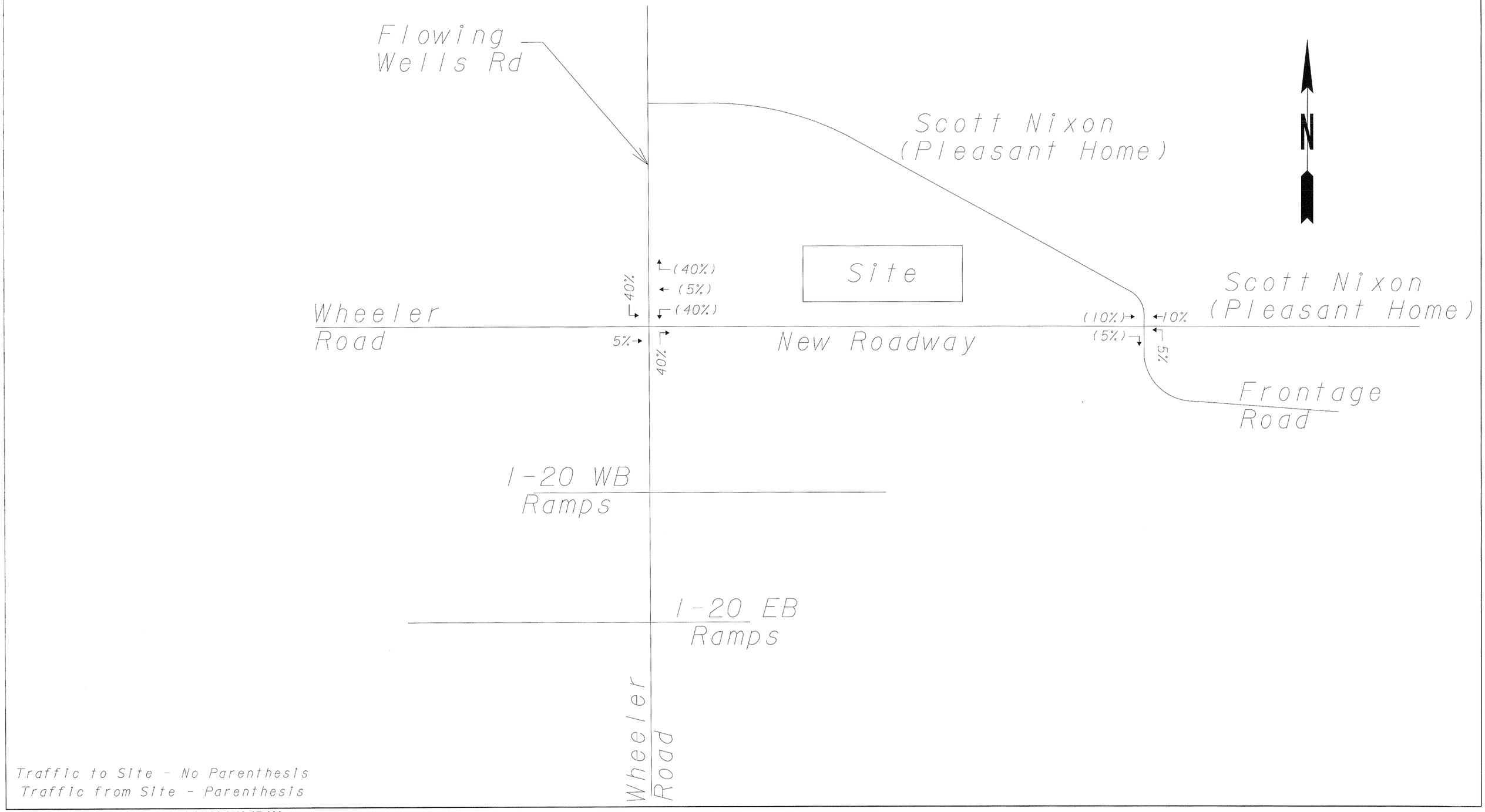

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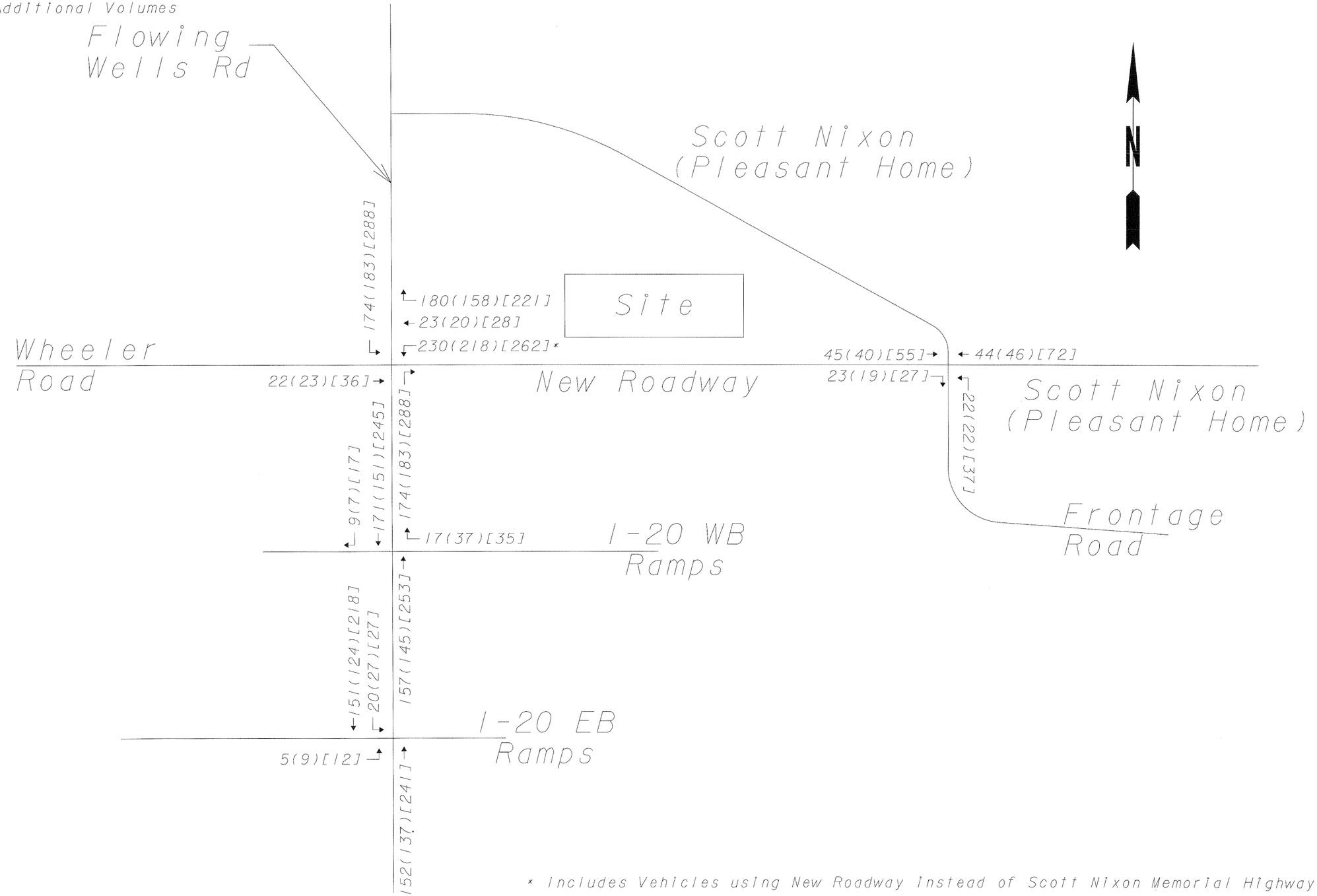
Figure 4. Trip Distribution Additional Volumes



Noon Peak(PM Peak)[Saturday Peak]

* Includes Vehicles using New Roadway Instead of Scott Nixon Memorial Highway

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Figure 5. Proposed Conditions Traffic Volumes
(Noon, PM, and Saturday Peak Periods)

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vehicle operators and their passengers. Six (6) Levels of Service are used to categorize traffic streams for signalized intersections and are defined as follows:

LOS A: A Condition with little or no delay to traffic
LOS B: Represents minimal short delays to traffic
LOS C: Average delays to traffic
LOS D: Represents relatively long delays to traffic
LOS E: Represents operating conditions that are at or near maximum capacity with very Long delays
LOS F: Represents operating conditions that are above the maximum capacity with very Long delays

A Level of Service is computed for each of the individual movements at the intersection. In addition a LOS is computed for the entire intersection. The table below lists the criteria for each of the Levels of Service (A through F).

Table 2. Signalized Intersections Level of Service Criteria

Level of Service	Control Delay (sec/veh)
A	< 10 seconds
B	10 – 20 seconds
C	20 – 35 seconds
D	35 – 55 seconds
E	55 – 80 seconds
F	> 80 seconds

A level of service A through D is generally considered to be an acceptable LOS, and LOS E and F are considered to be unacceptable amounts of delay. The remainder of this section details the results of the capacity analysis which was performed at the intersections within the study area.

Wheeler Road / Flowing Wells Road and Wellsbo Court (Proposed Roadway)

The proposed new roadway which will serve the development will connect this existing intersection to Scott Nixon Memorial Parkway. Currently the westbound approach to this intersection serves only traffic which is leaving an existing gas station on the southeast corner of the intersection. It is anticipated after the proposed development has been constructed that this intersection will carry a majority of the traffic which is traveling to or from the proposed development. Table 3 shows the results of the capacity analyses which were performed for the existing and proposed traffic conditions.

Table 3. Wheeler Road and Wellsbo Court Capacity Analysis Results						
Movement	Existing Conditions			Proposed Conditions		
	Noon Peak	PM Peak	Saturday Peak	Noon Peak	PM Peak	Saturday Peak
EB Left	C	D	C	C	D	B
EB Thru Right	***E***	***F***	D	D	***F***	D
WB Left	C	D	C	C	***F***	C
WB Thru Right	D	D	C	***E***	***F***	D
NB Left	B	***F***	B	C	***F***	C
NB Thru	C	D	C	C	D	D
NB Right	B	C	C	C	C	***E***
SB Left	B	B	B	C	C	***F***
SB Thru	C	D	C	C	C	D
SB Right	B	C	C	C	C	D

E or F – Indicates a movement which operates at an unacceptable LOS

Under the existing traffic conditions there are several movements which operate at an unacceptable LOS during the peak traffic periods. These movements include the eastbound thru-right movement during both the Noon and PM peak periods. In addition, the northbound left turn movement also operates at a LOS F during the PM peak period due to a high volume of traffic.

Several other movements are projected to operate at an unacceptable LOS under the proposed traffic conditions. These additional movements are the westbound left turn movement, the westbound thru-right movement, the northbound right turn movement, and the southbound left turn movement.

Several improvements are currently necessary for this intersection to operate at an adequate LOS under the current traffic conditions. The eastbound right turn movement experiences a fairly heavy volume during the peak periods and operates at an unacceptable LOS during these times. In addition, the northbound left turn movement experiences a very heavy volume during the PM peak period and operates at a LOS F. The following improvements will improve the existing traffic flow at the intersection:

- Construction of an eastbound exclusive right turn lane. In order to greatly improve the flow of this movement the right turn lane should be channelized and operate in a free flow condition. The southbound right turn lane at the intersection of the I-20 EB ramps and Wheeler Road should be extended to receive the right turning traffic. Traffic will then be able to weave to the left after they gain access to Wheeler Road.
- Construction of Dual northbound left turn lanes. This improvement is currently proposed as a part of the Flowing Wells Road Improvements.

In addition, several improvements will be necessary to the westbound approach to this intersection due to the increased amount of traffic using this approach. Currently an exclusive left turn lane along with a shared through-right turn lane exists on this approach as it carries a small volume of traffic. This approach will need to be expanded to include dual left turn lanes, an exclusive through lane, and an exclusive right turn lane in order to adequately handle the projected traffic at the intersection. Table 4 below shows the results of the capacity analyses which were performed at this intersection with all of the listed improvements in place under the proposed traffic conditions.

Table 4. Wheeler Road and Wellsbo Court Capacity Analysis Results Proposed Conditions with Listed Improvements

Movement	Proposed Conditions		
	Noon Peak	PM Peak	Sat. Peak
EB Left	C	C	C
EB Through	D	D	D
EB Right	A	B	A
WB Left	D	D	D
WB Through	C	C	C
WB Right	A	A	A
NB Left	D	D	D
NB Through	C	C	D
NB Right	A	A	A
SB Left	B	D	C
SB Through	C	D	C
SB Right	A	A	A

As table 4 shows the intersection of Wheeler Road (Flowing Wells Road) and Wellsbo Court (Wheeler Road) is projected to operate at an adequate LOS during the peak periods and all movements will operate with an acceptable LOS under the projected traffic conditions when the proposed improvements listed above are implemented. In addition, the signal timings at this intersection should be reexamined after the construction of the development.

Since the proposed development will be constructed well in advance of the proposed Flowing Wells Road Widening project, the interim conditions were studied at this intersection since some improvements are needed. These interim conditions will be present immediately after the completion of the proposed development. Under these conditions the second northbound left turn lane as well as the eastbound right turn lane will not be constructed. However, all improvements associated with the development (westbound left turn lane, westbound right turn lane) will be constructed. Table 5 below shows how the intersection of Wheeler Road and Wellsbo Court is projected to operate under these interim conditions.

Table 5. Capacity Analysis Results at Wheeler Road and Wellsbo Court With Only Improvements from Development (Interim Conditions)			
Movement	**Proposed Conditions**		
	Noon Peak	**PM Peak**	**Saturday Peak**
EB Left	C	C	C
EB Thru-Right	C	***E***	C
WB Left	D	D	D
WB Thru	C	D	C
WB Right	A	A	A
NB Left	C	***F***	C
NB Thru	D	D	D
NB Right	A	A	A
SB Left	C	D	C
SB Thru	C	D	C
SB Right	A	A	A

As table 5 shows, the improvements associated with the proposed development will improve the flow of traffic at the intersection of Wheeler Road and Wellsbo Court. However, during the PM peak period the northbound left turn movement as well as the eastbound thru-right turn movement are still projected to operate at an unacceptable LOS. The improvements proposed as a part of the Flowing Wells Road traffic study will be needed to improve these movements. These failing movements involve traffic which is neither traveling to or from the proposed development through this intersection. The eastbound through-right movement fails since an exclusive right turn lane is needed in order to serve the existing high volume of right turning traffic.

Wheeler Road and I-20 WB Ramps

The main entrance to the proposed development is located just to the north of the interchange of Wheeler Road and the Interstate 20. The interchange is a simple diamond interchange with two signalized intersections located along Wheeler Road. This study examined the impacts the traffic of the proposed development would have on these intersections. Table 5 shows the results of the capacity analyses which were performed at the intersection of Wheeler Road and the I-20 WB Ramps for both the existing and projected traffic conditions.

Table 6. Wheeler Road and I-20 WB Ramps Capacity Analysis Results						
Movement	Existing Conditions			Proposed Conditions		
	Noon Peak	PM Peak	Saturday Peak	Noon Peak	PM Peak	Saturday Peak
WB Left	D	D	D	D	C	D
WB Right	D	D	D	D	D	D
NB Left	D	C	A	D	C	A
NB Thru	A	B	A	A	C	A
SB Thru	B	C	B	B	C	B
SB Right	B	C	A	B	C	A

Table 5 shows that all movements at the intersection of Wheeler Road and the I-20 WB Ramps currently operate at a LOS of D or better. In addition, it is anticipated that all of the movements at the intersection are to continue to operate at an acceptable LOS following the opening of the proposed development. The proposed development will not negatively impact the flow of traffic at the intersection of Wheeler Road and the I-20 WB Ramps.

Wheeler Road and I-20 EB Ramps

The intersection of Wheeler Road and the I-20 EB Ramps was also studied as a part of this study in order to determine if the proposed development would impact this intersection. Table 6 lists the results of the capacity analyses which were performed at this intersection under both the existing and proposed traffic conditions.

Table 7. Wheeler Road and I-20 EB Ramps Capacity Analysis Results						
Movement	Existing Conditions			Proposed Conditions		
	Noon Peak	PM Peak	Saturday Peak	Noon Peak	PM Peak	Saturday Peak
EB Left	C	D	C	C	D	C
EB Right	D	D	D	D	D	D
NB Thru	B	C	B	B	C	B
NB Right	B	B	B	B	C	B
SB Left	A	D	A	A	D	A
SB Thru	A	B	A	A	B	A

As table 6 shows above all movements at the intersection of Wheeler Road and the I-20 EB ramps currently operate at an acceptable LOS during the peak traffic periods. In addition, it is anticipated that the additional traffic which is generated by the proposed development will not significantly impact the operation of these intersections. The proposed development will not negatively impact the flow of traffic at the intersection of Wheeler Road and the I-20 EB Ramps.

Traffic Signal Warrant Analysis

The proposed roadway which will provide access to the development will connect Wheeler Road to Scott Nixon Memorial Parkway approximately where this roadway crosses the county line between Columbia and Richmond counties. A new four leg intersection will be created at this intersection since the frontage roadway along I-20 will also be extended to this intersection. A traffic signal warrant analysis was conducted in order to determine if a traffic signal should be constructed at this intersection to orderly effect the flow of traffic.

The Manual on Uniform Traffic Control Devices (MUTCD) which is published by the Federal Highway Administration lists eight (8) warrants for the installation of a traffic signal. These warrants are:

- Eight-Hour Vehicular Volume Warrant
- Four-Hour Vehicular Volume Warrant
- Peak Hour Warrant
- Pedestrian Volume Warrant
- School Crossing Warrant
- Coordinated Signal System Warrant
- Crash Experience Warrant
- Roadway Network Warrant

The Eight-Hour Vehicular Volume Warrant, the Four-Hour Vehicular Volume Warrant, and the Peak Hour Warrant were studied in order to determine if a traffic signal should be installed at the new intersection which will be created as discussed above. The remaining five traffic signal warrants do not apply to the proposed intersection.

The Eight-Hour Vehicular Volume Warrant examines the flow of traffic through the intersection for a total of eight hours of an average day. The eight hour warrant is actually a combination of two traffic signal warrants as listed in the MUTCD. Condition A of this warrant is called the Minimum Vehicular Volume Warrant. For this condition to be met the traffic on the major roadway must exceed 500 vph and the traffic on the minor street must exceed 150 vph for a total of eight hours of an average day. Condition B of this warrant is called the Interruption of Continuous Traffic Warrant. In order for this warrant to be met the traffic on the major street must exceed 750 vph and the traffic on the minor street must exceed 75 vph for a total of eight hours of an average day. Table 7 shows the projected volumes for the peak 8 hours at the proposed intersection and determination of whether the volumes meet the criteria listed above.

Table 8. Warrant #1 Analysis – Proposed Intersection of New Road and Scott Nixon				
Peak Hour #	**Major Volume**	**Minor Volume**	**Warrant 1A Met?**	**Warrant 1B Met?**
1	362 vph	89 vph	**No**	**No**
2	310 vph	73 vph	**No**	**No**
3	252 vph	107 vph	**No**	**No**
4	239 vph	89 vph	**No**	**No**
5	229 vph	109 vph	**No**	**No**
6	228 vph	67 vph	**No**	**No**
7	224 vph	84 vph	**No**	**No**
8	219 vph	99 vph	**No**	**No**

Table 7 shows that the Eight Hour Vehicular Volume Warrant is not projected to be met during any of the peak hours of an average day. Therefore the first warrant which was studied is not met for the proposed intersection.

In order for the Four-Hour Vehicular Volume Warrant to be met at an intersection the point representing the major and minor volume traffic for the peak 4 hours of an average day must fall above the appropriate line shown on page 4C-5 of the MUTCD. As shown in Appendix E of this report the plotted points for the peak four hours do not fall above the representative lines shown on the graph. Therefore, the four-hour vehicular volume is not projected to be met at the proposed intersection.

