

April 5, 2013

Mr. James Markham, PE  
Pennoni Associates, Inc.  
One Drexel Plaza  
3001 Market Street, Suite 200  
Philadelphia, PA 19104

**RE: Market8 Casino Philadelphia  
Traffic Impact Study Review**

Dear Mr. Markham:

Orth-Rodgers & Associates, Inc. (ORA) on behalf of the PA Gaming Control Board has reviewed the traffic impact study submitted for the proposed casino Market8 Casino by Market East Associates, L.P. The review has been completed with collaboration and feedback from the Pennsylvania Department of Transportation (District 6-0) and the City of Philadelphia.

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

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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 and location. The three casinos listed below 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)
- b) Friday casino peak hour (between 7 - 10 PM)
- c) Saturday casino peak hour

**TRAFFIC IMPACT STUDY**

1. In addition to the six (6) intersections included in the initial traffic impact study, the intersections that the applicant should also include in the study due to their proximity to the site and potential impacts are:

- 1) S. 10<sup>th</sup> Street and Walnut Street
- 2) S. 10<sup>th</sup> Street and Chestnut Street
- 3) N. 10<sup>th</sup> Street and Market Street
- 4) N. 10<sup>th</sup> Street and Arch Street
- 5) S. 9<sup>th</sup> Street and Walnut Street
- 6) S. 9<sup>th</sup> Street and Chestnut Street– *Provided in the initial TIS*
- 7) N. 9<sup>th</sup> Street and Market Street– *Provided in the initial TIS*
- 8) N. 9<sup>th</sup> Street and Arch Street
- 9) N. 9<sup>th</sup> Street and Race Street
- 10) N. 9<sup>th</sup> Street and Vine Street (Eastbound Local)
- 11) S. 8<sup>th</sup> Street and Walnut Street
- 12) S. 8<sup>th</sup> Street and Chestnut Street– *Provided in the initial TIS*

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- 13) N. 8<sup>th</sup> Street and Market Street– *Provided in the initial TIS*
  - 14) N. 8<sup>th</sup> Street and Arch Street
  - 15) N. 8<sup>th</sup> Street and Race Street
  - 16) N. 8<sup>th</sup> Street and Vine Street (Eastbound Local)
  - 17) N. 8<sup>th</sup> Street and Vine Street (Westbound Local)
  - 18) N. 8<sup>th</sup> Street and Callowhill Street
  - 19) S. 7<sup>th</sup> Street and Walnut Street
  - 20) S. 7<sup>th</sup> Street and Chestnut Street– *Provided in the initial TIS*
  - 21) N. 7<sup>th</sup> Street and Market Street – *Provided in the initial TIS*
  - 22) N. 7<sup>th</sup> Street and Arch Street
  - 23) N. 7<sup>th</sup> Street and Race Street
  - 24) N. 7<sup>th</sup> Street and N. Franklin Street
  - 25) N. 7<sup>th</sup> Street and Vine Street (SR 30/I-676 Westbound Local)
  - 26) S. 6<sup>th</sup> Street and Walnut Street
  - 27) S. 6<sup>th</sup> Street and Chestnut Street
  - 28) N. 6<sup>th</sup> Street and Market Street
  - 29) N. 6<sup>th</sup> Street and Arch Street
  - 30) N. 6<sup>th</sup> Street and Race Street
  - 31) S. 5<sup>th</sup> Street and Walnut Street
  - 32) S. 5<sup>th</sup> Street and Chestnut Street
  - 33) N. 5<sup>th</sup> Street and Market Street
  - 34) N. 5<sup>th</sup> Street and Arch Street
  - 35) N. 5<sup>th</sup> Street and Race Street
  - 36) N. 5<sup>th</sup> Street and SR 30/I-676 (towards Ben Franklin Bridge) – NOT Signalized
  - 37) Race Street and 4<sup>th</sup> Street
  - 38) Race Street and 3<sup>rd</sup> Street
  - 39) Race Street and 2<sup>nd</sup> Street
2. All intersection analyses should include actual pedestrian movements and not the default values provided in the capacity analysis software.
  3. As shown on the site plan provided with the TIS, it appears the site provides a single ingress access (on 8th Street) and a single egress onto 9th Street. Please provide further detail on how this access plan accommodates pick up/drop off operations for taxis, valet, and bus service. Additionally provide details on vehicular accessibility for on-site deliveries and for when the ingress or egress point is blocked between 8<sup>th</sup> and 9<sup>th</sup> due to an incident.
  4. In the appendix of the report the capacity analysis output indicates a default peak hour factor (PHF) value of 0.92 was used for all approaches. Use actual PHF values (per lane group) from the count data as opposed to the default Synchro value.
  5. It appears that the proposed parking facility does not fully provide the required parking spaces for the site. However the report indicated sufficient parking spaces are available at existing parking garages/lots. Identify the parking garages/lots that would be most often utilized for over flow parking in the vicinity of the site. In addition, please note if the applicant proposes to provide parking management services using smarting parking technology such as smart phone messaging, GPS applications, VMS signs, etc.

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6. Identify any removal of public parking spaces and loading zones. If applicable provide the net revenue loss due to the reduction of existing metered parking spaces.
7. Although pedestrian crashes were provided, the leading pedestrian crash patterns were not identified. When applicable, please identify and provide pedestrian crash mitigation plan. (i.e. APS, ramps, pavement marking, etc.)
8. The study indicates that parking facilities adjacent to the proposed casino site would be able to support the parking needs generated by the casino patrons. The report must identify the location of the parking facilities, available parking spaces and verify that pedestrian accessible connectivity to/from the casino site is available. Please note that all pedestrian routes must be accessible and in compliance with the most current ADA regulations.
9. The study indicates a high distribution of traffic to and from I-676. The applicant should review the existing corridors connection to I-676, including an evaluation of impact on existing traffic signal systems. Any proposed changes along these key pathways to and from I-676 shall be clearly identified.

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 [ghanney@state.pa.us](mailto:ghanney@state.pa.us) for assistance or comment clarification.

Respectfully,



Derrick Kennedy  
Senior Project Manager

cc:

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