TRAFFIC IMPACT STUDY

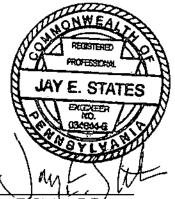
for



in

Straban Township Adams County, Pennsylvania

REVISED AUGUST 2006



Prepared By:

Jay E. States, P.E. Vice President, Administration

Grove Miller Engineering, Inc. Harrisburg, Pennsylvania



Reviewed By:

James I. Scheiner, P.E. Chairman of the Board

Benatec Associates, Inc. New Cumberland, Pennsylvania TERRANCE W. GROVE, P.E., Principal Traffic Engineer JAY E. STATES, P.E., Principal Traffic Engineer GREGORY E. CREASY, P.E., Principal Traffic Engineer DENNIS E. MILLER, P.E., Traffic Engineer, Retired

5600 Derry Street Harrisburg, PA 17111-3518 Telephone: (717) 564-6146 Fax: (717) 564-9488 www.grovemiller.com

August 16, 2006

Jeffrey A. Ernico, Esq. Mette, Evans & Woodside . 3401 North Front Street Harrisburg, PA 17110

Re: Crossroads Gaming Resort and Spa

Straban Township, Adams County, Pennsylvania

Dear Jeff:

We have revised the traffic impact study for the proposed Crossroads Gaming Resort and Spa development in Straban Township, Adams County, Pennsylvania. Revisions to the previous study were required based on modifications to the site access roadways and re-located Smith Road, an expanded scope of work per the Township and PENNDOT, and inclusion of other adjacent development traffic in the projections. The analyses, conclusions and recommendations are found in the following study report. This transmittal letter provides an Executive Summary of the traffic impact study.

EXECUTIVE SUMMARY

The site is located north of and adjacent to US Route 30, east of US Route 15. Access to the Crossroads facility will be provided via the following three (3) US Route 30 locations:

- •Primary entrance intersecting US Route 30, opposite Gateway Gettysburg. This access is a signalized intersection.
- •Right-in/right-out site roadway intersecting US Route 30, west of the primary entrance.
- •Right-in/right-out site roadway intersecting US Route 30, east of the primary entrance.

Per PENNDOT and Township comments, Smith Road is proposed to be re-located to a location opposite Cavalry Field Road at US Route 30. This location is a signalized

intersection. Tour buses and deliveries will be directed to the Crossroads site via a roadway connection to re-located Smith Road, north of US Route 30.

The development 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.

Future expansion of the site may include the development of an additional 2,000 slot machines and 125 hotel rooms. Therefore, full build-out of the development may include a total of 5,000 slot machines, a 350 room hotel, and a 30,000 square foot spa.

At full build-out, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 23,730 trips during the average weekday, with approximately 1,426 trips during the weekday PM peak hour.

At full build-out, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 30,801 trips during the average Saturday, with approximately 2,294 trips during the Saturday peak hour.

Traffic analyses were completed for 2006 existing, 2008 build year, and 2018 design year conditions at the following intersections:

- US Route 30 and Gateway Gettysburg/Crossroads Main Roadway
- US Route 30 and Crossroads Western Roadway
- US Route 30 and Crossroads Eastern Roadway
- US Route 30 and Cavalry Field Road/Re-Located Smith Road
- US Route 30 and Shealer Road/Camp Letterman Drive
- US Route 30 and US Route 15 Southbound ramps
- US Route 30 and US Route 15 Northbound ramps
- US Route 30 and US Route 15 Single Point Urban Interchange (Future)
- US Route 30 and Hoffman Road
- US Route 30 and Granite Station Road

The following table provides a summary of the roadway and traffic control improvements recommended by the traffic impact study.

Summary of Recommendations

Intersection	Improvement Description	Year Required
US 30/Crossroads Main/ Gateway	Modify existing traffic signal to accommodate proposed Crossroads Main roadway. Widen US 30 EB approach to provide two (2) left-turn lanes (500 feet of storage each), two (2) thru lanes, and one (1) right-turn lane (300 feet of storage). Widen US 30 WB approach to provide two (2) left-turn lanes (200 feet of storage each), three (3) thru lanes, and one (1) right-turn lane (300 feet of storage). Widen Gateway approach to provide two (2) left-turn lanes (500 feet of storage each), one (1) thru lane, and one (1) right-turn lane (300 feet of storage).	2008
US 30/Crossroads Western	Install STOP sign on proposed roadway approach	2008
US 30/Crossroads Eastern	Install STOP sign on proposed roadway approach	2008
US 30/Cavalry Field/ Re-located Smith	Modify existing traffic signal to accommodate re-located Smith Road. Widen US 30 WB approach to provide a right-turn lane (200 feet of storage). Construct the re-located Smith Road SB approach to provide one (1) left-turn lane (200 feet of storage) and one (1) shared thru/right-turn lane (200 feet of storage).	2008
US 30/Shealer/ Camp Letterman	Modify traffic signal timings, if necessary. No additional improvements are required or recommended for Crossroads. It should be noted that the Lincoln Commons study recommended minor widening improvements along US 30 to provide two (2) thru lanes in each direction, provision of two (2) left-turn lanes and one (1) right-turn lane on the Shealer Road SB approach, and traffic signal timing/phasing adjustments.	2008 2018 (by others)
US 30/US 15 SB ramps	 Modify traffic signal timings, if necessary. No additional improvements are required or recommended for Crossroads. It should be noted that improvements required by the Adams Commerce Center include the provision of two (2) left-turn lanes on the US 15 SB ramp. 	2008 2018 (by others)
US 30/US 15 NB ramps	 Modify traffic signal timings, if necessary. Widen the US 30 WB approach to provide three (3) thru lanes. The additional (third) lane could begin just east of the intersection and terminate as the right-turn lane for US 15 NB traffic. It may be feasible to not require this improvement based on the implementation of the US 15/US 30 SPUI. No additional improvements are required or recommended for Crossroads. It should be noted that the Lincoln Commons study recommended the provision of two (2) left-turn lanes on the US 15 NB ramp. 	2008 2018 2018 (by others)
US 30/US 15 SPUI	 Review SPUI design details with PENNDOT to determine the feasibility of minor lane widening. No additional improvements are required or recommended for Crossroads. 	2008 2018

Intersection	Year Required	
US 30/Hoffman	•No improvements are required or recommended.	
US 30/Granite Station	Install traffic signal Widen US 30 EB approach to provide one (1) right-turn lane (100 feet of vehicle storage). No additional improvements are required or recommended for Crossroads.	2018 2018

- ■Off-site intersection improvements recommended in the preceding table are expected to be implemented by the Township using funds provided by the developer as part of the Township's Act 209 traffic impact fee ordinance.
- ■The developer is responsible to fund and complete all improvements associated with the construction of the proposed site access locations.
- ■The developer should not be responsible to fund or complete improvements to be provided by others (Lincoln Commons, Adams Commerce Center, PENNDOT SPUI).

We shall remain available for future meetings and consultations relative to the traffic impact study for this development site. Please give me a call if you have any questions or need additional information.

Sincerely,

Jay E. States, P.E. Traffic Engineer

cc: Straban Township Board of Supervisors Scott T. Nazar, PENNDOT 8-0 Traffic

Jodie L. Evans, P.E., McMahon Associates

James I. Scheiner, P.E., Benatec Associates

William J. Schnoor, E.I.T., Herbert, Rowland & Grubic

JES/me

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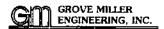


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INTRODUCTION

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. An August 2006 site layout plan for this development is provided in the Appendix.

The site is located north of and adjacent to US Route 30, east of US Route 15. Access to the Crossroads facility will be provided via the following three (3) US Route 30 locations:

- •Primary entrance intersecting US Route 30, opposite Gateway Gettysburg. This access is a signalized intersection.
- •Right-in/right-out site roadway intersecting US Route 30, west of the primary entrance.
- •Right-in/right-out site roadway intersecting US Route 30, east of the primary entrance.

Per PENNDOT and Township comments, Smith Road is proposed to be re-located to a location opposite Cavalry Field Road at US Route 30. This location is a signalized intersection. Tour buses and deliveries will be directed to the Crossroads site via a roadway connection to re-located Smith Road, north of 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 was reviewed and approved by Straban Township and PENNDOT 8-0. Scope of work correspondence is provided in the Appendix.

Revisions to the previous study were required based on modifications to the site access roadways and re-located Smith Road, an expanded scope of work per the Township and

PENNDOT, and inclusion of other adjacent development traffic in the projections. The revised traffic study addresses the following issues:

- Determine existing traffic conditions.
- Estimate the number of trips expected to be generated by the proposed development during initial operations as well as full build-out.
- 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.

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.

Future expansion of the site may include the development of an additional 2,000 slot machines and 125 hotel rooms. Therefore, full build-out of the development may include a total of 5,000 slot machines, a 350 room hotel, and a 30,000 square foot spa.

Access to the Crossroads facility will be provided via the following locations:

- •Primary entrance intersecting US Route 30, opposite Gateway Gettysburg. This access is a signalized intersection.
- •Right-in/right-out site roadway intersecting US Route 30, west of the primary entrance.

- •Right-in/right-out site roadway intersecting US Route 30, east of the primary entrance.
- •Site roadway connection to the re-located Smith Road, north of US Route 30. In conjunction with this development project, Smith Road is proposed to be re-located to a location opposite Cavalry Field Road at US Route 30. This location is a signalized intersection.

DATA COLLECTION

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

- US Route 30 and Shealer Road/Camp Letterman Drive
- US Route 30 and US Route 15 Southbound ramps
- US Route 30 and US Route 15 Northbound ramps
- US Route 30 and Gateway Gettysburg/Smith Road
- US Route 30 and Cavalry Field Road
- US Route 30 and Hoffman Road
- US Route 30 and Granite Station Road

The traffic counts were conducted during the Saturday (11:00am to 2:00pm) peak periods in July and August of 2006.

As directed by the Township, turning movement count data for the weekday PM peak hour was obtained from the Township's Act 209 Traffic Study. These traffic counts were conducted in May and June of 2005.

Existing 2006 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.

This methodology was thoroughly reviewed by the Township Traffic Engineer and PENNDOT 8-0 and determined to be appropriate for this project. Correspondence from the Township is provided in the Appendix

The Institute of Transportation Engineers (ITE), <u>Trip Generation Manual</u>, 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)	Average Weekday Vehicle Trips	Average Saturday Vehicle Trips	PM Peak (vph)		SAT Peak (vph)				
Size	(vpd)	(vpd)	Enter	Exit	Enter	Exit			
INITIAL DEVELOPMENT - 2008 Build Year									
Casino (*) 3,000 slot machines	11,772	15,900	375	261	764	394			
Hotel (310) 225 occupied rooms	2,007	2,363	77	81	91	95			
Health/Fitness Club (Spa) (492) 30,000 SF	988	626	62	59	39	37			
TOTALS	14,767	18,889	514	401	894	526			
				- "	·—·				
FULL BUILD-OUT - 2018 De	sign Year								
Casino (*) 5,000 slot machines	19,620	26,500	625	435	1,274	656			
Hotel (310) 350 occupied rooms	3,122	3,675	119	126	140	148			
Health/Fitness Club (Spa) (492) 30,000 SF	988	626	62	59	39	37			
TOTALS	23,730	30,801	806	620	1,453	841			

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

Based on discussions with the Township Traffic Engineer, anticipated traffic from the following developments was included directly in the traffic projections:

- Gateway Gettysburg
- Adams Commerce Center
- Patel Motel
- Granite Lake Residential Development
- Lincoln Commons

Gateway Gettysburg

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.

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 now open.

Adams Commerce Center

The Adams Commerce Center is located south of and adjacent to US Route 30, east of US Route 15. Primary access to the campus will be provided via a connection to the Gateway Gettysburg site roadway intersecting US Route 30.

Existing tenants of the campus include Pella Windows, Battlefield Harley Davidson, and other light industrial/office uses. It is anticipated that the campus will continue to be developed with other light manufacturing/industrial, office, and business support service uses.

Patel Motel

The 37-room motel is located north of and adjacent to US Route 30, east of US Route 15. Access to the hotel will be provided via driveway(s) intersecting US Route 30. The motel is currently under construction and is anticipated to be operational by 2007.

Granite Lake Residential Development

The proposed development is located south of US Route 30, adjacent to Natural Springs Road. Access to the development will be via Natural Springs Road and Hanover Road (SR 0116).

Full build-out of the development is expected to consist of 140 single family dwellings and 110 townhouses. It is anticipated that full build-out of the development will occur prior to a 2016 design year.

Lincoln Commons

The proposed development is located north of and adjacent to US Route 30, west of and adjacent to US Route 15. Access to the development will be via site roadway connections to Shealer Road.

Full build-out of the shopping center development may consist of a total of approximately 300,000 square feet of building area. Full build-out of the development would be expected prior to a 2011 design year.

Trip generation and distribution information for these five (5) developments were obtained from available traffic impact study/sources and incorporated directly into the traffic projections.

PENNDOT is expected to complete preliminary engineering and receive environmental clearance for the US Route 15/US Route 30 Interchange project in the summer of 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 2008 and could be completed in 2010.

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 marketing study results, 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 the initial development and full build-out of the proposed site are shown in Figures 5 through 8.

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 count (weekday PM) peak hour traffic volumes were projected to 2006 existing conditions using a 1.3 percent annual traffic growth rate. The 2006 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 9 through 12. The 2018 design year peak hour traffic volumes are shown in Figure 13 through 16.

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 Gateway Gettysburg/Crossroads Main Roadway
- US Route 30 and Crossroads Western Roadway
- US Route 30 and Crossroads Eastern Roadway
- US Route 30 and Cavalry Field Road/Re-Located Smith Road
- US Route 30 and Shealer Road/Camp Letterman Drive
- US Route 30 and US Route 15 Southbound ramps
- US Route 30 and US Route 15 Northbound ramps

- US Route 30 and US Route 15 Single Point Urban Interchange (Future)
- US Route 30 and Hoffman Road
- US Route 30 and Granite Station Road

Analyses were completed for 2006 existing conditions, 2008 and 2018 no build conditions (without the proposed development), as well as 2008 (with initial development) and 2018 (with full build-out development) build conditions.

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 2006 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. Figures 17 through 34 illustrate the peak hour level of service results.

Traffic Signal Warrant Analyses

Traffic signal warrant analyses were performed for study intersections using 2018 design year peak hour traffic volumes.

Chapter 212 of the Pennsylvania Code was used for the evaluations. Chapter 212 lists several different warrants which can be compared with traffic volumes and conditions at the intersection. Warrant 3 (Peak Hour Volume) was used in the analyses. The warrant is met when the plotted point representing the major street peak hour traffic (both directions) and the higher volume minor street traffic for the same hour (one direction) falls

above a curve on the graph. The graphs used in the analyses are included in the Appendix.

Queue Analyses - Signalized Intersections

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized study intersections 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

The available sight distances were evaluated from the proposed site access locations onto US Route 30 relative to criteria provided in PENNDOT Publication 282 Highway Occupancy Permit Guidelines (April 2004).

The minimum safe stopping sight distance is the minimum distance required by a driver traveling on the main road at a given speed to stop the vehicle before reaching the roadway after the roadway first becomes visible to the driver. PENNDOT requires that safe stopping sight distance meets the minimum criteria.

The posted speed limits and the approach grades of US Route 30 were used to determine whether adequate sight distance is available from the site access roadways.

It should be noted that PENNDOT Publication 13M Design Manual Part 2 - Highway Design was not utilized for the sight distance evaluation since the proposed Crossroads roadways will be private driveways, and not local roads.

INTERSECTION DISCUSSION

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

US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway

Capacity Analyses

<u>2006 Existing Conditions</u>: Signalized analyses indicate that the intersection currently operates with all movements at LOS "D" or better during the weekday PM and Saturday peak hours.

<u>2008 Build Year Conditions</u>: 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, without the proposed development. The intersection is expected to operate with all movements at LOS "D" or better, with the proposed development and recommended improvements.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate with certain movements at LOS "F" during the weekday PM and Saturday peak hours, without the proposed development, with Gateway Gettysburg and Adams Commerce Center. The intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

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 be modified and the following lane configuration be provided at the intersection to accommodate full build-out traffic:

US Route 30 EB Approach

- Two (2) left-turn lanes
- •Two (2) through lanes
- Right-turn lane

US Route 30 WB Approach

- •Two (2) left-turn lanes
- Three (3) through lanes
- Right-turn lane

Gateway Gettysburg NB Approach

- •Two (2) left-turn lanes
- 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 Main Roadway/Gateway Gettysburg Roadway,
Weekday PM Peak Hour

			acity Analyses f (Delay or v/c)	Results		
Approach and	Movement	2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
	Left	В	В	С	В	D
US Route 30	Thru	С	C .	Α	C .	В
EB Approach	Right	Α	Α	А	Α	Α
	Approach	В	В	В	В	В
	Left	В	В	С	D _	D
US Route 30	Thru	A	Α	С	Α .	С
WB Approach	Right			В		С
ı	Approach	Α	Α	С	В	С
1	Left		D	D	F (91.0)	D
Gateway	Thru	c		C		, C
Gettysburg NB Approach	Right	С	С	В	С	В
, The Application	Approach	C	C -	С	E	D
Smith	Left					
Road/Crossroads	Thru	ם	D		D	
Main Roadway	Right					
SB Approach	Approach	D	D		D	
Overa	11	В	В	С	С	С

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

			acity Analyses f (Delay or v/c)	Results	· · · · · · · · · · · · · · · · · · ·	
Approach and N	Movement	2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
	Left	В	С	С	C _	D
US Route 30	Thru	С	٥	В	E	В
EB Approach	Right	A	Α	Α	A	Α
_	Approach	В	В	В	С	С
	Left	В	D	С	F (243.4)	D
U\$ Route 30	Thru	А	В	С	В	D
WB Approach	Right			С		С
Ţ	Approach	Α	С	С	E	D
	Left	_	C D C F (184.7	D	E (404.7)	D
Gateway	Thru	t		F (164.7)	С	
Gettysburg NB Approach	Right	С	C	В	С	В
140 Apploach	Approach	C	C	c	F (146.7)	D
Smith	Left					
Road/Crossroads Main Roadway SB Approach	Thru	D	D D	D D D	D	
	Right					
	Approach	D	D		D	
Overal	I	В	С	С	E	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, with full build-out of the development site.

Table 4 summarizes the results of the queue analyses.

Table 4. Queue Analyses:

US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway, 2018 Design Year - Build Condition

a	oach nd ement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	Recommended Storage Length (feet)
	Left (2)	1,149	862	500 each
US Route 30 EB Approach	Thru (2)	819	614	N/A
	Right	0+	0*	300
,	Left (2)	494	370	200 each
US Route 30 WB Approach	Thru (3)	1,451	1,088	N/A
	Right	197	148	300
0-4	Left (2)	1,106	829	500 each
Gateway Gettysburg	Thru	81	61	N/A
NB Approach	Right	241	181	300

^{*}Free-Flow Movement

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 Main Roadway

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

Capacity Analyses

2008 Build Year Conditions: Unsignalized analyses indicate that the intersection is expected to operate with right-out movements at LOS "B" during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

<u>2018 Design Year Conditions</u>: Unsignalized analyses indicate that the intersection is expected to operate with right-out movements at LOS "C" during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

<u>Improvement Scenario</u>: It is recommended that STOP sign control be provided on the right-in/right-out driveway at US Route 30.

The capacity analyses for this intersection are summarized in Table 6.

Table 6. Capacity Analyses Summary:
US Route 30 and Crossroads West Roadway

Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach and Movement 2008 PM 2018 PM 2008 SAT Build Build Build				2018 SAT Build			
Crossroads West Roadway SB Approach	Right	В	С	В	С		

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 7.

Table 7. Sight Distance Evaluation Summary:
US Route 30 and Crossroads West Roadway

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

As presented in Table 7, sight distances observed at the intersection are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and Crossroads East Roadway

Capacity Analyses

<u>2008 Build Year Conditions</u>: Unsignalized analyses indicate that the intersection is expected to operate with right-out movements at LOS "B" during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

<u>2018 Design Year Conditions</u>: Unsignalized analyses indicate that the intersection is expected to operate with right-out movements at LOS "C" during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

<u>Improvement Scenario</u>: It is recommended that STOP sign control be provided on the right-in/right-out driveway at US Route 30.

The capacity analyses for this intersection are summarized in Table 8.

Table 8. Capacity Analyses Summary:
US Route 30 and Crossroads East Roadway

١

Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach ar	nd Movement	2008 PM Build	2018 PM Build	2008 SAT Build	2018 SAT Build		
Crossroads East Roadway SB Approach	Right	В	С	В	С		

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 9.

Table 9. Sight Distance Evaluation Summary:
US Route 30 and Crossroads East Roadway

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

As presented in Table 9, sight distances observed at the intersection are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and Cavalry Field Road/Re-located Smith Road

Capacity Analyses

<u>2006 Existing Conditions</u>: Signalized analyses indicate that the intersection currently operates with all movements at LOS "D", with the exception of LOS "E" for the US Route 30 eastbound approach, during the weekday PM peak hour. The intersection currently operates with all movements at LOS "D" or better during the weekday PM and Saturday peak hours.

2008 Build Year Conditions: Signalized analyses indicate that the intersection is expected to operate with the US Route 30 eastbound approach at LOS "F" during the weekday PM and Saturday peak hours, without the proposed development. The intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate with the US Route 30 eastbound and westbound approaches

at LOS "F" during the weekday PM and Saturday peak hours, without the proposed development. The intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with the proposed development and recommended improvements.

<u>Improvement Scenario</u>: 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 be modified and the following lane configuration be provided at the intersection to accommodate full build-out traffic:

US Route 30 EB Approach

- Left-turn lane
- Through lane
- Right-turn lane

Cavalry Field Road NB Approach

- Left-turn lane
- Shared through/right-turn lane

US Route 30 WB Approach

- ·Left-turn lane
- Through lane
- •Right-turn lane

Cavalry Field Road SB Approach

- Left-turn lane
- Shared through/right-turn lane

The capacity analyses for this intersection are summarized in Tables 10 and 11.

Table 10. Capacity Analyses Summary:

US Route 30 and Cavalry Field Road/Re-located Smith Road, Weekday PM Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach an	2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv		
	Left	В	В	А	В	Α	
US Route 30	Through	E	F (110.6)	Α	F (345.5)	С	
EB Approach	Right	В	В	Α	В	А	
	Approach	E	F (75.3)	Α	F (310.6)	С	
	Left	c	С	В	С	С	
US Route 30	Through	С	D	D	F (143.0)	D	
WB Approach	Right			В		Α	
	Approach	С	D	D	F (138.5)	D	
	Left	D	E	٥	В	D	
Cavalry Field Rd	Through			C	. U		
NB Approach	Right	D	D	С	D	D	
	Approach	D	E	D	D	D	
	Left			С	*	Ð	
Re-located Smith Rd (driveway) SB Approach	Through	D D	D	^	D		
	Right			С		C	
	Approach	D	D	С	D	D	
Ove	rall	D	E	С	F (197.3)	D	

Table 11. Capacity Analyses Summary:

US Route 30 and Cavalry Field Road/Re-located Smith Road,
Saturday Peak Hour

- Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach an	Approach and Movement		2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv	
	Left	В	В	Α	В	Α	
US Route 30	Through	D	F (85.1)	Α	F (232.8)	Α	
EB Approach	Right	В	В	A	В	Α	
	_ Approach	С	E	Α	F (190.9)	Α	
	Left	С	С	Α	D	Α	
US Route 30	Through	С	C .	В	F (149.7)	D	
WB Approach	Right			Α		Α	
	Approach	С	С	В	F (144.1)	D	
·	Left	_	С	С	D	D	
Cavalry Field Rd	Through] ^U		
NB Approach	Right	С	С	С	С	D	
	Approach	С	С	С	D	Ď	
	Left			С		D	
Re-located Smith Rd	Through	D	D		D		
(driveway) SB Approach	Right			С		D	
	Approach	D	D	С	D	D	
Ove	rall	С	D	В	F (158.6)	С	

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and Cavalry Field Road/Re-located Smith Road using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 12 summarizes the results of the queue analyses.

Table 12. Queue Analyses:

US Route 30 and Cavalry Field Road/Re-located Smith Road, 2018 Design Year - Build Condition

	oach nd ement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	Recommended Storage Length (feet)
	Left	12	9	100
US Route 30 EB Approach	Thru	608	456	N/A
	Right	107	80	200
	Left	26	20	100
US Route 30 WB Approach	Thru	649	487	N/A
	Right	34	25	200
Cavalry Field Rd	Left	269	202	250
NB Approach	Thru/Right	285	214	250
Re-located	Left	206	155	200
Smith Rd SB Approach	Thru/Right	92	69	200

US Route 30 and Shealer Road/Camp Letterman Drive

Capacity Analyses

<u>2006 Existing Conditions</u>: Signalized analyses indicate that the intersection currently operates with all movements at LOS "D" or better during the weekday PM and Saturday peak hours.

<u>2008 Build Year Conditions</u>: Signalized analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the weekday PM peak hour, without the proposed development. The intersection is expected to

operate with the US Route 30 westbound through movement at LOS "E" during the Saturday peak hour, without the proposed development. Certain intersection movements are expected to operate at LOS "E" or LOS "F" during the weekday PM and Saturday peak hour, with the proposed development.

<u>2018 Design Year Conditions</u>: 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, with improvements recommended by the Lincoln Commons study.

Improvement Scenario: Traffic signal timing adjustments are required to mitigate the impact of the proposed Crossroads Gaming Resort and Spa traffic for the 2008 build year conditions. Improvements recommended in the traffic impact study for the Lincoln Commons development will provide adequate intersection capacity for the proposed Crossroads traffic in the 2018 design year. The referenced "Lincoln Commons" improvements include minor widening along US Route 30 to provide two (2) through lanes in each direction between the US Route 15 southbound ramps and Wal-Mart, provision of dual left-turn lanes and an exclusive right-turn lane on the Shealer Road approach, and traffic signal phasing/timing adjustments.

The capacity analyses for this intersection are summarized in Tables 13 and 14.

Table 13. Capacity Analyses Summary:
US Route 30 and Shealer Road/Camp Letterman Drive,
Weekday PM Peak Hour

	Highway Capacity Analyses Results LOS (Delay or v/c)									
· Approach and Mo	ovement	2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build			
	Left	В	В	В	В	D	D			
US Route 30	Through	В	D	E	Ö	O	D			
EB Approach	Right	Α	Α	Α	Α	O	С			
	Approach	В	D	ם	D	С	D			
US Route 30	Left	В	С	D _	C	В	В			
	Through	В	С	С	С	U	٥			
WB Approach	Right	Α	Α	Α	Α	С	C			
	Approach	В	С	С	С	С	С			
	Left	С	С	С	С	D	۵			
Camp Letterman Dr	Through	C	С	С	С	D	. 0			
NB Approach	Right	В	₿	В	C	C	C			
	Approach	С	С	С	С	D	D			
	Left	D	D	D	D	D	D			
Shealer Rd	Through					٥	D			
SB Approach	Right	C	С	C	С	D	٥			
	Approach	D	D	D	D	D	D			
Overall		₿	С	D	С	D	۵			

Table 14. Capacity Analyses Summary:

US Route 30 and Shealer Road/Camp Letterman Drive,
Saturday Peak Hour

	Highway Capacity Analyses Results LOS (Delay or v/c)									
Approach and Mo	ovement	2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build			
US Route 30	Left	В	,c	Ç	С	D	D			
	Through	В	D	E	С	В	В			
EB Approach	Right	Α	Α	А	Α	Α	Α			
	Approach	В	D	D	С	С	С			
	Left	В	C	D	D	D	Ď			
US Route 30	Through	· C	E	F (84.5)	D	D	D			
WB Approach	Right	Α	Α	Α	A	С	С			
	Approach	С	D	E	۵	D	D			
	Left	Ç	С	С	ם	D	D			
Camp Letterman Dr	Through	С	С	С	۵	۵	D			
NB Approach	Right	В	В	В	U	٥	D			
	Approach	С	С	С	ပ	D	D			
	Left	C ·	С	С	Ò	Ò	D			
Shealer Rd	Through					D	Ď			
SB Approach	Right	С	С	С	D	D	D			
	Approach	С	С	С	ם	D	D			
Overall		С	D	Е	Ç	D	D			

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and Shealer Road/Camp Letterman Drive using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 15 summarizes the results of the queue analyses.

Table 15. Queue Analyses:

US Route 30 and Shealer Road/Camp Letterman Drive, 2018 Design Year - Build Condition

	oroach and vement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)
_	Left	276	207
US Route 30 EB Approach	Thru (2)	958	718
	Right	115	86
	Left	197	147
US Route 30 WB Approach	Thru (2)	1057	792
	Right	280	210
Come Lettermen	Left	104	78
Camp Letterman Drive	Thru	100	75
NB Approach	Right	125	94
	Left (2)	690	517
Shealer Road SB Approach	Thru	93	70
	Right	281	211

Note: Recommended storage lengths to be provided by others.

US Route 30 and US Route 15 Southbound ramps

Capacity Analyses

<u>2006 Existing Conditions</u>: Signalized analyses indicate that the ramp movements currently operate at LOS "D" and LOS "C" during the weekday PM and Saturday peak hours, respectively..

2008 Build Year Conditions: Signalized analyses indicate that the ramp movements are expected to operate at LOS "D" during the weekday PM and Saturday peak hours, without the proposed development. The ramp movements are expected to operate at LOS "F" (during the weekday PM peak hour) and LOS "D" (during the Saturday peak hour), with the proposed development.

<u>2018 Design Year Conditions</u>: Signalized analyses indicate that the ramp movements are expected to operate at LOS "D" during the weekday PM and Saturday peak hours, with or without the proposed development, with improvements required to be provided by the Adams Commerce Center.

Improvement Scenario: Traffic signal timing adjustments are required to mitigate the impact of the proposed Crossroads Gaming Resort and Spa traffic for the 2008 build year conditions. Improvements required to be provided by the Adams Commerce Center will provide adequate intersection capacity for the proposed Crossroads traffic in the 2018 design year. The referenced "Adams Commerce Center" improvements include the provision of dual left-turn lanes on the southbound ramp approach and traffic signal timing adjustments.

The capacity analyses for this intersection are summarized in Tables 16 and 17.

Table 16. 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 an	d Movement	2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build		
US Route 30 EB Approach	Thru	A	А	A	А	А	Α		
	Right	Α	A	A	Α	• А	Α		
EB Approach	Approach	Α	A	Α	A	Α	Α		
US Route 30	Thru	Α	Α	Α	Α	Α	Α		
WB Approach	Approach	Α .	Α	Α	Α	Α	Α		
US Route 15 SB Off-Ramp SB Approach	Left	D	Ō	F (83.2)	D	D	D		
Ove	rall	Α	Α	В	Α	Α	Α		

Table 17. 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 ar	d Movement	2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build			
	Thru	Α	Α	Α	Α	Α			
US Route 30 EB Approach	Right	Α	Α	Α	В	В			
LB Approach	Approach	Α	Α	A	ΑΑ	Α			
US Route 30	i Thru	Α	Α .	Α	A	Α			
WB Approach	Approach	Α	Α	А	Α	Α			
US Route 15 SB Off-Ramp SB Approach	. Left	С	D	D	D	D			
Ove	erall	А	Α	Α	Α	В			

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and US Route 15 Southbound ramps using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 18 summarizes the results of the queue analyses.

Table 18. Queue Analyses:

US Route 30 and US Route 15 Southbound Ramps, 2018 Design Year - Build Condition

a	roach and ement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)
- US Route 30	Thru (2)	. 723	542
EB Approach	Right	462	347
US Route 30 WB Approach	Thru (2)	861	646
US Route 15 SB ramps SB Approach	Left (2)	820	615

Note: Recommended storage lengths to be provided by others.

US Route 30 and US Route 15 Northbound ramps

Capacity Analyses

2006 Existing Conditions: Signalized analyses indicate that the ramp movements currently operate at LOS "E" and LOS "D" during the weekday PM and Saturday peak hours, respectively.

2008 Build Year Conditions: Signalized analyses indicate that the ramp movements are expected to operate at LOS "F" during the weekday PM peak hour, with or

without the proposed development. Ramp movements are expected to operate at LOS "D" during the Saturday peak hour, with or without the proposed development.

2018 Design Year Conditions: Signalized analyses indicate that the ramp movements are expected to operate at LOS "D" during the weekday PM and Saturday peak hours, with or without the proposed development, with improvements recommended by the Lincoln Commons study. The US Route 30 westbound approach is expected to operate at LOS "F" during the weekday PM peak hour, with the proposed development.

Improvement Scenario: Traffic signal timing adjustments are required to mitigate the impact of the proposed Crossroads Gaming Resort and Spa traffic for the 2008 build year conditions. Improvements recommended in the Lincoln Commons traffic impact study include the provision of dual left-turn lanes on the northbound ramp approach and traffic signal timing adjustments.

In order to mitigate the impact of the proposed Crossroads traffic for the 2018 design year, an additional through lane is required for the westbound approach of US Route 30. This lane could begin just east of the intersection and terminate as the right-turn lane for US Route 15 northbound traffic, Although this improvement could be provided with minor widening and traffic signal pole relocations, it may be feasible to delay these improvements based on the implementation of the US Route 15/US Route 30 SPUI by PENNDOT.

The capacity analyses for this intersection are summarized in Tables 19 and 20.

Table 19. 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 an	d Movement	2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build	2018 Build w/ Improv	
US Route 30	Thru	Α	Α	Α	А	Α	Α	Α	
EB Approach	Approach	А	Α	Α	Α	Α_	А	Α	
US Route 30	Thru	A	A	А	A	В	F (92.2)	Α	
WB Approach	Approach	А	A	Α	А	В	F (92.2)	Α.	
US Route 15 NB Off-Ramp NB Approach	E	F (85.2)	F (85.2)	٥	۵	D	D		
Ove	rali	₿	В	В	Α	₿	E	A	

Table 20. Capacity Analyses Summary:
US Route 30 and US Route 15 Northbound Ramps,
Saturday Peak Hour

·	Highway Capacity Analyses Results LOS (Delay or v/c)									
2006 Existing 2008 Build W/ Improv										
US Route 30 Thru		Α	A	Α	A	A	A			
EB Approach	Approach	Α	Α	Α	Α	Α	Α			
US Route 30	Thru	Α	Α	Α	A	D	Α			
WB Approach	Approach	Α	Α	Α	Α	D	Α			
US Route 15 NB Off-Ramp Left NB Approach		D	D	D	D	D	D			
Ove	erall	Α	Α	` A	Α	С	Α			

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and US Route 15 Northbound ramps using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 21 summarizes the results of the queue analyses.

Table 21. Queue Analyses:

US Route 30 and US Route 15 Northbound Ramps, 2018 Design Year - Build Condition

	oroach and vement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)
US Route 30 EB Approach	Thru (2)	840	630
US Route 30 WB Approach	Thru (2)	1,233	925
US Route 15 SB ramps SB Approach	Left (2)	615	461

Note: Recommended storage lengths to be provided by others.

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

Capacity Analyses

<u>2018 Design Year Conditions</u>: Signalized analyses indicate that the proposed intersection is expected to operate with all movements at LOS "D" or better during the weekday PM peak hour, with or without the proposed development. The proposed intersection is expected to operate with all movements at LOS "D" or better, without the proposed development, and LOS "E" or better, with the proposed development.

Improvement Scenario: In order to obtain LOS "D" or better, the PENNDOT design should be reviewed to determine whether minor lane widening may be feasible. Since the design drawings for the SPUI were not available for review during the conduct of this study, analyses were conducted assuming intersection signal phasings and timings as well as geometric details.

The capacity analyses for this intersection are summarized in Table 22.

Table 22. Capacity Analyses Summary:
US Route 30 and US Route 15 SPUI

	Highway Capacity Analyses Results LOS (Delay or v/c)									
Approach an	d Movement	2018 PM No Build	2018 PM Build	2018 SAT No Build	2018 SAT Build	2018 SAT Build w/ Improv				
US Route 30 EB Approach	Left	D	D	D	D	D				
	Thru	С	D	С	E	D .				
	Approach	С	D	С	E	D				
US Davita 20	Left	С	D	С	Ð	D				
US Route 30 WB Approach	Thru	Α	A	A	Α	Α				
	Approach	В	С	В	C	С				
US Route 15 NB Off-Ramp	Left	D	D	D	D	D				
NB Approach	. Approach	D	D	D	۵	D				
US Route 15 SB Off-Ramp	Left	D	D	D	Ε	D				
SB Approach	Approach	, D	D	D	E	D				
. Ove	rall	С	СС	C	D .	D				

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and US Route 15 SPUI using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 23 summarizes the results of the queue analyses.

Table 23. Queue Analyses:

US Route 30 and US Route 15 SPUI, 2018 Design Year - Build Condition

, ,	oroach and vement	AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	
US Route 30	Left (2)	283	213	
EB Approach		1,241	931	
US Route 30	Left (2)	1,032	774	
WB Approach	Thru (2)	943	707	
US Route 15 NB Ramps NB Approach	Left (2)	593	444	
US Route 15 SB ramps SB Approach	Left (2)	841	631	

Note: Recommended storage lengths to be provided by others.

US Route 30 and Hoffman Road

Capacity Analyses

2006 Existing Conditions: Unsignalized analyses indicate that minor street movements currently operate at LOS "C" during the weekday PM and Saturday peak hours.

<u>2008 Build Year Conditions</u>: Unsignalized analyses indicate that minor street movements are expected to operate at LOS "C" or better during the weekday PM and Saturday peak hours, with or without and with the proposed development.

'2018 Design Year Conditions: Unsignalized analyses indicate that minor street movements are expected to operate at LOS "D" or better during the weekday PM and Saturday peak hours, with or without the proposed development.

<u>Improvement Scenario</u>: 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 24 and 25.

Table 24. Capacity Analyses Summary:
US Route 30 and Hoffman Road,
Weekday PM Peak Hour

	Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach an	d Movement	2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build		
US Route 30 WB Approach	Left	Α	В	В	В	В		
Hoffman Road NB Approach Left/Right C C C D D								

Table 25. Capacity Analyses Summary:
US Route 30 and Hoffman Road,
Saturday Peak Hour

Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach an	d Movement	2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build	
US Route 30 WB Approach	Left	Α	А	Α	В	В	
Hoffman Road NB Approach	Left/Right	В	В	С	С	С	

US Route 30 and Granite Station Road

Capacity Analyses

<u>2006 Existing Conditions</u>: Unsignalized analyses indicate that the intersection currently operates with minor street movements at LOS "C" during the weekday PM and Saturday peak hours.

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

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

<u>Improvement Scenario</u>: Intersection improvements are required to mitigate the impact of the proposed Crossroads Gaming Resort & Spa traffic. The installation of a traffic signal and eastbound right-turn lane would mitigate the impact of the proposed development for 2008 build year and 2018 design year conditions.

The capacity analyses for this intersection are summarized in Tables 26 and 27.

Table 26. Capacity Analyses Summary:
US Route 30 and Granite Station Road,
Weekday PM Peak Hour

7700Nddy 1 1111 00111 1001							
Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach and	d Movement	2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build	2018 Build w/ Improv
	Left	Α	Α	Α	В	В	Α
US Route 30	Through			-			D
EB Approach	Right		•••				Α
	Approach		•				D
US Route 30 WB Approach	Left	A	В	В	В	В	А
	Through					- • •	Α
	Right						
	Approach						Α
Granite Station Rd	Left Through Right	С	D	D	F (71.7)	F (128.2)	D
NB Approach	Approach	С	D	۵	F (71.7)	F (128.2)	D
Granite Station Rd SB Approach	Left						
	Through	С	С	D	E	F (79.6)	D
	Right						
	Approach	С	. с	D	E	F (79.6)	D
Overall							С

Table 27. Capacity Analyses Summary:
US Route 30 and Granite Station Road,
Saturday Peak Hour

Catalogy Feat Floar							
Highway Capacity Analyses Results LOS (Delay or v/c)							
Approach and Movement		2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build	2018 Build w/ Improv
	Left	Α	Α	Α	В	В	В
US Route 30	Through						В
EB Approach	Right						A
	Approach_						В
	Left	Α	Α	А	В	В	Α
US Route 30	Through						С
WB Approach	Right						
	Approach		•••				С
Granite Station Rd	Left Through Right	С	С	D	F (91.2)	F (411.2)	D
NB Approach	Approach	С	С	D	F (91.2)	F (411.2)	D
Granite Station Rd SB Approach	Left		C	O	C D		
	Through	С				E	c
	Rìght						
	Approach_	С	С	С	D	Е	С
Overall		• • •					С

Traffic Signal Warrant Analyses

The 2018 design year peak hour traffic volumes were evaluated to determine if traffic signal control may be warranted at the intersection of US Route 30 and Granite Station Road. Table 28 provides a summary of the traffic signal warrant analyses.

Table 28. Traffic Signal Warrant Analysis Summary: US Route 30 and Granite Station Road

	Peak Hour Warrant					
Үеаг	Major Street (vph)	Minor Street Higher Approach (vph)	Warranted?			
2018 PM No Build	2,068	89	YES			
2018 SAT No Build	1,946	107	YES			

As shown in Table 28, traffic signal control is currently warranted at the intersection based on 2018 design year peak hour traffic volumes, without the proposed development.

Queue Analyses

Analyses were conducted to evaluate the projected queue lengths for auxiliary lanes at the signalized intersection of US Route 30 and Granite Station Road using 2018 design year build peak hour traffic volumes, with full build-out of the development site.

Table 29 summarizes the results of the queue analyses.

Table 29. Queue Analyses:

US Route 30 and Granite Station Road, 2018 Design Year - Build Condition

Approach and Movement		AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	
	Left	35	26	
US Route 30 EB Approach	Thru	` 546	410	
	Right	43	32	
US Route 30	Left	8	6	
WB Approach	Thru/Rìght	555	416	
Granite Station Road NB Approach	Left/Thru/Right	137	103	
Granite Station Road SB Approach	Left/Thru/Right	133	100	

Note: Recommended storage lengths to be provided by others.

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 nonpeak 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.

None of the benefits of these congestion management opportunities have been factored into this study's analysis.

TRAFFIC CRASHES

Traffic crash data was obtained from PENNDOT for the most recent five (5) years for the state highways in the study area. The data was analyzed for the study area intersections, and the summary of crash data is provided in Table 30.

Table 30. Traffic Crash Data Summary

1_4	Year (number of crashes)					Tital
Intersection	2001	2002	2003	2004	2005	Total
US 30 and Cavalry Field Rd*	0	0	0	1	1 1	2
US 30 and Shealer Rd/Camp Letterman Dr**	7	7	3	4	5	26 -
US 30 and US 15 SB ramps*	1	1	0	3	1	6
US 30 and US 15 NB ramps*	0	2	3	2	1	8
US 30 and Hoffman Rd	0	0	0	0	0	0
US 30 and Granite Station Rd	1	1	2	2	4	10
Total	9	11	8	12	12	52

^{*}Traffic signal installed in 2001

The crash data does not indicate a significant traffic crash pattern at any of the study area intersections.

^{**}Traffic signal installed in 2002

SUMMARY OF FINDINGS

Trip Generation - Initial Operations

- ■With initial operations, 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.
- ■With initial operations, 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.

Trip Generation - Full Build-Out

- ■At full build-out, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 23,730 trips during the average weekday, with approximately 1,426 trips during the weekday PM peak hour (as compared to approximately 2,455 trips expected to be generated by Gateway Gettysburg/Adams Commerce Center during the PM peak hour).
- ■At full build-out, the proposed Crossroads Gaming Resort and Spa is expected to generate a total of approximately 30,801 trips during the average Saturday, with approximately 2,294 trips during the Saturday peak hour (as compared to approximately 2,547 trips expected to be generated by Gateway Gettysburg/Adams Commerce Center during the Saturday peak hour).

US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway

- Signalized capacity analyses indicate that the intersection is expected to operate with certain movements at LOS "F" during the 2018 design year, without the proposed development, with full build-out of Gateway Gettysburg and the Adams Commerce Park.
- 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 Gateway Gettysburg and the Adams Commerce Park, and recommended improvements.
- Sight distances from the proposed Crossroads Roadway at US Route 30 are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and Crossroads Western Roadway

- ■Unsignalized capacity analyses indicate that the intersection is expected to operate with minor street movements at LOS "C" during the 2018 design year, with the proposed development and recommended improvements.
- Sight distances from the proposed Crossroads Western Roadway at US Route 30 are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and Crossroads Eastern Roadway

- ■Unsignalized capacity analyses indicate that the intersection is expected to operate with minor street movements at LOS "C" during the 2018 design year, with the proposed development and recommended improvements.
- Sight distances from the proposed Crossroads Western Roadway at US Route 30 are in excess of PENNDOT minimum safe stopping sight distance criteria.

US Route 30 and Cavalry Field Road/Re-located Smith Road

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

US Route 30 and Shealer Road/Camp Letterman Drive

■ 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, with improvements recommended in the Lincoln Commons study.

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, with improvements required to be provided by the Adams Commerce Center.

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, with improvements recommended by the Lincoln Commons study and Crossroads mitigation improvements.

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, with Crossroads mitigation improvements.

US Route 30 and Hoffman Road

■Unsignalized capacity analyses indicate that the intersection is expected to operate with minor street movements at LOS "D" or better during the 2018 design year, with or without the proposed development.

US Route 30 and Granite Station Road

■Unsignalized capacity analyses indicate that the intersection is expected to operate with minor street movements at LOS "F" during the 2018 design year, with or without the proposed development. Traffic signalization and roadway widening is required to mitigate the impact of 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 35.

Overview

- ■Off-site intersection improvements recommended in this section are expected to be implemented by the Township using funds provided by the developer as part of the Township's Act 209 traffic impact fee ordinance.
- ■The developer is responsible to fund and complete all improvements associated with the construction of the proposed site access locations.
- ■The developer should not be responsible to fund or complete improvements to be provided by others (Lincoln Commons, Adams Commerce Center, PENNDOT SPUI).

US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway

■It is recommended that the current traffic signal design be modified and the following lane configuration and auxiliary lane storage lengths be provided to accommodate traffic expected to be generated by full build-out of the proposed Crossroads Gaming Resort and Spa:

US Route 30 EB Approach

- •Two (2) left-turn lanes (500 feet each)
- Two (2) through lanes
- Right-turn lane (300 feet)

US Route 30 WB Approach

- •Two (2) left-turn lanes (200 feet each)
- Three (3) through lanes
- Right-turn lane (300 feet)

Gateway Gettysburg NB Approach

- •Two (2) left-turn lanes (500 feet each)
- Through lane
- Right-turn lane (300 feet)

US Route 30 and Crossroads Western Roadway

■It is recommended that STOP sign control be provided on the right-in/right-out driveway at US Route 30.

US Route 30 and Crossroads Eastern Roadway

■It is recommended that STOP sign control be provided on the right-in/right-out driveway at US Route 30.

US Route 30 and Cavalry Field Road/Re-located Smith Road

■It is recommended that the current traffic signal design be modified and the following lane configuration and auxiliary lane storage lengths be provided to accommodate traffic expected to be generated by full build-out of the proposed Crossroads Gaming Resort and Spa:

US Route 30 EB Approach

- Left-turn lane (100 feet)
- Thru lane
- •Right-turn lane (200 feet)

Cavalry Field Road NB Approach

- Left-turn lane (250 feet)
- Thru/left-turn lane

US Route 30 WB Approach

- •Left-turn lane (100 feet)
- •Thru lane
- •Right-turn lane (200 feet)

Re-located Smith Road

- ·Left-turn lane (200 feet)
- Thru/right-turn lane

US Route 30 and Shealer Road/Camp Letterman Drive

- ■It is recommended that traffic signal timings be modified during the 2008 build year, if necessary.
- ■No additional improvements are required or recommended for Crossroads. It should be noted that the Lincoln Commons study recommended minor widening improvements along US 30 to provide two (2) thru lanes in each direction, provision of two (2) left-turn lanes and one (1) right-turn lane on the Shealer Road SB approach, and traffic signal timing/phasing adjustments.

US Route 30 and US Route 15 Southbound Ramps

- ■It is recommended that traffic signal timings be modified during the 2008 build year, if necessary.
- ■No additional improvements are required or recommended for Crossroads. It should be noted that improvements required by the Adams Commerce Center include the provision of two (2) left-turn lanes on the US 15 SB ramp.

US Route 30 and US Route 15 Northbound Ramps

- ■It is recommended that traffic signal timings be modified during the 2008 build year, if necessary.
- ■It is recommended that consideration should be given to widen the US 30 WB approach to provide three (3) thru lanes. The additional (third) lane could begin just east of the intersection and terminate as the right-turn lane for US 15 NB traffic. It may be feasible to not require this improvement based on the implementation of the US 15/US 30 SPUI.
- ■No additional improvements are required or recommended for Crossroads. It should be noted that the Lincoln Commons study recommended the provision of two (2) left-turn lanes on the US 15 NB ramp.

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

- ■It is recommended that the SPUI design details be reviewed with PENNDOT to determine the feasibility of minor lane widening.
- ■No additional improvements are required or recommended for Crossroads.

US Route 30 and Hoffman Road

■No improvements are required or recommended for Crossroads.

US Route 30 and Granite Station Road

■It is recommended that a traffic signal be installed to mitigate the impact of the Crossroads development for 2018 design year conditions.

- ■It is recommended that the US 30 EB approach be widened to provide one (1) right-turn lane (100 feet of vehicle storage).
- ■No additional improvements are required or recommended for Crossroads.

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LIST OF REFERENCES

- 1. <u>Trip Generation</u>, Seventh Edition, Volume 2, Institute of Transportation Engineers, Washington D.C., 2003.
- 2. <u>Trip Generation Handbook</u>, Institute of Transportation Engineers, Washington D.C., March 2001.
- 3. Highway Capacity Manual, Transportation Research Board, Washington D.C., 2000.
- 4. <u>Highway Capacity Software</u>, Version 5.2, University of Florida, Gainesville, FL, 2005.
- 5. <u>Highway Occupancy Permit Handbook</u>, Publication 282, Pennsylvania Department of Transportation, September 1993.
- 6. <u>A Policy on Geometric Design of Highways and Streets</u>, Fifth Edition, American Association of State Highway and Transportation Officials, Washington D.C., 2004.
- 7. <u>Access Management Guidelines for Activity Centers</u>, National Cooperative Highway Research Program Report 348, Transportation Research Board, Washington D.C., 1992.
- 8. <u>Engineering and Traffic Studies</u>, Publication 201, Pennsylvania Department of Transportation, December 1993.
- 9. <u>Traffic Impact Study for Penn National Race Course Expansion</u>, Traffic Planning and Design, Inc., East Hanover Township, Dauphin County, Pennsylvania, September 2004.
- Traffic Impact Study for Lincoln Commons, Gannett Fleming, Straban Township,
 Adams County, Pennsylvania, May 2000.

- 11. -Traffic Impact Study for Hunterstown Project, Herbert, Rowland & Grubic, Straban Township, Adams County, Pennsylvania, October 2000.
- 12. <u>Traffic Impact Study for Gateway Gettysburg</u>, Transportation Resource Group, Inc., Straban Township, Adams County, Pennsylvania, May 22, 2003.
- 13. Various information and correspondence provided by Benatec Associates and Herbert, Rowland & Grubic.

Scope of Work Correspondence



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Jim Scheiner

. 20053142/AEM06-119R

August 10, 2006 (Final)

TO:

File

cc:

All Attendees

FROM:

James I. Scheiner, P.E.

Chairman

BENATEC ASSOCIATES (BA)

SUBJECT:

SCOPING MEETING MINUTES

JULY 25, 2006

RE:

Crossroads Gaming Resort and Spa

Straban Township, Adams County, S.R. 0030 Vicinity

Traffic Impact Study

ATTENDEES:

Scott Nazar	PennDOT District 8-0	(717) 787-2604	snazar@state.pa.us
Eric Kinard	PennDOT District 8-0	(717) 787-2604	ekinard@state.pa.us
Brad Harrold	PennDOT District 8-0	(717) 772-0976	bharrold@state.pa.us
Dan Strazisar	PennDOT District 8-0	(717) 705-6199	dstrazisar@state.pa.us
Bob Coleman	Straban Township	(717) 334-4833	rcolemanstraban@superpa.net
Jeff Ernico	Mette Evans Woodside	(717) 232-5000	jaernico@mette.com
Casey Moore	McMahon Associates, Inc.	(215) 283-9444	casey.moore@mcmtrans.com
Jodie Evans	McMahon Associates, Inc.	(717) 691-5572	jodie.evans@mcntrans.com
Jon Kilmer	Wm. F. Hill & Assoc., Inc.	(717) 334-9137	jkilmer@wmfhillinc.com
Bill Schnoor	HRG	(717) 564-1121	bschnoor@hrginc.com
Jay States	Grove Miller Engineering	(717) 569-6146	jstates@grovemiller.com
Jim Scheiner	Crossroads (BA)	(717) 901-7055	jscheiner@benatec.com

On July 25, 2006, the persons listed above met at PennDOT District 8-0 from 10:30 to 11:45 AM to scope the Crossroads Gaming Resort and Spa Traffic Impact Study (TIS), per Chapter 441 of the PA Code. The following points were discussed:

1. Crossroads distributed minutes from the July 12, 2006 Scoping Meeting with Straban Township, to include comments on the minutes made by McMahon Associates on behalf of the Township.

- 2. Crossroads displayed a 100-scale concept plan for S.R. 0030 improvements. The plan for each intersection was then discussed.
- 3. Per PennDOT and Township recommendations, Smith Road was relocated to form a "+" intersection with Cavalry Field Road (CFR). Crossroads noted that this relocation will require the cooperative efforts of five (5) different property owners, and Crossroads has been taking the lead to implement.
- 4. The Township noted the traffic circulation benefits of the Smith Road relocation to CFR, to include elimination of left turns by trucks into commercial property along S.R. 0030 and a potential bypass route around Gettysburg Borough for certain local trips. The Township cautioned that the road between CFR and the Gateway development is currently private, so that traffic between Crossroads and Gateway could not depend on access via CFR.
- 5. The easternmost direct access to Crossroads will be via a parking garage drive, which will be right-in/right-out. Per the Township's request, an S.R. 0030 median barrier will be placed along the entrance area to prevent illegal left turns.
- 6. Crossroads said that it will provide exact parking requirements for the Phase I and Phase II project. These are: Phase I: 3,944 spaces total and 2,781 garage; Phase II: 4,912 spaces total and 4,011 spaces garage.
- 7. The main access to Crossroads will be via the Gateway Drive intersection. After considerable discussion, Crossroads agreed to an in-only configuration at the Crossroads drive for the TIS. McMahon questioned whether double-right-turn lanes work in practice.
- 8. PennDOT asked whether the driveways between S.R. 0030 and the casino will have enough capacity to prevent back-ups onto S.R. 0030. The Crossroads design provides for about 180' of raised channelization for its high-volume driveway, longer than the 150' recommended in Chapter 441 of the PA Code. The left turn into the casino from the driveway serving S.R. 0030 traffic will be a free movement so that back-ups will not occur there. Conversion of the main Crossroads drive to in-only will eliminate some traffic conflicts.
- 9. Crossroads proposed a secondary access via an intersection at the southwest corner of the property. PennDOT replied that a left turn into this road (labeled Drive 1) would conflict with the SPUI design for the S.R. 0015/0030 interchange improvement. PennDOT said that a right-in/right-out would be possible there.
- 10. Crossroads cautioned that eliminating the left-turn at Drive 1 there could result in a substantial right-of-way acquisition cost for the abandoned car dealership property. Crossroads offered to help by providing access from that property to a full-service intersection, similar to the Shealer Road intersection on the west side of the S.R. 0015/0030 interchange. PennDOT replied that the SPUI eastern median barrier length should not be curtailed, and that it would deal with the additional costs associated with that design.
- 11. After considerable discussion, Crossroads agreed to prepare the TIS with a right-in/right-out design at Drive 1.
- 12. The Township asked Crossroads to also examine the Shealer Road intersection. Crossroads advised that WalMart purchased land north of Shealer Road. The Township said that it hasn't yet received any official notice of WalMart development plans. Crossroads will analyze the effect of its own traffic on the Shealer Road intersection.

- 13. Crossroads will also analyze the effect of its traffic on the Hoffman Road and Granite Station Road intersections with S.R. 0030, to the east of the development.
- 14. Regarding the status of the SPUI project, PennDOT informed the Township and Crossroads that the environmental clearance is expected this summer, with final design scheduled for completion in Fall 2007. If funds are released, the project will be bid for Spring 2008 award.
- 15. Crossroads said that it will try to have the TIS completed by August 16, 2006. PennDOT and the Township instructed Crossroads to submit the document to both organizations concurrently.
- 16. Responding to a question, Crossroads said that it was developing the site exclusively for a joint casino/hotel/spa use, and that it would not develop the site without a casino license. The PA Gaming Control Board intends to issue licenses in late 2006. Once the license is issued to Crossroads, it will begin Highway Occupancy Permit activities for the affected S.R. 0030 intersections pursuant to an approved TIS.

These meeting minutes were electronically transmitted to all meeting attendees on July 27, 2006. No comments/corrections were received. Subsequent to the meeting, Crossroads submitted its trip generation methodology. PennDOT and the Township concurred via an e-mail sent August 10, 2006.

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MEMORANDUM

20053142/AEM06-111

July 26, 2006

TO:

File

cc:

All Attendees

FROM:

James I. Scheiner, P.E.

Chairman

BENATEC ASSOCIATES

SUBJECT:

SCOPING MEETING MINUTES

JULY 12, 2006

RE:

Crossroads Gaming Resort and Spa

Straban Township, Adams County

Traffic Impact Study

ATTENDEES:

Bob Coleman

Straban Township

Jonathan Kilmer

William F. Hill & Assoc. (Township Engineer)

Jim Scheiner

Casey Moore

McMahon (Township Traffic Consultant)

Jodie Evans Jeff Ernico

McMahon (Township Traffic Consultant)

Mette Evans & Woodside (Crossroads Representative)

Bill Schnoor

HRG (Crossroads Site Engineer)

Jay States Jim Scheiner Grove Miller (Crossroads Traffic Consultant) Benatec (Crossroads Traffic Consultant)

On July 12, 2006, Straban Township convened a meeting with the above attendees from 8:30-10:10 AM. The following points were discussed (McMahon comments in Italics):

1. Crossroads prepared a March 2006 "Traffic Impact Study" (TIS) to fulfill requirements of the PA Gaming Control Board. McMahon reviewed the initial TIS and provided comments in a May 19, 2006 letter. Crossroads prepared a letter response dated July 10, 2006, which was distributed at the meeting. The purpose of this meeting was to address McMahon comments and agree upon a scope for a revised TIS.

- 2. McMahon opened the meeting stating that it was important for the Township and PennDOT to communicate and closely coordinate on the planning and design review for this project. All parties agreed that close coordination with PennDOT is needed. McMahon suggested that they will first debrief PennDOT on results of this meeting. A PennDOT scoping meeting with the Township represented will be scheduled by the applicant in the near future.
- 3. The Township advised that an Act 209 ordinance regarding impact fees will be considered by the Supervisors at its August 7th meeting. The Township will provide Crossroads with a copy of the proposed ordinance, as it was on file for review at the Township.
- 4. In response to a McMahon question, Crossroads said that it has had one formal meeting with PennDOT, where PennDOT made two access suggestions. The first, relocation of Smith Road to form a "+" intersection with Cavalry Field Road, is in process. The second, restricting left turns into an access road at the southwest corner of the site, would adversely impact the property owner of an abandoned auto dealership. Crossroads will propose shifting the intersection east along Route 30, beyond the planned median barrier for the SPUI interchange improvement. This access must ultimately be approved by PennDOT and PennDOT has made early suggestions that the southwest corner access closest to I-15 [sic] may need to become right in/right out only if the SPUI design is set or safety concerns by the Department could not be resolved.
- 5. Regarding the relocation of Smith Road to opposite Cavalry Field Road, a discussion took place on whether it would be viewed/considered as an "on-site" improvement per Act 209, or an "off-site" improvement by the Township in accordance with Act 209. Since the road was needed for access and abutted the site, the Township's early conclusion was that it would be an "on-site" improvement, and no credit toward impact fees considered. Both parties to discuss with TOS.
- 6. McMahon suggested an alternative intersection design circulation scheme. McMahon asked if making the Crossroads access across from Gateway "in-only" would increase capacity there for left turns, alleviating left-turn traffic at the southwest corner access, as well as improving intersection operations/delays and internal queues. Crossroads said that its current design splits the left-turn movements, with traffic eastbound from the SPUI entering at the southwest corner, and traffic northbound from Route 15 entering at Gateway. Crossroads will consider the "in-only" option, and provide detailed evaluation to demonstrate the results of the alternative access scheme.
- 7. The Township commented that "right-in/right-out" access is not working at Crosskeys, where traffic makes illegal left turns into a Turkey Hill convenience store. If there were a median barrier to block left turns, the Township eould may accept a right-in/right-out access between Smith Road and the Gateway access pending Township and PennDOT review and approval. McMahon told the Crossroads representatives that PennDOT's access code states that not more than two accesses are permitted to the state road for a non-residential use and that a third may be approved when frontage exceeds 600 feet.
- 8. Crossroads provided McMahon with additional information about the gaming trip generation model that was developed for the Penn National (PN) Grantsville TIS and accepted by Penn-DOT. Grove Miller will provide a complete copy of the PN Study to McMahon. McMahon replied that this information is responsive to its request, and would review it to make an informed

- conclusion combined with other trip generation information on the appropriate volumes to be utilized in planning and for impact fee.
- 9. McMahon said that PennDOT will allow up to three access points for a development with more than 1000 600° of frontage. Crossroads proposes the following three access points (from west to east): 1) southwest corner; 2) Gateway; and 3) parking garage drive (right-in/right-out). The relocation of Smith Road to the Cavalry Field Road intersection is a general-use improvement. Smith Road would not serve as a direct Crossroads access point. PennDOT to be asked if they concur.
- 10. McMahon asked that Crossroads study all Route 30 intersections from Shealer Road on the west to Granite Station Road on the east, with the exception of low-volume Flickinger and Moose Roads. McMahon will provide traffic counts for other intersections more remote to the project, such as Smith/Hunterstown, from the Act 209 study for the afternoon peak hour. Crossroads would need to supplement such counts with additional data collection as necessary to capture other peak periods.
- 11. In discussing seasonal variations, the Township Manager has observed that Route 30 east of Gettysburg I-15 [sic] is not heavily used by tourists. Crossroads provided June 2006 traffic counts in response to a McMahon request. Crossroads noted that its Saturday, November 19, 2005, traffic count occurred on the anniversary date of Lincoln's Gettysburg Address.
- 12. Crossroads confirmed that 2008 is its planned opening year.
- 13. McMahon advised that PennDOT may require a Level of Service (LOS) waiver where the LOS is projected to fall by two or more gradations, such as from "B" to "D."
- 14. The Department may require LOS waivers to formally be completed per the access code. McMahon suggested that Crossroads may want to show a computer traffic simulation at public meetings (i.e., SimTraffic) to demonstrate the progression along Route 30 and the adequacy of the design. Crossroads concurred.
- 15. The Township asked that Crossroads coordinate with the Borough on its Route 30 signal timing project. The Township will require a closed-loop signal system along Route 30. The Township is likely to ask Crossroads to reimburse it for maintenance of traffic signals primarily used by Crossroads (southwest corner).
- 16. In response to Crossroads' question about the traffic impact fee calculation, McMahon said that it has not yet done that calculation. Under the proposed ordinance, the fee would be in the range of \$2,100 per additional PM peak hour vehicle. The review and concurrence of the trip generation rates to used and accepted, as well as access/frontage improvements determined to be "onsite" versus "off-site" for potential credit will be key issues to resolve.

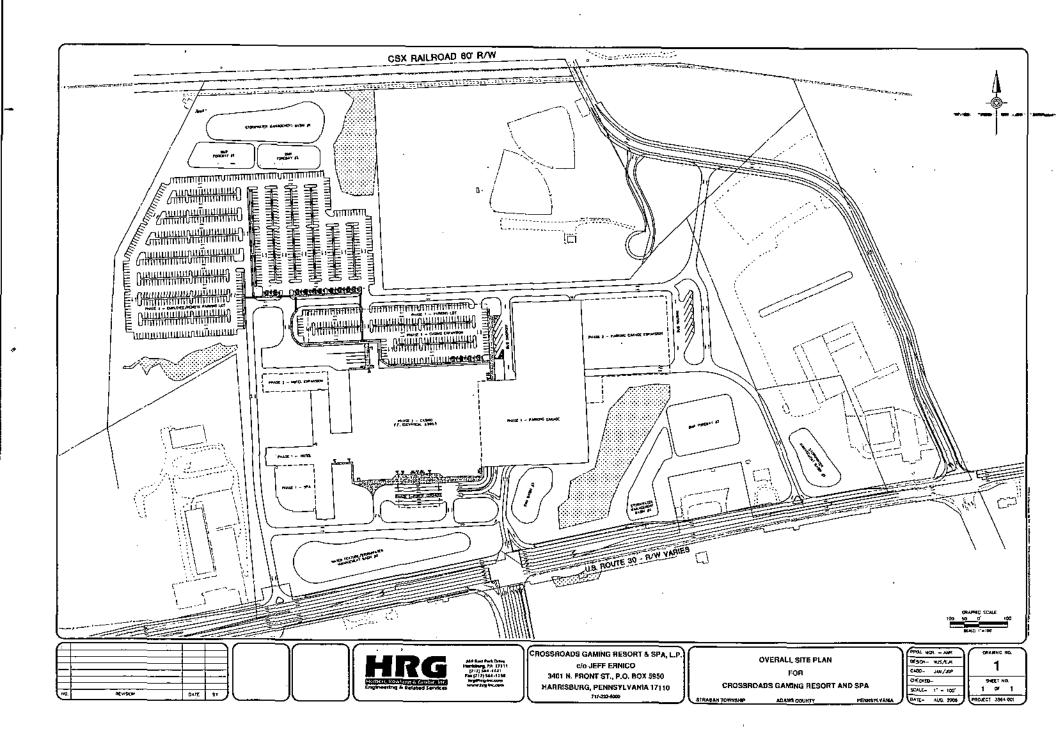
Please provide any comments or corrections to these minutes within five (5) days of distribution via e-mail to: <u>ischeiner@benatec.com</u>.

JIS/b

APPENDIX

Site Layout Plan
Scope of Work Correspondence
Turning Movement Peak Period Counts
Trip Generation Documentation
Traffic Projections
Level of Service Descriptions
Traffic Signal Permit Plans
Highway Capacity Analysis Worksheets
Traffic Signal Warrant Analyses
Queue Analysis Calculations
Study Area Photographs

Site Layout Plan



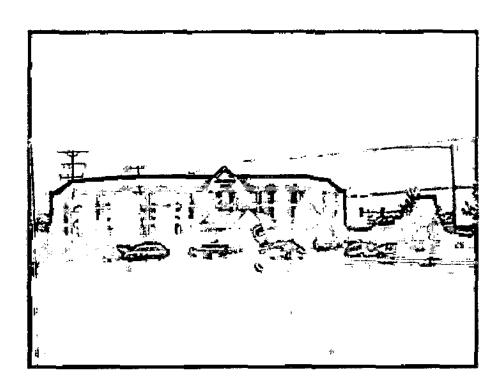
Study Area Photographs



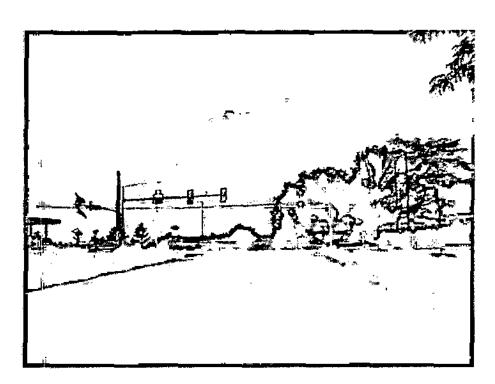
US Route 30 looking eastbound at Shealer Road.



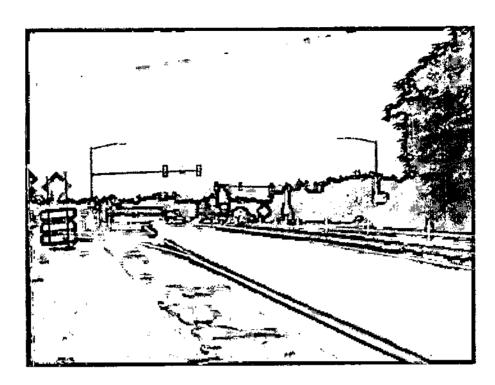
US Route 30 looking westbound at Shealer Road.



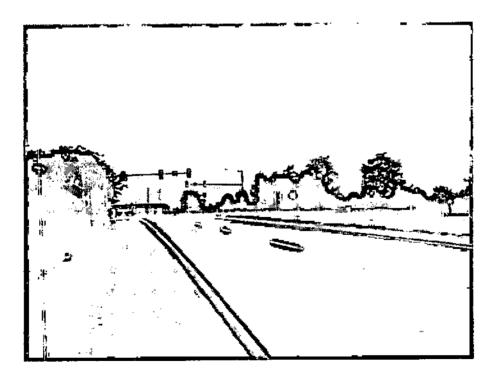
Shealer Road looking northbound at US Route 30.



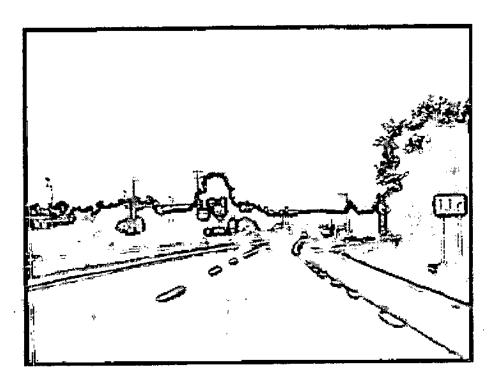
Shealer Road looking southbound at US Route 30.



