

TRAFFIC IMPACT STUDY

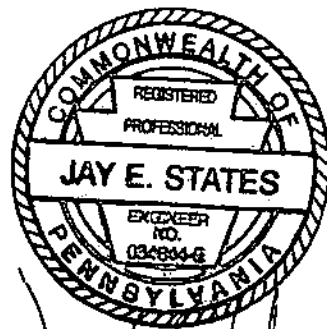
for



in

*Straban Township
Adams County, Pennsylvania*

REVISED AUGUST 2006

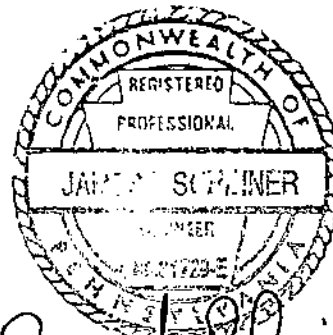


Prepared By:


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	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •Install STOP sign on proposed roadway approach 	2008
US 30/Crossroads Eastern	<ul style="list-style-type: none"> •Install STOP sign on proposed roadway approach 	2008
US 30/Cavalry Field/ Re-located Smith	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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	Improvement Description	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

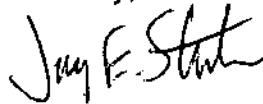
■ Off-site intersection improvements recommended in the preceding table are expected to be implemented by the Township using funds provided by the developer as part of the Township's Act 209 traffic impact fee ordinance.

■ 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
Z:\129_90\corres\12990executivesummary_rev.wpd

TABLE OF CONTENTS

	Page
INTRODUCTION	1
EXISTING CONDITIONS	2
US Route 30	2
US Route 15	3
PROPOSED CONDITIONS	3
DATA COLLECTION	4
TRIP GENERATION	4
TRIP DISTRIBUTION	8
TRAFFIC PROJECTIONS	9
TRAFFIC ANALYSES	9
Highway Capacity Analyses	10
Traffic Signal Warrant Analyses	10
Queue Analyses - Signalized Intersections	11
Sight Distance Evaluation	11
INTERSECTION DISCUSSION	12
US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway	12
US Route 30 and Crossroads West Roadway	16
US Route 30 and Crossroads East Roadway	18
US Route 30 and Cavalry Field Road/Re-located Smith Road	19
US Route 30 and Shealer Road/Camp Letterman Drive	23
US Route 30 and US Route 15 Southbound ramps	27
US Route 30 and US Route 15 Northbound ramps	30
US Route 30 and US Route 15 Single Point Urban Interchange (SPUI)	34
US Route 30 and Hoffman Road	36
US Route 30 and Granite Station Road	38
CONGESTION MANAGEMENT OPPORTUNITIES	42
TRAFFIC CRASHES	43
SUMMARY OF FINDINGS	44
RECOMMENDATIONS	48
LIST OF REFERENCES	52

FIGURES

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

LIST OF TABLES

	Page
Table 1.	Trip Generation Summary - Crossroads Gaming Resort and Spa 6
Table 2.	Capacity Analyses Summary: US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway, Weekday PM Peak Hour 13
Table 3.	Capacity Analyses Summary: US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway, Saturday Peak Hour 14
Table 4.	Queue Analyses: US Route 30 and Crossroads Main Roadway/Gateway Gettysburg Roadway, 2018 Design Year - Build Condition 15
Table 5.	Sight Distance Evaluation Summary: US Route 30 and Crossroads Main Roadway 16
Table 6.	Capacity Analyses Summary: US Route 30 and Crossroads West Roadway 17
Table 7.	Sight Distance Evaluation Summary: US Route 30 and Crossroads West Roadway 17
Table 8.	Capacity Analyses Summary: US Route 30 and Crossroads East Roadway 18
Table 9.	Sight Distance Evaluation Summary: US Route 30 and Crossroads East Roadway 19
Table 10.	Capacity Analyses Summary: US Route 30 and Cavalry Field Road/Re-located Smith Road, Weekday PM Peak Hour 21
Table 11.	Capacity Analyses Summary: US Route 30 and Cavalry Field Road/Re-located Smith Road, Saturday Peak Hour 22
Table 12.	Queue Analyses: US Route 30 and Cavalry Field Road/Re-located Smith Road, 2018 Design Year - Build Condition 23

Table 13.	Capacity Analyses Summary: US Route 30 and Shealer Road/Camp Letterman Drive, Weekday PM Peak Hour	25
Table 14.	Capacity Analyses Summary: US Route 30 and Shealer Road/Camp Letterman Drive, Saturday Peak Hour	26
Table 15.	Queue Analyses: US Route 30 and Shealer Road/Camp Letterman Drive, 2018 Design Year - Build Condition	27
Table 16.	Capacity Analyses Summary: US Route 30 and US Route 15 Southbound Ramps, Weekday PM Peak Hour	29
Table 17.	Capacity Analyses Summary: US Route 30 and US Route 15 Southbound Ramps, Saturday Peak Hour	29
Table 18.	Queue Analyses: US Route 30 and US Route 15 Southbound Ramps, 2018 Design Year - Build Condition	30
Table 19.	Capacity Analyses Summary: US Route 30 and US Route 15 Northbound Ramps, Weekday PM Peak Hour	32
Table 20.	Capacity Analyses Summary: US Route 30 and US Route 15 Northbound Ramps, Saturday Peak Hour	33
Table 21.	Queue Analyses: US Route 30 and US Route 15 Northbound Ramps, 2018 Design Year - Build Condition	34
Table 22.	Capacity Analyses Summary: US Route 30 and US Route 15 SPUI	35
Table 23.	Queue Analyses: US Route 30 and US Route 15 SPUI, 2018 Design Year - Build Condition	36

Table 24.	Capacity Analyses Summary: US Route 30 and Hoffman Road, Weekday PM Peak Hour	37
Table 25.	Capacity Analyses Summary: US Route 30 and Hoffman Road, Saturday Peak Hour	38
Table 26.	Capacity Analyses Summary: US Route 30 and Granite Station Road, Weekday PM Peak Hour	39
Table 27.	Capacity Analyses Summary: US Route 30 and Granite Station Road, Saturday Peak Hour	40
Table 28.	Traffic Signal Warrant Analysis Summary: US Route 30 and Granite Station Road	41
Table 29.	Queue Analyses: US Route 30 and Granite Station Road, 2018 Design Year - Build Condition	42
Table 30.	Traffic Crash Data Summary	43

LIST OF FIGURES

- Figure 1. Location Map
- Figure 2. Existing Lane Configurations and Intersection Control
- Figure 3. 2006 Existing Traffic Volumes, Weekday PM Peak Hour
- Figure 4. 2006 Existing Traffic Volumes, Saturday Peak Hour
- Figure 5. Trip Distribution for Crossroads Gaming Resort and Spa,
Initial Development, Weekday PM Peak Hour
- Figure 6. Trip Distribution for Crossroads Gaming Resort and Spa,
Initial Development, Saturday Peak Hour

- Figure 7. Trip Distribution for Crossroads Gaming Resort and Spa, Full Build-Out, Weekday PM Peak Hour
- Figure 8. Trip Distribution for Crossroads Gaming Resort and Spa, Full Build-Out, Saturday Peak Hour
- Figure 9. 2008 Build Year Traffic Volumes, Weekday PM Peak Hour, No Build
- Figure 10. 2008 Build Year Traffic Volumes, Weekday PM Peak Hour, Build
- Figure 11. 2008 Build Year Traffic Volumes, Saturday Peak Hour, No Build
- Figure 12. 2008 Build Year Traffic Volumes, Saturday Peak Hour, Build
- Figure 13. 2018 Design Year Traffic Volumes, Weekday PM Peak Hour, No Build
- Figure 14. 2018 Design Year Traffic Volumes, Weekday PM Peak Hour, Build
- Figure 15. 2018 Design Year Traffic Volumes, Saturday Peak Hour, No Build
- Figure 16. 2018 Design Year Traffic Volumes, Saturday Peak Hour, Build
- Figure 17. Levels of Service, US Route 30 and Crossroads Main Driveway/Gateway Gettysburg, Weekday PM Peak Hour
- Figure 18. Levels of Service, US Route 30 and Crossroads Main Driveway/Gateway Gettysburg, Saturday Peak Hour
- Figure 19. Levels of Service, US Route 30 and Western Roadway
- Figure 20. Levels of Service, US Route 30 and Eastern Roadway
- Figure 21. Levels of Service, US Route 30 and Cavalry Field Road, Weekday PM Peak Hour
- Figure 22. Levels of Service, US Route 30 and Cavalry Field Road, Saturday Peak Hour
- Figure 23. Levels of Service, US Route 30 and Shealer Road, Weekday PM Peak Hour
- Figure 24. Levels of Service, US Route 30 and Shealer Road, Saturday Peak Hour
- Figure 25. Levels of Service, US Route 30 and US Route 15 Southbound ramps, Weekday PM Peak Hour

- Figure 26. Levels of Service, US Route 30 and US Route 15 Southbound ramps, Saturday Peak Hour
- Figure 27. Levels of Service, US Route 30 and US Route 15 Northbound ramps, Weekday PM Peak Hour
- Figure 28. Levels of Service, US Route 30 and US Route 15 Northbound ramps, Saturday Peak Hour
- Figure 29. Levels of Service, US Route 30 and US Route 15 SPUI, Weekday PM Peak Hour
- Figure 30. Levels of Service, US Route 30 and US Route 15 SPUI, Saturday Peak Hour
- Figure 31. Levels of Service, US Route 30 and Hoffman Road, Weekday PM Peak Hour
- Figure 32. Levels of Service, US Route 30 and Hoffman Road, Saturday Peak Hour
- Figure 33. Levels of Service, US Route 30 and Granite Station Road, Weekday PM Peak Hour
- Figure 34. Levels of Service, US Route 30 and Granite Station Road, Saturday Peak Hour
- Figure 35. Recommended Lane Configuration and Intersection Control

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

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

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

Land Use (ITE Code) Size	Average Weekday Vehicle Trips (vpd)	Average Saturday Vehicle Trips (vpd)	PM Peak (vph)		SAT Peak (vph)	
			Enter	Exit	Enter	Exit
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 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)

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

2006 Existing Conditions: Signalized analyses indicate that 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 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

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left	B	B	C	B	D
	Thru	C	C	A	C	B
	Right	A	A	A	A	A
	Approach	B	B	B	B	B
US Route 30 WB Approach	Left	B	B	C	D	D
	Thru	A	A	C	A	C
	Right			B		C
	Approach	A	A	C	B	C
Gateway Gettysburg NB Approach	Left	C	D	D	F (91.0)	D
	Thru			C		C
	Right	C	C	B	C	B
	Approach	C	C	C	E	D
Smith Road/Crossroads Main Roadway SB Approach	Left	D	D	---	D	---
	Thru			---		---
	Right	D	D	---	D	---
	Approach			---		---
Overall		B	B	C	C	C

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

Highway Capacity Analyses Results LOS (Delay or v/c)						
Approach and Movement		2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left	B	C	C	C	D
	Thru	C	D	B	E	B
	Right	A	A	A	A	A
	Approach	B	B	B	C	C
US Route 30 WB Approach	Left	B	D	C	F (243.4)	D
	Thru	A	B	C	B	D
	Right			C		C
	Approach	A	C	C	E	D
Gateway Gettysburg NB Approach	Left	C	D	D	F (184.7)	D
	Thru			C		C
	Right	C	C	B	C	B
	Approach	C	C	C	F (146.7)	D
Smith Road/Crossroads Main Roadway SB Approach	Left	D	D	---	D	---
	Thru					
	Right	D	D	---	D	---
	Approach					
Overall		B	C	C	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

Approach and Movement		AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)	Recommended Storage Length (feet)
US Route 30 EB Approach	Left (2)	1,149	862	500 each
	Thru (2)	819	614	N/A
	Right	0*	0*	300
US Route 30 WB Approach	Left (2)	494	370	200 each
	Thru (3)	1,451	1,088	N/A
	Right	197	148	300
Gateway Gettysburg NB Approach	Left (2)	1,106	829	500 each
	Thru	81	61	N/A
	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 Main Roadway @ US Route 30	Left	1000 +	383	YES
	Right	1000 +	383	YES

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

US Route 30 and 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.

2018 Design Year Conditions: 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.

Improvement Scenario: 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 Build	2018 PM Build	2008 SAT Build	2018 SAT Build
Crossroads West Roadway SB Approach	Right	B	C	B	C

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 West Roadway @ US Route 30	Left	1000 +	383	YES
	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

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.

2018 Design Year Conditions: 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.

Improvement Scenario: 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

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

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 East Roadway @ US Route 30	Left	1000 +	383	YES
	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

2006 Existing Conditions: 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.

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

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

US Route 30 WB Approach

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

Cavalry Field Road NB Approach

- Left-turn lane
- Shared through/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 and Movement		2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left	B	B	A	B	A
	Through	E	F (110.6)	A	F (345.5)	C
	Right	B	B	A	B	A
	Approach	E	F (75.3)	A	F (310.6)	C
US Route 30 WB Approach	Left	C	C	B	C	C
	Through	C	D	D	F (143.0)	D
	Right	C	D	B		A
	Approach	C	D	D	F (138.5)	D
Cavalry Field Rd NB Approach	Left	D	E	D	D	D
	Through	D	E	C		D
	Right	D	D	C	D	D
	Approach	D	E	D	D	D
Re-located Smith Rd (driveway) SB Approach	Left	D	D	C	D	D
	Through	D	D	C		C
	Right	D	D	C	D	D
	Approach	D	D	C	D	D
Overall		D	E	C	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 and Movement		2006 Existing	2008 No Build	2008 Build w/ Improv	2018 No Build	2018 Build w/ Improv
US Route 30 EB Approach	Left	B	B	A	B	A
	Through	D	F (85.1)	A	F (232.8)	A
	Right	B	B	A	B	A
	Approach	C	E	A	F (190.9)	A
US Route 30 WB Approach	Left	C	C	A	D	A
	Through	C	C	B	F (149.7)	D
	Right			A		A
	Approach	C	C	B	F (144.1)	D
Cavalry Field Rd NB Approach	Left	C	D	C	D	D
	Through			C		D
	Right	C	C	C	C	D
	Approach	C	C	C	D	D
Re-located Smith Rd (driveway) SB Approach	Left	D	D	C	D	D
	Through			C		D
	Right	D	D	C	D	D
	Approach			C		D
Overall		C	D	B	F (158.6)	C

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

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

US Route 30 and Shealer Road/Camp Letterman Drive

Capacity Analyses

2006 Existing Conditions: Signalized analyses indicate that 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 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.

2018 Design Year Conditions: Signalized analyses indicate that the intersection is expected to operate with all movements at LOS "D" or better during the weekday PM and Saturday peak hours, with or without the proposed development, 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 Movement		2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build
US Route 30 EB Approach	Left	B	B	B	B	D	D
	Through	B	D	E	D	C	D
	Right	A	A	A	A	C	C
	Approach	B	D	D	D	C	D
US Route 30 WB Approach	Left	B	C	D	C	B	B
	Through	B	C	C	C	C	D
	Right	A	A	A	A	C	C
	Approach	B	C	C	C	C	C
Camp Letterman Dr NB Approach	Left	C	C	C	C	D	D
	Through	C	C	C	C	D	D
	Right	B	B	B	C	C	C
	Approach	C	C	C	C	D	D
Shealer Rd SB Approach	Left	D	D	D	D	D	D
	Through	C	C	C	C	D	D
	Right					D	D
	Approach	D	D	D	D	D	D
Overall		B	C	D	C	D	D

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 Movement		2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build
US Route 30 EB Approach	Left	B	C	C	C	D	D
	Through	B	D	E	C	B	B
	Right	A	A	A	A	A	A
	Approach	B	D	D	C	C	C
US Route 30 WB Approach	Left	B	C	D	D	D	D
	Through	C	E	F (84.5)	D	D	D
	Right	A	A	A	A	C	C
	Approach	C	D	E	D	D	D
Camp Letterman Dr NB Approach	Left	C	C	C	D	D	D
	Through	C	C	C	D	D	D
	Right	B	B	B	C	D	D
	Approach	C	C	C	C	D	D
Shealer Rd SB Approach	Left	C	C	C	D	D	D
	Through	C	C	C	D	D	D
	Right	C	C	C	D	D	D
	Approach	C	C	C	D	D	D
Overall		C	D	E	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 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

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

2006 Existing Conditions: 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.

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 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 and Movement		2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	A	A
	Right	A	A	A	A	A	A
	Approach	A	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	A	A
	Approach	A	A	A	A	A	A
US Route 15 SB Off-Ramp SB Approach	Left	D	D	F (83.2)	D	D	D
Overall		A	A	B	A	A	A

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 and Movement		2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 EB Approach	Thru	A	A	A	A	A
	Right	A	A	A	B	B
	Approach	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	A
	Approach	A	A	A	A	A
US Route 15 SB Off-Ramp SB Approach	Left	C	D	D	D	D
Overall		A	A	A	A	B

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

Approach and Movement		AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)
US Route 30 EB Approach	Thru (2)	723	542
	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 and Movement		2006 Existing	2008 No Build	2008 Build	2008 Build w/ Improv	2018 No Build	2018 Build	2018 Build w/ Improv
US Route 30 EB Approach	Thru	A	A	A	A	A	A	A
	Approach	A	A	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	B	F (92.2)	A
	Approach	A	A	A	A	B	F (92.2)	A
US Route 15 NB Off-Ramp NB Approach	Left	E	F (85.2)	F (85.2)	D	D	D	D
Overall		B	B	B	A	B	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)							
Approach and Movement		2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build	2018 Build w/ Improv
US Route 30 EB Approach	Thru	A	A	A	A	A	A
	Approach	A	A	A	A	A	A
US Route 30 WB Approach	Thru	A	A	A	A	D	A
	Approach	A	A	A	A	D	A
US Route 15 NB Off-Ramp NB Approach	Left	D	D	D	D	D	D
Overall		A	A	A	A	C	A

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

Approach and Movement		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

2018 Design Year Conditions: 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 and 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	C	D	C	E	D
	Approach	C	D	C	E	D
US Route 30 WB Approach	Left	C	D	C	D	D
	Thru	A	A	A	A	A
	Approach	B	C	B	C	C
US Route 15 NB Off-Ramp NB Approach	Left	D	D	D	D	D
	Approach	D	D	D	D	D
US Route 15 SB Off-Ramp SB Approach	Left	D	D	D	E	D
	Approach	D	D	D	E	D
Overall		C	C	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

Approach and Movement		AASHTO Desirable Storage Length Required (feet)	AASHTO Minimum Storage Length Required (feet)
US Route 30 EB Approach	Left (2)	283	213
	Thru (2)	1,241	931
US Route 30 WB Approach	Left (2)	1,032	774
	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.

2008 Build Year Conditions: 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.

Improvement Scenario: Based on the anticipated satisfactory levels of 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 and Movement		2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 WB Approach	Left	A	B	B	B	B
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 and Movement		2006 Existing	2008 No Build	2008 Build	2018 No Build	2018 Build
US Route 30 WB Approach	Left	A	A	A	B	B
Hoffman Road NB Approach	Left/Right	B	B	C	C	C

US Route 30 and Granite Station Road

Capacity Analyses

2006 Existing Conditions: 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.

Improvement Scenario: 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

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
US Route 30 EB Approach	Left	A	A	A	B	B	A
	Through	---	---	---	---	---	D
	Right	---	---	---	---	---	A
	Approach	---	---	---	---	---	D
US Route 30 WB Approach	Left	A	B	B	B	B	A
	Through	---	---	---	---	---	A
	Right	---	---	---	---	---	A
	Approach	---	---	---	---	---	A
Granite Station Rd NB Approach	Left						
	Through	C	D	D	F (71.7)	F (128.2)	D
	Right						
	Approach	C	D	D	F (71.7)	F (128.2)	D
Granite Station Rd SB Approach	Left						
	Through	C	C	D	E	F (79.6)	D
	Right						
	Approach	C	C	D	E	F (79.6)	D
Overall		---	---	---	---	---	C

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

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
US Route 30 EB Approach	Left	A	A	A	B	B	B
	Through	---	---	---	---	---	B
	Right	---	---	---	---	---	A
	Approach	---	---	---	---	---	B
US Route 30 WB Approach	Left	A	A	A	B	B	A
	Through	---	---	---	---	---	C
	Right	---	---	---	---	---	C
	Approach	---	---	---	---	---	C
Granite Station Rd NB Approach	Left	C	C	D	F (91.2)	F (411.2)	D
	Through	C	C	D	F (91.2)	F (411.2)	D
	Right	C	C	D	F (91.2)	F (411.2)	D
	Approach	C	C	D	F (91.2)	F (411.2)	D
Granite Station Rd SB Approach	Left	C	C	C	D	E	C
	Through	C	C	C	D	E	C
	Right	C	C	C	D	E	C
	Approach	C	C	C	D	E	C
Overall		---	---	---	---	---	C

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

Year	Peak Hour Warrant		
	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)
US Route 30 EB Approach	Left	35	26
	Thru	546	410
	Right	43	32
US Route 30 WB Approach	Left	8	6
	Thru/Right	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 non-peak hour traffic time periods.
- Encouraging transit use and car pooling by Casino employees.
- Providing incentives for patrons arriving via buses and high occupancy vehicles.

- Providing incentives for patrons arriving during off-peak traffic periods.
- Providing shuttle service from the Casino hotel to local tourist attractions.

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

Intersection	Year (number of crashes)					Total
	2001	2002	2003	2004	2005	
US 30 and Cavalry Field Rd*	0	0	0	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

**Traffic signal installed in 2002

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

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 SPUJ).

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)

US Route 30 WB 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

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.

LIST OF REFERENCES

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



MEMORANDUM

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@mcmtrans.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.

JJS/b



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)
- Casey Moore - McMahon (Township Traffic Consultant)
- Jodie Evans - McMahon (Township Traffic Consultant)
- Jeff Ernico - Mette Evans & Woodside (Crossroads Representative)
- Bill Schnoor - HRG (Crossroads Site Engineer)
- Jay States - Grove Miller (Crossroads Traffic Consultant)
- Jim Scheiner - 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 could 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 PennDOT. 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 "on-site" versus "off-site" for potential credit will be key issues to resolve.*

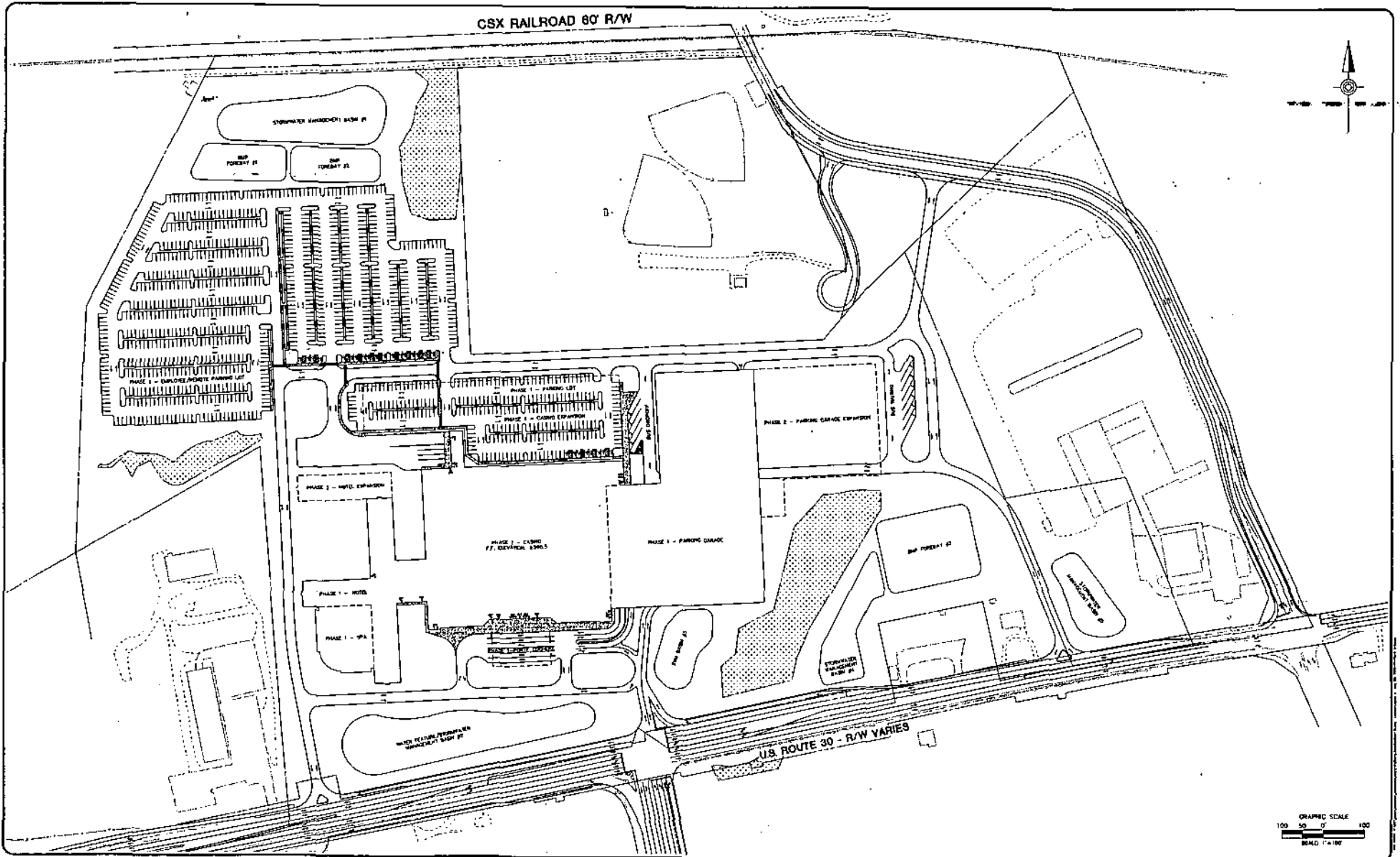
Please provide any comments or corrections to these minutes within five (5) days of distribution via e-mail to: jscheiner@benatec.com.

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



NO.	REVISION	DATE	BY



HRG
 HARRISBURG REGIONAL GROUP
 Engineering & Related Services

269 East Park Drive
 Harrisburg, PA 17111
 (717) 564-1121
 Fax (717) 564-1158
 hrgh@hrgh.com
 www.hrgh.com

CROSSROADS GAMING RESORT & SPA, L.P.
 c/o JEFF ERNICO
 3401 N. FRONT ST., P.O. BOX 5950
 HARRISBURG, PENNSYLVANIA 17110
 717-222-6000

OVERALL SITE PLAN
 FOR
 CROSSROADS GAMING RESORT AND SPA
 STRABAN TOWNSHIP ADAMS COUNTY PENNSYLVANIA

PROJ. MGR. - AMK
 DESIGN - WJS/PLK
 CAD - JAN/JSP
 CHECKED -
 SCALE - 1" = 100'
 DATE - AUG. 2006

DRAWING NO.
1
 SHEET NO.
 1 OF 1
 PROJECT 3364-001

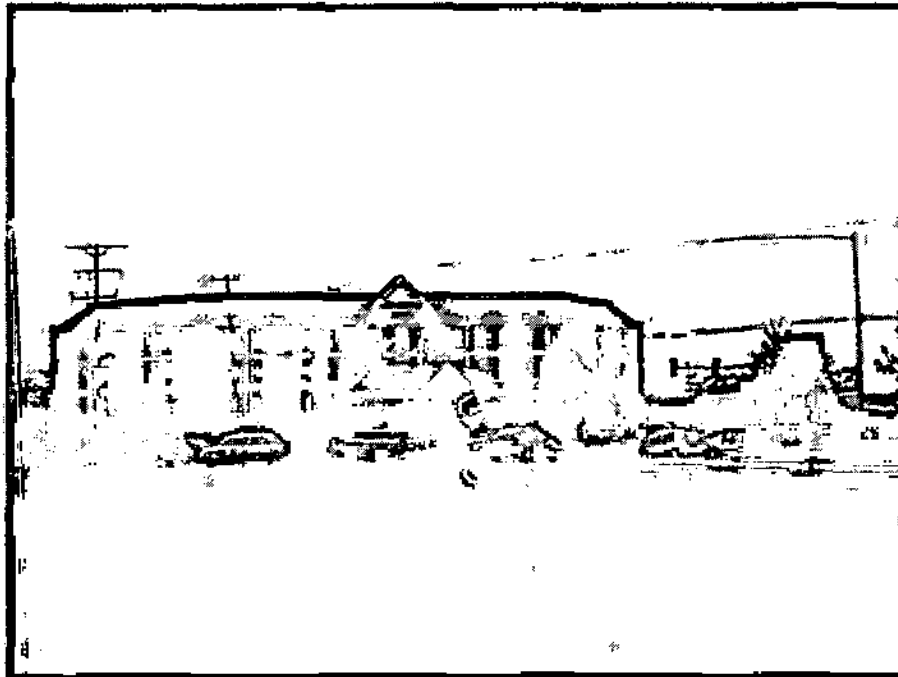
Study Area Photographs



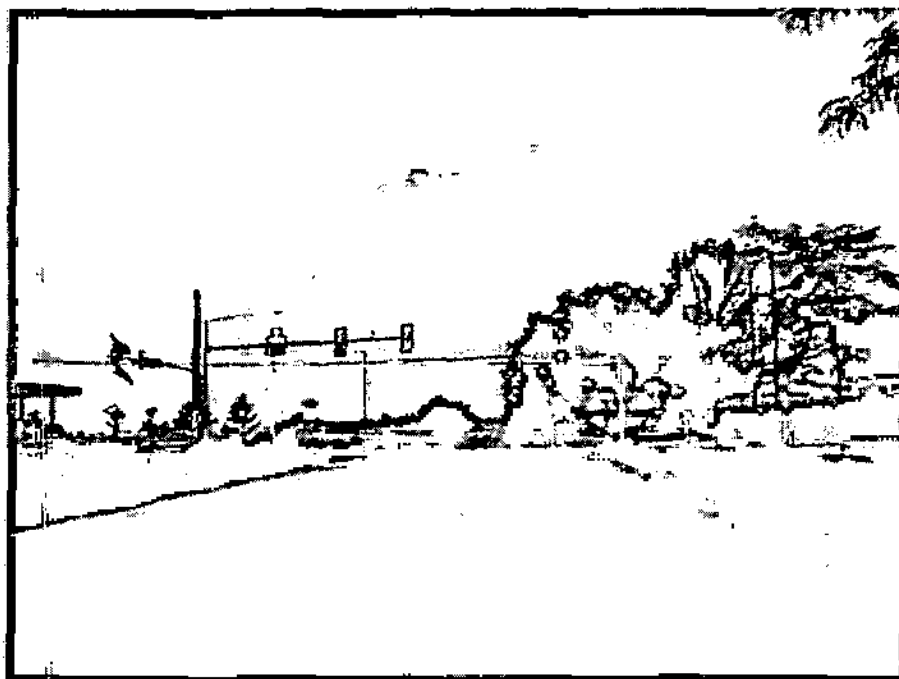
US Route 30 looking eastbound at Shealer Road.



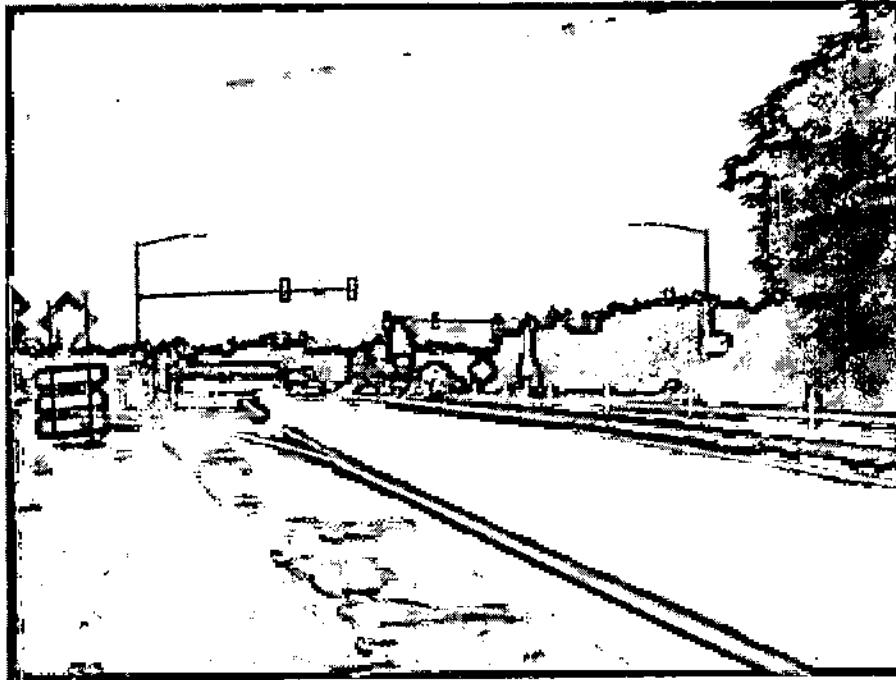
US Route 30 looking westbound at Shealer Road.



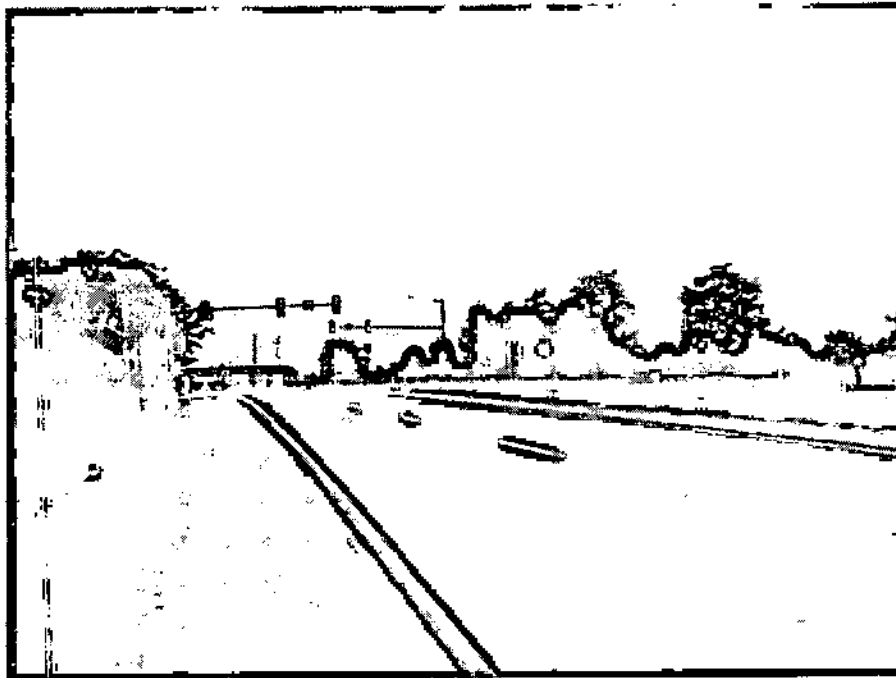
Shealer Road looking northbound at US Route 30.



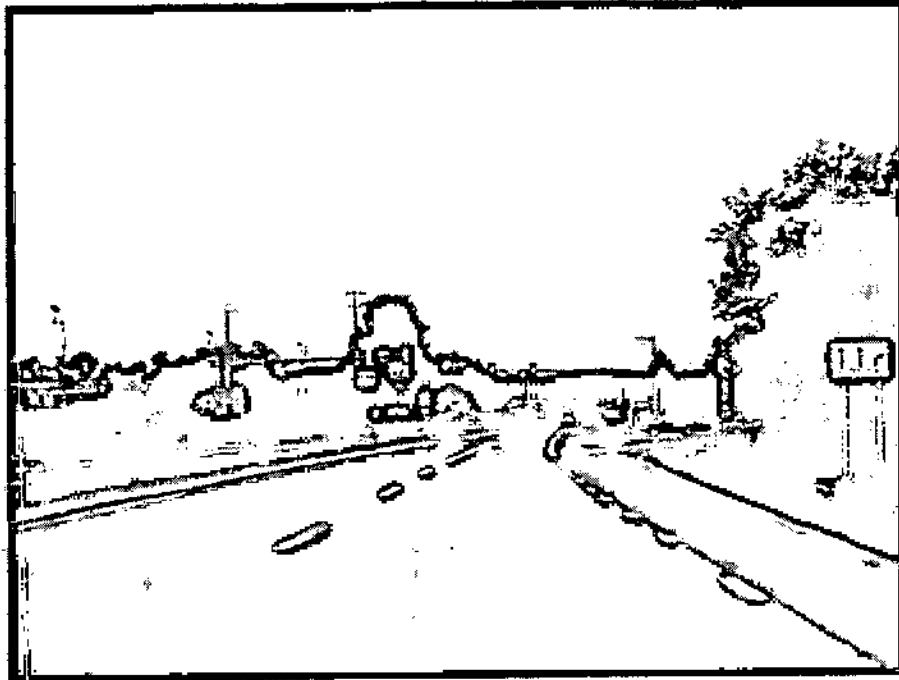
Shealer Road looking southbound at US Route 30.



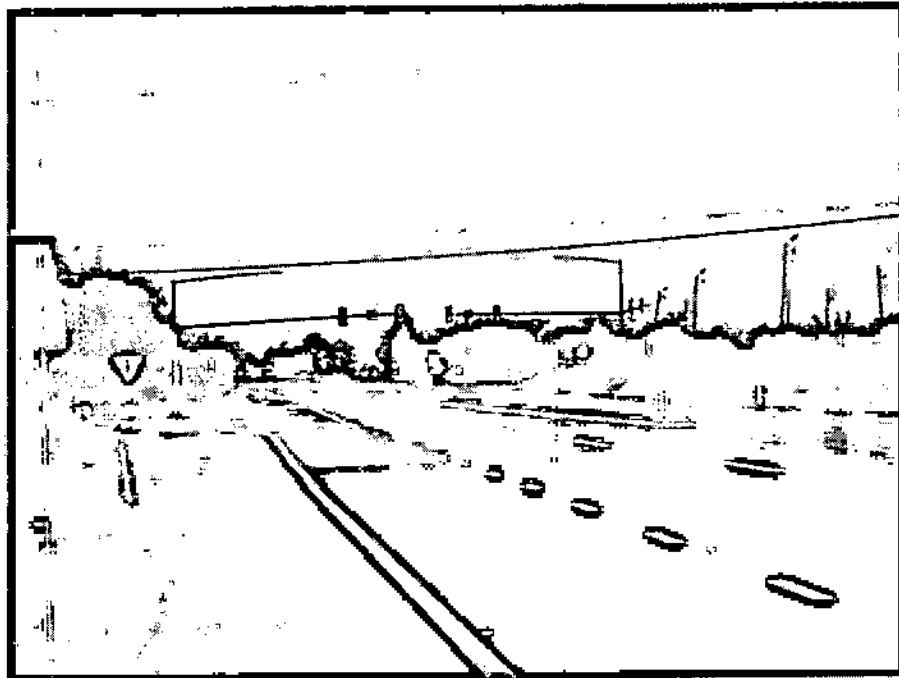
US Route 30 looking eastbound at US Route 15 southbound on/off ramps.



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.



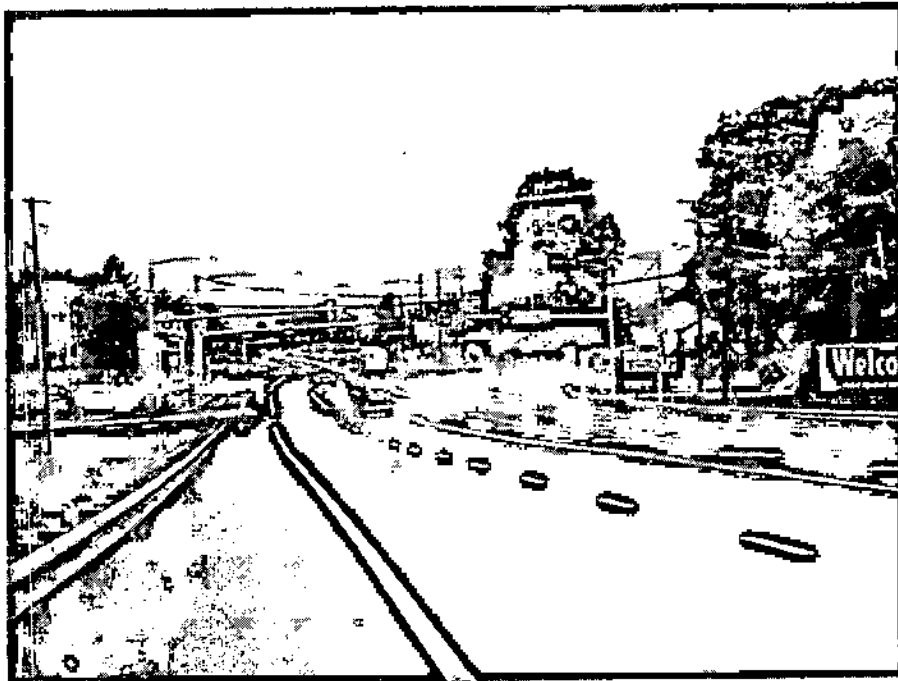
US Route 30 looking westbound at US Route 15 northbound on/off ramps.



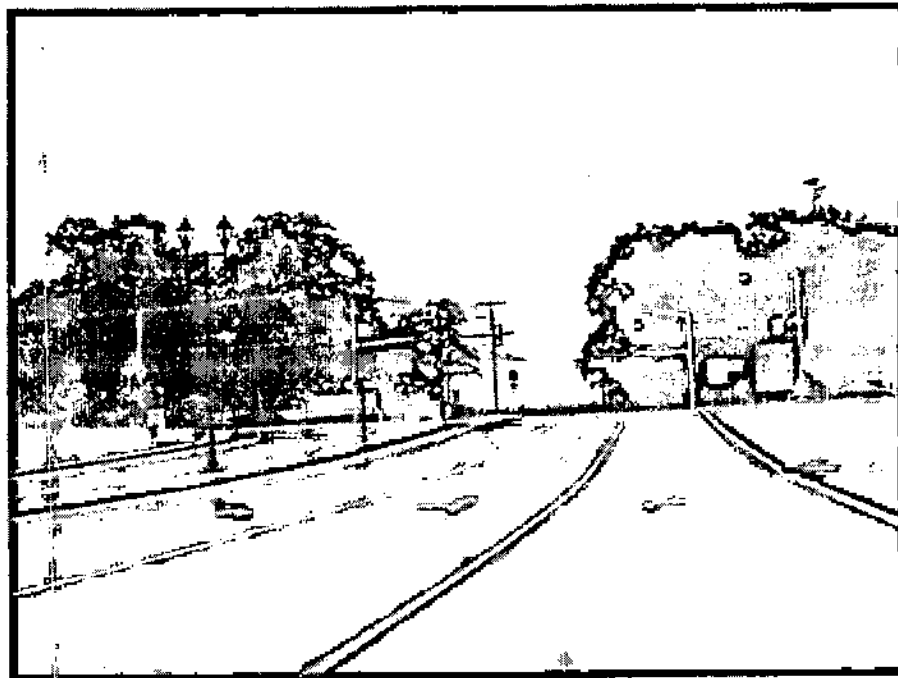
US Route 15 northbound off ramp looking at US Route 30.



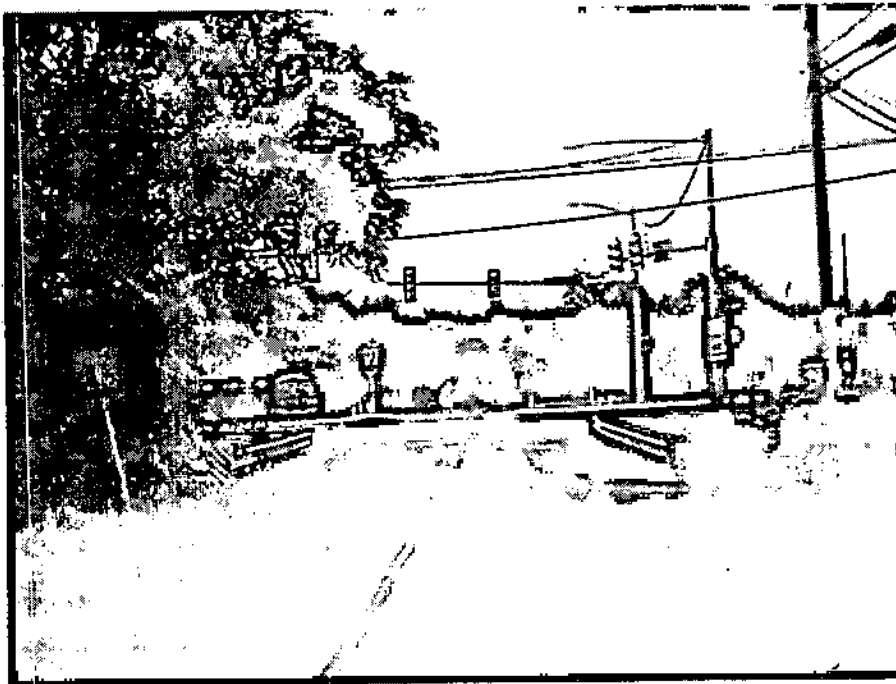
US Route 30 looking eastbound at Gateway Boulevard and Smith Road.



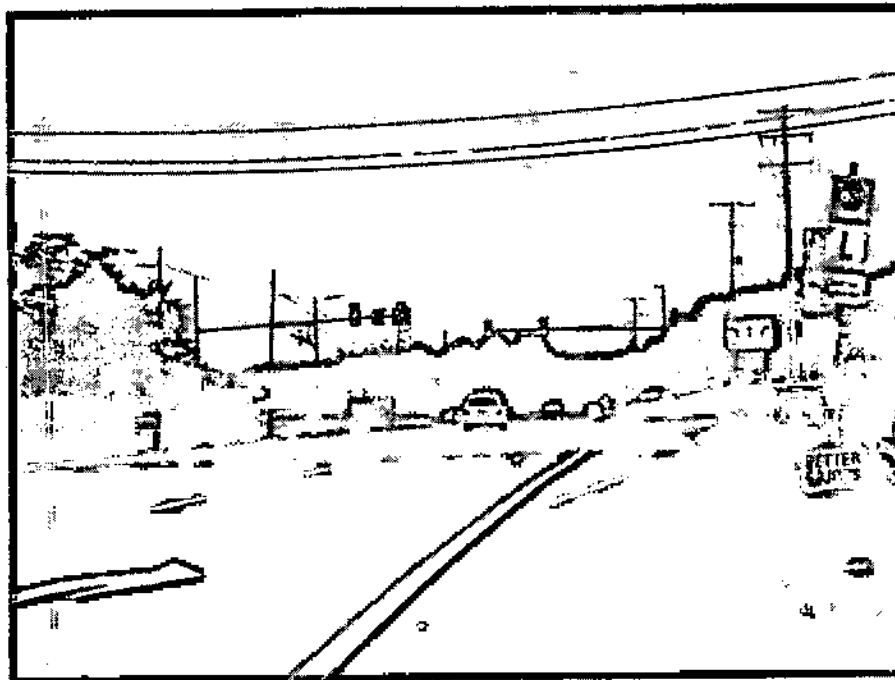
US Route 30 looking westbound at Gateway Boulevard and Smith Road.



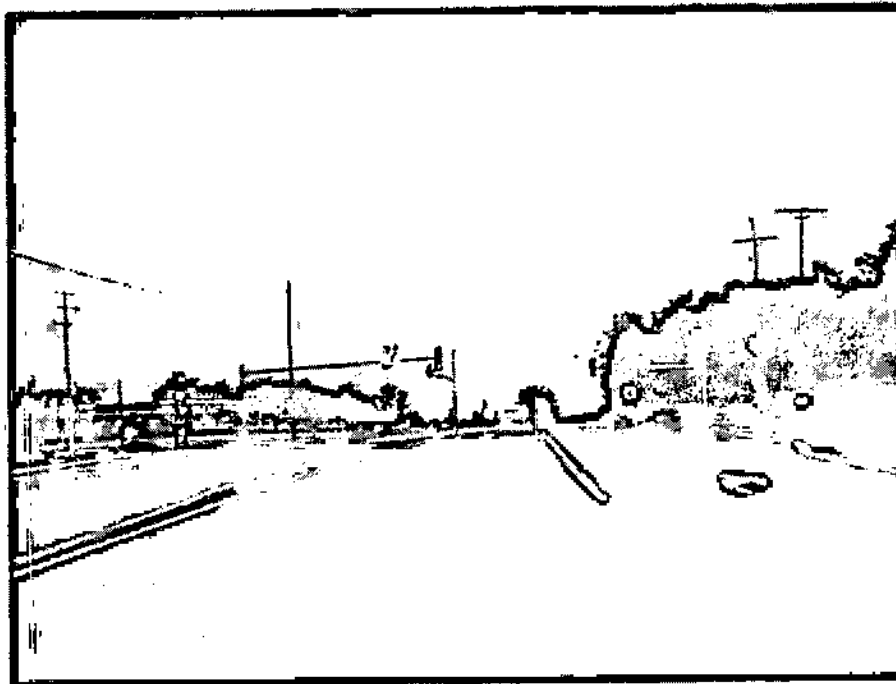
Gateway Boulevard looking northbound at US Route 30 and Smith Road.



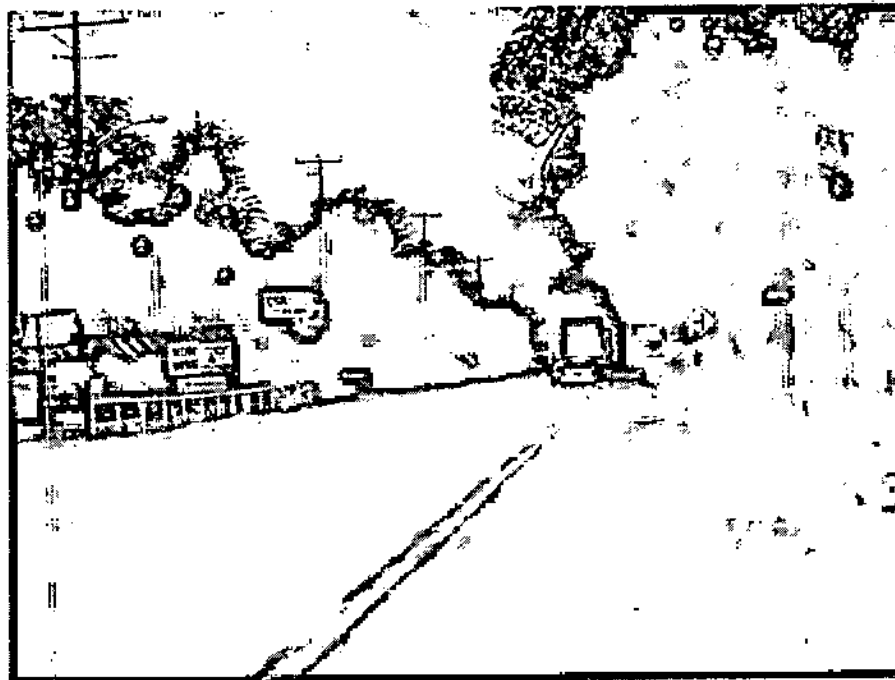
Smith Road looking southbound at US Route 30 and Gateway Boulevard.



US Route 30 looking eastbound at Cavalry Field Road.



Cavalry Field Road looking northbound at US Route 30.



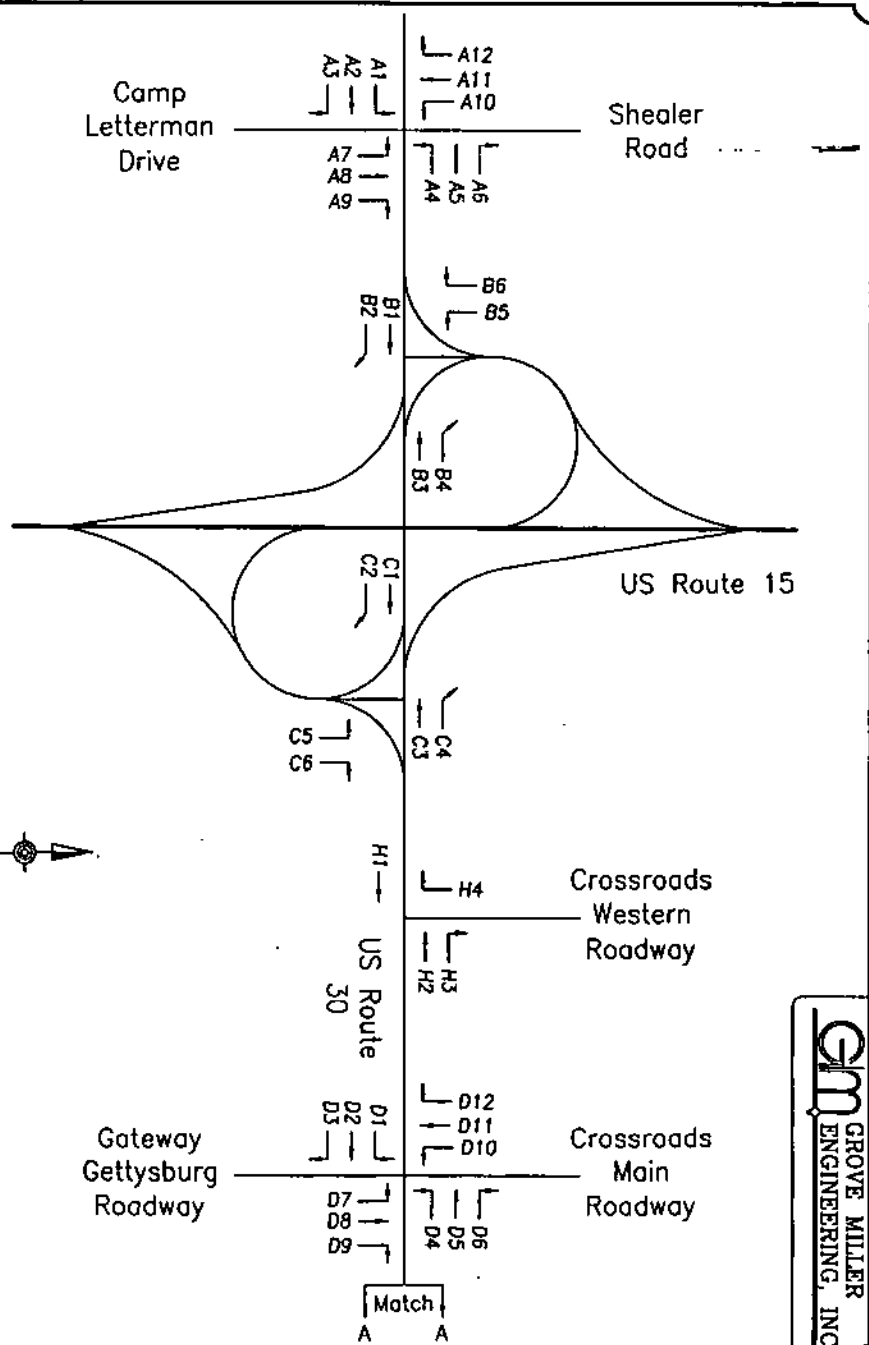
US Route 30 looking eastbound at Hoffman Road.



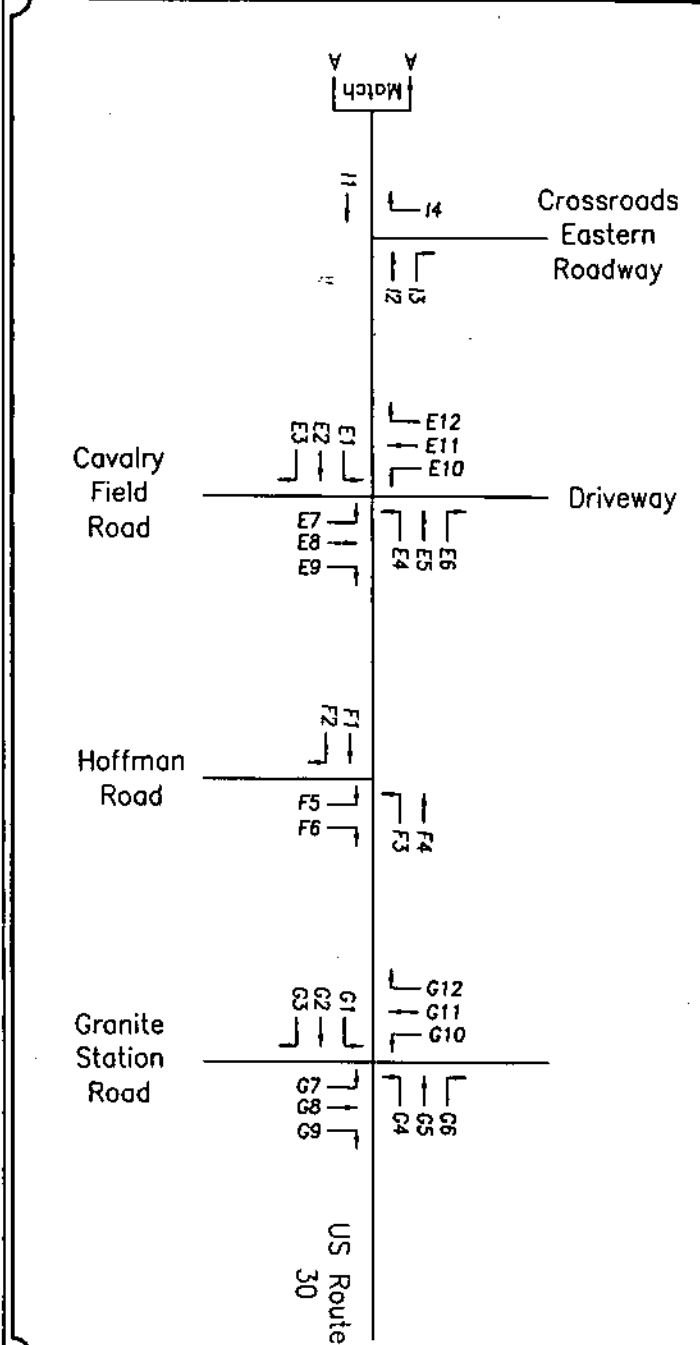
Hoffman Road looking northbound at US Route 30.

