
TRANSPORTATION IMPACT STUDY

CASINO REVOLUTION

FRONT STREET AND PATTISON AVENUE

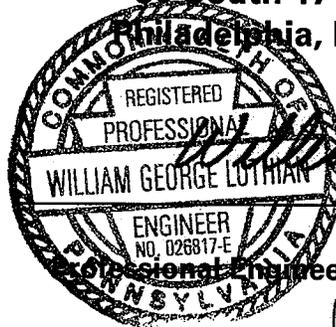
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EXECUTIVE SUMMARY

PHL Gaming, LLC retained Langan Engineering and Environmental Services, Inc. to conduct a Transportation Impact Study for the proposed construction of a new casino and hotel. The new casino and hotel is proposed to be located along Pattison Avenue between Front Street and 3rd Street in the City of Philadelphia, Pennsylvania. We have prepared this Transportation Impact Study in accordance with standard accepted methodologies.

This Transportation Impact Study also addresses comments received by Orth-Rodgers & Associates, Inc. (ORA) prepared on behalf of the PA Gaming Control Board dated May, 23 2013.

Project Description

The proposed casino will provide gaming consisting of 2,400 slot machines, 80 gaming tables (6 positions per table assumed) and 25 poker tables (10 positions per table assumed). We are assuming a total of 3,130 gaming positions at the proposed casino. In addition, non-gaming space that is typical to casinos will be provided. The non-gaming space will consist of eating areas for patrons and back of house space for the casino operation, in addition to other amenities. The proposed hotel will provide 250 rooms that will largely be used by casino patrons.

The proposed casino and hotel will be located between Front Street and 3rd Street, which is to the east of the Philadelphia Sports Complex. Site access for patrons will be provided along Front Street and 3rd Street. All delivery and service access will be provided via 3rd Street. The site location is shown in Figure 1.

Analysis Scenarios

As directed in the ORA comment letter, we conducted traffic operations analyses for the following analysis scenarios:

- Friday PM Commuter Peak (4-6 PM with No Event)
- Friday Pre-Phillies Peak (5:30-8:30 PM with Phillies Game)

- Friday PM Casino Peak (7-10 PM with No Event)
- Saturday Casino Peak (7-10 PM with No Event)

Study Area

We discussed and verified the study area with the review consultant for the PA Gaming Control Board, Orth-Rodgers & Associates, Inc. We conducted traffic operations analyses for the following study locations:

- Penrose Avenue & Pattison Avenue/Private Driveway
- Pattison Avenue & S Broad Street
- Pattison Avenue & S 11th Street
- Pattison Avenue & S Darien Street
- Pattison Avenue & S 7th Street
- Pattison Avenue & Front Street/Industrial Driveway
- S Broad Street & I-95 Ramps/11th Street
- Packer Avenue & S Broad Street
- S Broad Street & Pollock Street
- S Broad Street & W Oregon Avenue
- Packer Avenue & S 10th Street
- Packer Avenue & S Darien Street/I-76 EB Off Ramp
- Packer Avenue & S 7th Street
- Packer Avenue & I-95 NB Off Ramp
- Packer Avenue & S Front Street/Industrial Driveway
- S Front Street & I-76 EB On Ramp
- S Front Street & I-76 WB Off Ramp/I-95 SB On Ramp
- S Front Street & I-95 NB On Ramp/I-95 SB Off Ramp/Driveway
- S Front Street & Main Site Driveway
- S Front Street & Porte-Cochere Entrance
- S Front Street & Porte-Cochere Exit

As directed by ORA, we have analyzed all of the study intersections for the Friday PM Commuter Peak and the Friday Pre-Phillies Peak scenarios. Additionally, we have only analyzed the intersections on Packer Avenue (from S Broad Street to S Front Street) and the intersections on S Front Street at the I-95 Ramps for Friday PM Casino and Saturday Casino Peak scenarios.

Trip Generation

Based on casino and hotel trip generation data, we projected the new casino and hotel will

generate 921 new trips (487 entering vehicles and 434 exiting vehicles) during the Friday PM Commuter Peak hour, 965 new trips (511 entering vehicles and 454 exiting vehicles) during the Friday Pre-Phillies Peak hour, 1,360 new trips (720 entering vehicles and 640 exiting vehicles) during the Friday PM Casino Peak hour and 1,588 new trips (843 entering vehicles and 745 exiting vehicles) during the Saturday Casino peak hour.

Trip Distribution

We determined the directional distribution of site generated traffic by preparing a gravity model for the anticipated market area of the proposed casino and hotel. We used the results of the gravity model to assign new site generated traffic onto the adjacent road network. As a result of the traffic assignment, approximately 35 percent of the new trips are expected to access the site along Front Street from the north (34 percent to/from the I-95 and I-76 ramps and 1 percent to/from Front Street), 34 percent along Packer Street from the west (30 percent to/from I-76 and 4% to/from Broad Street), 10 percent along Pattison Street to/from the west and 21 percent along Columbus Boulevard to/from the east.

Traffic Operations Analysis

The traffic impacts of the proposed casino and hotel are relegated a small section of S Front Street between the I-76/I-95 Ramps and the site and a small section of Packer Avenue between the I-76 EB Off-Ramp/Darien Street intersection and Front Street. As a result, the site is ideally located to the east of the Philadelphia Sports Complex, and casino and hotel traffic will have a minimal impact on the circulation along the S Broad Street corridor and the Philadelphia Sports Complex. Table A summarizes the Levels of Service, and Table B summarizes the 95th percentile queue lengths, for the No-Build and Build conditions for each of the analysis scenarios.

The majority of the intersections will operate at acceptable levels of service based on PennDOT delay criteria, with stacking lanes that are appropriate for the volume of traffic experienced during each peak hour of the analysis scenarios. We suggest the following mitigation, which will improve operations and can be practically implemented:

Pattison Avenue and S Front Street/Industrial Driveway (Friday Pre-Phillies Analysis Scenario)

- Provide a southbound right-turn overlap during the existing eastbound advance phase.
- Modify the traffic signal timing to provide additional green time for the S Front Street approach.

Packer Avenue and S Darien Street/I-76 EB Off Ramp (All Analysis Scenarios)

- Modify the traffic signal timing to provide additional green time for the I-76 EB Off Ramp approach.

Packer Avenue and S Front Street/Industrial Driveway (All Analysis Scenarios)

- Provide a northbound advance phase.
- Modify the traffic signal timing to provide additional green time for the S Front Street approach.

S Front Street and I-95 NB On Ramp/I-95 SB Off Ramp/Driveway (PM Commuter Peak)

- Modify the traffic signal timing to mitigate queues in the northbound left-turn lane.

S Front Street and Main Site Driveway

- Provide a northbound left-turn lane of 150 feet.
- Provide a southbound right-turn lane of 150 feet.
- Install a traffic signal.

In our opinion, with the suggested mitigation, the roadway network can accommodate the proposed casino and hotel with reasonable changes in operations.

INTRODUCTION

PHL Gaming, LLC retained Langan Engineering and Environmental Services, Inc. to conduct a Transportation Impact Study for the proposed construction of a new casino and hotel. The new casino and hotel is proposed to be located along Pattison Avenue between Front Street and 3rd Street in the City of Philadelphia, Pennsylvania. We have prepared this Transportation Impact Study in accordance with standard accepted methodologies.

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The proposed casino and hotel will be located between Front Street and 3rd Street, which is to the east of the Philadelphia Sports Complex. Site access for patrons will be provided along Front Street and 3rd Street. All delivery and service access will be provided via 3rd Street. The site location is shown in Figure 1. The provision of several access points will facilitate turning movements into and out of the site.

Analysis Scenarios

As directed in the ORA comment letter, we conducted traffic operations analyses for the following analysis scenarios:

- Friday PM Commuter Peak (4-6 PM with No Event)

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We discussed and verified the study area with the review consultant for the PA Gaming Control Board, Orth-Rodgers & Associates, Inc. We conducted traffic operations analyses for the following study locations:

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- S Front Street & Main Site Driveway
- S Front Street & Porte-Cochere Entrance
- S Front Street & Porte-Cochere Exit

As directed by ORA, we have analyzed all of the study intersections for the Friday PM Commuter Peak and the Friday Pre-Phillies Peak scenarios. Additionally, we have only analyzed the intersections on Packer Avenue (from S Broad Street to S Front Street) and the intersections on S Front Street at the I-95 Ramps for Friday PM Casino and Saturday Casino Peak scenarios.

A description of the major roads within the study area is presented in a later section.

Methodology

Langan undertook the following steps to prepare this study in accordance with standard accepted methodologies:

1. Conducted a field examination of the site and surrounding road network to inventory physical and regulatory conditions including the number of lanes, lane assignments, channelization, traffic-control devices, lateral clearances and other factors that limit traffic capacity. Intersection photos and aerials are located in Appendix B.
2. Conducted manual turning movement traffic counts at the identified study locations for the analysis scenarios. We then identified the peak hour traffic volumes for each analysis scenario based on the manual traffic count data.
3. Used 2013 Existing traffic volumes as the future No-Build traffic volumes. The growth rate, based on PennDOT's Bureau of Planning and Research, is 0 percent at the study area intersections.
4. Prepared trip generation estimates for the casino and hotel based on trip rates at comparable developments.
5. Developed trip distribution based on a gravity model and assigned site generated trips to the surrounding road network based on the likely travel routes motorists will use to access the site.
6. Established future Build traffic volumes by adding site generated trips to the No-Build traffic volumes. Used 0.92 as the peak hour factor and 2% for heavy vehicles percentage at the proposed driveways.
7. Performed traffic operations analyses of the study locations utilizing Synchro Software. Utilized a saturation flow rate of 2000 to more accurately represent the Philadelphia roadway network.
8. Identified suggested improvements that can be practically implemented to mitigate site generated traffic impacts.
9. Prepared this summary report to describe our findings.

EXISTING CONDITIONS

This section describes the roads and traffic volumes near the site. Appendix B includes detailed photos and aerials of each analysis location. Appendix H contains copies of the existing traffic signal plans provided by the City of Philadelphia.

The road network near the site primarily serves the Philadelphia Sports Complex and provides considerable road capacity to accommodate event traffic at the complex. S Front Street, S 7th Street, S Darien Street, S 10th Street and S Broad Street carry north-south traffic flow near the site. Pattison Avenue and Packer Avenue carry east-west traffic flow near the site. I-76 and I-95 provide regional access to this area with various ramp connections along S Front Street, S Darien Street and S Broad Street.

The casino and hotel site is located along Front Street and is less than a half mile from the Front Street intersections with ramps to I-76 and I-95. The close proximity of the site to these ramp intersections provides efficient access to the regional highway network that is unique to this site. Because the site is located on the outside of the Philadelphia Sports Complex, the casino and hotel traffic will have a minimal impact on the traffic operations in the Sports Complex.

Below is a description of the significant study area roads.

Study Area Road Descriptions

Front Street

Front Street has a functional class of urban principal arterial and a smart transportation roadway typology of urban town/village neighborhood community arterial. This road has a general north/south orientation, is under local jurisdiction and provides two lanes in each direction, with turn lanes provided where necessary. Land use along this road is primarily commercial and industrial near the site.

Packer Avenue

Packer Avenue has a functional class of urban minor arterial and a smart transportation road typology of urban town/village neighborhood community arterial. This road has a general east/west orientation, is under local jurisdiction and provides three lanes in each direction. East of S 10th Street there is a center two-way left-turn lane and west of S 10th Street there are left turn lanes provided where necessary. Land use along this road is primarily commercial and industrial.

Pattison Avenue

Pattison Avenue has a functional class of urban principal arterial and a smart transportation road typology of urban town/village neighborhood community arterial. This road has a general east/west orientation, is under local jurisdiction and provides three lanes in each direction with a center two-way left-turn lane. Land use along this road is primarily commercial and industrial.

S 7th Street

Front Street has a functional class of urban minor arterial and a smart transportation road typology of urban town/village neighborhood community arterial. This road has a general north/south orientation, is under local jurisdiction and provides two lanes in each direction with a center two-way left-turn lane. Land use along this road is primarily commercial and industrial.

S Darien Street

S Darien Street has a functional class of local roadway and a smart transportation road typology of urban town/village neighborhood local road/street. This road has a general north/south orientation, is under local jurisdiction and provides two lanes in each direction with a center two-way left-turn lane. Land use along this road is primarily commercial and industrial.

S Broad Street (SR 0611)

S Broad Street, also known as SR 0611 in the vicinity of the site, has a functional class of urban principal arterial and a smart transportation road typology of urban town/village neighborhood regional arterial. This road has a general north/south orientation and is under PennDOT jurisdiction. This median separated road provides two to four lanes in each direction and provides turn lanes where necessary. Land use along this road is primarily recreational in the study area.

Existing Traffic Volumes

A traffic count program was developed to obtain existing vehicle and pedestrian volumes at the study intersections for each of the analysis scenarios.

- The Friday PM Commuter Peak counts were conducted on Friday 19 July 2013 from 4 to 6 PM.
- The Friday Pre-Phillies Peak counts were conducted on Friday 2 August 2013 from 5:30 to 8:30 PM to record traffic occurring around the 7:05 PM game start.
- The Friday PM Casino Peak counts were conducted on Friday 19 July 2013 from 6 to 10 PM.
- The Saturday Casino Peak counts were counted on Saturday 20 July 2013 from 7 to 10 PM.

Please note that on Friday 19 July 2013 there was a Taylor Swift concert at Lincoln Financial Field that began at 6:30 PM, which created a significant amount of traffic within the study area. We reduced certain movements along S Front Street and Packer Avenue to better replicate traffic volumes for a typical Friday PM Commuter along these roads. We reduced those movements based on a comparison to traffic volumes identified by others for the same time period. In addition, we used the traffic volumes for the Friday Pre-Phillies Peak hour to model the Friday PM Commuter Peak hour volumes at the Pattison Avenue and S Broad Street intersection since several movements at this intersection were prohibited because of the concert traffic. We did not modify the other traffic volumes at any intersections along S Broad Street and Pattison Avenue, which provides for a conservative analysis of those locations.

The traffic counts indicate that there are distinct hours during the analysis scenarios when traffic experiences its highest levels at the study locations. To be conservative, we used the peak hour of each individual intersection to determine the peak hour traffic volumes rather than use a common peak hour for all of the intersections.

Figures 6, 11, 16 and 21 illustrate the existing peak hour traffic volumes for each analysis scenario. The manual traffic counts are contained in Appendix C.

Existing Transit Facilities

Subway service is provided along Broad Street to the west of the site. The last stop of the Broad Street line is at Pattison Avenue, which is approximately one mile to the west of the site. We don't anticipate patrons using the subway to access the site, but there is an existing SEPTA bus route (G) that has a stop at the corner of Pattison Avenue and S Front Street, the location of the proposed casino and hotel. To provide access between the bus stop and the proposed casino and hotel, there is existing sidewalk along S Front Street across the site frontage. As part of the proposed project, there will be sidewalks across the site frontage with ADA compliant curb ramps and crosswalks at the driveways. WE also envision a shuttle service between the casino and hotel and the stadium area, but have taken no credit for this specific mass transit usage in our analysis

Crash Data

We requested crash data for the study intersections for the latest five available years. We prepared a crash data summary table to identify the average number of crashes per year at each intersection. The summary table is provided in Appendix J. It does not appear that there are systematic crash issues at any of the study intersections near the site. The available crash data shows that the majority of crashes occurred at the intersections along S Broad Street. The proposed casino and hotel will not generate a significant volume of traffic through the S Broad Street intersections; therefore we do not anticipate that there will be any significant change to the accident experience along S Broad Street because of the casino and hotel.

ESTIMATE OF FUTURE CONDITIONS

This section of the report covers background traffic growth, site generated trips, trip distribution and future traffic volumes.

Background Traffic Growth

There are no known approved developments yet to be built near the site. The background traffic growth rate, based on PennDOT's Bureau of Planning and Research, is 0 percent for the study area intersections. Therefore, the No-Build condition traffic volumes will be the same as the Existing traffic volumes for each of the analysis scenarios. In addition, there will be no change in the traffic volumes between the opening year and the design year (5 years after opening) because of background traffic volume growth. Figures 6, 11, 16 and 21 illustrate the Existing/No-Build traffic volumes for each of the analysis scenarios.

Proposed Site Access

There are several driveways proposed to facilitate access to and from the site. The main access to the site will be provided via a signalized driveway located along S Front Street to enter and exit the parking garage and enter the proposed surface parking lot B along S Front Street. Surface parking lot B will also have a right-in only driveway along S Front Street. There is an enter-only driveway and an exit-only driveway to service the Porte-Cochere mainly used for valet and pick-up/drop-offs to the south of the main driveway. There are three driveways located on 3rd Street to service the small surface parking lot A, entry and exit from the parking garage, and all exiting movements from surface parking lot B along S Front Street. Loading will also take place along 3rd Street. The main valet parking spaces will be provided in the parking garage. Surface parking lot C is proposed for additional valet parking opposite Packer Avenue on the east side of S Front Street. Appendix A contains the Site Plan.

The required sight distance is met or exceeded at each driveway as the intersected roads are straight and flat.

Evaluation of Pedestrian Facilities

Pedestrian crossings are proposed across the proposed site driveway approaches on S Front Street. Based on pedestrian counts at the study intersections, there is minimal pedestrian activity along S Front Street. We do not anticipate a significant increase in the amount of pedestrians in the study area as a result of the proposed casino and hotel.

Site Generated Trips

Typically, trip generation is estimated by using trip rates contained within the ninth edition of Trip Generation, published by the Institute of Transportation Engineers (ITE). The ITE does not have any trip rates for a casino like the one proposed, so we reviewed trip rates established for three comparable casinos located in metropolitan areas. The trip rates at the three casinos were then averaged to determine the resultant trip rates for the proposed casino. We reviewed trip rates for the following three casinos:

- Casino St. Charles (St. Louis, MO)
- SugarHouse Casino (Philadelphia, PA)
- Parx Casino (Bensalem, PA)

We determined the average trip rates (trips per gaming position) for the above three casinos are 0.43 for the Friday Casino Peak Hour, 0.50 for the Saturday Casino Peak hour, and 0.29 for the Friday Evening Commuter Peak Hour. The split for entering and exiting vehicles were also averaged and determined to be 53 percent entering and 47 percent exiting for the Friday and Saturday peak hours.

The trip rates we derived represent the peak month for gaming operations. An ITE article, *Gaming Casino Traffic* by Paul Box and William Bunte, was utilized to adjust the trip rates for the three sample casinos to the peak month. The trip rates for the Friday commuter peak hour (4pm to 6pm) were derived by reducing the trip rates for the peak casino peak hour (7pm to 10pm) based on casino visitation patterns by time of day identified in the Philadelphia Gaming Advisory Task Force's Executive Summary of the Interim Report of Findings. All trip generation calculations and supplemental information is contained in Appendix F.

The Philadelphia Gaming Advisory Task Force report also identifies the assumed modal split for proposed casino locations within the City of Philadelphia. The report identifies the following breakdown for a casino location on a South Delaware Avenue site: Drive = 84%, Public Transit = 2%, Casino Bus = 8%, Taxi = 6%, and Pedestrian = 0%. For purposes of our trip generation calculations, we assumed a conservative overall trip rate reduction of 2% for public transit (assuming buses). Additional modal split reductions were not utilized in our trip generation calculations.

The following table shows the trip rates used for the four separate peak hours, the trip rates include a 2 percent reduction for public transit:

Table 1 – Casino Trip Rates (Trips/Gaming Position)

Friday Evening Commuter Peak Hour		Friday Pre-Phillies Peak Hour		Friday Evening Casino Peak Hour		Saturday Evening Peak Hour	
Enter	0.1484	Enter	0.1558	Enter	0.2226	Enter	0.2597
<u>Exit</u>	<u>0.1316</u>	<u>Exit</u>	<u>0.1382</u>	<u>Exit</u>	<u>0.1974</u>	<u>Exit</u>	<u>0.2303</u>
Total	0.28	Total	0.294	Total	0.42	Total	0.49

The proposed casino will have 2,400 slot machines, 80 gaming tables and 25 poker tables. We assumed that the gaming tables can accommodate up to six players and the poker tables can accommodate up to ten players. Accordingly, the total of 3,130 players that can be accommodated on the casino floor was used to estimate the trip generation.

During event times at the Philadelphia Sports Complex, we have accounted for some trip generation reductions. As cited in the Philadelphia Sports Complex Parking and Traffic Management Plan report, during event times entertainment venues in and around the Philadelphia Sports Complex will experience trip generation reductions. Trip generation reductions are attributed to linked trips, which are made by event patrons coming to the Philadelphia Sports Complex who also go to an entertainment venue while at the complex. Trip generation reductions are also attributed to a stay-away factor, which involves potential entertainment venue patrons who stay away during an event at the Philadelphia Sports Complex. The linked trips and the stay away factor could reduce the casino and hotel trip generation by as much as 50%; however, to perform a conservative analysis we have assumed

a 30% reduction in trip generation to account for mass transit usage, linked trips and the stay-away factor during event times. The Friday Pre-Phillies peak hour accounts for this 30% reduction.

The following table shows the casino trip generation estimates for the four separate peak hours:

Table 2 – Estimated Casino Trip Generation

Friday Evening Commuter Peak Hour		Friday Pre-Phillies Peak Hour		Friday Evening Casino Peak Hour		Saturday Evening Casino Peak Hour	
Enter	464	Enter	488	Enter	697	Enter	813
<u>Exit</u>	<u>412</u>	<u>Exit</u>	<u>432</u>	<u>Exit</u>	<u>618</u>	<u>Exit</u>	<u>721</u>
Total	876	Total	920	Total	1,315	Total	1,534

We assumed that 15% of the casino trip generation would use valet parking and the remaining 85% would park either in surface parking lot B or the parking garage.

The hotel will largely be used by casino patrons and will not necessarily generate its own traffic. We assumed a 70% internalization reduction for the hotel trip generation. We used ITE hotel trip rates to estimate trip generation for the proposed 250-room hotel as shown in Table 3.

Table 3 – Estimated Hotel Trip Generation

Friday Evening Peak Hours		Saturday Evening Peak Hour	
Enter	23	Enter	30
<u>Exit</u>	<u>22</u>	<u>Exit</u>	<u>24</u>
Total	45	Total	54

Table 4 shows the combined total estimated trip generation for the proposed casino and hotel.

Table 4 – Estimated Casino and Hotel Trip Generation

Friday Evening Commuter Peak Hour		Friday Pre-Phillies Peak Hour		Friday Evening Casino Peak Hour		Saturday Evening Peak Hour	
Enter	487	Enter	511	Enter	720	Enter	843
<u>Exit</u>	<u>434</u>	<u>Exit</u>	<u>454</u>	<u>Exit</u>	<u>640</u>	<u>Exit</u>	<u>745</u>
Total	921	Total	965	Total	1,360	Total	1,588

Trip Distribution

Langan prepared a gravity model to determine the trip distribution of site generated trips. The gravity model was based on the anticipated market area of the new casino, assuming a 20 mile radius around the site. The population for each county within the anticipated market area was identified through the 2010 Census Data. Based on the travel time and population of each county in the market area, we developed a gravity model to establish trip distribution. We determined that 10 counties fall within the 20 mile radius. We divided Philadelphia County into four sections. Philadelphia West is anything in the county located west of the Schuylkill River, Philadelphia South Central is anything in the county south of Route 676 and between the two rivers, Philadelphia North Central is anything in the county north of Route 676 between the Schuylkill and Front Street, and Philadelphia North East is the remaining area east of Front Street and to the northeast part of the city limits.