US Route 30 looking eastbound at US Route 15 southbound on/off ramps.



US Route 30 looking westbound at US Route 15 southbound on/off ramps.



US Route 30 looking eastbound at US Route 15 northbound on/off ramps.



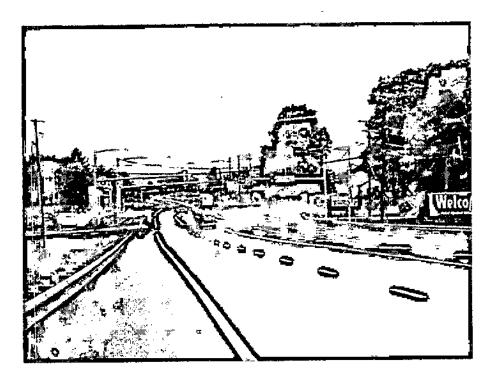
US Route 30 looking westbound at US Route 15 northbound on/off ramps.



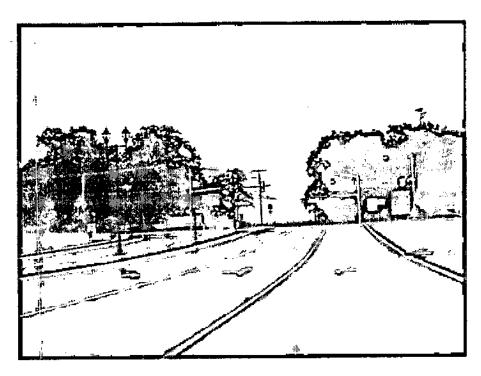
US Route 15 northbound off ramp looking at US Route 30.



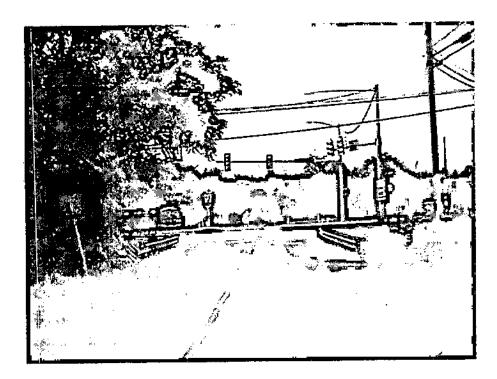
US Route 30 looking eastbound at Gateway Boulevard and Smith Road.



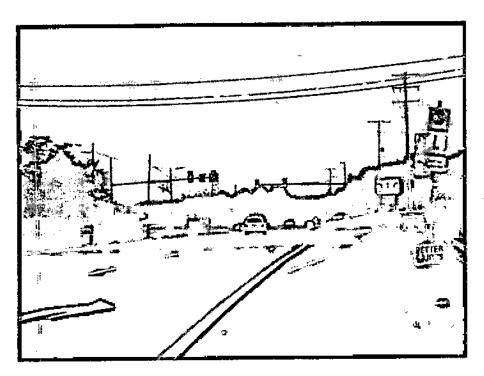
US Route 30 looking westbound at Gateway Boulevard and Smith Road.



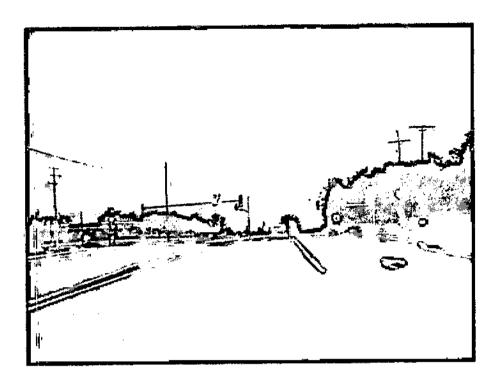
Gateway Boulevard looking northbound at US Route 30 and Smith Road.



Smith Road looking southbound at US Route 30 and Gateway Boulevard.



US Route 30 looking eastbound at Cavalry Field Road.



Cavalry Field Road looking northbound at US Route 30.



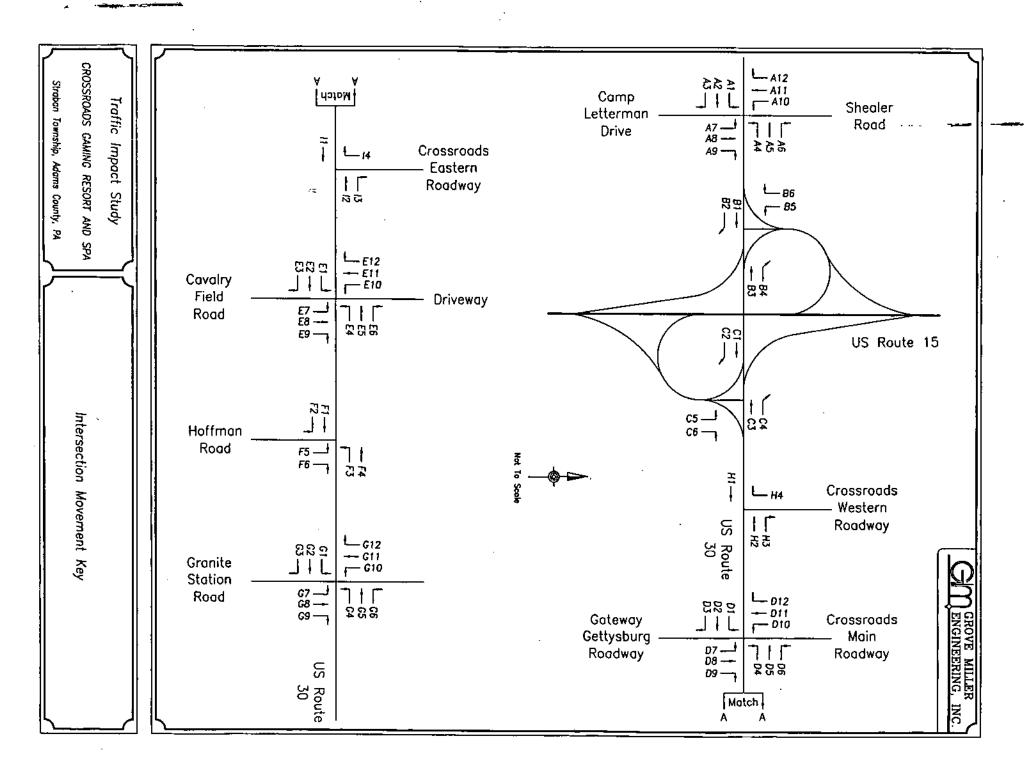
US Route 30 looking eastbound at Hoffman Road.

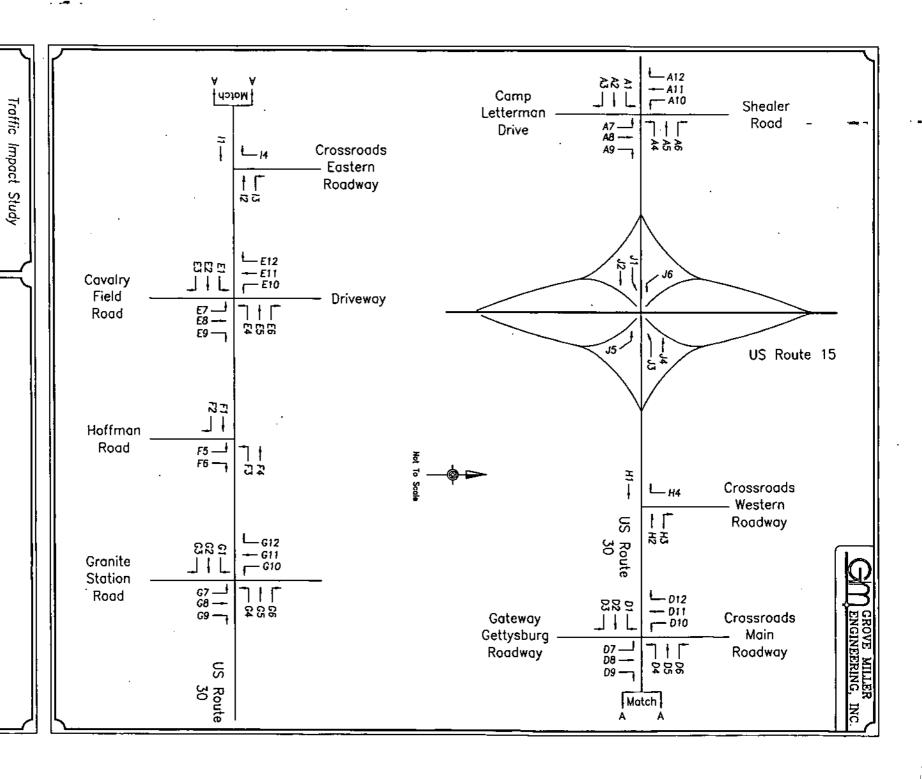


Hoffman Road looking northbound at US Route 30.

Traffic Projections

Intersection Movement Key and Spreadsheets





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Intersection Movement Key

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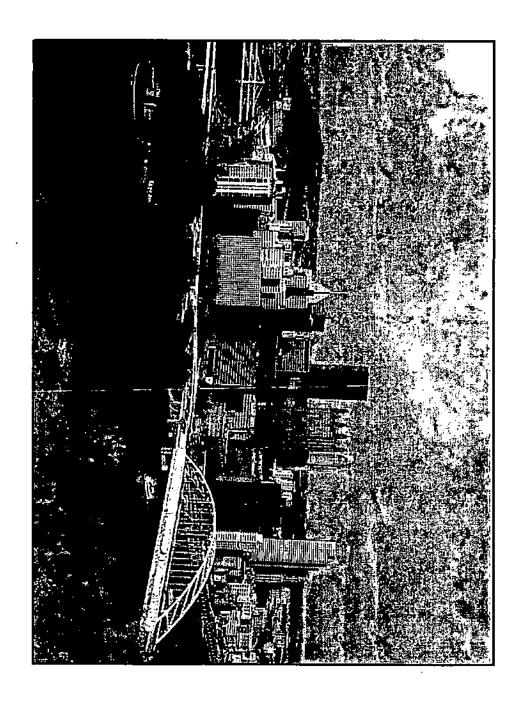
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Traffic Projections

Traffic Growth Rate Documentation

2004 Pennsylvania



Bureau of Planning and Research Transportation Planning Information Division October, 2005



In cooperation with:
US Department of Transportaton
Federal Highway Administration



Traffic Pattern Group (TPG)

Highway traffic characteristics can vary by geographical area, roadway type, and population density. Therefore, individual traffic volume counts are categorized into one of ten Traffic Pattern Groups (TPGs). The TPGs are based on highway functional classification, geographic area, and urban/rural characteristics.(See map on pg. 11) Each ATR is associated with one of the ten TPGs listed below.

TRAFFIC PATTERN GROUP	DESCRIPTION
TPG 1	URBAN - INTERSTATE
TPG 2	RURAL - INTERSTATE
TPG 3	URBAN - OTHER PRINCIPAL ARTERIALS
TPG 4	RURAL - OTHER PRINCIPAL ARTERIALS
TPG 5	URBAN - MINOR ARTERIALS, COLLECTORS, LOCAL ROADS
TPG 6	NORTH RURAL - MINOR ARTERIALS
TPG 7	CENTRAL RURAL- MINOR ARTERIALS
TPG 8	NORTH RURAL - COLLECTORS AND LOCAL ROADS,
TPG 9	CENTRAL RURAL- COLLECTORS AND LOCAL ROADS
TPG 10	SPECIAL RECREATIONAL

ATR data is used in computing:

- · Daily, monthly, and seasonal adjustment factors by highway functional classification and geographic location.
- · Yearly growth factors which are used to update older counts in the Department's Roadway Management System (RMS).
- Design hour factors (peak hour, 30th highest and 50th highest hour) used for the design of highways.

Statewide Traffic Trends: Annual and Multi-Year Change By Traffic Pattern Group

This table shows percent change for the traffic pattern groups at 1 year intervals starting with 1999/2000 up to 2003/2004. An overall percent change for the traffic pattern groups is also shown on this table.

Percer	nt Change	Per Year,	1999 - 2004	en e		
TRAFFIC PATTERN GROUPS	1999-00		2001-02	2002-03	2003-04	1999-04
TPG 1 Urban Interstate	0.5%	2.0%	3.0%	3.0%	3.2%	12.2%
TPG 2 Rural Interstate	·0.5%	La 2.2%	3.0%	3.0%	3.3%	12.6%
TPG 3	0.5%	1.9%	1.8%	1.0%	1.4%	6.8%
Urban Principal Arterial TPG 4 Rural Principal Arterial	0.3%	1.0%	1.9%	1.3%	1.7%	6.3%
TPG 5 Urban Minor Arterials or Collectors	0.5%	1.9%	1.8%	1.0%	1.4%	6.8%
TPG 6 North Rural Minor Arterials	0.3%	0.5%	1.9%	1.3%	1.7%	5.8% _*
TPG 7 Central Rural Minor Arterials	0.3%	1.0%	1.9%	1.3%	1.7%	6.3%
TPG 8 North Rural Collectors	0.3%	0.5%	1.9%	1.3%	1.7%	5.8%
TPG 9 Central Rural Collectors	0.3%	1.0%	1.9%	1.3%	1.7%	6.3%
TPG 10 Special Recreational	. 1.0%	1.0%	1.0%	1.0%	1.7%	5.8%
Statewide	0.5%	1.3%	2.0%	1.6%	2.0%	7.5%

6.3% / 5 = 1.26% per year

Use 1.3% per year

Highway Capacity Analysis Worksheets

US Route 30 and Crossroads Main Roadway/Gateway Gettysburg

SHORT REPORT General Information Site Information JES US 30 & Gateway/Smith Analyst Intersection Agency or Co. **GME** All other areas Area Type Date Performed Jurisdiction 8/10/2006 Straban Twp. Adams Co. Time Period Weekday PM Peak Hour Analysis Year 2006 Existing Volume and Timing Input EΒ WB NB SB RT LT TH LT TH RT LT TH RT LT TH RT Number of Lanes 2 1 2 1 1 0 1 1 1 0 1 0 Т L R L TR L LTR LTR Lane Group Volume (vph) 4 606 49 10 651 2 33 o 9 o 1 0 0 % Heavy Vehicles 0 6 a 9 0 0 0 0 PHF 0.93 0.930.93 0.80 0.80 0.80 0.90 0.90 0.90 0.75 0.75 0.75 Pretimed/Actuated (P/A) Α Α Α Α Α Α Α Α Α Α Α Α 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Startup Lost Time 2.0 2.0 Extension of Effective Green 20 20 20 2.0 2.0 2.0 2.0 2.0 2.0 5 5 5 5 3 3 3 3 5 Arrival Type Unit Extension 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Ped/Bike/RTOR Valume 0 o 0 0 0 0 0 0 0 0 0 Lane Width 12.0 12.0 12.0 12.0 12.0 12.0 12.0 14.0 9.0 Parking/Grade/Parking Ν 0 N 0 N N 3 Ν 2 Ν N Ν Parking/Hour Bus Stops/Hour 0 0 0 0 0 0 3.2 Minimum Pedestrian Time 3.2 3.2 3.2 EW Perm **EW Perm** 03 SB Only 80 Phasing 04 **NB Only** 07 G = 10.7G = 36.7G = G= G = 33.2G = 5.1G = G = Timina Y = 6.36.3 Y = Y = 5.8Y = 5.9Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25Lane Group Capacity, Control Delay, and LOS Determination EΒ WB NB SB Adjusted Flow Rate 652 53 12 816 37 10 6 1139 1615 1620 218 382 74 Lane Group Capacity 537 565 512 0.02 0.57 0.03 0.00 0.08 0.03 0.50 0.07 0.02 v/c Ratio Green Ratio 0.33 0.331.00 0.490.490.30 0.30 0.30 0.05 Uniform Delay d. 24.6 15.4 19.1 27.4 26.8 27.0 50.2 30.2 0.0 0.11 Delay Factor k 0.110.17 0.110.11 0.11 0.11 0.110.11Incremental Delay d, 0.0 0.7 0.0 0.0 0.3 0.1 0.0 0.0 0.5 1.000 PF Factor 0.666 0.666 0.950 0.928 0.3641.000 1.000 1.000 Control Delay 7.2 27.0 50.7 16.4 20.8 0.0 14.3 27.4 26.8 Lane Group LOS C В Α C C С D R Approach Delay 19.2 7.3 27.3 50.7 В С Α D Approach LOS В Intersection Delay 13.4 Intersection LOS

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SHORT REPORT General Information Site Information JES US 30 & Gateway/Smith Intersection Analyst All other areas Agency or Co. **GME** Area Type Jurisdiction Straban Twp, Adams Co. Date Performed 8/10/2006 Analysis Year 2008 No Build Time Period Weekday PM Peak Hour Volume and Timing Input WB NΒ SB EB TH LT TH RT LT RT $\overline{\mathsf{LT}}$ TH LT RT TH 2 1 1 a 2 1 0 1 1 Number of Lanes 1 1 L R LTR Láne Group L T R L TR LT349 110 888 2 323 7 100 1 Volume (vph) 4 637 0 9 0 0 0 0 0 0 n % Heavy Vehicles 0 6 0 0.93 0.90 0.90 0.90 0.75 0.75 0.75 0.930.930.80 0.80 0.80 Pretimed/Actuated (P/A) Α Α Α Α Α Α Α Α 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 2.0 2.0 2.0 Extension of Effective Green 2.0 2.0 2.0 3 3 5 3 3 Arrival Type 5 5 5 5 3.0 3.0 3.0 3.0 Unit Extension 3.0 3.0 3.0 3.0 3.0 0 n O O o 0 Ped/Bike/RTOR Volume 0 0 0 0 n 12.0 12.0 140 9.0 Lane Width 12.0 12.0 12.0 12.0 12.0 2 Ν Ν N Ν Parking/Grade/Parking Ν 0 Ν Ν 0 Ν Parking/Hour Bus Stops/Hour 0 0 0 0 0 0 0 О 0 3.2 3.2 Minimum Pedestrian Time 3.2 3.2 EW Perm 04 **NB Only** SB Only 07 80 Phasing EW Perm 03 Ġ = G = G = G = 33.2G = 5.1G = 36.7G = G = 10.7Timing Y = 5.9<u>Y =</u> Y = 6.3<u>Y =</u> Y = 5.8Y = 6.3Y = Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination WB NB SB ΕB 1112 15 111 Adjusted Flow Rate 685 375 137 359 8 1620 1139 1615 368 537 565 512 77 Lane Group Capacity 163 0.19 0.01 0.22 0.02 0.23 0.37 0.69 0.67 v/c Ratio 0.60 1.00 0.30 0.05 Green Ratio 0.33 0.33 0.49 0.49 0.30 0.3021.7 33.6 26.9 28.7 50.5 Uniform Delay d₁ 24.6 30.6 0.0 16.8 0.11 0.11 0.11 0.11 Delay Factor k 0.19 0.11 0.11 0.26 0.241.2 0.2 Incremental Delay d, 0.1 0.9 0.1 0.6 1.2 3.2 0.0 0.928 0.364 1.000 1.000 1.000 1.000 0.950 PF Factor 0.6660.666 26.9 28.9 51.7 9.1 36.8 16.5 21.3 0.1 16.2 Control Delay В C Α D G C D Α В Lane Group LOS 51.7 Approach Delay 13.8 9.9 34.8 D Approach LOS В Α 15.8 Intersection LOS В Intersection Delay

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% Heavy Vehicles	0	6	0	0	9	0	0	0	0				<u> </u>
PHF	0.93	0.93	0.93	0.80	0.80	0.80	0.90	0.90	0.9	90			
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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	10	10	0 0				 	
Lane Width	14.0	12.0	14.0	14.0	12.0	14.0	14.	0 12.0	0 14	.0		\vdash	
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Lane Group Capacity	1084	1551	1723	642	1597	580	773	393	741				
v/c Ratio	0.38	0.44	0.22	0.27	0.83	0.13	0.46	0.07	0.16				
Green Ratio	0.29	0.45	1.00	-	0.34	0.34	0.21	0.21	0.44		十	\dashv	
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Incremental Delay d ₂	0.2	0.2	0.1	0.2	3.8	0.1	0.4	0.1	0.1	1	\top	$\neg \uparrow$	
PF Factor	0.728				0.662	0.662	1.000	1.000	1.000	\top	十	\dashv	
Control Delay	. 22.9	9.3	0.1	34.3	26.1	16.9	38.5	34.9	18.9		\dashv	\neg	
Lane Group LOS	С	A	A	С	С	В	D	C	В	†	\top	一	
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Approach LOS	1	В			С			С					
Intersection Delay	1	21.0				Intersect	ion LO	s		+		С	

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SHORT REPORT Site Information General Information US 30 & Gateway/Smith JES Intersection Analyst All other areas Agency or Co. **GME** Area Type Straban Twp, Adams Co Date Performed 8/10/2006 Jurisdiction Time Period Weekday PM Peak Hour Analysis Year 2018 No Build Volume and Timing Input SB EΒ WB NB RΤ LΤ TH RT RT LŦ TH RT TH ΤŤ TH LT 1 1 0 1 2 1 1 2 0 1 1 Number of Lanes R L TR L R LTR Ĺ T LTLane Group 5 792 755 249 890 2 1049 12 286 5 13 1 Volume (vph) 0 o o a 0 0 o n o 9 0 % Heavy Vehicles 6 PHF 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.950.95 0.950.950.95Α Α Α A A Α Α Pretimed/Actuated (P/A) Α A Α Α Α 2.0 2.0 2.0 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 2.0 2.0 Extension of Effective Green 2.0 3 5 5 3 3 3 Arrival Type 5 5 5 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Unit Extension o n n o 0 O 0 Ped/Bike/RTOR Volume n O a 0 12.0 12.0 9.0 12.0 14.0 Lane Width 12.0 12.0 12.0 12.0 2 3 N Ν Ν N 0 N 0 Ν Ν Parking/Grade/Parking N Parking/Hour O Bus Stops/Hour n 0 a O 0 0 0 0 3.2 3.2 Minimum Pedestrian Time 3.2 3.2 EW Perm NB Only SB Only 07 80 EW Perm 03 04 Phasing G = G = G = G = 33.2G = 5.1G = 36.7G≔ G = 10.7Timing Y = 5.9Y = Y = 6.3Y = 6.3Ÿ ≃ 5.8 Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25 Lane Group Capacity, Control Delay, and LOS Determination SB NB EB WB 5 834 795 262 939 552 565 301 20 Adjusted Flow Rate 1620 1139 1615 310 537 538 512 77 Lane Group Capacity 194 0.26 0.73 0.49 0.85 0.58 1.03 1.05 0.59 v/c Ratio 0.03 0.30 0.05 0.33 0.33 1.00 0.49 0.49 0.300.30 Green Ratio 20.1 38.4 38.4 32.6 50.6 Uniform Delay d, 24.6 32.3 0.0 19.9 0.18 0.11 0.50 0.11 0.38 0.17 0.50 0.11 0.29 Delay Factor k 0.2 46.2 52.6 1.8 1.8 Incremental Delay do 2.5 18.9 0.5 0.1 1.000 1.000 1.000 0.950 0.928 0.364 1.000 0.666 0.666PF Factor 52.4 84.6 91.0 34.4 Control Delay 16.5 24.0 0.2 37.4 7.8 Α F F \boldsymbol{C} D C D В Α Lane Group LOS 52,4 12.4 14.3 76.5 Approach Delay Ε D В В Approach LOS C

Intersection Delay

34.4

Intersection LOS

SHORT REPORT General Information Site Information US 30 & Crossroads/Gateway Analyst JES Intersection Agency or Co. GME Area Type Jurisdiction Analysis Year All other areas Date Performed 08/10/2006 Straban Twp, Adams Co 2018 Build w/ Improv. Time Period Weekday PM Peak Hour

rinie Period		у г <u>—</u>		770	<i>)</i> 111			A	nalys	is Year		20	18 Bu	iild w	/ Im	prov.				
Volume and	l Timing Inpu	t	1					_												
			LT	_	EB TH	RT	LT	$\overline{}$	WB TH		+	LT	-	NB TH	1 1	RT	LT		SB	T Rit
Number of L	anes		2	╁╌	2	1	2	+	3	1	┰┼	2	+	1	$\overline{}$	1	┝┶╵	+	<u> </u>	+
Lane Group	41100		L	╁	T	R	$\frac{1}{L}$	十	T	R	\dashv	L	+	, T	╄—	<u>'</u> ₹	┢	+		┼
Volume (vph	<u> </u>		605	╁	<u>.</u> 797	755	293	+	1155	97	+	1049	<u>, </u>	11	+	98	├─-	+		+-
% Heavy Ve	·		0	╁	6	0	0	╫	9	0	\dashv	0	-	, , 0	+	2	⊢	┰		╁
PHF	THOICS		0.95	١,	.95	0.95	0.95	+	0.95	0.95	+	0.95	_	95	₩.	95	├	+		┼──
Pretimed/Act	tuated (D/A)		0.93 A	+	A .	A A	0.93 A	+	0.95 A	0.93 A	┪	0.93 A		.95 A	+	9 5 4	┼—	十		\vdash
Startup Lost			2.0	-	2.0	2.0	2.0	+	2.0		-+	2.0	_		₩	.0	⊢	+		┼
	Effective Gree		2.0	╌	2.0	2.0	2.0	+		2.0				2.0	 		 	┽		-
	Ellective Gree	ė11		╀		+		+	2.0	2.0	+	2.0	+	2.0	₩	.0	⊢	+		—
Arrival Type			5	╀,	5	5	5	+	5	5	\dashv	3	+.	3	₩	3	⊢	+		
Unit Extension			3.0	┿	3.0	3.0	3.0	+	3.0	3.0	-	3.0		3.0	╌	.0		4		↓
Ped/Bike/RT	OR Volume	_	0	┿	0	0	0	4	0	0	\dashv	0	-	0	—	2	Ь	4		 -
Lane Width	d = (C) = alain =		14.0	 -	2.0	14.0	14.0	+	12.0		'	14.0	_	2.0	-	1.0	 	-		—
Parking/Grad			N	╀	0	N	N	+	0	N	-	N		3	<u> </u>	<u></u>		+		├
Parking/Houl Bus Stops/H			0	╁	0	0	0	+	0	- - 	-+	0	+	0	Η.	0	\vdash	+		₩
	destrian Time			۲,	3.2	 -	'-	+	3.2	+ -	+	-	+	3.2	┤		\vdash	十		├──
Phasing	EW Perm	F	B Only	<u> </u>		<u>.L</u> ⊔ & RT	0.	<u>-</u> -	T	NB Or	<u>.</u> L	Τ	06		누	07	<u> </u>	十	08	<u> </u>
•	G = 11.5		= 7.0			33.1	G =	_	+	G = 34	_	G	_		G			┪;	3 =	
Timing	Y = 6		= 6		Υ=		Y =			Y = 6		Υ			Υ			1	/ =	
·· · · · · · · · · · · · · · · · · · ·	<u> </u>				<u> </u>							C	ycle t	_engt	h C	= 1	10.0			
Lane Grou	up Capacity	<u>, (</u>	Contro	_		y, and	LOS			ninatio	'n					_				
				_	EB	,			WB		L		NE	3		_			SB	
Adjusted Flo	w Rate		637	83	39	795	308	12	216	102	11	04	43	3	14				1	
Lane Group	Capacity		833	14	130	1723	3 <u>9</u> 1	11	429	518	11	52	585	8	21				ヿ	
v/c Ratio			0.76	0.3	59	0.46	0.79	0.	85	0.20	0.9	6	0.07	0.	39	1				
Green Ratio			0.22	-	42	1.00	0.10	+	30	0.30	0.3		0.31	-	47	+		Г	一	
Uniform Dela	ny d,		40.0	24		0.0	48.1	-	5.1	28.6	37.		26.6		3.8	+			一	
Delay Factor	· '	_	0.32	0.		0.11	0.33	-	38	0.11	0.4		0.11	-	11	+		-	一十	
Incremental I			4.3	⊢	0.6	0.2	10.3	-	5.1	0.2	17.		0.1).3	+			一十	
PF Factor				┺			0.922	-		0.713	1.0		1.00		000	+		-		
Control Delay	v		36.7	-	3.4	0.2	54.6	+	0.9	20.6	54		26.6	-	9.1	\top		\vdash		
Lane Group I			D	E		A	D	-	0	С	D		С	_	3	+		\vdash	\dashv	
Approach De			-	<u> </u>	5.3	L	_	<u> </u>	4.7		⊢		46.1			+				
Approach LO	-		 		8 B				7.7 С		\vdash		D			+				
Intersection [9.6			<u> </u>		ntersec	l tion	109				+	—			
	Julay			23	7. U				ı	incise¢	1011	100	, <u> </u>		_					

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				SI	IORT	REPO	RT							
General Info	rmation						formati	on						
Analyst Agency or Co Date Perform Time Period	ned <i>8/</i> 1	JES GME 10/2006 ay Peak H	lour			Interse Area T Jurisdi Analys	уре		aban Tw	er areas				
Volume and	Timing Input													
		<u> </u>	EB		- ;	WB	1 5-	LT	NB T-701	T 67	LT	SB TH	RT	
Number of La	anes	LT 1	TH 2	RT 1	LT .	TH 2	RT 0	1	TH 1	RT 1	0	1	0	
Lane Group		L	T	R	L	TR	<u> </u>	L	LT	R		LTR		
Volume (vph))	5	633	49	10	647	6	33	0	9	2	0	6	
% Heavy Veh	·	0	1	0	0	2	0	0	0	0	0	0	0	
PHF		0.89	0.89	0.89	0.85	0.85	0.85	0.79	0.79	0.79	0.75	0.75	0.75	
Pretimed/Act	tuated (P/A)	Α	Α	Α	Α	A	Α	Ą	Α	Α	A	A	Α	
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	<u> </u>	2.0		
Arrival Type	•	5	¹² 5 ±	5	5	5	. '	- 3	3	3		3		
Unit Extension	on	3.0	3.0	3.0	3.0	3.0	· ·	3.0	3.0	3:0		3.0		
Ped/Bike/RT	OR Volume	0	0	0	0	0	0	0	0	0	0_	0	0	
Lane Width		12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0		
Parking/Grad		N	0	N	N	0	N	N	3	N	N_	2	N	
Parking/Hour		0	0				├		 	<u> </u>		<u> </u>		
<u> </u>	Bus Stops/Hour Minimum Pedestrian Time			0	0	3.2	 	0	3.2	0	-	3.2		
Phasing	EW Perm	EW Pern	3.2	03	I	<u> </u>	NB On	l	SB Only	<u> </u>	J 07		J)8	
		G = 36.7			G =		G = 33		35 Only $3 = 5.1$	G =		G =	//	
Timing		Y = 6.3	Y =		Y =		Y = 5.8		/ = 5.9	Y =		Y =		
	nalysis (hrs) =								Cycle Ler	igth C =	110.0) 		
Lane Grou	ıp Capacity	Contro		y, and	LOS		ninatio	n T	ND			ŞB		
A	D-t-		EB 711	55	12	WB 768	1	42	NB 0	11	<u> </u>	11	ı	
Adjusted Flov		6	1195	1615	357	1729	 	537	565	512	 -	70	 	
Lane Group (Сараску	229	0.50	0.00	<u>. </u>					0.02		0.16	-	
v/c Ratio Green Ratio	·	0.03 0.33	0.59 0.33	0.03 1.00	0.03 0.49	0.44 0.49	<u> </u>	0.08 0.30	0.00 0.30	0.02		0.76	-	
Uniform Dela	ıv d.	24.6	30.5	0.0	15.6	18.4		27.5	26.8	27.0		50.4		
Delay Factor		0.11	0.18	0.11	0.11	0.11		0.11	0.11	0.11		0.11		
Incremental C		0.0	0.8	0.0	0.0	0.2		0.1	0.0	0.0		1.1	 - 	
PF Factor	· Ł	0.666	0.666	0.950	0.928	0.364		1.000	1.000	1.000		1.000		
Control Delay	 /	16.5	21.1	0.0	14.5	6.9		27.5	26.8	27.0		51.4		
Lane Group L	LOS	В	С	Α	В	Α		С	С	С		D		
Approach De	lay	í	19.6			7.0			27.4			51.4		
Approach LO	S		В			Α			С		D			
Intersection D	Delay		14.0				Intersec	tion LC	S			В		

SHORT REPORT Site Information General Information Intersection US 30 & Gateway/Smith JES Analyst Агеа Туре All other areas **GME** Agency or Co. Jurisdiction Straban Twp, Adams Co 8/10/2006 Date Performed Analysis Year 2008 No Build Saturday Peak Hour Time Period Volume and Timing Input WB NB SB EB RT RT TH TH LT RT TH RT LT LT ΤH ΙT 1 1 a 1 0 2 2 0 1 1 1 Number of Lanes TR L LT R **LTR** L T R L Lane Group 184 624 6 506 10 143 2 13 6 5 618 666 Volume (vph) 0 o 2 o 0 0 n 0 0 0 1 0 % Heavy Vehicles 0.75 0.75 0.75 0.85 0.85 0.85 0.90 0.90 0.90 0.89 0.89 0.89PHF Α Α Α Α Α Pretimed/Actuated (P/A) A A , A Α Α Α 2.0 2.0 2.0 2.0 -2.0 2.0 2.0 2.0 2.0 Startup Lost Time 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Extension of Effective Green 2.0 2.0 3 3 15 5 3 3 5 5 5 Arrival Type 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Unit Extension 0 0 0 0 0 0 0 0 0 10 0 0 Ped/Bike/RTOR Volume 9.0 12.0 12.0 12.0 12.0 12.0 14.0 12.0 12.0 Lane Width 2 Ν Ν 0 Ν Ν 3 Ν Ν 0 N Parking/Grade/Parking Ν Parking/Hour 0 0 0 0 0 0 0 0 Bus Stops/Hour 3.2 3.2 3.2 3.2 Minimum Pedestrian Time 04 NB Only SB Only 07 80 EW Perm 03 EW Perm Phasing G = G = G = 43.2G = 5.1G = G = 10.7G = 26.7G = Timing Y = 5.8Y = 5.9Y = 6.3Y = 6.3Y =Y = Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25Lane Group Capacity, Control Delay, and LOS Determination SB WB NB ř 216 562 11 159 28 748 741 694 Adjusted Flow Rate 1615 1407 75 666 263 735 698 Lane Group Capacity 171 869 0.24 0.37 0.82 0.53 0.81 0.01 0.80 0.46 0.04 v/c Ratio 0.05 0.39 0.39 0.40 0.39 0.24 0.24 1.00 0.40 Green Ratio 29.7 20.4 22.4 50.9 0.0 25.3 25.3 Uniform Delay d. 31.8 39.1 0.350.11 0.11 0.11 0.34 0.11 0.36 0.13 0.11 Delay Factor k 3.1 0.2 6.9 0.0 Incremental Delay d₂ 0.2 18.5 0.4 0.1 5.3 1.000 1.000 1.000 1.000 0.786 0.786 0.950 0.928 0.561PF Factor 54.0 22.6 14.5 36.5 20.4 25.1 36.1 0.2 41.9 Control Delay С CD D D В Lane Group LOS D Α 33.3 54.0 20.7 17.5 Approach Delay CD CВ Approach LOS C Intersection LOS 22.4 Intersection Delay

						SH	IORT I	REPO	RT								
General Info	rmation							Site Ir		atio	n						•
Analyst Agency or Co Date Perform Time Period	ned <i>08</i>	GN 1/10	S ME V2006 Peak Ho	our			v 6.00	interse Area T Jurisdi Analys	ype iction		Stra	& Cros All othe ban Twj 08 Build	er a. o, A	reas dams	Co	у	
Volume and	Timing Input						<u>:</u> L	,						,			
				_	В			WE				NE				SB	
		4	LT_	•	H	RT	LT	TH	+	RT	LT	 -	_	RT	L1	TH	RT
Number of La	anes	{	2	2		1	2	3	_	1	2	1 -	_	1	+	_	
Lane Group		4	L	7		R	L	7	-	R	L	T	_	R	┿		
Volume (vph		4	386	62		666	222	840		62	506		_	153	+		_
% Heavy Vel	hicles	_	0	1		0	0	2	\rightarrow	0	0	0		0	+-		
PHF		_	0.89	0.8		0.89	0.85	0.85	-	.85	0.90		_	0.90			
Pretimed/Act	• ,	_	Α	Α		A	Α	'A	-	A	A	A		Α		+	<u> </u>
Startup Lost		_	2.0	2.		2.0	2.0	2.0		2.0	2.0	2.0	_	2.0	+-		+
Extension of	Effective Gree	n	2.0	2.		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	_		<u> </u>
Unit Extension	on	\Box	3.0	3.	0	3.0	3.0	3.0	-	3.0	3.0	3.0		3.0	ļ	\bot	<u> </u>
Ped/Bike/RT	OR Volume	\sqcup	0	0		0	. 0	0		0	0	0		0	Џ.,		
Lane Width		_	14.0	12		14.0	14.0	12.0	_	4.0	14.0		2	14.0	+-		<u> </u>
Parking/Grad		4	N	0	+	N	, N	0	_	N	N	0	_	N	+		
Parking/Hour	-			!		<u> </u>	1	+	+		 	0		0	+		
Bus Stops/H	our destrian Time	\dashv	0	3.		0	. 0	3.2		0	0	3.2					
Phasing	EW Perm	<u>_</u> _	B Only	<u> </u>	_	1 <u> </u>	1 04		<u> </u>	Onl	<u>_L</u>	06		T (<u></u> 17	1 (<u>.l</u>)8
•	G = 20.7		= 7.0			29.0	G =	<u> </u>	G =			=		G =		G =	<u> </u>
Timing	Y = 6	_	- 6	`	Y =	6	Y =		Y =	6		=		Y =		Y =	
	\nalysis (hrs) =											ycle Lei	ngtł	1 C =	110.0)	
Lane Grou	up Capacity	<u>, C</u>	ontro			, and	LOS		nina	atio:	n	. ID					
- :					В	7.40		WB	T ==	\dashv		NB	17-	-		SB	ı
Adjusted Flo	w Rate		434 1145	700		748 1723	261	988 1338	73	-	562	29	17			 	
Lane Group	Capacity		1145	136	0	1723	704	1330	454	1	996	506	87	7			
v/c Ratio			0.38	0.5	1	0.43	0.37	0.74	0.16	5	0.56	0.06	0.1	19			
Green Ratio			0.31	0.3	8	1.00	0.19	0.26	0.26	5	0.27	0.27	0.3	51	.		
Uniform Dela	ay đ ₁		29.9	26.	1	0.0	39.0	37.0	31.1	1.	34.8	30.1	14	.7			
Delay Factor	·k		0.11	0.1	2	0.11	0.11	0.30	0.1	1	0.16	0.11	0.1	11			
Incremental I	Delay d ₂		0.2	0.3	3	0.2	0.3	2.2	0.2	2	0.7	0.0	<u> </u>	.1			
PF Factor			0.706	0.5	88	0.950	0.845	0.761	0.76	51	1.000	1.000	1.0	000			
Control Dela	у		21.3	15.	7	0.2	33.3	30.4	23.	9	35.6	30.1	14	1.8	_	<u> </u>	
Lane Group	LOS		С	В		Α .	C	C	С		D	С	E	3			
Approach De	elay			10.	8		·	30.6				30.7					
Approach LC	os			В			ı	С				С					
Intersection I	Delay			21.	2		ì		Inter	secti	ion LO	S				С	

LT TH RT LT Th LT Th LT Th LT LT	7 0 5 0.95
Agency or Co. Date Performed B/10/2006 Saturday Peak Hour Area Type Jurisdiction Analysis Year All other areas Straban Twp, Adams Co 2018 No Build Volume and Timing Input EB WB NB ST NB LT T	H RT 0 R P 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
EB	H RT 0 R P 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LT TH RT LT The LT LT Th LT LT Th LT LT	H RT 0 R P 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Number of Lanes	0 R 7 9 7 0 5 0.95
Lane Group L T R L TR L TR L LT R LT	R 7 0 0.95
Volume (vph) 6 850 1154 335 886 7 871 17 253 2 22 % Heavy Vehicles 0 1 0 0 2 0	7 0 5 0.95
% Heavy Vehicles 0 1 0 0 2 0 0 0 0 0 PHF 0.95 <td< td=""><td>0 0.95</td></td<>	0 0.95
PHF 0.95	5 0.95
Pretimed/Actuated (P/A) A	
Startup Lost Time 2.0 3.0	1 '
Extension of Effective Green 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	0
Arrival Type 5 5 5 5 5 3 <t< td=""><td></td></t<>	
Unit Extension 3.0	
Ped/Bike/RTOR Volume 0	
Lane Width 12.0 12.0 12.0 12.0 12.0 12.0 12.0 14.0 9 Parking/Grade/Parking N 0 N N 0 N N 3 N N 2 Parking/Hour Image: Company of the parking	
Parking/Grade/Parking N 0 N N 0 N N 3 N N 2 Parking/Hour Image: Control of the control o	
Bus Stops/Hour 0	N
Minimum Pedestrian Time 3.2 t 3.2	
Phasing EW Perm EW Perm 03 04 NB Only SB Only 07 Timing G = 10.7 G = 26.7 G = G = G = 43.2 G = 5.1 G = G =	
Timing $G = 10.7$ $G = 26.7$ $G = G = G = 43.2$ $G = 5.1$ $G = G = 6.1$	
Timing	- 80
Y = 6.3 $Y = 6.3$ $Y = 100$	=
Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0	
Lane Group Capacity, Control Delay, and LOS Determination	
	В
Adjusted Flow Rate 6 895 1215 353 940 917 18 266 32	
Lane Group Capacity 141 869 1615 245 1408 698 735 666 76	
v/c Ratio 0.04 1.03 0.75 1.44 0.67 1.31 0.02 0.40 0.4	2
Green Ratio 0.24 0.24 1.00 0.40 0.40 0.39 0.39 0.39 0.0	5
Uniform Delay d ₁ 31.9 41.7 0.0 25.2 27.2 33.4 20.5 24.1 51.	0
Delay Factor k 0.11 0.50 0.31 0.50 0.24 0.50 0.11 0.11 0.1	1
Incremental Delay d ₂ 0.1 38.4 2.0 220.0 1.2 151.3 0.0 0.4 3.	7
PF Factor 0.786 0.786 0.950 0.929 0.561 1.000 1.000 1.000 1.00	1
Control Delay 25.2 71.2 2.0 243.4 16.5 184.7 20.5 24.5 54	
Lane Group LOS C E A F B F C C D	00
Approach Delay 31.4 78.4 146.7 54	8
Approach LOS C ; E F E	8
Intersection Delay 74.5 Intersection LOS E	8

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SHORT REPORT General Information Site Information US 30 & Crossroads/Gateway Intersection JE\$ Analyst Agency or Co. **GME** Area Type All other areas Date Performed 08/10/2006 Jurisdiction Straban Twp, Adams Co Time Period Saturday Peak Hour Analysis Year 2018 Build w/ Improv. Volume and Timing Input WB NΒ SB ΕB RT TH RT LT TH ŔŦ LT ΤĦ RT LT TH LT Number of Lanes 2 2 1 2 3 1 2 1 1 т R T R L T R L L Lane Group 174 871 73 270 Volume (vph) 1090 856 1154 399 1258 a 2 % Heavy Vehicles n 1 a 0 0 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 Pretimed/Actuated (P/A) Α Α A A Α Α A Α 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Startup Lost Time 2.0 2.0 2.0 2.0 Extension of Effective Green 2.0 2.0 2.0 2.0 2.0 5 3 5 5 5 5 5 3 3 Arrival Type 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Unit Extension Ped/Bike/RTOR Volume o o 0 0 0 0 0 0 0 12.0 14.0 14.0 12.0 14.0 14.0 12.0 14.0 Lane Width 14.0 Parking/Grade/Parking Ν 0 Ν Ν 0 Ν Ν 3 Ν Parking/Hour 0 o 0 o Bus Stops/Hour 0 a 0 0 3.2 3.2 3.2 Minimum Pedestrian Time EB Only Thru & RT **NB Only** റെ 07 80 EW Perm 04 Phasing G = 29.0G = 29.3 G = 20.7G = 7.0G = G = G = G = Timing Y = 6Y = 6 $\dot{Y} = 6$ <u>7</u> = Y = 6Y = Y = Y = Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25 Lane Group Capacity, Control Delay, and LOS Determination ΕB WB NB SB 1147 1215 1324 901 420 183 917 77 284 Adjusted Flow Rate 1145 1368 1723 1338 704 454 981 499 864 Lane Group Capacity 0.71 0.60 0.99 0.40 0.93 0.15 0.33v/c Ratio 1.00 0.66 0.51 Green Ratio 0.31 0.38 1.00 0.19 0.26 0.26 0.270.27Uniform Delay d. 38.2 40.8 40.3 33.4 39.4 30.9 15.9 28.1 0.0 Delay Factor k 0.50 0.23 0.27 0.19 0.49 0.11 0.45 0.11 0.11 Incremental Delay d, 27.0 1.2 1.3 1.4 22.0 0.6 15.5 0.1 0.2 PF Factor 0.706 0.588 0.950 0.845 0.761 0.761 1.000 1.000 1.000 16.1 17.7 35.9 52.8 26.0 54.9 31.0 Control Delay 53.9 1.3 C C В Lane Group LOS D В Α D D D 24.3 46.5 44.8 Approach Delay CApproach LOS D Intersection LOS Intersection Delay 35.0

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Highway Capacity Analysis Worksheets

US Route 30 and Crossroads Western Roadway

TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Crossroads West Analyst JES Intersection Access Agency/Co. GME Straban Twp, Adams Co Jurisdiction Date Performed 8/10/2006 Analysis Year 2008 Build Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Crossroads West Access Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 1 2 3 4 5 6 R R Volume (veh/h) 1376 1377 10 Peak-Hour Factor, PHF 1.00 1.00 0.92 1.00 0.92 0.92 Hourly Flow Rate, HFR 0 1495 0 0 1496 10 (veh/h) Percent Heavy Vehicles 0 0 Median Type Undivided RT Channelized 0 0 Lanes 0 $\bar{2}$ 0 0 2 Configuration $\overline{\tau}$ T R Upstream Signal 0 Minor Street Northbound Southbound Movement 9 10 8 11 12 Ł T R T R Volume (veh/h) 140 Peak-Hour Factor, PHF 1.00 1.00 1.00 1.00 1.00 0.92 Hourly Flow Rate, HFR 0 0 0 0 0 152 (veh/h) Percent Heavy Vehicles 0 0 0 0 0 Percent Grade (%) 0 0 Flared Approach Ν Ν Storage ō . 0 RT Channelized 0 0 anes 0 0 a 0 0 Configuration R Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 1 7 4 8 9 10 12 11 Lane Configuration R v (veh/h) 152 C (m) (veh/h) 693 v/c 0.22 95% queue length 0.83 Control Delay (s/veh) 11.6 os В Approach Delay (s/veh) 11.6 Approach LOS --В

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Crossroads West JES Analyst Intersection Access Agency/Co. GME Jurisdiction Straban Twp, Adams Co 8/10/2006 Date Performed 2018 Build Analysis Year Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Crossroads West Access Intersection Orientation: East-West Study Period (hrs): Vehicle Volumes and Adjustments Maior Street Eastbound Westbound Movement 3 4 6 R Ĺ R Volume (veh/h) 2157 2201 16 Peak-Hour Factor, PHF 1.00 1.00 0.92 1.00 0.92 0.92 Hourly Flow Rate, HFR 0 á 0 2344 2392 17 Percent Heavy Vehicles 0 Undivided Median Type RT Channelized o 0 0 2 0 0 2 Lanes Configuration T R o Upstream Signal Minor Street Northbound Southbound Movement 7 9 10 11 12 8 R R L Volume (veh/h) 217 Peak-Hour Factor, PHF 1.00 -1.00 1.00 1.00 1.00 0.92 Hourly Flow Rate, HFR 0 0 0 0 0 235 (veh/h) Percent Heavy Vehicles 0 0 0 0 0 . 0 Percent Grade (%) 0 . 0 Flared Approach N Ν 0 0 Storage RT Channelized o. Lanes 0 0 0 0 0 Configuration R Delay, Queue Length, and Level of Service Approach Eastbound Southbound Westbound Northbound 9 Movement 1 4 7 8 10 11 12 Lane Configuration R v (veh/h) 235 C (m) (veh/h) 516 v/c 0.46 2.35 95% gueue length Control Delay (s/veh) 17.7 17.7 Approach Delay (s/veh) Approach LOS C --

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Crossroads West Analyst JES Intersection Access Agency/Co. **GME** Jurisdiction Straban Twp, Adams Co Date Performed 8/10/2006 Analysis Year 2008 Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 Crossroads West Access North/South Street: Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 6 R L R L Volume (veh/h) 1675 1351 10 1.00 Peak-Hour Factor, PHF 0.92 1.00 1.00 0.92 0.92 Hourly Flow Rate, HFR 0 0 1468 1820 0 10 (veh/h) Percent Heavy Vehicles 0 O Median Type Undivided RT Channelized 0 0 Lanes 0 0 2 0 2 1 Ť T R Configuration Upstream Signal 0 Northbound Southbound Minor Street Movement 9 10 12 8 11 Т R Т R L L Volume (veh/h) 175 Peak-Hour Factor, PHF 1.00 1.00 1.00 1.00 1.00 0.92 Hourly Flow Rate, HFR 0 0 0 0 0 190 (veh/h) Percent Heavy Vehicles 0 0 ō 0 0 0 0 0 Percent Grade (%) Flared Approach N Ν 0 a Storage RT Channelized 0 0 0 0 0 0 1 Lanes 0 R Configuration Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound 9 12 10 11 Movement R Lane Configuration 190 v (veh/h) 715 C (m) (veh/h) 0.27 v/c 1.07 95% queue length Control Delay (s/veh) 11.8 В LOS Approach Delay (s/veh) 11.8 Approach LOS В

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	TW	O-WAY STOR	CONTR	OL S	UMI	MARY				
General Informatio	n		Site I	nforn	natio	on				
Analyst	JES	-	Inters	ection			US 30 & Access	Crossr	oads	West
Agency/Co.	GME		Jurisd	iction			Straban	Twp. A	dam	s Co
Date Performed	8/10/200			sis Yea	iΓ					
Analysis Time Period	Saturday	Peak Hour								
Project Description 12	9.90			•						
East/West Street: US F			North/	South S	Stree	et: Crossre	oads West A	Access	:	
Intersection Orientation:	East-West		Study	Period	(hrs)): 0.25				
Vehicle Volumes ai	nd Adjustme	ents		•					-	
Major Street		Eastbound					Westbou	ınd		
Movement	1	2 .	3		<u> </u>	4	5			6
tal on a toolate	L	T	Ŕ		├	L	T			R
Volume (veh/h) Peak-Hour Factor, PHF	1.00	3100 0.92	1.00	,	┡	1.00	2134 0.92			29 0.92
Hourly Flow Rate, HFR				,	⊢		1	+		
(veh/h)	0	3369	0			0	2319	ı		31
Percent Heavy Vehicles	0	_			į.	0 .	_			_
Median Type				Undi	vided	i				
RT Channelized			0							0
Lanes	0	2	0			0	2			1
Configuration		Т					T			R
Upstream Signal		0					1			
Minor Street		Northbound					Southboo	ınd		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume (veh/h)		4.00	4.50	$\overline{}$			4.00			294
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	1.00	1.00	1.00	,		1.00	1.00	-+		0.92
(veh/h)	0	. 0	0			0	0			319
Percent Heavy Vehicles	Ö	0	0			0	0			0
Percent Grade (%)		0					0	,		
Flared Approach		N					N	\neg		
Storage		0					0	\neg		
RT Channelized			0							0
Lanes	ō	0	0			0	0			1
Configuration			1				Ì			R
Delay, Queue Length, a	ind Level of Se	rvice								
Approach	Eastbound	Westbound		Northb	ound	1	S	outhbo	ound	
Movement	1	4	7	8		9	10	11	1	12
Lane Configuration										R
v (veh/h)										319
C (m) (veh/h)										595
v/c			 				 			0.54
95% queue length	· <u>.</u>					<u> </u>	 	 		3.18
Control Delay (s/veh)			 				 			17.8
LOS			 	 			 			C C
Approach Delay (s/veh)			-	<u> </u>		<u> </u>		<u>17.8</u>		
Approach LOS			 					77.0		

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		ΤV	VO-WAY STOP	CONTR	OL SI	JMMARY			
General Informatio	n			Site	Inform	ation			
Analyst		JES		Inters	ection		1	Crossroad	ds East
Agency/Co.		GME	_	——] <u>[</u>			Access		
Date Performed		8/10/200	6	111	liction			Twp, Adar	ns Co
Analysis Time Period			y PM Peak Hour	Analy	sis Yea	<u> </u>	2008 Bu	ild	
Duntant Day 1911	20.00						<u> </u>		
	9.90			N a mella d	Carrie C				
East/West Street: US F Intersection Orientation:			-			treet: Cross	roads East A	iccess	_
				Siddy	renou i	(hrs): 0.25			
Vehicle Volumes a	nd Ad	justme				<u></u>			_
Major Street			Eastbound				Westbou	ınd	
Movement	_	<u> 1</u> _	2	3		4	5		6
Valuma (vah/h)	+-	<u> </u>	7 4 9	R		L	T 400.4		R
Volume (veh/h) Peak-Hour Factor, PHF		1.00	0.92	1.0	, 	1.00	1094 0.92		15 0.92
Hourly Flow Rate, HFR		_			' 		1		
(veh/h)	-	0	814	0	- 1	0	1189		16
Percent Heavy Vehicles	Туре					0			
Median Type		_		_ 	Undiv	ided			-
RT Channelized		_		T - 0					0
Lanes		0	2	0		0	2		1
Configuration	ration					- -	T		R
Upstream Signal	<u> </u>	-	0	 			1	_ † _	
Minor Street			Northbound				Southbo	ınd	-
Movement	\top	7	8			10	11	<u> </u>	12
· · · · · · · · · · · · · · · · · · ·			T	R		L	 		R
Volume (veh/h)									160
Peak-Hour Factor, PHF		1.00	1.00	1.00	,	1.00	1.00		0.92
Hourly Flow Rate, HFR (veh/h)		0	0	0		0	0		173
Percent Heavy Vehicles		0	0	0	1		0		0
Percent Grade (%)			0	<u> </u>	1	-	0		
Flared Approach			N			· <u>·</u>	N		-
Storage	\dashv		0				0		
RT Channelized	_	-		1 0			 	-	0
Lanes		0	0	1 0		0	0		_ _
Configuration	+			 			 		R
Delay, Queue Length, a	nd I o	rol of Sa				 = '= -	<u>. </u>		
Approach		bound	Westbound		Northbo	und	1 6	outhboun	
Movement	Last	1	4	7	8	9	-	11	
			 		<u>°</u>	<u> </u>	10		12
Lane Configuration	<u>, , , , , , , , , , , , , , , , , , , </u>				 -		<u> </u>		R
v (veh/h)							 		173
C (m) (veh/h)		. <u>-</u>			<u> </u>				640
v/c									0.27
95% queue length									1.09
Control Delay (s/veh)			ļ						.12.7
LOS								-	В
Approach Delay (s/veh)							†	12.7	<u> </u>
Approach LOS		_					 	B	
- 		_	<u>. </u>	L					··-·

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		TW	O-WAY STO	P CONTE	ROL SI	UMI	MARY				
General Informatio	n			Site	Inform	nati	on				_
Analyst		JES		Inters	ection			US 30 &	Crossi	road	s East
Agency/Co.		GME		lucica	diction			Access Straban	Tiun A	400	Co
Date Performed		8/10/200	6	- 11				2018 Bui		qam	S CO
Analysis Time Period		Weekday	PM Peak Hour	Anaiy	sis Yea	<u> </u>		2010 Bui	ia		
Project Description 40	9.90				 . 	_			<u>:</u> :		
Project Description 12 East/West Street: US F		20		North	South	Strac	t: Croser	oads East A	00000		_
Intersection Orientation:): 0.25	Uaus Last F	100000		
Vehicle Volumes a			nts	1				 `			
Major Street	1		Eastbound					Westbol	ınd		
Movement	$\neg \neg$	1	2	3			4	5	\top		6
		Ĺ	Ť				L	T	$\neg \uparrow$		Ř
Volume (veh/h)			1108					1297			24
Peak-Hour Factor, PHF		1.00	0.92	1.0	0		1.00	0.92			0.92
Hourly Flow Rate, HFR (veh/h)		0	1204	0	1		0	1409			26
Percent Heavy Vehicles		0	_				0	<u> </u>			77
Median Type					Undi	vide	i				-
RT Channelized				0			_	T			0
Lanes	\neg	0	2	0			0	2			1
Configuration			Т					T			R
Upstream Signal	\top		0	 				1	$\neg +$		
Minor Street	1		Northbound				-	Southboo	und		
Movement	+	7	8	9			10	11	T		12
		L	Т Т	R			L	T			R
Volume (veh/h)			<u> </u>				·	┼──			248
Peak-Hour Factor, PHF		1.00	1.00	1.0	2		1.00	1.00	$\neg \dagger$		0.92
Hourly Flow Rate, HFR (veh/h)		0	0	0			0	0			269
Percent Heavy Vehicles	\dashv	0	0	0			0	1 0	<u> </u>		0
Percent Grade (%)	\top		0					0			. "
Flared Approach	 		N					T N			•
Storage	\dashv		0	 -	-			0	-+		
RT Channelized	+-		-	- 0	 			 	+	_	0
Lanes	+		0	 			0	0			1
Configuration							U	├~~~			R
		end of Co	<u></u>					<u> </u>			···
Delay, Queue Length, a Approach		bound	Westbound		Northbo				- ما ماهد ده ^ا		
Movement	Eas	1	4	7.	_	ounu	9		outhbo		
Lane Configuration		<u> </u>	 -	 	8		9	10	11		12
v (veh/h)				}	} -		-	}	}		R
				 	 _		 	<u> </u>	!		269
C (m) (veh/h)			<u> </u>	 	├-		_	<u> </u>	<u> </u>		618
v/c				↓	├						0.44
95% queue length			·		<u> </u>						2.20
Control Delay (s/veh)					<u> </u>						15.2
LOS					1						С
Approach Delay (s/veh)								1	15.2		
Approach LOS					-				С		
				<u> </u>				·			

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Crossroads East Analyst JES Intersection Access Agency/Co. **GME** Jurisdiction Straban Twp. Adams Co Date Performed 8/10/2006 Analysis Year 2008 Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Crossroads East Access Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 3 4 6 5 R R Volume (veh/h) 786 920 15 Peak-Hour Factor, PHF 1.00 0.92 1.00 1.00 0.92 0.92 Hourly Flow Rate, HFR o 0 854 0 999 16 (veh/h) Percent Heavy Vehicles o 0 --Median Type Undivided RT Channelized 0 0 .anes 0 2 ก ō 2 1 Configuration Ŧ Τ. R Upstream Signal 0 Minor Street Northbound Southbound Movement 7 8 9 10 12 L Т R L Т R Volume (veh/h) 200 Peak-Hour Factor, PHF 1.00 1.00 1.00 1.00 1.00 0.92 Hourly Flow Rate, HFR 0 n a 0 0 217 Percent Heavy Vehicles Õ ō 0 0 0 0 Percent Grade (%) 0 a Flared Approach N N Storage 0 0 RT Channelized 0 0 Lanes 0 0 a 0 ō 1 Configuration Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 8 9 10 11 12 Lane Configuration R v (veh/h) 217 C (m) (veh/h) 738 v/c 0.29 95% queue length 1.23 Control Delay (s/veh) 11.9 В Approach Delay (s/veh) 11.9 Approach LOS В

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Crossroads East JES Analyst Intersection Access Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/10/2006 Analysis Year 2018 Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Crossroads East Access Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound 2 3 Movement R R Volume (veh/h) 1163 1494 44 1.00 Peak-Hour Factor, PHF 1.00 0.92 1.00 0.92 0.92 Houriv Flow Rate, HFR 0 1264 0 0 1623 47 (veh/h) Percent Heavy Vehicles 0 Median Type Undivided RT Channelized 0 0 Lanes 0 2 0 2 Configuration T T R Upstream Signal 0 Minor Street Northbound Southbound Movement 9 7 8 10 11 12 L R L Т R Volume (veh/h) 336 Peak-Hour Factor, PHF 1.00 1.00 1.00 1.00 1.00 0.92 Hourly Flow Rate, HFR 0 0 0 0 0 365 (veh/h) Percent Heavy Vehicles 0 0 0 0 0 0 Percent Grade (%) 0 Õ Flared Approach N N 0 Storage 0 RT Channelized 0 0 0 ō anes 0 0 1 Configuration R Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 10 11 12 Lane Configuration R v (veh/h) 365 C (m) (veh/h) 576 v/c 0.6395% queue length 4.44 Control Delay (s/veh) 21.4 _OS Approach Delay (s/veh) 21.4 ō Approach LOS

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Highway Capacity Analysis Worksheets

US Route 30 and Cavalry Field Road/Re-located Smith Road

SHORT REPORT Site Information General Information US 30 & Cavalry Field Analyst **JES** Intersection Agency or Co. - GME Area Type All other areas Jurisdiction Straban Twp, Adams Co Date Performed . 8/11/2006 Time Period Weekday PM Peak Hour Analysis Year 2006 Existing Volume and Timing Input SB ΕB WB NΒ RT TH TH RT LT ΤH RT LT TH LT RT LT 1 o 1 0 0 1 Number of Lanes 1 1 1 1 1 LTR Т R TR LTL L R Lane Group 0 3 634 56 3 555 0 103 3 78 1 12 Volume (vph) 7 0 0 2 0 2 0 0 0 0 0 10 % Heavy Vehicles 0.50 0.50 0.79 0.79 0.79 0.50 0.50 0.50 PHF 0.89 0.890.89 0.50 Α Α Α A Α Α Α Α Α A Pretimed/Actuated (P/A) Α A 2.0 2.0 2.0 2.0 2.0 2.0 Startup Lost Time 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Extension of Effective Green 2.0 2.0 5 3 3 3 3 5 5 3 Arrival Type 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Unit Extension 0 0 0 0 0 0 Ped/Bike/RTOR Volume 0 0 0 0 0 0 14.0 12.0 12.0 12.0 10.0 10.0 14.0 Lane Width 10.0 N Ν Ν Ν -2 Ν Ν -2 Ν Parking/Grade/Parking Ν 1 -1 Parking/Hour 0 0 0 Bus Stops/Hour 0 0 0 0 0 3.2 3.2 3.2 3.2 Minimum Pedestrian Time EW Perm 03 04 **NB Only** SB Only 07 80 Phasing WB Only G = 24.7G = 10.7G = G = G = 6.5G = 42.5G = G = Timing Y = 6.3Y = 6.3Y = Y = <u>Y</u> = <u>Y =</u> Y = 6.5Y = 6.5Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination SB **WB** NB ΕB 26 703 212 156 712 4 Adjusted Flow Rate 3 63 383 817 430 163 Lane Group Capacity 173 683 621 165 0.41 0.16 0.02 0.02 0.49v/c Ratio 1.04 0.10 0.86 0.22 0.22 0.10 0.39 0.39 0.39 0.500.50 Green Ratio 23.9 37.2 36.4 45.5 Uniform Delay d. 20.8 33.8 21.6 23.2 0.11 0.11 0.11 0.390.11 0.11 Delay Factor k 0.11 0.50 0.1 0.9 0.7 0.5 Incremental Delay da 0.0 46.0 0.1 9.3 1.000 1.000 1.000 0.580 1.000 1.000 PF Factor 0.580 0.58046.0 38.1 37.1 23.2 33.1 Control Delay 12.1 65.6 12.6 D D С C D В Ε В Lane Group LOS 37.7 46.0 61.1 33.1 Approach Delay D D Ε Approach LOS D Intersection LOS Intersection Delay 45.7

						SI	IORT	REPO	RT								
General info	ormation				•				ıforma	tic	n						
Analyst Agency or C Date Perforn Time Period	ned 8/		ЛЕ 2006	Но	ur		-	Interso Area Jurisd Analys	Гуре	ır		IS 30 & C All oth raban Tw 2008 I	er a p, A	reas Idan	: 1s Co		
Volume and	l Timing Input															<u>.</u>	
		┝			В	БТ	. +	WB TH	1 07	4		NB TH		श	LT	SB TH	RT
Number of L	anes	+	LT 1	1	H	RT 1	LT 1	1	RT 0	┪	LT 	1	_	<u> </u>	0	1	0
Lane Group		+	L	7		R	L	TR	╁	7		LT	F	₹		LTR	
Volume (vph	1)	+	3	71		14	23	636	10	7	366	3	14	1 7	1	0	12
% Heavy Ve	•	+	0	7		0	0	10	0	+	2	0	⊢	2	0	0	0
PHF		+	0.89	0.8		0.89	0.79	0.79	0.79	7	0.90	0.90	0.3		0.50	0.50	0.50
Pretimed/Ac	tuated (P/A)	\dagger	Α	A	_	Α	Α	Α	A	7	A	A	7	1	Α	A	A
Startup Lost	Time	十	2.0	2.	ō	2.0	2.0	2.0		┪		2.0	2.	0		2.0	
 · _ · 	Effective Gree	n	2.0	2.	ō	2.0	2.0	2.0	1	1		2.0	2.	0		2.0	
Arrival Type		1	5	- 5	;	5	3	3		7		3	3	}		3	
Unit Extensi		1	3.0	3.	0	3.0	3.0	3.0		1		3.0	3.	0		3.0	
Ped/Bike/RT	d/Bike/RTOR Volume			- ()	0	0	0	0	7	0	0	7	,	0	0	0
Lane Width	ne Width			12	2.0	12.0	10.0	10.0	1	┪		14.0	14	1.0		12.0	
Parking/Grad	ne Width arking/Grade/Parking		Ν	1	'	Ν	N	-1	N		Ñ	-2	٨	V	N	-2	N
Parking/Hou								<u> </u>	<u> </u>				L		<u> </u>	<u> </u>	<u> </u>
Bus Stops/H		_	0)	0	0	0	↓	╝		0		0	ļ	0	
	destrian Time			3.			<u> </u>	3.2	<u> </u>			3.2	<u></u>			3.2	<u></u>
Phasing	WB Only G = 6.5		V Perm = 42.5		G =	03	G =	4	NB C			\$B Only G = 10.7		G =	07	G =	08
Timing	Y = 6.5		= 42.5 = 6.5		9 - Y =		Y=		Y = 6			Y = 6.3		Y =		Y =	
Duration of A	Analysis (hrs)					•	17					Cycle Ler	ngth	C =	110.0)	
Lane Gro	up Capacity	, C	ontro)ela	y, and	LÖS	Deterr	ninati	io	n						
					EB			WB				NB			<u> </u>	SB	
Adjusted Flo	w Rate		3	79	98	16	29	805				410	29	4		26	<u> </u>
Lane Group	Capacity	į	104	68	33	621	165	817				429	38	3		163	
v/c Ratio			0.03	1.	17	0.03	0.18	0.99				0.96	0.7	77		0.16	
Green Ratio			0.39	0.	39	0.39	0.50	0.50				0.22	0.2	22		0.10	
Uniform Del	ay d ₁		20.9	33	.8	20.9	23.1	26.8				42.1	40.	0		45.5	
Delay Facto	r k		0.11	0.	50	0.11	0.11	0.49				0.47	0.3	32		0.11	
Incremental	Delay d ₂		0.1	9	1.0	0.0	0.5	27.8				32.2	9.	.1		0.5	
PF Factor	· · · · · · · · · · · · · · · · · · ·		0.580	0.	580	0.580	1.000	1.000				1.000	1.0	000		1.000	
Control Dela	ıy		12.3	11	0.6	12.2	23.6	54.6	<u> </u>			74.3	49	0.1		46.0	<u> </u>
Lane Group	LOS		В	F		В	С	D				E	D	1		D	
Approach D	elay			10	8.3			53.5				63.8				46.0	
Approach Lo	os				F			D				Ε				D	
Intersection	Delay			7:	5.3				Interse	ect	ion LO	os				E	

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		·.		SI	HORT	REPO	RT						
General Info	rmation					_	formati	on					
Analyst Agency or Co Date Perform Time Period	o. (JES SME 0/2006 PM Peak	: Hour			Interse Area T Jurisd Analys	Гуре	Sti	JS 30/Ca All oth aban Tw 008 Buil	er areas p, Adan	s ns Co		
Volume and	Timing Input							T					
		LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Number of La	anes	1	1	1	1	1	1	1	1	0	1	1	0
Lane Group		L	T	R	L	T	Ŕ	L	TR		L	TR	İ
Volume (vph)	14	706	114	23	721	17	366	3	147	85	5	40
% Heavy Vel	hicles	0	7	0	0	10	0	2	0	2	0	0	0
PHF		0.89	0.89	0.89	0.79	0.79	0.79	0.90	0.90	0.90	0.92	0.92	0.92
Pretimed/Act	tuated (P/A)	Α	Α	Α	Α	Α	Α	Α	Α	А	Α	Α	Α
Startup Lost	Time	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	
Arrival Type		5	5	5	3	3	3	3	3]	3	3	
Unit Extension	on	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RT	OR 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		12.0	12.0	
Parking/Grad	de/Parking	N	1	N	N	-1	N	N.	-2	N	N	-2	N
Parking/Hou									1				
Bus Stops/H		0	0	0	0	0	0	0_	0		0	0	ļ
	destrian Time	<u> </u>	3.2			3.2		<u> </u>	3.2	<u> </u>	<u></u>	3.2	<u>l</u>
Phasing	EW Perm G = 61.0 C	02	G =	03	G =	4	NS Per G = 37		06 } =	- G =	07	G =	18
Timing		/ =	Y =		Y =		Y = 6		<u> </u>	$\frac{1}{\sqrt{1}}$		Y =	
Duration of A	nalysis (hrs) = (-1. i	·			Cycle Ler				
Lane Grou	up Capacity,	Contro	ol Dela	y, and	LOS	Deterr	ninatio	n					
			EB			WB		Ι	NB			SB	
Adjusted Flor	w Rate	16	793	128	29	913	22	407	166		92	48	
Lane Group	Capacity	93	980	950	338	963	960	459	540		405	559	
v/c Ratio		0.17	0.81	0.13	0.09	0.95	0.02	0.89	0.31		0.23	0.09	
Green Ratio		0.55	0.55	0.55	0.55	0.55	0.55	0.34	0.34		0.34	0.34	
Uniform Dela	ay d ₁	12.1	19.8	11.8	11.5	23.0	11.1	34.5	27.0		26.2	24.9	
Delay Factor	k	0.11	0.35	0.11	0.11	0.46	0.11	0.41	0.11		0.11	0.11	
Incremental I	Delay d ₂	0.9	5.2	0.1	0.1	17.8	0.0	18.5	0.3		0.3	0.1	
PF Factor	•	0.170	0.170	0.170	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Dela	у	2.9	8.5	2.1	11.6	40.8	11.1	53.1	27.3		26.5	25.0	
Lane Group I	LOS -	A	Α	Α	В	D	В	D	C		С	С	
Approach De	elay		7.5			39.3			45.6			26.0	
Approach LC)S		Α			D			D			С	
Intersection (Delay	<u> </u>	28.6		<u> </u>		Intersec	tion LC	S		<u> </u>	С	