Traffic Projections

Intersection Movement Key and Spreadsheets



Not To Scale

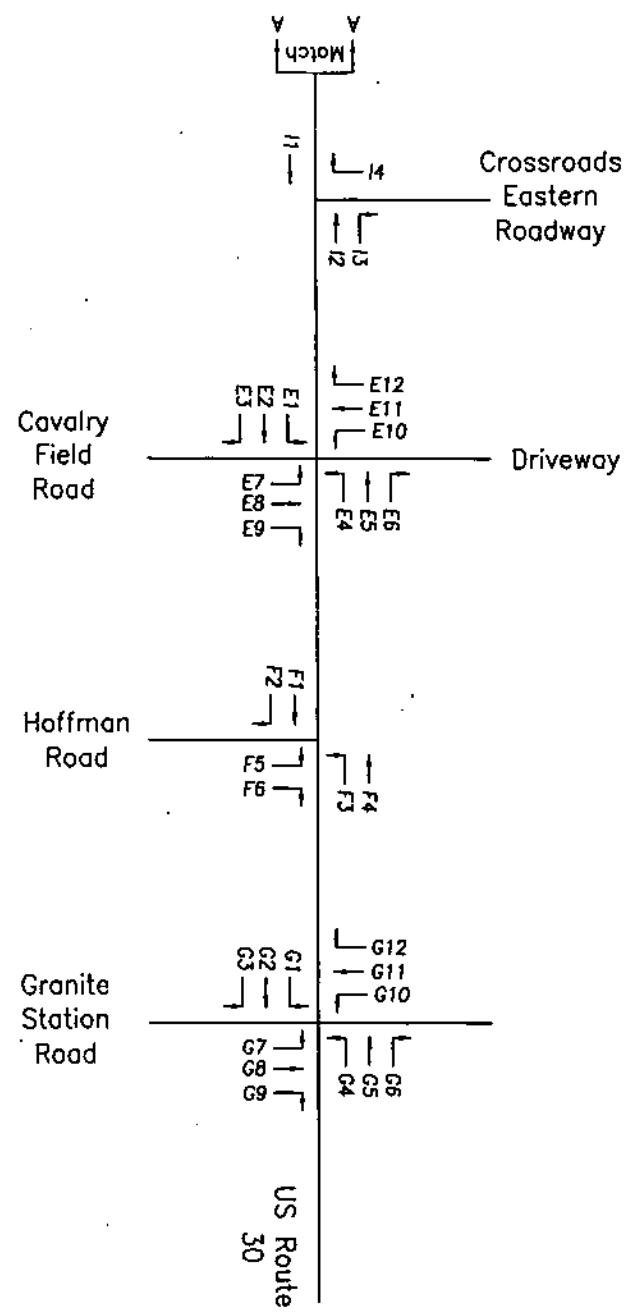
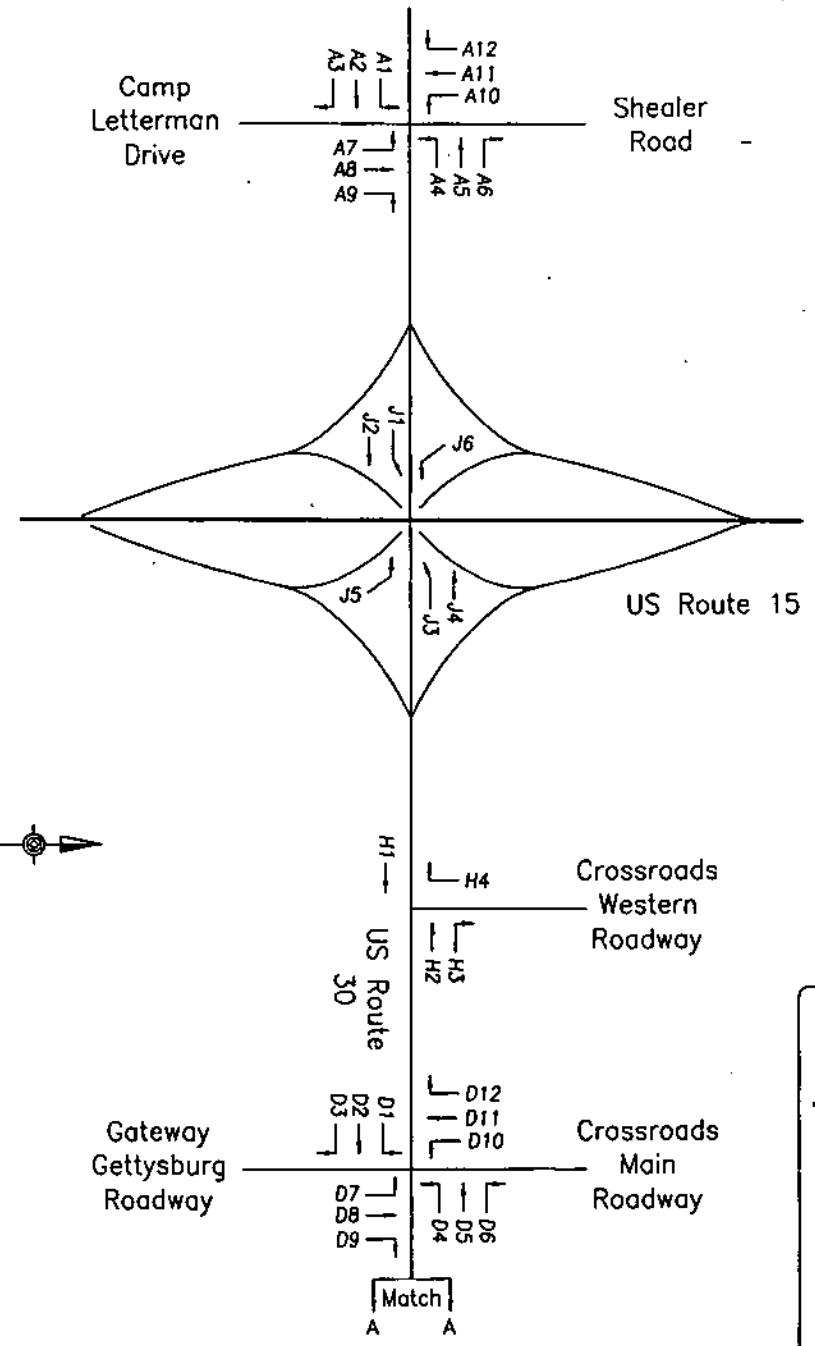


Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

Intersection Movement Key



Traffic Impact Study

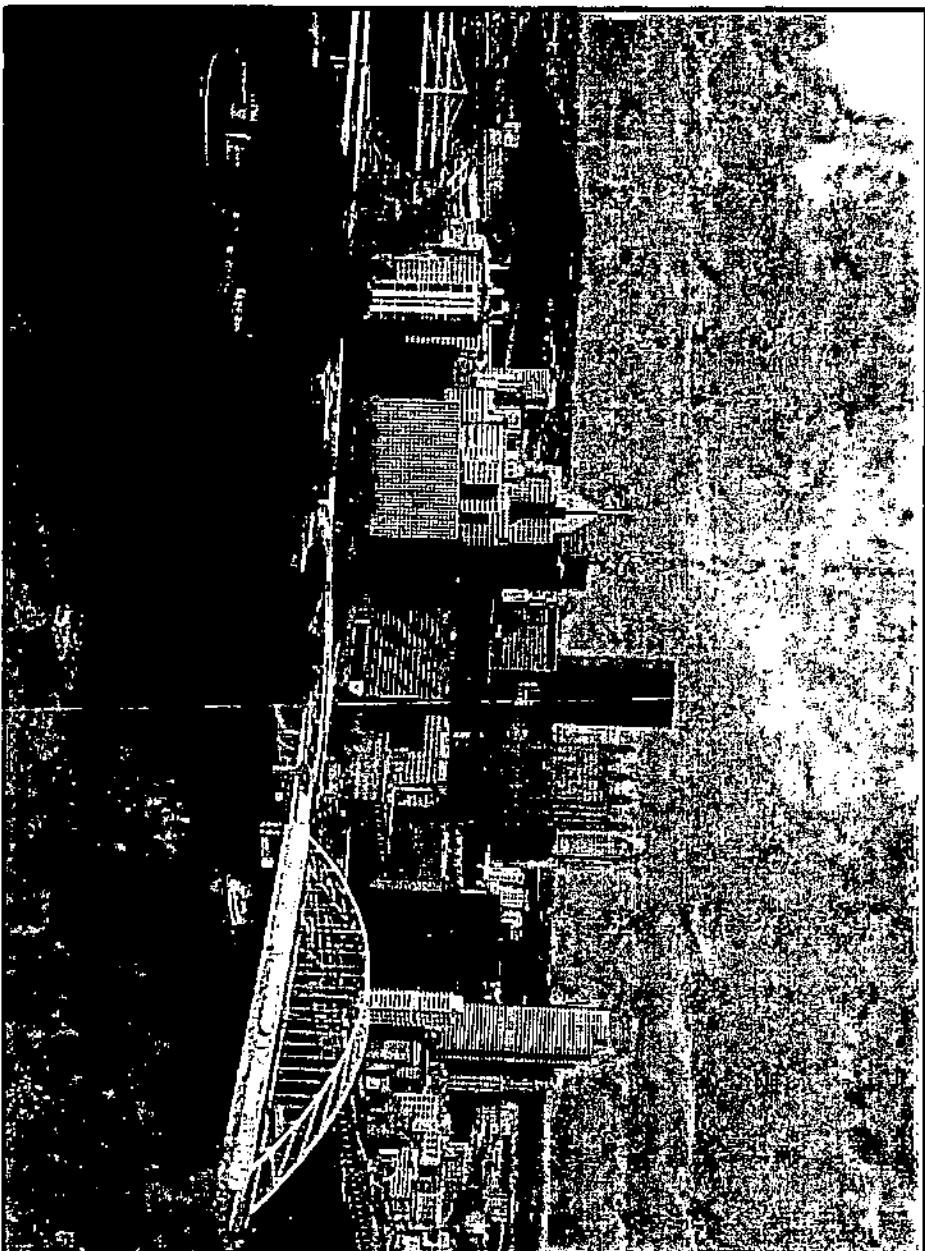
CROSSROADS GAMING RESORT AND SPA
Strabon Township, Adams County, PA

Intersection Movement Key

Traffic Projections

Traffic Growth Rate Documentation

2004 Pennsylvania Traffic Data



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



In cooperation with:
US Department of Transportation
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.

Percent Change Per Year, 1999 - 2004						
TRAFFIC PATTERN GROUPS	1999-00	2000-01	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%	2.2%	3.0%	3.0%	3.3%	12.6%
TPG 3 Urban Principal Arterial	0.5%	1.9%	1.8%	1.0%	1.4%	6.8%
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			
Analyst	JES	Intersection	US 30 & Gateway/Smith	Agency or Co.	GME	Area Type	All other areas
Date Performed	8/10/2006	Jurisdiction	Straban Twp, Adams Co	Time Period	Weekday PM Peak Hour	Analysis Year	2006 Existing

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	4	606	49	10	651	2	33	0	9	4	0	1
% Heavy Vehicles	0	6	0	0	9	0	0	0	0	0	0	0
PHF	0.93	0.93	0.93	0.80	0.80	0.80	0.90	0.90	0.90	0.75	0.75	0.75
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 10.7	G = 36.7	G =	G =	G = 33.2	G = 5.1	G =	G =				
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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	4	652	53	12	816		37	0	10		6
Lane Group Capacity	218	1139	1615	382	1620		537	565	512		74	
v/c Ratio	0.02	0.57	0.03	0.03	0.50		0.07	0.00	0.02		0.08	
Green Ratio	0.33	0.33	1.00	0.49	0.49		0.30	0.30	0.30		0.05	
Uniform Delay d ₁	24.6	30.2	0.0	15.4	19.1		27.4	26.8	27.0		50.2	
Delay Factor k	0.11	0.17	0.11	0.11	0.11		0.11	0.11	0.11		0.11	
Incremental Delay d ₂	0.0	0.7	0.0	0.0	0.3		0.1	0.0	0.0		0.5	
PF Factor	0.666	0.666	0.950	0.928	0.364		1.000	1.000	1.000		1.000	
Control Delay	16.4	20.8	0.0	14.3	7.2		27.4	26.8	27.0		50.7	
Lane Group LOS	B	C	A	B	A		C	C	C		D	
Approach Delay	19.2			7.3			27.3			50.7		
Approach LOS	B			A			C			D		
Intersection Delay	13.4			Intersection LOS						B		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & Gateway/Smith	Agency or Co.	GME	Area Type	All other areas
Date Performed	8/10/2006	Jurisdiction	Straban Twp, Adams Co	Time Period	Weekday PM Peak Hour	Analysis Year	2008 No Build

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	4	637	349	110	888	2	323	7	100	4	7	1
% Heavy Vehicles	0	6	0	0	9	0	0	0	0	0	0	0
PHF	0.93	0.93	0.93	0.80	0.80	0.80	0.90	0.90	0.90	0.75	0.75	0.75
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 10.7	G = 36.7	G =	G =	G = 33.2	G = 5.1	G =	G =				
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	4	685	375	137	1112		359	8	111		15	
Lane Group Capacity	163	1139	1615	368	1620		537	565	512		77	
v/c Ratio	0.02	0.60	0.23	0.37	0.69		0.67	0.01	0.22		0.19	
Green Ratio	0.33	0.33	1.00	0.49	0.49		0.30	0.30	0.30		0.05	
Uniform Delay d ₁	24.6	30.6	0.0	16.8	21.7		33.6	26.9	28.7		50.5	
Delay Factor k	0.11	0.19	0.11	0.11	0.26		0.24	0.11	0.11		0.11	
Incremental Delay d ₂	0.1	0.9	0.1	0.6	1.2		3.2	0.0	0.2		1.2	
PF Factor	0.666	0.666	0.950	0.928	0.364		1.000	1.000	1.000		1.000	
Control Delay	16.5	21.3	0.1	16.2	9.1		36.8	26.9	28.9		51.7	
Lane Group LOS	B	C	A	B	A		D	C	C		D	
Approach Delay	13.8			9.9			34.8			51.7		
Approach LOS	B			A			C			D		
Intersection Delay	15.8						Intersection LOS			B		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection <i>US 30 & Crossroads/Gateway</i>			
Agency or Co.	GME			Area Type <i>All other areas</i>			
Date Performed	08/10/2006			Jurisdiction <i>Straban Twp, Adams Co</i>			
Time Period	<i>Weekday PM Peak Hour</i>			Analysis Year <i>2008 Build w/ Improv.</i>			

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2	1	2	3	1	2	1	1			
Lane Group	L	T	R	L	T	R	L	T	R			
Volume (vph)	386	641	349	137	1059	62	323	26	107			
% Heavy Vehicles	0	6	0	0	9	0	0	0	0			
PHF	0.93	0.93	0.93	0.80	0.80	0.80	0.90	0.90	0.90			
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A			
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Arrival Type	5	5	5	5	5	5	3	3	3			
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0			
Lane Width	14.0	12.0	14.0	14.0	12.0	14.0	14.0	12.0	14.0			
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N			
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0	0			
Minimum Pedestrian Time		3.2			3.2			3.2				
Phasing	EW Perm	EB Only	Thru & RT	04		NB Only	06		07		08	
Timing	G = 18.9	G = 7.0	G = 37.0	G =		G = 23.1	G =		G =		G =	
	Y = 6	Y = 6	Y = 6	Y =		Y = 6	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	415	689	375	171	1324	77	359	29	119			
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	0.17	0.34	0.34	0.21	0.21	0.44			
Uniform Delay d ₁	31.2	20.5	0.0	39.5	33.6	25.4	38.0	34.9	18.8			
Delay Factor k	0.11	0.11	0.11	0.11	0.37	0.11	0.11	0.11	0.11			
Incremental Delay d ₂	0.2	0.2	0.1	0.2	3.8	0.1	0.4	0.1	0.1			
PF Factor	0.728	0.444	0.950	0.862	0.662	0.662	1.000	1.000	1.000			
Control Delay	22.9	9.3	0.1	34.3	26.1	16.9	38.5	34.9	18.9			
Lane Group LOS	C	A	A	C	C	B	D	C	B			
Approach Delay	10.8			26.5			33.7					
Approach LOS	B			C			C					
Intersection Delay	21.0			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Gateway/Smith		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2018 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	5	792	755	249	890	2	1049	12	286	5	13	1
% Heavy Vehicles	0	6	0	0	9	0	0	0	0	0	0	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 10.7	G = 36.7	G =	G =	G = 33.2	G = 5.1	G =	G =				
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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	5	834	795	262	939		552	565	301		20
Lane Group Capacity	194	1139	1615	310	1620		537	538	512		77	
v/c Ratio	0.03	0.73	0.49	0.85	0.58		1.03	1.05	0.59		0.26	
Green Ratio	0.33	0.33	1.00	0.49	0.49		0.30	0.30	0.30		0.05	
Uniform Delay d ₁	24.6	32.3	0.0	19.9	20.1		38.4	38.4	32.6		50.6	
Delay Factor k	0.11	0.29	0.11	0.38	0.17		0.50	0.50	0.18		0.11	
Incremental Delay d ₂	0.1	2.5	0.2	18.9	0.5		46.2	52.6	1.8		1.8	
PF Factor	0.666	0.666	0.950	0.928	0.364		1.000	1.000	1.000		1.000	
Control Delay	16.5	24.0	0.2	37.4	7.8		84.6	91.0	34.4		52.4	
Lane Group LOS	B	C	A	D	A		F	F	C		D	
Approach Delay	12.4			14.3			76.5			52.4		
Approach LOS	B			B			E			D		
Intersection Delay	34.4			Intersection LOS						C		

SHORT REPORT

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

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2	1	2	3	1	2	1	1			
Lane Group	L	T	R	L	T	R	L	T	R			
Volume (vph)	605	797	755	293	1155	97	1049	41	298			
% Heavy Vehicles	0	6	0	0	9	0	0	0	0			
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A			
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Arrival Type	5	5	5	5	5	5	3	3	3			
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0			
Lane Width	14.0	12.0	14.0	14.0	12.0	14.0	14.0	12.0	14.0			
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N			
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0	0			
Minimum Pedestrian Time		3.2			3.2			3.2				
Phasing	EW Perm	EB Only	Thru & RT	04		NB Only	06		07		08	
Timing	G = 11.5	G = 7.0	G = 33.1	G =		G = 34.4	G =		G =		G =	
	Y = 6	Y = 6	Y = 6	Y =		Y = 6	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	637	839	795	308	1216	102	1104	43	314			
Lane Group Capacity	833	1430	1723	391	1429	518	1152	585	801			
v/c Ratio	0.76	0.59	0.46	0.79	0.85	0.20	0.96	0.07	0.39			
Green Ratio	0.22	0.42	1.00	0.10	0.30	0.30	0.31	0.31	0.47			
Uniform Delay d ₁	40.0	24.6	0.0	48.1	36.1	28.6	37.1	26.6	18.8			
Delay Factor k	0.32	0.18	0.11	0.33	0.38	0.11	0.47	0.11	0.11			
Incremental Delay d ₂	4.3	0.6	0.2	10.3	5.1	0.2	17.4	0.1	0.3			
PF Factor	0.809	0.519	0.950	0.922	0.713	0.713	1.000	1.000	1.000			
Control Delay	36.7	13.4	0.2	54.6	30.9	20.6	54.5	26.6	19.1			
Lane Group LOS	D	B	A	D	C	C	D	C	B			
Approach Delay	15.3			34.7			46.1					
Approach LOS	B			C			D					
Intersection Delay	29.6			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Gateway/Smith		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	5	633	49	10	647	6	33	0	9	2	0	6
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 10.7	G = 36.7	G =	G =	G = 33.2	G = 5.1	G =	G =				
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	6	711	55	12	768		42	0	11		11	
Lane Group Capacity	229	1195	1615	357	1729		537	565	512		70	
v/c Ratio	0.03	0.59	0.03	0.03	0.44		0.08	0.00	0.02		0.16	
Green Ratio	0.33	0.33	1.00	0.49	0.49		0.30	0.30	0.30		0.05	
Uniform Delay d ₁	24.6	30.5	0.0	15.6	18.4		27.5	26.8	27.0		50.4	
Delay Factor k	0.11	0.18	0.11	0.11	0.11		0.11	0.11	0.11		0.11	
Incremental Delay d ₂	0.0	0.8	0.0	0.0	0.2		0.1	0.0	0.0		1.1	
PF Factor	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 LOS	B	C	A	B	A		C	C	C		D	
Approach Delay	19.6			7.0			27.4			51.4		
Approach LOS	B			A			C			D		
Intersection Delay	14.0			Intersection LOS						B		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Gateway/Smith		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2008 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	5	618	666	184	624	6	506	10	143	2	13	6
% Heavy Vehicles	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	0.90	0.90	0.90	0.75	0.75	0.75
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 10.7	G = 26.7	G =	G =	G = 43.2	G = 5.1	G =	G =				
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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	6	694	748	216	741		562	11	159		28
Lane Group Capacity	171	869	1615	263	1407		698	735	666		75	
v/c Ratio	0.04	0.80	0.46	0.82	0.53		0.81	0.01	0.24		0.37	
Green Ratio	0.24	0.24	1.00	0.40	0.40		0.39	0.39	0.39		0.05	
Uniform Delay d ₁	31.8	39.1	0.0	25.3	25.3		29.7	20.4	22.4		50.9	
Delay Factor k	0.11	0.34	0.11	0.36	0.13		0.35	0.11	0.11		0.11	
Incremental Delay d ₂	0.1	5.3	0.2	18.5	0.4		6.9	0.0	0.2		3.1	
PF Factor	0.786	0.786	0.950	0.928	0.561		1.000	1.000	1.000		1.000	
Control Delay	25.1	36.1	0.2	41.9	14.5		36.5	20.4	22.6		54.0	
Lane Group LOS	C	D	A	D	B		D	C	C		D	
Approach Delay	17.5			20.7			33.3			54.0		
Approach LOS	B			C			C			D		
Intersection Delay	22.4			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Agency or Co.	GME	Intersection	US 30 & Crossroads/Gateway		
Date Performed	08/10/2006	Area Type	All other areas				
Time Period	Saturday Peak Hour	Jurisdiction	Straban Twp, Adams Co				
		Analysis Year	2008 Build w/ Improv.				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2	1	2	3	1	2	1	1			
Lane Group	L	T	R	L	T	R	L	T	R			
Volume (vph)	386	623	666	222	840	62	506	26	153			
% Heavy Vehicles	0	1	0	0	2	0	0	0	0			
PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.90	0.90	0.90			
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A			
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Arrival Type	5	5	5	5	5	5	3	3	3			
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0			
Lane Width	14.0	12.0	14.0	14.0	12.0	14.0	14.0	12.0	14.0			
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N			
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0	0			
Minimum Pedestrian Time		3.2			3.2			3.2				

Phasing	EW Perm	EB Only	Thru & RT	04	NB Only	06	07	08
Timing	G = 20.7	G = 7.0	G = 29.0	G =	G = 29.3	G =	G =	G =
	Y = 6	Y = 6	Y = 6	Y =	Y = 6	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	434	700	748	261	988	73	562	29	170		
Lane Group Capacity	1145	1368	1723	704	1338	454	996	506	877			
v/c Ratio	0.38	0.51	0.43	0.37	0.74	0.16	0.56	0.06	0.19			
Green Ratio	0.31	0.38	1.00	0.19	0.26	0.26	0.27	0.27	0.51			
Uniform Delay d ₁	29.9	26.1	0.0	39.0	37.0	31.1	34.8	30.1	14.7			
Delay Factor k	0.11	0.12	0.11	0.11	0.30	0.11	0.16	0.11	0.11			
Incremental Delay d ₂	0.2	0.3	0.2	0.3	2.2	0.2	0.7	0.0	0.1			
PF Factor	0.706	0.588	0.950	0.845	0.761	0.761	1.000	1.000	1.000			
Control Delay	21.3	15.7	0.2	33.3	30.4	23.9	35.6	30.1	14.8			
Lane Group LOS	C	B	A	C	C	C	D	C	B			
Approach Delay	10.8			30.6			30.7					
Approach LOS	B			C			C					
Intersection Delay	21.2			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Gateway/Smith		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2018 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	0	1	1	1	0	1	0
Lane Group	L	T	R	L	TR		L	LT	R		LTR	
Volume (vph)	6	850	1154	335	886	7	871	17	253	2	22	7
% Heavy Vehicles	0	1	0	0	2	0	0	0	0	0	0	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Arrival Type	5	5	5	5	5		3	3	3		3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0		12.0	12.0	14.0		9.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N	N	2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0		0	0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 10.7	G = 26.7	G =	G =	G = 43.2	G = 5.1	G =	G =
	Y = 6.3	Y = 6.3	Y =	Y =	Y = 5.8	Y = 5.9	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	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		0.42	
Green Ratio	0.24	0.24	1.00	0.40	0.40		0.39	0.39	0.39		0.05	
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		0.11	
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		1.000	
Control Delay	25.2	71.2	2.0	243.4	16.5		184.7	20.5	24.5		54.8	
Lane Group LOS	C	E	A	F	B		F	C	C		D	
Approach Delay	31.4			78.4			146.7			54.8		
Approach LOS	C			E			F			D		
Intersection Delay	74.5			Intersection LOS						E		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Crossroads/Gateway		
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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2	1	2	3	1	2	1	1			
Lane Group	L	T	R	L	T	R	L	T	R			
Volume (vph)	1090	856	1154	399	1258	174	871	73	270			
% Heavy Vehicles	0	1	0	0	2	0	0	0	0			
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A			
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Arrival Type	5	5	5	5	5	5	3	3	3			
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0			
Lane Width	14.0	12.0	14.0	14.0	12.0	14.0	14.0	12.0	14.0			
Parking/Grade/Parking	N	0	N	N	0	N	N	3	N			
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0	0			
Minimum Pedestrian Time		3.2			3.2			3.2				
Phasing	EW Perm	EB Only	Thru & RT	04	NB Only	06	07	08				
Timing	G = 20.7	G = 7.0	G = 29.0	G =	G = 29.3	G =	G =	G =				
	Y = 6	Y = 6	Y = 6	Y =	Y = 6	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	1147	901	1215	420	1324	183	917	77	284		
Lane Group Capacity	1145	1368	1723	704	1338	454	981	499	864			
v/c Ratio	1.00	0.66	0.71	0.60	0.99	0.40	0.93	0.15	0.33			
Green Ratio	0.31	0.38	1.00	0.19	0.26	0.26	0.27	0.27	0.51			
Uniform Delay d ₁	38.2	28.1	0.0	40.8	40.3	33.4	39.4	30.9	15.9			
Delay Factor k	0.50	0.23	0.27	0.19	0.49	0.11	0.45	0.11	0.11			
Incremental Delay d ₂	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			
Control Delay	53.9	17.7	1.3	35.9	52.8	26.0	54.9	31.0	16.1			
Lane Group LOS	D	B	A	D	D	C	D	C	B			
Approach Delay	24.3			46.5			44.8					
Approach LOS	C			D			D					
Intersection Delay	35.0			Intersection LOS						D		

Highway Capacity Analysis Worksheets

US Route 30 and Crossroads Western Roadway

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads West Access
Agency/Co.	GME	Jurisdiction	Straban Twp, Adams Co
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 Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume (veh/h)		1376			1377	10
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1495	0	0	1496	10
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 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 (veh/h)	0	0	0	0	0	152
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
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
LOS								B
Approach Delay (s/veh)	--	--				11.6		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads West Access
Agency/Co.	GME	Jurisdiction	Straban Twp, Adams Co
Date Performed	8/10/2006	Analysis Year	2018 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
	L	T	R	L	T	R
Volume (veh/h)		2157			2201	16
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	2344	0	0	2392	17
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						217
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	235
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								235
C (m) (veh/h)								516
v/c								0.46
95% queue length								2.35
Control Delay (s/veh)								17.7
LOS								C
Approach Delay (s/veh)	--	--				17.7		
Approach LOS	--	--				C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads West 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 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
	L	T	R	L	T	R
Volume (veh/h)		1675			1351	10
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1820	0	0	1468	10
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						175
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	190
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								190
C (m) (veh/h)								715
v/c								0.27
95% queue length								1.07
Control Delay (s/veh)								11.8
LOS								B
Approach Delay (s/veh)	--	--				11.8		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads West Access
Agency/Co.	GME	Jurisdiction	Straban Twp, Adams Co
Date Performed	8/10/2006	Analysis Year	
Analysis Time Period	Saturday 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
	L	T	R	L	T	R
Volume (veh/h)		3100			2134	29
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	3369	0	0	2319	31
Percent Heavy Vehicles	0	-	-	0	-	-
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						294
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	319
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								319
C (m) (veh/h)								595
v/c								0.54
95% queue length								3.18
Control Delay (s/veh)								17.8
LOS								C
Approach Delay (s/veh)	--	--						17.8
Approach LOS	--	--						C

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads East Access
Agency/Co.	GME	Jurisdiction	Straban Twp, Adams Co
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 East 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
	L	T	R	L	T	R
Volume (veh/h)		749			1094	15
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	814	0	0	1189	16
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	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	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								173
C (m) (veh/h)								640
v/c								0.27
95% queue length								1.09
Control Delay (s/veh)								12.7
LOS								B
Approach Delay (s/veh)	--	--				12.7		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads East Access
Agency/Co.	GME	Jurisdiction	Straban Twp, Adams Co
Date Performed	8/10/2006	Analysis Year	2018 Build
Analysis Time Period	Weekday PM Peak Hour		

Project Description 129.90		North/South Street: Crossroads East Access	
East/West Street: US Route 30		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1108			1297	24
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1204	0	0	1409	26
Percent Heavy Vehicles	0	-	-	0	-	-
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						248
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	269
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								269
C (m) (veh/h)								618
v/c								0.44
95% queue length								2.20
Control Delay (s/veh)								15.2
LOS								C
Approach Delay (s/veh)	--	--				15.2		
Approach LOS	--	--				C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads East 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	1	2	3	4	5	6
	L	T	R	L	T	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 (veh/h)	0	854	0	0	999	16
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	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 (veh/h)	0	0	0	0	0	217
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	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
LOS								B
Approach Delay (s/veh)	--	--				11.9		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JES	Intersection	US 30 & Crossroads East 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		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1163			1494	44
Peak-Hour Factor, PHF	1.00	0.92	1.00	1.00	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1264	0	0	1623	47
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration		T			T	R
Upstream Signal		0			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	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 (veh/h)	0	0	0	0	0	365
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								365
C (m) (veh/h)								576
v/c								0.63
95% queue length								4.44
Control Delay (s/veh)								21.4
LOS								C
Approach Delay (s/veh)	--	--						21.4
Approach LOS	--	--						C

Highway Capacity Analysis Worksheets

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

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Cavalry Field		
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	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Lane Group	L	T	R	L	TR			LT	R		LTR	
Volume (vph)	3	634	56	3	555	0	103	3	78	1	0	12
% Heavy Vehicles	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	0.50	0.50	0.50	0.50	0.50	0.50
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0	2.0		2.0	
Extension of Effective Green	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	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	10.0	12.0	12.0	10.0	10.0			14.0	14.0		12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 6.5	G = 42.5	G =	G =	G = 24.7	G = 10.7	G =	G =
	Y = 6.5	Y = 6.5	Y =	Y =	Y = 6.3	Y = 6.3	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	3	712	63	4	703		212	156		26		
Lane Group Capacity	173	683	621	165	817		430	383		163		
v/c Ratio	0.02	1.04	0.10	0.02	0.86		0.49	0.41		0.16		
Green Ratio	0.39	0.39	0.39	0.50	0.50		0.22	0.22		0.10		
Uniform Delay d ₁	20.8	33.8	21.6	23.2	23.9		37.2	36.4		45.5		
Delay Factor k	0.11	0.50	0.11	0.11	0.39		0.11	0.11		0.11		
Incremental Delay d ₂	0.0	46.0	0.1	0.1	9.3		0.9	0.7		0.5		
PF Factor	0.580	0.580	0.580	1.000	1.000		1.000	1.000		1.000		
Control Delay	12.1	65.6	12.6	23.2	33.1		38.1	37.1		46.0		
Lane Group LOS	B	E	B	C	C		D	D		D		
Approach Delay	61.1			33.1			37.7			46.0		
Approach LOS	E			C			D			D		
Intersection Delay	45.7			Intersection LOS						D		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Cavalry Field		
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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Lane Group	L	T	R	L	TR			LT	R		LTR	
Volume (vph)	3	710	14	23	636	0	366	3	147	1	0	12
% Heavy Vehicles	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	0.50	0.50	0.50	0.50
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0	2.0		2.0	
Extension of Effective Green	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	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	10.0	12.0	12.0	10.0	10.0			14.0	14.0		12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 6.5	G = 42.5	G =	G =	G = 24.7	G = 10.7	G =	G =
	Y = 6.5	Y = 6.5	Y =	Y =	Y = 6.3	Y = 6.3	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	3	798	16	29	805			410	294		26	
Lane Group Capacity	104	683	621	165	817			429	383		163	
v/c Ratio	0.03	1.17	0.03	0.18	0.99			0.96	0.77		0.16	
Green Ratio	0.39	0.39	0.39	0.50	0.50			0.22	0.22		0.10	
Uniform Delay d ₁	20.9	33.8	20.9	23.1	26.8			42.1	40.0		45.5	
Delay Factor k	0.11	0.50	0.11	0.11	0.49			0.47	0.32		0.11	
Incremental Delay d ₂	0.1	91.0	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	1.000		1.000	
Control Delay	12.3	110.6	12.2	23.6	54.6			74.3	49.1		46.0	
Lane Group LOS	B	F	B	C	D			E	D		D	
Approach Delay	108.3			53.5			63.8			46.0		
Approach LOS	F			D			E			D		
Intersection Delay	75.3			Intersection LOS						E		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30/Cavalry Field		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2008 Build w/ Improv		

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	14	706	114	23	721	17	366	3	147	85	5	40
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 61.0	G =	G =	G =	G = 37.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow 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 Delay 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 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 Delay	2.9	8.5	2.1	11.6	40.8	11.1	53.1	27.3		26.5	25.0	
Lane Group LOS	A	A	A	B	D	B	D	C		C	C	
Approach Delay	7.5			39.3			45.6			26.0		
Approach LOS	A			D			D			C		
Intersection Delay	28.6			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & Cavalry Field	Area Type	All other areas		
Agency or Co.	GME	Jurisdiction	Straban Twp, Adams Co	Analysis Year	2018 No Build		
Date Performed	8/11/2006						
Time Period	Weekday PM Peak Hour						

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Lane Group	L	T	R	L	TR			LT	R		LTR	
Volume (vph)	4	1068	121	36	917	0	230	4	240	1	0	14
% Heavy Vehicles	0	7	0	0	10	0	-2	0	2	0	0	0
PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.50	0.50	0.50
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0	2.0		2.0	
Extension of Effective Green	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	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	10.0	12.0	12.0	10.0	10.0			14.0	14.0		12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 6.5 Y = 6.5	G = 42.5 Y = 6.5	G = Y =	G = Y =	G = 24.7 Y = 6.3	G = 10.7 Y = 6.3	G = Y =	G = 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	4	1161	132	40	1008			257	264		30
Lane Group Capacity	65	683	621	165	817			430	383		163	
v/c Ratio	0.06	1.70	0.21	0.24	1.23			0.60	0.69		0.18	
Green Ratio	0.39	0.39	0.39	0.50	0.50			0.22	0.22		0.10	
Uniform Delay d ₁	21.2	33.8	22.6	23.2	27.3			38.2	39.1		45.6	
Delay Factor k	0.11	0.50	0.11	0.11	0.50			0.19	0.26		0.11	
Incremental Delay d ₂	0.4	321.2	0.2	0.8	115.8			2.3	5.2		0.5	
PF Factor	0.580	0.719	0.580	1.000	1.000			1.000	1.000		1.000	
Control Delay	12.7	345.5	13.3	24.0	143.0			40.5	44.3		46.2	
Lane Group LOS	B	F	B	C	F			D	D		D	
Approach Delay	310.6			138.5			42.4			46.2		
Approach LOS	F			F			D			D		
Intersection Delay	197.3			Intersection LOS						F		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30/Cavalry Field		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2018 Build w/ Improv		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	21	1063	121	36	1052	26	230	4	240	130	5	59
% Heavy Vehicles	0	7	0	0	10	0	2	0	2	0	0	0
PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 71.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	23	1155	132	40	1156	29	256	271		141	69	
Lane Group Capacity	69	1141	1106	70	1121	1117	329	394		189	405	
v/c Ratio	0.33	1.01	0.12	0.57	1.03	0.03	0.78	0.69		0.75	0.17	
Green Ratio	0.65	0.65	0.65	0.65	0.65	0.65	0.25	0.25		0.25	0.25	
Uniform Delay d ₁	8.8	19.5	7.5	11.0	19.5	7.0	38.7	37.7		38.3	32.7	
Delay Factor k	0.11	0.50	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	0.175	0.141	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	4.1	33.1	1.1	21.7	54.7	7.0	50.0	42.7		53.3	32.9	
Lane Group LOS	A	C	A	C	D	A	D	D		D	C	
Approach Delay	29.4			52.5			46.2			46.6		
Approach LOS	C			D			D			D		
Intersection Delay	41.9			Intersection LOS						D		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Cavalry Field		
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	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Lane Group	L	T	R	L	TR			LT	R		LTR	
Volume (vph)	2	507	141	31	568	15	83	0	22	1	0	0
% Heavy Vehicles	0	2	0	6	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	0.50	0.50	0.50
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0	2.0		2.0	
Extension of Effective Green	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	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	10.0	12.0	12.0	10.0	10.0			14.0	14.0		12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08				
Timing	G = 6.5	G = 42.5	G =	G =	G = 24.7	G = 10.7	G =	G =				
	Y = 6.5	Y = 6.5	Y =	Y =	Y = 6.3	Y = 6.3	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	3	658	183	32	595			91	24		2	
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			0.22	0.22		0.10	
Uniform Delay d ₁	20.8	32.1	23.4	20.2	20.5			34.7	33.5		44.9	
Delay Factor k	0.11	0.44	0.11	0.11	0.25			0.11	0.11		0.11	
Incremental Delay d ₂	0.0	17.0	0.3	0.5	2.1			0.2	0.1		0.0	
PF Factor	0.580	0.580	0.580	1.000	1.000			1.000	1.000		1.000	
Control Delay	12.1	35.6	13.8	20.7	22.6			34.9	33.6		44.9	
Lane Group LOS	B	D	B	C	C			C	C		D	
Approach Delay	30.8			22.5			34.7			44.9		
Approach LOS	C			C			C			D		
Intersection Delay	27.8						Intersection LOS			C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	GME		Intersection	US 30/Cavalry Field		
Agency or Co.				Area Type	All other areas		
Date Performed	8/10/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2008 Build w/ Improv		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	17	606	169	43	779	36	100	5	29	103	5	44
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 67.0	G =	G =	G =	G = 31.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	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	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 Delay 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 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		31.2	29.4	
Lane Group LOS	A	A	A	A	B	A	C	C		C	C	
Approach Delay	3.2			15.8			30.7			30.6		
Approach LOS	A			B			C			C		
Intersection Delay	12.0			Intersection LOS						B		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & Cavalry Field				
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	2018 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0
Lane Group	L	T	R	L	TR			LT	R		LTR	
Volume (vph)	21	928	219	50	1061	18	152	0	34	1	0	0
% Heavy Vehicles	0	2	0	6	2	0	0	0	0	0	0	0
PHF	0.89	0.89	0.89	0.98	0.98	0.98	0.92	0.92	0.92	0.50	0.50	0.50
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0	2.0		2.0	
Extension of Effective Green	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	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	10.0	12.0	12.0	10.0	10.0			14.0	14.0		12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0	0		0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	WB Only	EW Perm	03	04	NB Only	SB Only	07	08
Timing	G = 6.5	G = 42.5	G =	G =	G = 24.7	G = 10.7	G =	G =
	Y = 6.5	Y = 6.5	Y =	Y =	Y = 6.3	Y = 6.3	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	2	1043	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			0.22	0.22		0.10	
Uniform Delay d ₁	21.0	33.8	24.5	23.4	27.3			36.1	33.8		44.9	
Delay Factor k	0.11	0.50	0.11	0.11	0.50			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	0.580	0.580	1.000	1.000			1.000	1.000		1.000	
Control Delay	12.4	232.8	14.6	24.6	149.7			36.7	33.9		44.9	
Lane Group LOS	B	F	B	C	F			D	C		D	
Approach Delay	190.9			144.1			36.2			44.9		
Approach LOS	F			F			D			D		
Intersection Delay	158.6			Intersection LOS						F		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30/Cavalry Field				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/10/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 Build w/ Improv				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	25	926	219	50	1301	69	152	5	34	171	5	71
% Heavy Vehicles	0	2	0	7	2	0	0	0	0	0	0	0
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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	14.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 75.0	G =	G =	G =	G = 23.0	G =	G =	G =
	Y = 6	Y =	Y =	Y =	Y = 6	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow 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	0.41	0.82	0.21	0.14	1.04	0.06	0.59	0.12		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 Delay d ₁	7.7	12.7	6.5	6.2	17.5	5.8	39.2	35.3		39.7	36.2	
Delay Factor 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 Delay	5.1	6.5	1.1	6.4	54.0	5.8	42.3	35.5		44.1	36.6	
Lane Group LOS	A	A	A	A	D	A	D	D		D	D	
Approach Delay	5.5			50.0			40.9			41.8		
Approach LOS	A			D			D			D		
Intersection Delay	30.7			Intersection LOS						C		

Highway Capacity Analysis Worksheets

US Route 30 and Shealer Road/Camp Letterman Drive

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	2006 Existing

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	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	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	78	601	91	145	545	184	60	62	47	172	66	49
% Heavy Vehicles	0	7	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	0.77
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08				
Timing	G = 9.4	G = 51.4	G =	G =	G = 29.9	G =	G =	G =				
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	91	699	106	159	599	202	86	89	67	223	150
Lane Group Capacity	451	821	797	373	854	762	319	522	647	349	507	
v/c Ratio	0.20	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 Delay 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 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	0.2	8.6	0.1	0.8	2.6	0.2	0.5	0.2	0.1	3.9	0.3	
PF Factor	0.949	0.415	0.415	0.949	0.415	0.415	1.000	1.000	1.000	1.000	1.000	
Control Delay	10.1	19.3	7.0	13.3	12.2	7.6	31.9	30.7	19.9	39.2	32.0	
Lane Group LOS	B	B	A	B	B	A	C	C	B	D	C	
Approach Delay	16.9			11.4			28.2			36.3		
Approach LOS	B			B			C			D		
Intersection Delay	18.8			Intersection LOS						B		

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 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Group	L	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	80	702	94	149	701	196	61	63	48	184	68	50
% Heavy Vehicles	0	7	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	0.77
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 9.4	G = 51.4	G =	G =	G = 29.9	G =	G =	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	93	816	109	164	770	215	87	90	69	239	153
Lane Group Capacity	292	821	797	236	854	762	316	522	647	348	507	
v/c Ratio	0.32	0.99	0.14	0.69	0.90	0.28	0.28	0.17	0.11	0.69	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 Delay 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	0.50	0.11	0.26	0.42	0.11	0.11	0.11	0.11	0.26	0.11	
Incremental Delay d ₂	0.6	29.8	0.1	8.6	12.7	0.2	0.5	0.2	0.1	5.6	0.3	
PF Factor	0.949	0.415	0.415	0.949	0.415	0.415	1.000	1.000	1.000	1.000	1.000	
Control Delay	15.4	41.9	7.0	30.4	23.9	7.7	32.0	30.8	19.9	41.4	32.1	
Lane Group LOS	B	D	A	C	C	A	C	C	B	D	C	
Approach Delay	35.8			21.8			28.2			37.8		
Approach LOS	D			C			C			D		
Intersection Delay	29.7			Intersection LOS						C		

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

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	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	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	80	753	94	149	741	196	61	63	48	184	68	50
% Heavy Vehicles	0	7	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	0.77
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 9.4	G = 51.4	G =	G =	G = 29.9	G =	G =	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	93	876	109	164	814	215	87	90	69	239	153
Lane Group Capacity	235	821	797	226	854	762	316	522	647	348	507	
v/c Ratio	0.40	1.07	0.14	0.73	0.95	0.28	0.28	0.17	0.11	0.69	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 Delay d ₁	19.2	29.3	16.7	28.4	28.1	18.0	31.5	30.6	19.8	35.9	31.8	
Delay Factor k	0.11	0.50	0.11	0.29	0.46	0.11	0.11	0.11	0.11	0.26	0.11	
Incremental Delay d ₂	1.1	50.8	0.1	11.1	20.3	0.2	0.5	0.2	0.1	5.6	0.3	
PF Factor	0.949	0.415	0.415	0.949	0.415	0.415	1.000	1.000	1.000	1.000	1.000	
Control Delay	19.3	63.0	7.0	38.0	32.0	7.7	32.0	30.8	19.9	41.4	32.1	
Lane Group LOS	B	E	A	D	C	A	C	C	B	D	C	
Approach Delay	53.6			28.4			28.2			37.8		
Approach LOS	D			C			C			D		
Intersection Delay	39.0			Intersection LOS						D		

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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	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	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	80	753	94	149	741	196	61	63	48	184	68	50
% Heavy Vehicles	0	7	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	0.77
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08				
Timing	G = 10.4	G = 53.4	G =	G =	G = 26.9	G =	G =	G =				
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	93	876	109	164	814	215	87	90	69	239	153
Lane Group Capacity	300	853	828	242	887	792	280	469	619	314	456	
v/c Ratio	0.31	1.03	0.13	0.68	0.92	0.27	0.31	0.19	0.11	0.76	0.34	
Green Ratio	0.64	0.49	0.49	0.64	0.49	0.49	0.24	0.24	0.39	0.24	0.24	
Uniform Delay d ₁	15.4	28.3	15.6	28.2	26.3	16.8	34.0	32.9	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 ₂	0.6	37.9	0.1	7.4	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	5.8	34.2	24.0	6.4	34.6	33.1	21.2	49.0	34.6	
Lane Group LOS	B	D	A	C	C	A	C	C	C	D	C	
Approach Delay	41.2			22.2			30.3			43.4		
Approach LOS	D			C			C			D		
Intersection Delay	32.8			Intersection LOS						C		

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	2018 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	1	1	1	1	2	1	1
Lane Group	L	T	R	L	T	R	L	T	R	L	T	R
Volume (vph)	332	744	106	169	744	258	70	72	54	556	77	188
% Heavy Vehicles	0	7	0	0	5	0	4	0	4	3	0	3
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival Type	5	5	5	5	5	5	3	3	3	3	3	3
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	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			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 20.1	G = 31.4	G =	G =	G = 10.0	G = 7.0	G = 10.0	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	Y = 6.1	Y = 6.1	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	361	809	115	184	809	280	85	88	66	604	84
Lane Group Capacity	419	955	487	427	993	466	159	174	516	711	424	328
v/c Ratio	0.86	0.85	0.24	0.43	0.81	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	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 k	0.39	0.38	0.11	0.11	0.36	0.19	0.14	0.11	0.11	0.38	0.11	0.21
Incremental Delay d ₂	16.6	7.2	0.3	0.7	5.3	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	38.6	34.4	22.3	15.0	32.2	27.0	51.3	50.0	26.0	51.4	36.0	43.1
Lane Group LOS	D	C	C	B	C	C	D	D	C	D	D	D
Approach Delay	34.5			28.6			43.8			48.0		
Approach LOS	C			C			D			D		
Intersection Delay	36.3			Intersection LOS						D		

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	2018 Build

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	1	1	1	1	2	1	1
Lane Group	L	T	R	L	T	R	L	T	R	L	T	R
Volume (vph)	332	825	106	169	806	258	70	72	54	556	77	188
% Heavy Vehicles	0	7	0	0	5	0	4	0	4	3	0	3
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival Type	5	5	5	5	5	5	3	3	3	3	3	3
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	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			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 20.1	G = 31.4	G =	G =	G = 10.0	G = 7.0	G = 10.0	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	Y = 6.1	Y = 6.1	Y =

Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
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	C	B	D	C	D	D	C	D	D	D
Approach Delay	44.7			32.0			43.8			48.0		
Approach LOS	D			C			D			D		
Intersection Delay	41.0			Intersection LOS						D		

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	Saturday Peak Hour	Analysis Year	2006 Existing				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	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	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	72	651	62	172	703	88	32	52	83	100	54	57
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 11.4 Y = 6.6	G = 50.4 Y = 6.6	G = Y =	G = Y =	G = 28.9 Y = 6.1	G = Y =	G = Y =	G = 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	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	
v/c Ratio	0.26	0.80	0.08	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	
Uniform Delay d ₁	16.7	25.5	16.8	13.2	27.4	17.2	30.8	30.9	19.5	32.5	32.0	
Delay Factor k	0.11	0.35	0.11	0.11	0.42	0.11	0.11	0.11	0.11	0.11	0.11	
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	0.436	0.436	0.939	0.436	0.436	1.000	1.000	1.000	1.000	1.000	
Control Delay	16.2	16.7	7.4	13.3	23.9	7.6	30.9	31.0	19.6	33.0	32.3	
Lane Group LOS	B	B	A	B	C	A	C	C	B	C	C	
Approach Delay	16.0			20.5			25.3			32.6		
Approach LOS	B			C			C			C		
Intersection Delay	20.5			Intersection LOS						C		

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	Saturday Peak Hour	Analysis Year	2008 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Group	L	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	74	799	64	177	833	100	33	53	85	116	55	58
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08				
Timing	G = 11.4	G = 50.4	G =	G =	G = 28.9	G =	G =	G =				
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	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	
Uniform Delay 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	20.9	40.1	7.4	33.3	61.7	7.7	30.9	31.0	19.7	33.6	32.3	
Lane Group LOS	C	D	A	C	E	A	C	C	B	C	C	
Approach Delay	36.4			52.3			25.3			33.0		
Approach LOS	D			D			C			C		
Intersection Delay	42.6			Intersection LOS						D		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Agency or Co.	GME	Intersection	US 30 & Shealer		
Date Performed	8/11/2006	Area Type	All other areas				
Time Period	Saturday Peak Hour	Jurisdiction	Straban Twp, Adams Co				
		Analysis Year	2008 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	1	1	1	1	0
Lane Group	L	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	74	850	64	177	883	100	33	53	85	116	55	58
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 11.4	G = 50.4	G =	G =	G = 28.9	G =	G =	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	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	0.76	1.13	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	
Uniform Delay d ₁	21.5	29.8	16.8	30.7	29.8	17.3	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 d ₂	0.7	44.5	0.0	12.4	71.5	0.1	0.1	0.1	0.1	0.6	0.3	
PF Factor	0.939	0.436	0.436	0.939	0.436	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	E	A	D	F	A	C	C	B	C	C	
Approach Delay	51.6			71.3			25.3			33.0		
Approach LOS	D			E			C			C		
Intersection Delay	57.2			Intersection LOS						E		

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	Saturday Peak Hour	Analysis Year	2008 Build w/ Timing Adj				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	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	T	R	L	T	R	L	T	R	L	TR	
Volume (vph)	74	850	64	177	883	100	33	53	85	116	55	58
% Heavy Vehicles	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/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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	
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	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/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	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	EW Perm	03	04	NS Perm	06	07	08
Timing	G = 11.9	G = 55.4	G =	G =	G = 23.4	G =	G =	G =
	Y = 6.6	Y = 6.6	Y =	Y =	Y = 6.1	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	78	895	67	197	981	111	38	61	98	127	124
Lane Group Capacity	261	938	859	267	957	821	273	408	614	288	396	
v/c Ratio	0.30	0.95	0.08	0.74	1.03	0.14	0.14	0.15	0.16	0.44	0.31	
Green Ratio	0.67	0.50	0.50	0.67	0.50	0.50	0.21	0.21	0.38	0.21	0.21	
Uniform Delay d ₁	22.1	26.1	14.1	31.0	27.3	14.5	35.1	35.2	22.8	37.6	36.5	
Delay Factor k	0.11	0.46	0.11	0.30	0.50	0.11	0.11	0.11	0.11	0.11	0.11	
Incremental Delay d ₂	0.6	19.2	0.0	10.3	35.6	0.1	0.2	0.2	0.1	1.1	0.5	
PF Factor	0.950	0.324	0.324	0.950	0.324	0.324	1.000	1.000	1.000	1.000	1.000	
Control Delay	21.7	27.6	4.6	39.7	44.5	4.8	35.4	35.4	22.9	38.7	37.0	
Lane Group LOS	C	C	A	D	D	A	D	D	C	D	D	
Approach Delay	25.7			40.3			29.2			37.8		
Approach LOS	C			D			C			D		
Intersection Delay	33.8			Intersection LOS						C		

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	Saturday Peak Hour	Analysis Year	2018 No Build

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	1	1	1	1	2	1	1
Lane Group	L	T	R	L	T	R	L	T	R	L	T	R
Volume (vph)	402	866	72	201	857	165	37	61	97	555	63	226
% Heavy Vehicles	0	7	0	0	5	0	4	0	4	3	0	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)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival Type	5	5	5	5	5	5	3	3	3	3	3	3
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	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			3.2			3.2	
Phasing	Excl. Left	EB Only	EW Perm	04	Excl. Left	SB Only	Thru & RT	08				
Timing	G = 7.0	G = 8.0	G = 32.7	G =	G = 7.0	G = 9.7	G = 7.5	G =				
	Y = 6.6	Y = 6.6	Y = 6.6	Y =	Y = 6.1	Y = 6.1	Y = 6.1	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	423	912	76	218	932	179	40	66	105	603	68
Lane Group Capacity	419	1439	733	295	1035	485	112	131	294	702	427	330
v/c Ratio	1.01	0.63	0.10	0.74	0.90	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	33.5	24.6	18.7	34.0	37.1	30.5	49.3	49.5	38.9	42.0	35.4	40.6
Delay Factor k	0.50	0.21	0.11	0.30	0.42	0.11	0.11	0.11	0.11	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	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	52.2	13.1	9.4	41.9	37.4	22.4	51.3	52.6	39.7	52.5	35.5	49.5
Lane Group LOS	D	B	A	D	D	C	D	D	D	D	D	D
Approach Delay	24.6			36.1			45.9			50.4		
Approach LOS	C			D			D			D		
Intersection Delay	35.8			Intersection LOS						D		

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	Saturday Peak Hour	Analysis Year	2018 Build

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	1	1	2	1	1	1	1	2	1	1
Lane Group	L	T	R	L	T	R	L	T	R	L	T	R
Volume (vph)	402	1011	72	201	941	165	37	61	97	555	63	226
% Heavy Vehicles	0	7	0	0	5	0	4	0	4	3	0	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)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival Type	5	5	5	5	5	5	3	3	3	3	3	3
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	14.0	12.0	12.0	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			3.2			3.2	

Phasing	Excl. Left	EB Only	EW Perm	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 7.0	G = 8.0	G = 32.7	G =	G = 7.0	G = 9.7	G = 7.5	G =
	Y = 6.6	Y = 6.6	Y = 6.6	Y =	Y = 6.1	Y = 6.1	Y = 6.1	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	423	1064	76	218	1023	179	40	66	105	603	68
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	B	A	D	D	C	D	D	D	D	D	D
Approach Delay	24.9			48.8			45.9			50.4		
Approach LOS	C			D			D			D		
Intersection Delay	39.9			Intersection LOS						D		

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Southbound Ramps

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps	Agency or Co.	GME	Area Type	All other areas
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co	Time Period	Weekday PM Peak Hour	Analysis Year	2006 Existing

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		538	282		717					27		
% Heavy Vehicles		4	4		7					10		
PHF		0.95	0.95		0.95					0.81		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 76.4	G =	G =	G =	G = 20.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		566	297		755					33	
Lane Group Capacity		2440	1053		2325					348		
v/c Ratio		0.23	0.28		0.32					0.09		
Green Ratio		0.69	0.69		0.69					0.19		
Uniform Delay d ₁		6.1	6.4		6.6					36.8		
Delay Factor k		0.11	0.11		0.11					0.11		
Incremental Delay d ₂		0.0	0.1		0.1					0.1		
PF Factor		0.164	0.164		0.164					1.000		
Control Delay		1.1	1.2		1.2					36.9		
Lane Group LOS		A	A		A					D		
Approach Delay		1.1			1.2					36.9		
Approach LOS		A			A					D		
Intersection Delay		1.8			Intersection LOS					A		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 SB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2008 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		638	297		871					143		
% Heavy Vehicles		4	4		7					10		
PHF		0.95	0.95		0.95					0.81		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	

Phasing	Thru & RT	02	03	04	SB Only	06	07	08
Timing	G = 76.4	G =	G =	G =	G = 20.8	G =	G =	G =
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		672	313		917					177	
Lane Group Capacity		2440	1053		2325					348		
v/c Ratio		0.28	0.30		0.39					0.51		
Green Ratio		0.69	0.69		0.69					0.19		
Uniform Delay d ₁		6.3	6.5		7.1					40.0		
Delay Factor k		0.11	0.11		0.11					0.12		
Incremental Delay d ₂		0.1	0.2		0.1					1.2		
PF Factor		0.164	0.164		0.164					1.000		
Control Delay		1.1	1.2		1.3					41.3		
Lane Group LOS		A	A		A					D		
Approach Delay		1.1			1.3					41.3		
Approach LOS		A			A					D		
Intersection Delay		4.6			Intersection LOS					A		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps	Agency or Co.	GME	Area Type	All other areas
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co	Time Period	Weekday PM Peak Hour	Analysis Year	2008 Build

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		689	297		911					272		
% Heavy Vehicles		4	4		7					10		
PHF		0.95	0.95		0.95					0.81		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 76.4	G =	G =	G =	G = 20.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		725	313		959					336	
Lane Group Capacity		2440	1053		2325					348		
v/c Ratio		0.30	0.30		0.41					0.97		
Green Ratio		0.69	0.69		0.69					0.19		
Uniform Delay d ₁		6.5	6.5		7.2					44.2		
Delay Factor k		0.11	0.11		0.11					0.47		
Incremental Delay d ₂		0.1	0.2		0.1					39.0		
PF Factor		0.164	0.164		0.164					1.000		
Control Delay		1.1	1.2		1.3					83.2		
Lane Group LOS		A	A		A					F		
Approach Delay		1.2			1.3					83.2		
Approach LOS		A			A					F		
Intersection Delay		13.0			Intersection LOS						B	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps	Agency or Co.	GME	Area Type	All other areas
Date Performed	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

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		689	297		911					272		
% Heavy Vehicles		4	4		7					10		
PHF		0.95	0.95		0.95					0.81		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		-5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 70.4	G =	G =	G =	G = 26.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate		725	313		959					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 Delay d ₁		9.0	9.0		10.0					38.5		
Delay Factor k		0.11	0.11		0.11					0.30		
Incremental Delay d ₂		0.1	0.2		0.1					6.8		
PF Factor		0.139	0.139		0.139					1.000		
Control Delay		1.3	1.4		1.5					45.3		
Lane Group LOS		A	A		A					D		
Approach Delay		1.4			1.5					45.3		
Approach LOS		A			A					D		
Intersection Delay		7.8			Intersection LOS						A	

