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November 1, 2006

Mr. Glenn Rowe, P.E.
Pennsylvania Department of Transportation
Bureau of Highway Safety and Traffic Engineering
Commonwealth Keystone Building
400 North Street, 6th Floor
Harrisburg, PA 17064

RE: Pennsylvania Gaming Control Board
Pinnacle Delaware Riverfront Casino TIS Review
PennDOT Agreement E00229, Work Order 14
EK Project No. 040015.038

Dear Mr. Rowe:

In accordance with Agreement E00229, Work Order 14, Edwards and Kelcey (EK) has completed its review of the Pinnacle Delaware Riverfront Site Traffic Impact Study (TIS), prepared October 11, 2006 for Pinnacle Entertainment Inc., by Pennoni Associates, Inc. Our review considered the applicant's completeness in meeting the standards set forth by PennDOT and the Institute of Transportation Engineers (ITE), as well as the completeness and reasonableness of their assumptions, calculations, findings, and conclusions.

Pennoni Associates, Inc. also submitted a letter in response to the preliminary TIS review prepared by EK, dated September 11, 2006. The consultants have complied with most of the recommendations outlined in the review letter.

Following are our comments and findings based on the site visit and review of the complete Traffic Impact Study:

Review of the submitted TIS for conformance with applicable standards

1. This study is for a gaming facility to be located in an industrial area along the Delaware Riverfront. The facility would include 3,000 electronic gaming units, a 12-screen multiplex movie theatre, 3,000 car parking garage/lot, 5 restaurants plus a food court, a water feature and seasonal waterfront ice-skating rink, and 36,000 sq. ft. of retail and entertainment outlets. Pinnacle has proposed to open a Temporary Casino with 1,500 slot machines in mid 2007 and the Phase I Permanent Casino with 3,000 slot machines in early to mid 2009. The site is located near the intersection of Dyott Street and Delaware Avenue/Richmond Street in the City of Philadelphia. Fifteen intersections with proximity to the subject site were reviewed.

2. The consultant has not analyzed the future conditions with and without the development 10 years beyond the opening year of the casino, as required by PennDOT. It is imperative to project the volumes to 10 years beyond the opening year and study the impact of the development on the roadways in the study area.

Validation of the traffic data that has been presented in the TIS

3. Existing conditions including lane geometry, pavement markings, bike lanes, pedestrian crossings, and trolley lines have been adequately described.
4. Safety concerns related to deteriorated or missing signing/stripping (e.g. see Figure 1 and 2), use of shoulder as a travel lane, use of bicycle lane as a travel lane (e.g. see Figure 3), abrupt ending of bicycle lanes and pedestrian crossings, missing guide rail around I-95 pier columns (see Figure 4), and travel lanes and trolley lines lying directly on top of each other have been identified in the study.



Figure 1: Deteriorated pavement markings at Columbia Avenue and Beach Street



Figure 2: Missing pavement markings at Port Richmond Village Shopping Center exit



Figure 3: Bike lane used as right turn lane at Cumberland Street and Aramingo Avenue intersection



Figure 4: Missing guiderrail around I-95 pier at Cumberland Street and Richmond Street intersection

5. The study does not indicate when the Saturday peak hour turning movement counts were done. Also, the Saturday peak hour turning movement counts have not been provided in the Appendix of the report.
6. To estimate the proposed site's trip generation, traffic counts were performed at four other sites including Delaware Park and Dover Downs in Delaware, Philadelphia Park in Pennsylvania, and Freehold National in New Jersey, in year 2003. The trip generation rates for Delaware Park were utilized for estimating the trip generation of the proposed site due to the similarity of the two sites. Delaware Park has a horse racing facility, which is closed on Saturday. The Saturday counts were used to extrapolate the weekday trip generation with the help of the hourly breakdown percentages of daily casino traffic provided in the ITE Journal article, March 1998, by Paul C. Box and William Bunte. The calculations for obtaining the trip generation rates per gaming unit should be provided in an Appendix.

The trip generation for associated facilities including the movie theater, restaurants, retail, and ice skating rink have been accounted for partially and not considered as entirely auxiliary uses for a conservative approach. More information should be provided on the percentage of the trip generation of these facilities used for the overall trip generation of the proposed site.

7. The consultants have referred to the article "Gaming Casino Traffic" by Paul C. Box and William Bunte published in March 1998 in the ITE Journal, for estimating the trip generation rates for the Philadelphia Park site.

The article reported May, July and August as the peak gaming months and recommends using these as the "design" months. Multipliers have been provided to adjust for monthly variation in the data. It is not clear from the report whether the data from Delaware Park was adjusted for this monthly variation.

8. Trip generation and distribution summary provided in Appendix C does not include calculations for 2007 and 2011 pre- and post- development scenarios.
9. Trip Distribution assumptions were discussed in detail. Generally, the methodology is acceptable and Figures 9A – 9B are excellent in representing the distribution pattern through an otherwise complicated interchange configuration. The legend for Figures 9A and 9B should specify the time period that the percentages outside and inside the parenthesis represent e.g. 4%(4%).
10. A modal split has not been applied to the site for a conservative approach. However, it was found that 23% of gamers either walk or use casino bus and public transit at a similar site in North Delaware.

However, as mentioned in our preliminary TIS review, the transit trips should be assigned to the nearby bus or trolley stop and considered as pedestrian traffic between the casino and the transit stop. The pedestrian traffic may have an impact on the operation of intersections between the transit stop and the casino and should be evaluated for adequate provision for both pedestrian and vehicular traffic. Although the conservative analysis will likely result in actual volumes that are less than projected in the TIS, the effect of pedestrians on the transportation network should be evaluated.