	Area Type All other areas All other areas																
General Info	rmation								_	_	on						
Analyst Agency or Co Date Perform Time Period	ned <i>8/</i>	GN 111/	ЛЕ 2006	- Ho	ur		 -	Area T Jurisd	Гу; ict	pe ion			All oth aban Tw	er aréa: p, Adai	s ns Co		
Volume and	Timing Input																
		ŀ	1 -	_		ОТ	 		_	D.T.	<u> </u>	_		l n=	 		_
Number of La	anes	+		_	_				+			_	-	† 		1	
Lane Group		\dagger		_			<u> </u>	-	╁		Ť	_		 	 	LTR	
Volume (vph)	十		10	68			917	\dagger	0	230				1		14
	<u> </u>	†	0	7	,	O	0	10	†	0	-2	_	0	2	0	ō	0
PHF	<u> </u>	1	0.92	0.9	92	0.92	0.91	0.91	t	0.91	0.91	,	0.91	0.91	0.50	0.50	0.50
Pretimed/Act	tuated (P/A)	十	А	7	1	Α	Α	A	†	Α	Α	_	Α	Α	Ā	A	A
Startup Lost	Time	7	2.0	2.	0	2.0	2.0	2.0	Ť				2.0	2.0		2.0	
Extension of	Effective Gree	n	2.0	2.	0	2.0	2.0	2.0	T				2.0	2.0		2.0	
Arrival Type		T	5	-5	;	5	3	3	T				3	3		3	
Unit Extension	on	1	3.0	3.	0	3.0	3.0	3.0	Τ				3.0	3.0	<u> </u>	3.0	
Ped/Bike/RT	OR Volume	Ţ	0	0)	0	0	0	Ţ	0	0		0	0	0	0	0
Lane Width		$oldsymbol{\perp}$	10.0	12	2.0	12.0	10.0	10.0	Γ				14.0	14.0		12.0	
		\perp	N	1		N	N	-1	1	N	N		-2	N	N	-2	N
Parking/Hour		4	_	_				<u> </u>	1	_		_	<u></u>		<u> </u>	<u> </u>	
		-	0			0	0	<u></u>	+			_		0	 -		
		<u></u>	V Dorm			03	Ι Λ.		<u> </u>	VID On	b.			<u> </u>	07		\ <u></u>
				<u>'</u>				*				_					70
					Y =				Y	= 6.3		_					
									_			C	ycle Ler	igth C =	.110.0		
Lane Grou	ip Capacity	<u>, C</u>	ontro			y, and	LOS		ni	natio	n		A / C				
									Т			_		 	├ ┈──	1	
Adjusted Flor	w Rate		4	<u>'</u>	0,	132	40	7000					257	264		30	
Lane Group (Capacity		65	68	3	621	165	817	L				430	383		163	
v/c Ratio			0.06	1.7	70	0.21	0.24	1.23		_			0.60	0.69		0.18	
Green Ratio			0.39	0.3	39	0.39	0.50	0.50					0.22	0.22		0.10	
Uniform Dela	ıy d _ı		21.2	33	.8	22.6	23.2	27.3	\int				38.2	39.1		45.6	
Delay Factor	k		0.11	0.5	50	0.11	0.11	0.50	Γ				0.19	0.26		0.11	
Incremental [Delay d ₂		0.4	32	1.2	0.2	0.8	115.8					2.3	5.2		0.5	
PF Factor			0.580	0.7	719	0.580	1.000	1.000	I				1.000	1.000		1.000	
Control Delay	y		12.7	34	5.5	13.3	24.0	143.0	L				40.5	44.3		46.2	ļl
Lane Group l	_os		В	F	:	В	С	F					D	D		D	
Approach De	lay			31	0.6			138.5					42.4			46.2	
Approach LO	s							F					D	· · · · · · · · · · · · · · · · · · ·		D	
Intersection D	Delay			19	7.3				Int	tersect	ion L	0	S			F	

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					SI	HORT	REPO	RT						
General Info	ormation	·				14111		formati	on				· · · -	
Analyst Agency or C Date Perforn Time Period	ned <i>8/</i>	JES GME 10/2006 PM Pea	k Hou	ır			Interse Area T Jurisd	ection Type	(Str	JS 30/Ca All oth aban Tw 018 Build	er areas p, Adan	s ns Co		
Volume and	l Timing Input								•					
İ .		LT	EB TH		RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Number of L	anes	1	1	`+	1	1	1	1	1	1	0	1	1	0
Lane Group		L	T	寸	R	L	Τ	R	L	TR		L	TR	1
Volume (vph	1)	21	1063	3	121	36	1052	26	230	4	240	130	5	59
% Heavy Ve	hicles	0:	7		0	0	10	0	2	0	2	0	0	0
PHF	· -	0.92	0.92	2 (0.92	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92
Pretimed/Ac	tuated (P/A)	Α.	Α	\Box	Α	Α	Α	Α	Α	Α	Α	Α	Α	Α
Startup Lost	Time	2.0	2.0	丁	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of	Effective Gree	n 2.0	2.0	丁	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type		5	5	\Box	5	3	3	3	3	3		3	3	
Unit Extension	on	3.0	3.0	T.	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RT	OR Volume	0	0	Т	0	0	0	0	0	0	0	0	0	0
Lane Width		12.0	12.0	2	14.0	12.0	12.0	14.0	12.0	12.0		12.0	12.0	
Parking/Grad		N	1		N	N	-1	N	N	-2	N	N	-2	N
Parking/Hou		2	_	_						↓			<u> </u>	<u> </u>
Bus Stops/H		0	0	+	0	0	0	0	0	0		0	0	<u> </u>
	destrian Time	<u> </u>	3.2				3.2	NO Da	<u> </u>	3.2	<u> </u>	07	3.2	<u></u>
Phasing	EW Perm G = 71.0	02 G =		G =)3	G =	4	NS Per G = 27		06 =	G =	07	G =	08
Timing		Y =		<u> </u>		Y =		Y = 6		, =	Y =		Y =	
	Analysis (hrs) =									Cycle Ler	igth C =	110.0)	
Lane Gro	up Capacity	<u>, Contr</u>			, and	LOS		ninatio	n			т		
		_ <u> </u>	, E				WB	_		NB	ı	ļ	SB	
Adjusted Flo	w Rate	23	115	5	132	40	1156	29	256	271		141	69	
Lane Group	Capacity	69	114	11	1106	70	1121	1117	329	394		189	405	
v/c Ratio	,	0.33	1.01	1	0.12	0.57	1.03	0.03	0.78	0.69		0.75	0.17	
Green Ratio		0.65	0.65	5	0.65	0.65	0.65	0.65	0.25	0.25		0.25	0.25	
Uniform Dela	ay d ₁	8.8	19.5	5	7.5	11.0	19.5	7.0	38.7	37.7		38.3	32.7	
Delay Factor	r k	0.11	0.50	2	0.11	0.17	0.50	0.11	0.33	0.26		0.30	0.11	
Incremental	Delay d ₂	2.8	29.	7	0.0	10.8	35.2	0.0	11.3	5.0		14.9	0.2	
PF Factor		0.141	0.17	75	0.141	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Dela	у	4.1	33.	1	1.1	21.7	54.7	7.0	50.0	42.7		53.3	32.9	
Lane Group	LOS	A	С	\neg	Α	С	D	Α	D	D		D	С	
Approach De	elay		29.	4			52.5			46.2		T	46.6	
Approach LC	os		С				D		<u> </u>	D			D	
Intersection	Delay		41.	9				Intersec	tion LC	S			D	

	··········		÷ .		SI	IORT	REPO	RT.	-					,
General Info	ormation				"			formati	on					
Analyst Agency or C Date Perforr Time Period	med <i>8/</i>		1E : 2006	our		· ·	Interse Area T Jurisdi Analys	уре		All oth aban Tw	Cavalry I er areas p, Adan Existing	s ns Co		
Volume and	Timing Input	-							- 41					<u>.</u> .
				EB ··		-	WB			NB			SB	
		╀	LT	TH	RT	LT.	TH	RT	LT.	TH	RT-	- LT	~TH	RT
Number of L		4	1 1	1 -	1.	1	1	0-	-0-	1	١,,	0	1 -	.0.
Lane Group		_	L.X	T ***	~R -	L	TR			LT	~ R ·	100.00	LTR	
Volume (vph	1)	1	2*	507	141	31	568	15	83 =	0	22 🚟	~1~	*0*	0
% Heavy Ve	hicles	_	0 *	2	0	6	2	0	-0-	0 ~	-0 .	-0	-0	. 0
PHF -			77	0.77	0.77	0.98	0.98	0.98	0.91	0.91	0.91	0.50 **	0.50	0.50
	tuated (P/A)	\bot	AT	-A	A _	Α	Α	*A''	[*] A	Α	`A '	-A -	A	Α
Startup Lost		-	2.0	2.0	`2.0	2.0 "	2.0`		- 10-44	12.0	2.0 **		2.0	
Extension of	Effective Gree	n :	2.0	2.0	2.0	2.0	2.0 -		•	2.0	2.0		-2.0	÷ =• •
Arrival Type		<u> </u>	5[5	5	3 -	-3	4		<u>~ 3</u>	3~		- 3	\ ·
Unit Extensi	on Till	<u> </u>	3.0	3.0	3.0	3.0	3.0		-	3.0	3.0		3.0	,
Ped/Bike/RT	OR Volume		0	-0	0	0 ~	* O *	0	0,-	-0	~0	-0-	* 0 *	0 -
Lane Width	<u> </u>		10:0	12.0	12.0	10.0 *	10:0	140 Har		14.0	14.0 -		12.0	
Parking/Grai			N T	1 -	N	N	1	N°	N	-2	N.	- N · -	-2·	- N -
Parking/Hou		1	·				· .wa +==	-			<u> </u>	ļ	, -	, c
Bus Stops/H			0."	-0-	_ o	0	00	- -		0 -	0	1	0 .	
	destrian Time		*	3.2	20		3.2	<u> </u>		3.2		<u> </u>	3.2 -	·
Phasing	WB Only ** G = 6.5		Perm 42.5	G =	03	G =		NB On G = 24.		SB Only = -10.7			- G =	<u></u>
Timing	Y = 6.5 · ~·		6.5	<u> </u>		Y = ·-		Y = 6.3		= 6.3	- ∀ =		- Y =	_
Duration of A	Analysis (hrs) =	0.2	5		·				C	ycle Ler	igth C =	-110.0	-	~~~
Lane Gro	up Capacity	, C	ontro	l Dela	y, and	LOS	Detern	ninatio	n,1 1	A		· · · -	6 <u>4</u> 4	
•	-		· · ·	EB	:	٠	WB	<u>-</u>	 .	NB		in tells and a	SB	- *
Adjusted Flo	w Rate		⁻ 3	658	183	32	595 [~]			91	24		· 2 -	-44
Lane Group	Capacity	· [248	716 ~	621	172	879 *			438	391	-	178 .	
v/c Ratio		- (0.01	0.92	0.29	0.19 -	0.68	-	-	0.21	0.06		0.01	
Green Ratio		·· (0.39	0.39	0.39	0.50 ~	0.50		h 1860	0.22	0.22 -	1 100	0.10	
Uniform Dela	ay d		20.8	32.1	23.4	20.2	20.5		۲	34.7	33.5	~	44.9	
Delay Factor	·	-	0.11	0.44~	0.11	0.11."	0.25		No. de 1990	0.11	0.11 -		0.11 -	
Incremental			0.0	17.0	0.3	0.5	2.1			0.2	0.1 ~		0.0	
PF Factor	- 2	. 		0.580	0.580	1.000	1.000		. =. ,	1.000 ·	1.000		1.000	· ·
Control Dela	ıy - 		12.1 -	35.6	13.8 "	20.7	22.6		۰ *-	34.9	33.6	·	44.9 -	
Lane Group	•	十	В	D -	В	С	С			С	С		D ,	
Approach Do		`	-	<u> </u>		<u> </u>	22.5	*·.·-		34.7			44.9	
Approach LC	 			- C			С			С			D	
Intersection				27.8			·	ntersec	tion LOS				c	
microsocion						<u>!</u> .		·		_		L	-	

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				SI	ORT	REPO	RT						
General Info	rmation	•					formati	on		· · · · · · · · · · · · · · · · · · ·			
Analyst Agency or Co Date Perform Time Period). G	ES † ME 0/2006 Peak H	our			Interse Area T Jurisdi Analys	уре	Stra	IS 30/Ca All oth aban Tw 008 Build	er areas p, Adan	s ns Co		
Volume and	Timing Input	•				<u> </u>	•		<u></u>				
			EB			WB			NB			SB	
		LT	TH	RT	LT	TH	RT	LT	TH 1	RT 0	LT	TH 1	RT 0
Number of La	ines	1.	1	1	1	1	1	1	₩	0	1	TR	"
Lane Group		L:	T	R	L	T	R	L	TR		L	+	
Volume (vph)		17.	606	169	43	779	36	100	5	29	103	5	44
% Heavy Veh	nicles	0	2	0	7	2	0	0	0	0	0	0	0
PHF		0.77	0.77	0.77	0.98	0.98	0.98	0.91	0.91	0.91	0.92	0.92	0.92
Pretimed/Acti		Α	Α	Α	A	Α	A	A	A	Α	Α	Α	Α
Startup Lost	Time	2.0	2.0	·2.0 ·	2.0	2.0	2.0	2.0	2.0		2.0	2.0	ļ
Extension of	Effective Green	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	3	3	3	3	3		3	3	
Unit Extensio	n .	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	<u> </u>	3.0	3.0	<u> </u>
Ped/Bike/RT0	OR 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		12.0	12.0	
Parking/Grad	e/Parking	Ν	1	Ν	N	-1	N	N	-2	N	N	-2	N
Parking/Hour		• • •							J				
Bus Stops/Ho		0	0	0	0	0	0	0	0		0	0	<u> </u>
Minimum Pec			3.2			3.2	<u> </u>	<u> </u>	3.2	<u>L</u>		3.2	
Phasing	EW Perm	02	-	03	0	4	NS Per		06		07)8
Timing	G = 67.0 G Y = 6 Y	<u> </u>	G =		G =		G = 31 $Y = 6$		S = ' =	G = Y =		G = Y =	
Duration of A	nalysis (hrs) = 0				'		· ·		ycle Ler				
	p Capacity,		l Dela	y, and	LOS	Detern	ninatio						
	<u> </u>		EB			WB	•		NB			\$B	
Adjusted Flov	v Rate	22	787	219	44	795	37	110	37		112	53	
Lane Group (Capacity	245	1129	1044	400	1140	1054	391	471		397	467	
v/c Ratio		0.09	0.70	0.21	0.11	0.70	0.04	0.28	0.08		0.28	0.11	
Green Ratio	·	0.61	0.61	0.61	0.61	0.61	0.61	0.28	0.28		0.28	0.28	
Uniform Dela	y d ₁	8.9	14.6	9.6	9.0	14.6	8.6	30.8	29.0		30.8	29.3	
Delay Factor	k	0.11	0.26	0.11	0.11	0.26	0.11	0.11	0.11		0.11	0.11	
Incremental D	Delay d ₂	0.2	1.9	0.1	0.1	1.9	0.0	0.4	0.1		0.4	0.1	
PF Factor	-	0.128	0.128	0.128	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	,	1.3	3.8	1.3	9.1	16.5	8.6	31.2	29.1	I	31.2	29.4	
Lane Group L	.os	Α	Α	Α	Α	В	Α	С	С		С	C.	
Approach Del		1	3.2	1		15.8			30.7			30.6	
Approach LO	<u> </u>	1	Α			В			С			С	
Intersection D		1	12.0				Intersec	tion LO	S			В	
		1											

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				S	HORT	REPO	RT						_
General Info	ormation	į					nformat	ion					
Analyst Agency or C Date Perforr Time Period	co. (c) med <i>8/1</i>	JES GME 1/2006 Peak H	lour			Area Jurisc		S	trab <mark>a</mark> n Tv	ner area.	s ns Co		
Volume and	d Timing Input		····	~~~	<u>.</u>	<u>.i</u>		******				•	
		. ==	EB			WB	T	L	NB	·		\$B	
Number of L		LT 1	TH:	RT 1	LT 1	TH 1	RT 0	LT 0	TH	RT	LT	TH	RT
Lane Group		L.	<i>T</i>	R	<u>'</u>	TR	+ -	۲	1 LT	1 R	0	1 LTR	0
Volume (vph		21	928	219	50	1061	18	152	0	34	1	0	0
% Heavy Ve		0	2	0	6	2	0	0	10	0	0	0	0
PHF	incies	0.89	0.89		0.98	0.98	0.98	0.92	0.92	0.92	0.50	0.50	0.50
Pretimed/Ac	tuated (P/A)	A,	0.03 A	A A	A	A	A	0.92 A	10.92 A	A A	A	A	A
Startup Lost	`_`	2.0	2.0	2.0	2.0	2.0	+~	 ~	2.0	2.0	 ^ -	2.0	 ^ -
·	Effective Green		2.0	2.0	2.0	2.0	+	+	2.0	2.0	<u> </u>	2.0	+
Arrival Type		5	5	5	3	3	+	 	3	3		3	
Unit Extension	On .	3.0	3.0	3.0	3.0	3.0		╁	3.0	3.0	 	3.0	+
Ped/Bike/RT		0	0	0	0	0	0	0	0.0	0	0	0	0
Lane Width		10.0	12.0		10.0	10.0	+ -	 	14.0	14.0	Ľ	12.0	+
Parking/Grad	de/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hou	r	,					1		 	 	<u> </u>		\vdash
Bus Stops/H	lour	0	0	0	0	0	İ		0	0		0	
Minimum Pe	destrian Time		3.2			3.2			3.2	<u></u>		3.2	
Phasing		W Pem		03	0	4	NB Or		SB Only		07)8
Timing		= 42.5 = 6.5		;	G = Y =		G = 24 $Y = 6.3$		G = 10.7 Y = 6.3	' G = Y =		G = Y =	
Duration of A	Analysis (hrs) = 0		一:		<u></u>		1 - 0.0	-	Cycle Le				
Lane Grou	up Capacity,	Contro	l De	lay, and	LOS	Deterr	ninatio	on					
		7	E	3		WB			NB		j	SB	
Adjusted Flo	w Rate	2	104.	246	51	1101			165	37		2	
Lane Group	Capacity	65	716	621	159	880			438	391		178	
v/c Ratio		0.03	1.46	0.40	0.32	1.25			0.38	0.09		0.01	
Green Ratio		0.39	0.39	0.39	0.50	0.50		1	0.22	0.22		0.10	
Uniform Dela	ay d ₁	21.0	33.8	24.5	23.4	27.3	1		36.1	33.8		44.9	
Delay Factor	·k	0.11	0.50	0.11	0.11	0.50	<u> </u>		0.11	0.11		0.11	
Incremental	Delay d ₂	0.2	213.	2 0.4	1.2	122.4			0.5	0.1		0.0	
PF Factor		0.580	0.58	0.580	1.000	1.000			1.000	1.000		1.000	
Control Dela	у	12.4	232.	8 14.6	24.6	149.7			36.7	33.9		44.9	
Lane Group	LOS	В	F	В	С	F			D	С		D	
Approach De	elay		190.	9		144.1			36.2			44.9	
Approach LC)S		F			F			D			D	
Intersection (Delay		158.0	5			Intersec	tion L0)S	, - ,		F	
		-									•		

		-		SI	IORT	REPO	RT						
General Info	ormation			·		Site In	formati	on					
Analyst Agency or Co Date Perforn Time Period	o. G	ES ME 1/2006 Peak H	our			Interse Area T Jurisdi Analys	уре	Str	JS 30/Ca All othe aban Tw _i 018 Build	er areas p, Adan	i is Co		
Volume and	Timing Input	ì											
		1	EB			WB		, -	NB	T ==	1 797	SB	I DT
		LT	TH	RT	LT	TH	RT	LT 4	TH 1	RT 0	LT 1	TH 1	RT
Number of La	anes	1_	1	1	1	1 T	1 R	1	TR	1	L	TR	+-
Lane Group		L &	T	R	L		69	L 152	5	34	171	5	71
Volume (vph	·	25	926	219	50	1301		152	0	0	0	0	0
% Heavy Ve	hicles	0'	2	0	7	2.	0		<u> </u>				<u> </u>
PHF		0.89	0.89	0.89	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Act		Α	Α	A	Α	Α	A	Α	A	Α	A	A	Α
Startup Lost		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	ļ	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	
Arrival Type	·	5 [5	5	3	3	3	3	3	-	3	3	<u> </u>
Unit Extension	on ·	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	<u> </u>
Ped/Bike/RT	OR Volume	0 1	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	<u> </u>	12.0	12.0	
Parking/Grad		Ν	1	N	N	-1	N	N	-2	N.	N	-2	N
Parking/Hou		1			<u> </u>				+	<u> </u>			₩
Bus Stops/H		0	0	0	0	0	0	0	3.2		0	3.2	
	destrian Time	1	3.2		1 0	3.2	l NO Dec	<u> </u>		<u>L</u>	07	<u> </u>	<u> </u> 8
Phasing	EW Perm G = <i>75.0</i> G	= 1	G =	03	G =	4	NS Pei G = 23		<u>06</u> 3 =	G =		G =	10
Timing		= L	Y =		 Y ≅		Y = 6		/ =	Y =		Y =	
	Analysis (hrs) = 0								Cycle Ler	ngth C =	110.0)	
Lane Gro	up Capacity,	Contro	ol Dela	y, and	LOS	Detern	ninatio	n				<u></u>	
		ķ	EB			WB		}	NB			ŞB	
Adjusted Flo	w Rate	28	1040	246	51	1328	70	165	42		186	82	
Lane Group	Capacity	69	1263	1169	353	1276	1180	282	348		293	345	-
v/c Ratio	<u> </u>	0.41	0.82	0.21	0.14	1.04	0.06	0.59	0.12	<u> </u>	0.63	0.24	
Green Ratio		0.68	0.68	0.68	0.68	0.68	0.68	0.21	0.21		0.21	0.21	
Uniform Dela	ay d ₁	7.7	12.7	6.5	6.2	17.5	5.8	39.2	35.3		39.7	36.2	
Delay Factor	r k	0.11	0.36	0.11	0.11	0.50	0.11	0.18	0.11		0.22	0.11	
Incremental	Delay d ₂	3.9	4.6	0.1	0.2	36.5	0.0	3.1	0.2		4.5	0.4	
PF Factor		0.157	0.157	0.157	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Dela	iy	5.1	6.5	1.1	6.4	54.0	5.8	42.3	35.5		44.1	36.6	
Lane Group	LOS	Α	Α	Α	Α	D	Α	D	D		D	D	
Approach De	elay	† ·	5.5			50.0	-		40.9			41.8	
Approach LC		 	A		1	D			D	•		D .	
Intersection		†	30.7		1		Intersec	tion LC	S			С	
	<u>,</u>	<u> </u>										 -	

Highway Capacity Analysis Worksheets

US Route 30 and Shealer Road/Camp Letterman Drive

				•	S	HORT	REPO	RT						<u> </u>
General Info	ormation						Site Ir	nformat	ion					
Analyst Agency or C Date Perfor Time Period	med 8/	JES GME /11/20 / PM	<u>=</u> 006	Hour			Interse Area T Jurisd Analys	Гуре		All oth raban Tv	& Sheal ner area vp, Adar Existing	s ns Co		
Volume and	d Timing Input													
				EB			WB	1 5-		NB	T		SB	T-5-
Number of L	2000	_	LT 1	TH 1	RT 1	LT 1	TH 1	RT 1	LT 1	TH 1	RT 1	LT 1	TH 1	RT 0
Lane Group		'	-+	<u> </u>	R	L	' <u>-</u>	R	 '	'	R	1	TR	 ' -
Volume (vpl		-	8	601	91	145	545	184	60	62	47	172	66	49
% Heavy Ve		-	<u>^</u> +	7	0	0	5	0	4	02	4/	3	00	3
PHF	::IICIES	0.8		0.86	0.86	0.91	0.91	0.91	0.70	0.70	0.70	0.77	0.77	0.77
	tuated (P/A)	10.0	-+	0.86 A	0.86 A	A A	A A	0.91 A	A	0.70 A	A	A A	0.77 A	0.77 A
Startup Lost		2.	-+	•2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	 ^ _
	f Effective Gree	_		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	\vdash
Arrival Type		_	5	5	5	5	5	5	3	3	3	3	3	 -
Unit Extensi		3.	 +	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	├ ──
	FOR Volume	3.		0	0	0	0	0	0	0	0	0	0	0
Lane Width	OK Volume	_	+	12.0	14.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	 '
Parking/Grad	de/Parking	\	+	2	N N	N N	-2	N N	N 12.0	-2	N 12.0	N N	1	N
Parking/Hou		+	` -†				<u> </u>	- ' '	 -	+ -	 ``	 	 	-''-
Bus Stops/H		7	0	0	0	0	0	0	0	0	0	0	0	
Minimum Pe	destrian Time			3.2			3.2	-		3.2			3.2	
Phasing	Excl. Left		Perm		03	0	4	NS Pe		06		07		18
Timing	G = 9.4 Y = 6.6	G = Y =		G :		G = Y =		G = 29		G =	G =		G = Y =	
Duration of A	<u> r = </u>			- 	<u> </u>] T =		Y = 6.1		Y = Cycle Le	Y =			
	up Capacity	-		l Dela	v. and	LOS	Detern	ninatio		<u>-,</u>	<u> </u>		<u>-</u>	
 		<u> </u>		EB	,,		WB		Ī	NB	•		SB	
Adjusted Flo	w Rate	9)1	699	106	159	599	202	86	89	67	223	150	
Lane Group	Capacity	45	51	821	797	373	854	762	319	522	647	349	507	
v/c Ratio		o	20	0.85	0.13	0.43	0.70	0.27	0.27	0.17	0.10	0.64	0.30	
Green Ratio		0.	61	0.47	0.47	0.61	0.47	0.47	0.27	0.27	0.41	0.27	0.27	
Uniform Dela	ay d ₁	10).4	25.9	16.6	13.2	23.2	17.8	31.5	30.6	19.8	35.3	31.7	
Delay Factor	r k	0.	11	0.38	0.11	0.11	0.27	0.11	0.11	0.11	0.11	0.22	0.11	
Incremental	Delay d ₂	7).2	8.6	0.1	0.8	2.6	0.2	0.5	0.2	0.1	3.9	0.3	
PF Factor		0.9	949	0.415	 -	0.949	0.415	0.415	1.000	1.000	1.000	1.000	1.000	
Control Dela	у	10	0.1	19.3	7.0	13.3	12.2	7.6	31.9	30.7	19.9	39.2	32.0	
Lane Group	LOS	E	3	₿	A	В	В .	Α	С	c	В	D	С	
Approach De	elay			16.9	1		11.4	•		28.2	•		36.3	
Approach LC	os	<u> </u>		В			В		 	С			D	
Intersection (Delay			18.8				ntersec	tion LC	s			В	

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General Info	ormation					-	Site I	nformat	ion							
Analyst Agency or C Date Perforn Time Period		JES GME 11/2006 PM Pea	k Ho	our			Area Juriso	ection Type iction sis Year		Stra	US 30 All oth aban Tw 2008	era /p, /	area: Adar	s ns Co		
Volume and	Timing Input									•				,		
		LT		B H	RT	1 +	WB TH	I DT	╀~;		NB TH	_	DΤ	 	SB	1 57
Number of L	anes	1	1		1	LT 1	1	RT 1	<u>L</u> 7	_	1	+-	RT 1	1	1 TH	RT 0
Lane Group		L	 		R	L	' T	R	L		T	┿	, R	L	TR	╁┷╌┤
Volume (vph)	80	70		94	149	701	196	61		63	╃	8	184	68	50
% Heavy Ve	<u> </u>	0	7		0	ō	5	0	4		0	↓ -	4	3	0	3
PHF	<u></u>	0.86	0.8	36	0.86	0.91	0.91	0.91	0.70	,	0.70	┺-	70	0.77	0.77	0.77
Pretimed/Act	tuated (P/A)	A	A		A	A	A	A	A		A	17	4	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	
Extension of	Effective Gree	n 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	Τ,	3	3	3	
Unit Extension	on	3.0	3.	0	3.0	3.0	3.0	3.0	3.0		3.0	3	.0	3.0	3.0	
Ped/Bike/RT	OR Volume	0	0	,	0	0	0	0	0		0	7	0	0	0	0
Lane Width		12.0	12	.0	14.0	12.0	12.0	12.0	12.0	2	12.0	12	2.0	12.0	14.0	
Parking/Grad	arking/Grade/Parking				Ν	N	-2	N	N	_ i	-2	7	٧	N	1	N
Parking/Hou																
Bus Stops/H	·	0	(0	0	0	0	0		0	L	0	0	0	<u> </u>
<u></u>	destrian Time	<u></u>	3.			<u> </u>	3.2	<u> </u>	<u></u>		3.2	<u> </u>			3.2	<u></u>
Phasing		EW Perr G = 51.4		G =	03	G =	4	NS Pe G = 29		G	_ 06		G=	07	G =	8
Timing		Y = 6.6	•	Y =		Y =		Y = 6.1		Y			Y =		Y =	
Duration of A	nalysis (hrs) =	0.25								C	ycle Ler	ngth	Ç =	110.0		
Lane Grou	ip Capacity	Contro	<u> 1 lo</u>)ela	y, and	LOS	Deterr	ninatio	on							
	<u>-</u>			EB			WB				NB				SB	
Adjusted Flor	w Rate	93	81	6	109	164	770	215	87		90	69	9	239	153	
Lane Group	Capacity	292	82	21	797	236	854	762	316		522	64	7	348	507	
v/c Ratio		0.32	0.9	99	0.14	0.69	0.90	0.28	0.28	!	0.17	0.1	11	0.69	0.30	
Green Ratio		0.61	0.4	17	0.47	0.61	0.47	0.47	0.27	•	0.27	0.4	11	0.27	0.27	
Uniform Dela	ıy d ₁	15.6	29	.1	16.7	23.0	27.0	18.0	31.5		30.6	19.	.8	35.9	31.8	
Delay Factor	k	0.11	0.5	50	0.11	0.26	0.42	0.11	0.11		0.11	0.1	1	0.26	0.11	
Incremental I	Delay d ₂	0.6	29	9.8	0.1	8.6	12.7	0.2	0.5		0.2	0.	.1	5.6	0.3	
PF Factor				115	0.415	0.949	0.415	0.415	1.00	0	1.000	1.0	000	1.000	1.000	
Control Delay	y	15.4	41	1.9	7.0	30.4	23.9	7.7	32.0)	30.8	19	.9	41.4	32.1	
Lane Group I	LOS	В	D)	Α	С	С	Α	С		С	В		D	С	
Approach De	lay		35	5.8			21.8				28.2		_		37.8	
Approach LO	S		Ĺ)			С				С				D	
Intersection [Delay		29	0.7				Intersec	tion L	.05	3		-		С	$\neg \neg$
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SHORT REPORT

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			_			HORT	REPC	RT						
General Inf	formation	•		•				nformat	ion					
Analyst Agency or C Date Perfor Time Period	med 8	JES GME /11/20 y PM F	006	Hour						All oth raban Tv	& Sheai ner area vp, Adai 8 Build	s		
Volume and	d Timing Input			ЕB		<u> </u>	WB			AUD		T	- 00	
		\vdash	т Т	TH	RT	LT	T TH	RT	LT	NB TH	RT	LT	\$B TH	T RT
Number of I	_anes	1		1	1	1	1	1	1	1	1	1	1	0
Lane Group)	L		T	Ŕ	L	T	R	L	T	R	L	TR	
Volume (vpl	h)	80	2	753	94	149	741	196	61	63	48	184	68	50
% Heavy Ve	ehicles	0		7	0	0	5	0	4	0	4	3	0	3
PHF	•	0.8	36	0.86	0.86	0.91	0.91	0.91	0.70	0.70	0.70	0.77	0.77	0.77
Pretimed/Ad	ctuated (P/A)	A		Α	A	A	Α	Α	Α	A	Α	A	Α	A
Startup Los	t Time	2.0	0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension o	f Effective Gree	en 2.0	0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1
Arrival Type	 =	5	.	5	5	5	5	5	3	3	3	3	3	†
Unit Extens	ion	3.0	0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/R	TOR 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	12.0	12.0	12.0	14.0	<u> </u>
Parking/Gra		N		2	N	N	-2	N	N	-2	N	N	1	N
Parking/Hou								<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	↓
Bus Stops/F		0		0	0	0	0	0	0	0	0	0_	0	
Phasing	edestrian Time	EW F		3.2	03	T 0	3.2	NS Per		3.2	<u> </u>	<u>l</u> 07	3.2	<u> </u>
- -	G = 9.4	G = 5	_	G		G =	" ——	G = 29			G =		G =	<u> </u>
Timing	Y = 6.6	Υ = <i>6</i>		Ŷ		Y =		Y = 6.1		Y =	Υ =		Y =	
	Analysis (hrs) =						<u></u>			Cycle Le	ngth C =	110.0)	
Lane Gro	up Capacity	<u>, Cor</u>	<u>ntro</u>			LOS		<u>ninatio</u>	n					
A 11		- -		EB			WB	Υ	<u> </u>	NB_	T		SB	
Adjusted Flo		93		876	109	164	814	215	87	90	69	239	153	
Lane Group	Capacity	23		821	797	226	854	762	316	522	647	348	507	└ ──
v/c Ratio	<u> </u>	0.4	_	1.07	0.14	0.73	0.95	0.28	0.28	0.17	0.11	0.69	0.30	
Green Ratio		0.6	_	0.47	0.47	0.61	0.47	0.47	0.27	0.27	0.41	0.27	0.27	
Uniform Dela	<u> </u>	19.		29.3	16.7	28.4	28.1	18.0	31.5	30.6	19.8	35.9	31.8	
Delay Facto	·	0.1	.1	0.50	0.11	0.29	0.46	0.11	0.11	0.11	0.11	0.26	0.11	
	cremental Delay d ₂			50.8	0.1	11.1	20.3	0.2	0.5	0.2	0.1	5.6	0.3	
PF Factor		0.9		0.415		0.949	0.415	0.415	1.000	1.000	1.000	1.000	1.000	
Control Dela		-	9.3	63.0	7.0	38.0	32.0	7.7	32.0	30.8	19.9	41.4	32.1	<u> </u>
Lane Group		В		E	A	D	C	Α	C	<u> </u>	В	D	С	
Approach De	 	_		53.6		<u> </u>	28.4			28.2			37.8	
Approach LC		4		D		<u> </u>	<u></u> c		<u></u> _	С			D	<u></u>
Intersection	Delay			39.0		<u> </u>		Intersect	ion LC)S		<u> </u>	D	

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SHORT REPORT General Information Site Information Analyst JES Intersection US 30 & Shealer Agency or Co. **GME** Area Type All other areas Date Performed 8/11/2006 Jurisdiction Straban Twp. Adams Co. Time Period Weekday PM Peak Hour Analysis Year 2008 Build w/ Timing Adj Volume and Timing Input ΕB WB NB SB LT TH RT LT ΤĤ RT LT TH RT LT TH RT Number of Lanes 1 1 1 1 1 1 1 1 1 1 1 0 Lane Group L Τ R L T R L T L R TR Volume (vph) 80 753 94 149 741 196 61 63 184 48 68 50 % Heavy Vehicles 7 0 0 0 5 0 4 0 4 3 0 3 PHF 0.86 0.86 0.86 0.91 0.91 0.91 0.70 0.70 0.70 0.77 0.77 0.77Pretimed/Actuated (P/A) Α Α Α A Α Α Α Α Α Α Α Α 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 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 5 Arrival Type 5 5 5 5 5 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 Ped/Bike/RTOR Volume 0. 0 0 0 0 0 0 0 O 0 0 0 Lane Width 12.0 12.0 14.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 14.0 Parking/Grade/Parking Ν 2 Ν Ν -2 Ν Ν -2 Ν Ν 1 Ν Parking/Hour Bus Stops/Hour 0 0 0 0 0 0 0 0 o0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Excl. Left EW Perm 03 . 04 NS Perm 06 07 08 G = 10.4G = 53.4G = G = G = 26.9G = G = G = Timing Y = 6.6Y ≈ 6.6 <u>Y =</u> <u>Y =</u> Y = 6.1Υ == Y =Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination FB **WB** NB SB Adjusted Flow Rate 876 109 93 164 814 215 87 90 69 239 153 Lane Group Capacity 300 853 828 242 887 792 469 456 280 619 314 v/c Ratio 0.311.03 0.13 0.68 0.92 0.27 0.31 0.19 0.11 0.76 0.34 Green Ratio 0.640.49 0.49 0.64 0.490.49 0.24 0.24 0.390.24 0.24 Uniform Delay d, 15.4 28.3 15.6. 28.2 26.3 16.8 32.9 34.0 21.1 38.6 34.2 Delay Factor k 0.11 0.50 0.11 0.25 0.44 0.11 0.11 0.11 0.11 0.31 0.11 Incremental Delay d, 0.6 37.9 7.4 0.1 14.2 0.2 0.6 0.2 0.1 10.4 0.4 PF Factor 0.949 0.371 0.371 0.949 0.371 0.371 1.000 1.000 1.000 1.000 1.000 Control Delay 15.2 48.4 34.2 5.8 24.0 6.4 34.6 33.1 21.2 34.6 49.0 Lane Group LOS В D Α C Ç Α CC C С D Approach Delay 41.2 22.2 30.3 43.4 Approach LOS D CD Intersection Delay 32.8 Intersection LOS C

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						S	HORT	REPO	RT					-			<u> </u>
General Info	ormation								ıformat	ion	_						
Analyst Agency or C Date Perforn Time Period		G: 111,	ES ME /2006 M Peal	(H	our			Interse Area T Jurisd Analys	Гуре			US 30 d All oth ban Tw 2018 l	er a p, A	rea: \dar	s ns Co		
Volume and	l Timing Inpu	t						<u></u>									
		1			В	DT	1 -	WB				NB	···-	~		\$B	T 67
Number of L	2000	+	LT 1	2	ĬŤ	RT 1	LT 1	TH 2	RT 1	LT 1	-	TH 1	1	₹T	LT _	TH 1	RT 1
Lane Group		\dashv	L	7	$\overline{}$	R	<u>.</u>	7	R	L	+	T	F		L	T	R
Volume (vph	1)	+	332	74		106	169	744	258	70	\dagger	72	54		556	77	188
% Heavy Ve	<u> </u>	+	0	7	$\overline{}$	0	0	5	0	4	+	0	4		3	0	3
PHF		1	0.92	0.9	92	0.92	0.92	0.92	0.92	0.82	1	0.82	0.8	32	0.92	0.92	0.92
Pretimed/Ac	tuated (P/A)	\dashv	Α	7		Α	Α	A	Α	Α	十	Α	A		A	A	Α
Startup Lost	Time	寸	2.0	2.	0	2.0	2.0	2.0	2.0	2.0	寸	2.0	2.	0	2.0	2.0	2.0
Extension of	Effective Gre	en	2.0	2,	ō	2.0	2.0	2.0	2.0	2.0	┪	2.0	2.	0	2.0	2.0	2.0
Arrival Type		7	5	5	5	5	5	5	5	3	寸	3	3		3	3	3
Unit Extension	it Extension			3.	ō	3.0	3.0	3.0	3.0	3.0	7	3.0	3.	0	3.0	3.0	3.0
Ped/Bike/RT	d/Bike/RTOR Volume			0	$\overline{}$	0	O	0	0	0	7	0	0	1	0	0	0
Lane Width	d/Bike/RTOR Volume ne Width			12	.0	14.0	12.0	12.0	12.0	12.0		12.0	12	.0	12.0	14.0	12.0
Parking/Grad		\perp	N	ν		N	N	-2	N	Ν	\prod	-2	Ň	1	N	1	Ν
Parking/Hou		4	_			_			_		4	_					
Bus Stops/H		4	0	(\rightarrow	0	0	0	0	0	4	0	C		0	0	0
	destrian Time	<u> </u>	N D	3.		00	7 ^	3.2		- 61	ᆜ	3.2		T)	0.07	3.2	<u> </u>
Phasing	Excl, Left G = 20.1		W Pem = 31.4		G =	03	G =	4	Excl. L		_	B Only = 7.0			ru & RT = 10.0	G =	<u> </u>
Timing	Y = 6.6		= 6.6		Υ≂		Y=		Y = 6.7		_	= 6.1			6.1	Y =	
	Analysis (hrs) =									i	Су	cle Ler	igth	C =	110.0		
Lane Grou	up Capacity	,, C	ontro		_	y, and	LOS	_	ninatio	n							
			<u> </u>		EΒ		<u> </u>	WB		<u> </u>	_	NB			<u> </u>	SB	
Adjusted Flo			361	80		115	184	809	280	85	_	88	66		604	84	204
Lane Group	Capacity		419	98		487	427	993	466	159	-	174	51		711	424	328
v/c Ratio			0.86	0.		0.24	0.43	0.81	0.60	0.53	┯┿	0.51	0.1		0.85	0.20	0.62
Green Ratio			0.53	0.:		0.29	0.53	0.29	0.29	0.09		0.09	0.3		0.21	0.21	0.21
Uniform Dela	ıy d ₁		25.9	37	.0	30.1	16.8	36.6	33.9	47.8		47.6	25.	8	41.8	35.8	39.5
Delay Factor			0.39	0.		0.11	0.11	0.36	0.19	0.14		0.11	0.1	1	0.38	0.11	0.21
	remental Delay d ₂			-	.2	0.3	0.7	5.3	2.2	3.5	ot	2.4	0.		9.6	0.2	3.6
PF Factor	····			+	734	0.734	0.851	0.734	0.734	1.00	-+	1.000	1.0		1.000	1.000	1.000
Control Dela					4.4	22,3	15.0	32.2	27.0	51.3	4	50.0	26		51.4	36.0	43.1
Lane Group I			D			С	В	С	С	D	$oldsymbol{\perp}$	D	С		.D	D	D
Approach De	lay			34	4.5			28.6				43.8			<u> </u>	48.0	
Approach LC	S				<u></u>		<u> </u>	c				D			<u> </u>	D	
Intersection (Delay		<u> </u>	30	5.3				Intersec	tion L	os.	- <u>-</u>			<u></u>	D	

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SHORT REPORT General Information Site Information Analyst JES Intersection US 30 & Shealer **GME** Agency or Co. Area Type All other areas Date Performed 8/11/2006 Jurisdiction Straban Twp. Adams Co. Time Period Weekday PM Peak Hour 2018 Build Analysis Year Volume and Timing Input EΒ WB NB SB LT TH RT TH RT LT TH RT TH RT Number of Lanes 1 2 1 1 2 1 1 1 1 2 1 1 L T R T R T Lane Group L L T R L R 332 Volume (vph) 825 106 169 806 258 70 72 54 556 77 188 % Heavy Vehicles 0 7 0 α 5 0 4 0 4 3 0 3 PHF 0.92 0.92 0.92 0.92 0.92 0.92 0.82 0.92 0.92 0.92 0.82 0.82 Pretimed/Actuated (P/A) Α Α Α Α Α Α Α Α Α Α Α Α 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 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 5 Arrival Type 5 5 5 5 5 3 3 3 3 3 3 3.0 3.0 Unit Extension 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Ped/Bike/RTOR Volume 0 0 0 0 0 0 0 0 0 0 0 0 12.0 12.0 Lane Width 14.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 14.0 12.0 Parking/Grade/Parking Ν 2 Ν Ν -2 N Ν -2 Ν Ν Ν Parking/Hour Bus Stops/Hour 0 0 0 0 0 0 0 0 0 0 0 0 3.2 Minimum Pedestrian Time 3.2 3.2 3.2 EW Perm Phasing Excl. Left 03 04 Excl. Left SB Only Thru & RT 80

G = 20.1G = 31.4G≂ G =: G = 10.0G = 7.0G = 10.0G = Timing Y = 6.6Y = 6.6<u>Y</u> ≃ Y = Y = 6.1Y = 6.1Y = 6.1Y = Duration of Analysis (hrs) = 0.25 Cycle Lenath C =

Duration of Allalysis (1115)	- 0.23	<u></u>						ycie Le	ngui C -	- 110.0	<i>,</i>	
Lane Group Capacit	y, Contro	ol Dela	y, and	LOS	Deterr	ninatio	วท					
		EΒ			WB			NB			ŞB	
Adjusted Flow Rate	361	897	115	184	876	280	85	88	66	604	84	204
Lane Group Capacity	395	955	487	403	993	466	159	174	516	711	424	328
v/c Ratio	0.91	0.94	0.24	0.46	0.88	0.60	0.53	0.51	0.13	0.85	0.20	0.62
Green Ratio	0.53	0.29	0.29	0.53	0.29	0.29	0.09	0.09	0.33	0.21	0.21	0.21
Uniform Delay d ₁	31.2	38.4	30.1	18.1	37.5	33.9	47.8	47.6	25.8	41.8	35.8	39.5
Delay Factor k	0.43	0.45	0.11	0.11	0.41	0.19	0.14	0.11	0.11	0.38	0.11	0.21
Incremental Delay d ₂	25.3	16.5	0.3	0.8	9.4	2.2	3.5	2.4	0.1	9.6	0.2	3.6
PF Factor	0.851	0.734	0.734	0.851	0.734	0.734	1.000	1.000	1.000	1.000	1.000	1.000
Control Delay	51.9	44.6	22.3	16.2	36.9	27.0	51.3	50.0	26.0	51.4	36.0	43.1
Lane Group LOS	D	D	С	В	D	С	D	D	С	D	D	D
Approach Delay		44.7		١,	32.0			43.8			48.0	
Approach LOS		D			С		1	D		1	D	
Intersection Delay		41.0				Intersec	tion LO	S			D	

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General Info	ormation						formati	ion					
Analyst Agency or C Date Perforr Time Period	o. 6 ned <i>8/1</i>	JES GME 1/2006 ⁄ Peak H	lour			Interso Area T Jurisd Analys	Гуре		All oth raban Tw	& Sheal er areas p, Adar Existing	s ns Co		
Volume and	Timing Input							,					
		LT	EB TH	RT	LT	WB TH	RT	L.T	NB TH	RT	LT	SB TH	RT
Number of L	anes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Group		L	T	R	L	7	R	L	 T	R	L	TR	
Volume (vph	1)	72	651	62	172	703	88	32	52	83	100	54	57
% Heavy Ve	·	0	1	0	0	1	0	0	0	0	0	0	0
PHF		0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.91	0.91	0.91
Pretimed/Ac	tuated (P/A)	Α	А	Α	Α	Α	Α	Α	Α	. A	Α	A	Α
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	
Extension of	f Effective Green	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	
Unit Extensi	on	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RT	OR 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	12.0	12.0	12.0	14.0	
Parking/Grad		N	2	N	Ν	-2	N	Ν	-2	N	N	1	N
Parking/Hou									<u> </u>		<u> </u>		
Bus Stops/H		0	0	0	0	0	0	0	0	0	0	0	
	destrian Time	IM Down	3.2			3.2	NS Pe	rm)	3.2 06	1	<u> </u>	3.2	<u> </u> 8
Phasing		W Perr		=	G =	14	G = 28		3 =	- G =		G =	,
Timing		= 6.6		=	Y =	·	Y = 6.1	1	Y =	Υ =	:	Y =	
	Analysis (hrs) = (Cycle Le	ngth C =	110.0)	
Lane Gro	up Capacity,	Contro			LOS		ninatio	on			<u> </u>		
		<u> </u>	EE		<u> </u>	WB		ļ:	NB	T		SB	
Adjusted Flo	· · · · · · · · · · · · · · · · · · ·	76	685	65	191	781	98	37	60	95	110	122	
Lane Group	Capacity	288	853	781	400	871	747	342	504	688	357	489	ļ
v/c Ratio		0.26	0.80	_	0.48	0.90	0.13	0.11	0.12	0.14	0.31	0.25	
Green Ratio		0.62	0.46	0.46	0.62	0.46	0.46	0.26	0.26	0.42	0.26	0.26	<u> </u>
Uniform Dela		16.7	25.5	16.8	13.2	27.4	17.2	30.8	30.9	19.5	32.5	32.0	ļ
Delay Factor		0.11	0.35		0.11	0.42	0.11	0.11	0.11	0.11	0.11	0.11	ļ
Incremental	Delay d ₂	0.5	5.6	0.0	0.9	12.0	0.1	0.1	0.1	0.1	0.5	0.3	
PF Factor		0.939	0.43		0.939	0.436	0.436	1.000	1.000	1.000	1.000	1.000	
Control Dela	•	16.2	16.7	_	13.3	23.9	7.6	30.9	31.0	19.6	33.0	32.3	
Lane Group		В	В	. A	В	С	A	С	С	В	С	С	
Approach De	 ` 		16.0	 	·	20.5		 	25.3			32.6	
Approach LO			В		<u> </u>	С			С			С	
	Dalace	1	20.5		1		14	41 1 6	١٥.		1	_	

Intersection Delay

20.5

Intersection LOS

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				s	HORT	REPC	RT	·					
General Info	ormation						nformat	ion					
Analyst Agency or C Date Perforn Time Period	o. (ned <i>8/1</i>	JES GME 1/2006 / Peak H	lour			Area ⁻ Jurisd			All oth traban Tv	& Shea ner area vp, Adai No Build	s ns Co		
Volume and	Timing Input												
			EB			WB			NB	T		SB	
Number of L	anes	LT 1	TH 1	RT 1	LT 1	TH 1	RT 1	LT [*]	TH 1	RT 1	LT 1	TH 1	RT 0
Lane Group	.a.ics	<u>'</u>	T	R	L	<i>T</i>	R	L	T	R	L	TR	10
Volume (vph	<u> </u>	74	799	64	177	833	100	33	53	85	116	55	58
% Heavy Ve		0	1.	0	0	1	0	0	0	0	0	0	0
PHF	-, noroo	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.91	0.91	0.91
Pretimed/Act	tuated (P/Δ\	0.33 A	0.90 A	0.95 A	0.90 A	D.90	0.90 A	0.87 A	A A	A	A	A	0.91 A
Startup Lost		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	 ^ -
<u> </u>	Effective Green		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	
Unit Extension	on .	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RT	OR 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	12.0	12.0	12.0	14.0	Ť
Parking/Grad	de/Parking	N	2	N	N	-2	N	N	-2	N	N	1	N
Parking/Hou	r										,		
Bus Stops/H		0	0	0	0	0	0	0	0	0	0	0	
	destrian Time		3.2			3.2		<u>. </u>	3.2			3.2	<u> </u>
Phasing		W Pern 50.4		03	G =	4	NS Pe		06		07	I	8
Timing		= 6.6	Y =		Y =		Y = 6.1		G = Y =	G = Y =		G = Y =	
Duration of A	\nalysis (hrs) = (.25		············					Cycle Le				
Lane Grou	up Capacity,	Contro	ol Dela	y, and	LOS	Detern	ninatio	n					
			EB			WB			NB			SB	,
Adjusted Flor	w Rate	78	841	67	197	926	111	38	61	98	127	124	
Lane Group	Capacity	253	853	781	259	871	747	342	504	688	356	489	
v/c Ratio		0.31	0.99	0.09	0.76	1.06	0.15	0.11	0.12	0.14	0.36	0.25	"
Green Ratio		0.62	0.46	0.46	0.62	0.46	0.46	0.26	0.26	0.42	0.26	0.26	1
Uniform Dela	ıy d ₁	21.5	29.4	16.8	22.2	29.8	17.3	30.8	30.9	19.6	33.0	32.0	
Delay Factor	k	0.11	0.49	0.11	0.31	0.50	0.11	0.11	0.11	0.11	0.11	0.11	
Incremental [Delay d ₂	0.7	27.3	0.0	12.4	48.7	0.1	0.1	0.1	0.1	0.6	0.3	
PF Factor	,	0.939	0.436	0.436	0.939	0.436	0.436	1.000	1.000	1.000	1.000	1.000	
Control Delay	у	20.9	40.1	7.4	33.3	61.7	7.7	30.9	31.0	19.7	33.6	32.3	
Lane Group I	LOS	С	D	Α	С	E	Α	С	C ·	В	С	С	
Approach De	lay		36.4	-		52.3	•		25.3			33.0	
Approach LO)S		D			D			С			C	-
Intersection E	Delay	1	42.6				Intersec	tion LC)S			D	
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SHORT REPORT General Information Site Information JES Analyst Intersection US 30 & Shealer Agency or Co. **GME** Area Type All other areas Date Performed 8/11/2006 Jurisdiction Straban Twp, Adams Co Time Period Saturday Peak Hour Analysis Year 2008 Build Volume and Timing Input EΒ WB NB SB RT LT TH LT ΤH RT LT TH RT TH RŤ Number of Lanes 1 1 1 1 1 1 1 1 1 1 1 0 Lane Group L T R L 7 R L Τ R L TR 74 850 Volume (vph) 64 177 883 100 33 53 85 116 55 58 % Heavy Vehicles a 1 0 0 1 o 0 0 0 0 0 0 PHF 0.95 0.95 0.95 0.90 0.90 0.90 0.87 0.87 0.91 0.91 0.91 0.87 Pretimed/Actuated (P/A) Α Α Α A Α Α Α Α A Α Α 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 Extension of Effective Green 2.0 2.0 2.0 2.0 2.0 20 2.0 2.0 2.0 2.0 2.0 Arrival Type 5 5 5 5 5 5 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 Ped/Bike/RTOR Volume o 0 0 0 a 0 0 0 0 0 0 a Lane Width 12.0 12.0 14.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 14.0 Parking/Grade/Parking Ν 2 Ν Ν -2 Ν N -2 Ν Ν 1 Ν Parking/Hour Bus Stops/Hour 0 0 0 0 0 α n 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Excl. Left EW Perm 03 04 NS Perm 06 07 08 G = 11.4G = 50.4G =G = G = 28.9G = G = G = Timing Y = 6.6Y = 6.6Y = Y = Y = 6.17 = Y = Duration of Analysis (hrs) = 0.25 110.0 Cycle Length C = Lane Group Capacity, Control Delay, and LOS Determination EΒ WB NB SB Adjusted Flow Rate 78 895 67 197 981 111 38 61 98 127 124 Lane Group Capacity 253 853 781 259 871 747 342 504 688 356 489 v/c Ratio 0.31 1.05 0.09 0.761.13 0.15 0.11 0.25 0.12 0.14 0.36Green Ratio 0.62 0 46 0.460.620.46 0.46 0.260.26 0.42 0.260.26 Uniform Delay d. 21.5 29.8 16.8 17.3 30.7 29.8 30.8 30.9 19.6 33.0 32.0 Delay Factor k 0.11 0.50 0.11 0.31 0.50 0.11 0.11 0.11 0.11 0.11 0.11 Incremental Delay d₂ 0.7 44.5 0.0 12.4 71.5 0.1 0.1 0.1 0.1 0.6 0.3 PF Factor 0.9390.436 0.4360.9390.436 0.436 1.000 1.000 1.000 1.000 1.000 Control Delay 20.9 57.5 7.4 41.2 84.5 7.7 30.9 31.0 19.7 33.6 32.3 Lane Group LOS C Ë F Α D A C: C В C С Approach Delay 51.6 71.3 25.3 33.0 Approach LOS D E CC Intersection Delay 57.2 Intersection LOS Ε

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General Info	ormation						Site Ir	nformat	ìon						
Analyst Agency or C Date Perforr Time Period	med <i>8/</i>	JES GME 11/2006 ay Peak		r			Interse Area Jurisd Analys	Гуре		US 30 All oth raban Tv 08 Build	ner a vp, A	reas Idan	s ns Co	•	į
Volume and	Timing Input				-		<u></u>							-	
		<u> </u>		В			WB			NB				SB	-
Number of L	2000	LT 1	1 1	<u>'</u>	RT 1	LT 1	1 ,	RT 1	LT 1	TH 1	R	<u>⊤</u>	LT 1	TH 1	RT 0
Lane Group		L	+;		R	L	T	R	, L	† 'T	l 'R		L	TR	╁┷─
Volume (vph		74	85		64	177	883	100	33	53	85		116	55	58
% Heavy Ve	`	0	1		0	0	1	0	0	0	10		0	0	0
PHF		0.95	0.9		0.95	0.90	0.90	0.90	0.87	0.87	0.8		0.91	0.91	0.91
Pretimed/Ac	tuated (P/A)	A	1		Α	Α	A	A	A	A	A		Α	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	 	
Extension of	sion of Effective Green 2.0 2.					2.0	2.0	2.0	2.0	2.0	2.0	0	2.0	2.0	
Arrival Type						5	5	5	3 ·	3	3		3	3	
Unit Extension	on	3.0	3.	0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0	3.0	3.0	
Ped/Bike/RT	OR Volume	0	G)	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	12.0	12	.0	12.0	14.0	
Parking/Grad		N	2	?	Ν	N	-2	N	N	-2	N N		N	1	N
Parking/Hou Bus Stops/H		0	+)	0	Ô	-	0	0	0	0		0	0	
	destrian Time	1-	3.		0		3.2	-	 "	3.2	0		-	3.2	
Phasing	Excl. Left	EW Per	<u> </u>	<u>۔ _</u>	03	I	<u></u>	NS Pe	rm I	06	+		07		<u>I </u>
Timing	G = 11.9	G = 55.		G=		G =	_	G = 23	3.4	3 =		G =		G =	
	Y = 6.6 Analysis (hrs) =	Y = 6.6		Y =		Y =		Y = 6.1		/ =		<u>Y</u> =		Y =	
	up Capacity		ol F	<u> </u>	v and	LOS	Dotorn	ninatio		Cycle Le	ngtn	<u> </u>	110.0	<u> </u>	
Lane Gro	up Capacity	, Com		EB	y, and		WB	miatic	" "	NB			Γ	SB	
Adjusted Flor	w Rate	78		 95	67	197	981	111	38	61	98		127	124	Г
Lane Group		261	—	38	859	267	957	821	273	408	614		288	396	
v/c Ratio		0.30	0.9	95	0.08	0.74	1.03	0.14	0.14	0.15	0.16	 6	0.44	0.31	
Green Ratio		0.67	0.	50	0.50	0.67	0.50	0.50	0.21	0.21	0.38	8	0.21	0.21	-
Uniform Dela	ay d ₁	22.1	26	5.1	14.1	31.0	27.3	14.5	35.1	35.2	22.8	 8	37.6	36.5	<u> </u>
Delay Factor	k	0.11	0.4	46	0.11	0.30	0.50	0.11	0.11	0.11	0.1	1	0.11	0.11	
Incremental I	Delay d ₂	0.6	15	3.2	0.0	10.3	35.6	0.1	0.2	0.2	0.1	1	1.1	0.5	
PF Factor						0.950	0.324	0.324	1.000	1.000	1.00	00	1.000	1.000	
Control Delay						39.7	44.5	4.8	35.4	35.4	22.	9	38.7	37.0	
Lane Group I	LOS	С		>	Α	D	D	Α	D	D	С		D	D	
Approach De	elay		25	5.7			40.3			29.2				37.8	
Approach LC	s		(0			D			С				D	
Intersection [Delay		33	3.8				Intersec	tion LC	S				С	

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General Information					·			nformat	ion					<u> </u>	
Analyst Agency or Co. Date Performed Time Period Sat	G 8/11	IES ME 1/2006 Peak H	lour				Interse Area Jurisd Analys	Гуре		US 30 All oth raban Tv 2018	ner a vp, A	rea: Idar	s ns Co		
Volume and Timing In	put						•				• • • •				
		. ~-		В			WB			NB				SB	
Number of Lanes		LT	2	Н	RT	LT	TH 2	R⊺	LT	TH	R		LT	TH	RT
		1	7 7		1 R	1	T	1 R	1	1 T	1 R		2	1 T	1 R
Lane Group Volume (vph)		L 402	86		72 ·	L 201	857	165	1 37		97		555	63	226
% Heavy Vehicles		0	7		0	0	5	0	4	61	4		3	03	3
PHF		0.95	0.9		0.95	0.92	0.92	0.92	0.92	0.92	0.9		0.92	0.92	0.92
Pretimed/Actuated (P/A	, 	A	0.3 A		A	A	0.32 A	0.92 A	0.92 A	A	A A		0.92 A	A	A A
Startup Lost Time	'	2.0	2.0	\rightarrow	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Extension of Effective G	reen	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	Ö		0	0	0	0	0.0	0.0	0.0		0	0.0	0.0
Lane Width	-	12.0	12.	_	14.0	12.0	12.0	12.0	12.0	12.0	12.		12.0	14.0	12.0
Parking/Grade/Parking		N	2	→	N	N	-2	N	N	-2	N		N	1	N
Parking/Hour															
Bus Stops/Hour		0	0		0	0	0	0	0	0	0		0	0	0
Minimum Pedestrian Tir	ne		3.2				3.2			3.2				3.2	
Phasing Excl. Left		B Only	\Box		Perm	0	4	Excl. L		SB Only		_	น & RT		08
Timing $G = 7.0$ Y = 6.6		= <i>8.0</i> = <i>6.6</i>	\dashv		32.7 6.6	G = Y =		G = 7.0 Y = 6.1		G = 9.7 Y = 6.1			7.5 6.1	G = Y =	
Duration of Analysis (hr				<u> </u>		<u>, '</u>				Cycle Le					
Lane Group Capac	ity, (Contro	ol D	ela	y, and	LOS	Detern	ninatio	n		-		•		
			E	ΞВ			WB			NB				SB	i
Adjusted Flow Rate		423	91	2	76	218	932	179	40	66	105	5	603	68	246
Lane Group Capacity		419	14	39	733	295	1035	485	112	131	294	1	702	427	330
v/c Ratio		1.01	0.6	33	0.10	0.74	0.90	0.37	0.36	0.50	0.30	6	0.86	0.16	0.75
Green Ratio		0.55	0.4	13	0.43	0.36	0.30	0.30	0.06	0.07	0.19	9	0.21	0.21	0.21
Uniform Delay d ₁		33.5	24.	6	18.7	34.0	37.1	30.5	49.3	49.5	38.9	9	42.0	35. <i>4</i>	40.6
Delay Factor k		0.50	0.2	21	0.11	0.30	0.42	0.11	0.11	0.11	0.1	1	0.39	0.11	0.30
Incremental Delay d ₂		46.4	0.	9	0.1	9.5	10.7	0.5	2.0	3.1	0.7	7	10.5	0.2	8.9
PF Factor	actor 0.1					0.955	0.718	0.718	1.000	1.000	1.00	00	1.000	1.000	1.000
Control Delay							37.4	22.4	51.3	52.6	39.	7	52.5	35.5	49.5
Lane Group LOS		D	В		Α	D	D	С	D	D	D		D	D	D
Approach Delay			24	.6	_	i	36.1			45.9				50.4	-
Approach LOS			C	;	***	T	D			D				D	
Intersection Delay			35	.8				Intersec	tion LC)S				D	

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General Information						nformati	ion					
Agency or Co.	IES GME 1/2006 Peak H	lour			Interse Area T Jurisd Analys	Гуре		All oth raban Tv	& Sheai ier area ip, Adai 8 Build	S		
Volume and Timing Input							e.					
		EB			WB			NB			SB	
Number of Lanes	LT	TH 2	RT	LT	TH	RT	LT	TH	RT	ŁT	TH	RT
· · · · · · · · · · · · · · · · · · ·	1 L	T	1 R	1 L	2 T	1 R	1	1 T	1 R	2 L	1 T	1 R
Lane Group Volume (vph)	402	1011	72	201	941	165	.37	61	97	555	63	226
% Heavy Vehicles	0	7	0	0	5	0	.37	10	4	3	03	3
PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	0.93 A	0.93 A	0.93 A	0.92 A	0.92 A	0.92 A	0.92 A	0.92 A	0.92 A	0.92 A	0.92 A	0.92 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	0.0	0.0
Lane Width	12.0	12.0	14.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	12.0
Parking/Grade/Parking	N	2	N	N	-2	N	N	-2	N	N	1	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		L	3.2]		3.2	
	EB Only		V Perm	0	4	Excl. L		SB Only		ru & RT		08
Limina	= 8.0 = 6.6		32.7 6.6	G = Y =		G = 7.0 $Y = 6.3$		G = 9.7 Y = 6.1	Y =	= 7.5 = 6.1	G = Y =	
Duration of Analysis (hrs) = 0				<u>'</u>				Cycle Le				
Lane Group Capacity,	Contro	ol Dela	y, and	LOS	Deterr	ninatio	n					
		EB		<u> </u>	WB			NB			SB	
Adjusted Flow Rate	423	1064	76	218	1023	179	40	66	105	603	68	246
Lane Group Capacity	419	1439	733	270	1035	485	112	131	294	702	427	330
v/c Ratio	1.01	0.74	0.10	0.81	0.99	0.37	0.36	0.50	0.36	0.86	0.16	0.75
Green Ratio	0.55	0.43	0.43	0.36	0.30	0.30	0.06	0.07	0.19	0.21	0.21	0.21
Uniform Delay d ₁	33.9	26.2	18.7	37.5	38.5	30.5	49.3	49.5	38.9	42.0	35.4	40.6
Delay Factor k	0.50	0.30	0.11	0.35	0.49	0.11	0.11	0.11	0.11	0.39	0.11	0.30
Incremental Delay d ₂	46.4	2.1	0.1	16.4	25.1	0.5	2.0	3.1	0.7	10.5	0.2	8.9
PF Factor	0.173	0.497	0.497	0.955	0.718	0.718	1.000	1.000	1.000	1.000	1.000	1.000
Control Delay	52.3	15.1	9.4	52.2	52.7	22.4	51.3	52.6	39.7	52.5	35.5	49.5
Lane Group LOS	D	В	Α	D	D	С	D	D	D	D	D	D
Approach Delay		24.9			48.8			45.9			50.4	
Approach LOS		С			D			D			D	
Intersection Delay		39.9				Intersec	tion LO	os ·			D	

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Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Southbound Ramps

SHORT REPORT General Information Site Information US 30 & US 15 SB ramps JES Intersection Analyst Agency or Co. Area Type All other areas **GME** Straban Twp. Adams Co Date Performed 8/11/2006 Jurisdiction Analysis Year 2006 Existing Time Period Weekday PM Peak Hour Volume and Timing Input SB ΕB WB NB RT ĽΤ TH RT TH LT TH ŘΤ LT TH RT LT 2 1 2 1 Number of Lanes L T T Lane Group R 27 538 282 717 Volume (vph) 10 4 4 7 % Heavy Vehicles 0.81 0.95 0.95 0.95 Α Pretimed/Actuated (P/A) A Α Α 2.0 Startup Lost Time 2.0 2.0 2.0 2.0 2.0 Extension of Effective Green 2.0 2.0 5 5 3 Arrival Type 5 3.0 Unit Extension 3.0 3.0 3.0 a Ped/Bike/RTOR Volume 0 0 0 0 0 11.0 16.0 Lane Width 12.0 12.0 2 Ν 2 Ν Parking/Grade/Parking Ν -2 Ν Ν Ν Parking/Hour 0 0 0 Bus Stops/Hour 3.2 Minimum Pedestrian Time 3.2 3.2 06 07 80 Thru & RT 03 04 SB Only Phasing 02 G = G =G = 20.8G = G = 76.4Ğ = G = G = Timing Y = 6.2Y = Y = <u>Y</u> = Y = 6.6Y = Ϋ́ = Y = Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25Lane Group Capacity, Control Delay, and LOS Determination SB NB EB WB 755 33 566 297 Adjusted Flow Rate 2440 1053 2325 348 Lane Group Capacity 0.09 0.23 0.28 0.32 v/c Ratio 0.190.69 0.69Green Ratio 0.69Uniform Delay d, 36.8 6.1 6.4 6.6 0.11 Delay Factor k 0.110.11 0.11 0.1 Incremental Delay d₂ 0.0 0.1 0.1 1.000 0.164 0.164 PF Factor 0.164 36.9 1.1 1.2 1.2 Control Delay Α Α Α Lane Group LOS 36.9 1.2 Approach Delay 1.1 D Approach LOS Α Α A 1.8 Intersection LOS Intersection Delay

