Mason-Dixon Resorts and Casino
Emmitsburg Road (S.R.3001)

Transportation Impact Study

Cumberland Township, Adams County

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March 2010

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TRG
TRANSPORTATION RESOURCE GROUP, INC.

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Project No. 388.01

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Executive Summary

A summary of key findings is presented below followed by the recommendations.

1. Currently on site is the Eisenhower Inn and Conference Center as well as the All-Star Family Fun & Sports Complex. Access to the existing facility is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road (S.R.3006). As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's needs. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001).

2. The following intersections were selected for detailed analysis based on discussions with Cumberland Township:

   - Emmitsburg Road (S.R.3001) / Barlow Greenmount Road (S.R.3006)
   - Emmitsburg Road (S.R.3001) / Existing Resort Driveway
   - Emmitsburg Road (S.R.3001) / U.S. Route 15 Southbound Ramps (2)
   - Emmitsburg Road (S.R.3001) / U.S. Route 15 Northbound Ramps

3. Currently, the study intersections operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

4. An accident analysis was performed at the study intersections. The analysis shows that there is not a safety problem at the study intersections.

5. In the year 2012 without the proposed development, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

6. In the year 2017 without the proposed development, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

7. The proposed Mason-Dixon Resorts and Casino is anticipated to generate an estimated 354 new trips during the typical weekday PM peak hour, 414 new trips during the Friday PM peak hour and 468 new trips during the Saturday peak hour. On a weekday basis, an estimated 5,958 trips will be generated.

8. In the year 2012 with the proposed Mason-Dixon Resorts and Casino, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours with the exception of the Emmitsburg Road (S.R.3001)/Existing Resort Driveway intersection, which will operate at an overall LOS F during the Saturday peak hour.

9. In the year 2017 with the proposed Mason-Dixon Resorts and Casino, the study intersections will operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours with the exception of the Emmitsburg Road (S.R.3001)/Existing Resort Driveway intersection, which will operate at an overall LOS F during the Saturday peak hour.

10. An improvement analysis was conducted to determine what improvements are required to mitigate the proposed development's site traffic. The results of the improvement analysis are as follows:

Emmitsburg Road (S.R.3001)/Existing Resort Driveway

Even though turn lanes are not warranted, an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. The analysis found that the Peak Hour Volume Warrant was met in the year 2012 during the Saturday peak hour. With a traffic signal, the intersection will operate at acceptable levels of service. The developer is willing to install a northbound right turn lane on Emmitsburg Road (S.R.3001) at the existing Resort Driveway. The improvement analysis and a queue analysis is summarized in Table A and Table B in the appendices. The northbound right turn lane is proposed to be 150 feet of storage and a 100 foot taper.

Emmitsburg Road (S.R.3001)/Route 15 Northbound Ramps

In the year 2017 during the Saturday peak hour, this intersection will operate at an overall LOS A (6.3 sec/veh delay) without the proposed development but will degrade to an overall LOS C (17.3 sec/veh delay) with the proposed development. Per PennDOT guidelines, the developer is required to mitigate the LOS if the LOS grade changes and the increase in overall intersection is greater than 10 seconds. In the year 2017, the delay increase from the "without development" scenario to "with development" scenario is 11.0 seconds. Therefore the developer is required to mitigate the site traffic. Even though turn lanes are not warranted on Emmitsburg Road (S.R.3001), an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. Based on the traffic counts, a traffic signal is not warranted at this intersection. The intersection only has a marginal degradation in levels of service and the intersection will still operate at acceptable overall levels of service in the year 2017 with the proposed development. Therefore, no improvements are recommended at this intersection.

11. With the proposed recommendations, safe and efficient site access can be obtained.

Recommendations

Based on the results of the traffic analysis, mitigating measures are required as part of this development. Only minor modifications are necessary since traffic volumes for a resort complex were anticipated in previous traffic planning for the tract of land. Traffic volumes have been lower than expected due to declining occupancy. Therefore, increased occupancy at the Mason-Dixon Resort will only help traffic reach slightly above previously expected levels. A summary of the recommendations to ensure safe and efficient traffic movements is presented below:

Site Access

1. The developer will install a traffic signal at the Emmitsburg Road (S.R.3001)/Existing Resort Driveway. The signal will be a two phase operation with the future possibility of coordination with future signals along Emmitsburg Road (S.R.3001). The developer will also construct a 150 foot northbound right turn lane on Emmitsburg Road (S.R.3001) at the existing resort driveway.

INTRODUCTION/PROJECT SUMMARY

This report describes the transportation impact analysis for the proposed Mason-Dixon Resorts and Casino development located to the east of Emmitsburg Road (S.R.3001) in Cumberland Township, Adams County, Pennsylvania. See Figure 1 in the Appendices for the site location. Currently on site is the Eisenhower Inn and Conference Center as well as the All-Star Family Fun & Sports Complex. Access to the existing facility is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road (S.R.3006). As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's need. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001). Figure 2 in the Appendices shows the site plan for the proposed development.

The purpose of this study is to identify significant traffic problems associated with the ability of the existing roadways to accommodate the volume of traffic anticipated from the development and to assure safe and efficient site access. If necessary, improvements will be recommended to mitigate the impact of development traffic on the surrounding roadway network. This study is prepared in accordance with PennDOT SOL 470-09-4 guidelines on traffic impact studies.

DATA COLLECTION

This section summarizes the data collected for the study as well as the methodology used to obtain the data in accordance with the scoping meeting application. Based on the characteristics of the proposed development, the following peak hours will be analyzed:

- Typical weekday PM peak hour (Thursday)
- Friday PM peak hour
- Saturday peak hour

Manual turning movement counts were conducted at the study intersections by Transportation Resource Group, Inc. (TRG), during typical weekday evening, Friday evening and Saturday in January and February 2010. The counts were conducted during the typical weekday evening hours from 3:00 PM to 6:00 PM, during the Friday evening hours from 4:00 PM to 7:00 PM and during the Saturday midday hours from 12:00 PM to 3:00 PM. Counts were recorded in 15-minute intervals, with the peak hour being selected from the four highest consecutive 15-minute periods. The existing January and February 2010 counts were seasonally factored utilizing PennDOT's Traffic Data Report. The TMC count summaries can be found in the Appendices. The following Thursday (PM), Friday (PM) and Saturday peak hours occurred at the study intersections:

Intersection	Typical Weekday PM Peak Hour	Friday Peak Hour	SAT Peak Hour
Emmitsburg Road (S.R.3001)/Barlow Greenmount Road (S.R.3006)	4:15 – 5:15 PM	4:30 – 5:30 PM	1:30 – 2:30 PM
Emmitsburg Road (S.R.3001)/Existing Resort Driveway	4:45 – 5:45 PM	4:00 – 5:00 PM	1:00 – 2:00 PM
Emmitsburg Road (S.R.300)/Route 15 SB Ramps	4:45 – 5:45 PM	4:00 – 5:00 PM	2:00 – 3:00 PM
Emmitsburg Road (S.R.3001)/Route 15 NB Ramps	4:45 – 5:45 PM	4:00 – 5:00 PM	1:30 – 2:30 PM

Due to the nature of the proposed development and the surrounding study area, gap analysis and travel time studies are not required and were not conducted for the study area roadways.

EXISTING STUDY AREA CONDITIONS

This section discusses the existing traffic conditions, land use context, roadway type and traffic controls in the study area. A description of the study area including the roadway network is also included in the section.

Study Area

The study area was selected based on those intersections that will be impacted the greatest by the proposed development and was confirmed with Cumberland Township. The following intersections were selected for further detailed analysis:

- Emmitsburg Road (S.R.3001)/Barlow Greenmount Road (S.R.3006)
- Emmitsburg Road S.R.3001)/Existing Resort Driveway
- Emmitsburg Road (S.R.3001)/Route 15 SB Ramps
- Emmitsburg Road (S.R.3001)/Route 15 NB Ramps

Surrounding Land Uses/Land Use Context

Currently on site is the Eisenhower Inn and Conference Center and All-Star Family Fun & Sports Complex. The proposed development is surrounded mostly by residential homes with a few commercial land uses along Emmitsburg Road (S.R.3001). The Boyd's Bear store is located to the west of Emmitsburg Road (S.R.3001).

Based on a "windshield screen" field view of the study area, the land use context of the study area is rural community collector.

Existing Transportation System

The major roadway system in the study area is comprised of state roadways. The following is a summary of the traffic control of the existing study area intersections:

<u>Emmitsburg Road (S.R.3001)/Barlow Greenmount Road (S.R.3006)</u>

This three legged intersection is controlled by a stop sign on the minor street approach of Barlow Greenmount Road (S.R.3006). Each approach is single lane.

Emmitsburg Road (S.R.3001)/Complex Driveway

This existing three-legged intersection is controlled by a stop sign on the minor street approach of the complex driveway. There are no turn lanes on any of the approaches.

Emmitsburg Road (S.R.3001)/Route 15 Southbound Ramps

This intersection is unsignalized and provides access to/from southbound Route 15. A stop sign and a channelized right turn island are on the Route 15 southbound off ramp at Emmistburg Road (S.R.3001). There are separate access points for traffic on Emmitsburg Road (S.R.3001) to enter the Route 15 southbound on ramp. The on ramp for southbound traffic on Emmitsburg Road (S.R.3001) is aligned with the Route 15 southbound off ramp while the on ramp for the northbound traffic on Emmitsburg Road (S.R.3001) is located further south. This intersection will be analyzed as two (2) separate intersections.

Emmitsburg Road (S.R.3001)/Route 15 Northbound Ramps

This four-legged intersection is controlled by a stop sign on the Route 15 northbound off ramp. The Route 15 northbound off ramp has a channelized right turn island.

Table 1 lists the roadway system characteristics for the study area road network.

TABLE 1
ROADWAY SYSTEM CHARACTERISTICS

Road Name	Ownership (State or Twp)	Orientation	Number of Lanes	Roadway Material	Speed Limit	ADT	Functional Class
Emmitsburg Road	S.R.3001	N-S	2	Asphalt	40	2,980	Minor Arterial
Barlow Greenmount Road	S.R.3006	N-S	2	Asphalt	40	525	Rural Minor Collector
Route 15	S.R.0015	N-S	4	Concrete	65	21,450	Principal Arterial Highway

The ADT volumes for the study roadways were obtained from PennDOT's ITMS website.

Pedestrian /Transit Facilities

Based on the characteristics of the surrounding study area, pedestrian facilities will not be provided along Emmitsburg Road (S.R.3001) as part of this development. Currently there are no pedestrian facilities provided along Emmitsburg Road (S.R.3001) in the area of the proposed development. There will be pedestrian facilities from the existing Eisenhower Hotel and Conference Center to the proposed casino on site. The local transit service does not have a fixed bus stop in the vicinity of the proposed development.

Traffic Volumes

Based on traffic characteristics of the development, weekday PM, Friday PM and Saturday peak hours were selected as the peak hours of operation. Existing peak hour traffic volumes were obtained from TMC counts conducted by TRG in January and February 2010. Figure 3 in the Appendices shows the existing typical weekday PM, Friday PM and Saturday peak hour traffic volumes at the study area intersections.

Level of Service/Capacity Analysis

This section discusses the existing levels of service and capacity analysis at the study intersections. The Highway Capacity Manual (2000) procedures were used to determine level of service (LOS) and capacity for intersections. Unsignalized intersections are rarely at capacity from an overall standpoint. Traffic movements from minor crossroads and major road left turns are largely affected by the distribution of gaps in the major street traffic stream, and motorist judgment in choosing gaps through which to execute their maneuvers. Gaps in the traffic stream depend on several factors, including the type of maneuvers being executed, type of minor street control, the average speed of the major street and geometric and environmental conditions. LOS criteria for unsignalized and signalized intersections are based on control delay (in seconds per vehicle) to motorists. Various factors affect delay, including traffic volumes, lane configurations and widths, traffic signal phasing and cycle lengths, trucks percentages, etc.

LOS ranges from "A" to "F" with "A" having the most favorable performance.

PENNDOT's "Policy and Procedures for Transportation Impact Studies" suggests new intersections must be designed to at least operate at an LOS C or better for rural conditions and an LOS D or better for urban conditions. Also, the overall intersection LOS for With Development scenarios should be no worse than Without Development scenarios per PennDOT's guidelines. Level of service ranges for unsignalized and signalized intersections can be found in Table 2.

TABLE 2
LEVEL OF SERVICE RANGES - UNSIGNALIZED AND SIGNALIZED INTERSECTIONS

Level of Service	Expected Traffic Delay	Average Control Delay (1)	Control Delay (2)
A	Little or No Delay	<10	<10
B	Short Traffic Delays	>10 and ≤15	>10 and ≤ 20
C	Average Traffic Delays	>15 and ≤ 25	>20 and ≤ 35
D	Long Traffic Delays	>25 and ≤ 35	>35 and ≤ 55
E	Very Long Traffic Delays	>35 and ≤ 50	>55 and ≤ 80
F	Failure, Extreme Congestion	>50	>80

(1) UNSIGNALIZED – SEC/VEH
(2) SIGNALIZED – SEC/VEH

Table A in the Appendices shows the results of the existing level of service analysis. The existing study intersections operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours. Figure 4 in the Appendices shows the existing level of service results at the study area intersections. Details of the level of service analysis can be found in the Appendices.

Crash Analysis

Crash data was obtained from PennDOT's Bureau of Highway Safety and Traffic Engineering for a five year period at the study intersections. This contains a summary of reportable accidents. A reportable accident is defined as an accident in which an injury or fatality occurs or one in which at least one of the vehicles is towed from the scene. The following summarizes the results of the crash data:

Emmitsburg Road (S.R.3001)/Barlow Greenmount Road (S.R.3006)

- No accidents were reported at this intersection during the five year period.

Emmitsburg Road (S.R.3001)/Route 15 SB Ramps

- No accidents were reported at this intersection during the five year period.

Emmitsburg Road (S.R.3001)/Route 15 NB Ramps

- No accidents were reported at this intersection during the five year period.

The analysis shows that the study intersection is not indicative of a safety problem. Details of the crash data analysis can be found in the Appendices.

OPENING YEAR (2012) TRAFFIC CONDITIONS WITHOUT DEVELOPMENT

This section discusses the opening year 2012 traffic conditions without the proposed Mason-Dixon Resorts and Casino. This section includes traffic volumes and level of service analysis at the study intersections.

Traffic Volumes

Some level of external traffic growth on the roadway system can be expected even without the proposed development. This growth can be attributed to a nominal increase in through traffic and traffic generated by developments outside the study area. A 0.86 percent average annual growth rate was used to factor the 2010 traffic counts to the year 2012 as recommended by PennDOT Bureau of Planning and Research's Table "Growth Factors for July 2009 to July 2010." The background growth volume additions can be found in the Appendices. Figure 5 in the Appendices shows the typical weekday PM, Friday PM and Saturday opening year (2012) without development traffic volumes at the study intersections.

Planned and Permitted Developments

There are no planned or permitted developments in the area per correspondence with Cumberland Township traffic engineer.

Level of Service/Capacity Analysis

A level of service analysis was conducted at the study intersections for the opening year (2012) without development scenario to determine the future level of service without the proposed development. Table A in the Appendices shows the results of the level of service analysis.

As shown in the analysis, the study intersections continue to operate at acceptable overall levels of service in the year 2012 without the proposed development. Figure 6 in the Appendices shows the level of service results for the opening (2012) year without development during the typical weekday PM, Friday PM and Saturday peak hours at the study intersections. Details of the level of service analysis can be found in the Appendices.

DESIGN HORIZON (2017) TRAFFIC CONDITIONS WITHOUT DEVELOPMENT

This section discusses the design horizon year 2017 traffic conditions without the proposed Mason-Dixon Resorts and Casino development traffic volumes. This section includes the traffic volumes and level of service analysis at the study intersections.

Traffic Volumes

Some level of external traffic growth on the roadway system can be expected even without the proposed development. This growth can be attributed to a nominal increase in through traffic and traffic generated by developments outside the study area. A 0.86 percent average annual growth rate was used to factor the 2010 traffic counts to the year 2017 as recommended by PennDOT Bureau of Planning and Research's Table "Growth Factors for July 2009 to July 2010." The background growth volume additions can be found in the Appendices. Figure 7 in the Appendices shows the typical weekday PM, Friday PM and Saturday design horizon (2017) year without development traffic volumes at the study intersections.

Level of Service/Capacity Analysis

A level of service analysis was conducted at the study intersections for the design horizon year (2017) without development scenario to determine the future level of service without the proposed development. Table A in the Appendices shows the results of the level of service analysis.

As shown in the analysis, the study intersections continue to operate at acceptable overall levels of service in the year 2017 without the proposed development. Figure 8 in the Appendices shows the level of service results for the design horizon year (2017) without development during the typical weekday PM, Friday PM and Saturday peak hours at the study intersections. Details of the level of service analysis can be found in the Appendices.

DEVELOPMENT DESCRIPTION

Proposed Development

Currently on site is the Eisenhower Inn and Conference Center as well as the All-Star Family Fun & Sports Complex. Access to the existing facility is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road (S.R.3006). As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's needs. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001).

Sight Distance Analysis

Intersection sight distance was field measured at the existing resort driveway intersecting Emmitsburg Road (S.R.3001) to determine if the available sight distance would exceed the PennDOT minimum and desirable site intersection sight distance. The required and measured intersection sight distances are shown below:

	Left			Right		
Intersection	Measured	Required	Desirable	Measured	Required	Desirable
Emmitsburg Road (S.R.3001)/ Existing Resort Driveway	+1,200'	319'	540'	507'	331'	450'

The available sight distance from the existing driveway exceeds the minimum and desirable sight distance. Details of the sight distance analysis can be found in the Appendices.

Site Trip Generation

The level of traffic likely to be generated by the proposed development has been estimated to determine the potential traffic impact on the study intersections. Estimated

site trips for the development were computed using the ITE article "Trip Generation *Characteristics of Small to Medium Casino*".

Table 2 summarizes the estimated site trip generation for the proposed development during the typical weekday PM, Friday PM and Saturday Peak hours.

TABLE 3
ESTIMATED SITE TRIP GENERATION

Land Use (Code)	PM Peak Hour (Thursday)			PM Peak Hour (Friday)			Saturday Peak			ADWT
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
Casino (600 slots)	186	168	354	216	198	414	252	216	468	5,958

Cumberland Township has adopted a Capital Improvement Plan to ensure that the Township is equipped to provide access and infrastructure to accommodate anticipated development in the Township. This development is located in the Transportation Service Area – South. The traffic impact fee for this service area is $2,210 per PM peak hour trip. The proposed development has 354 PM peak hour trips which equates to $782,340. The developer and the Township will need to coordinate regarding the traffic impact fee to determine if site traffic from the existing All Star Family & Sports Complex can be subtracted from the traffic impact fee calculations. Details of the trip generation can be found in the Appendices.

Modal Split

Because there is not sufficient pedestrian, bicycle, and transit facilities provided within the study area, a trip reduction due to modal split is not applicable and was not assumed for this study.

Site Trip Distribution and Assignment

Figure 9 in the appendices shows the trip distribution percentages for the site traffic on the major roadway system. Figure 10 in the Appendices shows the total site trip distribution and assignment of the proposed development on the major roadway system at full buildout of the proposed development. Site trip distribution was based on existing

traffic patterns, a marketing study for the casino and engineering judgment. The following trip distribution was assumed for the site trips generated by the proposed development:

- 9% oriented to/from the north on Emmitsburg Road (S.R.3001)
- 1% oriented to/from the east on Barlow Greenmount Road (S.R.3006)
- 50% oriented to/from the south on Route 15
- 38% oriented to/from the north on Route 15
- 2% oriented to/from the south on Emmitsburg Road (S.R.3001)

On a daily basis, the existing driveway on Emmitsburg Road (S.R.3001) will have an estimated ADT of 6,464 trips or 3,232 vehicles, which is a high volume operation. Details of the site trip distribution and assignment are included in the Appendices.

OPENING YEAR (2012) TRAFFIC CONDITIONS WITH DEVELOPMENT

Traffic Volumes

The opening year with development peak hour volumes were derived by combining existing traffic, growth in background and through traffic, and the site trips generated by the proposed Mason-Dixon Resorts and Casino. Figure 11 in the Appendices shows the typical weekday PM, Friday PM and Saturday opening year with development traffic volumes at the study intersections.

Level of Service/Capacity Analysis

A level of service analysis was conducted at the study area intersections for the opening year (2012) with development scenario to determine the level of service with the development. Table A in the Appendices shows the results of the level of service analysis.

As shown in the analysis, all study intersections operate at acceptable overall levels of service in the year 2012 with development, with the exception of the Emmitsburg Road (S.R.3001)/Existing Resort Driveway intersection. Figure 12 in the Appendices shows the level of service results for the opening year (2012) with development during the typical weekday PM, Friday PM and Saturday peak hours at the study intersections. Details of the level of service analysis can be found in the Appendices.

Turn Lane Analysis

The need for a left turn and right turn lane at the site access intersection with Emmitsburg Road (S.R.3001) was analyzed with opening year (2012) with development traffic volumes utilizing PennDOT guidelines outlined in Publication 46 Chapter 11.17. The analysis found that a right turn lane nor left turn lane are not warranted at the site access intersection with 2012 traffic volumes. Details of the turn lane analysis can be found in the Appendices.

DESIGN HORIZON YEAR (2017) TRAFFIC CONDITIONS WITH DEVELOPMENT

Traffic Volumes

The design horizon year (2017) with development peak hour volumes were derived by combining existing traffic, growth in background and through traffic, and the site trips generated by the proposed Mason-Dixon Resorts and Casino. Figure 13 in the Appendices shows the typical weekday PM, Friday PM and Saturday design horizon year (2017) with development traffic volumes at the study intersections.

Level of Service/Capacity Analysis

A level of service analysis was conducted at the study area intersections for the design horizon year (2017) with development scenario to determine the level of service with the development. Table A in the Appendices shows the results of the level of service analysis.

As shown in the analysis, all study intersections operate at acceptable overall levels of service in the year 2017 with development, with the exception of the Emmitsburg Road (S.R.3001)/Existing Resort Driveway intersection. Figure 14 in the Appendices shows the level of service results for the design horizon year (2017) with development during the typical weekday PM, Friday PM and Saturday peak hours at the study intersections. Details of the level of service analysis can be found in the Appendices.

Turn Lane Analysis

The need for a left turn and right turn lane at the site access intersection with Emmitsburg Road (S.R.3001) was analyzed with design horizon year (2017) with development traffic volumes utilizing PennDOT guidelines outlined in Publication 46 Chapter 11.1. The analysis found that a right turn lane nor left turn are not warranted at the site access intersection with 2017 traffic volumes. Details of the turn lane analysis can be found in the Appendices.

MITIGATION IDENTIFICATION

An improvement analysis was conducted to determine what improvements are required to mitigate the proposed development's site traffic. The results of the improvement analysis are as follows:

Emmitsburg Road (S.R.3001)/Existing Resort Driveway

Even though turn lanes are not warranted, an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. The analysis found that the Peak Hour Volume Warrant was met in the year 2012 during the Saturday peak hour. With a traffic signal, the intersection will operate at acceptable levels of service. The developer is willing to install a northbound right turn lane on Emmitsburg Road (S.R.3001) at the existing Resort Driveway. The improvement analysis and a queue analysis is summarized in Table A and Table B in the appendices. The northbound right turn lane is proposed to be 150 feet of storage and a 100 foot taper.

Emmitsburg Road (S.R.3001)/Route 15 Northbound Ramps

In the year 2017 during the Saturday peak hour, this intersection will operate at an overall LOS A (6.3 sec/veh delay) without the proposed development but will degrade to an overall LOS C (17.3 sec/veh delay) with the proposed development. Per PennDOT guidelines, the developer is required to mitigate the LOS if the LOS grade changes and the increase in overall intersection is greater than 10 seconds. In the year 2017, the delay increase from the "without development" scenario to "with development" scenario is 11.0 seconds. Therefore the developer is required to mitigate the site traffic. Even though turn lanes are not warranted on Emmitsburg Road (S.R.3001), an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. Based on the traffic counts, a traffic signal is not warranted at this intersection. The intersection only has a marginal degradation in levels of service and the intersection will still operate at acceptable overall levels of service in the year 2017 with the proposed development. Therefore, no improvements are recommended at this intersection.

Details of the improvement/mitigation analysis can be found in the Appendices.

CONCLUSIONS and RECOMMENDATIONS

A summary of key findings is presented below followed by the recommendations.

1. Currently on site is the Eisenhower Inn and Conference Center as well as the All-Star Family Fun & Sports Complex. Access to the existing facility is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road (S.R.3006). As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's needs. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001).

2. The following intersections were selected for detailed analysis based on discussions with Cumberland Township:

   - Emmitsburg Road (S.R.3001) / Barlow Greenmount Road (S.R.3006)
   - Emmitsburg Road (S.R.3001) / Existing Resort Driveway
   - Emmitsburg Road (S.R.3001) / U.S. Route 15 Southbound Ramps (2)
   - Emmitsburg Road (S.R.3001) / U.S. Route 15 Northbound Ramps

3. Currently, the study intersections operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

4. An accident analysis was performed at the study intersections. The analysis shows that there is not a safety problem at the study intersections.

5. In the year 2012 without the proposed development, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

6. In the year 2017 without the proposed development, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours.

7. The proposed Mason-Dixon Resorts and Casino is anticipated to generate an estimated 354 new trips during the typical weekday PM peak hour, 414 new trips during the Friday PM peak hour and 468 new trips during the Saturday peak hour. On a weekday basis, an estimated 5,958 trips will be generated.

8. In the year 2012 with the proposed Mason-Dixon Resorts and Casino, the study intersections will continue to operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours with the exception of the Emmitsburg Road (S.R.3001)/Existing Complex Driveway

intersection, which will operate at an overall LOS F during the Saturday peak hour.

9. In the year 2017 with the proposed Mason-Dixon Resorts and Casino, the study intersections will operate at acceptable overall levels of service during the typical weekday PM, Friday PM and Saturday peak hours with the exception of the Emmitsburg Road (S.R.3001)/Existing Complex Driveway intersection, which will operate at an overall LOS F during the Saturday peak hour.

10. An improvement analysis was conducted to determine what improvements are required to mitigate the proposed development's site traffic. The results of the improvement analysis are as follows:

Emmitsburg Road (S.R.3001)/Existing Resort Driveway

Even though turn lanes are not warranted, an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. The analysis found that the Peak Hour Volume Warrant was met in the year 2012 during the Saturday peak hour. With a traffic signal, the intersection will operate at acceptable levels of service. The developer is willing to install a northbound right turn lane on Emmitsburg Road (S.R.3001) at the existing Resort Driveway. The improvement analysis and a queue analysis is summarized in Table A and Table B in the appendices. The northbound right turn lane is proposed to be 150 feet of storage and a 100 foot taper.

Emmitsburg Road (S.R.3001)/Route 15 Northbound Ramps

In the year 2017 during the Saturday peak hour, this intersection will operate at an overall LOS A (6.3 sec/veh delay) without the proposed development but will degrade to an overall LOS C (17.3 sec/veh delay) with the proposed development. Per PennDOT guidelines, the developer is required to mitigate the LOS if the LOS grade changes and the increase in overall intersection is greater than 10 seconds. In the year 2017, the delay increase from the "without development" scenario to "with development" scenario is 11.0 seconds. Therefore the developer is required to mitigate the site traffic. Even though turn lanes are not warranted on Emmitsburg Road (S.R.3001), an improvement analysis was conducted at this intersection to determine if turn lanes would mitigate the proposed development site traffic. The turn lanes do not mitigate the proposed development's site traffic. PennDOT does not permit the minor street approaches to have separate turn lanes at an unsignalized intersection. Therefore, a traffic signal warrant analysis was conducted. Based on the traffic counts, a traffic signal is not warranted at this intersection. The intersection only has a marginal degradation in levels of service and the intersection will still operate at acceptable overall levels of service in the

year 2017 with the proposed development. Therefore, no improvements are recommended at this intersection.

11. With the proposed recommendations, safe and efficient site access can be obtained.

RECOMMENDATIONS

Based on the results of the traffic analysis, mitigating measures are required as part of this development. Only minor modifications are necessary since traffic volumes for a resort complex were anticipated in previous traffic planning for the tract of land. Traffic volumes have been lower than expected due to declining occupancy. Therefore, increased occupancy at the Mason-Dixon Resort will only help traffic reach slightly above previously expected levels. A summary of the recommendations to ensure safe and efficient traffic movements is presented below:

Site Access

1. The developer will install a traffic signal at the Emmitsburg Road (S.R.3001)/Existing Resort Driveway. The signal will be a two phase operation with the future possibility of coordination with future signals along Emmitsburg Road (S.R.3001). The developer will also construct a 150 foot northbound right turn lane on Emmitsburg Road (S.R.3001) at the existing resort driveway.

APPENDICES

LEVEL OF SERVICE/ QUEUE TABLES

Table A
Intersection Level of Service Results

Intersection	Approach (Movement)	Existing Traffic Volumes			Opening Year 2012 Traffic Volumes w/out Development			Opening Year 2012 Traffic Volumes with Development			Opening Year 2012 Traffic Volumes with Development and Improvements		
		PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT
Emmitsburg Road (S.R.3001) / Barlow Greenmount Road (S.R.3006)	WB	A (9.6)	A (9.8)	B (10.6)	A (9.6)	A (9.9)	B (10.6)	A (9.9)	B (10.2)	B (11.1)	-	-	-
	SBL	A (1.4)	A (1.5)	A (0.5)	A (1.4)	A (1.4)	A (0.5)	A (1.3)	A (1.2)	A (0.4)	-	-	-
	Overall	A (1.4)	A (1.2)	A (1.3)	A (1.4)	A (1.1)	A (1.3)	A (1.3)	A (1.1)	A (1.3)	-	-	-
Emmitsburg Road (S.R.3001) / All-Star Driveway	WB	A (9.5)	A (9.4)	B (10.5)	A (9.6)	A (9.4)	B (10.6)	C (20.8)	C (22.1)	F (216.8)	B (10.3)	C (22.0)	B (14.3)
	NB										A (8.7)	A (7.2)	B (13.3)
	(NBT)	-	-	-	-	-	-	-	-	-	A (8.4)	A (7.0)	B (13.6)
	(NBR)	-	-	-	-	-	-	-	-	-	A (8.6)	A (7.3)	B (13.2)
	SB										A (8.7)	A (7.6)	B (15.8)
	(SBL)	A (0.8)	A (1.7)	A (1.0)	A (0.8)	A (1.7)	A (1.0)	A (2.4)	A (3.5)	A (2.9)	-	-	-
	(SBLT)	-	-	-	-	-	-	-	-	-	A (8.7)	A (7.6)	B (15.8)
	Overall	A (0.8)	A (1.1)	A (1.4)	A (0.8)	A (1.1)	A (1.3)	A (6.9)	A (7.4)	F (65.3)	A (9.1)	B (12.1)	B (14.2)
Emmitsburg Road (S.R.3001) / Route 15 Southbound Off Ramp	EB	B (11.2)	B (10.8)	B (10.4)	B (11.5)	B (10.8)	B (10.4)	C (15.2)	B (14.3)	C (15.8)	-	-	-
	Overall	A (2.6)	A (3.0)	A (2.7)	A (2.5)	A (3.0)	A (2.7)	A (3.4)	A (3.6)	A (3.8)	-	-	-
Emmitsburg Road (S.R.3001) / Route 15 Southbound On Ramp	NBL	A (0.7)	A (0.9)	A (0.5)	A (0.7)	A (0.9)	A (0.5)	A (0.6)	A (0.6)	A (0.3)	-	-	-
	Overall	A (0.5)	A (0.5)	A (0.3)	A (0.5)	A (0.5)	A (0.3)	A (0.4)	A (0.4)	A (0.2)	-	-	-
Emmitsburg Road (S.R.3001) / Route 15 Northbound Ramps	WB	B (12.2)	B (11.8)	B (11.8)	B (12.4)	B (12.0)	B (11.9)	C (23.1)	C (22.5)	D (29.4)	-	-	-
	SBL	A (3.1)	A (2.5)	A (3.6)	A (3.1)	A (2.5)	A (3.6)	A (5.2)	A (4.7)	A (5.5)	-	-	-
	Overall	A (7.0)	A (5.4)	A (6.1)	A (7.1)	A (5.4)	A (6.2)	A (13.8)	A (11.8)	C (16.3)	-	-	-

Intersection	Approach (Movement)	Existing Traffic Volumes			Design Horizon Year 2017 Traffic Volumes w/out Development			Design Horizon Year 2017 Traffic Volumes with Development			Design Horizon Year 2017 Traffic Volumes with Development and Improvements		
		PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT	PM (Weekday)	PM (Friday)	SAT
Emmitsburg Road (S.R.3001) / Barlow Greenmount Road (S.R.3006)	WB	A (9.6)	A (9.8)	B (10.6)	A (9.7)	A (9.9)	B (10.6)	A (10.0)	B (10.3)	B (11.3)	-	-	-
	SBL	A (1.4)	A (1.5)	A (0.5)	A (1.5)	A (1.5)	A (0.5)	A (1.3)	A (1.3)	A (0.4)	-	-	-
	Overall	A (1.4)	A (1.2)	A (1.3)	A (1.4)	A (1.2)	A (1.3)	A (1.4)	A (1.1)	A (1.3)	-	-	-
Emmitsburg Road (S.R.3001) / All-Star Driveway	WB	A (9.5)	A (9.4)	B (10.5)	A (9.6)	A (9.5)	B (10.7)	C (21.4)	C (23.0)	F (236.9)	C (25.2)	C (22.0)	C (23.1)
	NB										A (7.8)	A (7.2)	B (13.5)
	(NBT)	-	-	-	-	-	-	-	-	-	A (8.6)	A (7.0)	B (13.5)
	(NBR)	-	-	-	-	-	-	-	-	-	A (7.9)	A (7.3)	B (13.5)
	SB										A (8.9)	A (7.9)	B (15.9)
	(SBL)	A (0.8)	A (1.7)	A (1.0)	A (0.8)	A (1.7)	A (1.1)	A (2.4)	A (3.5)	A (2.9)	-	-	-
	(SBLT)	-	-	-	-	-	-	-	-	-	A (8.9)	A (7.9)	B (15.9)
	Overall	A (0.8)	A (1.1)	A (1.4)	A (0.8)	A (1.1)	A (1.4)	A (6.9)	A (7.6)	F (73.8)	B (12.3)	B (12.1)	B (18.1)
Emmitsburg Road (S.R.3001) / Route 15 Southbound Off Ramp	EB	B (11.2)	B (10.8)	B (10.4)	B (11.6)	B (11.0)	B (10.6)	C (15.7)	B (14.6)	C (16.3)	-	-	-
	Overall	A (2.6)	A (3.0)	A (2.7)	A (2.5)	A (3.1)	A (2.8)	A (3.4)	A (3.7)	A (4.0)	-	-	-
Emmitsburg Road (S.R.3001) / Route 15 Southbound On Ramp	NBL	A (0.7)	A (0.9)	A (0.5)	A (0.7)	A (0.9)	A (0.5)	A (0.6)	A (0.7)	A (0.3)	-	-	-
	Overall	A (0.5)	A (0.5)	A (0.3)	A (0.5)	A (0.5)	A (0.3)	A (0.4)	A (0.4)	A (0.2)	-	-	-
Emmitsburg Road (S.R.3001) / Route 15 Northbound Ramps	WB	B (12.2)	B (11.8)	B (11.8)	B (12.7)	B (12.2)	B (12.2)	C (24.7)	C (23.8)	D (31.8)	-	-	-
	SBL	A (3.1)	A (2.5)	A (3.6)	A (3.1)	A (2.5)	A (3.6)	A (5.1)	A (4.6)	A (5.5)	-	-	-
	Overall	A (7.0)	A (5.4)	A (6.1)	A (7.2)	A (5.5)	A (6.3)	A (14.5)	A (12.3)	C (17.3)	-	-	-

Table B
Queue Analysis (In Feet)

