

***PARKING ANALYSIS***  
***ALLENTOWN ARENA AND MIXED-USED***  
***DEVELOPMENT***  
***CITY OF ALLENTOWN, LEHIGH COUNTY, PA***



**For Submission To:**

*Allentown Economic Development Corporation*  
*435 Hamilton Street*  
*Allentown, PA 18101*

**Prepared By:**



***TRAFFIC PLANNING AND DESIGN, INC.***

***WWW.TRAFFICPD.COM***

***May 31, 2011***

***HCSD.A.00001***

# **ALLENTOWN ARENA AND MIXED-USE DEVELOPMENT PARKING ANALYSIS**

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**May 31, 2011**  
*TPD # HCSD.A.00001*

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## **Figure 1**

**Exhibit A - Garage and Surface Lot Parking Inventory**

**Exhibit B - On-Street Parking Inventory**

## **Technical Appendices**

<b>Appendix A:</b>	<b>Detailed Parking Inventory Summary</b>
<b>Appendix B:</b>	<b>ULI Shared Parking Demand Worksheets</b>
<b>Appendix C:</b>	<b>Allentown Parking Authority Information</b>



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## EXECUTIVE SUMMARY

Traffic Planning and Design, Inc. (TPD) has prepared a Parking Analysis to examine the potential parking impact associated with the proposed Arena and Mixed-Use Development in the City of Allentown, Lehigh County, Pennsylvania. Based on this evaluation, the following conclusions were reached:

1. The project will consist of a 235,000 square foot (s.f) multi-use arena and a 100,000 s.f events center. The proposed arena will accommodate minor league hockey games, concerts, and other events. The arena capacity for a hockey game will be 8,500 attendees, and the capacity for concerts and other events will be 10,000 attendees.
2. This Parking Analysis includes evaluations of two project milestones:
  - **Milestone A:** Includes a 235,000 square foot (s.f) multi-use arena located on the block bordered by Hamilton Street, Linden Street, 8th Street and 7th Street. For the purposes of this study, it was assumed this milestone would be reached in 2013.
  - **Milestone B:** Includes a 100,000 s.f events center located on the block bordered by Hamilton Street, Linden Street, 7th Street and 6th Street. A new parking deck with 500 spaces will also be constructed. For the purposes of this study, it was assumed this milestone would be reached in 2015.
3. It is anticipated that future stages of the project may include additional land uses. The scope of this analysis is limited to the proposed arena and events center.
4. The proposed study area is bound by North 10<sup>th</sup> Street to the west, North 4<sup>th</sup> Street to the east, West Chew Street to the north and West Union Street to the South. All existing parking inventories were counted within these boundaries.
5. Currently, the total number of public parking spaces in the study area is 3,614. The total number of private parking spaces available in the study area is 3,762. Therefore, the total number of parking spaces within the study area, between the public and private parking garages and surface lots consist of approximately 7,376 parking spaces.
6. Currently, approximately 1,561 on-street parking spaces, including metered and non-metered, are located within the study area.
7. The existing parking rates for the private and public parking facilities are consistent with each other and currently charge \$1.00 per hour, up to a maximum of \$6 to \$8 depending on the location. The monthly contract parking is also consistent and the rates range from \$30 per month to approximately \$60 per month.
8. It is anticipated that a new parking deck will be constructed to consist of approximately 500 new parking spaces by the full-build out of Milestone B.
9. The required future parking demand for the proposed development through Milestone A is approximately 87 parking spaces for the weekday AM, 117 parking spaces for the weekday PM and 2,708 parking spaces for the weekday evening peak demand period. Additionally, the required future parking demand for the proposed development through Milestone A is



approximately 81 parking spaces for the weekend AM, 2,843 parking spaces for the weekend PM and 2,979 parking spaces for the weekend evening peak demand period.

10. The required future parking demand for the proposed development through Milestone B is approximately 687 parking spaces for the weekday AM, 717 parking spaces for the weekday PM and 2,866 parking spaces for the weekday evening peak demand period. Additionally, the required future parking demand for the proposed development through Milestone B is approximately 622 parking spaces for the weekend AM, 3,384 parking spaces for the weekend PM and 3,137 parking spaces for the weekend evening peak demand period.
11. The estimated parking demand is met for both accumulative milestones during the weekday and weekend study time periods.