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 SB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2018 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					2		
Lane Group		T	R		T					L		
Volume (vph)		1014	437		1341					234		
% 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					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 76.4	G =	G =	G =	G = 20.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		1067	460		1412					254	
Lane Group Capacity		2440	1053		2325					676		
v/c Ratio		0.44	0.44		0.61					0.38		
Green Ratio		0.69	0.69		0.69					0.19		
Uniform Delay d ₁		7.4	7.4		8.9					38.9		
Delay Factor k		0.11	0.11		0.19					0.11		
Incremental Delay d ₂		0.1	0.3		0.5					0.4		
PF Factor		0.164	0.164		0.164					1.000		
Control Delay		1.3	1.5		1.9					39.3		
Lane Group LOS		A	A		A					D		
Approach Delay		1.4			1.9					39.3		
Approach LOS		A			A					D		
Intersection Delay		4.6			Intersection LOS						A	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					2		
Lane Group		T	R		T					L		
Volume (vph)		1095	437		1403					436		
% 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					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 76.4	G =	G =	G =	G = 20.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		1153	460		1477					474		
Lane Group Capacity		2440	1053		2325					676			
v/c Ratio		0.47	0.44		0.64					0.70			
Green Ratio		0.69	0.69		0.69					0.19			
Uniform Delay d ₁		7.6	7.4		9.2					41.7			
Delay Factor k		0.11	0.11		0.22					0.27			
Incremental Delay d ₂		0.1	0.3		0.6					3.3			
PF Factor		0.164	0.164		0.164					1.000			
Control Delay		1.4	1.5		2.1					45.0			
Lane Group LOS		A	A		A					D			
Approach Delay		1.4			2.1						45.0		
Approach LOS		A			A						D		
Intersection Delay		7.5			Intersection LOS						A		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 SB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		586	627		815					31		
% Heavy Vehicles		1	0		1					0		
PHF		0.93	0.93		0.93					0.89		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 69.4	G =	G =	G =	G = 27.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		630	674		876					35	
Lane Group 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 Delay d ₁		9.1	13.1		10.0					31.3		
Delay Factor k		0.11	0.25		0.11					0.11		
Incremental 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 LOS		A	A		A					C		
Approach Delay		2.5			1.5					31.3		
Approach LOS		A			A					C		
Intersection Delay		2.5			Intersection LOS					A		

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 SB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2008 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		735	653		945					211		
% Heavy Vehicles		1	0		1					0		
PHF		0.93	0.93		0.93					0.89		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 69.4	G =	G =	G =	G = 27.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		790	702		1016					237	
Lane Group Capacity		2283	995		2237					512		
v/c Ratio		0.35	0.71		0.45					0.46		
Green Ratio		0.63	0.63		0.63					0.25		
Uniform Delay d ₁		9.6	13.5		10.5					34.8		
Delay Factor k		0.11	0.27		0.11					0.11		
Incremental Delay d ₂		0.1	2.3		0.1					0.7		
PF Factor		0.135	0.135		0.135					1.000		
Control Delay		1.4	4.1		1.6					35.4		
Lane Group LOS		A	A		A					D		
Approach Delay		2.7			1.6					35.4		
Approach LOS		A			A					D		
Intersection Delay		5.1			Intersection LOS						A	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps	Agency or Co.	GME	Area Type	All other areas
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co	Time Period	Saturday Peak Hour	Analysis Year	2008 Build

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					1		
Lane Group		T	R		T					L		
Volume (vph)		786	653		995					340		
% Heavy Vehicles		1	0		1					0		
PHF		0.93	0.93		0.93					0.89		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 69.4	G =	G =	G =	G = 27.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		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 Delay d ₁		9.8	13.5		10.7					37.8		
Delay Factor k		0.11	0.27		0.11					0.30		
Incremental Delay d ₂		0.1	2.3		0.2					5.9		
PF Factor		0.135	0.135		0.135					1.000		
Control Delay		1.4	4.1		1.6					43.8		
Lane Group LOS		A	A		A					D		
Approach Delay		2.7			1.6					43.8		
Approach LOS		A			A					D		
Intersection Delay		7.5			Intersection LOS					A		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					2		
Lane Group		T	R		T					L		
Volume (vph)		1193	864		1511					334		
% Heavy Vehicles		1	0		1					0		
PHF		0.93	0.93		0.93					0.92		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 71.4	G =	G =	G =	G = 25.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		1283	929		1625					363		
Lane Group Capacity		2348	1024		2302					922			
v/c Ratio		0.55	0.91		0.71					0.39			
Green Ratio		0.65	0.65		0.65					0.23			
Uniform Delay d ₁		10.5	16.5		12.5					35.5			
Delay Factor k		0.15	0.43		0.27					0.11			
Incremental Delay d ₂		0.3	11.5		1.0					0.3			
PF Factor		0.142	0.142		0.142					1.000			
Control Delay		1.8	13.9		2.8					35.8			
Lane Group LOS		A	B		A					D			
Approach Delay		6.8			2.8						35.8		
Approach LOS		A			A						D		
Intersection Delay		7.8			Intersection LOS						A		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	1		2					2		
Lane Group		T	R		T					L		
Volume (vph)		1338	864		1595					697		
% Heavy Vehicles		1	0		1					0		
PHF		0.93	0.93		0.93					0.92		
Pretimed/Actuated (P/A)		A	A		A					A		
Startup Lost Time		2.0	2.0		2.0					2.0		
Extension of Effective Green		2.0	2.0		2.0					2.0		
Arrival Type		5	5		5					3		
Unit Extension		3.0	3.0		3.0					3.0		
Ped/Bike/RTOR Volume	0	0	0	0	0					0	0	
Lane Width		12.0	11.0		12.0					16.0		
Parking/Grade/Parking	N	-2	N	N	2	N				N	2	N
Parking/Hour												
Bus Stops/Hour		0	0		0					0		
Minimum Pedestrian Time		3.2			3.2						3.2	
Phasing	Thru & RT	02	03	04	SB Only	06	07	08				
Timing	G = 71.4	G =	G =	G =	G = 25.8	G =	G =	G =				
	Y = 6.6	Y =	Y =	Y =	Y = 6.2	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		1439	929		1715					758		
Lane Group Capacity		2348	1024		2302					922			
v/c Ratio		0.61	0.91		0.75					0.82			
Green Ratio		0.65	0.65		0.65					0.23			
Uniform Delay d ₁		11.2	16.5		13.1					39.9			
Delay Factor k		0.20	0.43		0.30					0.36			
Incremental Delay d ₂		0.5	11.5		1.4					6.1			
PF Factor		0.142	0.142		0.142					1.000			
Control Delay		2.1	13.9		3.2					46.0			
Lane Group LOS		A	B		A					D			
Approach Delay		6.7			3.2					46.0			
Approach LOS		A			A					D			
Intersection Delay		11.6			Intersection LOS						B		

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 Northbound Ramps

SHORT REPORT

General Information				Site Information			
Analyst				Intersection	US 30 & US 15 NB ramps		
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	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		475			695		298					
% 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					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		16.0					
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				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 6.5	Y =	Y =	Y =	Y = 6	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			0.70		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						
Approach Delay		1.0			1.2			70.2					
Approach LOS		A			A			E					
Intersection Delay		14.1			Intersection LOS						B		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2008 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2			1				
Lane Group		T			T			L				
Volume (vph)		680			1262			320				
% 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				
Arrival Type		5			5			3				
Unit Extension		3.0			3.0			3.0				
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0			16.0				
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		731			1539			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					
PF Factor		0.169			0.169			1.000					
Control Delay		1.1			2.3			85.2					
Lane Group LOS		A			A			F					
Approach Delay		1.1			2.3			85.2					
Approach LOS		A			A			F					
Intersection Delay		12.7			Intersection LOS								B

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2008 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		860			1563		320					
% 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					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		16.0					
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				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		925			1906		337					
Lane Group Capacity		2475			2292		347						
v/c Ratio		0.37			0.83		0.97						
Green Ratio		0.70			0.70		0.18						
Uniform Delay d ₁		6.5			11.6		44.7						
Delay Factor k		0.11			0.37		0.48						
Incremental Delay d ₂		0.1			2.8		40.5						
PF Factor		0.169			0.169		1.000						
Control Delay		1.2			4.7		85.2						
Lane Group LOS		A			A		F						
Approach Delay		1.2			4.7			85.2					
Approach LOS		A			A			F					
Intersection Delay		12.3			Intersection LOS						B		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		860			1563		320					
% 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					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 72.5	G =	G =	G =	G = 25.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		925			1906		337				
Lane Group Capacity		2315			2144		434					
v/c Ratio		0.40			0.89		0.78					
Green Ratio		0.66			0.66		0.23					
Uniform Delay d ₁		8.7			15.4		39.9					
Delay Factor k		0.11			0.41		0.33					
Incremental Delay d ₂		0.1			5.0		8.6					
PF Factor		0.147			0.147		1.000					
Control Delay		1.4			7.3		48.5					
Lane Group LOS		A			A		D					
Approach Delay		1.4			7.3		48.5					
Approach LOS		A			A		D					
Intersection Delay		10.0			Intersection LOS							A

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 NB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Weekday PM Peak Hour			Analysis Year	2018 No Build		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		2					
Lane Group		T			T		L					
Volume (vph)		1088			2003		455					
% Heavy Vehicles		4			9		6					
PHF		0.93			0.92		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					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1170			2177		479				
Lane Group Capacity		2475			2292		675					
v/c Ratio		0.47			0.95		0.71					
Green Ratio		0.70			0.70		0.18					
Uniform Delay d ₁		7.2			14.5		42.3					
Delay Factor k		0.11			0.46		0.27					
Incremental Delay d ₂		0.1			9.6		3.5					
PF Factor		0.169			0.169		1.000					
Control Delay		1.4			12.1		45.7					
Lane Group LOS		A			B		D					
Approach Delay		1.4			12.1			45.7				
Approach LOS		A			B			D				
Intersection Delay		13.0			Intersection LOS						B	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		2					
Lane Group		T			T		L					
Volume (vph)		1370			2468		455					
% Heavy Vehicles		4			9		6					
PHF		0.93			0.92		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					
Arrival Type		5			5		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1473			2683		479				
Lane Group Capacity		2475			2292		675					
v/c Ratio		0.60			1.17		0.71					
Green Ratio		0.70			0.70		0.18					
Uniform Delay d ₁		8.3			16.3		42.3					
Delay Factor k		0.18			0.50		0.27					
Incremental Delay d ₂		0.4			81.8		3.5					
PF Factor		0.169			0.638		1.000					
Control Delay		1.8			92.2		45.7					
Lane Group LOS		A			F		D					
Approach Delay		1.8			92.2			45.7				
Approach LOS		A			F			D				
Intersection Delay		58.7			Intersection LOS						E	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2018 Build w/ Improv				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			3			2				
Lane Group		T			T			L				
Volume (vph)		1370			2468			455				
% Heavy Vehicles		4			9			6				
PHF		0.93			0.92			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				
Arrival Type		5			5			3				
Unit Extension		3.0			3.0			3.0				
Ped/Bike/RTOR Volume	0	0		0	0		0	0				
Lane Width		12.0			12.0			16.0				
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				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1473			2683			479			
Lane Group Capacity		2475			3278			675				
v/c Ratio		0.60			0.82			0.71				
Green Ratio		0.70			0.70			0.18				
Uniform Delay d ₁		8.3			11.3			42.3				
Delay Factor k		0.18			0.36			0.27				
Incremental Delay d ₂		0.4			1.7			3.5				
PF Factor		0.169			0.169			1.000				
Control Delay		1.8			3.7			45.7				
Lane Group LOS		A			A			D				
Approach Delay		1.8			3.7			45.7				
Approach LOS		A			A			D				
Intersection Delay		7.4		Intersection LOS							A	

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & US 15 NB ramps		
Agency or Co.	GME			Area Type	All other areas		
Date Performed	8/11/2006			Jurisdiction	Straban Twp, Adams Co		
Time Period	Saturday Peak Hour			Analysis Year	2006 Existing		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		484			732		297					
% 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		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 72.5	G =	G =	G =	G = 25.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		526			787		316				
Lane Group Capacity		2385			2313		460					
v/c Ratio		0.22			0.34		0.69					
Green Ratio		0.66			0.66		0.23					
Uniform Delay d ₁		7.5			8.2		38.9					
Delay Factor k		0.11			0.11		0.26					
Incremental Delay d ₂		0.0			0.1		4.3					
PF Factor		0.147			0.147		1.000					
Control Delay		1.1			1.3		43.2					
Lane Group LOS		A			A		D					
Approach Delay		1.1			1.3		43.2					
Approach LOS		A			A		D					
Intersection Delay		9.4		Intersection LOS							A	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2008 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		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		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 72.5	G =	G =	G =	G = 25.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		870			1289		336				
Lane Group Capacity		2385			2313		460					
v/c Ratio		0.36			0.56		0.73					
Green Ratio		0.66			0.66		0.23					
Uniform Delay d ₁		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	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2008 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1					
Lane Group		T			T		L					
Volume (vph)		980			1575		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		0	0				
Lane Width		12.0			12.0		16.0					
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 72.5	G =	G =	G =	G = 25.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1065			1694		336				
Lane Group Capacity		2385			2313		460					
v/c Ratio		0.45			0.73		0.73					
Green Ratio		0.66			0.66		0.23					
Uniform Delay d ₁		9.1			12.4		39.4					
Delay Factor k		0.11			0.29		0.29					
Incremental Delay d ₂		0.1			1.2		5.9					
PF Factor		0.147			0.147		1.000					
Control Delay		1.5			3.0		45.2					
Lane Group LOS		A			A		D					
Approach Delay		1.5			3.0		45.2					
Approach LOS		A			A		D					
Intersection Delay		7.1		Intersection LOS							A	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2			2				
Lane Group		T			T			L				
Volume (vph)		1305			1852			491				
% 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		0	0				
Lane Width		12.0			12.0			16.0				
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1418			1991			522			
Lane Group Capacity		2549			2473			715				
v/c Ratio		0.56			0.81			0.73				
Green Ratio		0.70			0.70			0.18				
Uniform Delay d ₁		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				
Approach LOS		A			A			D				
Intersection Delay		8.7		Intersection LOS							A	

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		2					
Lane Group		T			T		L					
Volume (vph)		1814			2483		491					
% 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		0	0				
Lane Width		12.0			12.0		16.0					
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				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1972			2670		522				
Lane Group Capacity		2549			2473		715					
v/c Ratio		0.77			1.08		0.73					
Green Ratio		0.70			0.70		0.18					
Uniform Delay d ₁		10.6			16.3		42.5					
Delay Factor k		0.32			0.50		0.29					
Incremental Delay d ₂		1.5			43.9		3.8					
PF Factor		0.169			0.407		1.000					
Control Delay		3.3			50.5		46.3					
Lane Group LOS		A			D		D					
Approach Delay		3.3			50.5		46.3					
Approach LOS		A			D		D					
Intersection Delay		32.1			Intersection LOS							C

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 NB ramps				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	8/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 Build w/ Improv				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			3			2				
Lane Group		T			T			L				
Volume (vph)		1814			2483			491				
% 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		0	0				
Lane Width		12.0			12.0			16.0				
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				
Phasing	Thru Only	02	03	04	NB Only	06	07	08				
Timing	G = 77.5	G =	G =	G =	G = 20.0	G =	G =	G =				
	Y = 6.5	Y =	Y =	Y =	Y = 6	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		1972			2670			522			
Lane Group Capacity		2549			3538			715				
v/c Ratio		0.77			0.75			0.73				
Green Ratio		0.70			0.70			0.18				
Uniform Delay d ₁		10.6			10.3			42.5				
Delay Factor k		0.32			0.31			0.29				
Incremental Delay d ₂		1.5			1.0			3.8				
PF Factor		0.169			0.169			1.000				
Control Delay		3.3			2.7			46.3				
Lane Group LOS		A			A			D				
Approach Delay		3.3			2.7			46.3				
Approach LOS		A			A			D				
Intersection Delay		7.3		Intersection LOS							A	

Highway Capacity Analysis Worksheets

US Route 30 and US Route 15 SPUI

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SPUI				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	08/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2018 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	205	809		682	946		455			234		
% 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)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	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	13.0		14.0	13.0		14.0			14.0		
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08				
Timing	G = 14.0	G = 7.0	G = 30.0	G =	G = 19.0	G =	G =	G =				
	Y = 10	Y = 10	Y = 10	Y =	Y = 10	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 110.0						

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	Adjusted Flow 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 Delay d ₁	44.5	38.0		35.1	24.9		43.2			40.3		
Delay Factor k	0.11	0.39		0.25	0.22		0.30			0.11		
Incremental Delay d ₂	0.7	7.8		1.8	0.9		4.6			0.4		
PF Factor	0.854	0.625		0.608	0.254		1.000			1.000		
Control Delay	38.7	31.6		23.1	7.2		47.8			40.7		
Lane Group LOS	D	C		C	A		D			D		
Approach Delay	33.0			13.9			47.8			40.7		
Approach LOS	C			B			D			D		
Intersection Delay	26.2			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SPUI				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	08/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Weekday PM Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	205	890		930	1008		455			436		
% 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)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	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	13.0		14.0	13.0		14.0			14.0		
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	WB Only	Thru Only	04		Excl. Left	06		07		08	
Timing	G = 14.0	G = 7.0	G = 30.0	G =		G = 19.0	G =		G =		G =	
	Y = 10	Y = 10	Y = 10	Y =		Y = 10	Y =		Y =		Y =	
Duration of Analysis (hrs) = 0.25							Cycle Length C = 110.0					

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	Adjusted Flow Rate	216	937		979	1061		479			459	
Lane Group Capacity	476	990		1054	1551		646			646		
v/c Ratio	0.45	0.95		0.93	0.68		0.74			0.71		
Green Ratio	0.13	0.27		0.28	0.43		0.17			0.17		
Uniform Delay d ₁	44.5	39.2		38.4	25.5		43.2			42.9		
Delay Factor k	0.11	0.46		0.44	0.25		0.30			0.27		
Incremental Delay d ₂	0.7	17.2		13.8	1.3		4.6			3.6		
PF Factor	0.854	0.625		0.608	0.254		1.000			1.000		
Control Delay	38.7	41.7		37.2	7.7		47.8			46.6		
Lane Group LOS	D	D		D	A		D			D		
Approach Delay	41.1			21.9			47.8			46.6		
Approach LOS	D			C			D			D		
Intersection Delay	33.0			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SPUI				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	08/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 No Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	195	998		577	1026		491			334		
% 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)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	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	13.0		14.0	13.0		14.0			14.0		
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 12.4	G = 8.0	G = 34.5	G =	G = 23.1	G =	G =	G =
	Y = 8	Y = 8	Y = 8	Y =	Y = 8	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	205	1051		607	1080		517			352	
Lane Group Capacity	421	1138		965	1666		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		39.8			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		2.0			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		41.9			38.3		
Lane Group LOS	D	C		C	A		D			D		
Approach Delay	33.6			11.7			41.9			38.3		
Approach LOS	C			B			D			D		
Intersection Delay	25.5			Intersection LOS						C		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & US 15 SPUI				
Agency or Co.	GME	Area Type	All other areas				
Date Performed	08/11/2006	Jurisdiction	Straban Twp, Adams Co				
Time Period	Saturday Peak Hour	Analysis Year	2018 Build				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	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)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	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	13.0		14.0	13.0		14.0			14.0		
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	

Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08
Timing	G = 12.4	G = 8.0	G = 34.5	G =	G = 23.1	G =	G =	G =
	Y = 8	Y = 8	Y = 8	Y =	Y = 8	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	205	1203		961	1168		517			734	
Lane Group Capacity	421	1138		965	1666		785			785		
v/c Ratio	0.49	1.06		1.00	0.70		0.66			0.94		
Green Ratio	0.11	0.31		0.26	0.46		0.21			0.21		
Uniform Delay d ₁	45.8	37.8		40.7	23.7		39.8			42.7		
Delay Factor k	0.11	0.50		0.50	0.27		0.23			0.45		
Incremental Delay d ₂	0.9	43.1		27.9	1.3		2.0			18.3		
PF Factor	0.873	0.543		0.652	0.151		1.000			1.000		
Control Delay	40.9	63.6		54.5	4.9		41.9			61.0		
Lane Group LOS	D	E		D	A		D			E		
Approach Delay	60.3			27.3			41.9			61.0		
Approach LOS	E			C			D			E		
Intersection Delay	43.7			Intersection LOS						D		

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												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	2		2	2		2			2		
Lane Group	L	T		L	T		L			L		
Volume (vph)	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)	A	A		A	A		A			A		
Startup Lost Time	2.0	2.0		2.0	2.0		2.0			2.0		
Extension of Effective Green	2.0	2.0		2.0	2.0		2.0			2.0		
Arrival Type	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	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0		0			0		
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	Excl. Left	WB Only	Thru Only	04	Excl. Left	06	07	08				
Timing	G = 12.4	G = 8.0	G = 34.5	G =	G = 23.1	G =	G =	G =				
	Y = 8	Y = 8	Y = 8	Y =	Y = 8	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		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate	205	1203		961	1168		517			734		
Lane Group Capacity	421	1175		965	1720		834			834		
v/c Ratio	0.49	1.02		1.00	0.68		0.62			0.88		
Green Ratio	0.11	0.31		0.26	0.46		0.21			0.21		
Uniform Delay d ₁	45.8	37.8		40.7	23.4		39.5			42.1		
Delay Factor k	0.11	0.50		0.50	0.25		0.20			0.41		
Incremental Delay d ₂	0.9	32.5		27.9	1.1		1.4			10.7		
PF Factor	0.873	0.543		0.652	0.151		1.000			1.000		
Control Delay	40.9	53.0		54.5	4.6		40.9			52.8		
Lane Group LOS	D	D		D	A		D			D		
Approach Delay	51.2			27.1			40.9			52.8		
Approach LOS	D			C			D			D		
Intersection Delay	39.6			Intersection LOS						D		

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						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
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 (veh/h)	0	843	4	5	480	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	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 (veh/h)	8	0	6	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		5		14				
C (m) (veh/h)		799		364				
v/c		0.01		0.04				
95% queue length		0.02		0.12				
Control Delay (s/veh)		9.5		15.3				
LOS		A		C				
Approach Delay (s/veh)	--	--		15.3				
Approach LOS	--	--		C				

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	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						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		871	4	5	559	
Peak-Hour Factor, PHF	1.00	0.81	0.81	0.95	0.95	1.00
Hourly Flow Rate, HFR (veh/h)	0	1075	4	5	588	0
Percent Heavy Vehicles	0	-	-	0	-	-
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	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 (veh/h)	8	0	6	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		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		B		C				
Approach Delay (s/veh)	--	--	18.7					
Approach LOS	--	--	C					

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	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						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		951	4	5	662	
Peak-Hour Factor, PHF	1.00	0.81	0.81	0.95	0.95	1.00
Hourly Flow Rate, HFR (veh/h)	0	1174	4	5	696	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	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 (veh/h)	8	0	6	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		5		14				
C (m) (veh/h)		600		243				
v/c		0.01		0.06				
95% queue length		0.03		0.18				
Control Delay (s/veh)		11.1		20.7				
LOS		B		C				
Approach Delay (s/veh)	--	--		20.7				
Approach LOS	--	--		C				

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	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	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1273	5	6	834	
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.95	0.95	1.00
Hourly Flow Rate, HFR (veh/h)	0	1383	5	6	877	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		4			
Peak-Hour Factor, PHF	0.50	1.00	0.50	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			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		6		18				
C (m) (veh/h)		500		187				
v/c		0.01		0.10				
95% queue length		0.04		0.31				
Control Delay (s/veh)		12.3		26.3				
LOS		B		D				
Approach Delay (s/veh)	--	--	26.3					
Approach LOS	--	--	D					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	JES
Agency/Co.	GME
Date Performed	8/11/2006
Analysis Time Period	Weekday PM Peak Hour

Site Information

Intersection	US 30 & Hoffman
Jurisdiction	Straban Twp, Adams Co
Analysis Year	2008 Build

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	5	6
		L	T	R	L	T	R
Volume (veh/h)			1397	5	6	995	
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.95	0.95	1.00	
Hourly Flow Rate, HFR (veh/h)	0	1518	5	6	1047	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	0	1	0	1	1	0	
Configuration			TR	L	T		
Upstream Signal		0			0		

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)	5		6				
Peak-Hour Factor, PHF	0.50	1.00	0.50	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	10	0	12	0	0	0	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		-3			0		
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration		LR					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration		L		LR				
v (veh/h)		6		22				
C (m) (veh/h)		444		155				
v/c		0.01		0.14				
95% queue length		0.04		0.48				
Control Delay (s/veh)		13.2		32.0				
LOS		B		D				
Approach Delay (s/veh)	--	--		32.0				
Approach LOS	--	--		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	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 Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 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 (veh/h)	0	661	4	4	623	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 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 (veh/h)	2	0	10	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	-3			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach Movement	Eastbound	Westbound	Northbound			Southbound		
	1	4	7	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				
Control Delay (s/veh)		8.9		13.2				
LOS		A		B				
Approach Delay (s/veh)	--	--	13.2					
Approach LOS	--	--	B					

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	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	2	3	4	5	6
	L	T	R	L	T	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 (veh/h)	0	789	4	4	773	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	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 (veh/h)	2	0	10	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		4		12				
C (m) (veh/h)		837		380				
v/c		0.00		0.03				
95% queue length		0.01		0.10				
Control Delay (s/veh)		9.3		14.8				
LOS		A		B				
Approach Delay (s/veh)	--	--	14.8					
Approach LOS	--	--	B					

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	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						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	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 (veh/h)	0	907	4	4	882	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	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 (veh/h)	2	0	10	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		4		12				
C (m) (veh/h)		756		325				
v/c		0.01		0.04				
95% queue length		0.02		0.11				
Control Delay (s/veh)		9.8		16.5				
LOS		A		C				
Approach Delay (s/veh)	--	--	16.5					
Approach LOS	--	--	C					

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

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
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 (veh/h)		0	1086	5	5	1165	0
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		0	1	0	1	1	0
Configuration				TR	L	T	
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)		1		6			
Peak-Hour Factor, PHF		0.50	1.00	0.50	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)		2	0	12	0	0	0
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			-3			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	0	0	0	0	0
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration		L		LR				
v (veh/h)		5		14				
C (m) (veh/h)		647		256				
v/c		0.01		0.05				
95% queue length		0.02		0.17				
Control Delay (s/veh)		10.6		19.9				
LOS		B		C				
Approach Delay (s/veh)	--	--		19.9				
Approach LOS	--	--		C				

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 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	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1168	5	5	1387	
Peak-Hour Factor, PHF	1.00	0.92	0.92	0.94	0.94	1.00
Hourly Flow Rate, HFR (veh/h)	0	1269	5	5	1475	0
Percent Heavy Vehicles	0	-	-	0	-	-
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	1		6			
Peak-Hour Factor, PHF	0.50	1.00	0.50	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	2	0	12	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		-3			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		5		14				
C (m) (veh/h)		552		197				
v/c		0.01		0.07				
95% queue length		0.03		0.23				
Control Delay (s/veh)		11.6		24.7				
LOS		B		C				
Approach Delay (s/veh)	--	--	24.7					
Approach LOS	--	--	C					

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: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	45	622	55	11	408	8
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	53	740	65	12	448	8
Percent Heavy Vehicles	9	--	--	12	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	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 (veh/h)	12	19	12	15	23	23
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, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement	L	L	LTR			LTR		
v (veh/h)	53	12	43			61		
C (m) (veh/h)	1069	777	310			330		
v/c	0.05	0.02	0.14			0.18		
95% queue length	0.16	0.05	0.48			0.67		
Control Delay (s/veh)	8.5	9.7	18.5			18.4		
LOS	A	A	C			C		
Approach Delay (s/veh)	--	--	18.5			18.4		
Approach LOS	--	--	C			C		

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	2008 No Build
Analysis Time Period	Weekday PM Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		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 Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	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
Configuration		LTR			LTR		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
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	B		D			C	
Approach Delay (s/veh)	--	--		25.6			24.2	
Approach LOS	--	--		D			C	

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	2008 Build
Analysis Time Period	Weekday PM Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	53	871	66	11	600	8
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.91	0.91	0.91
Hourly Flow Rate, HFR (veh/h)	63	1036	78	12	659	8
Percent Heavy Vehicles	9	--	--	12	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	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
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
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)	890	591		197			224	
v/c	0.07	0.02		0.27			0.32	
95% queue length	0.23	0.06		1.04			1.33	
Control Delay (s/veh)	9.4	11.2		29.9			28.5	
LOS	A	B		D			D	
Approach Delay (s/veh)	--	--		29.9			28.5	
Approach LOS	--	--		D			D	

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	2018 No Build
Analysis Time Period	Weekday PM Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	Movement	1	2	3	4	5
	L	T	R	L	T	R
Volume (veh/h)	81	1138	99	13	728	9
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	88	1236	107	14	791	9
Percent Heavy Vehicles	9	--	--	12	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	Movement	7	8	9	10	11
	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, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	88	14		77			96	
C (m) (veh/h)	793	482		125			172	
v/c	0.11	0.03		0.62			0.56	
95% queue length	0.37	0.09		3.15			2.90	
Control Delay (s/veh)	10.1	12.7		71.7			49.6	
LOS	B	B		F			E	
Approach Delay (s/veh)	--	--		71.7			49.6	
Approach LOS	--	--		F			E	

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	2018 Build
Analysis Time Period	Weekday PM Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	81	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	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
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, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	88	14	77			96		
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		
Control Delay (s/veh)	11.1	13.7	128.2			79.6		
LOS	B	B	F			F		
Approach Delay (s/veh)	--	--	128.2			79.6		
Approach LOS	--	--	F			F		

SHORT REPORT

General Information				Site Information			
Analyst	JES	Intersection	US 30 & Granite Station				
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	2018 Build w/ Improv				

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Lane Group	L	T	R	L	TR			LTR			LTR	
Volume (vph)	81	1262	99	13	889	9	41	19	12	17	25	47
% Heavy Vehicles	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
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0			2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0			2.0			2.0	
Arrival Type	3	3	3	3	3			3			3	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0			12.0			12.0	
Parking/Grade/Parking	N	-2	N	N	-1	N	N	2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0			0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 67.0	G =	G =	G =	G = 11.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25							Cycle Length C = 90.0					

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	Adjusted Flow Rate	88	1372	108	14	976			79			96
Lane Group Capacity	275	1311	1114	80	1267			180			181	
v/c Ratio	0.32	1.05	0.10	0.17	0.77			0.44			0.53	
Green Ratio	0.74	0.74	0.74	0.74	0.74			0.12			0.12	
Uniform Delay d ₁	3.9	11.5	3.2	3.4	6.9			36.6			37.1	
Delay Factor k	0.11	0.50	0.11	0.11	0.32			0.11			0.13	
Incremental 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 Delay	4.5	49.5	3.2	4.4	9.9			38.3			40.0	
Lane Group LOS	A	D	A	A	A			D			D	
Approach Delay	43.8			9.8			38.3			40.0		
Approach LOS	D			A			D			D		
Intersection Delay	31.2						Intersection LOS				C	

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	Saturday Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		15	477	51	15	508	19
Peak-Hour Factor, PHF		0.82	0.82	0.82	0.94	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 Turn Lane						
RT Channelized				0			0
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (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			0	
RT Channelized				0			0
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	18	15		67			43	
C (m) (veh/h)	1021	951		357			396	
v/c	0.02	0.02		0.19			0.11	
95% queue length	0.05	0.05		0.68			0.36	
Control Delay (s/veh)	8.6	8.8		17.4			15.2	
LOS	A	A		C			C	
Approach Delay (s/veh)	--	--		17.4			15.2	
Approach LOS	--	--		C			C	

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	2008 No Build
Analysis Time Period	Saturday Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		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	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	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	0	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, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound			
	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			0.15	
95% queue length		0.08	0.05		1.21			0.52	
Control Delay (s/veh)		9.0	9.3		23.1			17.2	
LOS		A	A		C			C	
Approach Delay (s/veh)		--	--		23.1			17.2	
Approach LOS		--	--		C			C	

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	2008 Build
Analysis Time Period	Saturday Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		20	668	62	15	730	19
Peak-Hour Factor, PHF		0.82	0.82	0.82	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)		24	814	75	15	776	20
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	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	0	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, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	24	15		84			52	
C (m) (veh/h)	835	771		236			296	
v/c	0.03	0.02		0.36			0.18	
95% queue length	0.09	0.06		1.53			0.63	
Control Delay (s/veh)	9.4	9.8		28.5			19.7	
LOS	A	A		D			C	
Approach Delay (s/veh)	--	--		28.5			19.7	
Approach LOS	--	--		D			C	

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	2018 No Build
Analysis Time Period	Saturday Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)		46	836	96	18	928	22
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.94	0.94	0.94
Hourly Flow Rate, HFR (veh/h)		49	908	104	19	987	23
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Two Way Left Turn Lane						
RT Channelized				0			0
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal			0			0	

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)		84	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	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	49	19		115			75	
C (m) (veh/h)	694	693		143			245	
v/c	0.07	0.03		0.80			0.31	
95% queue length	0.23	0.08		5.05			1.25	
Control Delay (s/veh)	10.6	10.3		91.2			26.0	
LOS	B	B		F			D	
Approach Delay (s/veh)	--	--		91.2			26.0	
Approach LOS	--	--		F			D	

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	2018 Build
Analysis Time Period	Saturday Peak Hour		

Project Description 129.90	
East/West Street: US Route 30	North/South Street: Granite Station Rd
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)	46	1004	96	18	1219	22	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	
Hourly Flow Rate, HFR (veh/h)	49	1091	104	19	1296	23	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	1	1	0	
Configuration	L		TR	L		TR	
Upstream Signal		0			0		

Minor Street	Northbound			Southbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)	84	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		
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration		LTR			LTR		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	49	19		115			75	
C (m) (veh/h)	531	591		73			167	
v/c	0.09	0.03		1.58			0.45	
95% queue length	0.30	0.10		9.70			2.07	
Control Delay (s/veh)	12.5	11.3		411.2			43.0	
LOS	B	B		F			E	
Approach Delay (s/veh)	--	--		411.2			43.0	
Approach LOS	--	--		F			E	

SHORT REPORT

General Information				Site Information			
Analyst	JES			Intersection	US 30 & Granite Station		
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	2018 Build w/ Improv		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0
Lane Group	L	T	R	L	TR			LTR			LTR	
Volume (vph)	46	1004	96	18	1219	22	84	8	15	8	15	47
% Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0			2.0			2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0			2.0			2.0	
Arrival Type	3	3	3	3	3			3			3	
Unit Extension	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0			12.0			12.0	
Parking/Grade/Parking	N	-2	N	N	-1	N	N	2	N	N	-2	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0			0			0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 64.0	G =	G =	G =	G = 14.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25							Cycle Length C = 90.0					

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow 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 Delay d ₁	6.5	8.8	4.0	4.1	12.5			35.1			33.6	
Delay Factor k	0.18	0.35	0.11	0.11	0.49			0.15			0.11	
Incremental Delay d ₂	10.3	3.7	0.0	0.3	20.8			3.1			0.6	
PF Factor	1.000	1.000	1.000	1.000	1.000			1.000			1.000	
Control Delay	16.7	12.6	4.0	4.3	33.3			38.1			34.3	
Lane Group LOS	B	B	A	A	C			D			C	
Approach Delay	12.0			32.9			38.1			34.3		
Approach LOS	B			C			D			C		
Intersection Delay	23.8			Intersection LOS						C		

Traffic Signal Permit Plans

PERMIT NO.: 81-17 SHEET 2 OF 3

DATE ISSUED: 8/14/2000 DATE REVISED: 2/17/06

COORDINATION PROGRAM

EVENT NO.	DAY OF WEEK							TIME	CYCLE	SPLIT	OFFSET	REMARKS	
	M	T	W	T	F	S	S						
1	X	X	X	X	X	X	x	x	0:00	-	-	-	FREE
2	X	X	X	X	X	X			7:00	1	1	1	90 SEC
3	X	X	X	X	X	X			14:00	2	1	1	110 SEC
4	X	X	X	X	X	X			18:00	-	-	-	FREE
5													
6													
7													
8													
9													
10													
11													
12													
13													

OFFSETS (SEC.)

CYCLE NO.:	1	2	3	4	5	6
LENGTH: (SEC.)	90	110				
OFFSET	1	6	98			
	2					
	3					
	4					

SPLITS (SEC)

CYCLE	SPLIT	PHASE							
		1	2	3	4	5	6	7	8
1	1	14	42	-	17	-	56	-	17
2	1	13	49	-	31	-	62	-	17

OFFSET REFERENCED TO:
End of Green for Phase 2+6

* PHASE TIME INCLUDES CHANGE AND CLEARANCE INTERVAL TIMES

MASTER: LINCOLN HIGHWAY (SR 0030) / ROUTE 15 NORTHBOUND RAMPS

COUNTY: ADAMS

MUNICIPALITY: STRABAN TOWNSHIP

INTERSECTION: LINCOLN HIGHWAY (S.R.0030) / CAVALRY FIELD ROAD - PRIVATE DRIVEWAY

Date Issued 8/14/00

Date Revised _____

COORDINATION PROGRAM

PLAN NO.	DAY OF WEEK							TIME	CYCLE	OFFSET	SPLIT	REMARKS
	M	T	W	T	F	S	S					
1	X	X	X	X	X	X	X	0:00	-	-	-	FREE
2	X	X	X	X	X			7:00	1	1	1	90 SEC
3	X	X	X	X	X			14:00	2	1	1	110 Sec
4	X	X	X	X	X			18:00	-	-	-	FREE
5												
6												
7												
8												
9												
10												
11												
12												
13												

OFFSETS (SEC)

		1	2	3	4
CYCLE NO.:					
LENGTH: (SEC)		90	110		
OFF SET	1	75	93		

SPLITS (SEC)

CYCLE	SPLIT	PHASE							
		1	2	3	4	5	6	7	8
1	1		62		28		62		
2	1		83		27		83		

T017

COUNTY:

ADAMS

MUNICIPALITY:

STRABAN TOWNSHIP

INTERSECTION:

ROUTE 30 (SR0030) AND

ROUTE 15 SB RAMPS

GENERAL NOTES

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

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

ALL MAINTENANCE NECESSARY FOR PROTECTION OF THE SIGNALS, INCLUDING TRIMMING TREES, IS RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS WITH DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL MARKINGS ON STATE HIGHWAYS, WHICH SHALL BE BY THE DEPARTMENT.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH A MINIMUM OF 2 FEET BEHIND THE CURB OR EDGE OF THE SHOULDER. SUPPORT OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS THE ROADWAY SHALL NOT BE LESS THAN 15 FEET THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM MOUNTED SIGNAL HEADS SHALL NOT BE LESS THAN 15 FEET ABOVE THE SIDEWALK OR 15 FEET ABOVE THE ROADWAY.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY ORDER FOR EMBANKMENT REMOVAL, CURBING AND/OR DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, WIDENING, OR INSTALLATION OF ADDITIONAL CONDUIT INSTALLED IN BITUMINOUS ROADWAY YEARS OLD, OR CONCRETE ROADWAY REGARDLESS MUST BE BORED OR JACKED UNDER THE ROADWAY IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLETES WITH VISIONS OF ACT 167. PREVENTION OF DAMAGE TO UTILITIES, PRIOR TO CONSTRUCTION, CONSULT WITH COMPANIES TO RESOLVE ANY PROBLEMS WHICH DUE TO THE LOCATION OF UTILITIES.

PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES TO OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID FILLS MUST CONFORM TO DEPARTMENT SPECIFICATIONS IN CURRENT PUBLICATION 406, SUPPLEMENTS AND DRAWINGS.

SIGNALIZATION NOTES

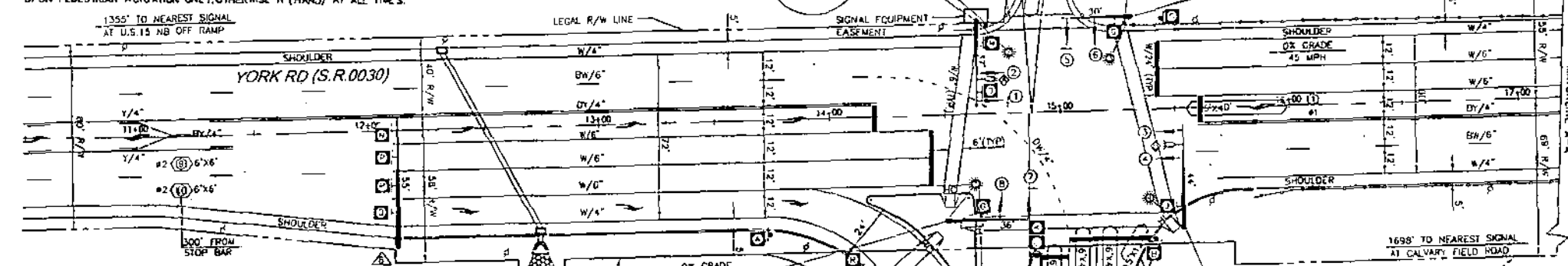
1. G/+ IF FOLLOWED BY PHASE 2+6
2. G IF FOLLOWED BY PHASE 2+6
3. G IF FOLLOWED BY PHASE 1+6
4. SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL-RED PHASE INTERVAL FOR DURATION OF PRE-EMPTION
5. NORMAL YELLOW AND ALL-RED PHASE TIMINGS SHALL BE UTILIZED
7. PHASE 6 ON OMTS PHASE 3

DETECTOR NOTES

- DETECTOR 1 CALLS AND EXTENDS PHASE 1 - PRESENCE
- DETECTOR 2 CALLS AND EXTENDS PHASE 4 - PRESENCE
- DETECTORS 3, 4, 5 & 6 CALL AND EXTEND PHASE 8 - PRESENCE
- DETECTORS 7 & 8 CALL AND EXTEND PHASE 5 - PRESENCE, LOCKING
- DETECTORS 8 & 10 CALL AND EXTEND PHASE 2 - PRESENCE, LOCKING

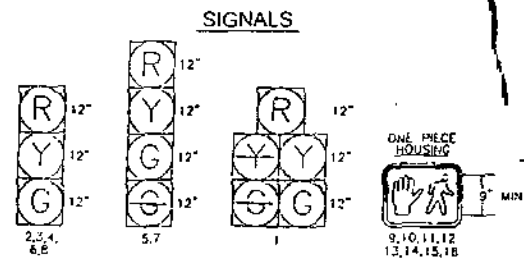
MOVEMENT, SEQUENCE AND TIMING

PHASE	1	2	3	4	5	6	7	8	9	10	EMERG	FLASH
1	12314	12314	12314	12314	12314	12314	12314	12314	12314	12314	Y	Y
2	G/C	G/C	G/C	G/C	G/C	G/C	G/C	G/C	G/C	G/C	Y	Y
3,4	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	Y	Y
5	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	Y	Y
6	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	Y	Y
7	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	Y	Y
8	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	R/R/R/R	Y	Y
9,10	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	SKY	SKY
11,12	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	OFF	OFF
13,14	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	OFF	OFF
15,16	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	H/H/H/H	OFF	OFF
FAIL-SAFE LAMP												

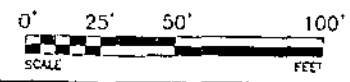


SIGNS

PLAN SYMBOL	DESCRIPTION	SIZE W x H	SERIES DESIGNATION
A	LANE USE CONTROL	60"x30"	R3-BB(L-S-S-M) (SPECIAL)
B	LANE USE CONTROL	48"x30"	R3-BB(L-S-R)
C	LANE USE CONTROL	48"x30"	R3-BB(L-S-SR)
D	LEFT TURN YIELD ON GREEN	30"x36"	R10-12
E	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON	9"x12"	R10-3B
F	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON	9"x12"	R10-3B
G	York Rd		D3-4
H	Gateway Blvd		D3-5
I	Smith Rd		D3-5
J	Smith Rd		D3-5
K	KEEP RIGHT	24"x30"	R4-7
L	HAZARD	18"x18"	W16-1
M	NO TRUCKS BUSES TRAILERS LEFT LANE	48"x60"	R4-11-2
N	LEFT TURN	30"x36"	R3-5L
O	STRAIGHT	30"x36"	R3-5S
P	RIGHT TURN	30"x36"	R3-5R
Q	YIELD TO PEDS IN CROSSWALK	24"x18"	R1-5



SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS 1 THRU 8
SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS AND LOUVERS 9 THRU 12
SIGNALS TO BE EQUIPPED WITH BACKPLATES 13 THRU 18



LEGEND

▲	WEST ARM
●	PEDESTAL
○	VEHICULAR SIGNAL HEAD
○	PEDESTRIAN SIGNAL HEAD
□	SIGN
□	VEHICLE DETECTOR
○	PEDESTRIAN PUSH BUTTON
○	PEDESTRIAN PUSH BUTTON/SIGN
CC	CONTROLLER ASSEMBLY
W/4"	SOLID WHITE LINE/WIDTH
BW/4"	BROKEN WHITE LINE/WIDTH
Y/4"	SOLID YELLOW LINE/WIDTH
BY/4"	BROKEN YELLOW LINE/WIDTH
DY/4"	DOUBLE SOLID YELLOW LINE/WIDTH
DW/4"	DOUBLE SOLID WHITE LINE/WIDTH
○	LUMINAIRE
○	EMERGENCY PRE-EMPTION DEVICE

County: ADAMS
Municipality: STRABAN TOW
Intersection: YORK RD (S.R.C) GATEWAY BOULE SMITH RD
Reviewed: *Michael J. ...* Municipal Official
Recommended: *...* District Traffic Eng'r

COORDINATION PROGRAM

PLAN NO.	DAY OF WEEK							TIME	CYCLE	SPLIT	OFFSET	REMARKS
	M	T	W	T	F	S	S					
1	X	X	X	X	X	X	X	0:00	--	--	--	FREE
2	X	X	X	X	X			7:00	1	1	1	90 SEC
3	X	X	X	X	X			14:00	2	1	1	110 SEC
4	X	X	X	X	X			18:00	--	--	--	FREE
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

OFFSETS (SEC)

CYCLE NO.:	1	2	3	4	5	6
LENGTH: (SEC.)	90	110				
OFFSET	1	26	10			

OFFSET REFERENCED TO: BEGINNING OF PHASE 2+6 GREEN TIME

SPLITS (SEC)

CYCLE	SPLIT	PHASE							
		1	2	3	4	5	6	7	8
1	1	11	40		17		51		22
2	1	17	43		11		60		39

FILE: T022

County: ADAMS
 Municipality: STRABAN TWP
 Intersection: YORK ROAD (S.R.0030)/
GATEWAY BLVD & SMITH RD

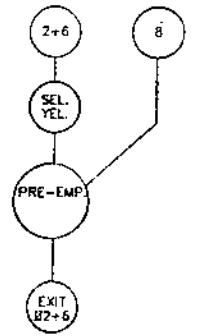
* PHASE TIME INCLUDES CHANGE AND CLEARANCE INTERVAL TIMES

MOVEMENT, SEQUENCE AND TIMING

PHASE	1	2-6	4	5	6	7	8	9	10	11	12
1,2,3,4	G	Y	R	R	R	R	R	R	R	R	R
5,6	H	R	R	G	Y	P	R	R	R	R	R
7	G/Y	(1)R	(2)R	R	R	R	R	R	R	R	R
8,10	R	R	R	R	R	R	R	R	R	R	R
9	C	Y	R	R	R	R	R	R	R	R	R

MINIMUM	4.6	2.0	3.5	2.7	4.0	3.5	2.7
SEC/ACT	2.2						
MINI	30						
SSAGE	6		3				
15							
30							
AIR GAP	3						
4.5			44				

- PRE-EMPTION**
- 25 SEC. DELAY ON PRE-EMPTION DETECTOR.
 - IF PRE-EMPTION OCCURS DURING FLASHING, ALL SIGNALS SHALL REMAIN FLASHING.
 - IF PRE-EMPTION OCCURS DURING 4B, SIGNALS 5 AND 6 SHALL REMAIN GREEN GOING INTO PRE-EMPTION.
 - SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL RED INTERVAL.
 - IF A CONSTANT CALL IS REGISTERED ON DETECTOR 5 FOR 5 MINUTES, THE PRE-EMPTION WILL NOT OCCUR.



GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THIS TRAFFIC SIGNAL SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNAL, INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE, UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH WILL BE MAINTAINED BY THE DEPARTMENT.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MAXIMUM HORIZONTAL CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY SHALL NOT BE LESS THAN 15 FEET OR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS, MEASURED AT RIGHT ANGLES TO THE APPROACH, SHALL BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIDEWALK, DRAINAGE STRUCTURES, PAVEMENT WORKING, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 10 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

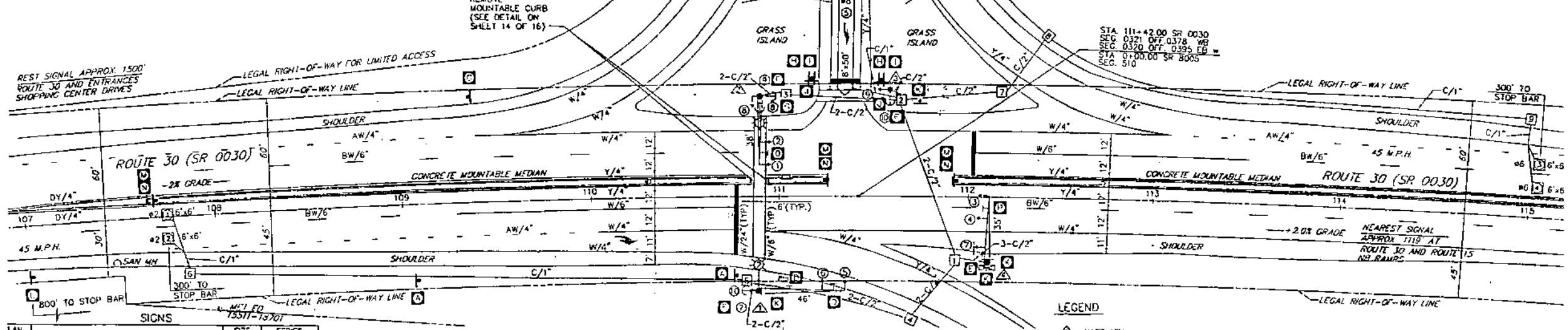
THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 187-98, PREVENTION OF DAMAGE TO UNDERUTILITIES PRIOR TO CONSTRUCTION. CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

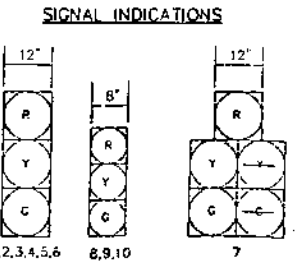
TRAFFIC SIGNALS INSTALLED USING LIQUID TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

① Y₆ - IF THE PEDESTRIAN MOVEMENT IN 4B IS NOT ACTUATED.
 ② Y₆ - IF THE PEDESTRIAN MOVEMENT IN 4B IS NOT ACTUATED.
 ③ UPON PEDESTRIAN ACTUATION



SIGNS

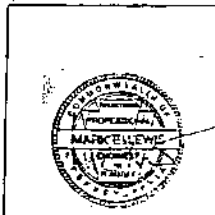
LAN	DESCRIPTION	SIZE W x H	SERIES DESIGNATION
1	LANE USE CONTROL SIGN	48" x 30"	R3-BB(S-S-R)
2	LANE USE CONTROL SIGN	30" x 30"	R3-BA(L-R)
3	YIELD	36" x 36"	R1-2
4	ROUTE 30	72" x 16"	D3-45TD
5	RIGHT TURN SIGNAL	30" x 36"	R10-10R
6	PUSH BUTTON FOR GREEN LIGHT	9" x 12"	R10-3L
7	PUSH BUTTON FOR GREEN LIGHT	9" x 12"	R10-3R
8	ONE WAY	48" x 18"	R6-1R
9	ONE WAY	48" x 18"	R6-1L
10	DO NOT ENTER	30" x 30"	R5-1
11	NO PEDESTRIAN CROSSING	24" x 24"	R9-3A
12	SIGNAL AHEAD	36" x 36"	W3-3
13	KEEP RIGHT SIGN	24" x 30"	R4-7
14	HAZARD WARNING SIGN	18" x 18"	W16-1
15	NO TURNS	30" x 30"	R3-3
16	NO LEFT TURN	30" x 30"	R3-2
17	NO RIGHT TURN	30" x 30"	R3-1
18	WRONG WAY	36" x 24"	R5-6



LEGEND

- ▲ WAST ARM
- STRAIN POLE
- △ PEDESTAL
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGN
- VEHICLE DETECTOR
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN PUSH BUTTON/SIGN
- JUNCTION BOX
- CONDUIT/SIZE
- CONTROLLER ASSEMBLY
- SOLID WHITE LINE/WIDTH
- BROKEN WHITE LINE/WIDTH
- ADJUTARY LANE WHITE LINE/WIDTH
- SOLID YELLOW LINE/WIDTH
- BROKEN YELLOW LINE/WIDTH
- DOUBLE SOLID YELLOW LINE/WIDTH
- LUMINAIRE

ALL OVERHEAD SIGNALS TO BE EQUIPPED WITH BACKPLATES.
 SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS 2,8,9,10.



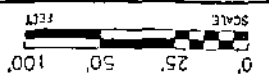
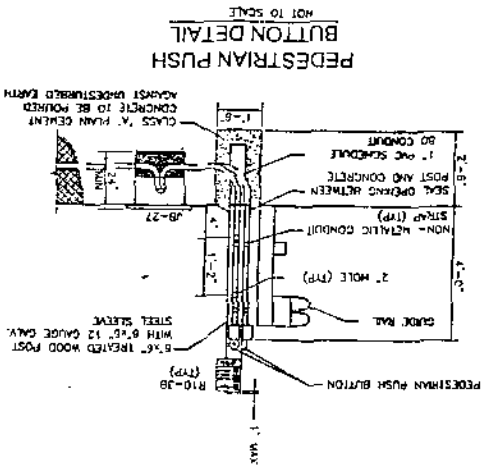
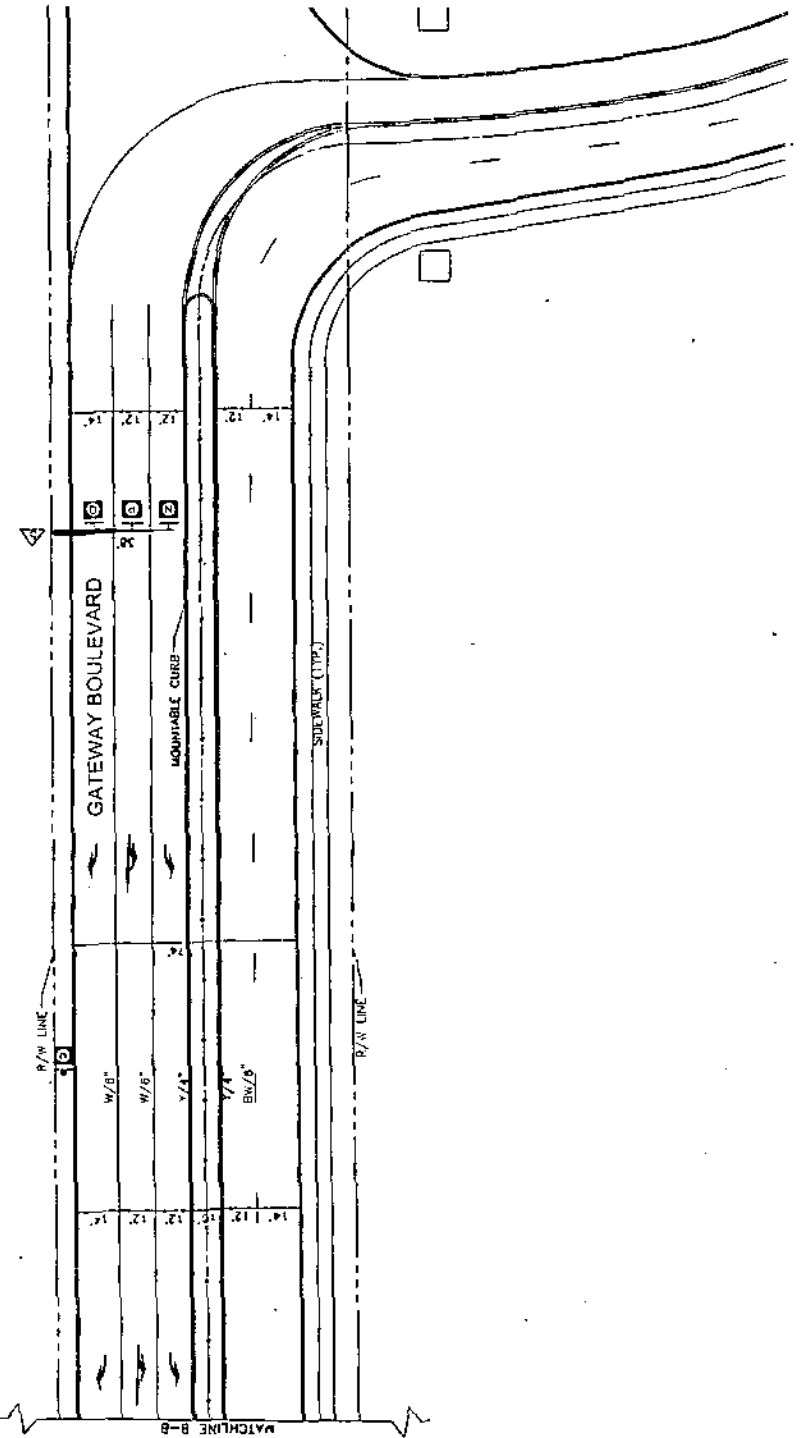
PROFESSIONAL ENGINEER
 DATE

COUNTY: ADAMS
 MUNICIPALITY: STRABAN TOWNSHIP
 INTERSECTION: ROUTE 30 (SR 0030) AND
ROUTE 15 SB RAMPS

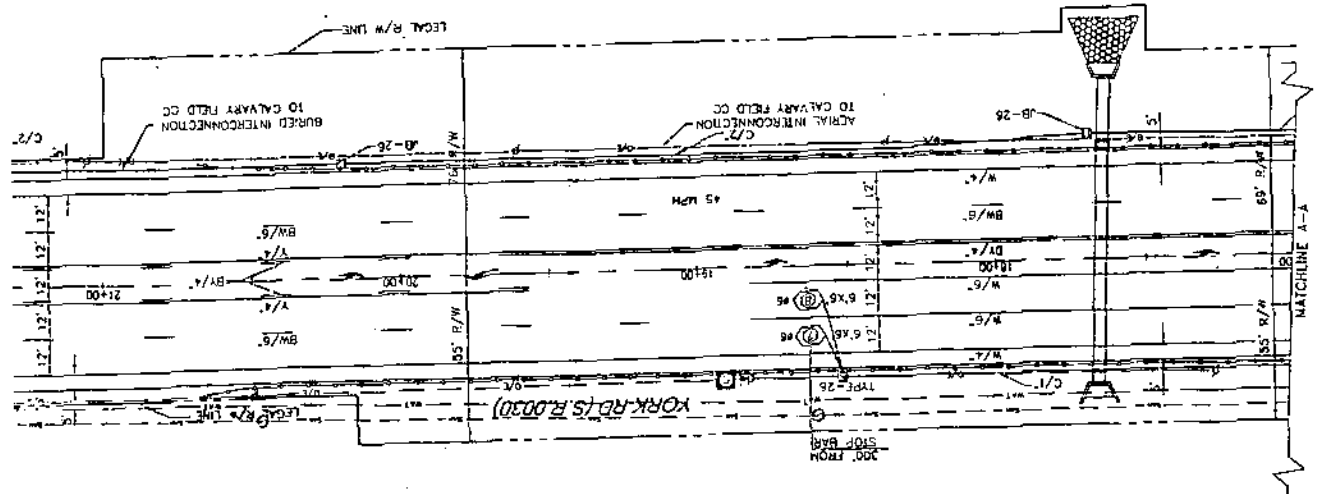
REVIEWED: Mark Lewis DATE: 9/11/00
 MUNICIPAL OFFICIAL

RECOMMENDED: Mark Lewis DATE: 9/11/00
 DISTRICT TRAFFIC ENGINEER

25' 0' 25'
 SCALE IN FEET



County: ADAMS
Municipality: STRABAN TOWNSHIP
Intersection: YORK RD (S.R. 0030) & GATEWAY BOULEVARD / SMITH RD
Reviewed: *Michael J. ...*
Municipal Official: *...*
Date: 2/2/14
Recommended: *...*
District Traffic Engineer: *...*
Date: 2/2/14



DATE ISSUED 1-5-05 DATE REVISED

SIGNS			
PLAN SYMBOL	DESCRIPTION	SIZE W x H	SERIES DESIGNATION
A	LEFT TURN YIELD ON GREEN	30"x36"	R10-12
B	RIGHT TURN SIGNAL	30"x36"	R10-10R
C	NO PEDESTRIAN CROSSING	18"x18"	R9-3
D	York Road	77"x16"	D3-4
E	Camp Letterman Dr	98"x28"	D3-5
F	Shealer Rd	98"x28"	D3-5
G	Camp Letterman Dr	98"x28"	D3-5
H	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON	9"x12"	R10-3BR
I	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON	9"x12"	R10-3BL
J	LANE USE CONTROL	48"x30"	R3-8B(L-S-R)
K	LANE USE CONTROL	30"x30"	R3-8A(L-SR)
L	RIGHT LANE MUST TURN RIGHT	30"x30"	R3-7R
M	LEFT TURN	30"x36"	R3-5L
N	STRAIGHT THROUGH	30"x36"	R3-5S
O	RIGHT TURN	30"x36"	R3-5R

DETECTOR NOTES

DETECTOR 1 CALLS AND EXTENDS PHASE 2, PRESENCE, LOOKING
DETECTOR 2 CALLS AND EXTENDS PHASE 5, PRESENCE
DETECTOR 3 CALLS AND EXTENDS PHASE 1, PRESENCE
DETECTORS 4 & 4a CALL AND EXTEND PHASE 6, PRESENCE, LOOKING
DETECTORS 5, 6, 7 & 8 CALL AND EXTEND PHASE 4, PRESENCE
DETECTORS 9, 10 & 10a CALL AND EXTEND PHASE 4, PRESENCE

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC SIGNAL SHALL BE IN ACCORDANCE WITH PENN. DEPARTMENT OF TRANSPORTATION REGULATIONS ON TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS, INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE, UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH WILL BE MAINTAINED BY THE DEPARTMENT.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM HORIZONTAL CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECT OVER THE ROADWAY SHALL NOT BE LESS THAN 15 FEET MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS SHALL NOT BE LESS THAN 15 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS, MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIDEWALK DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANE MARKINGS.