Intersection	Approach (Movement)	Existing Storage / Proposed Storage (in feet)	Existing Traffic Volumes						2012 Traffic Volumes without Development						2012 Traffic Volumes with Development						2012 Traffic Volumes with Development and Improvements					
			PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Emmitsburg Road (SR 3001) / Existing Resort Driveway	WBLR	-	-	1	-	2	-	6	-	2	-	2	-	6	-	85	-	95	-	718	33	60	78	111	114	78
	NBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	43	20	53	33	68
	NBR	0 / 150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	21	0	10
	SBL	-	-	1	-	2	-	1	-	1	-	2	-	1	-	3	-	5	-	5	0	0	0	0	0	0
	SBLT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	55	32	71	53	138
Emmitsburg Road (SR 3001) / Barlow Greenmount Road (SR 3006)	WBLR	-	-	3	-	2	-	8	-	3	-	2	-	8	-	4	-	3	-	9	-	-	-	-	-	-
	SBL	-	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 SB Off Ramp	WBLR	-	-	18	-	15	-	18	-	17	-	16	-	17	-	47	-	41	-	63	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 SB On Ramp (NBL)	NBL	-	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 NB On-Off Ramp	EBLTR	-	-	34	-	21	-	20	-	35	-	21	-	21	-	115	-	89	-	131	-	-	-	-	-	-
	SBL	-	-	2	-	2	-	3	-	2	-	2	-	3	-	6	-	8	-	9	-	-	-	-	-	-

Table B
Queue Analysis (In Feet)

Intersection	Approach (Movement)	Existing Storage / Proposed Storage (in feet)	Existing Traffic Volumes						2017 Traffic Volumes without Development						2017 Traffic Volumes with Development						2017 Traffic Volumes with Development and Improvements					
			PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak		PM (Weekday)		PM (Friday)		Saturday Peak	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Emmitsburg Road (SR 3001) / Existing Resort Driveway	WBLR	-	-	1	-	2	-	6	-	2	-	2	-	6	-	88	-	99	-	758	88	97	78	111	176	78
	NBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	49	21	55	39	70
	NBR	0 / 150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	21	0	10
	SBL	-	-	1	-	2	-	1	-	1	-	2	-	1	-	3	-	5	-	5	0	0	0	0	0	0
	SBLT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	63	34	74	64	140
Emmitsburg Road (SR 3001) / Barlow Greenmount Road (SR 3006)	WBLR	-	-	3	-	2	-	8	-	3	-	2	-	8	-	4	-	3	-	10	-	-	-	-	-	-
	SBL	-	-	1	-	1	-	1	-	1	-	1	-	1	-	2	-	1	-	1	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 SB Off Ramp	WBLR	-	-	18	-	15	-	16	-	18	-	17	-	18	-	50	-	44	-	67	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 SB On Ramp	NBL	-	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	-	-	-	-	-
Emmitsburg Road (SR 3001) / Route 15 NB On-Off Ramp	EBLTR	-	-	34	-	21	-	20	-	35	-	23	-	22	-	126	-	96	-	141	-	-	-	-	-	-
	SBL	-	-	2	-	2	-	3	-	2	-	2	-	3	-	7	-	8	-	10	-	-	-	-	-	-

EXISTING CONDITIONS

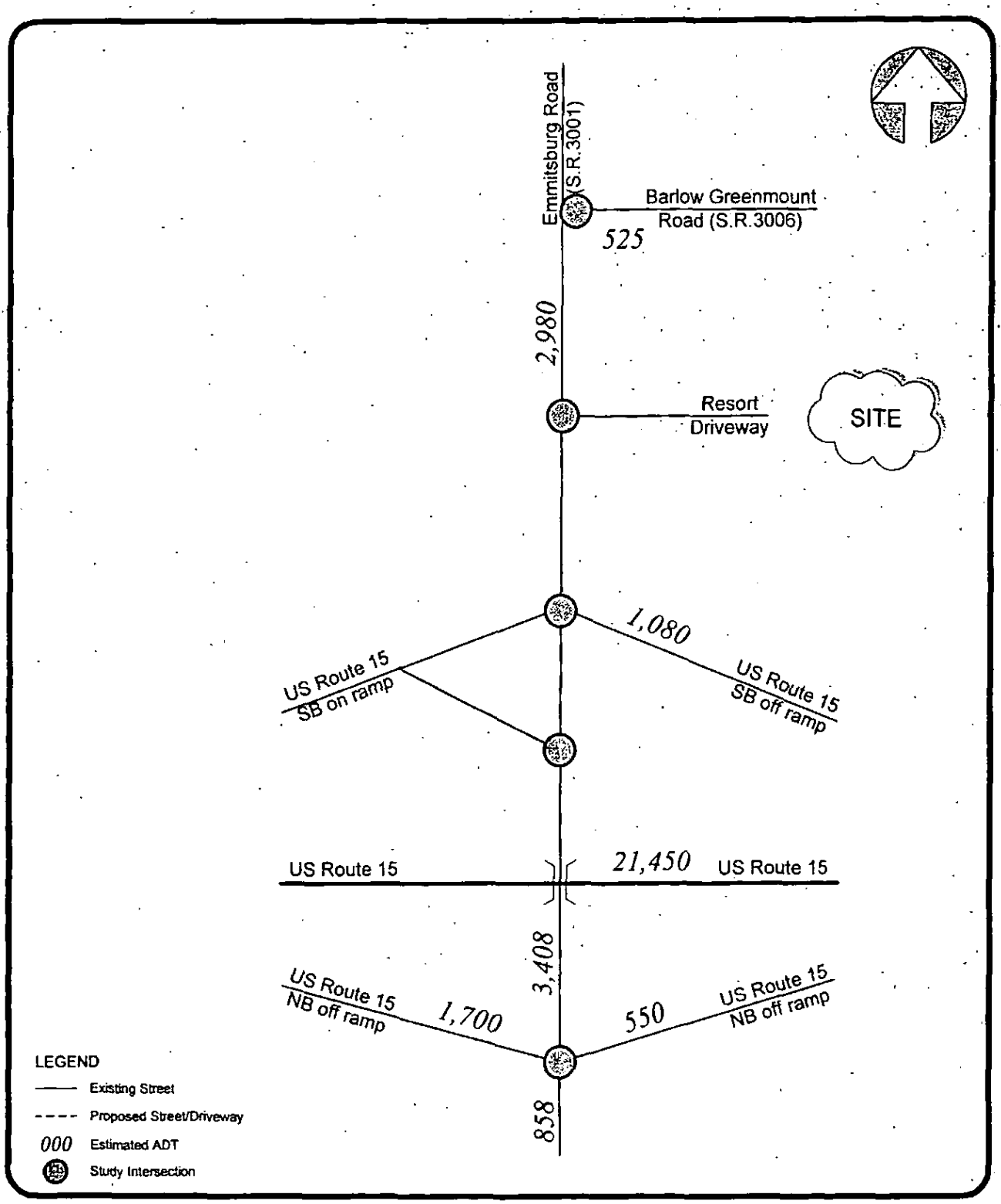

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FIGURE 1

STUDY AREA

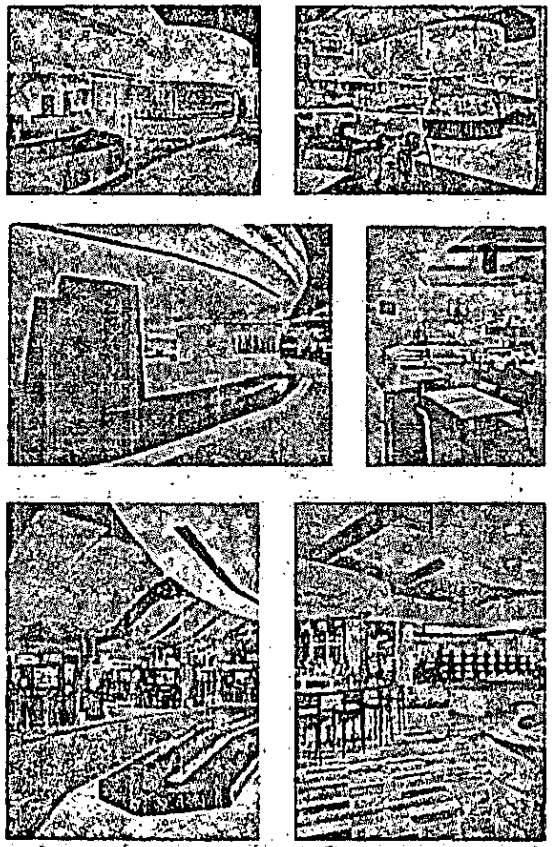
TRANSPORTATION IMPACT STUDY

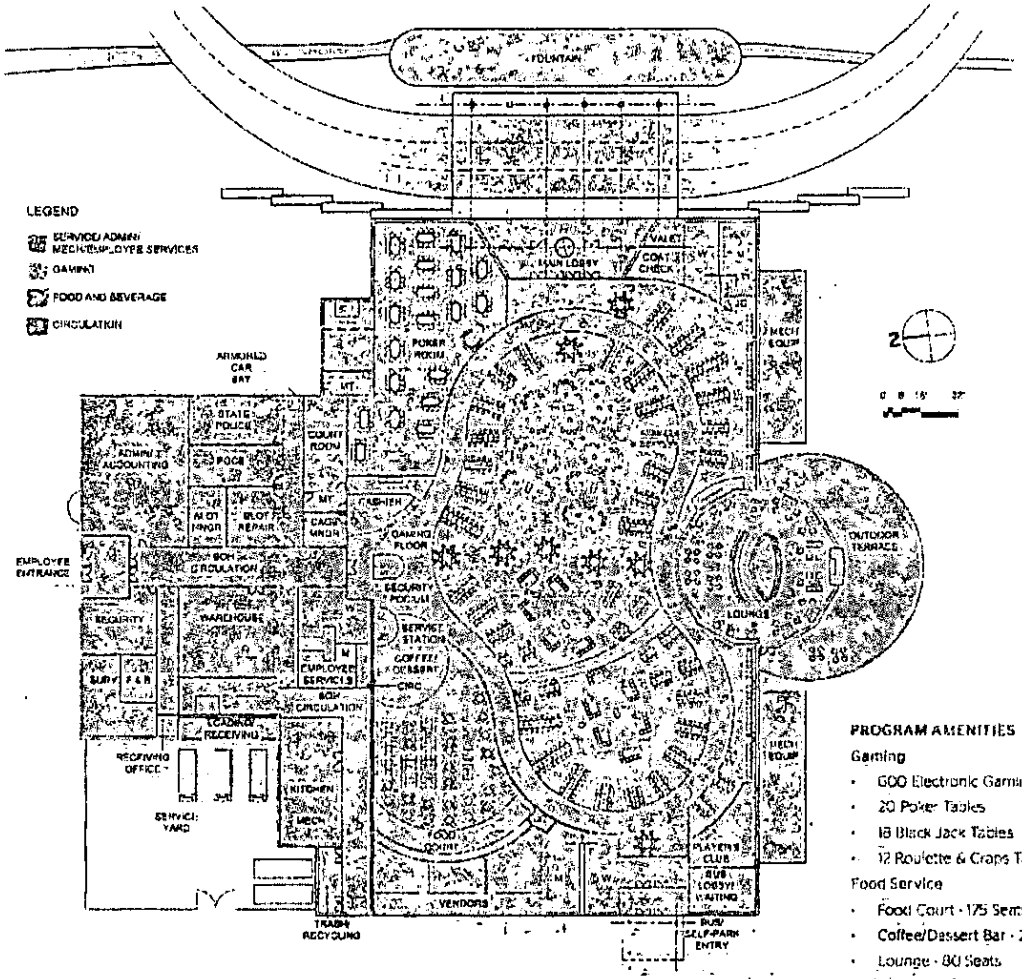
PROPOSED MASON - DIXON RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

VISION
CASINO FLOOR

"The Ambiance"





PROGRAM AMENITIES

Gaming
- 600 Electronic Gaming Devices
- 20 Poker Tables
- 18 Black Jack Tables
- 12 Roulette & Craps Tables

Food Service
- Food Court - 175 Seats
- Coffee/Dessert Bar - 20 Seats
- Lounge - 80 Seats
- Center Bar - 40 Seats

Figure 2

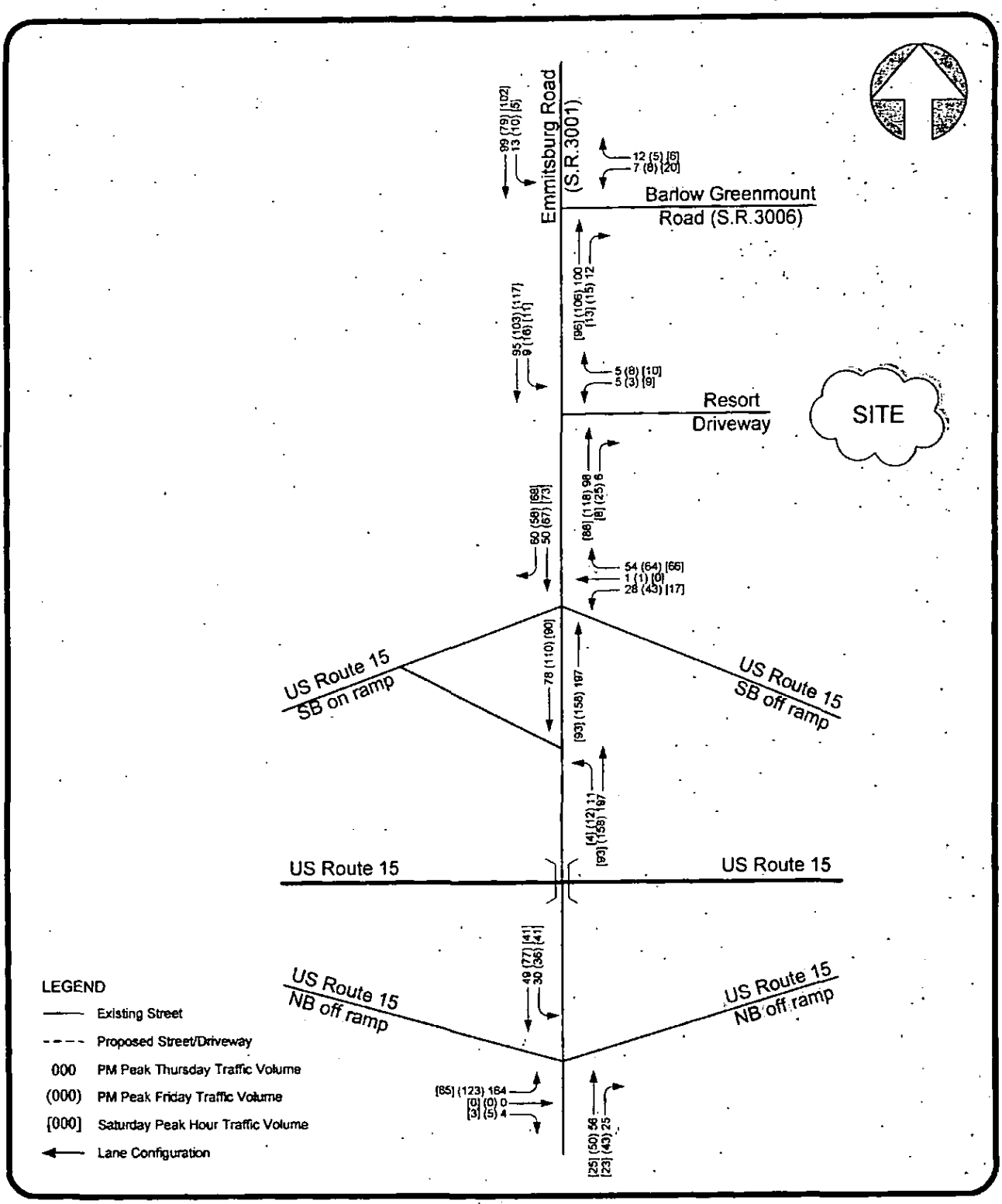


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FIGURE 3

EXISTING TRAFFIC VOLUMES

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

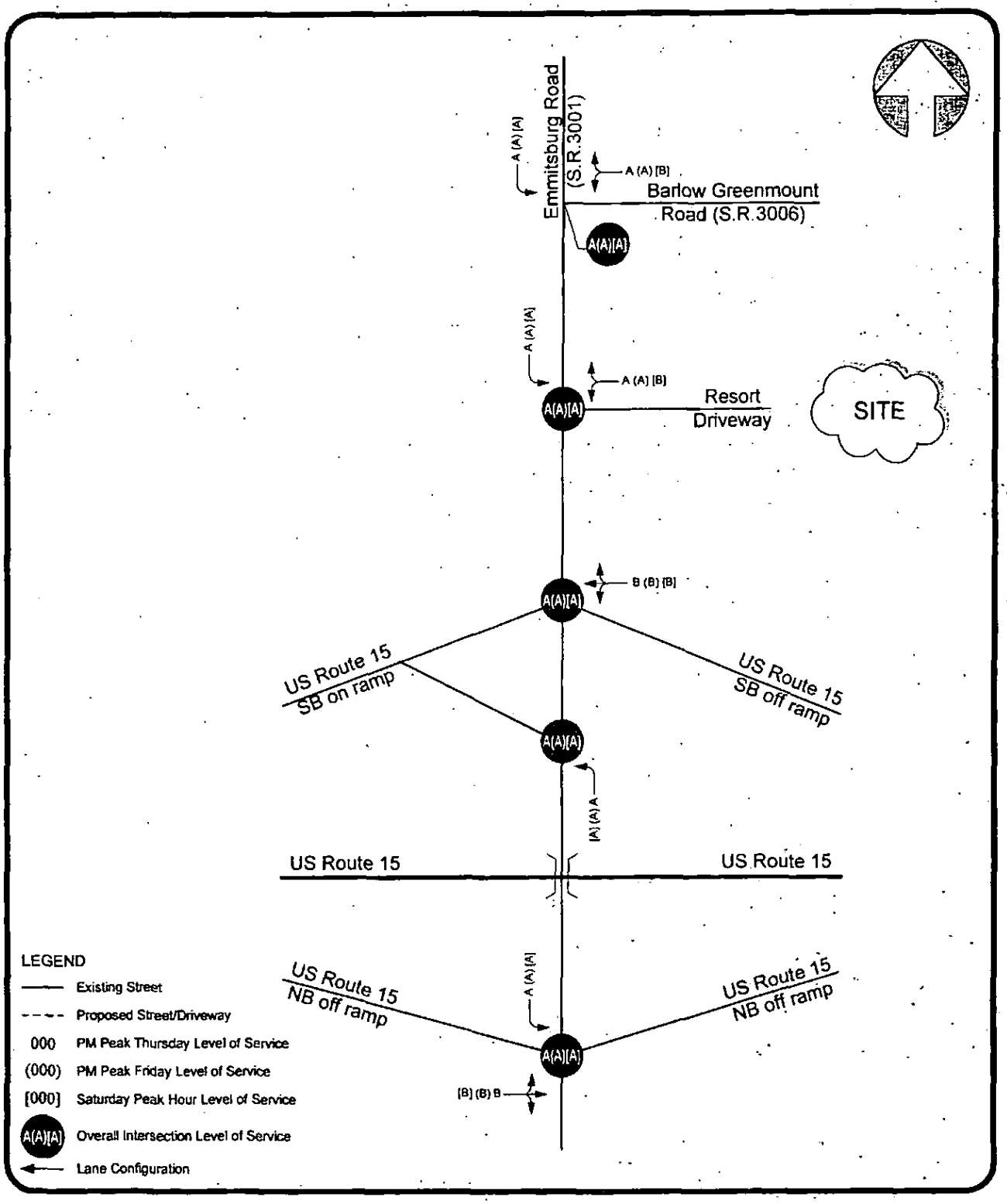

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FIGURE 4

EXISTING LEVEL OF SERVICE

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

FUTURE CONDITIONS

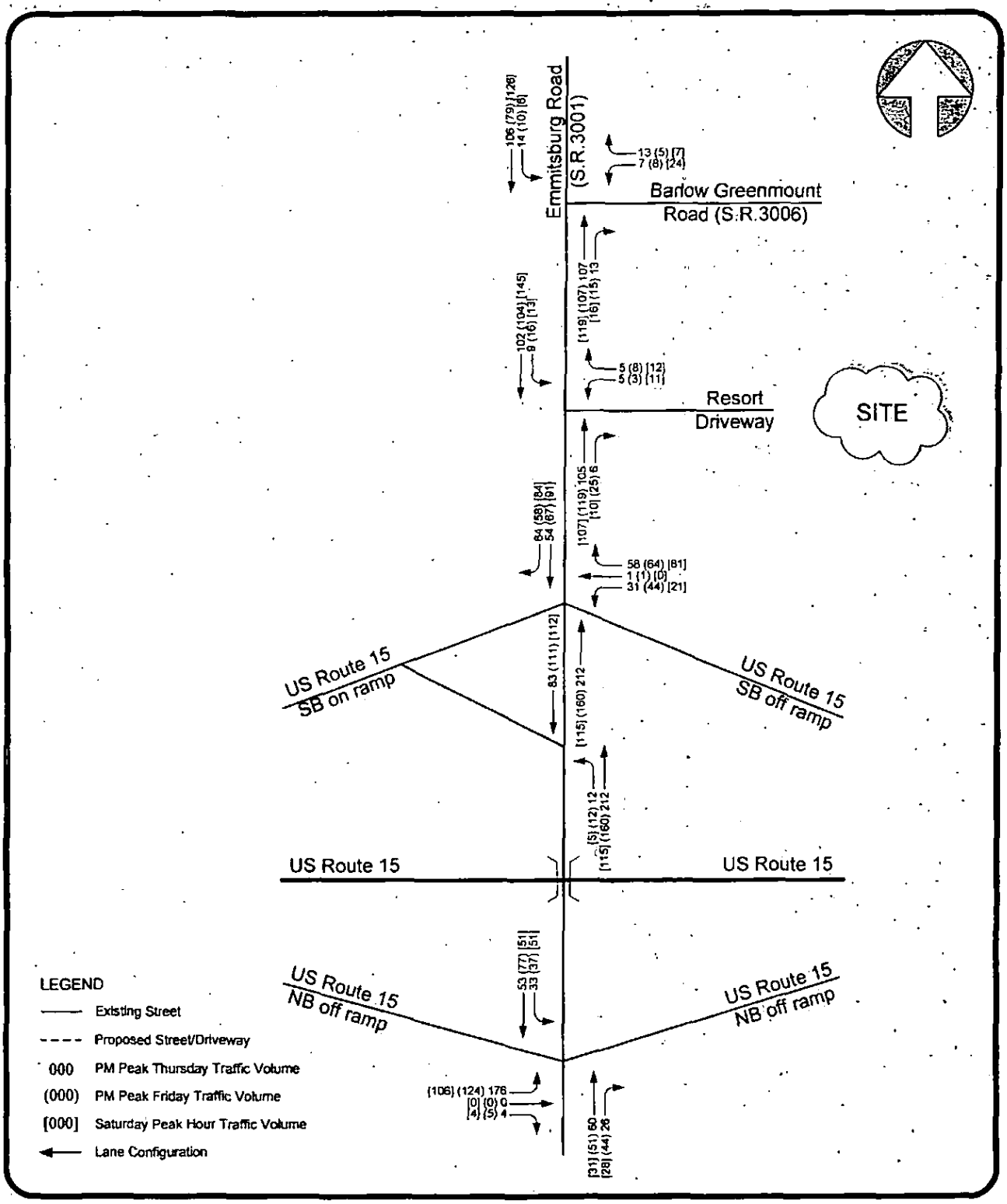

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FIGURE 5

OPENING YEAR 2012
TRAFFIC VOLUMES
WITHOUT DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

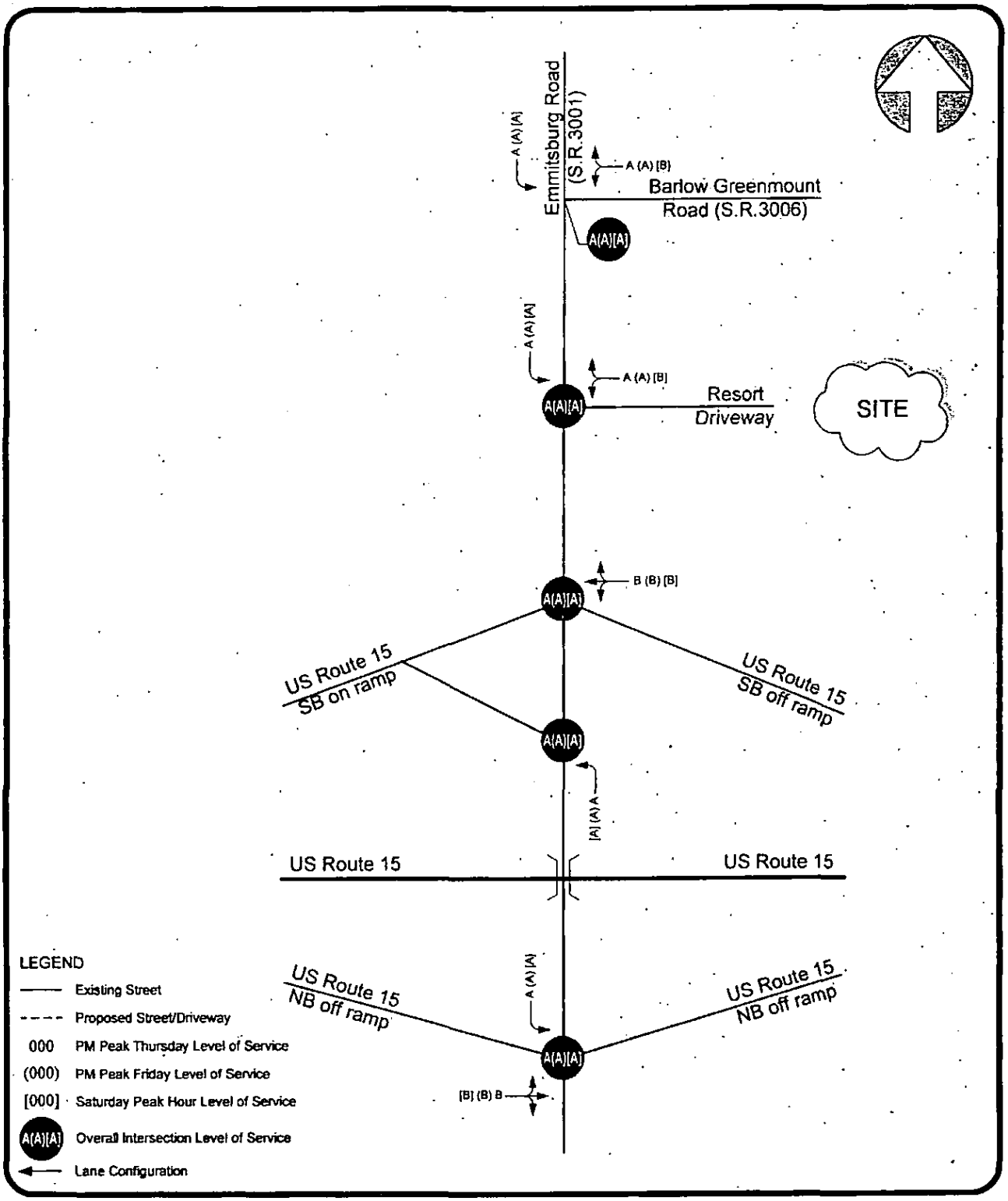

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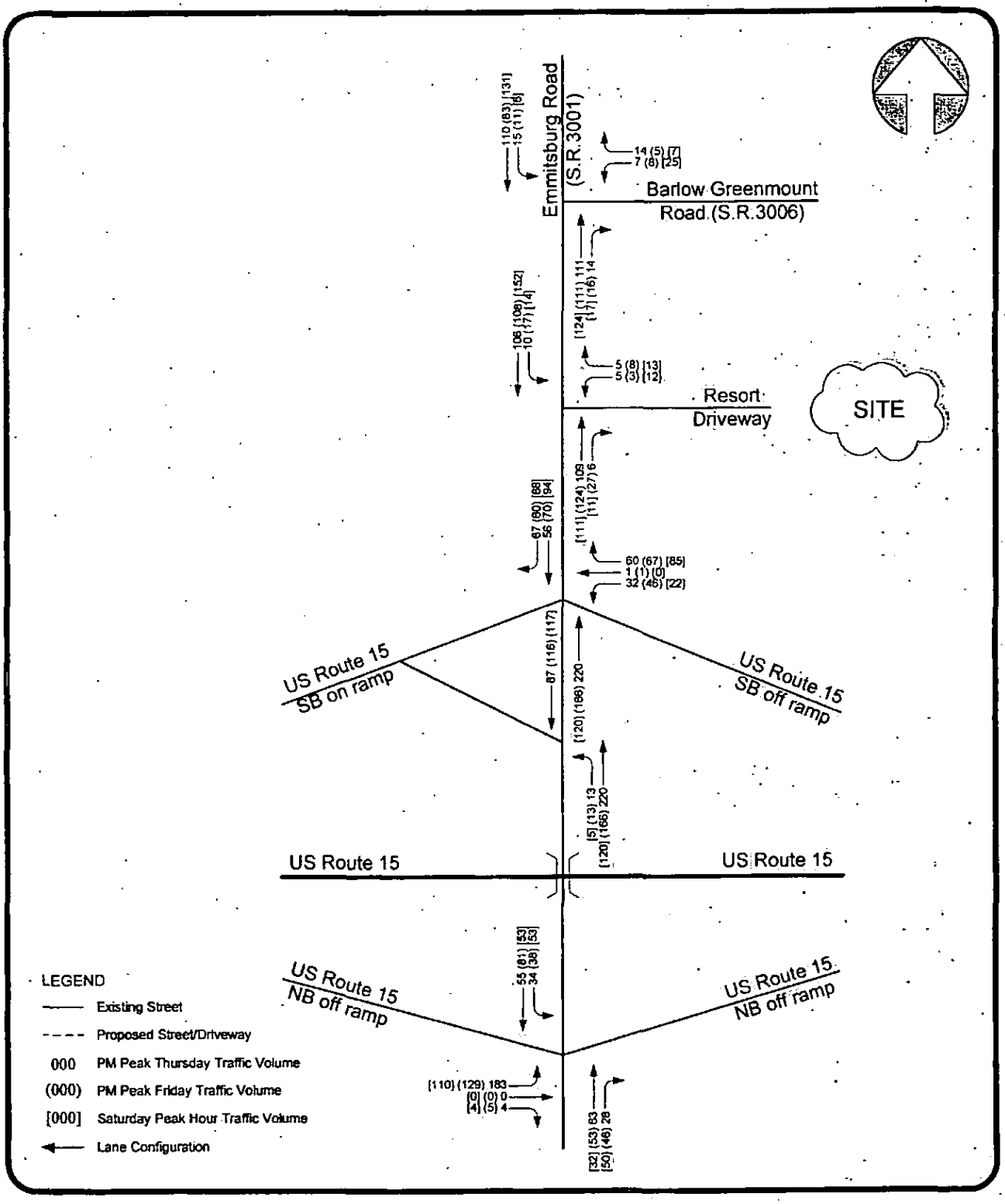
FIGURE 6

OPENING YEAR 2012
LEVEL OF SERVICE
WITHOUT DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA



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TRANSPORTATION RESOURCE GROUP, INC.