TPD has made the following recommendations in relation to the parking for the proposed Arena and Mixed-Use Development in the City of Allentown, Lehigh County, Pennsylvania:

- Provide adequate signage to direct motorists to the arena from all major approach routes including Route 22, Interstate 78, and Route 309. Within the immediate vicinity of the arena, signage should direct motorists to the appropriate parking facilities. Signs directing motorists to Route 22, Interstate 78, and Interstate 476 should be posted to guide exiting traffic.
- Install a Parking Guidance and Information System. At a minimum, variable message signs should be located at the entrances to each parking deck. In addition, investigate locating variable message signs, regarding occupancies for the parking decks, along major arterials, including 7<sup>th</sup> Street and Hamilton Street, leading into the downtown area to indicate to the motorist the number of real-time parking spaces that are available at each of the parking decks within the study area.
- As a standard practice with the construction of stadiums, arenas, convention facilities etc., it is necessary to establish an Event Management Plan. A detailed event management plan should be implemented for events at the proposed arena. Event staff may utilize traffic cones, auxiliary signage, and flagging to efficiently guide traffic to event parking.
- Coordinate with the Allentown Parking Authority to establish shuttle service for public parking facilities located in close proximity to the study area to provide transportation to and from these lots for large events anticipated at the arena.
- Conduct a post-development parking analysis following the completion of Milestones A and B to evaluate the existing and proposed parking supplied to determine if the downtown parking supply meets the parking demand of the multi-use development.



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As a result of this parking analysis, the existing public and private parking facilities and proposed construction of an additional 500 parking spaces to be built with this development, will adequately accommodate the highest peak period parking demands of the proposed Allentown Arena and mixed-used development.



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## **INTRODUCTION**

Traffic Planning and Design, Inc. (TPD) has prepared a Parking Analysis to examine the potential parking impact associated with the proposed Arena and Mixed-Use Development in the City of Allentown, Lehigh County, Pennsylvania. The study area is bound by North 10<sup>th</sup> Street to the west, North 4<sup>th</sup> Street to the east, West Chew Street to the north and West Union Street to the South. The Parking Analysis includes evaluations of two project milestones:

- **Milestone A:** Includes a 235,000 square foot (s.f) multi-use arena located on the block bordered by Hamilton Street, Linden Street, 8th Street and 7th Street. For the purposes of this study, it was assumed this milestone would be reached in 2013.
- **Milestone B:** Includes a 100,000 s.f events center located on the block bordered by Hamilton Street, Linden Street, 7th Street and 6th Street. A new parking deck with 500 spaces will also be constructed. For the purposes of this study, it was assumed this milestone would be reached in 2015.

It is anticipated that future stages of the project may include additional land uses. The scope of this analysis is limited to the proposed arena and events center. A map of the study area is shown in **Figure 1**.

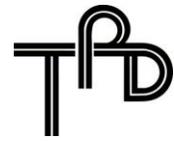
The purpose of this parking analysis is to identify the highest peak period parking demand for each accumulative milestone and to confirm whether the existing and proposed number of parking spaces will adequately accommodate the highest peak period demand of the proposed mixed-use development.

## **EXISTING PARKING INVENTORIES**

### *Garage Decks & Surface Lots*

A field review of the existing parking facilities within the study area was conducted. The parking inventory consisted of all the parking decks, various surface lots and on-street parking that is available within the study area. TPD also obtained parking information from the Allentown Parking Authority and compared the information to the field visit information that was conducted to determine what parking facilities were designated as public or private ownership. A summary of the detailed inventory, including the existing parking decks and surface lots, can be found in **Appendix A**. The summary identifies the number of parking spaces available for each facility, ownership, the operation of each facility as well as the parking rates per hour, daily and monthly if they were available. A parking plan was developed and depicts all public and private parking facilities within the study area limits. This public/private Garage & Surface Lot Parking Inventory Plan can be found in **Exhibit A**.

**Table 1A** summarizes the total number of public parking spaces in the study area, including both the garage decks and the surface lots.



**TABLE 1A  
PUBLIC PARKING INVENTORY SUMMARY**

<b>Public Parking Garages</b>	<b>TOTAL SPACES</b>
The Spiral Deck	714
Linden Deck	324
Walnut Deck	514
Government Deck	451
Transportation Center	497
<b>TOTAL PUBLIC GARAGE SPACES</b>	<b>2,500</b>
<b>Public Surface Lot spaces</b>	<b>1,114</b>
<b>TOTAL PUBLIC PARKING SPACES</b>	<b>3,614</b>

**Table 1B** summarizes the total number of private parking spaces in the study area, including both the garage decks and the surface lots.

