



ALLIANT
ENGINEERING

MEMORANDUM

DATE: April 22, 2019

TO: Brian Hansen, City of Bloomington

FROM: Jordan Schwarze, PE, Alliant Engineering
Hannah Johnson, Alliant Engineering

SUBJECT: Penn-American Phase III Parking Study Update

1. Introduction

Alliant Engineering has prepared an update to the Penn-American Phase III Parking Study (dated November 2, 2018) due to modifications in the proposed development plan from Stuart Development Corporation (StuartCo) and United Properties.

1.1. Study Purpose

The purpose of this study is to evaluate the expected parking demand of the proposed development and compare to the proposed parking supply. To achieve this, the following goals have been established:

- Determine the City of Bloomington Zoning Code parking requirements
- Estimate parking demand using local parking count data of existing facilities and the ITE Parking Generation Manual
- Compare the estimated total site parking demand against the proposed parking supply to determine a surplus or deficit
- Develop charts and exhibits highlighting the parking demand versus supply analysis
- Document any impacts to surrounding properties and roadways if estimated parking demand exceeds the proposed supply
- Identify any potential parking demand mitigation or alternative parking supply options that could be considered in the event of parking supply shortfalls

1.2. Existing Conditions

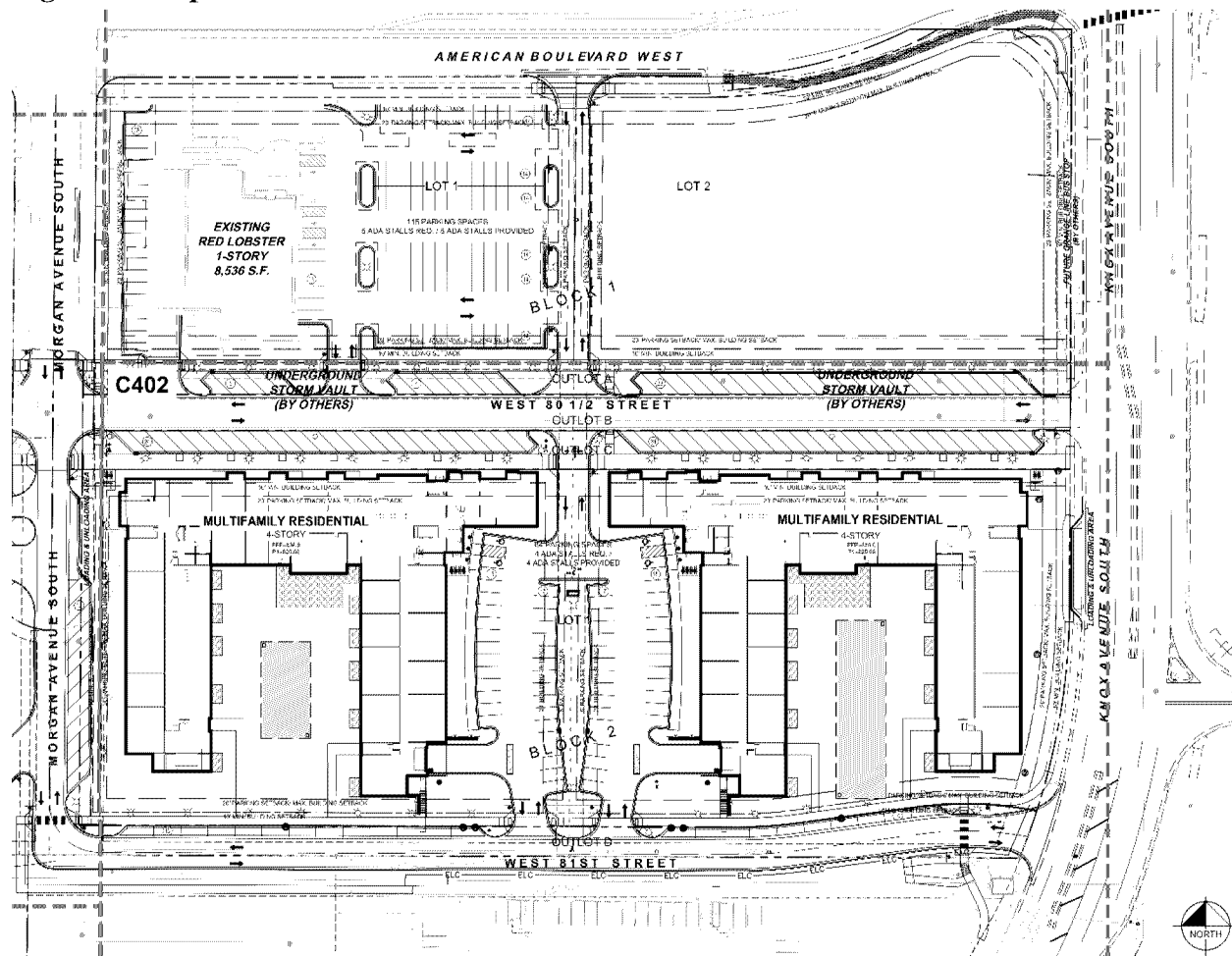
As illustrated in **Figure 1**, the proposed development site currently consists of four buildings with adjacent surface parking. The eastern portion of the surface parking lot serves two buildings that were vacant at the time of data collection in June 2018. The western portion of the surface parking lot serves only a Red Lobster restaurant at the time of this writing, though a closed Savers retail store was still open at the time of data collection.