We used the results of the gravity model to assign site generated trips onto the adjacent road network. We assigned these trips based on the location of primary arterial roads, major signalized intersections and interchanges. The following table outlines the resulting trip distribution within the study area for site generated trips based on the trip assignment. The gravity model backup data has been included in Appendix E. The general trip distribution percentages as identified in the Table 5 below are also illustrated in Figure 2.

Table 5 - Overall Trip Distribution

To/From	Percent
I-95 – North	17%
I-95 – South	10%
I-76 – East	17%
I-76 – West	30%
Columbus Boulevard - North	21%
Broad Street – North	4%
Front – Street - North	1%

Trip distributions for the site driveways are illustrated in Figures 3-5. These figures detail the trip distributions that we identified for visitors to the casino and hotel, including: self-park

patrons, valet patrons, and hotel patrons. We assumed that the split between the parking garage and the surface lot would be 80/20 for the self-parking option based on the number of spaces available in each.

Future Traffic Volumes

We derived the Build traffic volumes by adding the site-generated trips to the No-Build traffic volumes for each analysis scenario. Figures 8, 13, 18 and 23 illustrate the total site-generated peak hour traffic volumes for each analysis scenario. Figures 9, 14, 19 and 24 illustrate the Build peak hour volumes for each analysis scenario. Note, a 5-year design year has not been analyzed since the Build volumes would remain the same from opening to the design year, because of the 0% background traffic growth rate for this area of the city.

TRAFFIC OPERATIONS ANALYSIS

We conducted capacity analyses for the projected No-Build and Build traffic conditions for each analysis scenario to assess quality of traffic flow. Capacity analyses provide an indication of the adequacy of the roads and intersections to serve traffic demands.

Level of Service Criteria

Level of Service (LOS) is the term used to denote the different operating conditions that occur on a given road segment under various traffic volume demands. LOS is a qualitative measure that considers a number of factors including road geometry, speed and travel delay. LOS provides an index to the operational qualities of a road segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service (LOS) capacity analyses were conducted for the intersections within the study area using the Synchro software. This software is based on methodologies contained within the Highway Capacity Manual 2010 (HCM 2010), published by the Transportation Research Board (TRB).

Level of service (LOS) capacity analyses were conducted for the intersections within the study area using the HCS 2010 output from the Synchro software. This software is based on methodologies contained within the Highway Capacity Manual 2010 (HCM 2010), published by the Transportation Research Board (TRB). For those intersections that have shared left-turn movements the LOS capacity analyses were conducted using HCS 2000 output based on methodologies contained within the HCM 2000.

For signalized intersections, LOS is based upon the average delay experienced by stopped vehicles and the operation is graded between A (least delay) and F (most delay). The following table describes the LOS gradation criteria for signalized intersections:

Level of Service Criteria for Signalized Intersections

Level of Service (LOS)	Expected Traffic Delay	Average Total Delay (seconds/vehicle)
A	Very low or no delays, very good progression, most vehicles do not stop at all.	≤ 10
B	Short delay, good progression and/or short cycle lengths, more vehicles stop than with LOS A.	> 10 And ≤ 20
C	Average delay, fair progression and/or longer cycle lengths, a significant number of vehicles stop at the intersection.	> 20 And ≤ 35
D	Longer delays, unfavorable progression, long cycle lengths or high v/c ratios, most vehicles stop at intersection.	> 35 And ≤ 55
E	Longer delays (Maximum Capacity), considered to be the limit of acceptable delay, poor progression, long cycle lengths and high v/c ratios	> 55 And ≤ 80
F	Worst delays (Over saturated), poor progression, long cycle lengths and high v/c ratios.	> 80

The traffic operation for unsignalized intersections is classified based upon the LOS and delay experienced by critical movements which correspond to any minor street movements or left-turns from a major street. The following table describes the LOS gradation criteria for unsignalized intersections:

Level of Service Criteria for Unsignalized Intersections

Level of Service (LOS)	Expected Traffic Delay	Average Total Delay (seconds/vehicle)
A	Very low or no delays	≤ 10
B	Short delays	> 10 And ≤ 15
C	Average delays	> 15 And ≤ 25
D	Long delays	> 25 And ≤ 35
E	Long delays (Maximum Capacity)	> 35 And ≤ 50
F	Worst delays (Over saturated)	> 50

Level of Service Analysis

The traffic impacts of the proposed casino and hotel are relegated a small section of S Front Street between the I-76/I-95 Ramps and the site and a small section of Packer Avenue between the I-76 EB Off-Ramp/Darien Street intersection and Front Street. As a result, the site is ideally located to the east of the Philadelphia Sports Complex, and casino and hotel

traffic will have a minimal impact on the circulation along the S Broad Street corridor and the Philadelphia Sports Complex. Table A summarizes the Levels of Service, and Table B summarizes the 95th percentile queue lengths, for the No-Build and Build conditions for each of the analysis scenarios. Capacity printouts are contained in Appendix G. No-Build and Build levels of service are also summarized in Figures 10, 15, 20 and 25 for each of the analysis scenarios.

The majority of the intersections will operate at acceptable levels of service based on PennDOT delay criteria, with stacking lanes that are appropriate for the volume of traffic experienced during each peak hour of the analysis scenarios. The following intersections require minor mitigation to meet PennDOT criteria:

Pattison Avenue and S Front Street/Industrial Driveway

The intersection of Pattison Avenue and S Front Street/Industrial Driveway is a signalized, four-way intersection. During the Friday Pre-Phillies Peak this intersection will deteriorate from an overall LOS F with a delay of 124.8 seconds in the No-Build condition to an overall LOS F with a delay of 165.4 seconds in the Build condition. Providing a southbound right-turn overlap during the existing eastbound advance phase, and minor signal timing modifications, the intersection will operate at an overall LOS C with a delay of 24.3 seconds.

Packer Avenue and S Darien Street/I-76 EB Off Ramp

The intersection of Packer Avenue and S Darien Street/I-76 EB Off Ramp is a signalized, four-way intersection. During all four analysis scenarios the overall intersection level of service and delays do not meet the PennDOT criteria. With minor signal timing modifications the intersection will operate at an overall LOS C for all four analysis scenarios, meeting the PennDOT criteria.

Packer Avenue and S Front Street/Industrial Driveway

The intersection of Packer Avenue and S Front Street/Industrial Driveway is a signalized, four-way intersection. During all four analysis scenarios the queues anticipated for the northbound left-turn lane exceed the existing storage length of 100 feet and therefore do not meet the PennDOT criteria. By providing a northbound advance phase, with additional minor signal

timing modifications, the anticipated queues for the northbound left-turn movement will be accommodated by the storage length provided for all four analysis scenarios, meeting the PennDOT criteria.

S Front Street and I-95 NB On Ramp/I-95 SB Off Ramp/Driveway

The intersection of S Front Street and I-95 NB On Ramp/I-95 SB Off Ramp/Driveway is a signalized, four-way intersection. During the Friday PM Commuter Peak analysis scenario the queues anticipated for the northbound left-turn lane exceed the existing storage length of 250 feet and therefore do not meet the PennDOT criteria. With minor signal timing modifications, the anticipated queues for the northbound left-turn movement will be accommodated by the storage length provided for the Friday PM Commuter Peak analysis scenario, meeting the PennDOT criteria.

S Front Street and Main Site Driveway

As part of the proposed casino and hotel, a traffic signal will be installed at this new "T" shaped intersection. We suggest the following approach lane geometry:

- Northbound S Front Street – An exclusive left-turn lane and two through lanes.
- Southbound S Front Street – Two through lanes and an exclusive right-turn lane.
- Eastbound Main Site Driveway – One exclusive left-turn lane and a shared left-turn and right-turn lane.

This new intersection will operate at an overall LOS C or better with all movements operating at LOS D or better during all four analysis scenarios in the Build condition.

S Front Street and Porte-Cochere Entrance

Movements at this unsignalized intersection will operate at LOS A during all four analysis scenarios in the Build condition.

S Front Street and Porte-Cochere Exit

Movements at this unsignalized intersection will operate at LOS C, or better, during all four analysis scenarios in the Build condition.

CONCLUSION

The traffic impacts of the proposed casino and hotel are relegated to a small section of S Front Street between the I-76/I-95 Ramps and the site and a small section of Packer Avenue between the I-76 EB Off-Ramp/Darien Street intersection and Front Street. As a result, the site is ideally located to the east of the Philadelphia Sports Complex, and casino and hotel traffic will have a minimal impact on the circulation along the S Broad Street corridor and the Philadelphia Sports Complex. Table A summarizes the Levels of Service, and Table B summarizes the 95th percentile queue lengths, for the No-Build and Build conditions for each of the analysis scenarios.

The majority of the intersections will operate at acceptable levels of service based on PennDOT delay criteria, with stacking lanes that are appropriate for the volume of traffic experienced during each peak hour of the analysis scenarios. We suggest the following mitigation, which will improve operations and can be practically implemented:

Pattison Avenue and S Front Street/Industrial Driveway (Friday Pre-Phillies Analysis Scenario)

- Provide a southbound right-turn overlap during the existing eastbound advance phase.
- Modify the traffic signal timing to provide additional green time for the S Front Street approach.

Packer Avenue and S Darien Street/I-76 EB Off Ramp (All Analysis Scenarios)

- Modify the traffic signal timing to provide additional green time for the I-76 EB Off Ramp approach.

Packer Avenue and S Front Street/Industrial Driveway (All Analysis Scenarios)

- Provide a northbound advance phase.
- Modify the traffic signal timing to provide additional green time for the S Front Street approach.

S Front Street and I-95 NB On Ramp/I-95 SB Off Ramp/Driveway (PM Commuter Peak)

- Modify the traffic signal timing to mitigate queues in the northbound left-turn lane.

S Front Street and Main Site Driveway

- Provide a northbound left-turn lane of 150 feet.
- Provide a southbound right-turn lane of 150 feet.
- Install a traffic signal.

In our opinion, with the suggested mitigation, the roadway network can accommodate the proposed casino and hotel with reasonable changes in operations.

TABLES

TABLE A
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
LEVELS OF SERVICE WITH DELAYS

LOCATION	MOVEMENT	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS				BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS			
		FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO
Penrose Avenue & Pattison Avenue/Private Driveway (HCM 2000 Synchro Printouts)	EB L,T,R	---	D(40.7)	Not Analyzed	Not Analyzed	---	D(40.7)	Not Analyzed	Not Analyzed				
	L,L	C(31.2)	C(30.8)	Not Analyzed	Not Analyzed	C(32.4)	C(32.0)	Not Analyzed	Not Analyzed				
	WB L,T,R	C(29.6)	C(29.7)	Not Analyzed	Not Analyzed	C(31.3)	C(31.2)	Not Analyzed	Not Analyzed				
	L	A(8.5)	A(8.5)	Not Analyzed	Not Analyzed	A(8.5)	A(8.5)	Not Analyzed	Not Analyzed				
	NB T	A(9.5)	A(9.4)	Not Analyzed	Not Analyzed	A(9.5)	A(9.4)	Not Analyzed	Not Analyzed				
	R	B(10.8)	B(10.4)	Not Analyzed	Not Analyzed	B(10.8)	B(10.4)	Not Analyzed	Not Analyzed				
	L	A(9.8)	A(8.9)	Not Analyzed	Not Analyzed	A(9.8)	A(8.9)	Not Analyzed	Not Analyzed				
	SB T,R	A(9.4)	A(9.3)	Not Analyzed	Not Analyzed	A(9.4)	A(9.3)	Not Analyzed	Not Analyzed				
	OVERALL	B(13.0)	B(12.9)	Not Analyzed	Not Analyzed	B(13.2)	B(13.1)	Not Analyzed	Not Analyzed				
	Pattison Avenue & S Broad Street (1) (HCM 2000 Synchro Printouts)	EB T,R	C(29.0)	C(29.3)	Not Analyzed	Not Analyzed	C(29.0)	C(29.3)	Not Analyzed	Not Analyzed			
L		A(1.1)	A(1.2)	Not Analyzed	Not Analyzed	A(3.3)	A(3.8)	Not Analyzed	Not Analyzed				
WB T		A(1.7)	A(1.4)	Not Analyzed	Not Analyzed	A(1.8)	A(1.4)	Not Analyzed	Not Analyzed				
SB T,R		C(22.9)	C(22.8)	Not Analyzed	Not Analyzed	C(22.9)	C(22.8)	Not Analyzed	Not Analyzed				
OVERALL		C(20.7)	C(20.7)	Not Analyzed	Not Analyzed	C(20.2)	C(20.2)	Not Analyzed	Not Analyzed				
Pattison Avenue & S Broad Street (2) (HCM 2000 Synchro Printouts)		EB T	A(1.9)	A(1.9)	Not Analyzed	Not Analyzed	A(1.9)	A(1.9)	Not Analyzed	Not Analyzed			
	WB T	A(1.2)	A(0.8)	Not Analyzed	Not Analyzed	A(1.1)	A(0.9)	Not Analyzed	Not Analyzed				
	NB L	D(39.9)	D(39.9)	Not Analyzed	Not Analyzed	D(39.9)	D(39.9)	Not Analyzed	Not Analyzed				
	SB L	E(66.4)	E(66.4)	Not Analyzed	Not Analyzed	E(66.4)	E(66.4)	Not Analyzed	Not Analyzed				
	OVERALL	C(28.3)	C(28.2)	Not Analyzed	Not Analyzed	C(27.0)	C(26.9)	Not Analyzed	Not Analyzed				
	Pattison Avenue & S Broad Street (3) (HCM 2000 Synchro Printouts)	EB L,T	A(9.5)	A(9.3)	Not Analyzed	Not Analyzed	A(9.6)	A(9.4)	Not Analyzed	Not Analyzed			
WB T,R		C(27.8)	C(21.4)	Not Analyzed	Not Analyzed	C(26.7)	C(21.1)	Not Analyzed	Not Analyzed				
T		C(23.5)	C(23.5)	Not Analyzed	Not Analyzed	C(23.5)	C(23.5)	Not Analyzed	Not Analyzed				
NB R		C(24.0)	C(23.1)	Not Analyzed	Not Analyzed	C(27.9)	C(25.8)	Not Analyzed	Not Analyzed				
OVERALL		B(17.6)	B(16.6)	Not Analyzed	Not Analyzed	B(18.3)	B(17.2)	Not Analyzed	Not Analyzed				
Pattison Avenue & S 11th Street (HCM 2010 Synchro Printouts)		L	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed			
	T	Not Analyzed	A(8.0)	Not Analyzed	Not Analyzed	Not Analyzed	A(8.1)	Not Analyzed	Not Analyzed				
	R	Not Analyzed	A(8.4)	Not Analyzed	Not Analyzed	Not Analyzed	A(8.5)	Not Analyzed	Not Analyzed				
	Approach	Not Analyzed	A(8.1)	Not Analyzed	Not Analyzed	Not Analyzed	A(8.2)	Not Analyzed	Not Analyzed				
	L	Not Analyzed	A(4.1)	Not Analyzed	Not Analyzed	Not Analyzed	A(4.2)	Not Analyzed	Not Analyzed				
	T	Not Analyzed	A(0.0)	Not Analyzed	Not Analyzed	Not Analyzed	A(0.0)	Not Analyzed	Not Analyzed				
	R	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	Approach	Not Analyzed	A(0.6)	Not Analyzed	Not Analyzed	Not Analyzed	A(0.6)	Not Analyzed	Not Analyzed				
	L	Not Analyzed	C(32.8)	Not Analyzed	Not Analyzed	Not Analyzed	C(32.8)	Not Analyzed	Not Analyzed				
	T	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	R	Not Analyzed	C(31.1)	Not Analyzed	Not Analyzed	Not Analyzed	C(31.1)	Not Analyzed	Not Analyzed				
	Approach	Not Analyzed	C(31.5)	Not Analyzed	Not Analyzed	Not Analyzed	C(31.5)	Not Analyzed	Not Analyzed				
	L	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	T	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	R	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	Approach	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	OVERALL	Not Analyzed	A(7.8)	Not Analyzed	Not Analyzed	Not Analyzed	A(7.6)	Not Analyzed	Not Analyzed				
	Pattison Avenue & S Darien Street (HCM 2010 Synchro Printouts)	L	B(11.3)	A(8.2)	Not Analyzed	Not Analyzed	B(11.4)	A(7.9)	Not Analyzed	Not Analyzed			
T		A(7.1)	A(9.7)	Not Analyzed	Not Analyzed	A(7.2)	A(3.0)	Not Analyzed	Not Analyzed				
R		A(9.5)	B(10.2)	Not Analyzed	Not Analyzed	A(9.5)	A(3.3)	Not Analyzed	Not Analyzed				
Approach		A(8.9)	A(9.2)	Not Analyzed	Not Analyzed	A(8.9)	A(4.7)	Not Analyzed	Not Analyzed				
L		B(15.7)	A(8.2)	Not Analyzed	Not Analyzed	B(16.2)	A(8.2)	Not Analyzed	Not Analyzed				
T		C(23.0)	B(18.0)	Not Analyzed	Not Analyzed	C(23.3)	B(18.3)	Not Analyzed	Not Analyzed				
R		C(24.1)	B(18.7)	Not Analyzed	Not Analyzed	C(24.3)	B(19.0)	Not Analyzed	Not Analyzed				
Approach		C(20.0)	B(15.8)	Not Analyzed	Not Analyzed	C(20.6)	B(16.2)	Not Analyzed	Not Analyzed				
L		D(37.8)	C(32.9)	Not Analyzed	Not Analyzed	D(37.8)	C(32.9)	Not Analyzed	Not Analyzed				
T		C(26.4)	C(24.3)	Not Analyzed	Not Analyzed	C(26.4)	C(24.3)	Not Analyzed	Not Analyzed				
R		D(39.3)	C(24.7)	Not Analyzed	Not Analyzed	D(39.3)	C(24.7)	Not Analyzed	Not Analyzed				
Approach		D(35.5)	C(26.2)	Not Analyzed	Not Analyzed	D(35.5)	C(26.2)	Not Analyzed	Not Analyzed				
L		D(47.4)	C(25.7)	Not Analyzed	Not Analyzed	D(47.4)	C(25.7)	Not Analyzed	Not Analyzed				
T		C(33.3)	C(24.6)	Not Analyzed	Not Analyzed	C(33.3)	C(24.6)	Not Analyzed	Not Analyzed				
R		D(37.2)	C(31.6)	Not Analyzed	Not Analyzed	D(37.2)	C(31.6)	Not Analyzed	Not Analyzed				
Approach		D(36.6)	C(29.5)	Not Analyzed	Not Analyzed	D(36.6)	C(29.5)	Not Analyzed	Not Analyzed				
OVERALL		C(21.3)	B(16.3)	Not Analyzed	Not Analyzed	C(21.3)	B(14.7)	Not Analyzed	Not Analyzed				

NOTE: Each intersection identifies whether HCM 2000 or HCM 2010 Synchro Printouts were utilized. HCM 2010 methodology does not support certain geometric configurations that were necessary for multiple study intersections.