SHORT REPORT Site Information **General Information** US 30 & US 15 SB ramps JES Intersection Analyst Agency or Co. **GME** Area Type All other areas Date Performed 8/11/2006 Jurisdiction Straban Twp. Adams Co. Time Period Weekday PM Peak Hour Analysis Year 2008 No Build Volume and Timing Input ΕB WB NΒ SB lΤ RT LT TH RT LT TH RT LT TH RT TH Ź 1 Number of Lanes 2 1 Lane Group T R 7 L 871 143 638 297 Volume (vph) 7 10 % Heavy Vehicles 4 4 0.95 0.81 0.950.95 PHF Α Pretimed/Actuated (P/A) Α A Α 2.0 2.0 2.0 2.0 Startup Lost Time 2.0 2.0 2.0 Extension of Effective Green 2.0 3 5 5 5 Arrival Type 3.0 3.0 3.0 3.0 Unit Extension n Ped/Bike/RTOR Volume 0 0 0 0 0 12.0 11.0 12.0 16.0 Lane Width N 2 Ν Ν 2 Ν Parking/Grade/Parking Ν -2 Ν Parking/Hour 0 0 Bus Stops/Hour 0 0 3.2 3.2 3.2 Minimum Pedestrian Time 06 07 80 Thru & RT 02 03 04 SB Only Phasing G = 20.8G = G = G = G = 76.4G = G = G = Timing Y = 6.6Y = <u>Y =</u> Y = 6.2Y = <u>Y</u> = Y = Y = Cycle Length C = 110.0 Duration of Analysis (hrs) = 0.25Lane Group Capacity, Control Delay, and LOS Determination SB EB WB NB 917 177 672 313 Adjusted Flow Rate 2440 1053 2325 348 Lane Group Capacity 0.51 0.39 v/c Ratio 0.280.300.19Green Ratio 0.69 0.690.6940.0 Uniform Delay d. 7.1 6.3 6.5 0.11 0.11 0.11 0.12Delay Factor k 1.2 Incremental Delay do 0.2 0.1 0.1 1.000 0.1640.1640.164 PF Factor 41.3 1.2 1.3 Control Delay 1.1 D Lane Group LOS Α Α Α 41.3 1.1 1.3 Approach Delay Α D Α Approach LOS Α 4.6 Intersection LOS Intersection Delay

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General Info	rmation							formati	on						
Analyst Agency or Co Date Perform Time Period	o. ned 8/ Weekday	-	1E 2006	Hour		:	Interse Area T Jurisdio Analys	уре			All othe oan Twi	er area			
Volume and	Timing Input														· ·
			├ ─ 	EB TH	RT	LT	T TH	RT	+,	T	NB TH	RT	LT	SB TH	RT
Number of La	enes		<u> </u>	2	1	L1	2	<u> N.</u>	╫	_ '	117	K)	1	 	121
Lane Group				T	R		T		+-				L		
Volume (vph))		-	689	297	 	911		+				272		
% Heavy Vet				4	4	†	7		T		-		10		
PHF				0.95	0.95	 	0.95	1	+			<u>-</u>	0.81	1	
Pretimed/Act	uated (P/A)			A	Α	1	A						Α	1	1
Startup Lost				2.0	2.0	1	2.0	1	1				2.0	1	
Extension of	Effective Gree	en e		2.0	2.0		2.0	<u> </u>					2.0		
Arrival Type	• 40	-		5	5		5						3		
Unit Extension	on			3.0	3.0		3.0						3.0		
Ped/Bike/RT	OR Volume	_	0	0	0	0	0						0	0	
Lane Width				12.0	11.0		12.0						16.0		
Parking/Grad	le/Parking		N	-2	N.	N	2	N	┸		<u> </u>		N	2	N
Parking/Hou					_	<u> </u>			+		ļ	-	 _	 	-
Bus Stops/H			<u> </u>	0	0		0		-		<u> </u>	_	0	3.2	₩
	destrian Time		<u>1</u> 02	3.2	<u>l</u> 03	<u> </u>	3.2	SB On	<u> </u>		<u>1</u> 06	<u> </u>	. I	<u> </u>	1)8
Phasing	G = 76.4	G =		G =		G =		G = 20		G		G		G =	
Timing	Y = 6.6	Y =		Y =		Y =		Y = 6.2	·	Υ:		Υ		Y =	
	malysis (hrs) =			<u> </u>						Су	cle Ler	igth C	= 110.0	<u> </u>	
Lane Grou	up Capacity	<u>/, C</u>	ontro		y, and	LOS		ninatio	n L		NID		1	00	
		\dashv		EB	1040		WB Toso	1			NB		226	SB	
Adjusted Flo		\dashv		725 2440	313 1053		959 2325	•		\dashv			336	<u> </u>	
Lane Group	Capacity			2440	,000		2020						348		
v/c Ratio	_			0.30	0.30		0.41		L				0.97		
Green Ratio				0.69	0.69		0.69		<u> </u>				0.19		
Uniform Dela	ay d ₁			6.5	6.5		7.2						44.2		
Delay Factor	`k			0.11	0.11		0.11						0.47		<u> </u>
Incremental	Delay d ₂			0.1	0.2		0.1						39.0		
PF Factor				0.164	0.164		0.164			\Box			1.000		
Control Dela	у			1.1	1,2		1.3	<u> </u>	<u> </u>				83.2		<u> </u>
Lane Group	LOS			Α	Α		Α	<u> </u>					F		
Approach De	elay			1.2			1.3	_	<u> </u>				ļ	83.2	
Approach LC)S			Α			Α		<u> </u>			<u> </u>		F	
Intersection i	Delay			13.0				Intersec	tion	LOS	}		1	В	

			-		SH	ORT I	REPOI	RT						
General Info	rmation							formatio	n					
Analyst Agency or Co Date Perform Time Period			1E 2006	Hour			Interse Area T Jurisdic Analys	уре	Str	30 & US All othe aban Tw 08 Build v	er area p, Adai	s ms Co		
Volume and	Timing Input											·		
				EB TH	RT	t LT	WB TH	RT	LT	NB TH	RT	LT	SB	RT
Number of La	nes			2	1	 -!	2	KI	+			1	 '''	1117
Lane Group				T	R	 	T		t		 	L		
Volume (vph)	<u> </u>		 	689	297	+	911		 			272		
% Heavy Vet				4	4	┼╌╴	7		 -			10	•	1
PHF				0.95	0.95	 	0.95	<u> </u>		1	 	0.81	-	
Pretimed/Act	uated (P/A)		 	A	A	 	A	+ -	1		1	A		<u>† </u>
Startup Lost				2.0	2.0	1	2.0	1	 	_		2.0	1	
	Effective Gree	en	 	2.0	2.0		2.0	+	1		-	2.0		
Arrival Type		_		5	5	 	-5	<u> </u>	1			3		1
Unit Extension	n			3.0	3.0	1	3.0			<u> </u>		3.0		
Ped/Bike/RT			0	0	0	0	0	1	1			0	0	
Lane Width				12.0	1,1.0		12.0		1			16.0		
Parking/Grad	le/Parking		N	-2	N	N	2	N				N	2	N
Parking/Hour											ļ		ļ	↓
Bus Stops/He	-	,.		0	0	ļ	0_		<u> </u>	\bot		0		-
	destrian Time			3.2	<u> </u>	<u> </u>	3.2		<u> </u>	<u> </u>	<u> </u>		3.2	<u> </u>
Phasing	Thru & RT	G =	02	G =	03	04 G =		SB On! G = 26.		<u>06 </u>	G	= 07	G =	8
Timing	G = 70.4 Y = 6.6	Y =		- 		Y=		Y = 6.2		7 - 7 =	Y		Y =	
Duration of A	nalysis (hrs) =									Cycle Ler	ngth Ċ	= 110.0		
Lane Grou	ıp Capacity	/, C	ontro	l Dela	y, and	LOS	Detern	ninatio	<u>n</u>			- T		_
				EB			WB			NB		<u> </u>	SB	
Adjusted Flo	w Rate		_	725	313		959	ļ		<u> </u>		336		
Lane Group	Capacity			2248	970		2142]_	449		
v/c Ratio				0.32	0.32		0.45					0.75		
Green Ratio				0.64	0.64		0.64					0.24		
Uniform Dela	ıy d ₁			9.0	9.0		10.0					38.5		
Delay Factor	k			0.11	0.11		0.11					0.30		
Incremental	cremental Delay d ₂			0.1	0.2		0.1					6.8		
PF Factor				0.139	0.139		0.139					1.000		
Control Dela	у		1.3	1,4		1.5					45.3		ļ	
Lane Group	LOS			Α	Α		Α					D		
Approach De	elay			1.4			1.5						45.3	
Approach LC)S			Α			Α						D	
	Delay .	$\overline{}$		7.8				Intersect					Α	

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					SH	ORT	REPOI	RT						 =
General Info	rmation		•		· -			formation	on					
Analyst Agency or Co Date Perforn Time Period	o. ned 8, <i>Weekda</i>)		1E 2006	Hour			Interse Area T Jurisdio Analysi	уре		ban Tw	er areas	s ns Co		
Volume and	Timing Input													<u>—</u>
				EB	1	\ . 	WB	<u> </u>	1 -	NB	T ===	1.7	SB	1 DT
Niverban of L			LT	TH	RT	LT	TH	RT	LT	TH	RT	<u>LT</u> 2	TH	RT
Number of La	anes			2	1 R	 	2 T		┼	 	1	L		
Lane Group				T		 -	-	<u> </u>	 	 	-	234	╄——	<u> </u>
Volume (vph				1014	437	+	1341	_	 	-		┼───		 -
% Heavy Vel	nicles			4	4	 	7	-{		 -	 	10	 	←
PHF				0.95	0.95	+	0.95		 	ļ		0.92	<u> </u>	<u> </u>
Pretimed/Act	<u>`</u>			A	A	 	A		┼	ļ <u>.</u>		A		<u> </u>
Startup Lost				2.0	2.0	_	2.0		 -	ļ	 	2.0		1
	Effective Gree	en.		2.0	2.0	 	2.0	 	<u> </u>	<u> </u>		2.0	<u> </u>	
Arrival Type	- -			5	5	 	5_	—	<u> </u>	 		3		<u> </u>
Unit Extension		_		3.0	3.0	 	3.0		 	<u> </u>		3.0 .		<u> </u>
Ped/Bike/RT	OR Volume		0	0	0	0	0		<u> </u>	<u> </u>	ļ	0_	0	<u> </u>
Lane Width				12.0	11.0		12.0	.				16.0		
Parking/Grad			N	-2	N	N_	2	N	╀	<u> </u>		N	2	N
Parking/Hous				<u> </u>	 _ _		 		 	-	-	 -	<u> </u>	1
Bus Stops/H				3.2	0	-	0		 	 	-	0	3.2	
	destrian Time	T	02	<u> </u>	03	<u>)</u>	3.2	SB Onl	<u> </u>	<u>1</u> 06	 _	07		8
Phasing	Thru & RT G = 76.4	G=		- G =	03	G =		G = 20.			- G =		G =	ю
Timing	Y = 6.6	Y =		_ Y=		Y =		Y = 6.2			Υ =		Y =_	•
	\nalysis (hrs) =			_[L					/cle Ler	igth C =	= 110.0		·
Lane Grou	up Capacity	<u>,, C</u>	ontro		y, and	LOS [inatio	<u>n</u>			, -	_	
				EB			WB			NB		<u> </u>	SB	
Adjusted Flo	w Rate			1067	460		1412			,		254		
Lane Group	Capacity			2440	1053	_	2325					676		
v/c Ratio				0.44	0.44		0.61					0.38		
Green Ratio		\neg		0.69	0.69		0.69]				0.19		
Uniform Dela	ey d ₁			7,4	7.4		8.9		_			38.9		ľ
Delay Factor	rk	寸		0.11	0.11		0.19					0.11	_	
Incremental	Delay d ₂	寸		0.1	0.3		0.5					0.4		
PF Factor				0.164	0.164		0.164	 				1.000		
Control Dela	у	\neg		1.3	1.5		1.9					39.3]
Lane Group		\dashv	_	A	Α		Α					D		
Approach De				1.4	'		1.9						39.3	
Approach LC	DS .	\neg		A			Α						D	
Intersection	Delay	ヿ	-	4.6				ntersect	ion LOS	3			Α	

	·				SH	ORT I	REPO	RT									
General Information								Site Information									
Analyst JES Agency or Co. GME Date Performed 8/11/2006 Time Period Weekday PM Peak Hour							Intersection US 30 & US 15 SB ramps Area Type All other areas Jurisdiction Straban Twp, Adams Co Analysis Year 2018 Build										
Volume and	Timing Input	:															
			- , _	EB Tu	RT	╀╌	WE TH		RT	LT	NB TH	T 6	₹T	LT	\$B TH	RT	
Number of Lanes			LT	TH 2	1	╁╌	2	+	KI	LI	1173	 	`	2	- '''		
Lane Group				T	R	+	T	+	• • •	_		\vdash		L		 	
Volume (vph)			<u> </u>	1095	437	+	1403	-	•		+	T		436	<u> </u>		
% Heavy Vehicles				4	4	 -	7					┢		10		 -	
PHF				0.95	0.95	+	0.95				 -			0.92	 		
Pretimed/Actuated (P/A)				A	A	╁──	A				+			A		 	
Startup Lost Time				2.0	2.0	+	2.0					\vdash		2.0		 	
Extension of Effective Green			<u> </u>	2.0	2.0	+	2.0				 -	H		2.0	 	 	
Arrival Type			<u> </u>	5	5	+	5				+	 		3		 	
Unit Extension		 	3.0	3.0	+	3.0	十			-├	H		3.0		 		
Ped/Bike/RTOR Volume			0	0	0	0	0.0		•		-	┢		0	0	 	
Lane Width		 	12.0	11.0	╅┈┷	12.0	,			 -	H		16.0	 -	1		
Parking/Grade/Parking			N	-2	N	l _N	2	_	N		-	t		N	2	N	
Parking/Hour		 -	_	 	1		十			<u> </u>							
Bus Stops/Hour				0	0		0							0			
Minimum Pedestrian Time				3.2			3.2								3.2	<u> </u>	
Phasing			02 03		03	04			SB Only		06		Ļ	07		08	
Timing	Firming $G = 76.4 G = 76.6 Y = 6.6 Y $				G = Y =						_		G= Y=		G = Y =		
Duration of Analysis (hrs) = 0.2						1 - 11 - 0.2			0.2		ycle Ler	,					
	up Capacit			l Dela	v. and	LOS	Deter	min	atior								
				EB			WB			NB				SB			
Adjusted Flow Rate				1153 .	460		1477							474			
Lane Group Capacity				2440	1053		2325			-				676			
v/c Ratio				0.47	0.44		0.64		ĺ					0.70			
Green Ratio				0.69	0.69		0.69							0.19			
Uniform Delay d₁				7.6	7.4		9.2	1				Г		41.7			
Delay Factor k				0.11	0.11		0.22	T				Π		0.27			
Incremental Delay d ₂				0.1	0.3		0.6	1			1			3.3			
PF Factor				0.164	0.164		0.164	1						1.000			
Control Dela	 эу			1.4	1.5		2.1		\Box					45.0			
Lane Group LOS				A	Α		Α	\top						D			
Approach Delay				1.4			2.1		\neg			_			45.0		
Approach LOS			A				A							D			
Intersection Delay			_	7.5				Inte	ersecti	on LOS				A			
L	Edularia of Flori		<u> </u>						TM Var		•			enerated:	9/11/2006	2:16 D	

General Infor					U I.	ORT F		N I							
· ————	mation							formati	on						
Analyst Agency or Co Date Performe Time Period			1E 2006	our			Interse Area T Jurisdi Analys	уре			0 & US All othe an Tw _l 2006 E	er area o, Ada	ms Co		
Volume and	Timing Input													0.0	_
			LT	EB TH	RT	\perp_{LT}	WB TH	RT	- -	LT	NB TH	RT	LT	SB TH	RT
Number of La	nes		-	2	1	 [',	2	+ '`	+	<u>- ' .</u>	- 111	- \\\.	1	, <u>,</u>	1
Lane Group		_	 	T	R	 	Т		1				$\frac{1}{L}$		
Volume (vph)	<u></u>			586	627	1	815		\top				31		
% Heavy Veh				1	0	 	1		十				0		
PHF			<u> </u>	0.93	0.93	1	0.93	 	\top				0.89		
Pretimed/Actu	uated (P/A)			A	A	 	A		十				A		
Startup Lost 7				2.0	2.0	1	2.0		╅				2.0		
Extension of 8		en		2.0	2.0	1	2.0		_				2.0		
Arrival Type			1	5	5		5	-					3		
Unit Extension	n			3.0	3.0		3.0	<u> </u>					3.0		
Ped/Bike/RT0	OR Volume		0	0	0	0	. 0					_	0	0	
Lane Width	···			12.0	11.0		12.0						16.0		
Parking/Grad	e/Parking		N	-2	N	N	2	N					N	2	N
Parking/Hour							<u> </u>		\downarrow				<u> </u>	<u> </u>	
Bus Stops/Ho			<u> </u>	0	0	 	0		_ _			<u> </u>	0	<u> </u>	ļ
Minimum Ped			<u> </u>	3.2		<u> </u>	3.2	<u> </u>	ᆚ			<u> </u>	1	3.2	<u> </u>
	Thru & RT G = 69.4	G :	02 -	G:	03	G =	-	SB Or G = 27	_	G	06	G	07 =	G =	8
Limita L	Y = 6.6	Y =		Y =		Y =		Y = 6.2		Ÿ:		Y		Y =	
Duration of A	nalysis (hrs) =									Су	cle Len	gth C	= 110.0		
Lane Grou	p Capacity	/, C	ontro	l Dela	y, and	LOS [ninatio	<u>on</u>						
				E8			WB		↓		NB	r		SB	ī
Adjusted Flov	v Rate			630	674		876		_				35		ļ
Lane Group C	Capacity			2283	995	!	2237						512		
v/c Ratio	· · · · · · · · · · · · · · · · · · ·			0.28	0.68		0.39						0.07		
Green Ratio				0.63	0.63		0.63						0.25		
Uniform Dela	y d ₁			9.1	13.1		10.0				,		31.3		
Delay Factor	k			0.11	0.25	,	0.11						0.11		
Incremental D	Delay d ₂	!		0.1	1.9		0.1						0.1		
PF Factor				0.135	0.135		0.135						1.000		
Control Delay	·			1.3	3.6		1.5						31.3		
Lane Group L	.os			A	Α		A						С	<u> </u>	
Approach Del	lay	<u>:</u>		2.5			1.5							31.3	
Approach LO	S			Α			Α							С	
Intersection C	Delay			2.5				Intersed	ction	LOS				Α	_

					SH	ORT (REPO	RT				· <u> </u>			
General Info	ormation		· <u>-</u> ··					formatio	n				,	-	
Analyst Agency or Condition Date Perforn Time Period	ned 8		ΛΕ 2006	our			Interse Area T Jurisdi Analys	ype		All i raban	othe. Twp	15 SB r area: o, Adar o Build	ns Co		
Volume and	Timing Input	t	-												
			<u> </u>	E8	I DT		WB		١.,		В	D7	1.7	\$B	LOT
Number of L	onoc		 	TH 2	RT_	LT	TH 2	RT	LĨ	<u> </u>	М	RT	LT 1	TH	RT
Lane Group	anes		1	T	R		7	-	+	+	-	·	L	 -	╂
 	<u>, </u>			735	653	- 	945		╁┈	+	\dashv		211		+
	Period Saturday Peak Fine and Timing Input Der of Lanes Group The (vph) The avy Vehicles The med/Actuated (P/A) The proof of Effective Green The proof of Effec		 	1	000		1	-	+	+-	┯╁		0	<u> </u>	+
PHF	TIICIES		 	0.93	0.93		0.93	+	-	+			0.89	╁╌╾	╁┈
 _	tuated (D/A)			0.93 A	A A	+	A A	+	-	+			0.09 A	 	+
	• •		 	2.0	2.0	 	2.0	+	\vdash	+	\dashv		2.0	 	+
				2.0	2.0	+	2.0		╁┈	-├-			2.0	-	+
<u> </u>	Ellective Gree	en	<u> </u>		+		—		+	+			3	 -	
Arrival Type				5 3.0	3.0	- -	5 3.0	+	\vdash	+	\dashv		3.0	 -	 -
<u> </u>		_	ļ		+	+_		- 	 	-	-		 	_	-
	OR Volume		0	0	0	0	0	-	+-	+	_		0	0	
Lane Width	da/Oarkiaa		N1	12.0 -2	11.0 N	 	12.0	l _N	+	- 	_		16.0 N	2	N
			N.	-2	1 /4	+ '*	 ' -	- '`` -	╁				 ^	-	"
			 	0	0	+	0	<u> </u>	+-				0		
			 	3.2	 		3.2			+	_			3.2	
Phasing		Ι_	02		03	04	1 1	SB Onl	у Т	06	i	$\neg \neg$	07	<u> </u>	8
Timing				G =		G=		G = 27.	8	G =		G:		G =	
				Y =		Y =		Y = 6.2		Y =	Long	Y =	110.0	Y =	
				<u> </u>	u and	1001	Jotorn	ninatio		Cycle	renç	gin C -	- 110.0		
Lane Gro	up Capacity	<u>y, c</u>	Ontro	EB	y, anu	LUSI	WB	IIIIIalio		N			Į	SB	
Adjusted Flo	w Rate		<u>.</u>	790	702		1016					_	237		
Lane Group	Capacity		<u> </u>	2283	995		2237			+	寸	·	512		
v/c Ratio	· · · · · · · · · · · · · · · · · · ·			0.35	0.71		0.45	├──┤			\dashv		0.46		
Green Ratio				0.63	0.63		0.63			 	\dashv		0.25		
Uniform Dela		~		9.6	13.5		10.5	\vdash		-	+		34.8		
Delay Factor				0.11	0.27		0.11			- 	+		0.11		
Incremental				0.1	2.3		0.1			+	+		0.7		
PF Factor				0.135	0.135		0.135	 		+	\dashv		1.000		
Control Dela				1.4	4.1		1.6				+		35.4		
Lane Group				A	A A		A	├		+	\dashv		D		
Approach De				2.7	L ''		1.6	<u> </u>					 	35.4	<u> </u>
			-										-	D	
Approach LC				A 5.1	_			late t	ion L	<u> </u>					
Intersection	Delay			5.1				Intersect	on L	25			<u> </u>	A	· - , - · · ·

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General Info	ormation							formati	on				<u>-</u>		_
Analyst Agency or C Date Perforn Time Period	ned 8			our			Interse Area T Jurisdi Analys	уре			All othe oan Tw _i	er area			
Volume and	l Timing Input	t													
			LT	EB TH	RT	LT	WB TH	RT	╁	- -	NB TH	RT	LT	SB TH	RT
Number of L	anes	-	<u> </u>	2	1	<u> </u>	2		╁╴	<u>-</u>	141	<u> </u>	1	 '''	~
Lane Group			 	T	R	1	T		T				L	i	†
Volume (vph	1)			786	653	 	995		1				340		
	· .			1	0		1		\dagger				0		
PHF				0.93	0.93		0.93		T			•	0.89		
Pretimed/Ac	tuated (P/A)			Α	Α		A	1					Α		
Startup Lost	Time			2.0	2.0	1	2.0		1				2.0		
Extension of	Effective Gree	en		2.0	2.0		2.0						2.0		
Arrival Type				5	5		5						3		
Unit Extensi	region Co. Performed Service Period Sature P			3.0	3.0		3.0						3.0		
Ped/Bike/RT	OR Volume		0	0	0	0	0			·	-		0	0	
Lane Width				12.0	11.0		12.0						16.0		
Parking/Grad	de/Parking		N	-2	N	N	2	N					N	2	N
Parking/Hou							 _	_	\bot				<u> </u>	ļ	<u> </u>
Bus Stops/H				0	0	<u> </u>	0		┿				0		<u> </u>
		_	<u> </u>	3.2		<u> </u>	3.2	00.0	<u> </u>			<u> </u>	07	3.2	<u> </u>
Phasing		G =	02	G =	03	G =	+	SB On G = 27.		G:	06 =	G	_07 =	G =	8
Timing		Ϋ́=		Y =		Y =		Y = 6.2		Y		Ϋ́		Y =	
										Су	cle Len	gth C	= 110.0		
Lane Gro	up Capacity	<u>,, C</u>	ontro		y, and	LOS [<u>ninatio</u>	n			_			
				EB			WB			_	NB			SB	
Adjusted Flo	w Rate			845	702		1070						382		
Lane Group	Capacity			2283	995		2237						512		
v/c Ratio				0.37	0.71		0.48						0.75		
Green Ratio	_			0.63	0.63		0.63						0.25		
Uniform Dela	ay d ₁			9.8	13.5		10.7						37.8		
Delay Factor	r k			0.11	0.27		0.11						0.30		
Incremental	Delay d ₂			0.1	2.3		0.2			T			5.9		
PF Factor				0.135	0.135		0.135						1.000		
Control Dela	у			1.4	4.1		1.6						43.8		
Lane Group	LOS			Α	Α		Α						D		
Approach De	elay			2.7			1.6							43.8	
Approach LC	os			Α			Α							D	
Intersection	Delay			7.5				Intersect	ion L	.os		•		Α	

<u></u>				-		SH	ORT	RE	PO	RT									<u></u>
General Info	rmation			_				_	ite In		natio	n		<u>-</u> .					
Analyst Agency or Co Date Perforn Time Period	ned 8			our				Ai Ju	nterse rea T urisdio nalys	ype ctior	า			0 & US All othe ban Tw 2018 I	era p, A	reas Idan	s ns Co		
Volume and	Timing Inpu	t																	
	·		<u> </u>	_	EB	T 5-	\ . -	_	WB		D.T.		_	NB	- -	-	- , -	SB	T ==
Number of La			LT	╀	TH 2	RT 1	LT	+	TH 2	╌	RT	L.	1	TH		₹T	LT 2	TH	RT
Lane Group	anes		 	╀	<u>z</u> T	R		+	T	+		┝╾╴			-		L		\vdash
Volume (vph	1		+	1	, 193	864		+	1511	+		┢			-		334	├	┼─
% Heavy Vel	•		 	┼	1	0		+'	1	+							0		╁
PHF	ilicies	_	+	1	.93	0.93	+	٠,	0.93	+		╁			H		0.92		┼──
Pretimed/Act	husted (D/A)		\vdash	╂	.93 A	0.93 A	+	+	0.93 A	+		 - -		<u> </u>	\vdash		0.92 A		+
Startup Lost	<u> </u>		\vdash	₽-	2.0	2.0	+	+	2.0	+		-			\vdash		2.0	 	┼
	Effective Green	en.	+	+-	2.0	2.0	 	+	2.0	+					-		2.0	1	\vdash
Arrival Type	Lilective Gre	-	+	╁	5	5	 	+	5	+		┢		<u>-</u> _	-		3	╂──	\vdash
Unit Extension	3 0		 	1	3.0	3.0	+	+	3.0	+		-			\vdash		3.0		┼──
Ped/Bike/RT			0	┿	0	0	0	┿	0	+					┢		0	0	+-
Lane Width	OK Volume		 	╌	2.0	11.0	+ -	+	12.0	+		├─	_		H		16.0	├ ┷	┼─
Parking/Grad	de/Parking		l _N	+-	-2	N N	N	+	2	+	N	┢					N	2	N
Parking/Hou			 ``	\dagger		1	1	╁		+									†
Bus Stops/H				†	0	0		Ť	0	T							0		
Minimum Pe	destrian Time	•		3	3.2				3.2									3.2	
Phasing	Thru & RT		02			03	04	4			Only			06			07		8
Timing	G = 71.4 Y = 6.6	G:			G = Y=	.	G = Y =				25.8 6.2	3	G: Y:	_		G = Y =		G = Y =	
Duration of A	nalysis (hrs)			_	7 =		1 -			1	0.2		-		ath		110.0		
	up Capacit) [)ela	v. and	LOS	De	tern	nina	atior	<u> </u>							
		, -			EΒ				WB					NB				SB	
Adjusted Flo	w Rate	,		12	283	929		16	625	Ċ							363		
Lane Group	Capacity			23	348	1024		2:	302								922		
v/c Ratio				0.	55_	0.91		0.	71								0.39		
Green Ratio				0.0	65	0.65		0.	65								0.23	-	
Uniform Dela	ay d ₁			10	.5	16.5		12	2.5		\neg		\neg				35.5		
Delay Factor	·k			0.	15	0.43		0.	27		寸		ヿ	· • • • • • • • • • • • • • • • • • • •			0.11		
Incremental	Delay d ₂			0	.3	11.5		1	1.0	Γ			寸				0.3		
PF Factor				0.	142	0.142		Q.	142								1.000		
Control Dela	у			1	.8	13.9		2	2.8		一						35.8		
Lane Group	LOS			7	1	В		1	A	Γ	寸		寸				D		
Approach De				6	5.8	•		2	2.8	_	一				-			35.8	
Approach LC					A				Α		$\neg \dagger$							D	
Intersection I					7.8					Inter	rsecti	on L	os					A	
			<u> </u>		-														

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				SH	ORT	REPO	RT						
General In	formation						formatio	n	•				
Analyst Agency or (Date Perfor Time Perior	Co. <i>Gl</i> rmed <i>8/11/</i>	ES ME /2006 Peak H	our			Interse Area T Jurisdi Analys	уре		30 & US All other aban Tw 2018	er area	s ·		
Volume an	d Timing Input									•			
··-		<u> </u>	EB	RT		WB		LT	NB TH	RT	LT	\$B TH	RT
Number of	Lanes	LT	TH 2	1		7H 2	RT		1 17	KI	2	1 1 1	- K
Lane Group			T	R	 	T			 	 	L		
Volume (vp]	1338	864	 	1595			1	 	697		
% Heavy V		1	1	0	†	1		 -			0	1	
PHF		 	0.93	0.93	 -	0.93			 -		0.92	<u> </u>	<u> </u>
	ctuated (P/A)	1	A	A	 	A	-	1	1		A		
Startup Los	 ` ´ · · ·	 	2.0	2.0	1	2.0		1	1 -		2.0		<u> </u>
	of Effective Green	1	2.0	2.0	1	2.0	+	1	1	<u> </u>	2.0	† -	1
Arrival Typ		 	5	5	 	5	-	†	1	-	3	<u> </u>	
Unit Extens		+	3.0	3.0	┪┈─	3.0		 	†		3.0		
<u> </u>	RTOR Volume	0	0	0	0	0	1		1		0	0	
Lane Width		1	12.0	11.0	 	12.0					16.0		
Parking/Gr	ade/Parking	N	-2 _	N	N	2	N				N	2	N
Parking/Ho	our												
Bus Stops/		ļ	0	0	↓	0		<u> </u>	<u> </u>		0	ļ	ļ
	Pedestrian Time		3.2	<u> </u>		3.2			<u></u>	<u></u>	<u> </u>	3.2	<u> </u>
Phasing	Thru & RT G = 71.4 G	02	G =	03	G =	- -	SB Onl G = 25.		06_ 	G	07	G =	18
Timing	Y = 6.6 Y	_	Y =	·	Y =		Y = 6.2		=	Y:		Y =	
	f Analysis (hrs) = 0.		<u> </u>						ycle Ler	gth C	= 110.0		
Lane Gro	oup Capacity, (Contro	I Delay	y, and	LOS	Detern	ninatio	n					
			EB			WB	,		NB			SB	
Adjusted F	low Rate		1439	929		1715					758		
Lane Grou	p Capacity		2348	1024	_	2302					922		
v/c Ratio			0.61	0.91		0.75					0.82		
Green Rati	lo		0.65	0.65		0.65					0.23		
Uniform De	elay d ₁		11.2	16.5		13.1					39.9		
Delay Fact	or k		0.20	0.43		0.30					0.36		
Incrementa	al Delay d ₂		0.5	11.5	_	1.4		*			6.1		
PF Factor			0.142	0.142		0.142					1.000		
Control De	lay		2.1	13.9	_	3.2				<u> </u>	46.0		
Lane Grou	p LOS		Α	В		Α					D		
Approach (Delay		6.7			3.2						46.0	
Approach I	LOS		Α			Α						D	
Intersection	n Delay		11.6				intersect	ion LO	s			В	

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Northbound Ramps

Site Information	RT
Agency or Co. Date Performed Date Performed Time Period GME Straban Twp, Adams Co Straban Twp, Adams Co Straban Twp, Adams Co 2006 Existing Volume and Timing Input EB WB NB SB LT TH RT LT	RT
EB	RT
LT TH RT LT TH RT<	RT
Number of Lanes 2 2 1 - Lane Group T T T L Volume (vph) 475 695 298 % Heavy Vehicles 4 9 6	RI
Lane Group T T L L Volume (vph) 475 695 298 % Heavy Vehicles 4 9 6	┿
Volume (vph) 475 695 298 % Heavy Vehicles 4 9 6	L
% Heavy Vehicles 4 9 6	+
	+
PHF 0.93 0.82 0.95	
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	1
Arrival Type 5 5 3	
Unit Extension 3.0 3.0 3.0	1
Ped/Bike/RTOR Volume 0 0 0 0 0 0	
Lane Width 12.0 12.0 16.0	\top
Parking/Grade/Parking N -2 N N 4 N N 2 N	
Parking/Hour	
Bus Stops/Hour 0 0 0	
Minimum Pedestrian Time 3.2 3.2 3.2 3.2	<u></u>
G = 77.5 $G = G = G = G = 20.0$ $G = G = G = G = G = G = G = G = G = G$	08
Timing $Y = 6.5$ $Y = Y = Y = Y = Y = Y = Y = Y = Y = Y $	
Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0	
Lane Group Capacity, Control Delay, and LOS Determination	
EB WB NB SB	
Adjusted Flow Rate 511 848 314	
Lane Group Capacity 2475 2292 347	
v/c Ratio 0.21 0.37 0.90	
Green Ratio 0.70 0.18	
Uniform Delay d ₁ 5.6 6.5 44.1	
Delay Factor k 0.11 0.11 0.43	
Incremental Delay d ₂ 0.0 0.1 26.1	
PF Factor 0.169 0.169 1.000	
Control Delay 1.0 1.2 70.2	
Lane Group LOS A A E	<u> </u>
Approach Delay 1.0 1.2 70.2	
Approach LOS A A E	
Intersection Delay 14.1 Intersection LOS B	

			SH	ORT	REPO	RT							
General Information					Site In	forma	ion						
		Hour					s	A traba	ll othe in Twp	15 NB i r areas , Adam o Build	•		
Volume and Timing Input						<u></u>							
	<u> </u>	EB			WB	1 5-			NB	1 DT	 	SB	_
Number of Lanes	LT_	TH 2	RT	LT	TH 2	RT	1 L	╧	TH	RT	LT	TH	RT
	+	T		├-	T		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	╼╫			 	┼	
Lane Group	 – 	680			1262	-	32	. 		├	1		
Volume (vph)		 -	-		9	 	6			├	 	+	
% Heavy Vehicles	 	4		<u> </u>	0.82	+	0.9			-	 	+	-
PHF	-	0.93	<u> </u>		_	+		\rightarrow		 		+	
Pretimed/Actuated (P/A)	 	Α		 	A	-	A			-	┨──	 -	-
Startup Lost Time	-	2.0	ļ	-	2.0		2.0	\rightarrow		 	+	 -	-
Extension of Effective Green	ļ	2.0	ļ	<u> </u>	2.0	<u> </u>	2.0			ļ	↓	-	
Arrival Type	ļ <u> </u>	5			5	4	3		-			1	
Unit Extension	<u> </u>	3.0	<u> </u>	<u> </u>	3.0		3.0	\rightarrow		<u> </u>	╄	 	ļ
Ped/Bike/RTOR Volume	0	0	<u> </u>	0	0	↓	0		0		<u> </u>		
Lane Width	<u> </u>	12.0			12.0	<u> </u>	16.	\rightarrow		ļ	 	↓	_
Parking/Grade/Parking	N	-2	N	N	4	N	N	_	2	N		<u> </u>	
Parking/Hour	 _	<u> </u>	<u> </u>	}	<u> </u>	_	+-			<u>.</u>	 	 	<u> </u>
Bus Stops/Hour	-	0	 	-	0		0	\vdash	3.2	-	+-	 	-
Minimum Pedestrian Time		3.2	1	1 04	3.2	NBO	<u> </u>	l	<u>3.∠</u> 06		07	<u> </u>	<u> </u> 8
Phasing Thru Only —	02	G =	3	G =	*	NB Q G = 2		G =	00	 G=		G =	-
Timing $Y = 6.5$ Y:				Y =		Y = 6		Y =		Y =		Y =	
Duration of Analysis (hrs) = 0.								Cycl	e Leng	th C =	110.0		
Lane Group Capacity, C	ontro	l Delay	, and	LOSI	Detern	<u>ninati</u>	on_	_					
		EB			WB				NB			SB	
Adjusted Flow Rate		731			1539	ŀ	337						
Lane Group Capacity		2475			2292		347						
v/c Ratio		0.30			0.67		0.97						
Green Ratio		0.70			0.70		0.18						
Uniform Delay d ₁		6.1			9.1		44.7						
Delay Factor k		0.11			0.24		0.48	_					
Incremental Delay d ₂		0.1			0.8		40.5	十					
PF Factor	-	0.169			0.169	1	1.000	, 					
Control Delay		1.1			2.3	1	85.2	_	$\neg \uparrow$				
Lane Group LOS		Α			Α		F	\top	$\overline{}$	 -			
Approach Delay		1.1			2.3	1	1	<u></u>	5.2			•	
Approach LOS	ļ	A			A		1		F				
, pprocess no	<u> </u>	12.7			_	Interse	<u>.</u>					В —	

			SH	ORT	REPO	RT			_				
General Information						format	ion				•		
Agency or Co. GA	2006	Hour		Ü			St	Α	II othe	15 NB i r areas , Adam Build	·		
Volume and Timing Input													
	<u> </u>	EB_	T	 	WB	T 0.T	 	- T	NB	T 5=	1,-	SB L TU	1 57
Number of Lanes	LT	TH 2	RT	LT	TH 2	RT	1 1	╌┽	TH	RT	LT	TH	RT
Lane Group	+	T		} 	7	+	1	┰┼				 	
Volume (vph)	+	860	 		1563	+	320	;		-	+	<u> </u>	 .
% Heavy Vehicles	 	4	 	 	9	+	6	$\overline{}$		 	+		
PHF	+	0.93	-		0.82	+	0.9	_		 	+	 	
Pretimed/Actuated (P/A)	+-	A A	 	 -	A		0.9.	╧		 	 	 	
	+	2.0	 	 	2.0	_	2.0	\dashv		}		<u> </u>	
Startup Lost Time Extension of Effective Green	+	2.0	<u> </u>		2.0		2.0	\rightarrow		}	+	 	-
	+	5		-	5		3	\dashv		 	+		
Arrival Type Unit Extension	+	3.0		├	3.0		3.0	\dashv		-	+	┼─┈─	
Ped/Bike/RTOR Volume	-	0		0	0	 	0	\dashv	0	1	+	 	
Lane Width	┼-	12.0	 -	· ·	12.0	+	16.	$\frac{1}{2}$		 	┼		
Parking/Grade/Parking	N	-2	N	N	4	+ N	/O.	"	2	N	╁─┈	╂╾╌╾	
Parking/Hour	+ ' '	 -	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ 	 ^`	 '	+	 	_†		 			
Bus Stops/Hour	 	0			0		0	寸		-	1	1	
Minimum Pedestrian Time		3.2		<u> </u>	3.2			一	3.2				
Phasing Thru Only	02)3	04	\$	NB O	_		06	_	07	0	8
Timing $G = 77.5$ $G = 77.5$ $G = 77.5$		G =		G =		G = 20		G =	··	G ≃ Y=		G = Y =	
Duration of Analysis (hrs) = 0.2		Y =		Y =		Y = 6		Y ≃ Cvcl	e l enr		110.0		
Lane Group Capacity, C		I Dolay	and	1 20 1)etern	ninatio	_	Cyci	e cen	1010			
Lane Group Capacity, C	.011110	EB	, and	<u></u>	WB	iiiiati	T		NB			SB	<u> </u>
Adjusted Flow Rate		925		<u></u>	1906		337						
Lane Group Capacity		2475			2292		347						
v/c Ratio		0.37			0.83		0.97	\top	4				
Green Ratio		0.70			0.70		0.18	T					
Uniform Delay d₁		6.5			11.6		44.7	T					
Delay Factor k		0.11			0.37	<u> </u>	0.48	\top	o				
Incremental Delay d ₂		0.1			2.8	1	40.5	+					
PF Factor		0.169			0.169	<u> </u>	1.000	+	+				
Control Delay		1.2		•	4.7		85.2	\top		-		,	
Lane Group LOS		Α			A		F	十					
Approach Delay		1.2			4.7		1	8	5.2				
Approach LOS		Α		<u></u>	A		1		F			·· <u>-</u>	
Approach cos		-	1										

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S E 2006 Peak LT	EB TH 2 T 860 4 0.93 A	RT	LT	Intersed Area Ty Jurisdic	/pe	U\$ 3 Stra	0 & US All othe ban Twp 8 Build w NB	r areas , Adams / Timing	s Co g Adj	SB	
E 2006 Peak LT	EB TH 2 T 860 4 0.93 A	RT	LŢ	Area Ty Jurisdic Analysi WB TH	/pe tion s Year	Stra 200	All othe ban Twp 8 Build w NB	r areas , Adams / Timing	s Co g Adj	SB	
	TH 2 T 860 4 0.93 A	RT	LT	TH 2	RT	LT			 	SB	
	TH 2 T 860 4 0.93 A	RT	LT	TH 2	RT	LT				SB	
	2 T 860 4 0.93 A	RT	LT	2	RT	LT.	I TH	1 27			
	7 860 4 0.93 A					I 4	 	RT	ŁT	TH	RT
	860 4 0.93 A			1 '	+	1	+	┼	 	├──	├──
	4 0.93 A		ł	4500	 	L	+	 -	 	 	}
	0.93 A			1563	-	320	 	├		├──	
	Α		ļ	9	1	6	+	 	ļ		
			 	0.82		0.95	┷	↓	-	 	
		<u> </u>		A	 	A	+	 	<u> </u>	 	<u> </u>
	2.0	<u> </u>		2.0		2.0	ļ	 		 	
	2.0	ļ	ļ	2.0		2.0	 			<u> </u>	<u> </u>
	5	<u> </u>	ļ	5		3		↓	<u> </u>	<u> </u>	<u> </u>
	3.0		<u> </u>	3.0	ļ	3.0	<u> </u>	 		ļ	<u> </u>
0	0	L	0	0		0	0	<u> </u>	ļ	<u> </u>	Ь—
	12.0	<u> </u>		12.0	ļ	16.0		<u> </u>		<u> </u>	<u> </u>
N	-2	N_	N	4	N	N.	2	N_	 	<u> </u>	
	ļ	<u> </u>	<u> </u>			 _	 	╄	 	 	├──
		-			+	0	122	+	 	 	┼
	<u> </u>	<u> </u>	1 0		ND On	<u> </u>		<u> </u>	<u></u>	 	<u>L</u>
		13							<u> </u>	G =	0
	Y =		Y =					Y =		Y =	
5							ycle Leng	<u>jth C = </u>	110.0		
<u>ontro</u>		, and	LOS		inatio	n	. <u> </u>				
	EB						NB			SB	
•	925					337					
	2315			2144		434				İ	
	0.40			0.89		0.78				_	
	0.66			0.66		0.23					
	8.7			15.4		39.9		_			
	0.11			0.41		0.33					
	0.1			5.0		8.6					
	0.147	-		0.147		1.000					
	1.4			7.3		48.5					
	Α		-	Α		D					
	1.4			7.3			48.5	$\overline{}$			
						I					
	Α	1		A			D				<u> </u>
	02	0 3.2 02 G = Y = 5 0ntrol Delay EB 925 2315 0.40 0.66 8.7 0.11 0.1 0.147 1.4 A	0 3.2 02 03 G = Y = 5 0.40 0.66 8.7 0.11 0.1 0.147 1.4 A	0 3.2 02 03 0 G = G = Y = 5	0 3.2 3.2 02 03 04 G = G = Y = Y = 5 Ontrol Delay, and LOS Determ EB WB 925 1906 2315 2144 0.40 0.89 0.66 0.66 8.7 15.4 0.11 0.41 0.1 5.0 0.147 1.4 7.3 A A	0 3.2 3.2 3.2 02 03 04 NB On G = G = G = 25. Y = Y = 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O	O	O	O	0

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SHORT REPORT **General Information** Site Information JES US 30 & US 15 NB ramps Intersection Analyst All other areas Agency or Co. **GME** Area Type Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2018 No Build Time Period Weekday PM Peak Hour Volume and Timing Input ΝB SB E8 WB RT TH RT LT RT TH RT TH LT TΗ LT 2 2 2 Number of Lanes T L Lane Group T 2003 455 Volume (vph) 1088 9 6 % Heavy Vehicles 4 0.95 PHF 0.93 0.92 Pretimed/Actuated (P/A) Α Α Α Startup Lost Time 2.0 2.0 2.0 2.0 2.0 2.0 Extension of Effective Green 3 Arrival Type 5 5 Unit Extension 3.0 3.0 3.0 0 Ped/Bike/RTOR Volume 0 0 0 0 0 12.0 16.0 Lane Width 12.0 Ν 2 Ν Parking/Grade/Parking Ν -2 Ν Ν 4 Ν Parking/Hour Bus Stops/Hour 0 0 3.2 Minimum Pedestrian Time 3.2 3.2 07 80 02 03 04 NB Only 06 Phasing Thru Only G = 20.0G = G = G = G = Ğ = G = 77.5Ğ = Timing Y = 6Y = Y = Ÿ= Y = 6.5Υ= Y = Y = Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination WB NB SB ĔΒ 1170 2177 479 Adjusted Flow Rate 2475 2292 675 Lane Group Capacity 0.71 0.47 0.95v/c Ratio Green Ratio 0.70 0.70 0.187.2 14.5 42.3 Uniform Delay d. 0.11 0.27 Delay Factor k 0.46 3.5 Incremental Delay d₂ 0.1 9.6 0.169 0.169 1.000 PF Factor 12.1 45.7 1.4 Control Delay В D Α Lane Group LOS 45.7 Approach Delay 1.4 12.1 В A Approach LOS Intersection LOS 13.0 В Intersection Delay

					SH	ORT	REPO	RT							
General Info	ormation						Site In		tior	n					
Analyst Agency or C Date Perfor Time Period	med 8		ΛΕ 2006	Hour			Interse Area T Jurisdi Analys	ype ction	ar		All othe	15 NB r r areas o, Adam Build	•		
Volume and	Timing Inpu	t					<u>'</u>				•				
				EB			WB		\Box		NB			SB	
Ni			LT	TH	RT	LT	TH	R [*]	- 	LT	TH	RT	LT	TH	RT
Number of L	anes		├	2 T	 	 	2 T	—	-+	2	 	+	_		· .
Lane Group		•	.	!	-	_		+	\dashv	L 455	-	+	-	-	-
Volume (vph	·		 -	1370	 	┼	2468	-		455		┼	├	 -	
% Heavy Ve	hicles			4	 		9	_	4	6	-		-	<u> </u>	<u> </u>
PHF			<u> </u>	0.93	ļ	 	0.92	┿-		0.95	ļ <u> </u>	<u> </u>	ļ	ļ	<u> </u>
Pretimed/Ac			<u> </u>	Α		ļ	A	 _	_	<u> </u>	ļ	ļ	↓	<u> </u>	
Startup Lost			<u> </u>	2.0		-	2.0	1_	_	2.0	<u> </u>	 	 	 	ļ <u>.</u>
	Effective Gre		<u>.</u>	2.0		<u> </u>	2.0	╄	_	2.0	<u> </u>		ļ ·		<u> </u>
	3 60 50		737	. 5			.5		┵.	3	<u> </u>		 		<u> </u>
Unit Extensi				3.0			3.0	_	4	3.0			<u> </u>		·
Ped/Bike/RT	OR Volume		0	0	ļ <u>.</u>	0	0	 	_	0	0		<u> </u>		
Lane Width				12.0	<u> </u>		12.0	1	4	16.0			<u> </u>		
Parking/Grad			N	-2	N	N	4	N	4	N	2	N		<u> </u>	
Parking/Hou			 			├	 	┽—	-		-	├	-	-	
Bus Stops/H	our destrian Time			0 3.2		<u> </u>	3.2	+	\dashv	0	3.2	 	-		
Phasing	Thru Only	_	02	<u> </u>)3	04		NB C			06]	<u>J</u> 07	I 0:	<u> </u>
	G = 77.5	G =		G =	,,,	G =	-	G = 2				G =	<u> </u>	G = 0	<u> </u>
Timing	Y = 6.5	Υ =		Y =		Y =		Y = 6	i	Υ =		Y =	· · · · · · · · · · · · · · · · · · ·	Y =	
	Analysis (hrs)										cle Len	gth C =	110.0		
Lane Gro	up Capacity	<u>۷, C</u>	<u>ontro</u>		, and	LOSI		ninat	<u>ion</u>						
		_		EB			WB		4		NB		· · ·	SB	
Adjusted Flo	w Rate			1473			2683	ŀ	4	79					
Lane Group	Capacity			2475	·		2292		6	75					
v/c Ratio				0.60			1.17		O.	.71	İ				
Green Ratio				0.70			0.70		0.	.18					
Uniform Dela				8.3			16.3		4:	2.3					
Delay Factor			•	0.18		,	0.50		-	.27					
Incremental			 -	0.4		`	81.8		-	3.5					
PF Factor		-		0.169			0.638	 		000				+	
Control Dela	v			1.8			92.2	 	-	5.7		 			·
Lane Group	 	-	_•	A			F	 	┵	D				-	
Approach De				1.8			92.2	L	+		<u> </u>		l		
Approach LC				A			52.2 F		+		D				
	 		- .						47.5	-100	L)			Г.	
Intersection I	ueiay 			58.7			•	mierse	CUO	n LOS				Ε	

<u></u>					SH	ORT	REPO	RT	•				•			
General Info	ormation						Site In			on					•	
Analyst Agency or Co Date Perforn Time Period			ЛЕ 2006	Hour			Interse Area T Jurisdi Analys	ype ctio	e on	St	rab	& US 1 All other an Twp, 8 Build	areas Adam	s Co		
Volume and	Timing Inpu	t				·					-					
				EB			WB					NB			SB	
Niverborofi			LT	TH	RT	LT	TH 3	╬	RT	L ⁻⁷		TH	RT	LT	TH	RT
Number of Lane Group	anes			2 T		+-	7	+		L				┼		├
Volume (vph			<u> </u>	1370	 	+-	2468	╁		455	_			 	 	
% Heavy Ve	` - .		├ ──	4	 	┼	9	+		6				 	╁╌┈┈	
PHF	nicies		.	0.93	 	+	0.92	╫		0.9			<u> </u>	1	1	
Pretimed/Act	tusted (D/A)	•		0.93 A	}	┼	A A	╀		0.9. A					1	
Startup Lost			 	2.0	 		2.0	╁		2.0	1			1	+	
`	Effective Gree	an.		2.0	 -	╁┈	2.0	┿		2.0				 	╁──	
Arrival Type	Ellective Gree	ङा।		5		 	5	╁		3			. •	+	+	:
Unit Extension	3n		 	3.0		+	3.0	╁		3.0)			 	 	
Ped/Bike/RT			0	0	-	0	0	╁		0.0		0		-	 	
Lane Width	OK Volume		L ´	12.0		Ť	12.0	╁		16.	0			 	1	
Parking/Grad	de/Parking		N	-2	N	N	4	\dagger	N	N	<u> </u>	2	N	 	+	
Parking/Hou	<u>-</u>			 				Ť						 	 	
Bus Stops/H				0			0	1	•	0						
Minimum Pe	destrian Time			3.2			3.2	Ι				3.2		<u> </u>		
Phasing	Thru Only		02		3	04			B Onl			06		07		8
Timing	G = 77.5 Y = 6.5	G =		G = Y =		G = Y =			= 20. = 6		G = Y =		G = Y =		G = Y =	
Duration of A	nalysis (hrs) :			+'-		<u> </u>						le Leng		110.0		
	up Capacity			l Delay	, and	LOS	Detern	nin	atio							-
				ΕB			WB					NB			SB	
Adjusted Flo	w Rate			1473		•	2683	Γ		479				· · ·		
Lane Group	Capacity			2475			3278			675		ì				
v/c Ratio				0.60			0.82	Г		0.71	Ť					
Green Ratio				0.70			0.70 .	-		0.18	Ť	$\neg \dagger$	—†			
Uniform Dela	ay d₁			8.3			11.3	T		42.3	十					
Delay Factor	<u>'</u>	一		0.18	-		0.36	Т		0.27	\dagger	-			<u> </u>	
Incremental				0.4			1.7	Т	\neg	3.5	+		$\neg \neg$			
PF Factor	<u> </u>	-		0.169			0.169			1.000						
Control Dela	y		·-·	1.8			3.7			45.7	T					
Lane Group	LOS			Α			A			D						
Approach De	elay	\dashv		1.8			3.7				- 4	15.7	-		-	 -
Approach LC	os	\dashv		Α			Α					D				
Intersection 1		一		7.4			١	nte	rsect	ion L(os	•	·	-	A	

F					SH	IORT	REPO	RT			•				
General Info	rmation						Site In	forma	tion		•				
Analyst Agency or Co Date Perforn Time Period			1E 2006	our			Interse Area T Jurisdi Analys	ype ction	S		All othe	15 NB r r areas o, Adam existing	·		
Volume and	Timing Input	1		· · ·											
				EB	1		WB	_ 			NB	1	ļ	ŞB	
Number of L	2045		LT	TH 2	RT.	LT	TH 2	RT	1	Τ	TH	RT	LT	TH	RT
Lane Group	<u> </u>			T		 	T	+	1 - L						
Volume (vph)		 	484			732	+	29		 	+	 		
% Heavy Ve				1	 	 	1	+	10				 		
PHF				0.92			0.93	+	0.9	4	<u> </u>		<u> </u>	<u> </u>	
Pretimed/Act	tuated (P/A)	•	<u> </u>	А	 	 	Α	1	T A	1				<u> </u>	
Startup Lost	Time			2.0			2.0	\top	2.	0					
Extension of	Effective Gree	en		2.0			2.0	1	2.	0				<u> </u>	
Arrival Type				5		1	5	1.	3						
Unit Extension	on			3.0			3.0		3.	0					
Ped/Bike/RT	OR Volume		0	0		0	0		Ö		0				
Lane Width				12.0			12.0		16	.0					
Parking/Grad	te/Parking		Ν	-2	N	Ν	4	N		!	2	N			
Parking/Hou					ļ	ļ <u>. </u>	ļ	╀	\bot		L	ļ	Ь—		
Bus Stops/H				0			0	 	- 0			ļ	ļ <u>-</u>	 -	igwdapprox
	destrian Time		<u> </u>	3.2		<u> </u>	3.2	<u> </u>	<u></u>		3.2	<u> </u>	<u> </u>	<u></u>	<u></u>
Phasing	Thru Only G = 72.5	G =	02	G =	13	G =	·	NB 0		G =	06	G =	07	G =	8
Timing	Y = 6.5	Y =		Y =		Y =		Y = 6	5.0	Y =		Y =	,	Y =	
Duration of A	nalysis (hrs) =	0.2	25							Сус	de Leng	gth C =	110.0		
Lane Grou	up Capacity	, C	ontro	I Delay	, and	LOS	Detern	iinati	on						
		_		EB			WB	,			NB			SB	
Adjusted Flo	w Rate			526			787	<u> </u>	316	_ _					
Lane Group	Capacity			2385			2313		460						j
v/c Ratio		╛		0.22			0.34		0.69	T					
Green Ratio		司		0.66			0.66		0.23						
Uniform Dela	ny d ₁			7.5			8.2		38.9						
Delay Factor	k			0.11			0.11		0.26			Ì			
Incremental	Delay d ₂			0.0			0.1		4.3						
PF Factor				0.147			0.147		1.00	o					
Control Delay	у			1.1			1.3_		43.2	?					
Lane Group	LOS			Α			Α		D						
Approach De	elay			1.1			1.3				43.2				
Approach LC	os			Α			Α				D				
Intersection I	Delay			9.4				Interse	ction L	os				Α	

SHORT REPORT General Information Site Information Site Information Site Information Site Information Site Information US 30 & US 15 NB ramps Agency or Co. GME Area Type Jurisdiction Analysis Year Straban Twp, Adams Co 2008 No Build 2008 No Build 2008 N	RT
Agency or Co. Date Performed B/11/2006 Saturday Peak Hour Straban Twp, Adams Co 2008 No Build	RT
EB	RT
LT	RT
Number of Lanes 2 2 1 Lane Group T T T Volume (vph) 800 1199 316 % Heavy Vehicles 1 1 0 PHF 0.92 0.93 0.94 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 3.0 Unit Extension 3.0 3.0 3.0 3.0 Ped/Bike/RTOR Volume 0 0 0 0 Lane Width 12.0 12.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	KI
Lane Group	
Volume (vph) 800 1199 316 % Heavy Vehicles 1 1 0 PHF 0.92 0.93 0.94 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 Lane Width 12.0 12.0 16.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Bus Stops/Hour 0	
PHF 0.92 0.93 0.94 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 3.0 Unit Extension 3.0 3.0 3.0 3.0 Ped/Bike/RTOR Volume 0 0 0 0 0 Lane Width 12.0 12.0 16.0 16.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0<	
Pretimed/Actuated (P/A) A	1
Startup Lost Time 2.0	
Extension of Effective Green 2.0 2.0 2.0 2.0 Arrival Type 5 5 3 3 3 Unit Extension 3.0 <	
Arrival Type 5 5 3 Image: square squa	
Unit Extension 3.0 3.0 3.0 3.0 3.0 9.0	
Ped/Bike/RTOR Volume 0	
Lane Width 12.0 12.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0 0 0 0 0 0 0 Bus Stops/Hour 0 0 0 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 3.2 3.2 0 Phasing Thru Only 02 03 04 NB Only 06 07 0 Timing G = 72.5 G = G = G = G = G = G = G =	
Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0	
Parking/Hour Bus Stops/Hour 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 0 Timing G = 72.5 G = <t< td=""><td></td></t<>	
Bus Stops/Hour 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 0 Timing G = 72.5 G =	<u> </u>
Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 0 Timing G = 72.5 G = <	
Phasing Thru Only 02 03 04 NB Only 06 07 0 Timing G = 72.5 G =	
G = 72.5 G = G = G = G = G = G = G = G = G = G	<u></u>
Timing $Y = 6.5$ $Y = Y = Y = Y = 6$ $Y = Y = Y = 1$	5
Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0	
Lane Group Capacity, Control Delay, and LOS Determination	
EB WB NB SB	
Adjusted Flow Rate 670 336	
Lane Group Capacity 2385 2313 460	
v/c Ratio 0.36 0.56 0.73	
Green Ratio 0.66 0.23 0.23	
Uniform Delay d, 8.4 10.1 39.4	
Delay Factor k 0.11 0.15 0.29	
Incremental Delay d ₂ 0.1 0.3 5.9	
PF Factor 0.147 0.147 1.000	
Control Delay 1.3 1.8 45.2	
Lane Group LOS A A D	
Approach Delay 1.3 1.8 45.2	
Approach LOS A A D	
Intersection Delay 7.5 Intersection LOS A	

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General Info	ormation			-			Site In		ition							
Analyst Agency or C Date Perfort Time Period	med 8			our			Interse Area T Jurisdi Analys	ype iction	amps s Co							
Volume and	Timing Inpu	t														
i			L	EB			WB	1 8	_	_	NB		1	SB	T 5=	
Number of L	2000		LT	TH 2	RT	LT	TH 2	R'		_T	TH	RT	LT	TH	RT	
Lane Group			 	T	+-	+-	 	+-			<u> </u>	-		 	├──	
·	.\			980	+-	+	1575	$+\!-$	-	- 16		 	 		 	
Volume (vph % Heavy Ve			 	1	+	+	1)	-		+	<u> </u>	-	
76 Heavy ve	riicies		 	0.92	+	+	0.93	+	0.		 	 	+	 -	├──	
	tuated (P/A)		├	0.92 A	+-	+	0.93 A	┿	10.		<u> </u>	├──	 			
Startup Lost				2.0	+	+	2.0	+-		.0						
<u> </u>	Effective Gree	<u></u>	├─	2.0	+	+	2.0			.0	 -	-			\vdash	
Arrival Type		GH		5	+	+	5	+-	_	3		 	┼──			
	it Extension d/Bike/RTOR Volume		 -	3.0		┼─┈	3.0	+	3.				1		-	
	Ped/Bike/RTOR Volume		0	0	+	0	0	+-	1		0	-	-	<u> </u>	 	
	Lane Width		°	12.0		+ -	12.0	┼─		5.0	-		-	<u> </u>		
Parking/Grad	de/Parking		N	-2	N	 	4	N	 		2	N	 	1		
Parking/Hour								+		-			 	<u> </u>	 	
	us Stops/Hour			0			0	1	 	0						
Minimum Pe	destrian Time			3.2			3.2				3.2					
Phasing	Thru Only		02		03	0	4	NB C			06		07	G =	8	
Timing	G = 72.5 Y = 6.5	G≃ Y≂				G = Y =		G = 2 Y = 6		G = Y =		G =	Y =			
Duration of A	Analysis (hrs)			╅								= Y = = 110.0				
Lane Gro	up Capacity	y, C	ontro	l Dela	y, and	LOS	Detern	ninat	ion					·		
				EB			WB				NB			SB		
Adjusted Flo	w Rate			1065			1694		336	336			j			
Lane Group	Capacity			2385			2313		460					_	•	
v/c Ratio				0.45			0.73		0.73	7						
Green Ratio				0.66			0.66		0.23	7						
Uniform Dela	ay d,			9.1			12.4	\vdash	39.4	,		$\neg \uparrow$				
Delay Factor	•			0.11			0.29	<u> </u>	0.29	,						
Incremental				0.1			1.2		5.9							
PF Factor	- 2			0.147			0.147		1.00	0						
Control Dela	<u>у</u>	1		1.5			3.0		45.2							
Lane Group	<u>- </u>	\dashv	i	Α			Α		D	\dashv						
Approach De	elay	一		1.5			3.0		45.2							
Approach LC	os .	$\neg \uparrow$		Α			Α		D D							
Intersection	Delay	$\neg \uparrow$	_	7.1				nterse	ection I	os		Ì	Α			

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SHORT REPORT Site Information Site Informatio	SB TH	RT		
Agency or Co. Date Performed By/11/2006 GME By/11/2006 Area Type Jurisdiction Analysis Year All other areas Straban Twp, Adams Co 2018 No Build Volume and Timing Input EB WB NB Image: NB Ima		RT		
EB		RT		
LT TH RT LT TH LT TH LT TH RT LT TH LT TH LT TH LT TH LT TH LT TH LT TH TH		RT		
Number of Lanes 2 3 3 3 3 3	TH	RT		
Lane Group T T T L L I I Volume (vph) 1305 1852 491 I <				
Volume (vph) 1305 1852 491 % Heavy Vehicles 1 1 0 PHF 0.92 0.93 0.94 Pretimed/Actuated (P/A) 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 3.0 Ped/Bike/RTOR Volume 0 0 0 0 0 0 0 0 0 Lane Width 12.0 12.0 16.0				
% Heavy Vehicles 1 1 0				
PHF 0.92 0.93 0.94 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94 0.93 0.94				
Pretimed/Actuated (P/A) A </td <td></td> <td></td>				
Startup Lost Time 2.0 </td <td></td> <td></td>				
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 Lane Width 12.0 12.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0				
Arrival Type 5 5 3 3 3 Unit Extension 3.0 3.0 3.0 3.0 3.0 3.0 Ped/Bike/RTOR Volume 0 0 0 0 0 0 0 Lane Width 12.0 12.0 16.0 <td< td=""><td></td><td></td></td<>				
Unit Extension 3.0 3.0 3.0 3.0 3.0 3.0 9.0				
Ped/Bike/RTOR Volume 0		—		
Lane Width 12.0 12.0 16.0 16.0 Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0<		₩.		
Parking/Grade/Parking N -2 N N 4 N N 2 N Parking/Hour 0		├ ──		
Parking/Hour 0 0 0 0 Bus Stops/Hour 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 Timing G = 77.5 G = G = G = 20.0 G = G = Y = 6.5 Y = Y = Y = Y = Y = Y = Y =				
Bus Stops/Hour 0 0 0 0 Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 Timing G = 77.5 G = G = G = 20.0 G = G = Y = 6.5 Y = Y = Y = Y = Y = Y = Y =	-	₩		
Minimum Pedestrian Time 3.2 3.2 3.2 3.2 Phasing Thru Only 02 03 04 NB Only 06 07 Timing G = 77.5 G = G = G = G = 20.0 G = G = Y = 6.5 Y = Y = Y = Y = Y = Y =		\vdash		
Phasing Thru Only 02 03 04 NB Only 06 07 Timing G = 77.5 G = G = G = G = G = G = G = G = G = G =		┢┈╴		
Timing $G = 77.5$ $G = G = G = G = 20.0$ $G = G = Y = 6.5$ $Y = Y = Y = Y = 0$ $Y = 0.5$	0	8		
	G =			
Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination	= 110.0			
EB WB NB	SB			
[1418]				
Adjusted Flow Rate 322				
Lane Group Capacity 2549 2473 715				
v/c Ratio 0.56 0.81 0.73				
Green Ratio 0.70 0.18				
Uniform Delay d ₃ 7.9 11.1 42.5				
Delay Factor k 0.15 0.35 0.29				
Incremental Delay d ₂ 0.3 2.0 3.8				
PF Factor 0.169 0.169 1.000				
Control Delay 1.6 3.9 46.3				
Lane Group LOS A A D				
Approach Delay 1.6 3.9 46.3	o	1		
Approach LOS A A D				
Intersection Delay 8.7 Intersection LOS				

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			SH	IORT REPORT Site Information										
General Information		····					ion							
Agency or Co. G	ES ME /2006 Peak He	our			Interse Area T Jurisdi Analys	уре	S	5 NB ro areas Adam Build	·					
Volume and Timing Input			-					·			,			
	 	EB	T DT	<u> </u>	WB	T RT	 [- Т	NB TH	RT	LT	SB TH	I RT	
Number of Lanes	LT	TH 2	RT_	LT	1 TH	+ "	2	' 	ΙП	KI.	<u> </u>	1.5	KI	
Lane Group	╁	T			T	+	$\frac{1}{L}$	\dashv			-			
Volume (vph)	+	1814		 	2483	+	49	1						
% Heavy Vehicles	+	1			1	 -	10				 			
PHF	+	0.92	 	╁	0.93	+	0.9	4						
Pretimed/Actuated (P/A)	+	Α			A	1	A	_			1			
Startup Lost Time	 	2.0			2.0		2.0	2.0		-	<u> </u>			
Extension of Effective Green	1	2.0			2.0	1	2.0	,				i		
Arrival Type	1	5	1		5	1	3							
Unit Extension	1	3.0		 -	3.0	1	3.0	,						
Ped/Bike/RTOR Volume	0	0		0	0	1	0		o					
Lane Width		12.0			12.0	1	16.	0						
Parking/Grade/Parking	N	-2	N	N	4	N	N		2	N				
Parking/Hour														
Bus Stops/Hour	 	0			0	4	0				ļ			
Minimum Pedestrian Time	<u> </u>	<u> </u>	3.2		3,2				3.2		<u> </u>	<u> </u>	<u> </u>	
Phasing Thru Only G = 77.5 G	02	03 G =		04 G =		NB O G = 20		G =			07 G :		08 =	
Timing $Y = 6.5$ Y		Y =		Y =		Y = 6		Y = Y		Y =		Y =		
Duration of Analysis (hrs) = 0.								Cycl	e Leng	th C =	=_110.0			
Lane Group Capacity, (Contro		, and	LOS I		ninati	on							
	<u> </u>	EB		_	WB	•	NB T		NB			SB		
Adjusted Flow Rate	1	1972			2670		522					I		
Lane Group Capacity		2549			2473		715							
v/c Ratio		0.77			1.08		0.73	丁		-				
Green Ratio		0.70			0.70		0.18			-				
Uniform Delay d		10.6			16.3		42.5							
Delay Factor k		0.32			0.50	1	0.29							
Incremental Delay d ₂		1.5			43.9		3.8							
PF Factor		0.169			0.407		1.000	7		•	.,			
Control Delay		3.3			50.5		46.3							
Lane Group LOS		Α			D		D	7				•		
Approach Delay	1	3.3			50.5	1		4	6.3					
Approach LOS	<u> </u>	Α	į		D		D							
Intersection Delay	 	32.1			Intersection							С		
<u> </u>			ł							<u> </u>		V44/2006	2,51 DM	

					SH	ORT	REPO	RT							
General Info	ormation						Site In	form	atio	n			_		
Analyst Agency or C Date Perforr Time Period	ned 8			our			Interse Area T Jurisdi Analys	ype ction		Stra	0 & US All othe ban Twp 118 Build	er areas o, Adam	s Co		
Volume and	l Timing Inpu	t_									. <u>.</u>				
			<u> </u>	EB	Lot	 	WB		_	1 +	NB T TU	T DT	LŤ	SB	Гот
Number of L	2700		LT	TH 2	RT	<u>L</u> T	TH 3	R	. 1	LT 2	TH	RT	+ - '	TH_	RT
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	·)		 	1814		 	2483	+		491	┪	+			<u>-</u>
			 	1	┼	 	1	+		0	+	 	1		
PHF	etimed/Actuated (P/A) ertup Lost Time tension of Effective Gree ival Type it Extension d/Bike/RTOR Volume ne Width rking/Grade/Parking rking/Hour s Stops/Hour nimum Pedestrian Time asing Thru Only Ning S = 77.5 Y = 6.5			0.92	 -		0.93	+		0.94	+	 	+	1	
	tuated (P/A)		 	A			A	+-		A	+	+	 -	 	
	<u> </u>			2.0		 	2.0	+		2.0	+	 		<u> </u>	
		en	,	2.0	 		2.0	+		2.0					
Arrival Type				5			5	+-		3	1.	1	 	 	
	nit Extension ed/Bike/RTOR Volume			3.0			3.0			3.0	1	1			
			0	0		0	0	1		0	0	1			
Lane Width				12.0			12.0	1		16.0	†	 			
Parking/Grad	de/Parking		N	-2	N	Ν	4	N	<u> </u>	N	2	N			
Parking/Hour															
· · · · · · · · · · · · · · · · · · ·	us Stops/Hour			0			0	\perp		0		<u> </u>	<u> </u>		<u> </u>
				3.2	<u> </u>	<u> </u>	3.2	<u>.</u>]			3.2	<u>!</u>	<u> </u>	<u> </u>	<u> </u>
Phasing		G =	02		3	0.	4	NB ·			06 	G =	07	G =	8
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Duration of A	Analysis (hrs)				1				C	ycle Len	gth C ≔	= 110.0			
Lane Gro	up Capacit	y, C	ontro	l Delay	, and	LOS I	Detern	nina	tio	า					
				EB			WB			. <u>-</u> .	NB			SB	
Adjusted Flo	w Rate			1972			2670			522					
Lane Group	Capacity			2549			3538			715					
v/c Ratio				0.77			0.75		(0.73					
Green Ratio				0.70	Ì		0.70		7	0.18					
Uniform Dela	ay d₁			10.6			10.3		7	42.5					
Delay Factor	гk			0.32			0.31		7	0.29					
Incremental	Delay d ₂			1.5			1.0		T	3.8					
PF Factor				0.169			0.169			1.000					
Control Dela	У			3.3			2.7			46.3					
Lane Group	LOS			Α			Α		Ţ	D					
Approach De	elay		-	3.3			2.7				46.3				
Approach LO	DS			Α		A D									
Approach LOS ntersection Delay				7.3				Inters	ecti	on LOS				Α	