The peak hour warrant is also divided into two separate warrants. The second peak hour warrant is similar to the Four-Hour warrant in that the plotted point representing the traffic at the intersection must fall above the corresponding line shown on the graph on page 4C-7 of the MUTCD. As shown in Appendix E of this report the plotted point of the peak hour traffic does not fall above this line for the projected peak hour at the intersection.

The other condition of the Peak Hour Warrant involves the amount of delay a vehicles are projected to experience on the sidestreets as well as the amount of traffic which enters the intersection. The criteria for the warrant lists that a traffic signal should be considered if all of the following criteria are met for the same hour of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

The calculated values for the items listed above fall well below the required threshold volumes in the MUTCD. Appendix E shows the calculation of these items for the peak hour of traffic at the projected intersection. The total stopped time delay on the peak sidestreet is projected to be 0.81 veh-hours during the peak hour.

A traffic signal should not be constructed at the proposed intersection of Scott Nixon Memorial Parkway and the proposed new roadway which will provide access to the proposed development. The traffic signal warrant analysis which was performed found that Warrants 1, 2, and 3 are not projected to be met at the proposed intersection. In addition the remaining 5 warrants would not apply to the proposed intersection.

Study Findings

1. Several movements at the intersection of Wheeler Road and Wellsbo Road are currently operating at an unacceptable LOS. The construction of dual northbound left turn lanes and an exclusive eastbound right turn lane, as proposed in the Flowing Wells Road Widening Plans, will improve the flow of traffic at this intersection. With these improvements the traffic at this intersection will operate with an adequate LOS under the existing traffic conditions.

2. With the traffic generated by the proposed development, several additional movements are projected to operate at an unacceptable LOS during the peak periods at the intersection of Wheeler Road and Wellsbo Court. Further improvements including the construction of dual westbound left turn lanes and the construction of a westbound right turn lane will be needed at this intersection. These improvements will increase the LOS of the intersection until the Flowing Wells Road Widening project is constructed. However, the existing movements which currently fail during the peak periods will continue to do so after the proposed development is constructed. The northbound left turn movement and the eastbound right turn movement will continue to have an unacceptable LOS during the PM peak period. However, these movements are not connected to traffic either entering or exiting the proposed development. The eastbound thru-right movement fails because of a large right turn volume and an exclusive right turn lane is needed to improve the LOS of this movement.

3. The signalized intersections of Wheeler Road with the I-20 ramps currently operate very effectively with no movements at either intersection operating with an unacceptable LOS during the peak traffic periods. The proposed development will not significantly impact the flow of traffic at these intersections. No improvements will be needed at these two intersections due to the development of the proposed site as all movements will continue to operate at an acceptable LOS under the proposed conditions.

4. A traffic signal warrant analysis was performed at the proposed intersection of Scott Nixon Memorial Parkway and the proposed roadway. The projected amount of traffic was evaluated in order to determine if a traffic signal will be necessary at this intersection to regulate the flow of traffic. It was determined that the projected amount of traffic at the proposed intersection can be adequately handled through the use of STOP control on the sidestreets and that the sidestreet traffic will not experience large amounts of delay. Therefore, a traffic signal should not be constructed at the proposed intersection.

Recommendations

In order to mitigate the projected impacts from the construction of a proposed development to be located along a new roadway to the east of Wheeler Road the following improvements should be made to the intersection of Wheeler Road and Wellsbo Court:

- Construction of Westbound Dual Left Turn Lanes
- Construction of an exclusive Westbound Right Turn Lane

Other improvements are needed at this intersection as discussed in the report, however these are due to the existing traffic conditions and are included in the proposed Flowing Wells Roadway widening project currently in the design phase. The improvements to the westbound approach will moderately improve the LOS for the intersection. However, several movements which fail under the existing conditions will continue to do so after the proposed development is completed. These movements are not associated with traffic either entering or exiting the site of the proposed development.

Appendix A

24 Hour Traffic Counts

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Wheeler Road

Latitude: 0' 0.000 Undefined

Start Time	10-Nov-0 Fri	Southbound - To I-20		Hour Totals		Northbound - From I-2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		*	*			*	*				
12:15		*	*			*	*				
12:30		*	*			*	*				
12:45		*	*	0	0	*	*	0	0	0	0
01:00		*	*			*	*				
01:15		*	*			*	*				
01:30		*	*			*	*				
01:45		*	*	0	0	*	*	0	0	0	0
02:00		*	*			*	*				
02:15		*	*			*	*				
02:30		*	*			*	*				
02:45		*	*	0	0	*	*	0	0	0	0
03:00		*	226			*	212				
03:15		*	242			*	257				
03:30		*	271			*	255				
03:45		*	242	0	981	*	243	0	967	0	1948
04:00		*	271			*	278				
04:15		*	305			*	255				
04:30		*	304			*	281				
04:45		*	326	0	1206	*	249	0	1063	0	2269
05:00		*	348			*	287				
05:15		*	356			*	305				
05:30		*	310			*	269				
05:45		*	281	0	1295	*	235	0	1096	0	2391
06:00		*	260			*	241				
06:15		*	231			*	226				
06:30		*	207			*	189				
06:45		*	185	0	883	*	166	0	822	0	1705
07:00		*	204			*	152				
07:15		*	170			*	144				
07:30		*	128			*	115				
07:45		*	147	0	649	*	100	0	511	0	1160
08:00		*	147			*	114				
08:15		*	141			*	85				
08:30		*	132			*	71				
08:45		*	90	0	510	*	63	0	333	0	843
09:00		*	123			*	68				
09:15		*	110			*	74				
09:30		*	90			*	52				
09:45		*	93	0	416	*	57	0	251	0	667
10:00		*	95			*	50				
10:15		*	86			*	51				
10:30		*	53			*	49				
10:45		*	67	0	301	*	60	0	210	0	511
11:00		*	54			*	53				
11:15		*	48			*	35				
11:30		*	38			*	41				
11:45		*	35	0	175	*	21	0	150	0	325
Total		0	6416			0	5403			0	11819
Percent		0.0%	100.0%			0.0%	100.0%			0.0%	100.0%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Wheeler Road

Latitude: 0' 0.000 Undefined

Start Time	11-Nov-0 Sat	Southbound - To I-20		Hour Totals		Northbound - From I-2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		39	173			20	182				
12:15		29	154			29	165				
12:30		32	185			16	198				
12:45		17	172	117	684	17	185	82	730	199	1414
01:00		23	157			17	174				
01:15		15	151			12	177				
01:30		25	161			8	155				
01:45		17	177	80	646	7	145	44	651	124	1297
02:00		11	143			13	174				
02:15		16	187			9	160				
02:30		16	148			6	158				
02:45		22	185	65	663	5	186	33	678	98	1341
03:00		15	168			5	154				
03:15		18	166			5	174				
03:30		4	163			9	186				
03:45		10	168	47	665	11	181	30	695	77	1360
04:00		14	175			4	161				
04:15		9	171			9	166				
04:30		6	163			13	161				
04:45		8	174	37	683	7	172	33	660	70	1343
05:00		4	234			10	132				
05:15		8	137			16	164				
05:30		2	189			18	158				
05:45		13	170	27	730	18	146	62	600	89	1330
06:00		14	199			20	200				
06:15		16	166			33	164				
06:30		24	153			48	144				
06:45		38	133	92	651	54	154	155	662	247	1313
07:00		31	152			60	124				
07:15		42	156			41	119				
07:30		46	124			62	107				
07:45		61	132	180	564	74	113	237	463	417	1027
08:00		49	101			69	81				
08:15		75	106			78	98				
08:30		69	86			101	82				
08:45		95	106	288	399	136	63	384	324	672	723
09:00		107	101			90	77				
09:15		82	95			94	48				
09:30		92	79			121	76				
09:45		118	76	399	351	150	77	455	278	854	629
10:00		107	83			142	43				
10:15		95	50			163	37				
10:30		106	49			160	42				
10:45		146	47	454	229	176	44	641	166	1095	395
11:00		152	55			173	22				
11:15		142	49			142	35				
11:30		147	45			136	29				
11:45		141	29	582	178	202	24	653	110	1235	288
Total		2368	6443			2809	6017			5177	12460
Percent		26.9%	73.1%			31.8%	68.2%			29.4%	70.6%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Wheeler Road

Latitude: 0' 0.000 Undefined

Start Time	12-Nov-0 Sun	Southbound - To I-20 Morning	Afternoon	Hour Totals Morning	Afternoon	Northbound - From I-2 Morning	Afternoon	Hour Totals Morning	Afternoon	Combined Totals Morning	Afternoon
12:00		44	115			26	149				
12:15		27	168			17	170				
12:30		24	166			17	177				
12:45		28	139	123	588	9	174	69	670	192	1258
01:00		31	135			18	156				
01:15		22	138			14	138				
01:30		13	145			10	161				
01:45		11	152	77	570	7	119	49	574	126	1144
02:00		17	150			5	109				
02:15		21	122			8	146				
02:30		12	152			5	168				
02:45		12	156	62	580	2	135	20	558	82	1138
03:00		6	153			9	121				
03:15		9	155			4	130				
03:30		6	152			9	150				
03:45		8	175	29	635	7	122	29	523	58	1158
04:00		7	149			3	129				
04:15		7	161			2	146				
04:30		3	156			7	144				
04:45		4	161	21	627	6	178	18	597	39	1224
05:00		1	174			6	154				
05:15		4	155			11	151				
05:30		7	167			9	134				
05:45		9	186	21	682	10	166	36	605	57	1287
06:00		4	175			9	125				
06:15		11	162			15	120				
06:30		7	120			26	114				
06:45		14	119	36	576	31	104	81	463	117	1039
07:00		16	134			25	80				
07:15		23	100			27	90				
07:30		32	118			32	78				
07:45		27	97	98	449	51	56	135	304	233	753
08:00		34	96			38	61				
08:15		32	96			52	62				
08:30		41	73			48	53				
08:45		69	78	176	343	36	50	174	226	350	569
09:00		58	66			61	72				
09:15		59	72			85	47				
09:30		60	46			113	36				
09:45		75	47	252	231	84	33	343	188	595	419
10:00		78	52			86	31				
10:15		76	45			100	25				
10:30		67	38			122	26				
10:45		82	27	303	162	104	20	412	102	715	264
11:00		86	28			86	21				
11:15		72	29			95	17				
11:30		90	25			79	26				
11:45		104	17	352	99	146	11	406	75	758	174
Total		1550	5542			1772	4885			3322	10427
Percent		21.9%	78.1%			26.6%	73.4%			24.2%	75.8%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Wheeler Road

Latitude: 0' 0.000 Undefined

Start Time	13-Nov-0 Mon	Southbound - To I-20 Morning	Afternoon	Hour Totals Morning	Afternoon	Northbound - From I-2 Morning	Afternoon	Hour Totals Morning	Afternoon	Combined Totals Morning	Afternoon
12:00		17	201			9	181				
12:15		24	192			19	190				
12:30		13	216			8	206				
12:45		15	184	69	793	7	214	43	791	112	1584
01:00		6	218			6	188				
01:15		7	199			1	224				
01:30		13	207			7	191				
01:45		7	159	33	783	3	206	17	809	50	1592
02:00		5	196			1	174				
02:15		9	243			3	181				
02:30		8	243			9	191				
02:45		2	200	24	882	3	203	16	749	40	1631
03:00		6	243			2	208				
03:15		2	228			5	257				
03:30		12	220			1	217				
03:45		6	263	26	954	6	215	14	897	40	1851
04:00		10	271			14	224				
04:15		1	273			9	193				
04:30		12	310			14	244				
04:45		18	317	41	1171	17	233	54	894	95	2065
05:00		11	373			33	255				
05:15		10	480			44	317				
05:30		8	452			47	250				
05:45		18	325	47	1630	51	248	175	1070	222	2700
06:00		32	263			67	244				
06:15		54	246			76	200				
06:30		70	224			148	165				
06:45		135	157	291	890	179	158	470	767	761	1657
07:00		105	147			196	107				
07:15		125	164			298	90				
07:30		206	140			381	88				
07:45		211	148	647	599	405	75	1280	360	1927	959
08:00		172	139			309	74				
08:15		166	134			308	47				
08:30		137	114			304	77				
08:45		128	113	603	500	224	52	1145	250	1748	750
09:00		106	77			194	56				
09:15		130	91			193	45				
09:30		124	79			187	32				
09:45		133	61	493	308	193	26	767	159	1260	467
10:00		125	51			192	36				
10:15		135	37			164	30				
10:30		163	38			176	21				
10:45		138	37	561	163	182	16	714	103	1275	266
11:00		182	24			178	9				
11:15		178	34			157	14				
11:30		172	22			191	20				
11:45		181	18	713	98	200	13	726	56	1439	154
Total		3548	8771			5421	6905			8969	15676
Percent		28.8%	71.2%			44.0%	56.0%			36.4%	63.6%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Wheeler Road

Latitude: 0' 0.000 Undefined

Start Time	14-Nov-0 Tue	Southbound - To I-20 Morning	Afternoon	Hour Totals Morning	Afternoon	Northbound - From I-2 Morning	Afternoon	Hour Totals Morning	Afternoon	Combined Totals Morning	Afternoon
12:00		20	*			14	*				
12:15		19	*			13	*				
12:30		21	*			7	*				
12:45		9	*	69	0	15	*	49	0	118	0
01:00		8	*			6	*				
01:15		11	*			5	*				
01:30		4	*			6	*				
01:45		13	*	36	0	5	*	22	0	58	0
02:00		4	*			1	*				
02:15		8	*			2	*				
02:30		7	*			4	*				
02:45		7	*	26	0	6	*	13	0	39	0
03:00		6	*			3	*				
03:15		7	*			4	*				
03:30		5	*			4	*				
03:45		4	*	22	0	5	*	16	0	38	0
04:00		4	*			6	*				
04:15		7	*			8	*				
04:30		14	*			11	*				
04:45		9	*	34	0	22	*	47	0	81	0
05:00		10	*			30	*				
05:15		3	*			41	*				
05:30		12	*			33	*				
05:45		19	*	44	0	42	*	146	0	190	0
06:00		35	*			59	*				
06:15		48	*			93	*				
06:30		60	*			162	*				
06:45		121	*	264	0	189	*	503	0	767	0
07:00		105	*			209	*				
07:15		139	*			282	*				
07:30		210	*			382	*				
07:45		217	*	671	0	387	*	1260	0	1931	0
08:00		166	*			344	*				
08:15		149	*			322	*				
08:30		144	*			267	*				
08:45		121	*	580	0	240	*	1173	0	1753	0
09:00		110	*			180	*				
09:15		110	*			187	*				
09:30		129	*			247	*				
09:45		24	*	373	0	38	*	652	0	1025	0
10:00		0	*			0	*				
10:15		0	*			0	*				
10:30		*	*	*	*	*	*	*	*	*	*
10:45		*	*	*	*	*	*	*	*	*	*
11:00		*	*	*	*	*	*	*	*	*	*
11:15		*	*	*	*	*	*	*	*	*	*
11:30		*	*	*	*	*	*	*	*	*	*
11:45		*	*	*	*	*	*	*	*	*	*
Total		2119	0			3881	0			6000	0
Percent		100.0%	0.0%			100.0%	0.0%			100.0%	0.0%
Grand Total		9585	27172			13883	23210			23468	50382
Percent		26.1%	73.9%			37.4%	62.6%			31.8%	68.2%
ADT	Not Calculated										

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Frontage Road

WB EB

Latitude: 0' 0.000 Undefined

Start Time	17-Nov-0 Fri	Chan 1		Hour Totals		Chan 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		*	*			*	*				
12:15		*	*			*	*				
12:30		*	*			*	*				
12:45		*	*	0	0	*	*	0	0	0	0
01:00		*	*			*	*				
01:15		*	13			*	2				
01:30		*	32			*	4				
01:45		*	27	0	72	*	5	0	11	0	83
02:00		*	32			*	5				
02:15		*	18			*	1				
02:30		*	28			*	4				
02:45		*	27	0	105	*	4	0	14	0	119
03:00		*	36			*	5				
03:15		*	30			*	6				
03:30		*	36			*	4				
03:45		*	23	0	125	*	5	0	20	0	145
04:00		*	14			*	5				
04:15		*	19			*	7				
04:30		*	20			*	10				
04:45		*	20	0	73	*	10	0	32	0	105
05:00		*	19			*	5				
05:15		*	17			*	6				
05:30		*	29			*	15				
05:45		*	27	0	92	*	4	0	30	0	122
06:00		*	30			*	6				
06:15		*	20			*	10				
06:30		*	9			*	0				
06:45		*	20	0	79	*	5	0	21	0	100
07:00		*	11			*	1				
07:15		*	7			*	1				
07:30		*	13			*	2				
07:45		*	14	0	45	*	2	0	6	0	51
08:00		*	10			*	6				
08:15		*	5			*	1				
08:30		*	7			*	3				
08:45		*	5	0	27	*	0	0	10	0	37
09:00		*	11			*	1				
09:15		*	10			*	3				
09:30		*	4			*	2				
09:45		*	7	0	32	*	3	0	9	0	41
10:00		*	7			*	2				
10:15		*	4			*	3				
10:30		*	8			*	1				
10:45		*	9	0	28	*	0	0	6	0	34
11:00		*	27			*	4				
11:15		*	9			*	1				
11:30		*	9			*	0				
11:45		*	3	0	48	*	0	0	5	0	53
Total		0	726			0	164			0	890
Percent		0.0%	100.0%			0.0%	100.0%			0.0%	100.0%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Frontage Road

WB EB

Latitude: 0' 0.000 Undefined

Start Time	18-Nov-0 Sat	Chan 1		Hour Totals		Chan 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	16			4	4				
12:15		3	8			2	0				
12:30		6	11			2	0				
12:45		1	8	20	43	0	3	8	7	28	50
01:00		3	10			0	6				
01:15		4	8			0	3				
01:30		0	8			0	0				
01:45		3	9	10	35	0	1	0	10	10	45
02:00		1	7			0	0				
02:15		4	6			1	2				
02:30		1	11			0	4				
02:45		4	13	10	37	0	2	1	8	11	45
03:00		7	17			0	3				
03:15		5	15			0	2				
03:30		5	12			0	1				
03:45		6	10	23	54	0	2	0	8	23	62
04:00		5	17			1	5				
04:15		3	7			0	3				
04:30		3	10			0	2				
04:45		3	5	14	39	0	2	1	12	15	51
05:00		2	15			0	6				
05:15		3	12			0	2				
05:30		5	6			0	4				
05:45		6	9	16	42	0	0	0	12	16	54
06:00		3	11			0	1				
06:15		4	15			1	4				
06:30		5	8			0	3				
06:45		7	9	19	43	1	0	2	8	21	51
07:00		7	12			2	3				
07:15		22	11			4	1				
07:30		14	4			8	4				
07:45		11	8	54	35	4	3	18	11	72	46
08:00		11	13			1	2				
08:15		8	7			0	0				
08:30		9	9			0	3				
08:45		12	5	40	34	2	3	3	8	43	42
09:00		10	12			0	2				
09:15		12	5			0	4				
09:30		8	5			1	1				
09:45		10	3	40	25	3	1	4	8	44	33
10:00		4	3			0	0				
10:15		7	5			0	1				
10:30		10	3			3	1				
10:45		14	7	35	18	1	1	4	3	39	21
11:00		11	5			3	4				
11:15		10	2			1	1				
11:30		18	3			0	0				
11:45		8	3	47	13	3	0	7	5	54	18
Total		328	418			48	100			376	518
Percent		44.0%	56.0%			32.4%	67.6%			42.1%	57.9%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Frontage Road

