TRAFFIC IMPACT STUDY

for

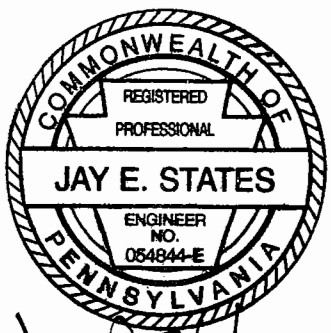
CROSSROADS

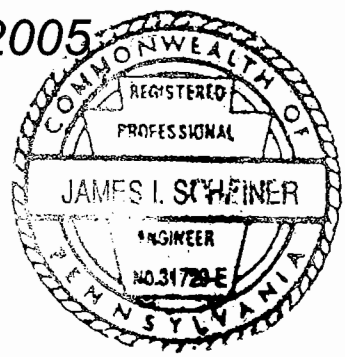
GAMING RESORT & SPA

in

Straban Township
Adams County, Pennsylvania

DECEMBER 2005





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INTRODUCTION

A development is proposed for an undeveloped tract of land in Straban Township, Adams County, Pennsylvania. This development will be referred to as "Crossroads Gaming Resort and Spa" in this traffic impact study. A site layout plan is provided in the Appendix.

The site is located north of and adjacent to US Route 30, east of US Route 15. Primary access to the site will be via a proposed site roadway intersecting US Route 30, opposite the Gateway Gettysburg site roadway. Access is also proposed via the re-located Smith Road (east of the primary access) and a right-out only driveway (west of the primary access) both onto US Route 30. A location map is provided as Figure 1.

Grove Miller Engineering, Inc. has been retained by Benatec Associates to conduct a traffic impact study for the proposed development site. The scope of the study focused on the US Route 15 and US Route 30 interchange intersections and the proposed site access. It should be noted that the scope of work was not reviewed or confirmed by PENNDOT or Straban Township. The traffic study addresses the following issues:

- Determine existing traffic conditions.
- Estimate the number of trips expected to be generated by the proposed development.
- Distribute the trips to the surrounding highway network.
- Project current traffic volumes to build (2008) and design (2018) years.
- Perform traffic analyses to determine existing and future traffic operational characteristics.
- Provide recommendations to effectively accommodate projected traffic demands.

The methodology and analyses results are documented in this traffic impact study report.

The purpose of this Traffic Impact Study is to address the traffic and transportation analysis requirements of the Pennsylvania Gaming Board's Application and Disclosure Information Form, in particular Appendix 30, Local Impact Report, and Appendix 34, Plan Required by Section 1325 of the Gaming Act.

EXISTING CONDITIONS

The proposed site is located on the north side of US Route 30, east of US Route 15. Land uses in the area of the site are primarily commercial in nature.

Existing conditions of adjacent roadways are described below.

US Route 30. US Route 30 is a two-lane roadway running in an east/west direction, south of and adjacent to the proposed development. US Route 30 is classified as a Rural Principal Arterial. PENNDOT records indicate that the average daily traffic (ADT) volume on US Route 30 is approximately 14,300 vehicles per day (vpd), east of US Route 15, and approximately 18,000 vpd, west of US Route 15. The posted speed limit on US Route 30 is 45 miles per hour (mph) in the area of US Route 15. Pavement markings include a double yellow centerline and white edge lines.

US Route 15. US Route 15 is a four-lane limited access highway running in a north/south direction, west of the proposed development. US Route 15 is classified as a Rural Principal Arterial. PENNDOT records indicate that the ADT volume on US Route 15 is approximately 18,600 vpd, north of US Route 30, and approximately 20,600 vpd, south of US Route 30. The posted speed limit on US Route 15 is 65 mph in the area of US Route 30. Pavement markings include white dashed lane lines, yellow edge lines, and white edge lines.

Existing lane configurations and traffic controls at the study intersections are shown in Figure 2.

PROPOSED CONDITIONS

The Crossroads Gaming Resort and Spa is proposed to consist of a 120,000 square foot casino containing 3,000 slot machines, a 225 room hotel, and a 30,000 square foot spa. It is anticipated that the development will be operational in the year 2008.

Primary access to the site will be via a proposed site roadway intersecting US Route 30, opposite the Gateway Gettysburg site roadway. Access is also proposed via the re-located Smith Road (east of the primary access) and a right-out only driveway (west of the primary access) both onto US Route 30.

DATA COLLECTION

Manual turning movement traffic counts (TMCs) were conducted at the intersections of:

- US Route 30 and US Route 15 Northbound ramps
- US Route 30 and US Route 15 Southbound ramps

The traffic counts were conducted during the weekday PM (3:00pm to 6:00pm) and Saturday (11:00am to 1:00pm) peak periods on Wednesday, November 16, 2005 and Saturday, November 19, 2005, respectively.

Existing 2005 peak hour traffic volumes are shown in Figure 3. Copies of the turning movement data summary sheets are provided in the Appendix.

TRIP GENERATION

Trip generation calculations for the casino component of the development site were based on the methodology utilized in "Traffic Impact Study for Penn National Race Course Expansion", East Hanover Township, Dauphin County, Pennsylvania, Traffic Planning and Design, Inc., September 2004. This methodology was based on a trip generation study conducted at the Charles Town Races and Slots in Charles Town, West Virginia. Automatic traffic recorder counts were conducted on the access driveways to the facility, and trip rates were developed with respect to the number of slots. The detailed methodology and calculations are provided in the Appendix.

The Institute of Transportation Engineers (ITE), Trip Generation Manual, 7th Edition (2003) was used to estimate the number of trips which could be generated by the spa and hotel components of the development site. Regression equations were used to calculate the average weekday and Saturday vehicle trip ends, as well as the PM and Saturday peak hour trips.

Table 1 summarizes the trip generation projections for the Crossroads Gaming Resort and Spa. Trip generation calculation worksheets are provided in the Appendix.

Table 1. Trip Generation Summary - Crossroads Gaming Resort and Spa

Land Use (ITE Code) Size	Average Weekday Vehicle Trips (vpd)	Average Saturday Vehicle Trips (vpd)	PM Peak (vph)		SAT Peak (vph)	
			Enter	Exit	Enter	Exit
Casino						
Casino (*) 3,000 slot machines	11,772	15,900	375	261	764	394
Hotel						
Hotel (310) 225 occupied rooms	2,007	2,363	77	81	91	95
Spa						
Health/Fitness Club (492) 30,000 SF	988	626	62	59	39	37
TOTALS	**14,767**	**18,889**	**514**	**401**	**894**	**526**

*Based on rates provided in the PENNDOT approved Penn National Race Course Expansion traffic impact study (September 2004)

The Gateway Gettysburg Development is currently under construction on a site located south of and adjacent to US Route 30, east of US Route 15. Primary access to the development site is proposed via a signalized intersection at US Route 30, opposite the

proposed Crossroads Gaming Resort and Spa site roadway. Intersection improvements (widening and signalization) are currently being completed.

At full build-out, the development is expected to consist of four (4) hotels, a movie theater facility, retail shops, and restaurants. Initial phases of the development, including two (2) hotels and the movie theater facility, are expected to be operational in 2006.

Trip generation and distribution information for the Gateway Gettysburg development were obtained from available sources and incorporated directly into the traffic projections.

PENNDOT is expected to complete preliminary engineering for the US Route 15/US Route 30 Interchange project by January 2006. The preferred alternative design for the existing diamond interchange is to construct a single point urban interchange (SPUI). Per discussions with PENNDOT, construction of the new interchange could begin in 2007 and could will be completed in 2009. Examples of SPUIs are illustrated in Figure 4.

TRIP DISTRIBUTION

The trips expected to be generated by the Crossroads Gaming Resort and Spa were distributed onto US Route 30 and the adjacent street network based on the directional distribution of existing traffic, roads available for travel, and local area traffic generators. The trip distributions for the PM and Saturday peak hours for full build-out of the proposed development are shown in Figure 5.

TRAFFIC PROJECTIONS

Traffic projections were made in order to account for growth in background traffic volumes which may result from other future potential development in the region. The 2005 existing peak hour traffic volumes were projected to 2008 build year and 2018 design year conditions using a 1.3 percent annual traffic growth rate. The traffic growth rate was referenced from "Pennsylvania Traffic Data 2004" published by the Pennsylvania Department of Transportation's Bureau of Planning and Research in October 2005. Traffic growth rate documentation is provided in the Appendix.

The 2008 build year peak hour traffic volumes are shown in Figures 6 and 7. The 2018 design year peak hour traffic volumes are shown in Figure 8 and 9.

Traffic projections for the Crossroads Gaming Resort and Spa are documented in a spreadsheet format and can be found in the Appendix.

TRAFFIC ANALYSES

Traffic analyses were conducted to determine the existing and future operational conditions at the following intersections:

- US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway
- US Route 30 and US Route 15 Northbound ramps
- US Route 30 and US Route 15 Southbound ramps
- US Route 30 and US Route 15 Single Point Urban Interchange (Future)
- US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

Analyses were completed for 2005 existing conditions, 2008 and 2018 no build conditions (without the proposed development), as well as 2008 and 2018 build conditions (with the proposed development).

Highway Capacity Analyses

Highway capacity analyses were conducted based on the methodology provided in the Transportation Research Board 2000 Highway Capacity Manual, Special Report 209 using the Highway Capacity Software Release 5.2. The analyses evaluate the intersection operations in terms of level of service (LOS). These levels of service (LOS) range from LOS "A" to LOS "F" with LOS "A" representing little or no delay and LOS "F" exceeding the practical limitations of available capacity and causing extreme delay. Detailed descriptions of highway capacity analyses for signalized and unsignalized intersections are provided in the Appendix.

Highway capacity analyses were completed for 2005 existing, 2008 build year, and 2018 design year conditions. Results of the analyses are discussed below and the capacity analyses worksheets are provided in the Appendix.

Queue Analyses - Signalized Intersections

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway using 2018 design year build peak hour traffic volumes.

The analyses were based on methodology as defined in "Access Management Guidelines for Activity Centers," NCHRP Report 348, pp. 98-99. This procedure is based upon the AASHTO methodology, provided in AASHTO Green Book, 2004, pp. 714-715. This methodology considers the turning volume, a random arrival factor, length of the vehicle, the percent of trucks, g/C ratio, and number of cycles per hour. The calculations for determining the appropriate turn lane lengths are included in the Appendix.

Sight Distance Evaluation

Sight distances at the proposed site access locations onto US Route 30 were evaluated to determine if available sight distances meet PENNDOT minimum safe stopping sight distance criteria. The available sight distances were evaluated using criteria provided in PENNDOT Publication 201 Engineering and Traffic Studies (December 1993). Sight distances were measured and compared with the published safe stopping sight distance criteria.

INTERSECTION DISCUSSION

The following sections detail the traffic analyses performed for the study intersections.

US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway

Capacity Analyses

2008 Build Year Conditions: Signalized analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with or without the proposed development.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with or without the proposed development.

Improvement Scenario: Intersection improvements are required to mitigate the impact of the proposed Crossroads Gaming Resort and Spa traffic. It is recommended that the current traffic signal design be modified and the following lane configuration be provided at the intersection:

US Route 30 EB Approach
- Two (2) left-turn lanes
- Two (2) through lanes
- Right-turn lane

US Route 30 WB Approach
- Left-turn lane
- Two (2) through lanes
- Right-turn lane

Gateway Gettysburg NB Approach
- Two (2) left-turn lanes
- Through lane
- Right-turn lane

Crossroads Roadway SB Approach
- Left-turn lane
- Through lane
- Right-turn lane

The capacity analyses for this intersection are summarized in Tables 2 and 3.

Table 2. Capacity Analyses Summary:
US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway,
Weekday PM Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)					
Approach and Movement		2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left-Turn	B	D	C	D
	Thru	B	C	D	C
	Right-Turn	B	A	D	A
	Approach	B	C	D	C
US Route 30 WB Approach	Left-Turn	B	D	D	D
	Thru	A	D	B	D
	Right-Turn		A		A
	Approach	A	C	C	D
Gateway Gettysburg NB Approach	Left-Turn	C	C	D	D
	Thru	C	D	D	D
	Right-Turn	C	C	C	C
	Approach	C	C	D	D
Crossroads Roadway SB Approach	Left-Turn	D	D	D	D
	Thru		D		D
	Right-Turn		D		D
	Approach	D	D	D	D
Overall		B	C	D	D

Table 3. Capacity Analyses Summary:
US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway,
Saturday Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)					
Approach and Movement		2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left-Turn	B	D	C	D
	Thru	B	D	C	D
	Right-Turn	B	B	D	B
	Approach	B	D	D	D
US Route 30 WB Approach	Left-Turn	B	C	D	C
	Thru	A	D	B	D
	Right-Turn		B		B
	Approach	A	C	B	D
Gateway Gettysburg NB Approach	Left-Turn	C	C	D	D
	Thru	C	D	D	D
	Right-Turn	C	B	C	C
	Approach	C	C	D	D
Crossroads Roadway SB Approach	Left-Turn	D	D	D	D
	Thru		D		D
	Right-Turn		D		D
	Approach	D	D	D	D
Overall		B	D	C	D

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway using 2018 design year build peak hour traffic volumes.

Table 4 summarizes the results of the queue analyses.

Table 4. Queue Analyses:
US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway,
2018 Design Year - Build Condition

Approach and Movement		AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	Recommended Storage Length (feet)
US Route 30 EB Approach	Left-Turn (2)	833	625	400 each
	Thru (2)	1022	767	N/A
	Right-Turn	336	252	300
US Route 30 WB Approach	Left-Turn	232	174	200
	Thru (2)	1170	878	N/A
	Right-Turn	158	119	200
Gateway Gettysburg NB Approach	Left-Turn (2)	988	741	400 each
	Thru	57	43	N/A
	Right-Turn	335	252	300
Crossroads SB Approach	Left-Turn	156	117	150
	Thru	40	30	N/A
	Right-Turn	422	316	400

Sight Distance Evaluation

The posted speed limit and approach grades on US Route 30 were used to determine whether adequate sight distance is available. A summary of sight distance criteria and measurements for the intersection is provided in Table 5.

Table 5. Sight Distance Evaluation Summary:
US Route 30 and Crossroads Roadway

Location	Direction	Measured Sight Distance (ft)	Required Minimum Safe Stopping Sight Distance (ft)	Acceptable
Crossroads Roadway @ US Route 30	Left	1000 +	383	YES
	Right	1000 +	383	YES

As presented in Table 5, sight distances observed at the intersection are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and US Route 15 Northbound ramps

Capacity Analyses

2005 Existing Conditions: Signalized analyses indicate that the intersection currently operates at an overall LOS "A" during the weekday PM and Saturday peak hours. Ramp movements currently operate at LOS "C" during the weekday PM and Saturday peak hours.

2008 Build Year Conditions: Signalized analyses indicate that the intersection is expected to operate at an overall LOS "A" during the weekday PM and Saturday peak hour, with or without the proposed development. Ramp movements are expected to operate at LOS "C" during the weekday PM and Saturday peak hours, with or without the proposed development.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate at an overall LOS "A" (without the proposed development) and LOS "B" (with the proposed development) during the weekday PM and Saturday peak hour. Ramp movements are expected to operate at LOS "D" during the weekday PM and Saturday peak hours, with or without the proposed development.

Improvement Scenario: Based on the anticipated satisfactory levels or service (LOS "D" or better) through the 2018 design year, intersection improvements are not proposed or recommended.

The capacity analyses for this intersection are summarized in Tables 6 and 7.

Table 6. Capacity Analyses Summary:
US Route 30 and US Route 15 Northbound Ramps,
Weekday PM Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2005 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	A
	Approach	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	B
	Approach	A	A	A	A	B
US Route 15 NB Off-Ramp NB Approach	Left-Turn	C	C	C	D	D
	Approach	C	C	C	D	D
Overall		A	A	A	A	B

Table 7. Capacity Analyses Summary:
US Route 30 and US Route 15 Northbound Ramps,
Saturday Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2005 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	A
	Approach	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	B
	Approach	A	A	A	A	B
US Route 15 NB Off-Ramp NB Approach	Left-Turn	C	C	C	D	D
	Approach	C	C	C	D	D
Overall		A	A	A	A	B

US Route 30 and US Route 15 Southbound ramps

Capacity Analyses

2005 Existing Conditions: Signalized analyses indicate that the intersection currently operates at an overall LOS "A" during the weekday PM and Saturday peak hours. Ramp movements currently operate at LOS "C" or better during the weekday PM and Saturday peak hours.

2008 Build Year Conditions: Signalized analyses indicate that the intersection is expected to operate at an overall LOS "B" or better during the weekday PM and Saturday peak hour, with or without the proposed development. Ramp movements are expected to operate at LOS "C" during the weekday PM and Saturday peak hours, with or without the proposed development.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate at an overall LOS "B" or better during the weekday PM and Saturday peak hour. Ramp movements are expected to operate at LOS "C" during

the weekday PM and Saturday peak hours, with or without the proposed development.

Improvement Scenario: Based on the anticipated satisfactory levels or service (LOS "D" or better) through the 2018 design year, intersection improvements are not proposed or recommended.

The capacity analyses for this intersection are summarized in Tables 8 and 9.

Table 8. Capacity Analyses Summary:
US Route 30 and US Route 15 Southbound Ramps,
Weekday PM Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2005 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	A
	Right-Turn	A	A	A	A	A
	Approach	A	A	A	A	A
US Route 30 WB Approach	Thru	A	B	B	B	B
	Approach	A	B	B	B	B
US Route 15 SB Off-Ramp SB Approach	Left-Turn	B	B	C	C	C
	Right-Turn	C	C	C	C	C
	Approach	C	C	C	C	C
Overall		A	A	B	A	B

Table 9. Capacity Analyses Summary:
US Route 30 and US Route 15 Southbound Ramps,
Saturday Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2005 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	B
	Right-Turn	A	A	A	A	A
	Approach	A	A	A	A	A
US Route 30 WB Approach	Thru	A	B	B	B	B
	Approach	A	B	B	B	B
US Route 15 SB Off-Ramp SB Approach	Left-Turn	B	B	C	C	C
	Right-Turn	C	C	C	C	C
	Approach	C	C	C	C	C
Overall		A	A	B	B	B

US Route 30 and US Route 15 Single Point Urban Interchange (SPUI)

Capacity Analyses

2018 Design Year Conditions: Signalized analyses indicate that the proposed intersection is expected to operate at an overall LOS "A" (without the proposed development) and LOS "B" (with the proposed development) during the weekday PM and Saturday peak hour. Ramp movements are expected to operate at LOS "D" during the weekday PM and Saturday peak hours, with or without the proposed development.

Improvement Scenario: Based on the anticipated satisfactory levels or service (LOS "D" or better) through the 2018 design year, additional intersection improvements are not proposed or recommended.

The capacity analyses for this intersection are summarized in Table 10.

Table 10. Capacity Analyses Summary:
US Route 30 and US Route 15 SPUI

Highway Capacity Analyses Results LOS (Delay or v/c)					
Approach and Movement		2018 PM No Build	2018 PM Build	2018 SAT No Build	2018 SAT Build
US Route 30 EB Approach	Left-Turn	D	D	D	D
	Thru	C	C	C	C
	Approach	C	C	C	C
US Route 30 WB Approach	Left-Turn	C	C	C	C
	Thru	B	B	B	B
	Approach	B	B	B	C
US Route 15 NB Off-Ramp NB Approach	Left-Turn	D	D	D	D
	Approach	D	D	D	D
US Route 15 SB Off-Ramp SB Approach	Left-Turn	D	D	D	D
	Approach	D	D	D	D
Overall		C	C	C	C

US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

Capacity Analyses

2008 Build Year Conditions: The stop-controlled intersection is expected to operate with all movements at LOS "C" or better during the weekday PM and Saturday peak hours, with the proposed development.

2018 Design Year Conditions: The stop-controlled intersection is expected to operate with minor street movements at LOS "D" or better during the weekday PM and Saturday peak hours, with the proposed development.

Improvement Scenario: It is recommended that STOP sign control and the following lane configuration be provided at the intersection:

US Route 30 EB Approach
- Left-turn lane
- Through lane

US Route 30 WB Approach
- Through lane
- Right-turn lane

Re-Located Smith Road SB Approach
- Shared left-turn/right-turn lane

The capacity analyses for this intersection are summarized in Table 11.

Table 11. Capacity Analyses Summary:
US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

Approach and Movement	Highway Capacity Analyses Results LOS (delay or v/c)			
	2008 PM Build	2018 PM Build	2008 SAT Build	2018 SAT Build
US Route 30 EB Left-Turn	B	B	B	B
Re-Located Smith Road SB Approach	C	D	C	D

Sight Distance Evaluation

The posted speed limit and approach grades on US Route 30 were used to determine whether adequate sight distance is available. A summary of sight distance criteria and measurements for the intersection is provided in Table 12.

Table 12. Sight Distance Evaluation Summary:
US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

Location	Direction	Measured Sight Distance (ft)	Required Minimum Safe Stopping Sight Distance (ft)	Acceptable
Re-Located Smith Road @ US Route 30	Left	750 +	383	YES
	Right	750 +	383	YES

As presented in Table 12, sight distances observed at the intersection are in excess of PENNDOT minimum safe stopping sight distance criteria.

CONGESTION MANAGEMENT OPPORTUNITIES

Several opportunities would be available for the Crossroads Gaming Resort and Spa to assist local and state agencies with congestion management in the area of the US Route 15 and US Route 30 interchange. These opportunities include:

- Scheduling shift changes for Crossroads employees to occur during non-peak hour traffic time periods.
- Encouraging transit use and car pooling by Casino employees.
- Providing incentives for patrons arriving via buses and high occupancy vehicles.
- Providing incentives for patrons arriving during off-peak traffic periods.
- Providing shuttle service from the Casino hotel to local tourist attractions.

SUMMARY OF FINDINGS

Trip Generation

- With full occupancy, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 14,767 trips during the average weekday, with approximately 915 trips during the weekday PM peak hour (as compared to approximately 1,718 trips expected to be generated by Gateway Gettysburg during the PM peak hour).

- With full occupancy, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 18,889 trips during the average Saturday, with approximately 1,420 trips during the Saturday peak hour.

US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway

- Signalized capacity analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the 2018 design year, with the proposed development, full build-out of GG, and recommended improvements.

- Sight distance from the proposed Crossroads Roadway at US Route 30 are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and US Route 15 Northbound Ramps

- Signalized capacity analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the 2018 design year, with or without the proposed development.

US Route 30 and US Route 15 Southbound Ramps

- Signalized capacity analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the 2018 design year, with or without the proposed development.

US Route 30 and US Route 15 Single Point Urban Interchange (SPUI)

- Signalized capacity analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the 2018 design year, with or without the proposed development.

US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

- Unsignalized capacity analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the 2018 design year, with the proposed development.

As documented in this Traffic Impact Study, traffic generated by the Crossroads Gaming Resort and Spa project can be adequately served by the existing and planned highway network with minor improvements. The project will not have any adverse transportation or transit access impacts, nor will it have any potentially adverse traffic effect.

RECOMMENDATIONS

■The proposed lane configurations and traffic control at the study intersections are shown in Figure 10.

US Route 30 and Crossroads Roadway/Gateway Gettysburg Roadway

■It is recommended that the current traffic signal design be modified and the following lane configuration be provided to accommodate traffic expected to be generated by the proposed Crossroads Gaming Resort and Spa:

US Route 30 EB Approach
- Two (2) left-turn lanes (400 feet of storage each)
- Two (2) through lanes
- Right-turn lane (300 feet of storage)

US Route 30 WB Approach
- Left-turn lane (200 feet of storage)
- Two (2) through lanes
- Right-turn lane (200 feet of storage)

Gateway Gettysburg NB Approach
- Two (2) left-turn lanes (400 feet of storage each)
- Through lane
- Right-turn lane (300 feet of storage)

Gettysburg Crossroads SB Approach
- Left-turn lane (150 feet of storage)
- Through lane
- Right-turn lane (400 feet of storage)

US Route 30 and US Route 15 Northbound Ramps

■No intersection improvements are required or recommended through the 2018 design year.

US Route 30 and US Route 15 Southbound Ramps

■No intersection improvements are required or recommended through the 2018 design year.

US Route 30 and US Route 15 Single Point Urban Interchange (SPUI)

■No additional intersection improvements are required or recommended through the 2018 design year.