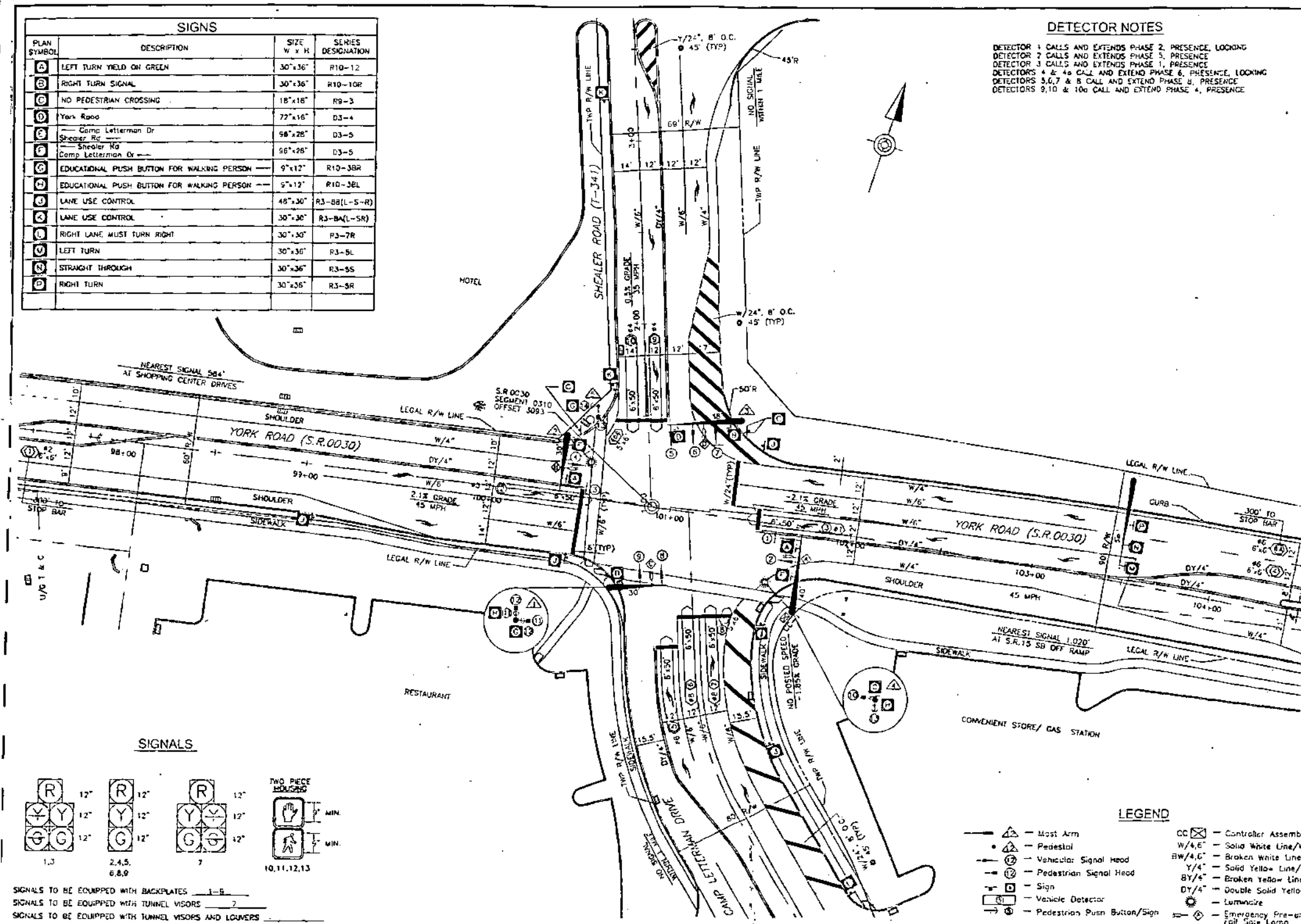
CONDUIT INSTALLED IN BITUMINOUS ROADWAY (LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE) MUST BE BORED OR JACKED UNDER THE ROADWAY. IN ACCORDANCE WITH PENN. DEPARTMENT OF TRANSPORTATION SIGNAL STANDARDS: 10-7000 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 181, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, COOPERATION WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

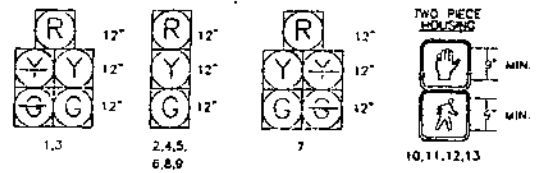
PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS MUST CONFORM TO DEPARTMENT SPECIFICATIONS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENT STANDARD DRAWINGS.

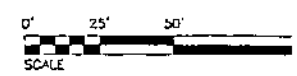


SIGNALS



LEGEND

- Most Arm
- Pedestal
- Vehicular Signal Head
- Pedestrian Signal Head
- Sign
- Vehicle Detector
- Pedestrian Push Button/Sign
- CC ⊗ — Controller Assembly
- W/4,6" — Solid White Line/Width
- BW/4,6" — Broken White Line/Width
- Y/4" — Solid Yellow Line/Width
- BY/4" — Broken Yellow Line/Width
- DY/4" — Double Solid Yellow Line/Width
- Luminaire
- Emergency Pre-emption Fall Gate Lamp



County: ADAMS

Municipality: STRASAN TOWNSHIP

Intersection: YORK ROAD (S.R.0030) SHEALER ROAD AND CAMP LETTERMAN DRIV

Reviewed: Michael J. [Signature]
Municipal Official

Recommended: [Signature]
District Traffic Engineer

COORDINATION PROGRAM

PLAN NO.	DAY OF WEEK							TIME	CYCLE	SPLIT	OFFSET	REMARKS
	M	T	W	T	F	S	S					
1	X	X	X	X	X	X	X	0:00	-	-	-	FREE
2	X	X	X	X	X			7:00	1	1	1	90 SEC
3	X	X	X	X	X			14:00	2	1	1	110 SEC
4	X	X	X	X	X			18:00	-	-	-	FREE
5								9:00	2	2	1	110 SEC
6								18:00	-	-	-	FREE
7												
8												
9												
10												
11												
12												
13												
14												

OFFSETS (SEC)

CYCLE NO.:	1	2	3	4	5	6
LENGTH: (SEC.)	90	110				
OFFSET	1	50	71			

OFFSET REFERENCED TO: BEGINNING OF PHASE 2+6 GREEN TIME

SPLITS (SEC)

CYCLE	SPLIT	PHASE							
		1	2	3	4	5	6	7	8
1	1	15	44		31	15	44		31
2	1	16	58		36	16	58		36
2	2	18	57		35	18	57		35

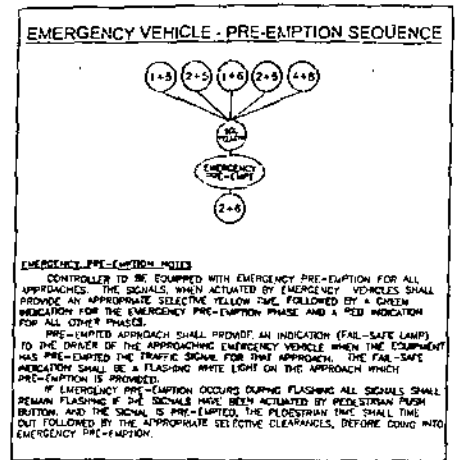
FILE: T020

County: ADAMS
 Municipality: STRABAN TWP
 Intersection: YORK ROAD (S.R.0030)/
SHEALER ROAD AND
CAMP LETTERMAN DRIVE

* PHASE TIME INCLUDES CHANGE AND CLEARANCE INTERVAL TIMES

MOVEMENT, SEQUENCE AND TIMING

Phase	1+5	2+5	1+6	2+6	4+6	2+3	1+3	1+2	1+3	1+2	EMERGENCY FLUSH
1	R	R	R	R	R	R	R	R	R	R	Y
2	R	R	R	R	R	R	R	R	R	R	Y
3	R	R	R	R	R	R	R	R	R	R	Y
4	R	R	R	R	R	R	R	R	R	R	Y
5,6	R	R	R	R	R	R	R	R	R	R	R
7	R	R	R	R	R	R	R	R	R	R	R
8,9	R	R	R	R	R	R	R	R	R	R	R
10,11	H	H	H	H	H	H	H	H	H	H	R
12,13	H	H	H	H	H	H	H	H	H	H	R
14	H	H	H	H	H	H	H	H	H	H	R
15	H	H	H	H	H	H	H	H	H	H	R
16	H	H	H	H	H	H	H	H	H	H	R
17	H	H	H	H	H	H	H	H	H	H	R
18	H	H	H	H	H	H	H	H	H	H	R
19	H	H	H	H	H	H	H	H	H	H	R
20	H	H	H	H	H	H	H	H	H	H	R
21	H	H	H	H	H	H	H	H	H	H	R
22	H	H	H	H	H	H	H	H	H	H	R
23	H	H	H	H	H	H	H	H	H	H	R
24	H	H	H	H	H	H	H	H	H	H	R
25	H	H	H	H	H	H	H	H	H	H	R
26	H	H	H	H	H	H	H	H	H	H	R
27	H	H	H	H	H	H	H	H	H	H	R
28	H	H	H	H	H	H	H	H	H	H	R
29	H	H	H	H	H	H	H	H	H	H	R
30	H	H	H	H	H	H	H	H	H	H	R
31	H	H	H	H	H	H	H	H	H	H	R
32	H	H	H	H	H	H	H	H	H	H	R
33	H	H	H	H	H	H	H	H	H	H	R
34	H	H	H	H	H	H	H	H	H	H	R
35	H	H	H	H	H	H	H	H	H	H	R
36	H	H	H	H	H	H	H	H	H	H	R
37	H	H	H	H	H	H	H	H	H	H	R
38	H	H	H	H	H	H	H	H	H	H	R
39	H	H	H	H	H	H	H	H	H	H	R
40	H	H	H	H	H	H	H	H	H	H	R
41	H	H	H	H	H	H	H	H	H	H	R
42	H	H	H	H	H	H	H	H	H	H	R
43	H	H	H	H	H	H	H	H	H	H	R
44	H	H	H	H	H	H	H	H	H	H	R
45	H	H	H	H	H	H	H	H	H	H	R
46	H	H	H	H	H	H	H	H	H	H	R
47	H	H	H	H	H	H	H	H	H	H	R
48	H	H	H	H	H	H	H	H	H	H	R
49	H	H	H	H	H	H	H	H	H	H	R
50	H	H	H	H	H	H	H	H	H	H	R
51	H	H	H	H	H	H	H	H	H	H	R
52	H	H	H	H	H	H	H	H	H	H	R
53	H	H	H	H	H	H	H	H	H	H	R
54	H	H	H	H	H	H	H	H	H	H	R
55	H	H	H	H	H	H	H	H	H	H	R
56	H	H	H	H	H	H	H	H	H	H	R
57	H	H	H	H	H	H	H	H	H	H	R
58	H	H	H	H	H	H	H	H	H	H	R
59	H	H	H	H	H	H	H	H	H	H	R
60	H	H	H	H	H	H	H	H	H	H	R



INTERCONNECTION NOTES

1. COMMUNICATIONS CABLE TO BE ROUTED FROM SIGNAL POLE 1 TO WEST THEN TO CONTROLLER ON NORTHEAST CORNER OF S.P.0030/WAL-MART INTERSECTION.
2. MASTER CONTROLLER LOCATED AT INTERSECTION OF S.P.0030/S.R.0015 NB RAMP.

OPERATION NOTES

1. $\frac{1}{2}$ IF FOLLOWED BY 2+5
2. $\frac{1}{2}$ IF FOLLOWED BY 1+6
3. $\frac{1}{2}$ IF FOLLOWED BY 2+6
4. G IF FOLLOWED BY 2+6
5. G IF FOLLOWED BY 2+6
6. $\frac{1}{2}$ IF FOLLOWED BY 1+6
7. SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL RED PHASE INTERVAL
8. TIMING WILL BE AS SHOWN IN #2+6. IT MAY TIME OUT IN THIS #, OR IT MAY BE COMPLETED IN #2+6
9. FOR DURATION OF PRE-EMPTION

County: ADAMS

Municipality: STRABAN TOWNSHIP

Intersection: YORK ROAD (S.R.0030)
SHEALER ROAD AND
CAMP LETTERMAN DRIVE

Reviewed: Miked L. [Signature] D
 Municipal Official

Recommended: [Signature] R

Date Issued 8/14/00

Date Revised _____

COORDINATION PROGRAM

PLAN NO.	DAY OF WEEK							TIME	CYCLE	OFFSET	SPLIT	REMARKS
	M	T	W	T	F	S	S					
1	X	X	X	X	X	X	X	0:00	-	-	-	FREE
2	X	X	X	X	X			7:00	1	1	1	90 SEC
3	X	X	X	X	X			14:00	2	1	1	110 SEC
4	X	X	X	X	X			18:00	-	-	-	FREE
5												
6												
7												
8												
9												
10												
11												
12												
13												

OFFSETS (SEC)

CYCLE NO.:		1	2	3	4
LENGTH: (SEC)		90	110		
OFFSET	1	64	0		

SPLITS (SEC)

CYCLE	SPLIT	PHASE							
		1	2	3	4	5	6	7	8
1	1		64				64		26
2	1		84				84		26

T018

COUNTY:

ADAMS

MUNICIPALITY:

STRABAN TOWNSHIP

INTERSECTION:

ROUTE 30 (SR0030)

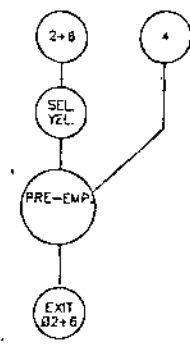
AND ROUTE 15 NB RAMP

MOVEMENT, SEQUENCE AND TIMING

PHASE	2+6						RAMP PRE-EMPTION				FLASHING
	1	2	3	4	5	6	7	8	9	10	
INTERVAL	1.2	3.4	5.6	7.8	9						
SIGNAL	G	Y	R	R	R	R	R	R	R	R	Y
	G	Y	R	R	R	R	R	R	R	R	Y
	R	R	R	G	Y	R					R
	R	R	R	G	Y	R					R
	G	Y	R	R	R	R	R	R	R	R	Y
FIXED		4.5	2.0		3.5	2.5		4.0	3.5	2.5	
MINIMUM	10										
SEC/FACT	2.2										
MAX INIT	30										
PASSAGE	6										
ITR	15										
TBR	30										
MIN. GAP	3										
MAX	25										
PEDESTRIAN	10										
MEMORY		MIN. RECALL			NON-LOCKING						

* UPON PEDESTRIAN ACTUATION

- PRE-EMPTION**
- 25 SEC. DELAY ON PRE-EMPTION DETECTOR.
 - IF PRE-EMPTION OCCURS DURING FLASHING, ALL SIGNALS SHALL REMAIN FLASHING.
 - IF PRE-EMPTION OCCURS DURING INTERVAL 4-7 SIGNALS 5 AND 6 SHALL REMAIN GREEN GOING INTO THE PRE-EMPTION.
 - SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL RED INTERVAL.
 - IF A CONSTANT CALL IS REGISTERED ON DETECTOR 5 FOR 5 MINUTES, THE PRE-EMPTION WILL NOT OCCUR.



GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THIS TRAFFIC SIGNAL SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNAL INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE, UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH WILL BE MAINTAINED BY THE DEPARTMENT.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM HORIZONTAL CLEARANCE OF 7 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY SHALL NOT BE LESS THAN 15 FEET OR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN HEADS, MEASURED AT RIGHT ANGLES TO THE ROADWAY, SHALL BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIGN DRAINAGE STRUCTURES, PAVEMENT WIDENING, OR OTHER HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR OTHER ADDITIONAL LANES.

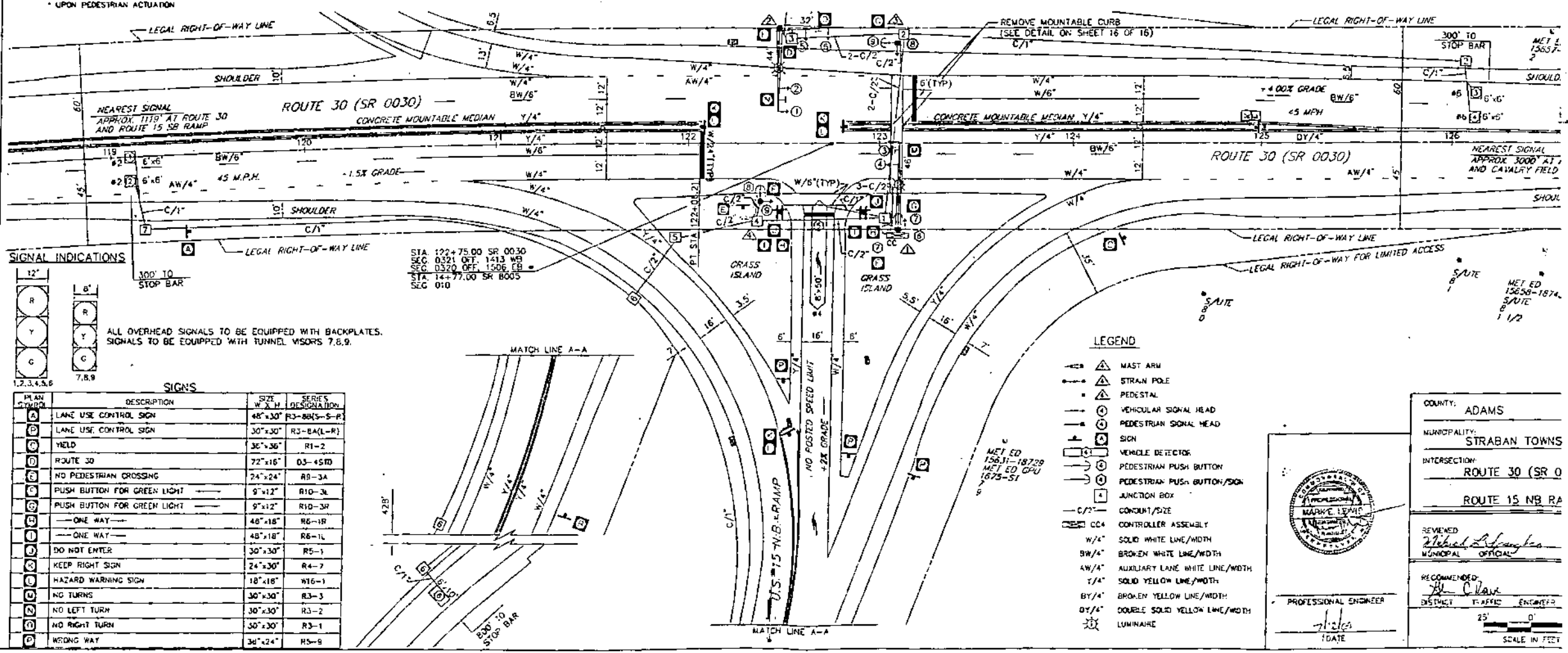
CONDUIT INSTALLED IN BITUMINOUS ROAD YEARS OLD, OR CONCRETE ROADWAY REGARDLESS MUST BE BORED OR JACKED UNDER THE ROAD IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARD SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH VISIONS OF ACT 187-95, PREVENTION OF DAMAGING UTILITIES. PRIOR TO CONSTRUCTION, CONSULT COMPANIES TO RESOLVE ANY PROBLEMS WHICH DUE TO THE LOCATION OF UTILITIES.

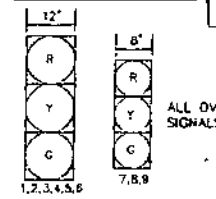
PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING MOUNTED HEADS MUST CONFORM TO DEPARTMENT SPECIFICATIONS IN CURRENT PUBLICATION 408, SUPPLEMENTS TO DRAWINGS.



SIGNAL INDICATIONS



ALL OVERHEAD SIGNALS TO BE EQUIPPED WITH BACKPLATES. SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS 7.8.9.

SIGNS

PLAN SYMBOL	DESCRIPTION	SIZE	SERIES DESIGNATION
(A)	LANE USE CONTROL SIGN	48"x30"	R3-8B(S-5-P)
(B)	LANE USE CONTROL SIGN	30"x30"	R3-8A(L-R)
(C)	YIELD	36"x36"	R1-2
(D)	ROUTE 30	72"x16"	D3-45TD
(E)	NO PEDESTRIAN CROSSING	74"x24"	R9-3A
(F)	PUSH BUTTON FOR GREEN LIGHT	9"x12"	R10-3L
(G)	PUSH BUTTON FOR GREEN LIGHT	9"x12"	R10-3R
(H)	ONE WAY	48"x18"	R6-1R
(I)	ONE WAY	48"x18"	R6-1L
(J)	DO NOT ENTER	30"x30"	R5-1
(K)	KEEP RIGHT SIGN	24"x30"	R4-7
(L)	HAZARD WARNING SIGN	18"x16"	W16-1
(M)	NO TURNS	30"x30"	R3-3
(N)	NO LEFT TURN	30"x30"	R3-2
(O)	NO RIGHT TURN	30"x30"	R3-1
(P)	WRONG WAY	36"x24"	R5-9

LEGEND

- MAST ARM
- STRAIN POLE
- PEDESTAL
- VEHICULAR SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGN
- VEHICLE DETECTOR
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN PUSH BUTTON/SIGN
- JUNCTION BOX
- CONDUIT/SIZE
- CONTROLLER ASSEMBLY
- SOLID WHITE LINE/WIDTH
- BROKEN WHITE LINE/WIDTH
- AUXILIARY LANE WHITE LINE/WIDTH
- SOLID YELLOW LINE/WIDTH
- BROKEN YELLOW LINE/WIDTH
- DOUBLE SOLID YELLOW LINE/WIDTH
- LUMINAIRE

COUNTY: ADAMS
 MUNICIPALITY: STRABAN TOWNS
 INTERSECTION: ROUTE 30 (SR 0) AND ROUTE 15 NB RA
 REVIEWED: [Signature]
 MUNICIPAL OFFICIAL
 RECOMMENDED: [Signature]
 DISTRICT ENGINEER
 PROFESSIONAL ENGINEER: [Signature]
 DATE: 7/1/00
 SCALE IN FEET: 1" = 20'

Traffic Signal Warrant Analyses

PEAK HOUR VOLUME WARRANT

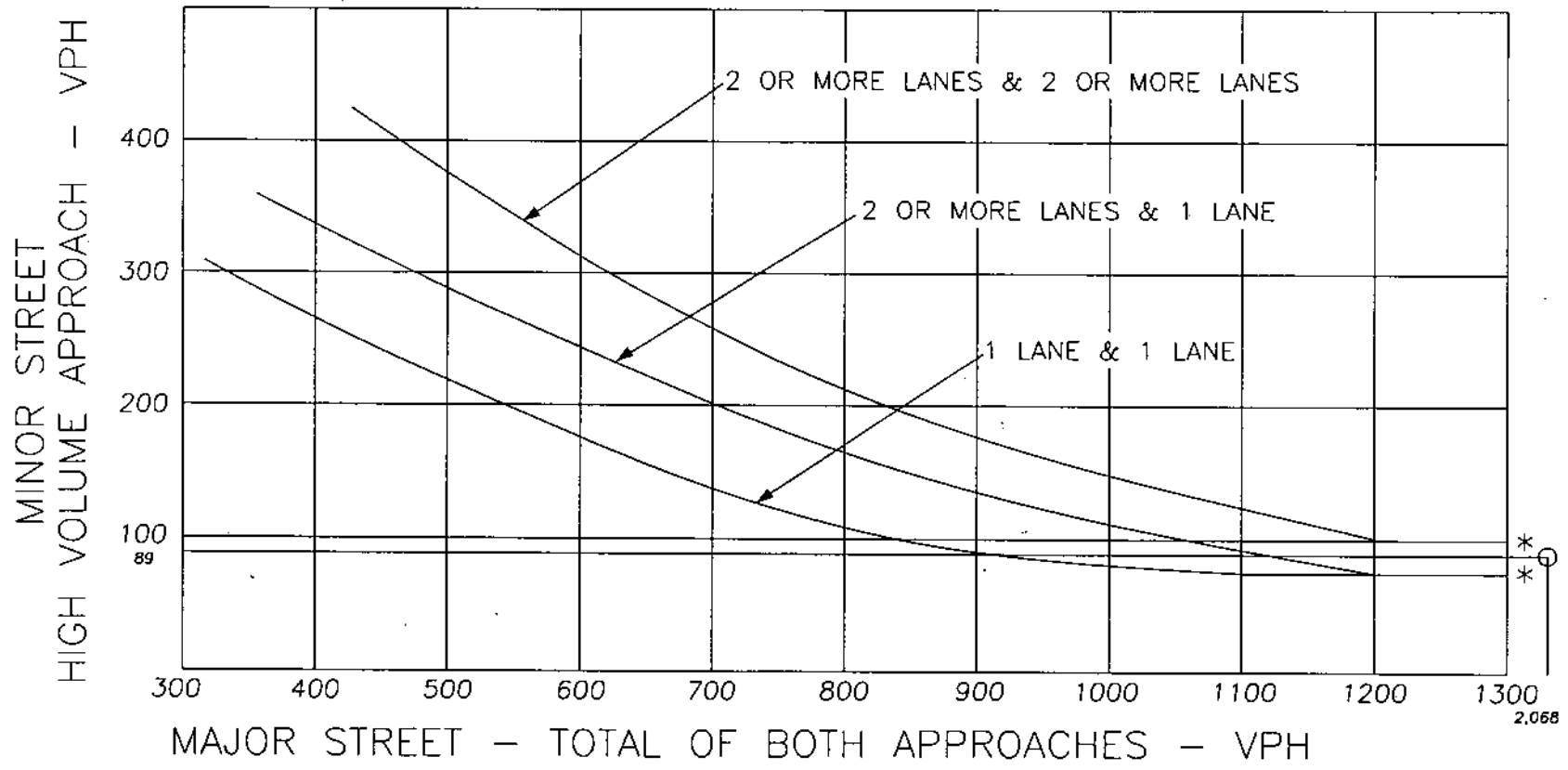
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR SREET)

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.

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

PEAK HOUR VOLUME WARRANT

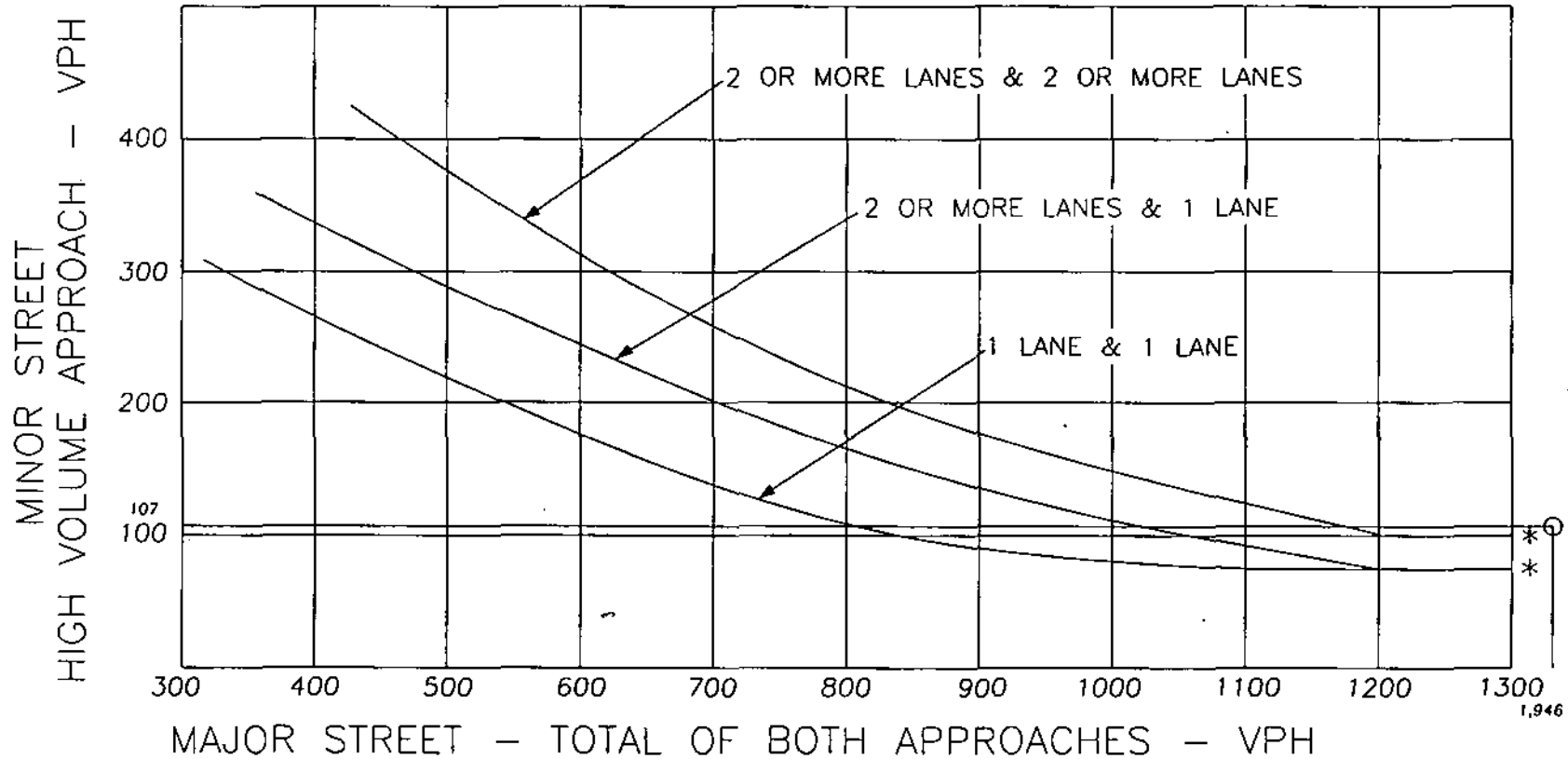
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

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.

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

Queue Analysis Calculations

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Crossroads/Gateway Gettysburg Roadways

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	1049	0	0.31	1106	829
THRU	41	0	0.31	43	32
RIGHT	298	0	0.47	241	181

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Casino/Gateway Gettysburg Roadways

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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	1090	0	0.31	1149	862
THRU	856	1	0.38	819	614
RIGHT	1154	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	399	0	0.19	494	370
THRU	1258	2	0.26	1451	1088
RIGHT	174	0	0.26	197	148

Gateway Gettysburg Roadway NB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	871	0	0.27	971	729
THRU	73	0	0.27	81	61
RIGHT	270	0	0.51	202	152

QUEUE ANALYSIS

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

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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	21	0	0.65	11	8
THRU	1063	7	0.65	608	456
RIGHT	121	0	0.65	65	49

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH 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

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

Re-located Smith Road SB

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

QUEUE ANALYSIS

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

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

Queue Capacity = $L = [Volume \times Cycle \ Length \times 1 \ Hour/3600 \ seconds \times 25 \ feet/1 \ vehicle \times R] / [1 - G/C] [1 + \%T]$

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	25	0	0.68	12	9
THRU	926	2	0.68	462	346
RIGHT	219	0	0.68	107	80

US Route 30 WB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
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

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

Re-located Smith Road SB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	171	0	0.21	206	155
THRU/RIGHT	76	0	0.21	92	69

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Shealer Road/Camp Letterman Drive

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

Queue Capacity = $L = \text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour} / 3600 \text{ seconds} \times 25 \text{ feet/1 vehicle} \times R [1 - G/C] [1 + \%T]$

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

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE 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

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

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Shealer Road/Camp Letterman Drive

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

Queue Capacity = $L = \text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour} / 3600 \text{ seconds} \times 25 \text{ feet} / 1 \text{ vehicle} \times R [1 - G/C] [1 + \%T]$

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	0	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

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	37	4	0.06	55	41
THRU	61	0	0.07	87	65
RIGHT	97	4	0.19	125	94

Shealer Road SB

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

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 Southbound Ramps

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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)
THRU	1095	4	0.69	539	405
RIGHT	437	4	0.69	215	161

US Route 30 WB

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

US Route 15 Southbound Ramps SB

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

jes
08/13/2006

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 Southbound Ramps

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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)
THRU	1338	1	0.65	723	542
RIGHT	864	0	0.65	462	347

US Route 30 WB

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

US Route 15 Southbound Ramps SB

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

jes
08/13/2006

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 Northbound Ramps

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

Queue Capacity = $L = [Volume \times Cycle Length \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$

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)
THRU	1370	4	0.7	653	490

US Route 30 WB

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

US Route 15 Northbound Ramps NB

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

jes
08/13/2006

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 Northbound Ramps

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

$$\text{Queue Capacity} = L = \left[\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour} / 3600 \text{ seconds} \times 25 \text{ feet} / 1 \text{ vehicle} \times R \right] [1 - G/C] [1 + \%T]$$

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)
THRU	1814	1	0.7	840	630

US Route 30 WB

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

US Route 15 Northbound Ramps NB

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

jes
08/13/2006

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 SPUI

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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	205	4	0.13	283	213
THRU	890	3	0.27	1022	767

US Route 30 WB

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

US Route 15 Northbound Ramps NB

MOVEMENT	VOLUME (VPH)	% TRUCKS	G/C RATIO	DES. STORAGE LENGTH REQ'D (FEET)	MIN. STORAGE LENGTH REQ'D (FEET)
LEFT	455	0	0.17	577	433

US Route 15 Southbound Ramps SB

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

QUEUE ANALYSIS

INTERSECTION: US Route 30 and US Route 15 SPU

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

$$\text{Queue Capacity} = L = [\text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R][1 - G/C][1 + \%T]$$

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	195	0	0.11	265	199
THRU	1143	3	0.31	1241	931

US Route 30 WB

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

US Route 15 Northbound Ramps NB

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

US Route 15 Southbound Ramps SB

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

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Granite Station Road

CYCLE LENGTH = 110 SEC 2018 Design Year - Weekday PM Build

Queue Capacity = $L = \text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour} / 3600 \text{ seconds} \times 25 \text{ feet} / 1 \text{ vehicle} \times R [1 - G/C] [1 + \%T]$

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	81	9	0.74	35	26
THRU	1262	9	0.74	546	410
RIGHT	99	9	0.74	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	13	12	0.74	6	4
THRU/RIGHT	898	12	0.74	400	300

Granite Station Road NB

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

Granite Station Road SB

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

QUEUE ANALYSIS

INTERSECTION: US Route 30 and Granite Station Road

CYCLE LENGTH = 110 SEC 2018 Design Year - Saturday Build

Queue Capacity = $L = \text{Volume} \times \text{Cycle Length} \times 1 \text{ Hour}/3600 \text{ seconds} \times 25 \text{ feet}/1 \text{ vehicle} \times R/[1 - G/C][1 + \%T]$

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	46	0	0.71	20	15
THRU	1004	1	0.71	449	337
RIGHT	96	0	0.71	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

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

Granite Station Road SB

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

Turning Movement Peak Period Counts

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

File Name : US15NB_US30_SAT
 Site Code : 00012990
 Start Date : 7/29/2006
 Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

Start Time	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	116	32	0	148	0	144	10	0	154	56	0	57	0	113	0	0	0	0	0	415
11:15 AM	0	113	25	0	138	0	174	2	0	176	61	0	66	0	127	0	0	0	0	0	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	0	0	0	438
Total	0	486	95	0	581	0	672	24	0	696	272	0	229	1	502	0	0	0	0	0	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	0	180	2	450	0	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	0	126	35	0	161	0	180	4	0	184	87	0	51	2	140	0	0	0	0	0	485
01:45 PM	0	81	33	0	114	0	181	2	0	183	85	0	38	1	124	0	0	0	0	0	421
Total	0	455	148	0	603	0	644	16	0	660	321	0	220	3	544	0	0	0	0	0	1807
Grand Total	1	1431	383	0	1815	0	2008	72	0	2080	861	0	629	6	1496	0	0	0	0	0	5391
Approch %	0.1	78.8	21.1	0		0	96.5	3.5	0		57.6	0	42	0.4		0	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	0
Passenger Cars	0	1424	380	0	1804	0	1983	70	0	2053	860	0	620	6	1486	0	0	0	0	0	5343
% Passenger Cars	0	99.5	99.2	0	99.4	0	98.8	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	0	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	0	0	0	0	0	0.9

Start Time	US Route 30 Eastbound					US Route 30 Westbound					US Route 15 Off Ramp Northbound					US Route 15 On Ramp Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:15 AM																					
11:15 AM	0	113	25	0	138	0	174	2	0	176	61	0	66	0	127	0	0	0	0	0	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	0	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	0	594	0	711	21	0	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		0	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	0	590	0	702	21	0	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	0	0	0	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
 Weather: Clear Counter: TK

File Name : US30_Hoffman_SAT
 Site Code : 00012990
 Start Date : 8/5/2006
 Page No : 1

Groups Printed- Passenger Cars - Heavy Vehicles

Start Time	US Route 30 Eastbound				US Route 30 Westbound				Hoffman Road Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
11:00 AM	131	0	0	131	1	153	0	154	1	0	1	2	287
11:15 AM	154	0	0	154	0	150	0	150	0	1	0	1	305
11:30 AM	124	1	0	125	1	154	0	155	1	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	1	8	1145
12:00 PM	127	1	0	128	1	140	0	141	0	1	0	1	270
12:15 PM	140	0	0	140	0	156	0	156	0	2	0	2	298
12:30 PM	164	2	0	166	1	156	0	157	0	0	0	0	323
12:45 PM	106	2	0	108	1	135	0	136	0	0	0	0	244
Total	537	5	0	542	3	587	0	590	0	3	0	3	1135
01:00 PM	128	0	0	128	3	147	0	150	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	6	3	0	9	1057
Grand Total	1562	9	0	1571	14	1732	0	1746	9	10	1	20	3337
Apprch %	99.4	0.6	0		0.8	99.2	0		45	50	5		
Total %	46.8	0.3	0	47.1	0.4	51.9	0	52.3	0.3	0.3	0	0.6	
Passenger Cars	1546	9	0	1555	14	1713	0	1727	9	10	1	20	3302
% Passenger Cars	99	100	0	99	100	98.9	0	98.9	100	100	100	100	99
Heavy Vehicles	16	0	0	16	0	19	0	19	0	0	0	0	35
% Heavy Vehicles	1	0	0	1	0	1.1	0	1.1	0	0	0	0	1

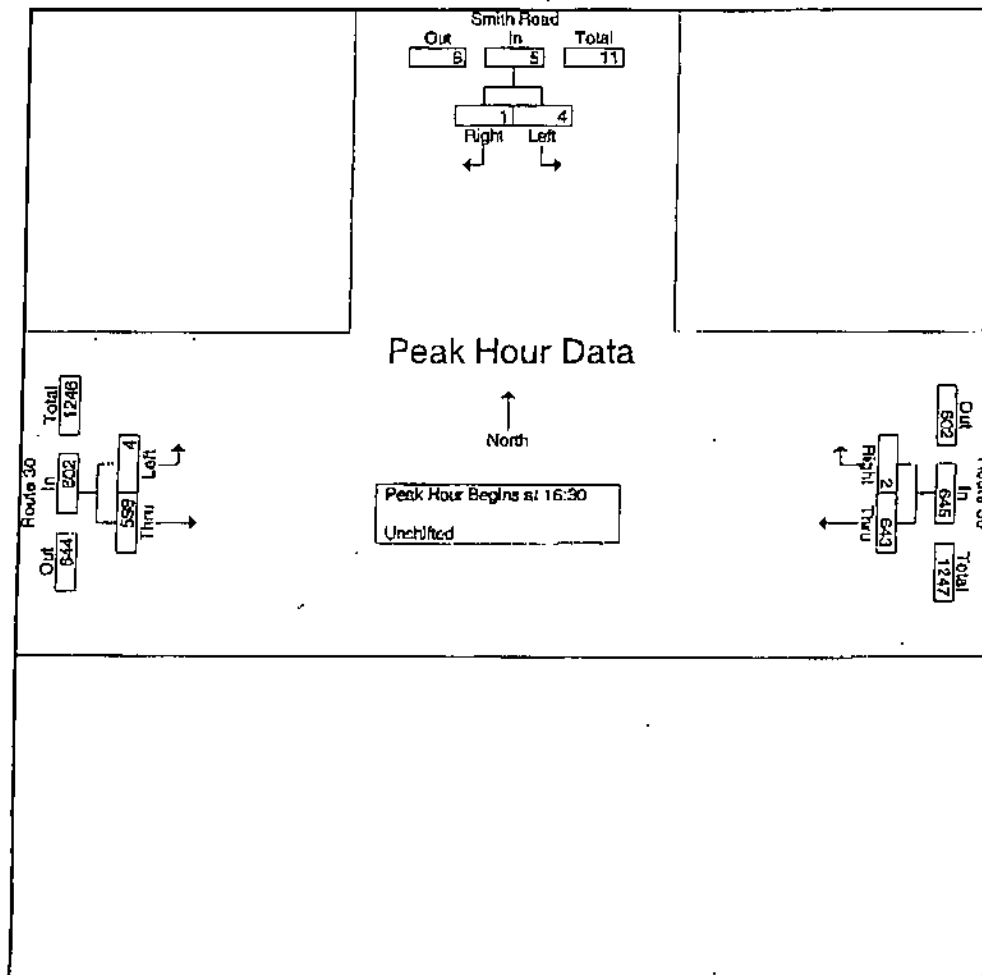
Start Time	US Route 30 Eastbound				US Route 30 Westbound				Hoffman Road Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:45 AM													
11:45 AM	131	1	0	132	2	134	0	136	1	2	0	3	271
12:00 PM	127	1	0	128	1	140	0	141	0	1	0	1	270
12:15 PM	140	0	0	140	0	156	0	156	0	2	0	2	298
12:30 PM	164	2	0	166	1	156	0	157	0	0	0	0	323
Total Volume	562	4	0	566	4	586	0	590	1	5	0	6	1162
% App. Total	99.3	0.7	0		0.7	99.3	0		16.7	83.3	0		
PHF	.857	.500	.000	.852	.500	.939	.000	.939	.250	.625	.000	.500	.899
Passenger Cars	556	4	0	560	4	584	0	588	1	5	0	6	1154
% Passenger Cars	98.9	100	0	98.9	100	99.7	0	99.7	100	100	0	100	99.3
Heavy Vehicles	6	0	0	6	0	2	0	2	0	0	0	0	8
% Heavy Vehicles	1.1	0	0	1.1	0	0.3	0	0.3	0	0	0	0	0.7

McMahon Associates, Inc.

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

File Name : Straban32P
 Site Code : 90509632
 Start Date : 5/24/2005
 Page No : 2

Start Time	Smith Road From North			Route 30 From East			Route 30 From West			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins 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	0	129	330
17:15	0	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%			



McMahon Associates, Inc.

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

File Name : Straban29P
 Site Code : 90509600
 Start Date : 5/25/2005
 Page No : 2

Start Time	Parking Lot From North				Route 30 From East				Calvary Field Road From South				Route 30 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	2	0	0	2	0	172	2	174	5	0	11	16	14	178	0	192	384
16:30	3	0	0	3	0	121	0	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	0	1	13	0	548	3	551	77	3	102	182	55	626	3	684	1490
% 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

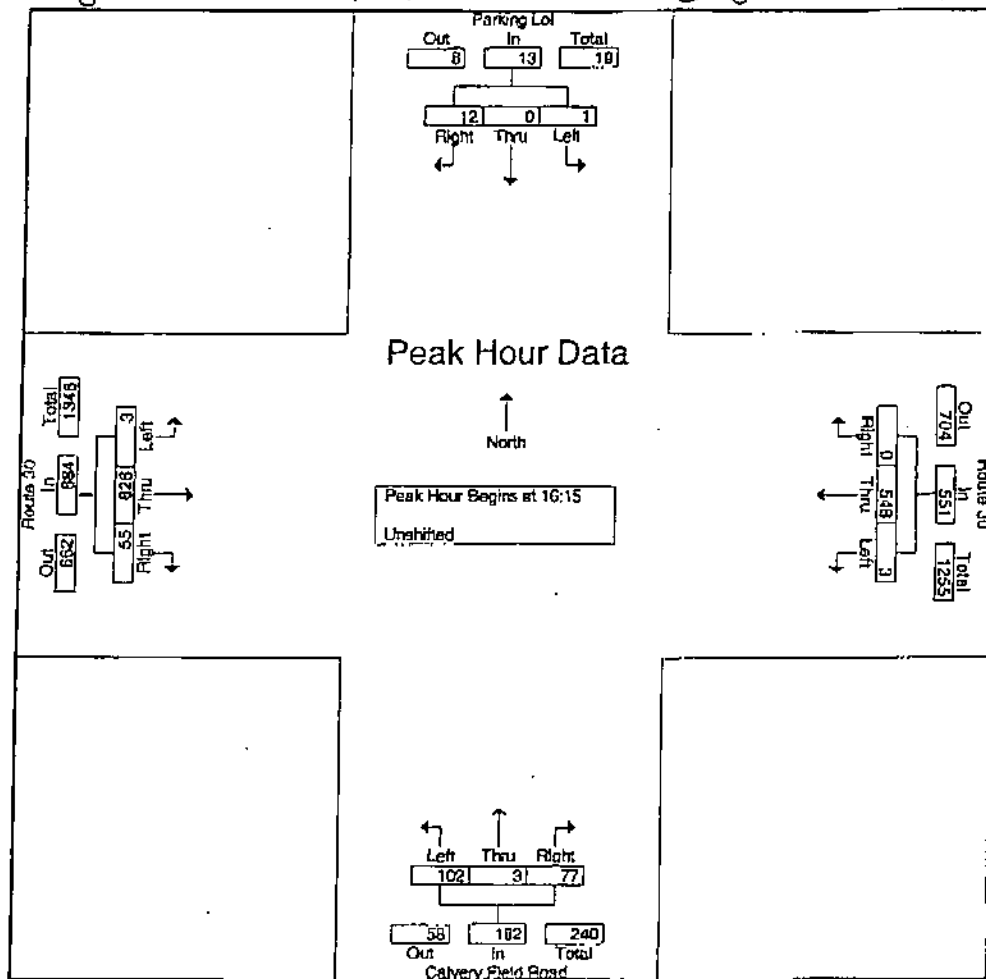
9.4V

0.7

10.7

2.9

7.9



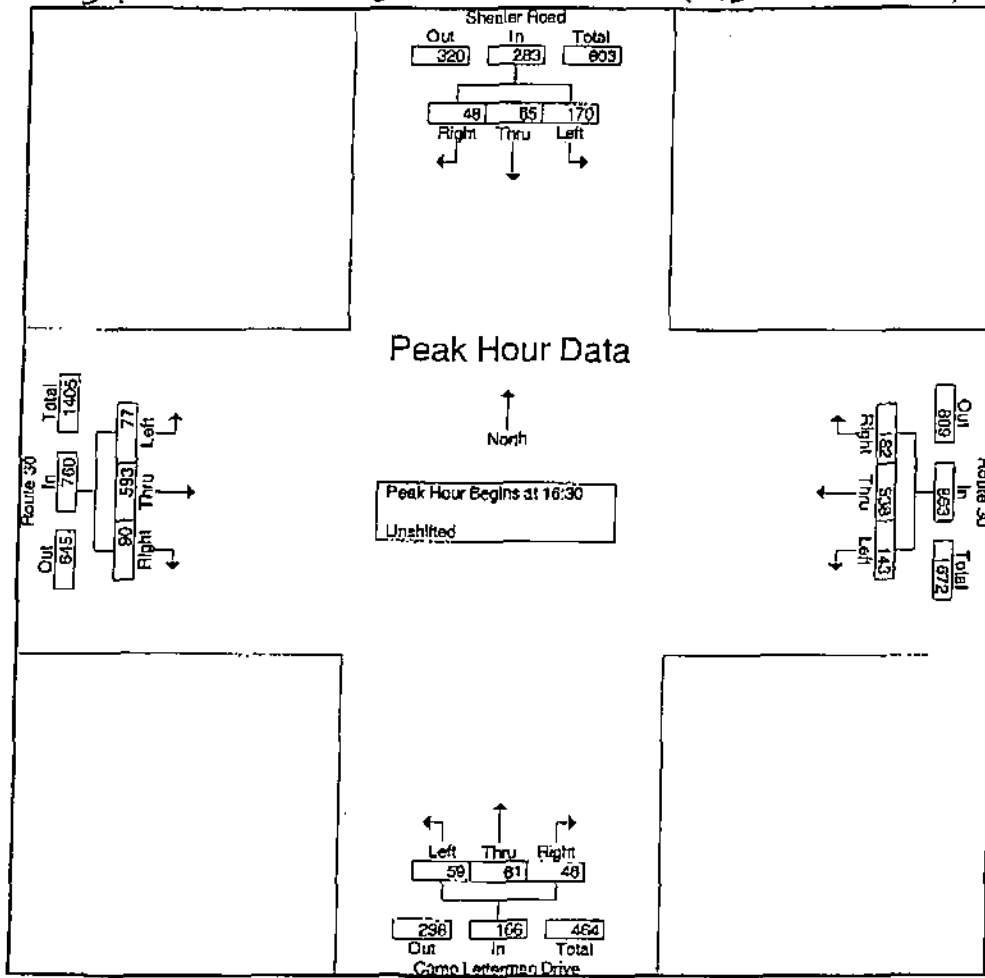
McMahon Associates, Inc.

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

File Name : Straban33P
 Site Code : 90509633
 Start Date : 6/1/2005
 Page No : 2

Start Time	Shepler Road From North				Route 30 From East				Camp Letterman Drive From South				Route 30 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	12	10	40	62	44	118	28	190	6	16	13	35	15	181	25	221	508
16:45	14	25	53	92	44	127	31	202	12	14	6	32	26	145	19	190	516
17:00	11	22	32	65	53	143	41	237	14	10	16	40	19	115	11	145	487
17:15	11	8	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		11.8	78	10.1		
PHF	.857	.650	.802	.769	.858	.897	.831	.910	.821	.726	.615	.703	.750	.819	.770	.860	.923

07-HV 37- 57- 47- 77-

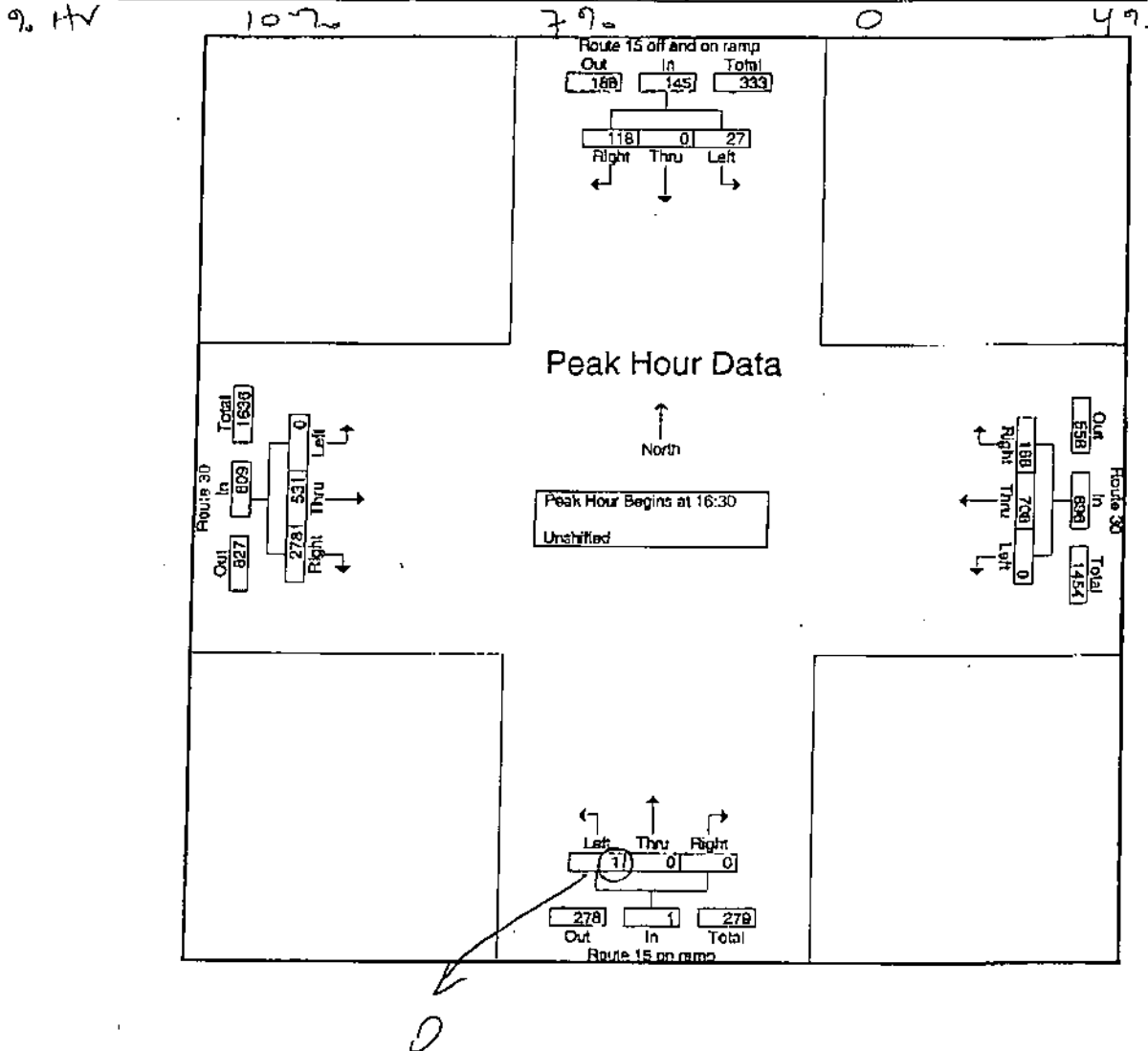


McMahon Associates, Inc.

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

File Name : Straban40P
 Site Code : 90509640
 Start Date : 5/24/2005
 Page No : 2

Start Time	Route 15 off and on ramp From North				Route 30 From East				Route 15 on ramp From South				Route 30 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
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	0	226	0	0	0	0	78	117	0	195	451
17:15	34	0	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		0	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



McMahon 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
 Page No : 2

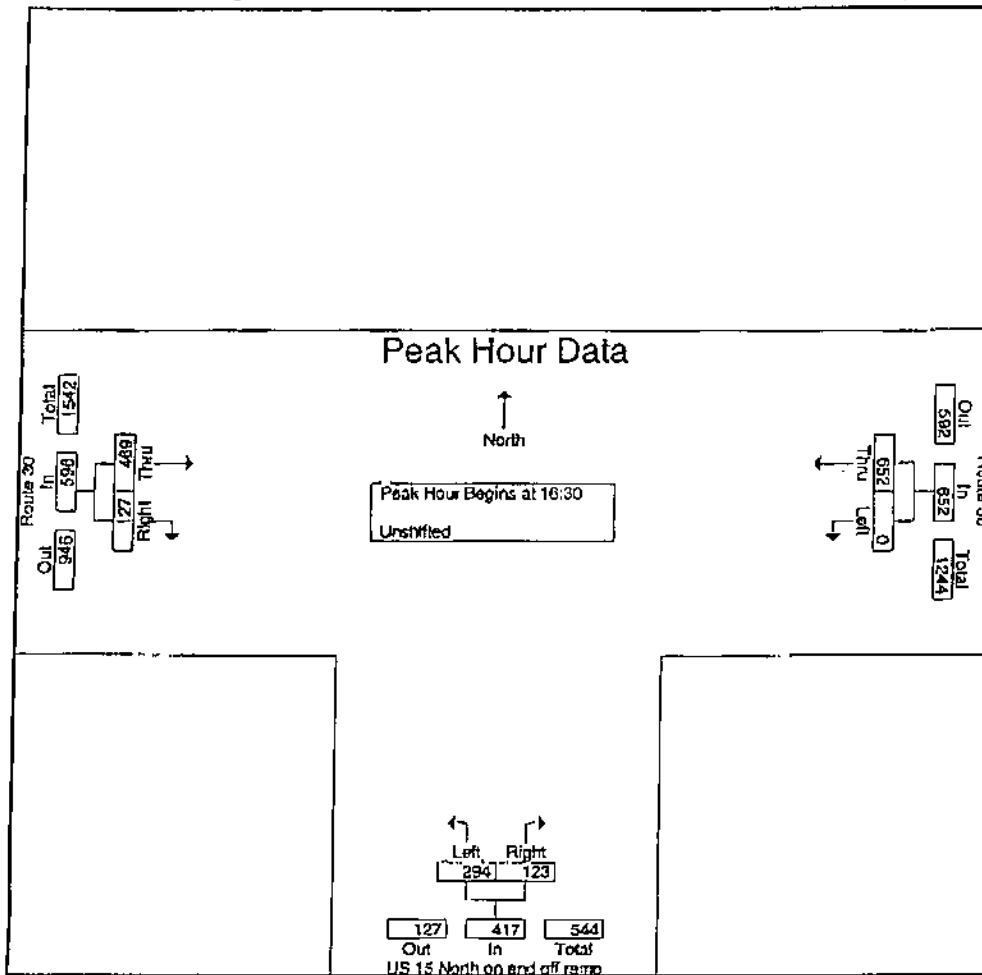
Start Time	Route 30 From East			US 15 North on and off ramp From South			Route 30 From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:30										
16:30	161	0	161	30	73	109	38	116	154	418
16:45	125	0	125	30	79	109	31	129	160	394
17:00	198	0	198	28	67	95	27	95	122	415
17:15	168	0	168	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		21.3	78.7		
PHF	.823	.000	.823	.879	.930	.948	.836	.909	.931	.950

% HV

7%

6%

4%



McMahon Associates, Inc.