**TABLE 1B  
PRIVATE PARKING INVENTORY SUMMARY**

<b>Private Parking Garages</b>	<b>TOTAL SPACES</b>
Chew Street Parking Deck	595
PPL Parking Deck	436
Morning Call Parking Deck <sup>1</sup>	250
Lehigh County Employee Garage <sup>1</sup>	300
<b>TOTAL PRIVATE GARAGE SPACES</b>	<b>1,581</b>
<b>Private Surface Lot spaces</b>	<b>2,181</b>
<b>TOTAL PRIVATE PARKING SPACES</b>	<b>3,762</b>

<sup>1</sup> The number of parking spaces was estimated

As shown in **Table 1A**, the total number of public parking spaces available in the study area, including the parking decks and the public surface lots is **3,614**. As shown in **Table 1B**, the total number of private parking spaces available in the study area, including private parking decks and private surface lots is **3,762**. Therefore, the total number of parking spaces between the public and private parking garages and surface lots consist of **approximately 7,376 parking spaces** within the study area.

It should be noted that the Allentown Parking Authority (APA) has ownership of five parking garages in downtown Allentown which consist of the Linden Deck, Walnut Deck, Spiral Deck, Government Deck and the Transportation Center. In addition to the five (5) public parking decks owned by the Parking Authority there are an additional thirty-one (31) surface parking lots in the downtown area. Fourteen (14) of the thirty-one (31) surface lots are within the study area limits.



The remaining seventeen (17) surface lots are outside of the study area limits for this development however they still could be used by patrons visiting the proposed development. It should be noted that these remaining surface lots outside the study area are smaller lots consisting of anywhere from 3 to 61 parking spaces. The total parking spaces that exist in these surface lots outside the study area contain **approximately 354 additional parking spaces**.

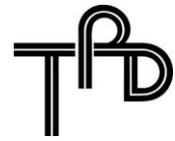
*On-street Parking*

A review of the on-street parking was included in the parking field inventories. The inventory was taken along the main streets within the study area limits. The on-street parking areas were broken into number of parking spaces per city block. **Table 2** summarizes the total number of on-street parking spaces within the study area.

**TABLE 2  
ON-STREET PARKING SUMMARY**

<b>Parking Along Street</b>	<b>Between City Streets</b>	<b># of Parking Spaces</b>
10th Street	Union Street & Chew Street	<b>87</b>
9th Street	Union Street & Chew Street	<b>113</b>
8th Street	Union Street & Chew Street	<b>121</b>
7th Street	Union Street & Chew Street	<b>109</b>
6th Street	Union Street & Chew Street	<b>108</b>
5th Street	Union Street & Chew Street	<b>144</b>
4th Street	Union Street & Chew Street	<b>131</b>
Union Street	4th Street & 10th Street	<b>32</b>
Walnut Street	4th Street & 10th Street	<b>93</b>
Hamilton Street	4th Street & 10th Street	<b>161</b>
Linden Street	4th Street & 10th Street	<b>107</b>
Turner Street	4th Street & 10th Street	<b>195</b>
Chew Street	4th Street & 10th Street	<b>160</b>
<b>TOTAL ON-STREET PARKING SPACES</b>		<b>1,561</b>

As shown in **Table 2**, there are a total of approximately **1,561 on-street parking spaces**, including metered and non-metered spaces, located within the study area. An on-street parking plan was developed and shows the number of on-street parking spaces on a block-by-block basis. The On-Street Parking Inventory Plan can be found in **Exhibit B**.



**EXISTING PARKING RATES IN DOWNTOWN ALLENTOWN**

Included in the summary of the existing parking inventory spreadsheet provided in **Appendix A**, are the current rates, if available, at the public and private parking facilities in the study area. The Allentown Parking Authority (APA) oversees the public parking facilities in downtown Allentown. Most of the APA public parking facilities offer hourly and daily rates and in some cases offer long-term monthly contracts. The general rates of the APA public parking facilities are \$1 per hour with a maximum of \$6 to \$8 per day. The following photographs are several examples of the structured rates at some of the APA parking decks and surface lots.