US Route 30 and Re-Located Smith Road (Secondary Crossroads Access)

■ It is recommended that a STOP sign (R1-1, 30" x 30") be placed on the re-located Smith Road approach at US Route 30, and the following lane configuration be provided at the intersection:

US Route 30 EB Approach
- Left-turn lane
- Through lane

US Route 30 WB Approach
- Through lane
- Right-turn lane

Re-Located Smith Road SB Approach
- Shared left-turn/right-turn lane

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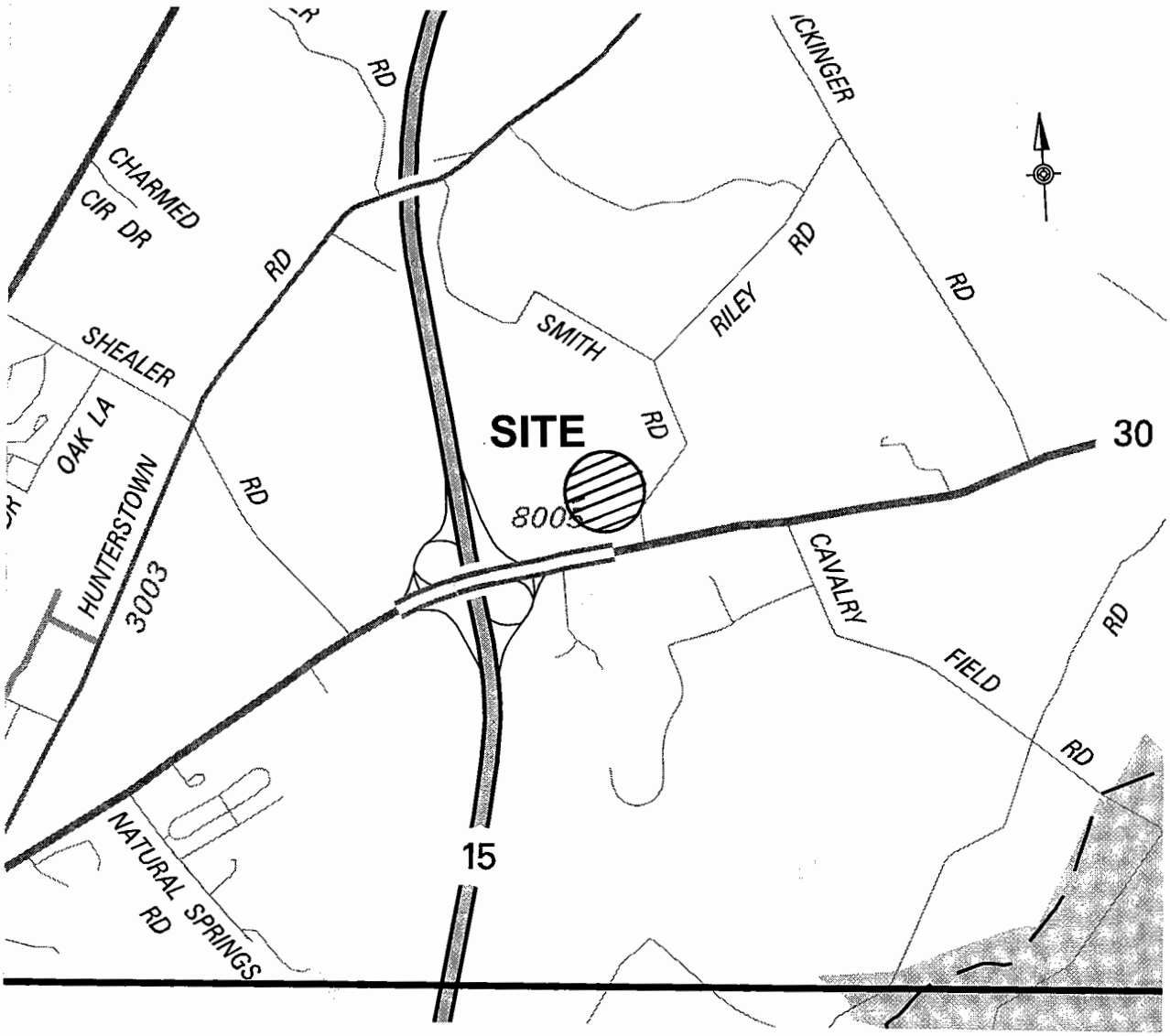
FIGURES

GROVE MILLER ENGINEERING, INC.



Traffic Impact Study

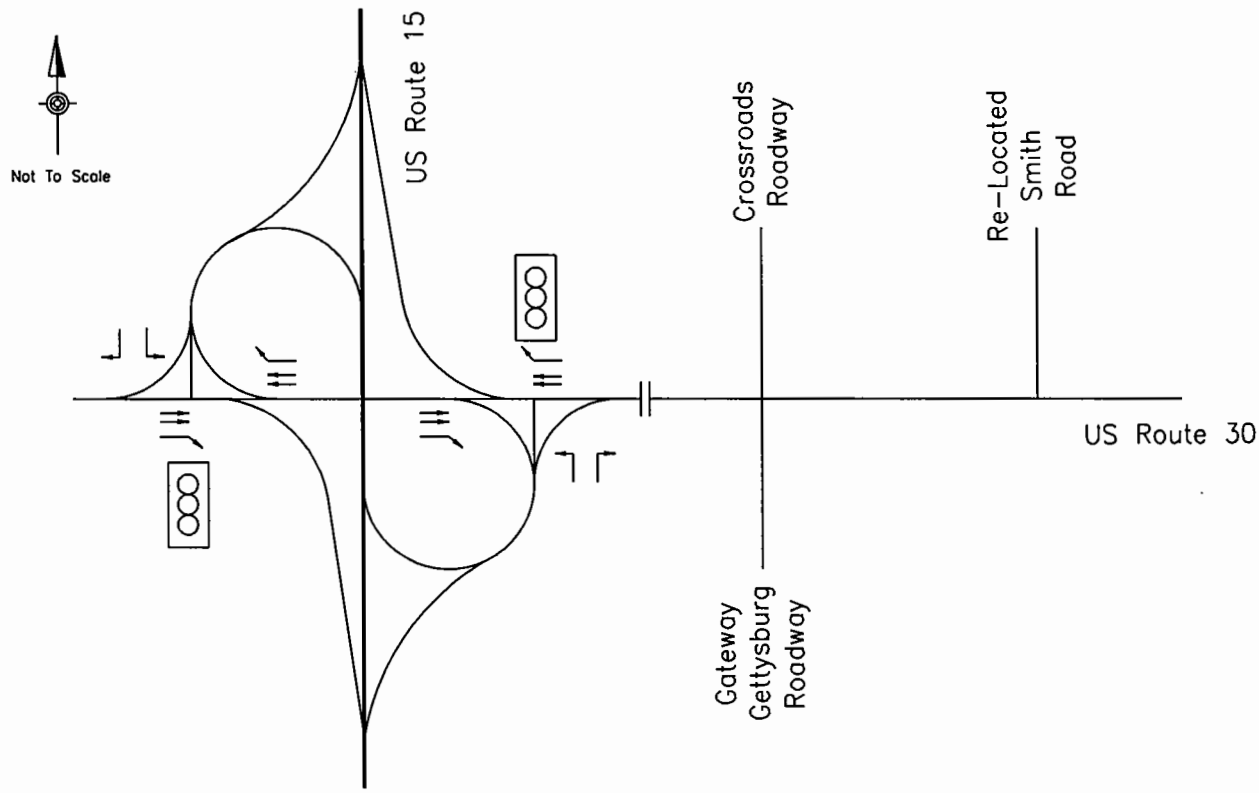
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 1

Location Map

GROVE MILLER ENGINEERING, INC.



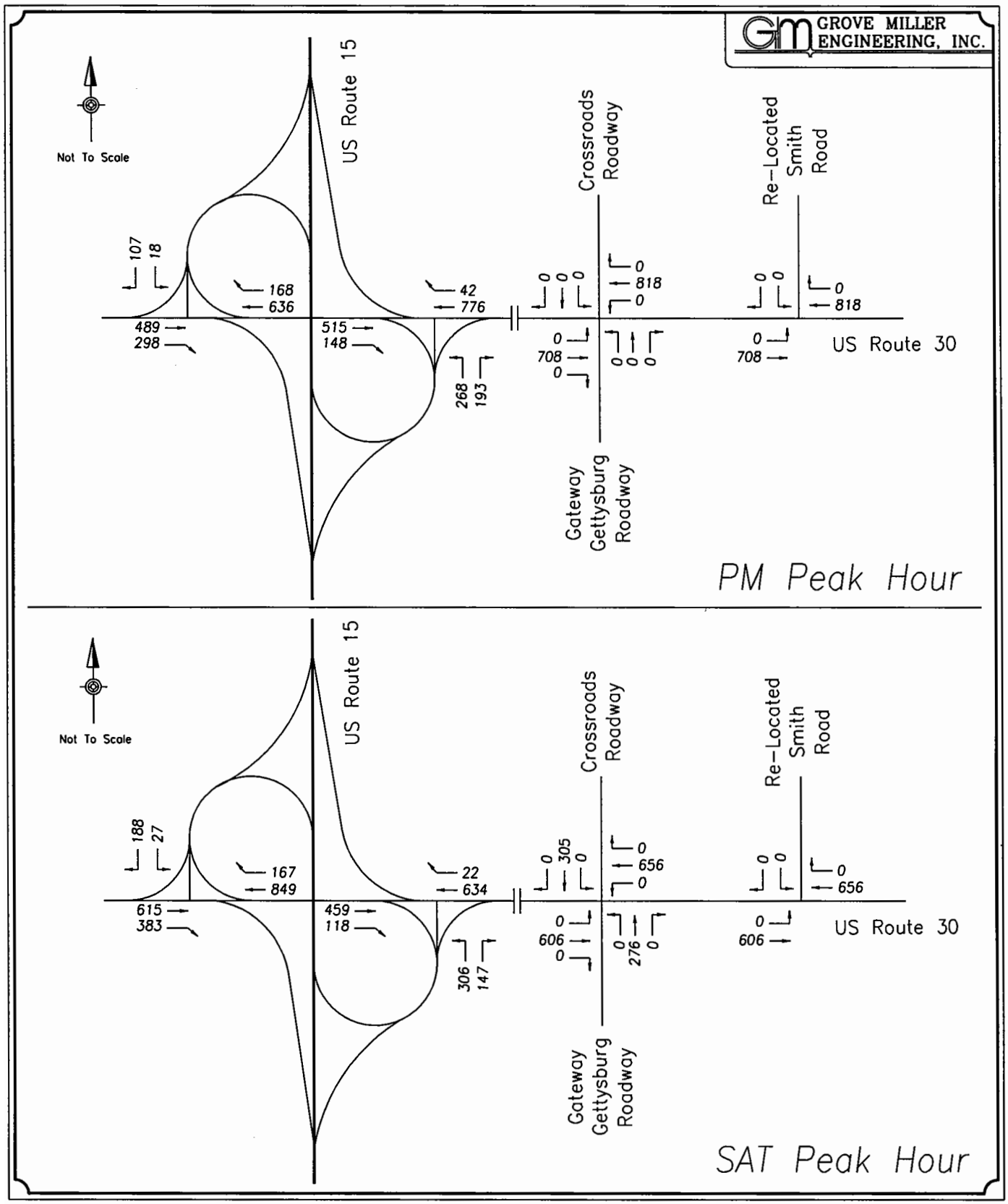
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

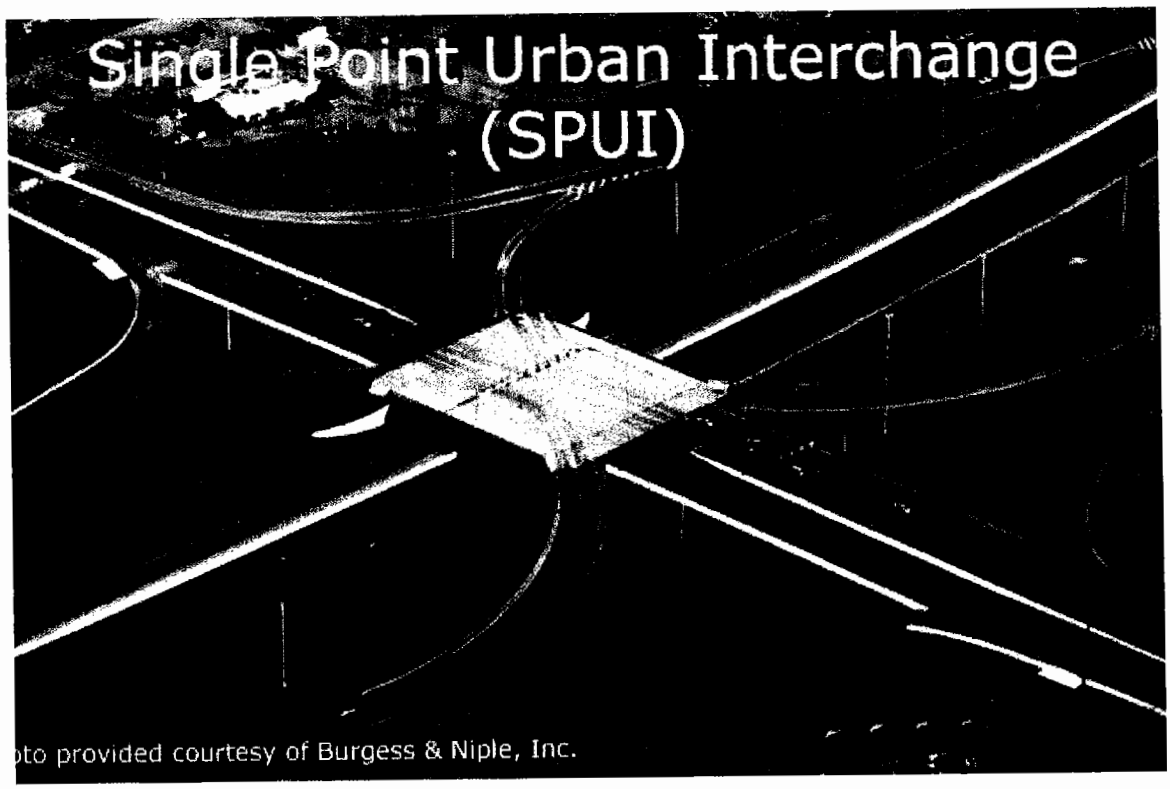
Straban Township, Adams County, PA

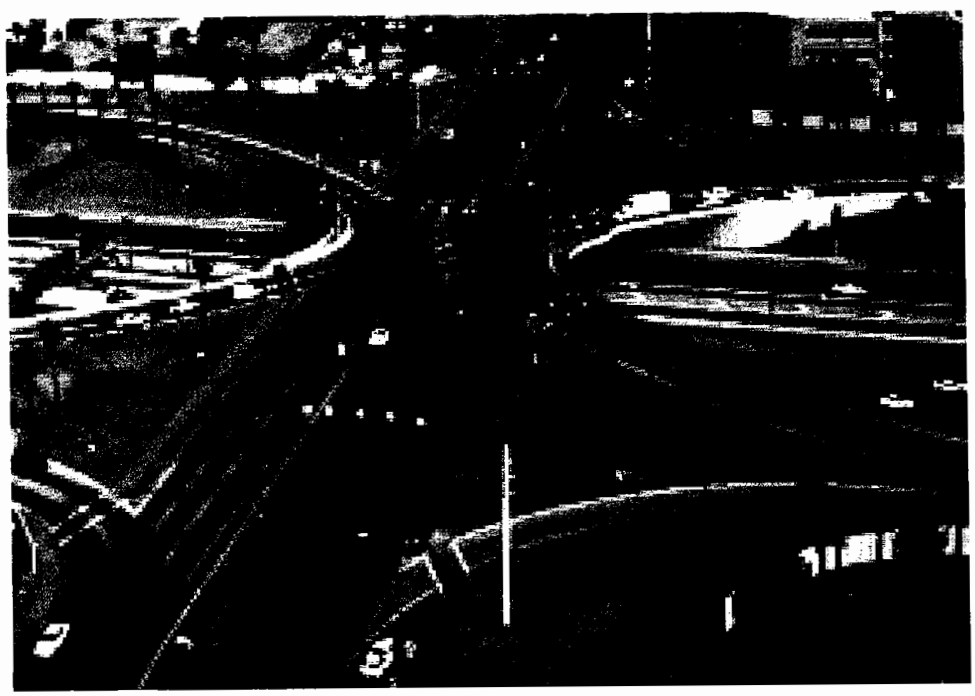
FIGURE 2

Existing Lane Configurations and Intersection Control



Traffic Impact Study *CROSSROADS GAMING RESORT AND SPA* *Straban Township, Adams County, PA*	*FIGURE 3* *2005 Existing Traffic Volumes*





Traffic Impact Study

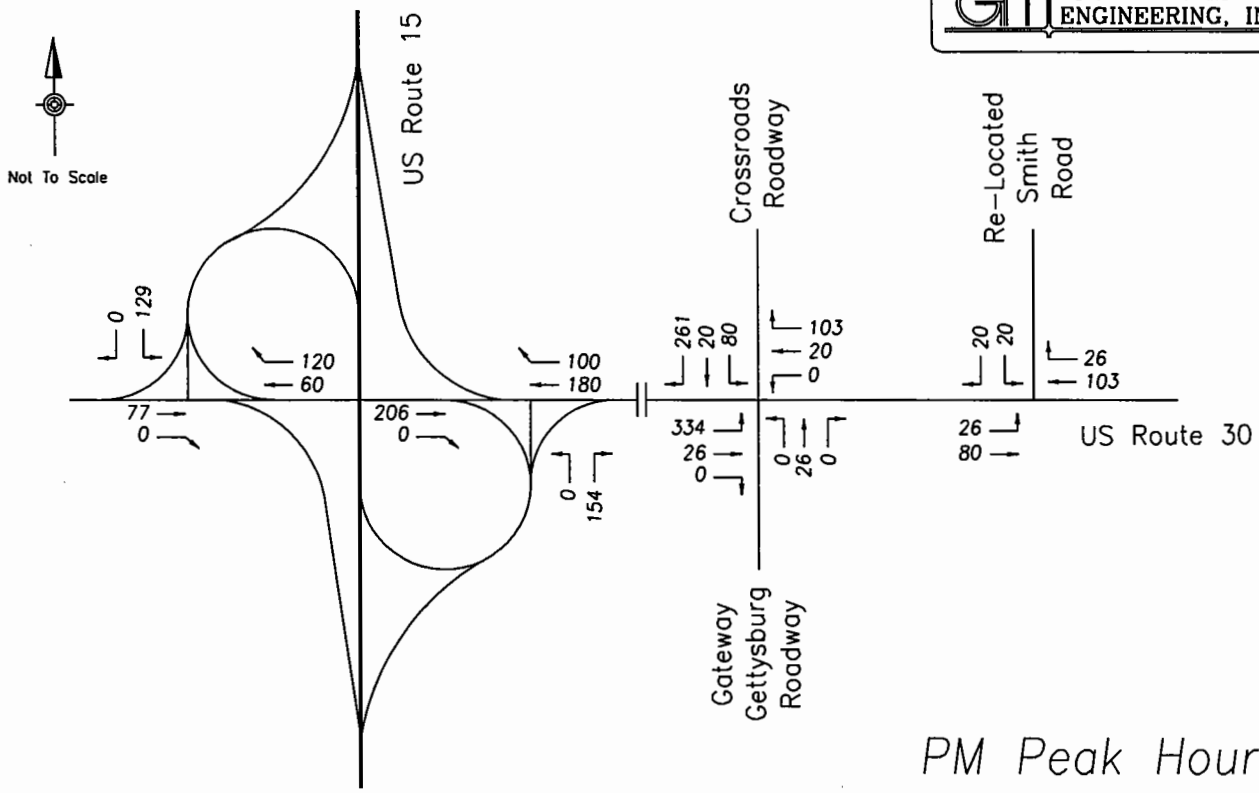
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

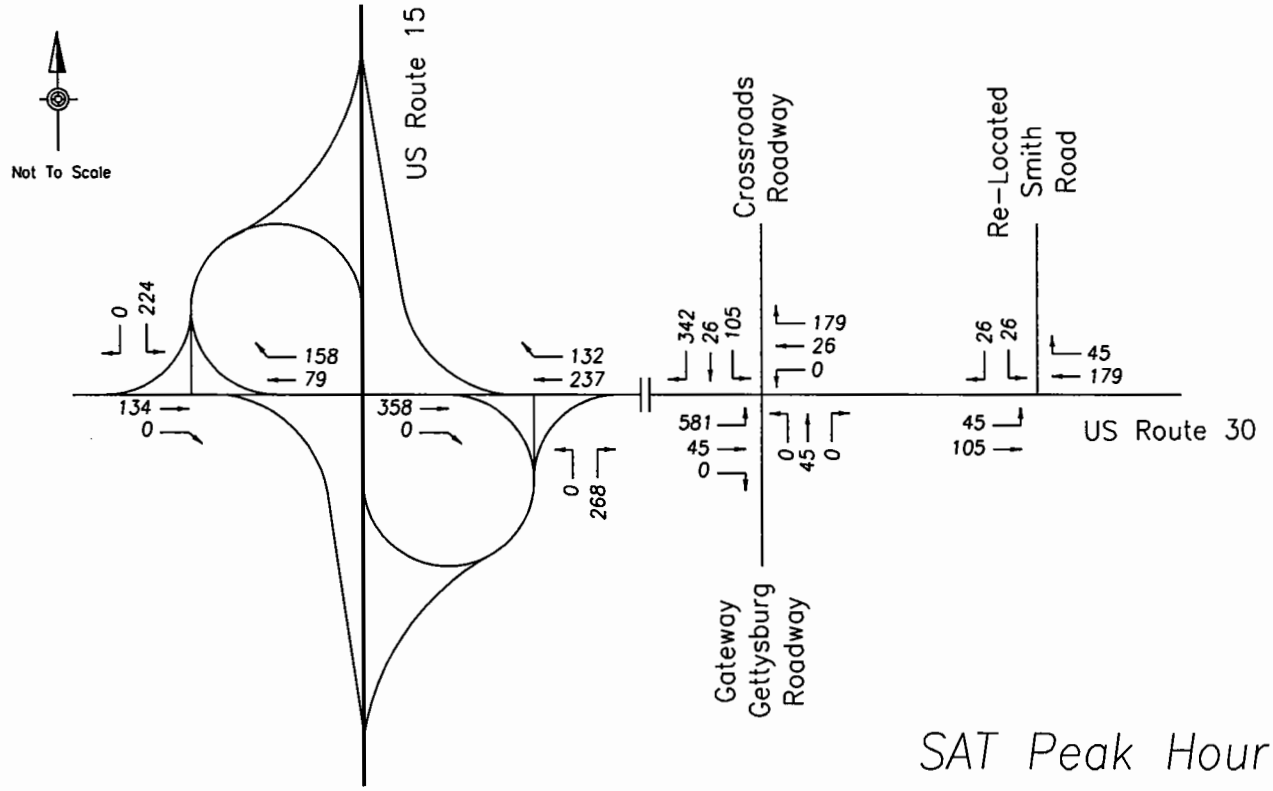
FIGURE 4

Examples of Single Point Urban Interchanges

GROVE MILLER ENGINEERING, INC.



PM Peak Hour



SAT Peak Hour

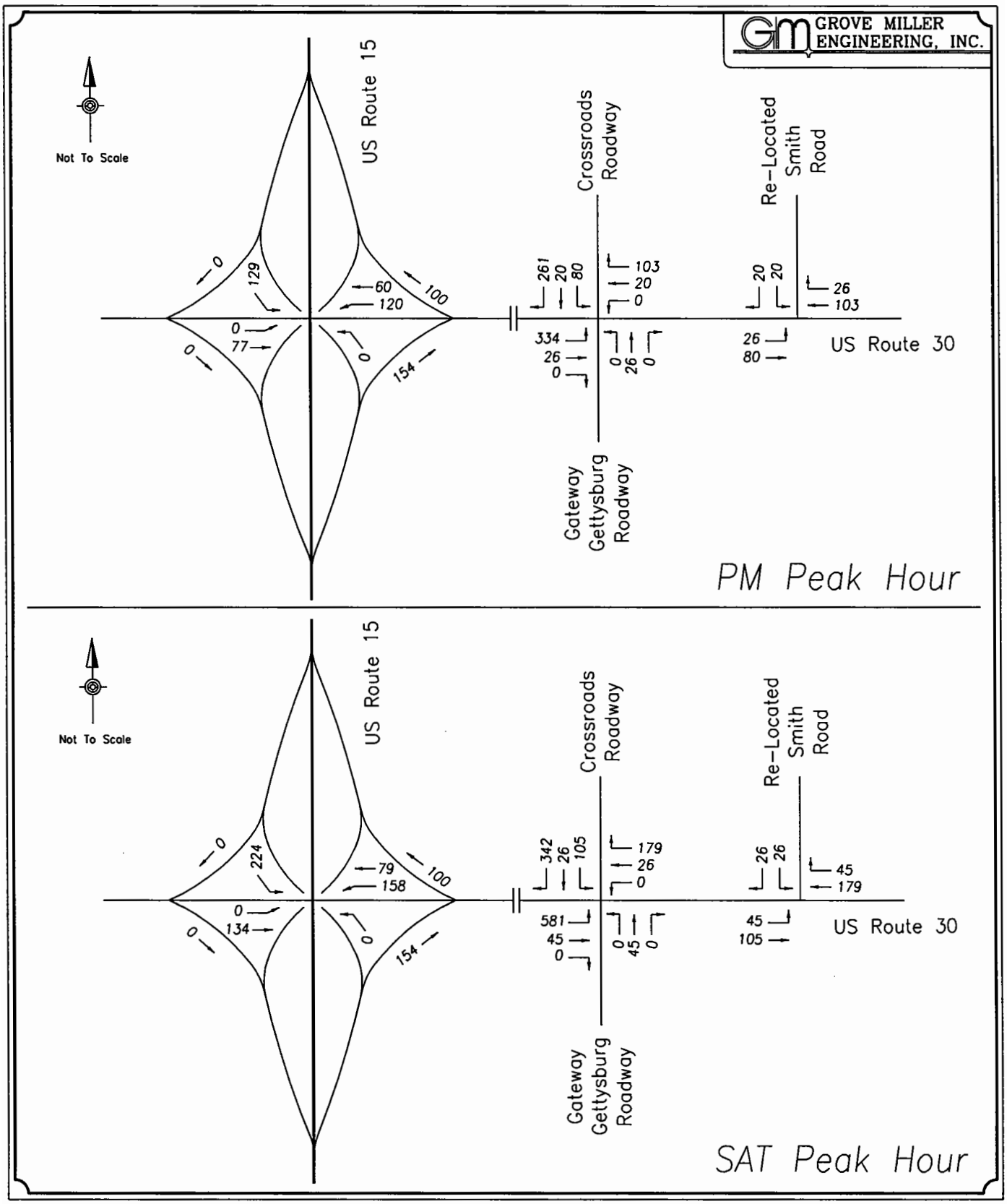
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 5a