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 SPUI

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General Info	ormation	<u> </u>						rmatio	on_		·					
Analyst Agency or C Date Perforn Time Period	o. <i>Gl</i> ned <i>08/11</i>	ES ME 1/2006 M Peak	Hour			Inters Area Juriso Analy	Typ dicti	oe .	S	30 & U. All othe an Twp 2018 No	r areas , Adan	s ns Co				
Volume and	l Timing Input										"		_			
			EB		<u> </u>	WE			Ι		NB		<u> </u>	SB	T ===	
Number of L	anee	LT 2	TH 2	RT	LT 2	T 2	1	RT	<u> </u> 2	T	TH	RT	LT 2	HT	RT	
Lane Group	aries	L	T -	 	L	$\frac{1}{T}$		<u> </u>	+-				L	+	┼─	
Volume (vph	<u> </u>	205	809	╁	682	946	:		45				234	+	 	
% Heavy Ve		0	3	<u> </u>	002	3		,	70				0 .	 	┼─	
PHF		0.95	0.95		0.95	0.95			0.9			<u> </u>	0.95	+ -	+	
Pretimed/Ac	tuated (P/A)	A	A	 	A	- A	,		A		- ''-	_	A	+	┼─┈	
Startup Lost	<u>`</u>	2.0	2.0	 .	2.0	2.0	·	_	2.		<u> </u>		2.0	 	+	
	Effective Green	2.0	2.0	 	2.0	2.0		2.0				2.0	+	+		
Arrival Type	2,000,100,000,000,000,000,000,000,000,00	6	6		6	6		3				3	+	 		
Unit Extension		3.0	3.0	 -	3.0	3.0	,		3.0				3.0	 	+	
Ped/Bike/RT		0	0		0	0			0		0		0	0	-	
Lane Width		14.0	13.0		14.0	13.0	0		14				14.0	+ -	\vdash	
Parking/Grad	de/Parking	N	0	N	N	0		N	\ \		0	N	N	0	N	
Parking/Hour									1							
Bus Stops/Hour		0	0		0	0			0	·			0			
Minimum Pe	destrian Time		3.2	<u> </u>		3.2			<u> </u>	_	3.2			3.2		
Phasing		B Only		Only	0.			xcl. Le			06 ≃ G:		07	08 G =		
Timing		= 7.0 = 10	G = Y =		G =			= 19.0 = 10			'= G: '= Y:			G = Y =		
Duration of A	nalysis (hrs) = 0.2		 	···	-I · -		٠.ـــ	- 70			le Leng		110.0	1' -		
Lane Grou	up Capacity, C	ontro	Delay	, and	LOS	Deter	mi	natio	n				·			
			EB	•		WB					NB			SB		
Adjusted Flo	w Rate	216	852		718	996			479				246			
Lane Group	Capacity	476	990	_	1054	1551			646				646			
v/c Ratio		0.45	0.86		0.68	0.64			0.74				0.38		`` :	
Green Ratio		0.13	0.27		0.28	0.43			0.17				0.17			
Uniform Dela	ay d ₁	44.5	38.0		35.1	24.9	T		43.2				40.3			
Delay Factor	·k	0.11	0.39		0.25	0.22		ŀ	0.30				0.11			
Incremental I	Delay d ₂	0.7	7.8		1.8	0.9	T	\neg	4.6			$\neg \neg$	0.4	-		
PF Factor		0.854	0.625		0.608	0.254			1.000				1.000			
Control Dela	у	38.7	31.6		23.1	7.2			47.8				40.7			
Lane Group I	LOS	D ,	С		С	Α	\int		D				D			
Approach De	elay		33.0			13.9				4	7.8	$\neg \neg$		40.7		
Approach LC)S		Ç			В					D		D			
Intersection [Delay		26.2		-		Inte	ersecti	on L	os			С			
Capyright © 2005	University of Florida, All	Rights Re	served		<u> </u>	 H	ics+	.TM Ver	sion 5	.2		Ger	nerated: 8	14/2006	8:23 AM	

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 Jurisdiction 08/11/2006 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 TH RT LT Number of Lanes 2 2 2 2 2 2 L T T Lane Group L L L Volume (vph) 205 890 1008 930 455 436 % Heavy Vehicles 0 3 0 3 0 0 PHF 0.95 0.95 0.95 0.950.95 0.95 Pretimed/Actuated (P/A) Α Α Α Α Α Α 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 6 6 6 6 3 3 Unit Extension 3.0 3.0 3.0 30 3.0 3.0 Ped/Bike/RTOR Volume 0 0 0 0 0 0 0 0 Lane Width 14.0 13.0 14.0 13.0 14.0 14.0 Parking/Grade/Parking Ν 0 N Ν Ν Ν 0 Ν Ν 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 08 07 G = 7.0G = 14.0G = 30.0 $\overline{G} =$ G = 19.0G≃ G = G =Timing Y = 10Y = 10 Y = Y = 10Y = Y = 10Y = Duration of Analysis (hrs) = 0.25Cycle Length C = 110.0 Lane Group Capacity, Control Delay, and LOS Determination EΒ WB SB NB 1061 Adjusted Flow Rate 216 937 979 479 459 1054 1551 Lane Group Capacity 476 990 646 646 v/c Ratio 0.45 0.95 0.74 0.930.680.71Green Ratio 0.13 0.27 0.43 0.28 0.17 0.17 Uniform Delay d. 44.5 39.2 38.4 25.5 43.2 42.9 Delay Factor k 0.11 0.46 0.44 0.25 0.27 0.30 Incremental Delay d. 0.7 17.2 13.8 1.3 4.6 3.6 PF Factor 0.854 0.625 0.254 0.608 1.000 1.000 Control Delay 38.7 41.7 37.2 7.7 47.8 46.6 Lane Group LOS D D D Α D D Approach Delay 41.1 21.9 47.8 46.6 Approach LOS D C מ D Intersection Delay 33.0 Intersection LOS C

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General Information					Site In		atior	n						
Agency or Co. Gi	ES ME 1/2006 Peak Ho	ur			Intersection US 30 & US 15 SPUI Area Type All other areas Jurisdiction Straban Twp, Adams Co Analysis Year 2018 No Build									
Volume and Timing Input	····			 	·									
	LT	EB TH	RT	LT	WB ! TH		₹T	LT	NB TH	RT	LT	SB TH	RT	
Number of Lanes	2	2	IXI	2	2	+	`	2	,,,,	181	2		1	
Lane Group	L	T		L	T		一	L			L		_	
Volume (vph)	195	998	 	577	1026	+	一	491			334			
% Heavy Vehicles	.0	3		0	3		\dashv	0			0			
PHF	0.95	0.95		0.95	0.95			0.95			0.95		<u> </u>	
Pretimed/Actuated (P/A)	A	Α		A	A	+	_	Α			Α		<u> </u>	
Startup Lost Time	2.0	2.0		2.0	2.0		\neg	2.0	-		2.0			
Extension of Effective Green	2.0	2.0		2.0	2.0		_	2.0			2.0			
Arrival Type	6	6		6	6			3			3			
Unit Extension	3.0	3.0		3.0	3.0			3.0	·		3.0		<u> </u>	
Ped/Bike/RTOR Volume	0	0.		0	0			0	0		0	0		
Lane Width	14.0	13.0		14.0	13:0			14.0			14.0			
Parking/Grade/Parking	Ν	0	N.	N	0	٨		Ν	0	N	N	0	Ν	
Parking/Hour								-	<u> </u>		<u> </u>	<u> </u>		
Bus Stops/Hour	0	0		0	0	\bot		0			0	<u> </u>	<u> </u>	
Minimum Pedestrian Time	<u> </u>	3.2	<u> </u>	 	3.2				3.2 06		<u> </u>	3.2	<u></u>	
	/B Only = 8.0	Thru Only G = 34.5		G =	4	Excl					07 = G		8	
Timing	= 8	Y = 8		Y =		Y = 1		Y =	Y = Y =			Υ = ·		
Duration of Analysis (hrs) = 0 .	25							Сус	le Leng	th C =	= 110.0			
Lane Group Capacity, 0	Control		, and	LOS I	_	nina	<u>tion</u>							
	ļ,	EB			WB			. NB				SB		
Adjusted Flow Rate	205	1051	,	607	1080		5	517			352			
Lane Group Capacity	421	1138		965	1666		7	785		785				
v/c Ratio	0.49	0.92		0.63	0.65		0	.66			0.45			
Green Ratio	0.11	0.31		0.26	0.46		0	.21			0.21			
Uniform Delay d ₁	45.8	36.5		36.1	22.9		3	9.8			37.9			
Delay Factor k	0.11	0.44		0.21	0.23		0.	.23		_	0.11			
Incremental Delay d ₂	0.9	12.4		1.3	0.9		2	2.0			0.4			
PF Factor	0.873	0.543		0.652	0.151		1	.000			1.000			
Control Delay	40.9	32.2		24.9	4.4		4	11.9			38.3			
Lane Group LOS	D	С		С	Α		-	D			D			
Approach Delay		33.6			11.7			-	41.9	38.3				
Approach LOS		С			В				D		D			
Intersection Delay		25.5			Intersec			n LOS			C			

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ME 1/2006	our			Area T Jurisdi	Area Type All other areas Jurisdiction Straban Twp, Adams Co								
													
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	+	KI			+ *	╁		<u> </u>	RI	+	 '''	KI	
L	T		L	T		+	L			L	†		
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0.95	0.95	 	0.95	0.95			0.95	 	<u> </u>	0.95	 	 	
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2.0	2.0		2.0	2.0	丁	十	2.0			2.0		1	
2.0	2.0		2.0	2.0		寸	2.0			2.0			
6	6		6	6			3			3		1	
3.0	3.0		3.0	3.0			3.0 ·	<u> </u>		3.0		1	
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14.0	13.0		14.0	13.0			14.0			14.0			
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11D O-1	<u></u>	0-1-	<u> </u>	<u></u>				<u> </u>	Ц 	07		<u></u>	
												08 G =	
	Y = 8		Υ =				Y. =			<u> </u>			
							Сус	le Lenç	gth C =	= 110.0			
Contro		, and	LOS		ninat	<u>ion</u>							
EB			<u> </u>	WB				NB			ŞB		
205	1203		961	1168		5	17			734			
421	1138		965	1666		78	85	Î		785			
0.49	1.06		1.00	0.70		0.	66			0.94			
0.11	0.31		0.26	0.46	Ì	0.,	21			0.21			
45.8	37.8		40.7	23.7		39	0.8			42.7			
0.11	0.50		0.50	0.27		0	23			0.45			
0.9	43.1		27.9	1.3		2.	.0			18.3	ı		
0.873	0.543		0.652	0.151		1.	000			1.000			
40.9	63.6		54.5	4.9		4	1.9			61.0			
D .	Ε		D	Α		I				Ε			
	60.3	•		27.3				11.9			61.0		
1	E			C				D			E		
	43.7									D			
	LT 2 L 195 0 0.95 A 2.0 6 3.0 0 14.0 N 0 14.0 N 0 25 Contro 205 421 0.49 0.11 45.8 0.11 0.9 0.873 40.9	### EB LT	ES SME 1/2006 Peak Hour FEB LT TH RT RT RT RT RT RT R	ES	Site Intersection of Peak Hour ES	ES	Site Information Area Type Jurisdiction Analysis Year	Site Information Intersection Area Type Jurisdiction Analysis Year Strab	Site Information US 30 & U All othe Straban Twp Jurisdiction Analysis Year US 30 & U All othe Straban Twp 2018	Site Information Intersection Area Type Jurisdiction Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year US 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S Us 30 & US 15 S All other areas Straban Twp, Adam Analysis Year Us 30 & US 15 S Us 30 & US 15 S Us 30 & US 15 S Us 30 & US 15 S Us 30 & US 15 S Us 30 & US 15 S Us 30 & US 30 & U	Site Information	Site Information Intersection Area Type Jurisdiction Area Type Jurisdiction Area Type Jurisdiction Analysis Year Staban Twp, Adams Co 2018 Build Twp, Ad	

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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 08/11/2006 Jurisdiction Straban Twp, Adams Co Time Period Saturday Peak Hour Analysis Year 2018 Build w/ Improv Volume and Timing Input EΒ WB NB SB LT TH RT LT TH RT LT ΤH RT TH RT LT Number of Lanes 2 2 2 2 2 2 Τ T Lane Group L L L Ŀ Volume (vph) 195 1143 913 1110 491 697 % Heavy Vehicles 0 3 0 3 0 0 **PHF** 0.95 0.95 0.95 0.95 0.95 0.95 Pretimed/Actuated (P/A) Α Α Α Α Α Α 2.0 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 2.0 Arrival Type 6 6 6 6 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 14.0 14.0 14.0 14.0 16.0 16.0 Parking/Grade/Parking Ν Ν N 0 Ν Ν 0 N N 0 Ν Parking/Hour Bus Stops/Hour 0 D 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 80 G = 12.4G = 8.0G = 34.5G = G = 23.1G = G = G≂ Timing Y = 8 Y = 8 Y = 8 Y = 8 <u>Y</u> ≂ Y = Y = -Duration of Analysis (hrs) = 0.25Cycle Length C = 110.0Lane Group Capacity, Control Delay, and LOS Determination EΒ WB NB SB 1203 1168 Adjusted Flow Rate 205 517 961 734 1175 1720 Lane Group Capacity 421 965 834 834 v/c Ratio 0.49 1.02 1.00 0.680.620.88Green Ratio 0.110.31 0.260.460.21 0.21 Uniform Delay d₁ 45.8 37.8 40.7 23.4 39.5 42.1 Delay Factor k 0.11 0.50 0.50 0.250.20 0.41 Incremental Delay da 0.9 32.5 27.9 1.4 1.1 10.7 PF Factor 0.873 0.543 0.6520.1511.000 1.000 Control Delay 40.9 53.0 54.5 4.6 40.9 52.8 Lane Group LOS D D D Α D D 51.2 Approach Delay 27.1 40.9 52.8 Approach LOS D CD D Intersection Delay 39.6 Intersection LOS D

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Highway Capacity Analysis Worksheets

US Route 30 and Hoffman Road

TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JES Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2006 Existing Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Major Street Westbound Movement 1 3 6 2 4 5 Ŕ T R L L Volume (veh/h) 683 4 5 456 Peak-Hour Factor, PHF 1.00 0.81 0.81 0.95 0.95 1.00 Hourly Flow Rate, HFR 0 843 4 5 480 0 (veh/h) Percent Heavy Vehicles 0 0 Median Type Two Way Left Turn Lane RT Channelized 0 Lanes 0 1 0 1 1 0 Configuration TR T L ō Upstream Signal Minor Street Northbound Southbound Movement 9 8 10 11 ٧L Т R R L Т Volume (veh/h) 4 3 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 8 0 6 0 0 0 (veh/h) Percent Heavy Vehicles 0 0 a 0 0 0 Percent Grade (%) -3 0 Flared Approach Ν N 0 O Storage RT Channelized 0 0 0 Lanes 0 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 4 7 9 10 11 1 8 12 Lane Configuration L LR v (veh/h) 5 14 C (m) (veh/h) 799 364 0.01 0.04 95% queue length 0.02 0.12 Control Delay (s/veh) 9.5 15.3 LOS AC Approach Delay (s/veh) 15.3 Approach LOS C

TWO-WAY STOP CONTROL SUMMARY General Information Site Information JES Analyst Intersection US 30 & Hoffman Agency/Co. **GME** Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2008 No Build Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Westbound Major Street Movement 1 3 4 6 5 L Ŧ R L R Volume (veh/h) 871 4 559 5 Peak-Hour Factor, PHF 1.00 0.81 0.81 0.95 0.95 1.00 Hourly Flow Rate, HFR 0 1075 4 5 588 0 (veh/h) Percent Heavy Vehicles 0 0 Median Type Two Way Left Turn Lane RT Channelized 0 0 Ö Lanes 1 1 1 0 TR Configuration 7 L Upstream Signal 0 ō Minor Street Northbound Southbound Movement 9 10 12 8 11 L Т R L T R Volume (veh/h) 4 3 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 8 0 6 0 o o (veh/h) Percent Heavy Vehicles 0 0 0 0 0 0 Percent Grade (%) -3 0 Flared Approach Ν Ν 0 Storage 0 RT Channelized 0 0 anes 0 0 0 0 0 0 Configuration \overline{LR} Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 1 4 7 8 9 10 11 12 ane Configuration L LR v (veh/h) 5 14 C (m) (veh/h) 654 276 v/c 0.01 0.05 95% queue length 0.02 0.16 Control Delay (s/veh) 10.5 18.7 LOS В С Approach Delay (s/veh) 18.7 --Approach LOS

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JEŞ Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2008 Build Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Major Street Westbound Movement 1 3 2 4 6 L R L R Volume (veh/h) 951 662 4 5 Peak-Hour Factor, PHF 1.00 0.81 0.81 0.95 0.95 1.00 Hourly Flow Rate, HFR 0 1174 4 5 696 0 (veh/h) Percent Heavy Vehicles ō 0 Median Type Two Way Left Turn Lane RT Channelized 0 0 0 Lanes 1 0 1 0 Configuration TR L T Upstream Signal ō Minor Street Northbound Southbound Movement 9 10 8 11 12 L R R Volume (veh/h) 4 3 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 8 0 6 0 0 0 (veh/h) Percent Heavy Vehicles 0 ō 0 a 0 n Percent Grade (%) -3 0 Flared Approach Ν Ν Storage 0 0 RT Channelized 0 0 Lanes n a 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 1 7 8 9 10 12 11 Lane Configuration L LR v (veh/h) 5 14 C (m) (veh/h) 600 243 0.01 0.06 95% queue length 0.03 0.18 Control Delay (s/veh) 11.1 20.7 LOS В CApproach Delay (s/veh) 20.7 Approach LOS C

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		TW	O-WA	Y STOP	CONT	ΓR	OL S	UMI	MARY					•
General Informatio	n				Site	e i	nforn	natio	on —					
Analyst		JEŞ		<u> </u>	Inte	erse	ection		<u>=</u>	US	S 30 &	Hoff	man	
Agency/Co.		GME		 -	Jur	isdi	iction			St	raban	Twp,	Adam	ıs Co
Date Performed		8/11/2006	ົ້າ	_	Ana	alys	sis Yea	ΙΓ			18 No			
Analysis Time Period		Weekday	PM Pe	ak Hour									•	
Project Description 12														
East/West Street: US F									t: Hoffm	an Ro				
Intersection Orientation:	Eas	t-West			Stud	dy I	Period	(hrs)	: 0.25					
Vehicle Volumes a	nd Ad	djustme	nts											
Major Street			Εã	astbound						W	estbo	und		
Movement		1	_	2		3			4		5		4	6
<u> </u>	4	L		Τ	 	R			<u> <u> </u></u>	-	Ť		╄	R
Volume (veh/h)		4.00	-	1273		5			6	_	834		+	4.00
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	-	1.00	_	0.92	 	.92	<u>:</u>		0.95		0.95		┪━	1.00
(veh/h)		0]	1383	l	5			6		877			0
Percent Heavy Vehicles		0							ō					-+
Median Type					Tw	οV	Vay Le	ft Tu	rn Lane					
RT Channelized				-	Τ	0				\Box				0
Lanes		0		1	<u> </u>	0			1	7	1		1	0
Configuration		··········			 	TR			L		T		1	
Upstream Signal				0							Ö			
Minor Street			No	rthbound						Sc	uthbo	und		<u></u>
Movement		7		8	<u> </u>	9			10		11]	12
		L		Т		R			L		T		Т	R
Volume (veh/h)		5			T _	4							1	
Peak-Hour Factor, PHF		0.50		1.00	O.	.50			1.00		1.00			1.00
Hourly Flow Rate, HFR (veh/h)		10		0		8			0		0			0
Percent Heavy Vehicles		0		0		0			0		_ 0			0
Percent Grade (%)				-3			l				0			
Flared Approach				N				•			N			
Storage				0							0			
RT Channelized					T	0			- -					0
Lanes		0.		Ö		0			0		0			0
Configuration				LR										
Delay, Queue Length, a	nd Le	vel of Se	rvice											
Approach	East	lbound	Wes	tbound		1	Northbo	ound			5	South	bound	l
Movement		1		4	7		8		9		10		11	12
Lane Configuration				L			LR							
v (veħ/h)				6			18			Ţ				
C (m) (veh/h)			5	500			187	7				П		
v/c			0	.01			0.10	7		1		Т		
95% queue length			0	.04			0.31	1		1		Τ		
Control Delay (s/veh)			1	2.3			26.3	3				П		
LOS				В			D							
Approach Delay (s/veh)							26.3	3						
						_				7				

Approach LOS

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D

TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JES Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 20**\$**8 Build Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 1 3 4 2 6 R R Volume (veh/h) 1397 5 6 995 Peak-Hour Factor, PHF 0.92 1.00 0.92 1.00 0.95 0.95° Hourly Flow Rate, HFR 0 1518 5 6 1047 0 (veh/h) Percent Heavy Vehicles 0 0 Two Way Left Turn Lane Median Type RT Channelized o 0 1 0 0 Lanes Configuration TR L Ŧ Upstream Signal 0 Northbound Minor Street Southbound Movement 9 8 12 10 11 L Т R R Volume (veh/h) 6 5 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 10 0 12 0 0 0 (veh/h) Õ 0 0 Percent Heavy Vehicles 0 0 0 Percent Grade (%) 0 -3 Flared Approach Ν Ν Storage 0 a RT Channelized 0 anes 0 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 7 8 9 10 11 12 LR Lane Configuration L, v (veh/h) 6 22 C (m) (veh/h) 444 155 0.01 0.14 95% queue length 0.04 0.48 Control Delay (s/veh) 13.2 32.0 В LOS D Approach Delay (s/veh) 32.0 --Approach LOS D

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JES Intersection US 30 & Hoffman Agency/Co. **GME** Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2006 Existing Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 1 2 3 4 6 L R L R Volume (veh/h) 562 4 4 586 Peak-Hour Factor, PHF 1.00 0.85 0.85 0.94 0.94 1.00 Hourly Flow Rate, HFR 0 661 4 4 623 0 (veh/h) Percent Heavy Vehicles 0 Median Type Two Way Left Turn Lane RT Channelized 0 0 Lanes 0 1 ō 1 0 Configuration TR L Т Upstream Signal 0 Minor Street Northbound Southbound Movement 8 9 10 11 12 L Т R L Т R Volume (veh/h) 1 5 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 2 0 10 0 0 0 (veh/h) Percent Heavy Vehicles 0 0 ō a 0 0 Percent Grade (%) -3 0 Flared Approach Ν Ν Storage 0 0 RT Channelized 0 anes 0 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Eastbound Approach Westbound Northbound Southbound Movement 7 1 4 8 9 10 11 12 Lane Configuration L LR v (veh/h) 4 12 C (m) (veh/h) 934 450 v/c 0.00 0.03 95% queue length 0.01 0.08 Contro! Delay (s/veh) 8.9 13.2 LOS Α В Approach Delay (s/veh) 13.2 --Approach LOS В

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information JES Analyst Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2008 No Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Eastbound Westbound Movement 1 3 2 4 5 6 L R Т R Volume (veh/h) 671 4 4 727 Peak-Hour Factor, PHF 1.00 0.85 0.85 0.94 0.94 1.00 Hourly Flow Rate, HFR 0 789 4 4 773 0 (veh/h) 0 Percent Heavy Vehicles 0 Median Type Two Way Left Turn Lane RT Channelized 0 0 anes 0 1 0 1 1 Õ Configuration TR L T Upstream Signal 0 Minor Street Northbound Southbound Movement 9 10 11 12 R L Τ L Т R Volume (veh/h) 1 5 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 2 0 10 0 0 (veh/h) Percent Heavy Vehicles ō 0 0 0 0 Percent Grade (%) -3 0 Flared Approach Ν Ν Storage 0 0 RT Channelized 0 0 Lanes o 0 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Southbound Northbound Movement 1 . 4 7 8 9 10 12 11 Lane Configuration ı LR v (veh/h) 4 12 C (m) (veh/h) 837 380 0.00 0.03 95% queue length 0.01 0.10 Control Delay (s/veh) 9.3 14.8 Α ₿ Approach Delay (s/veh) 14.8 Approach LOS В

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information JEŞ Analyst Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2008 Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Major Street Westbound Movement 1 2 3 4 5 6 R Τ L L R Volume (veh/h) 771 4 4 830 Peak-Hour Factor, PHF 1.00 0.85 0.85 0.94 0.94 1.00 Hourly Flow Rate, HFR 0 907 4 4 882 0 (veh/h) Percent Heavy Vehicles 0 n Median Type Two Way Left Tum Lane RT Channelized 0 0 Lanes 1 0 1 1 a Configuration TR L 7 Ö Upstream Signal Minor Street Northbound Southbound Movement 7 9 8 10 11 12 Т R L R Volume (veh/h) 5 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 2 0 10 0 O a (veh/ĥ) Percent Heavy Vehicles 0 0 0 0 . 0 0 Percent Grade (%) -3 0 Flared Approach Ν Ν Storage 0 0 RT Channelized 0 0 anes 0 0 0 0 0 0 LR Configuration Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 7 1 4 8 9 10 12 Lane Configuration LR L v (veh/h) 4 12 756 C (m) (veh/h) 325 v/c 0.01 0.04 95% queue length 0.02 0.11 Control Delay (s/veh) 9.8 16.5 LOS Α С Approach Delay (s/veh) 16.5 --

Approach LOS

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JES Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2018 No Build Analysis Time Period Saturday Peak Hour Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Major Street Westbound Movement 1 3 4 2 5 6 L T R Ŕ Volume (veh/h) 1000 5 5 1096 Peak-Hour Factor, PHF 1.00 0.92 0.92 0.94 0.94 1.00 Hourly Flow Rate, HFR 0 1086 5 5 1165 (veh/h) Percent Heavy Vehicles 0 0 --Median Type Two Way Left Turn Lane RT Channelized 0 Lanes 0 1 0 1 1 0 Configuration TR L T Upstream Signal 0 ō Minor Street Northbound Southbound Movement 9 10 12 11 Т R R L Volume (veh/h) 6 Peak-Hour Factor, PHF 0.50 0.50 1.00 1.00 1.00 1.00 Hourly Flow Rate, HFR 2 0 12 0 0 (veh/h) Percent Heavy Vehicles 0 0 0 0 0 0 Percent Grade (%) -3 0 Flared Approach N Ν Storage 0 0 RT Channelized 0 0 anes 0 0 0 0 0 0 Configuration LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 9 1 4 7 8 10 11 12 Lane Configuration L LR v (veh/h) 5 14 C (m) (veh/h) 647 256 0.01 0.05 95% queue length 0.02 0.17 Control Delay (s/veh) 10.6 19.9 _OS В С Approach Delay (s/veh) 19.9 Approach LOS C

TWO-WAY STOP CONTROL SUMMARY General Information Site Information JES Analyst Intersection US 30 & Hoffman Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2018 Build Saturday Peak Hour Analysis Time Period Project Description 129.90 East/West Street: US Route 30 North/South Street: Hoffman Rd Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Eastbound Major Street Westbound Movement 1 3 4 5 6 2 T \overline{R} L R Volume (veh/h) 1168 5 5 1387 Peak-Hour Factor, PHF 1.00 0.92 0.94 0.92 0.94 1.00 Hourly Flow Rate, HFR 0 1269 5 5 1475 0 (veh/h) Percent Heavy Vehicles 0 0 Median Type Two Way Left Tum Lane RT Channelized 0 0 Lanes 0 1 0 Õ 1 1 Configuration TR L T Upstream Signal 0 0 Minor Street Northbound Southbound Movement 7 8 9 10 11 12 Ł Т R L Т R Volume (veh/h) 6 Peak-Hour Factor, PHF 0.50 1.00 0.50 1.00 1.00 1.00 Hourly Flow Rate, HFR 2 0 12 0 0 0 (veh/h) Percent Heavy Vehicles 0 0 0 0 0 0 Percent Grade (%) -3 0 Flared Approach Ν Ν Storage 0 0 RT Channelized 0 0 anes 0 0 0 0 0 0 LR Configuration Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 7 9 10 1 4 8 11 12 Lane Configuration L LR v (veh/h) 5 14 552 197 C (m) (veh/h) 0.01 0.07 95% queue length 0.03 0.23Control Delay (s/veh) 11.6 24.7 LOS В С Approach Delay (s/veh) 24.7 --Approach LOS

Highway Capacity Analysis Worksheets

US Route 30 and Granite Station Road

TWO-WAY STOP CONTROL SUMMARY General Information Site Information Analyst JES Intersection US 30 & Granite Station Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2006 Existing Analysis Time Period Weekday PM Peak Hour Project Description 129.90 East/West Street: Granite Station Rd US Route 30 North/South Street: Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Westbound Major Street Eastbound Movement 3 4 5 6 L Т R L Т R Volume (veh/h) 45 622 55 11 408 8 0.91 Peak-Hour Factor, PHF 0.84 0.84 0.84 0.91 0.91 Hourly Flow Rate, HFR 53 740 65 12 448 8 (veh/h) Percent Heavy Vehicles 12 9 Median Type Two Way Left Turn Lane RT Channelized 0 0 Lanes 1 1 1 Configuration TR L TR L Upstream Signal 0 0 Minor Street Northbound Southbound Movement 7 9 10 12 8 11 Т R L L Т R Volume (veh/h) 10 16 10 14 21 21 Peak-Hour Factor, PHF 0.82 0.82 0.82 0.88 0.88 0.88 Hourly Flow Rate, HFR 23 12 19 12 15 23 (veh/h) Percent Heavy Vehicles 0 0 0 11 11 11 Percent Grade (%) 2 -2 Flared Approach Ν N Storage 0 0 RT Channelized 0 0 anes 0 1 0 0 1 LTR LTR Configuration Delay, Queue Length, and Level of Service Approach Eastbound Westbound Southbound Northbound Movement 1 4 8 9 10 11 12 Lane Configuration L L LTR LTR 53 12 43 61 v (veh/h) 1069 777 310 330 C (m) (veh/h) v/c 0.05 0.02 0.14 0.18 95% queue length 0.16 0.05 0.67 0.48 Control Delay (s/veh) 8.5 9.7 18.5 18.4 LOS CС Α Α 18.5 18.4 Approach Delay (s/veh) C C Approach LOS

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·		TWO-WAY STO	P CONTRO	OL SUM	MARY			·	
General Informatio	n		Site I	nformati	on				
Analyst	JES		Intérse	ection	· ·	US 30 &	Granite Sta	ation	
Agency/Co.	GME		Jurisdi	ction		Straban	Twp, Adam	s Co	
Date Performed	8/11/	2006	Analys	is Year		2008 No			
Analysis Time Period	Weel	day PM Peak Hour							
Project Description 12	9.90		<u> </u>						
East/West Street: US F	Route 30		North/S	South Stree	et: <i>Granite</i>	Station Rd			
Intersection Orientation:	East-Wes	ŧ	Study F	Period (hrs): 0.25				
Vehicle Volumes a	nd Adiust	ments							
Major Street	1	Eastbound	u			Westbou	nd		
Movement	. 1	2	3		4	5		6	
. в	 	T	R		L	т		R	
Volume (veh/h)	53	791	66		11	497		8	
Peak-Hour Factor, PHF	0.84	0.84	0.84		0.91	0.91		0.91	
Hourly Flow Rate, HFR (veh/h)	63	941	78		12	546		8	
Percent Heavy Vehicles	9				12				
Median Type			Two V	ırn Lane					
RT Channelized			0					0	
Lanes	1	1	. 0		1	1		0	
Configuration	L.		TR		L			TR	
Upstream Signal		0				0			
Minor Street		Northbound				Southbou	ınd		
Movement	7	8	9		10	11		12	
	L	Т	R		L	T		R	
Volume (veh/h)	18	17	10		15	22		27	
Peak-Hour Factor, PHF	0.82	0.82	0.82		0.88	0.88		0.88	
Hourly Flow Rate, HFR ; (veh/h)	21	20	12		17	25		30	
Percent Heavy Vehicles	0	0	0		11	11		11	
Percent Grade (%)	-	2	•			-2	•		
Flared Approach		N				N			
Storage		0				0			
RT Channelized		_	0					0	
Lanes	0	1	0		0	1		0	
		LTR				LTR			
Delay, Queue Length, a			T	lorthhaur		-	outhbound		
Approach	Eastboun	_		orthbound					
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L	L		LTR			LTR		
v (veh/h)	63	12		53			72		
C (m) (veh/h)	982	643		227			259		
v/c	0.06	0.02		0.23			0.28		
95% queue length	0.21	0.06		0.88			1.10		
Control Delay (s/veh)	8.9	10.7		25.6			24.2		
LOS	A	В	†	D			С		
Approach Delay (s/veh)		25.6		<u>. </u>	24.2		<u> </u>		
Approach LOS	··								
Approach EOS	·		· D			C			

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TWO-WAY STOP CONTROL SUMMARY General Information Site Information US 30 & Granite Station JES Intersection Analyst Agency/Co. GME Jurisdiction Straban Twp, Adams Co Date Performed 8/11/2006 Analysis Year 2008 Build Weekday PM Peak Hour Analysis Time Period Project Description 129.90 East/West Street: US Route 30 North/South Street: Granite Station Rd Study Period (hrs): 0.25 Intersection Orientation: East-West Vehicle Volumes and Adjustments Westbound Eastbound Maior Street Movement 1 3 4 5 6 2 R T R L T L 600 871 11 8 53 66 Volume (veh/h) Peak-Hour Factor, PHF 0.91 0.91 0.91 0.84 0.840.84 Hourly Flow Rate, HFR 8 63 1036 78 12 659 (veh/h) 12 Percent Heavy Vehicles 9 Two Way Left Turn Lane Median Type 0 RT Channelized 0 1 1 0 1 1 TR ŤR L Configuration L 0 0 Upstream Signal Southbound Northbound Minor Street 12 7 9 10 11 Movement 8 T R R Т L L 17 10 15 22 27 Volume (veh/h) 18 0.88 0.88 0.82 0.88 Peak-Hour Factor, PHF 0.82 0.82 Hourly Flow Rate, HFR 17 25 30 21 20 12 (veh/h) 0 11 11 Percent Heavy Vehicles 0 0 11 -2 Percent Grade (%) 2 Ν Ν Flared Approach 0 0 Storage 0 RT Channelized 0 anes 0 0 0 1 1 LTR Configuration LTR Delay, Queue Length, and Level of Service Southbound Eastbound Westbound Approach Northbound 7 8 9 10 11 12 Movement 4 1 LTR LTR Lane Configuration L L 72 63 12 53 v (veh/h) 224 591 197 890 C (m) (veh/h) 0.32 0.07 0.02 0.27v/c 1.33 1.04 95% queue length 0.230.0628.5 11.2 29.9 9.4 Control Delay (s/veh) D D Α В LOS 28.5 Approach Delay (s/veh) 29.9 D D Approach LOS

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TWO-WAY STOP CONTROL SUMMARY Site Information General Information JES US 30 & Granite Station Intersection Analyst Jurisdiction Straban Twp, Adams Co Agency/Co. **GME** 2018 No Build Date Performed 8/11/2006 Analysis Year Analysis Time Period Weekday PM Peak Hour Project Description 129.90 North/South Street: Granite Station Rd East/West Street: US Route 30 East-West Study Period (hrs): 0.25 Intersection Orientation: Vehicle Volumes and Adjustments Westbound Eastbound Major Street 3 4 5 1 2 Movement Ŕ Т R L 728 9 1138 99 13 Volume (veh/h) 81 0.92 Peak-Hour Factor, PHF 0.92 0.92 0.92 0.92 0.92Hourly Flow Rate, HFR 791 9 107 14 88 1236 (veh/h) Percent Heavy Vehicles 12 9 Two Way Left Turn Lane Median Type 0 RT Channelized Ō 0 1 1 Lanes 1 TR TR Ĺ. L Configuration Ö 0 Upstream Signal Southbound Northbound Minor Street 12 10 9 11 Movement R L Т R Т L 25 47 12 17 41 19 Volume (veh/h) 0.92 0.92 0.92 0.92 Peak-Hour Factor, PHF 0.92 0.92 Hourly Flow Rate, HFR 13 18 27 51 20 44 (veh/h) 0 11 11 11 Percent Heavy Vehicles 0 0 -2 Percent Grade (%) 2 N Ν Flared Approach 0 0 Storage 0 RT Channelized 0 0 0 0 1 1 Lanes 0 LTR LTR Configuration Delay, Queue Length, and Level of Service Southbound Northbound Eastbound Westbound Approach 10 11 12 7 8 9 4 Movement 1 LTR LTR L L Lane Configuration 77 96 88 14 v (veh/h) 125 793 482 172 C (m) (veh/h) 0.56 0.03 0.620.11 2.90 0.09 3.15 95% queue length 0.37 :71.7 49.6 12.7 Control Delay (s/veh) 10.1 F Ε В В 71.7 49.6 Approach Delay (s/veh) --F Ε

Approach LOS

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	TW	O-WAY STOP	CONTR	OL SUMI	MARY				
General Information	<u> </u>	.	Site I	nformatio	on				
Analyst	JES		Interse			US 30 & 0	Granite Sta	tion	
Agency/Co.		· · · · · · · · · · · · · · · · · · ·	Jurisdi			Straban T	wp, Adams	Co	
Date Performed	8/11/200	6	Analys	is Year		2018 Buile	d		
Analysis Time Period	Weekday	PM Peak Hour							
Project Description 12	9.90								
East/West Street: US R			North/S	South Stree	et: <i>Granite</i>	Station Rd			
Intersection Orientation:	East-West		Study F	Period (hrs): 0.25		·		
Vehicle Volumes ar	id Adjustme	ents		•					
Major Street		Eastbound				Westbou	nd		
Movement	1	22	3		4	5		6	
	L		R		<u>L</u>	T		R	
Volume (veh/h)		1262	99		13	889		9	
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR (veh/h)	88	1371	107		14	966		9	
Percent Heavy Vehicles	9				12		<u></u>		
Median Type			Two Way Left Turn Lane						
RT Channelized		<u> </u>	0					0	
Lanes	1	1	0		1	1		0	
Configuration	L		TR		L			TR	
Upstream Signal		0				Ö			
Minor Street		Northbound				Southbou	ınd		
Movement	7	8	9		10	11		12	
:	L	T	R		L	T _		[′] R	
Volume (veh/h)	41	19	12		17	_ 25	· .	47	
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR (veh/h)	: 44	20	13		18	27		51	
Percent Heavy Vehicles	. 0	0	0		11	11		11	
Percent Grade (%)		2				-2			
Flared Approach		N			•	N			
Storage		0				0			
RT Channelized			0				-	0	
Lanes	. 0	1	0		0	1		0	
Configuration		LTR]			LTR			
Delay, Queue Length, a	nd Level of Se	ervice							
Approach	Eastbound	Westbound		Northbound	d	s	outhbound		
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L	L.		LTR			LTR		
v (veh/h)	88	14		77			96	l	
C (m) (veh/h)	680	427	94				135		
v/c	0.13	0.03		0.82	 		0.71	·	
95% queue length	0.44	0.10		4,42	 		4.04		
	11.1	13.7		128.2	1	 	79.6	 	
Control Delay (s/veh)					 	 	7 5.0 F	 	
LOS	B	В	F 1		1			L	
Approach Delay (s/veh)				128.2		 	79.6		
Approach LOS	·		F			F	,		

H

0				Sł	HORT							·	
General Inf Analyst Agency or O Date Perfor Time Period	Co. (med 8/1	JES GME 1/2006 PM Peak	Hour			Interse Area T Jurisd	уре	U St	S 30 & Gi All oth raban Tw 2018 Buil	er areas p, Adan	s ns Co		
Volume an	d Timing Input												
		LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB T TH	T RT
Number of I		1	1	1	1	1	0	0	1	0	0	1	0
Lane Group		L.	T	R	L	TR	+	┢	LTR	 	-	LTR	†
Volume (vp		81	1262	99	13	889	9	41	19	12	17	25	47
% Heavy V	 	9	9	9	12	12	12	0	0	0	11	11	11
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
	ctuated (P/A)	A	Α	A	Α	A	A	A	A	A	A	A	A
Startup Los		2.0	2.0	2.0	2.0	2.0	1	 	2.0		†	2.0	
	of Effective Green	_	2.0	2.0	2.0	2.0	1	 	2.0		 	2.0	†
Arrival Type		3	3	3	3	3	1	_	3	 		3	†
Unit Extens		3.0	3.0	3.0	3.0	3.0	 	 -	3.0	 		3.0	1
Ped/Bike/R	TOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width		12.0	12.0	12.0	12.0	12.0			12.0		<u> </u>	12.0	<u>† </u>
Parking/Gra	Parking/Grade/Parking		-2	N	N	-1	N	N	2	N	N	- 2	N
Parking/Ho	ur											<u> </u>	
Bus Stops/I		0	0	0	0	0		<u> </u>	0	<u> </u>	<u> </u>	0	
	edestrian Time	<u> </u>	3.2	<u> </u>	<u> </u>	3.2	<u> </u>	<u>L.,</u>	3.2	<u>l , , , , , , , , , , , , , , , , , , ,</u>		3.2	<u> </u>
Phasing	EW Perm G = 67.0 (02 3 = .	G =	03	G =	4	NS Pe G = 11		06 G =	- G	07 -	G =	80
Timing		ɔ = . ′ ==	Y =		Y =		Y = 6		Y =	Y		Y =	
Duration of	Analysis (hrs) = (Cycle Let	ngth C =	90.0		
Lane Gro	oup Capacity,	Contro	ol Dela	y, and	LOS	Deterr	ninatio	n					
			EB			WB			NB			SB	
Adjusted Fl	ow Rate	88	1372	108	14	976			79			96	<u> </u>
Lane Group	Capacity	275	1311	1114	80	1267			180			181	<u> </u>
v/c Ratio	÷	0.32	1.05	0.10	0.17	0.77			0.44	<u>l</u>	<u> </u>	0.53	<u> </u>
Green Ratio	D 1.	0.74	0.74	0.74	0.74	0.74			0.12		<u> </u>	0.12	
Uniform De	lay d ₁	3.9	11.5	3.2	3.4	6.9			36.6			37.1	
Delay Facto	or k	0.11	0.50	0.11	0.11	0.32		<u> </u>	0.11			0.13	
Incrementa	I Delay d ₂	0.7	38.0	0.0	1.0	3.0			1.7			3.0	
PF Factor		1.000	1.000	1.000	1.000	1.000	 		1.000			1.000	
Control Del	Control Delay		49.5	3.2	4.4	9.9	ĺ	I^-	38.3]	40.0	
Lane Group	Lane Group LOS			Α	Α	Α			D			D	
····	ane Group LOS A D Approach Delay 43.			<u> </u>		9.8		38.3			<u> </u>	40.0	
	Approach LOS D					A A			D .			D	
Intersection		$+$ $\overline{-}$	31.2		 		Intersec	section LOS C					
	. 2010)	I			Intersection LOS					Generated: 8/11/2006 4:52 PM			

	TW	O-WAY STOP	CONTROL	SUMM.	ARY				
General Information	1		Site Infor	matio	<u> </u>				
Analyst	JES		Intersection	<u> </u>		US 30 &	Granite Sta	ation	
Agency/Co.	GME		Jurisdiction	1	<u> </u>		Twp, Adam	is Co	
Date Performed	8/11/200		Analysis Y	еаг		2006 Exis	sting		
Analysis Time Period	Saturday	Peak Hour	<u> </u>						
	9.90				<u></u>				
East/West Street: US R						Station Rd			
ntersection Orientation:	East-West		Study Perio	d (hrs):	0.25				
/ehicle Volumes ar	nd Adjustme	nts							
Major Street		Eastbound				Westbou	nd		
Movement	. 1	2	3		4	5		6	
	L	T	R		L	T		R	
/olume (veh/h)	15	477	51		15	508	—↓—	19	
Peak-Hour Factor, PHF	0.82	0.82	0.82	 	.94	0.94		0.94	
Hourly Flow Rate, HFR veh/h)	18	581	62		15 —	540		20	
Percent Heavy Vehicles	0				0				
Median Type	-		Two Way	Left Turr	Lane				
RT Channelized			0				0		
anes	1	1	· 0 .		1	1		0	
Configuration	L		TR		L		<u>.</u>	TR	
Jpstream Signal		0		<u> </u>		1 0	<u></u>		
Minor Street		Northbound		<u> </u>		Southbou	ınd		
Movement	7	8	9		10	11		12	
	L	T	R	<u> </u>	<u>L</u>	Т		R	
/olume (veh/h)	35	7	13		7 13_			13	
Peak-Hour Factor, PHF	0.81	0.81	0.81	. 0).75	0.75		0.75	
Hourly Flow Rate, HFR (veh/h)	43	8	16		9	17		17	
Percent Heavy Vehicles	0	0	0		0	0		0	
Percent Grade (%)		2				-2			
Flared Approach		N				N_			
Storage		0	<u> </u>			0		•	
RT Channelized	-: 	1	0	Ī		1		0	
anes	0	1	0		0	1		0	
Configuration		LTR				LTR			
Delay, Queue Length, a	nd Level of Se		<u> </u>			-		······	
Approach	Eastbound	Westbound	North	nbound	-	S	Southbound		
Movement	1	4	7	8	9	10	11	12	
ane Configuration	L	<u> </u>		TR	_ <u> </u>	 	LTR	†	
/ (veh/h)	-18	15		57	-		43	1	
C (m) (veh/h)	1021	951		57			396		
//c	0.02	0.02		19		- 	0.11	1	
	0.02	0.02		.68		 	0.36	┼┈─	
95% queue length Control Delay (s/veh)	8.6	8.8		7.4		 -	15.2	-	
	***			/.4		+	C 73.2	-	
.OS	A	Α							
Approach Delay (s/veh)			17.4			15.2			
Approach LOS			l	<u>C</u>	C				

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	TW	O-WAY STOP	CONTRO	OL SUM	MARY	·					
General Information	 1	·· 	Site In	formati	on						
Analyst	JES		Interse	ction		US 30 & C	Granite Sta	tion			
Agency/Co.	GME		Jurisdio	ction		Straban T	wp, Adam	s Co			
Date Performed	8/11/2006		Analysi	is Year		2008 No E	Build				
Analysis Time Period	Saturday	Peak Hour									
Project Description 12	9.90										
East/West Street: US R	oute 30		North/S	outh Stree	et: <i>Granite</i>	Station Rd					
Intersection Orientation:			Study Period (hrs): 0.25								
Vehicle Volumes ar	d Adjustme	nts		-			_				
Major Street		Eastbound				Westboui	nd				
Movement	1	2	3		4	5		6			
	L L	T	R		L	T		R			
Volume (veh/h)	20	568	62		15	627		19			
Peak-Hour Factor, PHF	0.82	0.82	0.82		0.94	0.94		0.94			
Hourly Flow Rate, HFR (veh/h)	24	692	75		15	667		20			
Percent Heavy Vehicles	0				0						
Median Type			Тwo И	/ay Left T	um Lane						
RT Channelized		-	0					0			
Lanes	1	1	0		1	1		0			
Configuration	L	· <u> </u>	TR					TR			
Upstream Signal		0				0	l				
Minor Street	T	Northbound				Southbou	nd				
Movement	7	8	9		10	11		12			
	L	T	Ŕ		L.	Τ		R			
Volume (veh/h)	49	7	13		7	13		20			
Peak-Hour Factor, PHF	0.81	0.81	0.81		0.75	0.75		0.75			
Hourly Flow Rate, HFR (veh/h)	60	8	16		9	17		26			
Percent Heavy Vehicles	0	0	0		Ö	0		0			
Percent Grade (%)		2				-2	-				
Flared Approach		N				N					
Storage		0				0					
RT Channelized			0					0			
Lanes	. 0	1	. 0		0	1		0			
Configuration		LTR				LTR					
Delay, Queue Length, a	nd Level of Se	rvice	·								
Approach	Eastbound	Westbound	١	Vorthboun	d	s	outhbound	i			
Movement	1	4	7	8	9	10	11	12			
Lane Configuration	L	L		LTR			LTR				
v (veh/h)	24	15		84			52				
C (m) (veh/h)	916	856		282			346				
v/c	0.03 0.02			0.30		0.					
95% queue length				1.21	 		0.52				
Control Delay (s/veh)	9.0	9.3		23.1	 	+	17.2	1			
LOS					1	c					
Approach Delay (s/veh)	23.1			17.2							
Approach Delay (s/ven) Approach LOS	<u></u>	 	23.1 C			C C					
Approach LOS			l	CS+TM Ver		Generated: 8/14/2006 8:					

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TWO-WAY STOP CONTROL SUMMARY Site Information General Information US 30 & Granite Station JES Intersection Analyst Straban Twp, Adams Co Jurisdiction Agency/Co. <u>GME</u> 2008 Build 8/11/2006 Analysis Year Date Performed Saturday Peak Hour Analysis Time Period Project Description 129,90 North/South Street: Granite Station Rd East/West Street: US Route 30 Study Period (hrs): 0.25 Intersection Orientation: East-West Vehicle Volumes and Adjustments Westbound Eastbound Major Street 3 4 6 1 2 Movement R T R L ī 730 19 62 15 668 Volume (veh/h) 20 0.94 0.94 0.94 Peak-Hour Factor, PHF 0.82 0.82 0.82 Hourly Flow Rate, HFR 776 20 814 75 15 24 (veh/h) 0 Percent Heavy Vehicles 0 Two Way Left Turn Lane Median Type 0 0 RT Channelized 0 1 1 n 1 1 Lanes TR TR L L Configuration 0 0 Upstream Signal Southbound Northbound Minor Street 12 9 10 11 Movement 8 Т R Т R L 13 13 20 49 Volume (veh/h) 0.75 0.75 0.75 0.81 0.81 Peak-Hour Factor, PHF 0.81 Hourly Flow Rate, HFR 17 26 9 8 60 16 (veh/h) 0 0 0 ō 0 Percent Heavy Vehicles 0 -2 Percent Grade (%) 2 Ν Ν Flared Approach 0 0 Storage 0 RT Channelized 0 0 0 0 1 1 Lanes 0 LTR LTR Configuration Delay, Queue Length, and Level of Service Southbound Eastbound Westbound Northbound Approach 9 10 11 12 8 4 7 Movement 1 LTR L LTR L Lane Configuration 52 84 15 24 v (veh/h) 296 835 771 236 C (m) (veh/h) 0.18 0.03 0.02 0.360.63 1.53 95% queue length 0.09 0.06 19.7 28.5 9.8 Control Delay (s/veh) 9.4 CDΑ Α LOS 19.7 28.5 Approach Delay (s/veh) ----CApproach LOS

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	TW	O-WAY STOP	CONTRO	DL SU	JMN	IARY				
General Information	<u> </u>		Site Information							
Analyst	JES		Interse			·	US 30 & C	Granite	Stat	ion
Agency/Co.	GME	<u>-</u>	Jurisdio	ction			Straban T		dams	Co
Date Performed	8/11/2006	3	Analys	is Year	r		2018 No E	Build		
Analysis Time Period	Saturday	Peak Hour					<u> </u>			
Project Description 129	9.90									
East/West Street: US R							Station Rd			
Intersection Orientation:	East-West		Study F	eriod ((hrs):	0.25				
Vehicle Volumes an	d Adjustme	nts								
Major Street		Eastbound					Westbour	nd		
Movement	1	2	3			4	5			6
		T	R			L	020			R 22
Volume (veh/h)	46	836	96			18 0.94	928 0.94	-		.94
Peak-Hour Factor, PHF	0.92	0.92	0.92					-		
Hourly Flow Rate, HFR (veh/h)	49	908	104			19	987			23
Percent Heavy Vehicles	. 0		- 0							
Median Type		···	Two V	Vay Le	ft Tu	rn Lane				
RT Channelized										0
Lanes .	1	1	. 0			1	1			0
Configuration	L		TR			L				TR
Upstream Signal		0]				0			
Minor Street		Northbound	•				Southbou	nd		·
Movement	7	8	9			10	11		12	
"	! L	T	R		:	Ł	Ţ			<u>R</u>
Volume (veh/h)	, 04	8	15			8	15			47
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92			0.92
Hourly Flow Rate, HFR (veh/h)	91	8	.16			8	16			51
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		2				•	-2		-	
		N	1				N			
Storage		0	†				0			
RT Channelized 8	i		0							0
Lanes	0	1	0			0	1			0
Configuration	<u> </u>	LTR			-	•	LTR			
Delay, Queue Length, a	nd Level of Se	rvice	-							
Approach	Eastbound	Westbound	. 1	Northb	ound		s	outhbo	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration	L	L		LTF	₹ .			LTI	₹	
v (veh/h)	49	19	115				75	5		
C (m) (veh/h)	694	693	14			-		24:	5	
V/c	0.07	0.03	0.80				0.31			
95% queue length	0.23	0.08		5.0				1.2		
		10.3		91.			 	26.		
Control Delay (s/veh)	10.6			 _			 			
LOS	В	В	B F			D				
Approach Delay (s/veh)		,		91			26.0			
Approach LOS			F				· D			

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TW	O-WAY STOP	CONTR	OL SUN	MARY			- :			
n —	<u> </u>	Site Ir	nformat	tion						
JES .	-	Interse	ction		US 30 & (Granite St	ation			
	·- ·	Jurisdi	ction		Straban 7	wp, Adan	ıs Co			
8/11/2006	3	Analys	is Year		2018 Buil	d				
Saturday	Peak Hour									
9.90										
					Station Rd					
East-West		Study F	Period (hr	rs): 0.25						
nd Adjustme	nt <u>s</u>									
	Eastbound					nd				
1	2			_4	5		6			
<u></u>				L			R			
							22			
0.92	0.92	0.92		0.94	0.94		0.94			
49	1091	104		19	1296		23			
0				0						
		0					0			
1	1	0		1	1		0			
L		TR		L			TR			
··	0				0		. ,			
1	Northbound				Southbou	nd	_			
7	8	9	<u> </u>	10	11		12			
· L	T	R		L	T		R			
84	8	15		8	15		47			
0.92	0.92	0.92		0.92	0.92		0.92			
91	8	16		8	16		51			
0	0	0		0	0		0			
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0	1			0	1		0			
		 			LTR					
nd Level of Se		<u> </u>		·						
			Northbou	nd	S	outhboun	 d			
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					<u> </u>		 			
В	В		F			E				
Approach Delay (s/veh) 411.2 43.0										
	Approach LOS					F E				
	JES GME 8/11/2006 Saturday 9.90 Soute 30 East-West The standard Saturday 1	JES GME 8/11/2006 Saturday Peak Hour 9.90 Soute 30 East-West	Site Intersection	Site Informa JES	JES	Site Information US 30 & 6	North/Dound North/Dound			

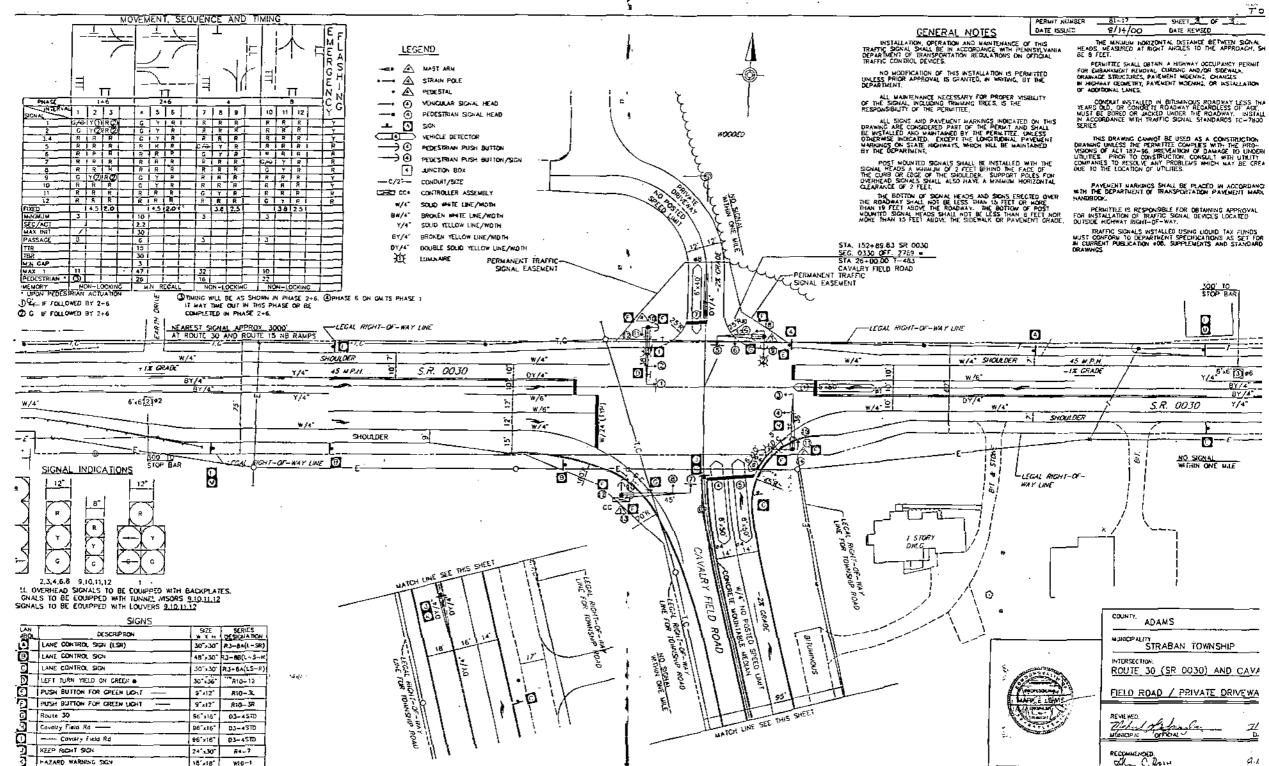
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				SH	IORT	REPO	RT					•	-
General Info	ormation					Site In	nformati	on					
Analyst Agency or Condition Date Perforn Time Period	ned <i>8/</i>	JES GME 11/2006 ay Peak H	our			Interso Area Jurisd Analys	Гуре	Str	30 & Gi All oth aban Tw 018 Build	er area p, Ada	ns Co		
Volume and	Timing Input												
<u>-</u>			E.B	<u></u>		WB	- 		NB	_ 		SB	Loz
Number of L		LT 1	TH	RT1	L.T	TH 1	RT 0	LT 0	TH 1	RT 0	LT 0	TH 1	RT 0
	anes	<u> </u>	1 T	R	L	TR	+-	+-	LTR	 	 	LTR	+
Lane Group		46	1004	96	18	1219	22	84	8	15	8	15	47
Volume (vph		0	1	0	0	1	0	0	0	0	0	0	0
% Heavy Ve		0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
PHF Drotimod/Act	tuotod (D/A)	0.92 A	0.92 A	0.92 A	0.94 A	0.94 A	A A	0.92 A	A A	0.92 A	A A	A	0.92 A
Pretimed/Act		2.0	· 2,0	2.0	2.0	2.0	+~	+~	2.0	╀	+~	2.0	+^-
Startup Lost		+	2.0	2.0	2.0	2.0	+	 	2.0	 -	 	2.0	+
	Effective Gree			3	3	3	+	 	3	╁──	 -	3	
Arrival Type		3.0	3 3.0		3.0	3.0	-		3.0	├	┿	3.0	+-
	Unit Extension Ped/Bike/RTOR Volume			3.0	0	0	0	0	0	0	 	0	0
				0	<u> </u>	12.0	↓ ~	1 "	12.0		 	12.0	┼┷-
	Lane Width Parking/Grade/Parking		12.0 -2	12.0 N	12.0 N	-1	l _N	N	2	N	- N	-2	I N
Parking/Grad		N		174	7.4	- '-	1 1	 ^` -	+-	 ~~	 	1 -2	 ''
Bus Stops/H		o	0	0	0	0	-	 	0	╁┈		0	
	destrian Time		3.2			3.2	 		3.2	\vdash	_	3.2	
Phasing	EW Perm	02	<u> </u>	03	j 0	4	NS Pe	rm _	06		07		08
Timing	G = 64.0	G =	G =		G =	G = 1		.0 G= Y=		G = Y =		G =	
	Y = 6 Analysis (hrs) =	Y =	Y =		Y =		Y = 6		<u>(=</u> Cycle Ler			Y =	
	up Capacity		<u> </u>	v and	IOSI	Dotori	ninatio		Jyde Lei	guio	- 50.0		
Lane Gro	up Capacity	, Contro	EB	y, anu	L <u>00.</u>	WB	mane	""	NB	_ "	Τ	SB	
Adjusted Flo	w Rate	50	1091	104	19	1320			116		 	76	
Lane Group	Capacity	85	1351	1160	176	1341			211			259	
v/c Ratio		0.59	0.81	0.09	0.11	0.98			0.55			0.29	
Green Ratio		0.71	0.71	0.71	0.71	0.71			0.16]		0.16	
Uniform Dela	ay d ₁	6.5	8.8	4.0	4.1	12.5	1		35.1	T		33.6	
Delay Factor		0.18	0.35	0.11	0.11	0.49	1	1	0.15			0.11	
Incremental		10.3	3.7	0.0	0.3	20.8	 	1	3.1			0.6	
PF Factor	<u> </u>	1.000	1.000	1.000	1.000	1.000	1	<u> </u>	1.000			1.000	
Control Dela	Control Delay		12.6	4.0	4.3	33.3	1		38.1			34.3	
Control Delay 16.7 _ane Group LOS B			В	A	Α	С	1	1	D			С	
Approach Delay 12.0					32.9		38.1			34.3		-	
	Approach LOS B				C 52.9			D			С		
Intersection			23.8			Intersection LOS				С			
II I C 19 C C II O I I		l			Intersection LOS					0			

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Traffic Signal Permit Plans

						PERM	/IT NO	.;		81-17	SHEET	2	OF	3
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J		EVENT			DΑ	Y OF W				T	"	Ţ. <u> </u>	T	T
1		NO.	M	T	W	TT	F	S	S	TIME	CYCLE	SPLIT	OFFSET	REMARK
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1		2	X	X	X	Х	X			7:00	1	1	1	90 SEC
1		3	X	X	X	<u>X</u>	X	<u> </u>	<u> </u>	14:00	2	1 1	11	110 SEC
1		4	X	X	X	<u> </u>	X	<u> </u>	↓	18:00	<u> </u>	-		FREE
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ŀ	OFFSE	TS (SEC.)												
İ	CYCLE		1	2	3	4	5	6	7					
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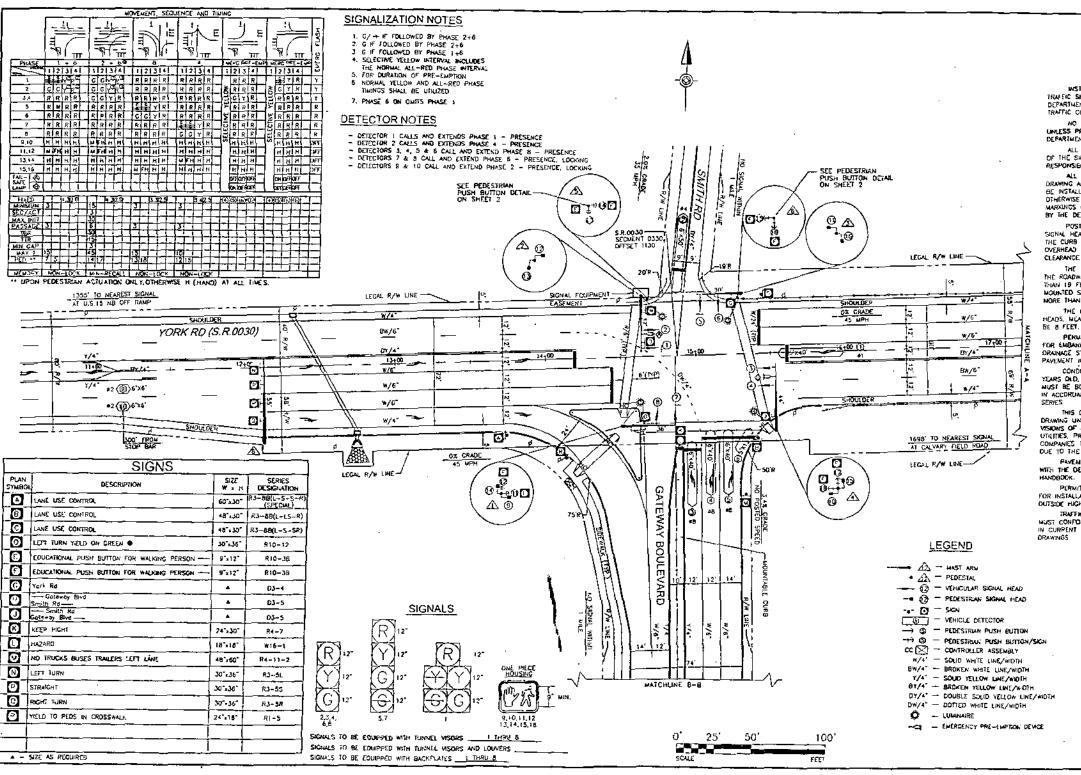
COUNTY:	
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MUNICIPALITY	

STRABAN TOWNSHIP

INTERSECTION:

ROUTE 30 (SROO30) AND

ROWTE 15 SB RAMPS



Permit No. <u>81-24</u> Shee Date Issued <u>1-5-05</u> Date

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANTRAFFIC SIGNAL SHALL BE IN ACCORDANCE WITL DEPARTMENT OF TRANSPORTATION REGULATIONS TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION I UNLESS PRIOR APPROVAL IS GRANTED, IN WRITE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPE OF THE SIGNALS, INCLUDING TRIMMING TREES, I RESPONSIBILITY OF THE PERMITTEE.

AL SIGNS AND PAVEMENT MARKINGS WITH DRAWING ARE CONSIDERED PART OF THE PERMIT OF INSTALLED AND MAINTAINED BY THE PERMIT OTHERWISE INDICATED. EXCEPT THE LONGITUDINA MARKINGS ON STATE HIGHWAYS, WHICH WILL BE BY THE DEPARTMENT.

POST MOUNTED SIGNALS SMALL BE INSTAL SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND IN THE CURB OR EDGE OF THE SHOULDER. SUPPON OVERHEAD SIGNALS SMALL ALSO HAVE A WINIMUM CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS THE ROADWAY SHALL NOT BE LESS THAN 15 FEE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTO MOUNTED SIGNAL HEADS SHALL NOT BE LESS THOMORE THAN 15 FEET ABOVE THE SNEWMAK OR !

THE MINIMUM HORIZONTAL DISTANCE BETWEE HEADS, MEASURED AT RIGHT ANGLES TO THE API BE 8 FEET.

PERMITTEE SHALL OBTAIN A HICHWAY OCCU-FOR EMBANKHEIST REMOVAL, CURBING AND/OR S DRAINAGE STRUCTURES, CHANGES IN HICHWAY GE PAYEMENT WIDENING, OR INSTALLATION OF ADDITIO

CONDUIT INSTALLED IN BITUMHOUS ROADWY FEARS OLD, OR CONCRETE ROADWAY REGARDLES MUST BE BORED OR MCKED UNDER THE ROADWIN ACCORDIANCE WITH TRAFFIC SIGNAL STANDARDS SERIES

THIS DRAWING CANNOT BE USED AS A CON-DRAWING UNLESS THE PERMITTEE COUPLES WITH VISIOUS OF ACT 187. PREVENTION OF BANACE TO UTILITIES, PRIOR TO CONSTRUCTION, CONSULT WITH COMPANIES TO RESOLVE ANY PROBLEMS WHICH M DUE TO THE LOCATION OF UTILITIES.

PAYEMENT MARKINGS SHALL BE PLACED IN WITH THE DEPARTMENT OF TRANSPORTATION PAYES HANDSHOOK.