WB EB

Latitude: 0' 0.000 Undefined

Start Time	19-Nov-0 Sun	Chan 1		Hour Totals		Chan 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	6			2	2				
12:15		5	12			1	2				
12:30		6	6			0	1				
12:45		1	6	18	30	1	1	4	6	22	36
01:00		1	8			0	3				
01:15		6	7			0	0				
01:30		10	10			0	0				
01:45		3	7	20	32	0	0	0	3	20	35
02:00		5	7			1	1				
02:15		3	6			1	1				
02:30		3	5			0	0				
02:45		5	8	16	26	0	3	2	5	18	31
03:00		1	11			0	1				
03:15		2	6			0	2				
03:30		2	7			0	2				
03:45		3	8	8	32	1	0	1	5	9	37
04:00		3	14			0	0				
04:15		5	6			0	4				
04:30		6	7			0	3				
04:45		9	8	23	35	1	3	1	10	24	45
05:00		3	6			0	2				
05:15		4	6			0	1				
05:30		3	6			2	1				
05:45		6	10	16	28	0	1	2	5	18	33
06:00		3	6			1	0				
06:15		7	7			1	1				
06:30		8	7			0	1				
06:45		13	5	31	25	8	0	10	2	41	27
07:00		7	11			0	3				
07:15		13	2			2	1				
07:30		5	2			2	1				
07:45		4	8	29	23	0	0	4	5	33	28
08:00		4	5			1	1				
08:15		1	2			0	0				
08:30		3	3			1	0				
08:45		3	3	11	13	0	0	2	1	13	14
09:00		5	4			0	1				
09:15		3	2			1	2				
09:30		3	4			0	1				
09:45		4	1	15	11	3	0	4	4	19	15
10:00		10	6			0	0				
10:15		4	2			1	0				
10:30		6	3			1	0				
10:45		8	8	28	19	0	1	2	1	30	20
11:00		7	10			3	1				
11:15		10	1			2	0				
11:30		5	2			0	0				
11:45		5	0	27	13	2	1	7	2	34	15
Total		242	287			39	49			281	336
Percent		45.7%	54.3%			44.3%	55.7%			45.5%	54.5%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Frontage Road

WB EB

Latitude: 0' 0.000 Undefined

Start Time	20-Nov-0 Mon	Chan 1 Morning	Chan 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Chan 2 Morning	Chan 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	27			0	7				
12:15		1	23			0	5				
12:30		1	27			0	6				
12:45		1	22	8	99	0	1	0	19	8	118
01:00		2	13			0	3				
01:15		2	30			0	6				
01:30		1	22			0	4				
01:45		2	20	7	85	0	6	0	19	7	104
02:00		6	20			0	7				
02:15		6	20			1	0				
02:30		7	20			0	3				
02:45		3	24	22	84	0	2	1	12	23	96
03:00		6	32			0	6				
03:15		5	30			0	5				
03:30		6	24			0	4				
03:45		7	23	24	109	0	4	0	19	24	128
04:00		5	20			0	3				
04:15		3	11			1	5				
04:30		1	21			0	10				
04:45		2	21	11	73	0	4	1	22	12	95
05:00		2	16			0	11				
05:15		0	18			0	6				
05:30		2	29			2	14				
05:45		8	26	12	89	3	11	5	42	17	131
06:00		10	24			6	4				
06:15		6	16			0	7				
06:30		15	16			2	5				
06:45		34	11	65	67	7	1	15	17	80	84
07:00		12	14			1	6				
07:15		35	10			2	3				
07:30		14	7			5	1				
07:45		28	15	89	46	4	3	12	13	101	59
08:00		15	13			1	1				
08:15		36	11			4	1				
08:30		30	5			9	1				
08:45		26	3	107	32	9	0	23	3	130	35
09:00		13	8			1	2				
09:15		18	9			2	1				
09:30		15	6			2	0				
09:45		11	3	57	26	2	0	7	3	64	29
10:00		13	8			1	1				
10:15		14	5			1	0				
10:30		13	4			2	0				
10:45		22	8	62	25	4	0	8	1	70	26
11:00		16	21			2	5				
11:15		16	2			6	0				
11:30		16	3			7	1				
11:45		12	1	60	27	5	0	20	6	80	33
Total		524	762			92	176			616	938
Percent		40.7%	59.3%			34.3%	65.7%			39.6%	60.4%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code: 000000000000
Station ID:
Frontage Road

WB EB

Latitude: 0' 0.000 Undefined

Start Time	21-Nov-0 Tue	Chan 1 Morning	Chan 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Chan 2 Morning	Chan 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	*			2	*				
12:15		7	*			1	*				
12:30		2	*			1	*				
12:45		2	*	23	0	0	*	4	0	27	0
01:00		0	*			1	*				
01:15		3	*			0	*				
01:30		2	*			0	*				
01:45		3	*	8	0	0	*	1	0	9	0
02:00		2	*			1	*				
02:15		7	*			0	*				
02:30		7	*			0	*				
02:45		4	*	20	0	0	*	1	0	21	0
03:00		13	*			1	*				
03:15		7	*			0	*				
03:30		3	*			0	*				
03:45		4	*	27	0	0	*	1	0	28	0
04:00		4	*			1	*				
04:15		0	*			0	*				
04:30		6	*			0	*				
04:45		1	*	11	0	0	*	1	0	12	0
05:00		0	*			1	*				
05:15		0	*			0	*				
05:30		1	*			0	*				
05:45		10	*	11	0	0	*	1	0	12	0
06:00		6	*			0	*				
06:15		6	*			5	*				
06:30		20	*			15	*				
06:45		34	*	66	0	4	*	24	0	90	0
07:00		19	*			1	*				
07:15		15	*			3	*				
07:30		11	*			2	*				
07:45		25	*	70	0	4	*	10	0	80	0
08:00		23	*			3	*				
08:15		24	*			0	*				
08:30		25	*			4	*				
08:45		23	*	95	0	7	*	14	0	109	0
09:00		0	*			0	*				
09:15		0	*			0	*				
09:30		*	*	*	*	*	*	*	*	*	*
09:45		*	*	*	*	*	*	*	*	*	*
10:00		*	*	*	*	*	*	*	*	*	*
10:15		*	*	*	*	*	*	*	*	*	*
10:30		*	*	*	*	*	*	*	*	*	*
10:45		*	*	*	*	*	*	*	*	*	*
11:00		*	*	*	*	*	*	*	*	*	*
11:15		*	*	*	*	*	*	*	*	*	*
11:30		*	*	*	*	*	*	*	*	*	*
11:45		*	*	*	*	*	*	*	*	*	*
Total		331	0			57	0			388	0
Percent		100.0%	0.0%			100.0%	0.0%			100.0%	0.0%
Grand Total		1425	2193			236	489			1661	2682
Percent		39.4%	60.6%			32.6%	67.4%			38.2%	61.8%
ADT	Not Calculated										

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code:
Station ID:
Scott Nixon / Pleasent Home

EB WB

Latitude: 0' 0.000 Undefined

Start Time	17-Nov-0 Fri	Channel 1 Morning	Channel 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Channel 2 Morning	Channel 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		*	*			*	*				
12:15		*	*			*	*				
12:30		*	*			*	*				
12:45		*	*	0	0	*	*	0	0	0	0
01:00		*	*			*	*				
01:15		*	29			*	29				
01:30		*	37			*	32				
01:45		*	21	0	87	*	27	0	88	0	175
02:00		*	26			*	20				
02:15		*	33			*	28				
02:30		*	32			*	31				
02:45		*	23	0	114	*	22	0	101	0	215
03:00		*	33			*	49				
03:15		*	40			*	28				
03:30		*	33			*	33				
03:45		*	35	0	141	*	35	0	145	0	286
04:00		*	39			*	29				
04:15		*	36			*	33				
04:30		*	35			*	46				
04:45		*	48	0	158	*	45	0	153	0	311
05:00		*	38			*	40				
05:15		*	36			*	47				
05:30		*	41			*	53				
05:45		*	37	0	152	*	37	0	177	0	329
06:00		*	18			*	23				
06:15		*	36			*	29				
06:30		*	25			*	18				
06:45		*	21	0	100	*	19	0	89	0	189
07:00		*	18			*	18				
07:15		*	14			*	18				
07:30		*	10			*	22				
07:45		*	14	0	56	*	14	0	72	0	128
08:00		*	8			*	9				
08:15		*	2			*	13				
08:30		*	9			*	10				
08:45		*	3	0	22	*	10	0	42	0	64
09:00		*	6			*	2				
09:15		*	4			*	17				
09:30		*	7			*	8				
09:45		*	6	0	23	*	13	0	40	0	63
10:00		*	8			*	8				
10:15		*	6			*	16				
10:30		*	2			*	9				
10:45		*	4	0	20	*	10	0	43	0	63
11:00		*	5			*	12				
11:15		*	3			*	5				
11:30		*	2			*	4				
11:45		*	6	0	16	*	2	0	23	0	39
Total		0	889			0	973			0	1862
Percent		0.0%	100.0%			0.0%	100.0%			0.0%	100.0%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code:
Station ID:
Scott Nixon / Pleasent Home

EB WB

Latitude: 0' 0.000 Undefined

Start Time	18-Nov-0 Sat	Channel 1		Hour Totals		Channel 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	17			3	26				
12:15		3	22			6	30				
12:30		1	20			2	18				
12:45		2	33	9	92	0	19	11	93	20	185
01:00		0	25			7	19				
01:15		1	31			1	18				
01:30		1	19			4	27				
01:45		0	26	2	101	0	24	12	88	14	189
02:00		1	17			1	26				
02:15		0	25			0	18				
02:30		2	17			2	31				
02:45		3	21	6	80	1	28	4	103	10	183
03:00		2	23			0	31				
03:15		2	21			0	26				
03:30		3	20			1	23				
03:45		2	20	9	84	0	34	1	114	10	198
04:00		1	25			5	33				
04:15		3	19			4	29				
04:30		0	17			1	20				
04:45		1	24	5	85	5	27	15	109	20	194
05:00		2	19			3	18				
05:15		4	18			1	26				
05:30		2	16			3	24				
05:45		5	22	13	75	3	23	10	91	23	166
06:00		5	10			2	21				
06:15		5	10			3	23				
06:30		2	18			2	10				
06:45		5	15	17	53	3	14	10	68	27	121
07:00		9	13			2	21				
07:15		13	14			13	10				
07:30		18	15			7	14				
07:45		24	4	64	46	8	11	30	56	94	102
08:00		10	10			9	17				
08:15		13	15			10	14				
08:30		12	9			2	10				
08:45		25	9	60	43	11	10	32	51	92	94
09:00		11	4			15	10				
09:15		18	4			11	10				
09:30		16	6			14	5				
09:45		21	3	66	17	10	9	50	34	116	51
10:00		17	3			10	6				
10:15		26	4			7	6				
10:30		23	5			11	7				
10:45		19	5	85	17	16	3	44	22	129	39
11:00		27	4			15	5				
11:15		19	7			16	7				
11:30		23	3			17	6				
11:45		23	6	92	20	14	8	62	26	154	46
Total		428	713			281	855			709	1568
Percent		37.5%	62.5%			24.7%	75.3%			31.1%	68.9%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code:
Station ID:
Scott Nixon / Pleasent Home

EB WB

Latitude: 0' 0.000 Undefined

Start Time	19-Nov-0 Sun	Channel 1 Morning	Channel 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Channel 2 Morning	Channel 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	15			8	17				
12:15		2	21			5	20				
12:30		2	15			7	14				
12:45		1	26	9	77	1	20	21	71	30	148
01:00		2	22			3	24				
01:15		3	23			3	16				
01:30		2	17			0	27				
01:45		1	28	8	90	1	23	7	90	15	180
02:00		1	31			1	18				
02:15		3	19			2	17				
02:30		0	24			2	17				
02:45		2	16	6	90	0	22	5	74	11	164
03:00		3	23			2	17				
03:15		4	12			3	22				
03:30		1	19			3	25				
03:45		1	20	9	74	2	20	10	84	19	158
04:00		5	14			4	15				
04:15		0	28			1	16				
04:30		2	16			5	24				
04:45		1	13	8	71	3	24	13	79	21	150
05:00		4	16			2	14				
05:15		2	24			2	19				
05:30		2	12			3	17				
05:45		1	11	9	63	1	19	8	69	17	132
06:00		2	12			3	20				
06:15		3	13			1	13				
06:30		3	16			2	10				
06:45		6	12	14	53	2	15	8	58	22	111
07:00		2	13			2	4				
07:15		5	7			2	13				
07:30		6	8			2	15				
07:45		6	3	19	31	2	9	8	41	27	72
08:00		5	5			3	10				
08:15		9	5			5	9				
08:30		14	5			0	6				
08:45		16	7	44	22	10	4	18	29	62	51
09:00		11	3			11	4				
09:15		14	6			9	4				
09:30		14	2			9	4				
09:45		12	1	51	12	3	1	32	13	83	25
10:00		20	2			3	2				
10:15		16	0			8	2				
10:30		15	3			6	3				
10:45		25	2	76	7	18	1	35	8	111	15
11:00		11	3			8	4				
11:15		8	0			12	3				
11:30		22	3			6	3				
11:45		10	2	51	8	8	3	34	13	85	21
Total		304	598			199	629			503	1227
Percent		33.7%	66.3%			24.0%	76.0%			29.1%	70.9%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code:
Station ID:
Scott Nixon / Pleasent Home

EB WB

Latitude: 0' 0.000 Undefined

Start Time	20-Nov-0 Mon	Channel 1 Morning	Channel 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Channel 2 Morning	Channel 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	22			4	38				
12:15		0	30			5	22				
12:30		1	24			1	27				
12:45		0	29	2	105	0	27	10	114	12	219
01:00		0	27			1	23				
01:15		0	17			0	23				
01:30		1	22			1	19				
01:45		1	30	2	96	1	24	3	89	5	185
02:00		4	27			1	30				
02:15		1	27			2	18				
02:30		3	33			4	32				
02:45		0	30	8	117	0	27	7	107	15	224
03:00		2	23			0	28				
03:15		3	37			1	13				
03:30		1	25			3	31				
03:45		6	38	12	123	2	34	6	106	18	229
04:00		1	33			7	33				
04:15		4	53			1	29				
04:30		1	38			0	58				
04:45		4	29	10	153	2	37	10	157	20	310
05:00		2	44			0	46				
05:15		5	46			0	40				
05:30		2	44			1	54				
05:45		15	47	24	181	3	41	4	181	28	362
06:00		8	16			3	43				
06:15		22	37			5	34				
06:30		14	24			5	31				
06:45		36	13	80	90	2	30	15	138	95	228
07:00		33	16			9	16				
07:15		34	7			14	17				
07:30		45	12			12	15				
07:45		69	15	181	50	23	8	58	56	239	106
08:00		65	2			10	18				
08:15		57	10			15	14				
08:30		44	5			13	9				
08:45		36	4	202	21	12	10	50	51	252	72
09:00		23	6			13	10				
09:15		28	9			17	13				
09:30		17	5			10	10				
09:45		17	3	85	23	11	6	51	39	136	62
10:00		26	3			15	3				
10:15		21	2			24	4				
10:30		16	1			20	5				
10:45		16	6	79	12	16	4	75	16	154	28
11:00		21	0			19	4				
11:15		22	0			20	3				
11:30		38	1			20	3				
11:45		31	1	112	2	31	5	90	15	202	17
Total		797	973			379	1069			1176	2042
Percent		45.0%	55.0%			26.2%	73.8%			36.5%	63.5%

Cranston Engineering Group PC
452 Ellis Street
Augusta, GA 30901

Site Code:
Station ID:
Scott Nixon / Pleasent Home

EB WB

Latitude: 0' 0.000 Undefined

Start Time	21-Nov-0 Tue	Channel 1 Morning	Channel 1 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Channel 2 Morning	Channel 2 Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	*			2	*				
12:15		3	*			1	*				
12:30		0	*			0	*				
12:45		1	*	7	0	0	*	3	0	10	0
01:00		0	*			2	*				
01:15		0	*			0	*				
01:30		0	*			1	*				
01:45		0	*	0	0	0	*	3	0	3	0
02:00		2	*			0	*				
02:15		3	*			3	*				
02:30		3	*			3	*				
02:45		3	*	11	0	0	*	6	0	17	0
03:00		4	*			1	*				
03:15		2	*			1	*				
03:30		1	*			3	*				
03:45		4	*	11	0	3	*	8	0	19	0
04:00		1	*			6	*				
04:15		2	*			2	*				
04:30		1	*			2	*				
04:45		3	*	7	0	0	*	10	0	17	0
05:00		1	*			0	*				
05:15		4	*			1	*				
05:30		5	*			1	*				
05:45		17	*	27	0	4	*	6	0	33	0
06:00		12	*			4	*				
06:15		26	*			6	*				
06:30		15	*			3	*				
06:45		28	*	81	0	7	*	20	0	101	0
07:00		31	*			10	*				
07:15		37	*			16	*				
07:30		47	*			16	*				
07:45		85	*	200	0	25	*	67	0	267	0
08:00		57	*			19	*				
08:15		49	*			20	*				
08:30		41	*			13	*				
08:45		*	*	147	0	*	*	52	0	199	0
09:00		*	*	*	*	*	*	*	*	*	*
09:15		*	*	*	*	*	*	*	*	*	*
09:30		*	*	*	*	*	*	*	*	*	*
09:45		*	*	*	*	*	*	*	*	*	*
10:00		*	*	*	*	*	*	*	*	*	*
10:15		*	*	*	*	*	*	*	*	*	*
10:30		*	*	*	*	*	*	*	*	*	*
10:45		*	*	*	*	*	*	*	*	*	*
11:00		*	*	*	*	*	*	*	*	*	*
11:15		*	*	*	*	*	*	*	*	*	*
11:30		*	*	*	*	*	*	*	*	*	*
11:45		*	*	*	*	*	*	*	*	*	*
Total		491	0			175	0			666	0
Percent		100.0%	0.0%			100.0%	0.0%			100.0%	0.0%
Grand Total		2020	3173			1034	3526			3054	6699
Percent		38.9%	61.1%			22.7%	77.3%			31.3%	68.7%
ADT	Not Calculated										

Appendix B

Turning Movement Counts

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Weekday
Site Code : 00000000
Start Date : 11/15/2006
Page No : 1