Analytical Approach / Tools Used

11. Two separate analyses should be performed for recommended improvements considering scenarios before and after the completion of the Girard Avenue Interchange. The casino is anticipated to open in 2007 and fully completed in 2009 while the Girard Avenue Interchange is expected to be completed in 2012. The traffic impacts between the 2009 and 2012 years should be more fully evaluated.
12. Other planned developments identified include the "Waterfront Square" Condominium Development comprising of a total of between 780 and 966 residential units. The units have not been occupied yet, however 50% of the trips generated by the development have been considered during the analyzed peak hours. The general practice is to use 100% of the trips generated by any committed development for a TIS. For scenarios 10 year beyond the opening year of the casino, the use of 50% generated is not desirable.



13. Synchro analysis reports incorporating the recommended improvements have not been provided in the Appendix of the report.
14. CORSIM analysis reports have not been provided in the Appendix for review.
15. Synchro Analysis
 - Turning movement volumes at the intersection of Columbia Avenue and Delaware Avenue in Figures 2A and 2B and Synchro files, do not match with the traffic counts in Appendix B.
 - Turning movement counts for Belgrade Street should be verified and corrected in Figure 2A and 2B and Synchro files to match with the traffic counts presented in Appendix B.
 - Lane configuration for eastbound Richmond Street at the intersection of Richmond Street and Dyott Street has been incorrectly input in Synchro as either a shared thru-right lane or a thru lane and an exclusive right turn lane in various scenarios. It should be corrected to a single shared left-thru-right lane.

Evaluation of recommended improvements

16. Signal warrant analysis should be performed for the recommended new signal at the intersection of Richmond Street and Dyott Street.
17. The Girard Avenue Interchange project is anticipated to be completed in 2012 while the temporary casino will be operational by mid 2007 and the permanent casino is anticipated to open in early to mid 2009. The traffic patterns before and after the completion of the interchange project will be significantly different in the study area and therefore, two separate mitigation analyses before and after the completion of interchange project should be completed. (see No. 10, above)
18. The trips generated by the proposed site coming from and going to I-95 South will have to follow a circuitous route on the local roads before reaching the freeway as shown in TIS Figure 1D-1. Adequate directional signs should be proposed to minimize the impact to the local roads.
19. A conceptual plan should be provided for the proposed improvements at the intersection of Aramingo Avenue and Cumberland Street indicating if additional right-of-way is required for providing three lanes on eastbound Cumberland Street approach. Utility relocation might also be an issue at this intersection (see Figure 5).





Figure 5: Eastbound Cumberland Street approach at Aramingo Avenue

Special Event and Opening Day Plans

20. Although the response letter to the preliminary TIS review discusses how the special event traffic might be handled, the discussion was found missing in the complete TIS report.

CONCLUSIONS

EK reviewed the Pinnacle Delaware Riverfront Site TIS, prepared October 11, 2006 for Pinnacle Entertainment Inc. by Pennoni Associates, Inc. The study analyzed the impact of a 3,000 gaming units facility with a 12-screen multiplex movie theatre, 3,000 car parking garage/lot, 5 restaurants plus a food court, a water feature and seasonal waterfront ice-skating rink, and 36,000 sq. ft. of retail and entertainment outlets. Pinnacle has proposed to open a Temporary Casino with 1,500 slot machines in mid 2007 and the Phase I Permanent Casino with 3,000 slot machines in early to mid 2009. The site is located near the intersection of Dyott Street and Delaware Avenue/Richmond Street in the City of Philadelphia. Fifteen intersections with proximity to the subject site were reviewed.

As required by PennDOT, the pre- and post-development scenarios for 10 years beyond the opening year of the casino have not been analyzed by the consultant. Also, the traffic pattern in the study area will be

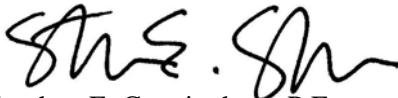
affected by the completion of the Girard Avenue Interchange project. Therefore, mitigation measures should be identified for two different scenarios – before and after the completion of Girard Avenue Interchange project. EK also identified a number of instances where further information is required to validate the preparer's assumptions or methods.

Additionally, as the plans are further refined and developed, the designers should:

- Review recent traffic accident statistics to determine the need for any safety measures.
- Be prepared to making operational adjustments to adapt to changing conditions.
- Resolve geometric design details.
- Initiate early coordination with utility agencies and companies regarding relocation needs associated with street and intersection improvements.
- Integrate public bus operations and stops with the roadway and site design.
- Ensure that vehicles entering the parking garage will not backup into public streets due to internal congestion.
- Develop a comprehensive signage system in coordination with other nearby destinations.
- Ensure compliance with all ADA requirements throughout the improvement areas.

This summarizes our comments related to the Traffic Impact Study for the Pinnacle Delaware Riverfront Casino. We will be happy to further discuss any of these issues with you or you staff, or meet to clarify or elaborate on any of our findings. Please let me know if we can be of further assistance.

Very truly yours,



Stephen E. Cunningham, P.E.
Project Manager

SEC/akg

cc: Paul Resch, Acting Secretary, Pennsylvania Gaming Control Board
Devang Patel, P.E., Pennsylvania Department of Transportation
Richard Sesny, Pennsylvania Department of Transportation
EK Project Team