PERMITTEE IS RESPONSIBLE FOR UBTAINING FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LO OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID F MUST CONFORM TO BEPARTMENT SPECIFICATIONS / IN CURRENT PUBLICATION 408, SUPPLEMENTS AND DRAWINGS

County:

Reviewed:

Municipality:

Intersection:

ADAMS

SMITH RE

STRABAN TOW

YORK RD (S.R.C

GATEWAY BOULE

Municipal Official

C. Buley

District Traffic Engir

Begornmended,

	Permit No.	81-24	Shee	t <u>2</u> of	4
İ	Date Issued	1-5-05	Date	Revised _	

COORDINATION PROGRAM

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OFFSET REFERENCED TO: BEGINNIA

BEGINNING OF PHASE 2+6 GREEN TIME

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* PHASE TIME INCLUDES CHANGE AND CLEARANCE INTERVAL TIMES

FILE: TOJZ

County:

ADAMS

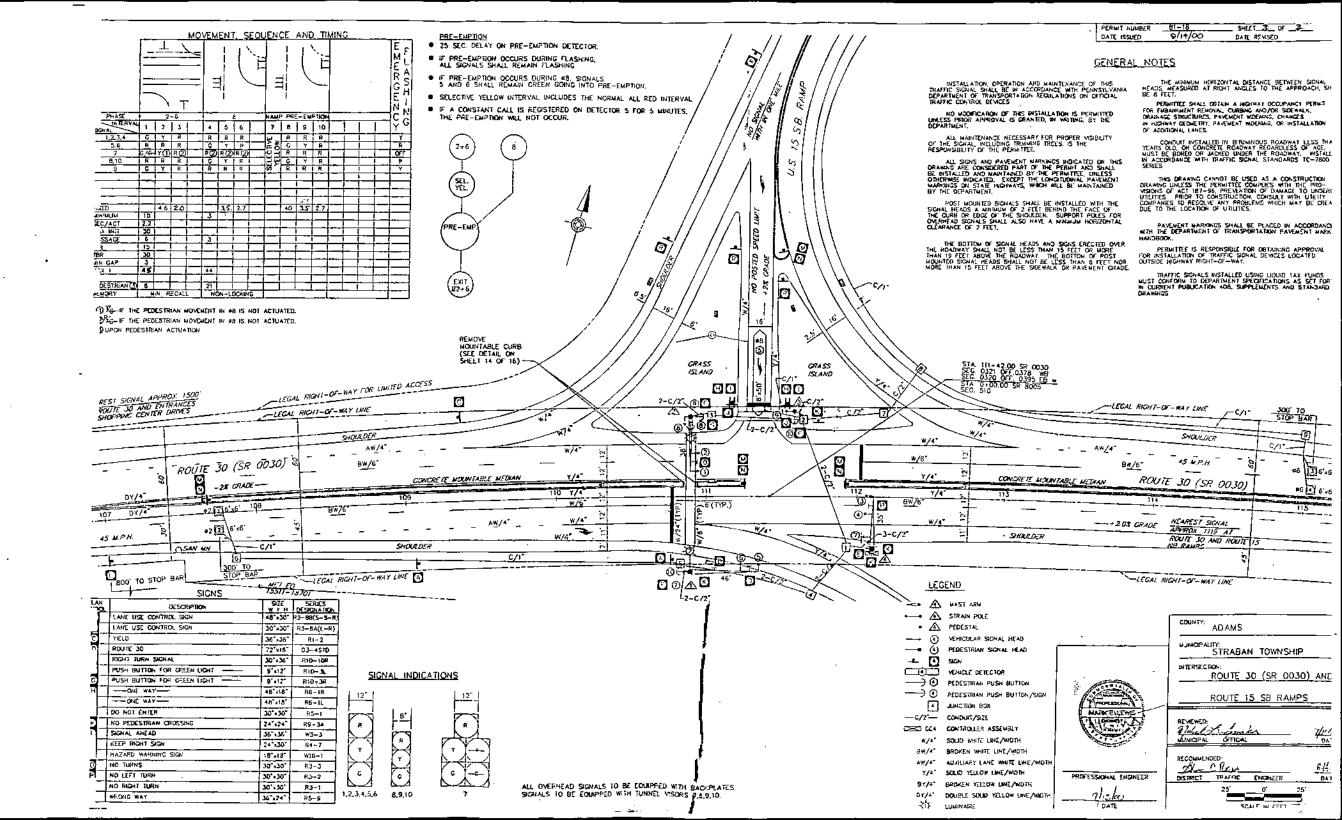
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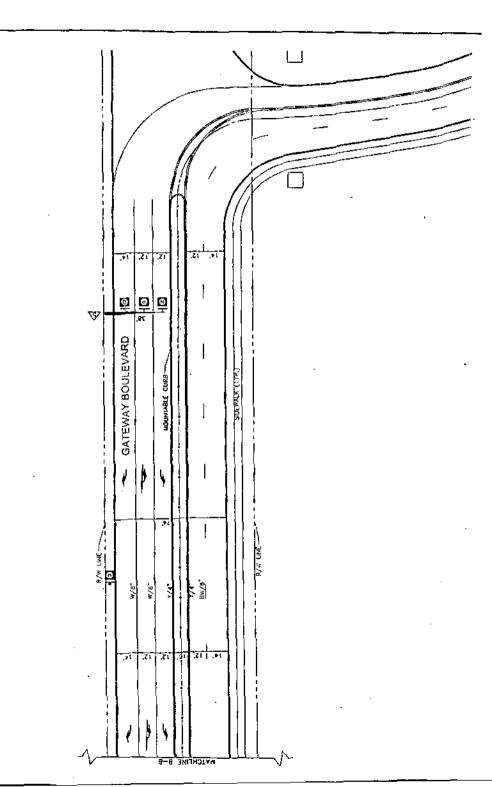
STRABAN TWP

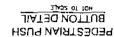
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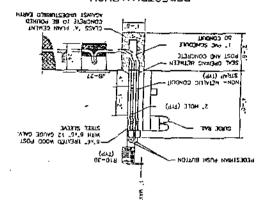
YORK ROAD (S.R.0030)/

GATEWAY BLVD & SMITH RD









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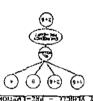
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Dole Issued 1-5-05 Date Revised

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SMITH RD

CATEWAY BOULEVARD /

STRABAN TOWNSHIP

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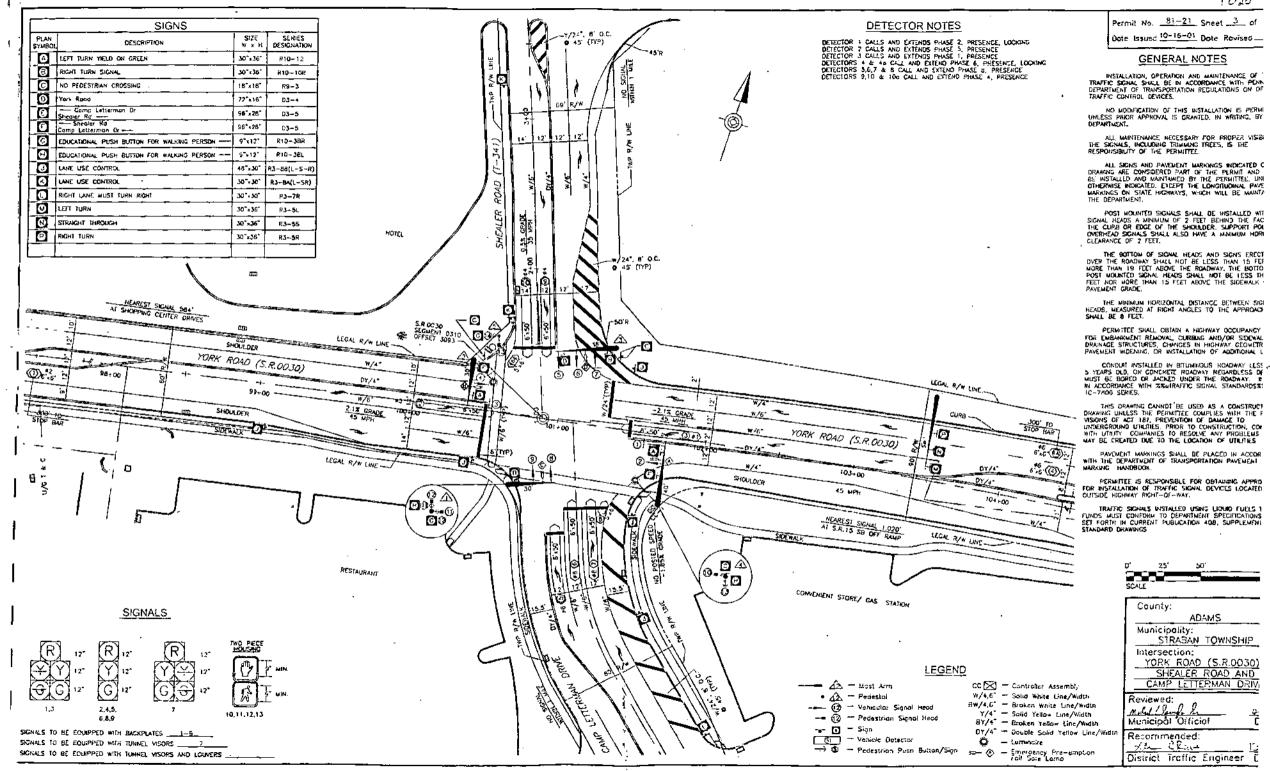
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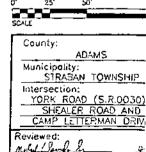
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MARKINGS ON STATE HIGHWAYS, WHICH WILL BE MAINTY



Permit No. 81-21 Sheet 2 of 4 Date Issued 10-16-01 Date Revised 1/5/05

COORDINATION PROGRAM

PLAN	DAY OF WEEK				Ek	(TIME	CYCLE	SPLIT	OFFSET	REMARKS	
NO.	М	I	W	T	F	S	S	TIME	CYCLE	ərui	OFFSET	REMARKS
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2	X	Χ	Х	X	X			7:00	1	1	1	90 SEC
3_	X	Χ	Х	Х	Х			14:00	2	1	1	110 SEC
4_	Х	X	Х	X	Х			18:00			_	FREE
5						Х	Х	9:00	2	2	1	110 SEC
6_						X	Х	18:00	_		<u> </u>	FREE
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OFFSET REFERENCED TO: BEGINNING OF PHASE 2+6 GREEN TIME

SPLITS (SEC)

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1 1658 3	361658 30						
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* PHASE TIME INCLUDES CHANGE AND CLEARANCE INTERVAL TIMES

FILE: TOQO

County:

ADAMS

Municipality:

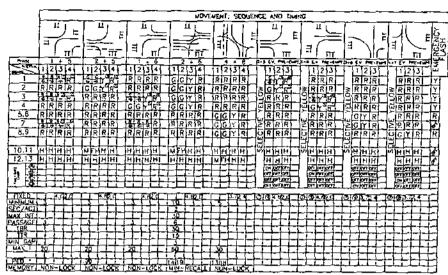
STRABAN TWP

Intersection:

YORK ROAD (S.R.0030)/

SHEALER ROAD AND

CAMP LETTERMAN DRIVE



"UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND (H) AT ALL DIMES.

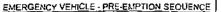
INTERCONNECTION NOTES

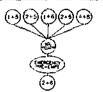
1. COMMUNICATIONS CARLE TO BE ROUTED FROM SIGNAL POLE 3 TO WEST THEN TO CONTROLLER ON NORTHEAST CORNER OF S.P.0030/MAI_MART INTERSECTION.

2 MASTER CONTROLLER LOCATED AT INTERSECTION OF S.P.0030/S.P.0015 NB RAMP.

OPERATION NOTES

- 1. F FOLLOWED BY 2+5
- 2. IF FOLLOWED BY 1+6
- 3. S. IF FOLLOWED BY 2-8
- 4. G IF FOLLOWED BY 2+6
- 5. G IF FOLLOWED BY 2+6
- 6. 支 IF FOLICITED BY 1+6
- 7. SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL RED PHASE INTERVAL
- B. TMING WILL BE AS SHOWN IN \$2+6. IT MAY TIME OUT IN THES & OR IT MAY BE COMPLETED IN #2+5
- 9. FOR DURATION OF PRE-EMPTION





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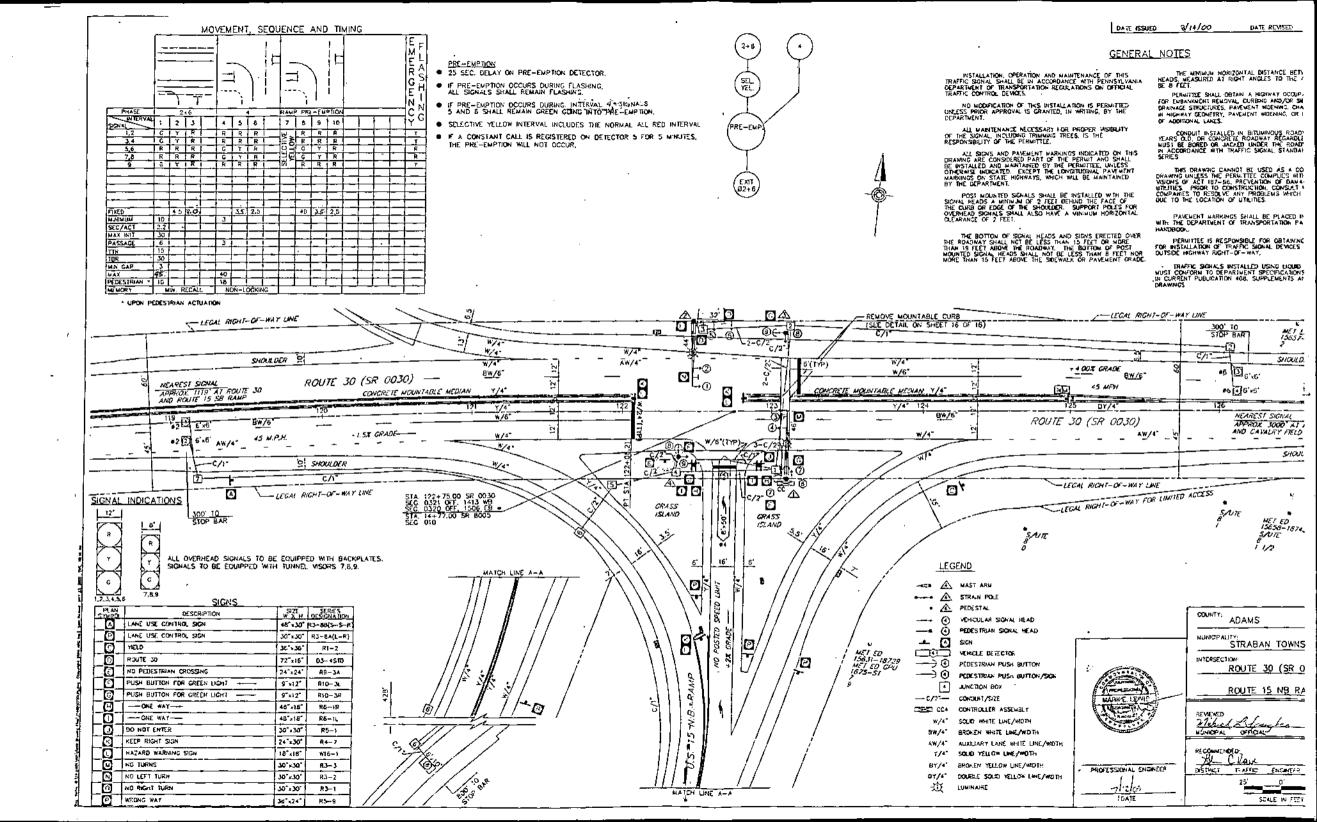
CONTROLLER TO SE FOLDWERD WITH EMPRICAMENT PRE-TLATION FOR ALL
APPROACHES. THE SCALASE WASN ACTUATED BY (MERCURY POSICIES SMALL
PRODOC AN APPROPRIATE SELECTER TRAINE THE FOLDWERD BY A CHEEN
PRODUCTION FOR THE EMPRISHED PROFILE THE PRODUCTION FOR ALL OTHER PROGES.

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Permit No. _81-21 Sheet _4 Date Issued 10-15-01 Date Revise

County: ADAMS Municipality: STRABAN TOWNSHIP Intersection: YORK ROAD (S.R.0030)
SHEALER ROAD AND
CAMP LETTERMAN DRIVE Reviewed: Municipal Official 4

> Recommended:



Traffic Signal Warrant Analyses

PEAK HOUR VOLUME WARRANT

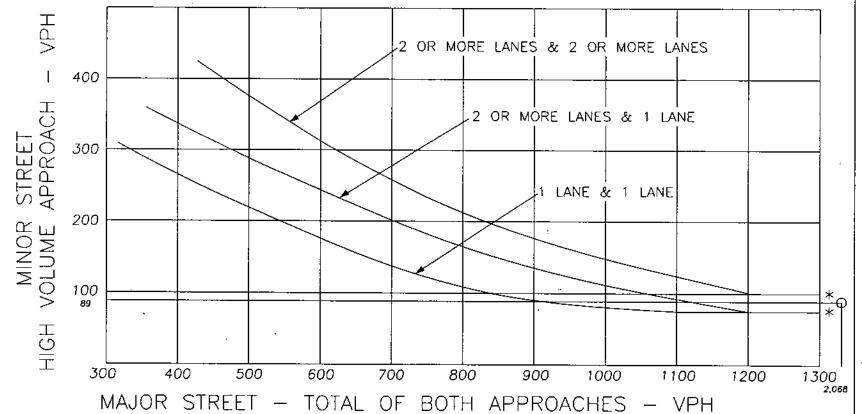
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR SREET)

INTERSECTION: US Route 30 and Granite Station Road

ANALYSIS PERIOD: 2016 No Build Condition, Weekday PM Peak Hour

MAJOR STREET TOTAL: 2,068 VPH

MINOR STREET HIGH APPROACH: 89 VPH



* NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Redrofted from PA Code Title 67, Section 201.61(b)(1)(xi)

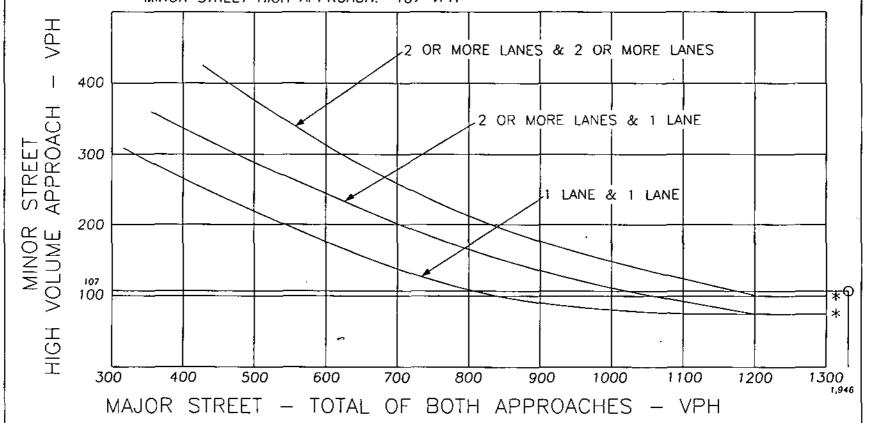
PEAK HOUR VOLUME WARRANT

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR SREET)

INTERSECTION: US Route 30 and Granite Station Road

ANALYSIS PERIOD: 2016 No Build Condition, Saturday Peak Hour

MAJOR STREET TOTAL: 1,946 VPH MINOR STREET HIGH APPROACH: 107 VPH



* NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Redrofted from PA Code Title 67, Section 201.61(b)(1)(xi)

Queue Analysis Calculations

INTERSECTION:

US Route 30 and Crossroads/Gateway Gettysburg Roadways

CYCLE LENGTH =

110 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	605	0	0.22	721	541
THRU	797	6	0.42	749	561
RIGHT	755	0	1	0	0

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	293	0	0.1	403	302
THRU	1155	9	0.3	1346	1010
RIGHT	97	0	0.3	104	78

Gateway Gettysburg Roadway NB

					DES.	MIN.
					STORAGE	STORAGE
					LENGTH	LENGTH
		VOLUME	%	G/C	REQ'D	REQ'D
١	MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=					*=======	
	LEFT	1049	0	0.31	1106	829
	THRU	41	0	0.31	43	32
	IHKU	41	U	0.51	43	32
	RIGHT	298	0	0.47	241	181
		250	•	V,-17	4. -7 I	101

jes 08/13/2006

INTERSECTION:

US Route 30 and Casino/Gateway Gettysburg Roadways

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
========	=======		=======	_========	=======
LEFT	1090	. 0	0.31	1149	862
				-45	
THRU	856	1	0.38	819	614
DICUT	4454	0	1	n	n
RIGHT	1154	0	1	U	U

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
1	200			484	270
LEFT	399	0	0.19	494	370
THRU	1258	2	0.26	1451	1088
	1200	_	0.00	, , , , ,	_,,,,,,
RIGHT	174	0 ·	0.26	197	148

Gateway Gettysburg Roadway NB

MłN.
STORAGE
LENGTH
REQ'D
(FEET)
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729
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152
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jes 08/13/2006

INTERSECTION:

US Route 30 and Cavalry Field Road/Re-located Smith Road

CYCLE LENGTH =

110 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

				DES. STORAGE LENGTH	MIN. STORAGE LENGTH
MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	REQ'D (FEET)	REQ'D (FEET)
PETERESES.			=======	('CE')	=======
LEFT	21	0	0.65	- 11	8
THRU	1063	7	0.65	608	456
RIGHT	121	0	0.65	65	49

US Route 30 WB

				DES. STORAGE LENGTH	MIN. STORAGE LENGTH
MOVEMENT	VOLUME (VPH)	· % TRUCKS	G/C RATIO	REQ'D (FEET)	REQ'D (FEET)
LEFT	36	0	0.65	19	14
THRU	1052	10	0.65	619	464
RIGHT	26	0	0.65	14	10

Cavalry Field Road NB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/Ç	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
		=======================================	======	=======	
LEFT	230	2	0.25	269	202
TURWRIGHT	244	2	0.25	285	214
THRU/RIGHT	244	2	0.25	200	214

Re-located Smith Road SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUMÉ	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
		=======================================	========	=======	=======
LEFT	130	0	0.25	149	112
THRU/RIGHT	64	0	0.25	73	55
		f			

INTERSECTION:

US Route 30 and Cavalry Field Road/Re-located Smith Road

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========		========		=======	======
LEFT	25	0	0.68	12	9
		_			
THRU	926	2	0.68	462	346
RIGHT	219	O	0.68	107	80
RIGHT	219	U	0.00	107	

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'Đ	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
E========			**======	=======	=======
LEFT	50	7	0.68	26	20
THRU	1301	2	0.68	649	487
RIGHT	69	0	0.68	34	25

Cavalry Field Road NB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
	========			======================================	======
LEFT	152	0	0.21	183	138
THRU/RIGHT	39	0	0.21	47	35

Re-located Smith Road SB

4.0° L	ES. MIN.	
STOF	RAGE STORAGE	Ξ
LEN	GTH LENGTH	
VOLUME % G/C RE	Q'D REQ'D	
(VPH) TRUCKS RATIO (FE	ET) (FEET)	
##=##=================================	***********	
171 0 0.21 20	6 155	
76 0 0.21 9	2 69	
VOLUME % G/C RE- (VPH) TRUCKS RATIO (FE 171 0 0.21 20	Q'D REQ' ET) (FEE 06 155	D T)

INTERSECTION:

US Route 30 and Shealer Road/Camp Letterman Drive

CYCLE LENGTH =

110 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	332	0	0.53	238	179
THRU	825	7	0.29	958	718
RIGHT	106	0	0.29	115	86

US Route 30 WB

					MIN. STORAGE	
MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	LENGTH REQ'D (FEET)	LENGTH REQ'D (FEET)	
LEFT	169	0	0.53	121	91	:
THRU	806	5	0.29	918	689	
RIGHT	258	0	0.29	280	210	

Camp Letterman Drive NB

				DES.	MIIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
========	=======			=======	=======
LEFT	72	4	0.09	104	78
THRU	72	0	0.09	100	75
RIGHT	54	4	0.33	57	43

Shealer Road SB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REO'D (FEET)
LEFT	556	3	0.21	691	518
THRU	77	0	0.21	93	70
RIGHT .	188	3	0.21	234	175

INTERSECTION:

US Route 30 and Shealer Road/Camp Letterman Drive

CYCLE LENGTH =

110 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	402	0	0.55	276	207
THRU	1011	7	0.43	942	707
RIGHT	72	٥	0.43	63	47

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	==±===== 201	0	0.36	197	147
THRU	941	5	0.3	1057	792
RIGHT	165	0	0.3	176	132

Camp Letterman Drive NB

				DES.	MIN,
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========	=======	=======	:======	========	=======
LEFT	37	4	0.06	5 5	41
TUDI	•				
THRU	61	0	0.07	87	65
RIGHT	97	4	0.19	125	94
KIGHT	31	4	0.15	123	34

Shealer Road SB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/ C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REO'D (FEET)
LEFT	555	3	0.21	690	517
THRU	63	0	0.21	76	57
RIGHT	226	3	0.21	281	211

INTERSECTION:

US Route 30 and US Route 15 Southbound Ramps

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========	========			=======	======
THRU	1095	4	0.69	539	405
RIGHT	437	4	0.69	215	161

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
========	=======		=======	========	
THRU	1403	7	0.69	711	533

US Route 15 Southbound Ramps SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LEFT	436	10	0.19	594	445

INTERSECTION:

US Route 30 and US Route 15 Southbound Ramps

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
•	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
========				=========	========
THRU	1338	1	0.65	723	542
RIGHT	864	0	0.65	462	347

US Route 30 WB

	VOLUME	%	G/C	DES. STORAGE LENGTH REQ'D	MIN. STORAGE LENGTH REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
THRU	1595	1	0.65	861	646

US Route 15 Southbound Ramps SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D'	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEËT)
LEFT	697	0	0.23	820	615

INTERSECTION:

US Route 30 and US Route 15 Northbound Ramps

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
==========		=======	=======	========	======
THRU	1370	4	0.7	653	490

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/Ç	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
				4222	005
THRU	2468	9	0.7	1233	925

US Route 15 Northbound Ramps NB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
	========	=======	======		=======
LEFT	455	6	0.18	604	453

INTERSECTION:

US Route 30 and US Route 15 Northbound Ramps

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
THRU	 1814	 1	0.7	840	630

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
==========	========				
THRU	2483	1	0.7	1149	862

US Route 15 Northbound Ramps NB

				DES.	MIN.
•				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LEFT	491	0	0.18	615	461

INTERSECTION:

US Route 30 and US Route 15 SPUI

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
1 FFT	======= 205	 4	0.13	 283	213
EEFI	203	14	0.13	203	213
THRU	890	3	0.27	1022	767

US Route 30 WB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
==========	========	========	=======	=========	=======
LEFT	930	0	0.28	1023	767
THRU	1008	3	0.43	904	678

US Route 15 Northbound Ramps NB

				DES.	MIN.
				STORAGE	STORAGE
	•			LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
	=========				
LEFT	45 5	0	0.17	577	433

US Route 15 Southbound Ramps SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LEFT	436	0	0.17	553	415

INTERSECTION:

US Route 30 and US Route 15 SPUI

CYCLE LENGTH =

110 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

					DES.	MIN.
					STORAGE	STORAGE
					LENGTH	LENGTH
		VOLUME	%	G/C	REQ'D	REQ'D
MOVEM	ENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
	====	======		=======		========
LEFT	•	195	0	0.11	265	1 9 9
THRU	J	1143	3	0.31	1241	931

US Route 30 WB

				DÉS.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========	========			*=======	=======
LEFT	913	0	0.26	1032	774
THRU	1110	3	0.46	943	707

US Route 15 Northbound Ramps NB

•				DES.	MtN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LEFT	491	0	0.21	593	444

US Route 15 Southbound Ramps SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LEFT	697	0	0.21	841	631

INTERSECTION:

US Route 30 and Granite Station Road

CYCLE LENGTH =

110 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

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US Route 30 WB

	NOL (IME	0/	616	LENGTH	MIN. STORAGE LENGTH
MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	REQ'D (FEET)	REQ'D (FEET)
LEFT	======================================	12	0.74		======= 4
HRU/RIGHT		12	•,,,	400	300
=======		12		=======================================	=

Granite Station Road NB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========	D==BF=S===		=======	========	=======
LT/TH/RT	72	2	0.12	99	74

Granite Station Road SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
=========	========		=======	=======	======
LT/TH/RT	89	11	0.12	133	100

INTERSECTION:

US Route 30 and Granite Station Road

CYCLE LENGTH =

110 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

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	· (FEET)
========	========	=======================================			=======
LEFT	46	0	0.71	20	15
THRU	1004	1	0.71	449	337
RIGHT	96	0	0.71	43	32
МОПІ	3 0	v	0.7 1	43	32

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	18	0	0.71	8	6
THRU/RIGHT	1241	1	0.71	555	416

Granite Station Road NB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LT/TH/RT ,	107-	0	0.16	137	103

Granite Station Road SB

				DES.	MIN.
				STORAGE	STORAGE
				LENGTH	LENGTH
	VOLUME	%	G/C	REQ'D	REQ'D
MOVEMENT	(VPH)	TRUCKS	RATIO	(FEET)	(FEET)
LT/TH/RT	70	0	0.16	90	======= 67
		_			- 1

Turning Movement Peak Period Counts

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

Day: Saturday

Municipality: Straban Township County: Adams

Weather: Clear Counter: HRG File Name: Route 30 Smith Gateway SAT

Site Code : 00012990 Start Date : 7/29/2006

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

										ssenger v	cincle3 -										
			S Route		1		_	S Route		I			ay Gett					mith Roa			
. <u></u>			astbou					/estbou					orthbou					uthbou			
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds		Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	1	171	8	0	180	2	162	2	0	166	9	0	5	0	14	0	0	0	0	0	360
11:15 AM	1	152	8	0	161	1	156	0	0	157	14	0	4	0	18	0	0	0	0	0	336
11:30 AM	1	179	12	0	192	0	166	1	0	167	20	0	3	0	23	0	0	2	0	2	384
11:45 AM	0	132	6	0	138	0	157	0	0	157	12	1	6	0	19	0	0	0	0	0	314
Total	3	634	34	0	671	3	641		0	647	55	1	18	0	74	0	0	2	0	2	1394
•					•										•						
12:00 PM	2	145	8	0	155	1	173	1	0	175	14	0	0	0	14	0	0	2	0	2	346
12:15 PM	1	167	10	0	178	1	157	1	0	159	8	0	0	. 0	8	1	0	1	0	2	347
12:30 PM	0	140	14	0	154	5	189	1	0	195	10	0	3	1	14	1	0	2	0	3	366
12:45 PM	2	145	15	0	162	2	157	0	0	159	7	0	5	0	12	0	0	2	0	2	335
Total	5	597	47	0	649	9	676	3	- 0	688	39	0	8	1	48	2	- 0	7	0	9	1394
'					•					•					•						
01:00 PM	`2	181	10	0	193	2	144	4	0	150	8	0	1	1	10	0	0	1	0	1	354
01:15 PM	2	159	14	0	175	2	136	0	0	138	9	0	4	0	13	0	0	0	0	0	326
01:30 PM	2	136	19	Ō	157	1	168	Ō	0	169	7	Õ	1	Ö	8	1	Ō	2	0	3	337
01:45 PM	1	104	9	Ō	114	2	159	Ō	ō	161	11	ō	6	ō	17	Ó	ō	2	ō	2	294
Total	7	580	52	ō	639	7	607	4	0	618	35	0	12	1	48	- 1	0	5	0	6	1311
				_								-						-			
Grand Total	15	1811	133	0	1959	19	1924	10	0	1953	129	1	38	2	170	3	a	14	0	17	4099
Apprch %	0.8	92.4	6.8	0	1	1	98.5	0.5	0		75.9	0.6	22.4	1.2		17.6	0	82.4	0		
Total %	0.4	44.2	3.2	Ō	47.8	0.5	46.9	0.2	0	47.6	3.1	0	0.9	0	4.1	0.1	Ō	0.3	0	0.4	
Passenger Vehicles	15	1791	133	0		19	1893	10		1922	129	- 1	38	<u>~</u> _	170	3		14	0	17	4048
% Passenger Vehicles	100	98.9	100	ō	99	100	98.4	100	Ō	98.4	100	100	100	100	100	100	Ō	100	Ō	100	98.8
Heavy Vehicles	0	20	0			0	31	0	<u>_</u>	31	0	0	0	0	0	0	- 0	0	0	0	51
% Heavy Vehicles	Ö	1,1	Ď	ō	1	0	1,6	ā	0	1,6	ō	0	0	o	اة	0	ā	Ď	ā	ō	1.2
77.10.1.7 70.110.00	_	•••	_	_	` I	*	.,	_	_	.,. 1	-	•	~	•	٠,	•	•	•	_	-	

			Route					S Route					ay Getty					mith Roa			
		E	astboun	d	1		W	/es <u>tb</u> our	1 <u>d</u>	1_		No	orthbou	nd			Sc	outhbou	nd		
Start Time	Left	Thru			pp. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analys	is From 1	1:00 AM	1 to 01:45	PM - Pe	ak 1 of 1								. <u>-</u>								
Peak Hour for Ent	tire Inters	ection B	egins at	12:15 PN	1																
12:15 PM	1	167	10	0	178	1	157	1	0	159	8	0	0	0	8	1	0	1	0	2	347
12:30 PM	0	140	14	0	154	5	189	1	0	195	10	O	3	1	14	1	0	2	0	3	366
12:45 PM	2	145	15	0	162	2	157	0	0	159	7	0	5	0	12	0	0	2	0	2	335
01:00 PM	2	181	10	0	193	2	144	4	0	_150	8	. 0	1	1	10	0	. 0	1	0_	1	354
Total Volume	5	633	49	-0	687	10	647	6	0	663	33	0	9	2	44	2	0	6	0	8	1402
% App. Total	0.7	92.1	7,1	0		1.5	97.6	0.9	0		75	0	20.5	4.5		25	0	75	0		
PHF	.625	.874	.817	.000	.890	.500	.856	.375	000	.850	.825	.000	.450	.500	.786	.500	.000	.750	.000	667_	.958
Passenger Vehicles	5	629	49	0	683	10	637	6	0	653	33	0	9	2	44	2	0	6	Ö	8	1388
% Passenger Vehicles	100	99.4	100	0	99.4	100	98.5	100	0	98.5	100	0	100-	100	100	100	0	100	0	100	99.0
Heavy Vehicles	0	4	0	0	4	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	14
% Heavy Vehicles	٥	0.6	0 ,	0	0.6	0	1.5	0	0	1.5	O	0	C	0	0	0	0	a	0	0	1.0

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

Day: Saturday Municipality: Straban Township

County: Adams Weather: Clear Counter: HRG File Name: route 30 calvary field sat

Site Code : 00012990 Start Date : 8/5/2006

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

US Route 30											ssenger v	emcies -	neavy	vemble	<u> </u>							
Start Time			Ü	S Route	30			US	S Route	30			Ca	valry F	ield				D <i>rivewa</i> :	y		
11:00 AM	L			astbour	nd	i i		И		ıd			No		nd	i		Sc		nd		l
11:00 AM 0 116 20 1 137 21 124 2 0 147 15 0 10 0 25 0 0 1 0 1 0 1 310 11:30 AM 0 138 74 0 212 9 134 14 0 157 18 0 11 0 29 0 0 0 0 0 0 398 11:30 AM 2 117 21 0 140 10 145 1 0 156 20 0 4 0 24 1 0 0 0 0 1 321 11:45 AM 0 131 24 0 155 5 146 0 0 151 23 0 5 0 28 0 0 0 0 0 0 0 388 Total 2 502 139 1 844 45 549 17 0 611 76 0 30 0 106 1 0 1 0 2 1363 12:00 PM 0 121 22 0 143 7 143 0 0 150 22 0 2 0 2 0 24 0 0 0 0 0 0 317 12:15 PM 1 134 22 0 157 17 117 2 0 136 15 0 8 0 23 0 1 0 0 0 1 317 12:30 PM 0 148 23 0 171 12 146 0 0 158 38 0 13 0 51 0 0 0 0 0 0 0 324 12:45 PM 0 120 25 0 145 7 133 0 0 140 30 0 9 0 39 0 0 0 0 0 0 0 324 12:45 PM 0 120 25 0 145 7 133 0 0 140 30 0 9 0 39 0 0 0 0 0 0 0 0 324 12:45 PM 0 120 25 0 145 7 133 0 0 140 30 0 9 0 39 0 0 0 0 0 0 0 0 324 1388 1388 1388 1388 1388 1388 1388 138	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
11:30 AM	11:00 AM	0	116	20	1	137	21	124	2	0	147	15	0	10	0	25	0	0		0	1	310
Total 2 502 139 1 644 45 549 17 0 611 76 0 30 0 106 1 0 1 0 2 1363	11:15 AM	0	138	74	0	212	9	134	14	0	157	18	O	11	0	29	0	0	C	0	0	398
Total 2 502 139 1 644 45 549 17 0 611 76 0 30 0 106 1 0 1 0 2 1363	11:30 AM	2	117	21	0	140	10	145	1	Ð	156	20	0	4	0	24	1	0	0	0	1	321
12:00 PM		0	131	24	0	155	5	146	0	0	151	23	0	5	0	28	0	0	0	0	0	334
12:00 PM	Total	2	502	139	1	644	45	549	17	- 0	611		Ö	30	0		1	0	1	0	2	
12:15 PM	· ·					•					•					•						
12:15 PM	12:00 PM	0	121	22	0	143	7	143	0	0	150	22	0	2	0	24]	0	0	0	0	0	317
12:30 PM 0 148 23 0 171 12 146 0 0 158 38 0 13 0 51 0 0 0 0 0 380 12:45 PM 0 120 25 0 145 7 133 0 0 140 30 0 9 0 39 0 0 0 0 0 0 324 Total 1 523 92 0 616 43 539 2 0 584 105 0 32 0 137 0 1 0 0 0 0 324 01:00 PM 0 108 17 1 126 10 109 0 0 119 22 0 3 0 25 0 0 0 0 0 0 270 01:15 PM 0 116 25 0 141 4 151 0 0 155 32 0 4 0 36 0 0 3 0 3 355 01:30 PM 0 99 24 0 123 7 133 0 0 140 27 0 6 0 33 0 0 0 0 0 321 01:45 PM 0 109 19 0 128 8 117 0 0 125 49 0 19 0 68 0 0 0 0 0 321 Total 0 432 85 1 518 29 510 0 0 539 130 0 32 0 162 0 0 3 0 3 Apprch % 0.2 81.9 17.8 0.1 6.7 92.2 1.1 0 76.8 0 23.2 0 16.7 16.7 66.7 0 Passenger Vericles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 98.5 0 99.5 100 100 0 0 0 0 Heavy Vehicles 0 27 0 0 0 27 6 28 0 0 34 1 0 1 0 2 0 0 0 0 0 0 0 0		1	134	22	0	157	17	117	2	0	136		0	8	0	23	0	1	0	0	1	317
Total 1 523 92 0 616 43 539 2 0 584 105 0 32 0 137 0 1 0 0 0 1 1338		0	148	23	٥	171	12	146	0	0	158	38	0 .	13	0	51	0	0	0	0	0	380 .
Total 1 523 92 0 616 43 539 2 0 584 105 0 32 0 137 0 1 0 0 0 1 1338	12:45 PM	0	120	25	0 -	145	7	133	0	0	140	30	0	9	0	39	0	0	0	0	0	324
01:15 PM		1	523	92	0	616	43	539	- 2		584	105	0	32	0		0	1	0	0	1	1338
01:15 PM	·															·		•				
01:30 PM	01:00 PM	0	108	17	1	126	10	109	0	0	119	22	0	3	.0	25	0	0	0	0	0	270
O1:45 PM O 109 19 O 128 8 117 O O 125 49 O 19 O 68 O O O O O O O O O	01:15 PM	0	116	25	0	141	4	151	0	0	155	32	0	4	0	36	0	0	3	0	3	335
Total 0 432 85 1 518 29 510 0 0 539 130 0 32 0 162 0 0 3 0 3 1222	01:30 PM	0	99	24	0	123	7	133	0	0	140	27	0	6	. 0	33	0	0	D	0	0	296
Grand Total 3 1457 316 2 1778 117 1598 19 0 1734 311 0 94 0 405 1 1 4 0 6 3923 Approh % 0.2 81.9 17.8 0.1 6.7 92.2 1.1 0 76.8 0 23.2 0 16.7 16.7 66.7 0 Total % 0.1 37.1 8.1 0.1 45.3 3 40.7 0.5 0 44.2 7.9 0 2.4 0 10.3 0 0 0.1 0 0.2 Passenger Vehicles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 93 0 403 1 1 4 0 6 3860 N Pessenger Vehicles 100 98.1 100 100 98.5 94.9 98.2 100 0 98.9 <td>01:45 PM</td> <td>0</td> <td>109</td> <td>19</td> <td>0</td> <td>128</td> <td>8</td> <td>117</td> <td>0</td> <td>0</td> <td>125</td> <td>49</td> <td>0</td> <td>19</td> <td>0</td> <td>68</td> <td>0</td> <td>0</td> <td>D</td> <td>0</td> <td>0</td> <td>321</td>	01:45 PM	0	109	19	0	128	8	117	0	0	125	49	0	19	0	68	0	0	D	0	0	321
Apprich % 0.2 81.9 17.8 0.1 6.7 92.2 1.1 0 76.8 0 23.2 0 16.7 16.7 66.7 0 Total % 0.1 37.1 8.1 0.1 45.3 3 40.7 0.5 0 44.2 7.9 0 2.4 0 10.3 0 0 0.1 0 0.2 Passenger Vehicles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 93 0 403 1 1 4 0 6 3860 M Passenger Vehicles 100 98.1 100 100 98.5 94.9 98.2 100 0 98.9 0 99.5 100 100 100 98.4 Heavy Vehicles 0 27 0 0 27 6 28 0 0 34 1 0 1 0 <	Total	0	432	85	1	518	29	510	0	Ö	539	130	0	32	0	162	0	0	3	Ö	3	1222
Apprich % 0.2 81.9 17.8 0.1 6.7 92.2 1.1 0 76.8 0 23.2 0 16.7 16.7 66.7 0 Total % 0.1 37.1 8.1 0.1 45.3 3 40.7 0.5 0 44.2 7.9 0 2.4 0 10.3 0 0 0.1 0 0.2 Passenger Vehicles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 93 0 403 1 1 4 0 6 3860 M Passenger Vehicles 100 98.1 100 100 98.5 94.9 98.2 100 0 98.9 0 99.5 100 100 100 98.4 Heavy Vehicles 0 27 0 0 27 6 28 0 0 34 1 0 1 0 <											·					·						
Total % 0.1 37.1 8.1 0.1 45.3 3 40.7 0.5 0 44.2 7.9 0 2.4 0 10.3 0 0 0.1 0 0.2 Passenger Vehicles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 93 0 403 1 1 4 0 6 3860 N Passenger Vehicles 100 98.1 100 100 98.5 94.9 98.2 100 0 98.9 0 99.5 100 100 0 0 100 98.4 Heavy Vehicles 0 27 0 28 0 0 34 1 0 2 0 0 0 0 0 0 98.9	Grand Total	3	1457	316	2	1778	117	1598	19	0	1734	311	0	94	0	405	1	1	4	0	6	3923
Total % 0.1 37.1 8.1 0.1 45.3 3 40.7 0.5 0 44.2 7.9 0 2.4 0 10.3 0 0 0.1 0 0.2 Passenger Vehicles 3 1430 316 2 1751 111 1570 19 0 1700 310 0 93 0 403 1 1 4 0 6 3860 N Passenger Vehicles 100 98.1 100 100 98.5 94.9 98.2 100 0 98.9 0 99.5 100 100 0 0 100 98.4 Heavy Vehicles 0 27 0 0 27 6 28 0 0 34 1 0 2 0	Apprch %	0.2	81.9	17.8	0.1	1	6.7	92.2	1.1	0		76.8	0	23.2	0		16.7	16.7	66.7	0		
** Pessenger Vehicles		0.1	37.1	8.1	0.1	45.3	3	40.7	0.5	0	44.2	7.9	Ò		0	10.3	0	0	0.1	0	0.2	
Heavy Vehicles 0 27 0 0 27 6 28 0 0 34 1 0 1 0 2 0 0 0 0 63	Passenger Vehicles	3	1430	316	2	1751	111	1570	19	0	1700	310	- 0		0	403	1	1	4	0		3860
	% Passenger Vehicles	100	98.1	100	100	98.5	94.9	98.2	100	0	98	99.7	0	98.9	0	99.5	100	100	100	0	100	98.4
% Heavy Vehicles 0 1.9 0 0 1.5 5.1 1.8 0 0 2 0.3 0 1.1 0 0.5 0 0 0 0 1.6	Heavy Vehicles	0	27	0	0	27	6	28	0	Ö	34	1	0		0	2		0	0	0	0	63
	% Heavy Vehicles	0	1.9	0	0	1.5	5.1	1.8	D	0	2	0.3	0	1.1	0	0.5	0	0	0	0	0	1.6

		E	Route astbour	d			N	S Route /estboui	ndbr			N	avalry Fi orthbou	nd				Drivewa outhbou	nd		
Start Time	Left			Peds A		Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Tolai	Int. Total
Peak Hour Analys	sis From 1	11:00 AN	f to 01:4:	5 PM - Pe	ak 1 of 1																
Peak Hour for En	itire Inters	section B	egins at	11:15 AM	l																
11:15 AM	0	138	74	0	212	9	134	14	0	157	18	0	11	0	29	0	0	0	0	0	398
11:30 AM	2	117	21	0	140	10	145	1	0	156	20	0	4	0	24	1	D	0	D	1	321
11;45 AM	0	131	24	0	155	5	146	0	0	151	23	0	5	0	28	0	0	0	0	0	334
12:00 PM	0	121	22	D	143	7	143	0	0	150	22	0	2	0	24	0	0	0	0	0	317
Total Volume	2	507	141	0	650	31	568	15	0	614	83		22	0	105	1	0	0		1	1370
% App. Total	0.3	78	21.7	0		5	92.5	2.4	0		79	0	21	0		100	0	0	. 0		
PHF	.250	.918	.476	.000	.767	.775	.973	.268	.000	.978	.902	.000	.500	.000	.905	.250	.000	.000	.000	.250	.861
Passenger Vehicles	2	498	141	0	641	29	559	15	o	603	83	0	22		105	1	0	D	0	1	1350
% Passenger Vehicles	100	98.2	100	0	98.6	93.5	98.4	100	0	98.2	100	0	100	0	100	100	0	0	0	100	98.5
Heavy Vehicles	0	9	0	0	9	2	9	0	0	11	0	0	0	0	0	D	0	0	0	0	20
% Heavy Vehicles	0	1.8	0	0	1.4	6.5	1.6	0	0-	1.8	G	0	0	0	0	0	0	0	0.	0	1,5

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

Day: Saturday Municipality: Straban Township County: Adams Weather: Clear Counter: AE Counter: AES File Name: US30_Shealer_SAT Site Code: 00012990

Start Date : 8/5/2006

Page No : 1

		Ü	Route	30				S Route		1			etterma	an Drive	,		Sh	ealer Ro	oad		
		E	astbour	ıd	1			/estboui		- 1			orthbou				Sc	uthbou	ind		
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	12	128	18	0	158	41	140	30	0	211	7	14	15	0	36	21	19	14	0	54	459
11:15 AM	15	132	16	1	164	43	169	24	0	236	12	10	21	0	43	23	10	21	0	54	497
11:30 AM	13	129	16	0	158	47	170	17	0	234	16	6	14	0	36	31	16	8	0	55	483
11:45 AM	13	150_	19	0	182	59	183	25	. 0	267	10	10	17	0	· 37	24	16	18	. 0	58_	544_
Total	53	539	69	1	662	190	662	96	0	948	45	40	67	0	152	99	61	61	0	221	1983
12:00 PM İ	18	171	18	0	207	39	187	14	0	240	5	20	23	0	48	30	6	14	ο	50	545
12:15 PM	16	163	13	ŏ	192	37 .	173	24	ň	234	9	11	26	ő	46	21	17	13	Ö	51	523
12:30 PM	25	167	12	ŏ	204	37	160	25	ŏ	222	8	11	17	õ	36	25	15	12	ñ	52	514
12:45 PM	12	137	18	ō	167	36	169	27	ō	232	14	10	21	ŏ	45	15	18	13	ā	46	490
Total	71	638	61	Ö	770	149	689	90	0	928	36	52	87	- ŏ	175	91	56	52	Ö	199	2072
															·						
01:00 PM	8	159	28	0	195	29	176	26	1	232	9	10	22	0	41	11	11	8	C	30	498
01:15 PM	15	164	18 -	0	197	39	151	21	0	211	18	11	17	0	46	28	14	12	0	54	508
01:30 PM	17	149	12	0	178	33	164	26	1	224	9	10	15	0	34	21	12	13	0	46	482
01:45 PM	16	157	20	0	193	38	152	24	0	214	15	7	17	0	39	14	7	7	0	28	474
Tota	56	629	78	0	763	139	643	97	2	881	51	38	71	0	160	74	44	40	0	158	1962
Grand Total I	180	1806	208	1	2195	478	1994	283	2	2757	132	130	225	0	487	264	161	153	Ð	578	6017
Apprch %	8.2	82.3	9.5	Ö]	17.3	72.3	10.3	0.1		27.1	26.7	46.2	ō		45.7	27.9	26.5	ō		
Total %	3	30	3.5	Ō	36.5	7.9	33.1	4.7	0	45.8	2.2	2.2	3.7	Ŏ	8.1	4.4	2.7	2.5	Ö	9.6	
Passenger Cars	180	1800	208	1	2189	478	1988	283	2	2751	132	130	225	0	487	264	161	153	0	578	6005
% Passenger Cars	100	99.7	100	100	99.7	100	99.7	100	100	99.8	100	100	100	0	100	100	100	100	0	100	99.8
Heavy Vehicles	0	6	0		6	0	6	0	0	6	. 0	0	0	0	0	0	0	0	0	0	12
% Heavy Vehicles	0	0.3	0	0	0.3	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.2

			Route astboun					S Route /estboui					etterma orthbou					ealer Ro			
Start Time	Left	Thru		Peds		Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	ορ. Total	Int. Total
Peak Hour Analys																					
Peak Hour for En	itire Inters	section B	legins at	11:45 Al	M																
11:45 AM	13	150	19	0	182	59	183	25	0	267	10	10 ·	17	0	37	24	16	18	0	58	544
12:00 PM	18	171	18	0	207	39	187	14	0	240	5	20	23	0	48	30	6	14	0	50	545
12:15 PM	16	163	13	0	192	37	173	24	0	234	9	11	26	0	46	21	17	13	0	51	523
12:30 PM	25	167	12	0	204	37	160	25	0	222	8	11	17	. 0	35	25	15	12	0	52	514
Total Volume	72	651	62	0	785	172	703	88	0	963	32	52	83	0	167	100	54	57	<u> </u>	211	2126
% App. Total	9.2	82.9	7.9	0		17.9	73	9.1	0	[19.2	31.1	49.7	_ 0		47. <u>4</u>	25.6	27	0		
PHF	.720	.952	.816	.000	.948	.729	.940	.880	.000	.902	.800	.650	.798	.000	.870	.833	.794	.792	.000	.909	.975
Passenger Cars	72	648	62	0	782	172	701	88	0	961	32	52	83	0	167	100	54	57	0	211	2121
% Passenger Cars	100	99.5	100	0	99.6	100	99.7	100	D	99.8	100	100	100	0	100	100	100	100	0	100	99.8
Heavy Vehicles	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	5
% Heavy Vehicles	. 0	0.5	0	0	0.4	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.2

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

Day: Saturday Municipality: Straban Township

County: Adams

Weather: Clear Counter: as

File Name: US15SB_US30_SAT

Site Code : 00012990 Start Date : 7/29/2006

Page No : 1

	· ··· ·	U	S Route	30	 1			S Route		สรรชามูชา			ite 15 O	n Ramp	1		US Rot	ite 15 O	ff Ramp	,	
			astbour					/estbou					orthbou		i			uthbou			
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	163	78	0	241	0	158	51	0	209	0	0	0	0	0	7		54		61	511
11:15 AM	0	121	89	0	210	0	184	46	0	230	0	0	0	0	0	9	0	40	0	49	489
11:30 AM	0	161	85	0	246	0	214	56	0	270	0	0	0	0	O į	2	0	48	0	50	566
11:45 AM	0	115	. 79	0	194	. 0	205	47	0	252	0	0	0	0	0	5	0	43	0	48	494_
Total	0	560	331	0	891	0	761	200	0	961	0	0	0	Ö	0	23	0	185	0	208	2060
_										_											
12:00 PM	0	163	71	0	234	0	209	45	1	255	0	0	0	0	0)	10	0	32	0	42	531
12:15 PM	0	147	92	0	239	0	187	40	0	227	0	٥	0	0	O .	14	0	41	Q	55	521
12:30 PM	0	150	96	0	246	0	206	43	0	249	0	0	0	0	0	1	0	40	0	41	536
12:45 PM	0	148	75	0	223	0	172	51	0	223	0	0	0	0	0	3	0	50	0	53	499
Total	0	608	334	0	942	0	774	179	1	954	0	0	0	0	0	28	0	163	0	191	2087
	ı																				
01:00 PM	0	147	94	0	241	0	178	43	0	221	0	0	0	0	0	34	0	51	0	8 5	547
01:15 PM	0	144	83	0	227	0	188	28	0	216	0	0	0	0	0	8	0	42	0	50	493
01:30 PM	0	139	72	0	211	0	198	67	0	265	0	0	0	0	0	6	0	36	0	42	518
01:45 PM	0	110	<u>71</u>	0	181	0	204	47	0	251	0	0	0	0	0	2	0	45_	0_	47	479
Total	0	540	320	0	860	0	768	185	0	953	0	0	0	0	0	50	0	174	0	224	2037
Grand Total	0	1708	985	0	2693	0	2303	564	1	2868	0	0	0	0	0	101	0	522	0	623	6184
Approh %	0	63,4	36.6	0		0	80.3	19.7	0		0	0	0	0		16,2	0	83.8	0		
Total %	0	27.6	15.9	0	43.5	0	37.2	9.1	0	46.4	0	0	0	0_	0	1.6_	0_	8.4	0	10.1	
Passenger Cars	0	1700	985	0	2685	0	2296	546	1	2843	0	0	0	0	Ó	101	0	522	0	623	6151
% Passenger Cars	0	99.5	100	0	99.7	0	99.7	96.8	100	99.1	0	0	Ð	0	0 ;	100	0	100	0	100	99.5
Heavy Vehicles	0	8	0	0	8	0	7	18	0	25	0	0	Q	0	0	0	0	0	0	0	33
% Heavy Vehicles	٥	0.5	0	0	0.3 j	0	0.3	3.2	0	0,9	0	0	0	0	0	0	0	0	0	0	0.5

[U	S Route	30			U:	S Route	30			US Rou	rte 15 O	n Ramp			US Rou	ite 15 O	Remp		1
		E	astbour	d			И	estbou				No	orthbou				Sc	uthbou	nd		
Start Time	Left	Thru			App. Total	Left	Thru	Right	Peds	App, Totel	Left	Thru	Right	Peds [,	App. Total	Left	Thru	Right	Peds	App. Total	int. Total
Peak Hour Analys	ds From	1:00 Al	A to 01:4	5 PM - Pe	ak 1 of 1																
Peak Hour for En	tire inters	ection E	Begins at	11:30 AM	A																
11:30 AM	0	161	85	0	246	0	214	56	0	270	0	0	0	0	0	2	0	48	0	50	566
11:45 AM	0	115	79	0	194	0	205	47	0	252	0	0	0	0	0	5	0	43	0	48	494
12:00 PM	0	163	71	0	234	0	209	45	1	255	0	0	0	D	0	10	0	32	0	42	531
12:15 PM	0	147	92	0	239	0	187	40	0	227	0	0	0	0	0	14	0	41	0	56	521
Total Volume	0	586	327	0	913	0	815	188	1	1004	0	Ō	0	0	0	31	0	164	<u></u>	195	2112
% App. Total	0	64.2	35.8	0		0	81.2	<u> 18</u> .7	0.1		0	0	0	0		15.9_	0	84.1	0		
PHF	.000	.899	.889	.000	.928	.000	.952	.839	.250	.930	.000	.000	.000	.000	.000	.554	.000	.854	.000	.886	.933
Passenger Cars	O.	582	327	Q	909	0	813	179	1	993	0	Ö	0	0		31		164	0	195	2097
% Passenger Cars	0	99.3	100	0	99.6	0	99.8	95.2	100	98.9	0	0	0	0	0	100	0	100	0	100	99.3
Heavy Vehicles	0	4	0	0	4	0	2	9	0	11	0	0	0	0	0	0	0	0	0	0	15
% Heavy Vehicles	0	0.7	0	0	0.4	0	0.2	4,8	0	1.1	0	0	0	0	0	0	0	0	0	0	0.7

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

Day: Saturday

Municipality: Straban Township

County: Adems

Weather: Clear Counter: tk

File Name: US15NB_US30_SAT

Site Code : 00012990 Start Date : 7/29/2006

Page No :1

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Γ			Ų.	S Route	30			U	S Route	30			US ROL	te 15 O	ff Remp)			rte 15 O)	
			Ε	estbour	nd			И	estbou	nď			No	orthbou	nd			Sc	outhbou			
ľ	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		116	32	0	148	0	144	10		154	56	0	57	0	113	0	0	0	O	0	415
	11:15 AM	Ō	113	25	0	138	0	174	2	0	176	61	0	66	0	127	0	0	0	0	0	441
	11:30 AM	Ō	135	16	0	151	0	187	9	0	196	78	0	60	0	138	0	0	0	0	0	485
	11:45 AM	Ö	122	22	0	144	0	167	3	0	170	77	0	46	1	124	0	0	0	0	0	438
-	Total	- ŏ	486	95	0	581	0	672	24	0	696	272	0	229	1	502	0	0	0	0	Ō	1779
	,	-	,		_		_									•						
	12:00 PM	0	114	47	0	161	0	183	7	0	190	81	0	47	0	128	0	0	0	0	0	479
	12:15 PM	0	136	22	0	158	0	156	7	0	163	69	0	46	0	115	0	0	0	0	0	436
	12:30 PM	1	122	33	0	156	0	181	13	0	194	71	0	37	2	110	0	0	0	0	0	460
	12:45 PM	0	118	38	0	156	0	172	5	0	177	47	0	50	0	97	0	0_	0	0	0	430
-	Total	1	490	140	- 0	631	0	692	32	0	724	268	Ó	180	2	450	Ö	0	0	0	0	1805
	,					•					,					·						
	01:00 PM	0	141	35	0	176	0	144	5	0	149	71	0	71	0	142	0	0	0	0	0	467
	01:15 PM	0	107	45	0	152	0	139	5	0	144	78	0	60	0	138	0	0	0	0	0	434
	01:30 PM	Ō	126	35	0	161	0	180	4	0	184	87	0	51	2	140	0	0	0	0	0	485
	01:45 PM	a	81	33	0	114	0	181	2	0	183	85	0	38	1	124	0	0	0	. 0	0	421
-	Total	ō	455	148	0	603	0	644	16	0	660	321	0	220	3	544	0	Ö	ō	0	0	1807
	1	_				,					,											
	Grand Total	1	1431	383	0	1815	0	2008	72	0	2080	861	0	629	6	1496	0	0	0	0	0	5391
	Appreh %	0.1	78.8	21.1	0	į	0	96.5	3.5	0	ļ	57.6	0	42	0.4		0	0	0	0		
	Total %	0	26.5	7.1	0	33.7	0	37.2	1.3	0	38.6	16	0	11.7	0.1	27.7	0	0	0	0	0	
-	Passenger Cars	Q	1424	380	0	1804	0	1983	70	Ö	2053	860	0	620	6	1486	0	0	Ó	0	0	5343
	% Passenger Cars	0	99.5	99.2	D	99.4	0	8.89	97.2	0	98.7	99.9	0	98.6	100	99.3	0	0	0	. 0	0	99.1
-	Heavy Vehicles	1	7	3	0	11	Đ	25	2	0	27	1	0	9	0	10	0	0	0	0	0	48
	% Heavy Vehicles	100	0.5	0.8	0	0.6	0	1.2	2.8	0	1,3	0.1	0	1.4	0	0.7	٥	G	0	0	0	0.9

		US Route 30					U	S Route	30			US Rot	ite 15 O	ff Remj	,			ute 15 O			
		Ε	astbour	rd br	- 1		И	/estboui	nd			No.	orthbou	nd				outhbou			
Start Time	Left	Thru				Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Aρρ, Total	Left	Thru	Right	Peds	App. Total	int Total
Peak Hour Analys																					
Peak Hour for Ent	tire Inters	ection E	egins at	11:15 AN	۸ .															_	
11:15 AM	0	113	25	0	138	0	174	2	0	176	61	0	66	0	127	0	0	0	0	Q	441
11:30 AM	0	135	16	0	151	0	187	9	0	196	78	0	60	0	138	0	0	0	0	0	485
11:45 AM	0	122	22	0	144	0	167	3	0	170	77	0	46	1	124	0	0	O	0	0	438
12:00 PM	0	114	47	0	161	0	183	7	0	190	81	0	47	0	128	. 0	0_	0	0	0	479
Total Volume	0	484	110	Ö	594	0	711	21		732	297	0	219	1	517	0	0	0	0	0	1843
% App. Total	0	81.5	18.5	0		0	97.1	2.9	0		57.4	0	42.4	0.2	<u></u>	0	0	0	. 0_		
PHF	.000	.896	.585	.000	.922	.000	.951	.583	.000	.934	.917	,000	.830	.250	.937	.000	.000	.000	.000	000	.950
Passenger Cars	0	480	110	Ö	590	0	702	21		723	297	0	214	1	512	0	0	0	0	0	1825
% Passenger Cars	0	99,2	100	0	99.3	0	98.7	100	0	98.8	100	0	97.7	100	99.0	0	0	0	0	0	99.0
Heavy Vehicles	0	4	0	0	4	0	9	0.	0	9	0	0	5	0	5	0	0	0	0	0	18
% Heavy Vehicles	0	0.8	0	0	0.7	0	1.3	0	0	1.2	0	0	2.3	0	1.0	0	O	0	D	0	1.0

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

Day: Saturday Municipality: Straban Township County: Adams

Communication of the Communica

Weather: Clear Counter: TK

File Name : US30_Hoffman_SAT + (: Sile Code : 00012990

: Start Date : 8/5/2006

Page No :1

		US Ro	ute 30		- :	US R	oute 3	0 .	time trans	ı,i		man l		noe d	
	*	Eastb	ound		ě		tbound		No web as			rthbo			
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- AN 11:15 AM	154	ı. O	0	.154	0;	1150		0	150		0 '	1 🔸	0	1	305
1 → 11:30 AM	124	F 1	- 0 °	125	1	154	5	0	155		1 2	1 .	0	2	282
• ♣.11:45 AM	131 -	. 1	0	132	2.	134		0_	136		1 :	2	0	3_	271_
· Total	540	2	0 -	. 542	4	591		0	595		3	4	11	8	1145
7 ⊌ PM 12:00 PM	127	₽1	' * O ·	1-128	★ 1 3	140		0 1	• 141		О .	1	0	1	270
1 * ⁴ # 12:15 PM	140 *	0	o .	··· 140	0	156		0	156	₩	0	2 .	0	2	298
¥ 12:30 PM	* 164 4	2	. 0	166	1	1156	14	0	157	₹.	0	0	0	0	323
12:45 PM	106	2	0	108	1	135		0	136		<u> </u>	0	0	0_	244
· Total	537	5	7 0	542	3	587		0	590	l	0	3	0	3	1135
01:00 PM	128	0	0	128	÷ 3	147		0 -			1	1	0	2	, 280
01:15 PM	110	· 2	0	112	0	139		0	139		1	1	0	2	. 253
01:30 PM	121	0	, 0	121	2	136	-	0	138		2	1	0	3	262
01:45 PM	126	0	0 .	126	2	' 132		0	134		2	0	0	2	262
Total	485	2	. 0	487	7	554	-	0	561	1	6	3	0	9	1 1057
Grand Total	1562	9	0	1571	14	1732	2	0	• 1746	١.	9 1		1	20	3337
Apprch %	99.4	0.6	0	, [0.8`	99.2	•	0	-	1	45 5		5		
Total %	46.8	0.3	·* a. 0	47.1	0.4	51.9	4.5	0.			.3 0.		0	0.6	<u> </u>
Passenger Cars	+ 1546	9	0	1555	14	1713	≱د	0 4			9 1		1	20	3302
- % Passenger Cars	99	100	O	99	100	98.9		0.	98.9	1	<u> 00 - 10</u>	0 _	100.	. 100	. <u>99</u> 35
Heavy Vehicles	16	0	0	16	0	19	•	0	19	1	0	0	0	. 0	35
% Heavy Vehicles	1 .	0	0	. 1	0	1.1		O	1.1	1	0.	0	0	0	1

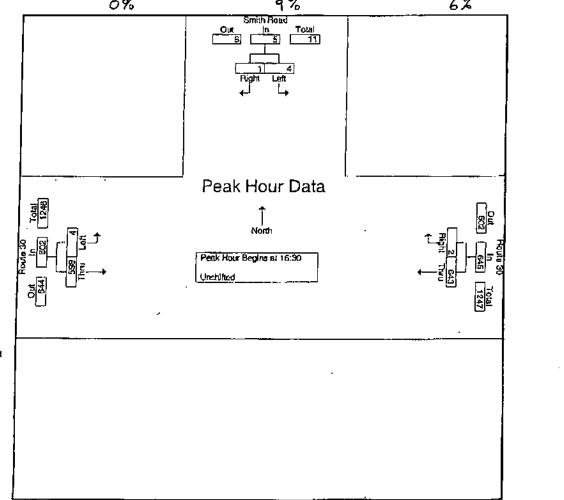
		Sar Si	44.7	ute 30 ound		W	ng	US Ro West			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Hoffmar Northb	ound			 1
Start Time		Thru	Right	Peds	App. Total	L	Left	Thru		Peds	App. Total		Left	Right	Peds	App. Total	Int. Tota	<u> </u>
Peak Hour Analysis From																		
Peak Hour for Entire Inter-	sectio	on Begins	s at 11:45 AM	۱.,	4 6	. •		4			4			ż.	t _	_	07.	
11:45 AM		131	1	. 0	132	١,	2	134		0	T 136		1,	, 2	0.	3	27	
12:00 PM	٠. ا	127.	1	·. 0	. 128		1	140		0 💃	į 141 į	;	O	, 1	, 0	. 1	270	-
12:15 PM		140	. 0	ີ້ 0	140		0.	156		0.	. 156		0	2	0.	2	_, 298	3
12:30 PM		164	2	Ö	166		1	156	,	0 _	157		0	7 0	00	D	323	_
Total Volume		562	4	0	566		4	586		.0	590		1	5 ۾ ج	, O.	6	1162	2
% App. Total	-	99.3	0.7	0		T	0.7	99.3		0		l	16.7	83.3	0		·	_
PHF	_	.857	.500	.000	.852		.500	.939	_	.000	.939		.250	.625	.000	.500	.899	
Passenger Cars	411	556	- 4	. 0	560	!	4	584		0	588	4	.1	_ 5	0	6	1154	
% Passenger Cars	21.	98.9 1	100	0	98.9		100	99.7		0 ~	99.7		100	100	0	100	99.	3
Heavy Vehicles	+	6	: 0	7 0	¨. 6	١.	0.	. 2		0	- 2		o i	0	0	0	٠ (8
% Heavy Vehicles	-	1.1	0.4	**· ŏ	1.1	'	0	0.3		0	0.3	7	0	0	0	. 0	0.1	7

Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban32P

Site Code : 90509632 Start Date : 5/24/2005

1	·-	mith Road rom North			Route 30 From East	:	1	Route 30 From Wes	t	
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	int. Total
Peak Hour Analysis Fro	m 16:00 to 1	7:45 - Pea	k 1 of 1	<u> </u>						
Peak Hour for Entire Inte	ersection Be	gins at 16:	30						_	
16:30	1	0	1	0	165	165	150	1	151	317
16:45	0	4	4	0	128	128	160	0	160	292
17:00	0	0	0	0	201	201	129	O	129	330
17:15	0	0		2	149	151	159	3	162	313
Total Volume	1	4	5	2	643	645	598	4	. 602	1252
% App. Total	20	80		0.3	99.7		99.3	0.7		
PHF	.250	.250	.313	,250	.800	.802	.934	,333	,929	.948
% HV		0%			9%			6%		

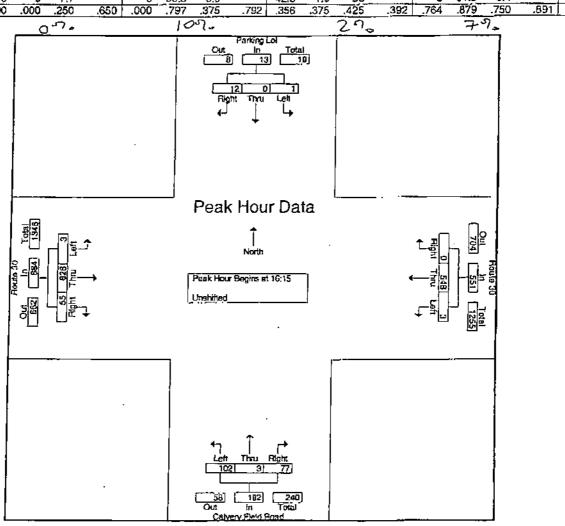


Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban29P

Site Code : 90509600 Start Date : 5/25/2005

Γ]		ing Lot				te 30		C	alvery f		ad			te 30)
	l		North			From	n East			From	South			From	West		
Start Time			Left	App. Total	Hight	Thru	Left	App, 7otal	Right	Thru	Left	App. Total	Right (Thru	Left	App. Total	Int. Total
Peak Hour An						1											
Peak Hour for	Entire to	ntersect	tion Be	gins at 16	5:15												
16:15	2	٥	0	2	0	172	2	174	5	0	11	16	14	178	0	192	384
16:30 ;	3	0	0	3	0	121	٥	121	11	0	13	24	11	152	1	164	312
16:45	2	0	1	3	0	140	0	140	7	1	18	26	18	154	1	173	342
17:00	5	0	0	5	0	115	1	116	54	2	60	116	12	142	1	155	392
Total Volume	12	ō	1	19	0	548	3	551	77	3	102	182	55	626	3	684	1430
% App. Total	92.3	0	7.7		0	99.5	0.5		42.3	1.6	56		. 8	91.5	0.4		
PHF	.600	.000	.250	.650	.000	797	.375	.792	.356	.375	.425	.392	.764	.879	.750	.891	.912
90HV		0	٠, ل			10	25	-			<u>2</u>	,		7	ก		



Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban33P Site Code: 90509633

Start Date : 6/1/2005

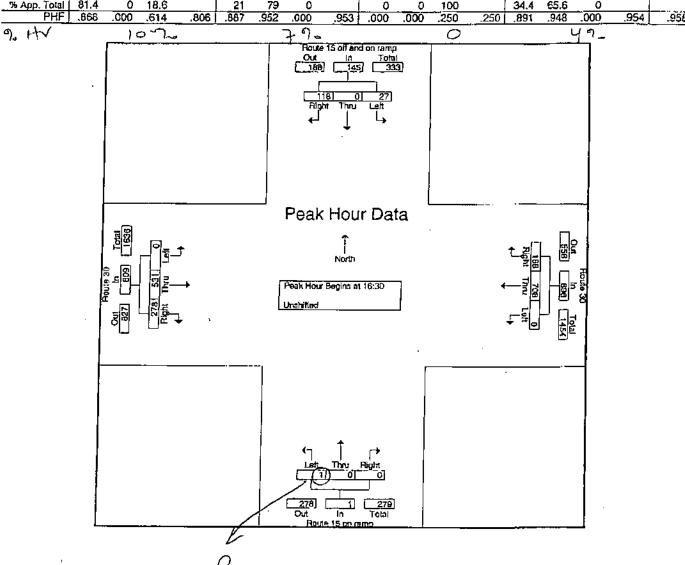
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		Sheal	ler Road		_ ·	Rol	nte 30		Car	nn Leit	terman E)rīve	_	Aou	te 30		
Í		Fron	n North			Fror	n East	_]	Fron	South		_		West		
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App, Total	Right	Thru	Left	арр. Таші	Right	Thru	Left	App. Total	Int. Total
Peak Hour Ans	alysis F	10m 16	:00 to 17	.45 - Pa	ak 1 of	7											
Peak Hour for 16:30 l	⊑ ກແຍ 12		tion Beg: 40			440	20	190		10	10	25	1 10	404	05	224	508
16:45	14	10 25	53	62 92	44 44	118 127	28 31	202	12	16 14	13 6	35 32	l 15 26	1 81 145	25 19	2 2 1	516
17:00	11	22	32	65	53	143	41	237	14	10	16	40	19	115	11	145	487
17:15	. 11	В	_45	64	41	150	43	234	14	21	24	59	30_	152	22	204	561
Total Volume	48	65	170	283	182	538	143	863	46	61	59	166	90	593	77	760	2072
% App. Total	17	23	_60.1		21.1	62.3	16.6		27.7	36,7	35.5	700	11.8	78 .819	<u> 10:1</u>		000
PHF	.857	.650	.802	.769	.858	.897	.B31	.910	.821	<u>.726</u>	.615	.703	.750	.819	.770	860	.923
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Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban40P

Site Code : 90509640 Start Date : 5/24/2005

!"	Rout	e 15 of	and or	ramp		Flou	e 30		F	Route 15	on rar	πρ		Rou	te 30		
·	Ĺ	From	North			From	East			From	South			From	West		
Start Time	Aight (Thru	Left	App. Total	Right	Thru	Left	App. Yolal	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Ans	alysis Fi	rom 16:	00 to 1	7:45 - Pe	ak 1 of	1 .											
Peak Hour for	Entire II	ntersec	tion Be	gins at 10	5:30												
16:30	26	0	3	29	53	182	0	235	0	0	1	1	62	136	0	198	463
16:45	30	0	11	41	40	161	0	201	0	0	0	0	74	138	0	212	454
17:00	28	0	2.	30	47	179	O	226	0	0	0	0 /	78	117	0	195	451
17:15	34	Q	11	45	48	186	0	234	0	0	0	0	64	140	0	204	483
Total Volume	118	0	27	145	188	708	0	896	0	0	1	1	278	531	0	809	1851
% App. Total	81.4	0	18.6		21	79	0		٥	0	100		34.4	65.6	0		
PHF	.868	.000	.614	.806	.887	.952	.000	.953	.000	.000	.250	.250	.891	.948	.000	.954	.958

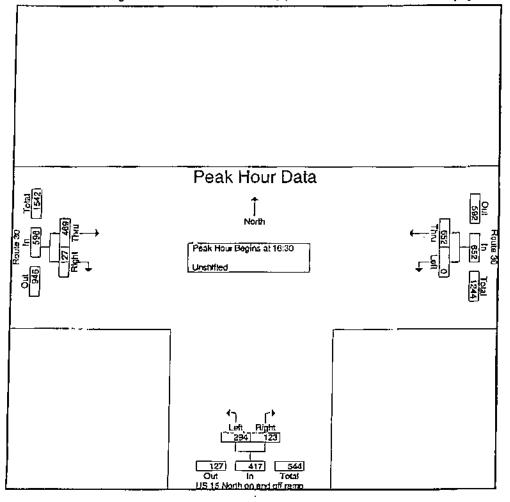


McMahan Associates, Inc.
Transportation Engineers and Planners
930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban22P

Site Code : 90509622 Start Date : 5/24/2005

		Route 30 From East		US 15 No	rth on and rom South			Route 30 From West		
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	int. Total
Peak Hour Analysis Fron										
Peak Hour for Entire Inte	rsection Be	gins at 16:	30							
16:30	161	0	161	30	73	103	. 38	116	154	418
16:45	125	٥	125	30	79	109	31	129	160	394
17:00	198	0	198	28	67	95	27	95	122	415
17:15	168	0	166	35	75	110	31	129	160	438
Total Volume	652	0	652	123	294	417	127	469	596	1665
% App. Total	100	0		29.5	70,5	- 1	21.3	78.7		
PHF	.823	.000	.823	.879	1.930	.948	.836	.909	.931	.950
% HV		٩%		•	6%			4%		

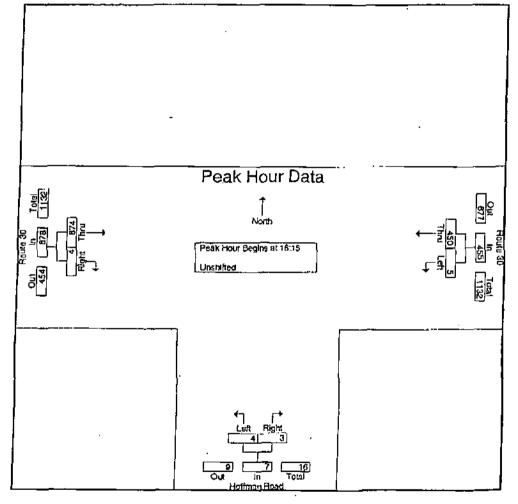


Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name ; Straban31P

Site Code : 90509631 Start Date : 5/25/2005

		Route 30 From East			ifman Ro rom Souti			Route 30 From West	<u> </u>	
Start Time	Thru	Left i	App. Total	Right	Left \	App. Total	Right 1	Thru	App. Total	Int. Total
Peak Hour Analysis From	n 16:00 to 1	7:45 - Pea	k 1 of 1							
Peak Hour for Entire Inte	rsection Be	gins at 16:	15							
16:15	113	2	115	0	1	1	1	152	153	269
16:30	118	2	120	0	٥	ol	2	175	177	297
16:45	119	0	119	2	2	4	0	138	138	261
17:00	100	1	101	1	1	2	. 1	209	210	313
Total Volume	450	5	455	3	4	7	4	674	678	1140
% App. Total	_98.9	1.1		42.9	57.1	1	0,6	99.4		
PHF	945	.625	.948	.375	.500	.438	.500	.806	.807	.911
% HV		10%			0%			8%		

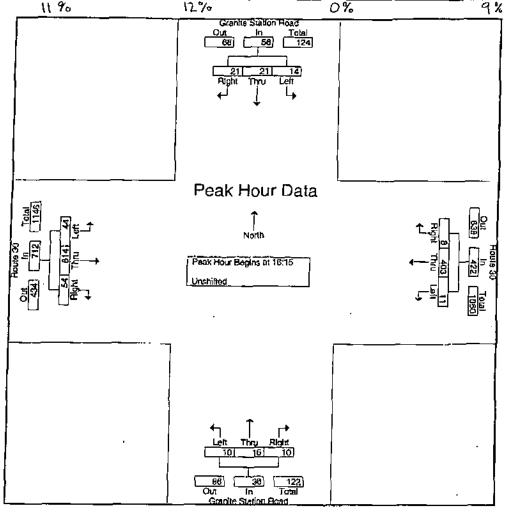


Transportation Engineers and Planners 930 Century Drive, Suite 103 Mechanicsburg, PA 17055

File Name: Straban37P

Site Code : 90509637 Start Date : 5/25/2005

J	Gı	anite St		load			0£ e1	_	G	ranite S	itation A	cad	T		te 30	 -]
	<u> </u>	From	North		! .	Fron	East		•	Fron	South			Fron	i West		i
Start Time_	Right	Thru	Left	App. Yolal	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Yotal	Ini. Total
Peak Hour Ana			00 to 1	7:45 - Pe	ak 1 of	1											
Peak Hour for	Entire !	nterseci	ion Be	gins at 16	5:15												
16:15	6	4	2	. 12	3	96	2	101	4	7	0	11	14	142	10	166	290
16:30	5	7	4	16	3	110	3	116	2	3	2	7.	9	164	18	191	330
16:45	5	6	4	15	1	103	4	108	3	2	3	a	9	125	9	143	274
17:00	5	4	4	<u>13</u>	1	94	_ 2	_97	1	4	5	10	22	183	7	_212	332
Total Volume	21	21	14	56	8	403	11	422	10	16	10	36	54	614	44	712	1226
% App. Total	37.5	37.5	25		1.9	95,5	2.6	j	27.8	44.4	27.8		7.6	86.2	6.2		
PHF	875	.750	.875	.875	.6 <u>6</u> 7	.916	.688	.909	.625	.571	.500	.818	.614	.839	.611	.840	.923
%HV		H.	90			12	%			Ö	%				₹%		



Trip Generation Documentation

Crossroads Gaming Resort and Spa

Jay E. States, P.E.