Trip Distributions for
Crossroads Gaming Resort and Spa



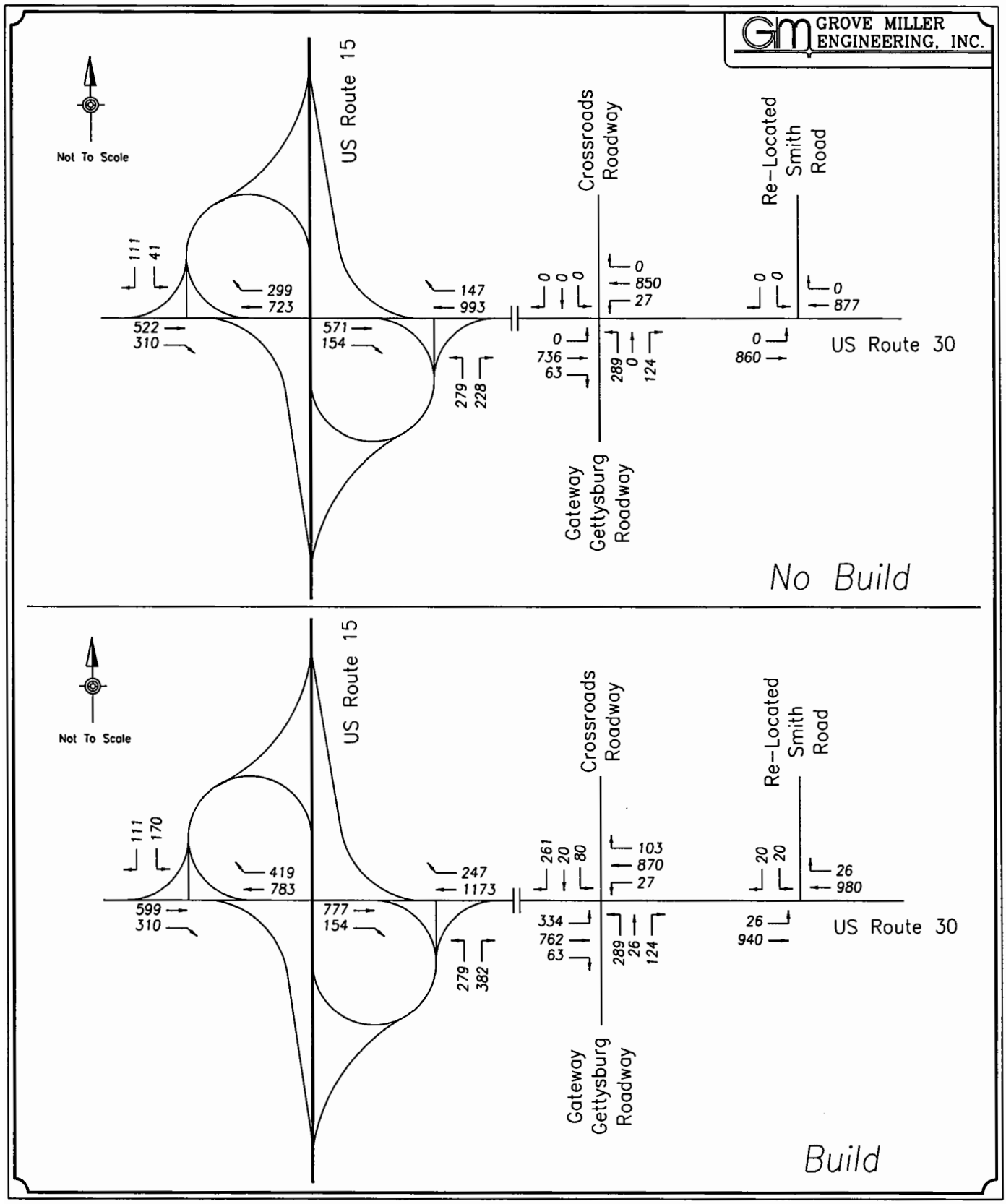
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

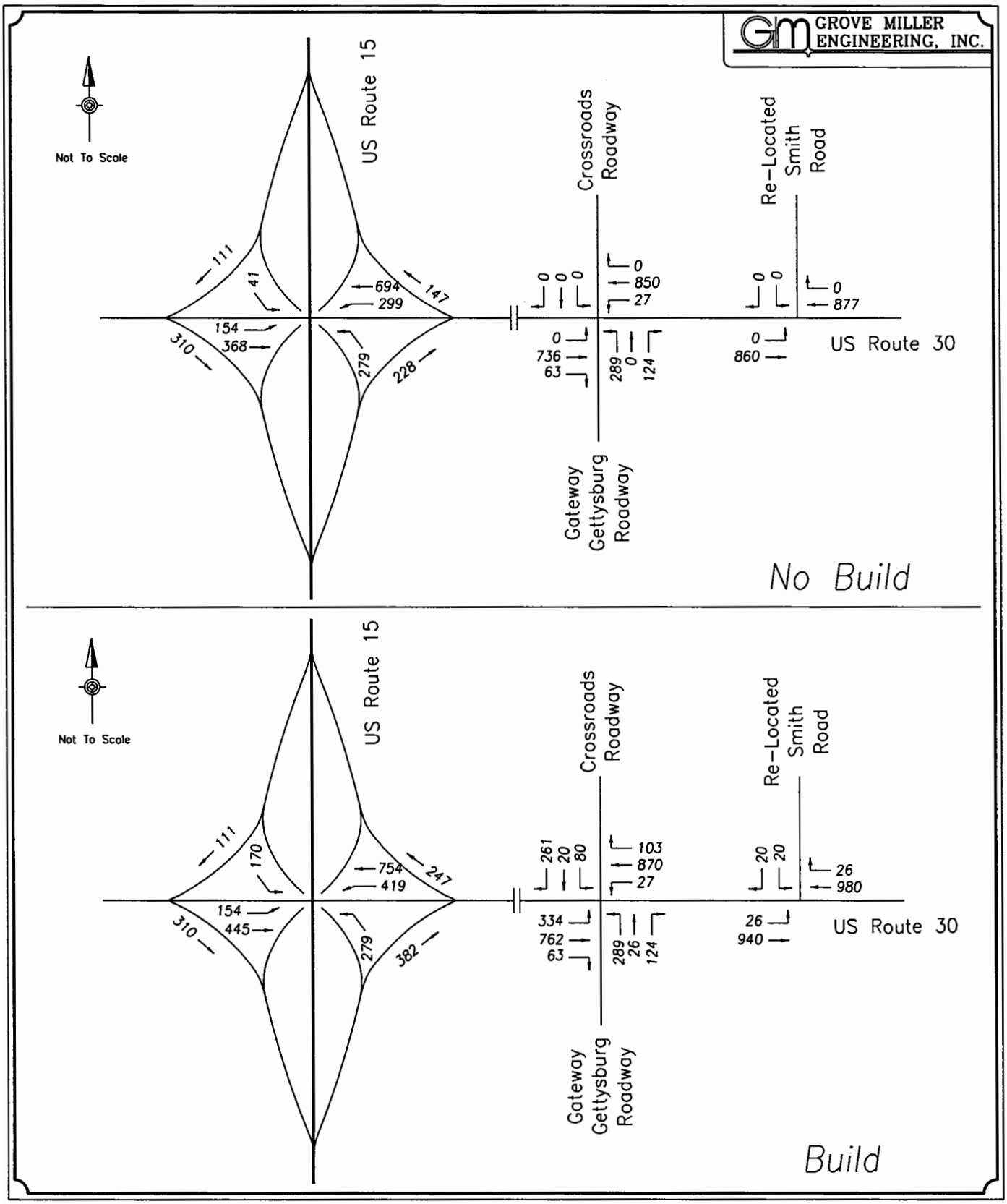
Straban Township, Adams County, PA

FIGURE 5b

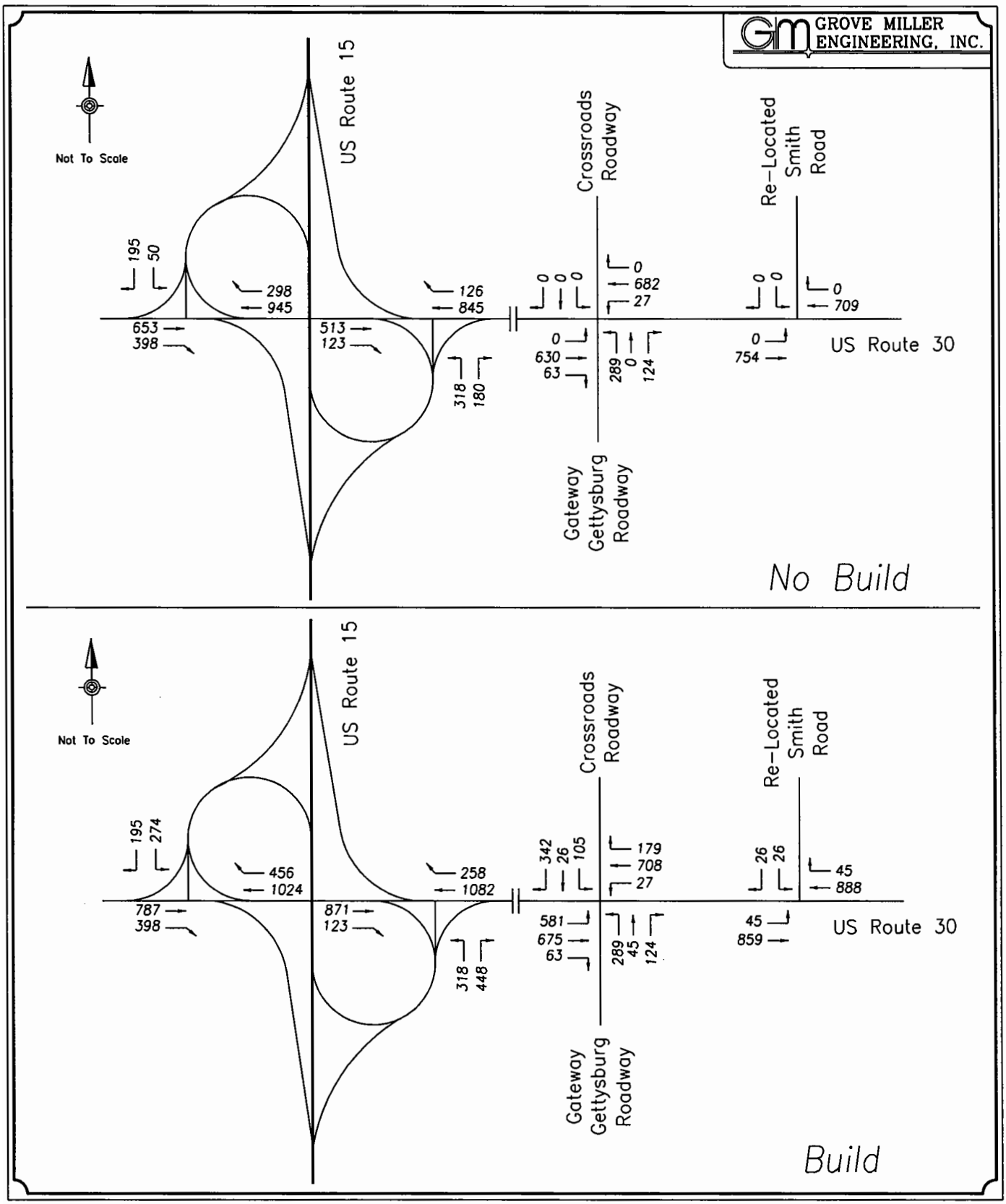
Trip Distributions for
Crossroads Gaming Resort and Spa



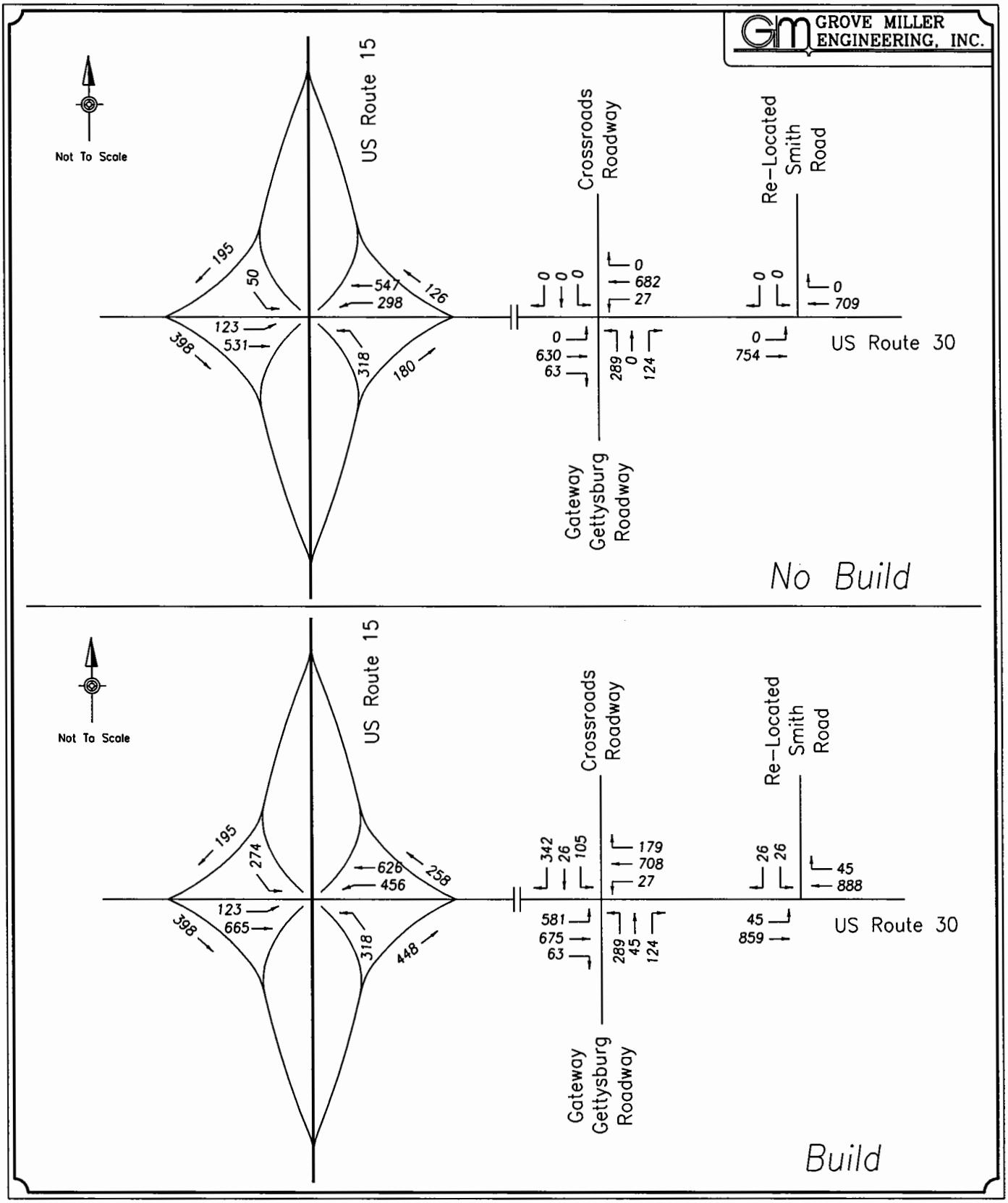
Traffic Impact Study *CROSSROADS GAMING RESORT AND S A* *Straban Township, Adams County, PA*	*FIGURE 6a* *2008 Build Year Traffic Volumes, Weekday PM Peak Hour*



Traffic Impact Study *CROSSROADS GAMING RESORT AND SPA* *Straban Township, Adams County, PA*	*FIGURE 6b* *2008 Build Year Traffic Volumes, Weekday PM Peak Hour*



Traffic Impact Study *CROSSROADS GAMING RESORT AND SPA* *Straban Township, Adams County, PA*	*FIGURE 7a* *2008 Build Year Traffic Volumes, Saturday Peak Hour*



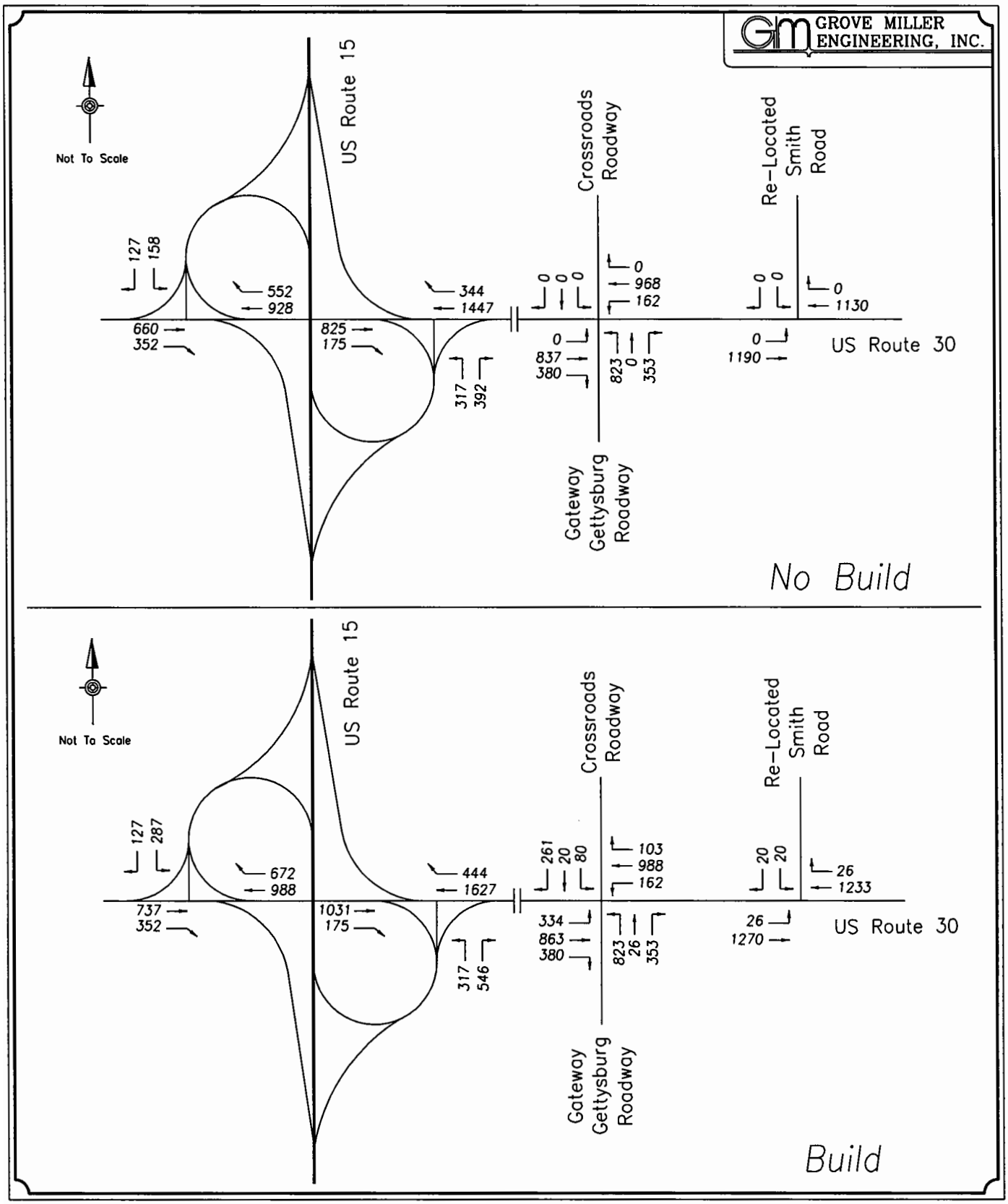
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

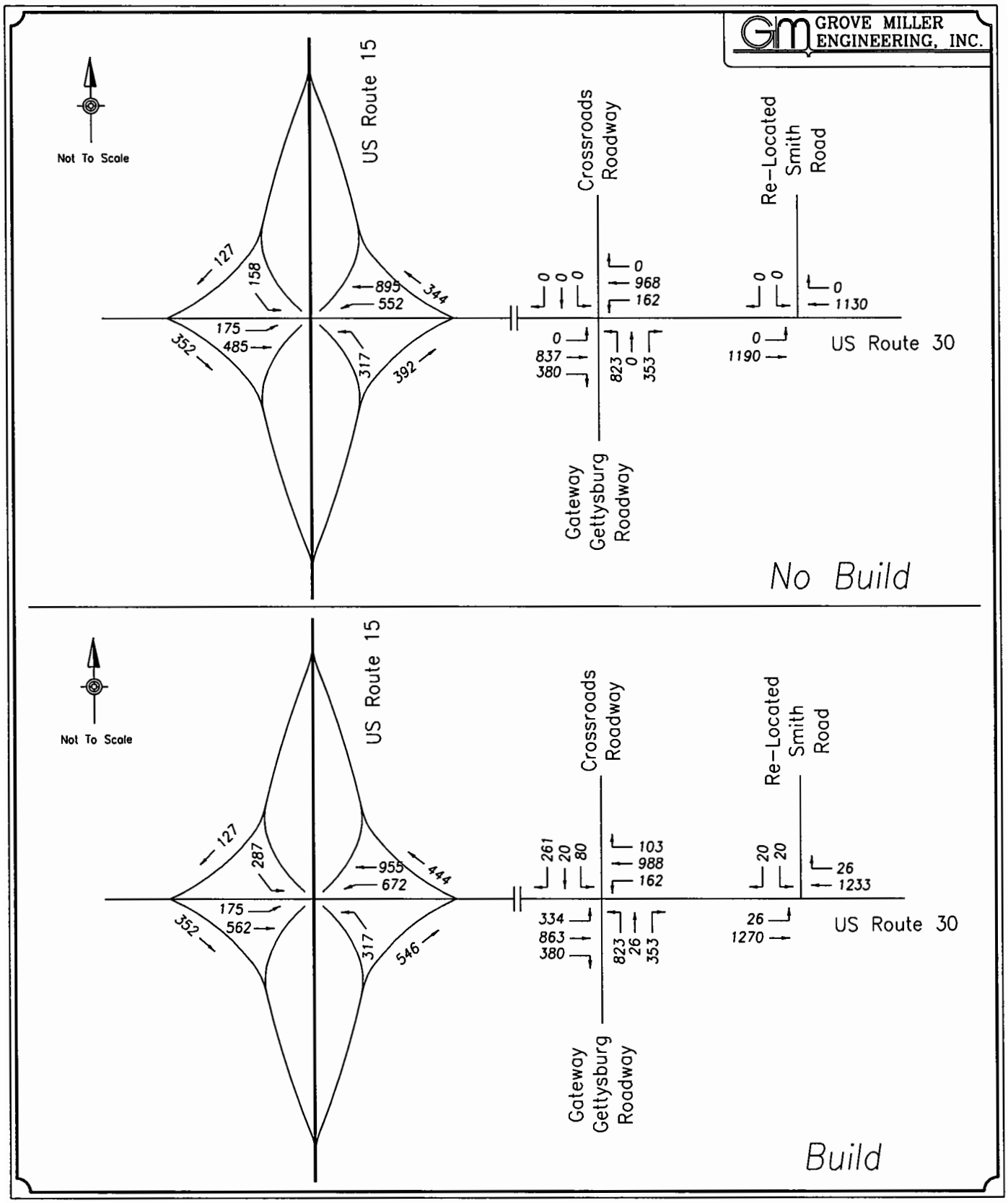
Straban Township, Adams County, PA

FIGURE 7b

2008 Build Year Traffic Volumes, Saturday Peak Hour



Traffic Impact Study *CROSSROADS GAMING RESORT AND SPA* *Straban Township, Adams County, PA*	*FIGURE 8a* *2018 Design Year Traffic Volumes, Weekday PM Peak Hour*



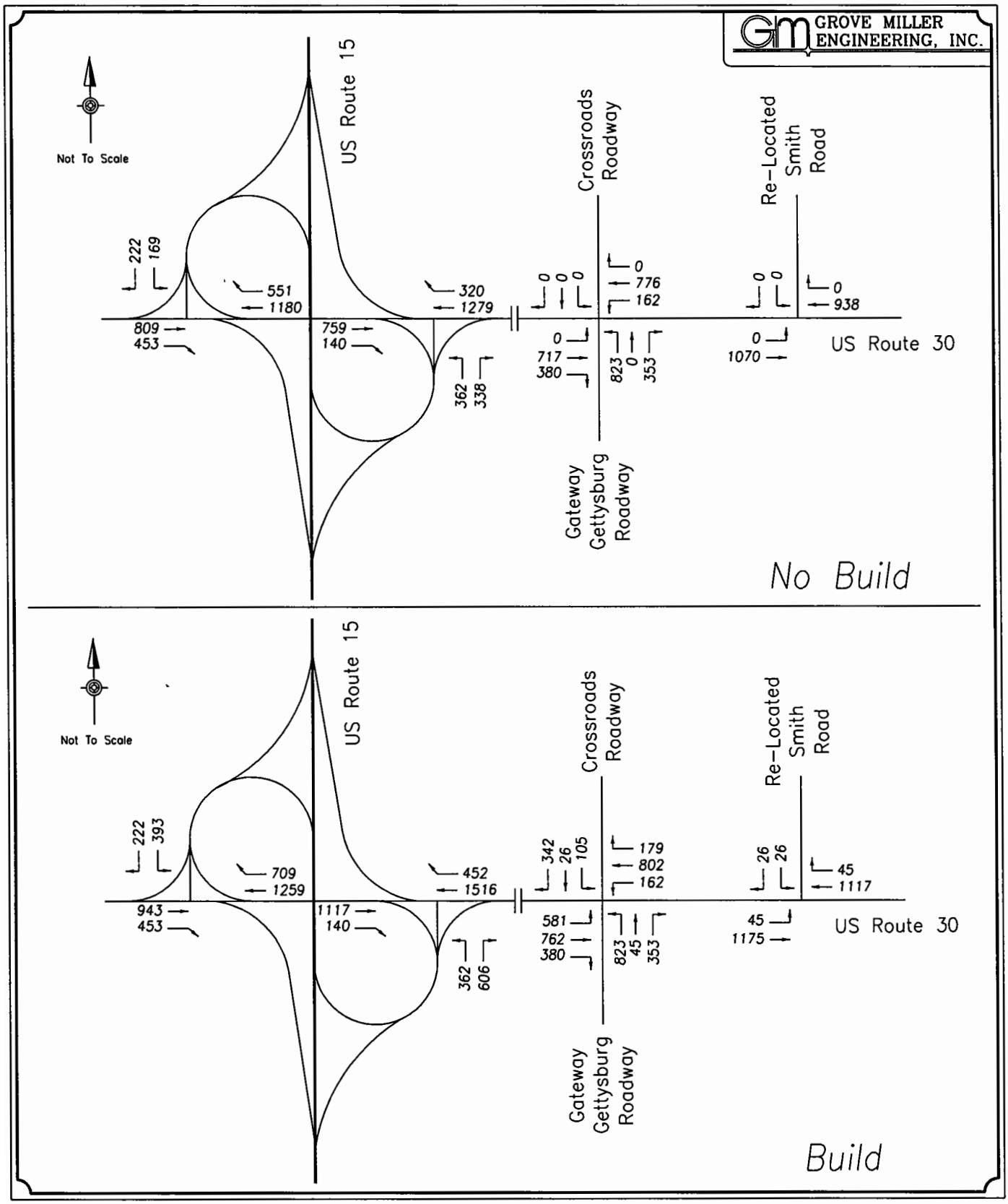
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