TABLE A - CONTINUED
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
LEVELS OF SERVICE WITH DELAYS

LOCATION	MOVEMENT	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS				BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS				
		FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	
Pattison Avenue & 5 th Street (HCM 2010 Synchro Printouts)	EB	L	A(0.7)	A(9.2)	Not Analyzed	Not Analyzed	A(0.7)	A(9.3)	Not Analyzed	Not Analyzed				
		T	A(0.1)	A(9.1)	Not Analyzed	Not Analyzed	A(0.1)	A(9.2)	Not Analyzed	Not Analyzed				
		R	A(0.3)	A(9.2)	Not Analyzed	Not Analyzed	A(0.4)	A(9.3)	Not Analyzed	Not Analyzed				
		Approach	A(0.3)	A(9.1)	Not Analyzed	Not Analyzed	A(0.3)	A(9.2)	Not Analyzed	Not Analyzed				
	WB	L	A(8.4)	A(6.9)	Not Analyzed	Not Analyzed	A(8.4)	A(6.9)	Not Analyzed	Not Analyzed				
		T	A(7.0)	A(6.9)	Not Analyzed	Not Analyzed	A(7.0)	A(7.0)	Not Analyzed	Not Analyzed				
		R	A(7.1)	A(7.1)	Not Analyzed	Not Analyzed	A(7.2)	A(7.2)	Not Analyzed	Not Analyzed				
		Approach	A(7.4)	A(7.0)	Not Analyzed	Not Analyzed	A(7.5)	A(7.1)	Not Analyzed	Not Analyzed				
	NB	L	D(46.4)	---	Not Analyzed	Not Analyzed	D(46.4)	---	Not Analyzed	Not Analyzed				
		T	A(0.0)	---	Not Analyzed	Not Analyzed	A(0.0)	---	Not Analyzed	Not Analyzed				
		R	C(26.9)	---	Not Analyzed	Not Analyzed	C(26.9)	---	Not Analyzed	Not Analyzed				
		Approach	D(35.5)	---	Not Analyzed	Not Analyzed	D(35.5)	---	Not Analyzed	Not Analyzed				
	SB	L	C(27.7)	C(27.2)	Not Analyzed	Not Analyzed	C(27.7)	C(27.2)	Not Analyzed	Not Analyzed				
		T	C(29.3)	C(28.4)	Not Analyzed	Not Analyzed	C(29.3)	C(28.4)	Not Analyzed	Not Analyzed				
		R	F(111.1)	E(66.1)	Not Analyzed	Not Analyzed	F(111.0)	E(65.9)	Not Analyzed	Not Analyzed				
		Approach	F(84.3)	D(52.8)	Not Analyzed	Not Analyzed	D(84.3)	D(52.7)	Not Analyzed	Not Analyzed				
OVERALL		C(27.4)	C(20.9)	Not Analyzed	Not Analyzed	C(26.3)	C(20.0)	Not Analyzed	Not Analyzed					
Pattison Avenue & Front Street/Industrial Driveway (HCM 2010 Synchro Printouts)	EB	L	B(13.7)	B(12.2)	Not Analyzed	Not Analyzed	B(15.9)	B(13.3)	Not Analyzed	Not Analyzed		C(29.6)		
		T	A(9.6)	A(9.5)	Not Analyzed	Not Analyzed	A(9.6)	A(9.6)	Not Analyzed	Not Analyzed		C(21.2)		
		R	A(9.6)	---	Not Analyzed	Not Analyzed	A(9.7)	---	Not Analyzed	Not Analyzed				
		Approach	B(12.0)	B(10.7)	Not Analyzed	Not Analyzed	B(13.4)	B(11.6)	Not Analyzed	Not Analyzed		C(25.7)		
	WB	L	B(19.0)	---	Not Analyzed	Not Analyzed	B(19.5)	---	Not Analyzed	Not Analyzed				
		T	A(0.0)	B(19.0)	Not Analyzed	Not Analyzed	A(0.0)	C(20.0)	Not Analyzed	Not Analyzed		D(39.1)		
		R	B(19.3)	B(19.1)	Not Analyzed	Not Analyzed	C(21.6)	C(20.3)	Not Analyzed	Not Analyzed		D(41.1)		
		Approach	B(19.1)	B(19.0)	Not Analyzed	Not Analyzed	C(20.7)	C(20.2)	Not Analyzed	Not Analyzed		D(40.1)		
	NB	L	---	---	Not Analyzed	Not Analyzed	---	---	Not Analyzed	Not Analyzed				
		T	C(20.8)	---	Not Analyzed	Not Analyzed	C(20.8)	---	Not Analyzed	Not Analyzed				
		R	---	---	Not Analyzed	Not Analyzed	---	---	Not Analyzed	Not Analyzed				
		Approach	C(20.8)	---	Not Analyzed	Not Analyzed	C(20.8)	---	Not Analyzed	Not Analyzed				
	SB	L	C(21.3)	C(21.4)	Not Analyzed	Not Analyzed	C(23.6)	C(23.5)	Not Analyzed	Not Analyzed		B(10.5)		
		T	A(0.0)	---	Not Analyzed	Not Analyzed	A(0.0)	---	Not Analyzed	Not Analyzed				
		R	C(26.3)	F(184.9)	Not Analyzed	Not Analyzed	C(31.7)	F(285.1)	Not Analyzed	Not Analyzed		B(19.3)		
		Approach	C(25.8)	F(179.5)	Not Analyzed	Not Analyzed	C(29.7)	F(253.8)	Not Analyzed	Not Analyzed		B(18.2)		
OVERALL		C(25.8)	F(124.8)	Not Analyzed	Not Analyzed	C(21.7)	F(165.4)	Not Analyzed	Not Analyzed		C(24.3)			
\$ Broad Street & I 95 Ramps/11th Street (1) (HCM 2000 Synchro Printouts)	WB T,R	B(14.0)	B(14.6)	Not Analyzed	Not Analyzed	B(14.0)	B(14.6)	Not Analyzed	Not Analyzed					
	NB L,T	A(0.2)	A(0.2)	Not Analyzed	Not Analyzed	A(0.2)	A(0.2)	Not Analyzed	Not Analyzed					
	OVERALL	A(9.6)	B(10.4)	Not Analyzed	Not Analyzed	A(9.6)	B(10.4)	Not Analyzed	Not Analyzed					
\$ Broad Street & I 95 Ramps/11th Street (2) (HCM 2000 Synchro Printouts)	WB L	B(15.0)	B(15.3)	Not Analyzed	Not Analyzed	B(15.0)	B(15.3)	Not Analyzed	Not Analyzed					
	SB L,T	B(13.7)	B(13.7)	Not Analyzed	Not Analyzed	B(13.7)	B(13.7)	Not Analyzed	Not Analyzed					
	OVERALL	A(5.7)	A(5.3)	Not Analyzed	Not Analyzed	A(5.7)	A(5.3)	Not Analyzed	Not Analyzed					
\$ Broad Street & I 95 Ramps/11th Street (3) (HCM 2000 Synchro Printouts)	WB L,T	B(11.4)	B(10.3)	Not Analyzed	Not Analyzed	B(11.4)	B(10.3)	Not Analyzed	Not Analyzed					
	EB T	---	---	Not Analyzed	Not Analyzed	---	---	Not Analyzed	Not Analyzed					
	OVERALL	C(32.6)	C(32.9)	Not Analyzed	Not Analyzed	C(32.6)	C(32.9)	Not Analyzed	Not Analyzed					
Packer Avenue & S Broad Street (1) (HCM 2000 Synchro Printouts)	WB T,R	C(32.7)	C(29.6)	C(30.2)	C(28.5)	C(32.7)	C(29.6)	C(30.2)	C(28.5)					
	SB L,T,R	A(7.1)	A(6.1)	A(2.8)	A(3.4)	A(7.0)	A(6.1)	A(2.7)	A(3.4)					
	OVERALL	B(17.1)	B(17.2)	B(15.5)	B(14.7)	B(17.1)	B(17.2)	B(15.6)	B(14.8)					
Packer Avenue & S Broad Street (2) (HCM 2000 Synchro Printouts)	WB T,R	B(18.7)	B(18.4)	B(16.3)	B(16.2)	B(18.7)	B(18.4)	B(16.4)	B(16.2)					
	EB L,T	C(23.8)	B(15.3)	B(14.3)	A(9.3)	C(34.8)	B(19.0)	C(24.7)	B(16.6)					
	OVERALL	C(29.1)	C(24.7)	C(26.5)	C(24.8)	D(35.3)	C(28.1)	C(34.3)	C(32.1)					
\$ Broad Street & Pollock Street (HCM 2000 Synchro Printouts)	NB L,T	B(13.9)	A(9.0)	A(9.1)	A(9.0)	B(13.9)	A(8.9)	A(9.1)	A(9.0)					
	R	B(14.3)	A(8.9)	A(9.3)	A(9.4)	B(14.2)	A(8.9)	A(9.3)	A(9.4)					
	OVERALL	B(19.5)	B(14.3)	B(15.0)	B(12.1)	C(24.1)	B(18.0)	C(21.8)	B(19.0)					
EB	L	C(26.4)	C(26.2)	Not Analyzed	Not Analyzed	C(26.4)	C(26.2)	Not Analyzed	Not Analyzed					
	R	C(34.2)	C(30.2)	Not Analyzed	Not Analyzed	C(34.2)	C(30.2)	Not Analyzed	Not Analyzed					
	L	C(30.0)	D(35.4)	Not Analyzed	Not Analyzed	C(30.0)	D(35.4)	Not Analyzed	Not Analyzed					
	R	C(29.0)	D(36.5)	Not Analyzed	Not Analyzed	C(29.0)	D(36.5)	Not Analyzed	Not Analyzed					
	T	A(9.1)	A(8.3)	Not Analyzed	Not Analyzed	A(9.2)	A(8.3)	Not Analyzed	Not Analyzed					
	OVERALL	A(1.4)	A(1.5)	Not Analyzed	Not Analyzed	A(1.4)	A(1.4)	Not Analyzed	Not Analyzed					
OVERALL		B(13.2)	B(15.2)	Not Analyzed	Not Analyzed	B(13.1)	B(15.0)	Not Analyzed	Not Analyzed					

NOTE: Each intersection identifies whether HCM 2000 or HCM 2010 Synchro Printouts were utilized. HCM 2010 methodology does not support certain geometric configurations that were necessary for multiple study intersections.

TABLE A - CONTINUED
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
LEVELS OF SERVICE WITH DELAYS

LOCATION	MOVEMENT	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS				BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS				
		FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	
S Broad Street & W Oregon Avenue (HCM 2010 Synchro Printouts)	EB	L	C(22.7)	C(25.1)	Not Analyzed	Not Analyzed	C(22.7)	C(25.1)	Not Analyzed	Not Analyzed				
		T	B(18.4)	B(18.7)	Not Analyzed	Not Analyzed	B(18.4)	B(18.7)	Not Analyzed	Not Analyzed				
		R	B(16.3)	B(15.7)	Not Analyzed	Not Analyzed	B(16.3)	B(15.7)	Not Analyzed	Not Analyzed				
		Approach	B(18.4)	B(19.0)	Not Analyzed	Not Analyzed	B(18.4)	B(19.0)	Not Analyzed	Not Analyzed				
	WB	T	B(18.0)	B(18.7)	Not Analyzed	Not Analyzed	B(18.0)	B(18.7)	Not Analyzed	Not Analyzed				
		R	B(18.1)	B(18.8)	Not Analyzed	Not Analyzed	B(18.1)	B(18.8)	Not Analyzed	Not Analyzed				
		Approach	B(18.1)	B(18.8)	Not Analyzed	Not Analyzed	B(18.1)	B(18.8)	Not Analyzed	Not Analyzed				
		T	C(22.4)	C(22.0)	Not Analyzed	Not Analyzed	C(22.6)	C(22.3)	Not Analyzed	Not Analyzed				
	NB	R	C(22.5)	C(22.1)	Not Analyzed	Not Analyzed	C(22.7)	C(22.3)	Not Analyzed	Not Analyzed				
		Approach	C(22.4)	C(22.1)	Not Analyzed	Not Analyzed	C(22.7)	C(22.3)	Not Analyzed	Not Analyzed				
		T	C(20.4)	C(22.0)	Not Analyzed	Not Analyzed	C(20.6)	C(22.3)	Not Analyzed	Not Analyzed				
		R	C(20.4)	C(22.1)	Not Analyzed	Not Analyzed	C(20.7)	C(22.4)	Not Analyzed	Not Analyzed				
	SB	Approach	C(20.4)	C(22.1)	Not Analyzed	Not Analyzed	C(20.6)	C(22.3)	Not Analyzed	Not Analyzed				
		OVERALL	C(20.0)	C(20.6)	Not Analyzed	Not Analyzed	C(20.1)	C(20.7)	Not Analyzed	Not Analyzed				
L		C(20.9)	B(18.0)	B(18.1)	B(16.0)	C(23.0)	B(19.6)	C(20.6)	B(19.1)					
T		B(15.3)	B(15.3)	B(14.9)	B(14.9)	B(15.4)	B(15.4)	B(15.0)	B(15.0)					
Packer Avenue & S 10th Street (HCM 2010 Synchro Printouts)	EB	R	B(15.5)	B(15.9)	B(15.1)	B(15.0)	B(15.6)	B(15.9)	B(15.2)	B(15.1)				
		Approach	B(16.1)	B(15.7)	B(15.4)	B(15.1)	B(16.4)	B(15.9)	B(15.7)	B(15.5)				
		L	C(26.3)	D(38.8)	C(24.2)	B(15.8)	C(26.5)	D(39.2)	C(24.5)	C(24.3)				
		T	C(25.2)	C(23.8)	C(24.1)	B(15.0)	C(26.3)	C(24.9)	C(25.7)	C(24.8)				
	WB	R	C(25.8)	C(24.3)	C(24.4)	B(15.2)	C(27.0)	C(25.4)	C(26.2)	C(25.2)				
		Approach	C(25.5)	C(31.0)	C(24.2)	B(15.2)	C(26.5)	C(30.3)	C(25.8)	C(24.9)				
		L	B(16.8)	B(18.0)	B(16.9)	B(15.2)	B(16.8)	B(18.0)	B(16.9)	B(15.2)				
		T	B(14.7)	B(14.6)	B(14.6)	B(14.6)	B(14.7)	B(14.6)	B(14.6)	B(14.6)				
	NB	R	B(14.9)	B(14.7)	B(14.7)	B(14.7)	B(14.9)	B(14.7)	B(14.7)	B(14.8)				
		Approach	B(15.2)	B(15.6)	B(15.8)	B(14.8)	B(15.2)	B(15.6)	B(15.8)	B(14.8)				
		L	B(16.8)	B(16.6)	B(16.5)	B(15.7)	B(16.8)	B(16.6)	B(16.5)	B(15.7)				
		T	B(14.9)	B(14.6)	B(14.7)	B(14.6)	B(14.9)	B(14.6)	B(14.7)	B(14.6)				
	SB	R	B(15.9)	B(16.8)	B(15.7)	B(14.9)	B(15.9)	B(16.8)	B(15.7)	B(14.9)				
		Approach	B(16.2)	B(16.6)	B(16.0)	B(15.3)	B(16.2)	B(16.6)	B(16.0)	B(15.3)				
OVERALL		C(20.4)	C(23.2)	B(19.5)	B(15.1)	C(21.5)	C(23.7)	C(21.3)	C(20.8)					
L		B(14.6)	B(15.5)	B(15.1)	B(13.6)	B(15.2)	B(16.5)	B(16.5)	B(14.2)	C(23.3)	C(26.1)	C(32.7)	C(23.9)	
Packer Avenue & S Darien Street/I-76 EB Off Ramp (HCM 2010 Synchro Printouts)	EB	T	B(11.3)	B(11.1)	B(11.1)	B(11.2)	B(11.4)	B(11.2)	B(11.3)	B(17.8)	B(17.5)	C(20.9)	B(19.6)	
		R	B(11.8)	B(11.9)	B(11.4)	B(11.4)	B(11.8)	B(11.9)	B(11.4)	B(11.5)	B(18.5)	B(18.6)	C(21.4)	B(20.0)
		Approach	B(12.4)	B(13.1)	B(13.0)	B(11.7)	B(12.5)	B(13.4)	B(13.4)	B(11.9)	B(19.5)	C(21.1)	C(25.8)	C(20.5)
		L	C(24.7)	C(23.2)	C(21.0)	C(20.8)	C(24.9)	C(23.4)	C(21.2)	C(21.0)	D(38.7)	D(35.3)	D(36.9)	C(33.8)
	WB	R	B(20.0)	C(20.3)	B(19.7)	B(19.1)	C(21.1)	C(21.7)	C(21.8)	C(21.2)	C(30.9)	C(32.3)	D(41.4)	C(35.0)
		Approach	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)
		L	C(21.8)	C(21.3)	C(20.1)	B(19.8)	C(22.3)	C(22.1)	C(21.7)	C(21.2)	C(33.3)	C(33.0)	D(40.6)	C(34.8)
		T	C(30.2)	C(24.4)	C(23.0)	C(21.7)	C(30.2)	C(24.4)	C(23.0)	C(21.7)	C(23.5)	B(15.8)	B(12.0)	B(12.4)
	NB	R	C(28.7)	B(19.4)	B(19.2)	B(19.5)	C(28.7)	B(19.4)	B(19.2)	B(19.5)	C(22.4)	B(12.7)	B(10.1)	B(11.2)
		Approach	C(26.3)	B(19.4)	B(19.2)	B(19.9)	C(26.3)	B(19.4)	B(19.2)	B(19.9)	C(20.3)	B(12.7)	B(10.0)	B(11.4)
		L	C(29.0)	C(22.0)	C(21.3)	C(20.3)	C(29.0)	C(22.0)	C(21.3)	C(20.3)	C(22.6)	B(14.3)	B(11.1)	B(11.7)
		T	E(58.9)	C(33.7)	D(36.7)	C(29.3)	F(172.5)	F(75.8)	F(171.7)	F(117.4)	D(53.5)	C(30.3)	D(35.1)	C(30.9)
	SB	R	B(19.3)	C(20.6)	C(20.2)	B(19.8)	B(19.3)	C(20.6)	C(20.2)	B(19.8)	B(12.7)	B(13.4)	B(10.5)	B(11.3)
		Approach	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)
L		D(54.4)	C(30.0)	C(33.1)	C(27.2)	F(159.6)	E(64.5)	F(150.9)	F(105.7)	D(50.0)	C(26.9)	C(31.8)	C(28.6)	
OVERALL		C(29.5)	C(22.1)	C(23.4)	C(20.4)	E(62.7)	C(34.3)	E(71.4)	D(51.4)	C(34.0)	C(26.7)	C(32.2)	C(27.5)	
Packer Avenue & S 7th Street (HCM 2010 Synchro Printouts)	EB	L	C(20.4)	C(22.1)	B(19.5)	B(17.2)	C(22.8)	C(24.9)	C(24.1)	C(20.4)				
		T	B(13.8)	B(13.4)	B(13.5)	B(13.5)	B(14.3)	B(14.0)	B(14.4)	B(14.4)				
		R	B(14.0)	B(13.6)	B(13.6)	B(13.6)	B(14.7)	B(14.3)	B(14.8)	B(14.8)				
		Approach	B(15.4)	B(16.1)	B(15.6)	B(15.6)	B(16.0)	B(16.4)	B(16.5)	B(15.6)				
	WB	L	B(18.0)	B(19.1)	B(16.6)	B(15.1)	C(20.2)	C(21.6)	B(20.0)	B(17.5)				
		T	B(14.4)	B(14.5)	B(13.8)	B(13.5)	B(14.9)	B(15.1)	B(14.7)	B(14.3)				
		R	B(14.8)	B(15.1)	B(14.2)	B(13.8)	B(15.4)	B(15.8)	B(15.2)	B(14.7)				
		Approach	B(15.1)	B(15.6)	B(14.5)	B(13.8)	B(15.8)	B(16.4)	B(15.6)	B(14.7)				
	NB	L	B(15.5)	B(18.4)	B(15.8)	B(15.2)	B(15.5)	B(18.4)	B(15.8)	B(15.2)				
		T	B(14.1)	B(14.0)	B(14.0)	B(14.2)	B(14.1)	B(14.0)	B(14.0)	B(14.2)				
		R	B(14.1)	B(14.0)	B(14.0)	B(14.2)	B(14.1)	B(14.0)	B(14.0)	B(14.2)				
		Approach	B(14.8)	B(15.5)	B(14.7)	B(14.5)	B(14.8)	B(15.5)	B(14.7)	B(14.5)				
	SB	L	B(14.3)	B(16.6)	B(14.9)	B(14.4)	B(14.3)	B(16.6)	B(14.9)	B(14.4)				
		T	B(14.3)	B(16.8)	B(14.9)	B(14.5)	B(14.3)	B(16.8)	B(14.9)	B(14.5)				
R		A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)					
Approach		B(14.3)	B(16.7)	B(14.9)	B(14.4)	B(14.3)	B(16.7)	B(14.9)	B(14.4)					
OVERALL	B(15.1)	B(16.0)	B(15.0)	B(14.3)	B(15.7)	B(16.4)	B(15.9)	B(15.1)						
Packer Avenue & I-95 NB Off Ramp (HCM 2000 Synchro Printouts)	EB T	Free	Free	Free	Free	Free	Free	Free	Free					
	WB T	Free	Free	Free	Free	Free	Free	Free	Free					
	SB R	A (7.7) pc/mi/ln	A(9.2)pc/mi/ln	A(7.0)pc/mi/ln	A(5.5)pc/mi/ln	A (8.5) pc/mi/ln	B(10.0)pc/mi/ln	A(8.4)pc/mi/ln	A(6.8)pc/mi/ln					
	OVERALL	---	---	---	---	---	---	---	---					

NOTE: Each intersection identifies whether HCM 2000 or HCM 2010 Synchro Printouts were utilized. HCM 2010 methodology does not support certain geometric configurations that were necessary for multiple study intersections

TABLE A - CONTINUED
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
LEVELS OF SERVICE WITH DELAYS

LOCATION	MOVEMENT	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS				BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS				
		FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	
Packer Avenue & S Front Street/Industrial Driveway (HCM 2010 Synchro Printouts)	EB	L	C(20.4)	B(17.9)	B(17.7)	B(17.1)	C(20.7)	B(18.2)	B(18.1)	C(28.9)	C(28.1)	C(31.1)	C(27.0)	D(37.2)
		T	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)
		R	B(16.5)	B(15.5)	B(15.5)	B(15.2)	B(19.3)	B(18.3)	C(20.7)	C(22.0)	C(26.3)	C(32.6)	C(33.4)	C(28.7)
		Approach	C(20.3)	B(17.8)	B(17.6)	B(17.0)	C(20.3)	B(18.2)	B(19.3)	C(25.4)	C(27.6)	C(31.6)	C(29.9)	C(32.9)
	WB	L	B(16.5)	---	---	A(0.0)	B(16.5)	---	---	A(0.0)	C(22.1)	---	---	A(0.0)
		T	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)
		R	A(0.0)	B(15.1)	B(15.1)	B(15.1)	A(0.0)	B(15.1)	B(15.1)	B(15.8)	A(0.0)	C(25.0)	C(22.1)	B(19.7)
		Approach	B(16.5)	B(15.1)	B(15.1)	B(15.1)	B(16.5)	B(15.1)	B(15.1)	B(15.8)	C(22.1)	C(25.0)	C(22.1)	B(19.7)
	NB	L	B(18.7)	B(17.6)	B(16.2)	B(15.6)	D(39.3)	D(39.9)	D(38.4)	D(40.2)	B(16.6)	B(17.2)	B(14.2)	B(19.0)
		T	B(17.5)	B(15.3)	B(15.6)	B(15.4)	C(28.5)	C(24.3)	C(25.6)	C(25.6)	C(23.5)	B(12.2)	B(14.8)	C(22.3)
		R	B(17.5)	---	---	---	C(28.5)	---	---	---	C(23.5)	---	---	---
		Approach	B(17.6)	B(15.7)	B(15.6)	B(15.4)	C(31.7)	C(30.9)	C(30.7)	C(31.8)	C(21.4)	B(14.3)	B(14.6)	C(20.9)
	SB	L	C(27.6)	---	A(8.2)	A(4.2)	C(31.7)	---	A(5.7)	A(5.7)	C(28.4)	---	A(6.1)	A(7.6)
		T	C(26.1)	A(5.0)	A(8.0)	A(4.2)	C(28.0)	A(5.5)	A(4.7)	A(4.7)	C(32.1)	A(0.4)	A(7.1)	A(8.9)
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)
		Approach	C(26.1)	A(5.0)	A(8.0)	A(4.2)	C(28.1)	A(5.5)	A(4.7)	A(4.7)	C(32.0)	A(0.4)	A(7.1)	A(8.9)
OVERALL	C(20.5)	B(10.1)	B(14.4)	B(12.6)	C(25.8)	B(14.7)	B(18.8)	C(21.4)	C(26.4)	B(13.4)	B(18.4)	C(21.9)		
S Front Street & I-76 EB On Ramp (HCM 2000 Synchro Printouts)	NB	A(9.9)	B(12.7)	A(9.3)	A(8.6)	B(11.7)	C(16.9)	B(12.1)	B(10.9)					
	T	Free	Free	Free	Free	Free	Free	Free	Free					
	SB T,R	Free	Free	Free	Free	Free	Free	Free	Free					
	OVERALL	A(0.5)	A(0.1)	A(0.2)	A(0.1)	A(1.0)	A(0.7)	A(1.1)	A(1.1)					
S Front Street & I-76 WB Off Ramp/I-95 SB On Ramp (HCM 2010 Synchro Printouts)	EB	L	C(24.7)	B(18.8)	B(19.0)	B(18.6)	C(24.7)	B(18.8)	B(19.0)	B(18.6)				
		L,T	D(50.3)	F(124.9)	D(38.5)	C(29.5)	D(50.3)	F(124.9)	D(38.5)	C(29.5)				
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)				
		Approach	D(44.3)	F(110.4)	C(34.8)	C(27.5)	D(44.3)	F(110.4)	C(34.8)	C(27.5)				
	NB	T	D(35.3)	C(33.9)	C(34.0)	C(33.3)	D(36.5)	D(35.2)	D(35.8)	D(35.3)				
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)				
		Approach	D(35.3)	C(33.9)	C(34.0)	C(33.3)	D(36.5)	D(35.2)	D(35.8)	D(35.3)				
		L	C(27.7)	C(23.8)	C(22.4)	C(21.6)	C(30.3)	C(29.5)	C(25.1)	C(24.5)				
	SB	T	A(0.3)	A(3.3)	A(1.4)	A(1.3)	A(0.4)	B(15.4)	A(1.6)	A(1.4)				
		Approach	A(7.2)	A(5.8)	A(5.7)	A(6.8)	A(7.1)	B(17.0)	A(5.5)	A(6.3)				
OVERALL	C(28.4)	D(47.2)	C(24.3)	C(21.7)	C(28.1)	D(51.5)	C(24.0)	C(21.6)						
S Front Street & I-95 NB On Ramp/I-95 SB Off Ramp/Drwy (HCM 2010 Synchro Printouts)	EB	L	C(29.3)	C(29.9)	C(29.3)	C(28.7)	C(29.3)	C(29.9)	C(29.3)	C(28.7)	C(34.6)			
		T	---	A(0.0)	A(0.0)	A(0.0)	---	A(0.0)	A(0.0)	A(0.0)	---			
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)			
		Approach	C(29.3)	C(29.9)	C(29.3)	C(28.7)	C(29.3)	C(29.9)	C(29.3)	C(28.7)	C(34.6)			
	WB	L	C(22.1)	C(24.3)	C(24.0)	C(23.9)	C(22.1)	C(24.3)	C(24.0)	C(23.9)	C(25.7)			
		T	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)			
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)			
		Approach	C(22.1)	C(24.3)	C(24.0)	C(23.9)	C(22.1)	C(24.3)	C(24.0)	C(23.9)	C(25.7)			
	NB	L	C(32.6)	B(17.6)	B(15.7)	B(13.7)	D(37.9)	C(20.9)	B(19.5)	B(17.0)	D(35.5)			
		T	B(12.7)	A(0.4)	A(0.4)	A(0.3)	B(12.8)	A(0.4)	A(0.4)	A(0.3)	C(20.9)			
		R	B(12.7)	A(0.4)	A(0.4)	A(0.3)	B(12.8)	A(0.4)	A(0.4)	A(0.3)	C(20.9)			
		Approach	C(20.4)	A(4.1)	A(3.8)	A(3.6)	C(24.0)	A(7.0)	A(7.4)	A(7.2)	C(27.4)			
	SB	T	C(25.0)	C(20.8)	B(19.8)	B(18.7)	C(25.0)	C(20.9)	B(19.9)	B(18.8)	C(29.3)			
		R	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)			
		Approach	C(25.0)	C(20.8)	B(19.8)	B(18.7)	C(25.0)	C(20.9)	B(19.9)	B(18.8)	C(29.3)			
		OVERALL	C(24.3)	B(17.2)	B(16.0)	B(15.7)	C(25.6)	B(17.6)	B(16.6)	B(16.1)	C(29.8)			
EB L,R	L,R	---	---	---	---	C(31.1)	C(30.6)	C(30.8)	C(32.2)					
	L	---	---	---	---	A(8.3)	B(16.7)	B(10.1)	A(9.2)					
	T	---	---	---	---	A(7.6)	A(9.8)	A(8.1)	A(6.9)					
	R	---	---	---	---	B(12.8)	B(10.6)	B(11.6)	B(12.1)					
SB T,R	T	---	---	---	---	A(5.4)	A(2.8)	A(6.7)	D(37.8)					
	R	---	---	---	---	B(13.6)	B(13.4)	B(15.0)	C(24.5)					
	Approach	---	---	---	---	B(13.6)	B(13.4)	B(15.0)	C(24.5)					
	OVERALL	---	---	---	---	A(0.3)	A(0.3)	A(0.4)	A(0.5)					
S Front Street & Porte-Cochere Entrance (HCM 2000 Synchro Printouts)	NB L,T	---	---	---	---	A(1.5)	A(2.4)	A(2.1)	A(2.4)					
	T,R	---	---	---	---	Free	Free	Free	Free					
	Approach	---	---	---	---	A(0.3)	A(0.3)	A(0.4)	A(0.5)					
	OVERALL	---	---	---	---	A(0.3)	A(0.3)	A(0.4)	A(0.5)					
S Front Street & Porte-Cochere Exit (HCM 2010 Synchro Printouts)	EB L,R	---	---	---	---	B(13.4)	C(24.4)	B(14.2)	C(16.1)					
	T	---	---	---	---	Free	Free	Free	Free					
	T	---	---	---	---	Free	Free	Free	Free					
	OVERALL	---	---	---	---	A(2.8)	A(3.8)	A(3.9)	A(4.8)					