FIGURE 7

HORIZON YEAR (2017)
TRAFFIC VOLUMES
WITHOUT DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

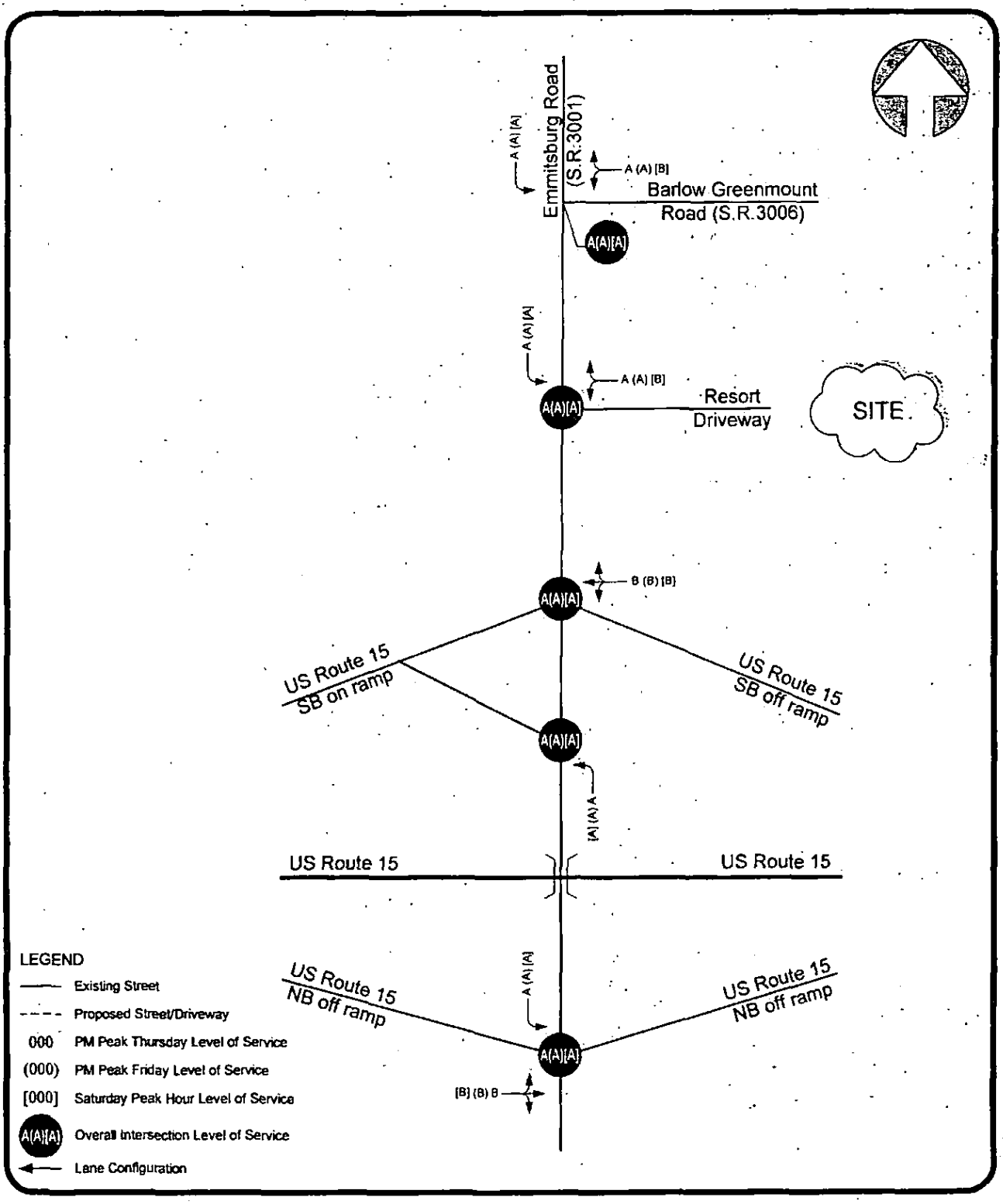

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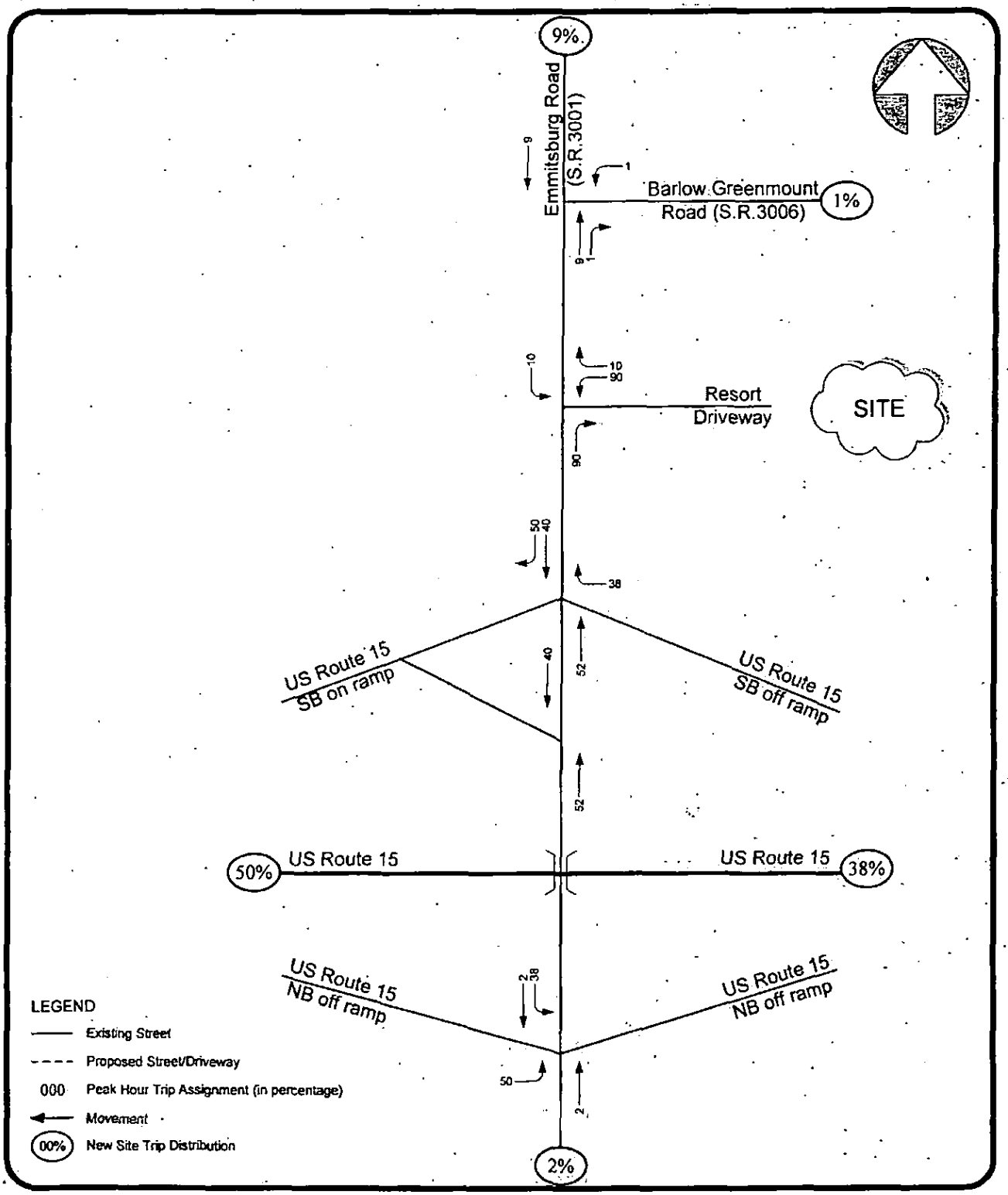
FIGURE 8

HORIZON YEAR (2017)
LEVEL OF SERVICE
WITHOUT DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA



TRG
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FIGURE 9

TRIP DISTRIBUTION PERCENTAGE

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

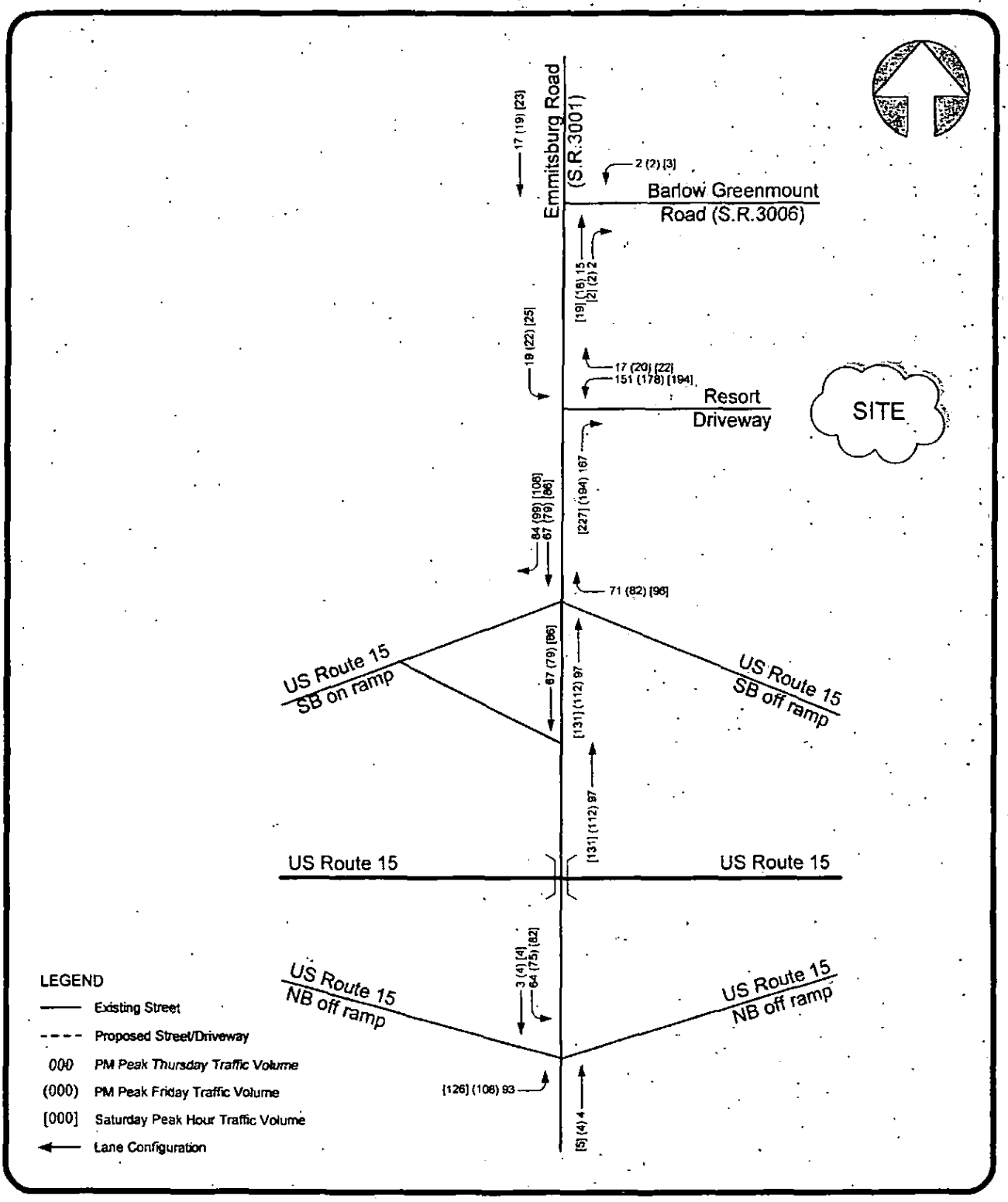

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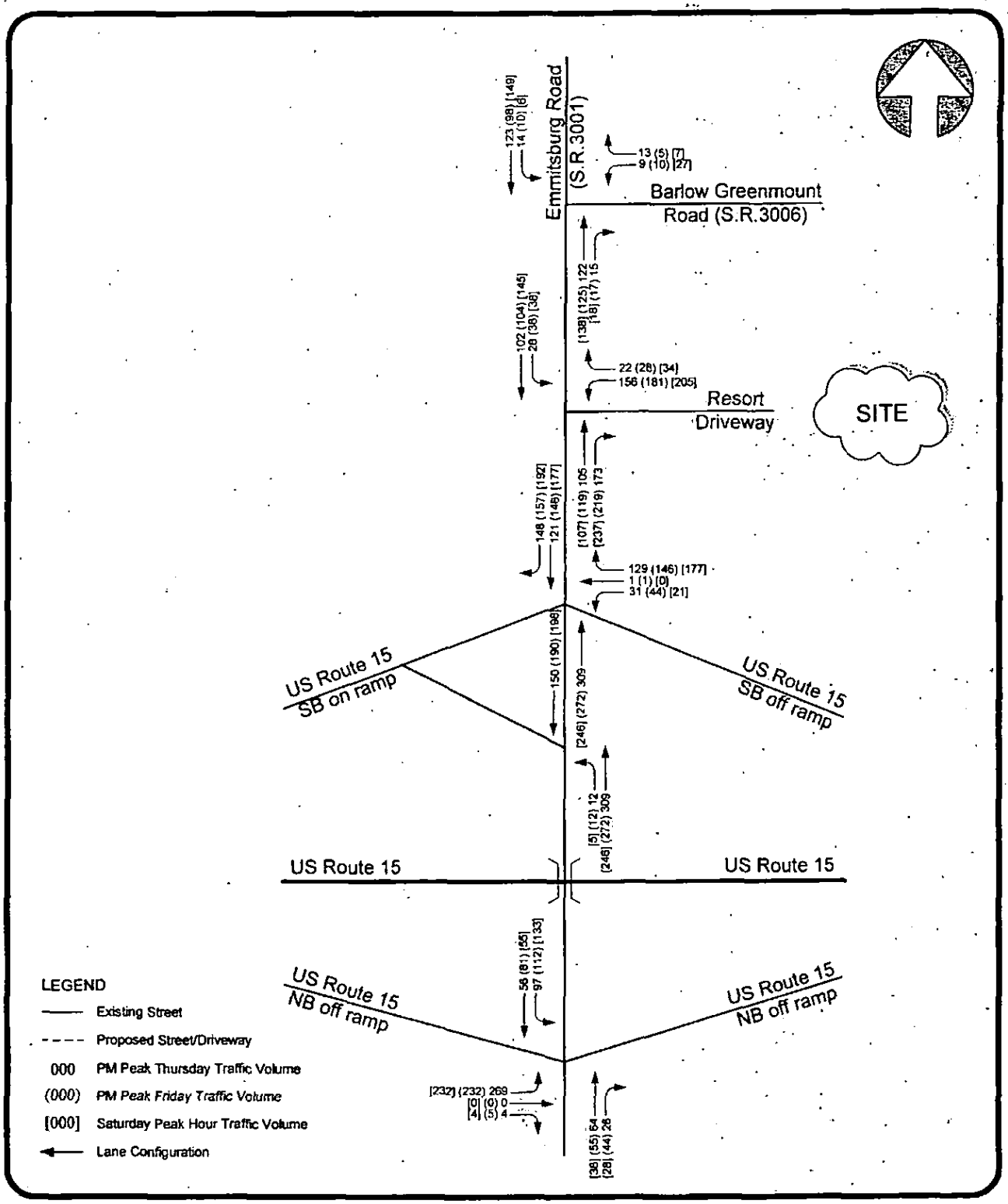
FIGURE 10

TOTAL SITE TRIP

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA



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TRANSPORTATION RESOURCE GROUP, INC.

FIGURE 11

OPENING YEAR (2012)
TRAFFIC VOLUMES
WITH DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

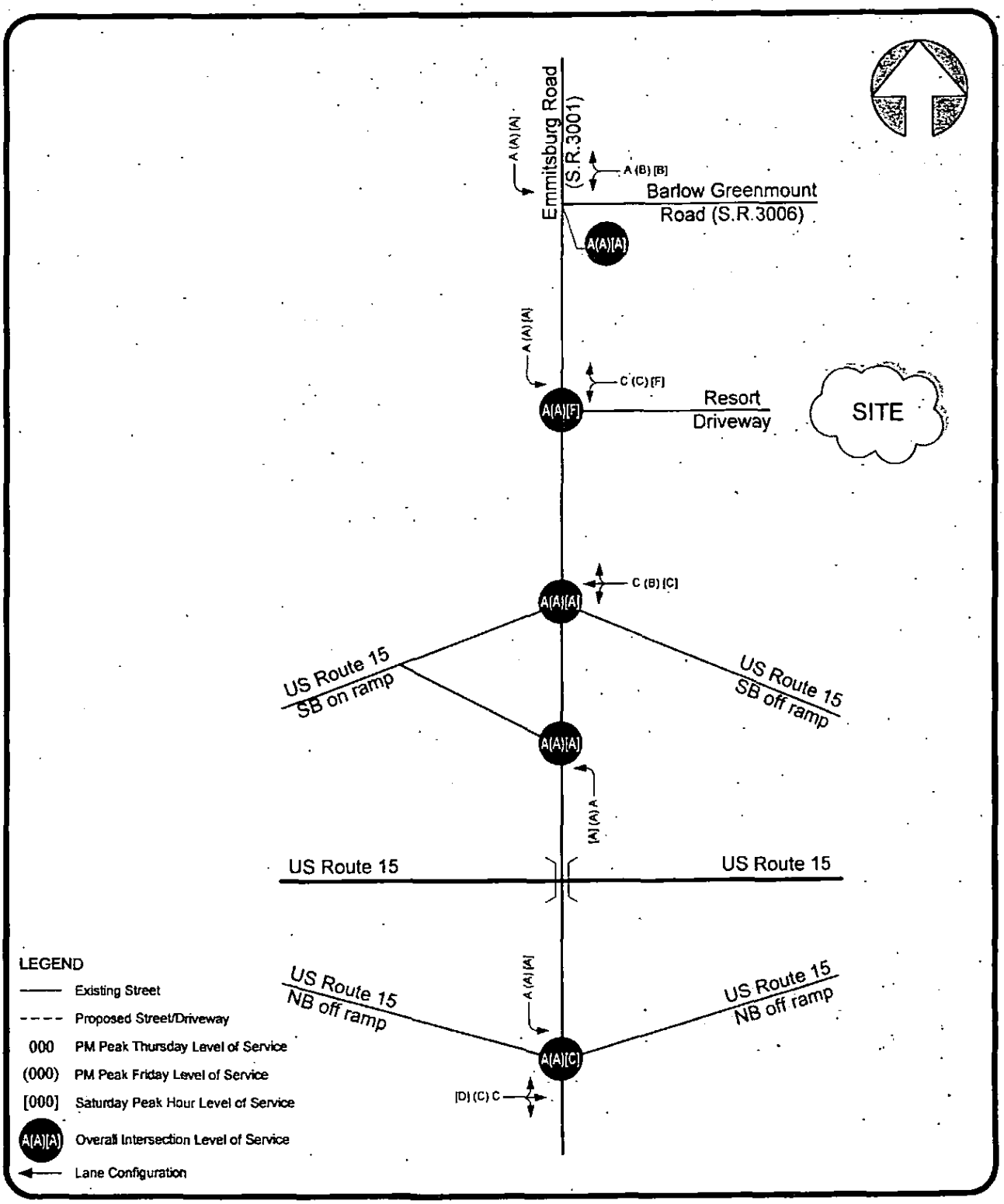

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FIGURE 12

OPENING YEAR (2012)
LEVEL OF SERVICE
WITH DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

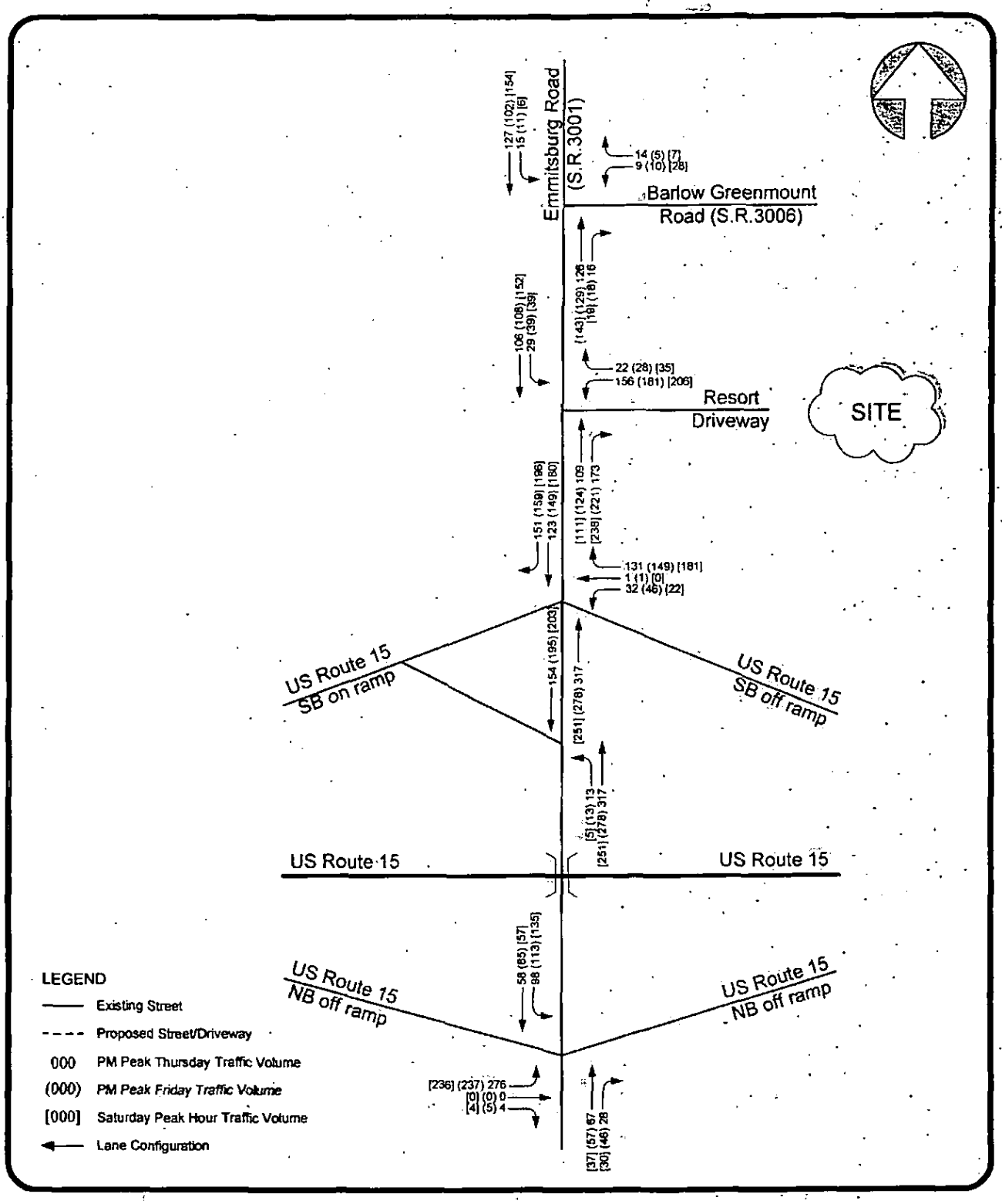

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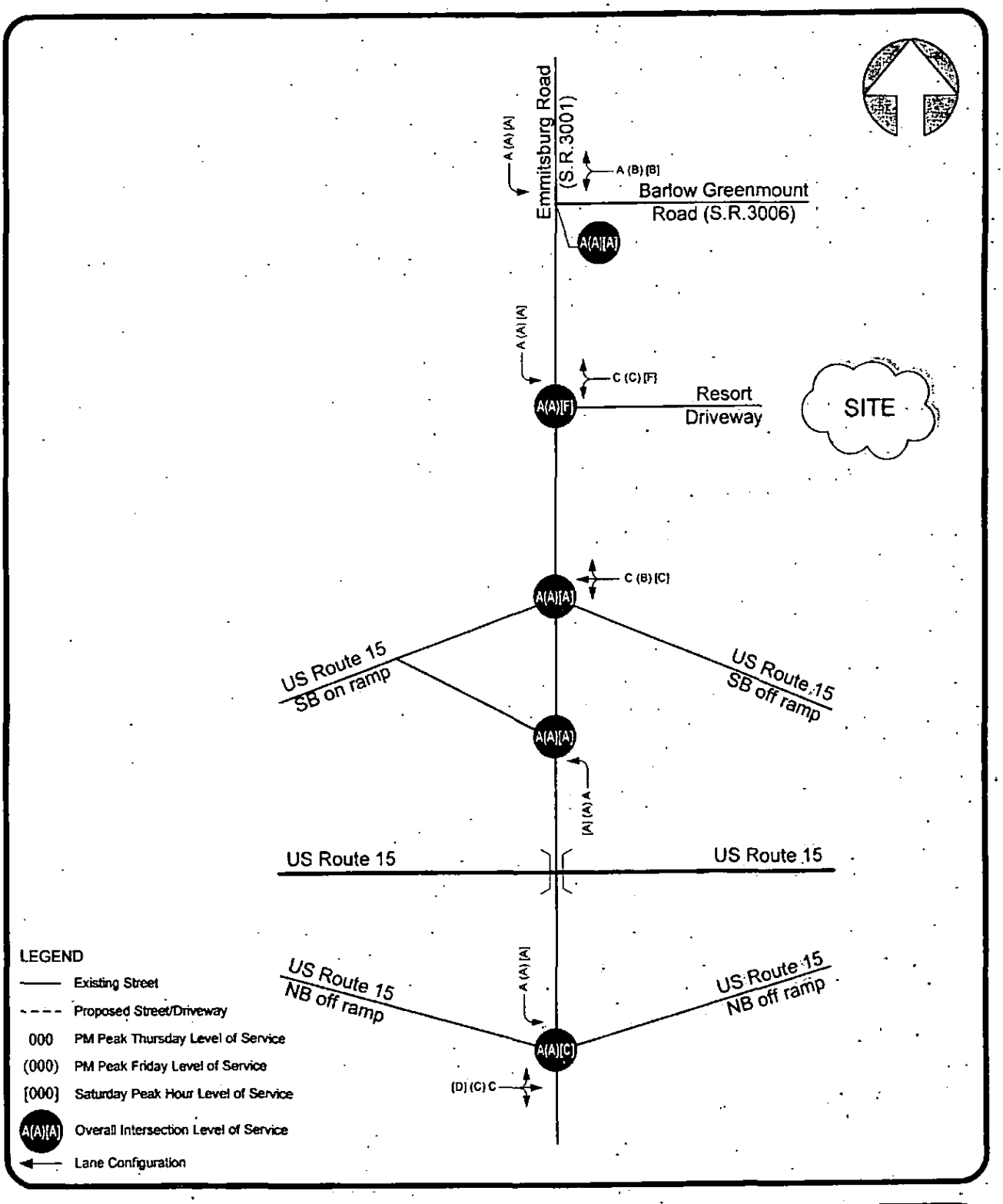
FIGURE 13

HORIZON YEAR (2017)
LEVEL OF SERVICE
WITH DEVELOPMENT

TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA



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TRANSPORTATION RESOURCE GROUP, INC.

FIGURE 14

HORIZON YEAR (2017)
TRAFFIC VOLUMES
WITH DEVELOPMENT

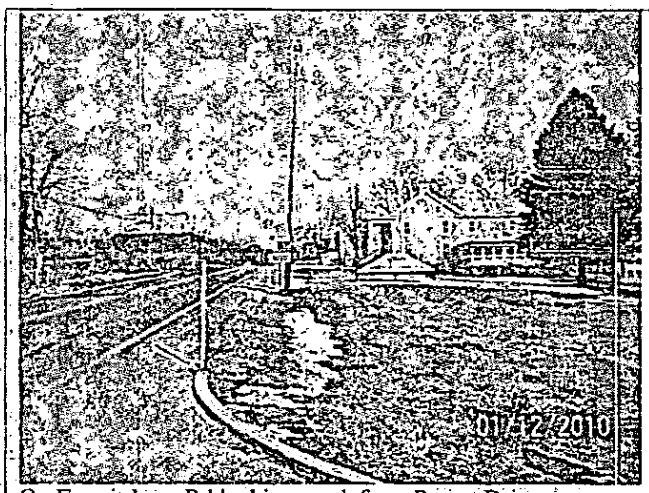
TRANSPORTATION IMPACT STUDY

PROPOSED MASON - DIXON
RESORT AND CASINO

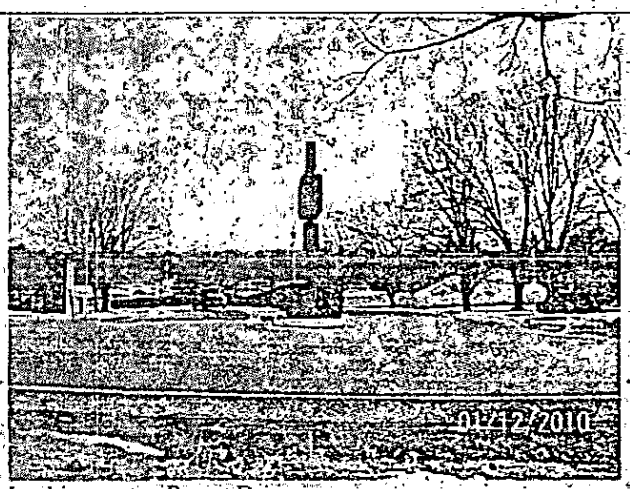
CUMBERLAND TOWNSHIP
ADAMS COUNTY, PA

PHOTOGRAPHS

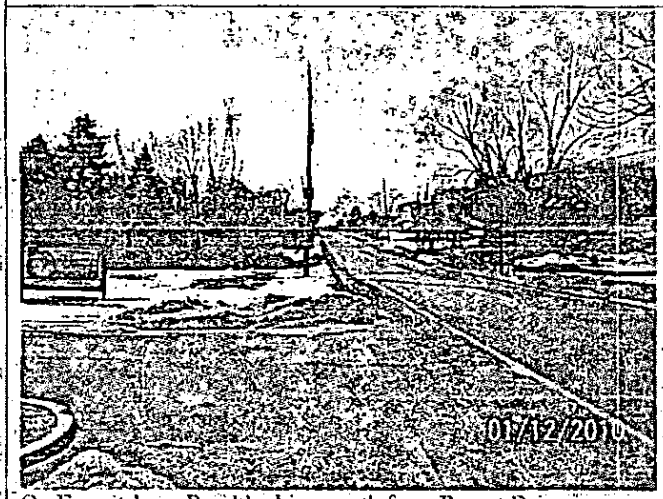
Mason-Dixon Resort and Casino



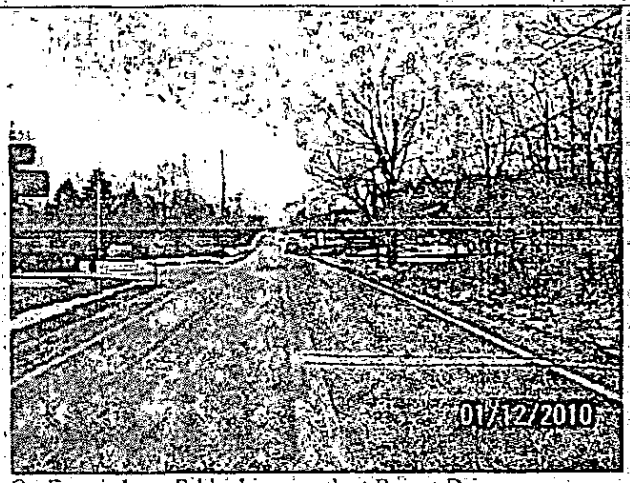
On Emmitsburg Rd looking north from Resort Driveway



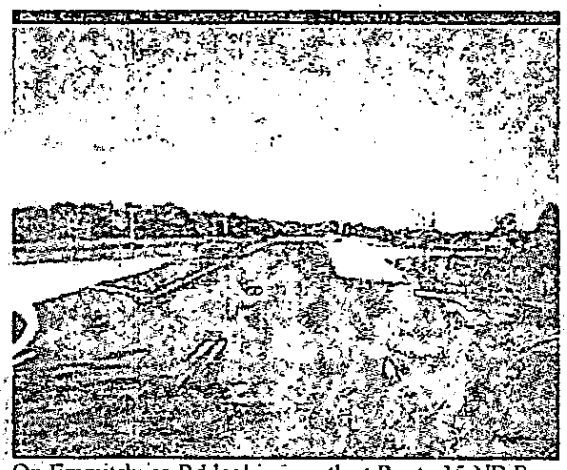
Looking east at Resort Driveway

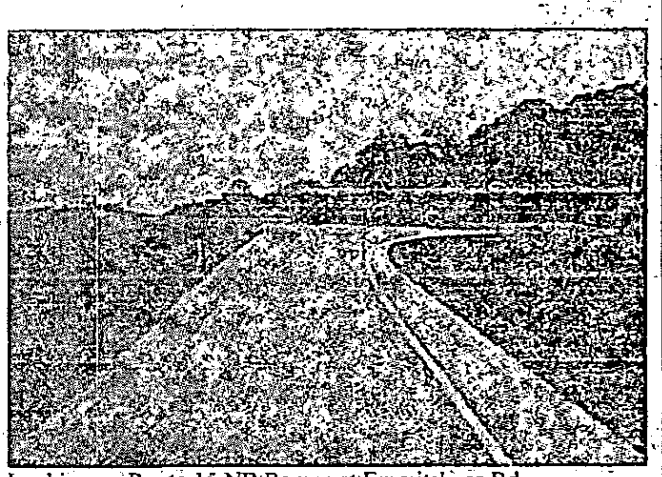


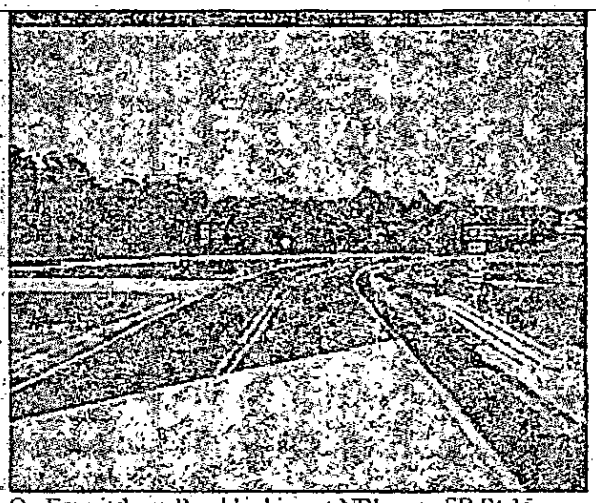
On Emmitsburg Road looking south from Resort Driveway



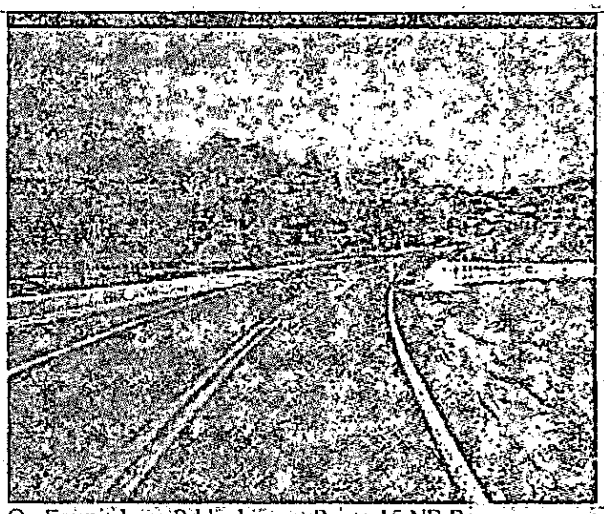
On Emmitsburg Rd looking south at Resort Driveway


On Emmitsburg Rd looking north at Route 15 NB Ramps

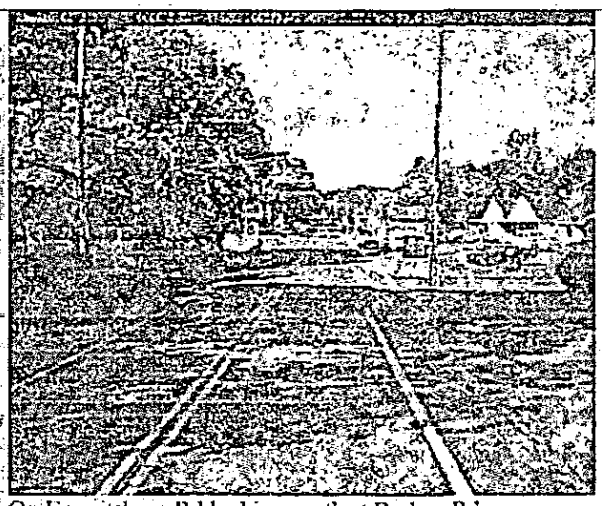

Looking on Route 15 NB Ramps at Emmitsburg Rd



On Emmitsburg Road looking at NBL onto SB Rt 15



On Emmitsburg Rd looking at Route 15 NB Ramps



On Emmitsburg Rd looking north at Barlow Rd

EXISTING CONDITIONS
(Sketches, Transit Data, etc.)