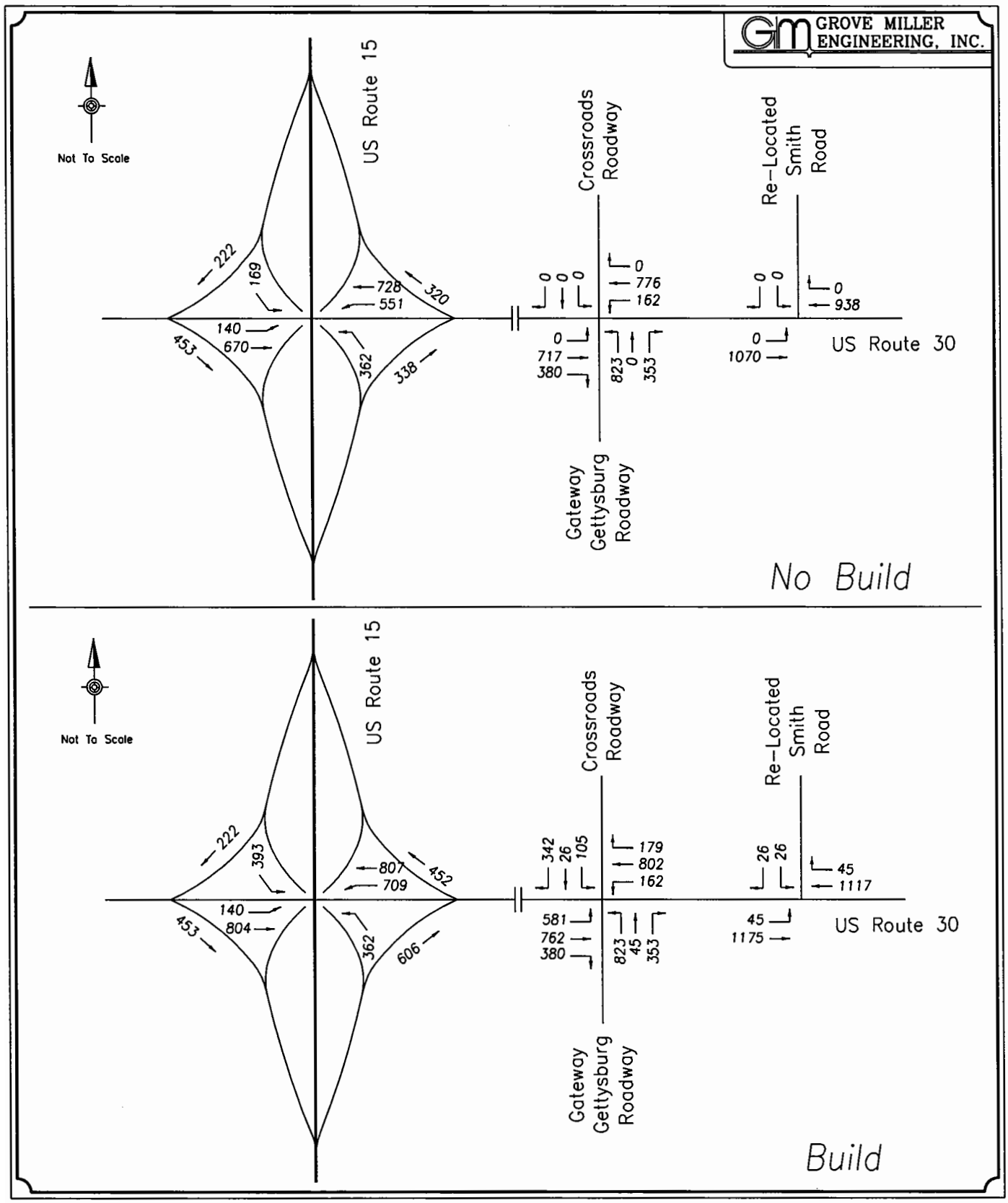
Straban Township, Adams County, PA

FIGURE 8b

2018 Design Year Traffic Volumes,
Weekday PM Peak Hour



Traffic Impact Study *CROSSROADS GAMING RESORT AND SPA* *Straban Township, Adams County, PA*	*FIGURE 9a* *2018 Design Year Traffic Volumes, Saturday Peak Hour*



Traffic Impact Study

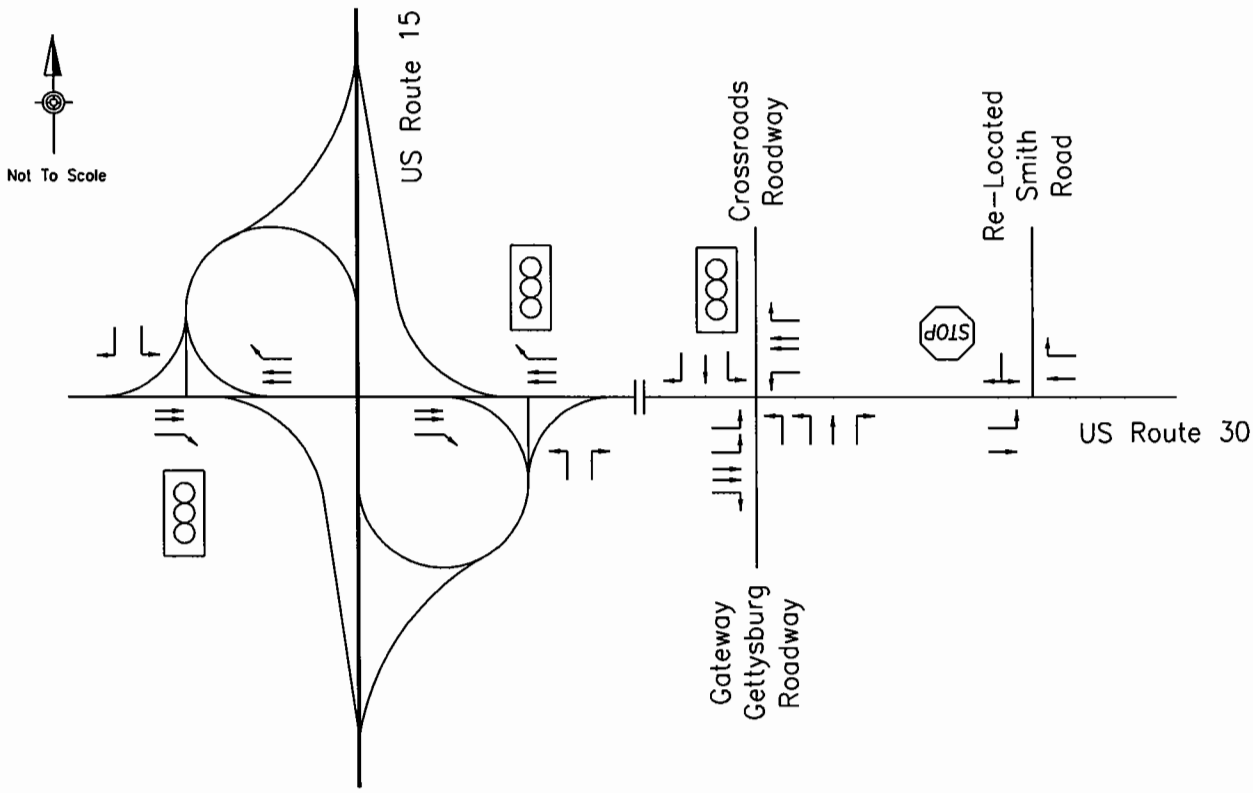
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 9b

2018 Design Year Traffic Volumes, Saturday Peak Hour

GROVE MILLER ENGINEERING, INC.



Traffic Impact Study

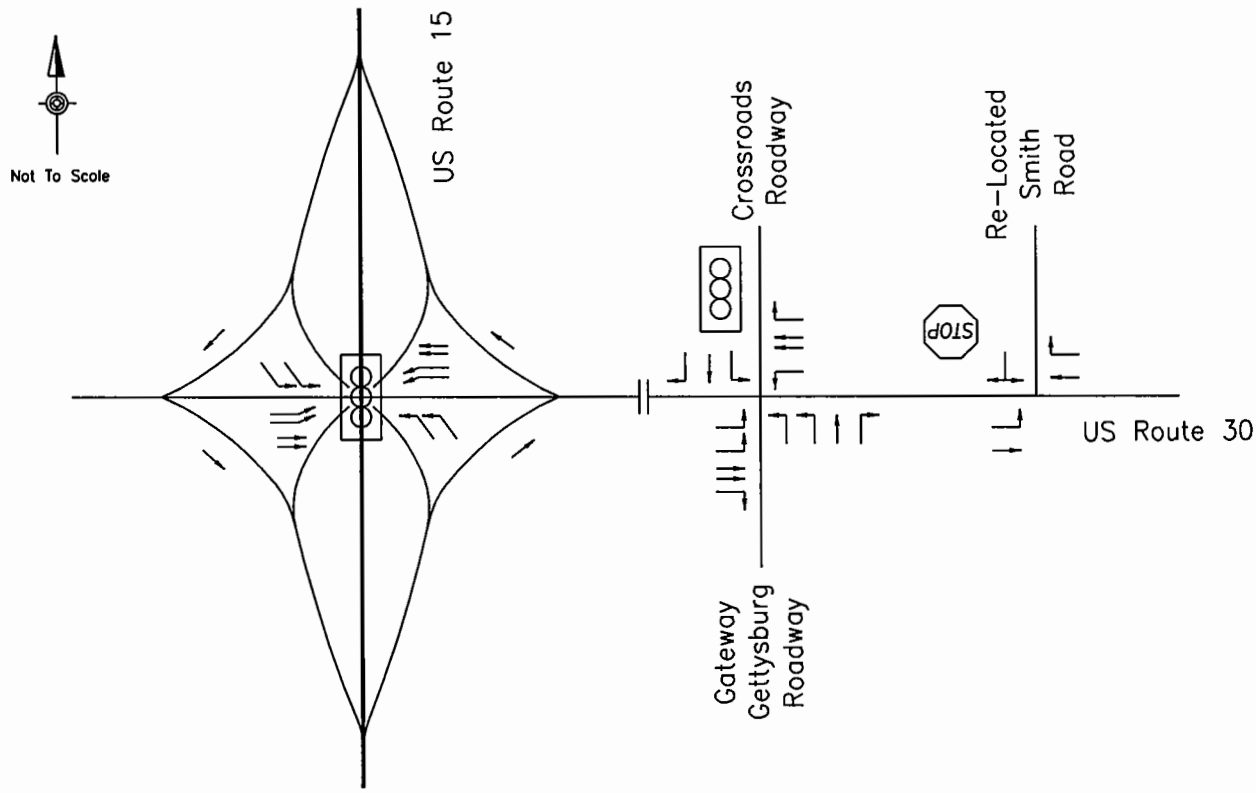
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 10a

Recommended Lane Configurations and Intersection Control

GROVE MILLER ENGINEERING, INC.



Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

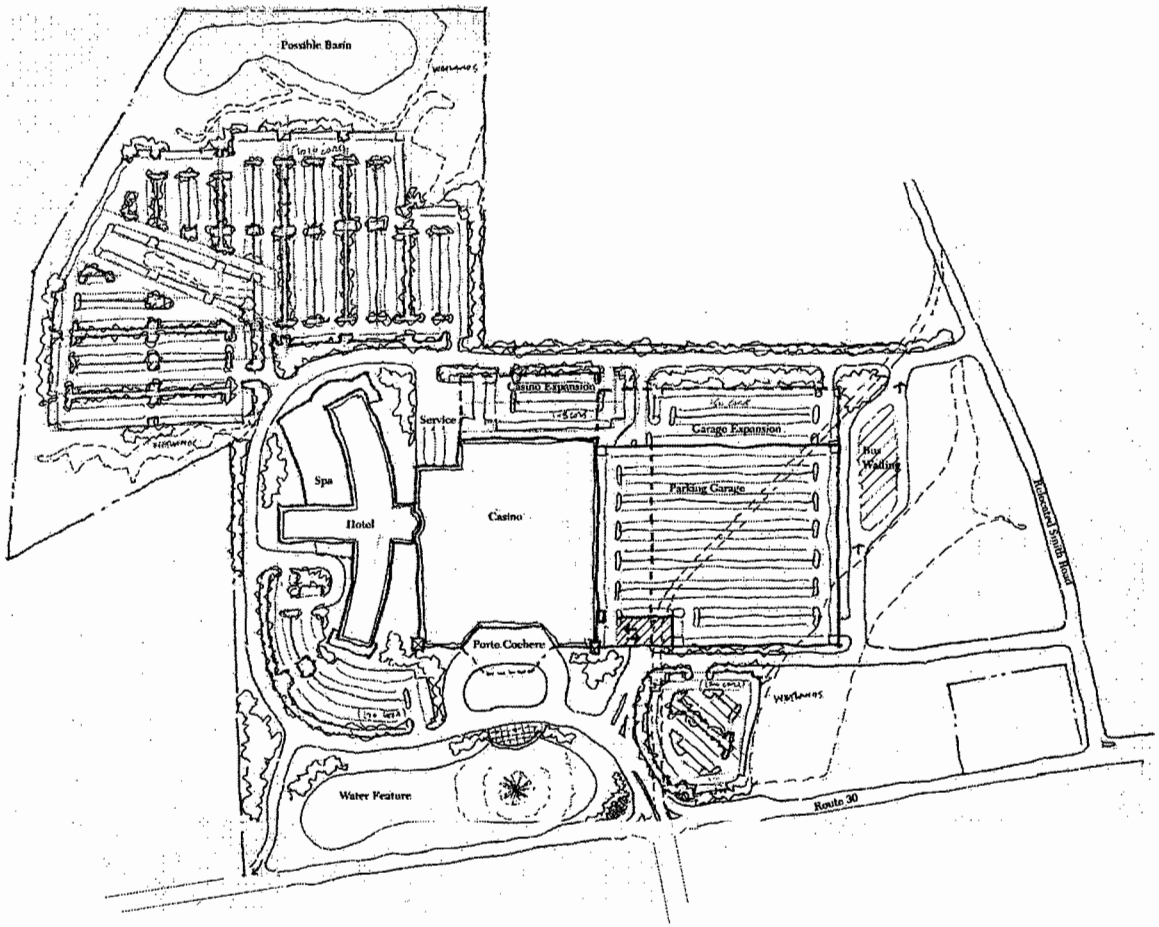
FIGURE 10b

Recommended Lane Configurations and Intersection Control

APPENDIX

Site Layout Plan
Turning Movement Peak Period Counts
Trip Generation Calculations
Traffic Projections
Level of Service Descriptions
Highway Capacity Analysis Worksheets
Queue Analysis Calculations
Study Area Photographs

Site Layout Plan



Concept Site Plan 1

0 0 50 100 200 300

Presentation
02 November 2005

Chance Enterprise, LLC
Harrisburg, Pennsylvania

Gettysburg Gaming Resort & Spa

Straban Township, Adams County, PA

Cope Linder Architects
30 South Fifteenth Street
Philadelphia, Pennsylvania 19102
www.Cope-Linder.com

Turning Movement Peak Period Counts

Grove Miller Engineering Inc.
5600 Derry Street
Harrisburg, PA 17111
Ph (717) 564-6146 Fx (717) 564-9488

Day: Wednesday
Municipality: Straban Township
County: Adams
Weather: Rain Counter: rgf

File Name : US15SB_US30_PM
Site Code : 00012985
Start Date : 11/16/2005
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 On Ramp Northbound					US Route 15 Off Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	147	62	0	209	0	171	32	0	203	0	0	0	0	0	7	0	21	0	28	440
04:15 PM	0	128	66	0	194	0	149	32	0	181	0	0	0	0	0	4	0	23	0	27	402
04:30 PM	0	129	74	0	203	0	145	41	0	186	0	0	0	0	0	8	0	24	0	32	421
04:45 PM	0	129	78	0	207	0	146	31	0	177	0	0	0	0	0	5	0	33	0	38	422
Total	0	533	280	0	813	0	611	136	0	747	0	0	0	0	0	24	0	101	0	125	1685
05:00 PM	0	133	81	0	214	0	180	50	1	231	0	0	0	0	0	1	0	23	0	24	469
05:15 PM	0	98	65	0	163	0	165	46	0	211	0	0	0	0	0	4	0	27	0	31	405
05:30 PM	0	95	65	0	160	0	148	31	0	179	0	0	0	0	0	4	0	23	0	27	366
05:45 PM	0	103	72	0	175	0	141	21	0	162	0	0	0	0	0	2	0	27	0	29	366
Total	0	429	283	0	712	0	634	148	1	783	0	0	0	0	0	11	0	100	0	111	1606
Grand Total	0	962	563	0	1525	0	1245	284	1	1530	0	0	0	0	0	35	0	201	0	236	3291
Apprch %	0	63.1	36.9	0		0	81.4	18.6	0.1		0	0	0	0		14.8	0	85.2	0		
Total %	0	29.2	17.1	0	46.3	0	37.8	8.6	0	46.5	0	0	0	0	0	1.1	0	6.1	0	7.2	
Passenger Cars	0	945	562	0	1507	0	1224	256	0	1480	0	0	0	0	0	30	0	198	0	228	3215
% Passenger Cars	0	98.2	99.8	0	98.8	0	98.3	90.1	0	96.7	0	0	0	0	0	85.7	0	98.5	0	96.6	97.7
Heavy Vehicles	0	17	1	0	18	0	21	28	1	50	0	0	0	0	0	5	0	3	0	8	76
% Heavy Vehicles	0	1.8	0.2	0	1.2	0	1.7	9.9	100	3.3	0	0	0	0	0	14.3	0	1.5	0	3.4	2.3

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 On Ramp Northbound					US Route 15 Off Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	129	74	0	203	0	145	41	0	186	0	0	0	0	0	**8**	0	24	0	32	421
04:45 PM	0	129	78	0	207	0	146	31	0	177	0	0	0	0	0	5	0	**33**	0	**38**	422
05:00 PM	0	**133**	**81**	0	**214**	0	**180**	**50**	**1**	**231**	0	0	0	0	0	1	0	23	0	24	**469**
05:15 PM	0	98	65	0	163	0	165	46	0	211	0	0	0	0	0	4	0	27	0	31	405
Total Volume	0	489	298	0	787	0	636	168	1	805	0	0	0	0	0	18	0	107	0	125	1717
% App. Total	0	62.1	37.9	0		0	79	20.9	0.1		0	0	0	0		14.4	0	85.6	0		
PHF	.000	.919	.920	.000	.919	.000	.883	.840	.250	.871	.000	.000	.000	.000	.000	.563	.000	.811	.000	.822	.915
Passenger Cars	0	485	298	0	783	0	627	150	0	777	0	0	0	0	0	15	0	105	0	120	1680
% Passenger Cars	0	99.2	100	0	99.5	0	98.6	89.3	0	96.5	0	0	0	0	0	83.3	0	98.1	0	96.0	97.8
Heavy Vehicles	0	4	0	0	4	0	9	18	1	28	0	0	0	0	0	3	0	2	0	5	37
% Heavy Vehicles	0	0.8	0	0	0.5	0	1.4	10.7	100	3.5	0	0	0	0	0	16.7	0	1.9	0	4.0	2.2

Grove Miller Engineering Inc.
5600 Derry Street
Harrisburg, PA 17111
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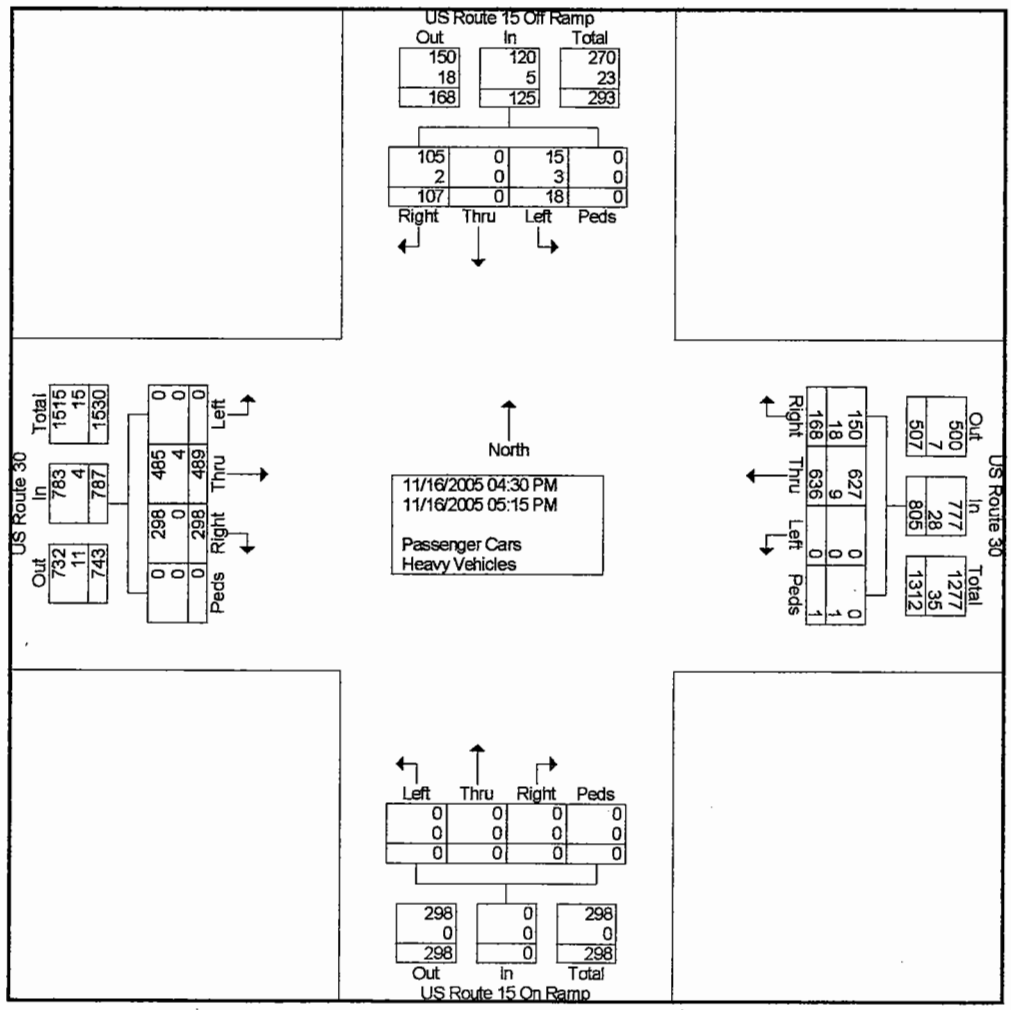
Day: Wednesday
Municipality: Straban Township
County: Adams
Weather: Rain Counter: rgf

File Name : US15SB_US30_PM
Site Code : 00012985
Start Date : 11/16/2005
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound				US Route 30 Westbound				US Route 15 On Ramp Northbound				US Route 15 Off Ramp Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
04:30 PM	0	129	74	0	0	145	41	0	0	0	0	0	8	0	24	0	421
04:45 PM	0	129	78	0	0	146	31	0	0	0	0	0	5	0	33	0	422
Total	0	258	152	0	0	291	72	0	0	0	0	0	13	0	57	0	843
05:00 PM	0	133	81	0	0	180	50	1	0	0	0	0	1	0	23	0	469
05:15 PM	0	98	65	0	0	165	46	0	0	0	0	0	4	0	27	0	405
Grand Total	0	489	298	0	0	636	168	1	0	0	0	0	18	0	107	0	1717
Apprch %	0	62.1	37.9	0	0	79	20.9	0.1	0	0	0	0	14.4	0	85.6	0	
Total %	0	28.5	17.4	0	0	37	9.8	0.1	0	0	0	0	1	0	6.2	0	
Passenger Cars	0	485	298	0	0	627	150	0	0	0	0	0	15	0	105	0	1680
% Passenger Cars	0	99.2	100	0	0	98.6	89.3	0	0	0	0	0	83.3	0	98.1	0	97.8
Heavy Vehicles	0	4	0	0	0	9	18	1	0	0	0	0	3	0	2	0	37
% Heavy Vehicles	0	0.8	0	0	0	1.4	10.7	100	0	0	0	0	16.7	0	1.9	0	2.2



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File Name : US15SB_US30_MID
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Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 On Ramp Northbound					US Route 15 Off Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	132	79	0	211	0	180	36	0	216	0	0	0	0	0	2	0	45	0	47	474
11:15 AM	0	120	71	0	191	0	197	34	0	231	0	0	0	0	0	3	0	51	0	54	476
11:30 AM	0	147	95	0	242	0	214	43	0	257	0	0	0	0	0	4	0	63	0	67	566
11:45 AM	0	140	87	0	227	0	210	37	0	247	0	0	0	0	0	5	0	37	0	42	516
Total	0	539	332	0	871	0	801	150	0	951	0	0	0	0	0	14	0	196	0	210	2032
12:00 PM	0	148	87	0	235	0	211	53	0	264	0	0	0	0	0	10	0	42	0	52	551
12:15 PM	0	180	114	0	294	0	214	34	0	248	0	0	0	0	0	8	0	46	0	54	596
12:30 PM	0	148	84	0	232	0	204	43	0	247	0	0	0	0	0	0	0	29	0	29	508
12:45 PM	0	149	86	0	235	0	190	40	0	230	0	0	0	0	0	4	0	48	0	52	517
Total	0	625	371	0	996	0	819	170	0	989	0	0	0	0	0	22	0	165	0	187	2172
Grand Total	0	1164	703	0	1867	0	1620	320	0	1940	0	0	0	0	0	36	0	361	0	397	4204
Apprch %	0	62.3	37.7	0		0	83.5	16.5	0		0	0	0	0		9.1	0	90.9	0		
Total %	0	27.7	16.7	0	44.4	0	38.5	7.6	0	46.1	0	0	0	0	0	0.9	0	8.6	0	9.4	
Passenger Cars	0	1154	701	0	1855	0	1606	308	0	1914	0	0	0	0	0	33	0	360	0	393	4162
% Passenger Cars	0	99.1	99.7	0	99.4	0	99.1	96.2	0	98.7	0	0	0	0	0	91.7	0	99.7	0	99	99
Heavy Vehicles	0	10	2	0	12	0	14	12	0	26	0	0	0	0	0	3	0	1	0	4	42
% Heavy Vehicles	0	0.9	0.3	0	0.6	0	0.9	3.8	0	1.3	0	0	0	0	0	8.3	0	0.3	0	1	1