*Transportation Center  
(\$1/hour & \$8 max/daily)*



*Linden Deck  
(\$1/hour & \$8 max/daily, \$3/event)*



*The Spiral Deck  
(\$1/hour & \$8 max/daily)*



*Walnut Street Deck  
(\$1/hour, \$8 max/daily, \$3/Evening Rate)*



**Community Surface Lots**  
 (\$1/hour, \$6 max/daily)



**State Lot**  
 (\$1/hour, \$6 max/daily, \$55/monthly)



**Germania Lot**  
 (\$1/hour, \$6/daily, \$42/monthly)



**Farr Lot**  
 (\$1/hour, \$6 max/daily, \$55/monthly)

There are also many private parking facilities within the study area that can accommodate some of the City’s existing and proposed parking demand. The following are several photographs of some examples of the private parking facilities and rates within the study area.



*Chew Street Deck  
(Free-30min, \$1/hour, \$6/daily)*



*Mid-City Park & Shop  
(\$1 minimum + .50 each 1/2 hour, \$5/daily)*



*5<sup>th</sup> & Walnut Surface Lot  
(Permit Only-\$40/monthly)*



*Private Lot along 5<sup>th</sup> Street  
(Contract Parking Only)*

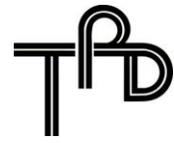
In summary, the private parking facility rates are consistent with the public parking rates provided by the Allentown Parking Authorities parking facilities.

**PROPOSED EVENT PARKING RATES**

It is TPD’s experience that event parking rates for similar arenas vary depending on the event. Suggested parking rates are understood as follows:

- Minor League Hockey: \$6.00/game
- Concert (regional draw): \$10.00/show
- Show (community-oriented family/children event) (i.e. circus): \$4.00-\$5.00/show

It is TPD’s experience that these parking rates, in general, are consistent with arenas in similar locations and communities, and those that offer similar event choices.



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## **PARKING GENERATION**

### *ULI Shared Parking Demand*

Parking generation was determined for the proposed development based on information contained in *Shared Parking*, Second Edition by Urban Land Institute. The Urban Land Institute's (ULI) *Shared Parking*, Second Edition, publication provides hourly occupancy rates for weekday and weekend for various uses, such as the ones anticipated as part of the proposed Arena and Mixed-Use development.

It is anticipated that future stages of the project may include a variety of additional land uses but this parking analysis is limited to the proposed arena and events center. It is expected that many visitors will utilize multiple uses without moving their vehicle, therefore resulting in shared parking between the mixed land uses associated with this development and the land uses that already exist in the downtown area today. For mixed-use developments, the ULI shared parking publication allows for a mode adjustment which can be made to urban areas such as Downtown Allentown to account for alternative modes of transportation such as walking, limo or taxi drop-offs, ridesharing and public transportation.

Public transportation in Lehigh and Northampton Counties is provided by LANTA (Lehigh and Northampton Transportation Authority). LANTA operates a network of 30 fixed bus routes throughout the Lehigh Valley. Based upon data published by LANTA, more than 380,000 people live within walking distance of a LANTA Metro route. Nine bus routes serve Downtown Allentown, providing bus service to much of the Lehigh Valley. The Allentown Transportation Center, built in 2007, is located at the intersection of 6<sup>th</sup> Street & Linden Street, within a two-block walk of most of the proposed development. All bus routes in the vicinity of the proposed development stop at the transportation center. Additionally, there are several bus stops along Hamilton Street and other roadways throughout the study area.

For purposes of this study a mode adjustment factor of 5% was applied to Milestone A and Milestone B for the weekday evening and weekend daytime and evening hours.

In addition to the Mode adjustments, TPD also applied conservative non-captive ratio adjustments. This accounts for people who are already present in the downtown area, in the vicinity of the proposed site that are likely to visit a second use within the proposed development. For example, if employees of the office land use visit the arena to see a game, there usually is not any additional parking demand generated. For the purposes of this study a non-captive ratio factor of 5% was applied to Milestone A and Milestone B for the weekday evening and weekend daytime and evening hours. These reductions taken are consistent with the reductions for the non-vehicular trips that were taken into account in the Traffic Analysis for this mixed-use development



**Table 3** shows the peak hour estimated parking demand during the weekday and weekend time periods along with the number of peak hour parking stalls that will be required for each accumulative milestone. The ULI analysis generally indicates parking demands during mid-morning, mid-afternoon and evening time periods. The ULI shared parking demand summary calculation sheets are included in **Appendix B**.