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

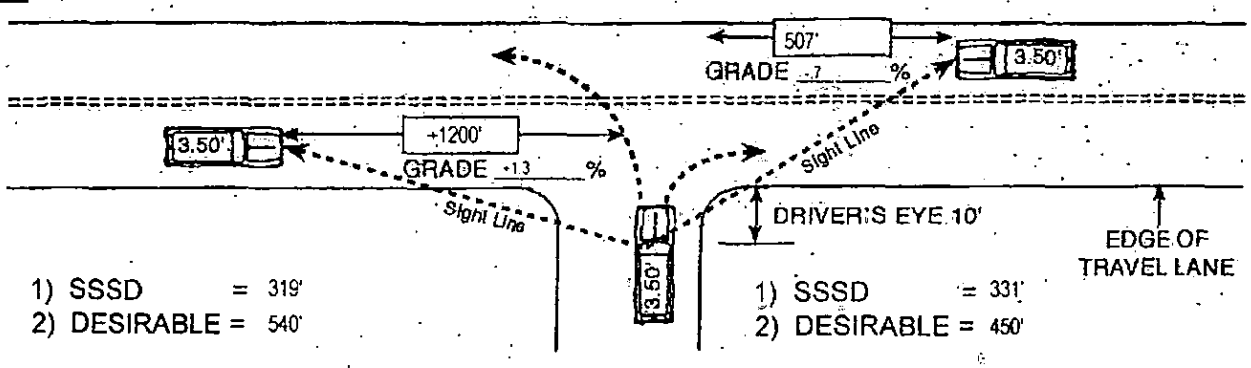
APPLICANT Mason Dixon Resort and Casino APPLICATION NO. 388.01.H.01

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 40 mph

MEASURED BY Austin DATE 1/12/2010

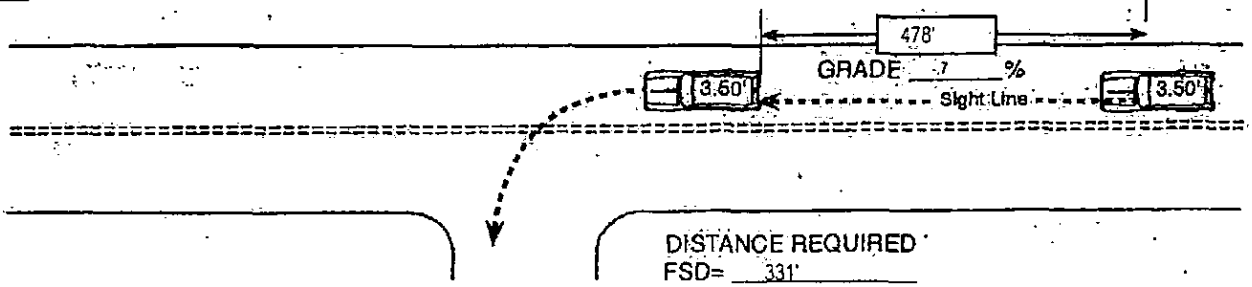
FOR DEPARTMENT USE ONLY: *Safe-Running Speed* _____ *85th Percentile Speed* 45 mph

A LOCATION: Emmitsburg Road (S.R.3001) / Eisenhower – Allstar Driveway



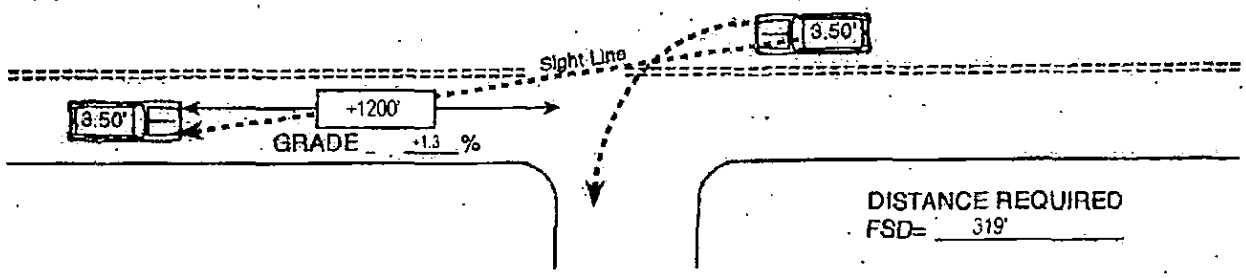
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

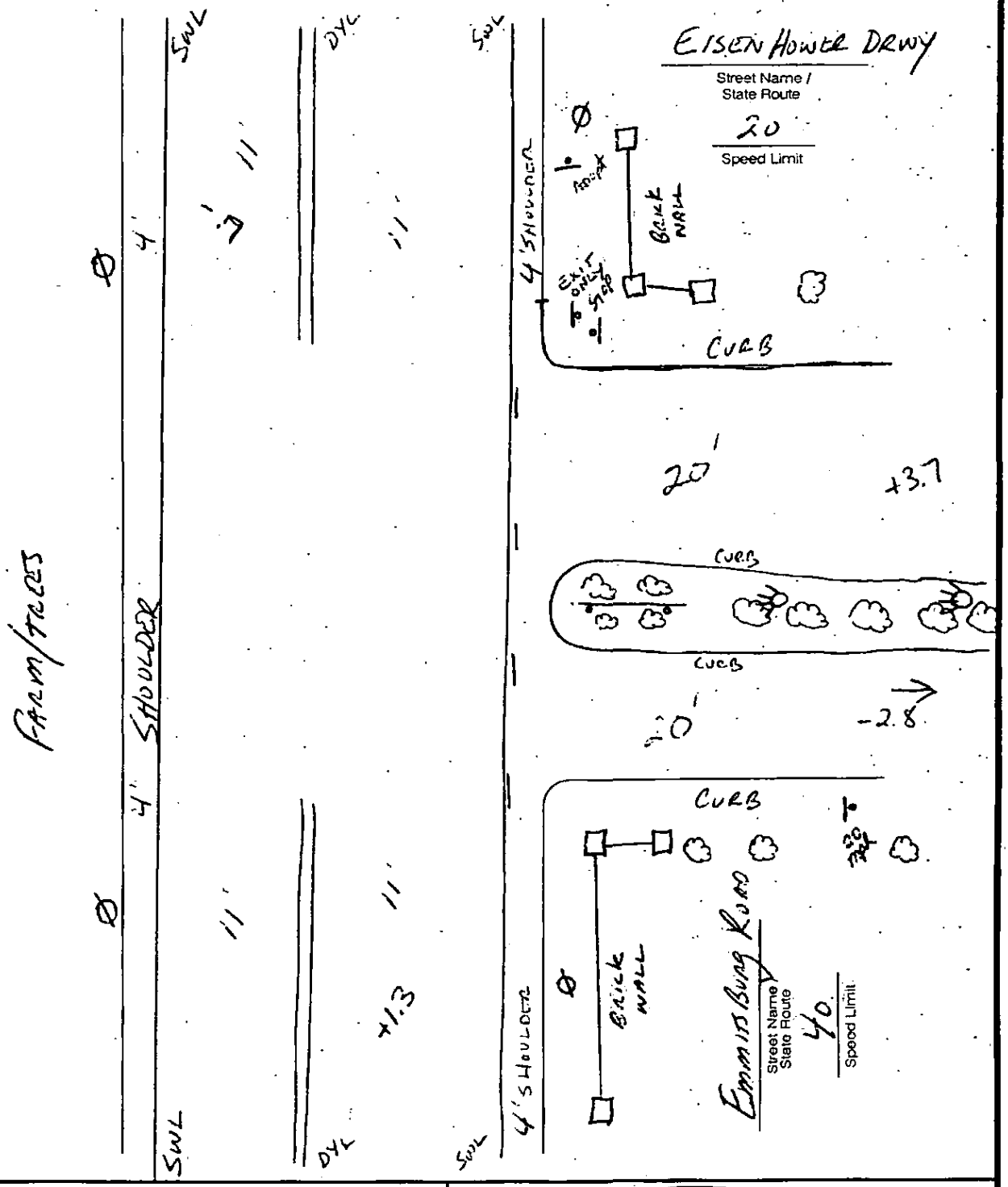
Source: 1) PA Code, Title 67, Chapter 441.8 h (1) (Table 1)
2) PA Code, Title 67, Chapter 441.8 h (2) (IV)

SITE INVENTORY - FIELD SHEET

Intersection: Emmitsburg Road / Eisenhower Drive

Project Name: Mason Dixon Resort + Casino Municipality:

Project Number: 388.01.11.01 Recorder(s): Adam Date: 1/12/10



1. Identify lane configuration and lane widths
2. Note shoulder widths / type and / or curb
3. Note any medians, islands, or channelization
4. Note grade of approaches
5. Note sight distance and restrictions
6. Identify segment / offset if state road
7. Note surrounding land uses
8. Note signs, traffic control, pavement markings, bus stops, and parking locations
9. Take pictures in ALL four directions

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Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880111
Site Code : 03880101
Start Date : 2/25/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
15:00	20	0	0	2	3	16	41
15:15	11	1	2	1	3	21	39
15:30	19	1	2	3	2	24	51
15:45	17	1	1	5	0	19	43
Total	67	3	5	11	8	80	174
16:00	21	2	2	4	4	25	58
16:15	29	1	3	3	4	22	62
16:30	27	4	2	1	2	26	62
16:45	20	2	2	1	3	22	50
Total	97	9	9	9	13	95	232
17:00	23	6	5	2	3	30	69
17:15	19	2	2	3	3	23	52
17:30	20	0	1	2	3	26	52
17:45	21	2	0	1	1	22	47
Total	83	10	8	8	10	101	220
Grand Total	247	22	22	28	31	276	626
Apprch %	91.8	8.2	44	56	10.1	89.9	
Total %	39.5	3.5	3.5	4.5	5	44.1	
Passenger Vehicles	246	21	21	28	30	273	619
% Passenger Vehicles	99.6	95.5	95.5	100	96.8	98.9	98.9
Trucks, Buses	1	1	1	0	1	2	6
% Trucks, Buses	0.4	4.5	4.5	0	3.2	0.7	1
Tractor Trailers	0	0	0	0	0	1	1
% Tractor Trailers	0	0	0	0	0	0.4	0.2

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204 North George Street Suite 110
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Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880111
Site Code : 03880101
Start Date : 2/25/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
15:00	0	0	0	0	0	1	1
15:15	0	0	0	0	0	1	1
15:30	1	0	1	0	0	0	2
Total	1	0	1	0	0	2	4
16:00	0	1	0	0	1	0	2
16:30	0	0	0	0	0	1	1
Total	0	1	0	0	1	1	3
Grand Total	1	1	1	0	1	3	7
Apprch %	50	50	100	0	25	75	
Total %	14.3	14.3	14.3	0	14.3	42.9	
Trucks, Buses	1	1	1	0	1	2	6
% Trucks, Buses	100	100	100	0	100	66.7	85.7
Tractor Trailers	0	0	0	0	0	1	1
% Tractor Trailers	0	0	0	0	0	33.3	14.3

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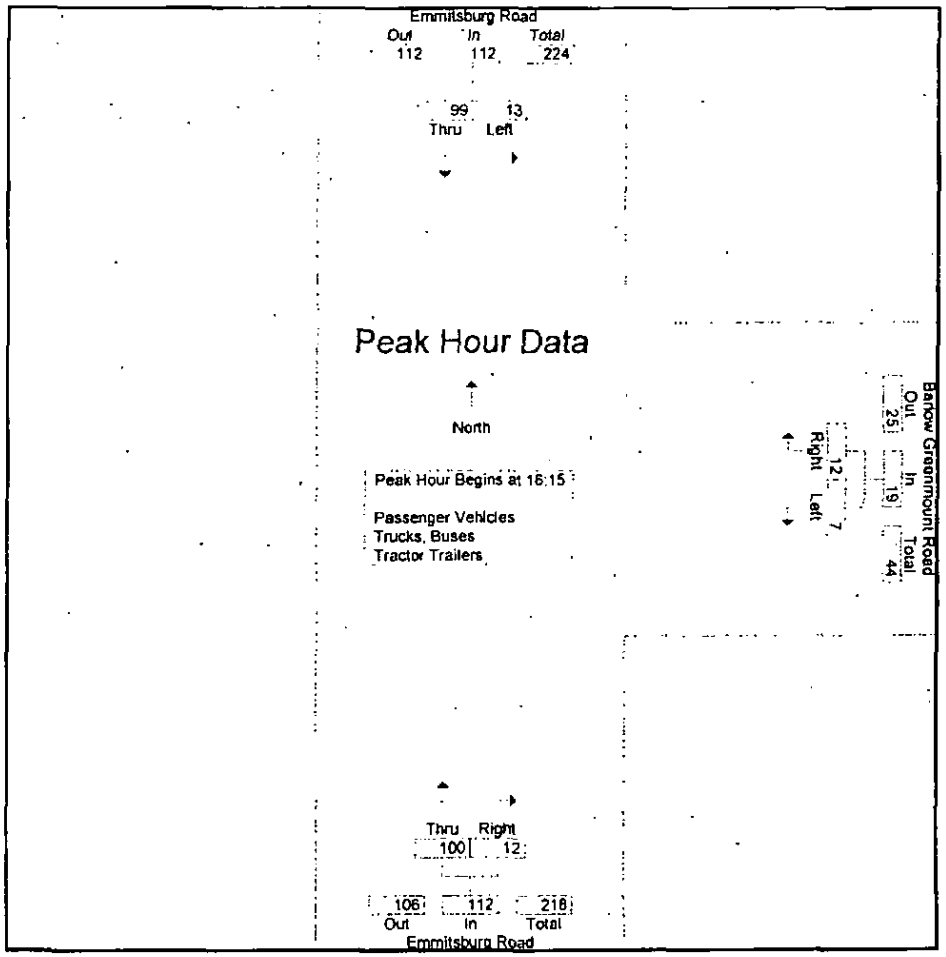
File Name : 3880111
Site Code : 03880101
Start Date : 2/25/2010
Page No : 2

	Emmitsburg Road Southbound			Barlow Greenmount Road Westbound			Emmitsburg Road Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 15:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:15										
16:15	29	1	30	3	3	6	4	22	26	62
16:30	27	4	31	2	1	3	2	26	28	62
16:45	20	2	22	2	1	3	3	22	25	50
17:00	23	6	29	5	2	7	3	30	33	69
Total Volume	99	13	112	12	7	19	12	100	112	243
% App. Total	88.4	11.6		63.2	36.8		10.7	89.3		
PHF	.853	.542	.903	.600	.583	.679	.750	.833	.848	.880



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204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Friday
Counter: Joe

File Name : 38801111
Site Code : 03880111
Start Date : 3/5/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
16:00	29	4	0	2	4	21	60
16:15	18	2	1	4	3	26	54
16:30	15	2	0	0	3	28	48
16:45	23	1	1	2	1	21	49
Total	85	9	2	8	11	96	211
17:00	20	5	2	2	2	31	62
17:15	21	2	2	4	9	26	64
17:30	18	3	1	3	5	14	44
17:45	11	1	2	2	4	30	50
Total	70	11	7	11	20	101	220
18:00	14	6	1	5	2	12	40
18:15	17	0	1	1	2	19	40
18:30	26	1	1	1	2	22	53
18:45	19	0	0	5	4	18	46
Total	76	7	3	12	10	71	179
Grand Total	231	27	12	31	41	268	610
Apprch %	89.5	10.5	27.9	72.1	13.3	86.7	
Total %	37.9	4.4	2	5.1	6.7	43.9	
Passenger Vehicles	230	27	12	30	37	266	602
% Passenger Vehicles	99.6	100	100	96.8	90.2	99.3	98.7
Trucks, Buses	1	0	0	1	4	2	8
% Trucks, Buses	0.4	0	0	3.2	9.8	0.7	1.3
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

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York, PA 17401
(717) 846-4660

Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Friday
Counter: Joe

File Name : 38801111
Site Code : 03880111
Start Date : 3/5/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
16:00	0	0	0	0	1	0	1
16:45	1	0	0	0	1	0	2
Total	1	0	0	0	2	0	3
17:15	0	0	0	0	1	0	1
17:45	0	0	0	0	1	1	2
Total	0	0	0	0	2	1	3
18:00	0	0	0	0	0	1	1
18:30	0	0	0	1	0	0	1
Total	0	0	0	1	0	1	2
Grand Total	1	0	0	1	4	2	8
Apprch %	100	0	0	100	66.7	33.3	
Total %	12.5	0	0	12.5	50	25	
Trucks, Buses	1	0	0	1	4	2	8
% Trucks, Buses	100	0	0	100	100	100	100
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

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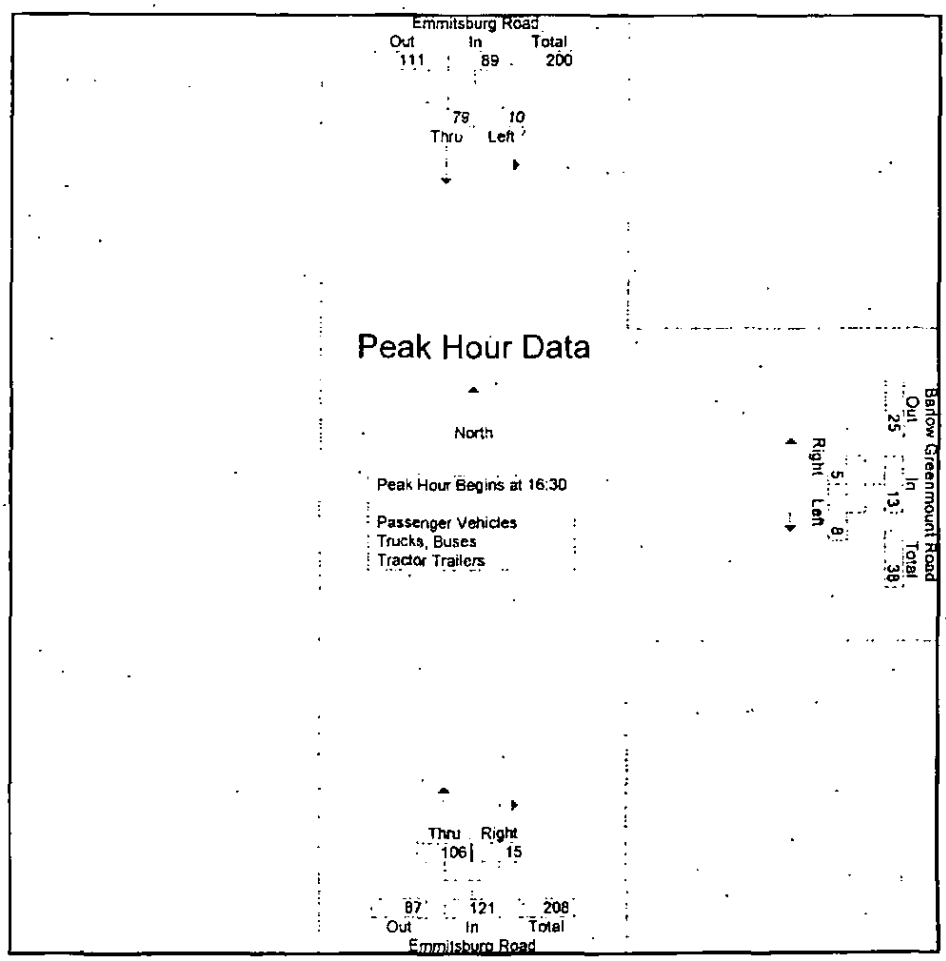
(717) 846-4660

File Name : 38801111
Site Code : 03880111
Start Date : 3/5/2010
Page No : 2

	Emmitsburg Road Southbound			Barlow Greenmount Road Westbound			Emmitsburg Road Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 18:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:30										
16:30	15	2	17	0	0	0	3	28	31	48
16:45	23	1	24	1	2	3	1	21	22	49
17:00	20	5	25	2	2	4	2	31	33	62
17:15	21	2	23	2	4	6	9	26	35	64
Total Volume	79	10	89	5	8	13	15	106	121	223
% App. Total	88.8	11.2		38.5	61.5		12.4	87.6		
PHF	.859	.500	.890	.625	.500	.542	.417	.855	.864	.871



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204 North George Street Suite 110
York PA 17401
(717) 846-4660

Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 38801S1
Site Code : 03880101
Start Date : 2/27/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
12:00	29	1	2	4	4	32	72
12:15	24	1	2	3	2	21	53
12:30	17	0	1	4	2	19	43
12:45	24	1	0	2	2	19	48
Total	94	3	5	13	10	91	216
13:00	23	2	3	1	3	25	57
13:15	32	1	1	1	1	16	52
13:30	22	1	0	10	1	22	56
13:45	27	1	1	2	3	31	65
Total	104	5	5	14	8	94	230
14:00	22	1	4	3	5	23	58
14:15	31	2	1	5	4	20	63
14:30	21	2	2	5	1	16	47
14:45	26	0	0	2	2	23	53
Total	100	5	7	15	12	82	221
Grand Total	298	13	17	42	30	267	667
Apprch %	95.8	4.2	28.8	71.2	10.1	89.9	
Total %	44.7	1.9	2.5	6.3	4.5	40	
Passenger Vehicles	288	13	17	42	30	258	648
% Passenger Vehicles	96.6	100	100	100	100	96.6	97.2
Trucks, Buses	10	0	0	0	0	9	19
% Trucks, Buses	3.4	0	0	0	0	3.4	2.8
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

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Emmitsburg Rd / Barlow Greenmount Rd
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 38801S1
Site Code : 03880101
Start Date : 2/27/2010
Page No : 1

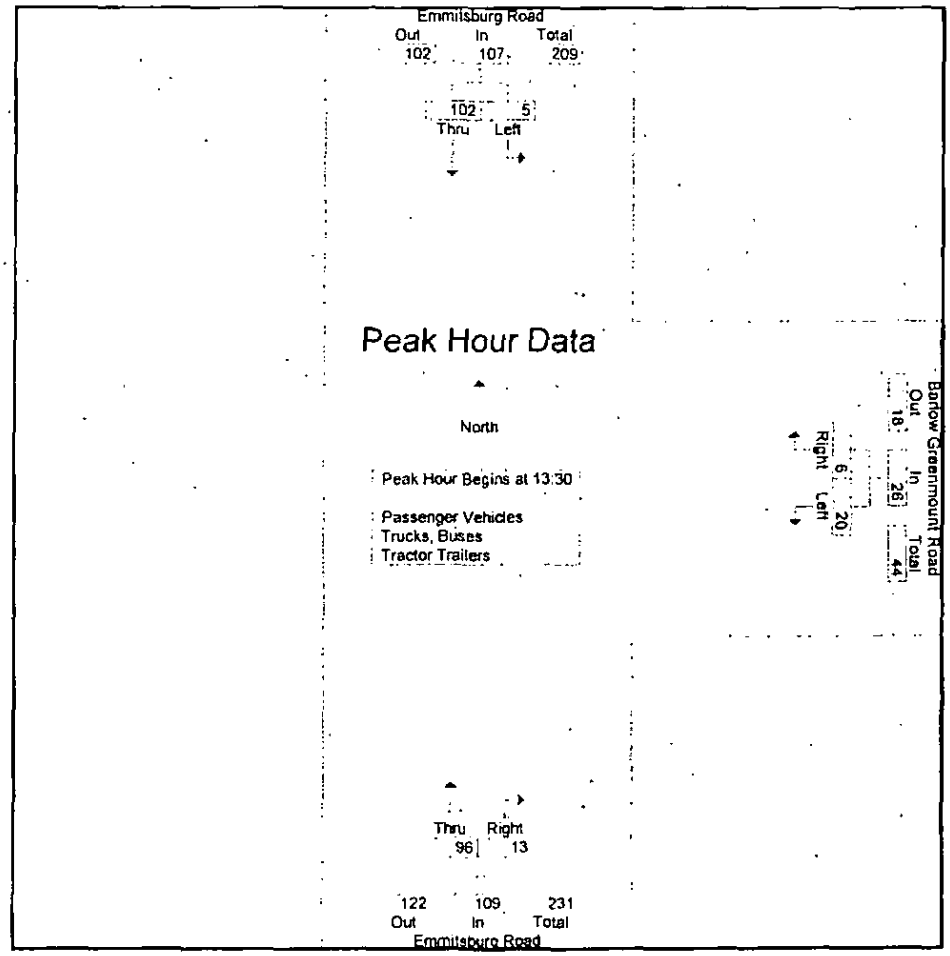
Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Barlow Greenmount Road Westbound		Emmitsburg Road Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
12:00	1	0	0	0	0	1	2
12:30	0	0	0	0	0	1	1
12:45	2	0	0	0	0	0	2
Total	3	0	0	0	0	2	5
13:00	0	0	0	0	0	1	1
13:15	0	0	0	0	0	2	2
13:30	0	0	0	0	0	3	3
13:45	0	0	0	0	0	1	1
Total	0	0	0	0	0	7	7
14:00	1	0	0	0	0	0	1
14:15	3	0	0	0	0	0	3
14:30	2	0	0	0	0	0	2
14:45	1	0	0	0	0	0	1
Total	7	0	0	0	0	0	7
Grand Total	10	0	0	0	0	9	19
Apprch %	100	0	0	0	0	100	
Total %	52.6	0	0	0	0	47.4	
Trucks, Buses	10	0	0	0	0	9	19
% Trucks, Buses	100	0	0	0	0	100	100
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

File Name : 38801S1
Site Code : 03880101
Start Date : 2/27/2010
Page No : 2

	Emmitsburg Road Southbound			Barlow Greenmount Road Westbound			Emmitsburg Road Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 14:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 13:30										
13:30	22	1	23	0	10	10	1	22	23	56
13:45	27	1	28	1	2	3	3	31	34	65
14:00	22	1	23	4	3	7	5	23	28	58
14:15	31	2	33	1	5	6	4	20	24	63
Total Volume	102	5	107	6	20	26	13	96	109	242
% App. Total	95.3	4.7		23.1	76.9		11.9	88.1		
PHF	.823	.625	.811	.375	.500	.650	.650	.774	.801	.931



Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Location:Emmitsburg Rd / Eisenhower Drwy
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880111
Site Code : 03880101
Start Date : 1/14/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
15:00	19	2	0	4	1	15	41
15:15	21	1	3	1	2	20	48
15:30	16	3	6	2	0	23	50
15:45	23	1	11	5	1	16	57
Total	79	7	20	12	4	74	196
16:00	19	3	2	3	4	17	48
16:15	11	4	2	4	1	20	42
16:30	17	3	1	1	4	15	41
16:45	27	2	1	2	0	29	61
Total	74	12	6	10	9	81	192
17:00	21	3	1	0	1	25	51
17:15	23	1	1	2	1	23	51
17:30	24	3	2	1	4	21	55
17:45	14	2	0	1	10	19	46
Total	82	9	4	4	16	88	203
Grand Total	235	28	30	26	29	243	591
Apprch %	89.4	10.6	53.6	46.4	10.7	89.3	
Total %	39.8	4.7	5.1	4.4	4.9	41.1	
Passenger Vehicles	233	28	30	26	29	241	587
% Passenger Vehicles	99.1	100	100	100	100	99.2	99.3
Trucks, Buses	2	0	0	0	0	2	4
% Trucks, Buses	0.9	0	0	0	0	0.8	0.7
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street · Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drwy
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880111
Site Code : 03880101
Start Date : 1/14/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
15:00	0	0	0	0	0	1	1
15:30	1	0	0	0	0	0	1
Total	1	0	0	0	0	1	2
16:00	0	0	0	0	0	1	1
16:45	1	0	0	0	0	0	1
Total	1	0	0	0	0	1	2
Grand Total	2	0	0	0	0	2	4
Apprch %	100	0	0	0	0	100	
Total %	50	0	0	0	0	50	
Trucks, Buses	2	0	0	0	0	2	4
% Trucks, Buses	100	0	0	0	0	100	100
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
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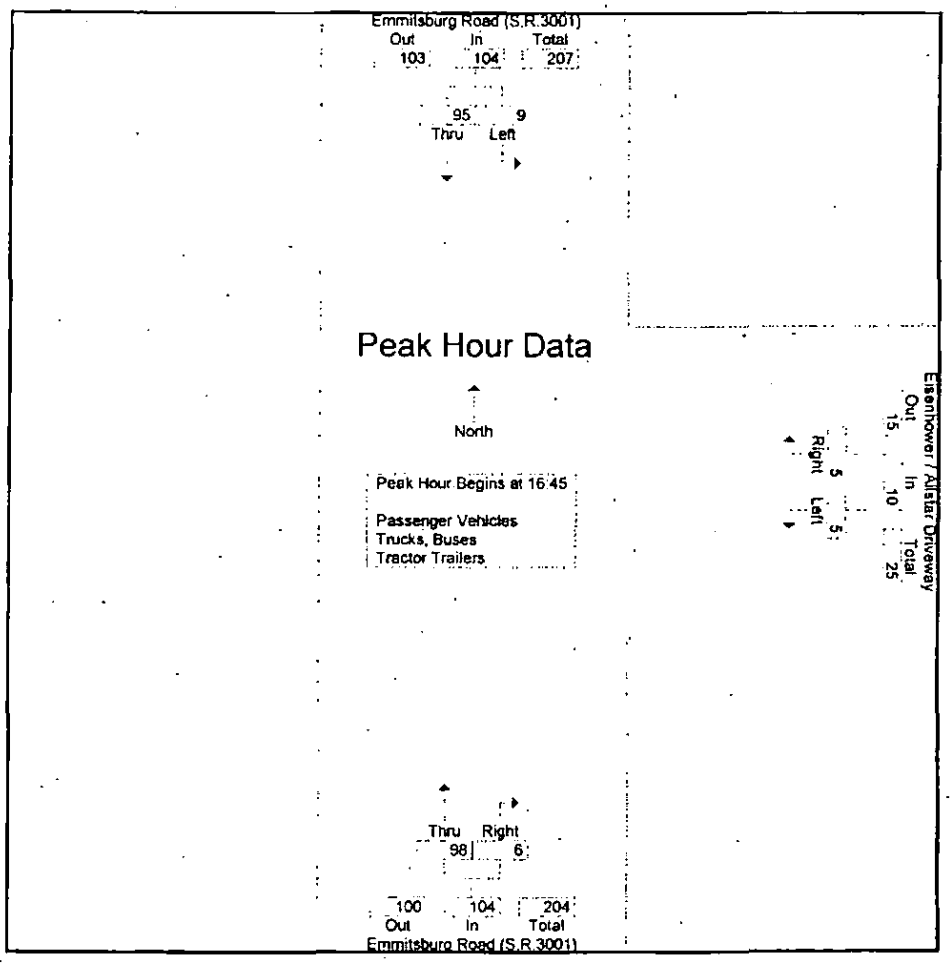
File Name : 3880111
Site Code : 03880101
Start Date : 1/14/2010
Page No : 2

	Emmitsburg Road (S.R.3001) Southbound			Eisenhower / Allstar Driveway Westbound			Emmitsburg Road (S.R.3001) Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 15:00 to 17:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:45										
16:45	27	2	29	1	2	3	0	29	29	61
17:00	21	3	24	1	0	1	1	25	26	51
17:15	23	1	24	1	2	3	1	23	24	51
17:30	24	3	27	2	1	3	4	21	25	55
Total Volume	95	9	104	5	5	10	6	98	104	218
% App. Total	91.3	8.7		50	50		5.8	94.2		
PHF	.880	.750	.897	.625	.625	.833	.375	.845	.897	.893



PEDESTRIAN COUNT
RECAP SHEET

Location: Emmitsburg Rd / Eisenhower / Allstar Driveway

Day/Date: Thursday / January 14, 2010

County: Adams

Observer: Steve

Municipality: Cumberland Twp.

File Name: 38801l1ped

TIME PERIOD	Emmitsburg Road (S.R.3001)			Eisenhower / Allstar Driveway			Total All Directions
	NORTH CROSSWALK	SOUTH CROSSWALK	Total NB / SB	EAST CROSSWALK	WEST CROSSWALK	Total EB / WB	
3:00PM - 3:15PM	0	0	0	0	0	0	0
3:15PM - 3:30PM	0	0	0	0	0	0	0
3:30PM - 3:45PM	0	4	4	0	0	0	4
3:45PM - 4:00PM	0	0	0	0	0	0	0
4:00PM - 4:15PM	0	0	0	0	0	0	0
4:15PM - 4:30PM	0	0	0	0	0	0	0
4:30PM - 4:45PM	0	0	0	0	0	0	0
4:45PM - 5:00PM	0	0	0	0	0	0	0
5:00PM - 5:15PM	0	0	0	0	0	0	0
5:15PM - 5:30PM	0	0	0	0	0	0	0
5:30PM - 5:45PM	0	0	0	0	0	0	0
5:45PM - 6:00PM	0	0	0	0	0	0	0
TOTAL PEDS	***0***	***4***	***4***	***0***	***0***	***0***	***4***

	PM PEAK HOUR (3:00 PM to 6:00 PM)
Peak Pedestrian Hour	3:30 PM to 4:30 PM
Peak North Crosswalk Total	0
Peak South Crosswalk Total	4
Peak East Crosswalk Total	0
Peak West Crosswalk Total	0
Peak Hour Total	4

* BUS STOP DIRECTLY ACROSS FROM EISENHOWER / ALLSTAR DRIVEWAY.

1448 - 5 STUDENTS

1543 - 4 STUDENT

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drw
Municipality: Cumberland Twp.
Day: Friday
Counter: Steve

File Name : 3880102
Site Code : 03880102
Start Date : 1/15/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
16:00	18	3	1	1	5	31	59
16:15	23	3	4	1	8	31	70
16:30	30	2	1	0	8	33	74
16:45	32	8	2	1	4	23	70
Total	103	16	8	3	25	118	273
17:00	20	4	3	2	5	23	57
17:15	21	6	4	2	7	22	62
17:30	23	1	2	0	4	29	59
17:45	23	7	0	1	6	27	64
Total	87	18	9	5	22	101	242
18:00	21	4	2	2	7	16	52
18:15	13	2	1	2	1	15	34
18:30	21	3	3	1	8	24	60
18:45	14	2	1	0	8	12	37
Total	69	11	7	5	24	67	183
Grand Total	259	45	24	13	71	286	698
Apprch %	85.2	14.8	64.9	35.1	19.9	80.1	
Total %	37.1	6.4	3.4	1.9	10.2	41	
Passenger Vehicles	258	45	24	13	71	285	696
% Passenger Vehicles	99.6	100	100	100	100	99.7	99.7
Trucks, Buses	0	0	0	0	0	1	1
% Trucks, Buses	0	0	0	0	0	0.3	0.1
Tractor Trailers	1	0	0	0	0	0	1
% Tractor Trailers	0.4	0	0	0	0	0	0.1

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drw
Municipality: Cumberland Twp.
Day: Friday
Counter: Steve

File Name : 3880112
Site Code : 03880102
Start Date : 1/15/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
16:00	0	0	0	0	0	1	1
Total	0	0	0	0	0	1	1
17:15	1	0	0	0	0	0	1
Total	1	0	0	0	0	0	1
Grand Total	1	0	0	0	0	1	2
Apprch %	100	0	0	0	0	100	
Total %	50	0	0	0	0	50	
Trucks, Buses	0	0	0	0	0	1	1
% Trucks, Buses	0	0	0	0	0	100	50
Tractor Trailers	1	0	0	0	0	0	1
% Tractor Trailers	100	0	0	0	0	0	50

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
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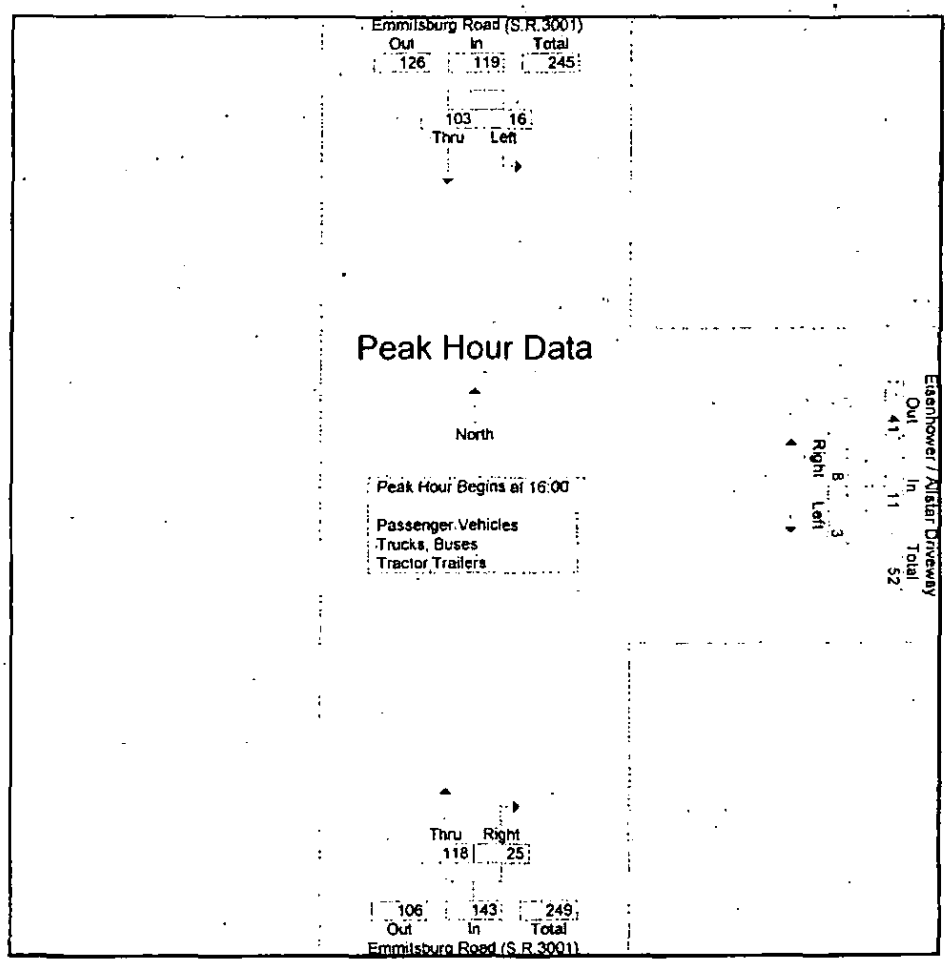
File Name : 3880112
Site Code : 03880102
Start Date : 1/15/2010
Page No : 2

	Emmitsburg Road (S.R.3001) Southbound			Eisenhower / Allstar Driveway Westbound			Emmitsburg Road (S.R.3001) Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 18:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	18	3	21	1	1	2	5	31	36	59
16:15	23	3	26	4	1	5	8	31	39	70
16:30	30	2	32	1	0	1	8	33	41	74
16:45	32	8	40	2	1	3	4	23	27	70
Total Volume	103	16	119	8	3	11	25	118	143	273
% App. Total	86.6	13.4		72.7	27.3		17.5	82.5		
PHF	.805	.500	.744	.500	.750	.550	.781	.894	.872	.922



PEDESTRIAN COUNT
RECAP SHEET

Location: Emmitsburg Rd / Eisenhower / Allstar Driveway

Day/Date: Friday / January 15, 2010

County: Adams

Observer: Steve

Municipality: Cumberland Twp.