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 On Ramp Northbound					US Route 15 Off Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	0	147	95	0	242	0	**214**	43	0	257	0	0	0	0	0	4	0	**63**	0	**67**	566
11:45 AM	0	140	87	0	227	0	210	37	0	247	0	0	0	0	0	5	0	37	0	42	516
12:00 PM	0	148	87	0	235	0	211	**53**	0	**264**	0	0	0	0	0	**10**	0	42	0	52	551
12:15 PM	0	**180**	**114**	0	**294**	0	214	34	0	248	0	0	0	0	0	8	0	46	0	54	**596**
Total Volume	0	615	383	0	998	0	849	167	0	1016	0	0	0	0	0	27	0	188	0	215	2229
% App. Total	0	61.6	38.4	0		0	83.6	16.4	0		0	0	0	0		12.6	0	87.4	0		
PHF	.000	.854	.840	.000	.849	.000	.992	.788	.000	.962	.000	.000	.000	.000	.000	.675	.000	.746	.000	.802	.935
Passenger Cars	0	609	383	0	992	0	841	160	0	1001	0	0	0	0	0	24	0	188	0	212	2205
% Passenger Cars	0	99.0	100	0	99.4	0	99.1	95.8	0	98.5	0	0	0	0	0	88.9	0	100	0	98.6	98.9
Heavy Vehicles	0	6	0	0	6	0	8	7	0	15	0	0	0	0	0	3	0	0	0	3	24
% Heavy Vehicles	0	1.0	0	0	0.6	0	0.9	4.2	0	1.5	0	0	0	0	0	11.1	0	0	0	1.4	1.1

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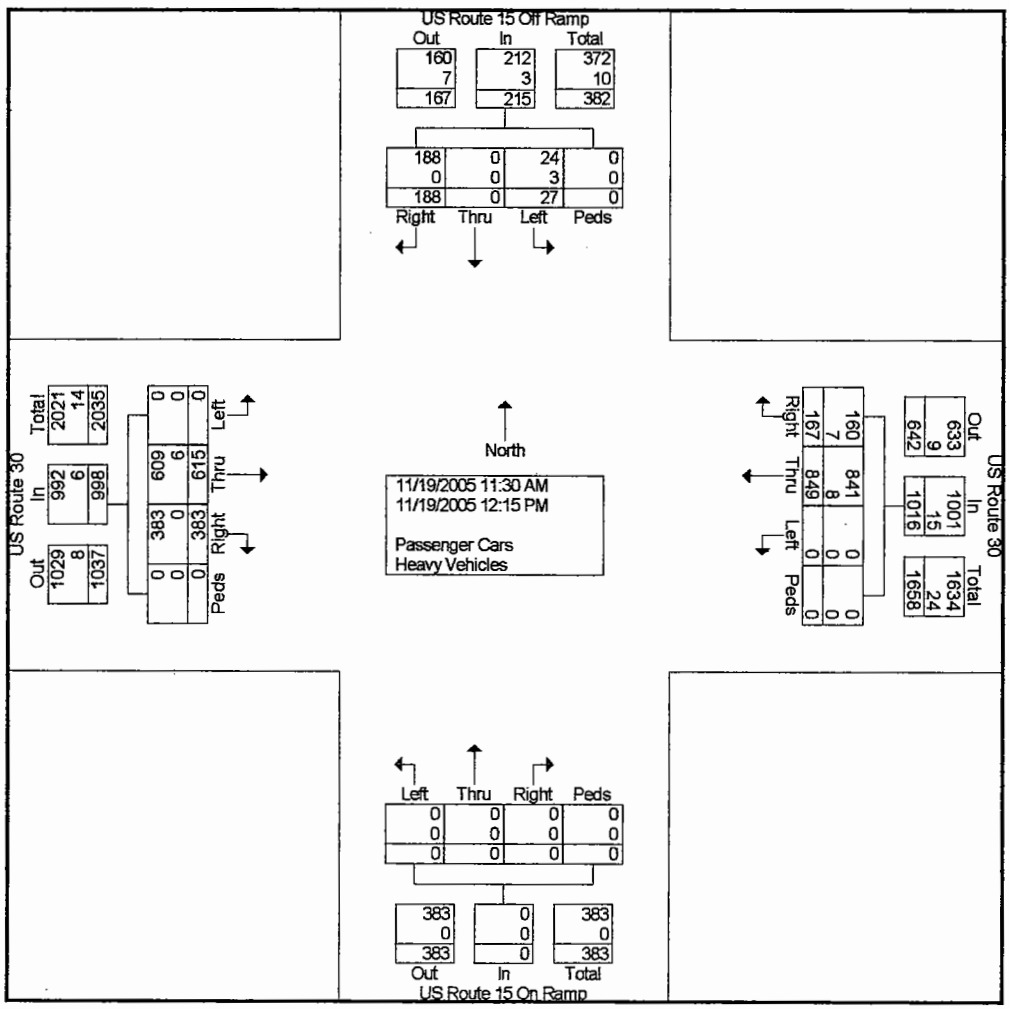
Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound				US Route 30 Westbound				US Route 15 On Ramp Northbound				US Route 15 Off Ramp Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
11:30 AM	0	147	95	0	0	214	43	0	0	0	0	0	4	0	63	0	566
11:45 AM	0	140	87	0	0	210	37	0	0	0	0	0	5	0	37	0	516
Total	0	287	182	0	0	424	80	0	0	0	0	0	9	0	100	0	1082
12:00 PM	0	148	87	0	0	211	53	0	0	0	0	0	10	0	42	0	551
12:15 PM	0	180	114	0	0	214	34	0	0	0	0	0	8	0	46	0	596
Grand Total	0	615	383	0	0	849	167	0	0	0	0	0	27	0	188	0	2229
Apprch %	0	61.6	38.4	0	0	83.6	16.4	0	0	0	0	0	12.6	0	87.4	0	
Total %	0	27.6	17.2	0	0	38.1	7.5	0	0	0	0	0	1.2	0	8.4	0	
Passenger Cars	0	609	383	0	0	841	160	0	0	0	0	0	24	0	188	0	2205
% Passenger Cars	0	99	100	0	0	99.1	95.8	0	0	0	0	0	88.9	0	100	0	98.9
Heavy Vehicles	0	6	0	0	0	8	7	0	0	0	0	0	3	0	0	0	24
% Heavy Vehicles	0	1	0	0	0	0.9	4.2	0	0	0	0	0	11.1	0	0	0	1.1



Grove Miller Engineering Inc.
5600 Derry Street
Harrisburg, PA 17111
Ph (717) 564-6146 Fx (717) 564-9488

Day: Wednesday
Municipality: Straban Township
County: Adams
Weather: Rain Counter: lh

File Name : US15NB_US30_PM
Site Code : 00012985
Start Date : 11/16/2005
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	130	33	0	163	0	185	16	0	201	64	1	33	0	98	0	0	0	0	0	462
04:15 PM	0	141	36	0	177	0	216	9	0	225	71	0	54	0	125	0	0	0	0	0	527
04:30 PM	0	127	46	0	173	0	198	7	0	205	53	0	43	0	96	0	0	0	0	0	474
04:45 PM	0	126	27	0	153	0	145	10	0	155	65	0	50	0	115	0	0	0	0	0	423
Total	0	524	142	0	666	0	744	42	0	786	253	1	180	0	434	0	0	0	0	0	1886
05:00 PM	0	121	39	0	160	0	217	16	0	233	79	1	46	0	126	0	0	0	0	0	519
05:15 PM	0	99	19	0	118	0	193	8	0	201	59	0	51	0	110	0	0	0	0	0	429
05:30 PM	0	83	28	0	111	0	146	2	0	148	67	0	42	0	109	0	0	0	0	0	368
05:45 PM	0	88	30	0	118	0	124	3	0	127	54	0	50	0	104	0	0	0	0	0	349
Total	0	391	116	0	507	0	680	29	0	709	259	1	189	0	449	0	0	0	0	0	1665
Grand Total	0	915	258	0	1173	0	1424	71	0	1495	512	2	369	0	883	0	0	0	0	0	3551
Apprch %	0	78	22	0		0	95.3	4.7	0		58	0.2	41.8	0		0	0	0	0		
Total %	0	25.8	7.3	0	33	0	40.1	2	0	42.1	14.4	0.1	10.4	0	24.9	0	0	0	0	0	
Passenger Cars	0	897	252	0	1149	0	1352	71	0	1423	509	2	330	0	841	0	0	0	0	0	3413
% Passenger Cars	0	98	97.7	0	98	0	94.9	100	0	95.2	99.4	100	89.4	0	95.2	0	0	0	0	0	96.1
Heavy Vehicles	0	18	6	0	24	0	72	0	0	72	3	0	39	0	42	0	0	0	0	0	138
% Heavy Vehicles	0	2	2.3	0	2	0	5.1	0	0	4.8	0.6	0	10.6	0	4.8	0	0	0	0	0	3.9

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	**141**	36	0	**177**	0	216	9	0	225	71	0	**54**	0	125	0	0	0	0	0	**527**
04:30 PM	0	127	**46**	0	173	0	198	7	0	205	53	0	43	0	96	0	0	0	0	0	474
04:45 PM	0	126	27	0	153	0	145	10	0	155	65	0	50	0	115	0	0	0	0	0	423
05:00 PM	0	121	39	0	160	0	**217**	**16**	0	**233**	**79**	**1**	46	0	**126**	0	0	0	0	0	519
Total Volume	0	515	148	0	663	0	776	42	0	818	268	1	193	0	462	0	0	0	0	0	1943
% App. Total	0	77.7	22.3	0		0	94.9	5.1	0		58	0.2	41.8	0		0	0	0	0		
PHF	.000	.913	.804	.000	.936	.000	.894	.656	.000	.878	.848	.250	.894	.000	.917	.000	.000	.000	.000	.000	.922
Passenger Cars	0	506	145	0	651	0	738	42	0	780	266	1	171	0	438	0	0	0	0	0	1869
% Passenger Cars	0	98.3	98.0	0	98.2	0	95.1	100	0	95.4	99.3	100	88.6	0	94.8	0	0	0	0	0	96.2
Heavy Vehicles	0	9	3	0	12	0	38	0	0	38	2	0	22	0	24	0	0	0	0	0	74
% Heavy Vehicles	0	1.7	2.0	0	1.8	0	4.9	0	0	4.6	0.7	0	11.4	0	5.2	0	0	0	0	0	3.8

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Site Code : 00012985
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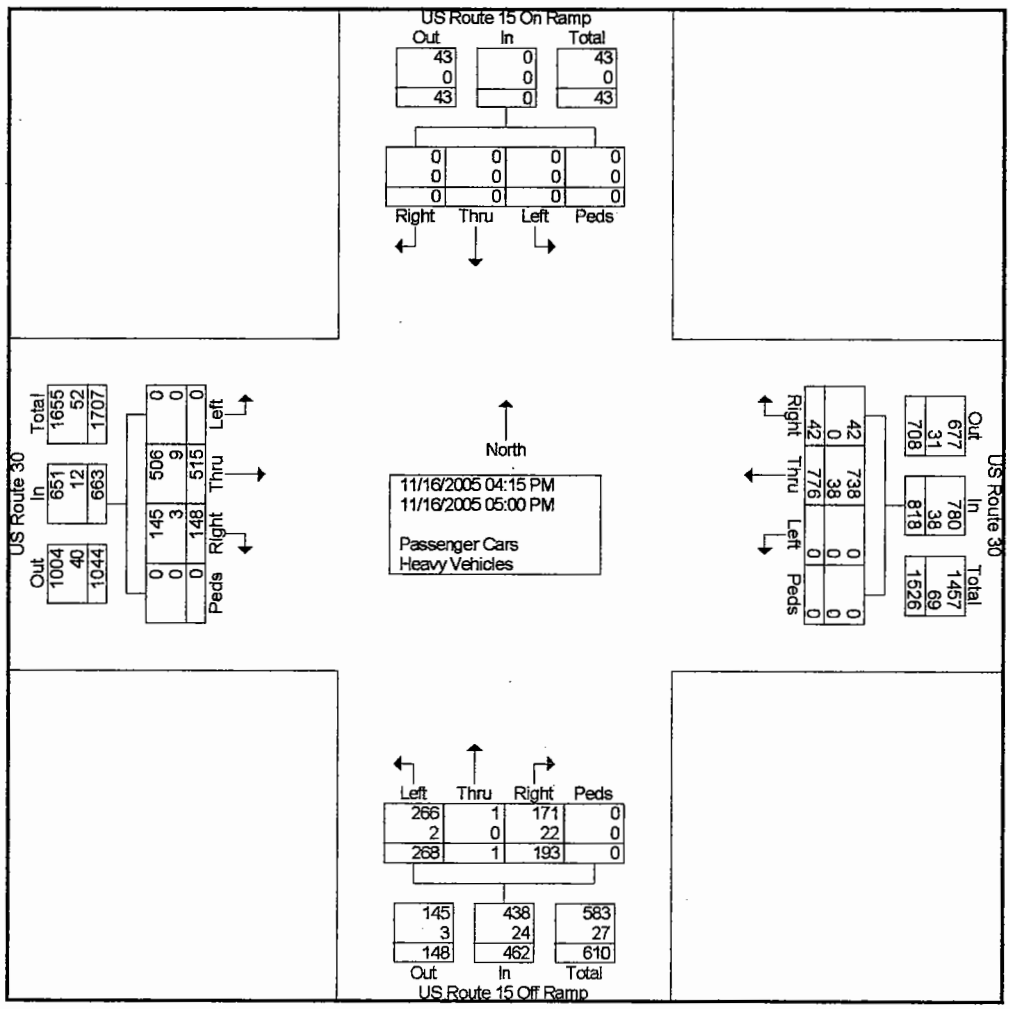
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound				US Route 30 Westbound				US Route 15 Off Ramp Northbound				US Route 15 On Ramp Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
04:15 PM	0	141	36	0	0	216	9	0	71	0	54	0	0	0	0	0	527
04:30 PM	0	127	46	0	0	198	7	0	53	0	43	0	0	0	0	0	474
04:45 PM	0	126	27	0	0	145	10	0	65	0	50	0	0	0	0	0	423
Total	0	394	109	0	0	559	26	0	189	0	147	0	0	0	0	0	1424
05:00 PM	0	121	39	0	0	217	16	0	79	1	46	0	0	0	0	0	519
Grand Total	0	515	148	0	0	776	42	0	268	1	193	0	0	0	0	0	1943
Apprch %	0	77.7	22.3	0	0	94.9	5.1	0	58	0.2	41.8	0	0	0	0	0	
Total %	0	26.5	7.6	0	0	39.9	2.2	0	13.8	0.1	9.9	0	0	0	0	0	
Passenger Cars	0	506	145	0	0	738	42	0	266	1	171	0	0	0	0	0	1869
% Passenger Cars	0	98.3	98	0	0	95.1	100	0	99.3	100	88.6	0	0	0	0	0	96.2
Heavy Vehicles	0	9	3	0	0	38	0	0	2	0	22	0	0	0	0	0	74
% Heavy Vehicles	0	1.7	2	0	0	4.9	0	0	0.7	0	11.4	0	0	0	0	0	3.8



Grove Miller Engineering Inc.
5600 Derry Street
Harrisburg, PA 17111
Ph (717) 564-6146 Fx (717) 564-9488

Day: Saturday
Municipality: Straban Township
County: Adams
Weather: Clear Counter: ch

File Name : US15NB_US30_MID
Site Code : 00012985
Start Date : 11/19/2005
Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	99	27	0	126	0	123	3	0	126	67	0	55	0	122	0	0	0	0	0	374
11:15 AM	0	90	26	0	116	0	139	2	0	141	74	0	47	0	121	0	0	0	0	0	378
11:30 AM	0	110	31	0	141	0	157	2	0	159	77	0	31	0	108	0	0	0	0	0	408
11:45 AM	0	109	22	0	131	0	143	3	0	146	81	0	44	0	125	0	0	0	0	0	402
Total	0	408	106	0	514	0	562	10	0	572	299	0	177	0	476	0	0	0	0	0	1562
12:00 PM	0	111	30	0	141	0	157	7	0	164	78	0	23	0	101	0	0	0	0	0	406
12:15 PM	0	136	28	0	164	0	167	6	0	173	70	0	37	0	107	0	0	0	0	0	444
12:30 PM	0	103	38	0	141	0	167	6	0	173	77	0	43	0	120	0	0	0	0	0	434
12:45 PM	0	104	31	0	135	0	146	3	0	149	70	0	40	0	110	0	0	0	0	0	394
Total	0	454	127	0	581	0	637	22	0	659	295	0	143	0	438	0	0	0	0	0	1678
Grand Total	0	862	233	0	1095	0	1199	32	0	1231	594	0	320	0	914	0	0	0	0	0	3240
Apprch %	0	78.7	21.3	0		0	97.4	2.6	0		65	0	35	0		0	0	0	0		
Total %	0	26.6	7.2	0	33.8	0	37	1	0	38	18.3	0	9.9	0	28.2	0	0	0	0	0	
Passenger Cars	0	839	232	0	1071	0	1157	29	0	1186	592	0	312	0	904	0	0	0	0	0	3161
% Passenger Cars	0	97.3	99.6	0	97.8	0	96.5	90.6	0	96.3	99.7	0	97.5	0	98.9	0	0	0	0	0	97.6
Heavy Vehicles	0	23	1	0	24	0	42	3	0	45	2	0	8	0	10	0	0	0	0	0	79
% Heavy Vehicles	0	2.7	0.4	0	2.2	0	3.5	9.4	0	3.7	0.3	0	2.5	0	1.1	0	0	0	0	0	2.4

	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	109	22	0	131	0	143	3	0	146	**81**	0	**44**	0	**125**	0	0	0	0	0	402
12:00 PM	0	111	30	0	141	0	157	**7**	0	164	78	0	23	0	101	0	0	0	0	0	406
12:15 PM	0	**136**	28	0	**164**	0	**167**	6	0	**173**	70	0	37	0	107	0	0	0	0	0	**444**
12:30 PM	0	103	**38**	0	141	0	167	6	0	173	77	0	43	0	120	0	0	0	0	0	434
Total Volume	0	459	118	0	577	0	634	22	0	656	306	0	147	0	453	0	0	0	0	0	1686
% App. Total	0	79.5	20.5	0		0	96.6	3.4	0		67.5	0	32.5	0		0	0	0	0		
PHF	.000	.844	.776	.000	.880	.000	.949	.786	.000	.948	.944	.000	.835	.000	.906	.000	.000	.000	.000	.000	.949
Passenger Cars	0	447	117	0	564	0	608	19	0	627	306	0	145	0	451	0	0	0	0	0	1642
% Passenger Cars	0	97.4	99.2	0	97.7	0	95.9	86.4	0	95.6	100	0	98.6	0	99.6	0	0	0	0	0	97.4
Heavy Vehicles	0	12	1	0	13	0	26	3	0	29	0	0	2	0	2	0	0	0	0	0	44
% Heavy Vehicles	0	2.6	0.8	0	2.3	0	4.1	13.6	0	4.4	0	0	1.4	0	0.4	0	0	0	0	0	2.6

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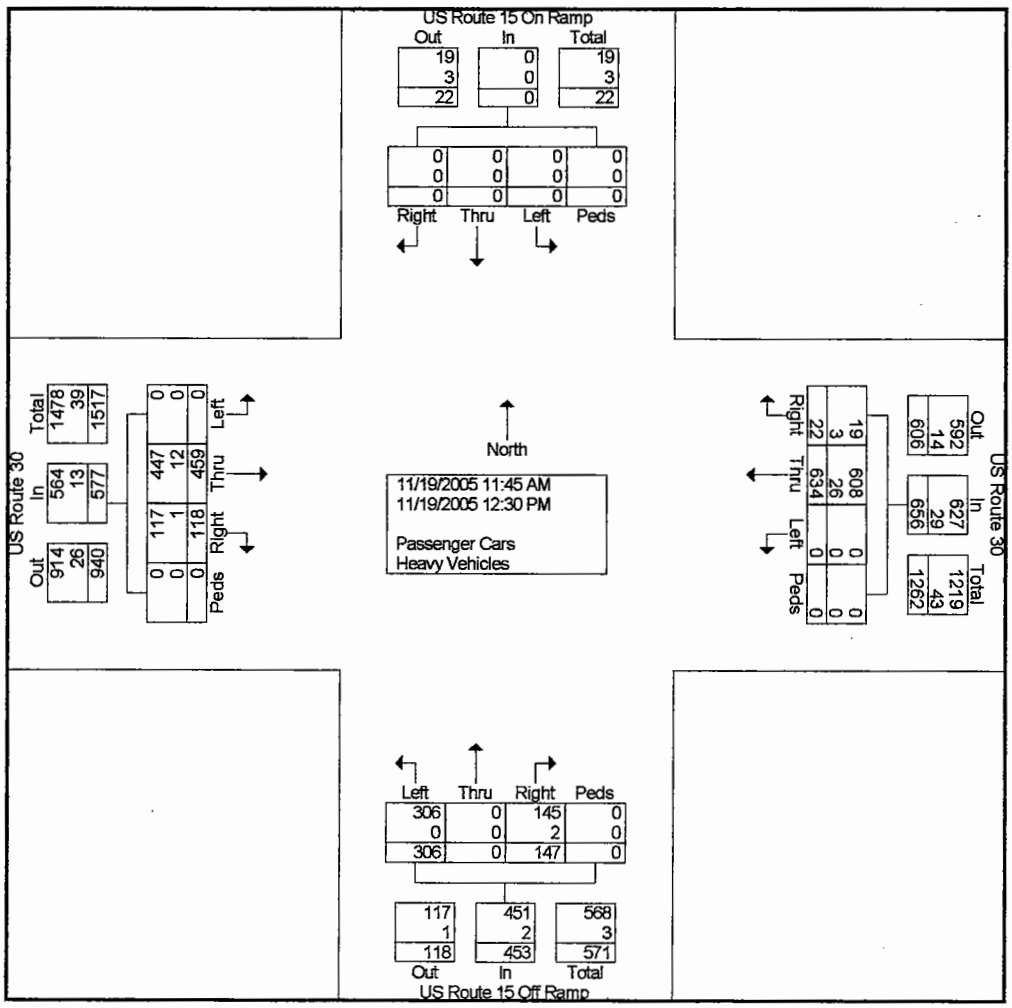
Groups Printed- Passenger Cars - Heavy Vehicles

	US Route 30 Eastbound				US Route 30 Westbound				US Route 15 Off Ramp Northbound				US Route 15 On Ramp Southbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
11:45 AM	0	109	22	0	0	143	3	0	81	0	44	0	0	0	0	0	402
Total	0	109	22	0	0	143	3	0	81	0	44	0	0	0	0	0	402
12:00 PM	0	111	30	0	0	157	7	0	78	0	23	0	0	0	0	0	406
12:15 PM	0	136	28	0	0	167	6	0	70	0	37	0	0	0	0	0	444
12:30 PM	0	103	38	0	0	167	6	0	77	0	43	0	0	0	0	0	434
Grand Total	0	459	118	0	0	634	22	0	306	0	147	0	0	0	0	0	1686
Apprch %	0	79.5	20.5	0	0	96.6	3.4	0	67.5	0	32.5	0	0	0	0	0	
Total %	0	27.2	7	0	0	37.6	1.3	0	18.1	0	8.7	0	0	0	0	0	
Passenger Cars	0	447	117	0	0	608	19	0	306	0	145	0	0	0	0	0	1642
% Passenger Cars	0	97.4	99.2	0	0	95.9	86.4	0	100	0	98.6	0	0	0	0	0	97.4
Heavy Vehicles	0	12	1	0	0	26	3	0	0	0	2	0	0	0	0	0	44
% Heavy Vehicles	0	2.6	0.8	0	0	4.1	13.6	0	0	0	1.4	0	0	0	0	0	2.6



Trip Generation Calculations

TRIP GENERATION CALCULATIONS

Background:
Trip generation calculations were based on the methodology provided in "Traffic Impact Study for Penn National Race Course Expansion", Traffic Planning & Design, September 2004. This traffic impact study and methodology were approved by PENNDOT Engineering District 8-0.

Given:

Table 1. Trip Generation Study - Charles Town Races and Slots

Time Period	Total Volume	Enter	Exit
Traffic Counts			
24-Hour Weekday (Friday)	14,248	7,129	7,129
Weekday PM Peak Hour of Adjacent Street Traffic	770	451	319
24-Hour Saturday	19,244	9,622	9,622
Saturday Peak Hour of the Generator	1,402	932	470
Time Period	Trip Rate	Enter	Exit
Trip Rates			
24-Hour Weekday (Friday)	T=5.232(X)	50%	50%
Weekday PM Peak Hour of Adjacent Street Traffic	T=0.283(X)	59%	41%
24-Hour Saturday	T=7.067(X)	50%	50%
Saturday Peak Hour of the Generator	T=0.515(X)	66%	34%

T=Total generated trips X=# of Slots

Table 2. Gettysburg Service Area Adjustments

	Service Area Population	Difference in Populations	% Difference	Factor of Safety	Site Specific Difference	Site Specific Adjustment Factor
Charles Town	2,220,397					
Gettysburg	1,135,385*	-1,085,012	49%	0.5	-25z5	0.75

*Based on information provided by market study (within a 60 minute service area)

Calculations:

Table 3. Trip Rates - Crossroads Gaming Resort and Spa

Time Period	Trip Rates (Charles Town)	Site Specific Adjustment Factor	Trip Rates (Gettysburg)	Directional Distribution	
				Enter	Exit
24-Hour Weekday (Friday)	T=5.232(X)	0.75	T=3.924(X)	50%	50%
Weekday PM Peak Hour of Adjacent Street Traffic	T=0.283(X)	0.75	T=0.212(X)	59%	41%
24-Hour Saturday	T=7.067(X)	0.75	T=5.300(X)	50%	50%
Saturday Peak Hour of the Generator	T=0.515(X)	0.75	T=0.386(X)	66%	34%

T=Total generated trips X=# of Slots

Table 4. Trip Generation - Crossroads Gaming Resort and Spa

Time Period	X	R	Total Volume	Enter	Exit
24-Hour Weekday (Friday)	3,000	3.924	**11,772**	**5,886**	**5,886**
Weekday PM Peak Hour of Adjacent Street Traffic	3,000	0.212	**636**	**375**	**261**
24-Hour Saturday	3,000	5.300	**15,900**	**7,950**	**7,950**
Saturday Peak Hour of the Generator	3,000	0.386	**1,158**	**764**	**394**

X=# of Slots R=Trip Rate

Summary of Multi-Use Trip Generation
Average Weekday Driveway Volumes
December 13, 2005

Land Use	Size	24 Hour Two-Way Volume	AM Pk Hour Enter	AM Pk Hour Exit	PM Pk Hour Enter	PM Pk Hour Exit
Hotel	225 Occupied Rooms	2007	88	63	77	81
Health/Fitness Club	30 Th.Gr.Sq.Ft.	988	15	21	62	59
Total		2995	103	84	139	140

Note: A zero indicates no data available.