**TABLE 3  
ACCUMULATIVE MILESTONE ESTIMATED PARKING DEMAND**

Accumulative Milestone	Weekday Estimated Peak-Hour Parking Demand					
	AM Parking Demand		PM Parking Demand		Evening Peak Demand	
	Peak Hour	# of Spaces	Peak Hour	# of Spaces	Peak Hour	# of spaces
Milestone A	9:00 AM	87	12:00 PM	117	8:00 PM	2708
Milestone B	10:00 AM	687	12:00 PM	717	8:00 PM	2866
Accumulative Milestone	Weekend Estimated Peak-Hour Parking Demand					
	AM Parking Demand		PM Parking Demand		Evening Peak Demand	
	Peak Hour	# of Spaces	Peak Hour	# of Spaces	Peak Hour	# of spaces
Milestone A	9:00 AM	81	2:00 PM	2843	8:00 PM	2979
Milestone B	10:00 AM	622	2:00 PM	3384	8:00 PM	3137

As shown in **Table 3**, the required future parking demand for the proposed development through Milestone B is approximately 2,866 parking spaces for the weekday peak demand period which is at 8:00 PM and approximately 3,137 parking spaces for the weekend peak demand period which is at 8:00 PM. It should be noted that the future parking demand for the proposed development through Milestone B is at 8:00 PM for both the weekday and weekend. This peak hour parking demand is driven upon the parking demand of the arena.

**EXISTING PARKING COUNT DATA**

TPD has been working closely with the Allentown Parking Authority to determine historical parking demand utilization rates within the Authority’s parking garages. The Allentown Parking Authority provided TPD with count data for the AM, PM and evening peak hours for the weekday and weekend time periods. The purpose of gathering this information was to determine the percentage of spaces occupied in the major public parking garages during the peak periods. The count data was collected from Thursday, May 12, 2011 through Wednesday, May 18, 2011 during the following peak time periods:

- Weekday during business hours (between 9:00AM-5:00PM)
- Weekday evenings (7:00PM)
- Weekend Days
- Weekend evenings (Saturday at 7:00 PM)



**Table 4** summarizes the number of occupied spaces in the public parking garages during the weekday peak time periods. The number of parking spaces occupied is based on the average number of parking spaces occupied for the weekday data supplied from the Allentown Parking Authority. The Allentown Parking Authority Information can be found in **Appendix C**.

**TABLE 4  
SUMMARY OF THE WEEKDAY COUNT DATA**

Time Period	Occupied Spaces <sup>1</sup>					Percentage of Occupied Spaces <sup>2</sup>
	Spiral Deck	Linden Deck	Government Deck	Transportation Center	TOTAL	
<b>Total Supplied Spaces</b>	<b>714</b>	<b>324</b>	<b>451</b>	<b>497</b>	<b>1986</b>	<b>---</b>
9:00 A.M.	443	63	223	163	<b>892</b>	<b>45%</b>
12:00 P.M.	465	84	212	175	<b>936</b>	<b>47%</b>
5:00 P.M.	177	20	32	49	<b>278</b>	<b>14%</b>
7:00 P.M.	27	13	19	19	<b>78</b>	<b>4%</b>

1. Walnut Street garage data not available
2. Based on the average of all the weekday data

As shown in **Table 4**, the overall percentage of occupied spaces observed during the average weekday was 45% at 9:00 AM, 47% at 12:00 PM, 14% at 5:00 PM and 4% at 7:00 PM.

**Table 5** summarizes the number of occupied spaces in the public parking garages during the weekend peak time periods. The number of parking spaces occupied is based on the average number of parking spaces occupied for the weekend data supplied from the Allentown Parking Authority.

**TABLE 5  
SUMMARY OF WEEKEND COUNT DATA**

Time Period	Occupied Spaces <sup>1</sup>					Percentage of Occupied Spaces <sup>2</sup>
	Spiral Deck	Linden Deck	Government Deck	Transportation Center	TOTAL	
<b>Total Supplied Spaces</b>	<b>714</b>	<b>324</b>	<b>451</b>	<b>497</b>	<b>1986</b>	<b>%</b>
9:00 A.M.	2	13	13	1	<b>29</b>	<b>1.5%</b>
12:00 P.M.	5	13	7	2	<b>27</b>	<b>1.4%</b>
5:00 P.M.	7	13	6	22	<b>48</b>	<b>2.4%</b>
7:00 P.M.	7	13	6	35	<b>61</b>	<b>3.1%</b>

1. Walnut Street garage data not available.
2. Based on the average of all the weekday data.

As shown in **Table 5**, the overall percentage of occupied spaces observed during the average weekend was 1.5% at 9:00 AM, 1.4% at 12:00 PM, 2.4% at 5:00 PM and 3.1% at 7:00 PM.