File Name: 3880112ped

TIME PERIOD			Emmitsburg Road (S.R.3001)			Eisenhower / Allstar Driveway			Total All Directions
			NORTH CROSSWALK	SOUTH CROSSWALK	Total NB / SB	EAST CROSSWALK	WEST CROSSWALK	Total EB / WB	
4:00PM	-	4:15PM	0	0	0	0	0	0	0
4:15PM	-	4:30PM	0	0	0	0	0	0	0
4:30PM	-	4:45PM	0	0	0	0	0	0	0
4:45PM	-	5:00PM	0	0	0	0	0	0	0
5:00PM	-	5:15PM	0	0	0	0	0	0	0
5:15PM	-	5:30PM	0	0	0	0	0	0	0
5:30PM	-	5:45PM	0	0	0	0	0	0	0
5:45PM	-	6:00PM	0	0	0	0	0	0	0
6:00PM	-	6:15PM	0	0	0	0	0	0	0
6:15PM	-	6:30PM	0	0	0	0	0	0	0
6:30PM	-	6:45PM	0	0	0	0	0	0	0
6:45PM	-	7:00PM	0	0	0	0	0	0	0
TOTAL PEDS			*0*	*0*	*0*	*0*	*0*	*0*	*0*

	PM PEAK HOUR (4:00 PM to 7:00 PM)
Peak Pedestrian Hour	NA
Peak North Crosswalk Total	0
Peak South Crosswalk Total	0
Peak East Crosswalk Total	0
Peak West Crosswalk Total	0
Peak Hour Total	0

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drw
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 3880113
Site Code : 03880103
Start Date : 1/16/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
12:00	19	2	4	3	3	17	48
12:15	18	5	6	4	1	27	61
12:30	28	0	3	2	1	24	58
12:45	17	3	4	1	0	18	43
Total	82	10	17	10	5	86	210
13:00	35	3	2	6	2	23	71
13:15	27	3	2	2	2	17	53
13:30	33	0	4	0	3	14	54
13:45	22	5	2	1	1	32	63
Total	117	11	10	9	8	86	241
14:00	24	3	5	1	4	16	53
14:15	27	2	0	1	3	17	50
14:30	20	1	5	0	1	31	58
14:45	23	2	1	0	2	11	39
Total	94	8	11	2	10	75	200
Grand Total	293	29	38	21	23	247	651
Apprch %	91	9	64.4	35.6	8.5	91.5	
Total %	45	4.5	5.8	3.2	3.5	37.9	
Passenger Vehicles	292	29	38	21	23	247	650
% Passenger Vehicles	99.7	100	100	100	100	100	99.8
Trucks, Buses	1	0	0	0	0	0	1
% Trucks, Buses	0.3	0	0	0	0	0	0.2
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drw
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 3880113
Site Code : 03880103
Start Date : 1/16/2010
Page No : 1

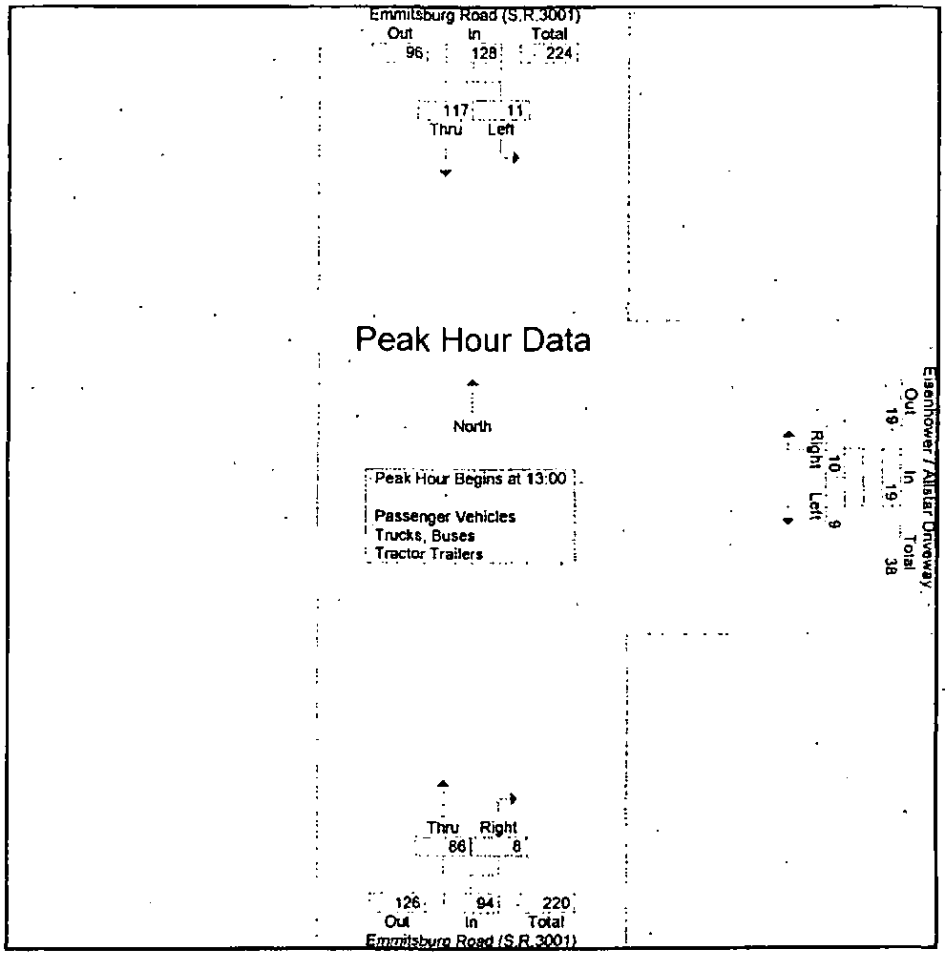
Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Driveway Westbound		Emmitsburg Road (S.R.3001) Northbound		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
13:00	1	0	0	0	0	0	1
Total	1	0	0	0	0	0	1
Grand Total	1	0	0	0	0	0	1
Apprch %	100	0	0	0	0	0	
Total %	100	0	0	0	0	0	
Trucks, Buses	1	0	0	0	0	0	1
% Trucks, Buses	100	0	0	0	0	0	100
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street, Suite 110
York, PA 17401
(717) 846-4660

File Name : 3880113
Site Code : 03880103
Start Date : 1/16/2010
Page No : 2

	Emmitsburg Road (S.R.3001) Southbound			Eisenhower / Allstar Driveway Westbound			Emmitsburg Road (S.R.3001) Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 14:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 13:00										
13:00	35	3	38	2	6	8	2	23	25	71
13:15	27	3	30	2	2	4	2	17	19	53
13:30	33	0	33	4	0	4	3	14	17	54
13:45	22	5	27	2	1	3	1	32	33	63
Total Volume	117	11	128	10	9	19	8	86	94	241
% App. Total	91.4	8.6		52.6	47.4		8.5	91.5		
PHF	.836	.550	.842	.625	.375	.594	.667	.672	.712	.849



PEDESTRIAN COUNT
RECAP SHEET

Location: Emmitsburg Rd / Eisenhower / Allstar Driveway

Day/Date: Saturday / January 16, 2010

County: Adams

Observer: Steve

Municipality: Cumberland Twp.

File Name: 38801I3ped

TIME PERIOD			Emmitsburg Road (S.R.3001)			Eisenhower / Allstar Driveway			Total All Directions
			NORTH CROSSWALK	SOUTH CROSSWALK	Total NB / SB	EAST CROSSWALK	WEST CROSSWALK	Total EB / WB	
12:00 PM	-	12:15 PM	0	0	0	0	0	0	0
12:15 PM	-	12:30 PM	0	0	0	0	0	0	0
12:30 PM	-	12:45 PM	2	0	2	0	* 1	1	3
12:45 PM	-	1:00 PM	0	0	0	0	0	0	0
1:00 PM	-	1:15 PM	1	0	1	0	0	0	1
1:15 PM	-	1:30 PM	0	0	0	0	0	0	0
1:30 PM	-	1:45 PM	0	0	0	0	0	0	0
1:45 PM	-	2:00 PM	0	0	0	0	0	0	0
2:00 PM	-	2:15 PM	0	0	0	0	0	0	0
2:15 PM	-	2:30 PM	0	0	0	0	0	0	0
2:30 PM	-	2:45 PM	0	0	0	0	0	0	0
2:45 PM	-	3:00 PM	0	0	0	0	0	0	0
TOTAL PEDS			3	0	3	0	1	1	4

	SAT PEAK HOUR (12:00 PM to 3:00 PM)
Peak Pedestrian Hour	12:30 PM to 1:30 PM
Peak North Crosswalk Total	3
Peak South Crosswalk Total	0
Peak East Crosswalk Total	0
Peak West Crosswalk Total	* 1
Peak Hour Total	4

* Bike

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Thursday
Counter: Joe

File Name : 3880114
Site Code : 00388014
Start Date : 2/18/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 SB off ramp Westbound		Emmitsburg Road Northbound			
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
15:00	15	12	12	0	5	20	0	64
15:15	9	11	13	0	7	22	0	62
15:30	10	16	10	0	16	27	3	82
15:45	19	10	8	0	3	34	0	74
Total	53	49	43	0	31	103	3	282
16:00	18	15	3	0	7	42	2	87
16:15	15	14	9	1	9	26	2	76
16:30	13	11	12	0	3	38	0	77
16:45	15	14	13	0	10	37	5	94
Total	61	54	37	1	29	143	9	334
17:00	17	13	7	0	5	41	3	86
17:15	17	11	15	0	7	61	0	111
17:30	11	12	19	1	6	58	3	110
17:45	9	11	23	0	5	37	1	86
Total	54	47	64	1	23	197	7	393
Grand Total	168	150	144	2	83	443	19	1009
Apprch %	52.8	47.2	62.9	0.9	36.2	95.9	4.1	
Total %	16.7	14.9	14.3	0.2	8.2	43.9	1.9	
Passenger Vehicles	166	140	137	2	80	433	16	974
% Passenger Vehicles	98.8	93.3	95.1	100	96.4	97.7	84.2	96.5
Trucks, Buses	1	10	7	0	1	10	0	29
% Trucks, Buses	0.6	6.7	4.9	0	1.2	2.3	0	2.9
Tractor Trailers	1	0	0	0	2	0	3	6
% Tractor Trailers	0.6	0	0	0	2.4	0	15.8	0.6

Transportation Resource Group, Inc.
204 North George Street Suite 140
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Thursday
Counter: Joe

File Name : 3880114
Site Code : 00388014
Start Date : 2/18/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 SB off ramp Westbound			Emmitsburg Road Northbound		
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
15:00	0	3	0	0	0	1	0	4
15:30	0	2	2	0	1	1	0	6
15:45	1	3	0	0	0	0	0	4
Total	1	8	2	0	1	2	0	14
16:00	0	0	0	0	0	3	0	3
16:15	0	0	0	0	0	2	1	3
16:30	0	0	1	0	0	0	0	1
16:45	0	1	3	0	2	0	1	7
Total	0	1	4	0	2	5	2	14
17:30	1	0	0	0	0	1	0	2
17:45	0	1	1	0	0	2	1	5
Total	1	1	1	0	0	3	1	7
Grand Total	2	10	7	0	3	10	3	35
Apprch %	16.7	83.3	70	0	30	76.9	23.1	
Total %	5.7	28.6	20	0	8.6	28.6	8.6	
Trucks, Buses	1	10	7	0	1	10	0	29
% Trucks, Buses	50	100	100	0	33.3	100	0	82.9
Tractor Trailers	1	0	0	0	2	0	3	6
% Tractor Trailers	50	0	0	0	66.7	0	100	17.1

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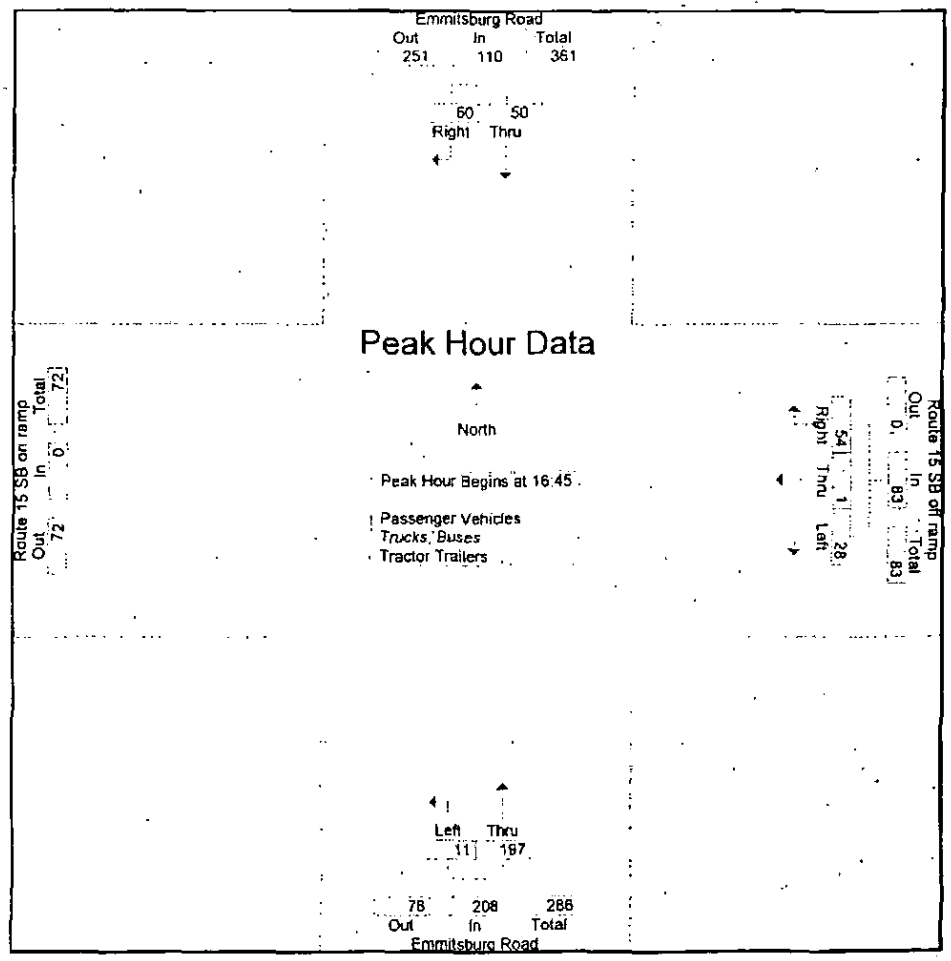
File Name : 3880114
Site Code : 00388014
Start Date : 2/18/2010
Page No : 2

	Emmitsburg Road Southbound			Route 15 SB off ramp Westbound				Emmitsburg Road Northbound			Eastbound	
Start Time	Right	Thru	App. Total	Right	Thru	Left	App. Total	Thru	Left	App. Total	App. Total	Int. Total
Peak Hour Analysis From 15:00 to 17:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 16:45												
16:45	15	14	29	13	0	10	23	37	5	42	0	94
17:00	17	13	30	7	0	5	12	41	3	44	0	86
17:15	17	11	28	15	0	7	22	61	0	61	0	111
17:30	11	12	23	19	1	6	26	58	3	61	0	110
Total Volume	60	50	110	54	1	28	83	197	11	208	0	401
% App. Total	54.5	45.5		65.1	1.2	33.7		94.7	5.3			
PHF	.882	.893	.917	.711	.250	.700	.798	.807	.550	.852	.000	.903



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Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Friday
Counter: Joe

File Name : 38801144
Site Code : 00388044
Start Date : 2/19/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 off ramp Westbound			Emmitsburg Road Northbound		
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
16:00	17	21	14	0	13	46	1	112
16:15	16	20	14	0	10	37	3	100
16:30	10	12	18	1	10	38	3	92
16:45	15	14	18	0	10	37	5	99
Total	58	67	64	1	43	158	12	403
17:00	11	14	15	0	10	39	2	91
17:15	22	19	11	0	6	34	1	93
17:30	11	13	8	0	4	44	1	81
17:45	15	15	5	0	4	20	2	61
Total	59	61	39	0	24	137	6	326
18:00	17	12	9	0	11	31	0	80
18:15	12	12	12	0	6	22	0	64
18:30	13	9	12	0	5	27	3	69
18:45	11	11	13	0	4	21	2	62
Total	53	44	46	0	26	101	5	275
Grand Total	170	172	149	1	93	396	23	1004
Apprch %	49.7	50.3	61.3	0.4	38.3	94.5	5.5	
Total %	16.9	17.1	14.8	0.1	9.3	39.4	2.3	
Passenger Vehicles	167	166	148	1	88	390	20	980
% Passenger Vehicles	98.2	96.5	99.3	100	94.6	98.5	87	97.6
Trucks, Buses	2	6	1	0	3	5	1	18
% Trucks, Buses	1.2	3.5	0.7	0	3.2	1.3	4.3	1.8
Tractor Trailers	1	0	0	0	2	1	2	6
% Tractor Trailers	0.6	0	0	0	2.2	0.3	8.7	0.6

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Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Friday
Counter: Joe

File Name : 38801144
Site Code : 00388044
Start Date : 2/19/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 off ramp Westbound			Emmitsburg Road Northbound		
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
16:00	0	3	0	0	0	2	0	5
16:15	1	0	0	0	1	0	1	3
16:30	0	1	0	0	0	2	1	4
16:45	0	0	0	0	1	1	0	2
Total	1	4	0	0	2	5	2	14
17:00	0	0	1	0	0	0	0	1
17:15	0	0	0	0	1	0	0	1
17:30	0	1	0	0	1	0	0	2
17:45	0	1	0	0	0	0	1	2
Total	0	2	1	0	2	0	1	6
18:00	1	0	0	0	0	0	0	1
18:15	1	0	0	0	1	0	0	2
18:30	0	0	0	0	0	1	0	1
Total	2	0	0	0	1	1	0	4
Grand Total	3	6	1	0	5	6	3	24
Apprch %	33.3	66.7	16.7	0	83.3	66.7	33.3	
Total %	12.5	25	4.2	0	20.8	25	12.5	
Trucks, Buses	2	6	1	0	3	5	1	18
% Trucks, Buses	66.7	100	100	0	60	83.3	33.3	75
Tractor Trailers	1	0	0	0	2	1	2	6
% Tractor Trailers	33.3	0	0	0	40	16.7	66.7	25

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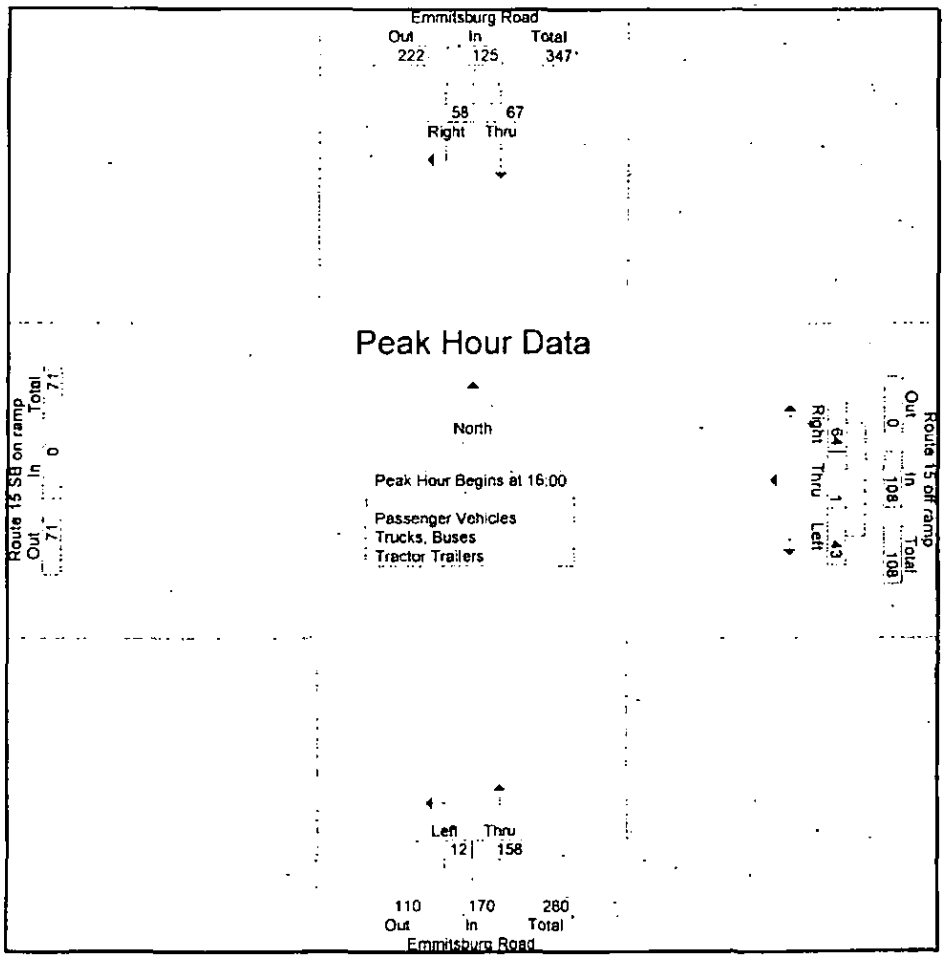
File Name : 38801144
Site Code : 00388044
Start Date : 2/19/2010
Page No : 2

	Emmitsburg Road Southbound			Route 15 off ramp Westbound				Emmitsburg Road Northbound			Eastbound	
Start Time	Right	Thru	App. Total	Right	Thru	Left	App. Total	Thru	Left	App. Total	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 19:00 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 16:00												
16:00	17	21	38	14	0	13	27	46	1	47	0	112
16:15	16	20	36	14	0	10	24	37	3	40	0	100
16:30	10	12	22	18	1	10	29	38	3	41	0	92
16:45	15	14	29	18	0	10	28	37	5	42	0	99
Total Volume	58	67	125	64	1	43	108	158	12	170	0	403
% App. Total	46.4	53.6		59.3	0.9	39.8		92.9	7.1			
PHF	.853	.798	.822	.889	.250	.827	.931	.859	.600	.904	.000	.900



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Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Saturday
Counter: Brian

File Name : 38801S4
Site Code : 00388014
Start Date : 2/20/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 SB off ramp Westbound			Emmitsburg Road Northbound		
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
12:00	11	21	12	0	9	14	1	68
12:15	10	9	14	0	7	31	3	74
12:30	22	12	16	0	5	20	4	79
12:45	19	18	16	0	3	27	1	84
Total	62	60	58	0	24	92	9	305
13:00	12	23	7	0	6	18	1	67
13:15	20	13	13	0	4	22	2	74
13:30	26	15	17	0	5	20	1	84
13:45	18	14	11	0	8	21	1	73
Total	76	65	48	0	23	81	5	298
14:00	12	19	8	0	4	23	2	68
14:15	18	17	13	0	5	35	1	89
14:30	17	16	25	0	4	16	0	78
14:45	21	21	20	0	4	19	1	86
Total	68	73	66	0	17	93	4	321
Grand Total	206	198	172	0	64	266	18	924
Apprch %	51	49	72.9	0	27.1	93.7	6.3	
Total %	22.3	21.4	18.6	0	6.9	28.8	1.9	
Passenger Vehicles	205	198	165	0	64	262	17	911
% Passenger Vehicles	99.5	100	95.9	0	100	98.5	94.4	98.6
Trucks, Buses	1	0	6	0	0	4	1	12
% Trucks, Buses	0.5	0	3.5	0	0	1.5	5.6	1.3
Tractor Trailers	0	0	1	0	0	0	0	1
% Tractor Trailers	0	0	0.6	0	0	0	0	0.1

Transportation Resource Group, Inc.
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Emmitsburg Rd / Rt 15 SB on-off ramp
Municipality: Cumberland Twp.
Day: Saturday
Counter: Brian

File Name : 38801S4
Site Code : 00388014
Start Date : 2/20/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Route 15 SB off ramp Westbound		Emmitsburg Road Northbound			
Start Time	Right	Thru	Right	Thru	Left	Thru	Left	Int. Total
13:15	1	0	2	0	0	0	0	3
13:30	0	0	2	0	0	1	0	3
Total	1	0	4	0	0	1	0	6
14:00	0	0	0	0	0	1	0	1
14:15	0	0	0	0	0	2	1	3
14:30	0	0	1	0	0	0	0	1
14:45	0	0	2	0	0	0	0	2
Total	0	0	3	0	0	3	1	7
Grand Total	1	0	7	0	0	4	1	13
Apprch %	100	0	100	0	0	80	20	
Total %	7.7	0	53.8	0	0	30.8	7.7	
Trucks, Buses	1	0	6	0	0	4	1	12
% Trucks, Buses	100	0	85.7	0	0	100	100	92.3
Tractor Trailers	0	0	1	0	0	0	0	1
% Tractor Trailers	0	0	14.3	0	0	0	0	7.7

Transportation Resource Group, Inc.
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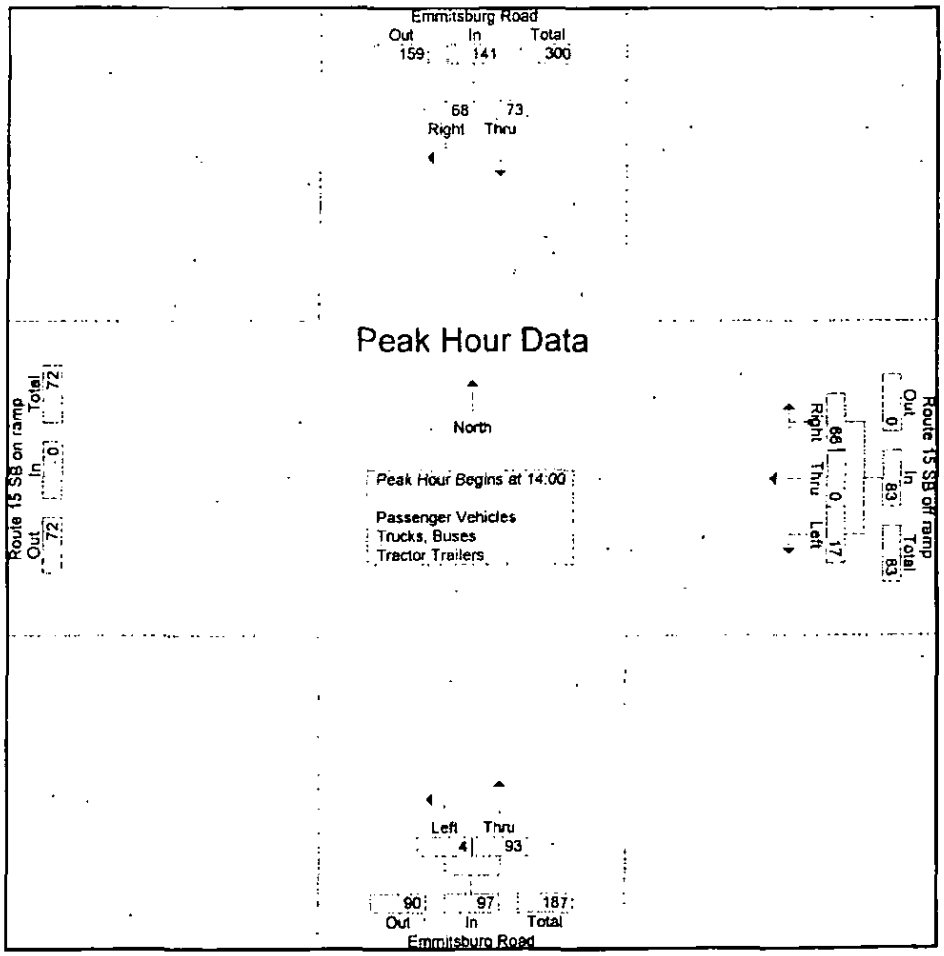
File Name : 38801S4
Site Code : 00388014
Start Date : 2/20/2010
Page No : 2

	Emmitsburg Road Southbound			Route 15 SB off ramp Westbound				Emmitsburg Road Northbound			Eastbound	
Start Time	Right	Thru	App. Total	Right	Thru	Left	App. Total	Thru	Left	App. Total	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 14:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 14:00												
14:00	12	19	31	8	0	4	12	23	2	25	0	68
14:15	18	17	35	13	0	5	18	35	1	36	0	89
14:30	17	16	33	25	0	4	29	16	0	16	0	78
14:45	21	21	42	20	0	4	24	19	1	20	0	86
Total Volume	68	73	141	66	0	17	83	93	4	97	0	321
% App. Total	48.2	51.8		79.5	0	20.5		95.9	4.1			
PHF	.810	.869	.839	.660	.000	.850	.716	.664	.500	.674	.000	.902



Transportation Resource Group, Inc.
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(717) 846-4660

Emmitsburg Rd / Rt.15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880115
Site Code : 03880105
Start Date : 2/18/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB on ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
15:00	10	6	1	6	1	0	18	42
15:15	11	8	4	3	0	0	17	43
15:30	25	7	4	9	1	0	21	67
15:45	5	7	3	5	2	0	30	52
Total	51	28	12	23	4	0	86	204
16:00	12	10	4	14	1	0	28	69
16:15	17	5	5	8	2	1	20	58
16:30	6	8	8	8	0	0	36	66
16:45	14	9	2	12	2	0	33	72
Total	49	32	19	42	5	1	117	265
17:00	11	9	10	14	1	0	31	76
17:15	12	5	10	17	1	0	48	93
17:30	12	7	3	13	0	0	52	87
17:45	8	8	2	10	1	0	29	58
Total	43	29	25	54	3	0	160	314
Grand Total	143	89	56	119	12	1	363	783
Apprch %	61.6	38.4	32	68	3.2	0.3	96.5	
Total %	18.3	11.4	7.2	15.2	1.5	0.1	46.4	
Passenger Vehicles	137	85	55	111	12	0	362	762
% Passenger Vehicles	95.8	95.5	98.2	93.3	100	0	99.7	97.3
Trucks, Buses	4	4	0	5	0	0	0	13
% Trucks, Buses	2.8	4.5	0	4.2	0	0	0	1.7
Tractor Trailers	2	0	1	3	0	1	1	8
% Tractor Trailers	1.4	0	1.8	2.5	0	100	0.3	1

Transportation Resource Group, Inc.
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Emmitsburg Rd / Rt 15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

File Name : 3880115
Site Code : 03880105
Start Date : 2/18/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB on ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
15:00	3	0	0	2	0	0	0	5
15:30	1	1	0	1	0	0	0	3
15:45	1	1	0	0	0	0	0	2
Total	5	2	0	3	0	0	0	10
16:00	0	1	0	2	0	0	0	3
16:15	0	0	0	1	0	1	1	3
16:45	1	0	0	1	0	0	0	2
Total	1	1	0	4	0	1	1	8
17:30	0	0	1	0	0	0	0	1
17:45	0	1	0	1	0	0	0	2
Total	0	1	1	1	0	0	0	3
Grand Total	6	4	1	8	0	1	1	21
Apprch %	60	40	11.1	88.9	0	50	50	
Total %	28.6	19	4.8	38.1	0	4.8	4.8	
Trucks, Buses	4	4	0	5	0	0	0	13
% Trucks, Buses	66.7	100	0	62.5	0	0	0	61.9
Tractor Trailers	2	0	1	3	0	1	1	8
% Tractor Trailers	33.3	0	100	37.5	0	100	100	38.1

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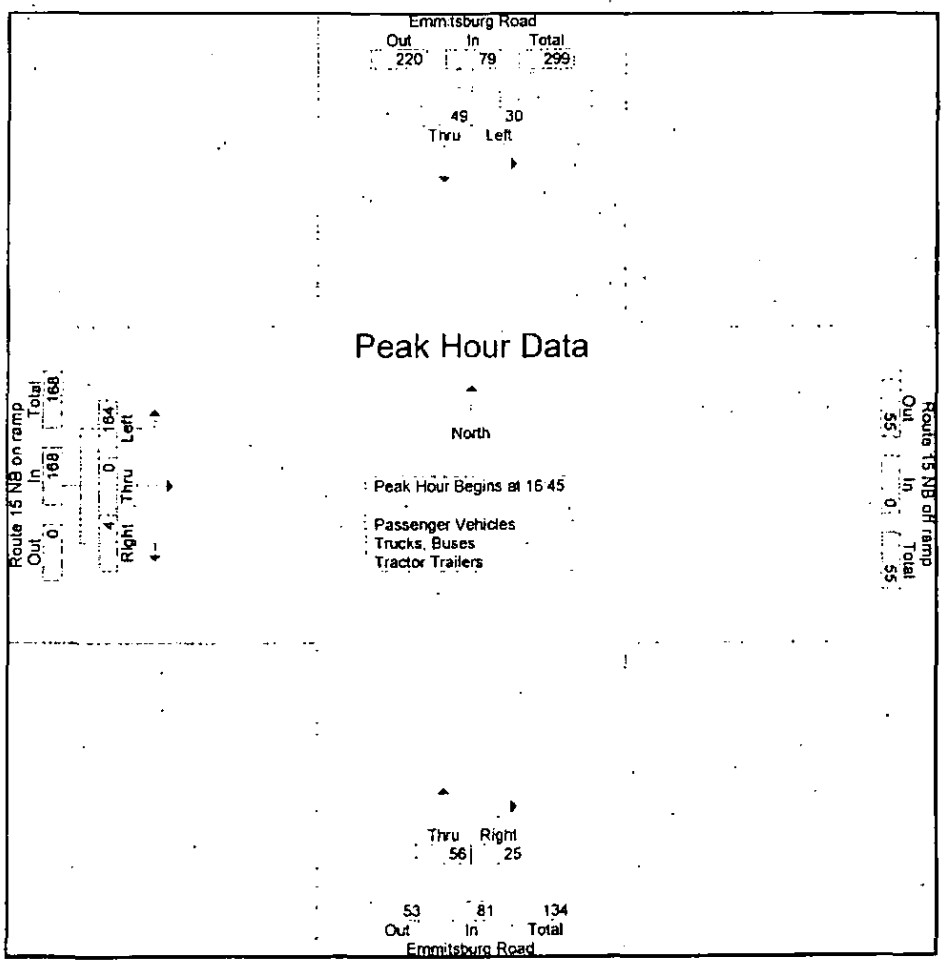
File Name : 3880115
Site Code : 03880105
Start Date : 2/18/2010
Page No : 2

	Emmitsburg Road Southbound			Westbound	Emmitsburg Road Northbound			Route 15 NB on ramp Eastbound				
Start Time	Thru	Left	App. Total	App. Total	Right	Thru	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 15:00 to 17:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 16:45												
16:45	14	9	23	0	2	12	14	2	0	33	35	72
17:00	11	9	20	0	10	14	24	1	0	31	32	76
17:15	12	5	17	0	10	17	27	1	0	48	49	93
17:30	12	7	19	0	3	13	16	0	0	52	52	87
Total Volume	49	30	79	0	25	56	81	4	0	164	168	328
% App. Total	62	38			30.9	69.1		2.4	0	97.6		
PHF	.875	.833	.859	.000	.625	.824	.750	.500	.000	.788	.808	.882



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Emmitsburg Rd / Rt 15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Friday
Counter: Steve

File Name : 38801155
Site Code : 03880155
Start Date : 2/19/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB off ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
16:00	25	11	10	16	1	0	35	98
16:15	21	5	9	10	2	0	24	71
16:30	13	11	11	12	1	0	30	78
16:45	18	9	13	12	1	0	34	87
Total	77	36	43	50	5	0	123	334
17:00	19	5	12	13	3	0	34	86
17:15	14	11	7	10	1	0	26	69
17:30	11	6	11	12	1	1	37	79
17:45	10	9	6	10	0	1	14	50
Total	*54*	*31*	*36*	*45*	*5*	*2*	*111*	*284*
18:00	15	5	7	6	1	0	28	62
18:15	12	8	10	6	2	0	17	55
18:30	7	9	2	9	1	0	18	46
18:45	5	9	12	9	3	0	15	53
Total	39	31	31	30	7	0	78	216
Grand Total	170	98	110	125	17	2	312	834
Apprch %	63.4	36.6	46.8	53.2	5.1	0.6	94.3	
Total %	20.4	11.8	13.2	15	2	0.2	37.4	
Passenger Vehicles	165	98	110	122	17	2	310	824
% Passenger Vehicles	97.1	100	100	97.6	100	100	99.4	98.8
Trucks, Buses	2	0	0	1	0	0	1	4
% Trucks, Buses	1.2	0	0	0.8	0	0	0.3	0.5
Tractor Trailers	3	0	0	2	0	0	1	6
% Tractor Trailers	1.8	0	0	1.6	0	0	0.3	0.7

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204 North George Street Suite 110
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Emmitsburg Rd / Rt 15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Friday
Counter: Steve