NOTE: Each intersection identifies whether HCM 2000 or HCM 2010 Synchro Printouts were utilized. HCM 2010 methodology does not support certain geometric configurations that were necessary for multiple study intersections.

TABLE B
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
95th PERCENTILE QUEUES

LOCATION	MOVEMENT	STORAGE	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS				BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS			
			FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO
Penrose Avenue & Pattison Avenue/Private Driveway	EB L,T,R	---	---	6'	Not Analyzed	Not Analyzed	---	6'	Not Analyzed	Not Analyzed				
	WB L	---	71'	63'	Not Analyzed	Not Analyzed	71'	62'	Not Analyzed	Not Analyzed				
	WB L,T,R	---	57'	63'	Not Analyzed	Not Analyzed	57'	63'	Not Analyzed	Not Analyzed				
	WB T	250'	6'	4'	Not Analyzed	Not Analyzed	6'	4'	Not Analyzed	Not Analyzed				
	NB L	---	66'	59'	Not Analyzed	Not Analyzed	66'	59'	Not Analyzed	Not Analyzed				
	NB R	300'	40'	38'	Not Analyzed	Not Analyzed	40'	38'	Not Analyzed	Not Analyzed				
Pattison Avenue & S Broad Street (1)	SB L	130'	35'	18'	Not Analyzed	Not Analyzed	35'	18'	Not Analyzed	Not Analyzed				
	SB T,R	---	63'	56'	Not Analyzed	Not Analyzed	63'	56'	Not Analyzed	Not Analyzed				
	EB T,R	---	110'	114'	Not Analyzed	Not Analyzed	110'	114'	Not Analyzed	Not Analyzed				
Pattison Avenue & S Broad Street (2)	WB L	---	0'	0'	Not Analyzed	Not Analyzed	1'	0'	Not Analyzed	Not Analyzed				
	WB T	---	2'	2'	Not Analyzed	Not Analyzed	4'	2'	Not Analyzed	Not Analyzed				
	SB T,R	---	79'	79'	Not Analyzed	Not Analyzed	79'	79'	Not Analyzed	Not Analyzed				
Pattison Avenue & S Broad Street (3)	EB T	---	2'	2'	Not Analyzed	Not Analyzed	2'	2'	Not Analyzed	Not Analyzed				
	WB T	---	0'	0'	Not Analyzed	Not Analyzed	0'	0'	Not Analyzed	Not Analyzed				
	NB L	---	57'	57'	Not Analyzed	Not Analyzed	57'	57'	Not Analyzed	Not Analyzed				
Pattison Avenue & S Broad Street (3)	SB L	---	177'	177'	Not Analyzed	Not Analyzed	177'	177'	Not Analyzed	Not Analyzed				
	EB L,T	---	37'	33'	Not Analyzed	Not Analyzed	39'	36'	Not Analyzed	Not Analyzed				
	WB T,R	---	44'	26'	Not Analyzed	Not Analyzed	48'	30'	Not Analyzed	Not Analyzed				
Pattison Avenue & S 11th Street	T	---	115'	115'	Not Analyzed	Not Analyzed	115'	115'	Not Analyzed	Not Analyzed				
	NB R	---	59'	57'	Not Analyzed	Not Analyzed	102'	100'	Not Analyzed	Not Analyzed				
	EB L	155'	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	T,R	---	Not Analyzed	14'	Not Analyzed	Not Analyzed	Not Analyzed	27'	Not Analyzed	Not Analyzed				
	WB L	155'	Not Analyzed	6'	Not Analyzed	Not Analyzed	Not Analyzed	7'	Not Analyzed	Not Analyzed				
	T,R	---	Not Analyzed	9'	Not Analyzed	Not Analyzed	Not Analyzed	11'	Not Analyzed	Not Analyzed				
Pattison Avenue & S Darien Street	NB L	150'	Not Analyzed	36'	Not Analyzed	Not Analyzed	Not Analyzed	36'	Not Analyzed	Not Analyzed				
	T	---	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	R	---	Not Analyzed	3'	Not Analyzed	Not Analyzed	Not Analyzed	7'	Not Analyzed	Not Analyzed				
	SB T,R	---	Not Analyzed	---	Not Analyzed	Not Analyzed	Not Analyzed	---	Not Analyzed	Not Analyzed				
	EB L	200'	78'	47'	Not Analyzed	Not Analyzed	79'	43'	Not Analyzed	Not Analyzed				
	T,R	---	107'	27'	Not Analyzed	Not Analyzed	114'	31'	Not Analyzed	Not Analyzed				
Pattison Avenue & S 7th Street	WB L	200'	272'	67'	Not Analyzed	Not Analyzed	287'	60'	Not Analyzed	Not Analyzed				
	T,R	---	121'	81'	Not Analyzed	Not Analyzed	130'	82'	Not Analyzed	Not Analyzed				
	NB L	100'	63'	20'	Not Analyzed	Not Analyzed	63'	20'	Not Analyzed	Not Analyzed				
	T,R	---	140'	24'	Not Analyzed	Not Analyzed	140'	24'	Not Analyzed	Not Analyzed				
	SB L	75'	46'	28'	Not Analyzed	Not Analyzed	45'	28'	Not Analyzed	Not Analyzed				
	T	---	145'	82'	Not Analyzed	Not Analyzed	145'	82'	Not Analyzed	Not Analyzed				
Pattison Avenue & S 7th Street	EB L	200'	38'	22'	Not Analyzed	Not Analyzed	46'	25'	Not Analyzed	Not Analyzed				
	T,R	---	31'	21'	Not Analyzed	Not Analyzed	40'	32'	Not Analyzed	Not Analyzed				
	WB L	200'	101'	28'	Not Analyzed	Not Analyzed	92'	20'	Not Analyzed	Not Analyzed				
	T,R	---	73'	59'	Not Analyzed	Not Analyzed	72'	50'	Not Analyzed	Not Analyzed				
	NB L,T,R	---	20'	---	Not Analyzed	Not Analyzed	20'	---	Not Analyzed	Not Analyzed				
	SB L	200'	24'	40'	Not Analyzed	Not Analyzed	24'	40'	Not Analyzed	Not Analyzed				
Pattison Avenue & Front Street/Industrial Driveway	T	---	130'	71'	Not Analyzed	Not Analyzed	137'	73'	Not Analyzed	Not Analyzed				
	EB L	150'	119'	43'	Not Analyzed	Not Analyzed	151'	75'	Not Analyzed	Not Analyzed	106'			
	T,R	---	27'	19'	Not Analyzed	Not Analyzed	31'	23'	Not Analyzed	Not Analyzed	29'			
	WB L,T,R	---	51'	62'	Not Analyzed	Not Analyzed	56'	65'	Not Analyzed	Not Analyzed	148'			
	NB L,T,R	---	13'	---	Not Analyzed	Not Analyzed	13'	---	Not Analyzed	Not Analyzed	---			
	SB L	---	26'	18'	Not Analyzed	Not Analyzed	88'	117'	Not Analyzed	Not Analyzed	81'			
S Broad Street & I 95 Ramps/11th Street (1)	R	---	47'	290'	Not Analyzed	Not Analyzed	56'	487'	Not Analyzed	Not Analyzed	349'			
	WB T,R	---	72'	86'	Not Analyzed	Not Analyzed	72'	86'	Not Analyzed	Not Analyzed				
	NB L,T	---	0'	0'	Not Analyzed	Not Analyzed	0'	0'	Not Analyzed	Not Analyzed				
S Broad Street & I 95 Ramps/11th Street (2)	WB L	---	90'	90'	Not Analyzed	Not Analyzed	93'	93'	Not Analyzed	Not Analyzed				
	SB L	---	41'	32'	Not Analyzed	Not Analyzed	43'	34'	Not Analyzed	Not Analyzed				
	T	---	15'	18'	Not Analyzed	Not Analyzed	15'	18'	Not Analyzed	Not Analyzed				
S Broad Street & I 95 Ramps/11th Street (3)	EB T	---	---	---	Not Analyzed	Not Analyzed	---	---	Not Analyzed	Not Analyzed				
	R	---	170'	169'	Not Analyzed	Not Analyzed	170'	169'	Not Analyzed	Not Analyzed				
	NB L	---	78'	73'	Not Analyzed	Not Analyzed	78'	73'	Not Analyzed	Not Analyzed				
Packer Avenue & S Broad Street (1)	R	---	0'	0'	Not Analyzed	Not Analyzed	0'	0'	Not Analyzed	Not Analyzed				
	EB T,R	---	165'	107'	114'	76'	165'	107'	114'	76'				
	WB L,T	---	32'	14'	10'	7'	31'	14'	9'	7'				
Packer Avenue & S Broad Street (2)	SB L,T,R	---	143'	157'	89'	61'	147'	160'	93'	65'				
	EB L	---	201'	48'	31'	19'	214'	58'	155'	35'				
	WB T,R	---	169'	64'	128'	66'	231'	132'	223'	178'				
S Broad Street & Pollock Street	L	---	94'	25'	33'	25'	94'	25'	33'	25'				
	NB R	---	78'	11'	25'	28'	78'	11'	25'	28'				
	EB L	---	80'	73'	Not Analyzed	Not Analyzed	80'	73'	Not Analyzed	Not Analyzed				
S Broad Street & Pollock Street	R	---	202'	140'	Not Analyzed	Not Analyzed	202'	140'	Not Analyzed	Not Analyzed				
	L	---	180'	260'	Not Analyzed	Not Analyzed	180'	260'	Not Analyzed	Not Analyzed				
	WB R	---	140'	239'	Not Analyzed	Not Analyzed	140'	239'	Not Analyzed	Not Analyzed				
	NB T	---	142'	95'	Not Analyzed	Not Analyzed	146'	98'	Not Analyzed	Not Analyzed				
	SB T	---	16'	15'	Not Analyzed	Not Analyzed	16'	15'	Not Analyzed	Not Analyzed				

TABLE B - CONTINUED
CASINO REVOLUTION - PHILADELPHIA, PENNSYLVANIA
STUDY INTERSECTIONS
95th PERCENTILE QUEUES

LOCATION	MOVEMENT	2013 EXISTING CONDITIONS/NO-BUILD CONDITIONS					BUILD CONDITIONS				BUILD CONDITIONS WITH IMPROVEMENTS					
		STORAGE	FRI PM COMMUTER	PRE-PHILLIES	FRI PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO	FRI PM COMMUTER	PRE-PHILLIES	PM CASINO	SAT CASINO		
S Broad Street & Pollock Street	EB	L	---	80'	73'	Not Analyzed	Not Analyzed	80'	73'	Not Analyzed	Not Analyzed					
		R	---	202'	140'	Not Analyzed	Not Analyzed	202'	140'	Not Analyzed	Not Analyzed					
	WB	L	---	180'	260'	Not Analyzed	Not Analyzed	180'	260'	Not Analyzed	Not Analyzed					
		R	---	140'	239'	Not Analyzed	Not Analyzed	140'	239'	Not Analyzed	Not Analyzed					
	NB	T	---	142'	95'	Not Analyzed	Not Analyzed	146'	98'	Not Analyzed	Not Analyzed					
	SB	T	---	16'	15'	Not Analyzed	Not Analyzed	16'	15'	Not Analyzed	Not Analyzed					
S Broad Street & W Oregon Avenue	EB	L	125'	54'	65'	Not Analyzed	Not Analyzed	54'	65'	Not Analyzed	Not Analyzed					
		R	---	194'	207'	Not Analyzed	Not Analyzed	194'	207'	Not Analyzed	Not Analyzed					
	WB	L	125'	82'	59'	Not Analyzed	Not Analyzed	82'	59'	Not Analyzed	Not Analyzed					
		R	---	148'	176'	Not Analyzed	Not Analyzed	148'	176'	Not Analyzed	Not Analyzed					
	NB	T,R	---	271'	260'	Not Analyzed	Not Analyzed	279'	268'	Not Analyzed	Not Analyzed					
	SB	T,R	---	211'	257'	Not Analyzed	Not Analyzed	219'	265'	Not Analyzed	Not Analyzed					
Packer Avenue & S 10th Street	EB	L	135'	13'	2'	2'	5'	13'	3'	5'	3'					
		R	---	4'	0'	0'	0'	4'	1'	0'	0'					
	WB	L	200'	43'	190'	28'	29'	44'	207'	17'	22'					
		R	---	78'	48'	58'	33'	119'	64'	104'	89'					
	NB	L	160'	17'	15'	30'	10'	17'	15'	30'	10'					
		T	---	24'	17'	16'	17'	24'	17'	16'	17'					
	SB	L	---	17'	7'	8'	13'	17'	7'	8'	13'					
		R	255'	75'	73'	69'	45'	75'	73'	69'	45'					
	Packer Avenue & S Darien Street/I-76 EB Off Ramp	EB	L	200'	67'	83'	56'	36'	70'	80'	64'	37'	94'	116'	104'	54'
			R	---	33'	25'	11'	27'	38'	25'	17'	34'	56'	40'	36'	50'
WB		L	200'	157'	127'	74'	76'	158'	128'	74'	76'	217'	156'	98'	97'	
		R	---	96'	106'	71'	54'	142'	157'	138'	133'	172'	192'	181'	170'	
NB		L	---	26'	0'	8'	0'	26'	0'	8'	0'	31'	0'	10'	0'	
		T	160'	62'	40'	29'	26'	61'	41'	29'	25'	54'	32'	23'	21'	
SB		L	---	83'	25'	18'	25'	82'	26'	18'	25'	68'	20'	14'	19'	
		R	---	0'	1'	1'	0'	0'	1'	0'	0'	0'	1'	1'	7'	
SD		L	565'	364'	247'	239'	178'	567'	483'	555'	515'	476'	350'	363'	376'	
		R	100'	59'	134'	81'	64'	59'	134'	81'	64'	46'	100'	51'	32'	
Packer Avenue & S 7th Street	EB	L	190'	82'	91'	83'	78'	89'	101'	93'	84'					
		R	---	56'	43'	40'	45'	83'	69'	79'	90'					
	WB	L	235'	77'	97'	59'	36'	82'	103'	64'	38'					
		R	---	78'	90'	44'	36'	105'	116'	84'	77'					
	NB	L	200'	42'	16'	18'	23'	42'	16'	18'	23'					
		T,R	---	17'	10'	10'	23'	17'	10'	10'	23'					
SB	L,T,R	---	33'	118'	48'	38'	33'	118'	48'	38'						
Packer Avenue & I-95 NB Off Ramp	EB	T	---	Free	Free	Free	Free	Free	Free	Free						
	WB	T	---	Free	Free	Free	Free	Free	Free	Free						
	SB	R	---	Free	Free	Free	Free	Free	Free	Free						
Packer Avenue & S Front Street/Industrial Driveway	EB	L	---	132'	99'	87'	76'	140'	107'	98'	89'	165'	142'	122'	101'	
		R	---	15'	18'	12'	11'	41'	94'	67'	101'	49'	56'	42'	54'	
	WB	L	---	17'	7'	5'	7'	17'	7'	5'	7'	21'	10'	6'	8'	
		T,R	100'	22'	12'	12'	8'	156'	250'	208'	273'	43'	87'	36'	111'	
	NB	L	---	68'	17'	27'	20'	104'	37'	37'	51'	48'	9'	27'	46'	
		T,R	100'	5'	---	1'	1'	5'	---	1'	1'	6'	---	1'	2'	
SB	T,R	---	111'	41'	0'	0'	192'	127'	97'	46'	203'	101'	164'	167'		
S Front Street & I-76 EB On Ramp	NB	L	175'	8'	2'	3'	1'	21'	22'	23'	19'					
	T	---	0'	0'	0'	0'	0'	0'	0'	0'						
	SB	T,R	---	0'	0'	0'	0'	0'	0'	0'						
S Front Street & I-76 WB Off Ramp/I-95 SB On Ramp	EB	L	---	138'	91'	100'	84'	138'	91'	100'	84'					
		R	---	685'	951'	633'	452'	685'	951'	633'	452'					
	WB	L	225'	52'	151'	27'	4'	74'	220'	71'	42'					
		T,R	---	237'	257'	80'	57'	275'	143'	187'	186'					
	NB	L	225'	97'	65'	57'	59'	93'	47'	57'	57'					
		T	---	127'	723'	98'	69'	152'	275'	133'	105'					
S Front Street & I-95 NB On Ramp/I-95 SB Off Ramp/Drwy	EB	L	775'	212'	155'	148'	152'	212'	155'	148'	152'	230'				
		R	775'	213'	153'	148'	156'	213'	153'	148'	156'	231'				
	WB	L	---	57'	583'	48'	45'	72'	703'	59'	61'	69'				
		T,R	---	49'	36'	27'	25'	49'	36'	27'	25'	54'				
	NB	L	250'	197'	70'	68'	45'	319'	130'	154'	138'	246'				
		T,R	---	140'	33'	34'	28'	120'	28'	28'	22'	136'				
SB	T,R	---	245'	264'	196'	113'	248'	267'	200'	120'	273'					
S Front Street & Main Site Driveway	EB	L,R	---					97'	97'	140'	168'					
		L	150' Proposed					63'	107'	98'	96'					
	NB	T	---					55'	48'	43'	33'					
		T	---					64'	88'	53'	90'					
	SB	R	150' Proposed					0'	2'	16'	134'					
S Front Street & Porte-Cochere Entrance	NB	L,T	---					2'	3'	3'	3'					
	SB	T,R	---					Free	Free	Free	Free					
S Front Street & Porte-Cochere Exit	EB	L,R	---					29'	40'	45'	62'					
	NB	T	---					Free	Free	Free	Free					
		T	---					Free	Free	Free	Free					

FIGURES



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Collectively known as Langan

Project

CASINO REVOLUTION

CITY OF PHILADELPHIA
PHILADELPHIA COUNTY PENNSYLVANIA

Drawing Title

SITE LOCATION MAP

Project No.
220057201

Date
8/14/2013

Scale
N.T.S.