From:

"Evans, Jodie" <jodie.evans@mcmtrans.com>

To:

"Jay E. States, P.E." <jstates@grovemiller.com>

Cc:

"Scott T. Nazar" <snazar@state.pa.us>; "Jeff Ernico" <jaernico@mette.com>; "Jim Scheiner" <jscheiner@benatec.com>; "Moore, Casey" <casey.moore@mcmtrans.com>; "Yacapsin, John"

<John.Yacapsin@mcmtrans.com>; "Terrance Grove, P.E." <tgrove@grovemiller.com>;

<strabantwp@superpa.net>

Sent:

Thursday, August 10, 2006 10:59 AM

Subject:

RE: Crossroads Trip Generation

Jay,

As we just discussed on the phone, I have spoken to Scott Nazar at District 8-0 and we both agree that the methodology you used in determining the trip generation for the proposed casino in Straban Township is acceptable. We have also looked at the alternative trip generation studies available on casino facilities, and we agree that the Charlestown study, as previously used for Penn National's expansion, is an appropriate source to use at this site based on the studies available at this time. Please let us know if you have any questions or require additional information.

Thank you, Jodie L. Evans, P.E. Project Manager McMahon Associates, Inc. Phone (717) 691-5512 Fax (717) 691-5513 TERRANCE W. GROVE, P.E., Principal Traffic Engineer JAY E. STATES, P.E., Principal Traffic Engineer GREGORY E. CREASY, P.E., Principal Traffic Engineer DENNIS E. MILLER, P.E., Senior Traffic Engineer, Retired

5600 Derry Street Harrisburg, PA 17111-3518 Telephone: 717-564-6146 Fax: 717-564-9488 www.grovemiller.com

EMAIL MEMORANDUM

TO:

Scott Nazar

PENNDOT 8-0 Traffic

Jeffrey A. Ernico, Esq.

Mette, Evans & Woodside

Jodie Evans, P.E.

James Scheiner, P.E. Benatec Associates

McMahon Associates

Jay E. States, P.E. Grove Miller Engineering, Inc.

DATE:

FROM:

August 7, 2006

RE:

Crossroads Gaming Resort & Spa

Straban Township, Adams County, PA

PAGES:

Five (5)

This memorandum is intended to confirm the trip generation methodology to be used for the revised traffic impact study for the Crossroads Gaming Resort & Spa. Specific trip generation calculations are provided on pages 3 through 5 of this document.

The trip generation methodology utilized for the March 2006 traffic impact study for the referenced development was based on rates provided in the PENNDOT approved Penn National Race Course Expansion traffic impact study (September 2004). We are requesting concurrence on the use of this methodology for the revised study based on the following:

- Trip rates were developed based on actual count data at a similar facility (Charles Town Racing and Slots, Charles Town, West Virginia).
- •Trip rates developed at the Charles Town facility also included racing traffic in addition to slots traffic. The racing was not "removed" from the count data.
- ·Crossroads has developed marketing projections that have been used for PA Gaming Control Board submissions and project financing. These projections estimate that the Crossroads facility, at full build-out, will attract almost 9,300 patrons per average day. Some of these patrons will arrive off-peak via tour buses. Others will arrive in 2-person

and larger carpools. Shuttle buses will operate to transport patrons between Crossroads and Gettysburg area lodging/attractions. Even if every patron were to drive himself/herself to Crossroads, the average daily volume would not exceed 18,600 trips. The addition of employee and delivery traffic may increase the daily traffic to approximately 20,000 trips. Using the Penn National methodology, the average weekday daily calculated trip volume is 23,730, which is substantially higher than the volume that would be generated by the marketing projections.

•Institute of Transportation Engineers (ITE) Journal articles that provide trip rates for casinos are based on facilities in or similar to Las Vegas, where customers visit multiple facilities for short periods of time. This is not consistent with the Crossroads facility where the nearest casino is expected to be over one (1) hour away at Grantville.

It is our understanding that the Department has concerns pertaining to the population reduction in the trip generation methodology. The following points are offered for justification:

- •PENNDOT approved the methodology and study for Penn National, which utilized this methodology.
- •Only a 25% reduction was applied to the trip rates based on census data (60-mile radius) for the Gettysburg area versus the Charles Town populations. This (25%) reduction was also applied in conjunction with the Penn National study.
- •If the concern with the reduction pertains to the population data with respect to seasonal tourism traffic in the Gettysburg area, it should be noted that the Penn National study did not account for the two (2) million annual visitors to nearby Hersheypark. Hersheypark is only located eight (8) miles from Penn National.

We believe that this documentation provides thorough discussion and justification for the proposed trip generation methodology. We request your concurrence at your earliest convenience.

Thank you.

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

able 1. The Generation Study - Chanes Town	Traces and e	71010	
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

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	-25%	0.75

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

X=# of Slots

Calculations:

Table 3. Trip Rates - Crossroads Gaming Resort and Spa

	Trip Rates	Site Specific	Trip Rates	Directional Distribution	
Time Period	(Charles Town)	Adjustment Factor	(Gettysburg)	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 - Initial Phase

			· · · · · · · · · · · · · · · · · · ·		
Time Period	Х	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=Тлір Rate

Table 5. Trip Generation - Crossroads Gaming Resort and Spa - Full Build-Out

Time Period	X	R	Total Volume	Enter	Exit
24-Hour Weekday (Friday)	5,000	3.924	19,620	9,810	9,810
Weekday PM Peak Hour of Adjacent Street Traffic	5,000	0.212	1,060	625	435
24-Hour Saturday	5,000	5.300	26,500	13,250	13,250
Saturday Peak Hour of the Generator	5,000	0.386	1,930	1,274	656

X=# of Slots

R=Trip Rate

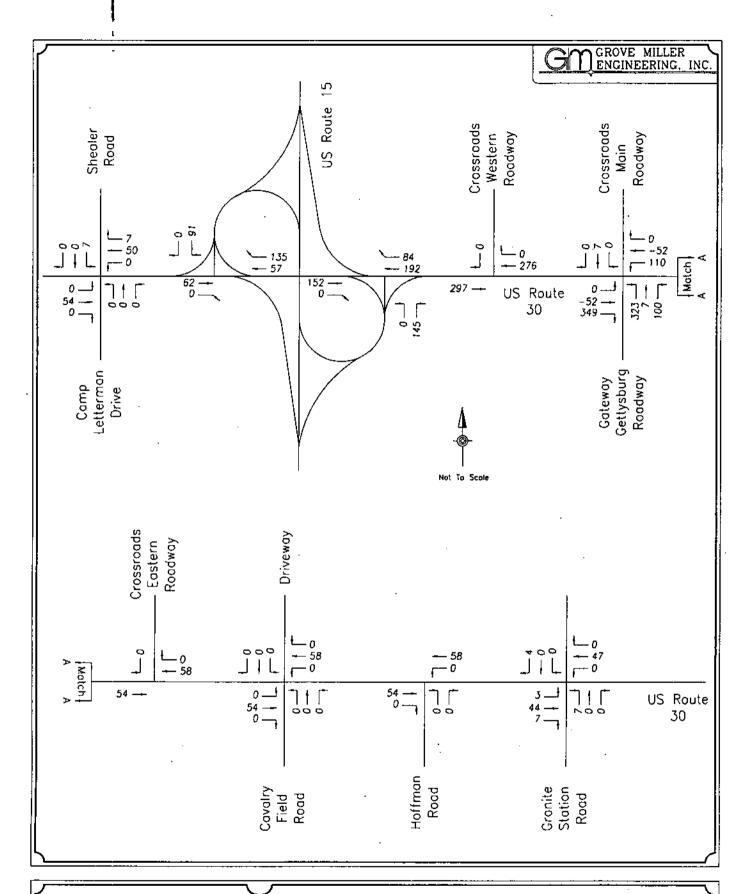
Table 6. Trip Generation Summary - Crossroads Gaming Resort and Spa

Table 6. The Ceneration Guilliary - Clossidads Gairling Nesott and Gea								
Land Use (ITE Code)	Average Weekday Vehicle Trips (vpd)	Average Saturday Vehicle Trips (vpd)	PM Peak (vph)		SAT Peak (vph)			
Size			Enter	Exit	Enter	Exit		
INITIAL DEVELOPMENT - 2008 Build Year								
Casino (*) 3,000 slot machines	11,772	15,900	375	261	764	394		
Hotel (310) 225 occupied rooms	2,007	2,363	77	81	91	95		
Realth/Fitness Club (Spa) (492) 30,000 SF	. 988	626	62	59	39	37		
TOTALS	14,767	18,889	514	401	894	526		
FULL BUILD-OUT - 2018 Design Year								
Casino (*) 5,000 slot machines	19,620	26,500	625	435	1,274	656		
Hotel (310) 350 occupied rooms	3,122	3,675	119	126	140	148		
Health/Fitness Club (Spa) (492) 30,000 SF	988	626	62	59	39	37		
TOTALS	23,730	30,801	806	620	1,453	841		

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

Trip Generation Documentation

Gateway Gettysburg

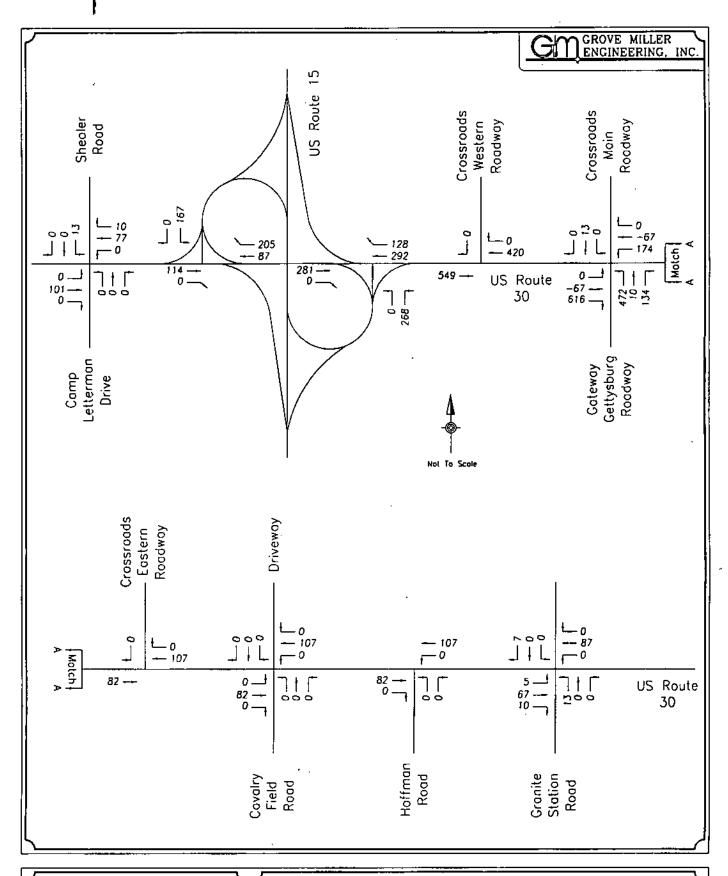


Traffic Impact Study

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Strobon Township, Adams County, PA

Trip Distribution for Gateway Gettysburg, 2008 Build Year, Weekday PM Peak Hour

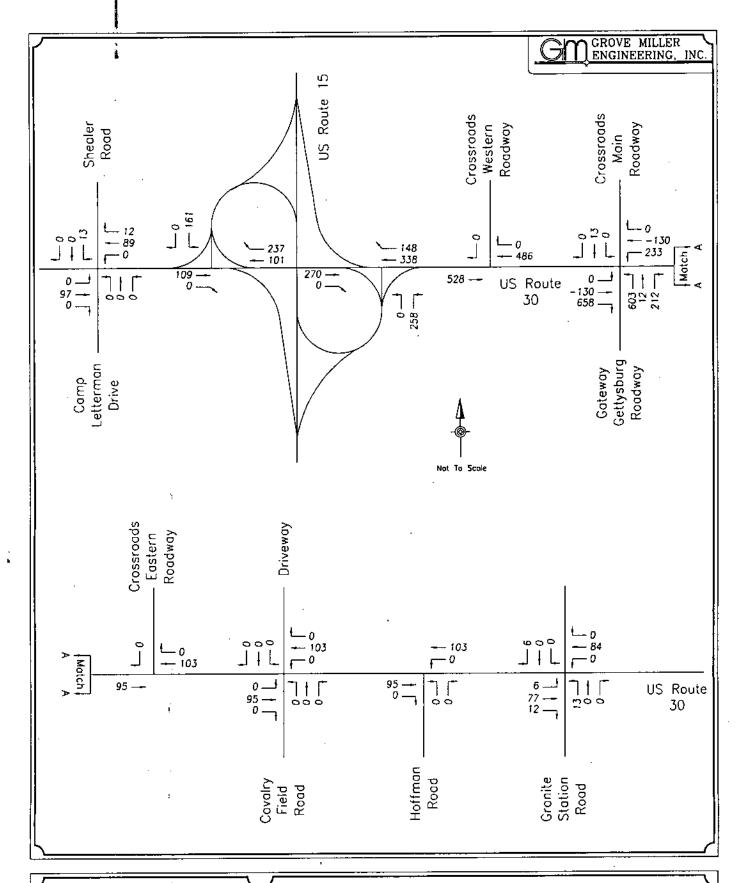


Traffic Impact Study .

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

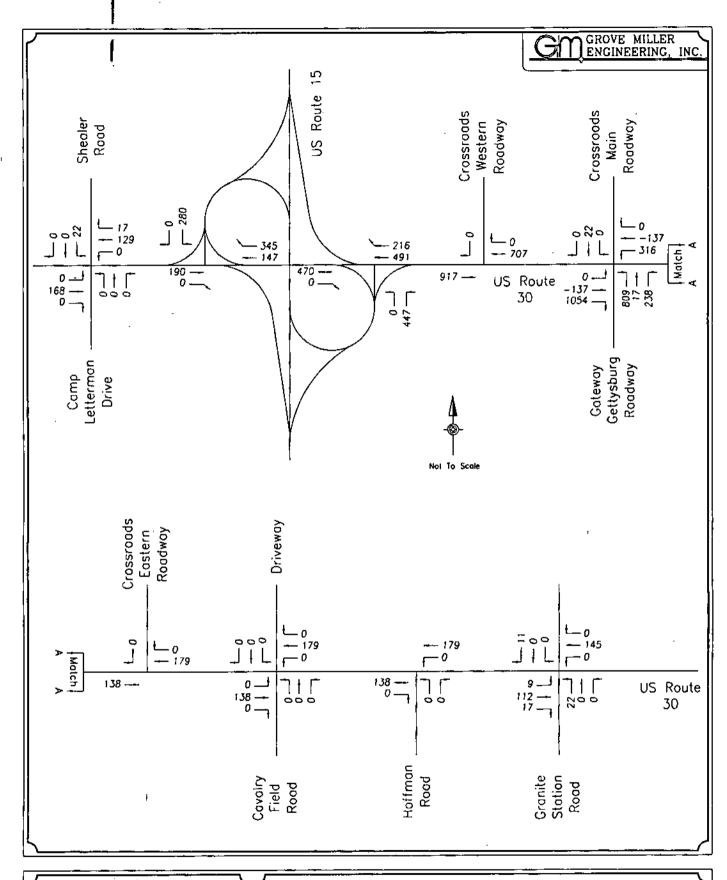
Trip Distribution for Gateway Gettysburg, 2008 Build Year, Saturday Peak Hour



Troffic Impact Study
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Trip Distribution for Gateway Gettysburg, 2018 Design Year, Weekday PM Peak Hour



Traffic Impact Study

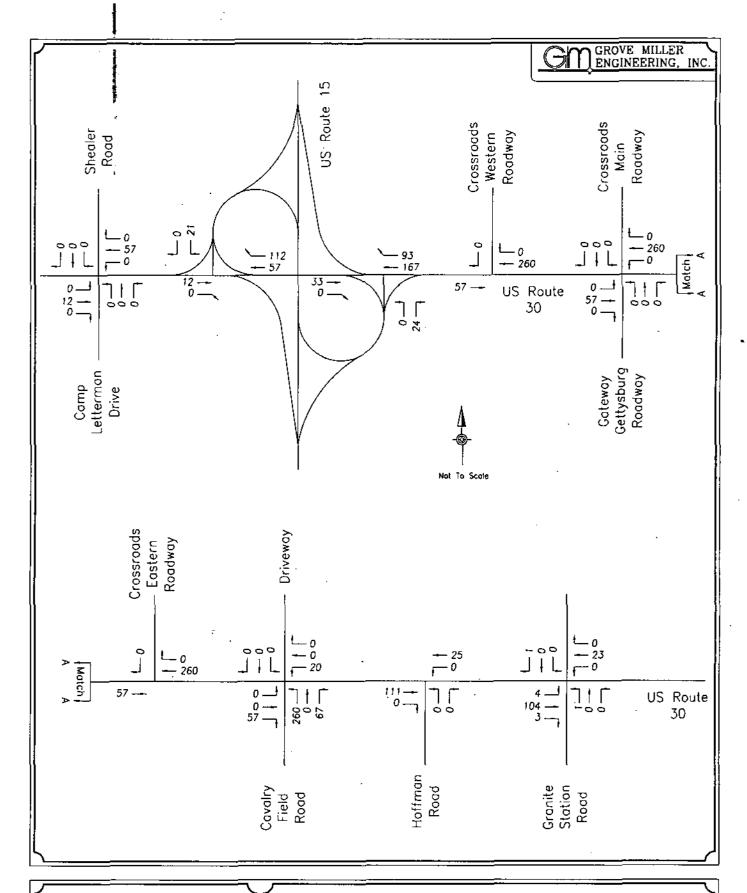
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Trip Distribution for Gateway Gettysburg, 2018 Design Year, Saturday Peak Hour

Trip Generation Documentation

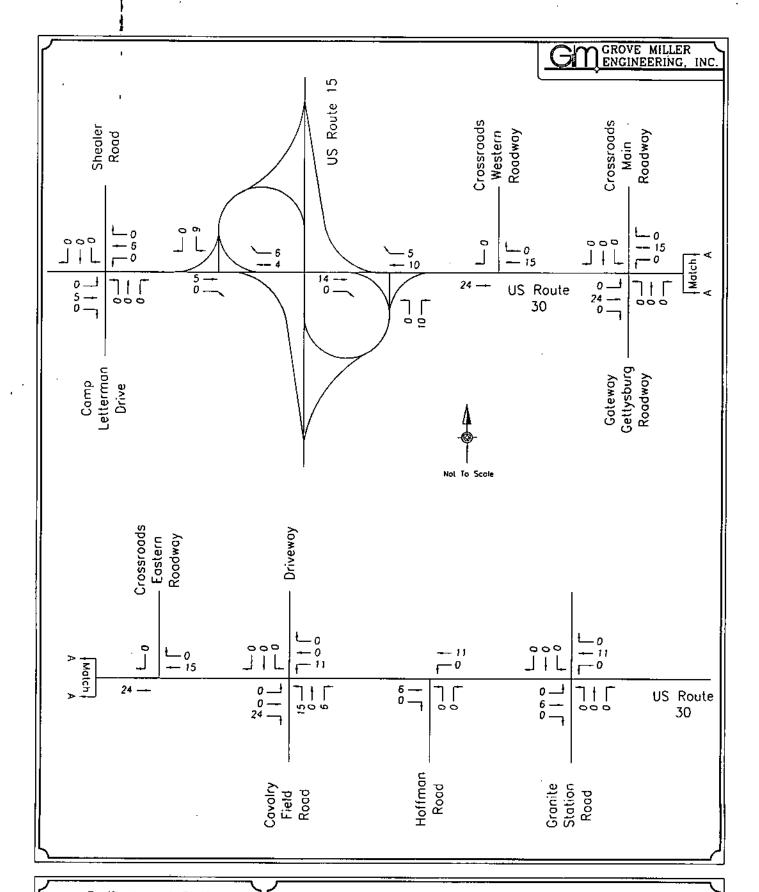
Adams Commerce Center



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Trip Distribution for Adams Commerce Center, 2008 Build Year, Weekday PM Peak Hour

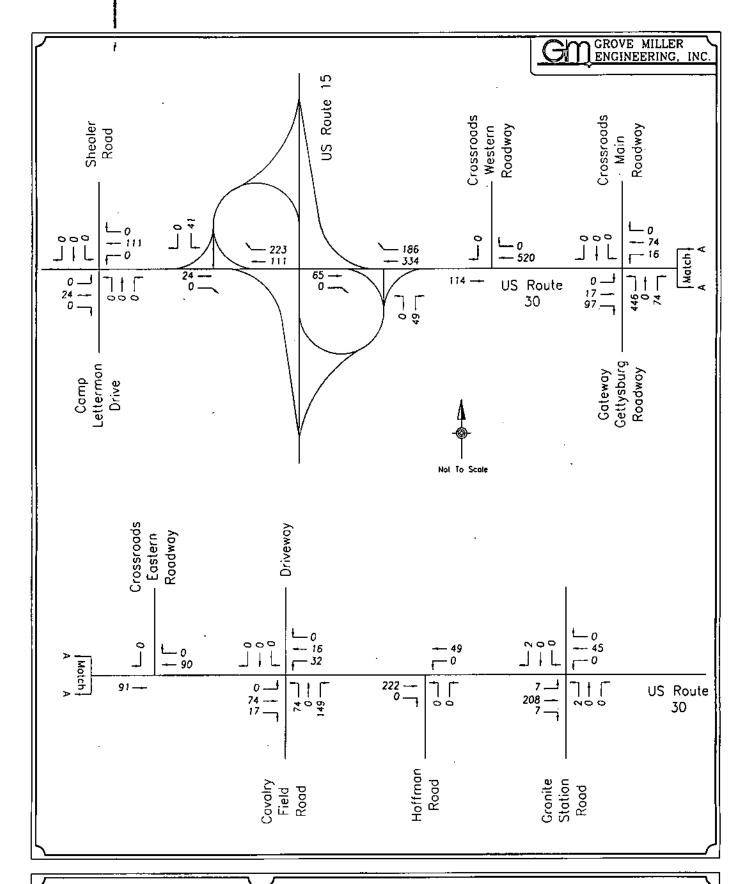


Troffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Trip Distribution for Adams Commerce Center, 2008 Build Year, Saturday Peak Hour

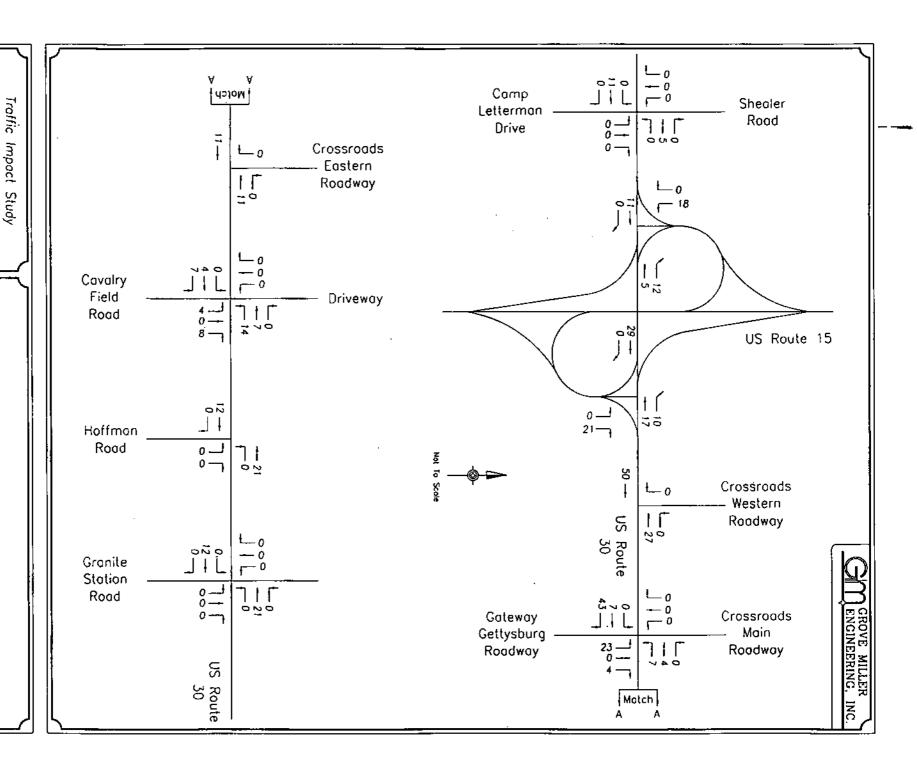


Troffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Strabon Township, Adams County, PA

Trip Distribution for Adams Commerce Center, 2018 Design Year, Weekday PM Peak Hour

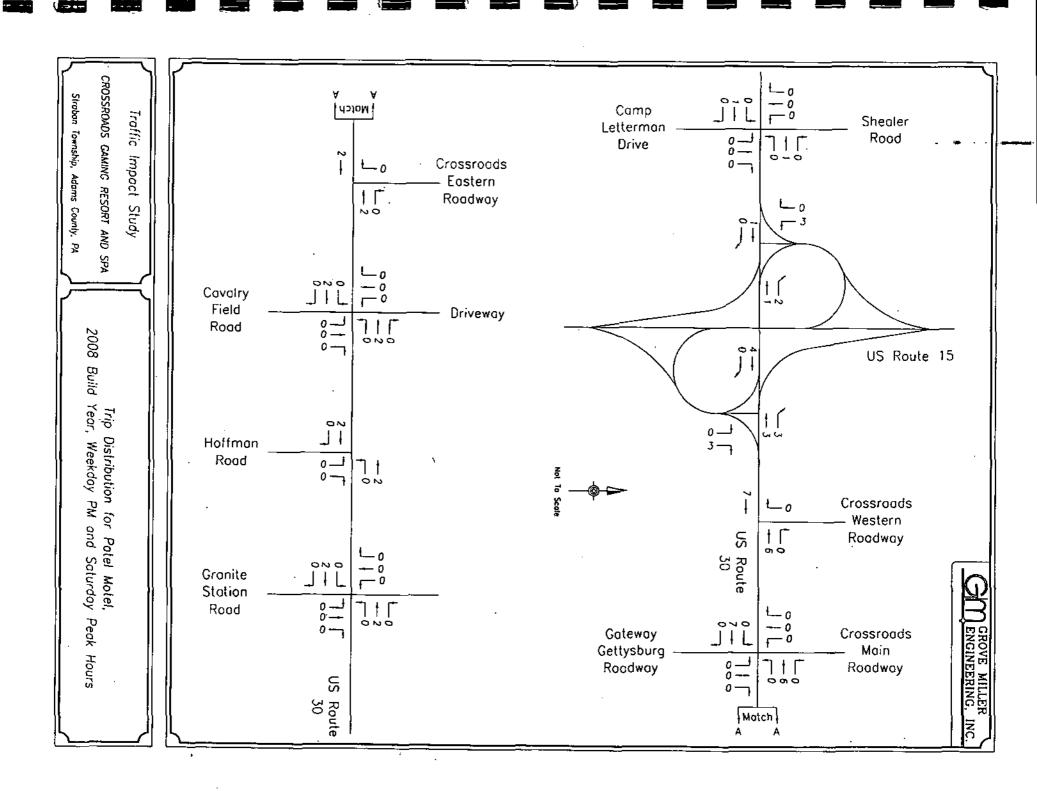


CROSSROADS CAMING RESORT AND SPA

Trip Distribution for Adams Commerce Center. 2018 Design Year, Saturday Peak Hour

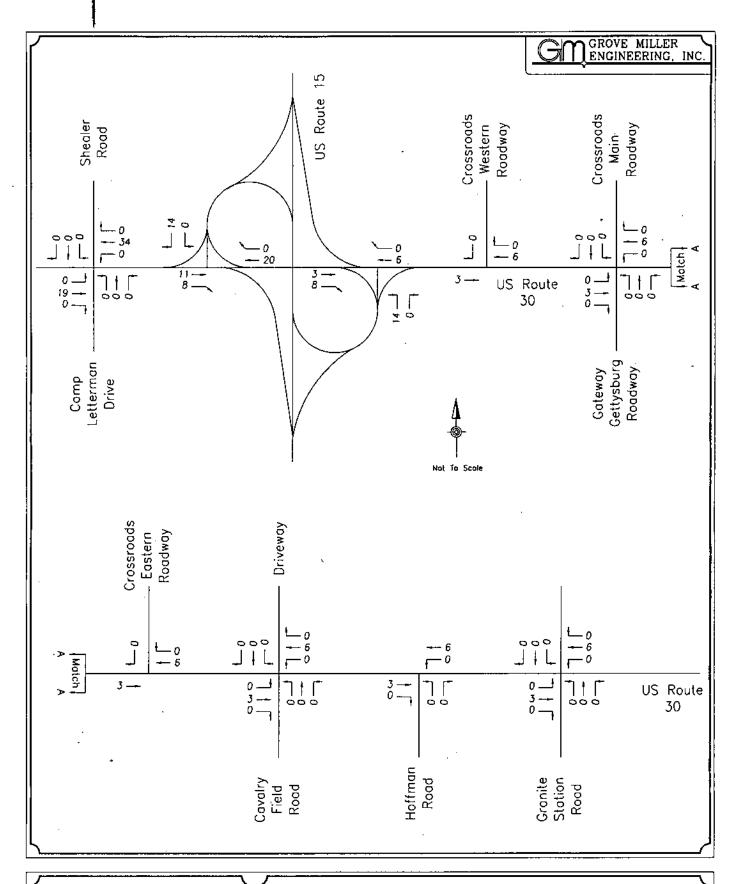
Trip Generation Documentation

Patel Motel



Trip Generation Documentation

Granite Lake Residential Development

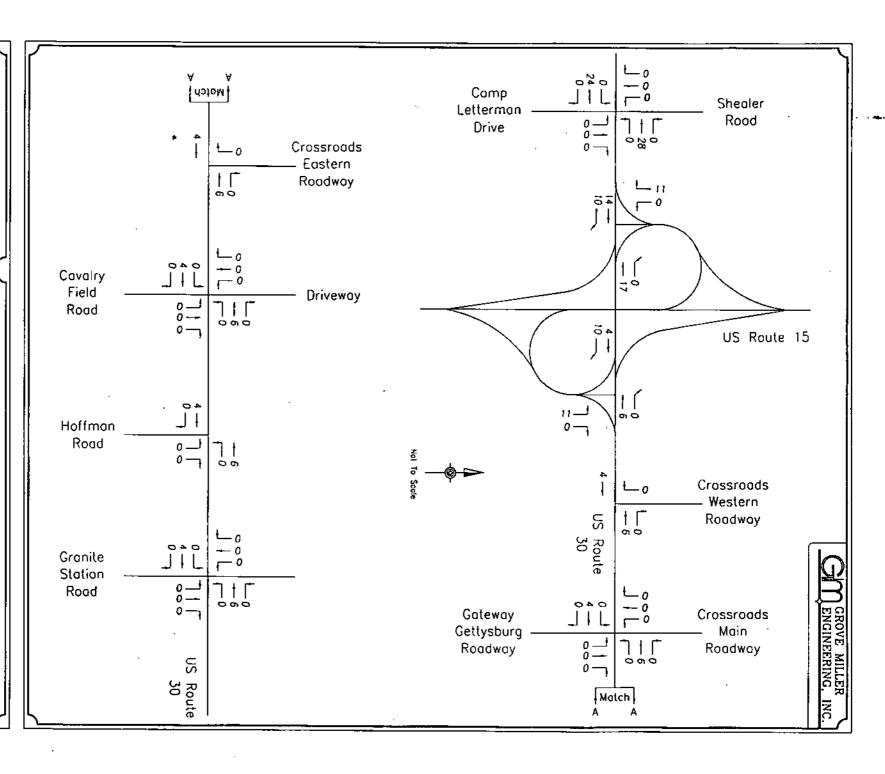


Traffic Impact Study

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Strabon Township, Adams County, PA

Trip Distribution for Granite Lake Residential Development, 2008 Build Year, Weekday PM Peak Hour



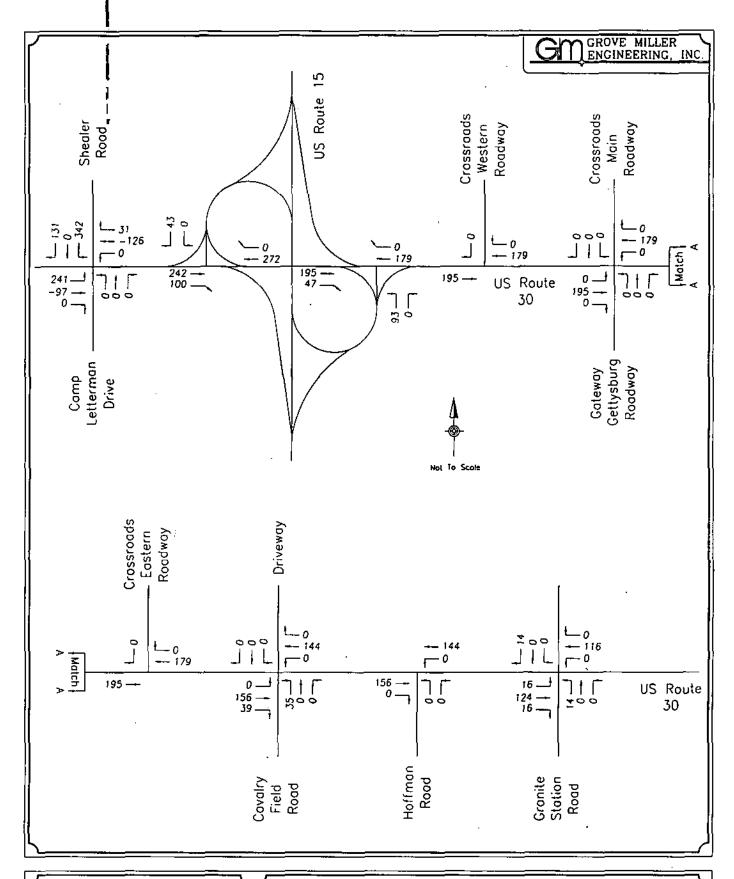
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA

Strabon Township, Adoms County, PA

Trip Distribution for Gronite Lake Residential Development, 2008 Build Year, Saturday Peak Hour

Trip Generation Documentation

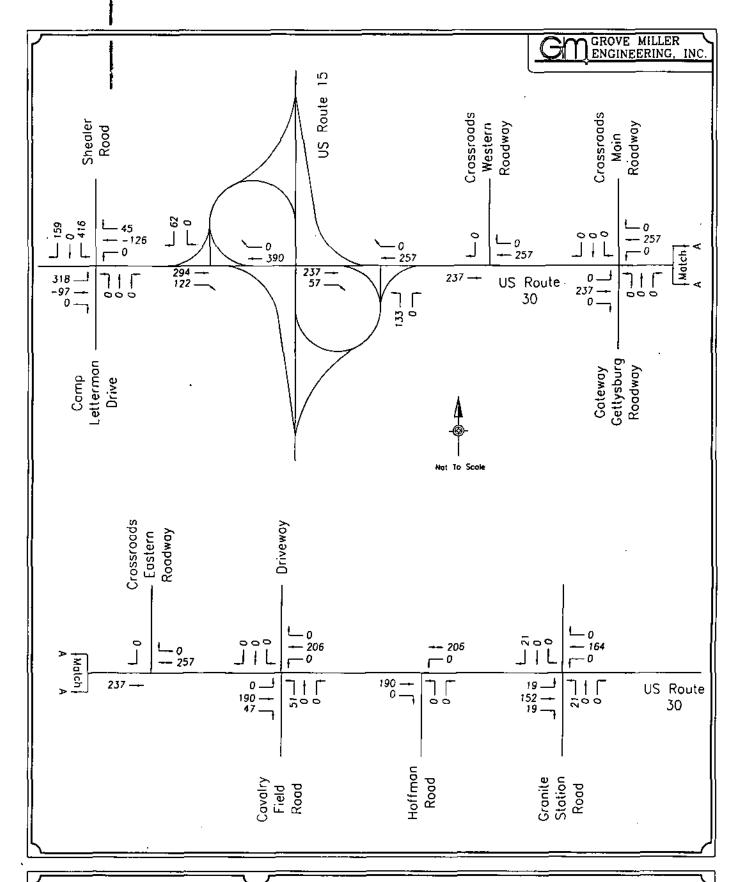
Lincoln Commons



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Straban Township, Adams County, PA

Trip Distribution for Lincoln Commons, 2018 Design Year, Weekday PM Peak Hour



CROSSROADS GAMING RESORT AND SPA

Straban Township, Adoms County, PA

Trip Distribution for Lincoln Commons, 2018 Design Year, Saturday Peak Hour

Level of Service Descriptions

LEVEL-OF-SERVICE FOR SIGNALIZED INTERSECTIONS

The 2000 Highway Capacity Manual¹ 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)
	≤ 10.0
B	>10.0 to 20.0
<u> </u>	>20.0 to 35.0
<u>D</u>	>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.

^{1. &}quot;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'

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)
Α	≤10.0
В	>10.0 AND ±15.0
c	>15.0 AND ≤25.0
DD_	· >25.0 AND ≤35.0
ΕΕ	>35.0 AND ≤50.0
F	>50.0

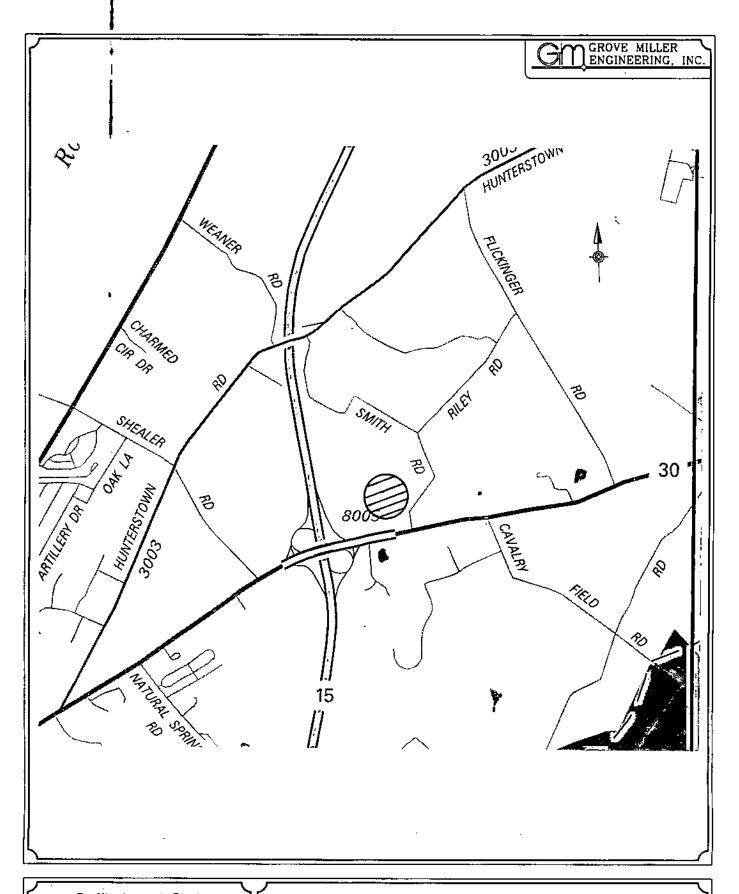
As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

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.

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

FIGURES

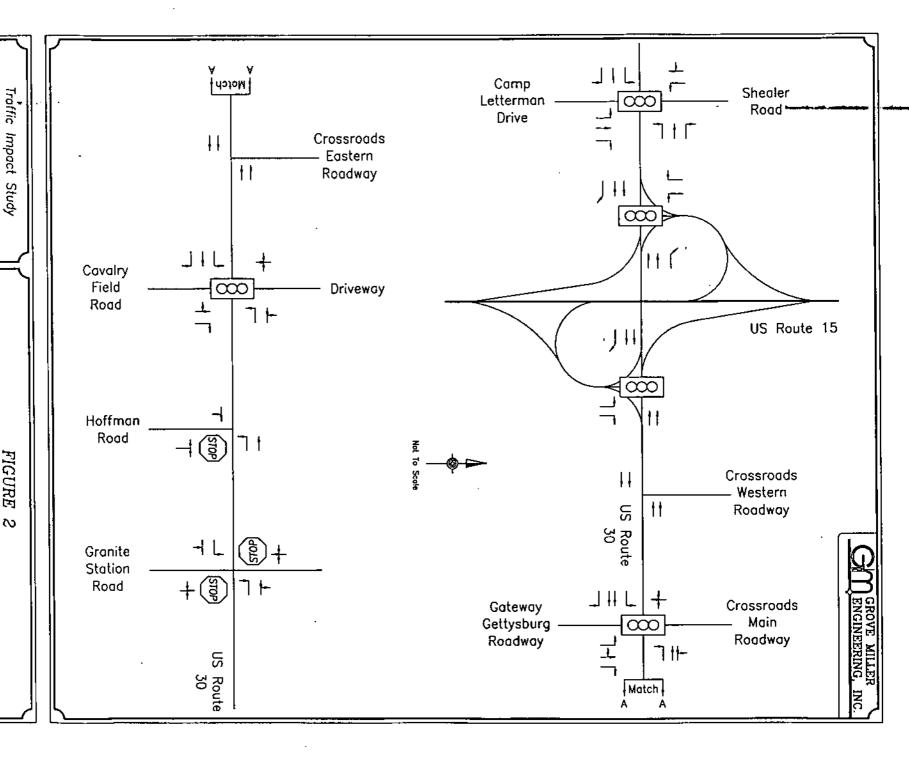


Traffic Impact Study

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Straban Township, Adams County, PA

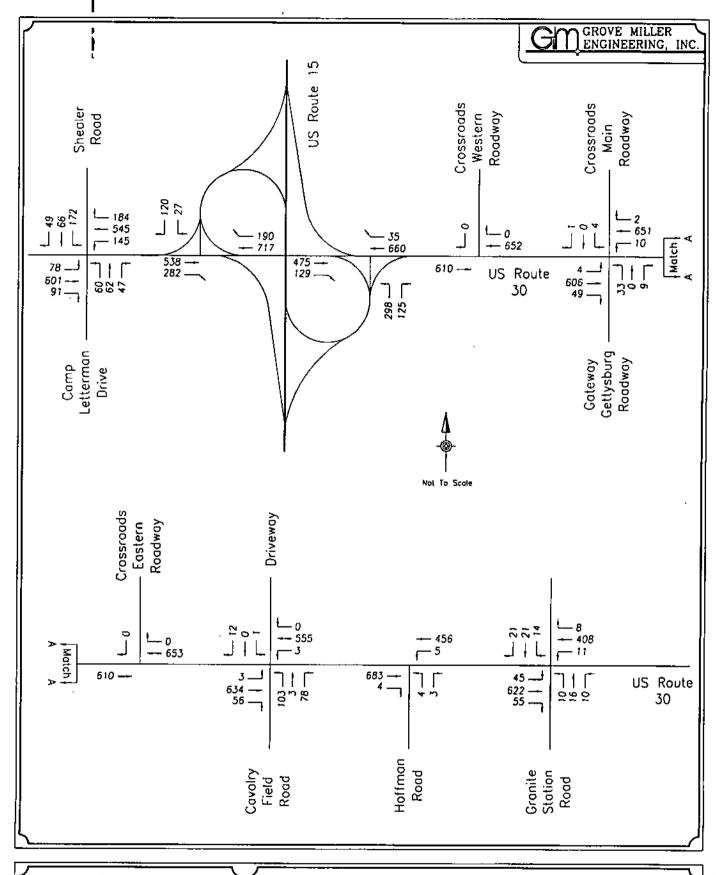
FIGURE 1 Location Map



CROSSROADS GAMING RESORT AND SPA Stroban Township, Adoms County, PA

> FIGUREØ

Existing Lane Configurations and Intersection Control



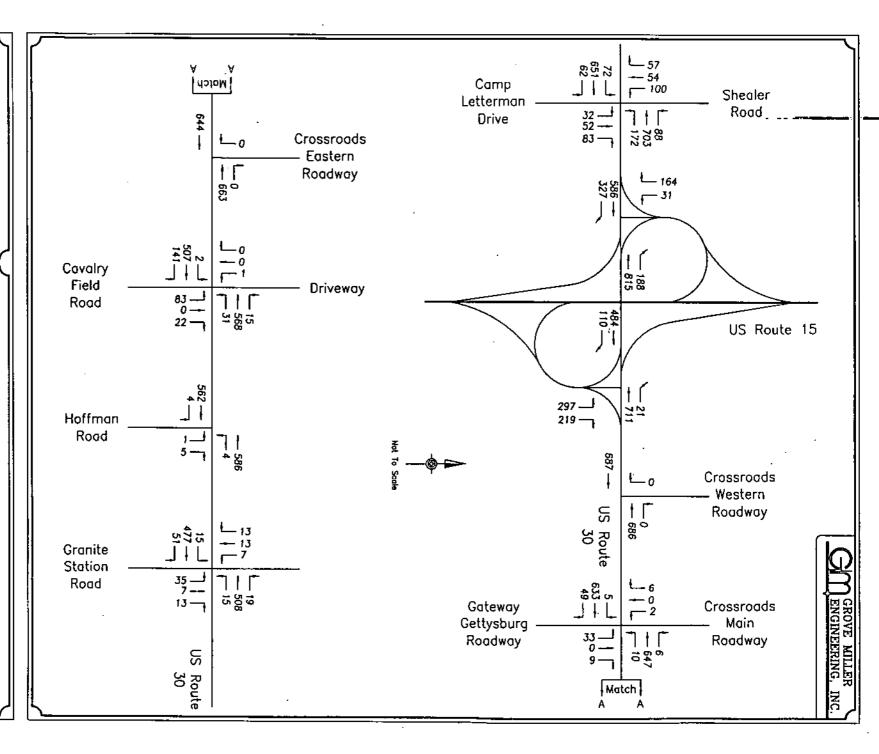
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Strabon Township, Adams County, PA

FIGURE 3

2006 Existing Traffic Volumes, Weekday PM Peak Hour



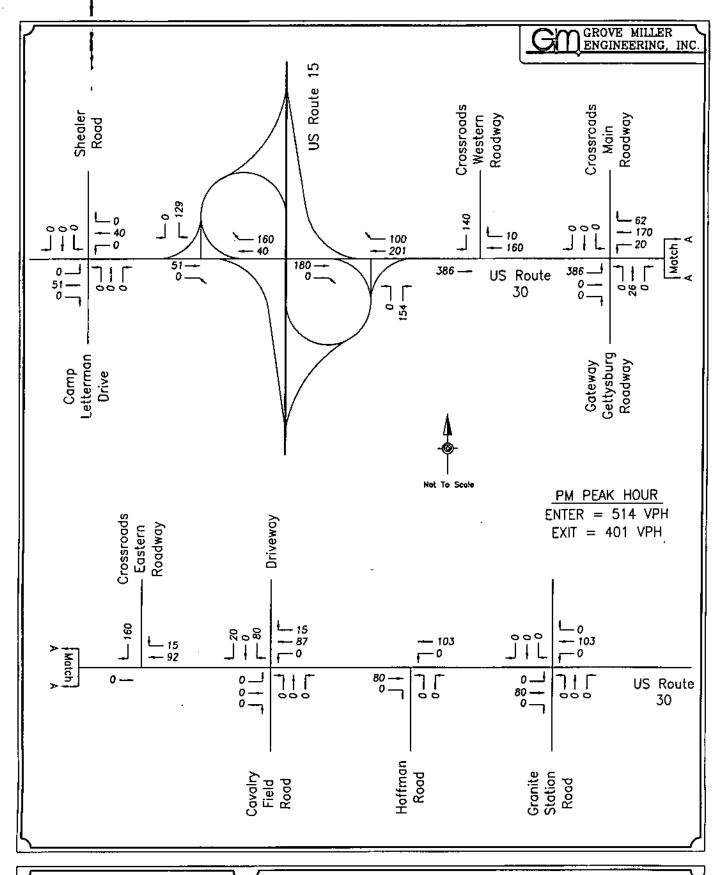
Traffic Impact Study.

CROSSROADS GAMING RESORT AND SPA

Stroban Township, Adams County, PA

FIGURE 4

2006 Existing Traffic Volumes, Saturday Peak Hour



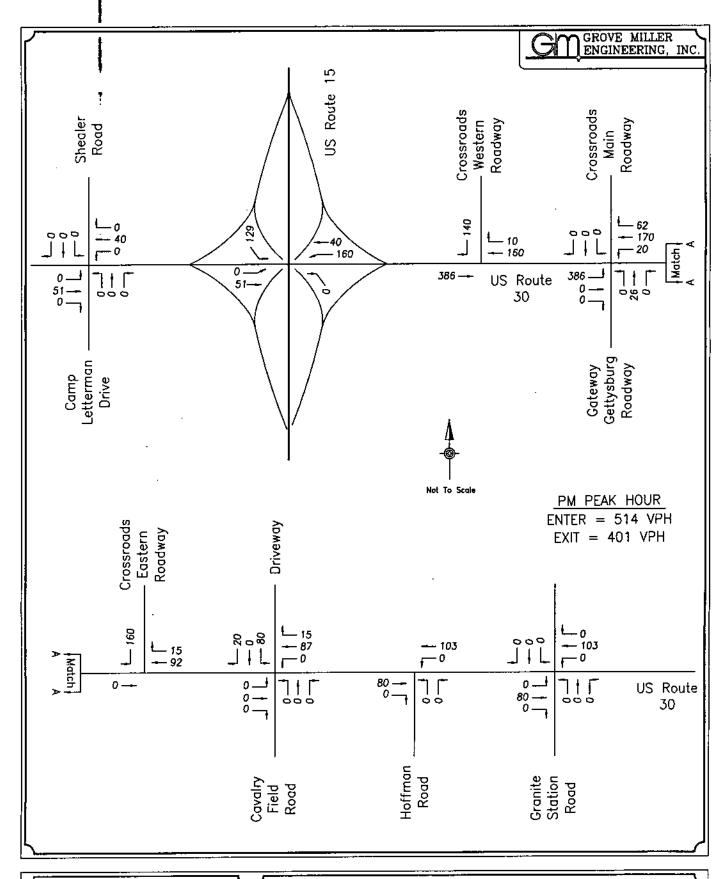
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Strabon Township, Adams County, PA

FIGURE 5a

Trip Distribution for Crossroads Gaming Resort and Spa, Initial Development, Weekday PM Peak Hour, with Existing US 15/US 30 Interchange



Traffic Impact Study

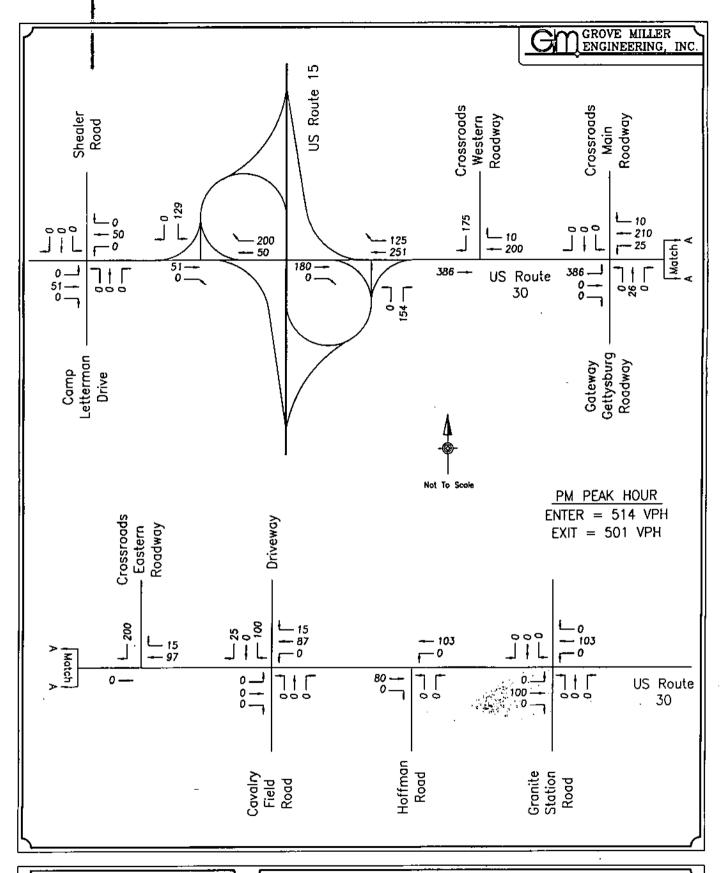
CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

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FIGURE 5b

Trip Distribution for Crossroads Gaming Resort and Spa, Initial Development, Weekday PM Peak Hour, with Proposed PENNDOT US 15/US 30 SPUI



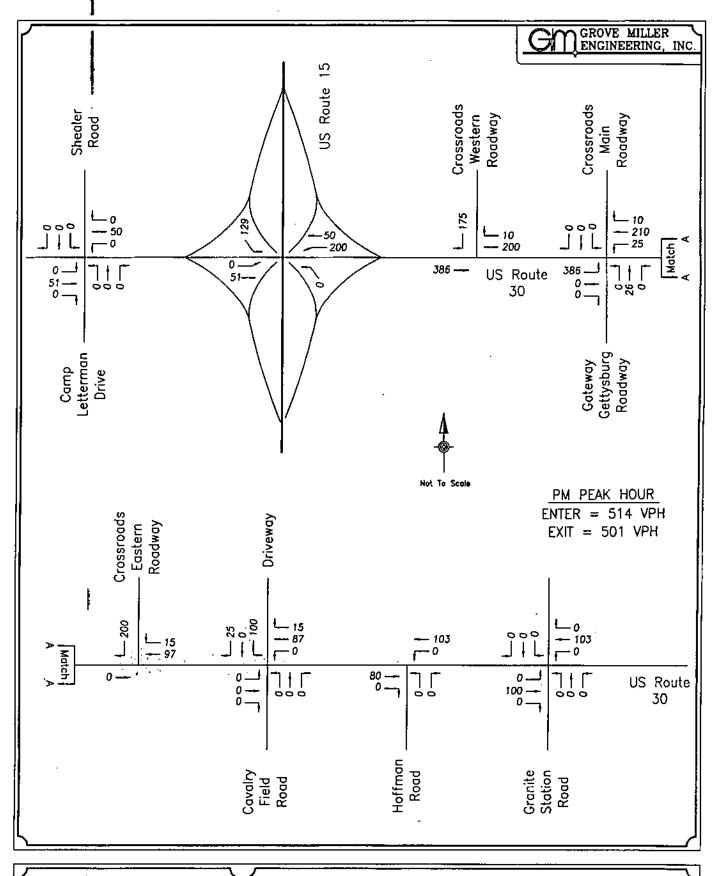
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Straban Township, Adams County, PA

FIGURE 6a

Trip Distribution for Crossroads Gaming Resort and Spa, Initial Development, Saturday Peak Hour, with Existing US 15/US 30 Interchange

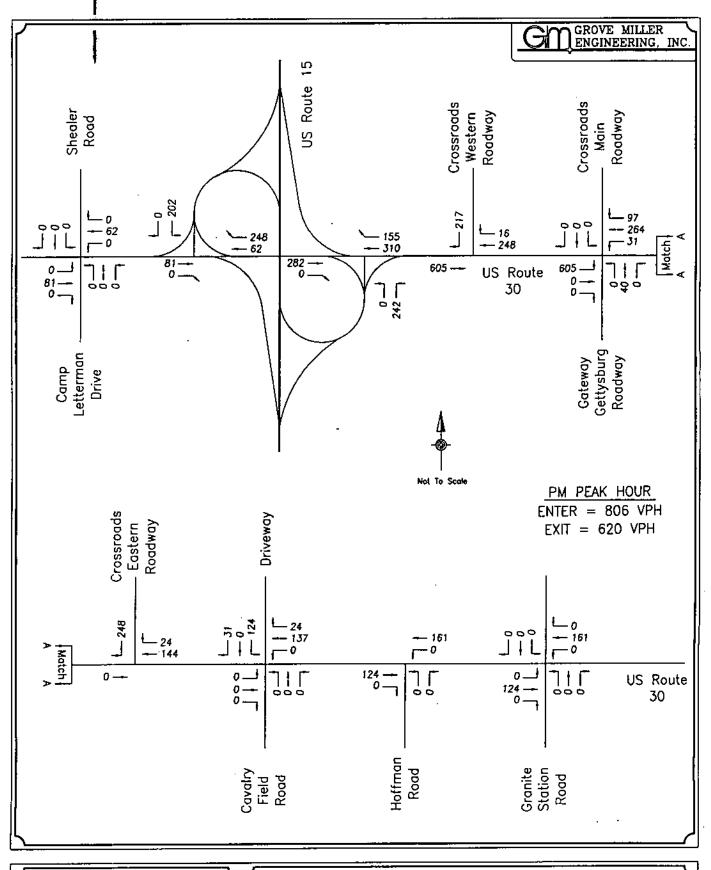


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Straban Township, Adams County, PA

FIGURE 6b

Trip Distribution for Crossroads Gaming Resort and Spa, Initial Development, Saturday Peak Hour, with Proposed PENNDOT US 15/US 30 SPUI



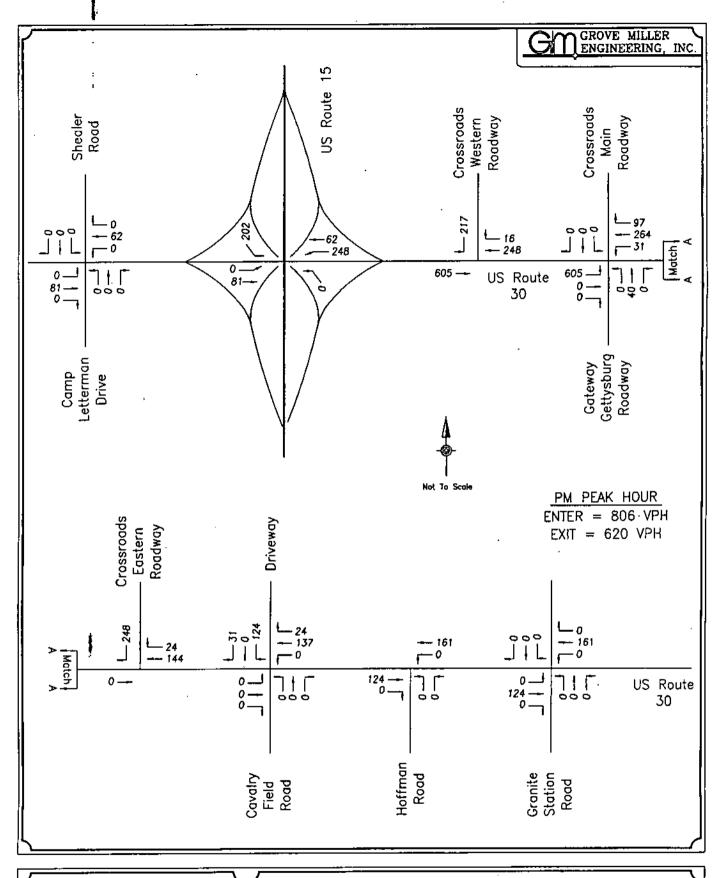
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FIGURE 7a

Trip Distribution for Crossroads Gaming Resort and Spa, Full Build—Out, Weekday PM Peak Hour, with Existing US 15/US 30 Interchange