File Name : 38801155
Site Code : 03880155
Start Date : 2/19/2010
Page No : 1

Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB off ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
16:00	1	0	0	1	0	0	0	2
16:15	0	0	0	1	0	0	0	1
16:30	1	0	0	0	0	0	1	2
16:45	1	0	0	0	0	0	1	2
Total	3	0	0	2	0	0	2	7
17:15	1	0	0	0	0	0	0	1
17:45	0	0	0	1	0	0	0	1
Total	1	0	0	1	0	0	0	2
18:15	1	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	1
Grand Total	5	0	0	3	0	0	2	10
Apprch %	100	0	0	100	0	0	100	
Total %	50	0	0	30	0	0	20	
Trucks, Buses	2	0	0	1	0	0	1	4
% Trucks, Buses	40	0	0	33.3	0	0	50	40
Tractor Trailers	3	0	0	2	0	0	1	6
% Tractor Trailers	60	0	0	66.7	0	0	50	60

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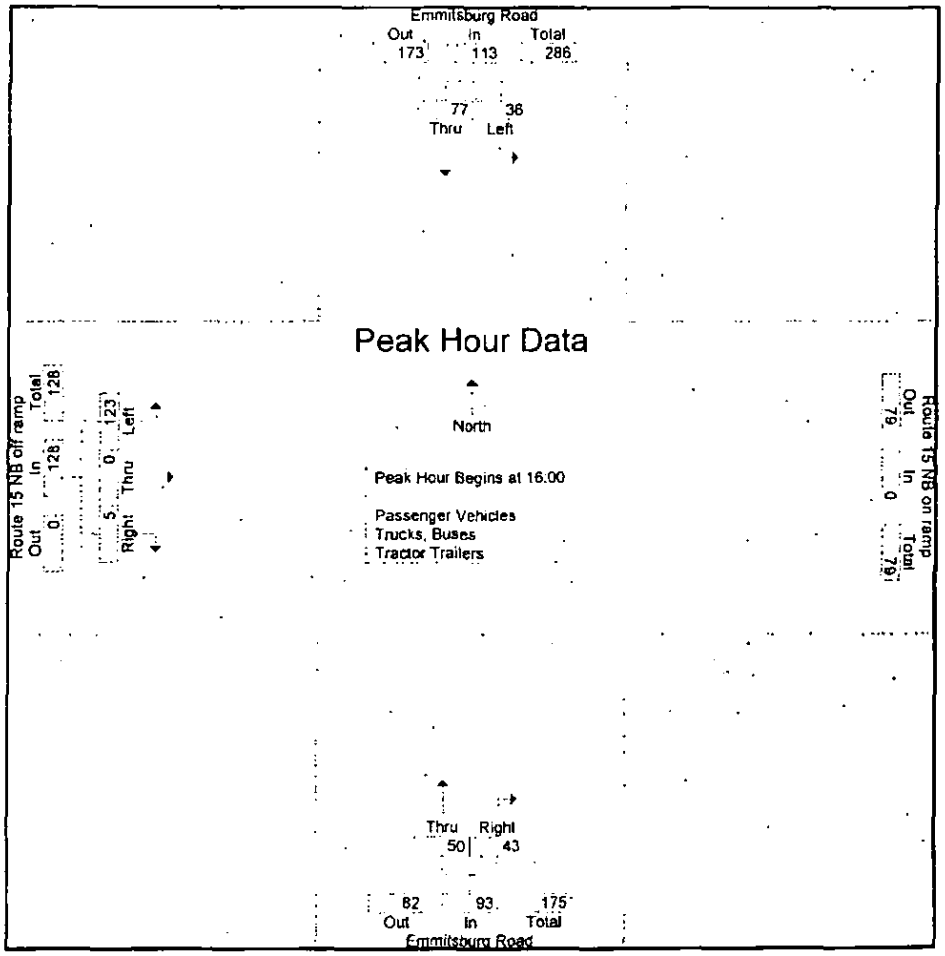
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

File Name : 38801155
Site Code : 03880155
Start Date : 2/19/2010
Page No : 2

	Emmitsburg Road Southbound			Westbound	Emmitsburg Road Northbound			Route 15 NB off ramp Eastbound				
Start Time	Thru	Left	App. Total	App. Total	Right	Thru	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 18:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 16:00												
16:00	25	11	36	0	10	16	26	1	0	35	36	98
16:15	21	5	26	0	9	10	19	2	0	24	26	71
16:30	13	11	24	0	11	12	23	1	0	30	31	78
16:45	18	9	27	0	13	12	25	1	0	34	35	87
Total Volume	77	36	113	0	43	50	93	5	0	123	128	334
% App. Total	68.1	31.9			46.2	53.8		3.9	0	96.1		
PHF	.770	.818	.785	.000	.827	.781	.894	.625	.000	.879	.889	.852



Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Rt 15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 38801S5
Site Code : 03880105
Start Date : 2/20/2010
Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB off ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
12:00	13	9	5	7	0	0	10	44
12:15	11	6	2	13	0	0	23	55
12:30	8	11	5	11	0	0	13	48
12:45	11	8	7	1	1	1	29	58
Total	43	34	19	32	1	1	75	205
13:00	10	18	6	3	1	0	18	56
13:15	9	7	7	7	2	0	16	48
13:30	7	13	6	4	1	0	19	50
13:45	15	7	4	4	1	0	20	51
Total	41	45	23	18	5	0	73	205
14:00	13	10	5	8	1	0	18	55
14:15	6	11	8	9	0	0	28	62
14:30	12	5	4	6	0	0	11	38
14:45	13	8	7	4	1	1	16	50
Total	44	34	24	27	2	1	73	205
Grand Total	128	113	66	77	8	2	221	615
Apprch %	53.1	46.9	46.2	53.8	3.5	0.9	95.7	
Total %	20.8	18.4	10.7	12.5	1.3	0.3	35.9	
Passenger Vehicles	128	113	65	76	8	2	217	609
% Passenger Vehicles	100	100	98.5	98.7	100	100	98.2	99
Trucks, Buses	0	0	1	1	0	0	4	6
% Trucks, Buses	0	0	1.5	1.3	0	0	1.8	1
Tractor Trailers	0	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

Emmitsburg Rd / Rt 15 NB on-off ramp
Municipality: Cumberland Twp.
Day: Saturday
Counter: Steve

File Name : 38801S5
Site Code : 03880105
Start Date : 2/20/2010
Page No : 1

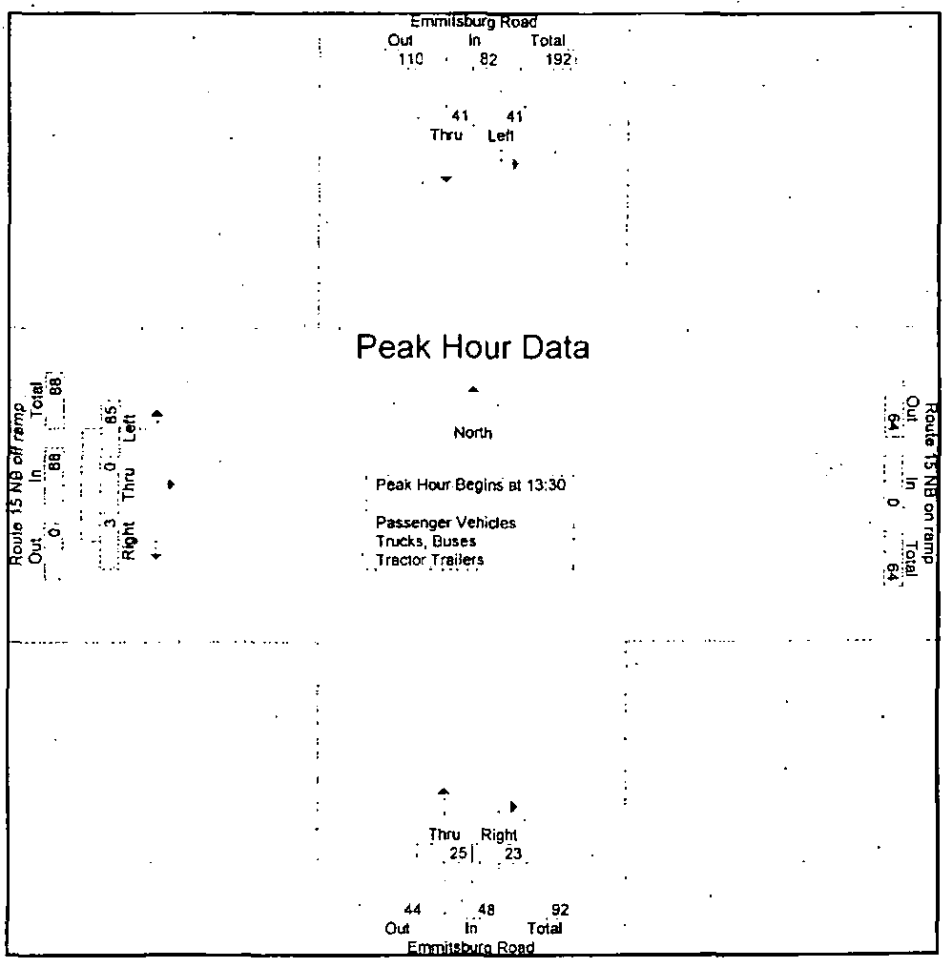
Groups Printed- Trucks, Buses - Tractor Trailers

	Emmitsburg Road Southbound		Emmitsburg Road Northbound		Route 15 NB off ramp Eastbound			
Start Time	Thru	Left	Right	Thru	Right	Thru	Left	Int. Total
13:30	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	1	1
14:00	0	0	0	0	0	0	1	1
14:15	0	0	0	1	0	0	2	3
14:30	0	0	1	0	0	0	0	1
Total	0	0	1	1	0	0	3	5
Grand Total	0	0	1	1	0	0	4	6
Apprch %	0	0	50	50	0	0	100	
Total %	0	0	16.7	16.7	0	0	66.7	
Trucks, Buses	0	0	1	1	0	0	4	6
% Trucks, Buses	0	0	100	100	0	0	100	100
Tractor Trailers	0	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0	0

Transportation Resource Group, Inc.
204 North George Street Suite 110
York, PA 17401
(717) 846-4660

File Name : 38801S5
Site Code : 03880105
Start Date : 2/20/2010
Page No. : 2

	Emmitsburg Road Southbound			Westbound	Emmitsburg Road Northbound			Route 15 NB off ramp Eastbound				
Start Time	Thru	Left	App. Total	App. Total	Right	Thru	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 14:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 13:30												
13:30	7	13	20	0	6	4	10	1	0	19	20	50
13:45	15	7	22	0	4	4	8	1	0	20	21	51
14:00	13	10	23	0	5	8	13	1	0	18	19	55
14:15	6	11	17	0	8	9	17	0	0	28	28	62
Total Volume	41	41	82	0	23	25	48	3	0	85	88	218
% App. Total	50	50			47.9	52.1		3.4	0	96.6		
PHF	.683	.788	.891	.000	.719	.694	.706	.750	.000	.759	.786	.879



TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Eisenhower / Allstar Drwy
Location: east of Emmitsburg Road
Direction: EB (In)
Municipality: Cumberland Twp.

Site Code: 3880101

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 11-Jan-10	Tue 12-Jan-10	Wed 13-Jan-10	Thu 14-Jan-10	Fri 15-Jan-10	Average Day	Sat 16-Jan-10	Sun 17-Jan-10	Week Average
12:00 AM	*	*	1	2	0	1	3	3	2
01:00	*	*	1	0	0	0	6	4	2
02:00	*	*	0	0	2	1	0	2	1
03:00	*	*	1	1	0	1	2	0	1
04:00	*	*	1	1	1	1	5	0	2
05:00	*	*	0	1	2	1	2	4	2
06:00	*	*	5	4	4	4	0	3	3
07:00	*	*	4	4	8	5	5	7	6
08:00	*	*	10	12	17	13	4	3	9
09:00	*	*	7	**44**	9	**20**	15	7	16
10:00	*	*	8	26	13	16	**26**	9	16
11:00	*	**9**	**19**	7	**18**	13	26	**36**	**19**
12:00 PM	*	18	22	8	24	18	17	28	20
01:00	*	14	16	8	21	15	24	12	16
02:00	*	17	11	22	36	22	20	**37**	24
03:00	*	14	16	15	**93**	**34**	30	13	**30**
04:00	*	6	20	25	47	24	15	12	21
05:00	*	**25**	**44**	25	38	33	21	5	26
06:00	*	20	28	**35**	40	31	**36**	8	28
07:00	*	17	12	5	26	15	28	8	16
08:00	*	24	8	14	15	15	15	2	13
09:00	*	6	10	7	12	9	13	3	8
10:00	*	6	7	7	14	8	3	3	7
11:00	*	0	0	1	6	2	5	2	2
Day Total	0	176	251	274	446	302	321	211	290
% Avg. WkDay	0.0%	58.3%	83.1%	90.7%	147.7%				
% Avg. Week	0.0%	60.7%	86.6%	94.5%	153.8%	104.1%	110.7%	72.8%	
AM Peak		11:00	11:00	09:00	11:00	09:00	10:00	11:00	11:00
Vol.		9	19	44	18	20	26	36	19
PM Peak		17:00	17:00	18:00	15:00	15:00	18:00	14:00	15:00
Vol.		25	44	35	93	34	36	37	30

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Eisenhower / Allstar Drwy
Location: east of Emmitsburg Road
Direction: EB (In)
Municipality: Cumberland Twp.

Site Code: 3880101

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 18-Jan-10	Tue 19-Jan-10	Wed 20-Jan-10	Thu 21-Jan-10	Fri 22-Jan-10	Average Day	Sat 23-Jan-10	Sun 24-Jan-10	Week Average
12:00 AM	1	*	*	*	*	1	*	*	1
01:00	0	*	*	*	*	0	*	*	0
02:00	0	*	*	*	*	0	*	*	0
03:00	2	*	*	*	*	2	*	*	2
04:00	4	*	*	*	*	4	*	*	4
05:00	1	*	*	*	*	1	*	*	1
06:00	0	*	*	*	*	0	*	*	0
07:00	4	*	*	*	*	4	*	*	4
08:00	7	*	*	*	*	7	*	*	7
09:00	7	*	*	*	*	7	*	*	7
10:00	9	*	*	*	*	9	*	*	9
11:00	**13**	*	*	*	*	**13**	*	*	**13**
12:00 PM	**15**	*	*	*	*	**15**	*	*	**15**
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	63	0	0	0	0	63	0	0	63
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00					11:00			11:00
Vol.	13					13			13
PM Peak	12:00					12:00			12:00
Vol.	15					15			15
Grand Total	63	176	251	274	446	365	321	211	353

ADT ADT 301 AADT 301

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Eisenhower / Allstar Drwy
Location: east of Emmitsburg Road
Direction: WB (Out)
Municipality: Cumberland Twp.

Site Code: 3880102

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 11-Jan-10	Tue 12-Jan-10	Wed 13-Jan-10	Thu 14-Jan-10	Fri 15-Jan-10	Average Day	Sat 16-Jan-10	Sun 17-Jan-10	Week Average
12:00 AM	*	*	1	0	0	0	1	4	1
01:00	*	*	0	0	0	0	1	4	1
02:00	*	*	0	0	0	0	1	1	0
03:00	*	*	1	1	2	1	2	0	1
04:00	*	*	3	2	2	2	3	1	2
05:00	*	*	1	5	5	4	1	3	3
06:00	*	*	9	7	6	7	2	0	5
07:00	*	*	11	13	12	**12**	5	7	10
08:00	*	*	10	**16**	11	12	6	5	10
09:00	*	*	**12**	6	10	9	**20**	14	12
10:00	*	*	12	8	**13**	11	20	25	16
11:00	*	**12**	10	11	10	11	12	**64**	**20**
12:00 PM	*	12	18	6	**17**	13	**28**	**82**	**27**
01:00	*	9	15	18	11	13	19	27	16
02:00	*	9	8	11	13	10	13	36	15
03:00	*	13	8	**35**	8	16	17	13	16
04:00	*	5	12	13	15	11	14	19	13
05:00	*	11	9	7	17	11	25	9	13
06:00	*	1	7	9	12	7	18	3	8
07:00	*	**19**	24	19	13	**19**	18	1	16
08:00	*	17	**32**	15	4	17	7	3	13
09:00	*	15	4	3	8	8	21	4	9
10:00	*	18	2	3	5	7	4	2	6
11:00	*	1	3	2	5	3	7	2	3
Day Total	0	142	212	210	199	204	265	329	236
% Avg. WkDay	0.0%	69.6%	103.9%	102.9%	97.5%				
% Avg. Week	0.0%	60.2%	89.8%	89.0%	84.3%	86.4%	112.3%	139.4%	
AM Peak		11:00	09:00	08:00	10:00	07:00	09:00	11:00	11:00
Vol.		12	12	16	13	12	20	64	20
PM Peak		19:00	20:00	15:00	12:00	19:00	12:00	12:00	12:00
Vol.		19	32	35	17	19	28	82	27

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Eisenhower / Allstar Drwy
Location: east of Emmitsburg Road
Direction: WB (Out)
Municipality: Cumberland Twp.

Site Code: 3880102

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 18-Jan-10	Tue 19-Jan-10	Wed 20-Jan-10	Thu 21-Jan-10	Fri 22-Jan-10	Average Day	Sat 23-Jan-10	Sun 24-Jan-10	Week Average
12:00 AM	0	*	*	*	*	0	*	*	0
01:00	0	*	*	*	*	0	*	*	0
02:00	0	*	*	*	*	0	*	*	0
03:00	1	*	*	*	*	1	*	*	1
04:00	3	*	*	*	*	3	*	*	3
05:00	1	*	*	*	*	1	*	*	1
06:00	4	*	*	*	*	4	*	*	4
07:00	9	*	*	*	*	9	*	*	9
08:00	9	*	*	*	*	9	*	*	9
09:00	7	*	*	*	*	7	*	*	7
10:00	10	*	*	*	*	10	*	*	10
11:00	**14**	*	*	*	*	**14**	*	*	**14**
12:00 PM	**14**	*	*	*	*	**14**	*	*	**14**
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	72	0	0	0	0	72	0	0	72
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00					11:00			11:00
Vol.	14					14			14
PM Peak	12:00					12:00			12:00
Vol.	14					14			14
Grand Total	72	142	212	210	199	276	265	329	308

ADT ADT 243 AADT 243

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Road (S.R.3001)
Loc: just north of Eisenhower/Allstar dr
Direction: SB
Municipality: Cumberland Twp.

Site Code: 3880103

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 11-Jan-10	Tue 12-Jan-10	Wed 13-Jan-10	Thu 14-Jan-10	Fri 15-Jan-10	Average Day	Sat 16-Jan-10	Sun 17-Jan-10	Week Average
12:00 AM	*	*	5	10	9	8	6	7	7
01:00	*	*	1	3	4	3	13	11	6
02:00	*	*	2	4	7	4	4	8	5
03:00	*	*	6	4	5	5	5	6	5
04:00	*	*	21	22	18	20	5	1	13
05:00	*	*	34	26	27	29	6	5	20
06:00	*	*	51	45	37	44	4	8	29
07:00	*	*	61	70	74	68	25	23	51
08:00	*	*	67	54	**101**	**74**	26	41	58
09:00	*	*	53	**73**	60	62	51	57	59
10:00	*	*	**74**	62	66	67	78	50	**66**
11:00	*	**58**	60	45	58	55	**89**	**81**	65
12:00 PM	*	67	59	61	83	68	85	**94**	75
01:00	*	52	70	66	68	64	**118**	67	74
02:00	*	62	53	76	71	66	97	82	74
03:00	*	83	68	82	98	83	92	68	82
04:00	*	**85**	**80**	80	**104**	**87**	103	64	**86**
05:00	*	83	71	**85**	99	84	76	48	77
06:00	*	54	54	71	77	64	79	61	66
07:00	*	34	40	46	55	44	75	24	46
08:00	*	66	30	47	51	48	52	35	47
09:00	*	29	28	31	40	32	48	20	33
10:00	*	13	19	16	38	22	25	9	20
11:00	*	6	11	6	17	10	24	8	12
Day Total	0	692	1018	1085	1267	1111	1186	878	1076
% Avg. WkDay	0.0%	62.3%	91.6%	97.7%	114.0%				
% Avg. Week	0.0%	64.3%	94.6%	100.8%	117.8%	103.3%	110.2%	81.6%	
AM Peak		11:00	10:00	09:00	08:00	08:00	11:00	11:00	10:00
Vol.		58	74	73	101	74	89	81	66
PM Peak		16:00	16:00	17:00	16:00	16:00	13:00	12:00	16:00
Vol.		85	80	85	104	87	118	94	86

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Road (S.R.3001)
Loc: just north of Eisenhower/Allstar dr
Direction: SB
Municipality: Cumberland Twp.

Site Code: 3880103

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 18-Jan-10	Tue 19-Jan-10	Wed 20-Jan-10	Thu 21-Jan-10	Fri 22-Jan-10	Average Day	Sat 23-Jan-10	Sun 24-Jan-10	Week Average
12:00 AM	3	*	*	*	*	3	*	*	3
01:00	2	*	*	*	*	2	*	*	2
02:00	1	*	*	*	*	1	*	*	1
03:00	4	*	*	*	*	4	*	*	4
04:00	12	*	*	*	*	12	*	*	12
05:00	22	*	*	*	*	22	*	*	22
06:00	22	*	*	*	*	22	*	*	22
07:00	46	*	*	*	*	46	*	*	46
08:00	41	*	*	*	*	41	*	*	41
09:00	59	*	*	*	*	59	*	*	59
10:00	60	*	*	*	*	60	*	*	60
11:00	**88**	*	*	*	*	**88**	*	*	**88**
12:00 PM	**42**	*	*	*	*	**42**	*	*	**42**
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	402	0	0	0	0	402	0	0	402
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00					11:00			11:00
Vol.	88					88			88
PM Peak	12:00					12:00			12:00
Vol.	42					42			42
Grand Total	402	692	1018	1085	1267	1513	1186	878	1478

ADT ADT 1,087 AADT 1,087

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Road (S.R.3001)
Loc: just south of Eisenhower/Allstar dr
Direction: NB
Municipality: Cumberland Twp.

Site Code: 3880104

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 11-Jan-10	Tue 12-Jan-10	Wed 13-Jan-10	Thu 14-Jan-10	Fri 15-Jan-10	Average Day	Sat 16-Jan-10	Sun 17-Jan-10	Week Average
12:00 AM	*	*	4	7	6	6	5	4	5
01:00	*	*	6	0	2	3	9	10	5
02:00	*	*	4	5	4	4	7	7	5
03:00	*	*	4	1	4	3	3	2	3
04:00	*	*	7	8	8	8	4	4	6
05:00	*	*	12	13	10	12	3	2	8
06:00	*	*	31	27	29	29	14	8	22
07:00	*	*	55	56	58	56	23	23	43
08:00	*	*	**68**	**61**	64	**64**	53	27	55
09:00	*	*	66	50	50	55	60	46	54
10:00	*	*	49	54	58	54	81	55	59
11:00	*	*	53	44	**75**	57	**89**	**74**	**67**
12:00 PM	*	51	50	58	65	56	88	57	62
01:00	*	49	51	54	59	53	91	58	60
02:00	*	83	64	57	100	76	87	59	75
03:00	*	69	62	77	132	85	**102**	51	82
04:00	*	91	**101**	90	**144**	106	89	**62**	**96**
05:00	*	**113**	99	**100**	115	**107**	83	49	93
06:00	*	80	70	75	84	77	78	33	70
07:00	*	66	43	45	67	55	45	24	48
08:00	*	31	23	49	43	36	33	24	34
09:00	*	22	18	31	32	26	24	10	23
10:00	*	17	16	22	31	22	20	15	20
11:00	*	8	11	12	11	10	18	3	10
Day Total	0	680	967	996	1251	1060	1109	707	1005
% Avg. WkDay	0.0%	64.2%	91.2%	94.0%	118.0%				
% Avg. Week	0.0%	67.7%	96.2%	99.1%	124.5%	105.5%	110.3%	70.3%	
AM Peak			08:00	08:00	11:00	08:00	11:00	11:00	11:00
Vol.			68	61	75	64	89	74	67
PM Peak		17:00	16:00	17:00	16:00	17:00	15:00	16:00	16:00
Vol.		113	101	100	144	107	102	62	96

TRANSPORTATION RESOURCE GROUP, INC.

204 N. George Street Suite 110
York, PA 17401
(717) 846-4660

Location: Emmitsburg Road (S.R.3001)
Loc: just south of Eisenhower/Allstar dr
Direction: NB
Municipality: Cumberland Twp.

Site Code: 3880104

Longitude: 0' 0.000 Undefined
Latitude: 0' 0.000 Undefined
Date Start: 12-Jan-10
Date End: 18-Jan-10

Start Time	Mon 18-Jan-10	Tue 19-Jan-10	Wed 20-Jan-10	Thu 21-Jan-10	Fri 22-Jan-10	Average Day	Sat 23-Jan-10	Sun 24-Jan-10	Week Average
12:00 AM	5	*	*	*	*	5	*	*	5
01:00	4	*	*	*	*	4	*	*	4
02:00	5	*	*	*	*	5	*	*	5
03:00	2	*	*	*	*	2	*	*	2
04:00	8	*	*	*	*	8	*	*	8
05:00	8	*	*	*	*	8	*	*	8
06:00	23	*	*	*	*	23	*	*	23
07:00	44	*	*	*	*	44	*	*	44
08:00	51	*	*	*	*	51	*	*	51
09:00	50	*	*	*	*	50	*	*	50
10:00	68	*	*	*	*	68	*	*	68
11:00	**72**	*	*	*	*	**72**	*	*	**72**
12:00 PM	**53**	*	*	*	*	**53**	*	*	**53**
01:00	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*
Day Total	393	0	0	0	0	393	0	0	393
% Avg. WkDay	100.0%	0.0%	0.0%	0.0%	0.0%				
% Avg. Week	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00					11:00			11:00
Vol.	72					72			72
PM Peak	12:00					12:00			12:00
Vol.	53					53			53
Grand Total	393	680	967	996	1251	1453	1109	707	1398

ADT ADT 1,006 AADT 1,006

GROWTH RATE INFORMATION

Growth Factors for July 2009 to July 2010				
County	Urban Interstate	Rural Interstate	Urban Non-Interstate	Rural Non-Interstate
ADAMS	*	*	1.99	0.86
ALLEGHENY	1.36	*	0.00	0.58
ARMSTRONG	1.56	*	0.73	0.63
BEAVER	1.51	2.32	0.29	0.64
BEDFORD	*	2.37	*	0.64
BERKS	1.54	2.19	0.68	0.65
BLAIR	0.86	1.65	0.00	0.40
BRADFORD	1.34	*	0.38	0.51
BUCKS	2.31	2.40	2.24	0.87
BUTLER	2.39	2.54	2.34	0.92
CAMBRIA	0.01	*	0.00	0.08
CAMERON	*	*	*	0.26
CARBON	1.92	2.89	0.48	0.80
CENTRE	2.46	2.84	2.07	0.97
CHESTER	2.43	2.76	2.05	0.94
CLARION	1.92	2.41	1.02	0.73
CLEARFIELD	*	2.74	0.94	0.82
CLINTON	0.88	1.44	0.09	0.37
COLUMBIA	1.47	1.96	0.77	0.60
CRAWFORD	0.86	1.73	0.00	0.40
CUMBERLAND	2.80	2.71	3.20	1.06
DAUPHIN	1.74	2.35	0.84	0.71
DELAWARE	1.37	*	0.21	0.56
ELK	*	*	0.10	0.49
ERIE	1.28	2.02	0.20	0.55
FAYETTE	1.48	*	0.33	0.63
FOREST	*	*	*	0.59
FRANKLIN	2.01	2.01	1.94	0.73
FULTON	*	2.54	*	0.78
GREENE	1.30	1.91	0.37	0.54
HUNTINGDON	*	2.44	0.49	0.69
INDIANA	1.64	*	0.51	0.61
JEFFERSON	*	1.87	0.42	.5.
JUNIATA	*	*	*	0.72
LACKAWANNA	1.11	1.85	0.00	0.47
LANCASTER	2.04	2.37	1.54	0.79
LAWRENCE	1.35	1.96	0.39	0.55
LEBANON	*	2.05	1.15	0.66
LEHIGH	1.75	2.32	0.94	0.71
LUZERNE	0.95	1.68	0.00	0.42
LYCOMING	1.22	1.95	0.04	0.51
MCKEAN	1.10	*	0.00	0.46
MERCER	0.83	1.54	0.00	0.36
MIFFLIN	1.23	*	0.17	0.53
MONROE	2.75	2.98	3.00	1.11
MONTGOMERY	1.55	2.00	0.89	0.62
MONTOUR	*	2.57	1.38	0.82
NORTHAMPTON	1.88	*	1.50	0.76
NORTHUMBERLAND	0.77	1.49	0.00	0.34
PERRY	*	*	2.57	0.81
PHILADELPHIA	0.82	*	0.00	*
PIKE	*	3.16	*	1.16
POTTER	*	*	*	0.69
SCHUYLKILL	*	1.58	0.02	0.41
SNYDER	1.73	*	1.24	0.70
SOMERSET	1.19	1.86	0.15	0.50
SULLIVAN	*	*	*	0.64
SUSQUEHANNA	1.67	2.16	0.88	0.66
TIOGA	*	*	*	0.50
UNION	*	2.47	1.88	0.85
VENANGO	1.08	1.74	0.00	0.44
WARREN	*	*	0.16	0.47
WASHINGTON	1.59	2.33	0.41	0.65
WAYNE	*	2.56	1.98	0.89
WESTMORELAND	1.45	2.24	0.16	0.60
WYOMING	*	*	0.41	0.42
YORK	2.12	2.47	1.69	0.83

* = Functional Class Doesn't Exist in County

Questions? Please contact Joe Piper at the Bureau of Planning and Research, 717-214-8687 or josephpipe@state.pa.us

NOTE: The projected growth factors are derived using historical VMT (Vehicle Miles Traveled) data (1996 to 2007), as well as Woods and Poole demographic and economic data. The factors should not be used to project traffic beyond a 20-year period. Please be aware that these factors are estimates, and unforeseen events (opening of shopping centers, fast food franchises, gas stations, etc) could cause growth to change over time.

pennsylvania
DEPARTMENT OF TRANSPORTATION

Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2008. Current year Automatic Traffic Recorder (ATR) traffic data is assembled and the data is placed in the respective TPG. Annual Average Daily Traffic (AADT) is tabulated individually for each of the 57 ATR stations. A factor is calculated for each day from each station and a list is tabulated by month and day of the week. This data is assembled by day and TPG for each station. The result is a group factor, which can be applied to a 24-hour raw traffic count taken during any day of the year to develop an AADT volume.

January 2008										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.130	1.289	1.102	1.167	1.142	1.264	1.151	1.231	1.155	1.288
Tuesday	1.093	1.297	0.989	1.125	1.078	1.229	1.112	1.191	1.083	1.243
Wednesday	1.060	1.316	0.987	1.120	1.072	1.205	1.076	1.196	1.080	1.330
Thursday	1.030	1.257	0.961	1.075	1.055	1.166	1.054	1.176	1.061	1.224
Friday	0.964	1.125	0.925	0.987	1.008	1.062	0.991	1.068	1.002	1.111
Saturday	1.320	1.429	1.284	1.311	1.208	1.443	1.219	1.299	1.275	1.216
Sunday	1.468	1.367	1.698	1.498	1.377	1.649	1.461	1.520	1.492	1.344
DAY OF MONTH	1.152	1.297	1.135	1.183	1.134	1.288	1.152	1.240	1.164	1.251

February 2008										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.072	1.261	1.016	1.117	1.125	1.190	1.102	1.203	1.114	1.290
Tuesday	1.072	1.349	0.982	1.118	1.089	1.183	1.095	1.169	1.082	1.235
Wednesday	1.035	1.267	0.961	1.084	1.056	1.158	1.019	1.189	1.131	1.201
Thursday	0.992	1.194	0.927	1.035	1.039	1.089	1.029	1.108	1.042	1.192
Friday	0.946	1.094	0.899	0.952	1.010	1.005	0.975	1.052	1.029	0.910
Saturday	1.238	1.384	1.224	1.227	1.171	1.312	1.187	1.252	1.239	1.158
Sunday	1.349	1.324	1.543	1.491	1.348	1.523	1.389	1.501	1.488	1.476
DAY OF MONTH	1.101	1.267	1.079	1.146	1.120	1.209	1.114	1.210	1.160	1.209

INTERSECTION/ROADWAY TRAFFIC VOLUME SPREADSHEETS

SITE IMPACT TRAFFIC EVALUATION

——— GENERAL INFORMATION FOR SITETRIP WORKSHEET ———

Title:	Mason Dixon Resorts and Casino - TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	OJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:		Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	PM Peak - Weekday
Intersection 8:	(STREET NAMES)	Design Year:	2012
Intersection 9:	(STREET NAMES)	Background Factor:	1.02
Intersection 10:	(STREET NAMES)	Seasonal Factor:	1.05
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

——— EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT ———

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments	PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	5	5	5		0.63		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	5	5	5		0.63	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	98	103	105		0.85		1	1%
RIGHT	6	6	6		0.38	0	0	0%
SB LEFT	9	9	9		0.75		0	0%
THROUGH	95	100	102		0.88		1	1%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	218	228	232					
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	7	7	7		0.58		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	12	13	13		0.60	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	100	105	107		0.83		1	1%
RIGHT	12	13	13		0.75	0	0	0%
SB LEFT	13	14	14		0.54		0	0%
THROUGH	99	104	106		0.85		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	243	256	260					
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	28	30	31		0.70		2	7%
THROUGH	1	1	1		0.25		0	0%
RIGHT	54	57	58		0.71	0	3	6%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	197	208	212		0.81		1	1%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	50	53	54		0.89		1	2%
RIGHT	80	83	84		0.88	0	1	2%
TOTAL	390	412	420					
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	11	12	12		0.55		1	9%
THROUGH	197	208	212		0.81		1	1%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	78	82	83		0.89		3	4%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	286	302	307					
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps							
EB LEFT	164	173	176		0.79		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	4	4	4		0.50	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	56	59	60		0.82		1	2%
RIGHT	25	26	26		0.63	0	1	4%
SB LEFT	30	32	33		0.83		0	0%
THROUGH	49	52	53		0.88		1	2%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	328	346	352					

DATA INPUT/RESULTS FOR TRIP GENERATION

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Weekday

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit:							
Inbound	186.00	0.00	0.00	0.00	0.00	0.00	
Outbound	168.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	186	0	0	0	0	0	186
Outbound	168	0	0	0	0	0	168
Pass-By Trips:							
Inbound	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	186	0	0	0	0	0	186
Outbound	168	0	0	0	0	0	168
Total	354	0	0	0	0	0	354

SINGLE SITE TRAFFIC ASSIGNMENT

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Weekday

APPROACH	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Alistar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	5	5	0%	90%	0%	0%	151	0		151	156	158
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	10%	0%	0%	17	0		17	22	22
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	*103*	*105*	*0%*	*0%*	*0%*	*0%*	*0*	*0*		*0*	*103*	*105*
RIGHT	6	6	90%	0%	0%	0%	167	0		167	173	173
SB LEFT	9	9	10%	0%	0%	0%	19	0		19	28	28
THROUGH	100	102	0%	0%	0%	0%	0	0		0	100	102
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	228	232	100%	100%	0%	0%	354	0	0	354	582	586
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	7	7	1%	0%	0%	0%	2	0		2	9	9
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	13	13	0%	0%	0%	0%	0	0		0	13	13
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	107	0%	8%	0%	0%	15	0		15	120	122
RIGHT	13	13	0%	1%	0%	0%	2	0		2	15	15
SB LEFT	*14*	*14*	*0%*	*0%*	*0%*	*0%*	*0*	*0*		*0*	*14*	*14*
THROUGH	104	106	8%	0%	0%	0%	17	0		17	121	123
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	256	260	10%	10%	0%	0%	36	0	0	36	292	296
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	30	31	0%	0%	0%	0%	0	0		0	30	31
THROUGH	1	1	0%	0%	0%	0%	0	0		0	1	1
RIGHT	57	58	38%	0%	0%	0%	71	0		71	128	129
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	208	212	52%	0%	0%	0%	97	0		97	305	309
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	53	54	0%	40%	0%	0%	67	0		67	120	121
RIGHT	83	84	0%	50%	0%	0%	84	0		84	147	148
TOTAL	412	420	90%	90%	0%	0%	319	0	0	319	731	739
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	12	12	0%	0%	0%	0%	0	0		0	12	12
THROUGH	208	212	52%	0%	0%	0%	97	0		97	305	309
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	82	83	0%	40%	0%	0%	67	0		67	149	150
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	302	307	52%	40%	0%	0%	164	0	0	164	466	471
INTERSECTION 5: Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	*173*	*176*	*50%*	*0%*	*0%*	*0%*	*93*	*0*		*93*	*266*	*269*
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	4	4	0%	0%	0%	0%	0	0		0	4	4
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	58	60	2%	0%	0%	0%	4	0		4	63	64
RIGHT	26	25	0%	0%	0%	0%	0	0		0	26	26
SB LEFT	32	33	0%	38%	0%	0%	64	0		64	96	97
THROUGH	52	53	0%	2%	0%	0%	3	0		3	55	56
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	346	352	52%	40%	0%	0%	164	0	0	164	510	516