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

File Name : Straban31P
 Site Code : 90509631
 Start Date : 5/25/2005
 Page No : 2

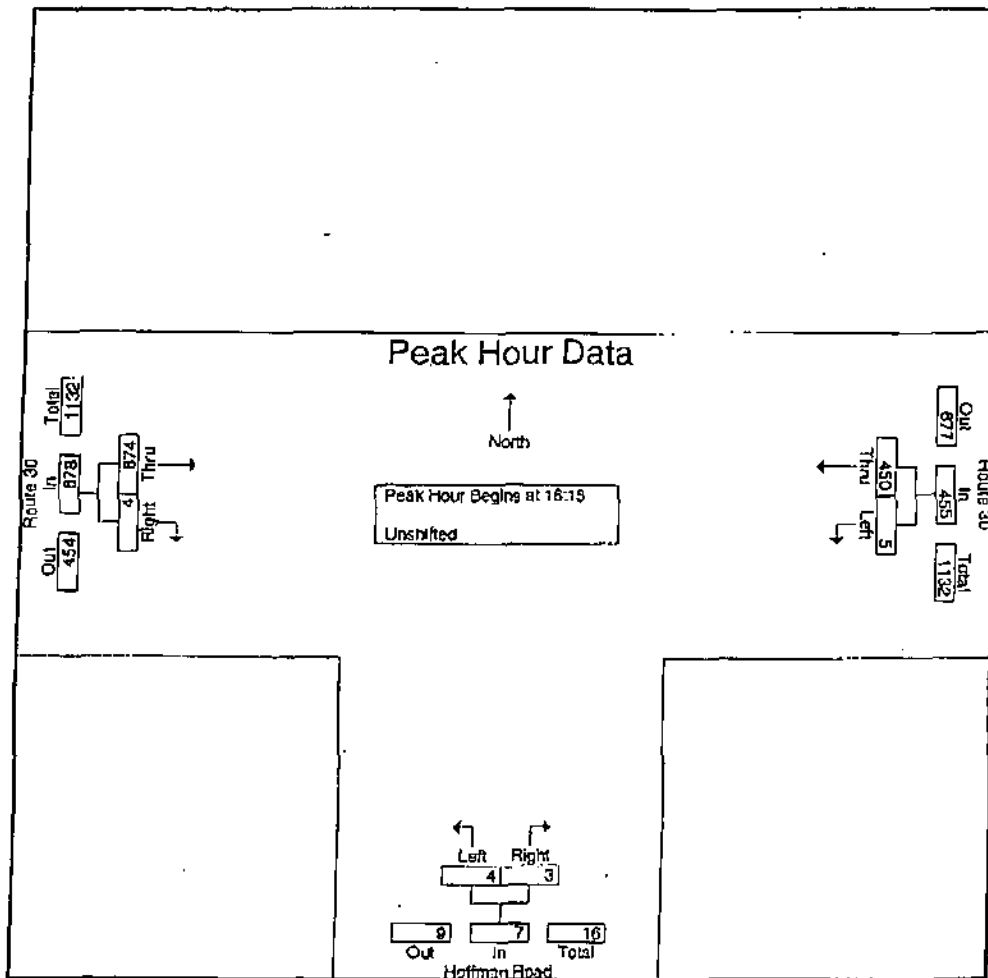
Start Time	Route 30 From East			Hoffman Road From South			Route 30 From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	113	2	115	0	1	1	1	152	153	269
16:30	118	2	120	0	0	0	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		0.6	99.4		
PHF	.945	.625	.948	.375	.500	.438	.500	.806	.807	.911

% HV

10%

0%

8%



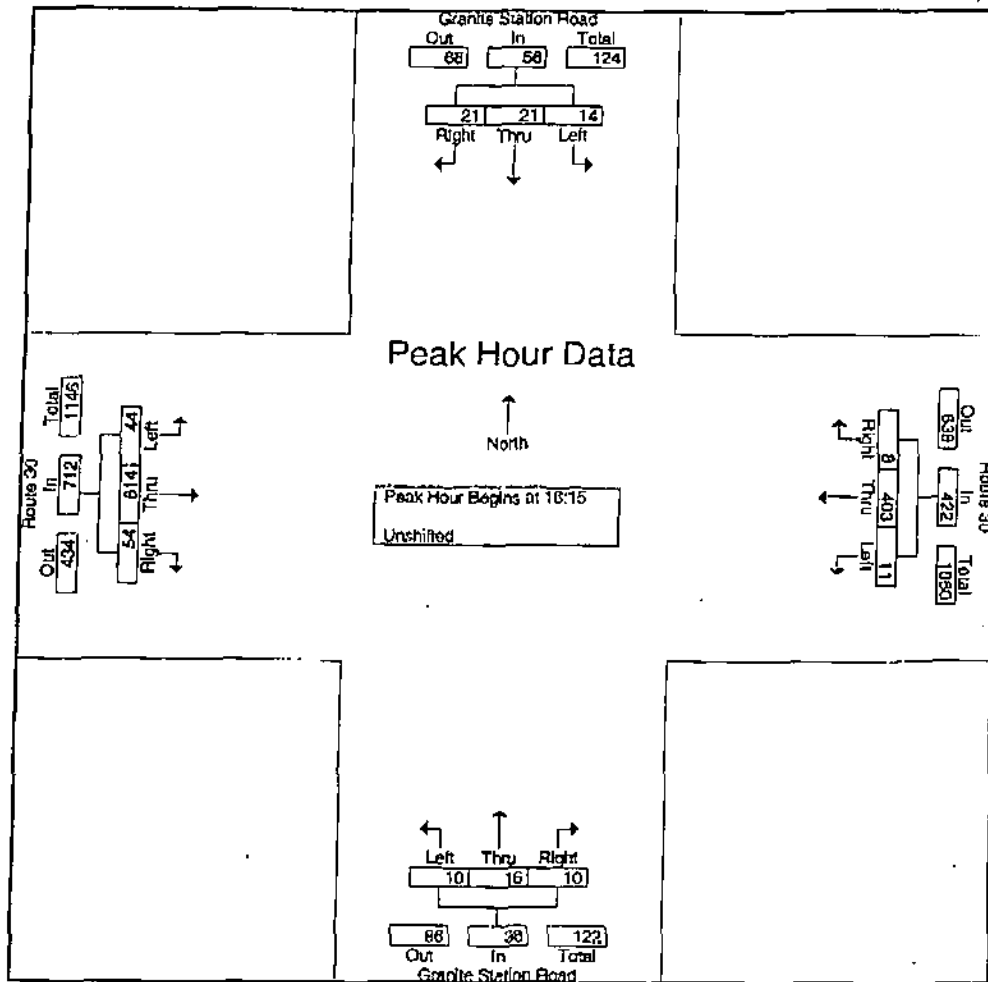
McMahon Associates, Inc.

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

File Name : Straban37P
 Site Code : 90509637
 Start Date : 5/25/2005
 Page No : 2

Start Time	Granite Station Road From North				Route 30 From East				Granite Station Road From South				Route 30 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
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	8	9	125	9	143	274
17:00	5	4	4	13	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	2.8		27.8	44.4	27.8		7.6	85.2	6.2		
PHF	.875	.750	.875	.875	.867	.916	.688	.909	.625	.571	.500	.812	.614	.839	.611	.840	.923

%HV 11% 12% 0% 9%



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



GROVE MILLER ENGINEERING, INC.

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.
McMahon Associates

James Scheiner, P.E.
Benatec Associates

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

DATE: 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

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

T=Total generated trips X=# of Slots

Table 2. Gettysburg Service Area Adjustments

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

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

Calculations:

Table 3. Trip Rates - Crossroads Gaming Resort and Spa

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

T=Total generated trips X=# of Slots

Table 4. Trip Generation - Crossroads Gaming Resort and Spa - Initial Phase

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

X=# of Slots R=Trip Rate

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

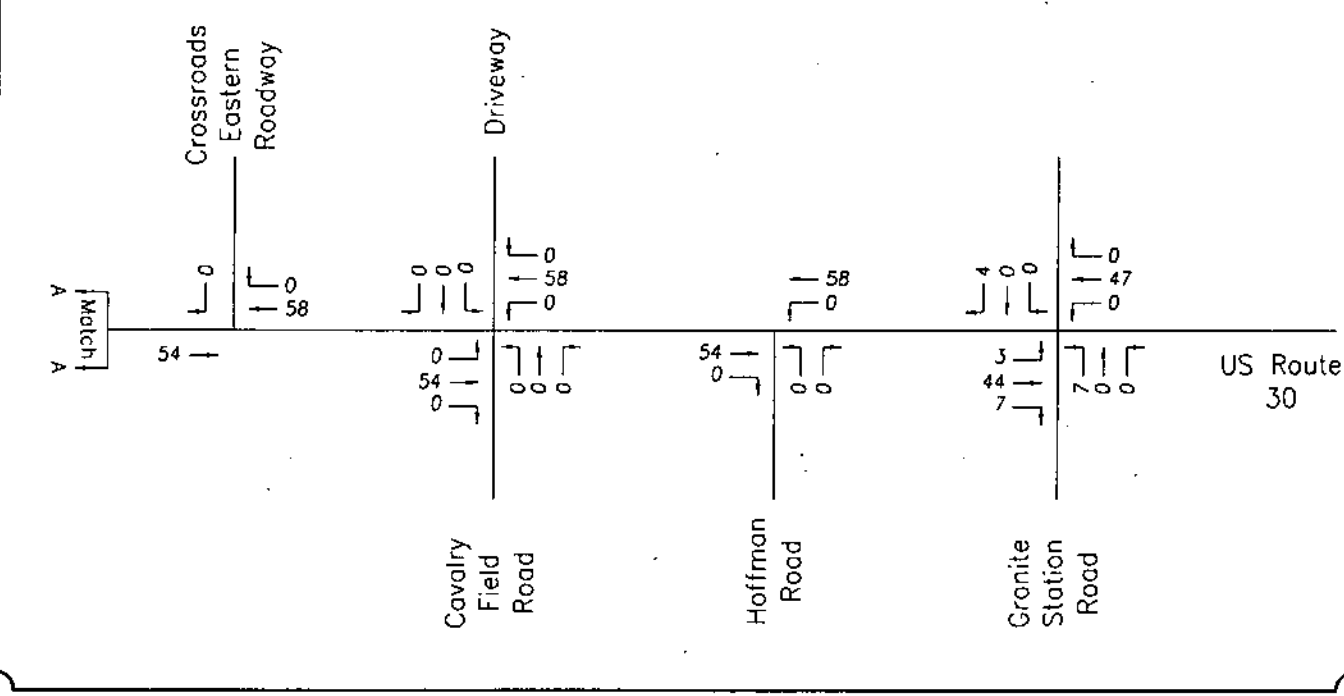
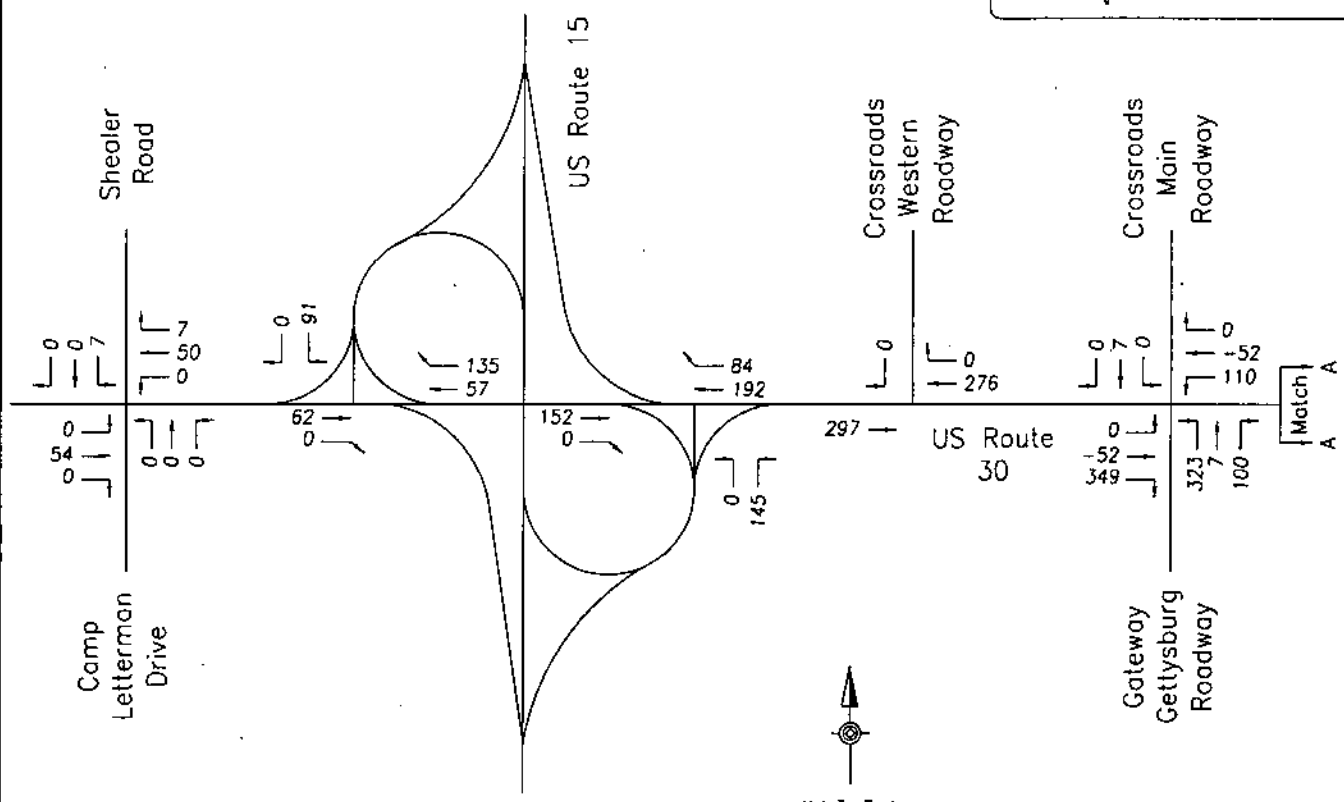
Table 6. Trip Generation Summary - Crossroads Gaming Resort and Spa

Land Use (ITE Code) Size	Average Weekday Vehicle Trips (vpd)	Average Saturday Vehicle Trips (vpd)	PM Peak (vph)		SAT Peak (vph)	
			Enter	Exit	Enter	Exit
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 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)

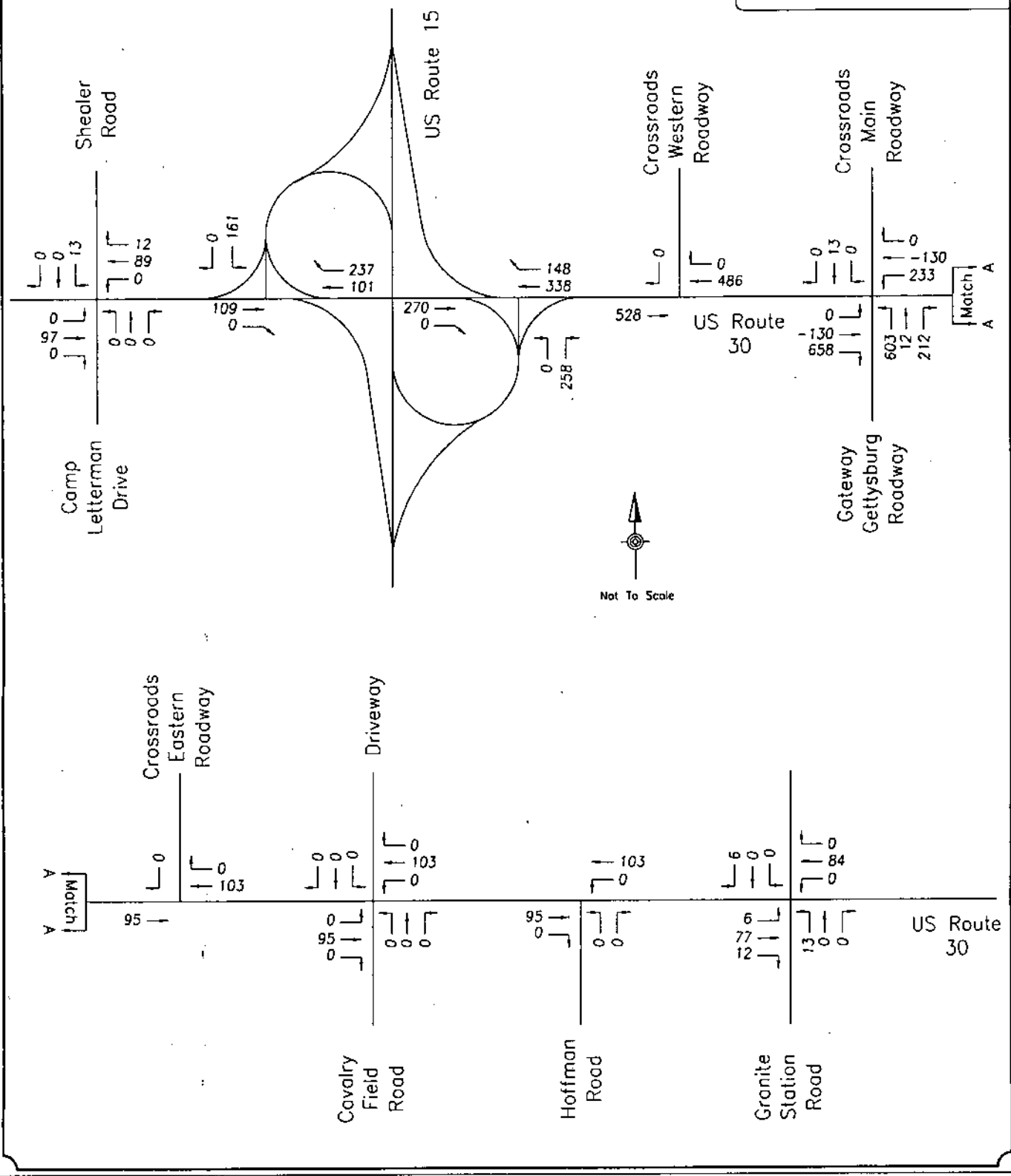
Trip Generation Documentation

Gateway Gettysburg



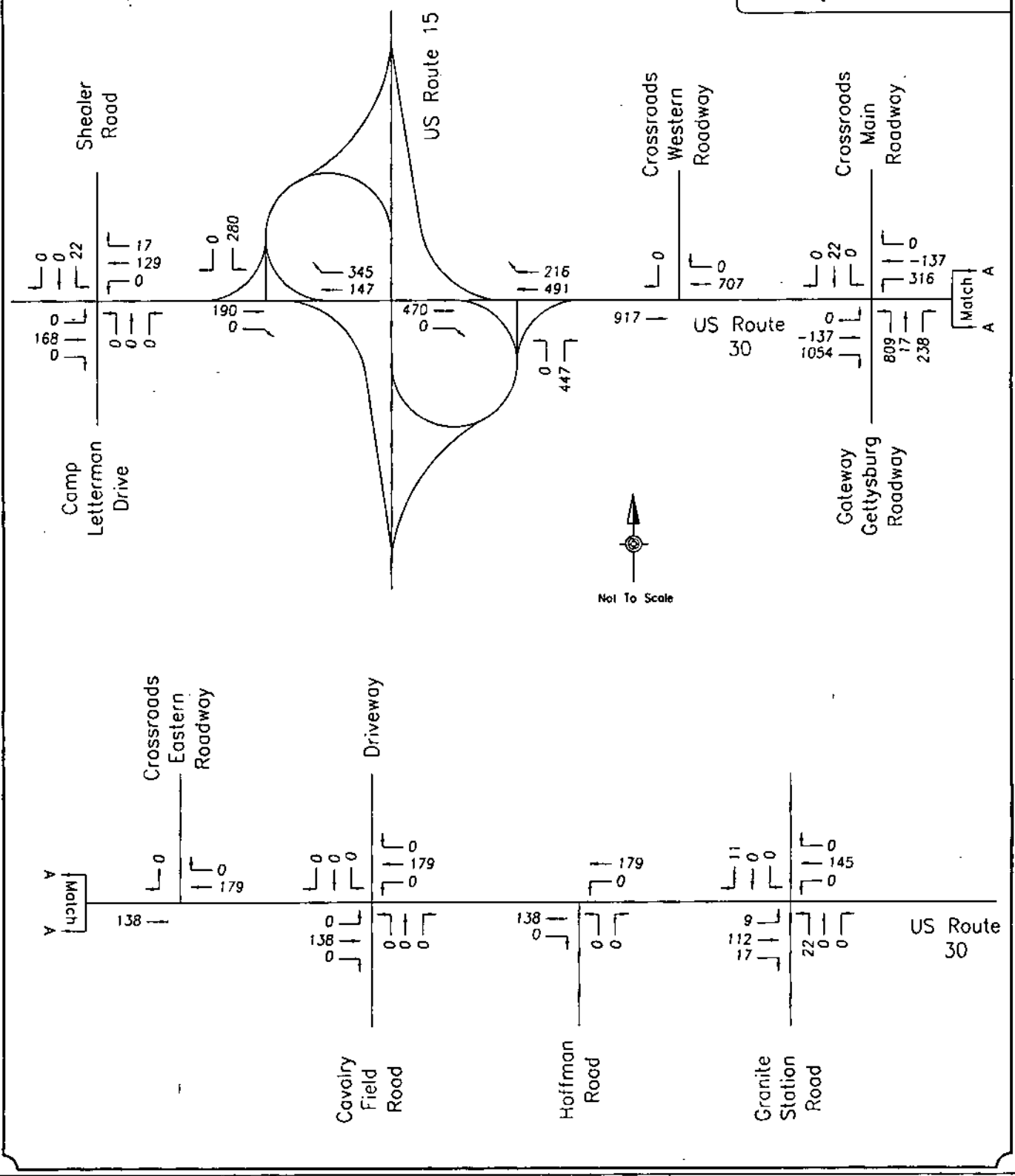
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

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,
 2018 Design Year, Weekday PM Peak Hour

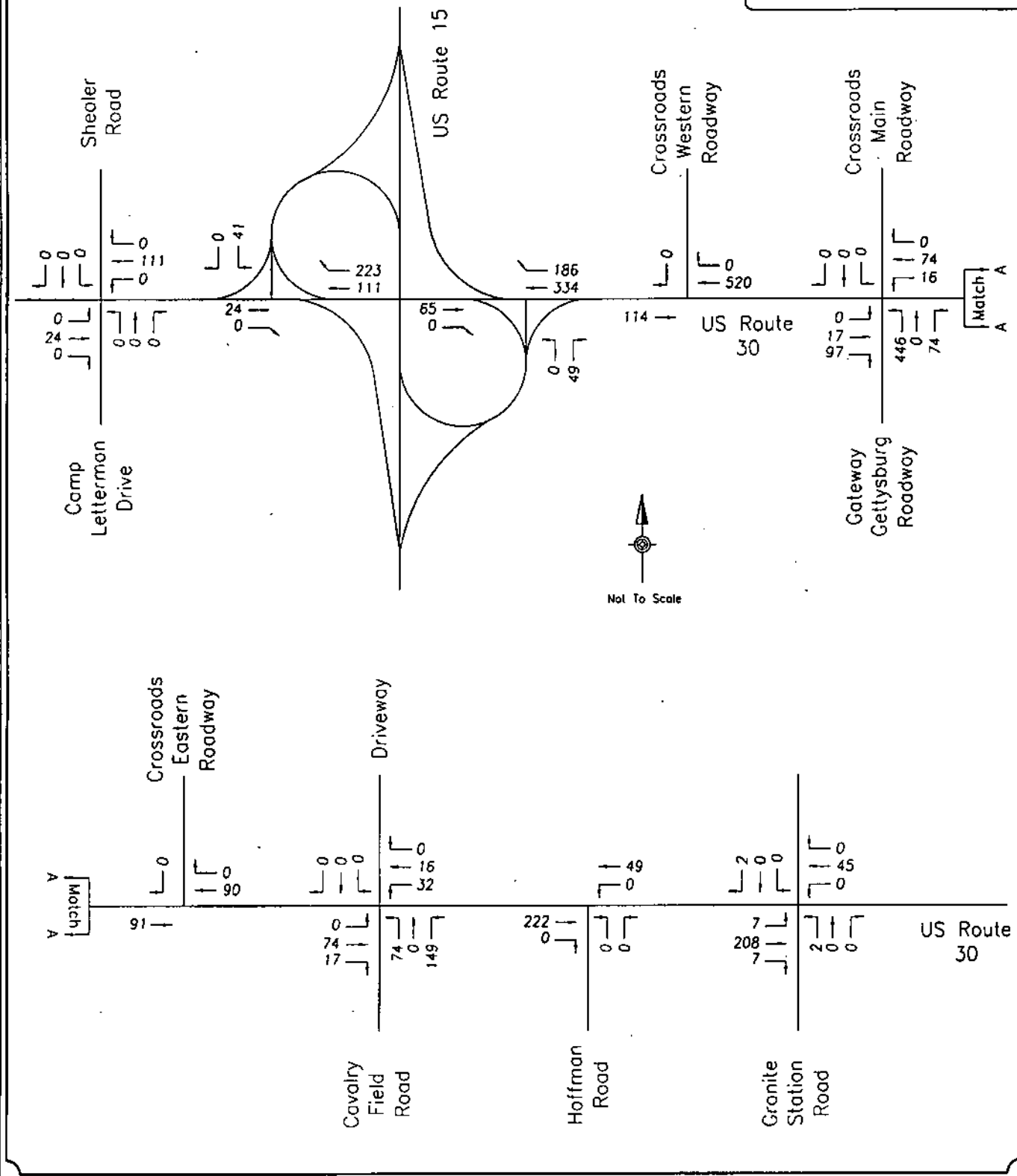


Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

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

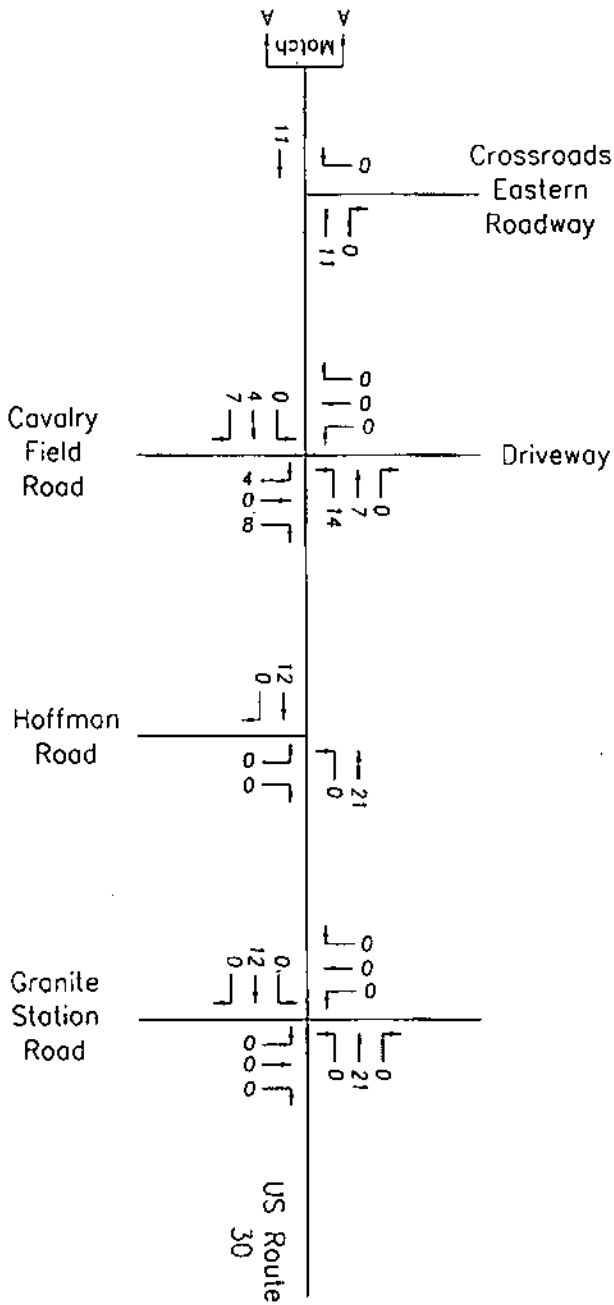
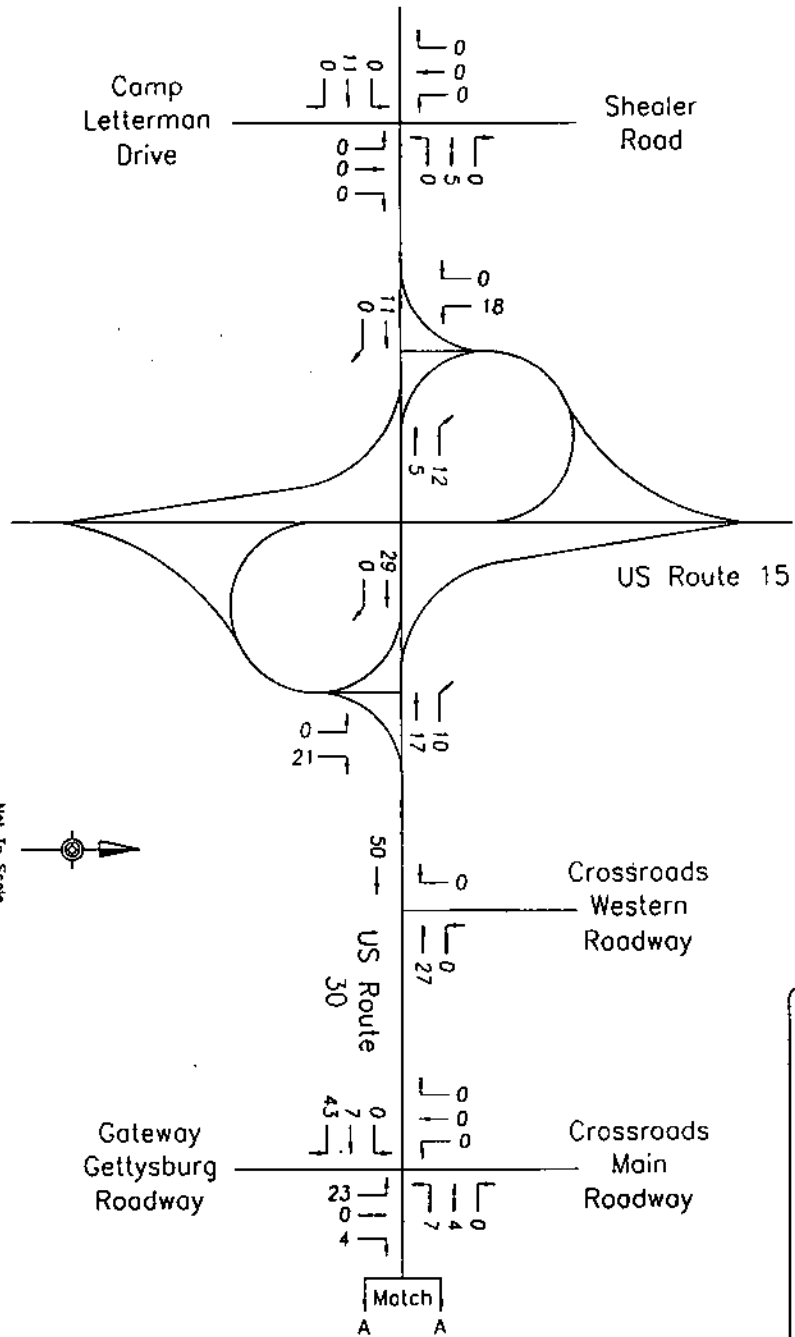
Trip Generation Documentation

Adams Commerce Center



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Strabon Township, Adams County, PA

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

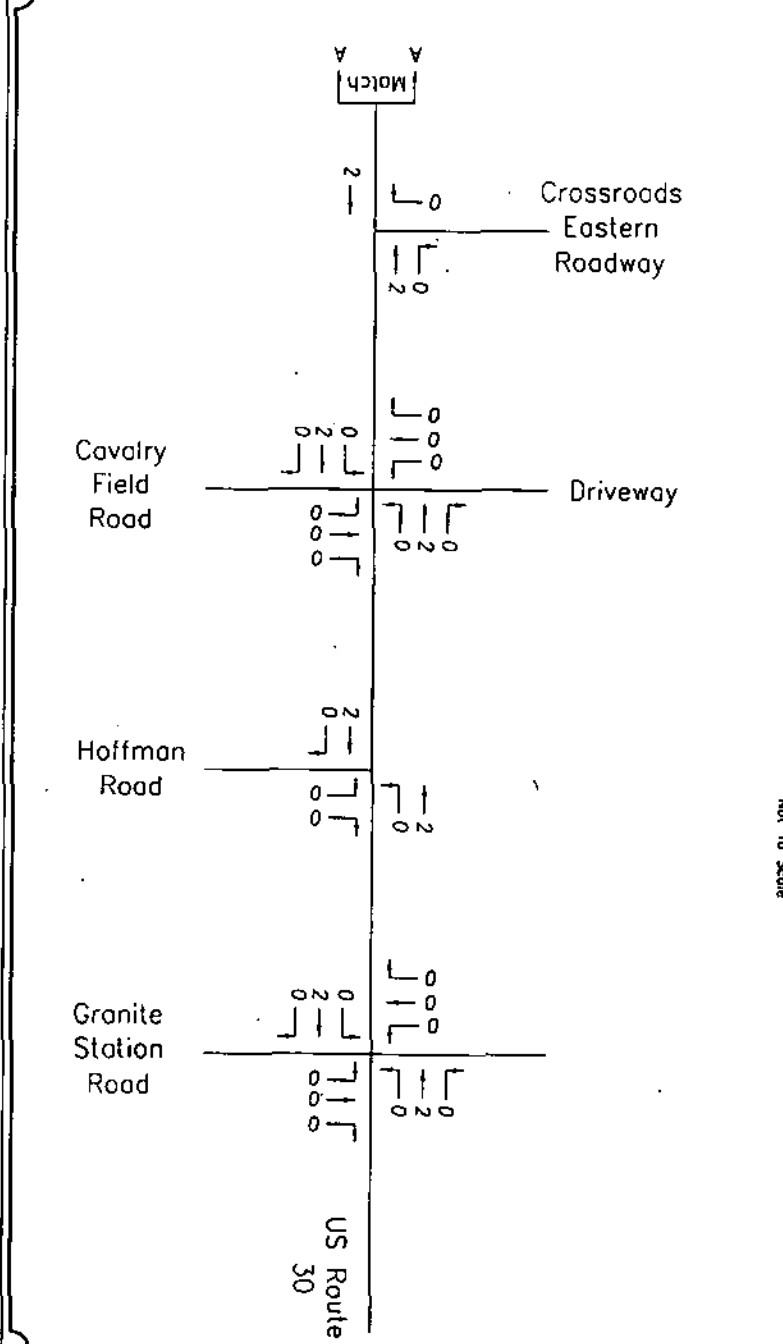
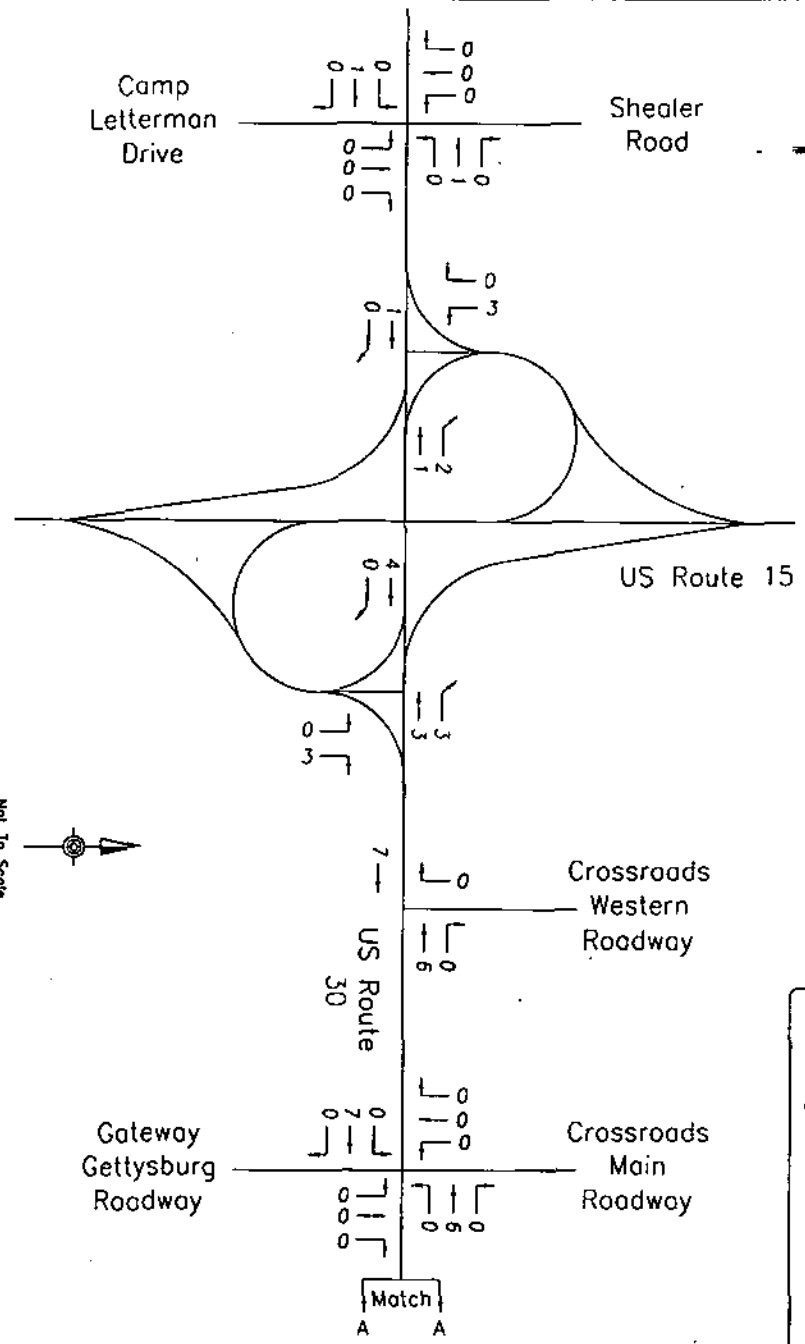


Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

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

Trip Generation Documentation

Patel Motel



Traffic Impact Study

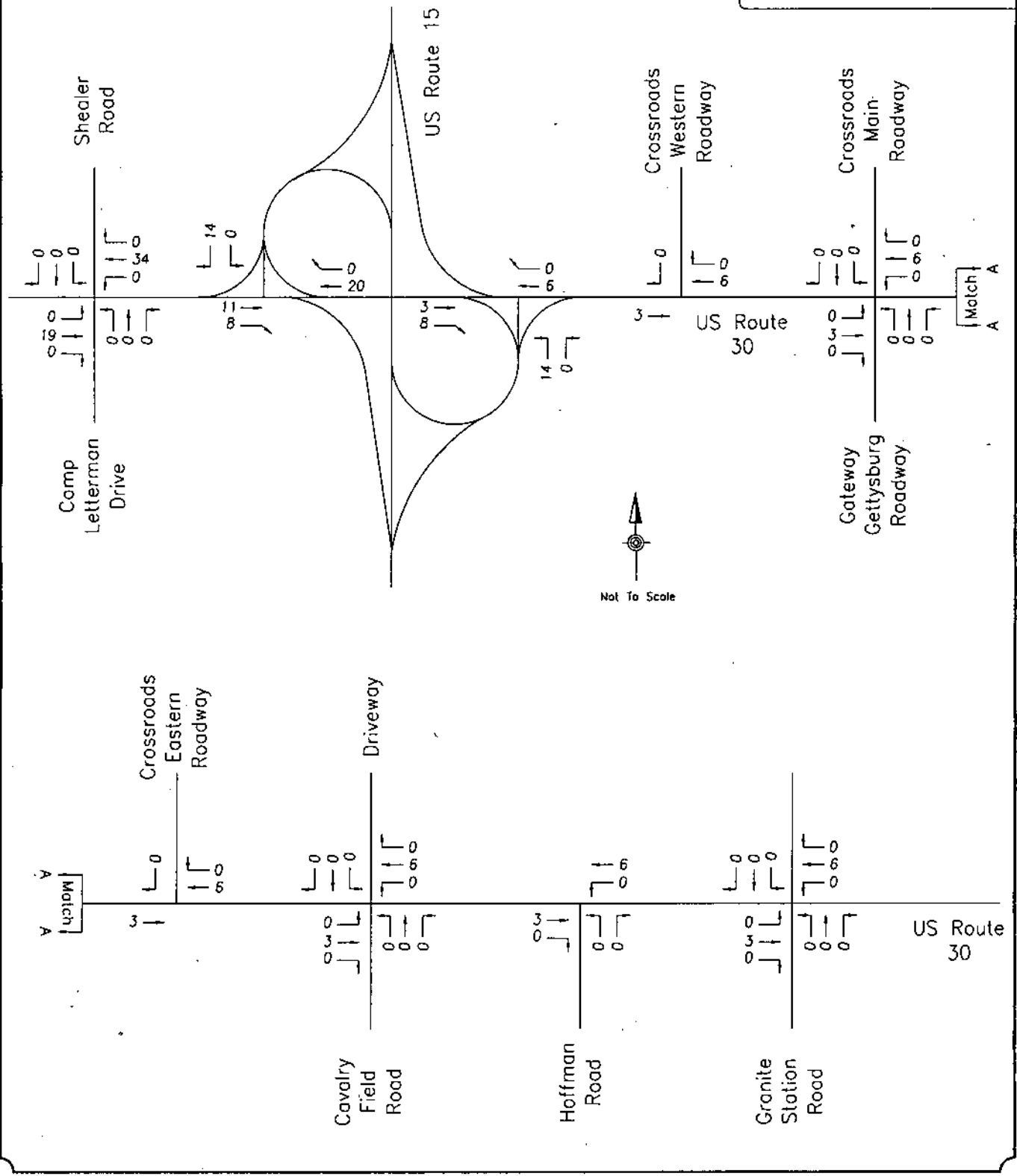
CROSSROADS GAMING RESORT AND SPA

Strobon Township, Adams County, PA

Trip Distribution for Potel Motel,
2008 Build Year, Weekday PM and Saturday Peak Hours

Trip Generation Documentation

Granite Lake Residential Development

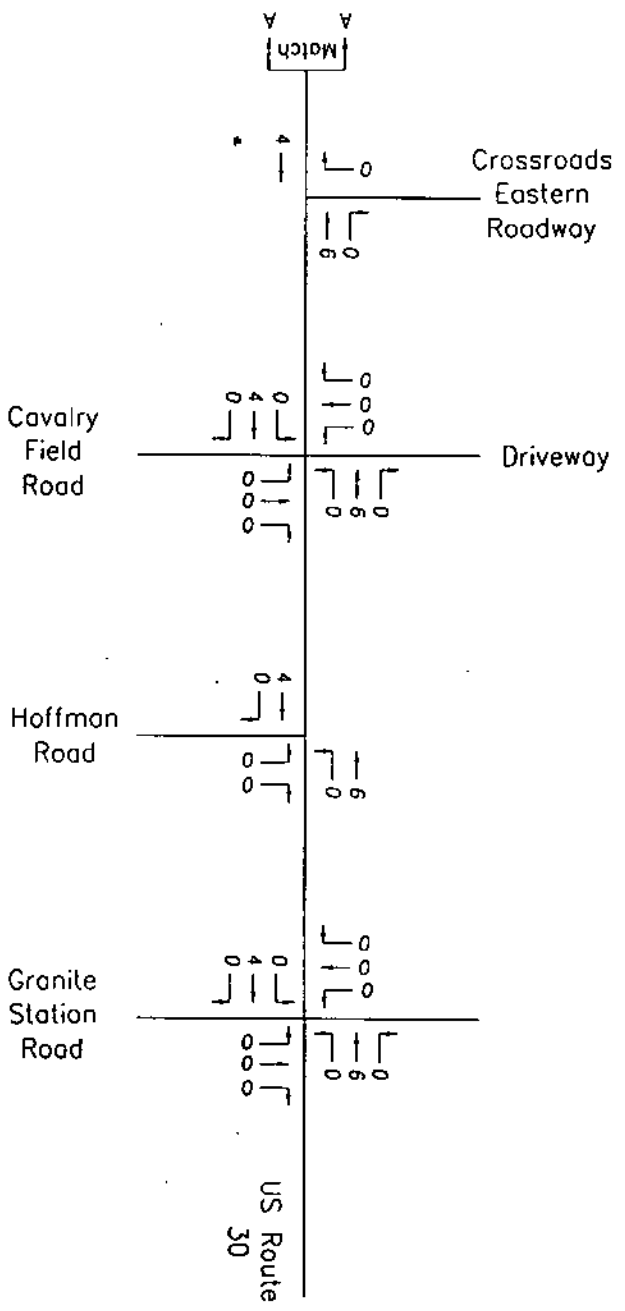
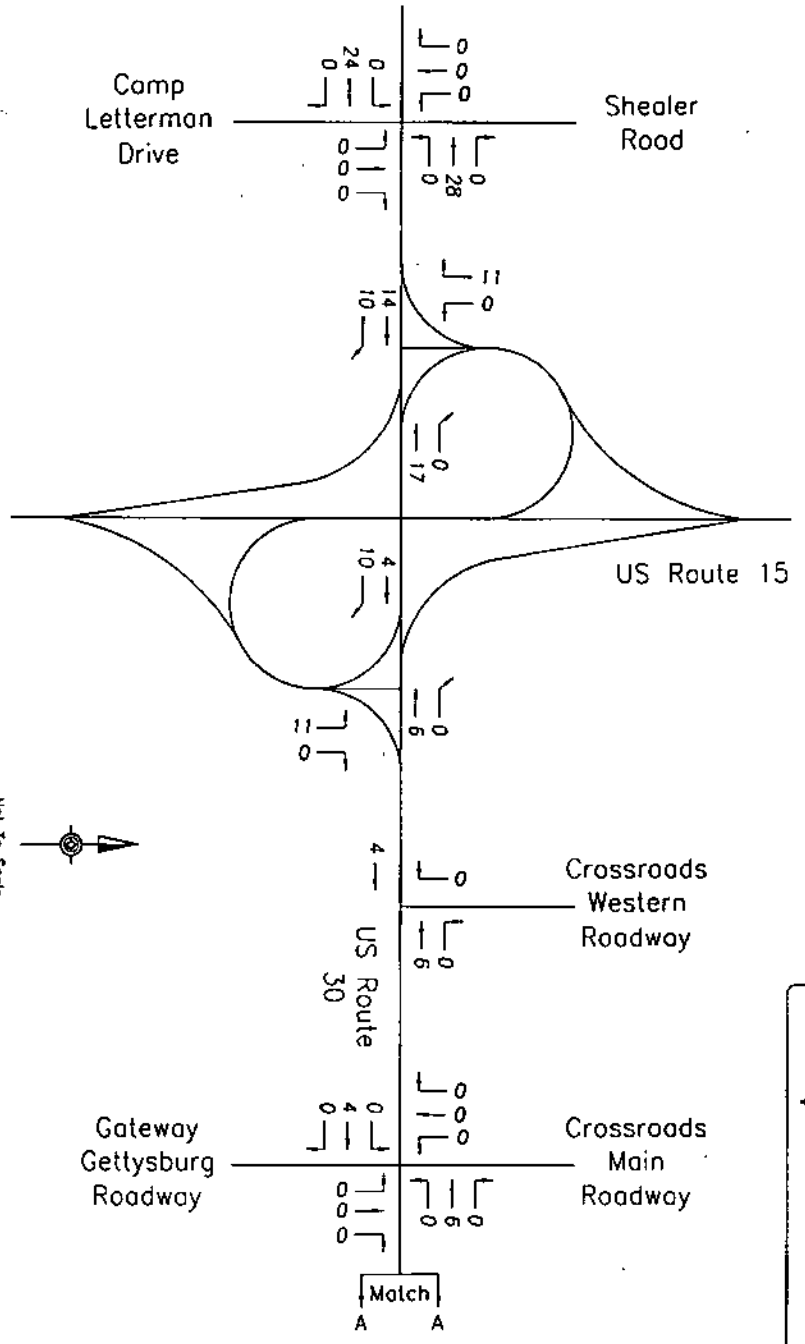


Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Strabon Township, Adams County, PA

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



Traffic Impact Study

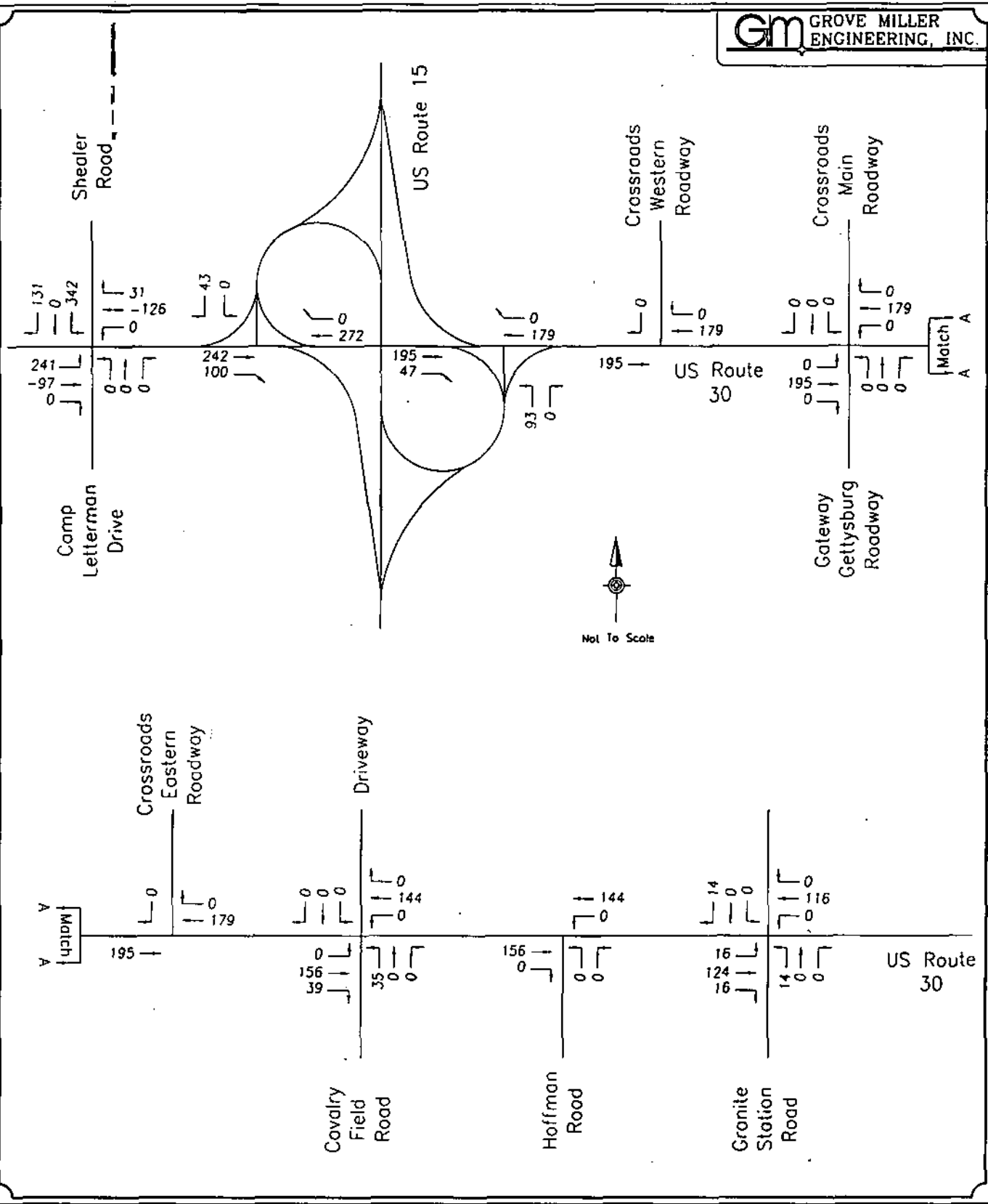
CROSSROADS GAMING RESORT AND SPA

Siroben Township, Adams County, PA

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

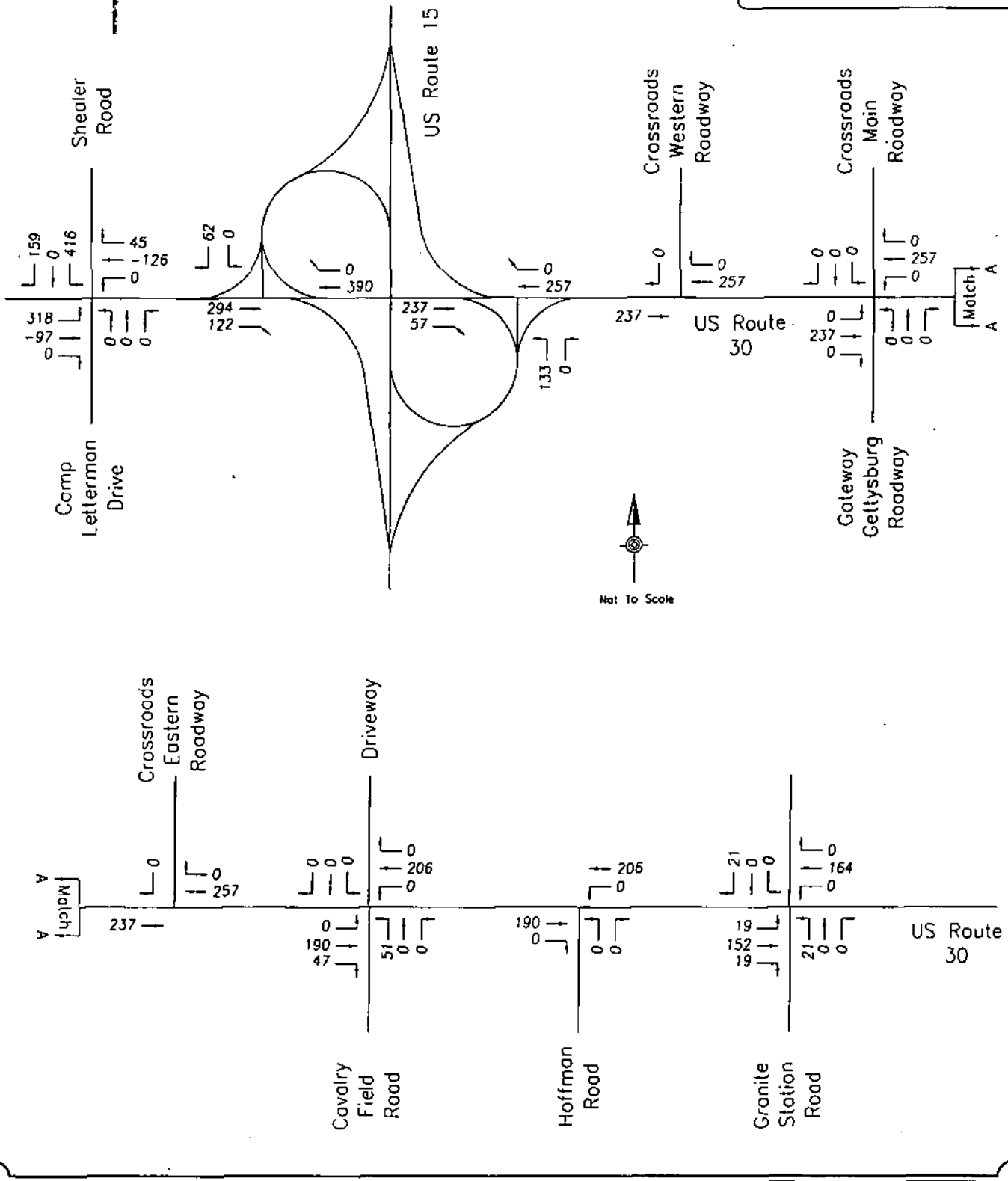
Trip Generation Documentation

Lincoln Commons



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

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



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams 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)
A	≤ 10.0
B	>10.0 to 20.0
C	>20.0 to 35.0
D	>35.0 to 55.0
E	>55.0 to 80.0
F	> 80.0