Drawn By
RJL

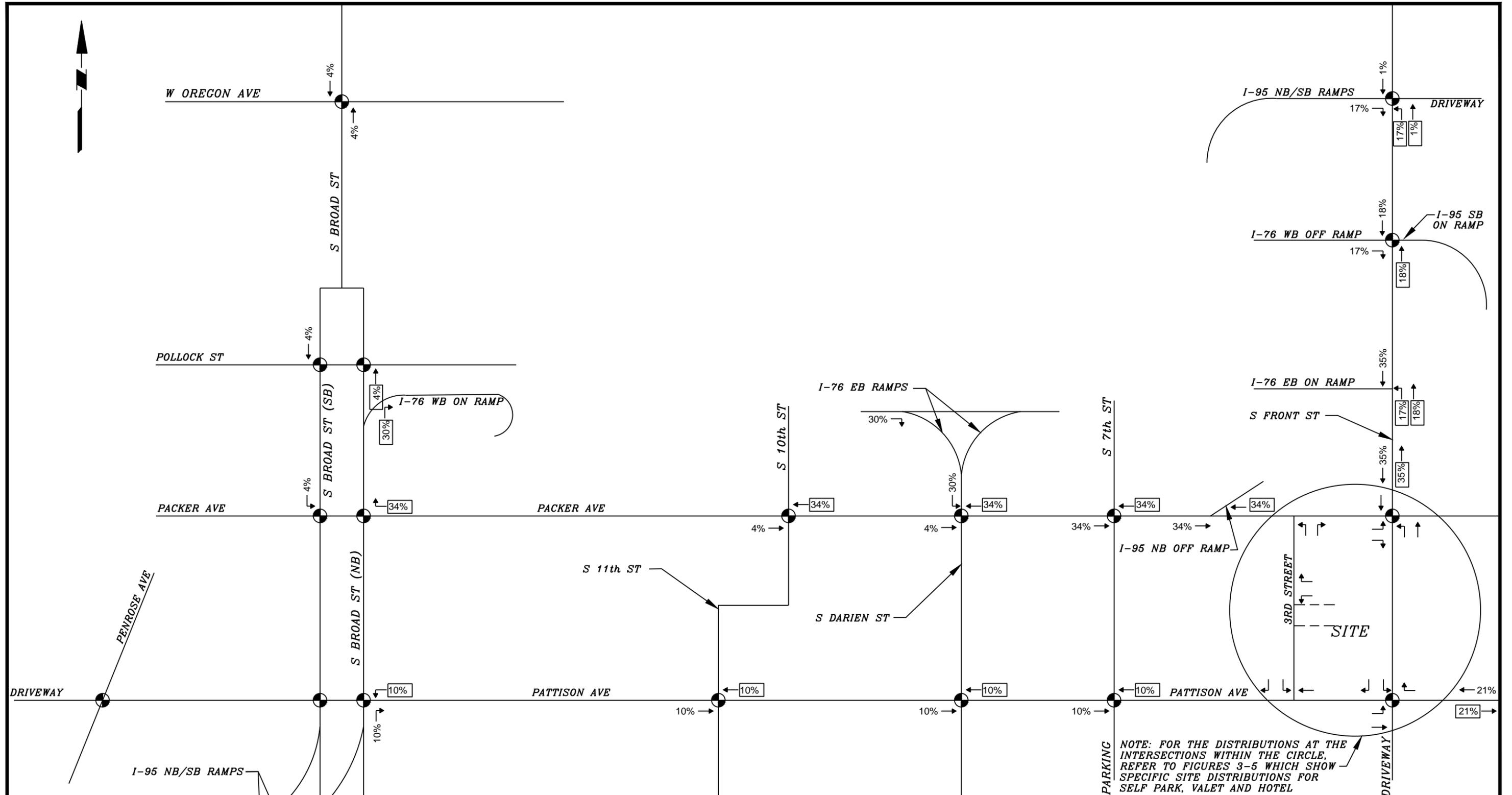
Checked By
DDD

Submission Date
SEPTEMBER 2013

Drawing No.

FIGURE 1

Sheet of



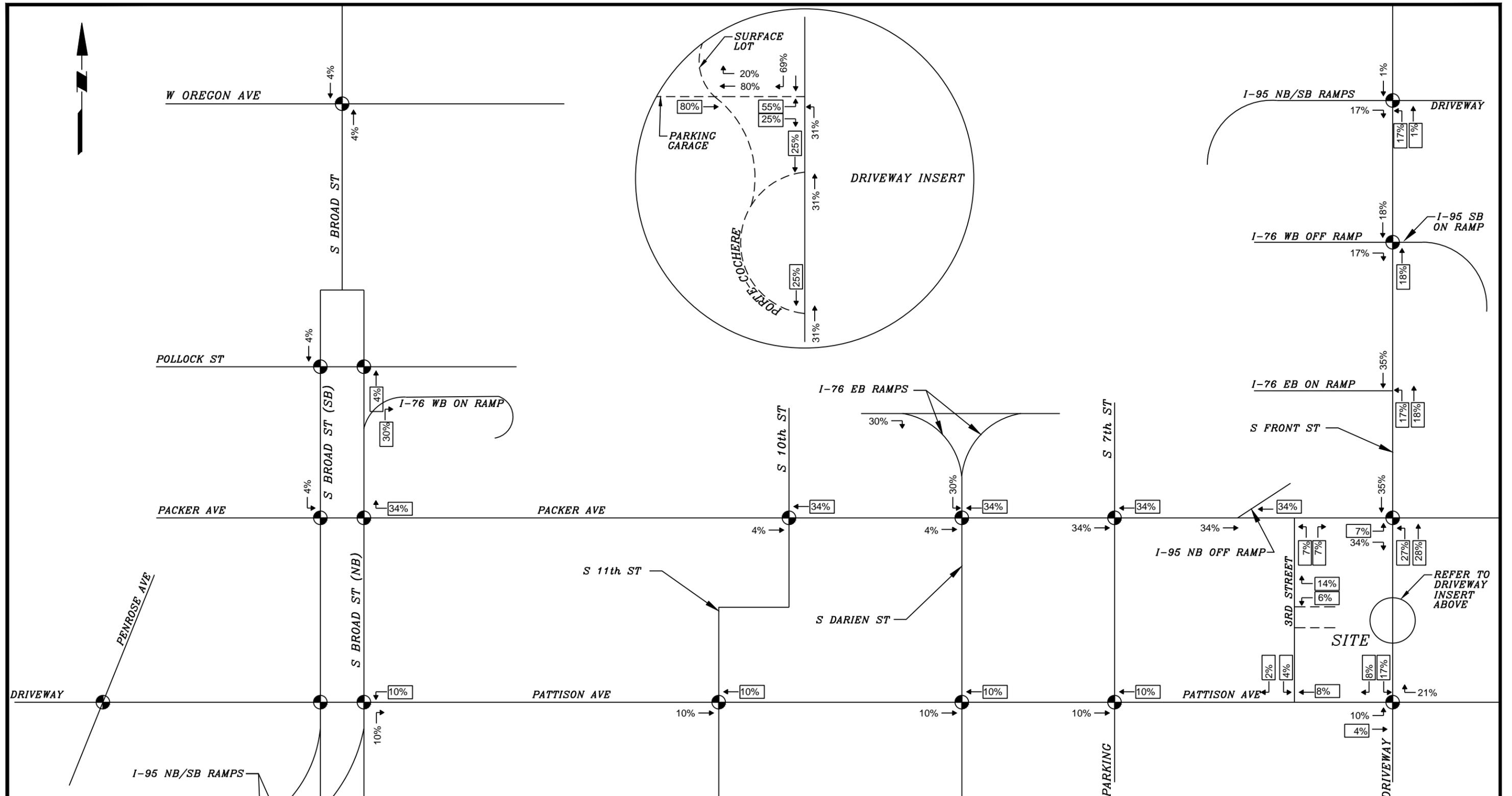
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**GENERAL TRIP
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Project No. 220057201	Drawing No. FIGURE 2
Date 8/14/2013	
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LEGEND

— ROADWAY

- - - SITE DRIVEWAY

⊕ TRAFFIC SIGNAL

← ENTER [] EXIT

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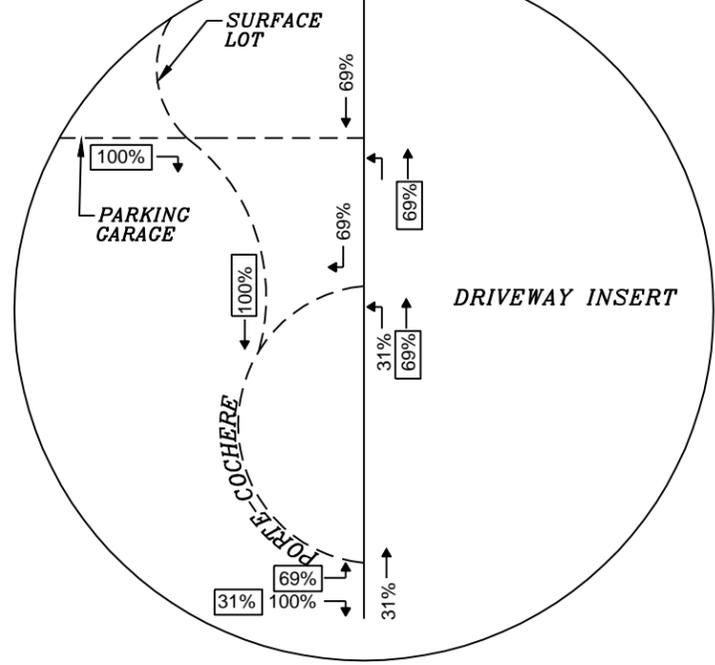
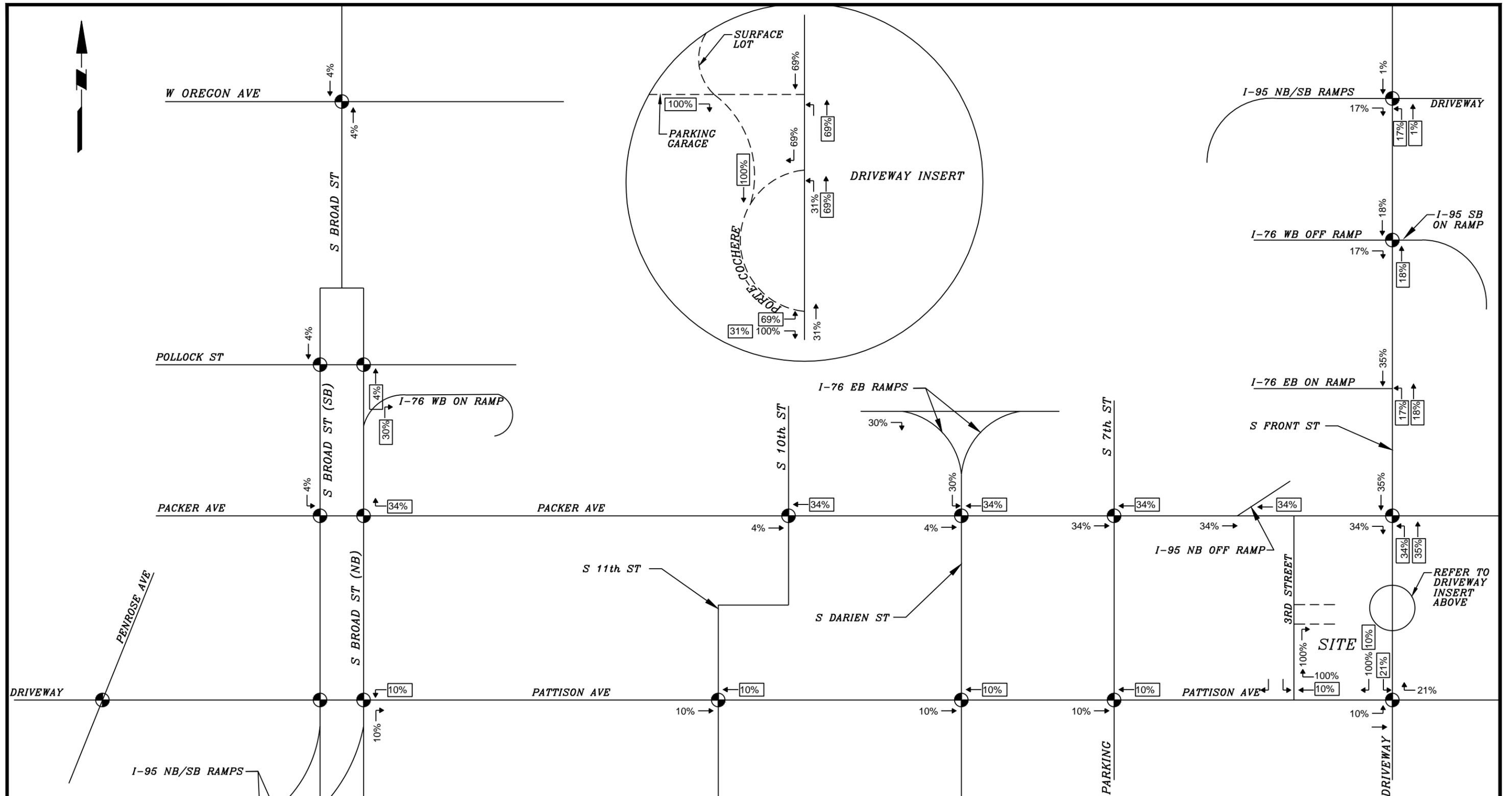
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CITY OF PHILADELPHIA
PHILADELPHIA COUNTY PENNSYLVANIA

Drawing Title

SELF-PARK TRIP DISTRIBUTION PERCENTAGES

Project No. 220057201	Drawing No.
Date 8/14/2013	FIGURE 3
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



- LEGEND**
- ROADWAY
 - - - SITE DRIVEWAY
 - ⊕ TRAFFIC SIGNAL
 - ← ENTER [] EXIT

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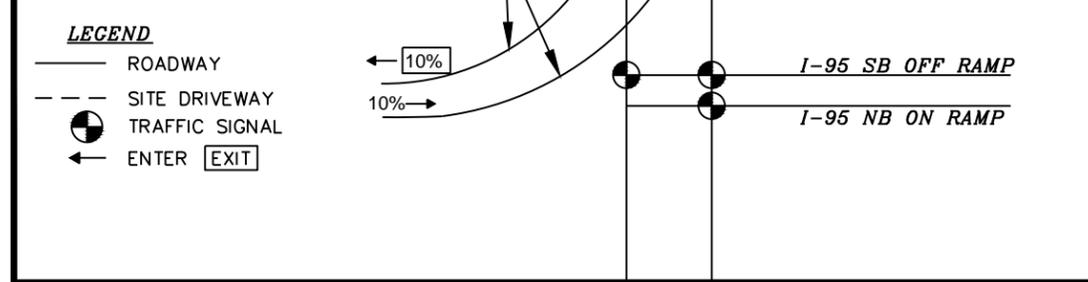
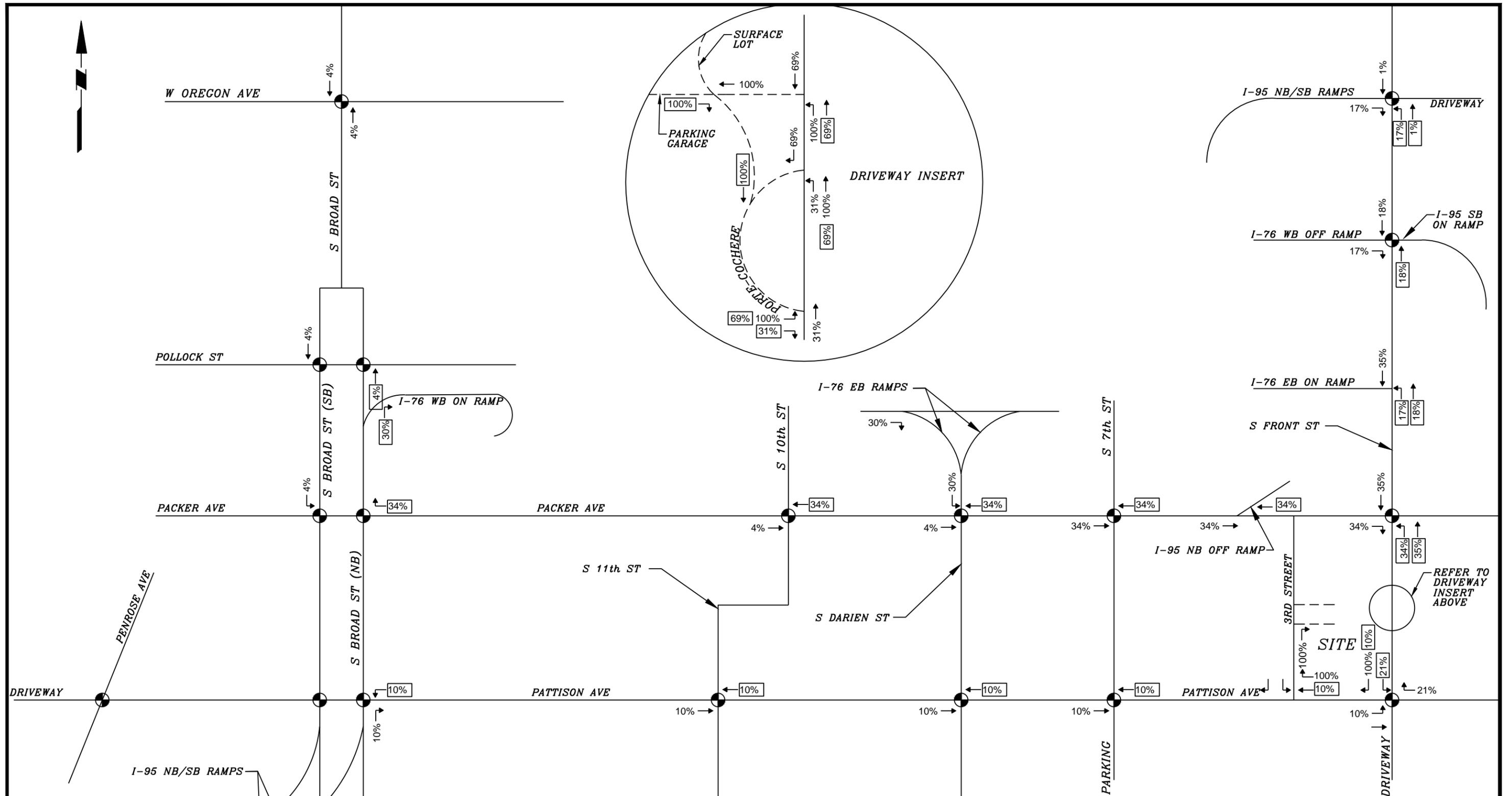
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Drawing Title
**VALET TRIP
 DISTRIBUTION
 PERCENTAGES**

Project No.
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 Date
 8/14/2013
 Scale
 N.T.S.
 Drawn By
 RJL
 Checked By
 DDD
 Submission Date
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Drawing No.
FIGURE 4
 Sheet of

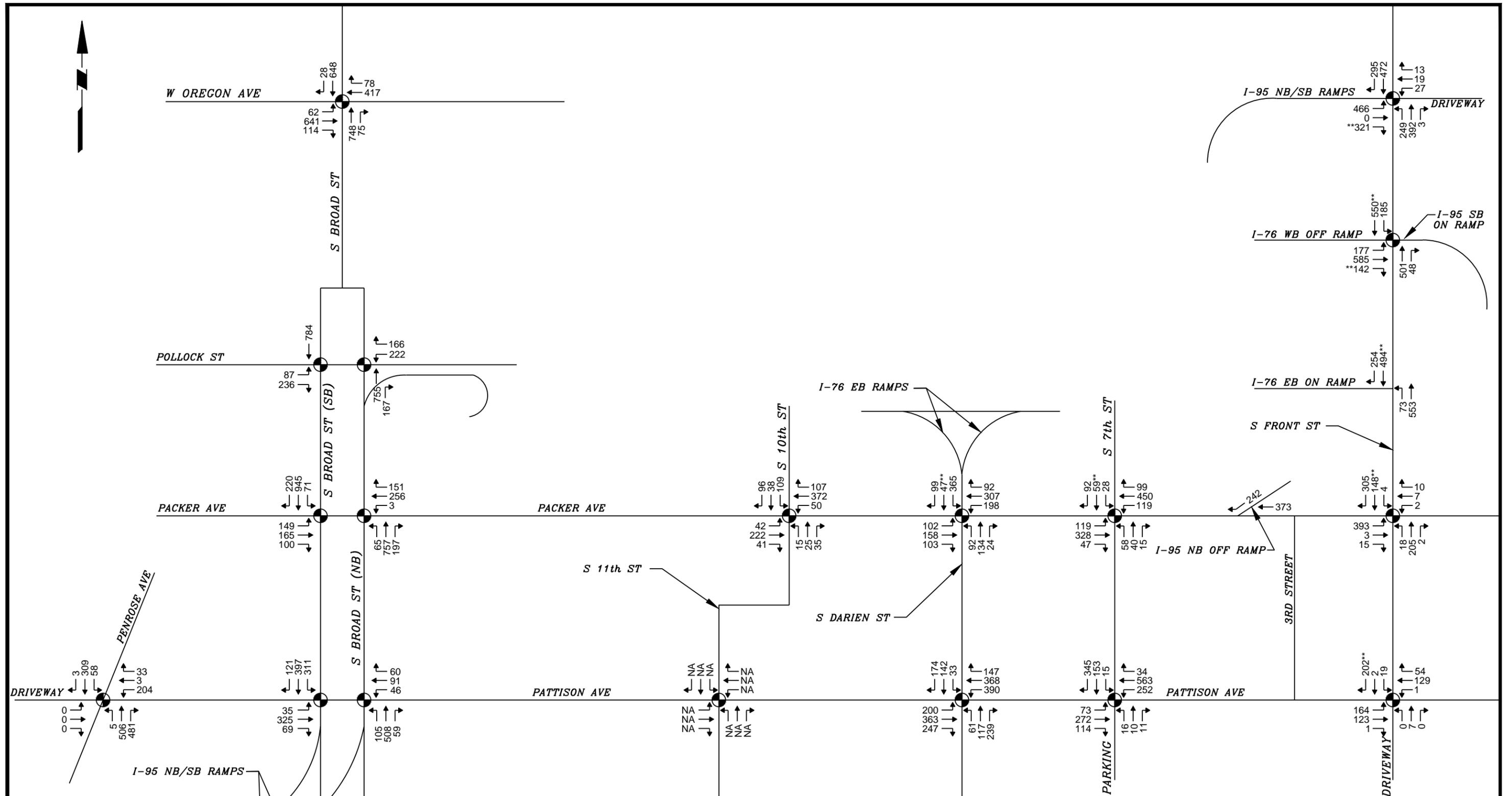


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Drawing Title
HOTEL TRIP DISTRIBUTION PERCENTAGES

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Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
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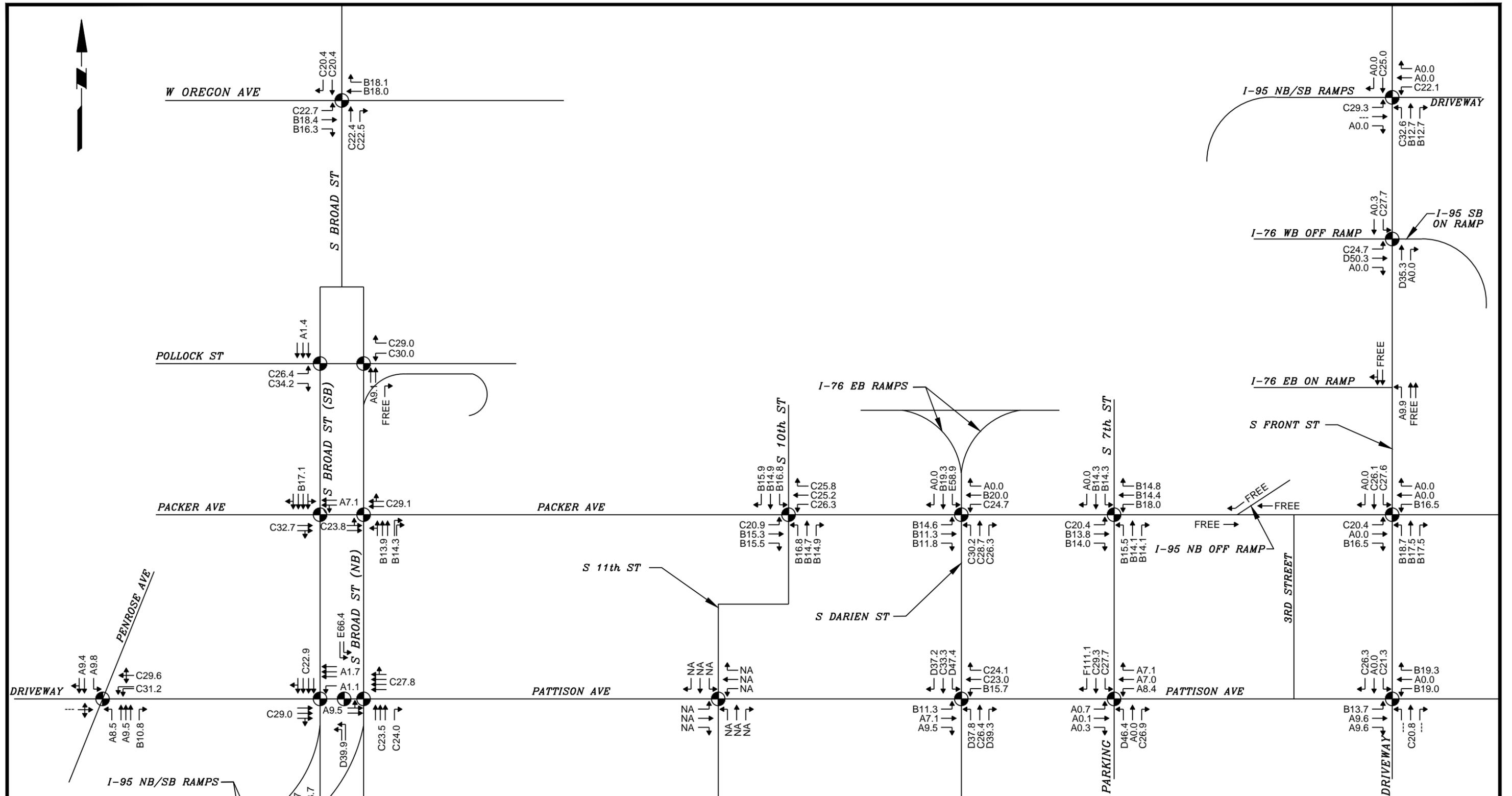
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Drawing Title
**EXISTING/NO BUILD
FRI PM COMMUTER
PEAK HOUR
TRAFFIC VOLUMES**