SITE IMPACT TRAFFIC EVALUATION

——— GENERAL INFORMATION FOR SITETRIP WORKSHEET ———

Title:	Mason Dixon Resorts and Casino TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	DJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:	0	Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	PM Peak - Weekday
Intersection 8:	(STREET NAMES)	Design Year:	2017
Intersection 9:	(STREET NAMES)	Background Factor:	1.06
Intersection 10:	(STREET NAMES)	Seasonal Factor:	1.05
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

——— EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT ———

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments			PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	5	5	5				0.83		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	5	5	5				0.63	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	98	103	109				0.85		1	1%
RIGHT	6	6	6				0.38	0	0	0%
SB LEFT	9	9	10				0.75		0	0%
THROUGH	95	100	106				0.88		1	1%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	218	228	241							
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	7	7	7				0.58		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	12	13	14				0.60	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	100	105	111				0.83		1	1%
RIGHT	12	13	14				0.75	0	0	0%
SB LEFT	13	14	15				0.54		0	0%
THROUGH	99	104	110				0.85		0	0%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	243	256	271							
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	28	30	32				0.70		2	7%
THROUGH	1	1	1				0.25		0	0%
RIGHT	54	57	60				0.71	0	3	6%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	197	208	220				0.81		1	1%
RIGHT	0	0	0				0.00	0	0	0%
SB LEFT	0	0	0				0.00		0	0%
THROUGH	50	53	56				0.89		1	2%
RIGHT	60	63	67				0.88	0	1	2%
TOTAL	390	412	436							
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
NB LEFT	11	12	13				0.55		1	9%
THROUGH	197	208	220				0.81		1	1%
RIGHT	0	0	0				0.00	0	0	0%
SB LEFT	0	0	0				0.00		0	0%
THROUGH	78	82	87				0.89		3	4%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	286	302	320							
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps									
EB LEFT	164	173	183				0.78		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	4	4	4				0.50	0	0	0%
WB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	56	59	63				0.82		1	2%
RIGHT	25	26	28				0.63	0	1	4%
SB LEFT	30	32	34				0.83		0	0%
THROUGH	49	52	55				0.88		1	2%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	328	348	367							

DATA INPUT/RESULTS FOR TRIP GENERATION

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Weekday

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit							
Inbound	186.00	0.00	0.00	0.00	0.00	0.00	
Outbound	168.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	186	0	0	0	0	0	186
Outbound	168	0	0	0	0	0	168
Pass-By Trips:							
Inbound	0	0	0	0	0	0	0
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	186	0	0	0	0	0	186
Outbound	168	0	0	0	0	0	168
Total	354	0	0	0	0	0	354

SINGLE SITE TRAFFIC ASSIGNMENT

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Weekday

APPROACH	Existing Traffic Volumes (Seasonal	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Allstar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	5	5	0%	90%	0%	0%	151	0		151	156	156
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	10%	0%	0%	17	0		17	22	22
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	103	109	0%	0%	0%	0%	0	0		0	103	109
RIGHT	6	6	90%	0%	0%	0%	167	0		167	173	173
SB LEFT	9	10	10%	0%	0%	0%	19	0		19	28	29
THROUGH	100	106	0%	0%	0%	0%	0	0		0	100	106
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	228	241	100%	100%	0%	0%	354	0	0	354	582	595
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	7	7	1%	0%	0%	0%	2	0		2	9	9
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	13	14	0%	0%	0%	0%	0	0		0	13	14
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	111	0%	9%	0%	0%	15	0		15	120	126
RIGHT	13	14	0%	1%	0%	0%	2	0		2	15	16
SB LEFT	14	15	0%	0%	0%	0%	0	0		0	14	15
THROUGH	104	110	9%	0%	0%	0%	17	0		17	121	127
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	256	271	10%	10%	0%	0%	36	0	0	36	292	307
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	30	32	0%	0%	0%	0%	0	0		0	30	32
THROUGH	1	1	0%	0%	0%	0%	0	0		0	1	1
RIGHT	57	60	38%	0%	0%	0%	71	0		71	128	131
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	208	220	52%	0%	0%	0%	97	0		97	305	317
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	53	56	0%	40%	0%	0%	67	0		67	120	123
RIGHT	63	67	0%	50%	0%	0%	84	0		84	147	151
TOTAL	412	436	90%	90%	0%	0%	319	0	0	319	731	755
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	12	13	0%	0%	0%	0%	0	0		0	12	13
THROUGH	208	220	52%	0%	0%	0%	97	0		97	305	317
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	82	87	0%	40%	0%	0%	67	0		67	149	154
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	302	320	52%	40%	0%	0%	164	0	0	164	466	484
INTERSECTION 5: Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	173	183	50%	0%	0%	0%	93	0		93	266	276
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	4	4	0%	0%	0%	0%	0	0		0	4	4
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	59	63	2%	0%	0%	0%	4	0		4	63	67
RIGHT	26	28	0%	0%	0%	0%	0	0		0	26	28
SB LEFT	32	34	0%	38%	0%	0%	64	0		64	96	98
THROUGH	52	55	0%	2%	0%	0%	3	0		3	55	58
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	348	367	52%	40%	0%	0%	164	0	0	164	510	531

SITE IMPACT TRAFFIC EVALUATION

——— GENERAL INFORMATION FOR SITETRIP WORKSHEET ———

Title:	Mason Dixon Resorts and Casino TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	DJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:	0	Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	PM Peak - Friday
Intersection 8:	(STREET NAMES)	Design Year:	2012
Intersection 9:	(STREET NAMES)	Background Factor:	1.02
Intersection 10:	(STREET NAMES)	Seasonal Factor:	0.99
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

——— EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT ———

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments	PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	3	3	3		0.75		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	8	8	8		0.50	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	118	117	119		0.89		1	1%
RIGHT	25	25	25		0.78	0	0	0%
SB LEFT	16	16	16		0.50		0	0%
THROUGH	103	102	104		0.81		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	273	271	275					
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	8	8	8		0.50		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	5	5	5		0.63	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	106	105	107		0.86		2	2%
RIGHT	15	15	15		0.42	0	0	0%
SB LEFT	10	10	10		0.50		0	0%
THROUGH	79	78	79		0.86		1	1%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	223	221	224					
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	43	43	44		0.83		2	5%
THROUGH	1	1	1		0.25		0	0%
RIGHT	64	63	64		0.89	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	158	157	160		0.88		5	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	67	66	67		0.80		4	6%
RIGHT	58	57	58		0.85	0	1	2%
TOTAL	391	387	394					
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	12	12	12		0.60		2	17%
THROUGH	158	157	160		0.86		5	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	110	109	111		0.80		6	5%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	280	278	283					
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps							
EB LEFT	123	122	124		0.88		2	2%
THROUGH	0	0	0		0.00		0	0%
RIGHT	5	5	5		0.63	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	50	50	51		0.78		2	4%
RIGHT	43	43	44		0.83	0	0	0%
SB LEFT	36	36	37		0.82		0	0%
THROUGH	77	76	77		0.77		3	4%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	334	332	338					

——— DATA INPUT/RESULTS FOR TRIP GENERATION ———

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Friday

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit:							
Inbound	216.00	0.00	0.00	0.00	0.00	0.00	
Outbound	198.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	216	0	0	0	0	0	216
Outbound	198	0	0	0	0	0	198
Pass-By Trips:							
Inbound	0	0	0	0	0	0	0
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	216	0	0	0	0	0	216
Outbound	198	0	0	0	0	0	198
Total	414	0	0	0	0	0	414

——— SINGLE SITE TRAFFIC ASSIGNMENT ———

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Friday

APPROACH	Existing Traffic Volumes (Seasonal	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Allstar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	3	3	0%	90%	0%	0%	178	0		178	181	181
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	8	8	0%	10%	0%	0%	20	0		20	28	28
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	117	119	0%	0%	0%	0%	0	0		0	117	119
RIGHT	25	25	90%	0%	0%	0%	194	0		194	219	219
SB LEFT	16	16	10%	0%	0%	0%	22	0		22	38	38
THROUGH	102	104	0%	0%	0%	0%	0	0		0	102	104
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	271	275	100%	100%	0%	0%	414	0	0	414	685	689
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	8	8	1%	0%	0%	0%	2	0		2	10	10
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	0%	0%	0%	0	0		0	5	5
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	107	0%	9%	0%	0%	18	0		18	123	125
RIGHT	15	15	0%	1%	0%	0%	2	0		2	17	17
SB LEFT	10	10	0%	0%	0%	0%	0	0		0	10	10
THROUGH	78	79	9%	0%	0%	0%	19	0		19	97	98
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	221	224	10%	10%	0%	0%	41	0	0	41	262	265
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	43	44	0%	0%	0%	0%	0	0		0	43	44
THROUGH	1	1	0%	0%	0%	0%	0	0		0	1	1
RIGHT	63	64	38%	0%	0%	0%	82	0		82	145	146
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	157	160	52%	0%	0%	0%	112	0		112	269	272
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	66	67	0%	40%	0%	0%	79	0		79	145	146
RIGHT	57	58	0%	50%	0%	0%	99	0		99	156	157
TOTAL	387	394	90%	90%	0%	0%	372	0	0	372	759	766
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	12	12	0%	0%	0%	0%	0	0		0	12	12
THROUGH	157	160	52%	0%	0%	0%	112	0		112	269	272
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	109	111	0%	40%	0%	0%	79	0		79	188	190
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	278	283	52%	40%	0%	0%	191	0	0	191	469	474
INTERSECTION 5: Emmitsburg Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	122	124	50%	0%	0%	0%	108	0		108	230	232
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	0%	0%	0%	0	0		0	5	5
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	50	51	2%	0%	0%	0%	4	0		4	54	55
RIGHT	43	44	0%	0%	0%	0%	0	0		0	43	44
SB LEFT	36	37	0%	38%	0%	0%	75	0		75	111	112
THROUGH	76	77	0%	2%	0%	0%	4	0		4	80	81
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	332	338	52%	40%	0%	0%	191	0	0	191	523	529

SITE IMPACT TRAFFIC EVALUATION

——— GENERAL INFORMATION FOR SITETRIP WORKSHEET ———

Title:	Mason Dixon Resorts and Casino TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	DJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:	0	Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	PM Peak - Friday
Intersection 8:	(STREET NAMES)	Design Year:	2017
Intersection 9:	(STREET NAMES)	Background Factor:	1.06
Intersection 10:	(STREET NAMES)	Seasonal Factor:	0.99
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

——— EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT ———

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments			PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	3	3	3				0.75		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	8	8	8				0.50	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	118	117	124				0.89		1	1%
RIGHT	25	25	27				0.78	0	0	0%
SB LEFT	16	16	17				0.50		0	0%
THROUGH	103	102	108				0.81		0	0%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	273	271	287							
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	8	8	8				0.50		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	5	5	5				0.63	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	106	105	111				0.86		2	2%
RIGHT	15	15	16				0.42	0	0	0%
SB LEFT	10	10	11				0.50		0	0%
THROUGH	79	78	83				0.86		1	1%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	223	221	234							
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	43	43	46				0.83		2	5%
THROUGH	1	1	1				0.25		0	0%
RIGHT	64	63	67				0.89	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	158	157	166				0.86		5	3%
RIGHT	0	0	0				0.00	0	0	0%
SB LEFT	0	0	0				0.00		0	0%
THROUGH	67	66	70				0.80		4	6%
RIGHT	58	57	60				0.85	0	1	2%
TOTAL	391	387	410							
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp									
EB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
WB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
NB LEFT	12	12	13				0.60		2	17%
THROUGH	158	157	166				0.86		5	3%
RIGHT	0	0	0				0.00	0	0	0%
SB LEFT	0	0	0				0.00		0	0%
THROUGH	110	109	116				0.80		6	5%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	280	278	295							
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps									
EB LEFT	123	122	129				0.88		2	2%
THROUGH	0	0	0				0.00		0	0%
RIGHT	5	5	5				0.63	0	0	0%
WB LEFT	0	0	0				0.00		0	0%
THROUGH	0	0	0				0.00		0	0%
RIGHT	0	0	0				0.00	0	0	0%
NB LEFT	0	0	0				0.00		0	0%
THROUGH	50	50	53				0.78		2	4%
RIGHT	43	43	46				0.83	0	0	0%
SB LEFT	36	36	38				0.82		0	0%
THROUGH	77	76	81				0.77		3	4%
RIGHT	0	0	0				0.00	0	0	0%
TOTAL	334	332	352							

——— DATA INPUT/RESULTS FOR TRIP GENERATION ———

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Friday

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit:							
Inbound	216.00	0.00	0.00	0.00	0.00	0.00	
Outbound	198.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	216	0	0	0	0	0	216
Outbound	198	0	0	0	0	0	198
Pass-By Trips:							
Inbound	0	0	0	0	0	0	0
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	216	0	0	0	0	0	216
Outbound	198	0	0	0	0	0	198
Total	414	0	0	0	0	0	414

——— *SINGLE SITE TRAFFIC ASSIGNMENT* ———

SITE A ..... Casino
DESIGN HOUR .... PM Peak - Friday

APPROACH	Existing Traffic Volumes (Seasonal	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Allstar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	3	3	0%	90%	0%	0%	178	0		178	181	181
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	8	8	0%	10%	0%	0%	20	0		20	28	28
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	117	124	0%	0%	0%	0%	0	0		0	117	124
RIGHT	25	27	90%	0%	0%	0%	194	0		194	219	221
SB LEFT	16	17	10%	0%	0%	0%	22	0		22	38	39
THROUGH	102	108	0%	0%	0%	0%	0	0		0	102	108
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	271	287	100%	100%	0%	0%	414	0	0	414	685	701
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	8	8	1%	0%	0%	0%	2	0		2	10	10
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	0%	0%	0%	0	0		0	5	5
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	111	0%	9%	0%	0%	18	0		18	123	129
RIGHT	15	16	0%	1%	0%	0%	2	0		2	17	18
SB LEFT	10	11	0%	0%	0%	0%	0	0		0	10	11
THROUGH	78	83	9%	0%	0%	0%	19	0		19	97	102
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	221	234	10%	10%	0%	0%	41	0	0	41	262	275
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	43	46	0%	0%	0%	0%	0	0		0	43	46
THROUGH	1	1	0%	0%	0%	0%	0	0		0	1	1
RIGHT	63	67	38%	0%	0%	0%	82	0		82	145	149
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	157	166	52%	0%	0%	0%	112	0		112	269	278
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	66	70	0%	40%	0%	0%	79	0		79	145	149
RIGHT	57	60	0%	50%	0%	0%	99	0		99	156	159
TOTAL	387	410	90%	90%	0%	0%	372	0	0	372	759	782
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	12	13	0%	0%	0%	0%	0	0		0	12	13
THROUGH	157	166	52%	0%	0%	0%	112	0		112	269	278
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	109	116	0%	40%	0%	0%	79	0		79	188	195
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	278	295	52%	40%	0%	0%	191	0	0	191	469	486
INTERSECTION 5: Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	122	129	50%	0%	0%	0%	108	0		108	230	237
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	5	5	0%	0%	0%	0%	0	0		0	5	5
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	50	53	2%	0%	0%	0%	4	0		4	54	57
RIGHT	43	46	0%	0%	0%	0%	0	0		0	43	46
SB LEFT	36	38	0%	35%	0%	0%	75	0		75	111	113
THROUGH	76	81	0%	2%	0%	0%	4	0		4	80	85
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	332	352	52%	40%	0%	0%	191	0	0	191	523	543

SITE IMPACT TRAFFIC EVALUATION

——— GENERAL INFORMATION FOR SITETRIP WORKSHEET ———

Title:	Mason Dixon Resorts and Casino TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	DJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:	0	Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	Sat Peak
Intersection 8:	(STREET NAMES)	Design Year:	2012
Intersection 9:	(STREET NAMES)	Background Factor:	1.02
Intersection 10:	(STREET NAMES)	Seasonal Factor:	1.22
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

——— *EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT* ———

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments	PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	9	11	11		0.38		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	10	12	12		0.63	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	86	105	107		0.67		0	0%
RIGHT	8	10	10		0.67	0	0	0%
SB LEFT	11	13	13		0.55		0	0%
THROUGH	117	143	145		0.84		1	1%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	241	294	298					
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	20	24	24		0.50		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	6	7	7		0.38	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	96	117	119		0.77		0	0%
RIGHT	13	16	16		0.65	0	0	0%
SB LEFT	5	6	6		0.63		0	0%
THROUGH	102	124	126		0.82		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	242	294	298					
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	17	21	21		0.85		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	66	80	81		0.68	0	3	5%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	93	113	115		0.66		3	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	73	89	91		0.87		0	0%
RIGHT	68	83	84		0.81	0	0	0%
TOTAL	317	386	392					
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	4	5	5		0.50		1	25%
THROUGH	93	113	115		0.66		3	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	90	110	112		0.87		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	187	228	232					
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps							
EB LEFT	85	104	106		0.76		4	5%
THROUGH	0	0	0		0.00		0	0%
RIGHT	3	4	4		0.75	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	25	30	31		0.69		1	4%
RIGHT	23	28	28		0.72	0	0	0%
SB LEFT	41	50	51		0.79		0	0%
THROUGH	41	50	51		0.68		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	218	266	271					

DATA INPUT/RESULTS FOR TRIP GENERATION

SITE A ..... Casino
DESIGN HOUR .... Sat Peak

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit:							
Inbound	252.00	0.00	0.00	0.00	0.00	0.00	
Outbound	216.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	252	0	0	0	0	0	252
Outbound	216	0	0	0	0	0	216
Pass-By Trips:							
Inbound	0	0	0	0	0	0	0
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	252	0	0	0	0	0	252
Outbound	216	0	0	0	0	0	216
Total	468	0	0	0	0	0	468

SINGLE SITE TRAFFIC ASSIGNMENT

SITE A ..... Casino
DESIGN HOUR .... Sat Peak

APPROACH	Existing Traffic Volumes (Seasonal	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFIC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Allstar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	11	11	0%	90%	0%	0%	194	0		194	205	205
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	12	12	0%	10%	0%	0%	22	0		22	34	34
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	107	0%	0%	0%	0%	0	0		0	105	107
RIGHT	10	10	90%	0%	0%	0%	227	0		227	237	237
SB LEFT	13	13	10%	0%	0%	0%	25	0		25	38	38
THROUGH	143	145	0%	0%	0%	0%	0	0		0	143	145
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	294	298	100%	100%	0%	0%	468	0	0	468	762	766
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	24	24	1%	0%	0%	0%	3	0		3	27	27
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	7	7	0%	0%	0%	0%	0	0		0	7	7
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	117	119	0%	9%	0%	0%	19	0		19	136	138
RIGHT	18	16	0%	1%	0%	0%	2	0		2	18	18
SB LEFT	6	6	0%	0%	0%	0%	0	0		0	6	6
THROUGH	124	126	9%	0%	0%	0%	23	0		23	147	149
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	294	298	10%	10%	0%	0%	47	0	0	47	341	345
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	21	21	0%	0%	0%	0%	0	0		0	21	21
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	80	81	38%	0%	0%	0%	96	0		96	176	177
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	113	115	52%	0%	0%	0%	131	0		131	244	246
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	89	91	0%	40%	0%	0%	86	0		86	175	177
RIGHT	83	84	0%	50%	0%	0%	108	0		108	191	192
TOTAL	386	392	90%	90%	0%	0%	421	0	0	421	807	813
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	5	5	0%	0%	0%	0%	0	0		0	5	5
THROUGH	113	115	52%	0%	0%	0%	131	0		131	244	246
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	110	112	0%	40%	0%	0%	86	0		86	196	198
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	228	232	52%	40%	0%	0%	217	0	0	217	445	449
INTERSECTION 5: Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	104	106	50%	0%	0%	0%	126	0		126	230	232
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	4	4	0%	0%	0%	0%	0	0		0	4	4
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	30	31	2%	0%	0%	0%	5	0		5	35	36
RIGHT	28	28	0%	0%	0%	0%	0	0		0	28	28
SB LEFT	50	51	0%	38%	0%	0%	82	0		82	132	133
THROUGH	50	51	0%	2%	0%	0%	4	0		4	54	55
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	266	271	52%	40%	0%	0%	217	0	0	217	483	488

SITE IMPACT TRAFFIC EVALUATION

--------- GENERAL INFORMATION FOR SITETRIP WORKSHEET ----------

Title:	Mason Dixon Resorts and Casino TRANSPORTATION IMPACT STUDY		
Location:	Cumberland Township, Adams County		
Performed By:	DJT	Date:	01/19/10

Intersection 1:	Emmitsburg Road / Allstar Driveway	Site A:	Casino
Intersection 2:	Emmitsburg Road / Barlow Greenmount Road	Site B:	(Site)
Intersection 3:	Emmitsburg Road / Route 15 SB Off Ramp	Site C:	(Site)
Intersection 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp	Site D:	(Site)
Intersection 5:	Emmitsburg Road / Route 15 NB Ramps	Site E:	(Site)
Intersection 6:	0	Site F:	(Site)
Intersection 7:	(STREET NAMES)	Design Hour:	Sat Peak
Intersection 8:	(STREET NAMES)	Design Year:	2017
Intersection 9:	(STREET NAMES)	Background Factor:	1.06
Intersection 10:	(STREET NAMES)	Seasonal Factor:	1.22
Intersection 11:	(STREET NAMES)		
Intersection 12:	(STREET NAMES)		

------ EXISTING AND FUTURE TRAFFIC WITHOUT DEVELOPMENT ------

APPROACH	EXISTING TRAFFIC	Existing Traffic Volumes (Seasonal Factored)	FUTURE TRAFFIC W/ COM DEV W/O PRO DEV	Committed Developments	PHF	RTOR	Trucks	Truck Percentage
INTERSECTION 1:	Emmitsburg Road / Allstar Driveway							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	9	11	12		0.39		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	10	12	13		0.63	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	86	105	111		0.67		0	0%
RIGHT	8	10	11		0.67	0	0	0%
SB LEFT	11	13	14		0.55		0	0%
THROUGH	117	143	152		0.64		1	1%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	241	294	313					
INTERSECTION 2:	Emmitsburg Road / Barlow Greenmount Road							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	20	24	25		0.50		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	6	7	7		0.38	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	96	117	124		0.77		0	0%
RIGHT	13	16	17		0.65	0	0	0%
SB LEFT	5	6	6		0.63		0	0%
THROUGH	102	124	131		0.82		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	242	294	310					
INTERSECTION 3:	Emmitsburg Road / Route 15 SB Off Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	17	21	22		0.85		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	66	80	85		0.66	0	3	5%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	93	113	120		0.66		3	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	73	89	94		0.87		0	0%
RIGHT	68	83	88		0.81	0	0	0%
TOTAL	317	386	409					
INTERSECTION 4:	Emmitsburg Road / Route 15 SB (NBL) On Ramp							
EB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	4	5	5		0.50		1	25%
THROUGH	93	113	120		0.66		3	3%
RIGHT	0	0	0		0.00	0	0	0%
SB LEFT	0	0	0		0.00		0	0%
THROUGH	90	110	117		0.87		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	187	228	242					
INTERSECTION 5:	Emmitsburg Road / Route 15 NB Ramps							
EB LEFT	85	104	110		0.76		4	5%
THROUGH	0	0	0		0.00		0	0%
RIGHT	3	4	4		0.75	0	0	0%
WB LEFT	0	0	0		0.00		0	0%
THROUGH	0	0	0		0.00		0	0%
RIGHT	0	0	0		0.00	0	0	0%
NB LEFT	0	0	0		0.00		0	0%
THROUGH	25	30	32		0.69		1	4%
RIGHT	23	28	30		0.72	0	0	0%
SB LEFT	41	50	53		0.79		0	0%
THROUGH	41	50	53		0.68		0	0%
RIGHT	0	0	0		0.00	0	0	0%
TOTAL	218	266	282					

DATA INPUT/RESULTS FOR TRIP GENERATION

SITE A ..... Casino
DESIGN HOUR .... Sat Peak

							TOTAL
Land Use Type	(type)	(type)	(type)	(type)	(type)	(type)	
Trips Per Unit:							
Inbound	252.00	0.00	0.00	0.00	0.00	0.00	
Outbound	216.00	0.00	0.00	0.00	0.00	0.00	
Number of Units	1.00	0.00	0.00	0.00	0.00	0.00	
Buildout	100%	0%	0%	0%	0%	0%	
Pass-By Trips	0%	0%	0%	0%	0%	0%	
New Site Trips:							
Inbound	252	0	0	0	0	0	252
Outbound	216	0	0	0	0	0	216
Pass-By Trips:							
Inbound	0	0	0	0	0	0	0
Outbound	0	0	0	0	0	0	0
Total Site Trips:							
Inbound	252	0	0	0	0	0	252
Outbound	216	0	0	0	0	0	216
Total	468	0	0	0	0	0	468

SINGLE SITE TRAFFIC ASSIGNMENT

SITE A ..... Casino
DESIGN HOUR .... Sat Peak

APPROACH	Existing Traffic Volumes (Seasonal	FUTURE TRAFFIC W/ COM DEV W/O PRO	% NEW SITE TRIPS INBOUND	% NEW SITE TRIPS OUTBOUND	% PASS-BY TRIPS INBOUND	% PASS-BY TRIPS OUTBOUND	NEW SITE TRIPS	PASS-BY	PASS-BY ADJUSTMENT	TOTAL SITE TRIPS	FUTURE TRAFFIC W/O COM DEV W/ PRO	FUTURE TRAFFC W/ COM DEV W/ PRO DEV
INTERSECTION 1: Emmitsburg Road / Allstar Driveway												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	11	12	0%	90%	0%	0%	194	0		194	205	206
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	12	13	0%	10%	0%	0%	22	0		22	34	35
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	105	111	0%	0%	0%	0%	0	0		0	105	111
RIGHT	10	11	90%	0%	0%	0%	227	0		227	237	238
SB LEFT	13	14	10%	0%	0%	0%	25	0		25	38	39
THROUGH	143	152	0%	0%	0%	0%	0	0		0	143	152
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	294	313	100%	100%	0%	0%	468	0	0	468	762	781
INTERSECTION 2: Emmitsburg Road / Barlow Greenmount Road												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	24	25	1%	0%	0%	0%	3	0		3	27	28
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	7	7	0%	0%	0%	0%	0	0		0	7	7
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	117	124	0%	9%	0%	0%	19	0		19	136	143
RIGHT	16	17	0%	1%	0%	0%	2	0		2	18	19
SB LEFT	6	6	0%	0%	0%	0%	0	0		0	6	6
THROUGH	124	131	9%	0%	0%	0%	23	0		23	147	154
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	294	310	10%	10%	0%	0%	47	0	0	47	341	357
INTERSECTION 3: Emmitsburg Road / Route 15 SB Off Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	21	22	0%	0%	0%	0%	0	0		0	21	22
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	80	85	38%	0%	0%	0%	96	0		96	176	181
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	113	120	52%	0%	0%	0%	131	0		131	244	251
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	89	94	0%	40%	0%	0%	86	0		86	175	180
RIGHT	83	88	0%	50%	0%	0%	108	0		108	191	196
TOTAL	386	409	90%	90%	0%	0%	421	0	0	421	807	830
INTERSECTION 4: Emmitsburg Road / Route 15 SB (NBL) On Ramp												
EB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	5	5	0%	0%	0%	0%	0	0		0	5	5
THROUGH	113	120	52%	0%	0%	0%	131	0		131	244	251
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
SB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	110	117	0%	40%	0%	0%	86	0		86	196	203
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	228	242	52%	40%	0%	0%	217	0	0	217	445	459
INTERSECTION 5: Emmitsburg Road / Route 15 NB Ramps												
EB LEFT	104	110	50%	0%	0%	0%	126	0		126	230	236
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	4	4	0%	0%	0%	0%	0	0		0	4	4
WB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	0	0	0%	0%	0%	0%	0	0		0	0	0
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
NB LEFT	0	0	0%	0%	0%	0%	0	0		0	0	0
THROUGH	30	32	2%	0%	0%	0%	5	0		5	35	37
RIGHT	28	30	0%	0%	0%	0%	0	0		0	28	30
SB LEFT	50	53	0%	38%	0%	0%	82	0		82	132	135
THROUGH	50	53	0%	2%	0%	0%	4	0		4	54	57
RIGHT	0	0	0%	0%	0%	0%	0	0		0	0	0
TOTAL	266	282	52%	40%	0%	0%	217	0	0	217	483	499

Marketing Study

MASON-DIXON RESORT & CASINO
ESTIMATED ADULTS IN RESIDENTIAL ZONES 1 & 2 - 2014

Zone	County	State	# of Zip Codes	Populations - 2000 Total	Populations - 2000 Adults	Est. Adult Population 2014
Zone 1:	Adams	PA	10	79,978	56,265	67,399
	York	PA	3	10,588	7,571	9,126
	Franklin	PA	3	35,503	26,225	31,511
	Carroll	MD	2	12,108	8,186	10,025
	Frederick	MD	7	53,412	37,317	48,188
			25	191,589	135,564	166,247
Zone 2:	York	PA	7	196,283	140,365	169,197
	Franklin	PA	4	75,742	54,910	65,978
	Cumberland	PA	5	95,771	67,408	76,289
	Carroll	MD	2	23,544	16,276	19,933
	Frederick	MD	2	41,864	29,949	38,672
	Washington	MD	4	93,277	67,423	79,984
			24	526,481	376,331	450,053
Totals			49	718,070	511,895	616,300

Residential Gamers:

Partic. %s	Visits Per Year	M-D Share	Patrons	Percentage Coming on Route 15 from North	Percentage Coming on Route 15 from South	Patrons Coming on Route 15 from North	Patrons Coming on Route 15 from South	
30%	12	75%	181,978	90%	10%	163,780	18,198	
30%	12	75%	24,641	100%	0%	24,641	0	
30%	12	75%	85,081	80%	20%	68,064	17,016	
30%	12	75%	27,068	0%	100%	0	27,068	
30%	12	75%	130,101	0%	100%	0	130,101	
			448,868			256,485	192,383	
25%	4	50%	84,599	100%	0%	84,599	0	
25%	4	50%	32,989	80%	20%	26,391	6,598	
25%	4	50%	38,144	100%	0%	38,144	0	
25%	4	50%	9,966	0%	100%	0	9,966	
25%	4	50%	19,336	0%	100%	0	19,336	
25%	4	50%	39,992	0%	100%	0	39,992	
			225,026			149,134	75,892	
			673,894			405,619	268,275	673,894

"Visitors":

Total gaming "visitors"		93,333	
Mason-Dixon guests:			
Occupied rooms	83,191		
Adults/occupied room	1.75		
Adult guest-nights	145,584		
ALOS	2.00		
Separate hotel guests	72,792		
% gaming	60%		
Mason-Dixon separate patrons	43,675		
Visits/stay	1.00		
Mason-Dixon patrons (on site already)	43,675	43,675	
Visitors from other hotels (all to the north)		49,658	49,658

Summary for stabilized year:	
Coming from the north	455,277
Coming from the south	268,275
Staying at Mason-Dixon/On-site	43,675
Totals	767,227

TRIP GENERATION WORKSHEETS

Trip Generation Characteristics of Small to Medium Sized Casinos

Michael Trueblood, Tara Gude

OVERVIEW

This paper focuses on trip generation for small to medium sized casinos that are not part of a cluster of casinos. The data collection for this paper included three casinos located in Council Bluffs, Iowa. Two of the casinos are riverboat casinos and are located along the Missouri River, while the other casino includes an existing dog racetrack that later added slot machines.

In addition to the casinos located in Council Bluffs, the calculated trip generation rates were compared to rates included in a March 1998 ITE Journal article entitled *Gaming Casino Traffic*. The article calculated trip generation rates for two casinos in the St. Louis metropolitan area, the Casino Queen and the St. Charles Casino.

There is not an overwhelming amount of trip generation information available for casinos located outside of the typical Las Vegas or Atlantic City stereotype. The trip generation characteristics of casinos found in large clusters, like those in Las Vegas for example, are not similar to the casinos that will be covered in this article. For comparison purposes the MGM Grand Casino in Las Vegas has over 5,000 hotel rooms with over 3,500 slot machines, while the Treasure Island Casino has over 2,900 hotel rooms with over 2,000 slot machines. The trip generation characteristics of these casinos are quite different than the five covered in this paper due to their immense size and popularity. Another reason these casinos have different trip generation characteristics is because they are accessible by foot. In Las Vegas people tend to walk to and from the casinos or drive to one and then walk to several others throughout the course of a day.

It should be noted that each state has different rules and regulations that govern the actual type of establishment that can be used for gambling. Recent regulations have changed or have been modified in order to allow gambling facilities to be established beyond the typical riverboat casinos. Examples of these casinos are those operated by Indian Tribes. There are several casinos operated by Indian Tribes across the country. These casinos range in size, but they are good examples of the types of casinos this paper addresses.

LOCATION OF CASINOS

This section will provide a brief overview of the location of the three Council Bluffs casinos and the two casinos located in the St. Louis metropolitan area. The casino locations are shown in Figure 1. The three casinos in Council Bluffs, Iowa are located near the Missouri River in the Omaha metropolitan area. The Ameristar Casino and Harvey's Casino are located along the river within one mile of each other in the northwest quadrant of the I-29/I-80 interchange. Bluffs Run Casino is located about two miles east of these casinos along I-80. For comparison purposes to other casino locations, the 1998 average daily traffic (ADT) along I-29 was 40,500 vehicles, while the 1998 ADT along I-80 was 67,400 vehicles. The estimated 1999 population is 1,040,000 people within a 50-mile radius of the casinos.