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

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

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

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

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

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

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

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

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS¹

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

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

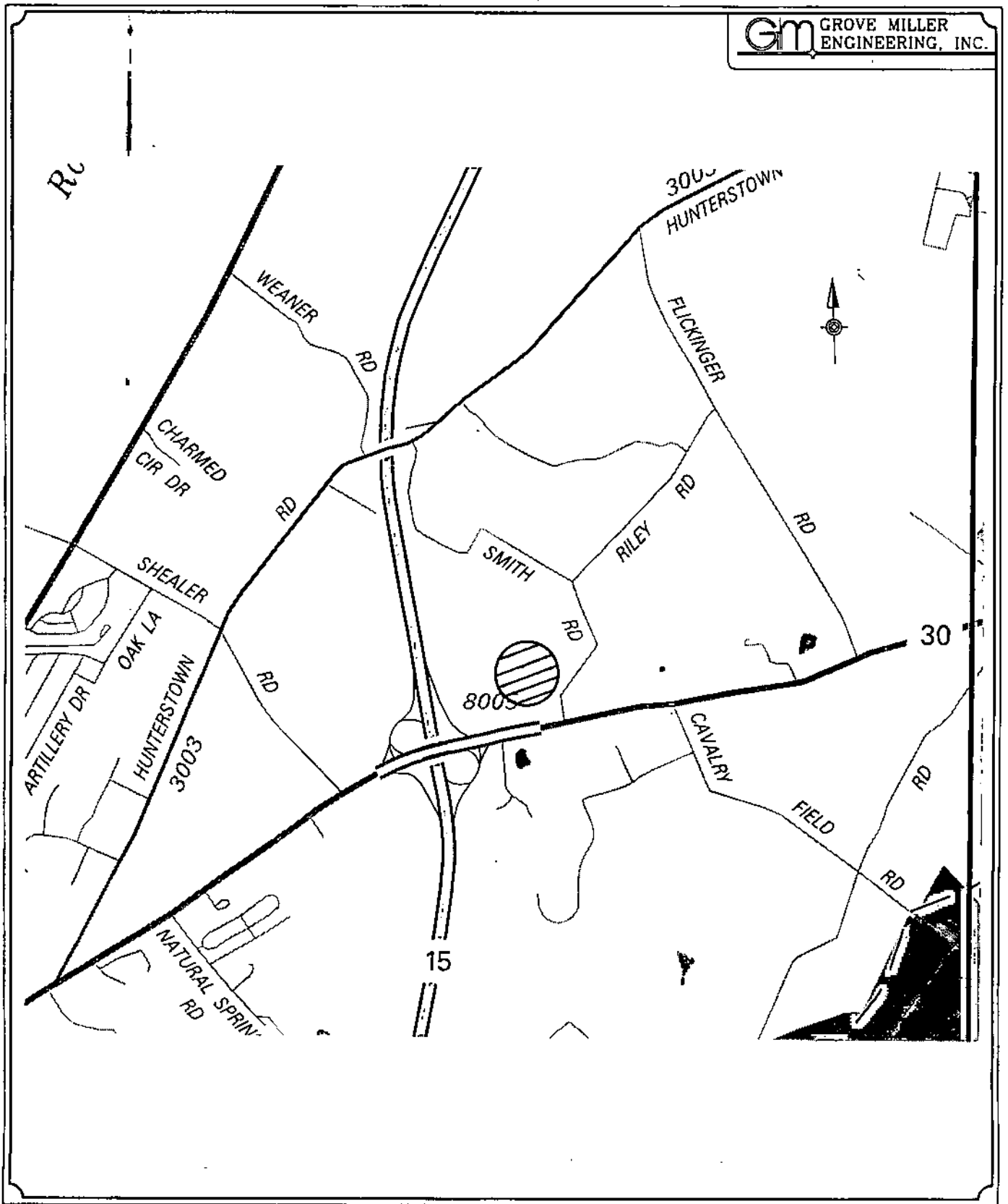
As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

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

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

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

FIGURES

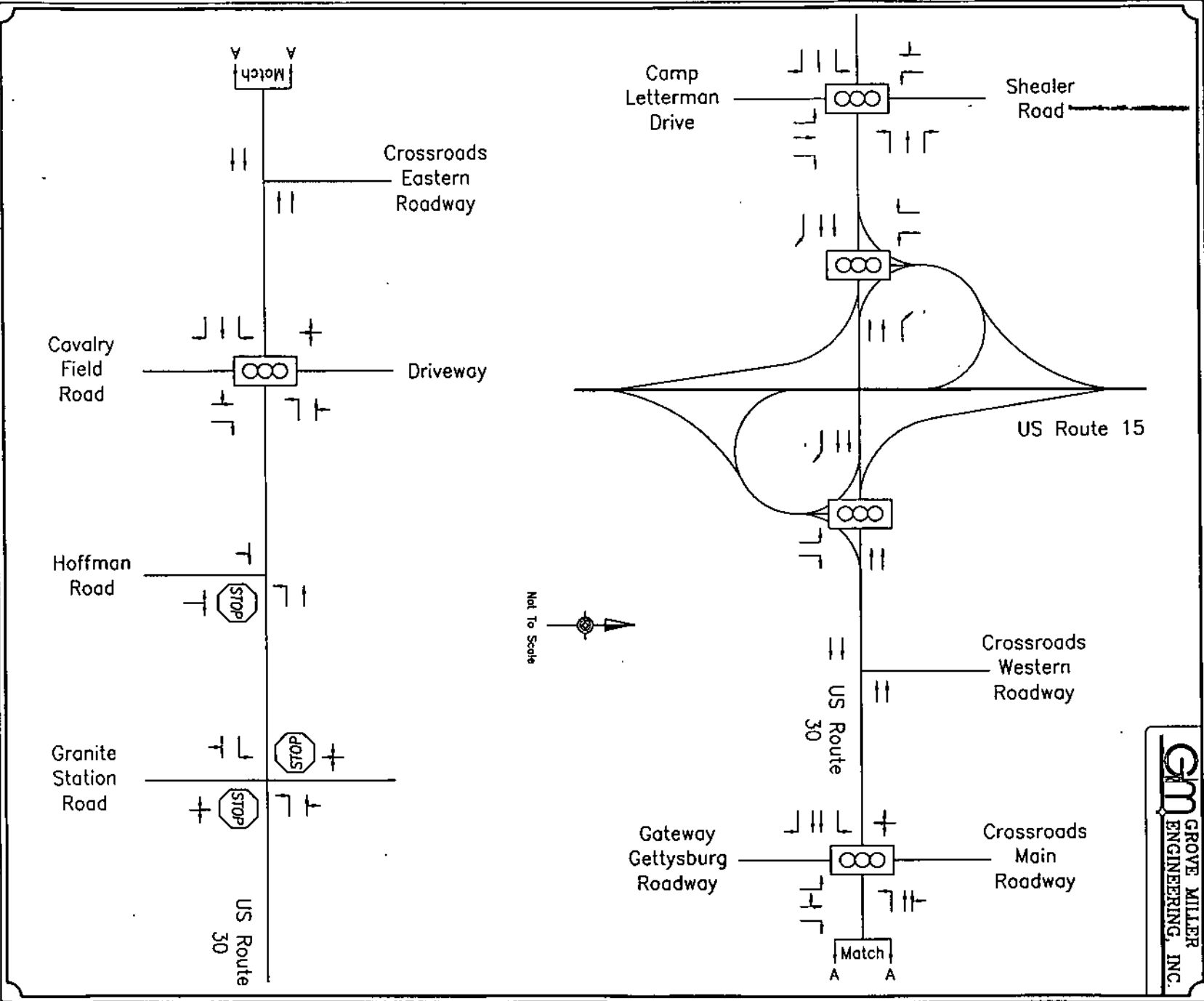


Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

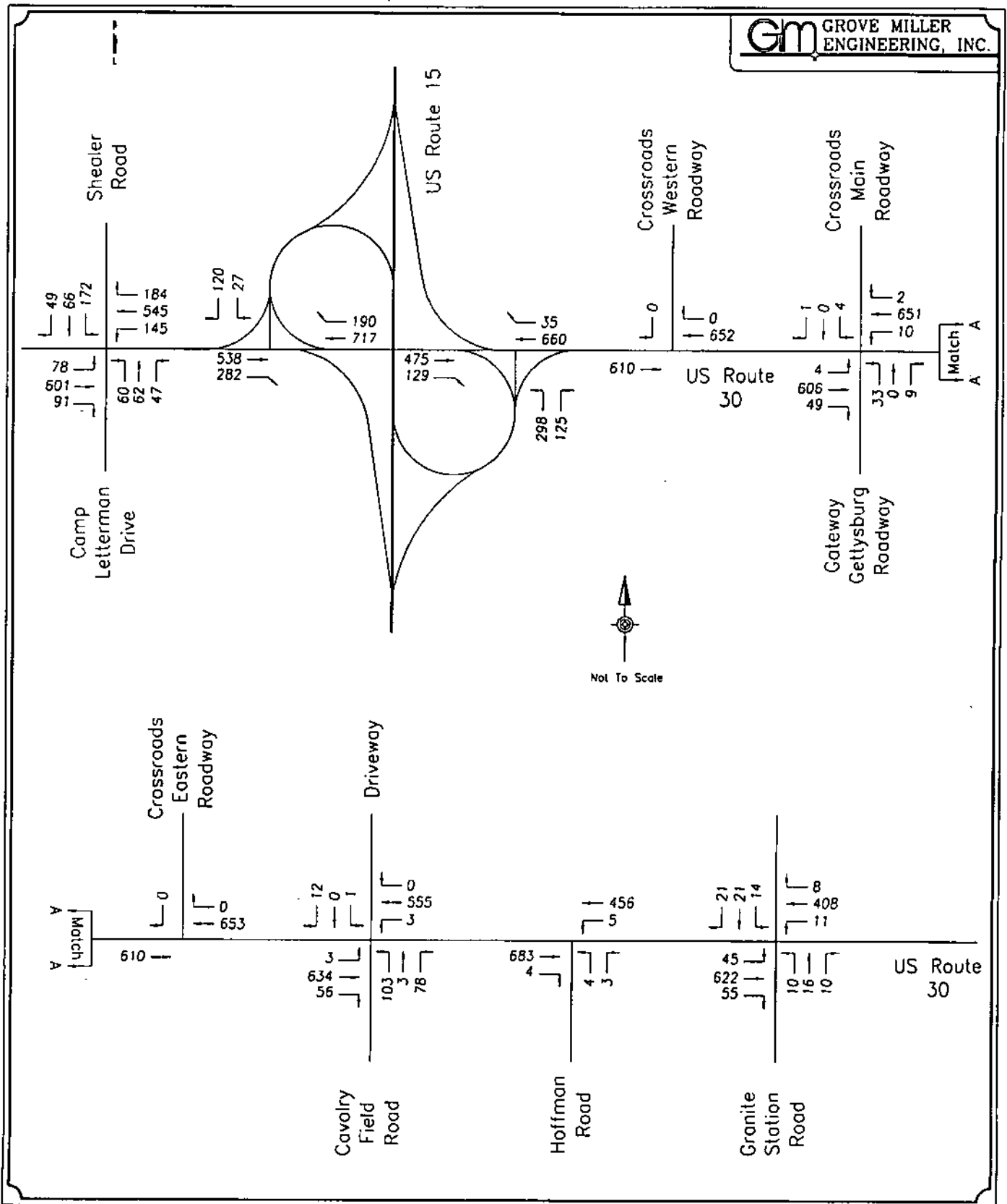
FIGURE 1
Location Map

Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 2
 Existing Lane Configurations and Intersection Control

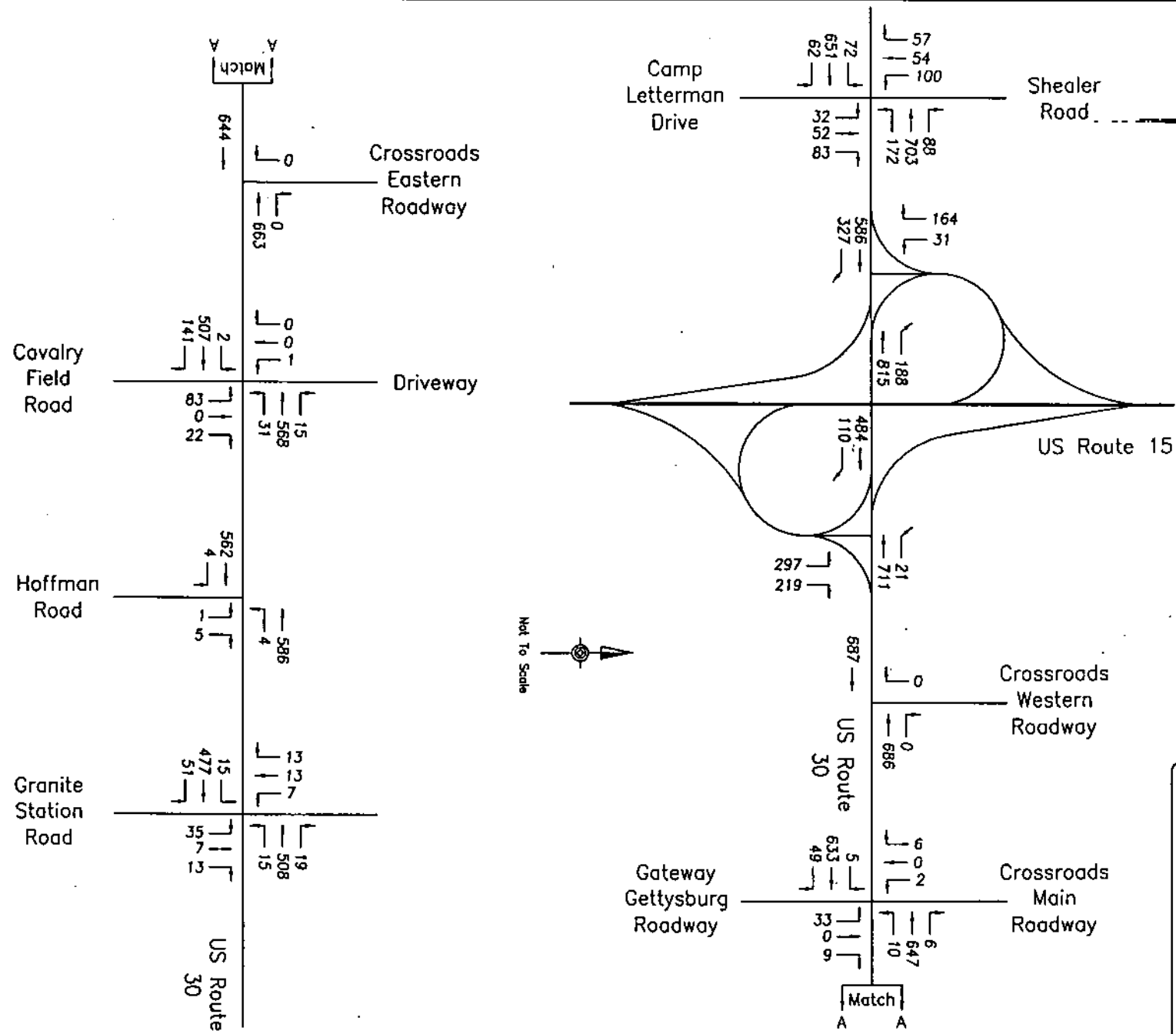


G.M. GROVE MILLER
 ENGINEERING, INC.



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Strabon Township, Adams County, PA

FIGURE 3
 2006 Existing Traffic Volumes,
 Weekday PM Peak Hour



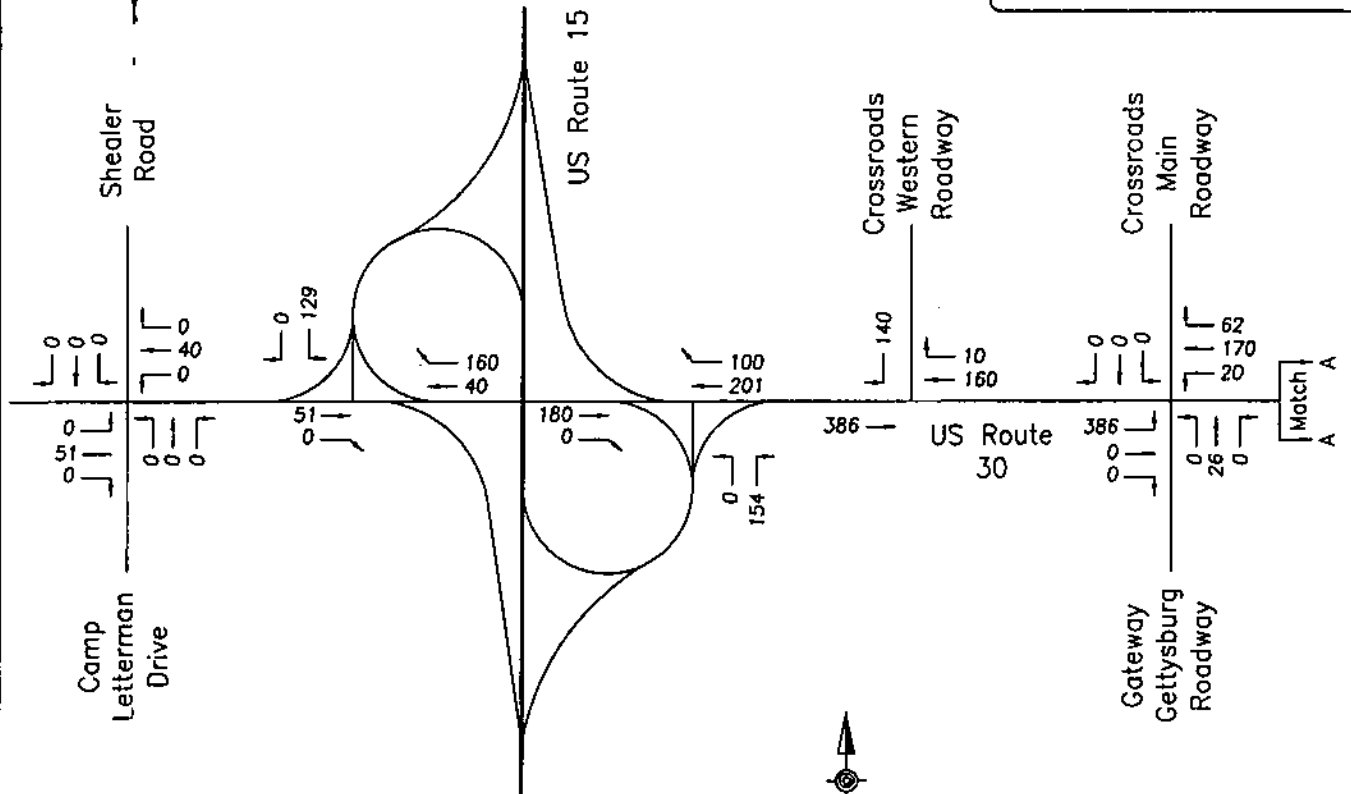
Traffic Impact Study.

CROSSROADS GAMING RESORT AND SPA

Stroben Township, Adams County, PA

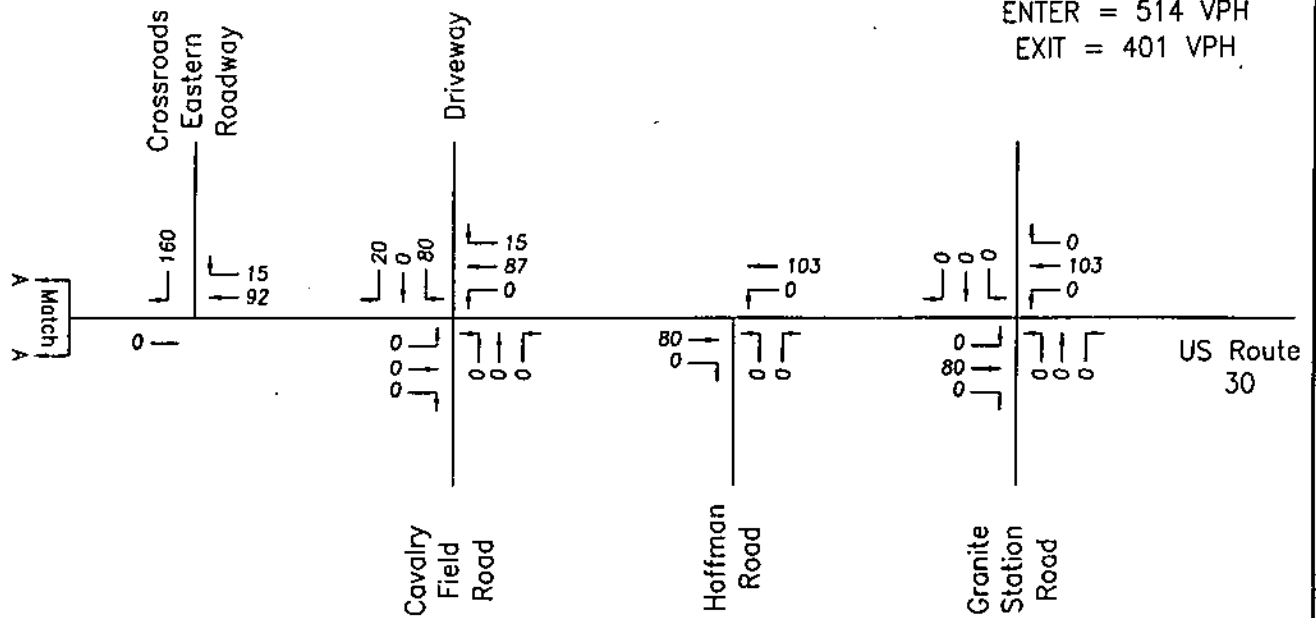
FIGURE 4

2006 Existing Traffic Volumes,
Saturday Peak Hour



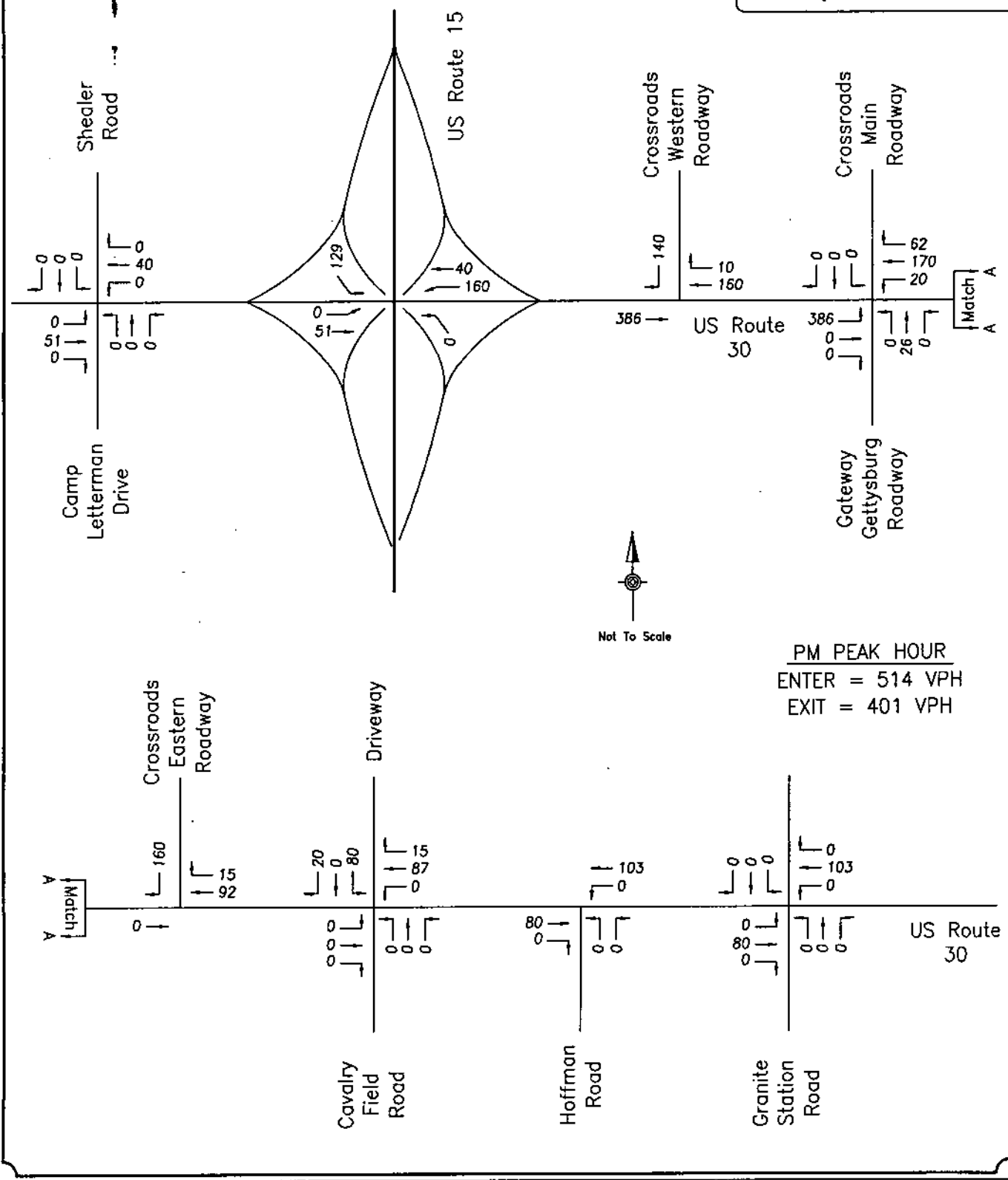
Not To Scale

PM PEAK HOUR
 ENTER = 514 VPH
 EXIT = 401 VPH



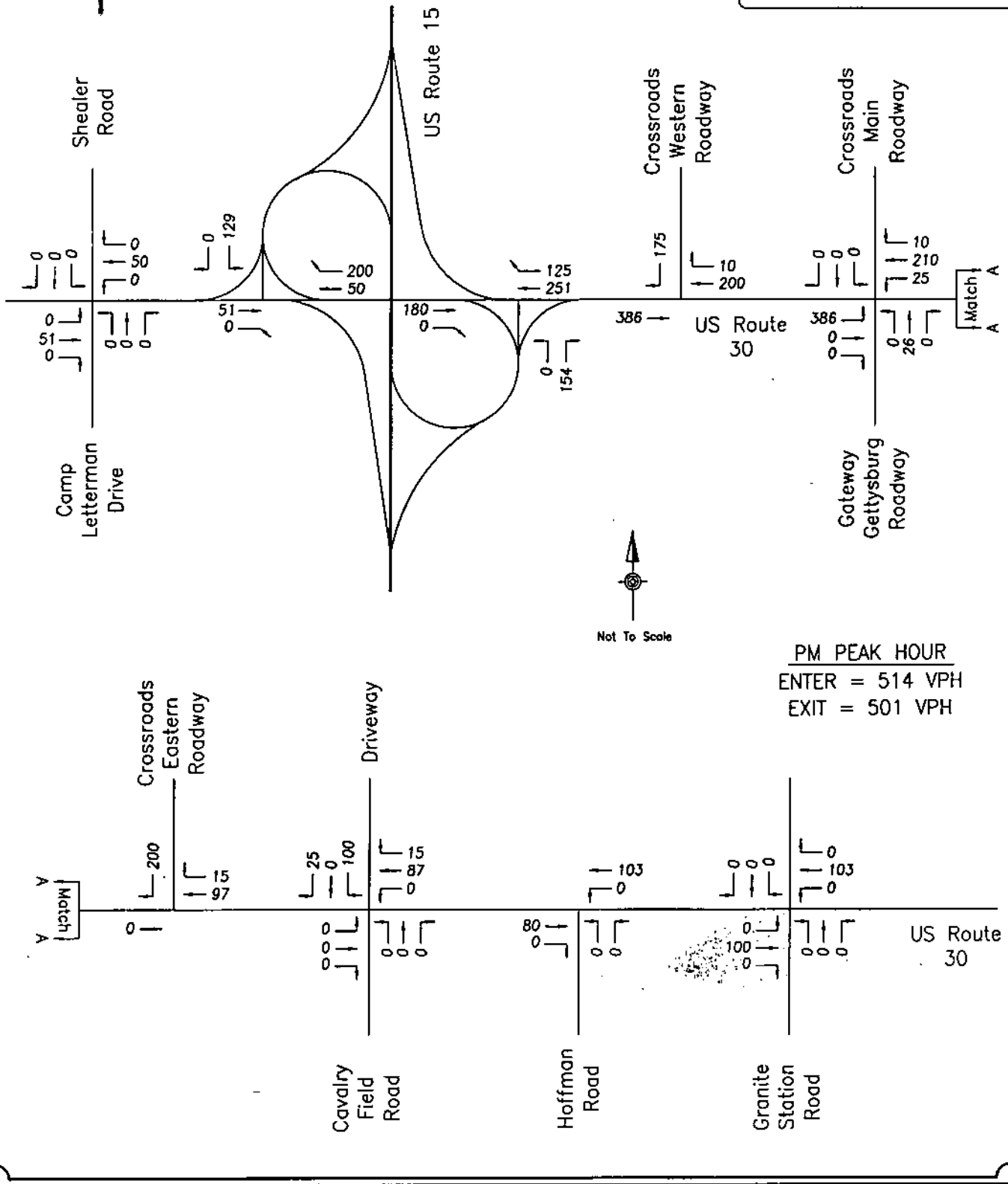
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Strabon Township, Adams County, PA

FIGURE 5a
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Initial Development, Weekday PM Peak Hour,
 with Existing US 15/US 30 Interchange



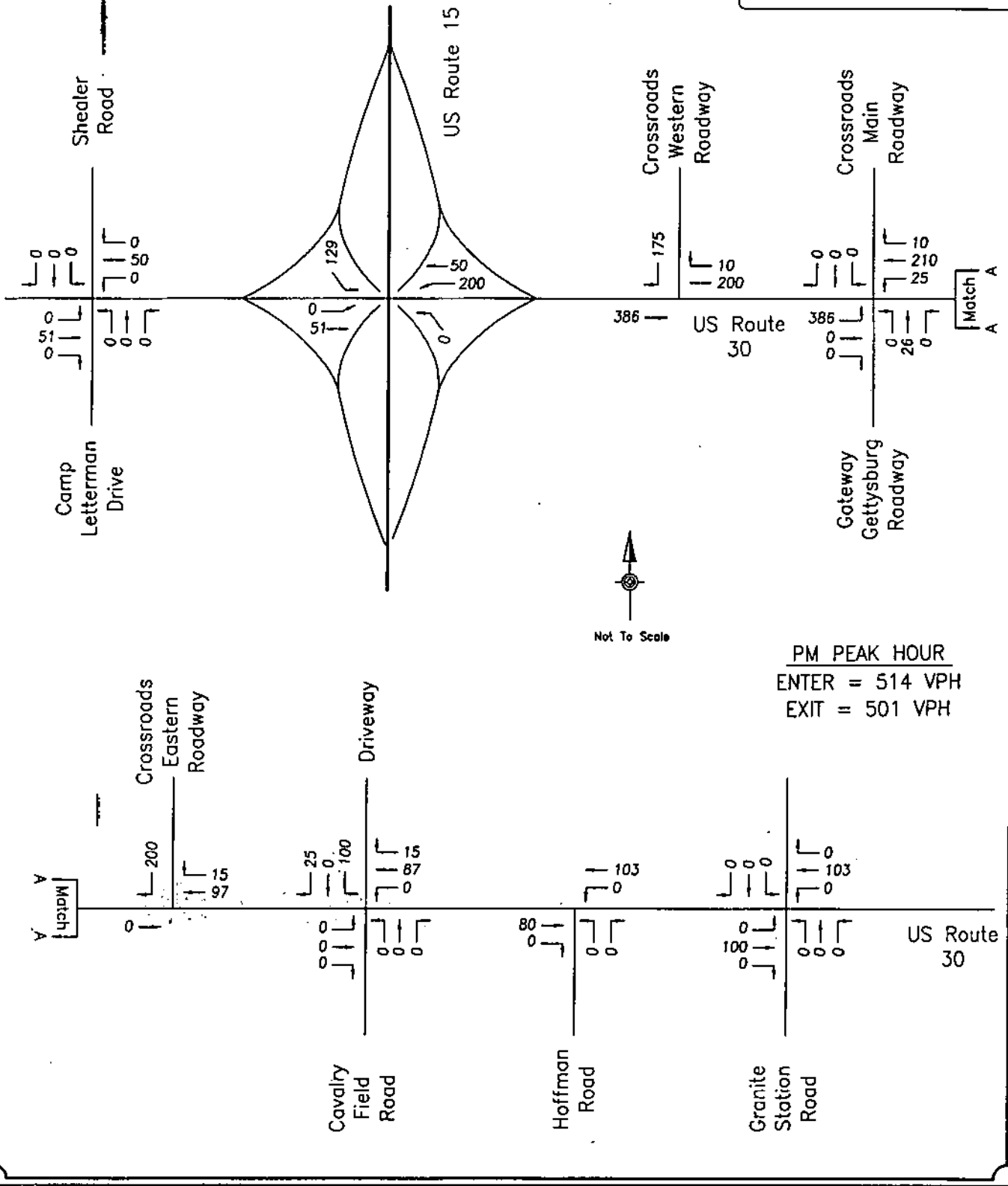
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 5b
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Initial Development, Weekday PM Peak Hour,
 with Proposed PENNDOT US 15/US 30 SPU



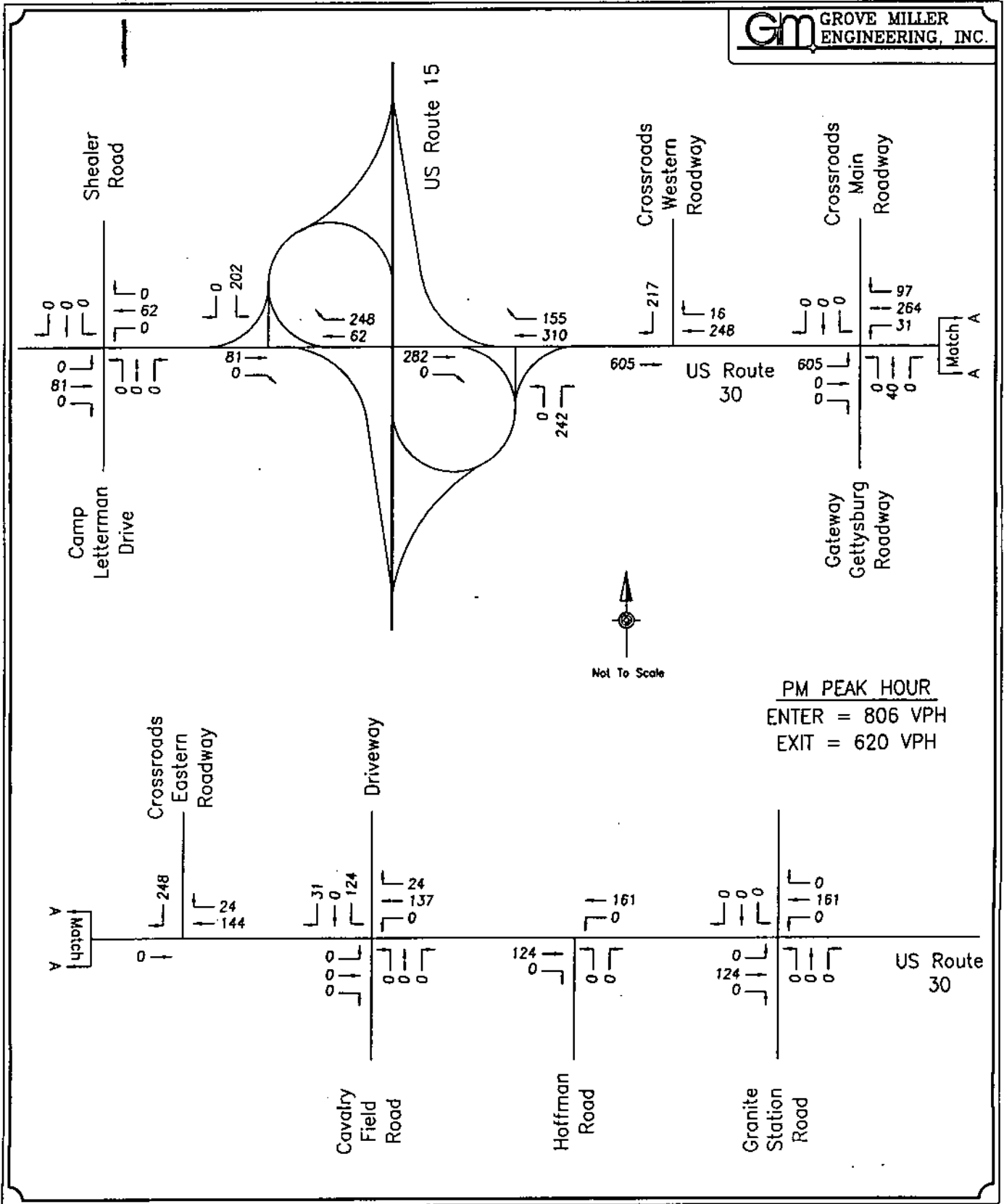
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 6a
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Initial Development, Saturday Peak Hour,
 with Existing US 15/US 30 Interchange



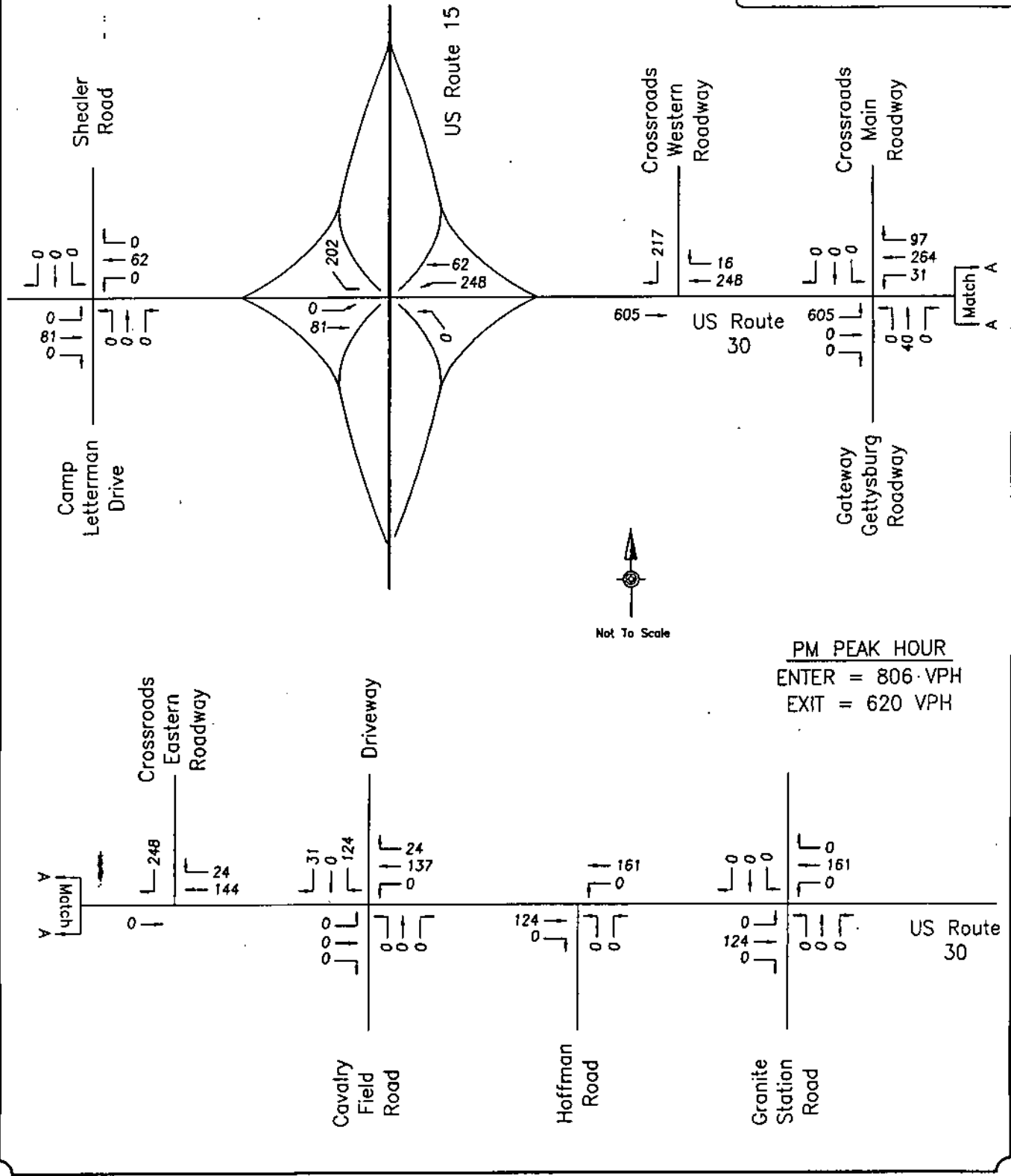
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 6b
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Initial Development, Saturday Peak Hour,
 with Proposed PENNDOT US 15/US 30 SPU



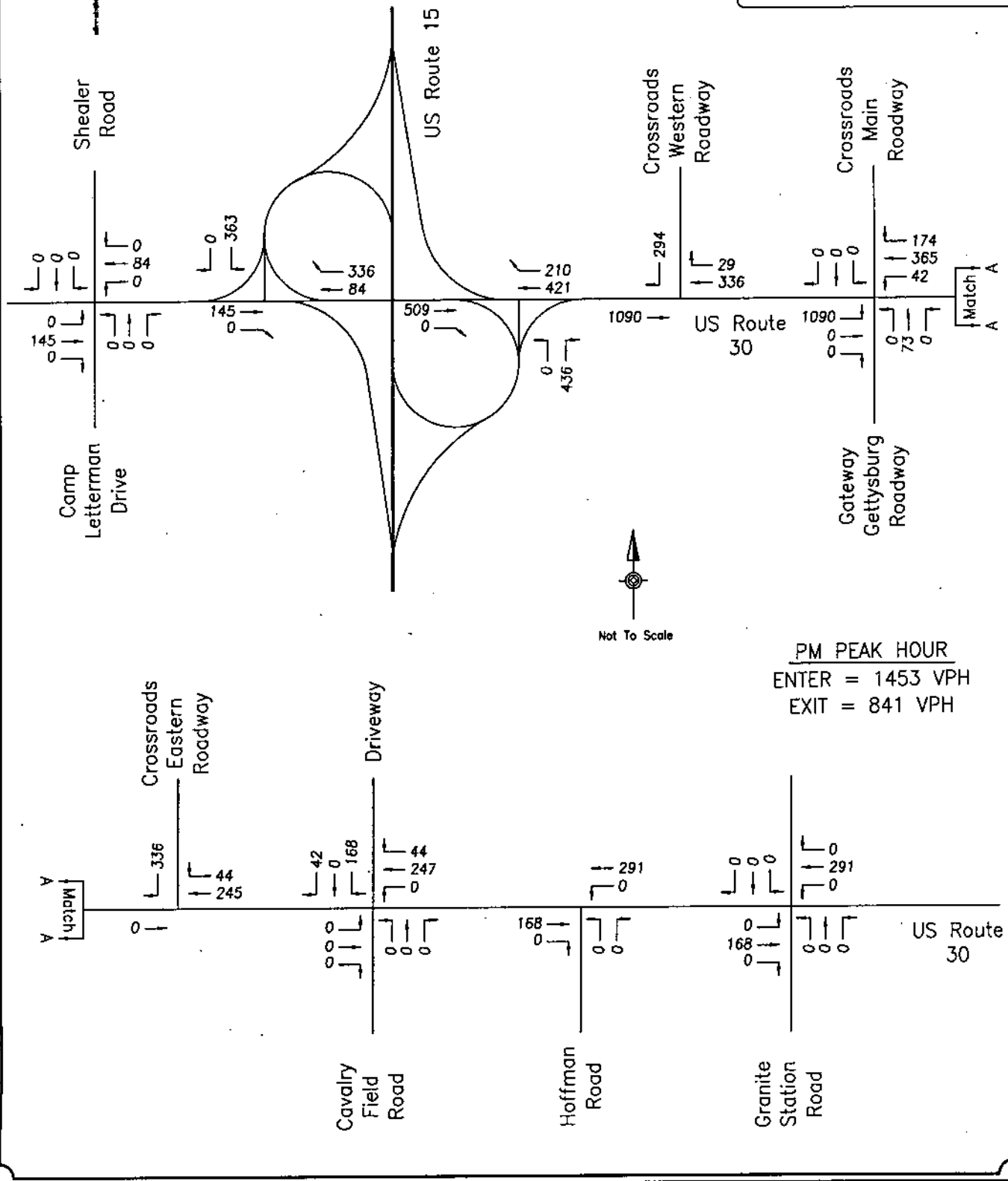
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 7a
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Full Build-Out, Weekday PM Peak Hour,
 with Existing US 15/US 30 Interchange



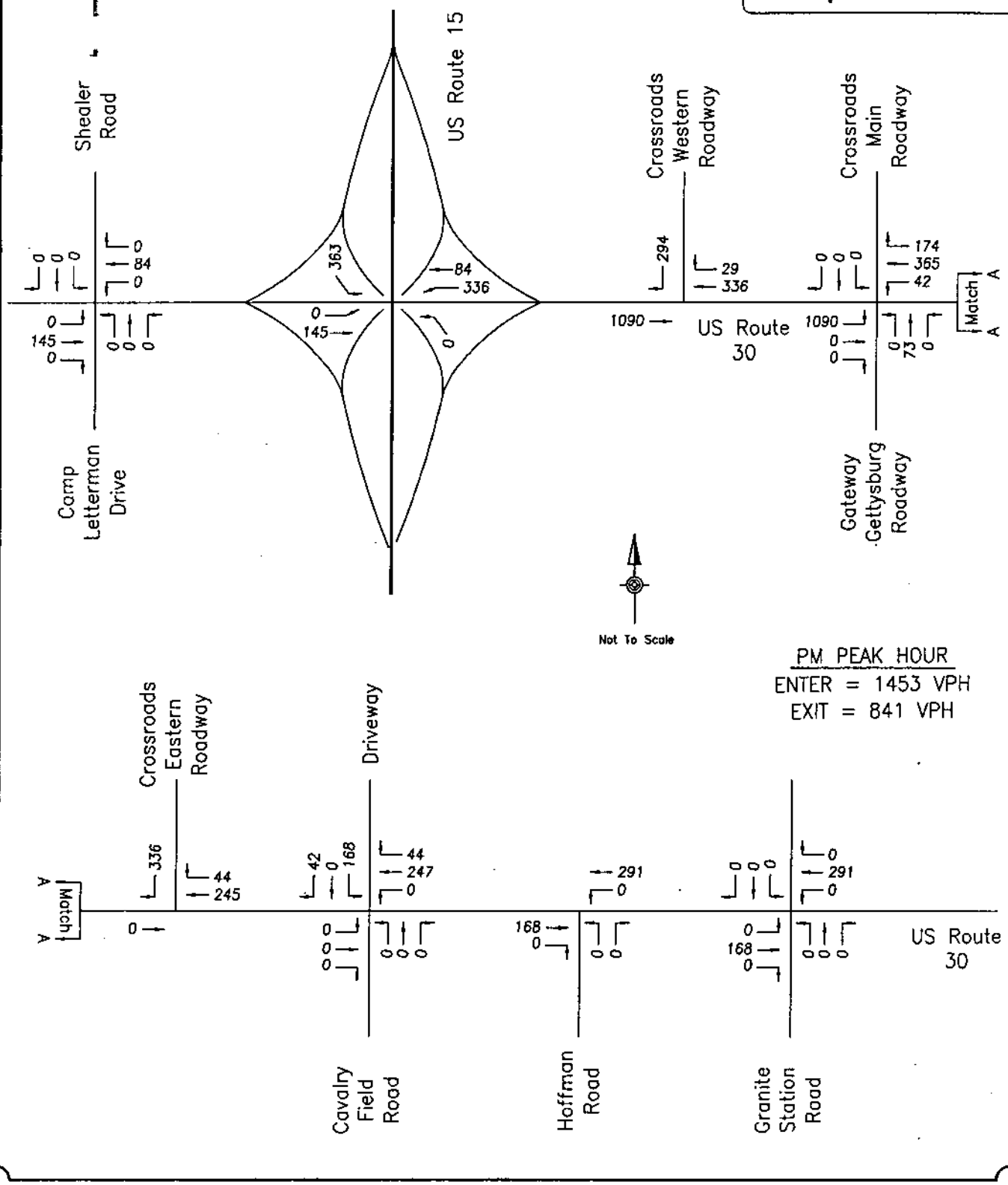
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 7b
Trip Distribution for Crossroads Gaming Resort and Spa,
Full Build-Out, Weekday PM Peak Hour,
with Proposed PENNDOT US 15/US 30 SPU



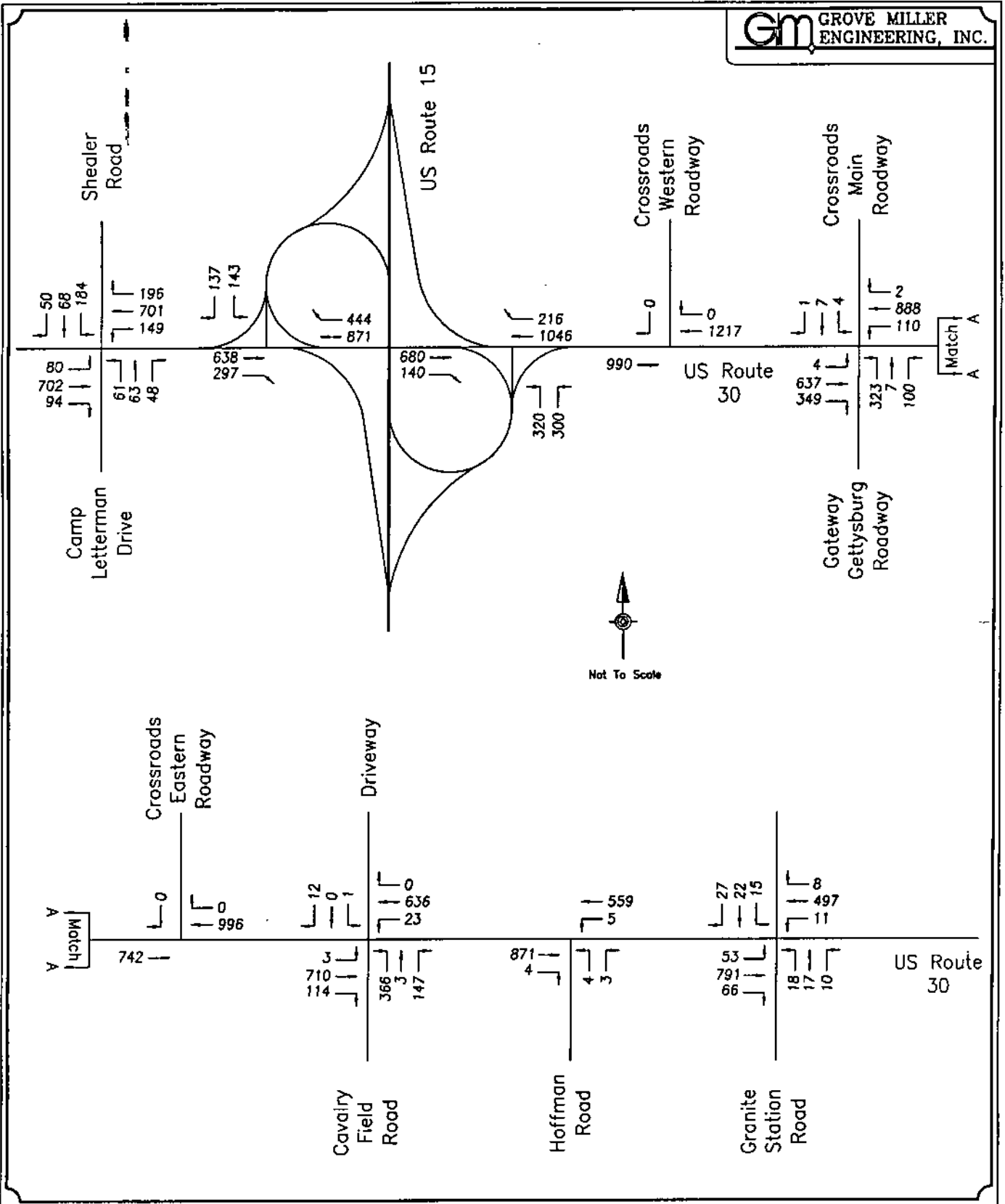
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 8a
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Full Build-Out, Saturday Peak Hour,
 with Existing US 15/US 30 Interchange



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 8b
 Trip Distribution for Crossroads Gaming Resort and Spa,
 Full Build-Out, Saturday Peak Hour,
 with Proposed PENNDOT US 15/US 30 SPU



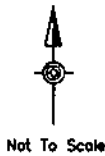
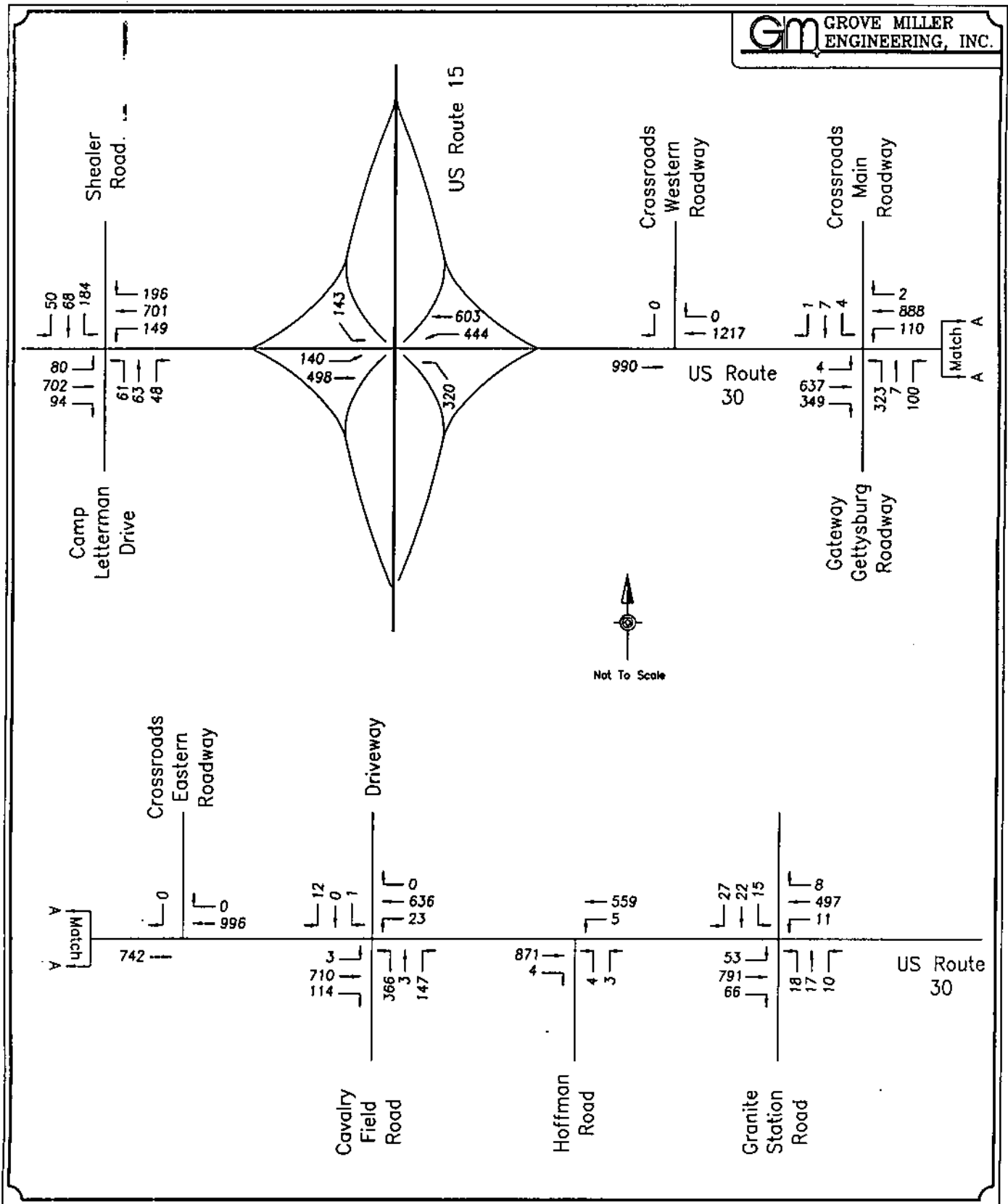
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