TRIP GENERATION BY MICROTRANS

Summary of Multi-Use Trip Generation
Saturday and Sunday Driveway Volumes
December 13, 2005

		Saturday			Sunday		
Land Use	Size	24 Hr 2-Way Vol.	Peak Hour Enter	Exit	24 Hr 2-Way Vol.	Peak Hour Enter	Exit
Hotel	225 Occupied Rooms		91	95			
		2363	~~0~~	~~0~~	1908	0	0
Health/Fitness Club	30 Th.Gr.Sq.Ft.	626	~~0~~ 39	~~0~~ 37	802	0	0
Total		2989	~~0~~ 130	~~0~~ 132	2710	0	0

Note: A zero indicates no data available.

TRIP GENERATION BY MICROTRANS

Traffic Projections

PROJ: 129.85
DATE: 12/05/2005
BY: JES

TRAFFIC IMPACT STUDY

GROVE MILLER ENGINEERING INC.
GETTYSBURG CASINO DEVELOPMENT

WEEKDAY PM PEAK

PROPOSED GETTYSBURG CASINO DEVELOPMENT
>>>CASINO, HOTEL, & SPA
>>>2008 BUILD YEAR

ENTER = 514 VPH
EXIT = 401 VPH

ANNUAL % GROWTH

EVENT	YEAR	% / YR	FACTOR
EXISTING TO BUILD	2005 - 2008	1.3%	1.0395
EXISTING TO DESIGN	2005 - 2018	1.3%	1.1828

MVMT. NO.	PM 2005 EXIST VOLUME	PM 2008 PROJ. VOLUME	PM 2018 PROJ. VOLUME		%	ENTER VOLUME	%	EXIT VOLUME	2008 GATEWAY GETTYSBURG TRIPS	2018 GATEWAY GETTYSBURG TRIPS		PM 2005 EXIST VOLUME	PM 2008 NO BUILD VOLUME	PM 2018 NO BUILD VOLUME	MVMT. NO.	PM 2008 BUILD VOLUME	PM 2018 BUILD VOLUME
A-1	0	0	0	A-1	65	334					A-1	0	0	0	A-1	334	334
A-2	708	736	837	A-2	5	26					A-2	708	736	837	A-2	762	863
A-3	0	0	0	A-3					63	380	A-3	0	63	380	A-3	63	380
A-4	0	0	0	A-4					27	162	A-4	0	27	162	A-4	27	162
A-5	818	850	968	A-5			5	20			A-5	818	850	968	A-5	870	988
A-6	0	0	0	A-6	20	103					A-6	0	0	0	A-6	103	103
A-7	0	0	0	A-7					289	823	A-7	0	289	823	A-7	289	823
A-8	0	0	0	A-8	5	26					A-8	0	0	0	A-8	26	26
A-9	0	0	0	A-9					124	353	A-9	0	124	353	A-9	124	353
A-10	0	0	0	A-10			20	80			A-10	0	0	0	A-10	80	80
A-11	0	0	0	A-11			5	20			A-11	0	0	0	A-11	20	20
A-12	0	0	0	A-12			65	261			A-12	0	0	0	A-12	261	261
B-1	515	535	609	B-1	40	206			36	216	B-1	515	571	825	B-1	777	1031
B-2	148	154	175	B-2							B-2	148	154	175	B-2	154	175
B-3	776	807	918	B-3			45	180	186	529	B-3	776	993	1447	B-3	1173	1627
B-4	42	44	50	B-4			25	100	103	294	B-4	42	147	344	B-4	247	444
B-5	268	279	317	B-5							B-5	268	279	317	B-5	279	317
B-6	193	201	228	B-6	30	154			27	164	B-6	193	228	392	B-6	382	546
C-1	489	508	578	C-1	15	77			14	82	C-1	489	522	660	C-1	599	737
C-2	298	310	352	C-2							C-2	298	310	352	C-2	310	352
C-3	636	661	752	C-3			15	60	62	176	C-3	636	723	928	C-3	783	988
C-4	168	175	199	C-4			30	120	124	353	C-4	168	299	552	C-4	419	672
C-5	18	19	21	C-5	25	129			22	137	C-5	18	41	158	C-5	170	287
C-6	107	111	127	C-6							C-6	107	111	127	C-6	111	127
D-1	0	0	0	D-1	5	26					D-1	0	0	0	D-1	26	26
D-2	708	736	837	D-2			20	80	124	353	D-2	708	860	1190	D-2	940	1270
D-3	818	850	968	D-3	20	103			27	162	D-3	818	877	1130	D-3	980	1233
D-4	0	0	0	D-4	5	26					D-4	0	0	0	D-4	26	26
D-5	0	0	0	D-5			5	20			D-5	0	0	0	D-5	20	20
D-6	0	0	0	D-6			5	20			D-6	0	0	0	D-6	20	20
E-1	148	154	175	E-1							E-1	0	154	175	E-1	154	175
E-2	341	354	403	E-2	15	77			14	82	E-2	0	368	485	E-2	445	562
E-3	168	175	199	E-3			30	120	124	353	E-3	0	299	552	E-3	419	672
E-4	608	632	719	E-4			15	60	62	176	E-4	0	694	895	E-4	754	955
E-5	268	279	317	E-5							E-5	0	279	317	E-5	279	317
E-6	18	19	21	E-6	25	129			22	137	E-6	0	41	158	E-6	170	287

PROJ: 129.85
DATE: 12/05/2005
BY: JES

TRAFFIC IMPACT STUDY

GROVE MILLER ENGINEERING INC.
GETTYSBURG CASINO DEVELOPMENT

SATURDAY PEAK

PROPOSED GETTYSBURG CASINO DEVELOPMENT
>>>CASINO, HOTEL, & SPA
>>>2008 BUILD YEAR

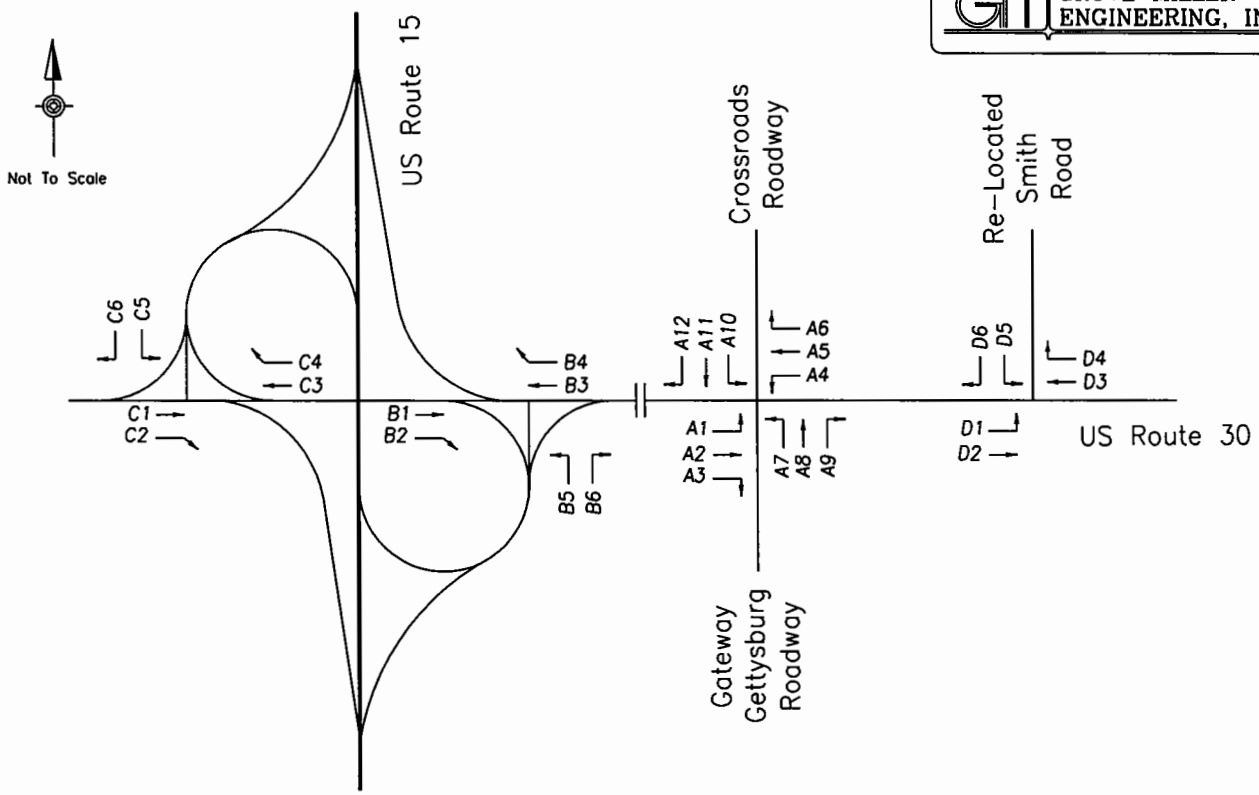
ENTER = 894 VPH
EXIT = 526 VPH

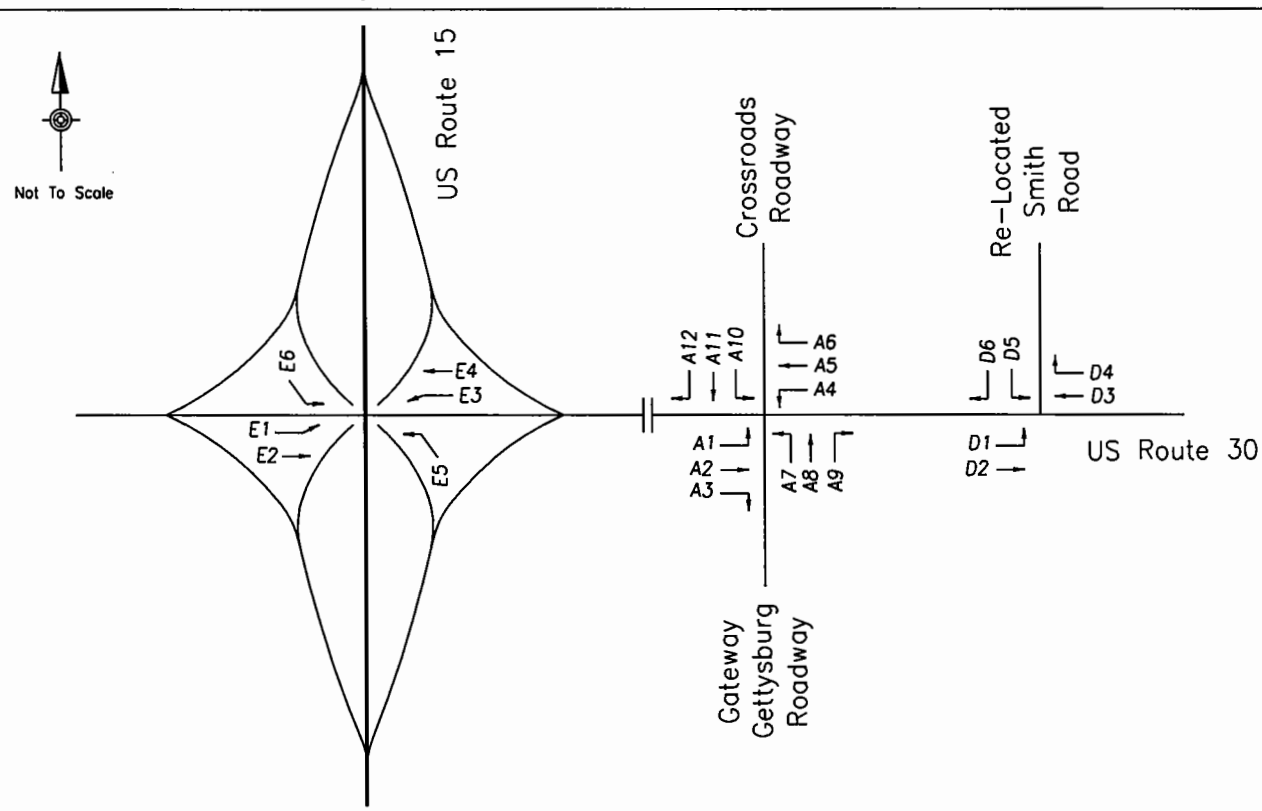
ANNUAL % GROWTH

EVENT	YEAR	% / YR	FACTOR
EXISTING TO BUILD	2005 - 2008	1.3%	1.0395
EXISTING TO DESIGN	2005 - 2018	1.3%	1.1828

MVMT. NO.	SAT 2005 EXIST VOLUME	SAT 2008 PROJ. VOLUME	SAT 2018 PROJ. VOLUME		%	ENTER VOLUME	%	EXIT VOLUME	2008 GATEWAY GETTYSBURG TRIPS	2018 GATEWAY GETTYSBURG TRIPS		SAT 2005 EXIST VOLUME	SAT 2008 NO BUILD VOLUME	SAT 2018 NO BUILD VOLUME	MVMT. NO.	SAT 2008 BUILD VOLUME	SAT 2018 BUILD VOLUME
A-1	0	0	0	A-1	65	581					A-1	0	0	0	A-1	581	581
A-2	606	630	717	A-2	5	45					A-2	606	630	717	A-2	675	762
A-3	0	0	0	A-3					63	380	A-3	0	63	380	A-3	63	380
A-4	0	0	0	A-4					27	162	A-4	0	27	162	A-4	27	162
A-5	656	682	776	A-5			5	26			A-5	656	682	776	A-5	708	802
A-6	0	0	0	A-6	20	179					A-6	0	0	0	A-6	179	179
A-7	0	0	0	A-7					289	823	A-7	0	289	823	A-7	289	823
A-8	0	0	0	A-8	5	45					A-8	0	0	0	A-8	45	45
A-9	0	0	0	A-9					124	353	A-9	0	124	353	A-9	124	353
A-10	0	0	0	A-10			20	105			A-10	0	0	0	A-10	105	105
A-11	0	0	0	A-11			5	26			A-11	0	0	0	A-11	26	26
A-12	0	0	0	A-12			65	342			A-12	0	0	0	A-12	342	342
B-1	459	477	543	B-1	40	358			36	216	B-1	459	513	759	B-1	871	1117
B-2	118	123	140	B-2							B-2	118	123	140	B-2	123	140
B-3	634	659	750	B-3			45	237	186	529	B-3	634	845	1279	B-3	1082	1516
B-4	22	23	26	B-4			25	132	103	294	B-4	22	126	320	B-4	258	452
B-5	306	318	362	B-5							B-5	306	318	362	B-5	318	362
B-6	147	153	174	B-6	30	268			27	164	B-6	147	180	338	B-6	448	606
C-1	615	639	727	C-1	15	134			14	82	C-1	615	653	809	C-1	787	943
C-2	383	398	453	C-2							C-2	383	398	453	C-2	398	453
C-3	849	883	1004	C-3			15	79	62	176	C-3	849	945	1180	C-3	1024	1259
C-4	167	174	198	C-4			30	158	124	353	C-4	167	298	551	C-4	456	709
C-5	27	28	32	C-5	25	224			22	137	C-5	27	50	169	C-5	274	393
C-6	188	195	222	C-6							C-6	188	195	222	C-6	195	222
D-1	0	0	0	D-1	5	45					D-1	0	0	0	D-1	45	45
D-2	606	630	717	D-2			20	105	124	353	D-2	606	754	1070	D-2	859	1175
D-3	656	682	776	D-3	20	179			27	162	D-3	656	709	938	D-3	888	1117
D-4	0	0	0	D-4	5	45					D-4	0	0	0	D-4	45	45
D-5	0	0	0	D-5			5	26			D-5	0	0	0	D-5	26	26
D-6	0	0	0	D-6			5	26			D-6	0	0	0	D-6	26	26
E-1	118	123	140	E-1							E-1	0	123	140	E-1	123	140
E-2	497	517	588	E-2	15	134			14	82	E-2	0	531	670	E-2	665	804
E-3	167	174	198	E-3			30	158	124	353	E-3	0	298	551	E-3	456	709
E-4	467	485	552	E-4			15	79	62	176	E-4	0	547	728	E-4	626	807
E-5	306	318	362	E-5							E-5	0	318	362	E-5	318	362
E-6	27	28	32	E-6	25	224			22	137	E-6	0	50	169	E-6	274	393

GROVE MILLER ENGINEERING, INC.





Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Intersection Movement Key

Level of Service Descriptions

LEVEL-OF-SERVICE FOR SIGNALIZED INTERSECTIONS

The 2000 Highway Capacity Manual[1] defines level-of-service for signalized intersections in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in the following table.

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS	
LEVEL-OF-SERVICE	STOPPED DELAY PER VEHICLE (seconds)
A	≤ 10.0
B	>10.0 to 20.0
C	>20.0 to 35.0
D	>35.0 to 55.0
E	>55.0 to 80.0
F	> 80.0

Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the volume-to-capacity (v/c) ratio for the approach in question.

Level-of-service A describes operations with very low delay, i.e., less than 10.0 sec per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.

Level-of-service B describes operations with delay in the range of 10.0 to 20.0 sec per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

Level-of-service C describes operations with delay in the range of 20.0 to 35.0 sec per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level-of-service D describes operations with delay in the range of 35.0 to 55.0 sec per vehicle. At Level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level-of-Service E describes operations with delay in the range of 55.0 to 80.0 sec per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level-of-service F describes operations with delay in excess of 80.0 sec per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection.

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[1] "Highway Capacity Manual", Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000, pp. 16-2.

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS[1]

The level-of-service criteria for two-way stop controlled intersections is given in the following table:

LEVEL OF SERVICE	AVERAGE TOTAL DELAY (SEC/VEH)
A	≤10.0
B	>10.0 AND ≤15.0
C	>15.0 AND ≤25.0
D	>25.0 AND ≤35.0
E	>35.0 AND ≤50.0
F	>50.0

As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. A total delay of 50 sec/veh is assumed as the break point between LOS E and F.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however,is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe in the field than queueing, which is more obvious.

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[1] "Highway Capacity Manual", Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000, pp. 17-2.

Highway Capacity Analysis Worksheets

US Route 30 and Gateway Gettysburg Roadway/Crossroads Roadway

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Gateway
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Weekday PM Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LTR	R		LTR	
Volume (vph)	5	736	63	27	850	5	289	5	124	5	0	5
% Heavy Vehicles	0	3	0	0	3	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	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	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0		12.0	12.0	14.0		12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 8.0	G = 46.0	G =	G =	G = 35.0	G = 7.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25					Cycle Length C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	5	800	68	29	929		188	212	54		10	
Lane Group Capacity	224	1346	660	316	1755		526	507	503		101	
v/c Ratio	0.02	0.59	0.10	0.09	0.53		0.36	0.42	0.11		0.10	
Green Ratio	0.38	0.38	0.38	0.50	0.50		0.29	0.29	0.29		0.06	
Uniform Delay d_1	23.0	29.5	23.8	16.4	20.4		33.6	34.3	31.1		53.5	
Delay Factor k	0.11	0.18	0.11	0.11	0.13		0.11	0.11	0.11		0.11	
Incremental Delay d_2	0.0	0.7	0.1	0.1	0.3		0.4	0.6	0.1		0.4	
PF Factor	0.586	0.586	0.586	0.952	0.333		1.000	1.000	1.000		1.000	
Control Delay	13.5	18.0	14.0	15.8	7.1		34.0	34.8	31.2		53.9	
Lane Group LOS	B	B	B	B	A		C	C	C		D	
Approach Delay	17.7			7.4			34.1			53.9		
Approach LOS	B			A			C			D		
Intersection Delay	16.8			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & Casino/Gateway*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2008 Build w/ Improv.*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*	*1*	*2*	*2*	*1*	*2*	*1*	*1*	*1*	*1*	*1*
Lane Group	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume (vph)	*334*	*762*	*63*	*27*	*870*	*103*	*289*	*26*	*124*	*80*	*20*	*261*
% Heavy Vehicles	*0*	*3*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Pretimed/Actuated (P/A)	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*
Startup Lost Time	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of Effective Green	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival Type	*5*	*5*	*5*	*5*	*5*	*5*	*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*	*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	NB Only	Thru & RT	08
Timing	G = *16.2*	G = *37.1*	G =	G =	G = *13.7*	G = *14.0*	G = *9.0*	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y = *6*	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*363*	*828*	*68*	*29*	*946*	*112*	*314*	*28*	*135*	*87*	*22*	*284*
Lane Group Capacity	*473*	*1086*	*816*	*473*	*1086*	*816*	*984*	*459*	*735*	*206*	*143*	*448*
v/c Ratio	*0.77*	*0.76*	*0.08*	*0.06*	*0.87*	*0.14*	*0.32*	*0.06*	*0.18*	*0.42*	*0.15*	*0.63*
Green Ratio	*0.14*	*0.31*	*0.47*	*0.14*	*0.31*	*0.47*	*0.28*	*0.24*	*0.43*	*0.11*	*0.08*	*0.26*
Uniform Delay d_1	*50.1*	*37.5*	*17.3*	*45.3*	*39.2*	*17.8*	*34.1*	*35.0*	*21.4*	*49.5*	*51.9*	*39.3*
Delay Factor k	*0.32*	*0.31*	*0.11*	*0.11*	*0.40*	*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	*0.11*	*0.21*
Incremental Delay d_2	*7.5*	*3.2*	*0.0*	*0.1*	*7.9*	*0.1*	*0.2*	*0.1*	*0.1*	*1.4*	*0.5*	*2.9*
PF Factor	*0.896*	*0.702*	*0.401*	*0.896*	*0.702*	*0.401*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Control Delay	*52.3*	*29.5*	*7.0*	*40.6*	*35.4*	*7.2*	*34.3*	*35.1*	*21.5*	*50.9*	*52.4*	*42.3*
Lane Group LOS	*D*	*C*	*A*	*D*	*D*	*A*	*C*	*D*	*C*	*D*	*D*	*D*
Approach Delay	*34.9*			*32.6*			*30.7*			*44.7*		
Approach LOS	*C*			*C*			*C*			*D*		
Intersection Delay	*34.7*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Gateway
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Weekday PM Peak Hour	Analysis Year	2018 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LTR	R		LTR	
Volume (vph)	5	837	380	162	968	5	823	5	353	5	0	5
% Heavy Vehicles	0	3	0	0	3	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	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	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0		12.0	12.0	14.0		12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 9.6	G = 34.4	G =	G =	G = 45.0	G = 7.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25					Cycle Length C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	5	910	413	176	1057		537	593	154		10	
Lane Group Capacity	141	1007	494	207	1462		677	651	646		101	
v/c Ratio	0.04	0.90	0.84	0.85	0.72		0.79	0.91	0.24		0.10	
Green Ratio	0.29	0.29	0.29	0.42	0.42		0.38	0.38	0.38		0.06	
Uniform Delay d_1	30.8	41.2	40.2	27.5	29.2		33.4	35.6	25.7		53.5	
Delay Factor k	0.11	0.42	0.37	0.38	0.28		0.34	0.43	0.11		0.11	
Incremental Delay d_2	0.1	11.3	11.9	27.0	1.8		6.5	17.1	0.2		0.4	
PF Factor	0.732	0.732	0.732	0.942	0.524		1.000	1.000	1.000		1.000	
Control Delay	22.7	41.5	41.3	52.9	17.1		39.8	52.7	25.9		53.9	
Lane Group LOS	C	D	D	D	B		D	D	C		D	
Approach Delay	41.3			22.2			44.1			53.9		
Approach LOS	D			C			D			D		
Intersection Delay	36.2			Intersection LOS						D		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & Casino/Gateway*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 Build w/ Improv.*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*	*1*	*2*	*2*	*1*	*2*	*1*	*1*	*1*	*1*	*1*
Lane Group	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume (vph)	*334*	*863*	*380*	*162*	*988*	*103*	*823*	*26*	*353*	*80*	*20*	*261*
% Heavy Vehicles	*0*	*3*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Pretimed/Actuated (P/A)	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*
Startup Lost Time	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of Effective Green	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival Type	*5*	*5*	*5*	*5*	*5*	*5*	*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*	*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	NB Only	Thru & RT	08
Timing	G = *16.2*	G = *37.1*	G =	G =	G = *13.7*	G = *14.0*	G = *9.0*	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y = *6*	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*363*	*938*	*413*	*176*	*1074*	*112*	*895*	*28*	*384*	*87*	*22*	*284*
Lane Group Capacity	*473*	*1086*	*816*	*473*	*1086*	*816*	*984*	*459*	*735*	*206*	*143*	*448*
v/c Ratio	*0.77*	*0.86*	*0.51*	*0.37*	*0.99*	*0.14*	*0.91*	*0.06*	*0.52*	*0.42*	*0.15*	*0.63*
Green Ratio	*0.14*	*0.31*	*0.47*	*0.14*	*0.31*	*0.47*	*0.28*	*0.24*	*0.43*	*0.11*	*0.08*	*0.26*
Uniform Delay d_1	*50.1*	*39.1*	*21.9*	*47.3*	*41.2*	*17.8*	*41.7*	*35.0*	*25.4*	*49.5*	*51.9*	*39.3*
Delay Factor k	*0.32*	*0.39*	*0.11*	*0.11*	*0.49*	*0.11*	*0.43*	*0.11*	*0.13*	*0.11*	*0.11*	*0.21*
Incremental Delay d_2	*7.5*	*7.4*	*0.5*	*0.5*	*24.6*	*0.1*	*12.2*	*0.1*	*0.7*	*1.4*	*0.5*	*2.9*
PF Factor	*0.896*	*0.702*	*0.401*	*0.896*	*0.702*	*0.401*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Control Delay	*52.3*	*34.8*	*9.3*	*42.8*	*53.5*	*7.2*	*53.8*	*35.1*	*26.1*	*50.9*	*52.4*	*42.3*
Lane Group LOS	*D*	*C*	*A*	*D*	*D*	*A*	*D*	*D*	*C*	*D*	*D*	*D*
Approach Delay	*32.4*			*48.3*			*45.3*			*44.7*		
Approach LOS	*C*			*D*			*D*			*D*		
Intersection Delay	*41.5*			Intersection LOS						*D*		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Gateway
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LTR	R		LTR	
Volume (vph)	5	630	63	27	682	5	289	5	124	5	0	5
% Heavy Vehicles	0	3	0	0	3	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	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	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0		12.0	12.0	14.0		12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 8.0	G = 46.0	G =	G =	G = 35.0	G = 7.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 120.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	5	685	68	29	746		188	212	54		10	
Lane Group Capacity	269	1346	660	362	1755		526	507	503		101	
v/c Ratio	0.02	0.51	0.10	0.08	0.43		0.36	0.42	0.11		0.10	
Green Ratio	0.38	0.38	0.38	0.50	0.50		0.29	0.29	0.29		0.06	
Uniform Delay d_1	23.0	28.3	23.8	16.0	19.0		33.6	34.3	31.1		53.5	
Delay Factor k	0.11	0.12	0.11	0.11	0.11		0.11	0.11	0.11		0.11	
Incremental Delay d_2	0.0	0.3	0.1	0.1	0.2		0.4	0.6	0.1		0.4	
PF Factor	0.586	0.586	0.586	0.952	0.333		1.000	1.000	1.000		1.000	
Control Delay	13.5	16.9	14.0	15.3	6.5		34.0	34.8	31.2		53.9	
Lane Group LOS	B	B	B	B	A		C	C	C		D	
Approach Delay	16.6			6.8			34.1			53.9		
Approach LOS	B			A			C			D		
Intersection Delay	17.0			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Casino/Gateway
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2008 Build w/ Improv.