Groups Printed- Passenger Cars - Trucks - Buses

	WHEELER RD From North				WELLSBO CT From East				WHEELER RD From South				WELLSBO CT From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	23	79	2	0	2	1	3	0	0	135	50	0	43	2	22	0	362
12:15 PM	16	106	0	0	2	4	5	0	1	128	49	0	49	3	23	0	386
12:30 PM	24	138	4	0	3	1	1	0	0	122	49	0	46	1	12	0	401
12:45 PM	20	123	3	0	5	2	6	0	0	149	47	0	43	1	22	0	421
Total	83	446	9	0	12	8	15	0	1	534	195	0	181	7	79	0	1570
01:00 PM	26	105	2	0	3	2	2	0	0	151	57	0	39	2	21	0	410
01:15 PM	18	115	3	0	3	0	6	0	0	147	48	0	41	6	20	0	407
01:30 PM	21	87	1	0	0	2	5	0	0	149	62	0	44	0	22	0	393
01:45 PM	13	106	4	0	4	1	0	0	0	128	47	0	45	1	15	0	364
Total	78	413	10	0	10	5	13	0	0	575	214	0	169	9	78	0	1574
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	24	144	3	0	5	2	10	0	0	210	92	0	38	1	24	0	553
04:45 PM	34	151	2	0	3	3	3	0	1	178	97	0	56	1	19	0	548
Total	58	295	5	0	8	5	13	0	1	388	189	0	94	2	43	0	1101
05:00 PM	30	161	5	0	7	6	11	0	0	213	122	0	55	4	28	0	642
05:15 PM	33	176	5	0	10	6	5	0	1	272	142	0	47	2	26	0	725
05:30 PM	30	158	5	0	9	8	7	0	1	212	127	0	61	5	22	0	645
05:45 PM	36	142	3	0	3	4	1	0	1	196	107	0	46	1	17	1	558
Total	129	637	18	0	29	24	24	0	3	893	498	0	209	12	93	1	2570
06:00 PM	24	116	6	0	3	8	4	0	1	185	88	0	49	3	25	0	512
06:15 PM	19	135	2	0	2	2	5	0	0	158	74	0	34	2	11	0	444
Grand Total	391	2042	50	0	64	52	74	0	6	2733	1258	0	736	35	329	1	7771
Apprch %	15.7	82.2	2	0	33.7	27.4	38.9	0	0.2	68.4	31.5	0	66.8	3.2	29.9	0.1	
Total %	5	26.3	0.6	0	0.8	0.7	1	0	0.1	35.2	16.2	0	9.5	0.5	4.2	0	
Passenger Cars	384	2013	50	0	64	52	73	0	6	2703	1234	0	704	35	325	1	7644
% Passenger Cars	98.2	98.6	100	0	100	100	98.6	0	100	98.9	98.1	0	95.7	100	98.8	100	98.4
Trucks	6	28	0	0	0	0	1	0	0	28	22	0	32	0	4	0	121
% Trucks	1.5	1.4	0	0	0	0	1.4	0	0	1	1.7	0	4.3	0	1.2	0	1.6
Buses	1	1	0	0	0	0	0	0	0	2	2	0	0	0	0	0	6
% Buses	0.3	0	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0.1

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Weekday
Site Code : 00000000
Start Date : 11/15/2006
Page No : 1

Groups Printed- Passenger Cars

	WHEELER RD From North				WELLSBO CT From East				WHEELER RD From South				WELLSBO CT From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	23	76	2	0	2	1	3	0	0	133	46	0	40	2	22	0	350
12:15 PM	16	103	0	0	2	4	5	0	1	127	47	0	45	3	23	0	376
12:30 PM	22	138	4	0	3	1	1	0	0	121	48	0	46	1	12	0	397
12:45 PM	19	120	3	0	5	2	6	0	0	144	45	0	38	1	22	0	405
Total	80	437	9	0	12	8	15	0	1	525	186	0	169	7	79	0	1528
01:00 PM	26	103	2	0	3	2	2	0	0	148	56	0	38	2	19	0	401
01:15 PM	18	113	3	0	3	0	6	0	0	142	48	0	38	6	19	0	396
01:30 PM	20	87	1	0	0	2	4	0	0	147	60	0	42	0	22	0	385
01:45 PM	13	101	4	0	4	1	0	0	0	127	45	0	42	1	15	0	353
Total	77	404	10	0	10	5	12	0	0	564	209	0	160	9	75	0	1535
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	24	142	3	0	5	2	10	0	0	208	90	0	38	1	24	0	547
04:45 PM	34	150	2	0	3	3	3	0	1	178	94	0	53	1	19	0	541
Total	58	292	5	0	8	5	13	0	1	386	184	0	91	2	43	0	1088
05:00 PM	30	158	5	0	7	6	11	0	0	211	122	0	54	4	28	0	636
05:15 PM	32	175	5	0	10	6	5	0	1	268	142	0	44	2	26	0	716
05:30 PM	30	156	5	0	9	8	7	0	1	211	126	0	60	5	22	0	640
05:45 PM	36	142	3	0	3	4	1	0	1	196	106	0	45	1	17	1	556
Total	128	631	18	0	29	24	24	0	3	886	496	0	203	12	93	1	2548
06:00 PM	23	115	6	0	3	8	4	0	1	185	86	0	48	3	24	0	506
06:15 PM	18	134	2	0	2	2	5	0	0	157	73	0	33	2	11	0	439
Grand Total	384	2013	50	0	64	52	73	0	6	2703	1234	0	704	35	325	1	7644
Apprch %	15.7	82.3	2	0	33.9	27.5	38.6	0	0.2	68.6	31.3	0	66.1	3.3	30.5	0.1	
Total %	5	26.3	0.7	0	0.8	0.7	1	0	0.1	35.4	16.1	0	9.2	0.5	4.3	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Weekday
Site Code : 00000000
Start Date : 11/15/2006
Page No : 1

Groups Printed- Trucks

	WHEELER RD From North				WELLSBO CT From East				WHEELER RD From South				WELLSBO CT From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	3	0	0	0	0	0	0	0	2	4	0	3	0	0	0	12
12:15 PM	0	2	0	0	0	0	0	0	0	1	2	0	4	0	0	0	9
12:30 PM	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4
12:45 PM	1	3	0	0	0	0	0	0	0	4	2	0	5	0	0	0	15
Total	3	8	0	0	0	0	0	0	0	8	9	0	12	0	0	0	40
01:00 PM	0	2	0	0	0	0	0	0	0	3	1	0	1	0	2	0	9
01:15 PM	0	2	0	0	0	0	0	0	0	5	0	0	3	0	1	0	11
01:30 PM	1	0	0	0	0	0	1	0	0	2	2	0	2	0	0	0	8
01:45 PM	0	5	0	0	0	0	0	0	0	1	2	0	3	0	0	0	11
Total	1	9	0	0	0	0	1	0	0	11	5	0	9	0	3	0	39
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	5
04:45 PM	0	1	0	0	0	0	0	0	0	0	3	0	3	0	0	0	7
Total	0	3	0	0	0	0	0	0	0	2	4	0	3	0	0	0	12
05:00 PM	0	3	0	0	0	0	0	0	0	2	0	0	1	0	0	0	6
05:15 PM	1	1	0	0	0	0	0	0	0	3	0	0	3	0	0	0	8
05:30 PM	0	2	0	0	0	0	0	0	0	1	1	0	1	0	0	0	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Total	1	6	0	0	0	0	0	0	0	6	2	0	6	0	0	0	21
06:00 PM	1	1	0	0	0	0	0	0	0	0	2	0	1	0	1	0	6
06:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
Grand Total	6	28	0	0	0	0	1	0	0	28	22	0	32	0	4	0	121
Apprch %	17.6	82.4	0	0	0	0	100	0	0	56	44	0	88.9	0	11.1	0	
Total %	5	23.1	0	0	0	0	0.8	0	0	23.1	18.2	0	26.4	0	3.3	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Weekday
Site Code : 00000000
Start Date : 11/15/2006
Page No : 1

Groups Printed- Buses

	WHEELER RD From North				WELLSBO CT From East				WHEELER RD From South				WELLSBO CT From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Grand Total	1	1	0	0	0	0	0	0	0	2	2	0	0	0	0	0	6
Apprch %	50	50	0	0	0	0	0	0	0	50	50	0	0	0	0	0	
Total %	16.7	16.7	0	0	0	0	0	0	0	33.3	33.3	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Saturday
Site Code : 00000000
Start Date : 11/18/2006
Page No : 1

Groups Printed- Passenger Cars - Trucks - Buses

	Flowing Wells Road From North				Wellsbo Court From East				WHEELER RD From South				Wheeler Road From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	16	105	4	0	2	3	4	0	0	82	40	0	49	1	25	0	331
Total	16	105	4	0	2	3	4	0	0	82	40	0	49	1	25	0	331
12:00 PM	23	106	2	0	2	1	3	0	0	105	32	0	27	3	19	0	323
12:15 PM	21	99	0	0	3	0	3	0	0	126	37	0	43	1	14	0	347
12:30 PM	13	117	3	0	1	0	6	0	0	107	45	0	38	1	27	0	358
12:45 PM	15	104	4	0	4	0	5	0	0	102	43	0	53	1	26	0	357
Total	72	426	9	0	10	1	17	0	0	440	157	0	161	6	86	0	1385
01:00 PM	19	98	2	0	9	1	2	0	1	113	37	0	68	2	21	0	373
Grand Total	107	629	15	0	21	5	23	0	1	635	234	0	278	9	132	0	2089
Apprch %	14.2	83.8	2	0	42.9	10.2	46.9	0	0.1	73	26.9	0	66.3	2.1	31.5	0	
Total %	5.1	30.1	0.7	0	1	0.2	1.1	0	0	30.4	11.2	0	13.3	0.4	6.3	0	
Passenger Cars	107	626	15	0	21	5	22	0	1	631	231	0	275	8	132	0	2074
% Passenger Cars	100	99.5	100	0	100	100	95.7	0	100	99.4	98.7	0	98.9	88.9	100	0	99.3
Trucks	0	3	0	0	0	0	1	0	0	4	3	0	3	1	0	0	15
% Trucks	0	0.5	0	0	0	0	4.3	0	0	0.6	1.3	0	1.1	11.1	0	0	0.7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Saturday
Site Code : 00000000
Start Date : 11/18/2006
Page No : 1

Groups Printed- Passenger Cars

	Flowing Wells Road From North				Wellsbo Court From East				WHEELER RD From South				Wheeler Road From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	16	104	4	0	2	3	4	0	0	81	39	0	48	1	25	0	327
Total	16	104	4	0	2	3	4	0	0	81	39	0	48	1	25	0	327
12:00 PM	23	106	2	0	2	1	3	0	0	105	31	0	26	3	19	0	321
12:15 PM	21	97	0	0	3	0	3	0	0	124	36	0	43	1	14	0	342
12:30 PM	13	117	3	0	1	0	6	0	0	107	45	0	38	1	27	0	358
12:45 PM	15	104	4	0	4	0	5	0	0	102	43	0	52	1	26	0	356
Total	72	424	9	0	10	1	17	0	0	438	155	0	159	6	86	0	1377
01:00 PM	19	98	2	0	9	1	1	0	1	112	37	0	68	1	21	0	370
Grand Total	107	626	15	0	21	5	22	0	1	631	231	0	275	8	132	0	2074
Apprch %	14.3	83.7	2	0	43.8	10.4	45.8	0	0.1	73.1	26.8	0	66.3	1.9	31.8	0	
Total %	5.2	30.2	0.7	0	1	0.2	1.1	0	0	30.4	11.1	0	13.3	0.4	6.4	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Saturday
Site Code : 00000000
Start Date : 11/18/2006
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Groups Printed- Trucks

	Flowing Wells Road From North				Wellsbo Court From East				WHEELER RD From South				Wheeler Road From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	4
Total	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
12:15 PM	0	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	5
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	2	0	0	0	0	0	0	0	2	2	0	2	0	0	0	8
01:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3
Grand Total	0	3	0	0	0	0	1	0	0	4	3	0	3	1	0	0	15
Apprch %	0	100	0	0	0	0	100	0	0	57.1	42.9	0	75	25	0	0	
Total %	0	20	0	0	0	0	6.7	0	0	26.7	20	0	20	6.7	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and Wellsbo Saturday
Site Code : 00000000
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Groups Printed- Buses

	Flowing Wells Road From North				Wellsbo Court From East				WHEELER RD From South				Wheeler Road From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	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	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Weekday
Site Code : 00000000
Start Date : 11/15/2006
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Groups Printed- Passenger Cars - Trucks - Buses

	WHEELER RD From North				I20 RAMP From East				WHEELER RD From South				I20 RAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	6	135	1	0	17	1	30	0	0	160	54	0	0	0	0	0	404
12:15 PM	8	161	0	0	20	1	21	0	0	153	45	0	0	0	0	0	409
12:30 PM	10	161	0	0	21	2	34	0	0	154	29	0	0	0	0	0	411
12:45 PM	8	147	0	0	26	2	38	0	0	162	51	0	0	0	0	0	434
Total	32	604	1	0	84	6	123	0	0	629	179	0	0	0	0	0	1658
01:00 PM	10	147	0	0	17	0	32	0	0	190	52	0	0	0	0	0	448
01:15 PM	5	154	0	0	10	0	39	0	0	189	50	0	0	0	0	0	447
01:30 PM	6	123	0	0	17	0	41	0	0	165	44	0	0	0	0	0	396
01:45 PM	5	145	0	0	13	0	31	0	0	155	48	0	0	0	0	0	397
Total	26	569	0	0	57	0	143	0	0	699	194	0	0	0	0	0	1688
*** BREAK ***																	
04:30 PM	19	186	0	0	38	1	36	0	0	238	62	0	0	0	0	0	580
04:45 PM	8	188	0	0	58	0	34	0	0	231	74	0	0	0	0	0	593
Total	27	374	0	0	96	1	70	0	0	469	136	0	0	0	0	0	1173
05:00 PM	20	219	0	0	71	0	40	0	0	282	98	0	0	0	0	0	730
05:15 PM	21	196	0	0	86	0	51	0	0	319	99	0	0	0	0	0	772
05:30 PM	19	208	0	0	79	0	52	0	0	246	85	0	0	0	0	0	689
05:45 PM	4	186	0	0	65	0	41	0	0	217	53	0	0	0	0	0	566
Total	64	809	0	0	301	0	184	0	0	1064	335	0	0	0	0	0	2757
06:00 PM	8	167	0	0	61	1	47	0	0	221	61	0	0	0	0	0	566
06:15 PM	11	153	0	0	38	0	27	0	0	174	57	0	0	0	0	0	460
Grand Total	168	2676	1	0	637	8	594	0	0	3256	962	0	0	0	0	0	8302
Apprch %	5.9	94.1	0	0	51.4	0.6	47.9	0	0	77.2	22.8	0	0	0	0	0	
Total %	2	32.2	0	0	7.7	0.1	7.2	0	0	39.2	11.6	0	0	0	0	0	
Passenger Cars	163	2651	1	0	621	8	589	0	0	3240	958	0	0	0	0	0	8231
% Passenger Cars	97	99.1	100	0	97.5	100	99.2	0	0	99.5	99.6	0	0	0	0	0	99.1
Trucks	5	24	0	0	15	0	5	0	0	14	4	0	0	0	0	0	67
% Trucks	3	0.9	0	0	2.4	0	0.8	0	0	0.4	0.4	0	0	0	0	0	0.8
Buses	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	4
% Buses	0	0	0	0	0.2	0	0	0	0	0.1	0	0	0	0	0	0	0

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Weekday
Site Code : 00000000
Start Date : 11/15/2006
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Groups Printed- Passenger Cars

	WHEELER RD From North				I20 RAMP From East				WHEELER RD From South				I20 RAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	4	132	1	0	14	1	28	0	0	159	53	0	0	0	0	0	392
12:15 PM	7	158	0	0	18	1	21	0	0	151	44	0	0	0	0	0	400
12:30 PM	10	161	0	0	19	2	33	0	0	152	29	0	0	0	0	0	406
12:45 PM	7	140	0	0	24	2	38	0	0	160	51	0	0	0	0	0	422
Total	28	591	1	0	75	6	120	0	0	622	177	0	0	0	0	0	1620
01:00 PM	10	145	0	0	17	0	32	0	0	189	52	0	0	0	0	0	445
01:15 PM	5	151	0	0	10	0	38	0	0	187	49	0	0	0	0	0	440
01:30 PM	6	122	0	0	16	0	41	0	0	164	43	0	0	0	0	0	392
01:45 PM	5	143	0	0	11	0	30	0	0	154	48	0	0	0	0	0	391
Total	26	561	0	0	54	0	141	0	0	694	192	0	0	0	0	0	1668
*** BREAK ***																	
04:30 PM	18	186	0	0	37	1	36	0	0	237	62	0	0	0	0	0	577
04:45 PM	8	188	0	0	57	0	34	0	0	230	74	0	0	0	0	0	591
Total	26	374	0	0	94	1	70	0	0	467	136	0	0	0	0	0	1168
05:00 PM	20	219	0	0	70	0	40	0	0	280	98	0	0	0	0	0	727
05:15 PM	21	195	0	0	86	0	51	0	0	319	99	0	0	0	0	0	771
05:30 PM	19	207	0	0	78	0	52	0	0	246	85	0	0	0	0	0	687
05:45 PM	4	184	0	0	65	0	41	0	0	217	53	0	0	0	0	0	564
Total	64	805	0	0	299	0	184	0	0	1062	335	0	0	0	0	0	2749
06:00 PM	8	167	0	0	61	1	47	0	0	221	61	0	0	0	0	0	566
06:15 PM	11	153	0	0	38	0	27	0	0	174	57	0	0	0	0	0	460
Grand Total	163	2651	1	0	621	8	589	0	0	3240	958	0	0	0	0	0	8231
Apprch %	5.8	94.2	0	0	51	0.7	48.4	0	0	77.2	22.8	0	0	0	0	0	
Total %	2	32.2	0	0	7.5	0.1	7.2	0	0	39.4	11.6	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Weekday
Site Code : 00000000
Start Date : 11/15/2006
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Groups Printed- Trucks

	WHEELER RD From North				I20 RAMP From East				WHEELER RD From South				I20 RAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	2	2	0	0	3	0	2	0	0	1	1	0	0	0	0	0	11
12:15 PM	1	3	0	0	2	0	0	0	0	2	1	0	0	0	0	0	9
12:30 PM	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	4
12:45 PM	1	7	0	0	2	0	0	0	0	2	0	0	0	0	0	0	12
Total	4	12	0	0	9	0	3	0	0	6	2	0	0	0	0	0	36
01:00 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
01:15 PM	0	3	0	0	0	0	1	0	0	2	1	0	0	0	0	0	7
01:30 PM	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	4
01:45 PM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	6
Total	0	8	0	0	3	0	2	0	0	5	2	0	0	0	0	0	20
*** BREAK ***																	
04:30 PM	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Total	1	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	0	0	1	0	0	0	0	1	0	0	0	0	0	0	6
*** BREAK ***																	
Grand Total	5	24	0	0	15	0	5	0	0	14	4	0	0	0	0	0	67
Apprch %	17.2	82.8	0	0	75	0	25	0	0	77.8	22.2	0	0	0	0	0	
Total %	7.5	35.8	0	0	22.4	0	7.5	0	0	20.9	6	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Weekday
Site Code : 00000000
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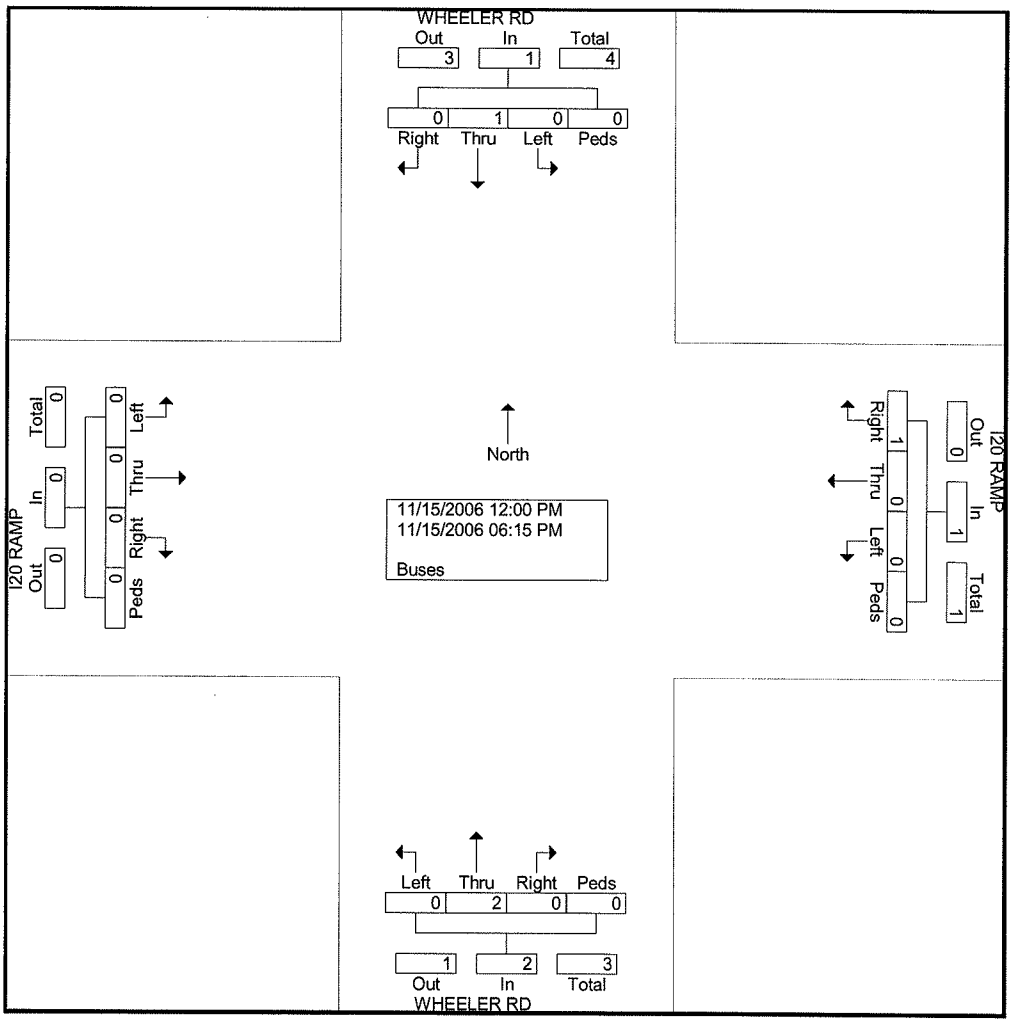
Groups Printed- Buses