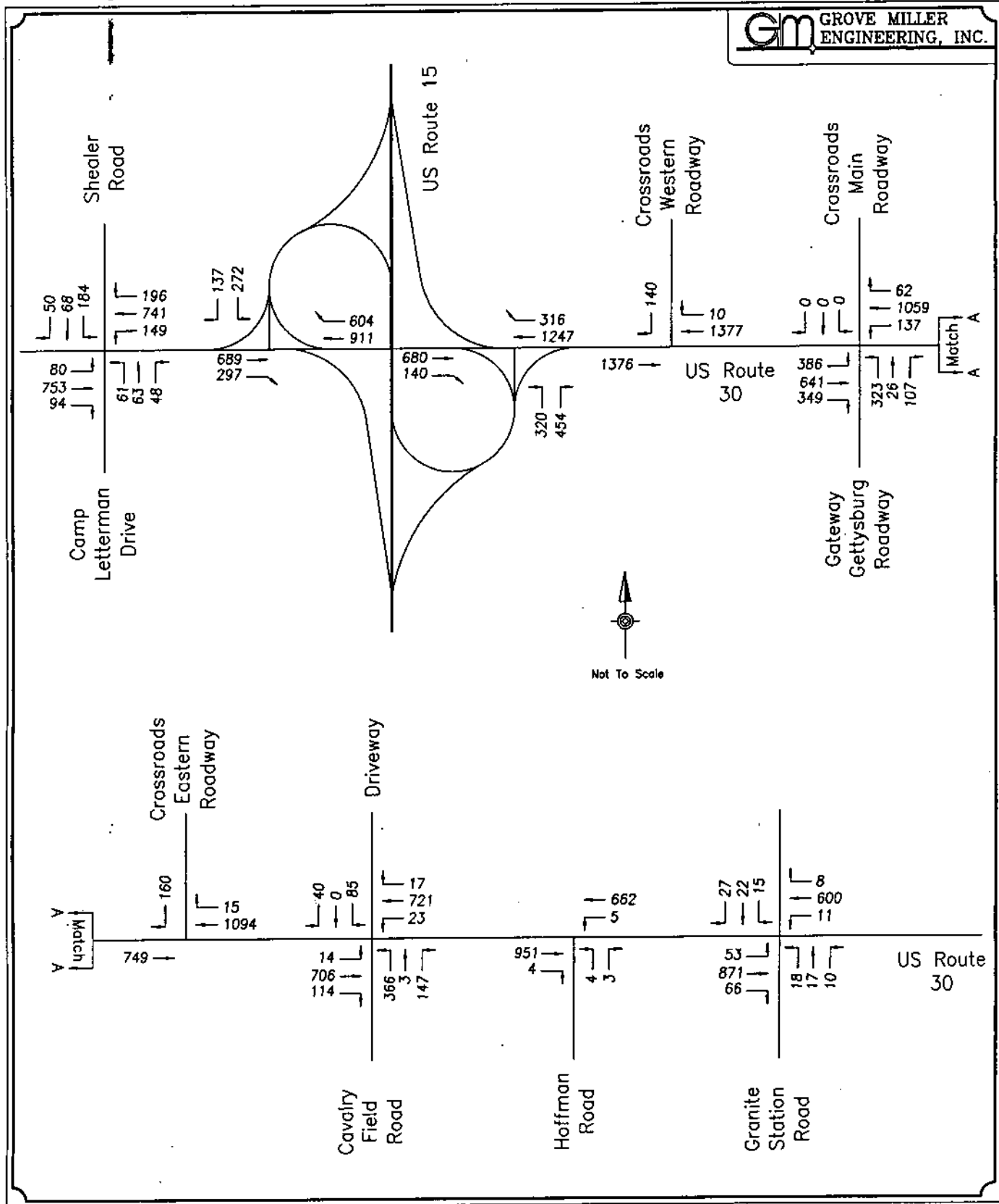
FIGURE 9a

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



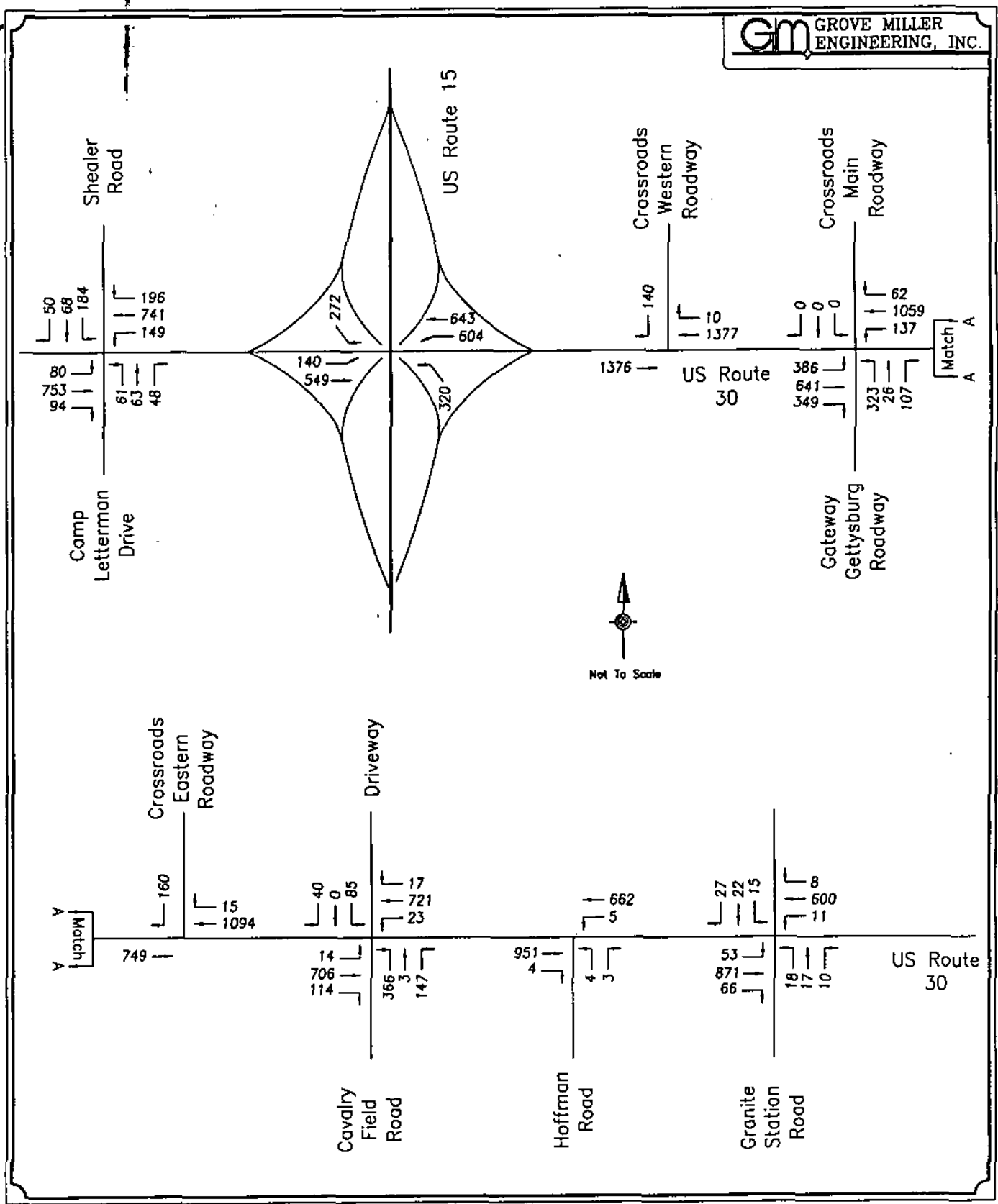
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 9b
 2008 Build Year Traffic Volumes,
 Weekday PM Peak Hour, No Build,
 with Proposed PENNDOT US 15/US 30 SPU



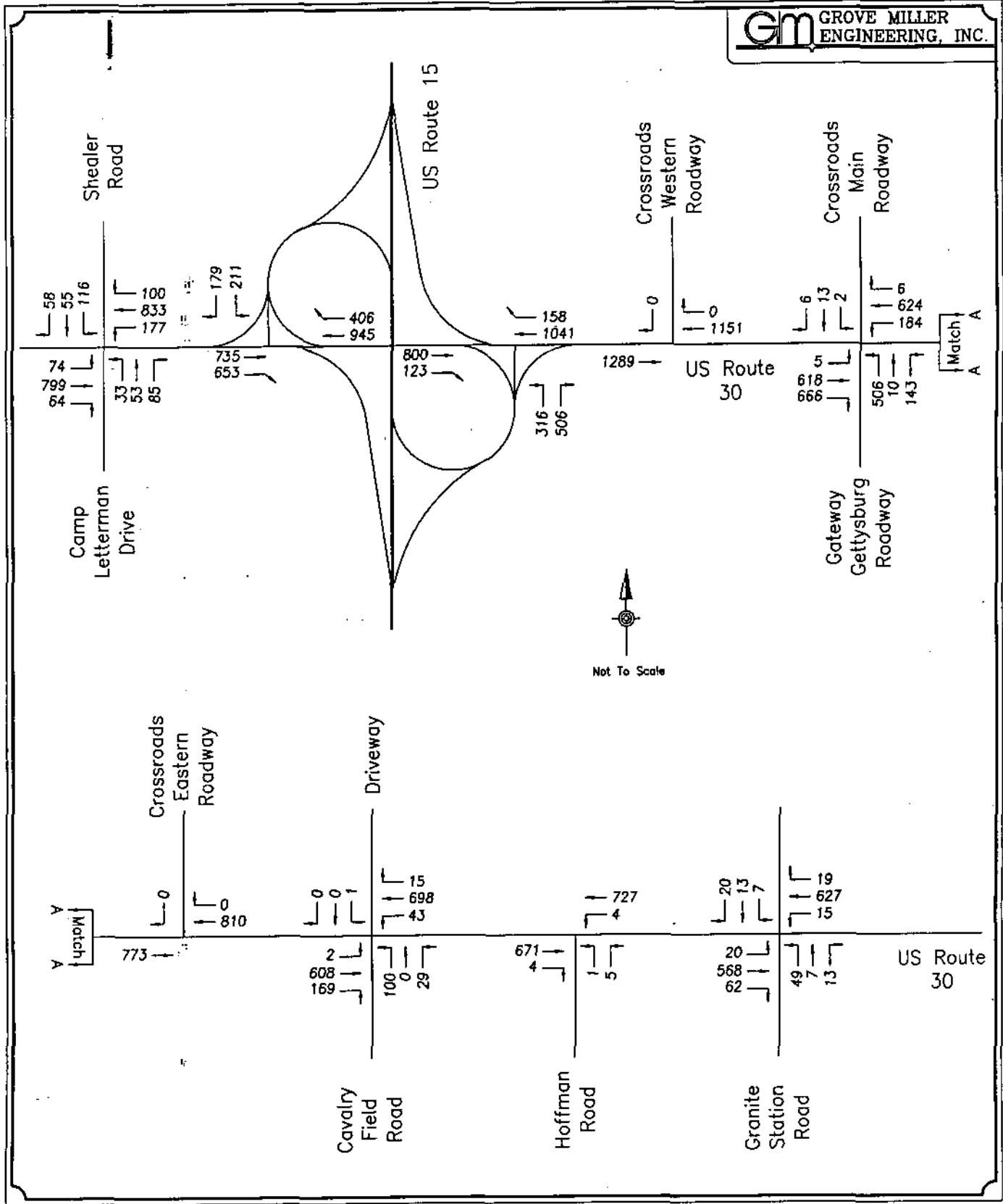
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 10a
 2008 Build Year Traffic Volumes,
 Weekday PM Peak Hour, Build,
 with Existing US 15/US 30 Interchange



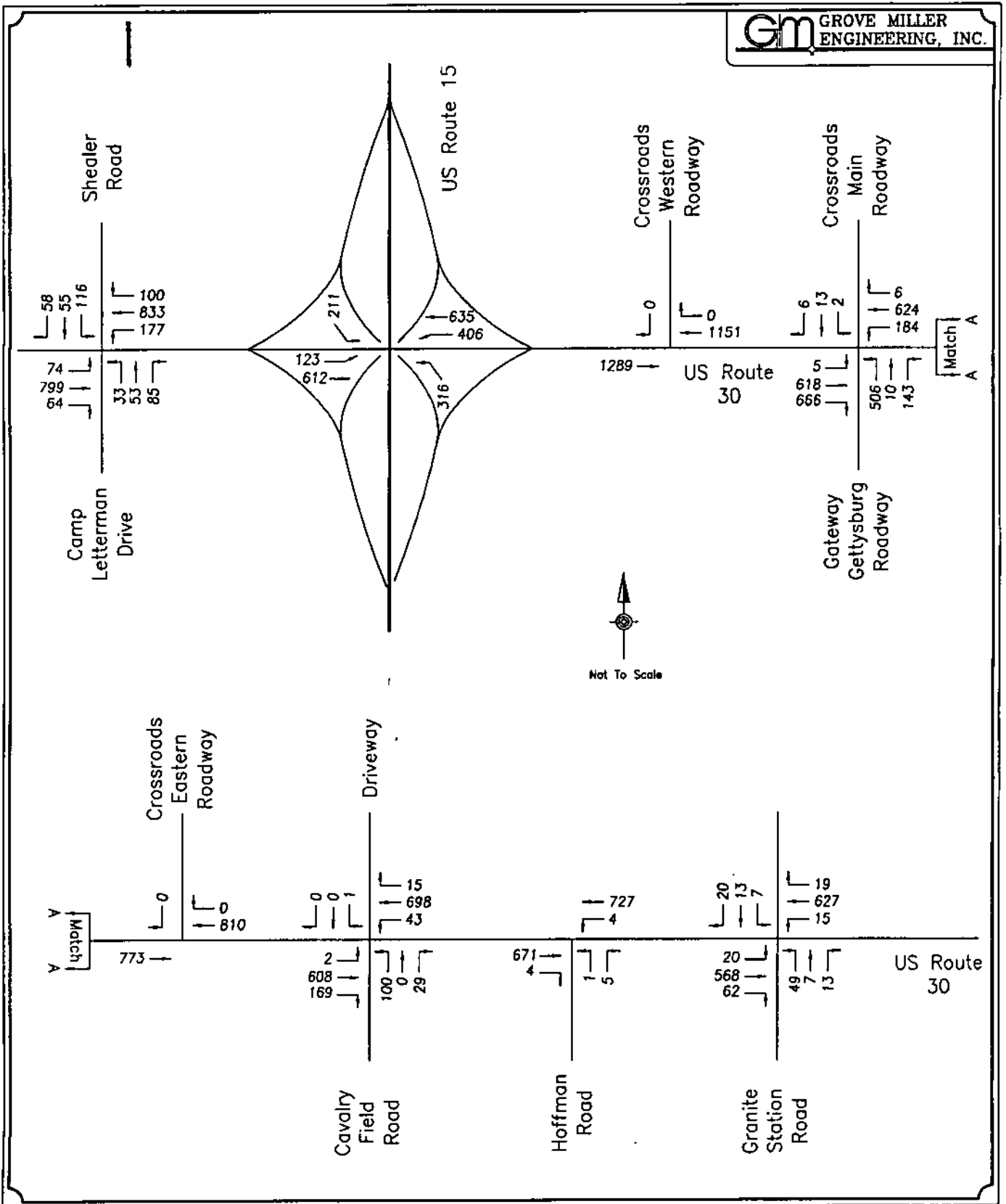
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 10b
 2008 Build Year Traffic Volumes,
 Weekday PM Peak Hour, Build,
 with Proposed PENNDOT US 15/US 30 SPUI



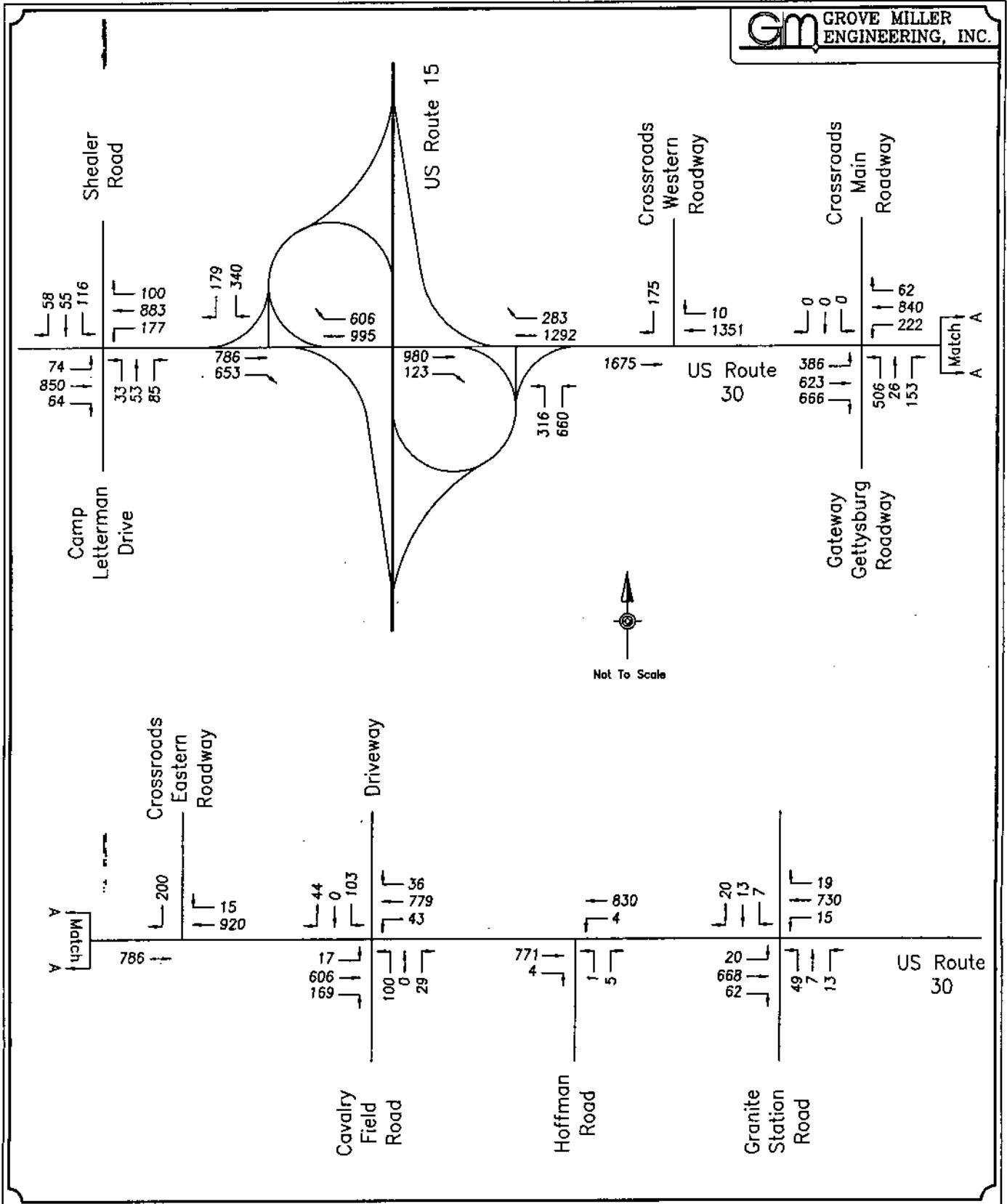
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 11a
 2008 Build Year Traffic Volumes,
 Saturday Peak Hour, No Build,
 with Existing US 15/US 30 Interchange



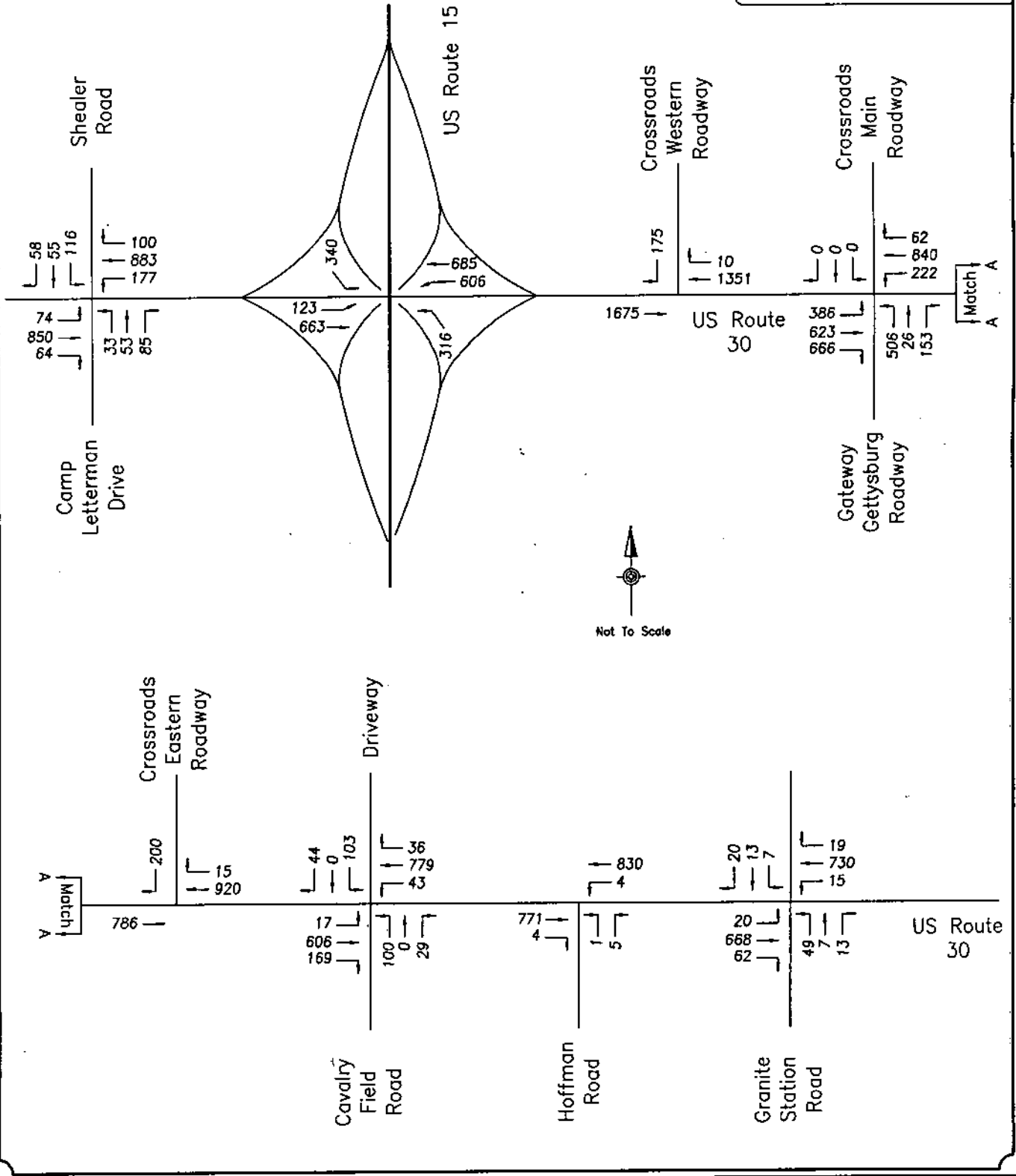
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 11b
2008 Build Year Traffic Volumes,
Saturday Peak Hour, No Build,
with Proposed PENNDOT US 15/US 30 SPU



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 12a
 2008 Build Year Traffic Volumes,
 Saturday Peak Hour, Build,
 with Existing US 15/US 30 Interchange



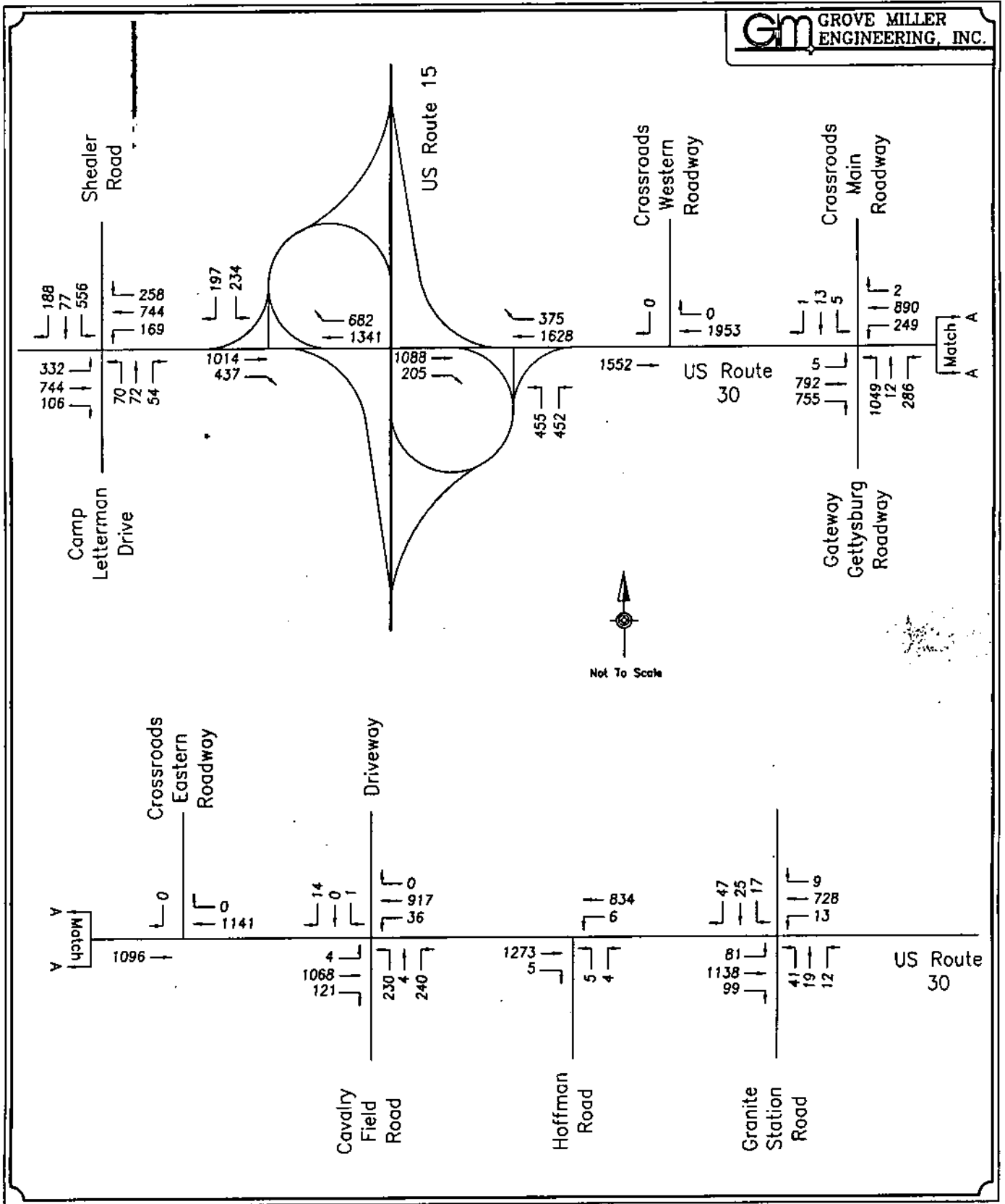
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

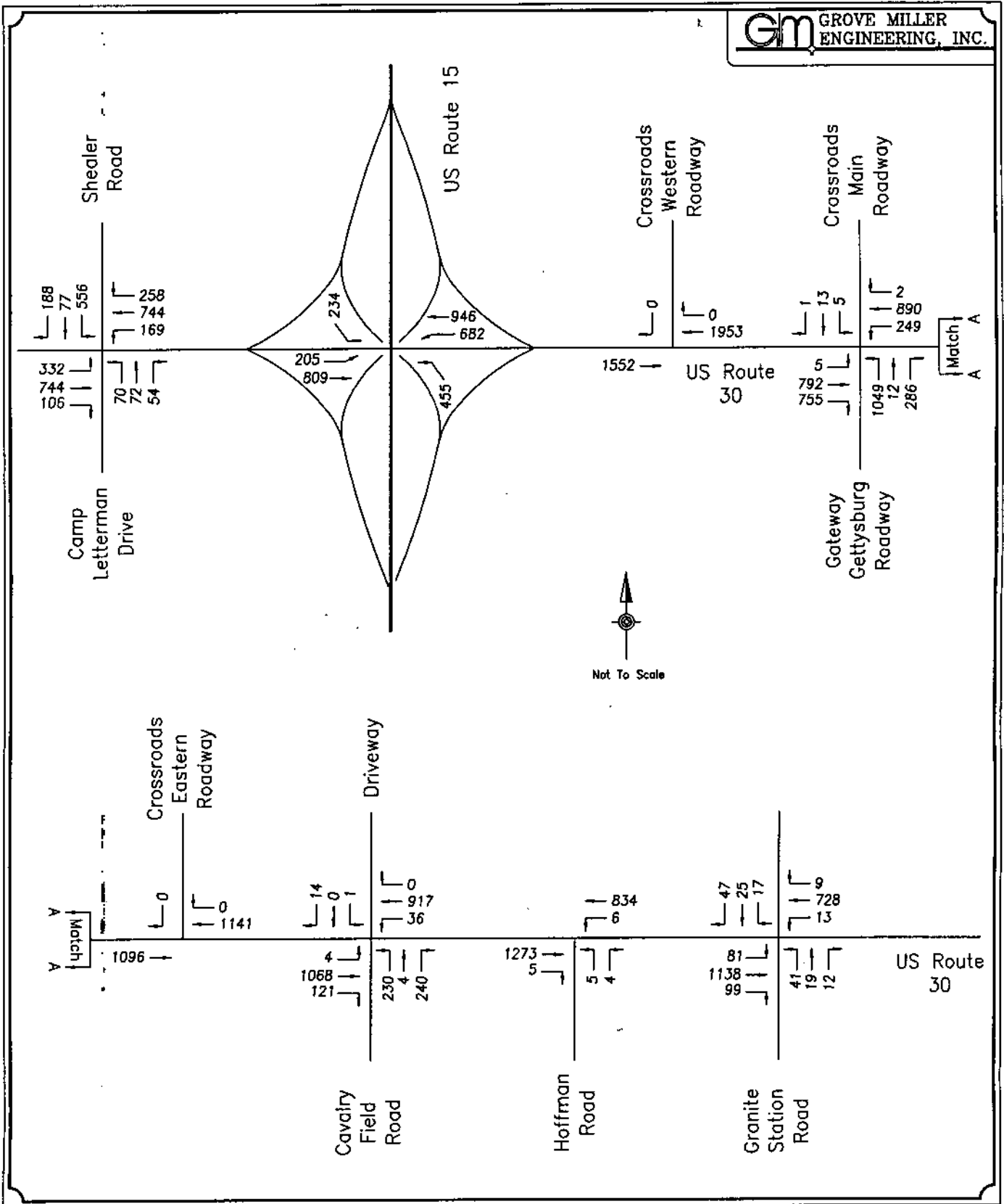
FIGURE 12b

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



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 13a
 2018 Design Year Traffic Volumes,
 Weekday PM Peak Hour, No Build,
 with Existing US 15/US 30 Interchange



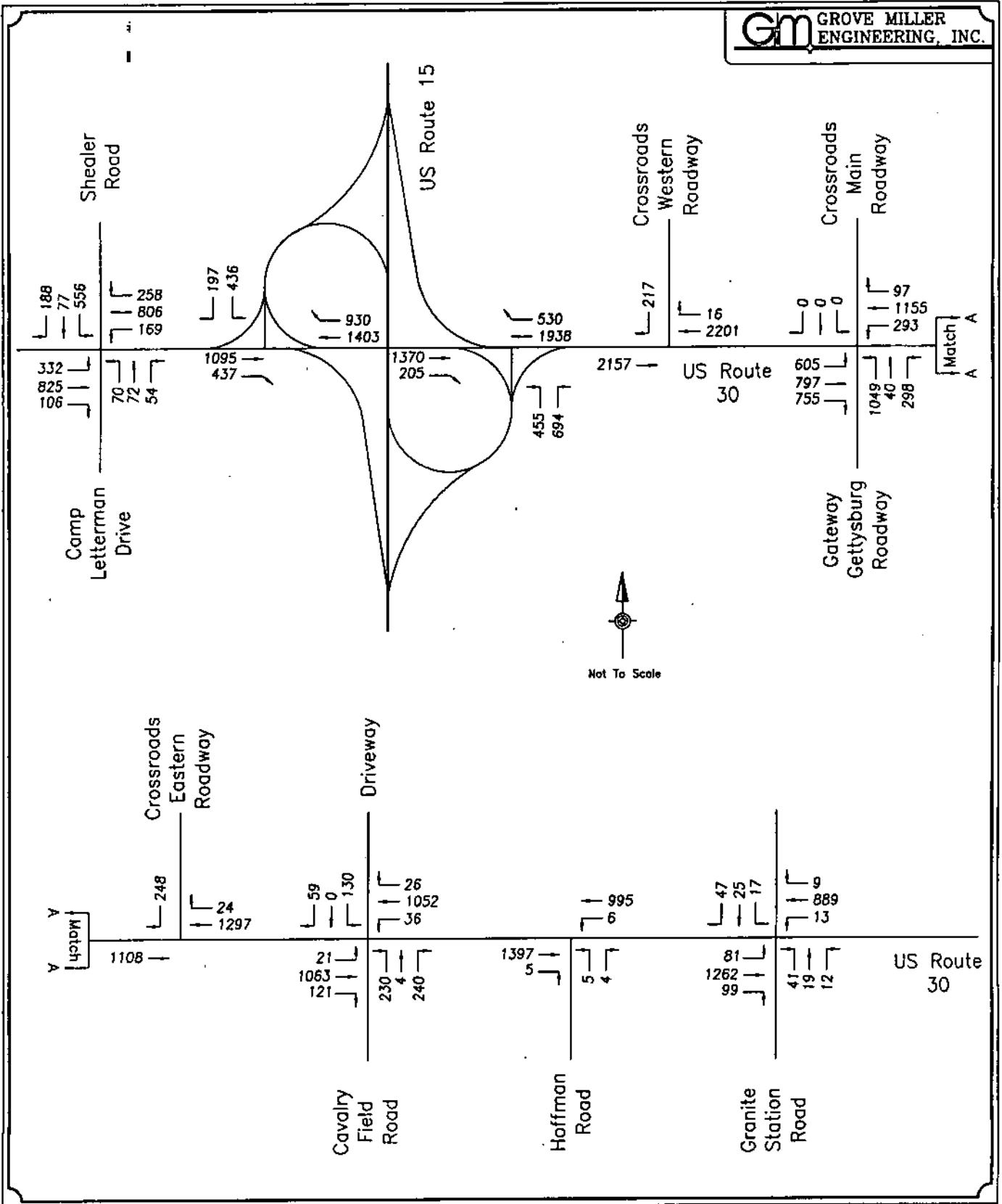
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

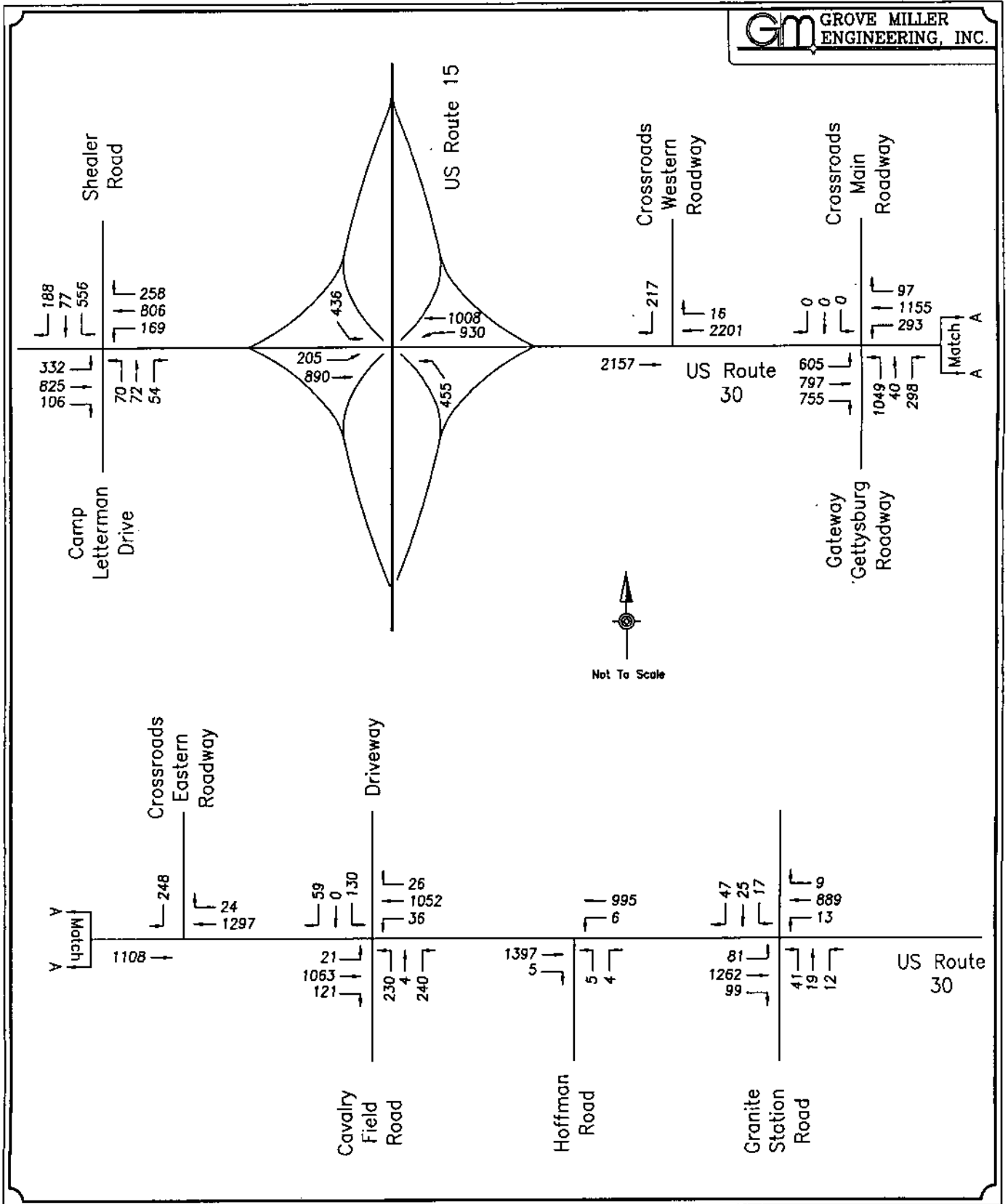
FIGURE 13b

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



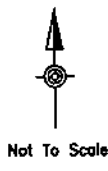
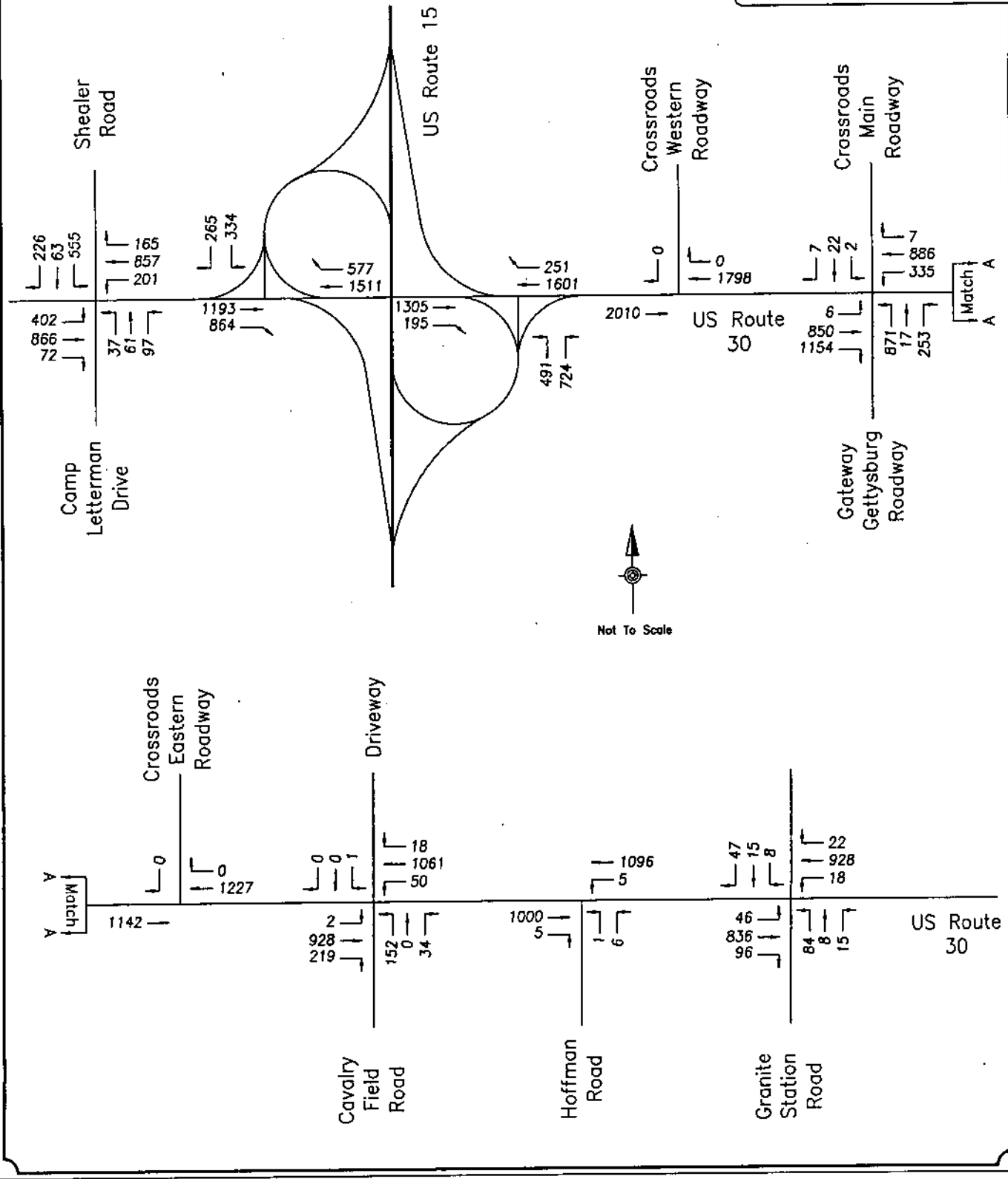
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 14a
2018 Design Year Traffic Volumes,
Weekday PM Peak Hour, Build,
with Existing US 15/US 30 Interchange



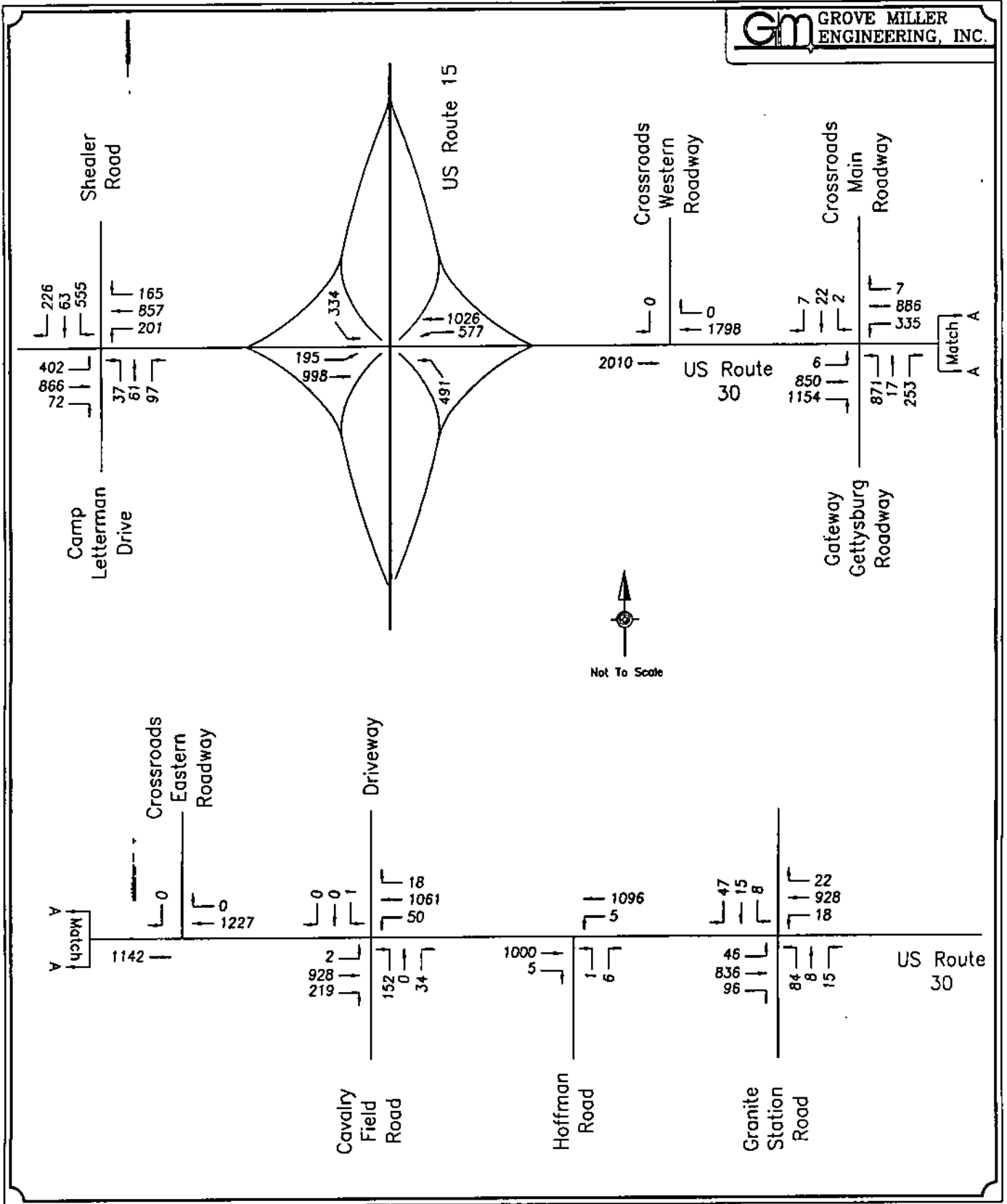
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Strabon Township, Adams County, PA

FIGURE 14b
 2018 Design Year Traffic Volumes,
 Weekday PM Peak Hour, Build,
 with Proposed PENNDOT US 15/US 30 SPU



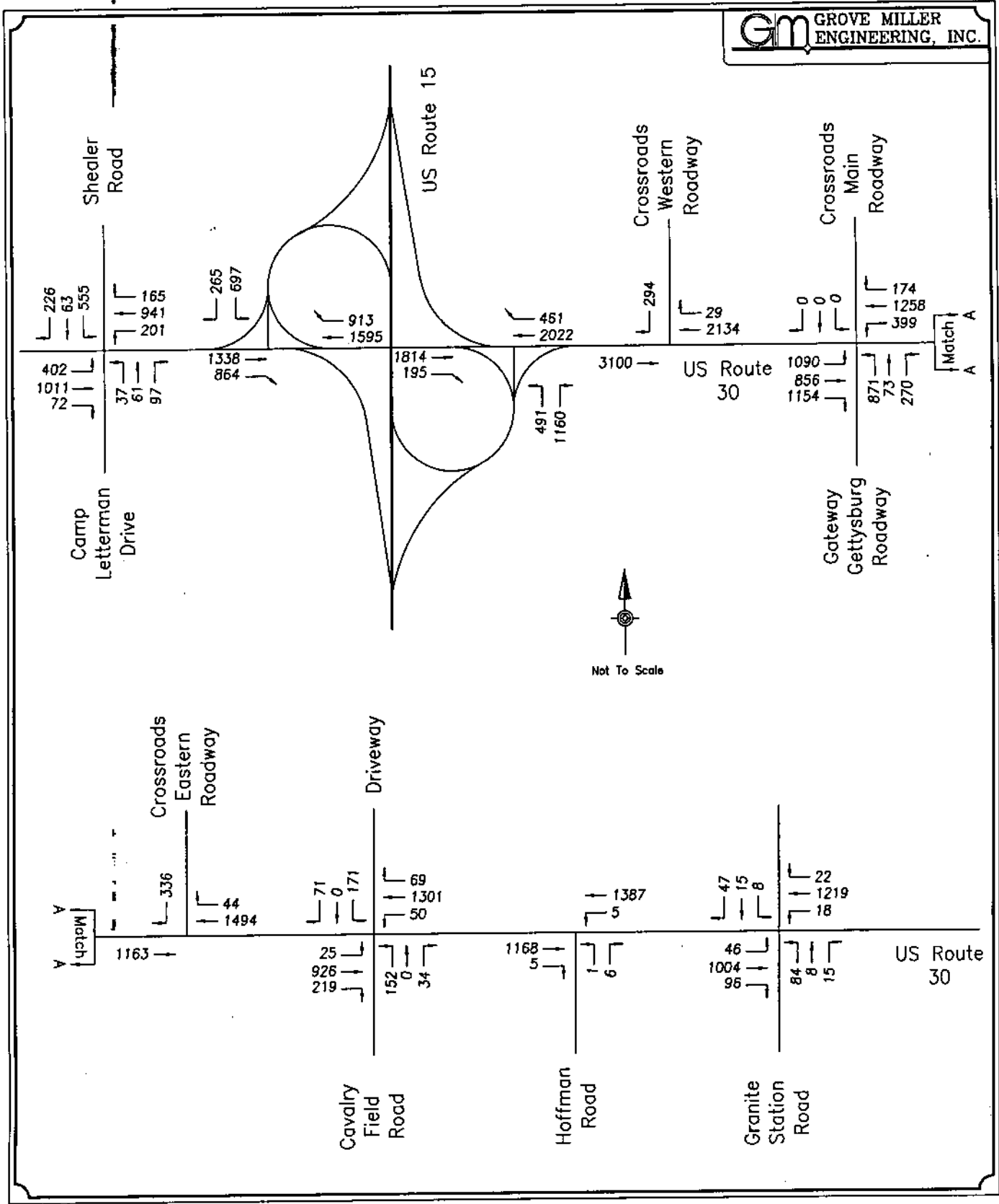
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

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



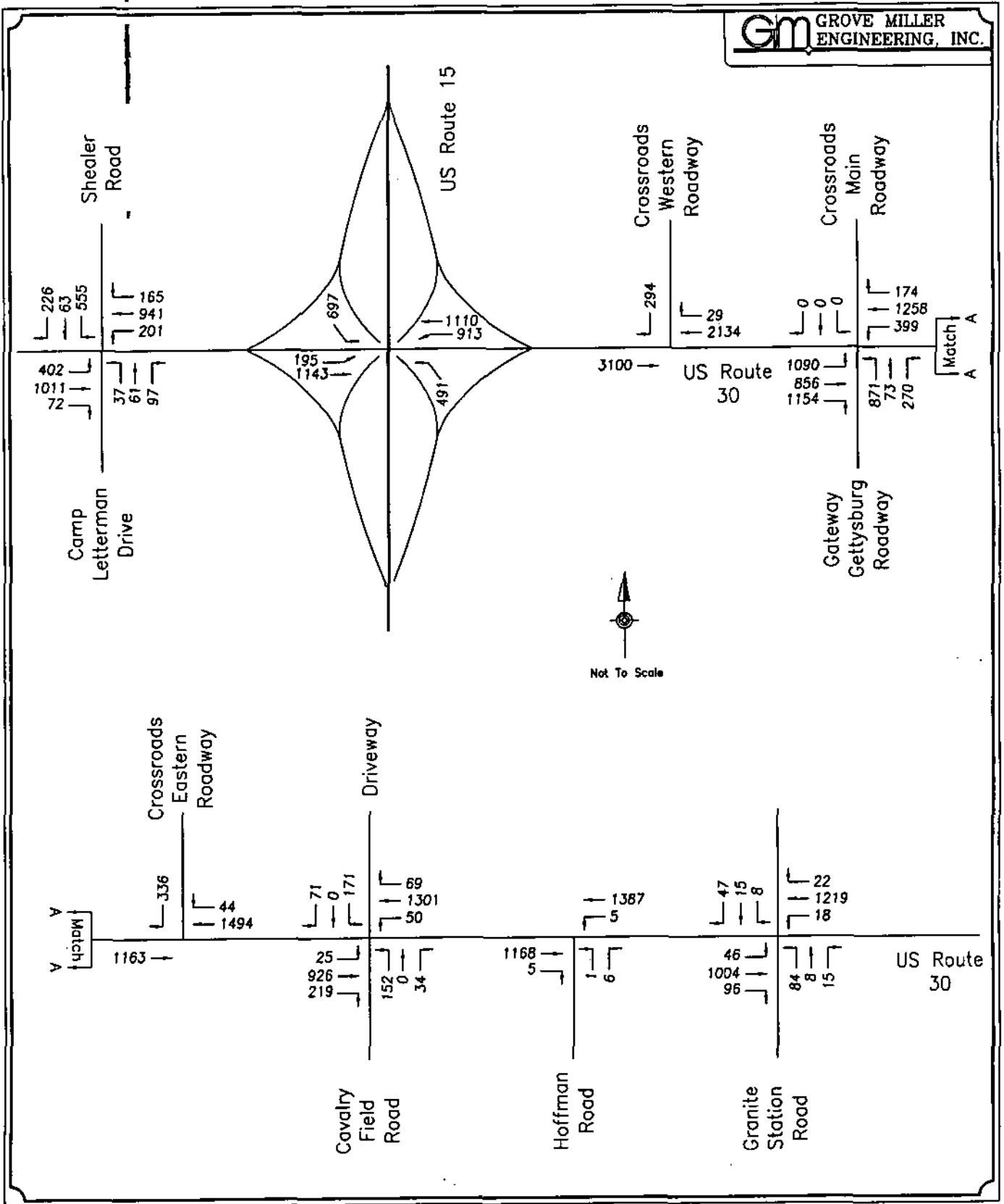
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 15b
 2018 Design Year Traffic Volumes,
 Saturday Peak Hour, No Build,
 with Proposed PENNDOT US 15/US 30 SPU1



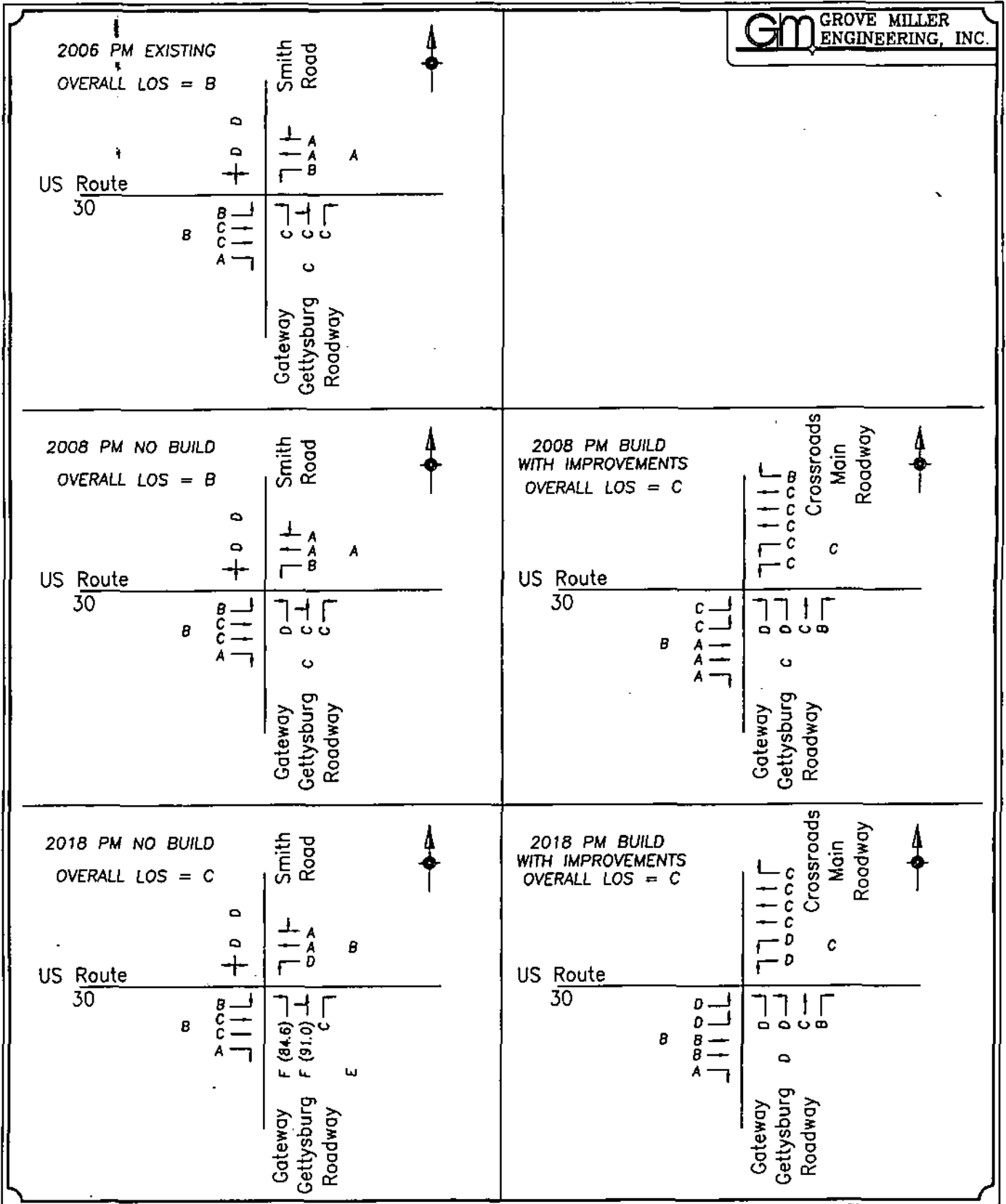
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
 Strabon Township, Adams County, PA

FIGURE 16a
 2018 Design Year Traffic Volumes,
 Saturday Peak Hour, Build,
 with Existing US 15/US 30 Interchange



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 16b
 2018 Design Year Traffic Volumes,
 Saturday Peak Hour, Build,
 with Proposed PENNDOT US 15/US 30 SPUI



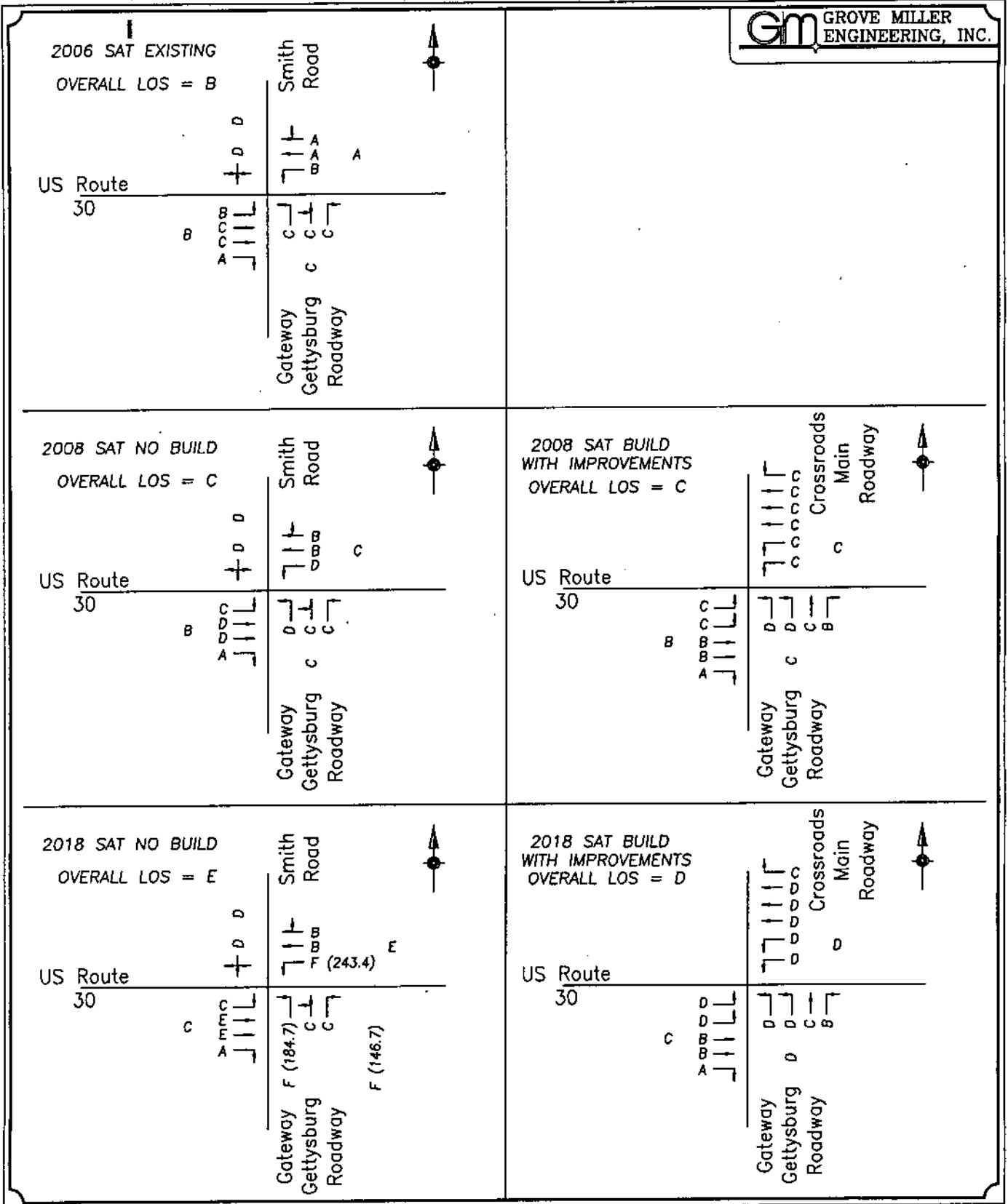
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 17