Project No. 220057201	Drawing No. FIGURE 6
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 FRI COMMUTER PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
**EXISTING/NO BUILD
 FRI PM COMMUTER
 LEVELS OF SERVICE**

Project No.
 220057201
 Date
 8/14/2013
 Scale
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 Drawn By
 RJL
 Checked By
 DDD
 Submission Date
 SEPTEMBER 2013

Drawing No.
FIGURE 7
 Sheet of



W OREGON AVE

← 20

17 →

S BROAD ST

← 20

17 →

POLLOCK ST

← 20

147 →

PACKER AVE

PACKER AVE

S BROAD ST (SB)

← 43

48 →

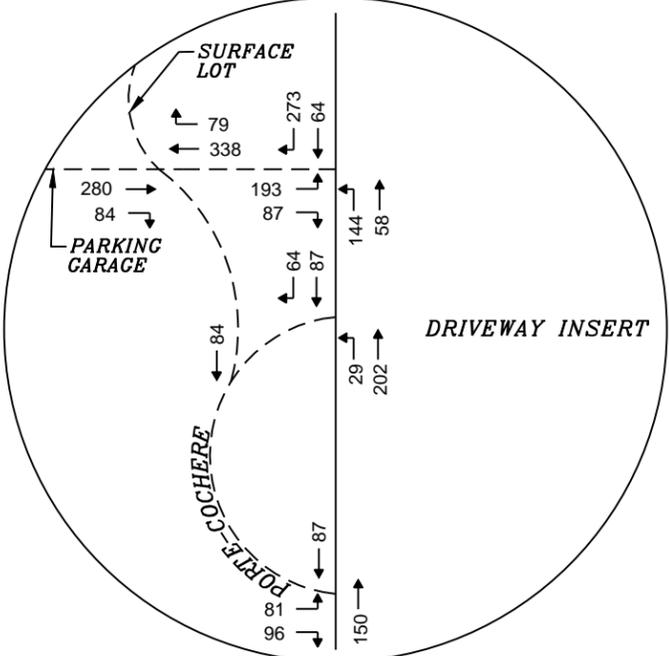
I-95 NB/SB RAMPS

← 43

48 →

I-95 SB OFF RAMP

I-95 NB ON RAMP



	ENTER	EXIT
SELF PARK	394	350
VALET	70	62
HOTEL	23	22
TOTAL	487	434

I-95 NB/SB RAMPS

83 ↓

74 ↓

4 ↓

DRIVEWAY

I-76 WB OFF RAMP

83 ↓

78 ↓

I-95 SB ON RAMP

I-76 EB ON RAMP

74 ↓

78 ↓

S FRONT ST

I-76 EB RAMPS

146 ↓

S 10th ST

← 147

147 →

S DARIEN ST

← 43

48 →

PATTISON AVE

S 7th ST

← 147

147 →

I-95 NB OFF RAMP

← 43

48 →

PATTISON AVE

3RD STREET

← 24

24 →

← 48

22 →

← 70

70 →

← 36

48 →

SITE

← 106

77 →

← 15

48 →

← 123

128 →

← 171

171 →

← 102

15 →

REFER TO DRIVEWAY INSERT ABOVE

- LEGEND**
- ROADWAY
 - - - SITE DRIVEWAY
 - ⊕ TRAFFIC SIGNAL
 - ← FRI COMMUTER PEAK
- NOTE: NA=NOT ANALYZED

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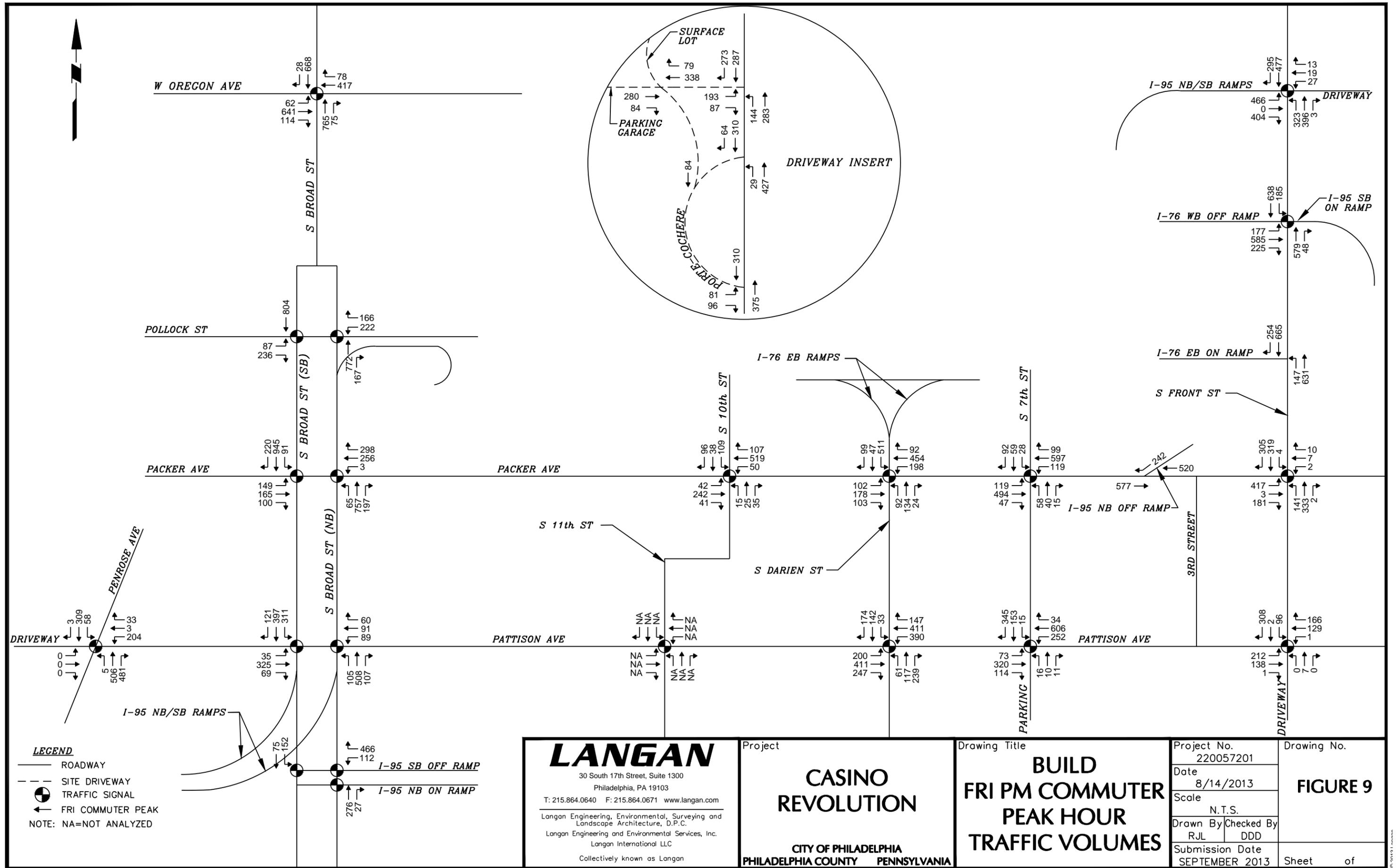
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Drawing Title
**FRI PM COMMUTER
 SITE GENERATED
 TRAFFIC VOLUMES**

Project No.
 220057201
 Date
 8/14/2013
 Scale
 N.T.S.
 Drawn By
 RJL
 Checked By
 DDD
 Submission Date
 SEPTEMBER 2013

Drawing No.
FIGURE 8
 Sheet of



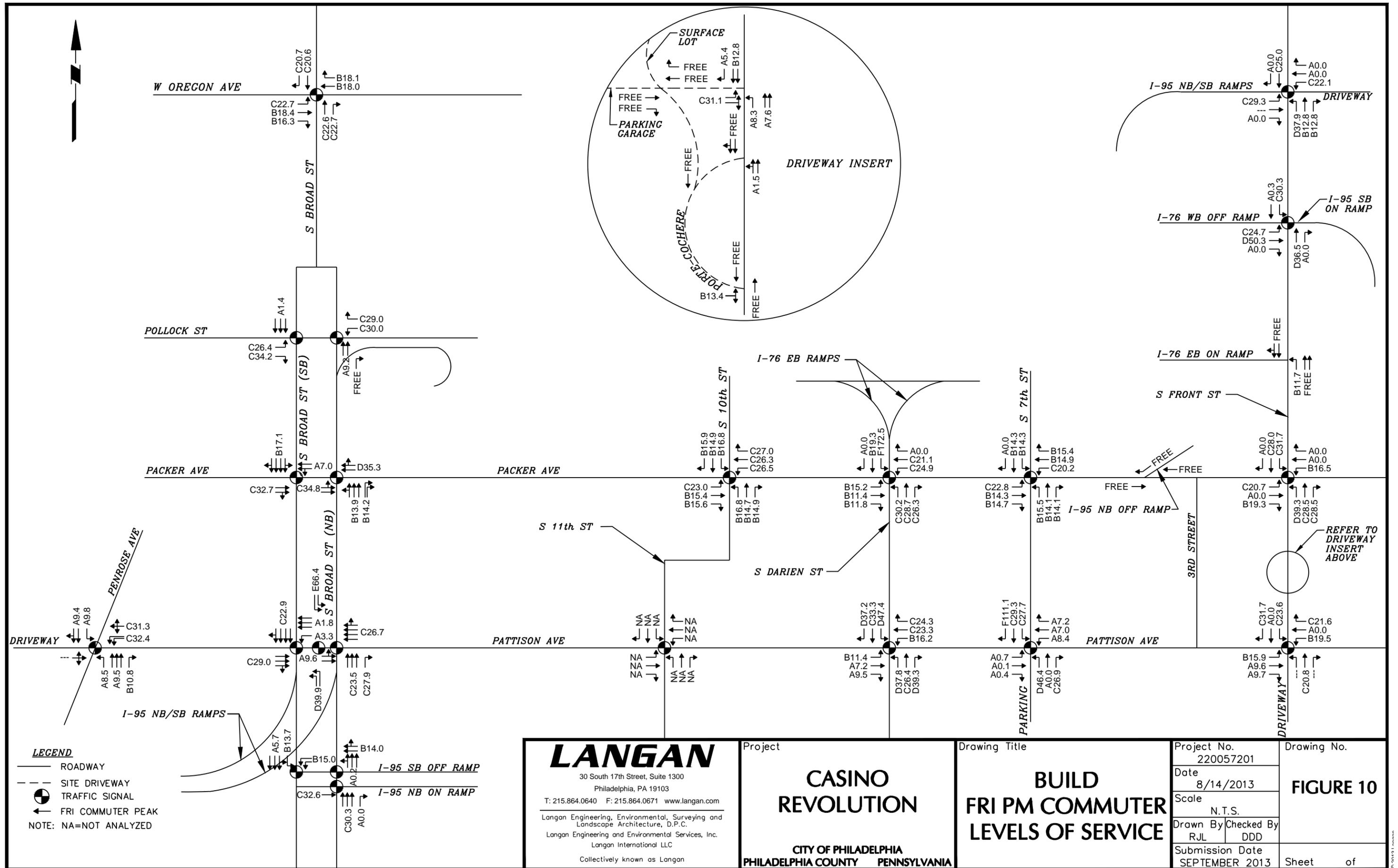
LEGEND
 — ROADWAY
 - - - SITE DRIVEWAY
 ⊕ TRAFFIC SIGNAL
 ← FRI COMMUTER PEAK
 NOTE: NA=NOT ANALYZED

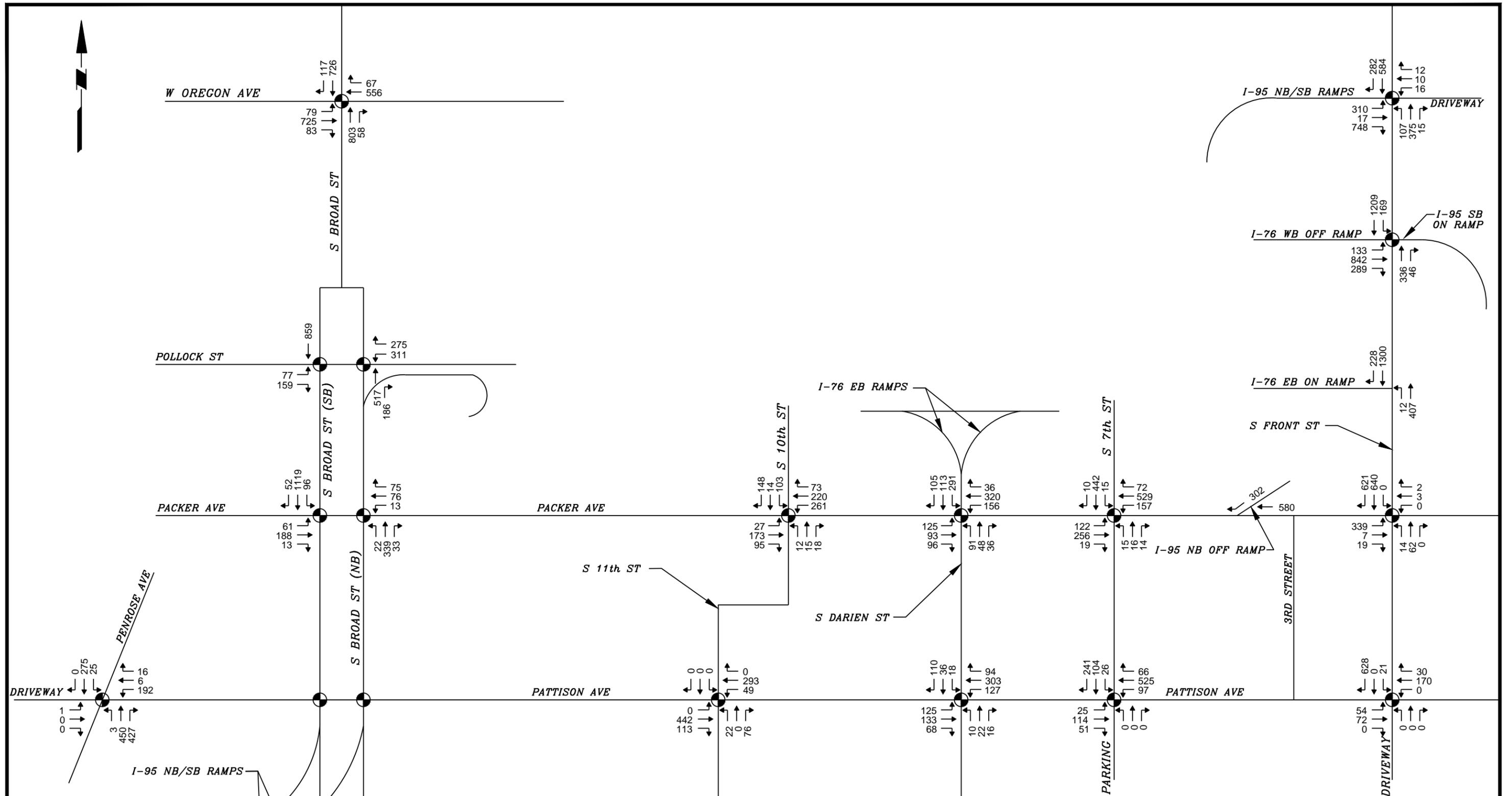
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Drawing Title
**BUILD
 FRI PM COMMUTER
 PEAK HOUR
 TRAFFIC VOLUMES**

Project No. 220057201	Drawing No.
Date 8/14/2013	FIGURE 9
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of





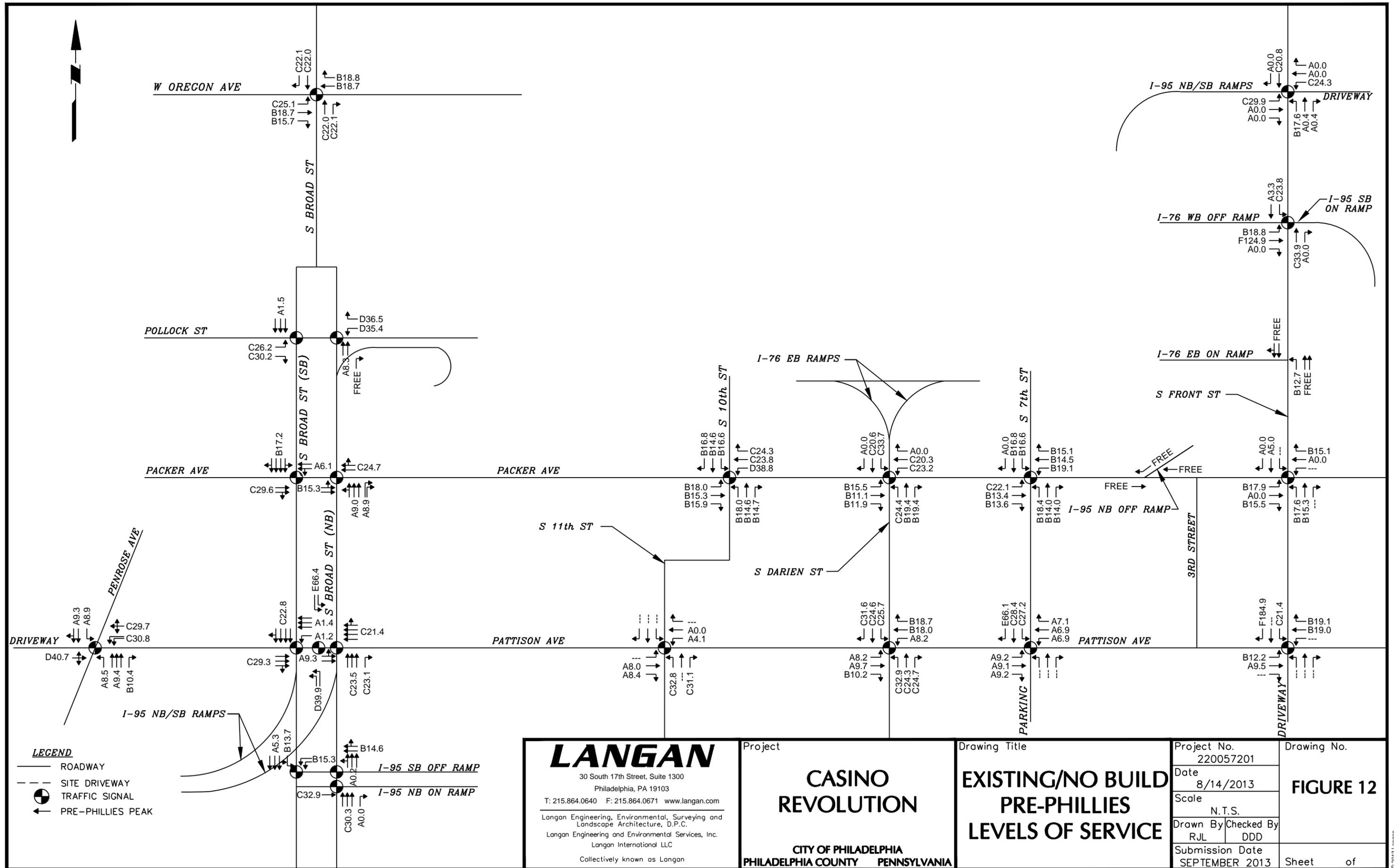
LEGEND
 — ROADWAY
 - - - SITE DRIVEWAY
 ● TRAFFIC SIGNAL
 ← PRE-PHILLIES PEAK

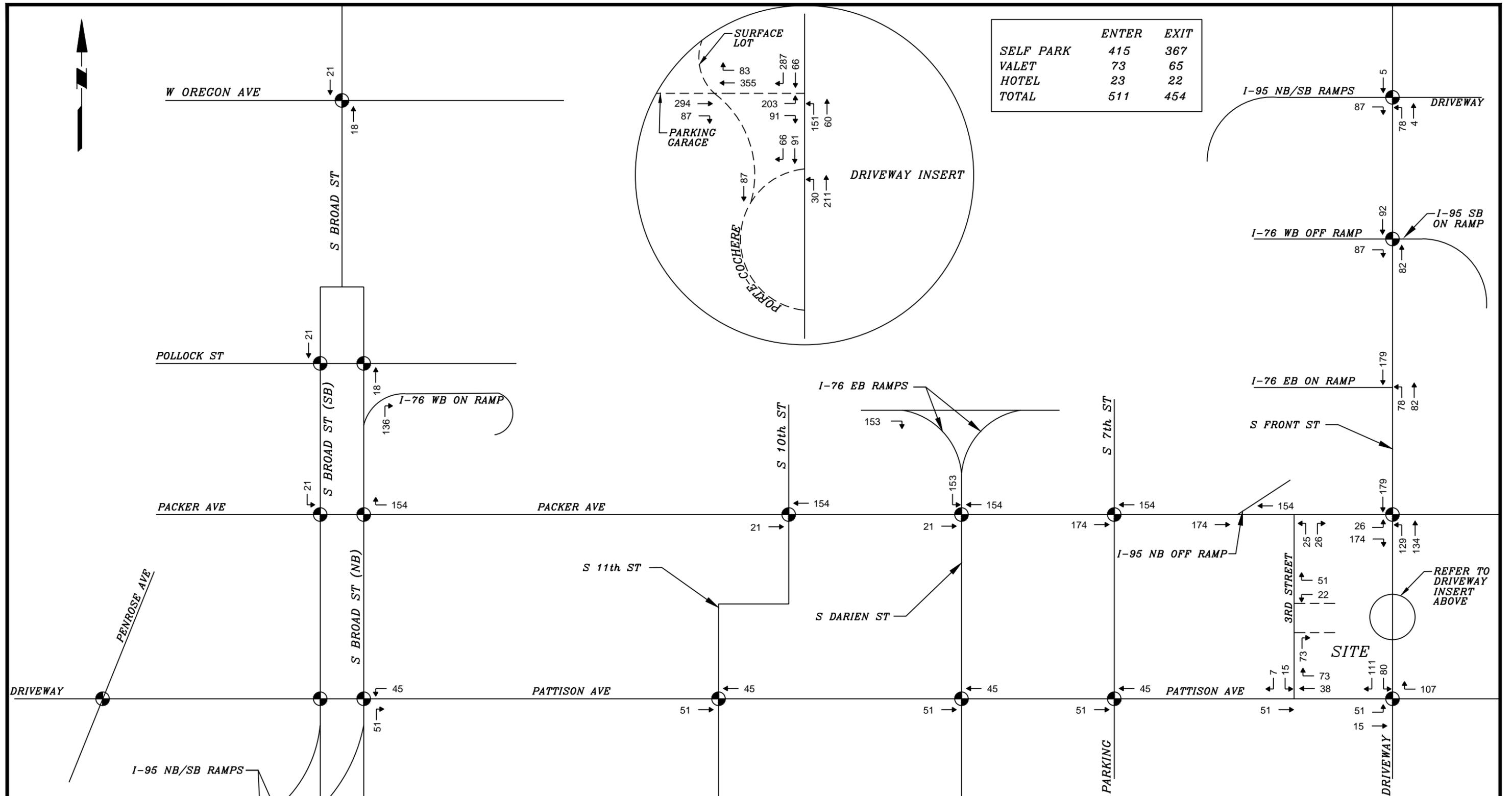
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Drawing Title
**EXISTING/NO BUILD
 PRE-PHILLIES
 PEAK HOUR
 TRAFFIC VOLUMES**

