

May 23, 2013

Mr. Harry E. Laspee, PE  
Pennoni Associates, Inc.  
One Drexel Plaza  
Philadelphia, PA 19104

**RE: Hollywood Casino  
Traffic Impact Study Review**

Dear Mr. Laspee:

Orth-Rodgers & Associates, Inc. (ORA) on behalf of the PA Gaming Control Board has reviewed the traffic impact study submitted for the proposed Hollywood Casino by Penn National Gaming Inc. The review has been completed with collaboration and feedback from the Pennsylvania Department of Transportation (District 6-0) and the City of Philadelphia. This letter has been revised and updated and shall replace the previously submitted review letter dated May 15, 2013.

This review evaluated completeness, consistency and compliance with applicable Department and City Regulations. The review has identified deficiencies that must be addressed in order for our review to continue.

Once the noted deficiencies have been addressed, please return the revised study with a letter indicating how each of the following comments has been addressed, and where each can be found in the report. All correspondence, calculations and data used for completion of the report must also be included in the report. The review comments are listed below:

**GENERAL**

1. Transportation Impact Study Guidelines

A Transportation Impact Study (TIS), prepared in accordance with Strike-Off Letter 470-09-04 (Policies and Procedures for Transportation Impact Studies) must be submitted by the Applicant. The information submitted by the Applicant does not fully comply with PennDOT's TIS guidelines. A compliant TIS report will require vehicular/pedestrian counts at potentially impacted locations, additional trip generation/distribution methodology, existing/future capacity analysis and recommendations and conclusions. Below are components related to a TIS report (not limited to) that should be included when applicable.

- a. A transportation impact study must be signed and sealed by a professional engineer registered in Pennsylvania.
- b. Include an Executive Summary.
- c. All proposed driveways should be evaluated for capacity, sight distance and queuing.
- d. Include detailed traffic circulation within the proposed site.
- e. Provide a traffic signal warrant analysis for any proposed traffic signal location.

- f. Provide crash data/history for critical intersections/roadway network. A summary of the crash analysis can be included in the report; however, actual crash records should be included within the appendix with a confidentiality statement on the cover. It is recommended to separate the crash record appendix from the main TIS report.
- g. Traffic Signal and System Permit plans must be included in the traffic impact study.
- h. Street view photographs and/or aerial photos of the study intersections are preferred.
- i. The trips generated from other proposed developments that may impact the project site study area must also be included in the projected trip analysis.
- j. Include pedestrian distribution to/from venues and provide an access evaluation.
- k. Include an analysis of pedestrian activity at the intersections within the project limits, including the Applicant's proposed accesses, to determine if pedestrians are present. The determination if pedestrians are present must be based on pedestrian counts, a visual inspection of the site to determine if clearly defined walking paths are provided. The results of this analysis must be utilized to determine if and where pedestrian facilities must be provided.
- l. Provide pedestrian capacity analysis following the 2010 HCM guidelines for intersections that are found to be impacted by the increase of pedestrian traffic generated by the casino. Include mitigation improvements for those areas with high pedestrian traffic.
- m. Opening year analysis must be performed for the development. Future analyses must be performed for the horizon year, i.e. 5 years beyond opening year of the development when the first structure is in use and access is constructed to the State roadway. The report must be modified to reflect the opening year and Horizon year analysis for the development.
- n. Queue analyses for all signalized intersections and for unsignalized left-turning lanes must be completed and stated in the report.
- o. Auxiliary lane warrant analysis, in accordance with Strike-Off Letter 470-08-07, must be included for the proposed conditions.
- p. Include gravity model (a graphic is preferred).
- q. Do not use default values on the traffic analysis inputs (saturation flow rates, utilization rates, etc.). Where existing traffic and pedestrian data is collected, actual values should be used.
- r. A Level-of-Service Matrix per lane group must be provided. Including numerical delay value.
- s. The site accesses must function at a minimum level-of-service D for urban areas. Mitigation measures or restricted movements from deficient operating locations may be required to meet guidelines.
- t. All HCS and/or Synchro analysis worksheets and electronic files must be included for review.
- u. All calculations and methodology must also be included in the report to justify the analysis and results.
- v. The report should include conclusions and recommendations. Please note that the Developer/Applicant is responsible for mitigating all impacts resulting from the proposed development, unless there is another project under construction that will provide mitigation.

- w. If the recommendations include the elimination of existing on-street metered parking spaces, a revenue loss evaluation should also be provided.
- x. Include taxi and bus operation/circulation to/from the site.

2. Trip Generation/Distribution & Mode of Arrival Methodology

Trip Rate (trip per gaming position) should be based on the average of no less than three existing casinos of comparable design. The three casinos listed are valid examples of existing casinos located in metropolitan areas. If trip rates are based on a different methodology please provide justification.