As previously noted the Parking Authority was unable to supply TPD with count data for neither the Walnut Street Parking Deck nor any of the public surface lots within the study area. Therefore, for the weekday peak time periods, TPD applied the peak period occupancy percentages listed in **Table 4** to the Walnut Street Parking Deck and the public surface lots within the study area to estimate the number of occupied spaces in these public parking facilities. This assumption is based on the similar location within the downtown area and the parking fees associated with both the garage and surface lot facilities.

Based on the count data supplied for the weekend peak time periods, the parking demand on the weekend as shown in **Table 5** was very low for the public parking garages when compared to the weekday count data. Therefore, to be conservative, TPD applied a 10% occupancy percentage to the Walnut Street Parking Deck and the public surface lots within the study area during the weekend studied time periods to estimate the number of occupied spaces in these public parking facilities.

**Table 6** shows the number of supplied public parking spaces in the study area versus the number of occupied parking spaces for each studied time period.

**TABLE 6  
SUMMARY OF OCCUPIED SPACES AT PUBLIC PARKING FACILITIES  
DURING PEAK TIME PERIODS**

Time Period	Weekday Total # of occupied spaces							
	Spiral Deck	Linden Deck	Government Deck	Transportation Center	Walnut Deck	Public Surface Lots	Total Spaces	Remaining Available Spaces
<b>Total Supplied Spaces</b>	<b>714</b>	<b>324</b>	<b>451</b>	<b>497</b>	<b>514</b>	<b>1,114</b>	<b>3,614</b>	<b>#</b>
9:00 A.M.	443	63	223	163	231	501	1,624	1,990
12:00 P.M.	465	84	212	175	242	524	1,702	1,912
5:00 P.M.	177	20	32	49	72	156	506	3,108
7:00 P.M.	27	13	19	19	21	45	144	3,470
Time Period	Weekend Total # of occupied spaces							
	Spiral Deck	Linden Deck	Government Deck	Transportation Center	Walnut Deck <sup>1</sup>	Public Surface Lots <sup>1</sup>	Total Spaces	Remaining Available Spaces
<b>Total Supplied Spaces</b>	<b>714</b>	<b>324</b>	<b>451</b>	<b>497</b>	<b>514</b>	<b>1,114</b>	<b>3,614</b>	<b>#</b>
9:00 A.M.	2	13	13	1	52	112	193	3,421
12:00 P.M.	5	13	7	3	52	112	192	3,422
5:00 P.M.	7	13	6	22	52	112	212	3,402
7:00 P.M.	7	13	6	35	52	112	225	3,389

1. TPD assumed 10% occupancy to be conservative



As shown in **Table 6**, the estimated number of public parking spaces available during the average weekday is projected to be 1,990 parking spaces at 9:00 AM, 1,912 parking spaces at 12:00 PM, 3,108 parking spaces at 5:00 PM and 3,470 parking spaces at 7:00 PM. During the weekend, the estimated number of public parking spaces available is projected to be 3,421 parking spaces at 9:00 AM, 3,422 parking spaces at 12:00 PM, 3,402 parking spaces at 5:00 PM and 3,389 parking spaces at 7:00 PM.

**PROJECTED PARKING DEMAND VERSUS SUPPLY**

As previously noted this project will be built in stages (milestones). TPD examined the AM, PM and evening peak periods for both milestones to determine whether the proposed number of parking spaces (existing plus the additional spaces to be built with this development) will adequately accommodate the highest peak periods of the proposed mixed-use development.

It is anticipated that a new parking deck will be constructed in **Milestone B** and will consist of approximately 500 new parking spaces.

It should be noted that TPD first examined the existing public spaces that are available during each time period and then included the 500 new parking spaces which will be constructed in Milestone B. **Table 7** shows both the weekday and weekend AM, PM and evening peak parking demand for each milestone and whether or not each milestone can meet the parking demand.