Project No. 220057201	Drawing No. FIGURE 11
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of





	ENTER	EXIT
SELF PARK	415	367
VALET	73	65
HOTEL	23	22
TOTAL	511	454

- LEGEND**
- ROADWAY
 - - - SITE DRIVEWAY
 - ⊕ TRAFFIC SIGNAL
 - ← PRE-PHILLIES PEAK

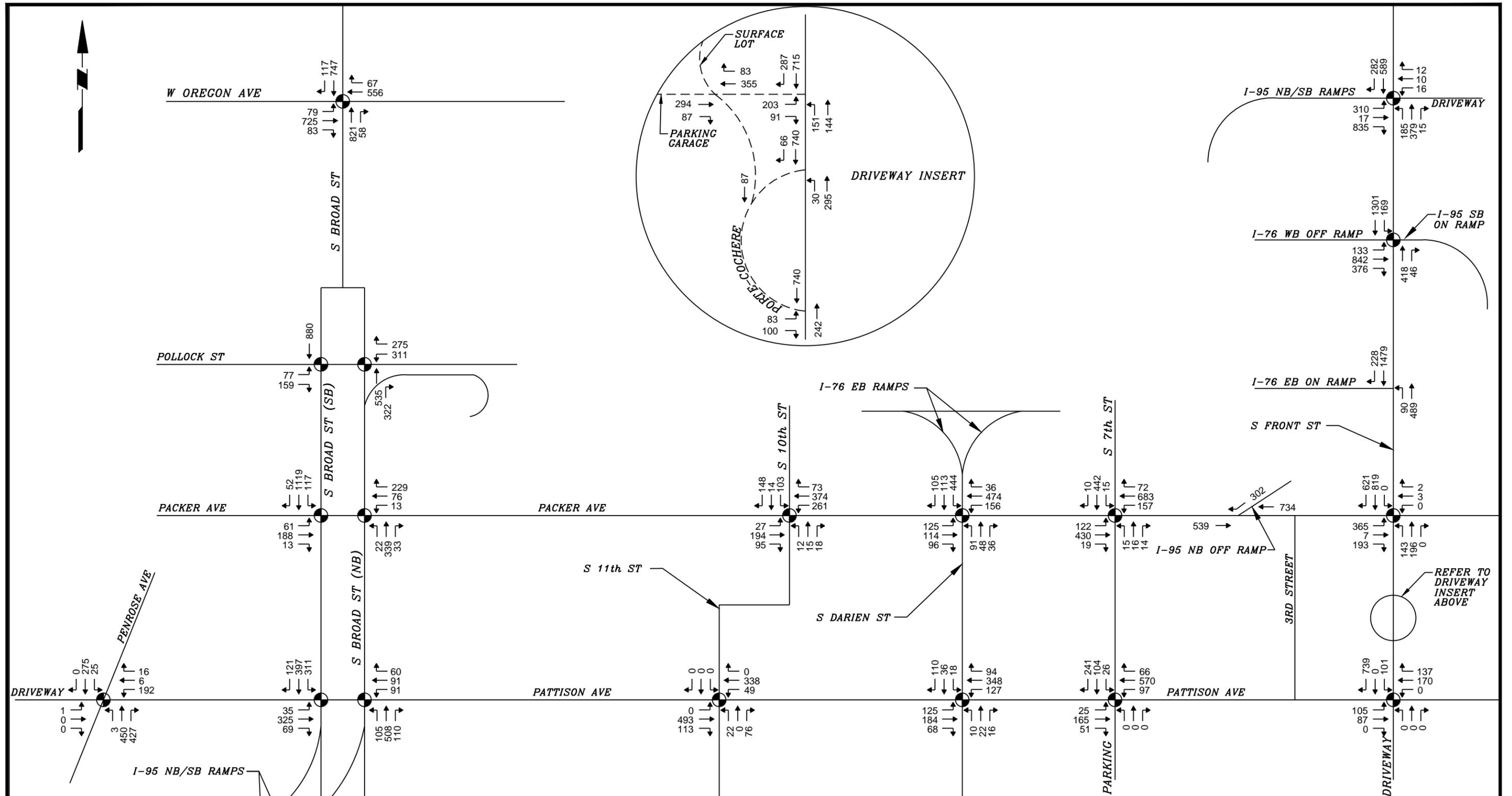
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Drawing Title
PRE-PHILLIES SITE GENERATED TRAFFIC VOLUMES

Project No. 220057201	Drawing No. FIGURE 13
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



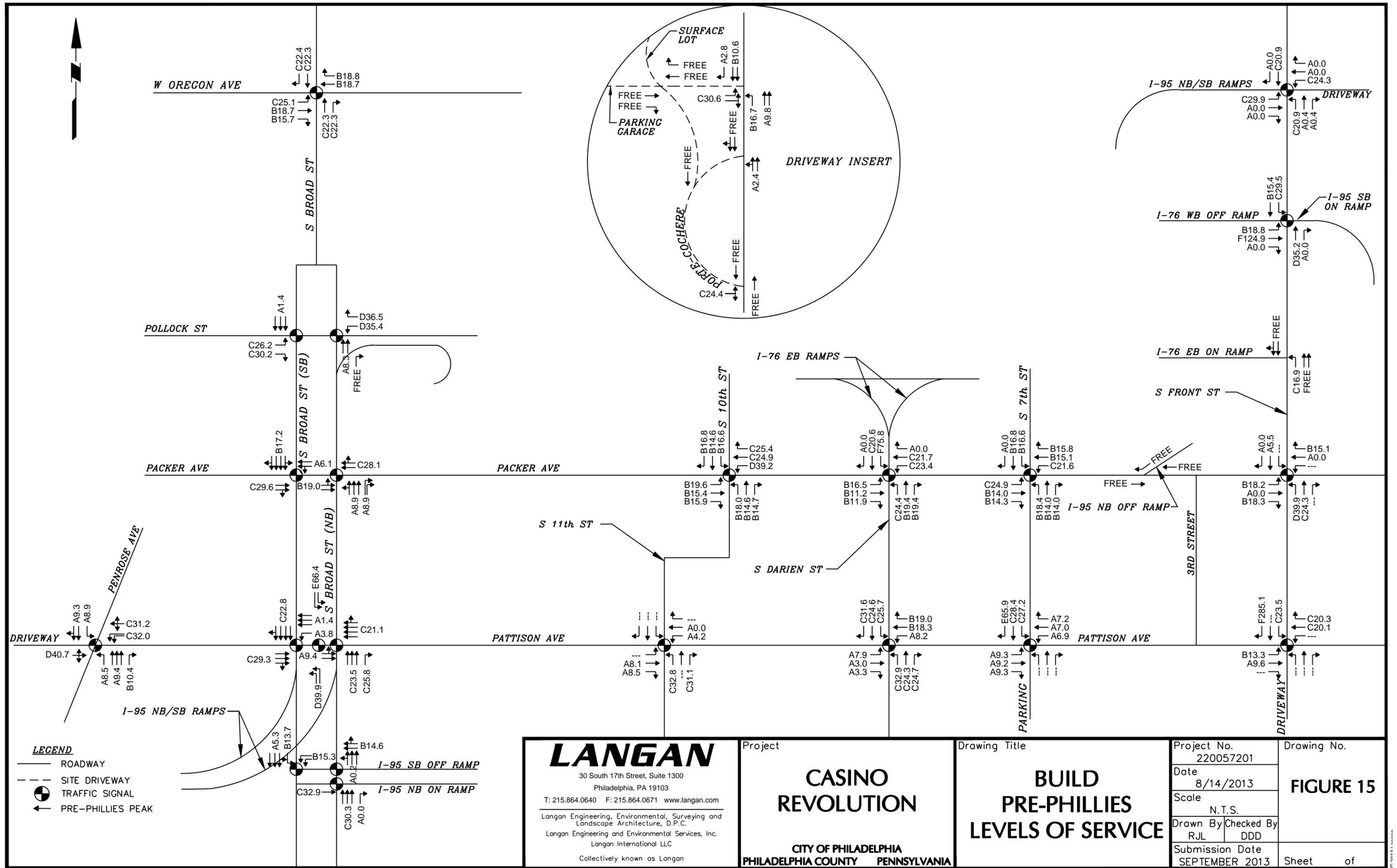
LEGEND
 — ROADWAY
 - - - SITE DRIVEWAY
 ⊕ TRAFFIC SIGNAL
 ← PRE-PHILLIES PEAK

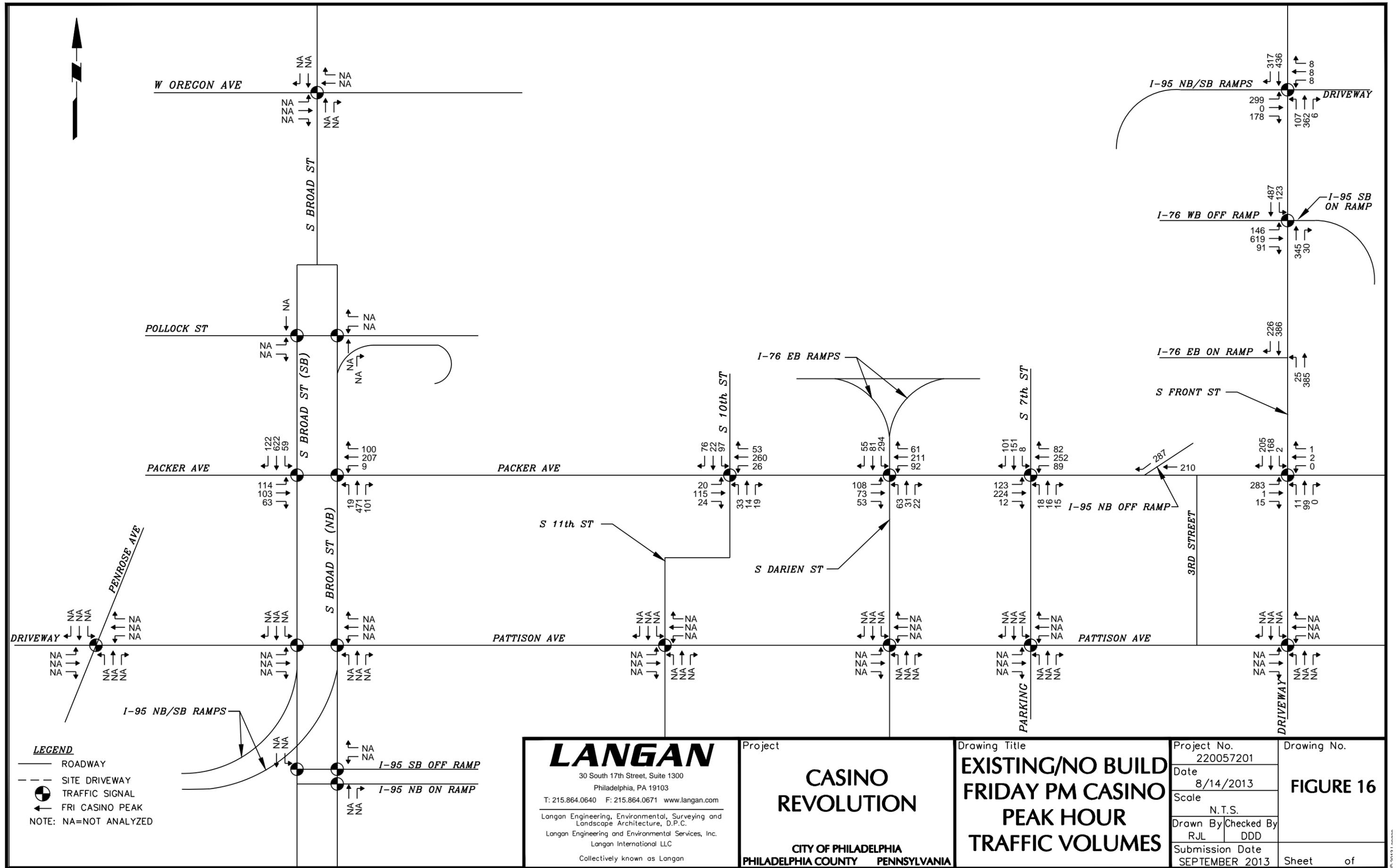
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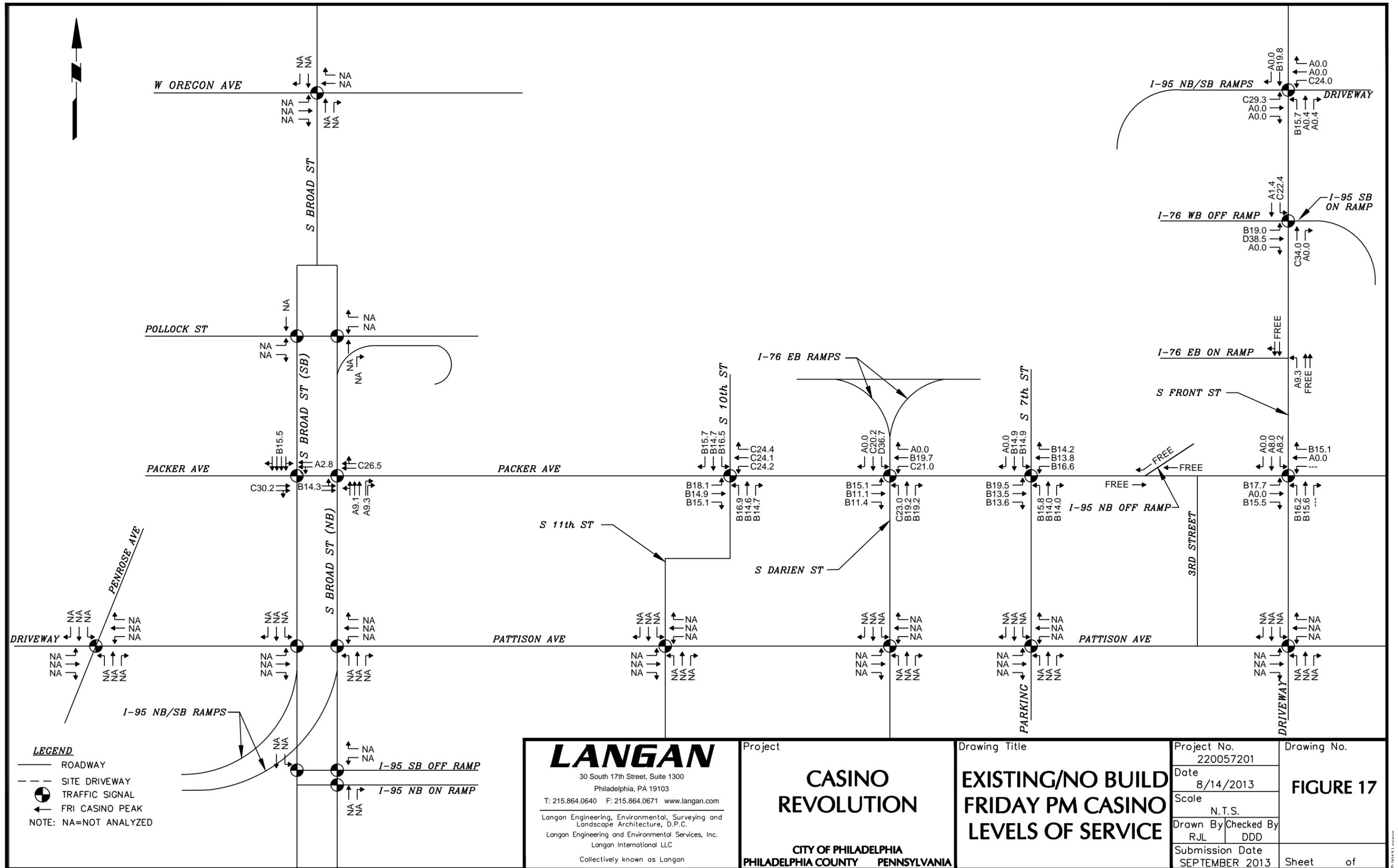
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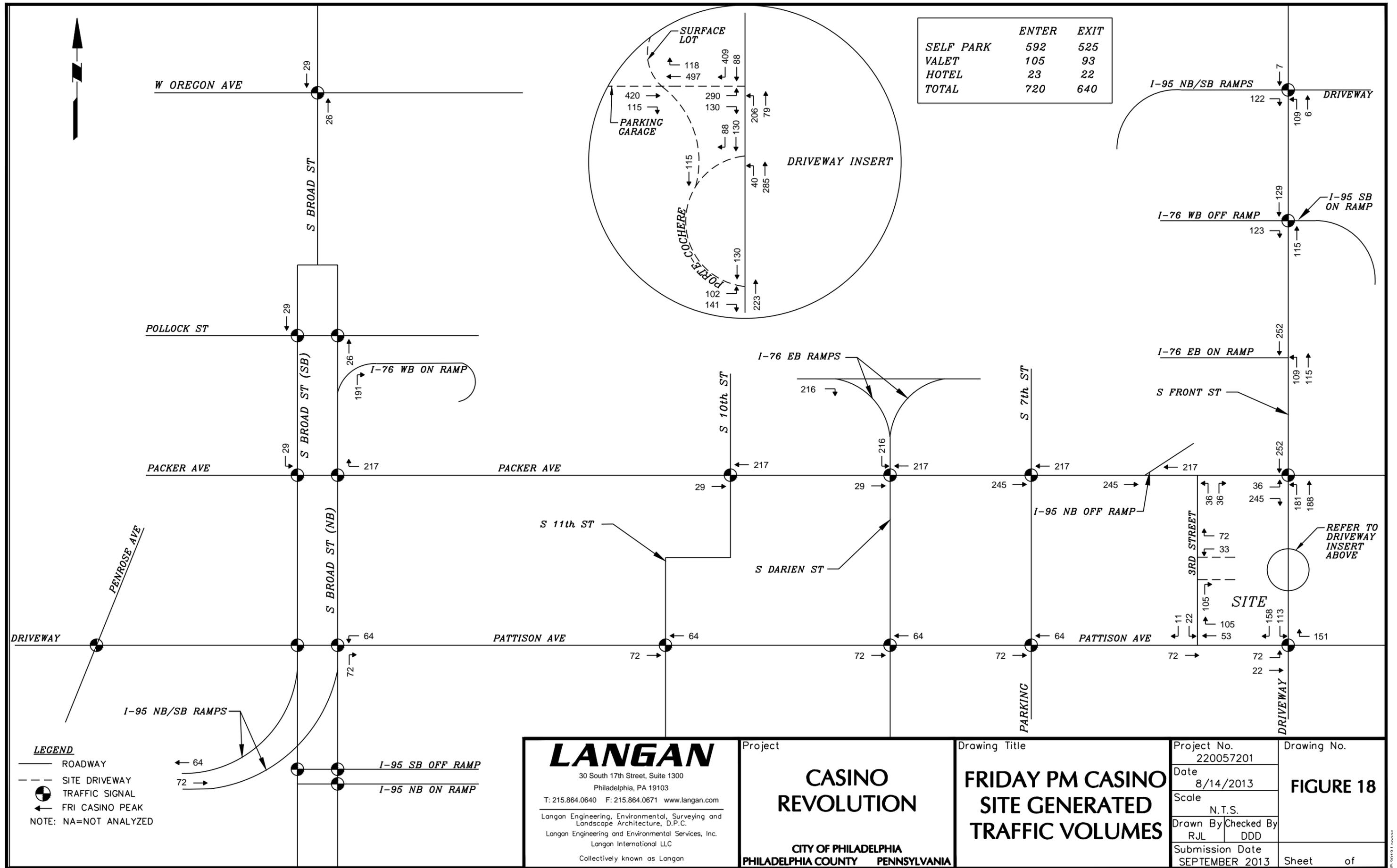
Drawing Title
**BUILD
 PRE-PHILLIES
 PEAK HOUR
 TRAFFIC VOLUMES**

Project No. 220057201	Drawing No. FIGURE 14
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of