- a) SugarHouse Casino (Philadelphia, PA)
- b) Casino St. Charles (St. Louis, MO)
- c) Hollywood Casino (Columbus, OH)

3. The “Executive Summary of the Interim Report of Findings” by the Philadelphia Gaming Advisory Task Force document should be utilized as a guide to develop trip methodologies. Data is provided for casino visitation patterns by time of day (Page 15, Table 3) and mode of arrival splits (Page 16, Graph 2). All analysis, calculations and back up data must be included in the report

4. Time of Day Requirement

The Philadelphia Gaming Advisory Task Force document states that a casino’s Friday visitation peak time is different from the Friday evening rush hour time (commuter peak). The TIS report should analyze both critical weekday and weekend peak time periods. Therefore, the following should be analyzed:

- a) Friday evening commuter peak hour (between 4 – 6 PM, all non-event intersections)
- b) Friday evening with pre-Phillies event peak hour (all intersections)
- c) Friday casino peak hour (between 7 - 10 PM, Only for intersections on Packer Avenue from S. Broad St. to Front St. and intersections on S. Front St. at the I-95 ramps)
- d) Saturday casino peak hour (Only for intersections on Packer Avenue from S. Broad St. to S. Front St. and intersections on S. Front Street at the I-95 ramps)

**TRAFFIC STATEMENT**

1. The following are a list of intersections that the applicant should include in the study area. These locations are based on the Langan study area from the “Philadelphia Sports Complex Parking and Traffic Management Plan” report, September 21, 2010. The applicant is responsible to use this study as the basis for their evaluation..

- 1. Penrose Avenue and Pattison Avenue
- 2. Pattison Avenue and S. Broad Street (Southbound)
- 3. Pattison Avenue and S. Broad Street (Northbound)

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4. Pattison Avenue and S. 11<sup>th</sup> Street (Friday scenario with event only)
  5. Pattison Avenue and S. Darien Street
  6. Pattison Avenue and S. 7<sup>th</sup> Street
  7. S. Broad Street (NB & SB) and Packer Avenue
  8. S. Broad Street (NB & SB) and Pollock Street
  9. Packer Avenue and S. 10<sup>th</sup> Street
  10. Packer Avenue and S. Darien Street/I-76 Eastbound Off/On Ramps
  11. Packer Avenue and S. 7<sup>th</sup> Street
  12. Packer Avenue and S. Front Street
  13. S. Front Street and I-76 Eastbound On Ramp (Unsignalized Intersection)
  14. S. Front Street and I-76 Westbound Off Ramp/I-95 Southbound On Ramp
  15. S. Front Street and I-95 (SB Off/NB On Ramps)/Dunkin Donut Driveway
  16. S. Broad Street (NB) and S. 11<sup>th</sup> Street (Friday scenario with event only)
  17. S. Broad Street (SB) and I-95 SB Off Ramp
  18. S. Broad Street (NB) and I-95 SB On Ramp
  19. W. Oregon Avenue and S. Broad Street
  20. I-95 SB and Exit 17 Off Ramp (Broad Street/Pattison Avenue) – Unsignalized Intersection
  21. I-95 SB Off Ramp (Exit 19) and WB Packer Avenue – Unsignalized Merge Condition
2. Applicant will need to coordinate their analysis with the existing operation plan for the sports complex facilities. For the analysis of all event periods, the TIS shall include details of the current operation plan. If any proposed changes to the plan are recommended, it shall be clearly noted in the TIS. All information related to the existing operation plan for the sports complex facilities can be obtained from the Philadelphia Streets Department by contacting the Chief Traffic and Street Lighting Engineer.
  3. Provide detailed pedestrian access information to/from each of the existing Sports Complex venues to the applicant's site.
  4. The applicant shall refer to the previous Langan Report as the underlying basis for the parking and traffic analysis of the of the proposed project site. Use the Sports Complex boundaries as indicated in the Langan Report for the study area. Using the previous report, integrate the site's trip generation/distribution into the existing traffic management strategy plan (Langan Report dated September 21, 2010).
  5. The TIS report was only completed for Phase 1 of the master plan. Please include all phases of the project to review the ultimate (full build out) condition of the project site, plus the 5 year horizon condition.
  6. Only some of the existing signal permits were provided for review. Please include all existing signal permits in the study area for review.
  7. The LOS value for the unsignalized intersection of S. Front Street and I-76 EB On-Ramp was provided; however, the capacity analysis output was not shown. Please provide the capacity analysis output worksheet for this and all study intersections for review.

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Please note that a response letter is required indicating how each of the following comments has been addressed, and where each can be found in the report. All correspondence, calculations and data used for completion of the report must also be included in the report.

Additional comments may follow upon review of the resubmitted report. If you have any questions pertaining to the technical aspects of this review, or if you are uncertain about how to address any portion of the indicated comments, please contact Francis Hanney, Traffic Services Manager at PA Department of Transportation District 6-0 at 610-205-6560 or at [fhanney@state.pa.us](mailto:fhanney@state.pa.us) for assistance or comment clarification.

Respectfully,



Derrick Kennedy  
Senior Project Manager

cc:

Daryl, R. St.Clair – PennDOT Bureau of Maintenance & Operations  
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