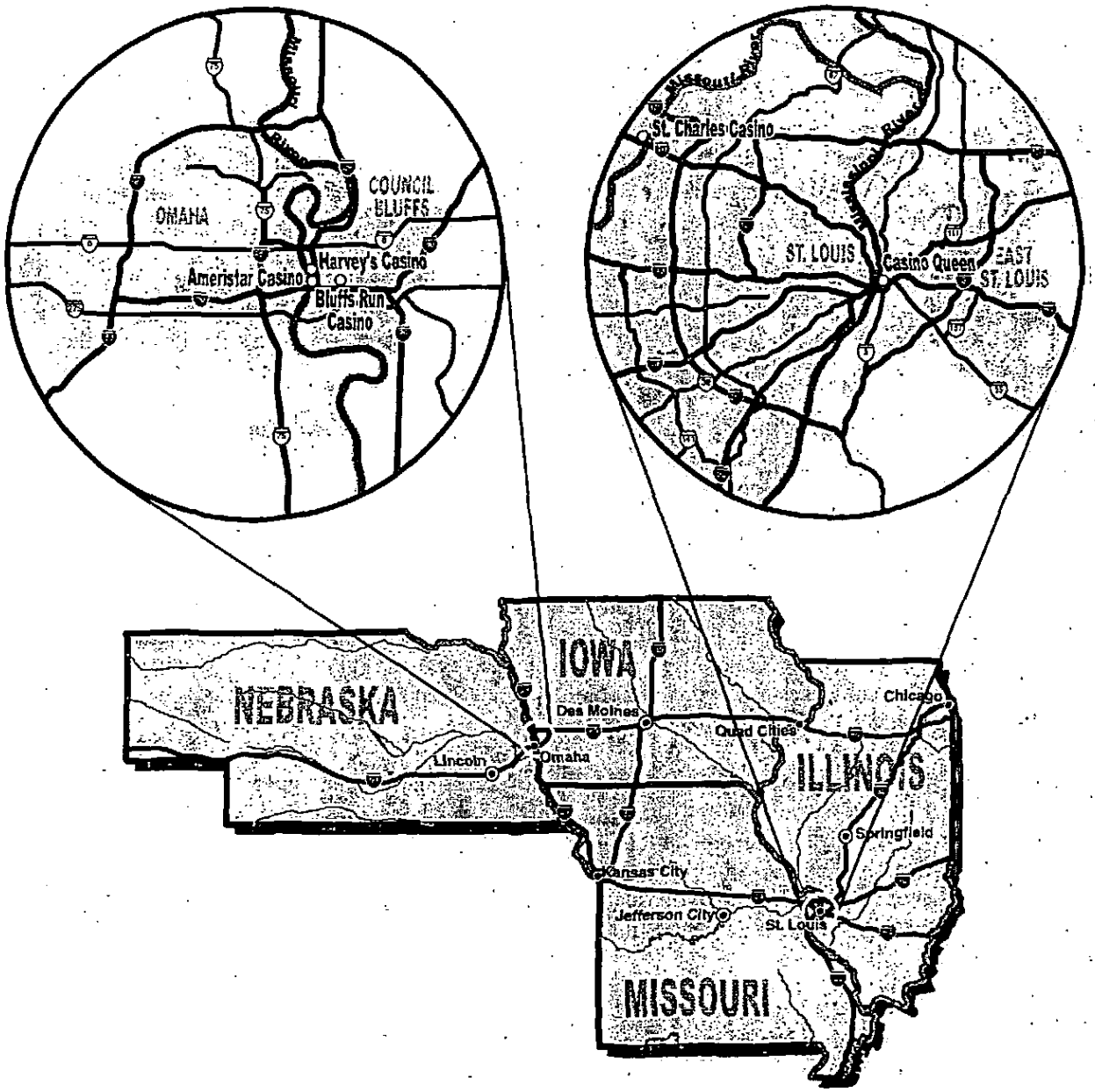


Figure 1 – Casino Location Map

The two St. Louis area casinos are also depicted in Figure 1. The St. Charles Casino is located along the Missouri River immediately north of I-70/Missouri River junction and about five miles to the west of I-270/I-70 junction in the City of St. Charles. The 1998 ADT along I-70 was 188,000 vehicles. The Casino Queen is located along the Mississippi River immediately east of the Gateway Arch and immediately north of the I-70/I-64/I-55 junction in the City of East St. Louis, Illinois. The ADT of these three interstates are 117,300 vehicles. The estimated 1999 population is 2,637,000 people within a 50-mile radius of the St. Louis area casinos.

GAMING REVENUES OF STUDY CASINOS

This section discusses the gaming revenues of the tri-state region where the five casinos presented in this paper are located. Between the years 1994-1999, St. Charles Casino had the second highest attendance of the eleven riverboat casinos within the state of Missouri. During the fiscal year 2000 the eleven riverboat casinos made over $1.0 billion in adjusted gross revenues (AGRs). In Illinois, the nine riverboat casinos made over $1.66 billion AGRs in 2000, with the Casino Queen ranked fifth out of the nine riverboats. In Iowa, Harvey's Casino and Ameristar Casino ranked one and two of out ten casinos in AGRs, respectively. The ten casinos in Iowa combined for over $575 million in AGRs. Casinos within the State of Iowa that also have pari-mutuel wagering are accounted for separately in terms of their AGRs. Bluffs Run Casino was ranked two out of three casinos in AGRs. The three racetrack casinos, as they are called in Iowa, combined for over $300 million in AGRs in 2000.

TRIP GENERATION CHARACTERISTICS OF STUDY CASINOS

Most of the available information concerning trip generation of casinos is related to large casinos or clusters of several casinos, such as those in Las Vegas. In order to determine the trip generation characteristics of small to medium sized casinos, HDR collected traffic information at three casinos in Council Bluffs, Iowa. Once the trip generation rates were computed, they were compared to trip generation rates of two St. Louis area casinos documented in a March 1998 issue of the ITE Journal.

Table 1 documents the five casinos' characteristics. It should be noted that the information for the Council Bluffs casinos is for the year 2000, while the information for the St. Louis casinos was collected in 1998.

Table 1 – General Casino Information

Amenities	Council Bluffs, Iowa			St. Louis Metro Area	
	Harvey's	Ameristar	Bluffs Run	St. Charles	Casino Queen
Slots	1169	1446	1479	1847	1020
Total Tables	53	51	0	90	51
Gaming sq. ft.	28,250	38,000	34,280	50,000	27,500
Hotel Rooms	251	356	0	*Not Applicable*	*Not Applicable*
Employees	1257	1329	1046	*Not Available*	1079
Pari-mutuel Wagering	No	No	Yes	No	No
Convention Center (seats)	900	170	No	*Not Available*	*Not Available*

The data collection for the Council Bluffs casinos was conducted during the following times:

- Ameristar – Saturday, July 15th to Tuesday, July 25th, 2000.
- Harvey's – Thursday, July 20th to Sunday, July 30th, 2000.
- Bluffs Run – Wednesday, July 19th to Saturday, July 29th and Saturday August 19th to Monday August 28th, 2000.

Automatic tube recorders were placed at all entrances and exits to the casinos. Data was collected in fifteen-minute intervals, 24-hours a day for each of the casinos. All five casinos operated on a 24-hour basis. As will be discussed later, the hourly information was unique when compared to other land uses. The following sections provide detailed information on the trip generation characteristics of the three Council Bluffs casinos. These rates were compared to the two St. Louis casinos and since the rates for all five casinos were similar, an average trip generation rate was computed.

Peak Hour Trip Generation Rates

A trip generation rate was calculated based on the number of slot machines that were located at each casino. Generation rates were calculated for both weekdays and weekends. Weekday trip generation rates were calculated for both the peak of facility and peak of adjacent street traffic. Traffic studies for new developments generally analyze the weekday peak hour of adjacent street traffic. However, several types of developments generate higher traffic levels during times other than the adjacent street traffic peak hour. Data from the casinos indicate that their peak trip generation rates are different than the peak hour of adjacent street traffic. Table 2 depicts the average PM peak hour trip generation rates of the five casinos for the peak hour of facility, while Table 3 depicts the average PM peak hour trip generation rate for the adjacent street traffic. The PM peak hour was chosen for purposes of calculating trip generation rates because they were generally higher than the AM peak hour. Tables A1, A2, and A3 located at the end of the paper document the three Iowa casinos daily raw peak hour and time of day data.

Table 2 – Facility Peak Hour Trip Generation

	PM Peak Hour										Average PM Peak Hour Trips	
	Harvey's		*Ameristar*		*Bluffs Run*		*St. Charles*		*Casino Queen*			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Monday - Friday	502	380	423	477	537	491	725	625	348	336	**507**	**462**
Saturday/Sunday	482	375	624	471	553	579	850	750	*Not Available*		**627**	**544**
	PM Peak Hour Per Slot										Average PM Peak Hour Trips Per Slot	
	Harvey's		Ameristar		Bluffs Run		St. Charles		Casino Queen			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Monday - Friday	0.43	0.33	0.29	0.33	0.36	0.33	0.39	0.34	0.34	0.33	**0.36**	**0.33**
Saturday/Sunday	0.41	0.32	0.43	0.33	0.37	0.39	0.46	0.41	*Not Available*		**0.42**	**0.36**

Note: St. Charles weekday rate is for Friday only.

← used Friday

Used Saturday

Table 3 – Adjacent Street Peak Hour Trip Generation

	PM Peak Hour										Average PM Peak Hour Trips	
	Harvey's		Ameristar		Bluffs Run		St. Charles		Casino Queen			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Monday - Friday	453	340	427	378	442	373	475	600	*Not Available*		449	423
Saturday/Sunday	423	334	491	413	490	467	*Not Available*		*Not Available*		468	404
	PM Peak Hour Per Slot										Average PM Peak Hour Trips Per Slot	
	Harvey's		Ameristar		Bluffs Run		St. Charles		Casino Queen			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Monday - Friday	0.39	0.29	0.29	0.26	0.30	0.25	0.26	0.32	*Not Available*		0.31	0.28
Saturday/Sunday	0.36	0.29	0.34	0.29	0.33	0.32	*Not Available*		*Not Available*		0.34	0.30

← used Thurs.

Note: St. Charles weekday rate is for Friday only.

The PM peak hour trip generation rates were similar for each of the three Council Bluffs casinos. These rates were found to be comparable to the two St. Louis area casinos' trip generation rates. As shown above in Table 3, there is a correlation between the number of slot machines and the traffic generated by the casinos. For example, the two St. Louis area casinos have a difference in the number of trips generated by the facility. However when the trip generation rates were developed on a per slot machine basis, the rates are quite similar. Even though the St. Charles Casino has 800 slot machines more than the Casino Queen, their trip generation rates are comparable.

HDR's analysis of the five casinos in St. Louis and Council Bluffs found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively.

The original trip generation rates calculated for the St. Louis area casinos were based on gaming positions. For purposes of this paper the rates provided in the March ITE Journal article were converted to trips per slot machine. This was done in order to directly compare the Council Bluffs and St. Louis trip generation rates. Gaming positions are calculated based on each type of game and are a percentage of the number of slot machines. Thus, calculating the number of gaming positions can get cumbersome. The other reason slot machines were used to calculate trip generation rates was because Bluffs Run Casino does not have table games.

Daily Trip Generation Rates

Table 4 shows the ADTs that were collected for the three Iowa casinos. An average daily trip rate was developed based on information from the three Iowa casinos and from the St. Charles Casino. Not enough information was available in order to include the Casino Queen in these calculations. Table 5 shows the weekday and weekend daily trip rates for each of the four casinos in addition to an average daily trip rate.

Table 4 – Average Daily Traffic (ADT)

Day	*Harvey's Daily Volume*			*Ameristar Daily Volume*			*Bluffs Run Daily Volume*		
	Inbound Volume	Outbound Volume	ADT	Inbound Volume	Outbound Volume	ADT	Inbound Volume	Outbound Volume	ADT
Sunday	7,038	6,749	13,787	7,438	8,175	15,613	8,871	8,887	17,758
Monday	5,402	4,745	10,147	5,378	5,394	10,771	6,665	6,741	13,406
Tuesday	9,334	8,496	17,830	6,903	6,761	13,663	7,702	7,180	14,882
Wednesday	6,401	5,221	11,622	5,823	5,730	11,553	7,499	6,827	14,326
Thursday	6,944	5,462	12,406	5,845	5,703	11,548	8,494	7,867	16,361
Friday	8,230	5,938	14,168	8,043	7,460	15,503	9,211	8,441	17,652
Saturday	8,075	7,025	15,100	8,311	8,129	16,440	9,957	9,392	19,349

Table 5 – Average Daily Traffic Rates

	ADT				ADT per slot				Average ADT per slot
	Harvey's	Ameristar	Bluffs Run	St. Charles	Harvey's	Ameristar	Bluffs Run	St. Charles	
Monday - Friday	13,249	12,496	15,325	17,362	11.33	8.64	10.36	9.40	**9.93**
Saturday/Sunday	14,443	16,026	18,554	19,959	12.36	11.08	12.54	10.81	**11.70**

Note: St. Charles weekday rate is for Friday only.

The ADT was higher on weekend days compared to weekdays. As shown in Table 4 there was more than a 50% increase in the ADT on weekends at some of the casinos. Another interesting factor that made relatively large increases in ADT was the special promotions that the casinos offer. For example, Harvey's Casino had double points for slot club members on Tuesdays, which generated more traffic than a typical weekend day. Double points allow slot club members to earn extra points that can be redeemed for cash.

Another finding of interest was the amount of traffic that occurs during the late night hours. It was assumed that this was related to the fact that all five casinos evaluated in this paper were located within a metropolitan area and relatively close to an interstate. Table 6 documents the time variation of trips at the three Council Bluffs casinos and the St. Charles Casino. Again, data was not available for Casino Queen.

Table 6 – Casino Related Time Variations of Trips

	Percentage of Traffic during each time period									
	Harvey's		Ameristar		Bluffs Run		St. Charles		Average	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
9 AM - 9 PM	64.6	58.4	69.0	61.9	66.1	59.5	65.7	69.5	66.3	62.3
9 PM - 9 AM	35.4	41.6	31.0	38.1	33.9	40.5	34.3	30.5	33.6	37.7
12 AM - 6 AM	10.9	17.9	9.2	16.2	10.9	17.4	13.8	9.0	11.2	15.1
6 AM - 12 PM	21.0	19.6	20.7	17.3	23.1	20.8	15.8	19.0	20.1	19.2
12 PM - 6 PM	34.3	31.2	37.9	32.3	34.7	31.7	34.6	33.6	35.4	32.2
6 PM - 12 AM	33.8	31.3	32.3	34.1	31.3	30.1	35.8	38.4	33.3	33.5

Generally, most land uses do not operate on a 24-hour basis. As a result, roadways located near these casinos tend to have more traffic on them during the late night hours. The daily trip information is important because it captures some of the impacts related to off-peak traffic levels. This could lead to potential concerns of nearby residents or business owners. If the location of a potential casino was proposed near a neighborhood, the future casino could cause lighting, noise, or other environmental concerns. Our data shows some justification to these concerns over late-night traffic. Typically between the hours of 12:00 AM and 6:00 AM most land uses are not in operation and thus do not generate trips. These four casinos, on the other hand, averaged over 15% of their daily trips during these same hours. This could lead to potential complaints by nearby residents or businesses.

SUMMARY

This paper included the trip generation rates of three Iowa casinos and compared their rates to that of two St. Louis casinos included in a March 1998 ITE Journal article. In general, the five casinos had comparable trip generation rates for both weekdays and weekends. These rates could be used when determining the viability of a proposed casino or the expansion of an existing casino. As always, data collected at or near the actual casino site should be used, but if this is not possible, these rates could provide for a relative comparison of whether the nearby roadways could handle the increase in traffic due to the casino.

HDR's analysis of the five casinos found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively. The average weekday ADT was 9.93 trips per slot, while the weekend average ADT was 11.70 trips per slot.

It should also be noted that these casinos could be considered isolated in terms of walking from one to another. The generation rates of casinos that are found in clusters (Las Vegas) have different characteristics than the casinos studied in this paper. This can be related to the large number and size of casinos located within the clusters and the fact that they are generally located very close to each other. Another important piece of information that should be reviewed is a market analysis. A market analysis could give an estimate of the daily admissions expected at the casino. This could give an indication if these rates are applicable to the proposed casino. As with all land uses, variations in trip generation rates will exist, but knowing what the potential traffic impact could be is better than not having any comparative information.

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Table A1 – Harvey's Peak Hour Raw Data

		AM Peak Hour			PM Peak Hour		
Day	Date	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Thursday	7/20/00	11:00	358	209	6:00	458	317
Friday	7/21/00	10:45	323	252	5:00	548	387
Saturday	7/22/00	10:00	285	273	5:30	591	380
Sunday	7/23/00	11:00	433	265	3:30	409	462
Monday	7/24/00	10:45	280	208	4:30	347	279
Tuesday	7/25/00	11:00	562	469	6:00	715	606
Wednesday	7/26/00	10:45	320	203	5:00	440	352
Thursday	7/27/00	11:00	362	263	6:00	493	319
Friday	7/28/00	10:45	412	179	5:30	512	403
Saturday	7/29/00	11:00	304	256	5:00	518	317
Sunday	7/30/00	11:00	345	271	3:15	410	342

Table A2 – Ameristar Peak Hour Raw Data

Day	Date	AM Peak Hour			PM Peak Hour		
		Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Saturday	7/15/00	10:30	363	240	5:30	596	420
Sunday	7/16/00	11:00	379	388	6:00	609	543
Monday	7/17/00	10:45	248	282	3:15	314	435
Tuesday	7/18/00	11:00	430	287	3:00	463	637
Wednesday	7/19/00	10:45	340	230	5:30	429	334
Thursday	7/20/00	10:45	356	228	3:00	349	471
Friday	7/21/00	11:00	364	283	5:45	662	441
Saturday	7/22/00	11:00	370	265	5:45	700	461
Sunday	7/23/00	11:00	409	351	5:45	592	461
Monday	7/24/00	10:45	299	289	3:15	319	462
Tuesday	7/25/00	11:00	458	343	3:00	427	557

Table A3 – Bluffs Run Peak Hour Raw Data

Day	AM Peak Hour			PM Peak Hour		
	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Monday	11:00	348	420	15:00	443	416
Tuesday	10:45	436	393	15:00	549	513
Wednesday	11:00	417	310	15:00	542	474
Thursday	10:45	425	370	15:30	571	507
Friday	11:00	406	379	15:30	580	544
Saturday	11:00	478	361	16:00	486	635
Sunday	10:15	423	378	15:00	620	523

CAPACITY AND QUEUE ANALYSIS WORKSHEETS

5: Barlow Greenmount Road & Emmitsburg Road
Existing Traffic Volumes - PM Peak (Weekday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	13	105	13	14	104
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85
Hourly flow rate (vph)	12	22	127	17	26	122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	309	135			144	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	309	135			144	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			98	
cM capacity (veh/h)	675	919			1451	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	144	148
Volume Left	12	0	26
Volume Right	22	17	0
cSH	814	1700	1451
Volume to Capacity	0.04	0.08	0.02
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.6	0.0	1.4
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	1.4
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{357.2}{256}$ = 1.4 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	13	107	13	14	106
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85
Hourly flow rate (vph)	12	22	129	17	26	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	314	138			146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	138			146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			98	
cM capacity (veh/h)	671	916			1448	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	146	151
Volume Left	12	0	26
Volume Right	22	17	0
cSH	810	1700	1448
Volume to Capacity	0.04	0.09	0.02
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.6	0.0	1.4
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	1.4
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{360}{260}$ = 1.4 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	13	122	15	14	123
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85
Hourly flow rate (vph)	16	22	147	20	26	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	354	157			167	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	354	157			167	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			98	
cM capacity (veh/h)	636	894			1423	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	37	167	171
Volume Left	16	0	26
Volume Right	22	20	0
cSH	765	1700	1423
Volume to Capacity	0.05	0.10	0.02
Queue Length 95th (ft)	4	0	1
Control Delay (s)	9.9	0.0	1.3
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	1.3
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{395.9}{296}$ = 1.3 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	14	111	14	15	110
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85
Hourly flow rate (vph)	12	23	134	19	28	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	328	143			152	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	328	143			152	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			98	
cM capacity (veh/h)	657	910			1441	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	35	152	157
Volume Left	12	0	28
Volume Right	23	19	0
cSH	804	1700	1441
Volume to Capacity	0.04	0.09	0.02
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.7	0.0	1.5
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	1.5
Approach LOS	A		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{391.2}{271}$ = 1.4 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	14	126	16	15	127
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85
Hourly flow rate (vph)	16	23	152	21	28	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	367	162			173	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	367	162			173	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			98	
cM capacity (veh/h)	624	888			1416	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	39	173	177
Volume Left	16	0	28
Volume Right	23	21	0
cSH	759	1700	1416
Volume to Capacity	0.05	0.10	0.02
Queue Length 95th (ft)	4	0	2
Control Delay (s)	10.0	0.0	1.3
Lane LOS	A		A
Approach Delay (s)	10.0	0.0	1.3
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{414.6}{307}$ = 1.4 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	5	105	15	10	78
Sign Control	Stop		Free			Free
Grade	1%		1%			1%
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86
Hourly flow rate (vph)	16	8	122	36	20	91
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	271	140			158	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271	140			158	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			99	
cM capacity (veh/h)	713	913			1434	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	158	111
Volume Left	16	0	20
Volume Right	8	36	0
cSH	769	1700	1434
Volume to Capacity	0.03	0.09	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.8	0.0	1.5
Lane LOS	A		A
Approach Delay (s)	9.8	0.0	1.5
Approach LOS	A		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	21.3%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{259.4}{221}$ = 1.2 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	5	107	15	10	79
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86
Hourly flow rate (vph)	16	8	124	36	20	92
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	274	142			160	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	142			160	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			99	
cM capacity (veh/h)	710	911			1431	

Direction/Lane #	WB 1	NB 1	SB 1
Volume Total	24	160	112
Volume Left	16	0	20
Volume Right	8	36	0
cSH	766	1700	1431
Volume to Capacity	0.03	0.09	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.9	0.0	1.4
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	1.4
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{253.3}{224}$ = 1.1 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	5	125	17	10	98
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86
Hourly flow rate (vph)	20	8	145	40	20	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	320	166			186	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	320	166			186	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			99	
cM capacity (veh/h)	668	884			1401	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	28	186	134
Volume Left	20	0	20
Volume Right	8	40	0
cSH	718	1700	1401
Volume to Capacity	0.04	0.11	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	10.2	0.0	1.2
Lane LOS	B		A
Approach Delay (s)	10.2	0.0	1.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{282.6}{265}$ = 1.1 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	5	111	16	11	83
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86
Hourly flow rate (vph)	16	8	129	38	22	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289	148			167	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289	148			167	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			98	
cM capacity (veh/h)	695	904			1423	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	167	119
Volume Left	16	0	22
Volume Right	8	38	0
cSH	753	1700	1423
Volume to Capacity	0.03	0.10	0.02
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.9	0.0	1.5
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	1.5
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{269.7}{234}$ = 1.2 sec/veh = LOS A

5: Barlow Greenmount Road & Emmitsburg Road
2017 Traffic Volumes with Development - PM Peak (Friday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	5	129	18	11	102
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86
Hourly flow rate (vph)	20	8	150	43	22	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	334	171			193	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334	171			193	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			98	
cM capacity (veh/h)	655	877			1393	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	28	193	141
Volume Left	20	0	22
Volume Right	8	43	0
cSH	705	1700	1393
Volume to Capacity	0.04	0.11	0.02
Queue Length 95th (ft)	3	0	1
Control Delay (s)	10.3	0.0	1.3
Lane LOS	B		A
Approach Delay (s)	10.3	0.0	1.3
Approach LOS	B		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{301.4}{275}$ = 1.1 sec/veh = LOS A

5: Barlow Greenmount Road & Emmitsburg Road
Existing Traffic Volumes - PM Peak (Saturday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	7	117	16	6	124
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82
Hourly flow rate (vph)	48	18	152	25	10	151
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	335	164			177	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335	164			177	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			99	
cM capacity (veh/h)	660	886			1412	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	66	177	161
Volume Left	48	0	10
Volume Right	18	25	0
cSH	710	1700	1412
Volume to Capacity	0.09	0.10	0.01
Queue Length 95th (ft)	8	0	1
Control Delay (s)	10.6	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	10.6	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{393.6}{294}$ = 1.3 sec/veh = LOS A

5: Barlow Greenmount Road & Emmitsburg Road
2012 Traffic Volumes without Development - PM Peak (Saturday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	7	119	16	6	126
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82
Hourly flow rate (vph)	48	18	155	25	10	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	340	167			179	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	167			179	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			99	
cM capacity (veh/h)	656	883			1409	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	66	179	163
Volume Left	48	0	10
Volume Right	18	25	0
cSH	706	1700	1409
Volume to Capacity	0.09	0.11	0.01
Queue Length 95th (ft)	8	0	1
Control Delay (s)	10.6	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	10.6	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{394.6}{298}$ = 1.3 sec/veh = LOS A

Movement	WBL	WBR	NBL	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	27	7	138	18	6	149
Sign Control	Stop		Free			Free
Grade	1%		-1%			-1%
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82
Hourly flow rate (vph)	54	18	179	28	10	182
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	394	193			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	394	193			207	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	98			99	
cM capacity (veh/h)	610	854			1376	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	72	207	191
Volume Left	54	0	10
Volume Right	18	28	0
cSH	658	1700	1376
Volume to Capacity	0.11	0.12	0.01
Queue Length 95th (ft)	9	0	1
Control Delay (s)	11.1	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	11.1	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{439.4}{345}$ = 1.3 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	25	7	124	17	6	131
Sign Control	Stop		Free			Free
Grade	1%		-1%			1%
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82
Hourly flow rate (vph)	50	18	161	26	10	160
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	353	174			187	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	353	174			187	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	98			99	
cM capacity (veh/h)	644	874			1399	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	68	187	169
Volume Left	50	0	10
Volume Right	18	26	0
cSH	693	1700	1399
Volume to Capacity	0.10	0.11	0.01
Queue Length 95th (ft)	8	0	1
Control Delay (s)	10.8	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	10.8	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{414.1}{310}$ = 1.3 sec/veh = LOS A.

5: Barlow Greenmount Road & Emmitsburg Road
2017 Traffic Volumes with Development - PM Peak (Saturday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	28	7	143	19	6	154
Sign Control	Stop		Free			Free
Grade	1%		1%			1%
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82
Hourly flow rate (vph)	56	18	186	29	10	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	407	200			215	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	407	200			215	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	98			99	
cM capacity (veh/h)	600	846			1367	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	74	215	197
Volume Left	56	0	10
Volume Right	18	29	0
cSH	646	1700	1367
Volume to Capacity	0.12	0.13	0.01
Queue Length 95th (ft)	10	0	1
Control Delay (s)	11.3	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	11.3	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{459.5}{357}$ = 1.3 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
Existing Traffic Volumes - PM Peak (Weekday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	5	103	6	9	100
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88
Hourly flow rate (vph)	8	8	121	16	12	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	267	129			137	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	267	129			137	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	720	926			1459	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	137	126
Volume Left	8	0	12
Volume Right	8	16	0
cSH	810	1700	1459
Volume to Capacity	0.02	0.08	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	9.5	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{182.2}{228}$ = 0.8 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
2012 Traffic Volumes without Development - PM Peak (Weekday) 3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBTA
Lane Configurations						
Volume (veh/h)	5	5	105	6	9	102
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88
Hourly flow rate (vph)	8	8	124	16	12	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	271	131			139	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271	131			139	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	716	923			1457	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	139	128
Volume Left	8	0	12
Volume Right	8	16	0
cSH	807	1700	1457
Volume to Capacity	0.02	0.08	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.6	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{184.8}{232}$ = 0.8 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
2012 Traffic Volumes with Development - PM Peak (Weekday) 3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	156	22	105	173	28	102
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88
Hourly flow rate (vph)	248	35	124	455	37	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	542	351			579	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	542	351			579	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	49	95			96	
cM capacity (veh/h)	486	697			1005	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	283	579	153
Volume Left	248	0	37
Volume Right	35	455	0
cSH	505	1700	1005
Volume to Capacity	0.56	0.34	0.04
Queue Length 95th (ft)	85	0	3
Control Delay (s)	20.8	0.0	2.4
Lane LOS	C		A
Approach Delay (s)	20.8	0.0	2.4
Approach LOS	C		

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{4014.4}{586}$ = 6.9 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
2012 Traffic Volumes with Development - PM Peak (Weekday) 3/29/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	156	22	105	173	28	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Grade (%)	4%		1%			-1%
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	1.00		1.00	1.00		1.00
Frt	0.98		1.00	0.85		1.00
Flt Protected	0.96		1.00	1.00		0.99
Satd. Flow (prot)	1696		1809	1553		1810
Flt Permitted	0.96		1.00	1.00		0.89
Satd. Flow (perm)	1696		1809	1553		1633
Peak-hour factor, PHF	0.63	0.63	0.85	0.38	0.75	0.88
Adj. Flow (vph)	248	35	124	455	37	116
RTOR Reduction (vph)	8	0	0	306	0	0
Lane Group Flow (vph)	*275*	*0*	*124*	*149*	*0*	*153*
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Turn Type				Perm	Perm	
Protected Phases	8		2			6
Permitted Phases				2	6	
Actuated Green, G (s)	10.7		11.1	11.1		11.1
Effective Green, g (s)	10.7		11.1	11.1		11.1
Actuated g/C Ratio	0.32		0.33	0.33		0.33
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	537		594	510		536
v/s Ratio Prot	c0.16		0.07			
v/s Ratio Perm				c0.10		0.09
v/c Ratio	0.51		0.21	0.29		0.29
Uniform Delay, d1	9.4		8.2	8.4		8.4
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.8		0.2	0.3		0.3
Delay (s)	10.3		8.4	8.8		8.7
Level of Service	B		A	A		A
Approach Delay (s)	10.3		8.7			8.7
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	33.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

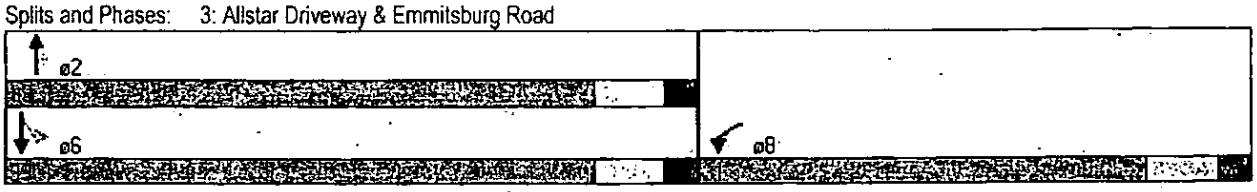
c Critical Lane Group

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	156	105	173	28	102
Lane Group Flow (vph)	283	124	455	0	153
Turn Type			Perm	Perm	
Protected Phases	8	2			6
Permitted Phases			2	6	
Detector Phase	8	2	2	6	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	31.0	39.0	39.0	39.0	39.0
Total Split (%)	44.3%	55.7%	55.7%	55.7%	55.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	Min	Min	Min	Min
v/c Ratio	0.52	0.21	0.56		0.29
Control Delay	13.0	10.3	4.5		11.1
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	13.0	10.3	4.5		11.1
Queue Length 50th (ft)	33	15	0		19
Queue Length 95th (ft)	60	43	0		55
Internal Link Dist (ft)	517	388			297
Turn Bay Length (ft)			150		
Base Capacity (vph)	1269	1703	1489		1537
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.22	0.07	0.31		0.10

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 34.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Allstar Driveway & Emmitsburg Road



3: Allstar Driveway & Emmitsburg Road
2017 Traffic Volumes without Development - PM Peak (Weekday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	5	109	6	10	106
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88
Hourly flow rate (vph)	8	8	128	16	13	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	283	136			144	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283	136			144	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	704	918			1451	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	144	134
Volume Left	8	0	13
Volume Right	8	16	0
cSH	797	1700	1451
Volume to Capacity	0.02	0.08	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.6	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{188.8}{241}$ = 0.8 sec/veh = LOS A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	156	22	109	173	29	106
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88
Hourly flow rate (vph)	248	35	128	455	39	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	554	356			583	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	554	356			583	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	48	95			96	
cM capacity (veh/h)	477	692			1001	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	283	583	159
Volume Left	248	0	39
Volume Right	35	455	0
cSH	496	1700	1001
Volume to Capacity	0.57	0.34	0.04
Queue Length 95th (ft)	88	0	3
Control Delay (s)	21.4	0.0	2.4
Lane LOS	C		A
Approach Delay (s)	21.4	0.0	2.4
Approach LOS	C		

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{4133.2}{595}$ = 6.9 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
2017 Traffic Volumes with Development - PM Peak (Weekday)

3/29/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	156	22	109	173	29	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Grade (%)	4%		1%			-1%
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	1.00		1.00	1.00		1.00
Frt	0.98		1.00	0.85		1.00
Flt Protected	0.96		1.00	1.00		0.99
Satd. Flow (prot)	1696		1809	1553		1810
Flt Permitted	0.96		1.00	1.00		0.92
Satd. Flow (perm)	1696		1809	1553		1683
Peak-hour factor, PHF	0.63	0.63	0.85	0.38	0.75	0.88
Adj. Flow (vph)	248	35	128	455	39	120
RTOR Reduction (vph)	*8*	*0*	*0*	*199*	*0*	*0*
Lane Group Flow (vph)	275	0	128	256	0	159
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Turn Type				Perm	Perm	
Protected Phases	8		2			6
Permitted Phases				2	6	
Actuated Green, G (s)	14.9		34.6	34.6		34.6
Effective Green, g (s)	14.9		34.6	34.6		34.6
Actuated g/C Ratio	0.24		0.56	0.56		0.56
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	411		1018	874		947
v/s Ratio Prot	c0.16		0.07			
v/s Ratio Perm				c0.16		0.09
v/c Ratio	0.67		0.13	0.29		0.17
Uniform Delay, d1	21.1		6.3	7.0		6.5
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	4.1		0.3	0.9		0.4
Delay (s)	25.2		6.6	7.9		6.9
Level of Service	C		A	A		A
Approach Delay (s)	25.2		7.6			6.9
Approach LOS	C		A			A

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

3: Allstar Driveway & Emmitsburg Road
2017 Traffic Volumes with Development - PM Peak (Weekday)

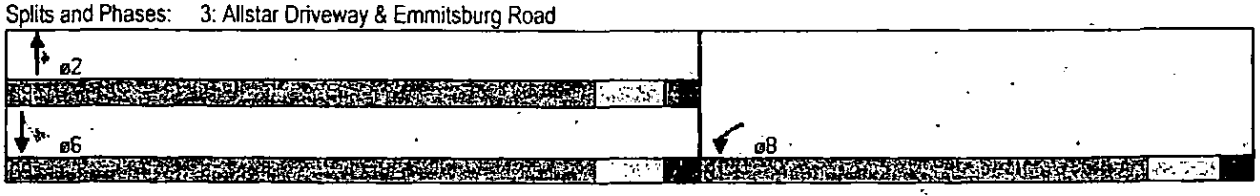
3/29/2010

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	156	109	173	29	106
Lane Group Flow (vph)	283	128	455	0	159
Turn Type			Perm	Perm	
Protected Phases	8	2			6
Permitted Phases			2	6	
Detector Phase	8	2	2	6	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	31.0	39.0	39.0	39.0	39.0
Total Split (%)	44.3%	55.7%	55.7%	55.7%	55.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	Max	Max	Max	Max
v/c Ratio	0.67	0.13	0.42		0.17
Control Delay	28.2	8.0	2.4		8.3
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	28.2	8.0	2.4		8.3
Queue Length 50th (ft)	88	20	0		25
Queue Length 95th (ft)	97	49	0		63
Internal Link Dist (ft)	517	388			297
Turn Bay Length (ft)			150		
Base Capacity (vph)	696	1017	1072		945
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.41	0.13	0.42		0.17

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 61.6
Natural Cycle: 45
Control Type: Semi Act-Uncoord

Splits and Phases: 3: Allstar Driveway & Emmitsburg Road



3: Allstar Driveway & Emmitsburg Road
Existing Traffic Volumes - PM Peak (Friday)

3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	8	117	25	16	102
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81
Hourly flow rate (vph)	4	16	131	32	32	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	337	147			164	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	337	147			164	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			98	
cM capacity (veh/h)	647	905			1427	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	164	158
Volume Left	4	0	32
Volume Right	16	32	0
cSH	838	1700	1427
Volume to Capacity	0.02	0.10	0.02
Queue Length 95th (ft)	2	0	2
Control Delay (s)	9.4	0.0	1.7
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	1.7
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{304}{271}$ = 1.1 sec/veh = LOS A

3: Allstar Driveway & Emmitsburg Road
2012 Traffic Volumes without Development - PM Peak (Friday) 3/15/2010

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	8	119	25	16	104
Sign Control	Stop		Free			Free
Grade	4%		1%			-1%
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81
Hourly flow rate (vph)	4	16	134	32	32	128
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	342	150			166	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	342	150			166	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			98	
cM capacity (veh/h)	643	902			1425	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	166	160
Volume Left	4	0	32
Volume Right	16	32	0
cSH	835	1700	1425
Volume to Capacity	0.02	0.10	0.02
Queue Length 95th (ft)	2	0	2
Control Delay (s)	9.4	0.0	1.7
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	1.7
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Overall LOS = $\frac{307.4}{275}$ = 1.1 sec/veh = LOS A