	WHEELER RD From North				I20 RAMP From East				WHEELER RD From South				I20 RAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
*** BREAK ***																	
05:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	4
Apprch %	0	100	0	0	100	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	25	0	0	25	0	0	0	0	50	0	0	0	0	0	0	



Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Saturday
Site Code : 00000000
Start Date : 11/18/2006
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Groups Printed- Unshifted - Bank 1 - Bank 2

	WHEELER RD From North				I20 WEST ONRAMP From East				WHEELER RD From South				I20 WEST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	8	137	0	0	17	0	28	0	0	130	36	0	0	0	0	0	356
Total	8	137	0	0	17	0	28	0	0	130	36	0	0	0	0	0	356
12:00 PM	7	130	0	0	21	0	16	0	0	117	45	0	0	0	0	0	336
12:15 PM	5	152	0	0	16	1	24	1	0	140	27	0	0	0	0	0	366
12:30 PM	9	144	0	0	13	4	22	0	0	148	49	0	0	0	0	0	389
12:45 PM	16	159	0	0	23	0	26	0	0	121	42	0	0	0	0	0	387
Total	37	585	0	0	73	5	88	1	0	526	163	0	0	0	0	0	1478
01:00 PM	12	147	0	0	23	0	22	0	0	142	33	0	0	0	0	0	379
Grand Total	57	869	0	0	113	5	138	1	0	798	232	0	0	0	0	0	2213
Apprch %	6.2	93.8	0	0	44	1.9	53.7	0.4	0	77.5	22.5	0	0	0	0	0	
Total %	2.6	39.3	0	0	5.1	0.2	6.2	0	0	36.1	10.5	0	0	0	0	0	
Unshifted	57	868	0	0	113	5	138	1	0	797	230	0	0	0	0	0	2209
% Unshifted	100	99.9	0	0	100	100	100	100	0	99.9	99.1	0	0	0	0	0	99.8
Bank 1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
% Bank 1	0	0.1	0	0	0	0	0	0	0	0.1	0.4	0	0	0	0	0	0.1
Bank 2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
% Bank 2	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Wheeler and I20 WB Ramps Saturday
Site Code : 00000000
Start Date : 11/18/2006
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Groups Printed- Unshifted

	WHEELER RD From North				I20 WEST ONRAMP From East				WHEELER RD From South				I20 WEST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	8	136	0	0	17	0	28	0	0	130	36	0	0	0	0	0	355
Total	8	136	0	0	17	0	28	0	0	130	36	0	0	0	0	0	355
12:00 PM	7	130	0	0	21	0	16	0	0	117	44	0	0	0	0	0	335
12:15 PM	5	152	0	0	16	1	24	1	0	139	27	0	0	0	0	0	365
12:30 PM	9	144	0	0	13	4	22	0	0	148	48	0	0	0	0	0	388
12:45 PM	16	159	0	0	23	0	26	0	0	121	42	0	0	0	0	0	387
Total	37	585	0	0	73	5	88	1	0	525	161	0	0	0	0	0	1475
01:00 PM	12	147	0	0	23	0	22	0	0	142	33	0	0	0	0	0	379
Grand Total	57	868	0	0	113	5	138	1	0	797	230	0	0	0	0	0	2209
Apprch %	6.2	93.8	0	0	44	1.9	53.7	0.4	0	77.6	22.4	0	0	0	0	0	
Total %	2.6	39.3	0	0	5.1	0.2	6.2	0	0	36.1	10.4	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Wheeler and I20 WB Ramps Saturday
Site Code : 00000000
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Groups Printed- Bank 1

	WHEELER RD From North				I20 WEST ONRAMP From East				WHEELER RD From South				I20 WEST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
Apprch %	0	100	0	0	0	0	0	0	0	50	50	0	0	0	0	0	
Total %	0	33.3	0	0	0	0	0	0	0	33.3	33.3	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 WB Ramps Saturday
Site Code : 00000000
Start Date : 11/18/2006
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Groups Printed- Bank 2

	WHEELER RD From North				I20 WEST ONRAMP From East				WHEELER RD From South				I20 WEST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
*** BREAK ***																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 EB Ramps Weekday
Site Code : 00000000
Start Date : 11/16/2006
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Groups Printed- Unshifted - Bank 1 - Bank 2

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	140	20	0	0	0	0	0	31	187	1	0	38	0	9	0	426
12:15 PM	0	147	11	0	0	0	0	0	30	195	1	0	50	1	8	0	443
12:30 PM	0	200	23	0	0	0	0	0	28	193	1	0	51	1	10	0	507
12:45 PM	0	172	25	0	0	0	0	0	18	207	0	0	37	0	4	0	463
Total	0	659	79	0	0	0	0	0	107	782	3	0	176	2	31	0	1839
01:00 PM	0	168	22	0	0	0	0	0	25	196	0	0	44	1	6	0	462
01:15 PM	0	151	12	0	0	0	0	0	29	232	1	0	51	0	6	0	482
01:30 PM	0	180	18	0	0	0	0	0	28	211	0	0	37	0	7	0	481
01:45 PM	0	167	24	0	0	0	0	0	22	178	1	0	53	0	10	0	455
Total	0	666	76	0	0	0	0	0	104	817	2	0	185	1	29	0	1880
*** BREAK ***																	
04:30 PM	0	200	29	0	0	0	0	1	44	268	1	0	47	1	15	0	606
04:45 PM	0	210	40	0	0	0	0	0	50	289	0	0	45	1	5	0	640
Total	0	410	69	0	0	0	0	1	94	557	1	0	92	2	20	0	1246
05:00 PM	0	212	53	0	0	0	0	0	55	353	4	0	61	1	20	0	759
05:15 PM	0	199	45	0	0	0	0	0	56	330	2	0	63	0	11	0	706
05:30 PM	0	254	51	0	0	0	0	0	55	307	0	0	59	0	13	0	739
05:45 PM	0	203	33	0	0	0	0	0	45	309	0	0	56	0	22	0	668
Total	0	868	182	0	0	0	0	0	211	1299	6	0	239	1	66	0	2872
06:00 PM	0	201	35	0	0	0	0	0	40	221	0	0	80	0	18	0	595
06:15 PM	0	185	12	0	0	0	0	0	26	205	0	0	63	1	7	0	499
Grand Total	0	2989	453	0	0	0	0	1	582	3881	12	0	835	7	171	0	8931
Apprch %	0	86.8	13.2	0	0	0	0	100	13	86.7	0.3	0	82.4	0.7	16.9	0	
Total %	0	33.5	5.1	0	0	0	0	0	6.5	43.5	0.1	0	9.3	0.1	1.9	0	
Unshifted	0	2980	445	0	0	0	0	1	577	3871	12	0	828	7	167	0	8888
% Unshifted	0	99.7	98.2	0	0	0	0	100	99.1	99.7	100	0	99.2	100	97.7	0	99.5
Bank 1	0	8	8	0	0	0	0	0	5	10	0	0	6	0	4	0	41
% Bank 1	0	0.3	1.8	0	0	0	0	0	0.9	0.3	0	0	0.7	0	2.3	0	0.5
Bank 2	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Wheeler and I20 EB Ramps Weekday
Site Code : 00000000
Start Date : 11/16/2006
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Groups Printed- Unshifted

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	139	19	0	0	0	0	0	29	187	1	0	37	0	9	0	421
12:15 PM	0	146	9	0	0	0	0	0	30	195	1	0	49	1	8	0	439
12:30 PM	0	198	21	0	0	0	0	0	28	192	1	0	51	1	10	0	502
12:45 PM	0	171	23	0	0	0	0	0	17	207	0	0	33	0	3	0	454
Total	0	654	72	0	0	0	0	0	104	781	3	0	170	2	30	0	1816
01:00 PM	0	168	22	0	0	0	0	0	25	195	0	0	44	1	6	0	461
01:15 PM	0	149	12	0	0	0	0	0	29	232	1	0	51	0	5	0	479
01:30 PM	0	179	18	0	0	0	0	0	28	208	0	0	36	0	7	0	476
01:45 PM	0	167	24	0	0	0	0	0	21	177	1	0	53	0	10	0	453
Total	0	663	76	0	0	0	0	0	103	812	2	0	184	1	28	0	1869
*** BREAK ***																	
04:30 PM	0	200	29	0	0	0	0	1	44	268	1	0	47	1	15	0	606
04:45 PM	0	209	40	0	0	0	0	0	50	289	0	0	45	1	5	0	639
Total	0	409	69	0	0	0	0	1	94	557	1	0	92	2	20	0	1245
05:00 PM	0	212	53	0	0	0	0	0	55	352	4	0	61	1	18	0	756
05:15 PM	0	199	45	0	0	0	0	0	56	328	2	0	63	0	11	0	704
05:30 PM	0	254	51	0	0	0	0	0	54	306	0	0	59	0	13	0	737
05:45 PM	0	203	33	0	0	0	0	0	45	309	0	0	56	0	22	0	668
Total	0	868	182	0	0	0	0	0	210	1295	6	0	239	1	64	0	2865
06:00 PM	0	201	35	0	0	0	0	0	40	221	0	0	80	0	18	0	595
06:15 PM	0	185	11	0	0	0	0	0	26	205	0	0	63	1	7	0	498
Grand Total	0	2980	445	0	0	0	0	1	577	3871	12	0	828	7	167	0	8888
Apprch %	0	87	13	0	0	0	0	100	12.9	86.8	0.3	0	82.6	0.7	16.7	0	
Total %	0	33.5	5	0	0	0	0	0	6.5	43.6	0.1	0	9.3	0.1	1.9	0	

Cranston Engineering Group, PC

452 Ellis Street
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Groups Printed- Bank 1

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	0	1	0	0	0	0	0	2	0	0	0	1	0	0	0	4
12:15 PM	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	4
12:30 PM	0	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	5
12:45 PM	0	1	2	0	0	0	0	0	1	0	0	0	3	0	1	0	8
Total	0	4	7	0	0	0	0	0	3	1	0	0	5	0	1	0	21
01:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
01:30 PM	0	1	0	0	0	0	0	0	0	3	0	0	1	0	0	0	5
01:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
Total	0	3	0	0	0	0	0	0	1	5	0	0	1	0	1	0	11
*** BREAK ***																	
04:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	1	4	0	0	0	0	2	0	7
*** BREAK ***																	
06:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	8	8	0	0	0	0	0	5	10	0	0	6	0	4	0	41
Apprch %	0	50	50	0	0	0	0	0	33.3	66.7	0	0	60	0	40	0	
Total %	0	19.5	19.5	0	0	0	0	0	12.2	24.4	0	0	14.6	0	9.8	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

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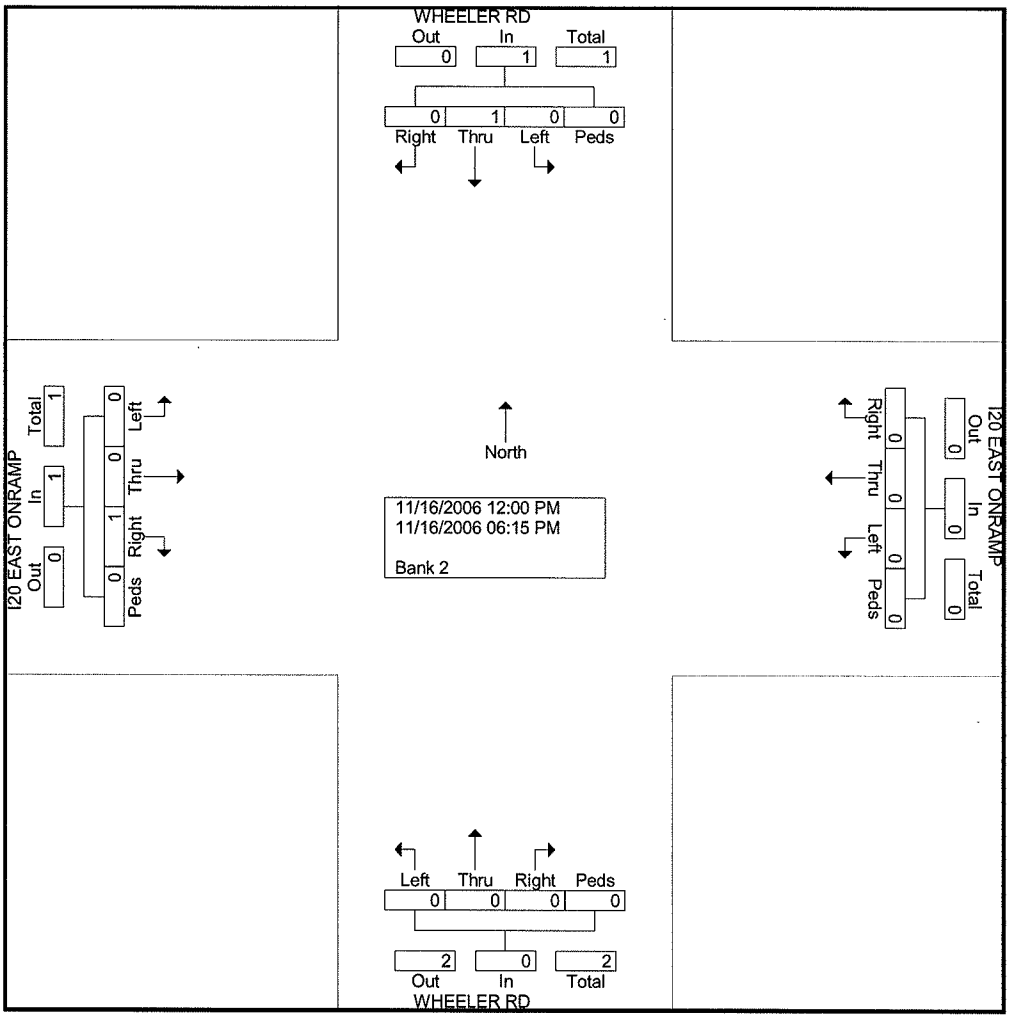
Groups Printed- Bank 2

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
*** BREAK ***																	
Grand Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Apprch %	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	



Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

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Site Code : 00000000
Start Date : 12/2/2006
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Groups Printed- Unshifted - Bank 1 - Bank 2

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	163	14	0	0	1	0	0	27	131	0	0	45	0	14	0	395
Total	0	163	14	0	0	1	0	0	27	131	0	0	45	0	14	0	395
12:00 PM	0	155	15	0	0	0	0	0	25	191	1	0	53	0	9	0	449
12:15 PM	0	157	20	0	0	0	0	0	27	167	1	0	45	0	15	0	432
12:30 PM	0	180	23	0	0	0	0	0	16	172	1	0	43	1	6	0	442
12:45 PM	0	165	23	0	0	0	0	0	19	178	1	0	44	0	5	0	435
Total	0	657	81	0	0	0	0	0	87	708	4	0	185	1	35	0	1758
01:00 PM	0	164	25	0	0	0	0	0	21	165	0	0	27	0	5	0	407
Grand Total	0	984	120	0	0	1	0	0	135	1004	4	0	257	1	54	0	2560
Apprch %	0	89.1	10.9	0	0	100	0	0	11.8	87.8	0.3	0	82.4	0.3	17.3	0	
Total %	0	38.4	4.7	0	0	0	0	0	5.3	39.2	0.2	0	10	0	2.1	0	
Unshifted	0	982	120	0	0	1	0	0	135	1003	4	0	256	1	52	0	2554
% Unshifted	0	99.8	100	0	0	100	0	0	100	99.9	100	0	99.6	100	96.3	0	99.8
Bank 1	0	2	0	0	0	0	0	0	0	1	0	0	1	0	1	0	5
% Bank 1	0	0.2	0	0	0	0	0	0	0	0.1	0	0	0.4	0	1.9	0	0.2
Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9	0	0

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Groups Printed- Unshifted

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	163	14	0	0	1	0	0	27	131	0	0	45	0	13	0	394
Total	0	163	14	0	0	1	0	0	27	131	0	0	45	0	13	0	394
12:00 PM	0	155	15	0	0	0	0	0	25	191	1	0	52	0	9	0	448
12:15 PM	0	156	20	0	0	0	0	0	27	166	1	0	45	0	15	0	430
12:30 PM	0	180	23	0	0	0	0	0	16	172	1	0	43	1	6	0	442
12:45 PM	0	165	23	0	0	0	0	0	19	178	1	0	44	0	5	0	435
Total	0	656	81	0	0	0	0	0	87	707	4	0	184	1	35	0	1755
01:00 PM	0	163	25	0	0	0	0	0	21	165	0	0	27	0	4	0	405
Grand Total	0	982	120	0	0	1	0	0	135	1003	4	0	256	1	52	0	2554
Apprch %	0	89.1	10.9	0	0	100	0	0	11.8	87.8	0.4	0	82.8	0.3	16.8	0	
Total %	0	38.4	4.7	0	0	0	0	0	5.3	39.3	0.2	0	10	0	2	0	

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Groups Printed- Bank 1

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3
01:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	0	0	0	0	0	0	1	0	0	1	0	1	0	5
Apprch %	0	100	0	0	0	0	0	0	0	100	0	0	50	0	50	0	
Total %	0	40	0	0	0	0	0	0	0	20	0	0	20	0	20	0	

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452 Ellis Street
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Groups Printed- Bank 2

	WHEELER RD From North				I20 EAST ONRAMP From East				WHEELER RD From South				I20 EAST ONRAMP From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Flowing Wells and Pleasure House Weekday
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Groups Printed- Unshifted - Bank 1 - Bank 2