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2	1	2	2	1	2	1	1	1	1	1
Lane Group	L	T	R	L	T	R	L	T	R	L	T	R
Volume (vph)	581	675	63	27	708	179	289	45	124	105	26	342
% Heavy Vehicles	0	3	0	0	3	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival Type	5	5	5	5	5	5	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	3.0	3.0
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0	14.0
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	NB Only	Thru & RT	08
Timing	G = 23.9	G = 31.1	G =	G =	G = 13.5	G = 14.0	G = 7.5	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y = 6	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 120.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	632	734	68	29	770	195	314	49	135	114	28	372
Lane Group Capacity	698	910	727	698	910	727	978	435	824	203	119	537
v/c Ratio	0.91	0.81	0.09	0.04	0.85	0.27	0.32	0.11	0.16	0.56	0.24	0.69
Green Ratio	0.20	0.26	0.42	0.20	0.26	0.42	0.28	0.23	0.48	0.11	0.06	0.31
Uniform Delay d_1	46.9	41.6	20.9	38.8	42.2	22.6	34.2	36.6	17.7	50.4	53.5	36.3
Delay Factor k	0.43	0.35	0.11	0.11	0.38	0.11	0.11	0.11	0.11	0.16	0.11	0.26
Incremental Delay d_2	15.4	5.4	0.1	0.0	7.5	0.2	0.2	0.1	0.1	3.5	1.0	3.8
PF Factor	0.834	0.767	0.514	0.834	0.767	0.514	1.000	1.000	1.000	1.000	1.000	1.000
Control Delay	54.6	37.3	10.8	32.4	39.8	11.8	34.4	36.7	17.8	54.0	54.5	40.1
Lane Group LOS	D	D	B	C	D	B	C	D	B	D	D	D
Approach Delay	43.7			34.1			30.2			44.0		
Approach LOS	D			C			C			D		
Intersection Delay	39.0			Intersection LOS						D		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Gateway
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2018 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LTR	R		LTR	
Volume (vph)	5	717	380	162	776	5	823	5	353	5	0	5
% Heavy Vehicles	0	3	0	0	3	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	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	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0		12.0	12.0	14.0		12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 9.6	G = 33.4	G =	G =	G = 46.0	G = 7.0	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 6	Y = 6	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	5	779	413	176	848		537	593	154		10	
Lane Group Capacity	176	978	480	234	1433		692	666	660		101	
v/c Ratio	0.03	0.80	0.86	0.75	0.59		0.78	0.89	0.23		0.10	
Green Ratio	0.28	0.28	0.28	0.41	0.41		0.38	0.38	0.38		0.06	
Uniform Delay d_1	31.5	40.1	41.1	26.4	27.7		32.5	34.6	25.1		53.5	
Delay Factor k	0.11	0.34	0.39	0.31	0.18		0.33	0.41	0.11		0.11	
Incremental Delay d_2	0.1	4.7	14.7	12.8	0.7		5.6	14.1	0.2		0.4	
PF Factor	0.743	0.743	0.743	0.942	0.540		1.000	1.000	1.000		1.000	
Control Delay	23.5	34.5	45.2	37.7	15.6		38.0	48.8	25.2		53.9	
Lane Group LOS	C	C	D	D	B		D	D	C		D	
Approach Delay	38.1			19.4			41.5			53.9		
Approach LOS	D			B			D			D		
Intersection Delay	33.9			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & Casino/Gateway*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 Build w/ Improv.*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*	*1*	*2*	*2*	*1*	*2*	*1*	*1*	*1*	*1*	*1*
Lane Group	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
Volume (vph)	*581*	*762*	*380*	*162*	*802*	*179*	*823*	*45*	*353*	*105*	*26*	*342*
% Heavy Vehicles	*0*	*3*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Pretimed/Actuated (P/A)	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*
Startup Lost Time	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of Effective Green	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival Type	*5*	*5*	*5*	*5*	*5*	*5*	*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*	*3.0*	*3.0*
Ped/Bike/RTOR Volume	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Lane Width	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*	*12.0*	*12.0*	*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	NB Only	Thru & RT	08
Timing	G = *23.9*	G = *31.1*	G =	G =	G = *13.5*	G = *14.0*	G = *7.5*	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y = *6*	Y =
Duration of Analysis (hrs) = *0.25*					Cycle Length C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*632*	*828*	*413*	*176*	*872*	*195*	*895*	*49*	*384*	*114*	*28*	*372*
Lane Group Capacity	*698*	*910*	*727*	*698*	*910*	*727*	*978*	*435*	*824*	*203*	*119*	*537*
v/c Ratio	*0.91*	*0.91*	*0.57*	*0.25*	*0.96*	*0.27*	*0.92*	*0.11*	*0.47*	*0.56*	*0.24*	*0.69*
Green Ratio	*0.20*	*0.26*	*0.42*	*0.20*	*0.26*	*0.42*	*0.28*	*0.23*	*0.48*	*0.11*	*0.06*	*0.31*
Uniform Delay d_1	*46.9*	*43.1*	*26.4*	*40.5*	*43.8*	*22.6*	*41.9*	*36.6*	*21.0*	*50.4*	*53.5*	*36.3*
Delay Factor k	*0.43*	*0.43*	*0.16*	*0.11*	*0.47*	*0.11*	*0.43*	*0.11*	*0.11*	*0.16*	*0.11*	*0.26*
Incremental Delay d_2	*15.4*	*13.0*	*1.1*	*0.2*	*20.4*	*0.2*	*12.9*	*0.1*	*0.4*	*3.5*	*1.0*	*3.8*
PF Factor	*0.834*	*0.767*	*0.514*	*0.834*	*0.767*	*0.514*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Control Delay	*54.6*	*46.0*	*14.6*	*34.0*	*54.0*	*11.8*	*54.8*	*36.7*	*21.4*	*54.0*	*54.5*	*40.1*
Lane Group LOS	*D*	*D*	*B*	*C*	*D*	*B*	*D*	*D*	*C*	*D*	*D*	*D*
Approach Delay	*42.0*			*44.5*			*44.5*			*44.0*		
Approach LOS	*D*			*D*			*D*			*D*		
Intersection Delay	*43.5*			Intersection LOS						*D*		

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Northbound Ramps

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2005 Existing*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*515*			*818*		*268*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.94*			*0.90*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *68.0*	G =	G =	G =	G = *40.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*548*			*909*		*291*					
Lane Group Capacity		*1990*			*1990*		*602*					
v/c Ratio		*0.28*			*0.46*		*0.48*					
Green Ratio		*0.57*			*0.57*		*0.33*					
Uniform Delay d_1		*13.3*			*15.2*		*31.8*					
Delay Factor k		*0.11*			*0.11*		*0.11*					
Incremental Delay d_2		*0.1*			*0.2*		*0.6*					
PF Factor		*0.128*			*0.128*		*1.000*					
Control Delay		*1.8*			*2.1*		*32.4*					
Lane Group LOS		*A*			*A*		*C*					
Approach Delay		*1.8*			*2.1*			*32.4*				
Approach LOS		*A*			*A*			*C*				
Intersection Delay		*7.1*			Intersection LOS						*A*	

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2008 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*571*			*1140*		*279*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.94*			*0.91*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *68.0*	G =	G =	G =	G = *40.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*607*			*1253*		*303*					
Lane Group Capacity		*1990*			*1990*		*602*					
v/c Ratio		*0.31*			*0.63*		*0.50*					
Green Ratio		*0.57*			*0.57*		*0.33*					
Uniform Delay d_1		*13.6*			*17.5*		*32.0*					
Delay Factor k		*0.11*			*0.21*		*0.11*					
Incremental Delay d_2		*0.1*			*0.6*		*0.7*					
PF Factor		*0.128*			*0.128*		*1.000*					
Control Delay		*1.8*			*2.9*		*32.7*					
Lane Group LOS		*A*			*A*		*C*					
Approach Delay		*1.8*			*2.9*			*32.7*				
Approach LOS		*A*			*A*			*C*				
Intersection Delay		*6.8*			Intersection LOS						*A*	

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 NB ramps
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Weekday PM Peak Hour	Analysis Year	2008 Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		777			1420		279					
% Heavy Vehicles		3			3		0					
PHF		0.94			0.91		0.92					
Pretimed/Actuated (P/A)		A			A		A					
Startup Lost Time		2.0			2.0		2.0					
Extension of Effective Green		2.0			2.0		2.0					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		12.0					
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N			
Parking/Hour												
Bus Stops/Hour		0			0		0					
Minimum Pedestrian Time		3.2			3.2			3.2				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 68.0	G =	G =	G =	G = 40.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 120.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		827			1560		303					
Lane Group Capacity		1990			1990		602					
v/c Ratio		0.42			0.78		0.50					
Green Ratio		0.57			0.57		0.33					
Uniform Delay d_1		14.7			20.3		32.0					
Delay Factor k		0.11			0.33		0.11					
Incremental Delay d_2		0.1			2.1		0.7					
PF Factor		0.128			0.128		1.000					
Control Delay		2.0			4.7		32.7					
Lane Group LOS		A			A		C					
Approach Delay	2.0			4.7			32.7					
Approach LOS	A			A			C					
Intersection Delay	7.1			Intersection LOS						A		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*825*			*1791*		*317*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.94*			*0.92*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *78.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*878*			*1947*		*345*					
Lane Group Capacity		*2283*			*2283*		*451*					
v/c Ratio		*0.38*			*0.85*		*0.76*					
Green Ratio		*0.65*			*0.65*		*0.25*					
Uniform Delay d_1		*9.8*			*16.5*		*41.7*					
Delay Factor k		*0.11*			*0.39*		*0.32*					
Incremental Delay d_2		*0.1*			*3.4*		*7.7*					
PF Factor		*0.143*			*0.143*		*1.000*					
Control Delay		*1.5*			*5.7*		*49.4*					
Lane Group LOS		*A*			*A*		*D*					
Approach Delay		*1.5*			*5.7*			*49.4*				
Approach LOS		*A*			*A*			*D*				
Intersection Delay		*9.3*			Intersection LOS						*A*	

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*1031*			*2071*		*317*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.94*			*0.92*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *78.0*	G =	G =	G =	G = *30.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*1097*			*2251*		*345*					
Lane Group Capacity		*2283*			*2283*		*451*					
v/c Ratio		*0.48*			*0.99*		*0.76*					
Green Ratio		*0.65*			*0.65*		*0.25*					
Uniform Delay d_1		*10.7*			*20.5*		*41.7*					
Delay Factor k		*0.11*			*0.49*		*0.32*					
Incremental Delay d_2		*0.2*			*15.6*		*7.7*					
PF Factor		*0.143*			*0.143*		*1.000*					
Control Delay		*1.7*			*18.5*		*49.4*					
Lane Group LOS		*A*			*B*		*D*					
Approach Delay		*1.7*			*18.5*			*49.4*				
Approach LOS		*A*			*B*			*D*				
Intersection Delay		*16.4*			Intersection LOS						*B*	

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 NB ramps
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2005 Existing

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		459			656		306					
% Heavy Vehicles		3			3		0					
PHF		0.88			0.95		0.91					
Pretimed/Actuated (P/A)		A			A		A					
Startup Lost Time		2.0			2.0		2.0					
Extension of Effective Green		2.0			2.0		2.0					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		12.0					
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N			
Parking/Hour												
Bus Stops/Hour		0			0		0					
Minimum Pedestrian Time		3.2			3.2			3.2				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 64.0	G =	G =	G =	G = 44.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		522			691		336					
Lane Group Capacity		1873			1873		662					
v/c Ratio		0.28			0.37		0.51					
Green Ratio		0.53			0.53		0.37					
Uniform Delay d_1		15.3			16.3		29.6					
Delay Factor k		0.11			0.11		0.12					
Incremental Delay d_2		0.1			0.1		0.6					
PF Factor		0.238			0.238		1.000					
Control Delay		3.7			4.0		30.2					
Lane Group LOS		A			A		C					
Approach Delay	3.7			4.0			30.2					
Approach LOS	A			A			C					
Intersection Delay	9.6			Intersection LOS						A		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2008 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*513*			*971*		*318*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.91*			*0.95*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *64.0*	G =	G =	G =	G = *44.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*564*			*1022*		*346*					
Lane Group Capacity		*1873*			*1873*		*662*					
v/c Ratio		*0.30*			*0.55*		*0.52*					
Green Ratio		*0.53*			*0.53*		*0.37*					
Uniform Delay d_1		*15.6*			*18.4*		*29.8*					
Delay Factor k		*0.11*			*0.15*		*0.13*					
Incremental Delay d_2		*0.1*			*0.3*		*0.8*					
PF Factor		*0.238*			*0.238*		*1.000*					
Control Delay		*3.8*			*4.7*		*30.5*					
Lane Group LOS		*A*			*A*		*C*					
Approach Delay		*3.8*			*4.7*			*30.5*				
Approach LOS		*A*			*A*			*C*				
Intersection Delay		*9.1*			Intersection LOS						*A*	

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2008 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*871*			*1340*		*318*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.91*			*0.95*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *64.0*	G =	G =	G =	G = *44.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*957*			*1411*		*346*					
Lane Group Capacity		*1873*			*1873*		*662*					
v/c Ratio		*0.51*			*0.75*		*0.52*					
Green Ratio		*0.53*			*0.53*		*0.37*					
Uniform Delay d_1		*18.0*			*21.8*		*29.8*					
Delay Factor k		*0.12*			*0.31*		*0.13*					
Incremental Delay d_2		*0.2*			*1.8*		*0.8*					
PF Factor		*0.238*			*0.238*		*1.000*					
Control Delay		*4.5*			*7.0*		*30.5*					
Lane Group LOS		*A*			*A*		*C*					
Approach Delay	*4.5*			*7.0*			*30.5*					
Approach LOS	*A*			*A*			*C*					
Intersection Delay	*9.1*			Intersection LOS						*A*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*759*			*1599*		*362*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.92*			*0.95*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *74.0*	G =	G =	G =	G = *34.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*825*			*1683*		*393*					
Lane Group Capacity		*2166*			*2166*		*511*					
v/c Ratio		*0.38*			*0.78*		*0.77*					
Green Ratio		*0.62*			*0.62*		*0.28*					
Uniform Delay d_1		*11.5*			*16.9*		*39.4*					
Delay Factor k		*0.11*			*0.33*		*0.32*					
Incremental Delay d_2		*0.1*			*1.9*		*7.0*					
PF Factor		*0.130*			*0.130*		*1.000*					
Control Delay		*1.6*			*4.1*		*46.4*					
Lane Group LOS		*A*			*A*		*D*					
Approach Delay		*1.6*			*4.1*			*46.4*				
Approach LOS		*A*			*A*			*D*				
Intersection Delay		*9.1*			Intersection LOS						*A*	

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 NB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*			*2*		*1*					
Lane Group		*T*			*T*		*L*					
Volume (vph)		*1117*			*1968*		*362*					
% Heavy Vehicles		*3*			*3*		*0*					
PHF		*0.92*			*0.95*		*0.92*					
Pretimed/Actuated (P/A)		*A*			*A*		*A*					
Startup Lost Time		*2.0*			*2.0*		*2.0*					
Extension of Effective Green		*2.0*			*2.0*		*2.0*					
Arrival Type		*5*			*5*		*3*					
Unit Extension		*3.0*			*3.0*		*3.0*					
Ped/Bike/RTOR Volume	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking/Hour												
Bus Stops/Hour		*0*			*0*		*0*					
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *74.0*	G =	G =	G =	G = *34.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*1214*			*2072*		*393*					
Lane Group Capacity		*2166*			*2166*		*511*					
v/c Ratio		*0.56*			*0.96*		*0.77*					
Green Ratio		*0.62*			*0.62*		*0.28*					
Uniform Delay d_1		*13.5*			*21.5*		*39.4*					
Delay Factor k		*0.16*			*0.47*		*0.32*					
Incremental Delay d_2		*0.3*			*10.9*		*7.0*					
PF Factor		*0.130*			*0.130*		*1.000*					
Control Delay		*2.1*			*13.7*		*46.4*					
Lane Group LOS		*A*			*B*		*D*					
Approach Delay		*2.1*			*13.7*			*46.4*				
Approach LOS		*A*			*B*			*D*				
Intersection Delay		*13.4*			Intersection LOS						*B*	

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Southbound Ramps

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2005 Existing*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*489*	*298*		*636*					*18*		*107*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.87*					*0.82*		*0.82*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *55.0*	G =	G =	G =	G = *53.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*532*	*324*		*731*					*22*		*130*
Lane Group Capacity		*1610*	*1615*		*1610*					*797*		*761*
v/c Ratio		*0.33*	*0.20*		*0.45*					*0.03*		*0.17*
Green Ratio		*0.46*	*1.00*		*0.46*					*0.44*		*0.44*
Uniform Delay d_1		*20.7*	*0.0*		*22.2*					*18.9*		*20.2*
Delay Factor k		*0.11*	*0.11*		*0.11*					*0.11*		*0.11*
Incremental Delay d_2		*0.1*	*0.1*		*0.2*					*0.0*		*0.1*
PF Factor		*0.436*	*0.950*		*0.436*					*1.000*		*1.000*
Control Delay		*9.2*	*0.1*		*9.9*					*18.9*		*20.3*
Lane Group LOS		*A*	*A*		*A*					*B*		*C*
Approach Delay		*5.7*			*9.9*					*20.1*		
Approach LOS		*A*			*A*					*C*		
Intersection Delay		*8.7*			Intersection LOS					*A*		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SB ramps
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Weekday PM Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		1
Lane Group		T	R		T					L		R
Volume (vph)		522	310		723					41		111
% Heavy Vehicles		3	0		3					0		0
PHF		0.92	0.92		0.90					0.85		0.85
Pretimed/Actuated (P/A)		A	A		A					A		A
Startup Lost Time		2.0	2.0		2.0					2.0		2.0
Extension of Effective Green		2.0	2.0		2.0					2.0		2.0
Arrival Type		5	5		5					3		3
Unit Extension		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		14.0
Parking/Grade/Parking	N	0	N	N	0	N				N	0	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		0
Minimum Pedestrian Time		3.2			3.2						3.2	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = 55.0	G =	G =	G =	G = 53.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25					Cycle Length C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		567	337		803					48		131
Lane Group Capacity		1610	1615		1610					797		761
v/c Ratio		0.35	0.21		0.50					0.06		0.17
Green Ratio		0.46	1.00		0.46					0.44		0.44
Uniform Delay d_1		21.0	0.0		22.8					19.2		20.2
Delay Factor k		0.11	0.11		0.11					0.11		0.11
Incremental Delay d_2		0.1	0.1		0.2					0.0		0.1
PF Factor		0.436	0.950		0.436					1.000		1.000
Control Delay		9.3	0.1		10.2					19.2		20.4
Lane Group LOS		A	A		B					B		C
Approach Delay	5.8			10.2						20.1		
Approach LOS	A			B						C		
Intersection Delay	9.0			Intersection LOS						A		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2008 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*599*	*310*		*783*					*170*		*111*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.90*					*0.85*		*0.85*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *55.0*	G =	G =	G =	G = *53.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*651*	*337*		*870*					*200*		*131*
Lane Group Capacity		*1610*	*1615*		*1610*					*797*		*761*
v/c Ratio		*0.40*	*0.21*		*0.54*					*0.25*		*0.17*
Green Ratio		*0.46*	*1.00*		*0.46*					*0.44*		*0.44*
Uniform Delay d_1		*21.6*	*0.0*		*23.4*					*21.0*		*20.2*
Delay Factor k		*0.11*	*0.11*		*0.14*					*0.11*		*0.11*
Incremental Delay d_2		*0.2*	*0.1*		*0.4*					*0.2*		*0.1*
PF Factor		*0.436*	*0.950*		*0.436*					*1.000*		*1.000*
Control Delay		*9.6*	*0.1*		*10.6*					*21.2*		*20.4*
Lane Group LOS		*A*	*A*		*B*					*C*		*C*
Approach Delay		*6.3*			*10.6*					*20.9*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*10.2*			Intersection LOS					*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*660*	*352*		*928*					*158*		*127*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.92*					*0.92*		*0.92*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *56.0*	G =	G =	G =	G = *52.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*717*	*383*		*1009*					*172*		*138*
Lane Group Capacity		*1639*	*1615*		*1639*					*782*		*747*
v/c Ratio		*0.44*	*0.24*		*0.62*					*0.22*		*0.18*
Green Ratio		*0.47*	*1.00*		*0.47*					*0.43*		*0.43*
Uniform Delay d_1		*21.4*	*0.0*		*23.9*					*21.3*		*20.9*
Delay Factor k		*0.11*	*0.11*		*0.20*					*0.11*		*0.11*
Incremental Delay d_2		*0.2*	*0.1*		*0.7*					*0.1*		*0.1*
PF Factor		*0.417*	*0.950*		*0.417*					*1.000*		*1.000*
Control Delay		*9.1*	*0.1*		*10.7*					*21.4*		*21.1*
Lane Group LOS		*A*	*A*		*B*					*C*		*C*
Approach Delay		*6.0*			*10.7*					*21.3*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*9.9*			Intersection LOS					*A*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*737*	*352*		*988*					*287*		*127*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.92*					*0.92*		*0.92*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *56.0*	G =	G =	G =	G = *52.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*801*	*383*		*1074*					*312*		*138*
Lane Group Capacity		*1639*	*1615*		*1639*					*782*		*747*
v/c Ratio		*0.49*	*0.24*		*0.66*					*0.40*		*0.18*
Green Ratio		*0.47*	*1.00*		*0.47*					*0.43*		*0.43*
Uniform Delay d_1		*22.1*	*0.0*		*24.6*					*23.3*		*20.9*
Delay Factor k		*0.11*	*0.11*		*0.23*					*0.11*		*0.11*
Incremental Delay d_2		*0.2*	*0.1*		*1.0*					*0.3*		*0.1*
PF Factor		*0.417*	*0.950*		*0.417*					*1.000*		*1.000*
Control Delay		*9.4*	*0.1*		*11.2*					*23.6*		*21.1*
Lane Group LOS		*A*	*A*		*B*					*C*		*C*
Approach Delay		*6.4*			*11.2*					*22.8*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*11.0*			Intersection LOS					*B*		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SB ramps
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2005 Existing