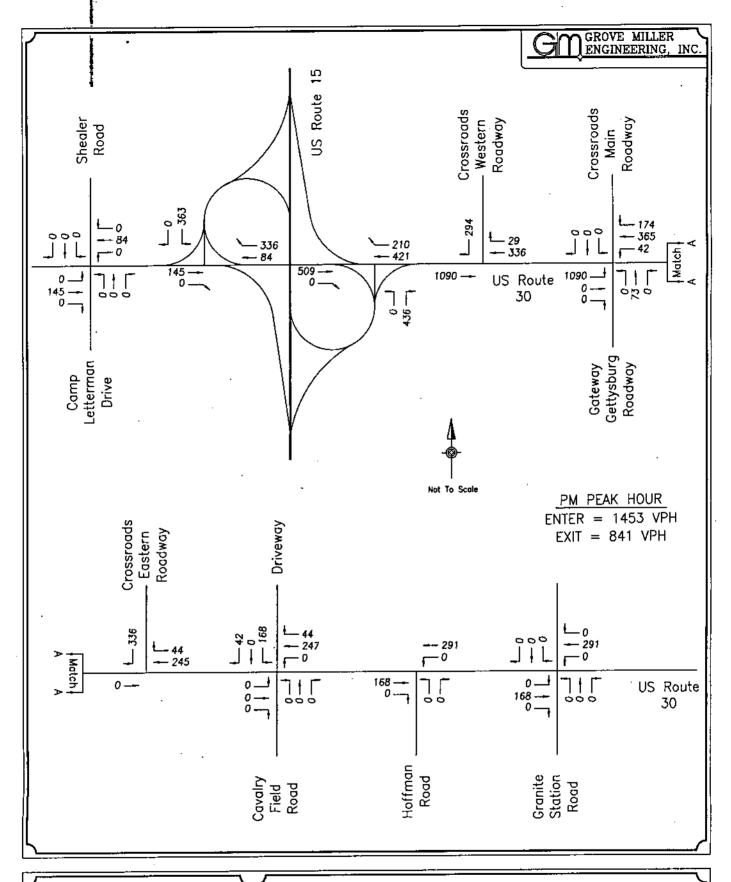


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FIGURE 7b

Trip Distribution for Crossroads Gaming Resort and Spa, Full Build—Out, Weekday PM Peak Hour, with Proposed PENNDOT US 15/US 30 SPUI

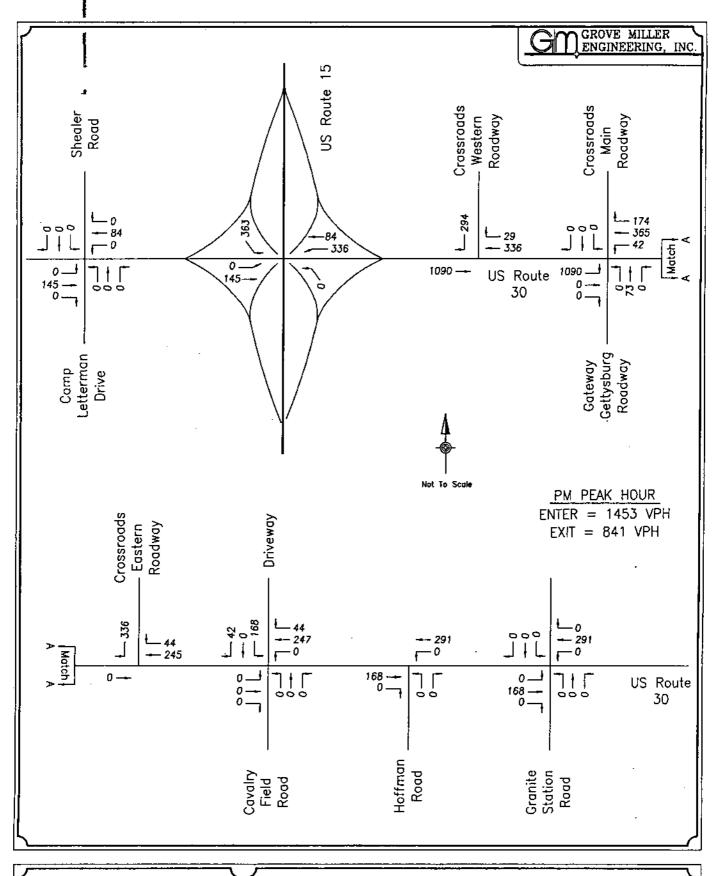


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Straban Township, Adams County, PA

FIGURE 8a

Trip Distribution for Crossroads Gaming Resort and Spa, Full Build—Out, Saturday Peak Hour, with Existing US 15/US 30 Interchange



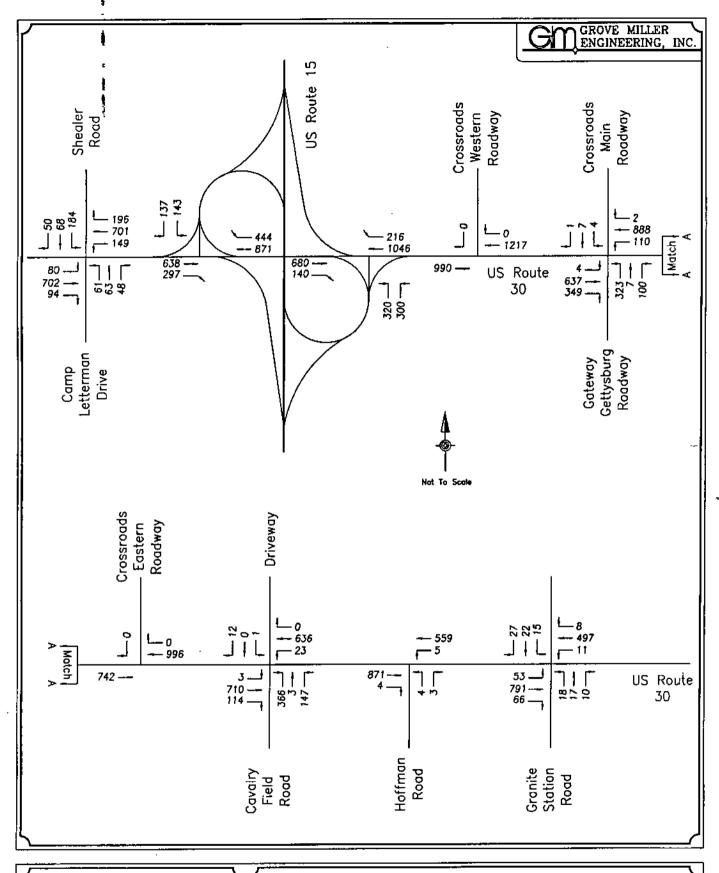
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FIGURE 8b

Trip Distribution for Crossroads Gaming Resort and Spa, Full Build-Out, Saturday Peak Hour, with Proposed PENNDOT US 15/US 30 SPUI

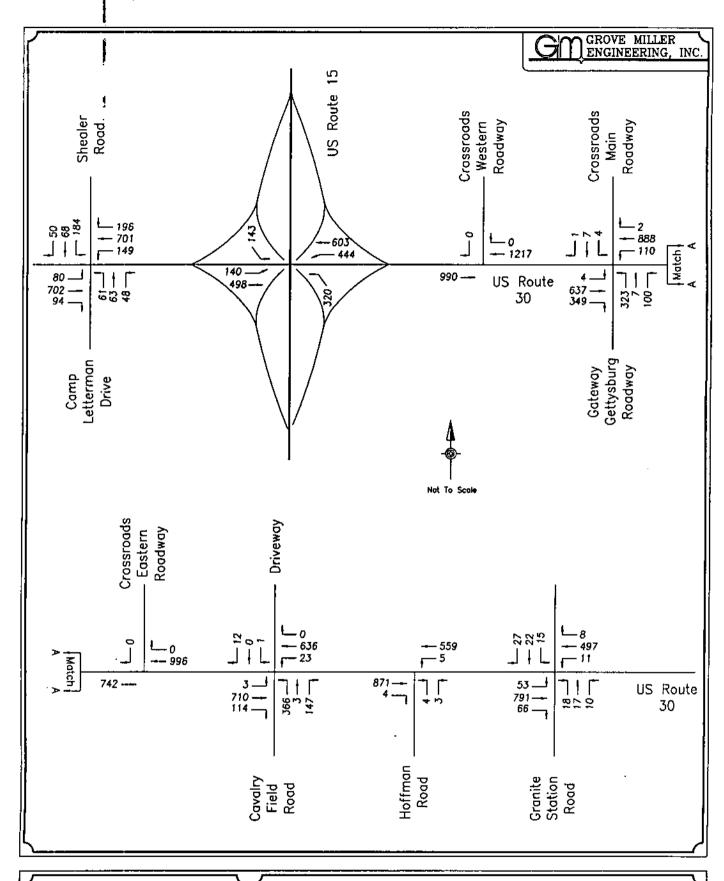


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Straban Township, Adams County, PA

FIGURE 9a

2008 Build Year Traffic Volumes, Weekday PM Peak Hour, No Build, with Existing US 15/US 30 Interchange

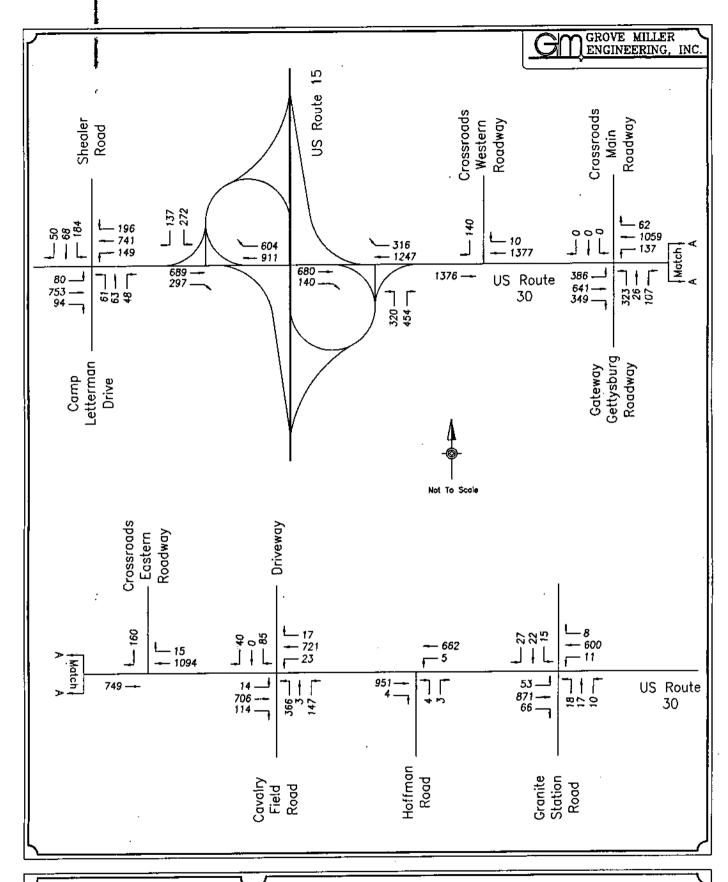


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FIGURE 9b

2008 Build Year Traffic Volumes, Weekday PM Peak Hour, No Build, with Proposed PENNDOT US 15/US 30 SPUI



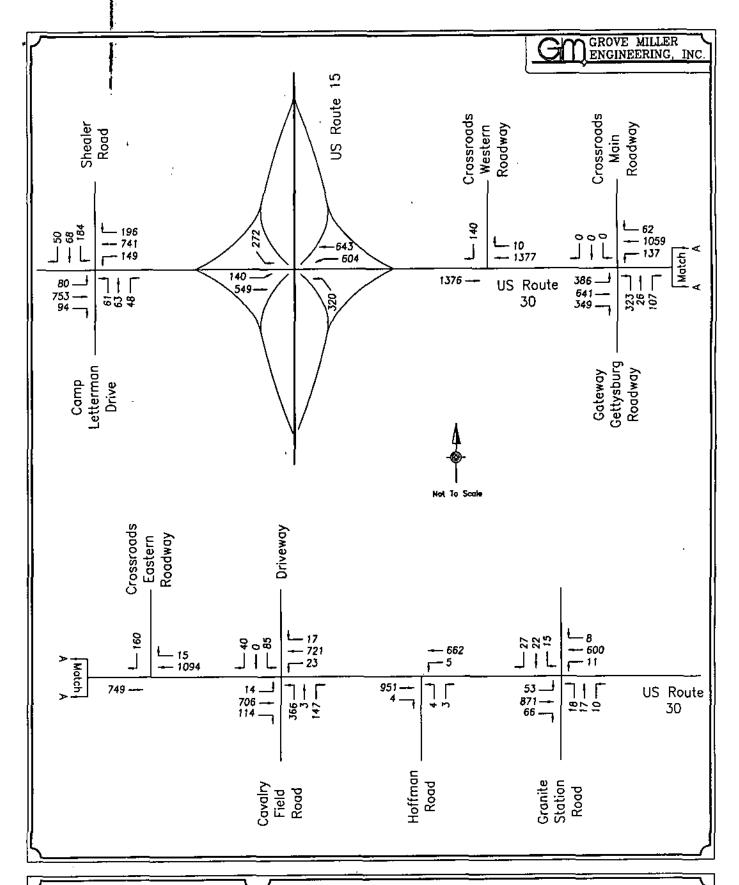
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FIGURE 10a

2008 Build Year Traffic Volumes, Weekday PM Peak Hour, Build, with Existing US 15/US 30 Interchange

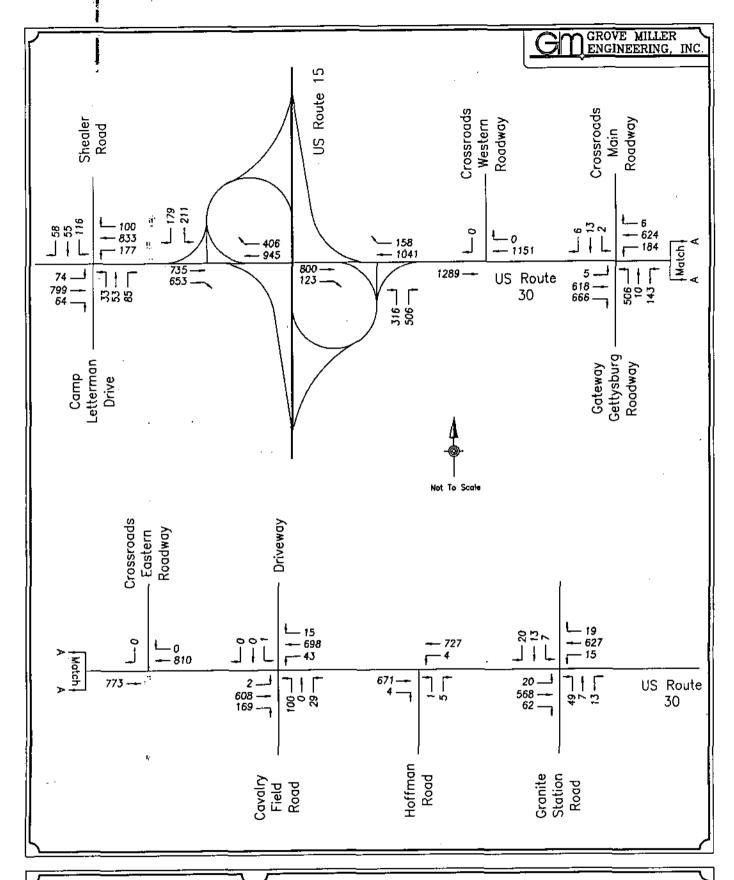


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FIGURE 10b

2008 Build Year Traffic Volumes, Weekday PM Peak Hour, Build, with Proposed PENNDOT US 15/US 30 SPUI

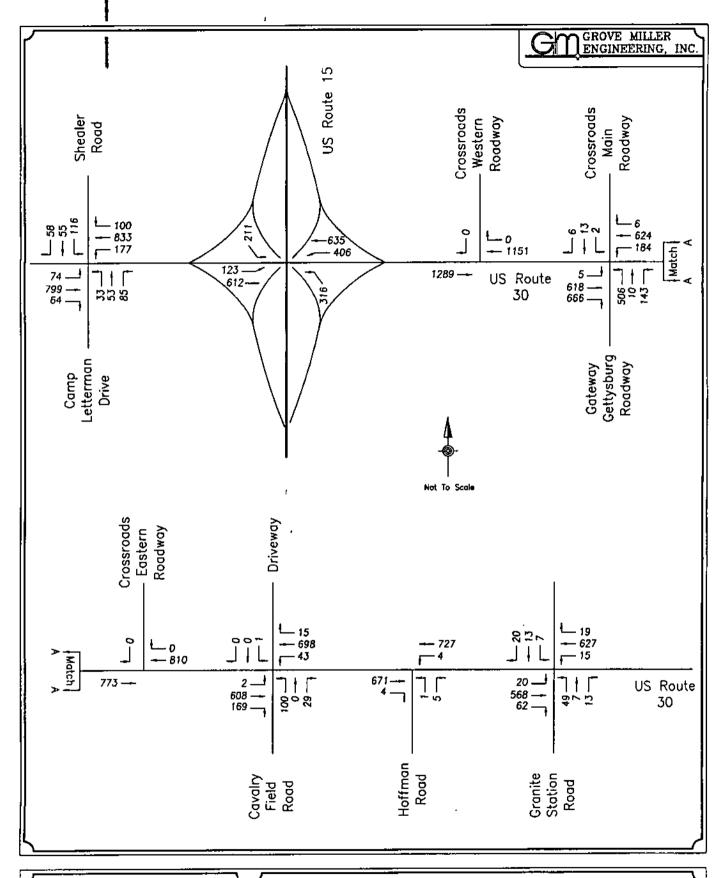


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FIGURE 11a

2008 Build Year Traffic Volumes, Saturday Peak Hour, No Build, with Existing US 15/US 30 Interchange



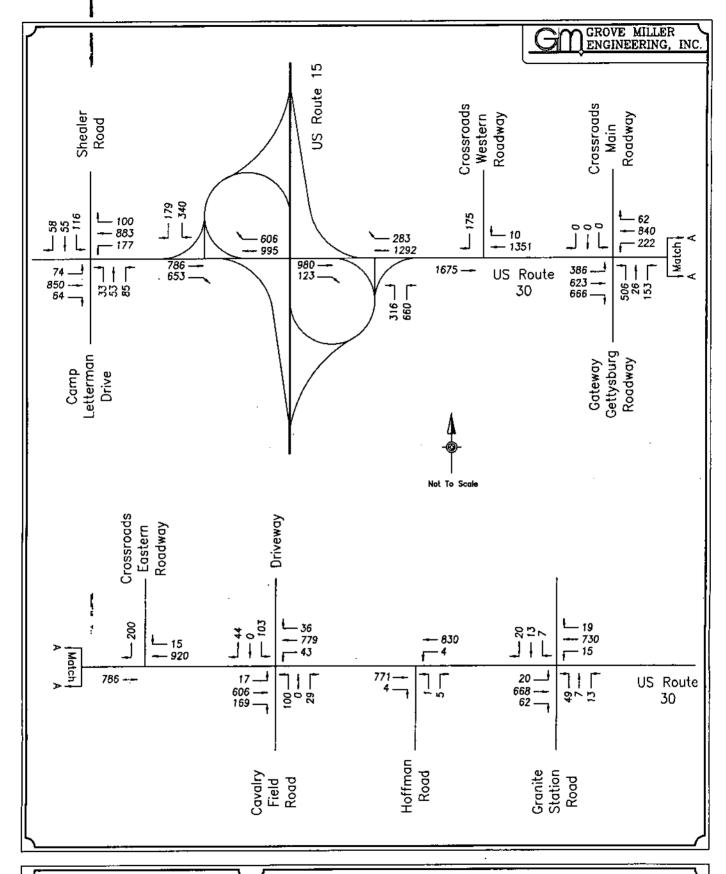
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FIGURE 11b

2008 Build Year Traffic Volumes, Saturday Peak Hour, No Build, with Proposed PENNDOT US 15/US 30 SPUI



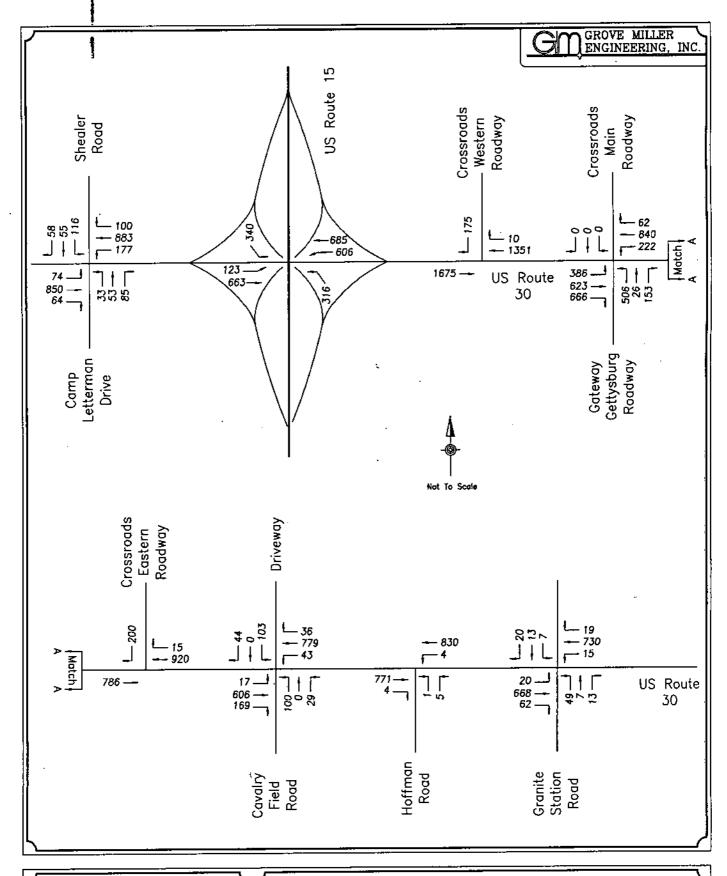
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FIGURE -12a

2008 Build Year Traffic Volumes, Saturday Peak Hour, Build, with Existing US 15/US 30 Interchange



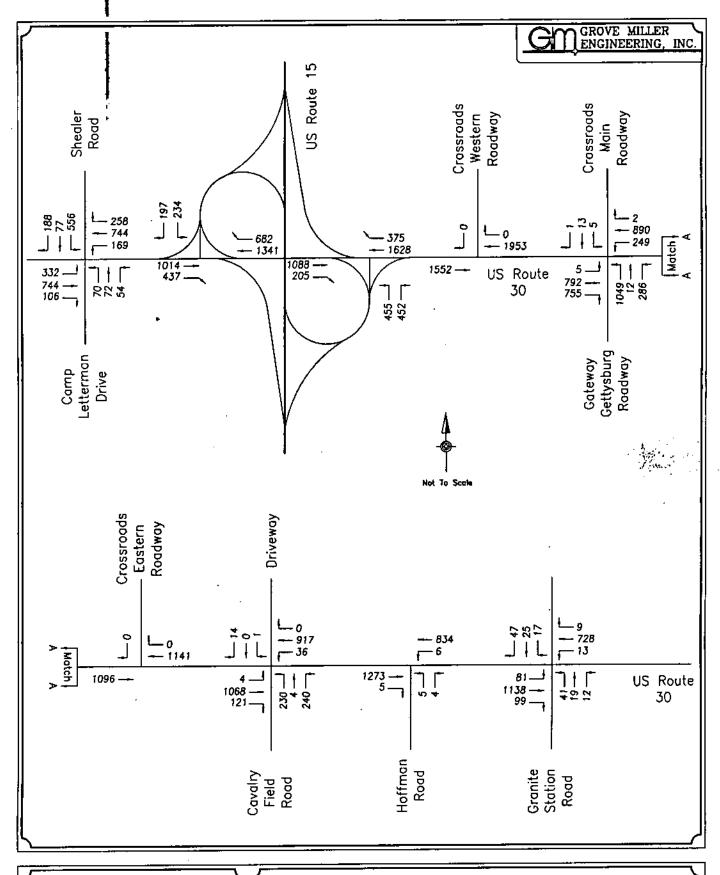
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FIGURE 12b

2008 Build Year Traffic Volumes, Saturday Peak Hour, Build, with Proposed PENNDOT US 15/US 30 SPUI



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FIGURE 13a

2018 Design Year Traffic Volumes, Weekday PM Peak Hour, No Build, with Existing US 15/US 30 Interchange

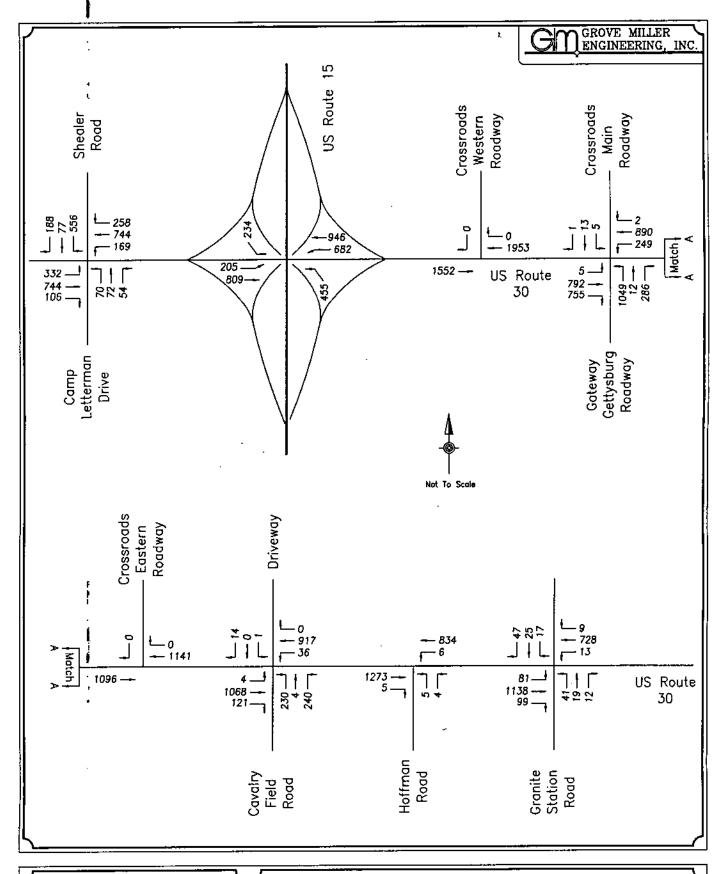


FIGURE 13b

2018 Design Year Traffic Volumes, Weekday PM Peak Hour, No Build, with Proposed PENNDOT US 15/US 30 SPUI

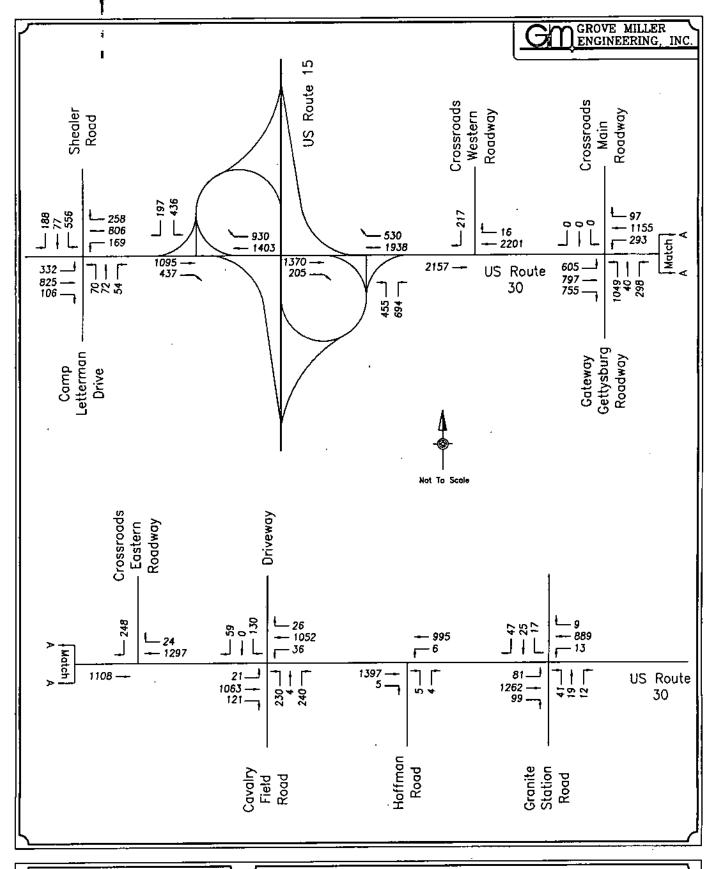
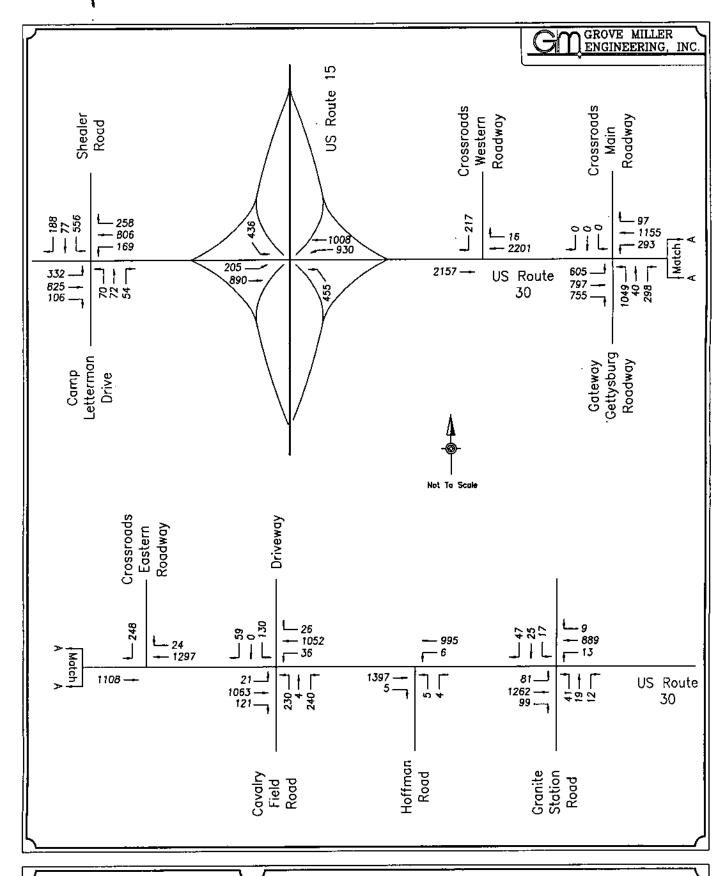


FIGURE 14a

2018 Design Year Traffic Volumes, Weekday PM Peak Hour, Build, with Existing US 15/US 30 Interchange



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FIGURE 14b

2018 Design Year Traffic Volumes, Weekday PM Peak Hour, Build, with Proposed PENNDOT US 15/US 30 SPUI

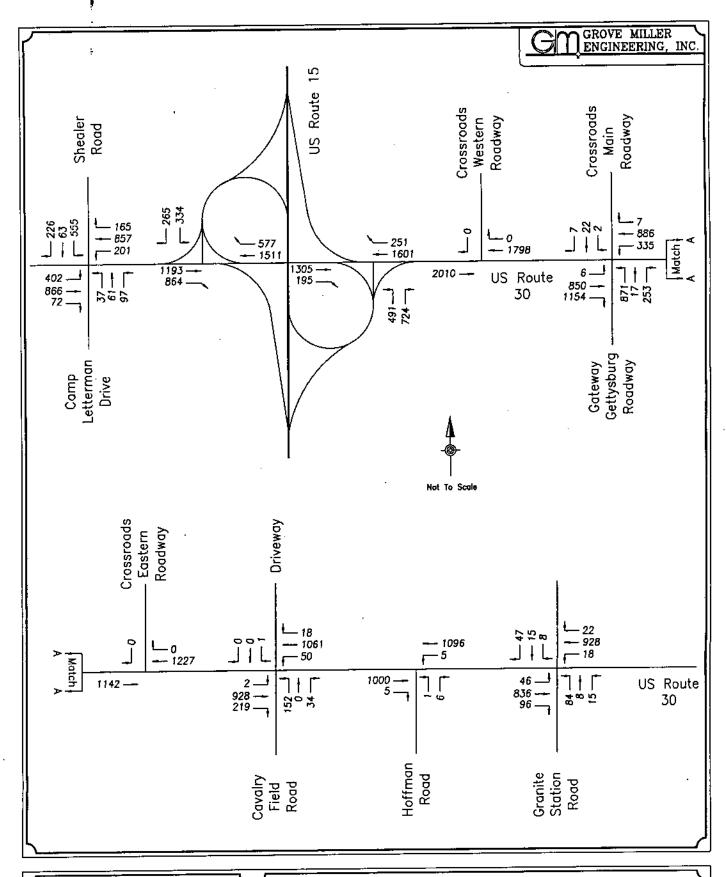
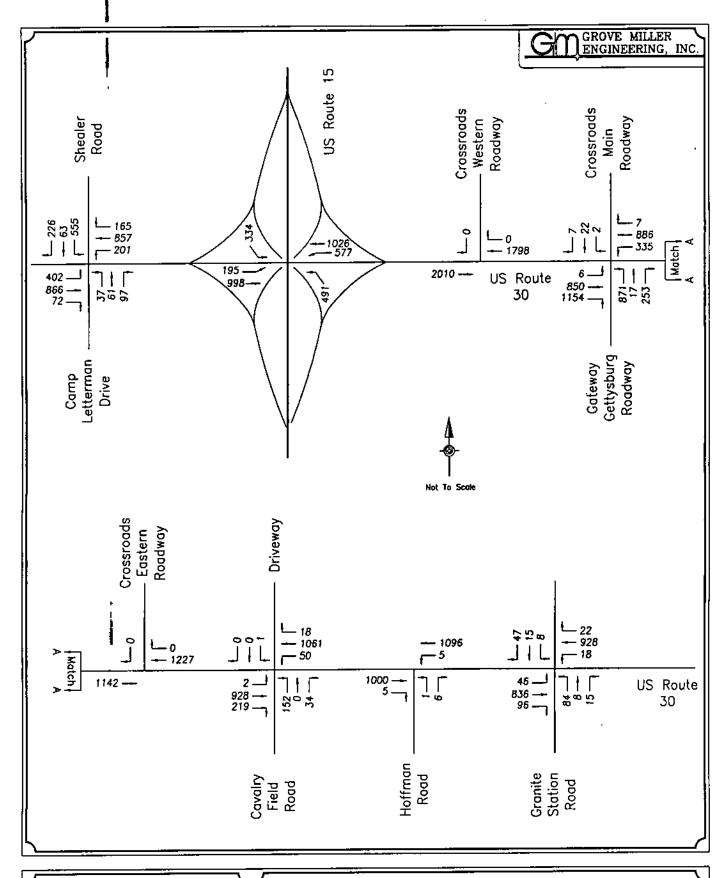


FIGURE 15a

2018 Design Year Traffic Volumes, Saturday Peak Hour, No Build, with Existing US 15/US 30 Interchange



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Straban Township, Adams County, PA

FIGURE 15b

2018 Design Year Traffic Volumes, Saturday Peak Hour, No Build, with Proposed PENNDOT US 15/US 30 SPUI

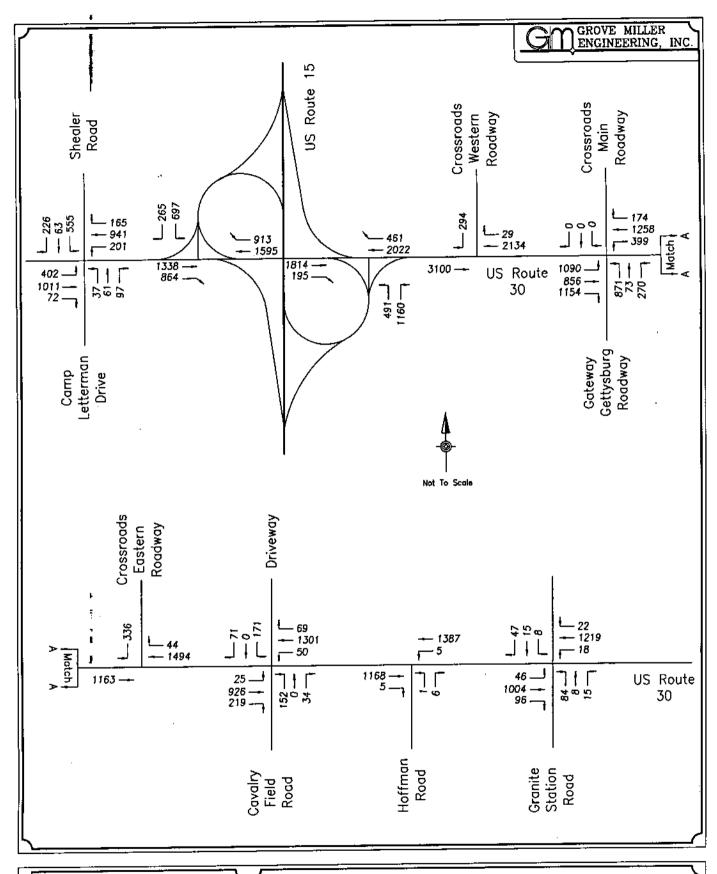
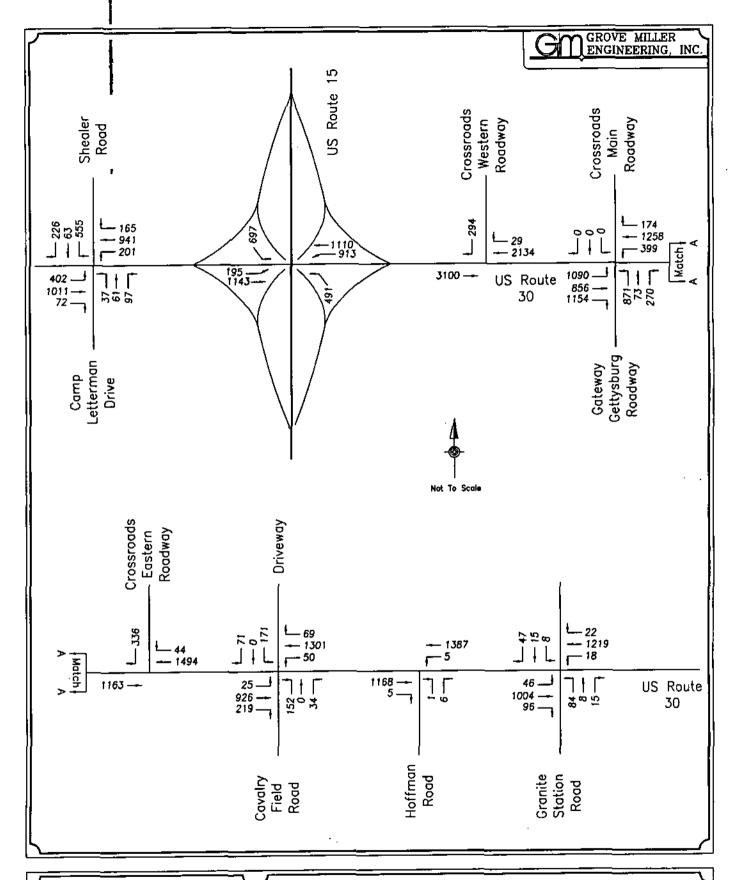


FIGURE 16a

2018 Design Year Traffic Volumes, Saturday Peak Hour, Build, with Existing US 15/US 30 Interchange



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FIGURE 16b

2018 Design Year Traffic Volumes, Saturday Peak Hour, Build, with Proposed PENNDOT US 15/US 30 SPUI

2006 PM EXISTING OVERALL LOS = B	Smith Road	GM GROVE MILLER ENGINEERING, INC.
US Route +		
	Gateway Gettysburg Roadway	
2008 PM NO BUILD OVERALL LOS = B	Smith Road	2008 PM BUILD WITH IMPROVEMENTS OVERALL LOS = C C C C C C C C C C C C C
US Route + 30	+ A A A F B S S S S S S S S S S S S S S S S S S	US Route 30 C J T T T T T T T T T T T T T T T T T T
	Gateway Gettysburg Roadway	Gateway Gettysburg Roadway
2018 PM NO BUILD OVERALL LOS = C	Smith Road	2018 PM BUILD WITH IMPROVEMENTS OVERALL LOS = C CLOSSCOODS COOPER CO
US Route +	F (84.6) F (91.0) F (US Route
	Gateway Gettysburg Roadway	Gateway Gettysburg Roadway

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FIGURE 17

Levels of Service, US Route 30 & Smith Road/Crossroads Main Roadway/Gateway Gettysburg, Weekday PM Peak Hour

2006 SAT EXISTING OVERALL LOS = B	Smith Road	GM GROVE MILLER ENGINEERING, INC.
US Route BCA	1 A A A T B A A T B A A A A A A A A A A A	
	Gateway Gettysburg Roadway	
2008 SAT NO BUILD OVERALL LOS = C	Smith Road	2008 SAT BUILD WITH IMPROVEMENTS OVERALL LOS = C Crosscodd A din A di
US Route +	1 C C C C C C C C C C C C C C C C C C C	US Route C C C C C C C C C C C C C C C C C C C
	Gateway Gettysburg Roadway	Gateway Gettysburg Roadway
2018 SAT NO BUILD OVERALL LOS = E	Smith Road	2018 SAT BUILD WITH IMPROVEMENTS OVERALL LOS = D C C C C C C C C C C C C C C C C C C
US Route +	+ B (243.4) - (7.86.7) - (7.86.7) - (7.86.7) - (7.86.7) - (7.86.7)	US Route
	Gateway F Gettysburg Roadway	Gateway Gettysburg Roadway

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FIGURE 18

Levels of Service, US Route 30 & Smith Road/Crossroads Main Roadway/Gateway Gettysburg, Saturday Peak Hour

	GM GROVE MILLER ENGINEERING, INC.
OVERALL LOS = B Crossroads Restern Roadway	OVERALL LOS = C Soudeway ONE Stern ONE St
Overall ros = B Western Route 30	2018 SAT BUILD OVERALL LOS = C Souda Way OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C OVERALL LOS = C

FIGURE 19
Levels of Service,
US Route 30 & Western Roadway
PM and Saturday Peak Hours

· ·	GROVE MILLER ENGINEERING, INC.
OVERALL LOS = B Cossicodo Cossi	OVERALL LOS = C Seconda Secon
Crossroad Crossroad Crossroad Crossroad Soute Soute Soute Soute Soute	2018 SAT BUILD OVERALL LOS = C Cosscool Soude 30

FIGURE 20
Levels of Service,
US Route 30 & Eastern Roadway
PM and Saturday Peak Hours

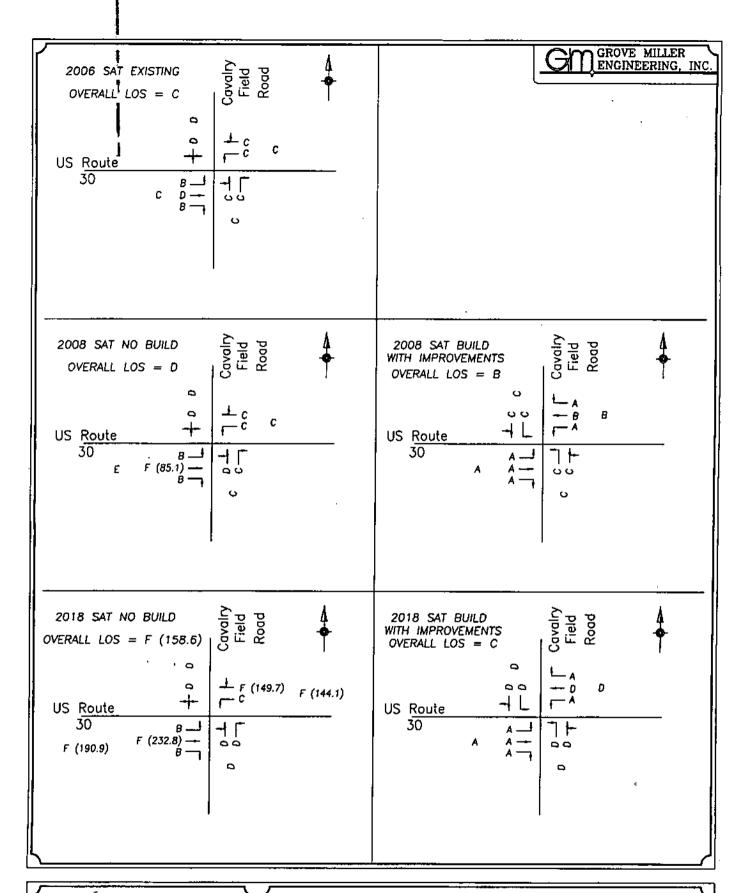
2006 PM EXISTING OVERALL LOS = D US Route E E B	D D → T ← Cavalry D D → So Field Soad D → Field D → Field	GM GROVE MILLER ENGINEERING, INC.
US Route	E E L T L Cavalry Road Road	2008 PM BUILD WITH IMPROVEMENTS OVERALL LOS = C US Route A A A A A A A B D D D D D D D D D D D D
US Route +	Cavalry F (345.5) F (310.6)	2018 PM BUILD WITH IMPROVEMENTS OVERALL LOS = D US Route C A

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FIGURE 21

Levels of Service, US Route 30 & Cavalry Field Road Weekday PM Peak Hour



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FIGURE 22

Levels of Service, US Route 30 & Cavalry Field Road Saturday Peak Hour

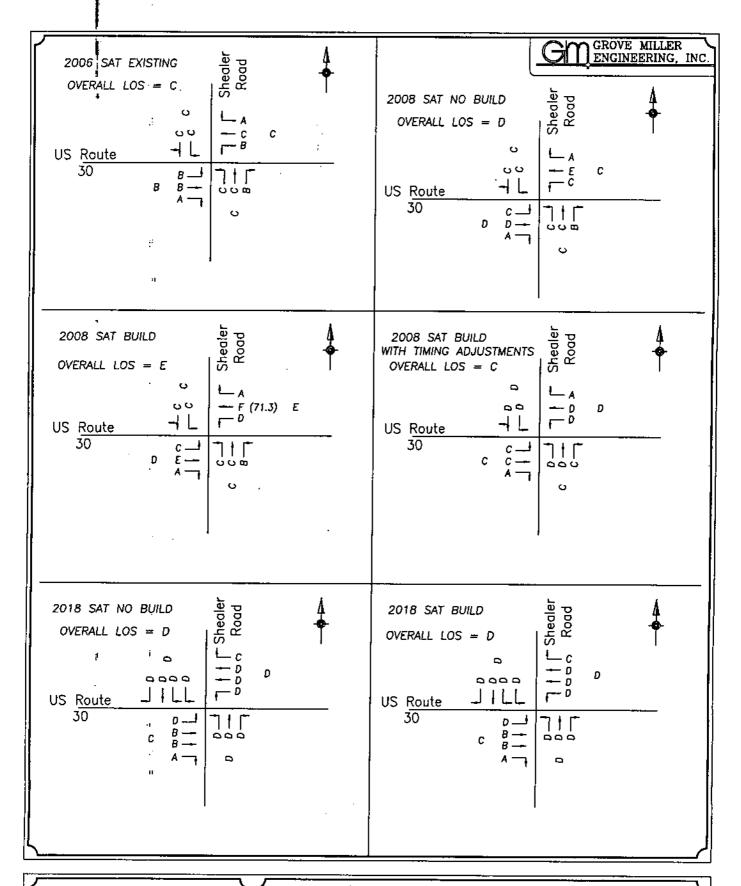
2006 PM EXISTING OVERALL LOS = B US Route B B B B B C C C C C C C C	2008 PM NO BUILD OVERALL LOS = C US Route D D D D D D A C C C C C C C C C C C C
2008 PM BUILD OVERALL LOS = D US Route B D B A C US Route 30 B A C C US Route 30 B A C C C C C C C C C C C C	2008 PM BUILD WITH TIMING ADJUSTMENTS OVERALL LOS = C US Route D D D A A C C US Route D D A A C C C C C C C C C C C
2018 PM NO BUILD OVERALL LOS = D US Route C C C C OC C	OVERALL LOS = D US Route D D D D D D D D D D D D D

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FIGURE 23

Levels of Service, US Route 30 & Shealer Road Weekday PM Peak Hour

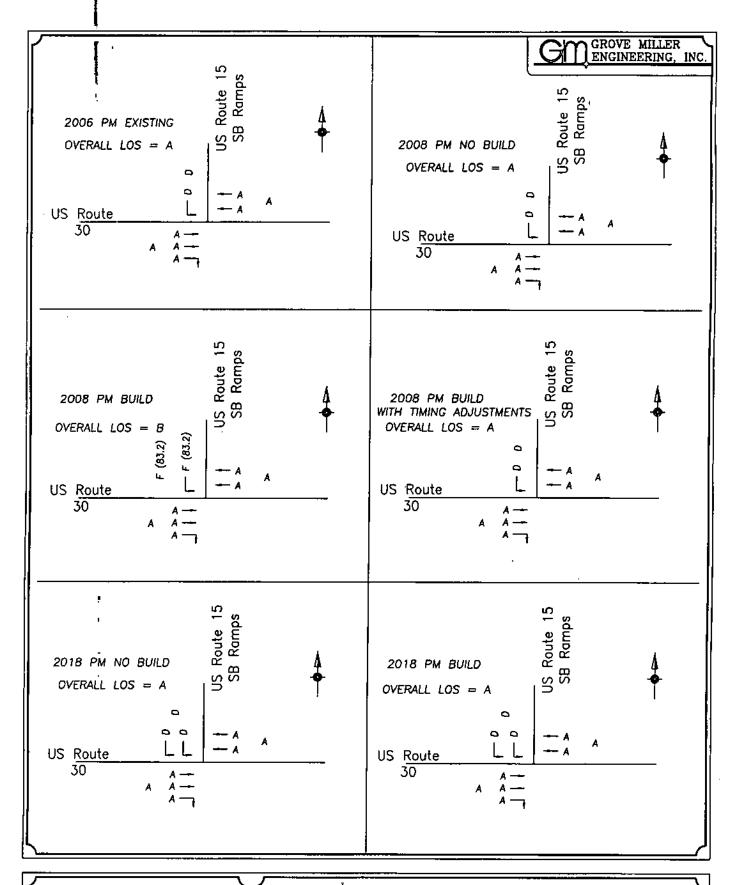


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FIGURE 24

Levels of Service, US Route 30 & Shealer Road Saturday Peak Hour

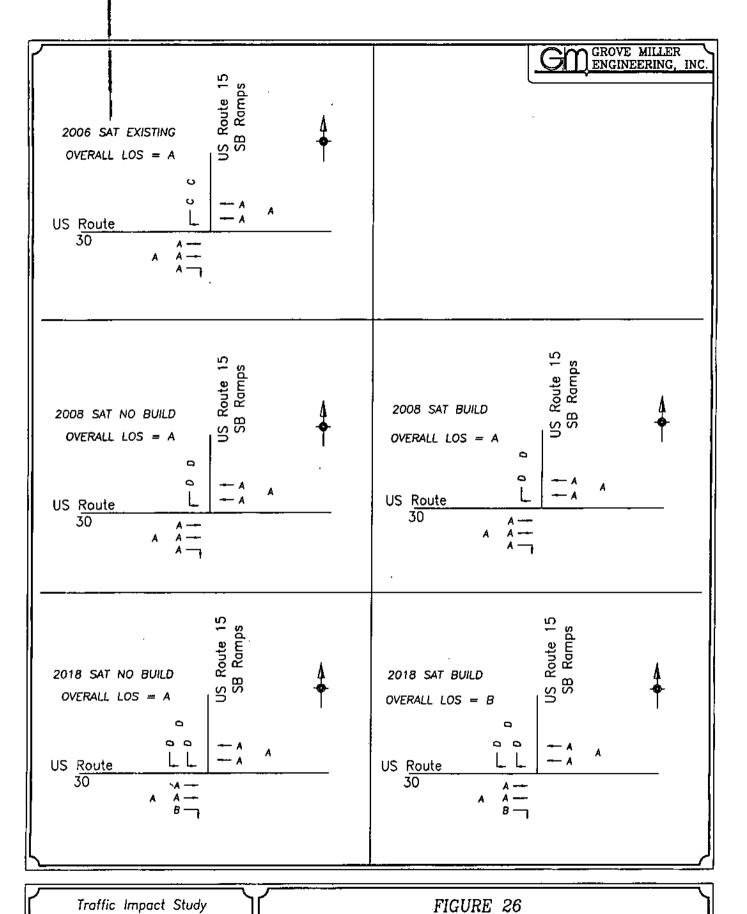


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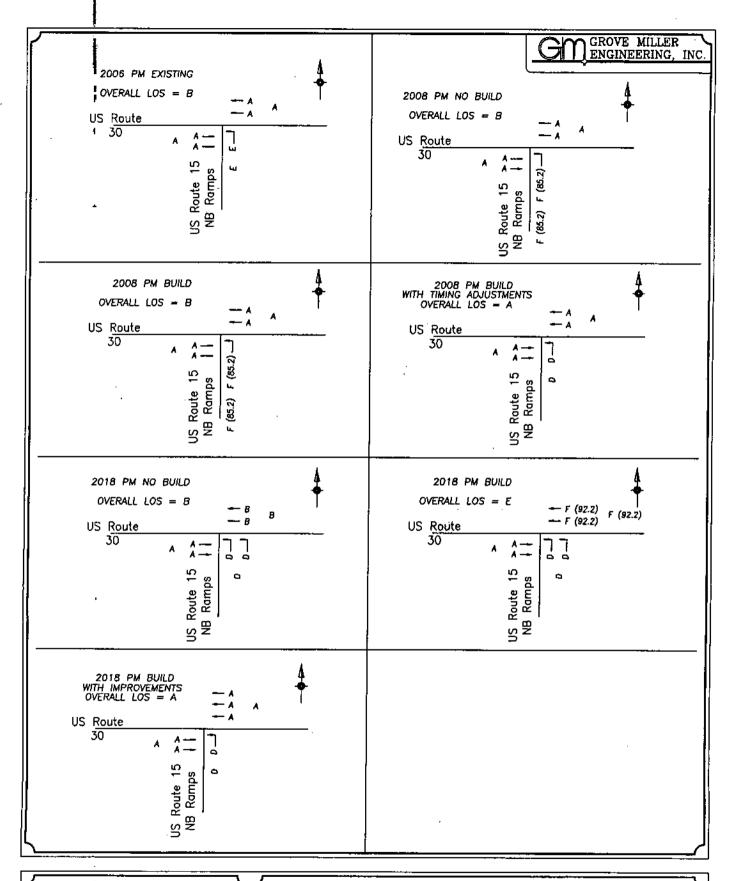
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FIGURE 25

Levels of Service, US Route 30 & US Route 15 Southbound Ramps Weekday PM Peak Hour



Levels of Service,
US Route 30 & US Route 15 Southbound Ramps
Saturday Peak Hour

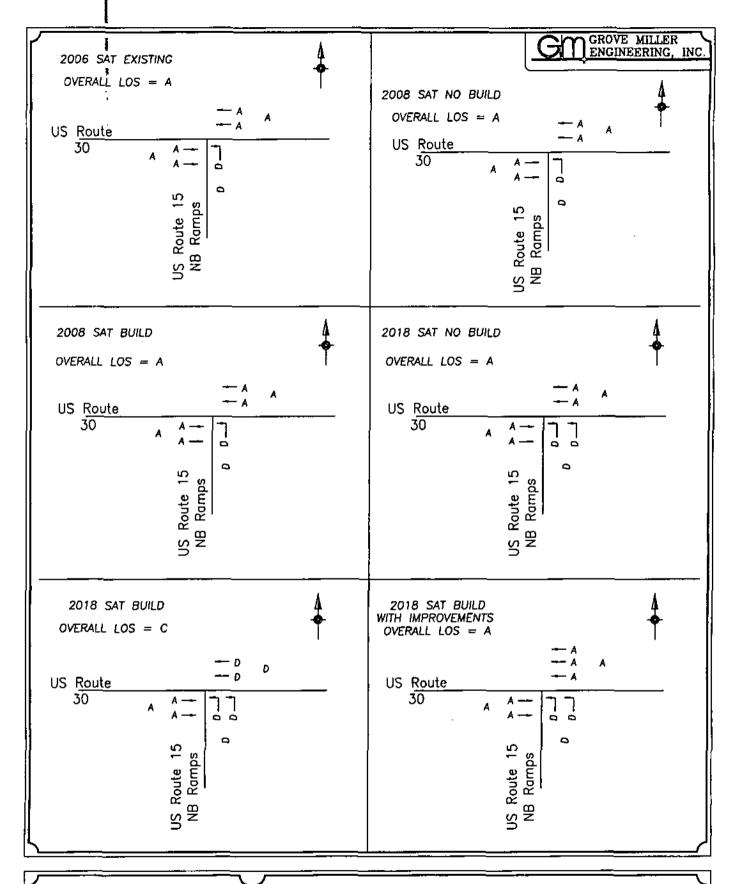


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FIGURE 27

Levels of Service, US Route 30 & US Route 15 Northbound Ramps Weekday PM Peak Hour



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FIGURE 28

Levels of Service, US Route 30 & US Route 15 Northbound Ramps Saturday Peak Hour

	GM GROVE MILLER ENGINEERING, INC.
,	
2018 PM NO BUILD OVERALL LOS = C - A	2018 PM BUILD OVERALL LOS = C
	9 0 F 0 C
US Route	US Route
15	
US Route SPUI	US Route 15 SPUI
	n
.;·	
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×,	
· •	

FIGURE 29
Levels of Service,
US Route 30 & US Route 15 SPUI,
Weekday PM Peak Hour

	GM ENGINEERING, INC.
OVERALL LOS = C Seque SPUI	2018 SAT BUILD OVERALL LOS = D Spute 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SPUIL SPUIL	

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FIGURE 30
Levels of Service,
US Route 30 & US Route 15 SPUI,
Saturday Peak Hour

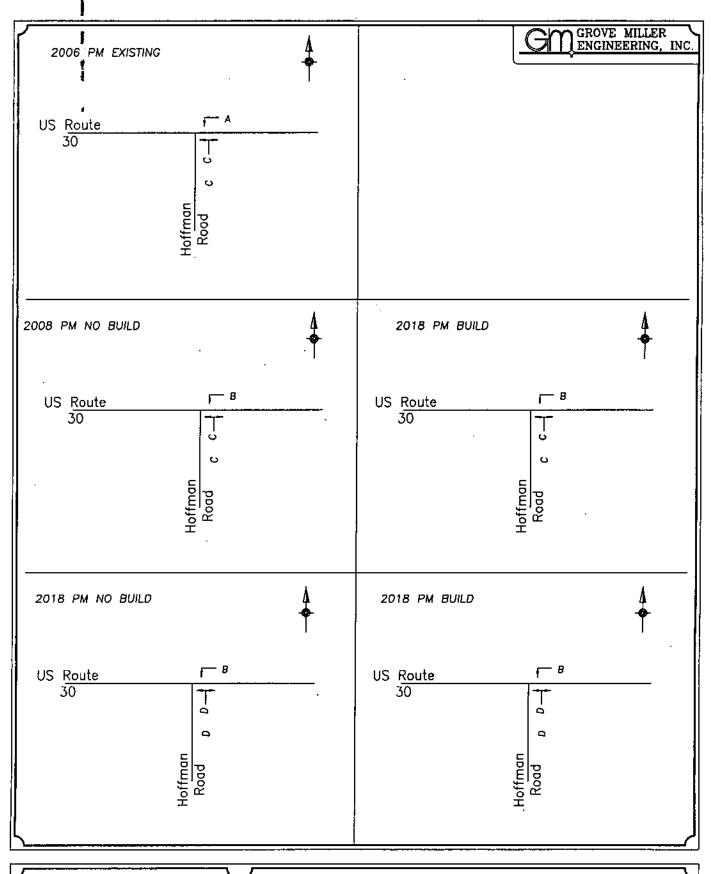
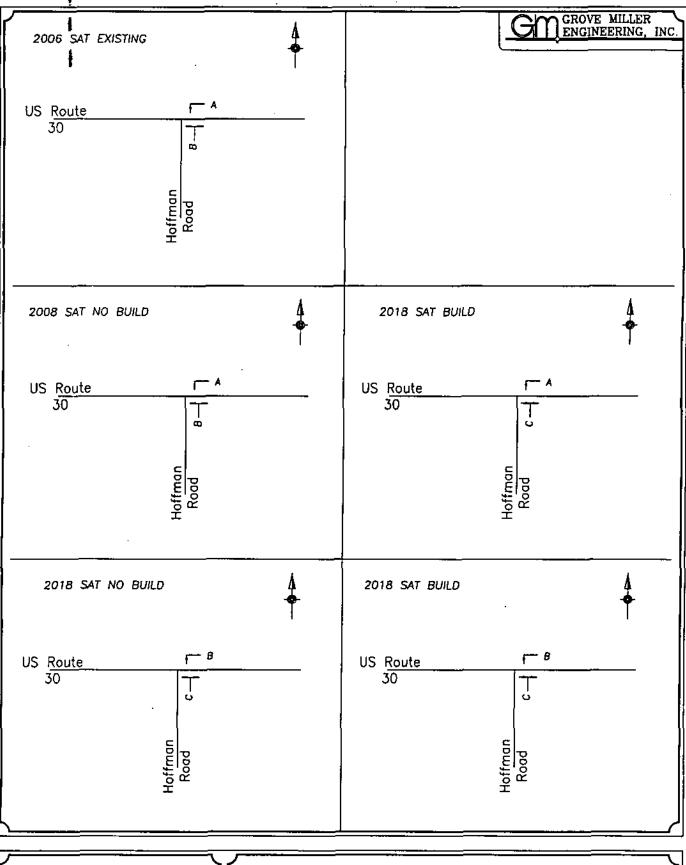


FIGURE 31
Levels of Service,
US Route 30 & Hoffman Road,
Weekday PM Peak Hour

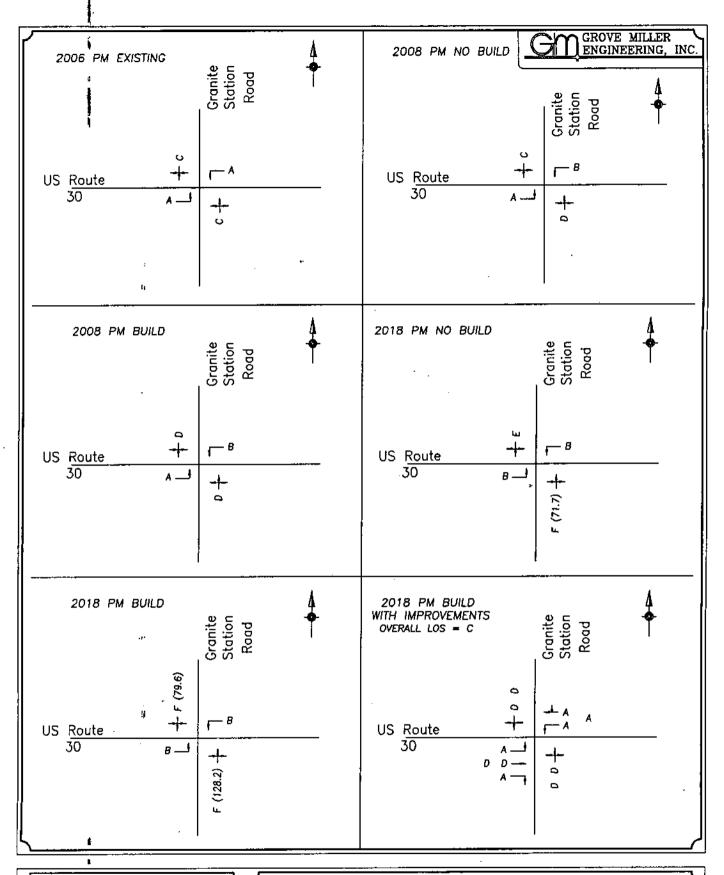


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FIGURE 32

Levels of Service, US Route 30 & Hoffman Road, Saturday Peak Hour

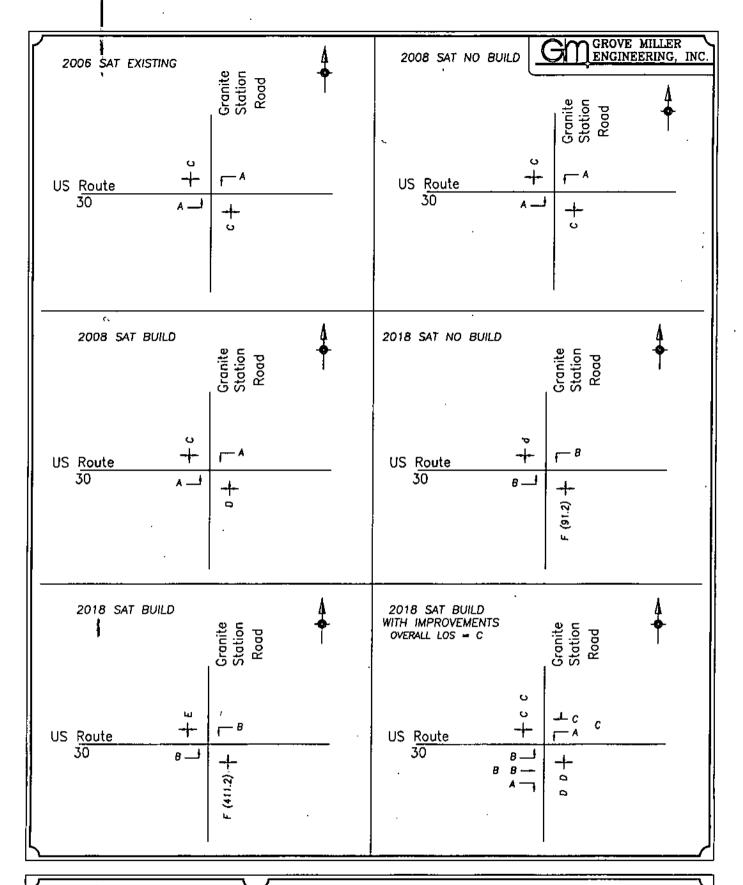


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FIGURE 33

Levels of Service, US Route 30 & Granite Station Road, Weekday PM Peak Hour

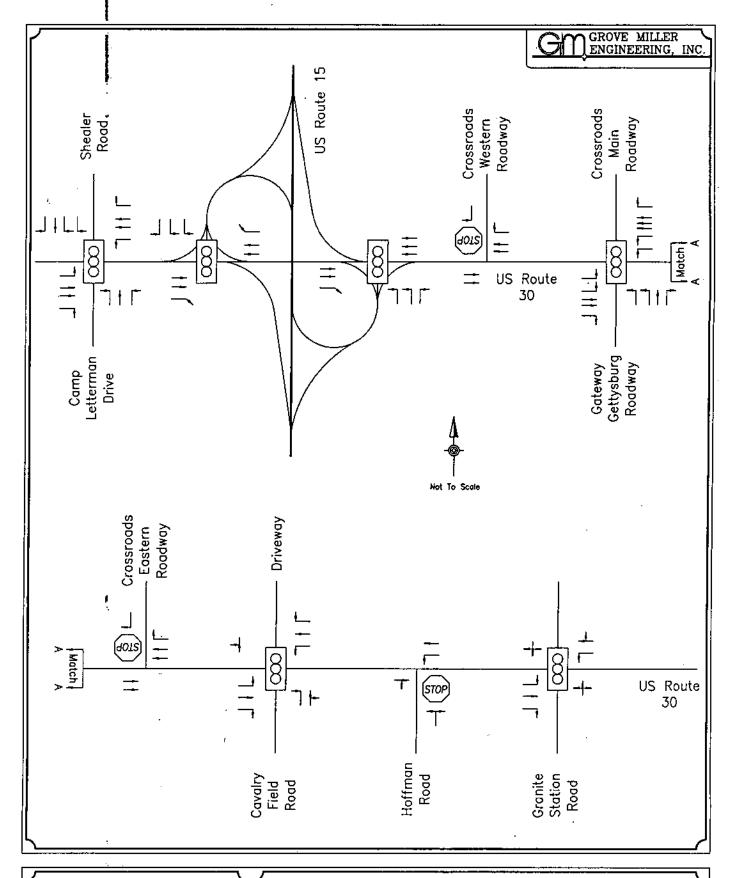


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FIGURE 34

Levels of Service, US Route 30 & Granite Station Road, Saturday Peak Hour

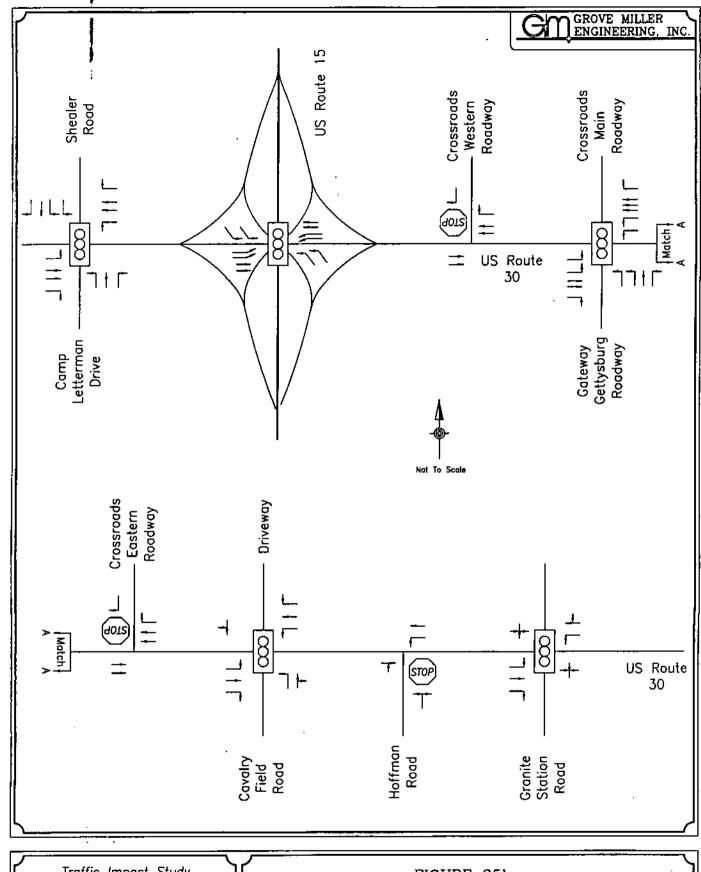


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FIGURE 35a

Recommended Lane Configurations and Intersection Control, with Existing US 15/US 30 Interchange



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FIGURE 35b

Recommended Lane Configurations and Intersection Control, with Proposed PENNDOT US 15/US 30 SPUI