	FLOWING WELLS From North				PLEASURE HOUSE From East				FLOWING WELLS From South				PLEASURE HOUSE From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	106	4	0	19	0	7	0	20	119	0	0	0	0	0	0	275
12:15 PM	0	101	11	0	12	0	11	0	20	121	0	0	0	0	0	0	276
12:30 PM	0	144	12	0	10	0	9	0	13	140	0	0	0	0	0	0	328
12:45 PM	0	133	7	0	15	0	11	0	24	123	0	0	0	0	0	0	313
Total	0	484	34	0	56	0	38	0	77	503	0	0	0	0	0	0	1192
01:00 PM	0	116	10	0	10	0	9	0	14	126	0	0	0	0	0	0	285
01:15 PM	0	98	7	0	16	0	8	0	21	138	0	0	0	0	0	0	288
01:30 PM	0	109	7	0	13	0	11	0	26	155	0	1	0	0	0	0	322
01:45 PM	1	126	10	0	16	0	21	0	17	131	0	0	1	0	0	0	323
Total	1	449	34	0	55	0	49	0	78	550	0	1	1	0	0	0	1218
*** BREAK ***																	
04:30 PM	0	159	14	0	22	0	12	0	23	158	1	0	0	0	0	0	389
04:45 PM	0	167	19	0	17	0	10	0	22	169	0	0	0	0	0	0	404
Total	0	326	33	0	39	0	22	0	45	327	1	0	0	0	0	0	793
05:00 PM	0	162	21	0	19	0	5	4	26	212	0	0	0	0	0	0	449
05:15 PM	0	178	14	0	13	0	11	0	30	215	0	0	0	0	0	0	461
05:30 PM	0	207	11	0	19	0	7	0	31	205	0	0	0	0	0	0	480
05:45 PM	0	147	15	0	33	0	6	0	26	192	0	0	0	1	0	0	420
Total	0	694	61	0	84	0	29	4	113	824	0	0	0	1	0	0	1810
06:00 PM	0	132	15	0	17	0	18	0	19	173	1	0	0	0	0	0	375
06:15 PM	0	128	5	0	17	0	12	0	17	144	0	0	1	0	0	0	324
Grand Total	1	2213	182	0	268	0	168	4	349	2521	2	1	2	1	0	0	5712
Apprch %	0	92.4	7.6	0	60.9	0	38.2	0.9	12.1	87.7	0.1	0	66.7	33.3	0	0	
Total %	0	38.7	3.2	0	4.7	0	2.9	0.1	6.1	44.1	0	0	0	0	0	0	
Unshifted	1	2193	176	0	267	0	163	4	343	2499	2	1	2	1	0	0	5652
% Unshifted	100	99.1	96.7	0	99.6	0	97	100	98.3	99.1	100	100	100	100	0	0	98.9
Bank 1	0	17	6	0	1	0	5	0	6	19	0	0	0	0	0	0	54
% Bank 1	0	0.8	3.3	0	0.4	0	3	0	1.7	0.8	0	0	0	0	0	0	0.9
Bank 2	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
% Bank 2	0	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.1

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Flowing Wells and Pleasure House Weekday
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Groups Printed- Unshifted

	FLOWING WELLS From North				PLEASURE HOUSE From East				FLOWING WELLS From South				PLEASURE HOUSE From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	105	4	0	18	0	6	0	20	117	0	0	0	0	0	0	270
12:15 PM	0	96	11	0	12	0	10	0	20	119	0	0	0	0	0	0	268
12:30 PM	0	144	11	0	10	0	8	0	13	138	0	0	0	0	0	0	324
12:45 PM	0	133	7	0	15	0	11	0	24	121	0	0	0	0	0	0	311
Total	0	478	33	0	55	0	35	0	77	495	0	0	0	0	0	0	1173
01:00 PM	0	115	9	0	10	0	9	0	14	122	0	0	0	0	0	0	279
01:15 PM	0	95	7	0	16	0	8	0	21	136	0	0	0	0	0	0	283
01:30 PM	0	108	7	0	13	0	9	0	24	154	0	1	0	0	0	0	316
01:45 PM	1	124	9	0	16	0	21	0	17	130	0	0	1	0	0	0	319
Total	1	442	32	0	55	0	47	0	76	542	0	1	1	0	0	0	1197
*** BREAK ***																	
04:30 PM	0	157	13	0	22	0	12	0	21	157	1	0	0	0	0	0	383
04:45 PM	0	166	19	0	17	0	10	0	22	168	0	0	0	0	0	0	402
Total	0	323	32	0	39	0	22	0	43	325	1	0	0	0	0	0	785
05:00 PM	0	162	20	0	19	0	5	4	25	210	0	0	0	0	0	0	445
05:15 PM	0	175	14	0	13	0	11	0	29	214	0	0	0	0	0	0	456
05:30 PM	0	207	11	0	19	0	7	0	31	205	0	0	0	0	0	0	480
05:45 PM	0	146	15	0	33	0	6	0	26	191	0	0	0	1	0	0	418
Total	0	690	60	0	84	0	29	4	111	820	0	0	0	1	0	0	1799
06:00 PM	0	132	14	0	17	0	18	0	19	173	1	0	0	0	0	0	374
06:15 PM	0	128	5	0	17	0	12	0	17	144	0	0	1	0	0	0	324
Grand Total	1	2193	176	0	267	0	163	4	343	2499	2	1	2	1	0	0	5652
Apprch %	0	92.5	7.4	0	61.5	0	37.6	0.9	12.1	87.8	0.1	0	66.7	33.3	0	0	
Total %	0	38.8	3.1	0	4.7	0	2.9	0.1	6.1	44.2	0	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

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Site Code : 00000000
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Groups Printed- Bank 1

	FLOWING WELLS From North				PLEASURE HOUSE From East				FLOWING WELLS From South				PLEASURE HOUSE From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	4
12:15 PM	0	3	0	0	0	0	1	0	0	2	0	0	0	0	0	0	6
12:30 PM	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	4
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Total	0	4	1	0	1	0	3	0	0	7	0	0	0	0	0	0	16
01:00 PM	0	1	1	0	0	0	0	0	0	4	0	0	0	0	0	0	6
01:15 PM	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5
01:30 PM	0	1	0	0	0	0	2	0	2	0	0	0	0	0	0	0	5
01:45 PM	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	4
Total	0	7	2	0	0	0	2	0	2	7	0	0	0	0	0	0	20
*** BREAK ***																	
04:30 PM	0	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	5
04:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	0	0	0	0	2	1	0	0	0	0	0	0	6
05:00 PM	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	4
05:15 PM	0	3	0	0	0	0	0	0	1	1	0	0	0	0	0	0	5
*** BREAK ***																	
05:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	4	1	0	0	0	0	0	2	4	0	0	0	0	0	0	11
06:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Grand Total	0	17	6	0	1	0	5	0	6	19	0	0	0	0	0	0	54
Apprch %	0	73.9	26.1	0	16.7	0	83.3	0	24	76	0	0	0	0	0	0	
Total %	0	31.5	11.1	0	1.9	0	9.3	0	11.1	35.2	0	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Flowing Wells and Pleasure House Weekday
Site Code : 00000000
Start Date : 11/16/2006
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Groups Printed- Bank 2

	FLOWING WELLS From North				PLEASURE HOUSE From East				FLOWING WELLS From South				PLEASURE HOUSE From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
*** BREAK ***																	
01:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
*** BREAK ***																	
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	6
Apprch %	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	50	0	0	0	0	0	0	0	50	0	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
Augusta, GA. 30901

File Name : Flowing Wells and Pleasure House Saturday
Site Code : 00000000
Start Date : 12/2/2006

Groups Printed- Unshifted - Bank 1 - Bank 2

	FLOWING WELLS From North				PLEASANT HOME From East				FLOWING WELLS From South				PLEASANT HOME From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	127	8	0	10	0	6	0	19	107	0	0	0	0	0	0	277
Total	0	127	8	0	10	0	6	0	19	107	0	0	0	0	0	0	277
12:00 PM	0	127	12	0	21	0	16	0	7	121	0	0	0	0	0	0	304
12:15 PM	0	111	6	0	15	0	7	0	11	131	0	0	0	0	0	0	281
12:30 PM	0	128	8	0	12	0	12	0	23	130	0	0	0	0	0	0	313
12:45 PM	0	124	13	0	14	0	8	0	10	115	0	0	0	0	0	0	284
Total	0	490	39	0	62	0	43	0	51	497	0	0	0	0	0	0	1182
01:00 PM	0	131	9	0	20	0	4	0	11	116	0	0	0	0	0	0	291
Grand Total	0	748	56	0	92	0	53	0	81	720	0	0	0	0	0	0	1750
Apprch %	0	93	7	0	63.4	0	36.6	0	10.1	89.9	0	0	0	0	0	0	
Total %	0	42.7	3.2	0	5.3	0	3	0	4.6	41.1	0	0	0	0	0	0	
Unshifted	0	745	55	0	92	0	53	0	81	714	0	0	0	0	0	0	1740
% Unshifted	0	99.6	98.2	0	100	0	100	0	100	99.2	0	0	0	0	0	0	99.4
Bank 1	0	3	1	0	0	0	0	0	0	4	0	0	0	0	0	0	8
% Bank 1	0	0.4	1.8	0	0	0	0	0	0	0.6	0	0	0	0	0	0	0.5
Bank 2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
% Bank 2	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0.1

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Groups Printed- Unshifted

	FLOWING WELLS From North				PLEASANT HOME From East				FLOWING WELLS From South				PLEASANT HOME From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	126	7	0	10	0	6	0	19	105	0	0	0	0	0	0	273
Total	0	126	7	0	10	0	6	0	19	105	0	0	0	0	0	0	273
12:00 PM	0	126	12	0	21	0	16	0	7	120	0	0	0	0	0	0	302
12:15 PM	0	111	6	0	15	0	7	0	11	131	0	0	0	0	0	0	281
12:30 PM	0	128	8	0	12	0	12	0	23	128	0	0	0	0	0	0	311
12:45 PM	0	123	13	0	14	0	8	0	10	114	0	0	0	0	0	0	282
Total	0	488	39	0	62	0	43	0	51	493	0	0	0	0	0	0	1176
01:00 PM	0	131	9	0	20	0	4	0	11	116	0	0	0	0	0	0	291
Grand Total	0	745	55	0	92	0	53	0	81	714	0	0	0	0	0	0	1740
Apprch %	0	93.1	6.9	0	63.4	0	36.6	0	10.2	89.8	0	0	0	0	0	0	
Total %	0	42.8	3.2	0	5.3	0	3	0	4.7	41	0	0	0	0	0	0	

Cranston Engineering Group, PC

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Site Code : 00000000
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Groups Printed- Bank 1

	FLOWING WELLS From North				PLEASANT HOME From East				FLOWING WELLS From South				PLEASANT HOME From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3
Total	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3
12:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	3	1	0	0	0	0	0	0	4	0	0	0	0	0	0	8
Apprch %	0	75	25	0	0	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	37.5	12.5	0	0	0	0	0	0	50	0	0	0	0	0	0	

Cranston Engineering Group, PC

452 Ellis Street
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File Name : Flowing Wells and Pleasure House Saturday
Site Code : 00000000
Start Date : 12/2/2006
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Groups Printed- Bank 2

	FLOWING WELLS From North				PLEASANT HOME From East				FLOWING WELLS From South				PLEASANT HOME From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:00 PM	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	0	0	0	2	0	0	0	0	0	0	2
Apprch %	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	

Appendix C

Existing Conditions Capacity Analysis Results

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and Wellsbo Road*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/17/2006*	Jurisdiction	*Columbia County*
Time Period	*Noon Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Lane group	L	TR		L	TR		L	T	R	L	T	R
Volume (vph)	75	10	169	15	5	14	201	569	0	12	481	88
% Heavy veh	4	0	5	0	0	0	2	2	0	0	1	3
PHF	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. green	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Arrival type	3	3		3	3		3	3	3	3	3	3
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr	0	0		0	0		0	0	0	0	0	0
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = *10.0*	G = *15.0*	G =	G =	G = *10.0*	G = *41.0*	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	88	208		20	28		228	605	0	16	553	104
Lane group cap.	376	237		299	254		473	1454	662	457	1469	643
v/c ratio	0.23	0.88		0.07	0.11		0.48	0.42	0.00	0.04	0.38	0.16
Green ratio	0.31	0.15		0.31	0.15		0.57	0.41	0.41	0.57	0.41	0.41
Unif. delay d1	25.3	41.6		24.7	36.7		11.5	21.0	17.4	10.1	20.6	18.6
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	0.50
Increm. delay d2	1.5	33.8		0.4	0.9		3.5	0.9	0.0	0.1	0.7	0.5
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000
Control delay	26.7	75.4		25.1	37.6		15.0	21.9	17.4	10.3	21.3	19.2
Lane group LOS	C	E		C	D		B	C	B	B	C	B
Apprch. delay	60.9			32.4			20.0			20.7		
Approach LOS	E			C			B			C		
Intersec. delay	27.1			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and Wellsbo Road*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/17/2006*	Jurisdiction	*Columbia County*
Time Period	*PM Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*1*	*1*	*0*	*1*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group	*L*	*TR*		*L*	*TR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume (vph)	*93*	*12*	*209*	*24*	*24*	*29*	*498*	*893*	*3*	*18*	*637*	*129*
% Heavy veh	*4*	*0*	*5*	*0*	*0*	*0*	*2*	*2*	*0*	*0*	*1*	*3*
PHF	*0.85*	*0.42*	*0.92*	*0.75*	*0.63*	*0.70*	*0.88*	*0.94*	*0.90*	*0.75*	*0.87*	*0.85*
Actuated (P/A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Startup lost time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Ext. eff. green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type	*3*	*3*		*3*	*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit Extension	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*		*0*	*0*		*0*	*0*		*0*	*0*		*0*
Lane Width	*12.0*	*12.0*		*12.0*	*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*	*0*		*0*	*0*		*0*	*0*	*0*	*0*	*0*	*0*
Unit Extension	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = *10.0*	G = *25.0*	G =	G =	G = *30.0*	G = *51.0*	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *140.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*109*	*256*		*32*	*79*		*566*	*950*	*3*	*24*	*732*	*152*
Lane group cap.	*354*	*282*		*226*	*313*		*542*	*1292*	*588*	*481*	*1305*	*571*
v/c ratio	*0.31*	*0.91*		*0.14*	*0.25*		*1.04*	*0.74*	*0.01*	*0.05*	*0.56*	*0.27*
Green ratio	*0.29*	*0.18*		*0.29*	*0.18*		*0.62*	*0.36*	*0.36*	*0.62*	*0.36*	*0.36*
Unif. delay d1	*37.5*	*56.4*		*37.0*	*49.5*		*29.6*	*38.6*	*28.3*	*14.5*	*35.6*	*31.3*
Delay factor k	*0.50*	*0.50*		*0.50*	*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Increm. delay d2	*2.2*	*34.4*		*1.3*	*1.9*		*50.7*	*3.8*	*0.0*	*0.2*	*1.7*	*1.1*
PF factor	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Control delay	*39.7*	*90.7*		*38.3*	*51.4*		*80.3*	*42.4*	*28.4*	*14.7*	*37.3*	*32.5*
Lane group LOS	*D*	*F*		*D*	*D*		*F*	*D*	*C*	*B*	*D*	*C*
Apprch. delay	*75.5*			*47.6*			*56.5*			*35.9*		
Approach LOS	*E*			*D*			*E*			*D*		
Intersec. delay	*52.1*			Intersection LOS						*D*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and Wellsbo Road*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/17/2006*	Jurisdiction	*Columbia County*
Time Period	*Saturday Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*1*	*1*	*0*	*1*	*1*	*0*	*1*	*2*	*1*	*1*	*2*	*1*
Lane group	*L*	*TR*		*L*	*TR*		*L*	*T*	*R*	*L*	*T*	*R*
Volume (vph)	*88*	*5*	*202*	*16*	*1*	*17*	*162*	*448*	*1*	*9*	*418*	*68*
% Heavy veh	*4*	*0*	*5*	*0*	*0*	*0*	*2*	*2*	*0*	*0*	*1*	*3*
PHF	*0.85*	*0.42*	*0.92*	*0.75*	*0.63*	*0.70*	*0.88*	*0.94*	*0.90*	*0.75*	*0.87*	*0.85*
Actuated (P/A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Startup lost time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Ext. eff. green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type	*3*	*3*		*3*	*3*		*3*	*3*	*3*	*3*	*3*	*3*
Unit Extension	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*		*0*	*0*		*0*	*0*		*0*	*0*		*0*
Lane Width	*12.0*	*12.0*		*12.0*	*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*	*0*		*0*	*0*		*0*	*0*	*0*	*0*	*0*	*0*
Unit Extension	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = *10.0*	G = *20.0*	G =	G =	G = *10.0*	G = *36.0*	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *100.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*104*	*232*		*21*	*26*		*184*	*477*	*1*	*12*	*480*	*80*
Lane group cap.	*444*	*311*		*346*	*327*		*458*	*1277*	*581*	*470*	*1290*	*564*
v/c ratio	*0.23*	*0.75*		*0.06*	*0.08*		*0.40*	*0.37*	*0.00*	*0.03*	*0.37*	*0.14*
Green ratio	*0.36*	*0.20*		*0.36*	*0.20*		*0.52*	*0.36*	*0.36*	*0.52*	*0.36*	*0.36*
Unif. delay d1	*22.0*	*37.6*		*21.4*	*32.5*		*13.5*	*23.7*	*20.5*	*12.1*	*23.6*	*21.6*
Delay factor k	*0.50*	*0.50*		*0.50*	*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Increm. delay d2	*1.2*	*15.0*		*0.3*	*0.5*		*2.6*	*0.8*	*0.0*	*0.1*	*0.8*	*0.5*
PF factor	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Control delay	*23.2*	*52.6*		*21.8*	*33.0*		*16.2*	*24.5*	*20.5*	*12.2*	*24.5*	*22.1*
Lane group LOS	*C*	*D*		*C*	*C*		*B*	*C*	*C*	*B*	*C*	*C*
Apprch. delay	*43.5*			*28.0*			*22.2*			*23.9*		
Approach LOS	*D*			*C*			*C*			*C*		
Intersec. delay	*27.4*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*Noon Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*143*		*74*	*182*	*695*			*609*	*33*
% Heavy veh				*1*		*5*	*1*	*1*			*2*	*3*
PHF				*0.92*		*0.71*	*0.88*	*0.91*			*0.95*	*0.83*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	Thru & RT	07	08
Timing	G = *14.0*	G =	G =	G =	G = *14.0*	G = *54.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*155*		*104*	*207*	*764*			*641*	*40*
Lane group cap.				*486*		*215*	*486*	*2651*			*1915*	*847*
v/c ratio				*0.32*		*0.48*	*0.43*	*0.29*			*0.33*	*0.05*
Green ratio				*0.14*		*0.14*	*0.14*	*0.74*			*0.54*	*0.54*
Unif. delay d1				*38.7*		*39.7*	*39.3*	*4.3*			*12.9*	*10.9*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*1.7*		*7.6*	*2.7*	*0.3*			*0.5*	*0.1*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*40.4*		*47.3*	*42.0*	*4.6*			*13.4*	*11.0*
Lane group LOS				*D*		*D*	*D*	*A*			*B*	*B*
Apprch. delay				*43.2*			*12.6*			*13.2*		
Approach LOS				*D*			*B*			*B*		
Intersec. delay	*17.0*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*PM Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*177*		*294*	*356*	*1078*			*811*	*68*
% Heavy veh				*0*		*1*	*0*	*1*			*0*	*1*
PHF				*0.85*		*0.85*	*0.89*	*0.84*			*0.93*	*0.81*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	NS Perm	07	08
Timing	G = *42.0*	G =	G =	G =	G = *14.0*	G = *66.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *140.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*208*		*346*	*400*	*1283*			*872*	*84*
Lane group cap.				*1052*		*480*	*651*	*2200*			*1706*	*754*
v/c ratio				*0.20*		*0.72*	*0.61*	*0.58*			*0.51*	*0.11*
Green ratio				*0.30*		*0.30*	*0.61*	*0.61*			*0.47*	*0.47*
Unif. delay d1				*36.5*		*43.8*	*15.9*	*16.2*			*25.8*	*20.6*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*0.4*		*9.0*	*4.3*	*1.1*			*1.1*	*0.3*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*36.9*		*52.8*	*20.2*	*17.4*			*26.9*	*20.9*
Lane group LOS				*D*		*D*	*C*	*B*			*C*	*C*
Apprch. delay				*46.8*			*18.0*			*26.3*		
Approach LOS				*D*			*B*			*C*		
Intersec. delay	*25.5*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*Saturday Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*94*		*75*	*151*	*551*			*602*	*42*
% Heavy veh				*0*		*0*	*1*	*0*			*0*	*0*
PHF				*0.90*		*0.82*	*0.77*	*0.93*			*0.95*	*0.66*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	NS Perm	07	08
Timing	G = *13.0*	G =	G =	G =	G = *10.0*	G = *59.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*104*		*91*	*196*	*592*			*634*	*64*
Lane group cap.				*456*		*210*	*695*	*2714*			*2135*	*953*
v/c ratio				*0.23*		*0.43*	*0.28*	*0.22*			*0.30*	*0.07*
Green ratio				*0.13*		*0.13*	*0.75*	*0.75*			*0.59*	*0.59*
Unif. delay d1				*39.0*		*40.1*	*3.9*	*3.7*			*10.2*	*8.8*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*1.2*		*6.4*	*1.0*	*0.2*			*0.4*	*0.1*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*40.2*		*46.5*	*5.0*	*3.9*			*10.5*	*8.9*
Lane group LOS				*D*		*D*	*A*	*A*			*B*	*A*
Apprch. delay				*43.1*			*4.2*			*10.4*		
Approach LOS				*D*			*A*			*B*		
Intersec. delay	*11.3*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I20 EB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Richmond County*
Time Period	*Noon Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*1*	*2*	*0*
Lane group	*L*		*R*					*T*	*R*	*L*	*T*	
Volume (vph)	*26*		*183*					*828*	*100*	*82*	*691*	
% Heavy veh	*4*		*2*					*1*	*1*	*5*	*1*	
PHF	*0.65*		*0.90*					*0.89*	*0.86*	*0.82*	*0.86*	
Actuated (P/A)	*P*		*P*					*P*	*P*	*P*	*P*	
Startup lost time	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Ext. eff. green	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type	*3*		*3*					*3*	*3*	*3*	*3*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*		*0*	*0*			*0*		*0*			
Lane Width	*12.0*		*12.0*					*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*		*0*					*0*	*0*	*0*	*0*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = *20.0*	G =	G =	G =	G = *8.0*	G = *54.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *100.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*40*		*203*				*930*	*116*		*100*	*803*	
Lane group cap.	*674*		*317*				*2767*	*863*		*400*	*2436*	
v/c ratio	*0.06*		*0.64*				*0.34*	*0.13*		*0.25*	*0.33*	
Green ratio	*0.20*		*0.20*				*0.54*	*0.54*		*0.68*	*0.68*	
Unif. delay d1	*32.4*		*36.7*				*12.9*	*11.4*		*6.1*	*6.6*	
Delay factor k	*0.50*		*0.50*				*0.50*	*0.50*		*0.50*	*0.50*	
Increm. delay d2	*0.2*		*9.5*				*0.3*	*0.3*		*1.5*	*0.4*	
PF factor	*1.000*		*1.000*				*1.000*	*1.000*		*1.000*	*1.000*	
Control delay	*32.6*		*46.2*				*13.3*	*11.7*		*7.6*	*7.0*	
Lane group LOS	*C*		*D*				*B*	*B*		*A*	*A*	
Apprch. delay	*44.0*						*13.1*			*7.0*		
Approach LOS	*D*						*B*			*A*		
Intersec. delay	*14.0*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I20 EB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Richmond County*
Time Period	*PM Peak*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*1*	*2*	*0*
Lane group	*L*		*R*					*T*	*R*	*L*	*T*	
Volume (vph)	*66*		*239*					*1299*	*211*	*182*	*868*	
% Heavy veh	*3*		*1*					*0*	*1*	*0*	*0*	
PHF	*0.75*		*0.95*					*0.92*	*0.94*	*0.86*	*0.85*	
Actuated (P/A)	*P*		*P*					*P*	*P*	*P*	*P*	
Startup lost time	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Ext. eff. green	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type	*3*		*3*					*3*	*3*	*3*	*3*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*		*0*	*0*			*0*		*0*			
Lane Width	*12.0*		*12.0*					*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*		*0*					*0*	*0*	*0*	*0*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = *35.0*	G =	G =	G =	G = *10.0*	G = *77.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *140.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*88*		*252*					*1412*	*224*	*212*	*1021*	
Lane group cap.	*851*		*400*					*2847*	*879*	*268*	*2403*	
v/c ratio	*0.10*		*0.63*					*0.50*	*0.25*	*0.79*	*0.42*	
Green ratio	*0.25*		*0.25*					*0.55*	*0.55*	*0.66*	*0.66*	
Unif. delay d1	*40.4*		*46.7*					*19.5*	*16.5*	*15.2*	*11.0*	
Delay factor k	*0.50*		*0.50*					*0.50*	*0.50*	*0.50*	*0.50*	
Increm. delay d2	*0.2*		*7.3*					*0.6*	*0.7*	*20.8*	*0.6*	
PF factor	*1.000*		*1.000*					*1.000*	*1.000*	*1.000*	*1.000*	
Control delay	*40.7*		*54.1*					*20.1*	*17.2*	*36.0*	*11.5*	
Lane group LOS	*D*		*D*					*C*	*B*	*D*	*B*	
Apprch. delay	*50.6*						*19.7*			*15.7*		
Approach LOS	*D*						*B*			*B*		
Intersec. delay	*21.5*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler and I20 EB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*12/4/2006*	Jurisdiction	*Columbia County*
Time Period	*Saturday Peak - Existing*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*1*	*2*	*0*
Lane group	*L*		*R*					*T*	*R*	*L*	*T*	
Volume (vph)	*35*		*185*					*708*	*87*	*81*	*657*	
% Heavy veh	*0*		*1*					*0*	*0*	*0*	*0*	
PHF	*0.58*		*0.87*					*0.93*	*0.81*	*0.88*	*0.91*	
Actuated (P/A)	*P*		*P*					*P*	*P*	*P*	*P*	
Startup lost time	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Ext. eff. green	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type	*3*		*3*					*3*	*3*	*3*	*3*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*		*0*	*0*			*0*		*0*			
Lane Width	*12.0*		*12.0*					*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*		*0*					*0*	*0*	*0*	*0*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = *24.0*	G =	G =	G =	G = *10.0*	G = *51.0*	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *100.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*60*		*213*				*761*	*107*	*92*	*722*		
Lane group cap.	*841*		*384*				*2640*	*824*	*494*	*2388*		
v/c ratio	*0.07*		*0.55*				*0.29*	*0.13*	*0.19*	*0.30*		
Green ratio	*0.24*		*0.24*				*0.51*	*0.51*	*0.66*	*0.66*		
Unif. delay d1	*29.4*		*33.3*				*14.1*	*12.9*	*6.6*	*7.2*		
Delay factor k	*0.50*		*0.50*				*0.50*	*0.50*	*0.50*	*0.50*		
Increm. delay d2	*0.2*		*5.7*				*0.3*	*0.3*	*0.8*	*0.3*		
PF factor	*1.000*		*1.000*				*1.000*	*1.000*	*1.000*	*1.000*		
Control delay	*29.5*		*39.0*				*14.3*	*13.2*	*7.4*	*7.5*		
Lane group LOS	*C*		*D*				*B*	*B*	*A*	*A*		
Apprch. delay	*36.9*						*14.2*		*7.5*			
Approach LOS	*D*						*B*		*A*			
Intersec. delay	*14.6*			Intersection LOS					*B*			