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		1
Lane Group		T	R		T					L		R
Volume (vph)		615	383		849					27		188
% Heavy Vehicles		3	0		3					0		0
PHF		0.85	0.85		0.96					0.80		0.80
Pretimed/Actuated (P/A)		A	A		A					A		A
Startup Lost Time		2.0	2.0		2.0					2.0		2.0
Extension of Effective Green		2.0	2.0		2.0					2.0		2.0
Arrival Type		5	5		5					3		3
Unit Extension		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		14.0
Parking/Grade/Parking	N	0	N	N	0	N				N	0	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		0
Minimum Pedestrian Time		3.2			3.2						3.2	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = 56.0	G =	G =	G =	G = 52.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		724	451		884					34		235
Lane Group Capacity		1639	1615		1639					782		747
v/c Ratio		0.44	0.28		0.54					0.04		0.31
Green Ratio		0.47	1.00		0.47					0.43		0.43
Uniform Delay d_1		21.5	0.0		22.8					19.6		22.3
Delay Factor k		0.11	0.11		0.14					0.11		0.11
Incremental Delay d_2		0.2	0.1		0.4					0.0		0.2
PF Factor		0.417	0.950		0.417					1.000		1.000
Control Delay		9.1	0.1		9.9					19.7		22.6
Lane Group LOS		A	A		A					B		C
Approach Delay		5.7			9.9					22.2		
Approach LOS		A			A					C		
Intersection Delay		9.2			Intersection LOS					A		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SB ramps
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/6/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		1
Lane Group		T	R		T					L		R
Volume (vph)		653	398		945					50		195
% Heavy Vehicles		3	0		3					0		0
PHF		0.87	0.87		0.96					0.83		0.83
Pretimed/Actuated (P/A)		A	A		A					A		A
Startup Lost Time		2.0	2.0		2.0					2.0		2.0
Extension of Effective Green		2.0	2.0		2.0					2.0		2.0
Arrival Type		5	5		5					3		3
Unit Extension		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		14.0
Parking/Grade/Parking	N	0	N	N	0	N				N	0	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		0
Minimum Pedestrian Time		3.2			3.2						3.2	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = 56.0	G =	G =	G =	G = 52.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		751	457		984					60		235
Lane Group Capacity		1639	1615		1639					782		747
v/c Ratio		0.46	0.28		0.60					0.08		0.31
Green Ratio		0.47	1.00		0.47					0.43		0.43
Uniform Delay d_1		21.7	0.0		23.7					19.9		22.3
Delay Factor k		0.11	0.11		0.19					0.11		0.11
Incremental Delay d_2		0.2	0.1		0.6					0.0		0.2
PF Factor		0.417	0.950		0.417					1.000		1.000
Control Delay		9.2	0.1		10.5					20.0		22.6
Lane Group LOS		A	A		B					B		C
Approach Delay		5.8			10.5					22.0		
Approach LOS		A			B					C		
Intersection Delay		9.6			Intersection LOS					A		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2008 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*787*	*398*		*1024*					*274*		*195*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.87*	*0.87*		*0.96*					*0.83*		*0.83*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *56.0*	G =	G =	G =	G = *52.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*905*	*457*		*1067*					*330*		*235*
Lane Group Capacity		*1639*	*1615*		*1639*					*782*		*747*
v/c Ratio		*0.55*	*0.28*		*0.65*					*0.42*		*0.31*
Green Ratio		*0.47*	*1.00*		*0.47*					*0.43*		*0.43*
Uniform Delay d_1		*23.0*	*0.0*		*24.5*					*23.6*		*22.3*
Delay Factor k		*0.15*	*0.11*		*0.23*					*0.11*		*0.11*
Incremental Delay d_2		*0.4*	*0.1*		*0.9*					*0.4*		*0.2*
PF Factor		*0.417*	*0.950*		*0.417*					*1.000*		*1.000*
Control Delay		*10.0*	*0.1*		*11.1*					*23.9*		*22.6*
Lane Group LOS		*A*	*A*		*B*					*C*		*C*
Approach Delay		*6.7*			*11.1*					*23.4*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*11.4*			Intersection LOS					*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*809*	*453*		*1180*					*169*		*222*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.96*					*0.92*		*0.92*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *56.0*	G =	G =	G =	G = *52.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*879*	*492*		*1229*					*184*		*241*
Lane Group Capacity		*1639*	*1615*		*1639*					*782*		*747*
v/c Ratio		*0.54*	*0.30*		*0.75*					*0.24*		*0.32*
Green Ratio		*0.47*	*1.00*		*0.47*					*0.43*		*0.43*
Uniform Delay d_1		*22.8*	*0.0*		*26.3*					*21.5*		*22.4*
Delay Factor k		*0.14*	*0.11*		*0.30*					*0.11*		*0.11*
Incremental Delay d_2		*0.4*	*0.1*		*2.0*					*0.2*		*0.3*
PF Factor		*0.417*	*0.950*		*0.417*					*1.000*		*1.000*
Control Delay		*9.8*	*0.1*		*12.9*					*21.6*		*22.7*
Lane Group LOS		*A*	*A*		*B*					*C*		*C*
Approach Delay		*6.3*			*12.9*					*22.2*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*11.2*			Intersection LOS					*B*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SB ramps*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/6/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		*2*	*1*		*2*					*1*		*1*
Lane Group		*T*	*R*		*T*					*L*		*R*
Volume (vph)		*943*	*453*		*1259*					*393*		*222*
% Heavy Vehicles		*3*	*0*		*3*					*0*		*0*
PHF		*0.92*	*0.92*		*0.96*					*0.92*		*0.92*
Pretimed/Actuated (P/A)		*A*	*A*		*A*					*A*		*A*
Startup Lost Time		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Extension of Effective Green		*2.0*	*2.0*		*2.0*					*2.0*		*2.0*
Arrival Type		*5*	*5*		*5*					*3*		*3*
Unit Extension		*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*		*14.0*
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking/Hour												
Bus Stops/Hour		*0*	*0*		*0*					*0*		*0*
Minimum Pedestrian Time		*3.2*			*3.2*						*3.2*	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = *56.0*	G =	G =	G =	G = *52.0*	G =	G =	G =
	Y = *6*	Y =	Y =	Y =	Y = *6*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		*1025*	*492*		*1311*					*427*		*241*
Lane Group Capacity		*1639*	*1615*		*1639*					*782*		*747*
v/c Ratio		*0.63*	*0.30*		*0.80*					*0.55*		*0.32*
Green Ratio		*0.47*	*1.00*		*0.47*					*0.43*		*0.43*
Uniform Delay d_1		*24.1*	*0.0*		*27.2*					*25.2*		*22.4*
Delay Factor k		*0.21*	*0.11*		*0.34*					*0.15*		*0.11*
Incremental Delay d_2		*0.8*	*0.1*		*2.9*					*0.8*		*0.3*
PF Factor		*0.417*	*0.950*		*0.417*					*1.000*		*1.000*
Control Delay		*10.8*	*0.1*		*14.3*					*26.0*		*22.7*
Lane Group LOS		*B*	*A*		*B*					*C*		*C*
Approach Delay		*7.3*			*14.3*					*24.8*		
Approach LOS		*A*			*B*					*C*		
Intersection Delay		*13.3*			Intersection LOS					*B*		

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 SPUI

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SPUI*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/8/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2008 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	154	368		299	694		279			41		
% Heavy Vehicles	0	3		0	3		0			0		
PHF	0.92	0.92		0.92	0.92		0.92			0.92		
Pretimed/Actuated (P/A)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	5	5		5	5		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	0		0	0	
Lane Width	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/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 19.0	G = 9.0	G = 33.0	G =	G = 19.0	G =	G =	G =
	Y = 10	Y = 10	Y = 10	Y =	Y = 10	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	167	400		325	754		303			45		
Lane Group Capacity	555	966		1110	1522		555			555		
v/c Ratio	0.30	0.41		0.29	0.50		0.55			0.08		
Green Ratio	0.16	0.28		0.32	0.43		0.16			0.16		
Uniform Delay d_1	44.6	35.6		30.9	24.5		46.5			43.1		
Delay Factor k	0.11	0.11		0.11	0.11		0.15			0.11		
Incremental Delay d_2	0.3	0.3		0.1	0.3		1.1			0.1		
PF Factor	0.875	0.747		0.691	0.490		1.000			1.000		
Control Delay	39.3	26.9		21.5	12.3		47.7			43.1		
Lane Group LOS	D	C		C	B		D			D		
Approach Delay	30.5			15.1			47.7			43.1		
Approach LOS	C			B			D			D		
Intersection Delay	25.0			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SPUI
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/8/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Weekday PM Peak Hour	Analysis Year	2008 Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	154	445		419	754		279			170		
% Heavy Vehicles	0	3		0	3		0			0		
PHF	0.92	0.92		0.92	0.92		0.92			0.92		
Pretimed/Actuated (P/A)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	5	5		5	5		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	0		0	0	
Lane Width	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/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 19.0	G = 9.0	G = 33.0	G =	G = 19.0	G =	G =	G =
	Y = 10	Y = 10	Y = 10	Y =	Y = 10	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 120.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	167	484		455	820		303			185		
Lane Group Capacity	555	966		1110	1522		555			555		
v/c Ratio	0.30	0.50		0.41	0.54		0.55			0.33		
Green Ratio	0.16	0.28		0.32	0.43		0.16			0.16		
Uniform Delay d_1	44.6	36.6		32.2	25.1		46.5			44.9		
Delay Factor k	0.11	0.11		0.11	0.14		0.15			0.11		
Incremental Delay d_2	0.3	0.4		0.2	0.4		1.1			0.4		
PF Factor	0.875	0.747		0.691	0.490		1.000			1.000		
Control Delay	39.3	27.7		22.5	12.7		47.7			45.2		
Lane Group LOS	D	C		C	B		D			D		
Approach Delay	30.7			16.2			47.7			45.2		
Approach LOS	C			B			D			D		
Intersection Delay	26.3			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SPUI*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/8/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*		*2*	*2*		*2*			*2*		
Lane Group	*L*	*T*		*L*	*T*		*L*			*L*		
Volume (vph)	*175*	*485*		*552*	*895*		*317*			*158*		
% Heavy Vehicles	*0*	*3*		*0*	*3*		*0*			*0*		
PHF	*0.92*	*0.92*		*0.92*	*0.92*		*0.92*			*0.92*		
Pretimed/Actuated (P/A)	*A*	*A*		*A*	*A*		*A*			*A*		
Startup Lost Time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Extension of Effective Green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Arrival Type	*5*	*5*		*5*	*5*		*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*	*0*		*0*	*0*	
Lane Width	*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/Hour												
Bus Stops/Hour	*0*	*0*		*0*	*0*		*0*			*0*		
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = *19.0*	G = *9.0*	G = *33.0*	G =	G = *19.0*	G =	G =	G =
	Y = *10*	Y = *10*	Y = *10*	Y =	Y = *10*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*190*	*527*		*600*	*973*		*345*			*172*		
Lane Group Capacity	*555*	*966*		*1110*	*1522*		*555*			*555*		
v/c Ratio	*0.34*	*0.55*		*0.54*	*0.64*		*0.62*			*0.31*		
Green Ratio	*0.16*	*0.28*		*0.32*	*0.43*		*0.16*			*0.16*		
Uniform Delay d_1	*44.9*	*37.1*		*33.8*	*26.6*		*47.1*			*44.7*		
Delay Factor k	*0.11*	*0.15*		*0.14*	*0.22*		*0.20*			*0.11*		
Incremental Delay d_2	*0.4*	*0.6*		*0.5*	*0.9*		*2.2*			*0.3*		
PF Factor	*0.875*	*0.747*		*0.691*	*0.490*		*1.000*			*1.000*		
Control Delay	*39.7*	*28.4*		*23.9*	*14.0*		*49.3*			*45.0*		
Lane Group LOS	*D*	*C*		*C*	*B*		*D*			*D*		
Approach Delay	*31.4*			*17.8*			*49.3*			*45.0*		
Approach LOS	*C*			*B*			*D*			*D*		
Intersection Delay	*26.8*			Intersection LOS			*D*			*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SPUI*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/8/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Weekday PM Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*		*2*	*2*		*2*			*2*		
Lane Group	*L*	*T*		*L*	*T*		*L*			*L*		
Volume (vph)	*175*	*562*		*672*	*955*		*317*			*287*		
% Heavy Vehicles	*0*	*3*		*0*	*3*		*0*			*0*		
PHF	*0.92*	*0.92*		*0.92*	*0.92*		*0.92*			*0.92*		
Pretimed/Actuated (P/A)	*A*	*A*		*A*	*A*		*A*			*A*		
Startup Lost Time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Extension of Effective Green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Arrival Type	*5*	*5*		*5*	*5*		*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*	*0*		*0*	*0*	
Lane Width	*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/Hour												
Bus Stops/Hour	*0*	*0*		*0*	*0*		*0*			*0*		
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = *19.0*	G = *9.0*	G = *33.0*	G =	G = *19.0*	G =	G =	G =
	Y = *10*	Y = *10*	Y = *10*	Y =	Y = *10*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*190*	*611*		*730*	*1038*		*345*			*312*		
Lane Group Capacity	*555*	*966*		*1110*	*1522*		*555*			*555*		
v/c Ratio	*0.34*	*0.63*		*0.66*	*0.68*		*0.62*			*0.56*		
Green Ratio	*0.16*	*0.28*		*0.32*	*0.43*		*0.16*			*0.16*		
Uniform Delay d_1	*44.9*	*38.2*		*35.4*	*27.3*		*47.1*			*46.7*		
Delay Factor k	*0.11*	*0.21*		*0.23*	*0.25*		*0.20*			*0.16*		
Incremental Delay d_2	*0.4*	*1.4*		*1.4*	*1.3*		*2.2*			*1.3*		
PF Factor	*0.875*	*0.747*		*0.691*	*0.490*		*1.000*			*1.000*		
Control Delay	*39.7*	*29.9*		*25.9*	*14.7*		*49.3*			*48.0*		
Lane Group LOS	*D*	*C*		*C*	*B*		*D*			*D*		
Approach Delay	*32.2*			*19.3*			*49.3*			*48.0*		
Approach LOS	*C*			*B*			*D*			*D*		
Intersection Delay	*28.5*			Intersection LOS			*C*					

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SPUI
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/8/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	123	531		298	547		318			50		
% Heavy Vehicles	0	3		0	3		0			0		
PHF	0.92	0.92		0.92	0.92		0.92			0.92		
Pretimed/Actuated (P/A)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	5	5		5	5		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	0		0	0	
Lane Width	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/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 19.0	G = 5.0	G = 36.0	G =	G = 20.0	G =	G =	G =
	Y = 10	Y = 10	Y = 10	Y =	Y = 10	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	134	577		324	595		346			54		
Lane Group Capacity	555	1054		993	1493		584			584		
v/c Ratio	0.24	0.55		0.33	0.40		0.59			0.09		
Green Ratio	0.16	0.30		0.28	0.43		0.17			0.17		
Uniform Delay d_1	44.2	35.2		34.0	23.9		46.2			42.3		
Delay Factor k	0.11	0.15		0.11	0.11		0.18			0.11		
Incremental Delay d_2	0.2	0.6		0.2	0.2		1.6			0.1		
PF Factor	0.875	0.714		0.736	0.507		1.000			1.000		
Control Delay	38.9	25.7		25.2	12.3		47.8			42.4		
Lane Group LOS	D	C		C	B		D			D		
Approach Delay	28.2			16.8			47.8			42.4		
Approach LOS	C			B			D			D		
Intersection Delay	26.8			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	JES	Intersection	US 30 & US 15 SPUI
Agency or Co.	GME	Area Type	All other areas
Date Performed	12/8/2005	Jurisdiction	Straban Twp, Adams Co
Time Period	Saturday Peak Hour	Analysis Year	2008 Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	123	665		456	626		318			274		
% Heavy Vehicles	0	3		0	3		0			0		
PHF	0.92	0.92		0.92	0.92		0.92			0.92		
Pretimed/Actuated (P/A)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	5	5		5	5		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	0		0	0	
Lane Width	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/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 19.0	G = 5.0	G = 36.0	G =	G = 20.0	G =	G =	G =
	Y = 10	Y = 10	Y = 10	Y =	Y = 10	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	134	723		496	680		346			298		
Lane Group Capacity	555	1054		993	1493		584			584		
v/c Ratio	0.24	0.69		0.50	0.46		0.59			0.51		
Green Ratio	0.16	0.30		0.28	0.43		0.17			0.17		
Uniform Delay d_1	44.2	37.0		35.9	24.6		46.2			45.5		
Delay Factor k	0.11	0.26		0.11	0.11		0.18			0.12		
Incremental Delay d_2	0.2	1.9		0.4	0.2		1.6			0.8		
PF Factor	0.875	0.714		0.736	0.507		1.000			1.000		
Control Delay	38.9	28.3		26.8	12.7		47.8			46.3		
Lane Group LOS	D	C		C	B		D			D		
Approach Delay	30.0			18.7			47.8			46.3		
Approach LOS	C			B			D			D		
Intersection Delay	29.1			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SPUI*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/8/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 No Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*		*2*	*2*		*2*			*2*		
Lane Group	*L*	*T*		*L*	*T*		*L*			*L*		
Volume (vph)	*140*	*670*		*551*	*728*		*362*			*169*		
% Heavy Vehicles	*0*	*3*		*0*	*3*		*0*			*0*		
PHF	*0.92*	*0.92*		*0.92*	*0.92*		*0.92*			*0.92*		
Pretimed/Actuated (P/A)	*A*	*A*		*A*	*A*		*A*			*A*		
Startup Lost Time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Extension of Effective Green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Arrival Type	*5*	*5*		*5*	*5*		*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*	*0*		*0*	*0*	
Lane Width	*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/Hour												
Bus Stops/Hour	*0*	*0*		*0*	*0*		*0*			*0*		
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = *19.0*	G = *5.0*	G = *36.0*	G =	G = *20.0*	G =	G =	G =
	Y = *10*	Y = *10*	Y = *10*	Y =	Y = *10*	Y =	Y =	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*152*	*728*		*599*	*791*		*393*			*184*		
Lane Group Capacity	*555*	*1054*		*993*	*1493*		*584*			*584*		
v/c Ratio	*0.27*	*0.69*		*0.60*	*0.53*		*0.67*			*0.32*		
Green Ratio	*0.16*	*0.30*		*0.28*	*0.43*		*0.17*			*0.17*		
Uniform Delay d_1	*44.4*	*37.1*		*37.2*	*25.6*		*46.9*			*44.0*		
Delay Factor k	*0.11*	*0.26*		*0.19*	*0.13*		*0.24*			*0.11*		
Incremental Delay d_2	*0.3*	*1.9*		*1.0*	*0.4*		*3.0*			*0.3*		
PF Factor	*0.875*	*0.714*		*0.736*	*0.507*		*1.000*			*1.000*		
Control Delay	*39.1*	*28.4*		*28.4*	*13.3*		*50.0*			*44.3*		
Lane Group LOS	*D*	*C*		*C*	*B*		*D*			*D*		
Approach Delay	*30.3*			*19.8*			*50.0*			*44.3*		
Approach LOS	*C*			*B*			*D*			*D*		
Intersection Delay	*28.8*			Intersection LOS						*C*		

SHORT REPORT

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & US 15 SPUI*
Agency or Co.	*GME*	Area Type	*All other areas*
Date Performed	*12/8/2005*	Jurisdiction	*Straban Twp, Adams Co*
Time Period	*Saturday Peak Hour*	Analysis Year	*2018 Build*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	*2*	*2*		*2*	*2*		*2*			*2*		
Lane Group	*L*	*T*		*L*	*T*		*L*			*L*		
Volume (vph)	*140*	*804*		*709*	*807*		*362*			*393*		
% Heavy Vehicles	*0*	*3*		*0*	*3*		*0*			*0*		
PHF	*0.92*	*0.92*		*0.92*	*0.92*		*0.92*			*0.92*		
Pretimed/Actuated (P/A)	*A*	*A*		*A*	*A*		*A*			*A*		
Startup Lost Time	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Extension of Effective Green	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*			*2.0*		
Arrival Type	*5*	*5*		*5*	*5*		*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*	*0*		*0*	*0*	
Lane Width	*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/Hour												
Bus Stops/Hour	*0*	*0*		*0*	*0*		*0*			*0*		
Minimum Pedestrian Time		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = *19.0*	G = *5.0*	G = *36.0*	G =	G = *20.0*	G =	G =	G =
	Y = *10*	Y = *10*	Y = *10*	Y =	Y = *10*	Y =	Y =	Y =

Duration of Analysis (hrs) = *0.25* | Cycle Length C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	*152*	*874*		*771*	*877*		*393*			*427*		
Lane Group Capacity	*555*	*1054*		*993*	*1493*		*584*			*584*		
v/c Ratio	*0.27*	*0.83*		*0.78*	*0.59*		*0.67*			*0.73*		
Green Ratio	*0.16*	*0.30*		*0.28*	*0.43*		*0.17*			*0.17*		
Uniform Delay d_1	*44.4*	*39.1*		*39.5*	*26.4*		*46.9*			*47.4*		
Delay Factor k	*0.11*	*0.37*		*0.33*	*0.18*		*0.24*			*0.29*		
Incremental Delay d_2	*0.3*	*5.7*		*3.9*	*0.6*		*3.0*			*4.7*		
PF Factor	*0.875*	*0.714*		*0.736*	*0.507*		*1.000*			*1.000*		
Control Delay	*39.1*	*33.6*		*33.0*	*14.0*		*50.0*			*52.1*		
Lane Group LOS	*D*	*C*		*C*	*B*		*D*			*D*		
Approach Delay	*34.4*			*22.9*			*50.0*			*52.1*		
Approach LOS	*C*			*C*			*D*			*D*		
Intersection Delay	*32.9*			Intersection LOS			*D*			*C*		

Highway Capacity Analysis Worksheets

US Route 30 and Re-Located Smith Road

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JES*
Agency/Co.	*GME*
Date Performed	*12/8/2005*
Analysis Time Period	*Weekday PM Peak Hour*

Site Information

Intersection	*US 30 & Smith Rd*
Jurisdiction	*Straban Twp, Adams Co*
Analysis Year	*2008 Build*

Project Description *129.85*

East/West Street: *US Route 30*	North/South Street: *Smith Rd*
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)	*26*	*940*			*980*	*26*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*28*	*1021*	*0*	*0*	*1065*	*28*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*	*T*			*T*	*R*
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*		*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*21*	*0*	*21*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*28*						*42*	
C (m) (veh/h)	*646*						*245*	
v/c	*0.04*						*0.17*	
95% queue length	*0.14*						*0.61*	
Control Delay (s/veh)	*10.8*						*22.7*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--					*22.7*	
Approach LOS	--	--					*C*	

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JES*
Agency/Co.	*GME*
Date Performed	*12/8/2005*
Analysis Time Period	*Weekday PM Peak Hour*

Site Information

Intersection	*US 30 & Smith Rd*
Jurisdiction	*Straban Twp, Adams Co*
Analysis Year	*2018 Build*

Project Description *129.85*

East/West Street: *US Route 30*	North/South Street: *Smith Rd*
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)	*26*	*1270*			*1233*	*26*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*28*	*1380*	*0*	*0*	*1340*	*28*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*	*T*			*T*	*R*
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*		*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*21*	*0*	*21*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*28*						*42*	
C (m) (veh/h)	*508*						*166*	
v/c	*0.06*						*0.25*	
95% queue length	*0.17*						*0.96*	
Control Delay (s/veh)	*12.5*						*33.9*	
LOS	*B*						*D*	
Approach Delay (s/veh)	--	--				*33.9*		
Approach LOS	--	--				*D*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*JES*
Agency/Co.	*GME*
Date Performed	*12/8/2005*
Analysis Time Period	*Saturday Peak Hour*

Site Information

Intersection	*US 30 & Smith Rd*
Jurisdiction	*Straban Twp, Adams Co*
Analysis Year	*2008 Build*

Project Description *129.85*

East/West Street: *US Route 30* | North/South Street: *Smith Rd*

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)	*45*	*859*			*888*	*45*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*48*	*933*	*0*	*0*	*965*	*48*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*26*		*26*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*28*	*0*	*28*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*48*						*56*	
C (m) (veh/h)	*692*						*270*	
v/c	*0.07*						*0.21*	
95% queue length	*0.22*						*0.76*	
Control Delay (s/veh)	*10.6*						*21.8*	
LOS	*B*						*C*	
Approach Delay (s/veh)	--	--				*21.8*		
Approach LOS	--	--				*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JES*	Intersection	*US 30 & Smith Rd*
Agency/Co.	*GME*	Jurisdiction	*Straban Twp, Adams Co*
Date Performed	*12/8/2005*	Analysis Year	*2018 Build*
Analysis Time Period	*Saturday Peak Hour*		

Project Description *129.85*

East/West Street: *US Route 30*	North/South Street: *Smith Rd*
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)	*45*	*1175*			*1117*	*45*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*48*	*1277*	*0*	*0*	*1214*	*48*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*26*		*26*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*28*	*0*	*28*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*						*LR*	
v (veh/h)	*48*						*56*	
C (m) (veh/h)	*558*						*188*	
v/c	*0.09*						*0.30*	
95% queue length	*0.28*						*1.19*	
Control Delay (s/veh)	*12.1*						*32.1*	
LOS	*B*						*D*	
Approach Delay (s/veh)	--	--				*32.1*		
Approach LOS	--	--				*D*		

Queue Analysis Calculations

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Casino/Gateway Gettysburg Roadways

CYCLE LENGTH = 120 SEC 2018 Design Year - Weekday PM Build

Queue Capacity = L = [Volume x Cycle Length x 1 Hour/3600 seconds x 25 feet/1 vehicle x R][1 - G/C][1 + %T]
G/C = Green Time to Capacity Ratio
%T = Percentage of Trucks
R = Random Arrival Factor (Desirable = 2.0, Minimum = 1.5)
Reference: AASHTO Green Book, 1990, pp. 828-829

US Route 30 EB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	334	0	0.14	479	359
THRU	863	3	0.31	1022	767
RIGHT	380	0	0.47	336	252

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	162	0	0.14	232	174
THRU	988	3	0.31	1170	878
RIGHT	103	0	0.47	91	68

Gateway Gettysburg Roadway NB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	823	0	0.28	988	741
THRU	26	0	0.24	33	25
RIGHT	353	0	0.43	335	252

Casino Roadway SB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	80	0	0.11	119	89
THRU	20	0	0.08	31	23
RIGHT	261	0	0.26	322	241

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QUEUE ANALYSIS

INTERSECTION: US Route 30 and Casino/Gateway Gettysburg Roadways

CYCLE LENGTH = 120 SEC 2018 Design Year - Saturday Build

Queue Capacity = L = [Volume x Cycle Length x 1 Hour/3600 seconds x 25 feet/1 vehicle x R][1 - G/C][1 + %T]
G/C = Green Time to Capacity Ratio
%T = Percentage of Trucks
R = Random Arrival Factor (Desirable = 2.0, Minimum = 1.5)
Reference: AASHTO Green Book, 1990, pp. 828-829

US Route 30 EB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	581	0	0.14	833	625
THRU	762	3	0.31	903	677
RIGHT	380	0	0.47	336	252

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	162	0	0.14	232	174
THRU	802	3	0.31	950	712
RIGHT	179	0	0.47	158	119

Gateway Gettysburg Roadway NB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	823	0	0.28	988	741
THRU	45	0	0.24	57	43
RIGHT	353	0	0.43	335	252

Casino Roadway SB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	105	0	0.11	156	117
THRU	26	0	0.08	40	30
RIGHT	342	0	0.26	422	316

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Study Area Photographs

US Route 30 looking eastbound at US Route 15 Southbound ramps

US Route 30 looking eastbound at US Route 15 Northbound Ramps.