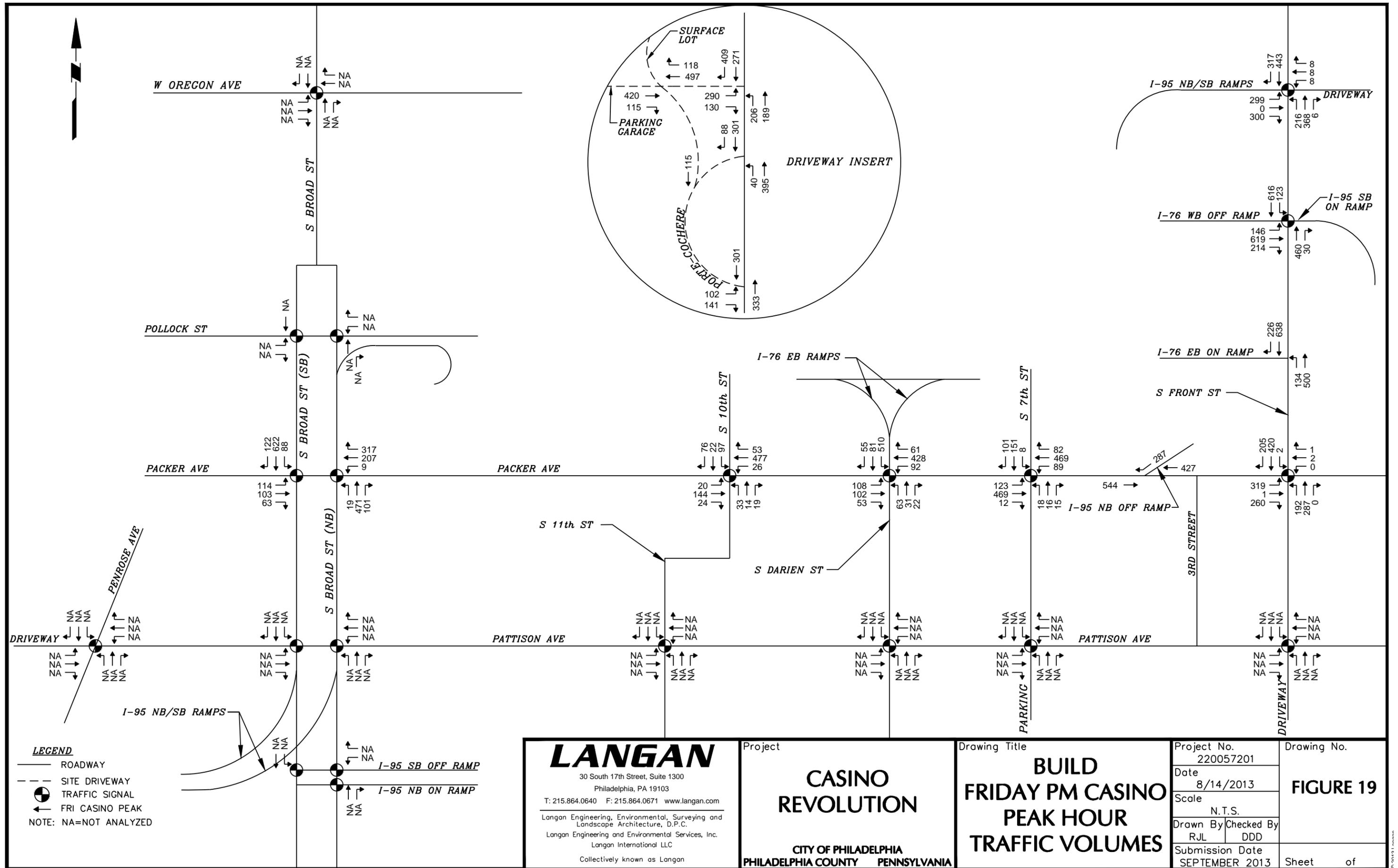
LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 FRI CASINO PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
FRIDAY PM CASINO SITE GENERATED TRAFFIC VOLUMES

Project No. 220057201
 Date 8/14/2013
 Scale N.T.S.
 Drawn By R.J.L. Checked By D.D.D.
 Submission Date SEPTEMBER 2013
 Drawing No. **FIGURE 18**
 Sheet of



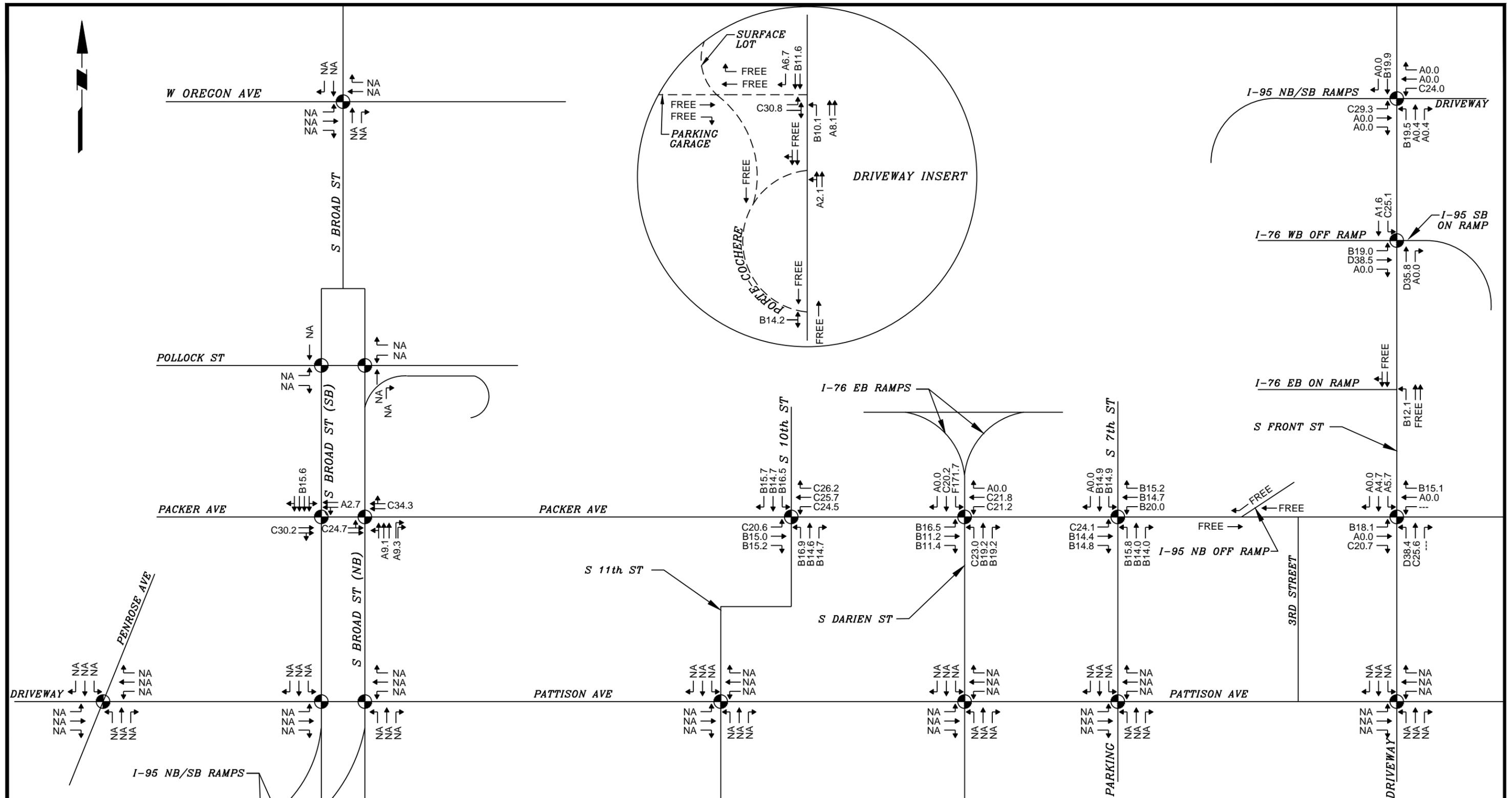
LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 FRI CASINO PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
BUILD FRIDAY PM CASINO PEAK HOUR TRAFFIC VOLUMES

Project No. 220057201	Drawing No. FIGURE 19
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



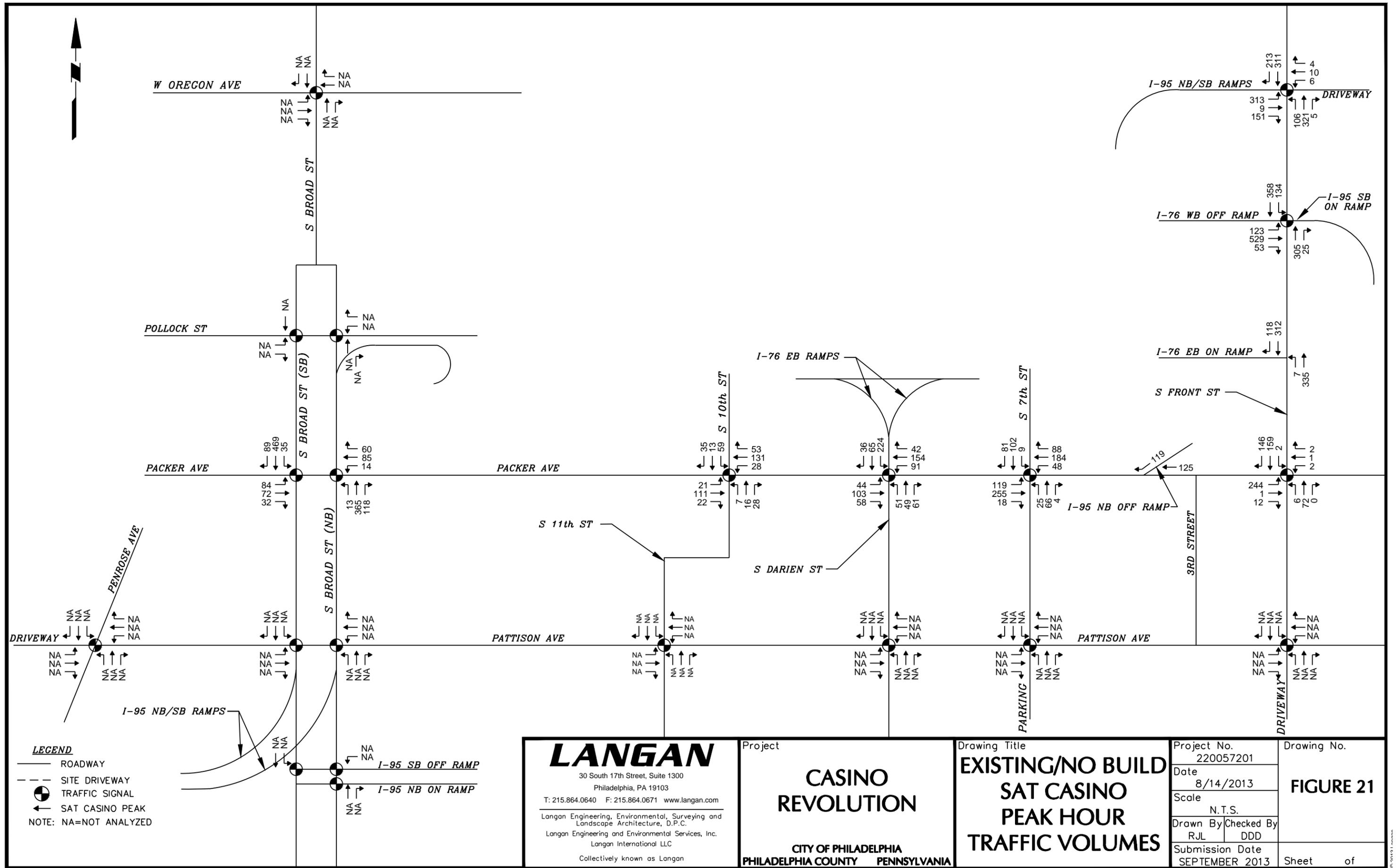
LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 FRI CASINO PEAK
 NOTE: NA=NOT ANALYZED

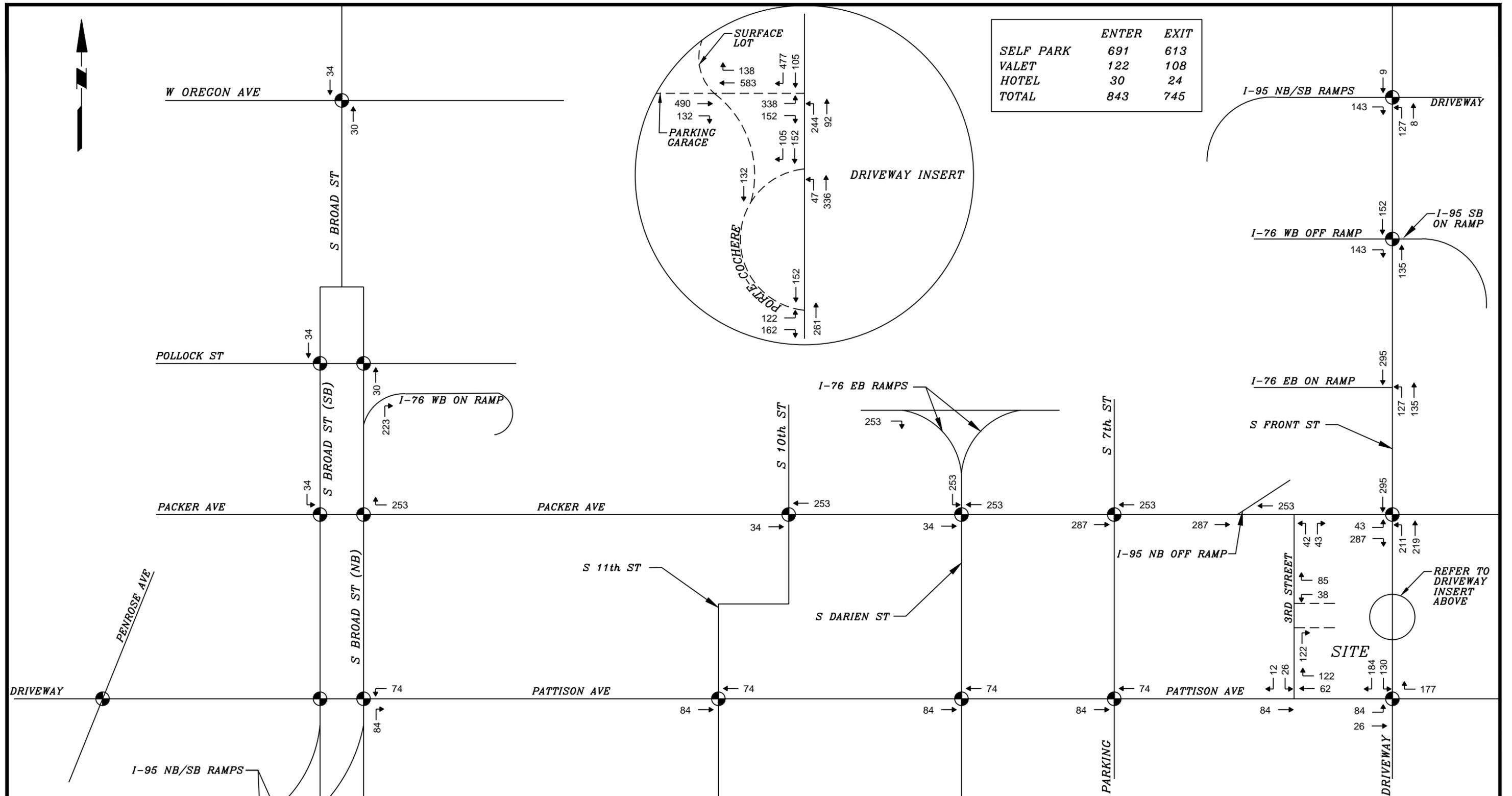
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Drawing Title
BUILD FRIDAY PM CASINO LEVELS OF SERVICE

Project No. 220057201	Drawing No. FIGURE 20
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of





	ENTER	EXIT
SELF PARK	691	613
VALET	122	108
HOTEL	30	24
TOTAL	843	745

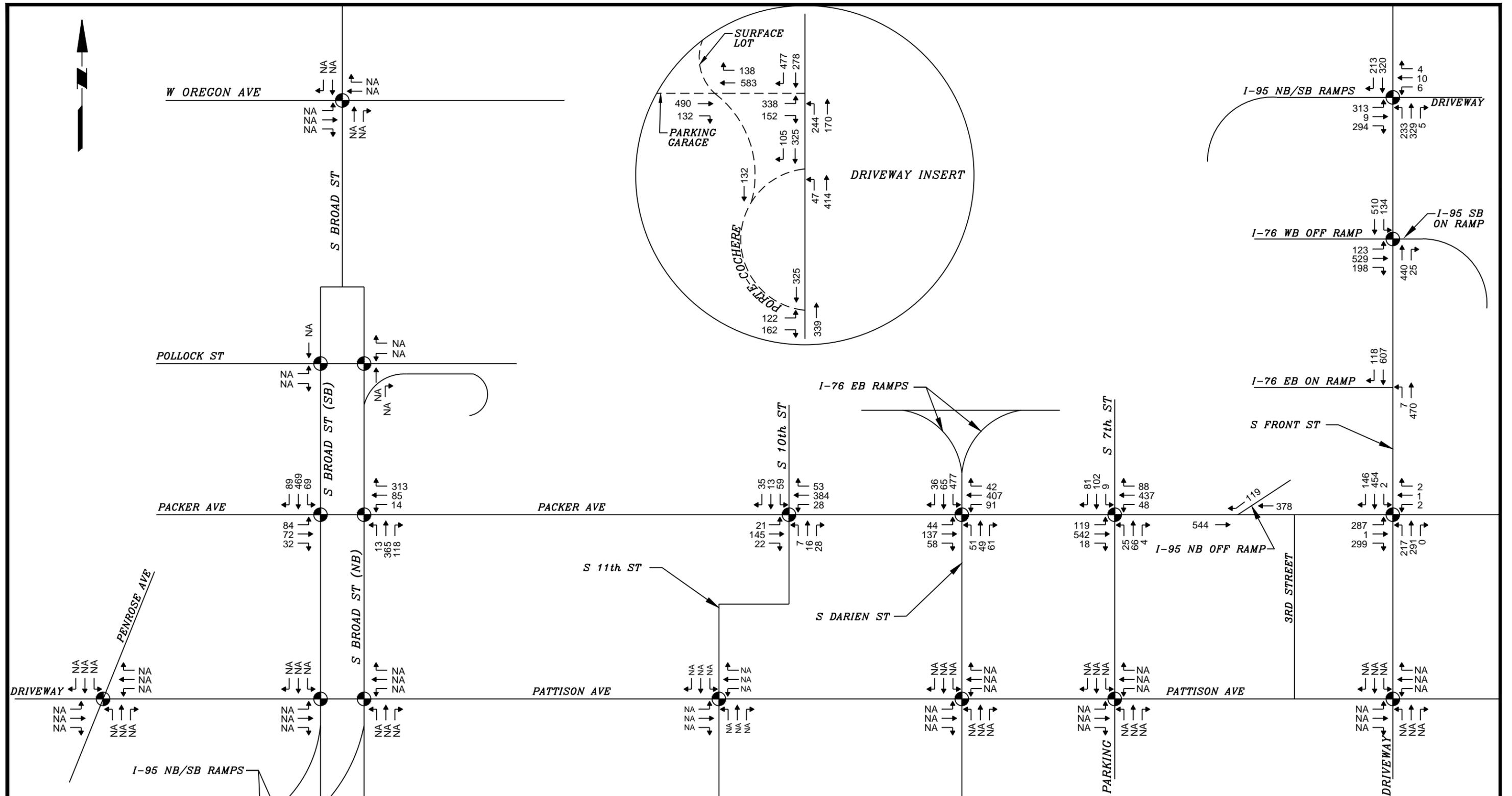
LEGEND
 — ROADWAY
 - - - SITE DRIVEWAY
 ⊕ TRAFFIC SIGNAL
 ← SAT CASINO PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
SAT CASINO SITE GENERATED TRAFFIC VOLUMES

Project No. 220057201	Drawing No. FIGURE 23
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



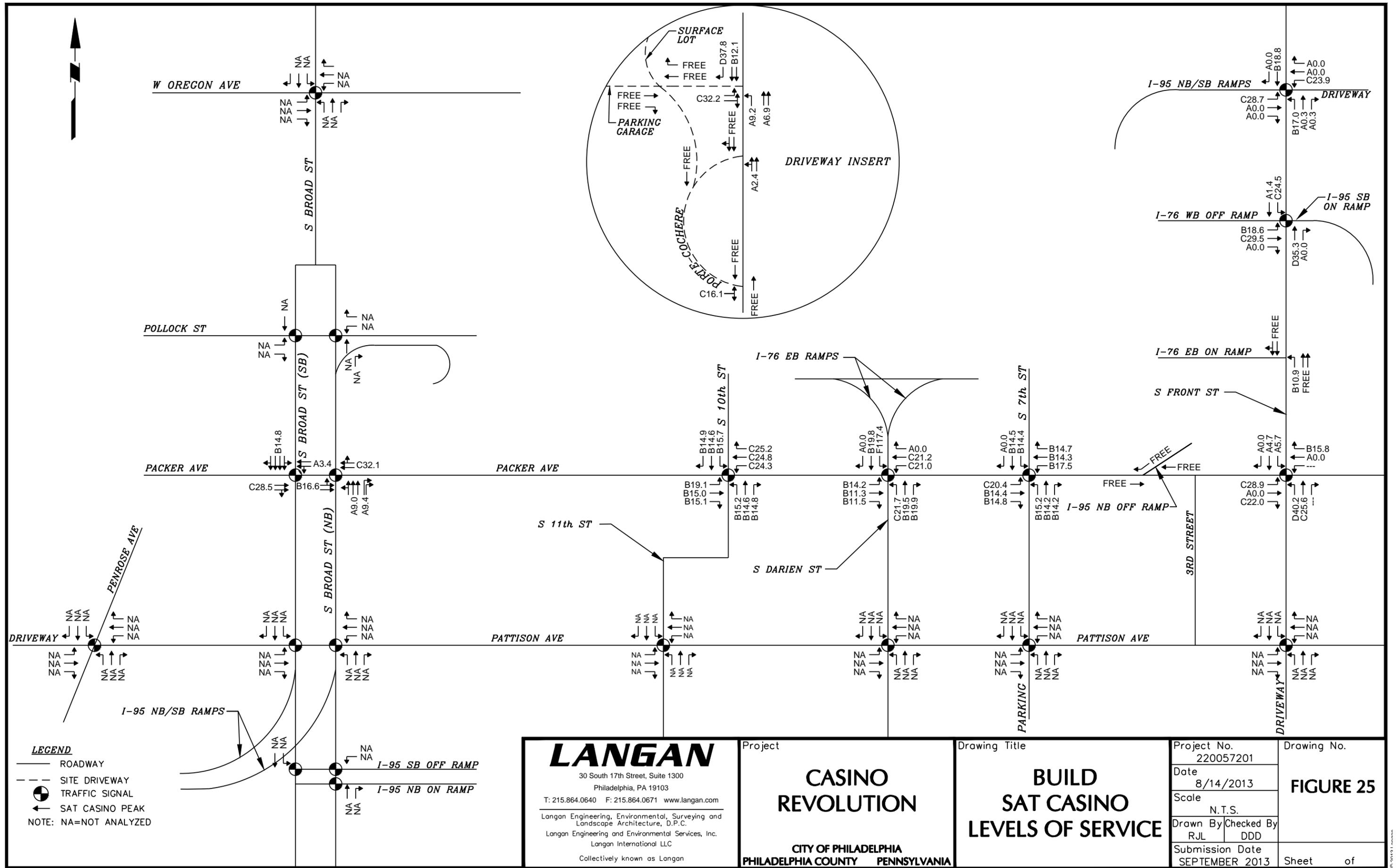
LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 SAT CASINO PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
BUILD SAT CASINO PEAK HOUR TRAFFIC VOLUMES

Project No. 220057201	Drawing No. FIGURE 24
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of



LEGEND
 ROADWAY
 SITE DRIVEWAY
 TRAFFIC SIGNAL
 SAT CASINO PEAK
 NOTE: NA=NOT ANALYZED

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Drawing Title
BUILD SAT CASINO LEVELS OF SERVICE

Project No. 220057201	Drawing No. FIGURE 25
Date 8/14/2013	
Scale N.T.S.	
Drawn By RJL	Checked By DDD
Submission Date SEPTEMBER 2013	Sheet of