Appendix D

Proposed Conditions Capacity Analysis Results

SHORT REPORT

General Information		Site Information	
Analyst	Jack Shick	Intersection	Wheeler Road and Wellsbo Road
Agency or Co.	Cranston Engineering Group	Area Type	All other areas
Date Performed	11/17/2006	Jurisdiction	Columbia County
Time Period	Noon Peak - Proposed	Analysis Year	2006

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Lane group	L	TR		L	TR		L	T	R	L	T	R
Volume (vph)	75	32	169	245	28	194	201	569	174	186	481	88
% Heavy veh	4	0	5	0	0	0	2	2	0	0	1	3
PHF	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. green	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Arrival type	3	3		3	3		3	3	3	3	3	3
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0		17	0		20	0		18	0		10
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr	0	0		0	0		0	0	0	0	0	0
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 15.0	G = 21.0	G =	G =	G = 10.0	G = 30.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	88	241		327	293		228	605	173	248	553	92
Lane group cap.	383	346		442	348		364	1064	485	350	1075	470
v/c ratio	0.23	0.70		0.74	0.84		0.63	0.57	0.36	0.71	0.51	0.20
Green ratio	0.42	0.21		0.42	0.21		0.46	0.30	0.30	0.46	0.30	0.30
Unif. delay d1	19.0	36.6		21.6	37.9		18.0	29.5	27.4	18.5	29.0	26.0
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	0.50
Increm. delay d2	1.4	11.0		10.6	21.2		7.9	2.2	2.0	11.5	1.8	0.9
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000
Control delay	20.4	47.6		32.2	59.1		25.9	31.7	29.5	30.0	30.7	27.0
Lane group LOS	C	D		C	E		C	C	C	C	C	C
Apprch. delay	40.3			44.9			30.0			30.1		
Approach LOS	D			D			C			C		
Intersec. delay	34.5			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and Wellsbo Road*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/17/2006*	Jurisdiction	*Columbia County*
Time Period	*PM Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Lane group	L	TR		L	TR		L	T	R	L	T	R
Volume (vph)	93	35	209	242	44	187	498	893	186	201	637	129
% Heavy veh	4	0	5	0	0	0	2	2	0	0	1	3
PHF	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. green	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Arrival type	3	3		3	3		3	3	3	3	3	3
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0		21	0		19	0		19	0		13
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr	0	0		0	0		0	0	0	0	0	0
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 13.0	G = 22.0	G =	G =	G = 20.0	G = 51.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 130.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	109	287		323	310		566	950	186	268	732	136
Lane group cap.	230	277		245	284		463	1392	634	396	1405	615
v/c ratio	0.47	1.04		1.32	1.09		1.22	0.68	0.29	0.68	0.52	0.22
Green ratio	0.32	0.17		0.32	0.17		0.59	0.39	0.39	0.59	0.39	0.39
Unif. delay d1	34.6	54.0		45.1	54.0		21.7	32.8	27.1	19.3	30.2	26.3
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	0.50
Increm. delay d2	6.9	63.8		169.0	80.1		118.2	2.7	1.2	9.0	1.4	0.8
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000
Control delay	41.5	117.8		214.2	134.1		139.9	35.5	28.3	28.3	31.6	27.1
Lane group LOS	D	F		F	F		F	D	C	C	C	C
Apprch. delay	96.8			174.9			69.4			30.2		
Approach LOS	F			F			E			C		
Intersec. delay	78.0			Intersection LOS						E		

SHORT REPORT

General Information		Site Information	
Analyst	Jack Shick	Intersection	Wheeler Road and Wellsbo Road
Agency or Co.	Cranston Engineering Group	Area Type	All other areas
Date Performed	11/17/2006	Jurisdiction	Columbia County
Time Period	Saturday Peak - Proposed	Analysis Year	2006

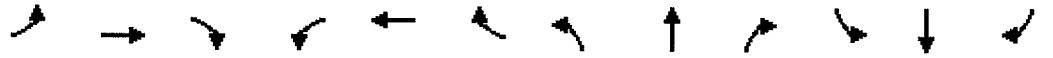
Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	1	0	1	1	0	1	2	1	1	2	1
Lane group	L	TR		L	TR		L	T	R	L	T	R
Volume (vph)	88	28	202	278	29	238	162	448	289	297	418	68
% Heavy veh	4	0	5	0	0	0	2	2	0	0	1	3
PHF	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. green	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Arrival type	3	3		3	3		3	3	3	3	3	3
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0		20	0		24	0		29	0		7
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr	0	0		0	0		0	0	0	0	0	0
Unit Extension	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 17.0	G = 30.0	G =	G =	G = 16.0	G = 23.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 110.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	104	265		371	352		184	477	289	396	480	72
Lane group cap.	419	443		507	451		377	742	338	387	749	328
v/c ratio	0.25	0.60		0.73	0.78		0.49	0.64	0.86	1.02	0.64	0.22
Green ratio	0.48	0.27		0.48	0.27		0.41	0.21	0.21	0.41	0.21	0.21
Unif. delay d1	17.6	34.8		19.9	37.0		22.6	39.7	41.9	39.5	39.7	36.1
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	0.50
Increm. delay d2	1.4	5.9		9.0	12.6		4.5	4.3	23.2	51.8	4.2	1.5
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000
Control delay	19.0	40.6		28.9	49.5		27.0	44.0	65.1	91.3	43.9	37.6
Lane group LOS	B	D		C	D		C	D	E	F	D	D
Apprch. delay	34.5			38.9			47.1			63.2		
Approach LOS	C			D			D			E		
Intersec. delay	48.7			Intersection LOS						D		



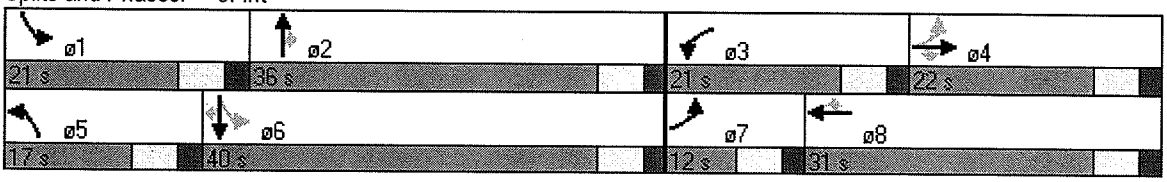
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	32	169	245	28	194	201	569	174	186	481	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1900	1538	3502	1900	1615	3433	3539	1615	1805	3574	1568
Flt Permitted	0.728			0.950			0.950			0.261		
Satd. Flow (perm)	1330	1900	1538	3502	1900	1615	3433	3539	1615	496	3574	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184			277			193			104
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		522			580			439			364	
Travel Time (s)		11.9			13.2			10.0			8.3	
Peak Hour Factor	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Heavy Vehicles (%)	4%	0%	5%	0%	0%	0%	2%	2%	0%	0%	1%	3%
Adj. Flow (vph)	88	76	184	327	44	277	228	605	193	248	553	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	76	184	327	44	277	228	605	193	248	553	104
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		Perm	Prot		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	12.0	22.0	22.0	21.0	31.0	31.0	17.0	36.0	36.0	21.0	40.0	40.0
Total Split (%)	12.0%	22.0%	22.0%	21.0%	31.0%	31.0%	17.0%	36.0%	36.0%	21.0%	40.0%	40.0%
Maximum Green (s)	6.0	16.0	16.0	15.0	25.0	25.0	11.0	30.0	30.0	15.0	34.0	34.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	22.0	16.0	16.0	15.0	25.0	25.0	11.0	30.0	30.0	49.0	34.0	34.0
Actuated g/C Ratio	0.22	0.16	0.16	0.15	0.25	0.25	0.11	0.30	0.30	0.49	0.34	0.34
v/c Ratio	0.28	0.25	0.46	0.62	0.09	0.45	0.60	0.57	0.31	0.56	0.46	0.17
Control Delay	24.9	39.3	9.8	45.7	29.6	6.4	49.8	32.1	5.4	19.4	27.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	39.3	9.8	45.7	29.6	6.4	49.8	32.1	5.4	19.4	27.3	5.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D	A	D	C	A	D	C	A	B	C	A
Approach Delay		20.0			27.8			31.0			22.6	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Pretimed
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 54.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Int



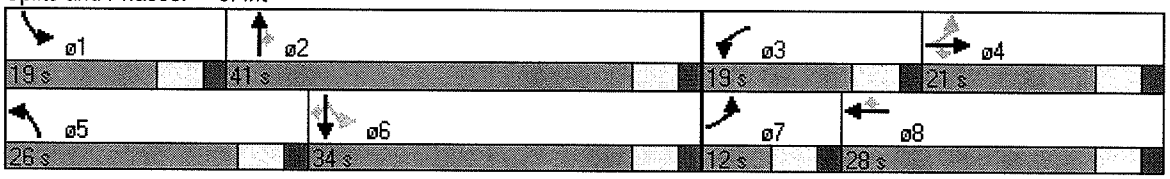
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	35	209	242	44	187	498	893	186	201	637	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1900	1538	3502	1900	1615	3433	3539	1615	1805	3574	1568
Flt Permitted	0.711			0.950			0.950			0.172		
Satd. Flow (perm)	1299	1900	1538	3502	1900	1615	3433	3539	1615	327	3574	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227			267			207			152
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		522			580			439			364	
Travel Time (s)		11.9			13.2			10.0			8.3	
Peak Hour Factor	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Heavy Vehicles (%)	4%	0%	5%	0%	0%	0%	2%	2%	0%	0%	1%	3%
Adj. Flow (vph)	109	83	227	323	70	267	566	950	207	268	732	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	83	227	323	70	267	566	950	207	268	732	152
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		Perm	Prot		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	12.0	21.0	21.0	19.0	28.0	28.0	26.0	41.0	41.0	19.0	34.0	34.0
Total Split (%)	12.0%	21.0%	21.0%	19.0%	28.0%	28.0%	26.0%	41.0%	41.0%	19.0%	34.0%	34.0%
Maximum Green (s)	6.0	15.0	15.0	13.0	22.0	22.0	20.0	35.0	35.0	13.0	28.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.0	15.0	15.0	13.0	22.0	22.0	20.0	35.0	35.0	41.0	28.0	28.0
Actuated g/C Ratio	0.21	0.15	0.15	0.13	0.22	0.22	0.20	0.35	0.35	0.41	0.28	0.28
v/c Ratio	0.36	0.29	0.54	0.71	0.17	0.47	0.82	0.77	0.30	0.82	0.73	0.28
Control Delay	28.9	40.9	10.4	51.1	32.9	7.2	49.7	33.9	4.5	42.9	37.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	40.9	10.4	51.1	32.9	7.2	49.7	33.9	4.5	42.9	37.7	6.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D	B	D	C	A	D	C	A	D	D	A
Approach Delay		21.3			31.4			35.5			34.7	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Int



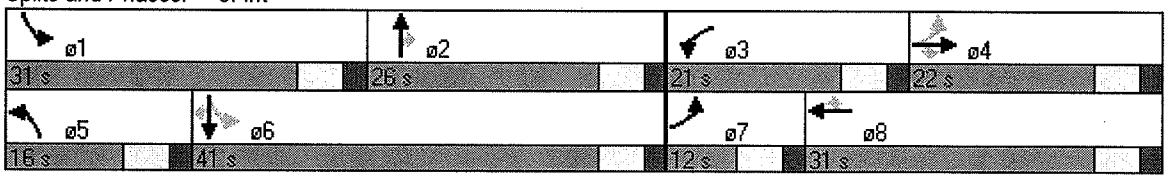
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	28	202	278	29	238	162	448	289	297	418	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1900	1538	3502	1900	1615	3433	3539	1615	1805	3574	1568
Flt Permitted	0.727			0.950			0.950			0.240		
Satd. Flow (perm)	1328	1900	1538	3502	1900	1615	3433	3539	1615	456	3574	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220			340			321			80
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		522			580			439			364	
Travel Time (s)		11.9			13.2			10.0			8.3	
Peak Hour Factor	0.85	0.42	0.92	0.75	0.63	0.70	0.88	0.94	0.90	0.75	0.87	0.85
Heavy Vehicles (%)	4%	0%	5%	0%	0%	0%	2%	2%	0%	0%	1%	3%
Adj. Flow (vph)	104	67	220	371	46	340	184	477	321	396	480	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	67	220	371	46	340	184	477	321	396	480	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		Perm	Prot		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		6
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0	22.0
Total Split (s)	12.0	22.0	22.0	21.0	31.0	31.0	16.0	26.0	26.0	31.0	41.0	41.0
Total Split (%)	12.0%	22.0%	22.0%	21.0%	31.0%	31.0%	16.0%	26.0%	26.0%	31.0%	41.0%	41.0%
Maximum Green (s)	6.0	16.0	16.0	15.0	25.0	25.0	10.0	20.0	20.0	25.0	35.0	35.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	22.0	16.0	16.0	15.0	25.0	25.0	10.0	20.0	20.0	51.0	35.0	35.0
Actuated g/C Ratio	0.22	0.16	0.16	0.15	0.25	0.25	0.10	0.20	0.20	0.51	0.35	0.35
v/c Ratio	0.33	0.22	0.51	0.71	0.10	0.52	0.54	0.67	0.55	0.69	0.38	0.13
Control Delay	26.2	38.8	9.8	48.6	29.6	6.5	49.1	42.4	8.0	23.7	25.5	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	38.8	9.8	48.6	29.6	6.5	49.1	42.4	8.0	23.7	25.5	5.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D	A	D	C	A	D	D	A	C	C	A
Approach Delay		19.1			28.5			32.4			23.1	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 58.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Int



SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*PM Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*177*		*331*	*356*	*1224*			*962*	*75*
% Heavy veh				*0*		*1*	*0*	*1*			*0*	*1*
PHF				*0.85*		*0.85*	*0.89*	*0.84*			*0.93*	*0.81*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	NS Perm	07	08
Timing	G = *45.0*	G =	G =	G =	G = *14.0*	G = *63.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *140.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*208*		*389*	*400*	*1457*			*1034*	*93*
Lane group cap.				*1127*		*514*	*713*	*2124*			*1628*	*720*
v/c ratio				*0.18*		*0.76*	*0.56*	*0.69*			*0.64*	*0.13*
Green ratio				*0.32*		*0.32*	*0.59*	*0.59*			*0.45*	*0.45*
Unif. delay d1				*34.3*		*42.6*	*18.6*	*19.6*			*29.6*	*22.5*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*0.4*		*10.0*	*3.2*	*1.8*			*1.9*	*0.4*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*34.6*		*52.6*	*21.8*	*21.4*			*31.6*	*22.9*
Lane group LOS				*C*		*D*	*C*	*C*			*C*	*C*
Apprch. delay				*46.3*			*21.5*			*30.8*		
Approach LOS				*D*			*C*			*C*		
Intersec. delay	*28.6*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*Noon Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*143*		*91*	*182*	*852*			*780*	*42*
% Heavy veh				*1*		*5*	*1*	*1*			*2*	*3*
PHF				*0.92*		*0.71*	*0.88*	*0.91*			*0.95*	*0.83*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	Thru & RT	07	08
Timing	G = *14.0*	G =	G =	G =	G = *14.0*	G = *54.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25*

Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*155*		*128*	*207*	*936*			*821*	*51*
Lane group cap.				*486*		*215*	*486*	*2651*			*1915*	*847*
v/c ratio				*0.32*		*0.60*	*0.43*	*0.35*			*0.43*	*0.06*
Green ratio				*0.14*		*0.14*	*0.14*	*0.74*			*0.54*	*0.54*
Unif. delay d1				*38.7*		*40.3*	*39.3*	*4.6*			*13.8*	*10.9*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*1.7*		*11.6*	*2.7*	*0.4*			*0.7*	*0.1*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*40.4*		*51.9*	*42.0*	*4.9*			*14.5*	*11.1*
Lane group LOS				*D*		*D*	*D*	*A*			*B*	*B*
Apprch. delay				*45.6*			*11.7*			*14.3*		
Approach LOS				*D*			*B*			*B*		
Intersec. delay	*16.8*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I-20 WB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Columbia County*
Time Period	*Saturday Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*0*	*0*	*0*	*2*	*0*	*1*	*2*	*2*	*0*	*0*	*2*	*1*
Lane group				*L*		*R*	*L*	*T*			*T*	*R*
Volume (vph)				*94*		*110*	*151*	*804*			*847*	*59*
% Heavy veh				*0*		*0*	*1*	*0*			*0*	*0*
PHF				*0.90*		*0.82*	*0.77*	*0.93*			*0.95*	*0.66*
Actuated (P/A)				*P*		*P*	*P*	*P*			*P*	*P*
Startup lost time				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Ext. eff. green				*2.0*		*2.0*	*2.0*	*2.0*			*2.0*	*2.0*
Arrival type				*3*		*3*	*3*	*3*			*3*	*3*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*			*0*		*0*				*0*		*0*
Lane Width				*12.0*		*12.0*	*12.0*	*12.0*			*12.0*	*12.0*
Parking/Grade/Parking	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr				*0*		*0*	*0*	*0*			*0*	*0*
Unit Extension				*3.0*		*3.0*	*3.0*	*3.0*			*3.0*	*3.0*

Phasing	WB Only	02	03	04	NB Only	NS Perm	07	08
Timing	G = *14.0*	G =	G =	G =	G = *10.0*	G = *58.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				*104*		*134*	*196*	*865*			*892*	*89*
Lane group cap.				*491*		*226*	*727*	*2677*			*2098*	*937*
v/c ratio				*0.21*		*0.59*	*0.27*	*0.32*			*0.43*	*0.09*
Green ratio				*0.14*		*0.14*	*0.74*	*0.74*			*0.58*	*0.58*
Unif. delay d1				*38.1*		*40.3*	*5.0*	*4.4*			*11.7*	*9.3*
Delay factor k				*0.50*		*0.50*	*0.50*	*0.50*			*0.50*	*0.50*
Increm. delay d2				*1.0*		*10.9*	*0.9*	*0.3*			*0.6*	*0.2*
PF factor				*1.000*		*1.000*	*1.000*	*1.000*			*1.000*	*1.000*
Control delay				*39.1*		*51.3*	*6.0*	*4.8*			*12.3*	*9.5*
Lane group LOS				*D*		*D*	*A*	*A*			*B*	*A*
Apprch. delay				*46.0*			*5.0*			*12.1*		
Approach LOS				*D*			*A*			*B*		
Intersec. delay	*12.3*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler Road and I20 EB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*11/20/2006*	Jurisdiction	*Richmond County*
Time Period	*Noon Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*1*	*2*	*0*
Lane group	*L*		*R*					*T*	*R*	*L*	*T*	
Volume (vph)	*31*		*183*					*980*	*100*	*102*	*842*	
% Heavy veh	*4*		*2*					*1*	*1*	*5*	*1*	
PHF	*0.65*		*0.90*					*0.89*	*0.86*	*0.82*	*0.86*	
Actuated (P/A)	*P*		*P*					*P*	*P*	*P*	*P*	
Startup lost time	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Ext. eff. green	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type	*3*		*3*					*3*	*3*	*3*	*3*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*		*0*	*0*			*0*		*0*			
Lane Width	*12.0*		*12.0*					*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*		*0*					*0*	*0*	*0*	*0*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = *20.0*	G =	G =	G =	G = *8.0*	G = *54.0*	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y = *6*	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *100.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*48*		*203*				*1101*	*116*		*124*	*979*	
Lane group cap.	*674*		*317*				*2767*	*863*		*346*	*2436*	
v/c ratio	*0.07*		*0.64*				*0.40*	*0.13*		*0.36*	*0.40*	
Green ratio	*0.20*		*0.20*				*0.54*	*0.54*		*0.68*	*0.68*	
Unif. delay d1	*32.5*		*36.7*				*13.5*	*11.4*		*6.7*	*7.0*	
Delay factor k	*0.50*		*0.50*				*0.50*	*0.50*		*0.50*	*0.50*	
Increm. delay d2	*0.2*		*9.5*				*0.4*	*0.3*		*2.9*	*0.5*	
PF factor	*1.000*		*1.000*				*1.000*	*1.000*		*1.000*	*1.000*	
Control delay	*32.7*		*46.2*				*13.9*	*11.7*		*9.6*	*7.5*	
Lane group LOS	*C*		*D*				*B*	*B*		*A*	*A*	
Apprch. delay	*43.7*						*13.7*			*7.8*		
Approach LOS	*D*						*B*			*A*		
Intersec. delay	*14.1*			Intersection LOS						*B*		

SHORT REPORT

General Information		Site Information	
Analyst	Jack Shick	Intersection	Wheeler Road and I20 EB Ramps
Agency or Co.	Cranston Engineering Group	Area Type	All other areas
Date Performed	11/20/2006	Jurisdiction	Richmond County
Time Period	PM Peak – Proposed	Analysis Year	2006

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	2	0	1	0	0	0	0	3	1	1	2	0
Lane group	L		R					T	R	L	T	
Volume (vph)	75		239					1436	211	209	992	
% Heavy veh	3		1					0	1	0	0	
PHF	0.75		0.95					0.92	0.94	0.86	0.85	
Actuated (P/A)	P		P					P	P	P	P	
Startup lost time	2.0		2.0					2.0	2.0	2.0	2.0	
Ext. eff. green	2.0		2.0					2.0	2.0	2.0	2.0	
Arrival type	3		3					3	3	3	3	
Unit Extension	3.0		3.0					3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0		0	0			0		0			
Lane Width	12.0		12.0					12.0	12.0	12.0	12.0	
Parking/Grade/Parking	N	0	N	N		N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr	0		0					0	0	0	0	
Unit Extension	3.0		3.0					3.0	3.0	3.0	3.0	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = 35.0	G =	G =	G =	G = 16.0	G = 71.0	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y = 6	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 140.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	100		252				1561	224		243	1167	
Lane group cap.	851		400				2625	811		298	2403	
v/c ratio	0.12		0.63				0.59	0.28		0.82	0.49	
Green ratio	0.25		0.25				0.51	0.51		0.66	0.66	
Unif. delay d1	40.6		46.7				24.3	19.8		31.5	11.6	
Delay factor k	0.50		0.50				0.50	0.50		0.50	0.50	
Increm. delay d2	0.3		7.3				1.0	0.8		21.3	0.7	
PF factor	1.000		1.000				1.000	1.000		1.000	1.000	
Control delay	40.8		54.1				25.3	20.6		52.7	12.4	
Lane group LOS	D		D				C	C		D	B	
Apprch. delay	50.3						24.8			19.3		
Approach LOS	D						C			B		
Intersec. delay	25.1			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*Jack Shick*	Intersection	*Wheeler and I20 EB Ramps*
Agency or Co.	*Cranston Engineering Group*	Area Type	*All other areas*
Date Performed	*12/4/2006*	Jurisdiction	*Columbia County*
Time Period	*Saturday Peak - Proposed*	Analysis Year	*2006*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*1*	*2*	*0*
Lane group	*L*		*R*					*T*	*R*	*L*	*T*	
Volume (vph)	*47*		*185*					*949*	*87*	*108*	*875*	
% Heavy veh	*0*		*1*					*0*	*0*	*0*	*0*	
PHF	*0.58*		*0.87*					*0.93*	*0.81*	*0.88*	*0.91*	
Actuated (P/A)	*P*		*P*					*P*	*P*	*P*	*P*	
Startup lost time	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Ext. eff. green	*2.0*		*2.0*					*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type	*3*		*3*					*3*	*3*	*3*	*3*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*		*0*	*0*			*0*		*0*			
Lane Width	*12.0*		*12.0*					*12.0*	*12.0*	*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*		*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*		*0*					*0*	*0*	*0*	*0*	
Unit Extension	*3.0*		*3.0*					*3.0*	*3.0*	*3.0*	*3.0*	

Phasing	EB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = *24.0*	G =	G =	G =	G = *10.0*	G = *51.0*	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y = *5*	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *100.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*81*		*213*					*1020*	*107*	*123*	*962*	
Lane group cap.	*841*		*384*					*2640*	*824*	*401*	*2388*	
v/c ratio	*0.10*		*0.55*					*0.39*	*0.13*	*0.31*	*0.40*	
Green ratio	*0.24*		*0.24*					*0.51*	*0.51*	*0.66*	*0.66*	
Unif. delay d1	*29.6*		*33.3*					*15.0*	*12.9*	*7.3*	*7.9*	
Delay factor k	*0.50*		*0.50*					*0.50*	*0.50*	*0.50*	*0.50*	
Increm. delay d2	*0.2*		*5.7*					*0.4*	*0.3*	*2.0*	*0.5*	
PF factor	*1.000*		*1.000*					*1.000*	*1.000*	*1.000*	*1.000*	
Control delay	*29.8*		*39.0*					*15.4*	*13.2*	*9.3*	*8.4*	
Lane group LOS	*C*		*D*					*B*	*B*	*A*	*A*	
Apprch. delay	*36.5*						*15.2*			*8.5*		
Approach LOS	*D*						*B*			*A*		
Intersec. delay	*14.8*			Intersection LOS						*B*		

Appendix E

Traffic Signal Warrant Analysis Results

Cranston, Robertson & Whitehurst, P.C.

ENGINEERS PLANNERS SURVEYORS

JOB # 2006-0759

PROJECT TITLE: Flowing Wells Traffic Study

WORK DESCRIPTION: Signal Warrant Analysis

PAGE 1 OF _____ PAGES

COMP. _____ DATE: _____

CHECKED: _____ DATE: _____

Intersection of Scott Nixon / Frontage Road and New Road

- Warrant #1 → 8 hour Volume Warrant

→ A Required Volumes → Major → 500 vph

Minor → 150 vph

Warrant #1A

Peak Hour #	Major Volume	Minor Volume	Warrant Met?
1	362 vph	89 vph	No
2	310 vph	73 vph	No
3	252 vph	107 vph	No
4	239 vph	89 vph	No
5	229 vph	109 vph	No
6	228 vph	67 vph	No
7	224 vph	84 vph	No
8	219 vph	99 vph	No

Warrant 1B

1	362 vph	89 vph	No
2	310 vph	73 vph	No
3	252 vph	107 vph	No
4	239 vph	89 vph	No
5	229 vph	109 vph	No
6	228 vph	67 vph	No
7	224 vph	84 vph	No
8	219 vph	99 vph	No

- Warrant #2 → Four Hour Vehicular Volume Warrant

Peak Hour #	Major Volume	Minor Volume	Warrant Met?
1	362 vph	89 vph	No
2	310 vph	73 vph	No
3	252 vph	107 vph	No
4	234 vph	89 vph	No

→ Four Hour Vehicular Volume Warrant is not met

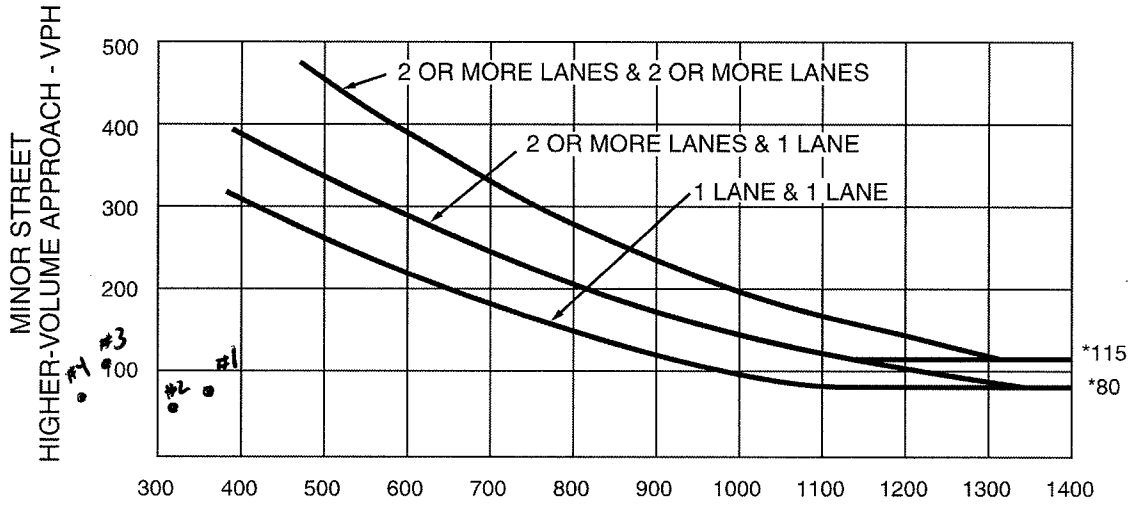
- Warrant #3 → Peak Hour Warrant
  - Warrant #3A → Total stopped time delay → 0.81 veh-hours → X
    Minor-Street Volume → 240 vph → ✓
    Total Entering Volume → 515 vph → X

→ Warrant #3A is not met

→ Warrant #3B → major Volume = 362 vph
Minor Volume = 89 vph

→ Warrant #3B is not met

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak Hour #1

Major → 362 vph

Minor → 89 vph

Not Met

Hour #2

Major → 310 vph

Minor → 73 vph

Not Met

Hour #3

Major → 232 vph

Minor → 107 vph

Not Met

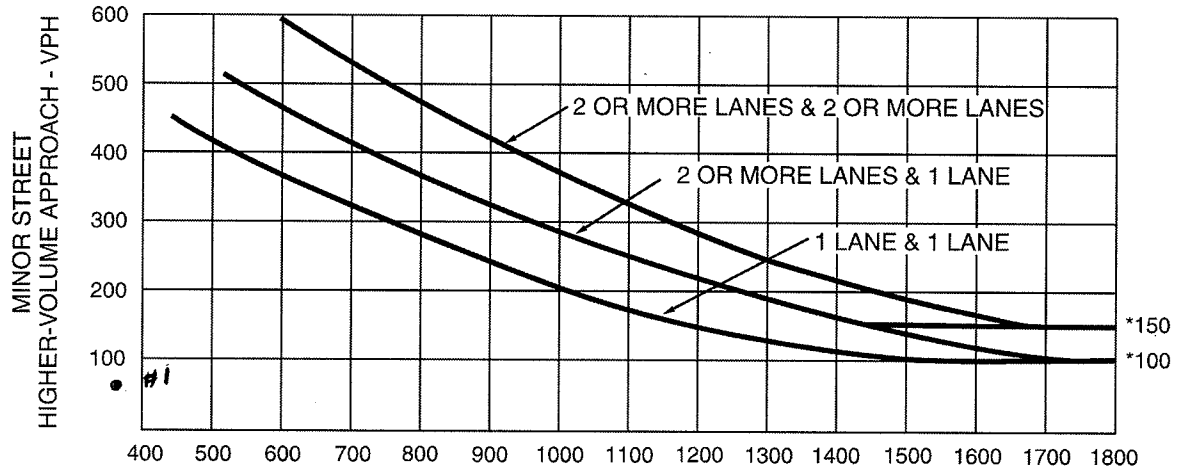
Hour #4

Major → 239 vph

Minor → 89 vph

Not Met

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Volume = 362 vph

Minor volume = 89 vph

→ Peak Hour Warrant #3B is not met

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Jack Shick*
Agency/Co.	*Cranston Engineering Group*
Date Performed	*11/21/2006*
Analysis Time Period	*PM Peak Period*

Site Information

Intersection	*Scott Nixon and Frontage Road*
Jurisdiction	*Columbia County*
Analysis Year	*2006*

Project Description *Flowing Wells Traffic Study*

East/West Street: *Scott Nixon* | North/South Street: *Frontage Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*10*	*24*	*15*	*5*	*62*	*119*
Peak-hour factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate (veh/h)	*10*	*24*	*15*	*5*	*62*	*119*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*20*	*10*	*10*	*180*	*50*	*10*
Peak-hour factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate (veh/h)	*20*	*10*	*10*	*180*	*50*	*10*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*10*	*5*		*40*			*240*	
Capacity, c_m (vph)	*1407*	*1584*		*745*			*744*	
v/c ratio	*0.01*	*0.00*		*0.05*			*0.32*	
Queue length (95%)	*0.02*	*0.01*		*0.17*			*1.40*	

Control Delay (s/veh)	7.6	7.3		10.1			12.1	
LOS	A	A		B			B	
Approach delay (s/veh)	--	--	10.1			12.1		
Approach LOS	--	--	B			B		