**TABLE 7  
PROPOSED PARKING DEMAND VS  
EXISTING/PROPOSED PUBLIC PARKING SPACES AVAILABLE**

<b>WEEKDAY</b>						
<b>Milestone A (Cumulative)</b>						
<b>AM/ PM/ Evening Peak Hours</b>	<b>Demand Peak Hour</b>	<b>Proposed # of Spaces needed</b>	<b>Existing # of Available Spaces</b>	<b>*Proposed # of Spaces to be Built</b>	<b>Total # of spaces Available Existing + Proposed</b>	<b>DEMAND MET? (Y/N)</b>
7:00-11:00AM	<b>9:00 AM</b>	87	1,990	0	<b>1,990</b>	<b>Y</b>
12:00-5:00 PM	<b>12:00 PM</b>	117	1,912	0	<b>1,912</b>	<b>Y</b>
6:00-11:00 PM	<b>8:00 PM</b>	2,708	3,470	0	<b>3,470</b>	<b>Y</b>
<b>Milestone B (Cumulative)</b>						
<b>AM/ PM/ Evening Peak Hours</b>	<b>Demand Peak Hour</b>	<b>Proposed # of Spaces needed</b>	<b>Existing # of Available Spaces</b>	<b>*Proposed # of Spaces to be Built</b>	<b>Total # of spaces Available Existing + Proposed</b>	<b>DEMAND MET? (Y/N)</b>
7:00-11:00AM	<b>10:00 AM</b>	687	1,990	500	<b>2,490</b>	<b>Y</b>
12:00-5:00 PM	<b>12:00 PM</b>	717	1,912	500	<b>2,412</b>	<b>Y</b>
6:00-11:00 PM	<b>8:00 PM</b>	2,866	3,470	500	<b>3,970</b>	<b>Y</b>
<b>WEEKEND</b>						
<b>Milestone A (Cumulative)</b>						
<b>AM/ PM/ Evening Peak Hours</b>	<b>Demand Peak Hour</b>	<b>Proposed # of Spaces needed</b>	<b>Existing # of Available Spaces</b>	<b>*Proposed # of Spaces to be Built</b>	<b>Total # of spaces Available Existing + Proposed</b>	<b>DEMAND MET? (Y/N)</b>
7:00-11:00AM	<b>9:00 AM</b>	81	3,421	0	<b>3,421</b>	<b>Y</b>
12:00-5:00 PM	<b>2:00 PM</b>	2,843	3,422	0	<b>3,422</b>	<b>Y</b>
6:00-11:00 PM	<b>8:00 PM</b>	2,979	3,389	0	<b>3,389</b>	<b>Y</b>
<b>Milestone B (Cumulative)</b>						
<b>AM/ PM/ Evening Peak Hours</b>	<b>Demand Peak Hour</b>	<b>Proposed # of Spaces needed</b>	<b>Existing # of Available Spaces</b>	<b>*Proposed # of Spaces to be Built</b>	<b>Total # of spaces Available Existing + Proposed</b>	<b>DEMAND MET? (Y/N)</b>
7:00-11:00AM	<b>10:00 AM</b>	622	3,421	500	<b>3,921</b>	<b>Y</b>
12:00-5:00 PM	<b>2:00 PM</b>	3,384	3,422	500	<b>3,922</b>	<b>Y</b>
6:00-11:00 PM	<b>8:00 PM</b>	3,137	3,389	500	<b>3,889</b>	<b>Y</b>



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### Weekday Peak Demand Results

As shown in **Table 7**, the estimated weekday parking demand is met for both accumulative milestones.

### Weekend Peak Demand Results

As shown in **Table 7**, the estimated weekend parking demand is met for both accumulative milestones.

## **PRIVATE PARKING FACILITIES AND ON-STREET PARKING ANALYSIS**

As summarized earlier, in addition to the public parking facilities currently within the study area limits, there are approximately 3,762 private parking spaces consisting of approximately 1,581 private parking deck spaces and 2,181 private surface lot spaces. In addition to that, there are over 1,500 on-street parking spaces within the study area.

It is envisioned that with the construction of this development, the private garage decks and surface lots within the study area limits would investigate the opportunity to open up their lots to provide event parking for the general public to use for special events at the arena such as a sporting event, a concert or a pre-determined large event at the convention center, etc. In addition to the large events that are scheduled during the evening hours, these private garages and surface lots can also be used during the day to maximize monthly contracts and bring additional revenue for these private owners.