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



Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 18

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

2008 PM BUILD
OVERALL LOS = B

Crossroads
Western
Roadway



US Route
30

B

2018 PM BUILD
OVERALL LOS = C

Crossroads
Western
Roadway



US Route
30

C

2008 SAT BUILD
OVERALL LOS = B

Crossroads
Western
Roadway



US Route
30

B

2018 SAT BUILD
OVERALL LOS = C

Crossroads
Western
Roadway



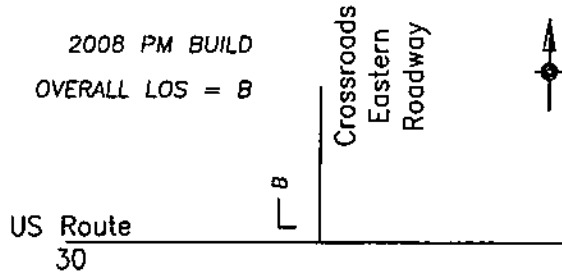
US Route
30

C

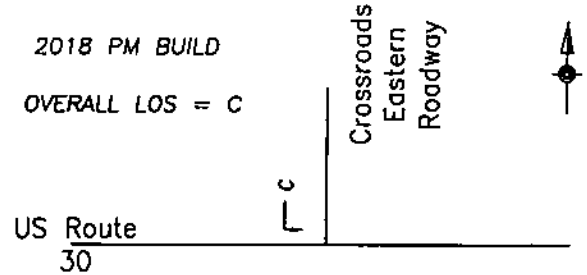
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

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

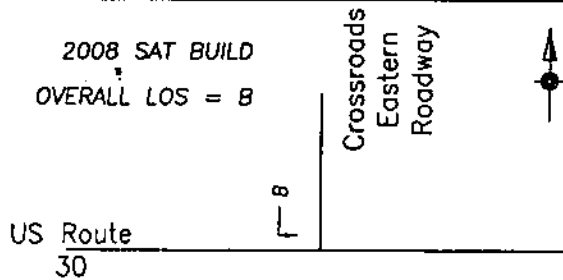
2008 PM BUILD
OVERALL LOS = B



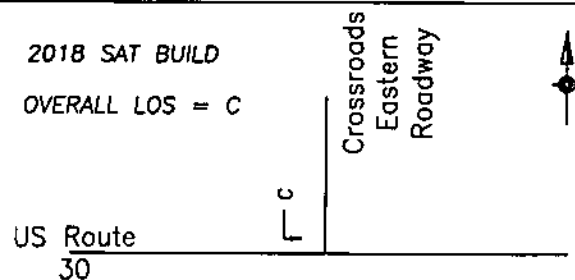
2018 PM BUILD
OVERALL LOS = C



2008 SAT BUILD
OVERALL LOS = B



2018 SAT BUILD
OVERALL LOS = C

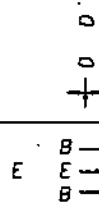


Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Strabon Township, Adams County, PA

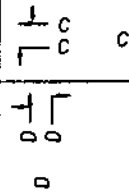
FIGURE 20
Levels of Service,
US Route 30 & Eastern Roadway
PM and Saturday Peak Hours

2006 PM EXISTING
OVERALL LOS = D

US Route
30

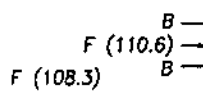


Cavalry
Field
Road

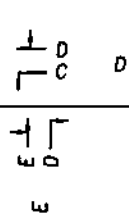


2008 PM NO BUILD
OVERALL LOS = E

US Route
30

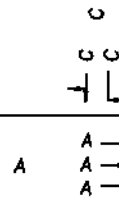


Cavalry
Field
Road

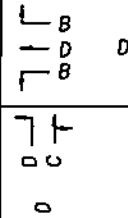


2008 PM BUILD
WITH IMPROVEMENTS
OVERALL LOS = C

US Route
30

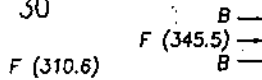


Cavalry
Field
Road

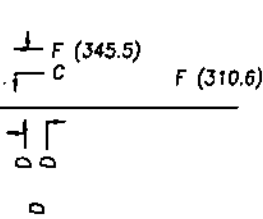


2018 PM NO BUILD
OVERALL LOS = F (197.3)

US Route
30

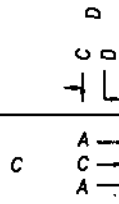


Cavalry
Field
Road

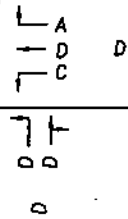


2018 PM BUILD
WITH IMPROVEMENTS
OVERALL LOS = D

US Route
30

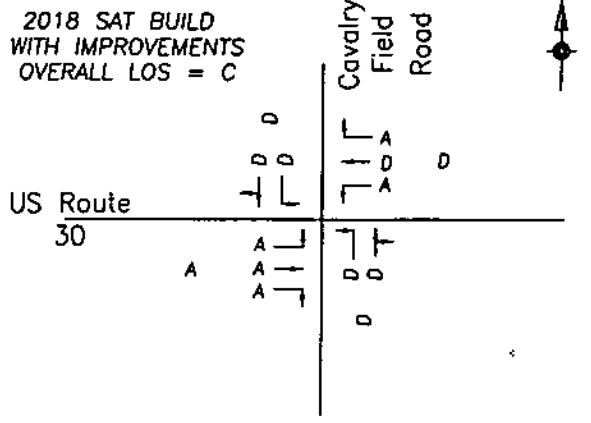
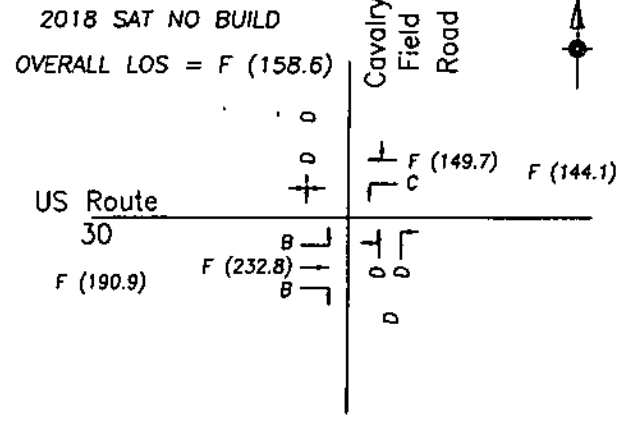
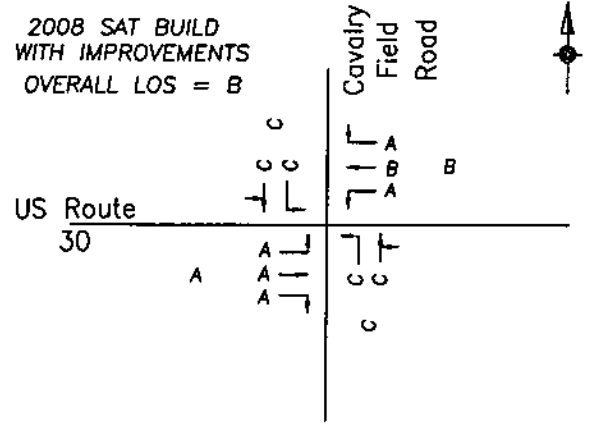
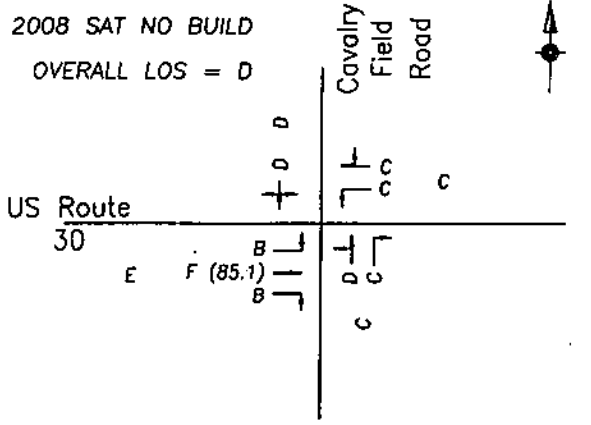
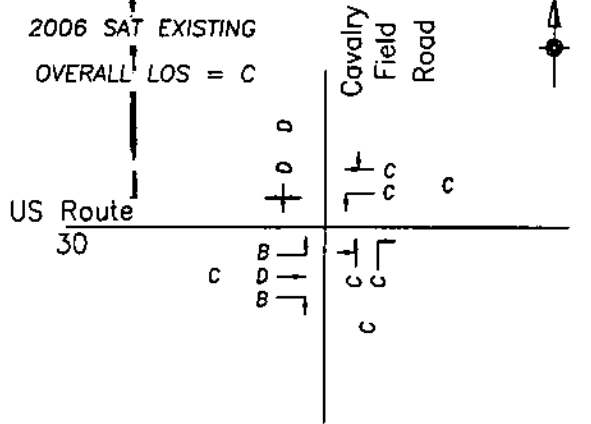


Cavalry
Field
Road



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 21
Levels of Service,
US Route 30 & Cavalry Field Road
Weekday PM Peak Hour

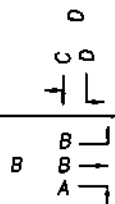


Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

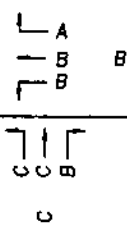
FIGURE 22
Levels of Service,
US Route 30 & Cavalry Field Road
Saturday Peak Hour

2006 PM EXISTING
OVERALL LOS = B

US Route
30

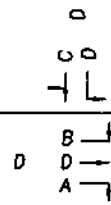


Shealer
Road

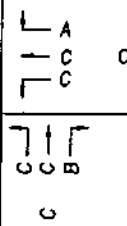


2008 PM NO BUILD
OVERALL LOS = C

US Route
30

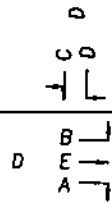


Shealer
Road

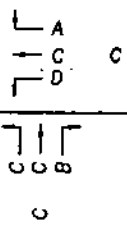


2008 PM BUILD
OVERALL LOS = D

US Route
30

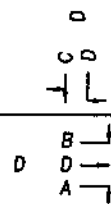


Shealer
Road

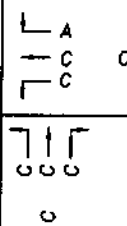


2008 PM BUILD
WITH TIMING ADJUSTMENTS
OVERALL LOS = C

US Route
30

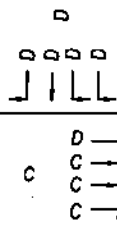


Shealer
Road

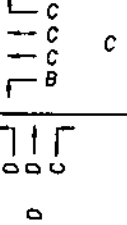


2018 PM NO BUILD
OVERALL LOS = D

US Route
30

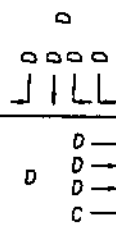


Shealer
Road

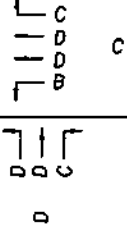


2018 PM BUILD
OVERALL LOS = D

US Route
30

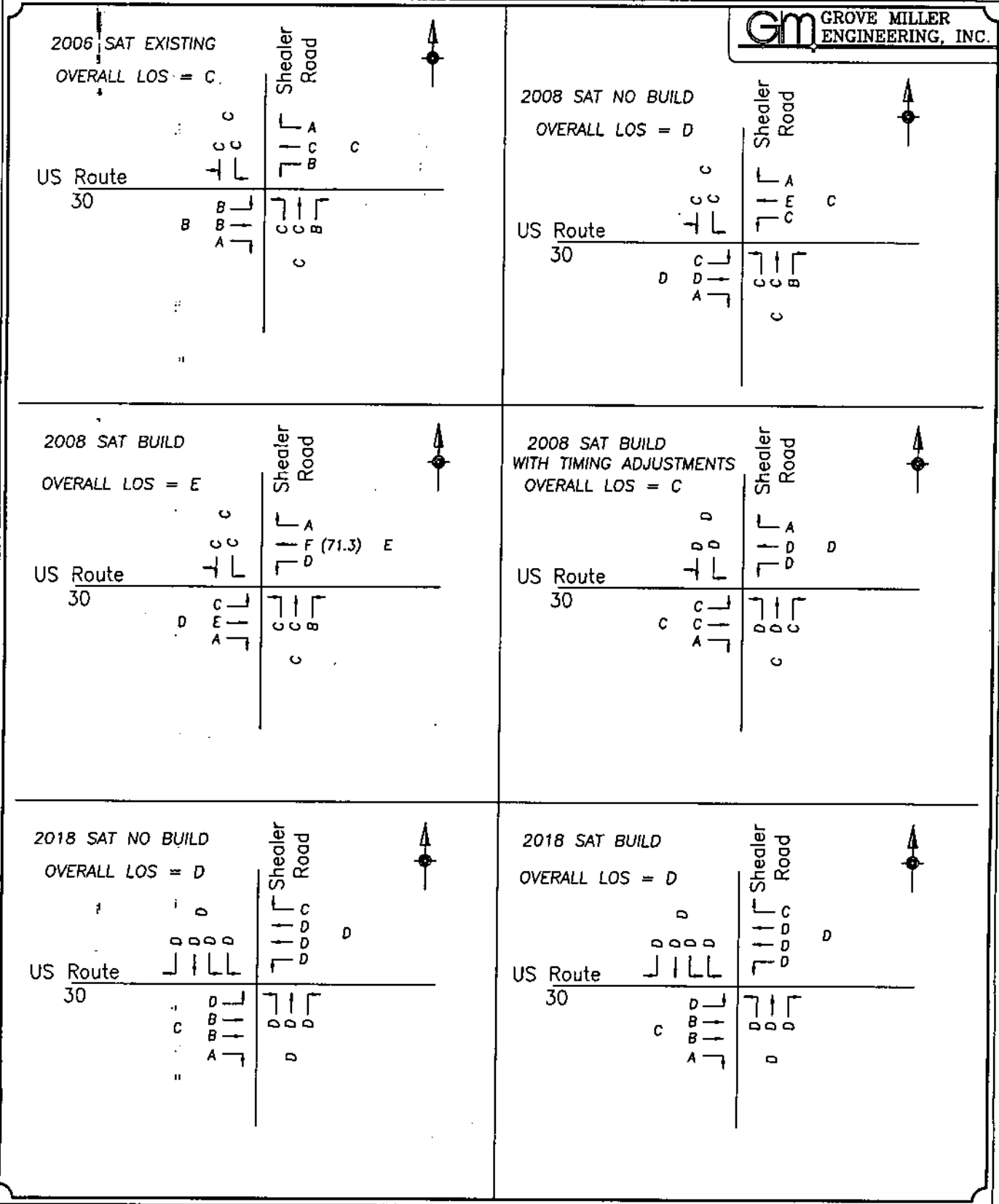


Shealer
Road



Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

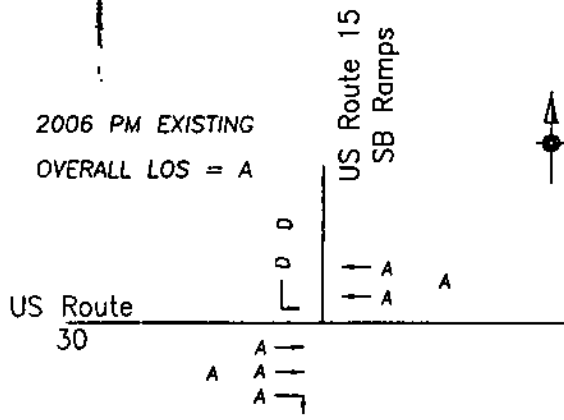
FIGURE 23
Levels of Service,
US Route 30 & Shealer Road
Weekday PM Peak Hour



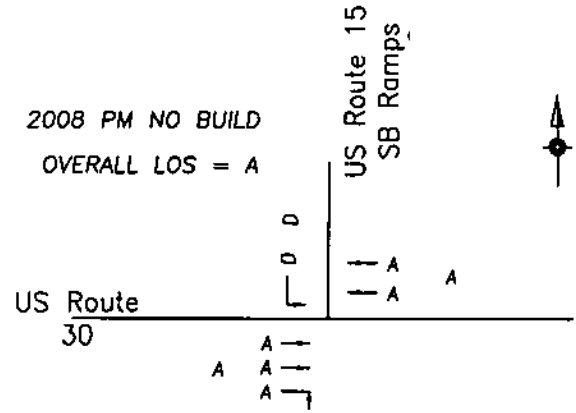
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 24
Levels of Service,
US Route 30 & Shealer Road
Saturday Peak Hour

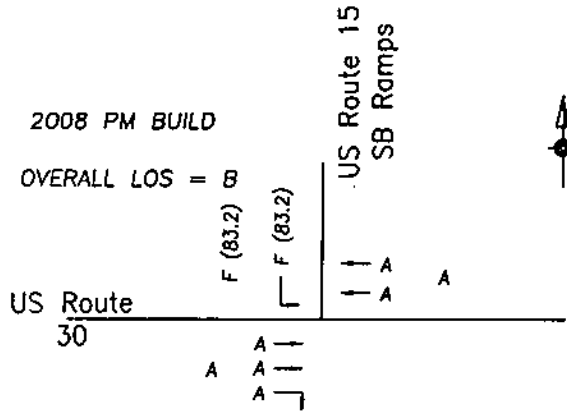
2006 PM EXISTING
OVERALL LOS = A



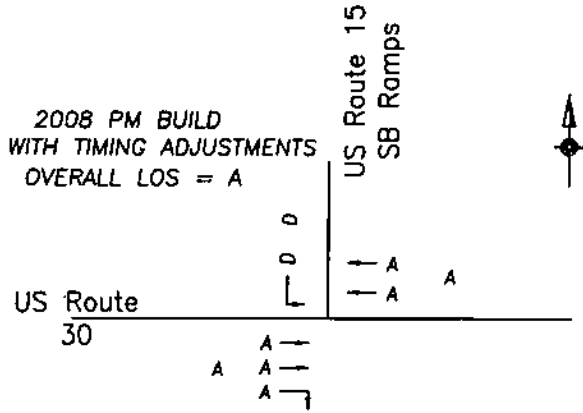
2008 PM NO BUILD
OVERALL LOS = A



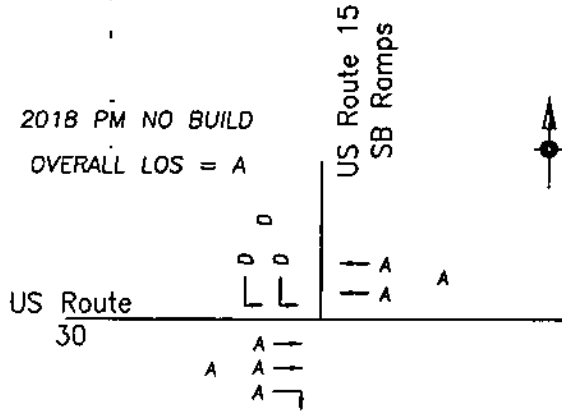
2008 PM BUILD
OVERALL LOS = B



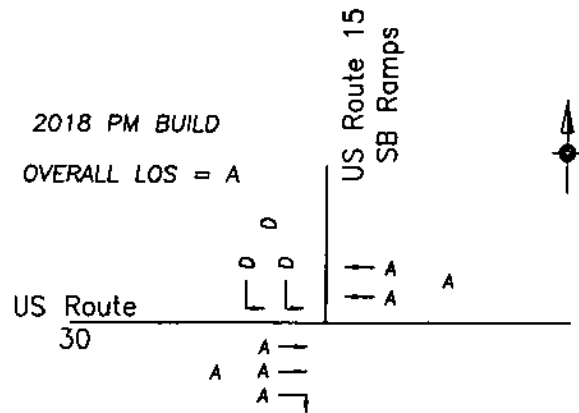
2008 PM BUILD
WITH TIMING ADJUSTMENTS
OVERALL LOS = A



2018 PM NO BUILD
OVERALL LOS = A



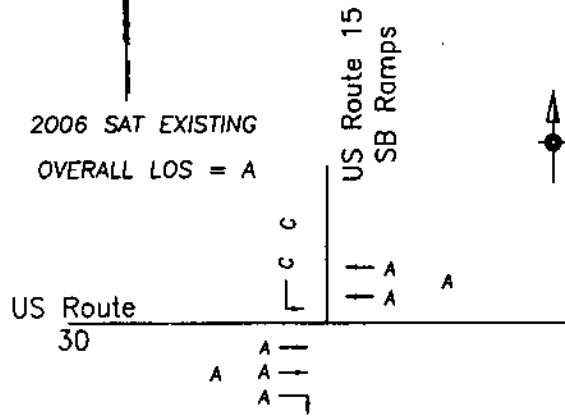
2018 PM BUILD
OVERALL LOS = A



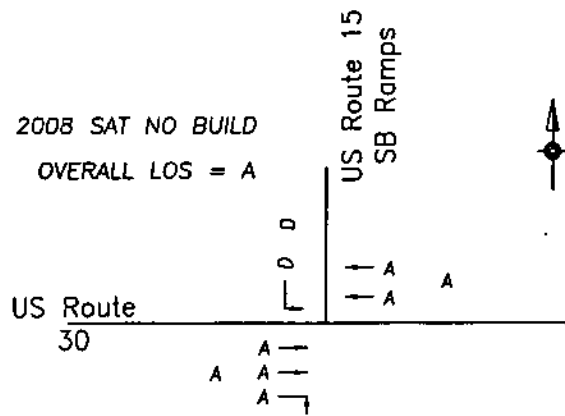
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Strabon Township, Adams County, PA

FIGURE 25
Levels of Service,
US Route 30 & US Route 15 Southbound Ramps
Weekday PM Peak Hour

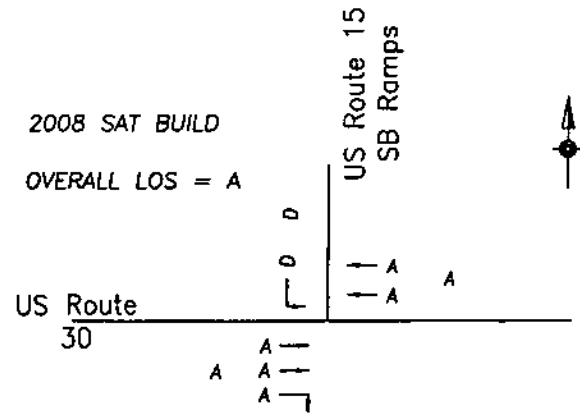
2006 SAT EXISTING
OVERALL LOS = A



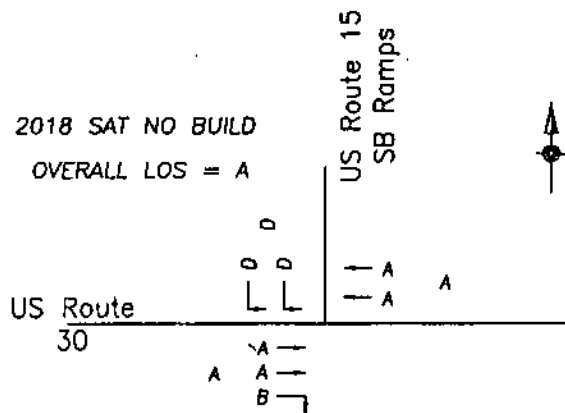
2008 SAT NO BUILD
OVERALL LOS = A



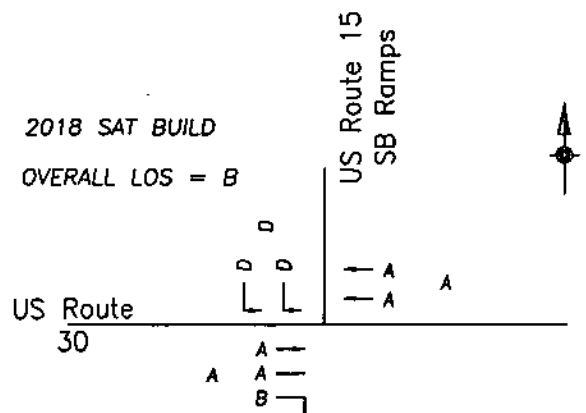
2008 SAT BUILD
OVERALL LOS = A



2018 SAT NO BUILD
OVERALL LOS = A



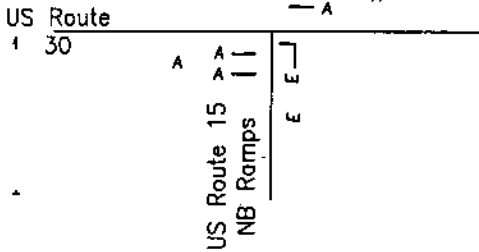
2018 SAT BUILD
OVERALL LOS = B



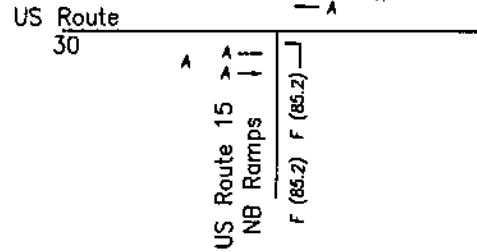
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 26
Levels of Service,
US Route 30 & US Route 15 Southbound Ramps
Saturday Peak Hour

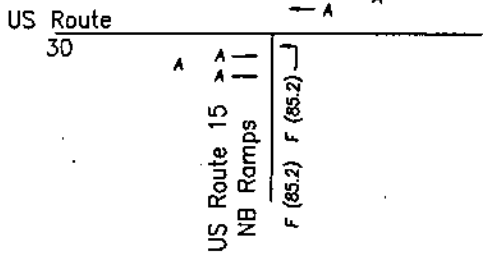
2006 PM EXISTING
OVERALL LOS = B



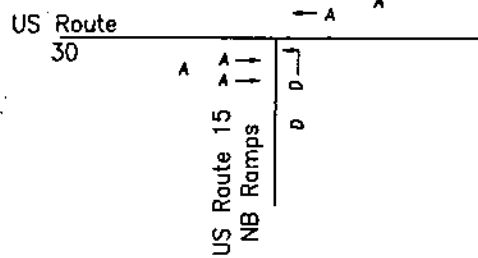
2008 PM NO BUILD
OVERALL LOS = B



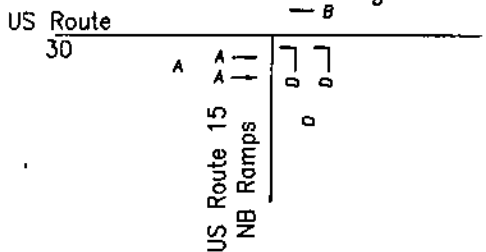
2008 PM BUILD
OVERALL LOS = B



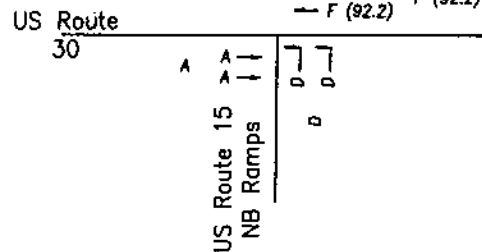
2008 PM BUILD WITH TIMING ADJUSTMENTS
OVERALL LOS = A



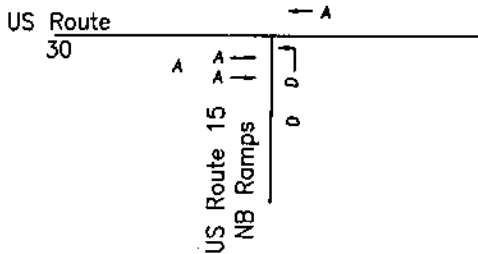
2018 PM NO BUILD
OVERALL LOS = B



2018 PM BUILD
OVERALL LOS = E



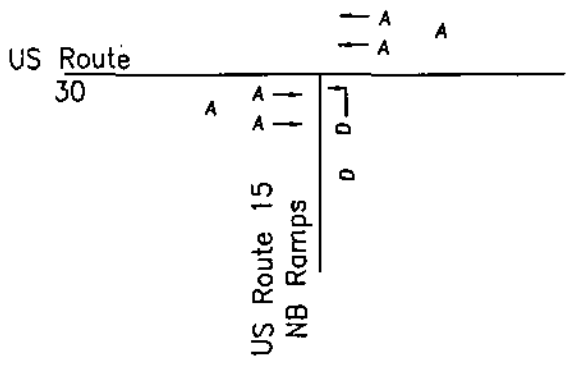
2018 PM BUILD WITH IMPROVEMENTS
OVERALL LOS = A



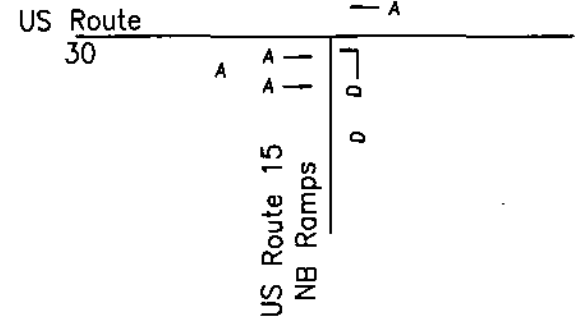
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 27
Levels of Service,
US Route 30 & US Route 15 Northbound Ramps
Weekday PM Peak Hour

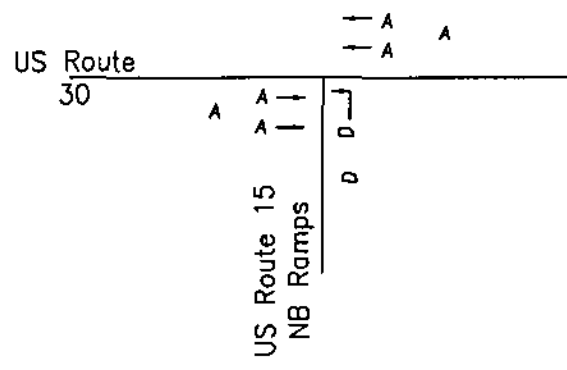
2006 SAT EXISTING
OVERALL LOS = A



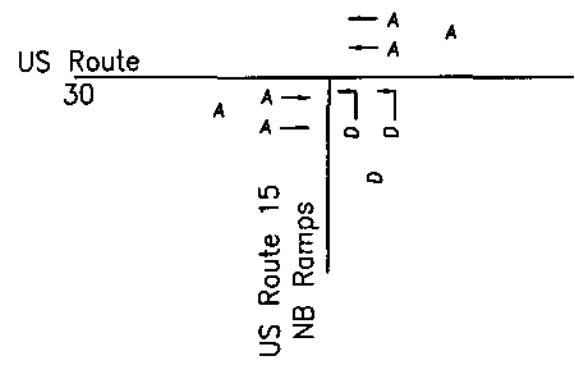
2008 SAT NO BUILD
OVERALL LOS = A



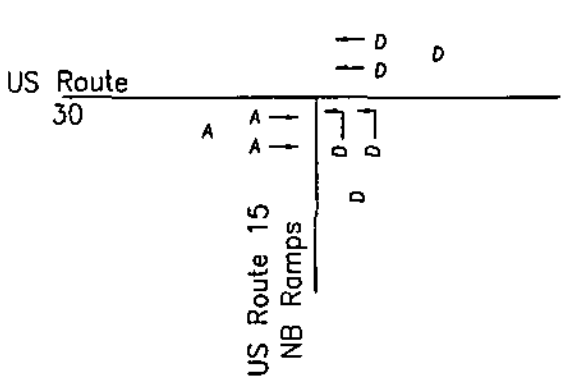
2008 SAT BUILD
OVERALL LOS = A



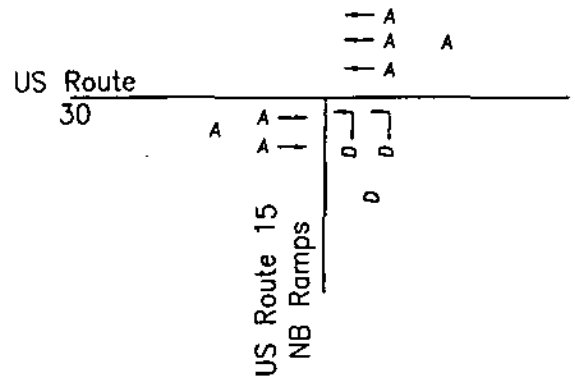
2018 SAT NO BUILD
OVERALL LOS = A



2018 SAT BUILD
OVERALL LOS = C



2018 SAT BUILD WITH IMPROVEMENTS
OVERALL LOS = A



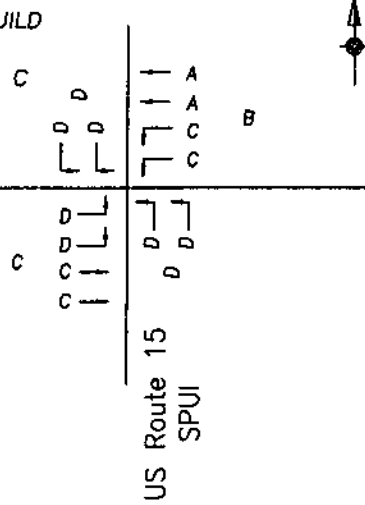
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 28
Levels of Service,
US Route 30 & US Route 15 Northbound Ramps
Saturday Peak Hour

2018 PM NO BUILD

OVERALL LOS = C

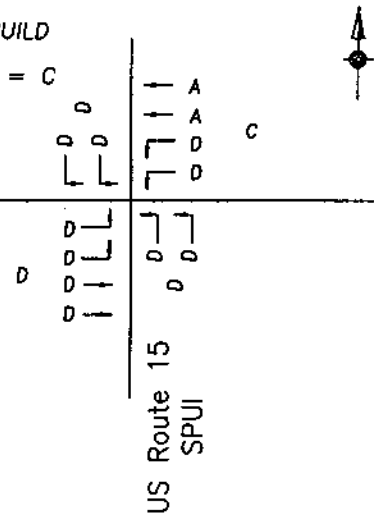
US Route
30



2018 PM BUILD

OVERALL LOS = C

US Route
30



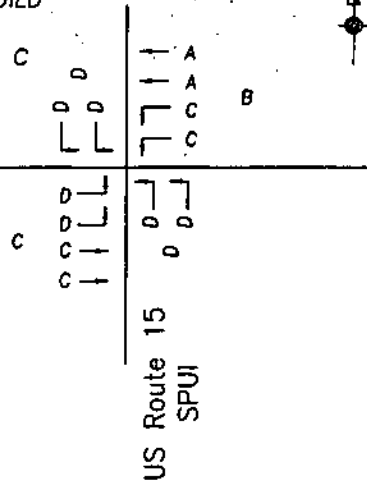
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

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

2018 SAT NO BUILD

OVERALL LOS = C

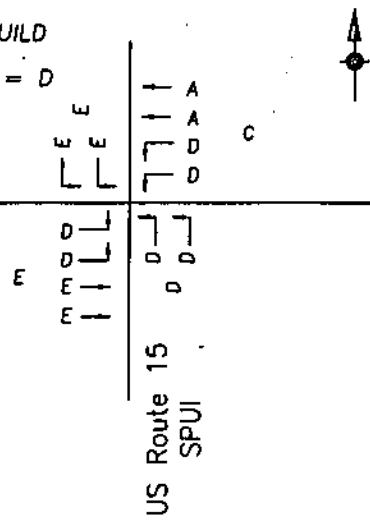
US Route
30



2018 SAT BUILD

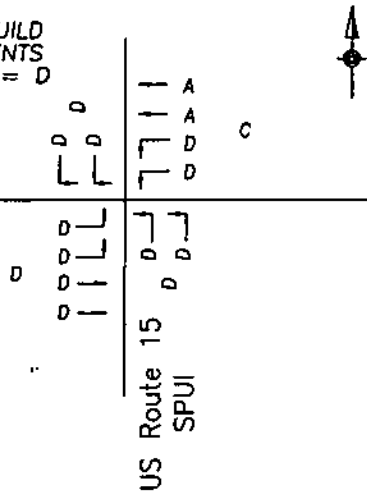
OVERALL LOS = D

US Route
30



2018 SAT BUILD
WITH IMPROVEMENTS
OVERALL LOS = D

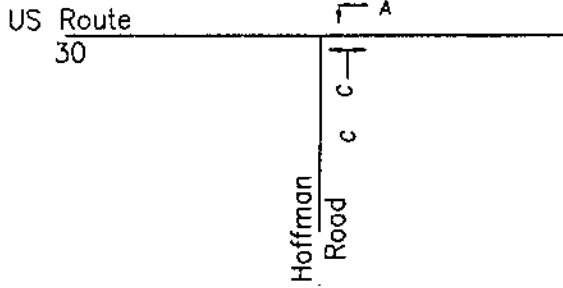
US Route
30



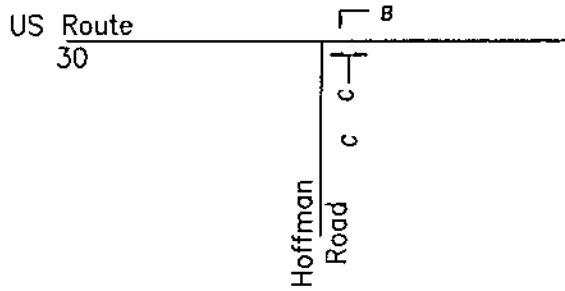
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

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

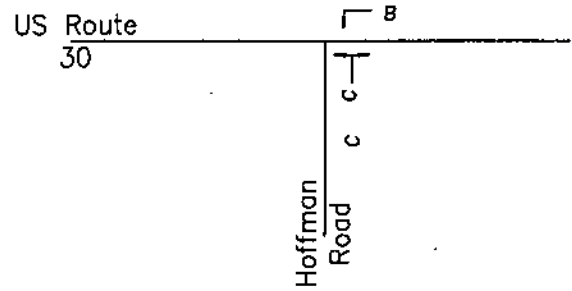
2006 PM EXISTING



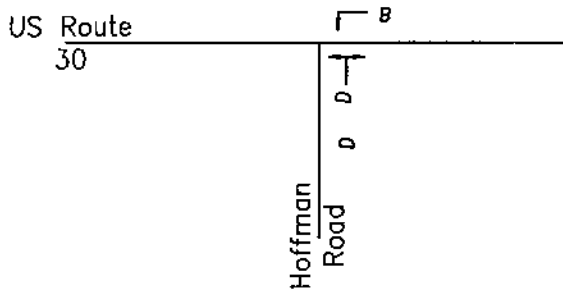
2008 PM NO BUILD



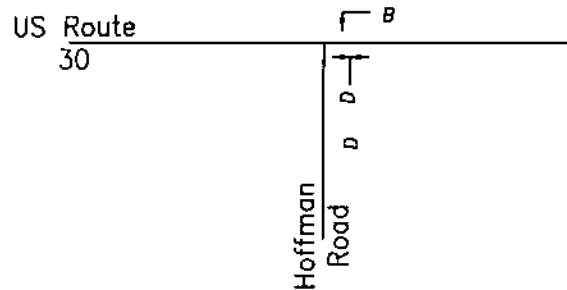
2018 PM BUILD



2018 PM NO BUILD



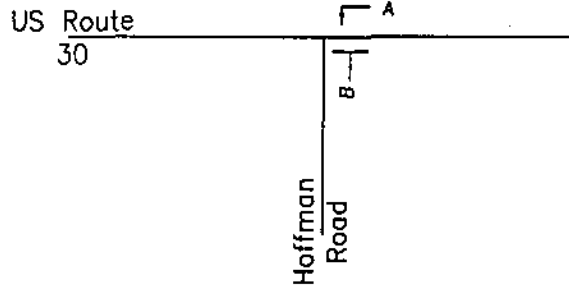
2018 PM BUILD



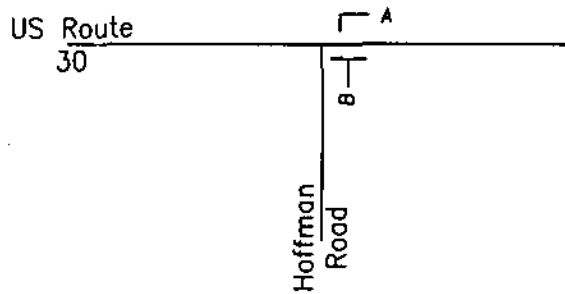
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

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

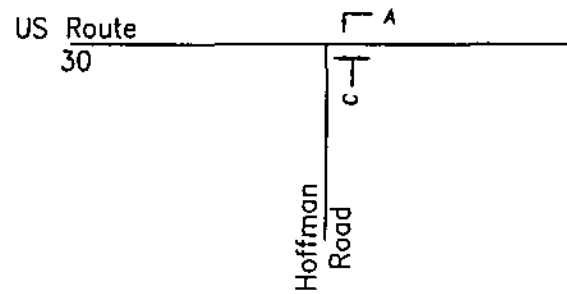
2006 SAT EXISTING



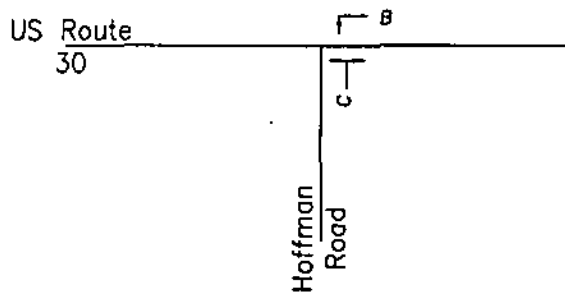
2008 SAT NO BUILD



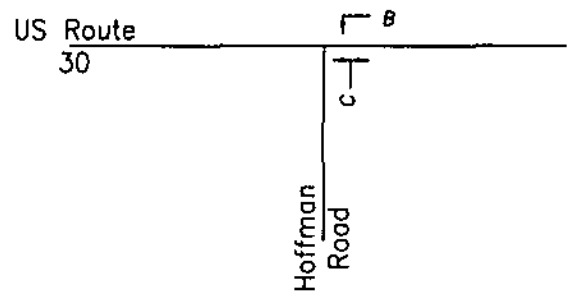
2018 SAT BUILD



2018 SAT NO BUILD



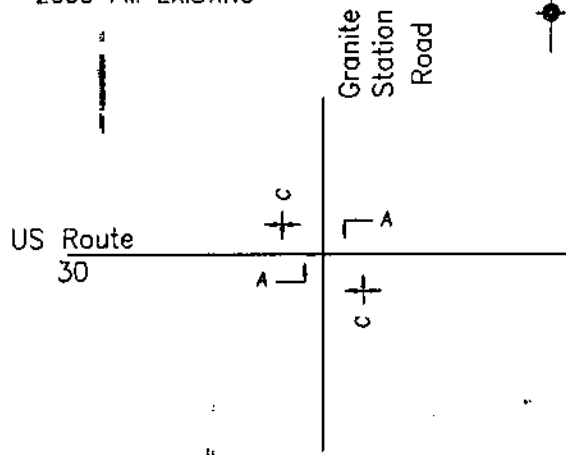
2018 SAT BUILD



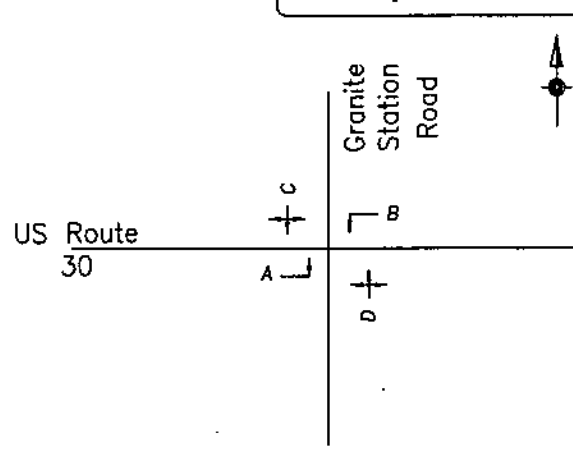
Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 32
 Levels of Service,
 US Route 30 & Hoffman Road,
 Saturday Peak Hour

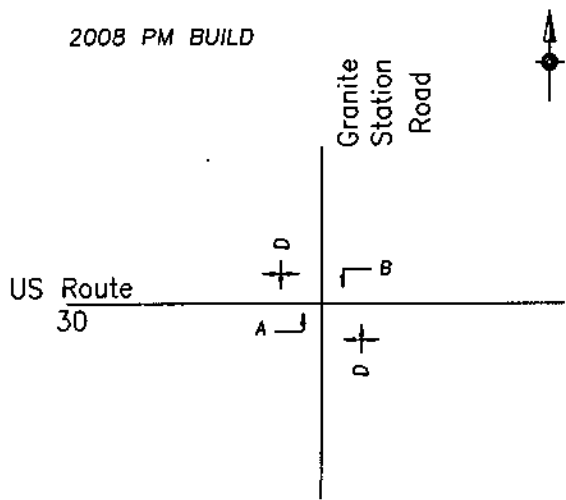
2006 PM EXISTING



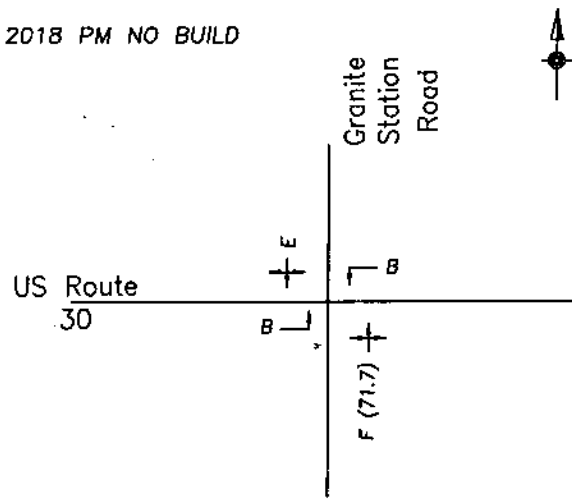
2008 PM NO BUILD



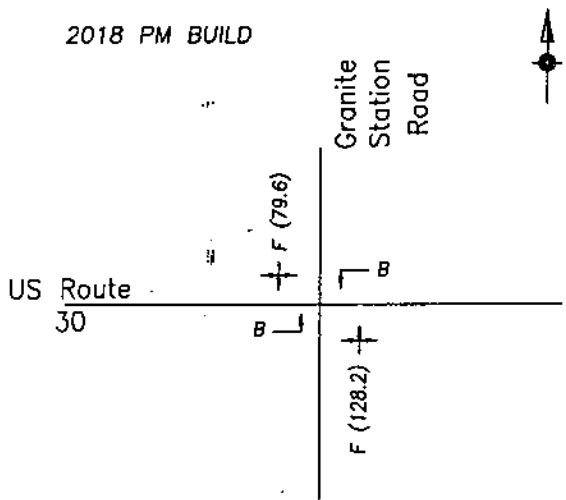
2008 PM BUILD



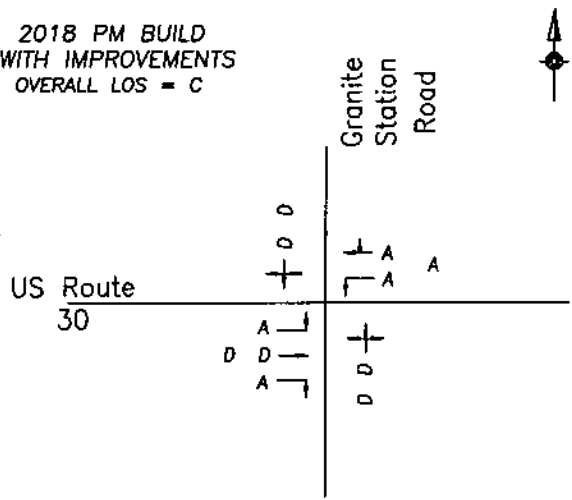
2018 PM NO BUILD



2018 PM BUILD

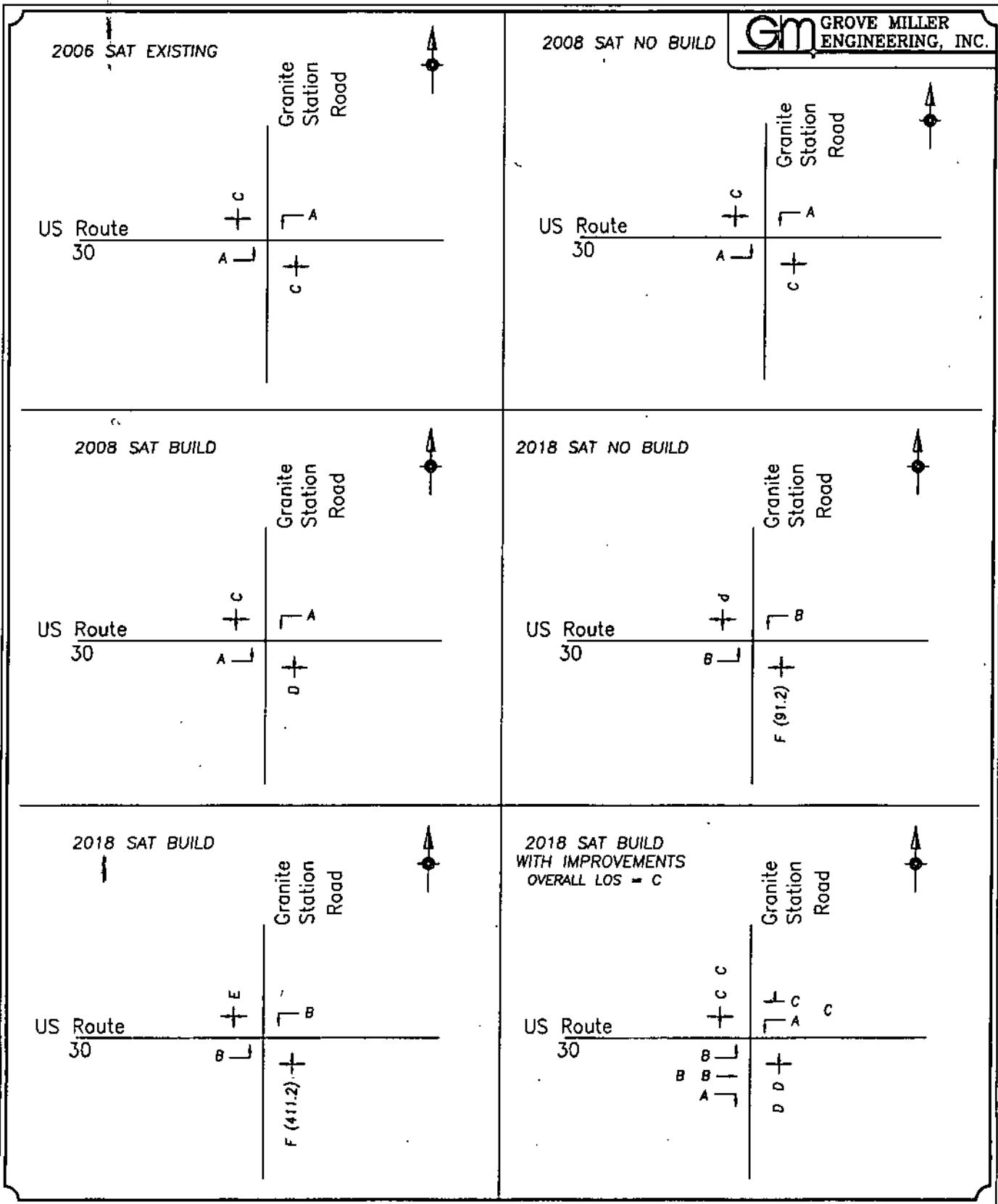


2018 PM BUILD WITH IMPROVEMENTS
OVERALL LOS = C



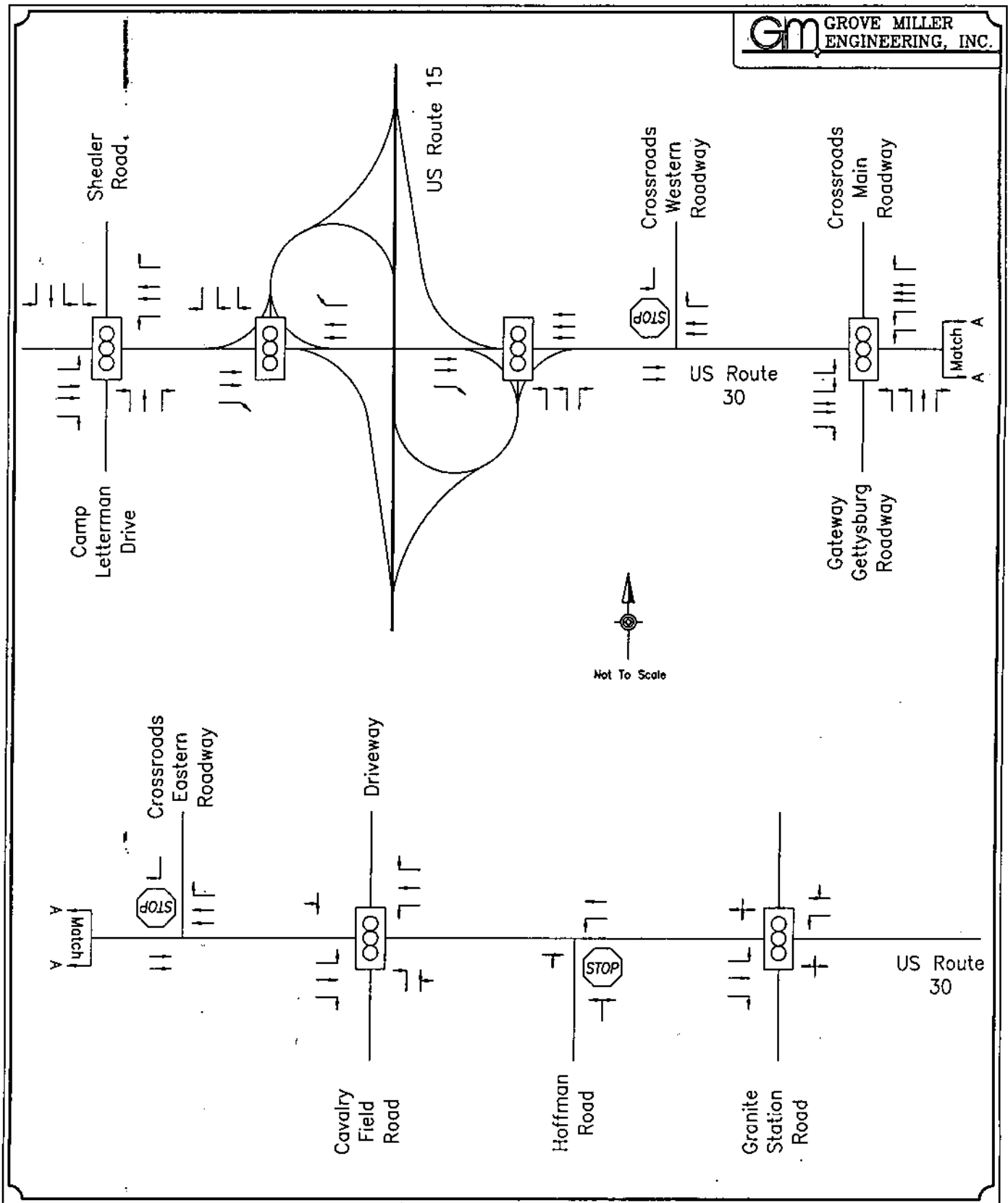
Traffic Impact Study
CROSSROADS GAMING RESORT AND SPA
Straban Township, Adams County, PA

FIGURE 33
Levels of Service,
US Route 30 & Granite Station Road,
Weekday PM Peak Hour



Traffic Impact Study
 CROSSROADS GAMING RESORT AND SPA
 Straban Township, Adams County, PA

FIGURE 34
 Levels of Service,
 US Route 30 & Granite Station Road,
 Saturday Peak Hour



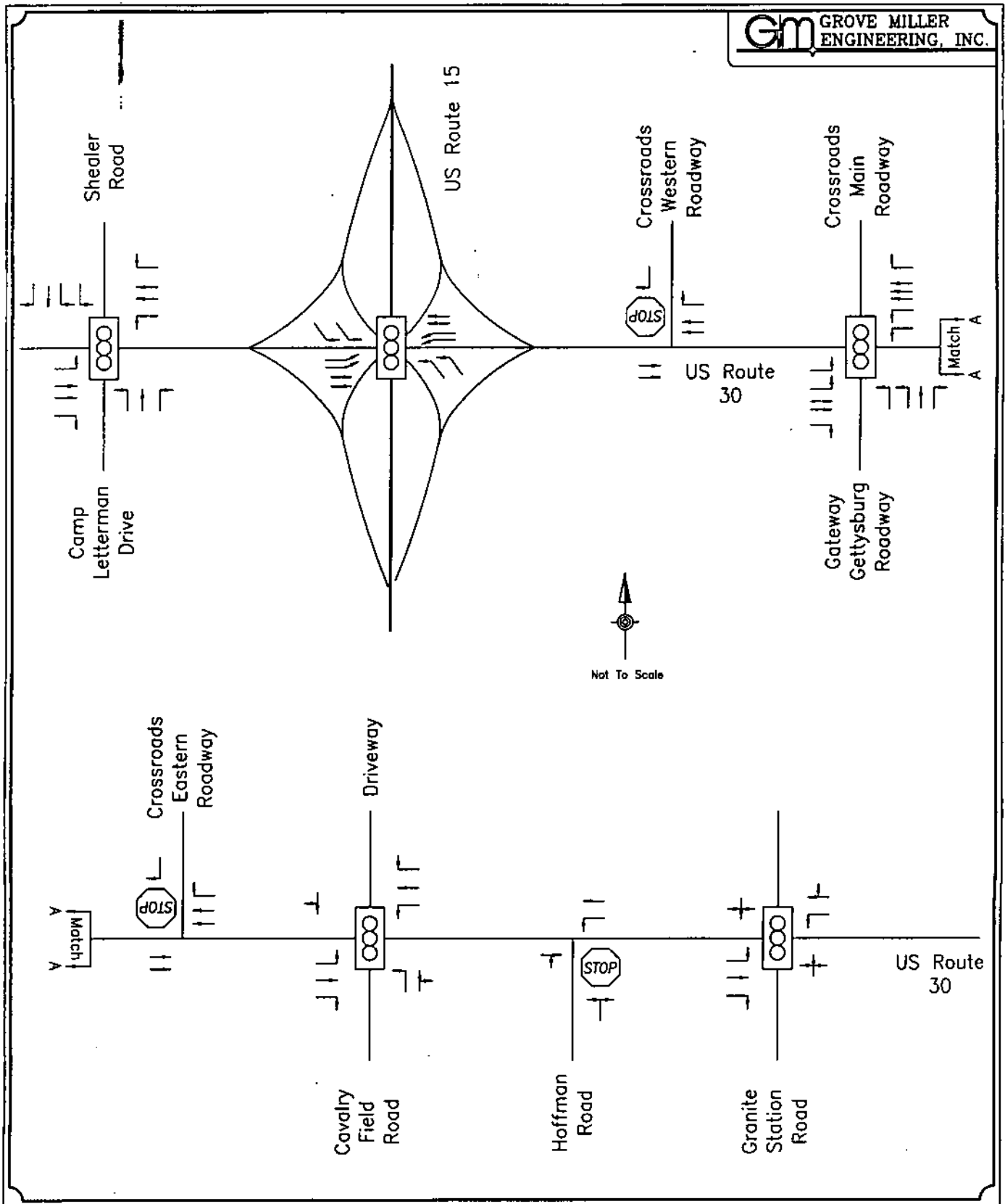
Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 35a

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



Traffic Impact Study

CROSSROADS GAMING RESORT AND SPA

Straban Township, Adams County, PA

FIGURE 35b

*Recommended Lane Configurations and Intersection Control,
with Proposed PENNDOT US 15/US 30 SPU1*