It is also anticipated that the 1,500 on-street parking spaces supplied in the study area can also help accommodate part of the parking demand as a result of the construction of this development.

With the addition of the private parking facilities and the on-street parking available within the study limits, the highest peak parking demand of this proposed Mixed-used development will easily be accommodated.

## **SUMMARY AND CONCLUSIONS**

*Based on the results of the Parking Analysis, TPD offers the following findings and conclusions in relation to the parking associated with the proposed project in the City of Allentown, Lehigh County, Pennsylvania:*

- *The proposed study area is bound by North 10<sup>th</sup> Street to the west, North 4<sup>th</sup> Street to the east, West Chew Street to the north and West Union Street to the South. All existing parking inventories were counted within these boundaries.*
- *Currently, the total number of public parking spaces in the study area is 3,614. The total number of private parking spaces available in the study area is 3,762. Therefore, the total number of parking spaces within the study area, between the public and private parking garages and surface lots consist of approximately 7,376 parking spaces.*
- *Currently, approximately 1,561 on-street parking spaces, including metered and non-metered, are located within the study area.*

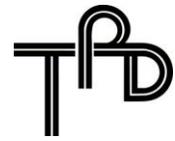


- *The existing parking rates for the private and public parking facilities are consistent with each other and currently charge \$1.00 per hour, up to a maximum of \$6 to \$8 depending on the location. The monthly contract parking is also consistent and the rates range from \$30 per month to approximately \$60 per month.*
- *It is anticipated that a new parking deck will be constructed to consist of approximately 500 new parking spaces by the full-build out of Milestone B.*
- *The required future parking demand for the proposed development through Milestone A is approximately 87 parking spaces for the weekday AM, 117 parking spaces for the weekday PM and 2,708 parking spaces for the weekday evening peak demand period. Additionally, the required future parking demand for the proposed development through Milestone A is approximately 81 parking spaces for the weekend AM, 2,843 parking spaces for the weekend PM and 2,979 parking spaces for the weekend evening peak demand period.*
- *The required future parking demand for the proposed development through Milestone B is approximately 687 parking spaces for the weekday AM, 717 parking spaces for the weekday PM and 2,866 parking spaces for the weekday evening peak demand period. Additionally, the required future parking demand for the proposed development through Milestone B is approximately 622 parking spaces for the weekend AM, 3,384 parking spaces for the weekend PM and 3,137 parking spaces for the weekend evening peak demand period.*
- *The estimated parking demand is met for both accumulative milestones during the weekday and weekend study time periods.*
- *As a result of this parking analysis, the existing public and private parking facilities and proposed construction of an additional 500 parking spaces to be built with this development, will adequately accommodate the highest peak period parking demands of the proposed Allentown Arena and mixed-used development.*

## **RECOMMENDATIONS**

*TPD has made the following recommendations in relation to the parking for the proposed Arena and Mixed-Use Development in the City of Allentown, Lehigh County, Pennsylvania:*

- *Provide adequate signage to direct motorists to the arena from all major approach routes including Route 22, Interstate 78, and Route 309. Within the immediate vicinity of the arena, signage should direct motorists to the appropriate parking facilities. Signs directing motorists to Route 22, Interstate 78, and Interstate 476 should be posted to guide exiting traffic.*
- *Install a Parking Guidance and Information System. At a minimum, variable message signs should be located at the entrances to each parking deck. In addition, investigate locating variable message signs, regarding occupancies for the parking decks, along major arterials, including 7<sup>th</sup> Street and Hamilton Street, leading into the downtown area to indicate to the motorist the number of real-time parking spaces that are available at each of the parking decks within the study area.*



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- *As a standard practice with the construction of stadiums, arenas, convention facilities etc., it is necessary to establish an Event Management Plan. A detailed event management plan should be implemented for events at the proposed arena. Event staff may utilize traffic cones, auxiliary signage, and flagging to efficiently guide traffic to event parking.*
  - *Coordinate with the Allentown Parking Authority to establish shuttle service for public parking facilities located in close proximity to the study area to provide transportation to and from these lots for large events anticipated at the arena.*
  - *Conduct a post-development parking analysis following the completion of Milestones A and B to evaluate the existing and proposed parking supplied to determine if the downtown parking supply meets the parking demand of the multi-use development.*