Figure 1. Existing Site Layout



1.3. Proposed Development

The proposed Penn-American Phase III development is bounded by American Boulevard on the north, Knox Avenue on the east, Morgan Circle on the west, and a potential extension of 81st Street on the south. The development proposal consists of 248 multi-family residential units (342 bedrooms) as well as maintaining the existing 277-seat Red Lobster restaurant. It should be noted that a bus station is planned along the Bus Rapid Transit (BRT) Orange Line at the American Boulevard/Knox Avenue intersection and is scheduled for completion in the year 2021. The proposed development site plan is illustrated in **Figure 2**.

Figure 2. Proposed Site Plan

The proposed development parking supply consists of 491 total stalls. **Table 1** summarizes the proposed land use and parking characteristics. The proposed parking supply represents a significant reduction from Bloomington Zoning Code requirements. Therefore, the primary objective of this parking study is to estimate the future total parking demand and document whether the proposed parking supply is adequate.

Table 1. Proposed Land Use and Parking Characteristics

	Land Use	Allotted Parking
Proposed Development	Apartment: 248 Units (154 one-bedroom and 94 two-bedroom)	258 Stalls (194 Garage)
	Red Lobster (Existing): 277 Seats	115 Stalls
	Supplemental Street Parking	118 Stalls
		491 Total Parking Stalls

2. Data Collection

To aid in estimating potential future parking demand, data was collected at two local sites in June 2018:

- The existing onsite Red Lobster (1951 American Boulevard W, Bloomington, MN)
- Genesee Apartments & Townhomes (8055 Penn Avenue S, Bloomington, MN)
 - Comparable multi-family residential complex (234 units/330 bedrooms) located approximately two blocks to the west of the proposed development site

It should be noted that the former Savers retail store onsite was still in business during the data collection period. However, only those vehicles believed to belong to Red Lobster employees and customers were counted.

To document typical weekday and weekend parking demand, parking data for Red Lobster and Genesee Apartments & Townhomes was collected on Saturday, June 23, 2018 and Tuesday, June 26, 2018. Total parking demand data was collected at regular intervals during the morning (6:00 to 9:00 a.m.), midday (11:00 a.m. to 1:00 p.m.), and evening (5:00 to 11:00 p.m.) time periods. **Figure 3** and **Figure 4** summarize the collected parking data. The two days of data collected provide a baseline for typical parking demand. The collected data was used to understand potential parking utilization for the proposed land uses and to identify the peak parking demand period on both weekdays and weekends.

Figure 3. Observed Red Lobster Parking Demand

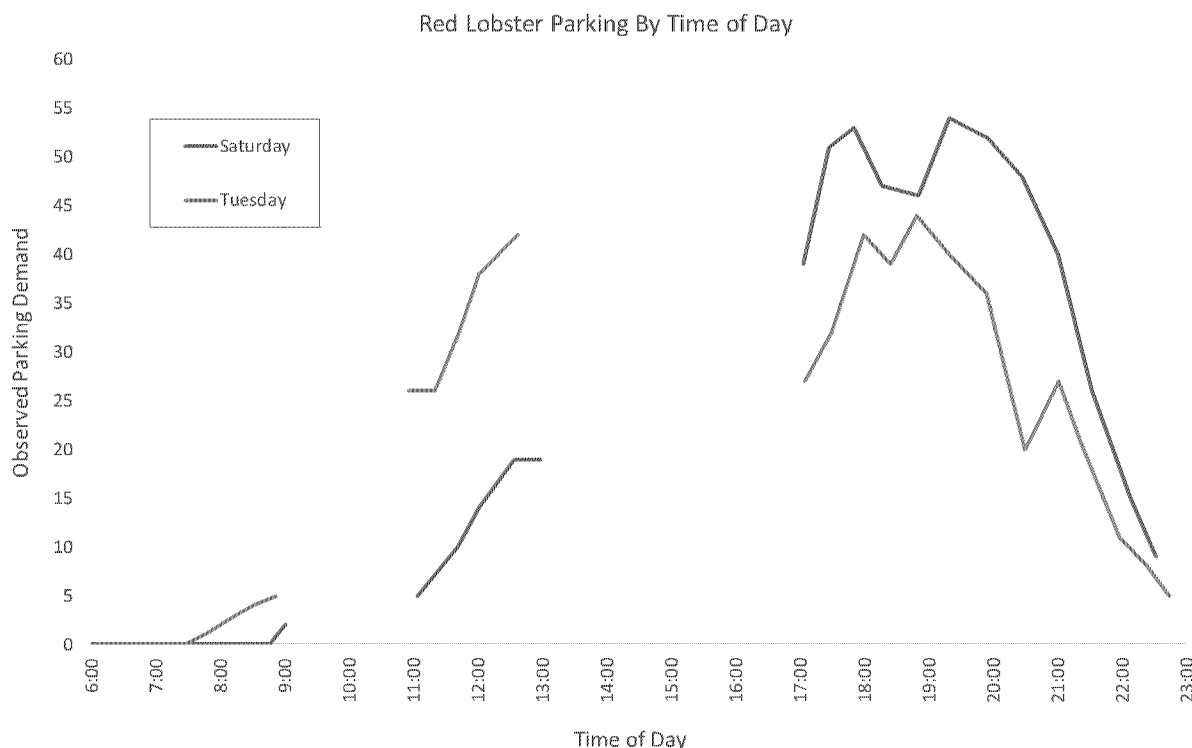
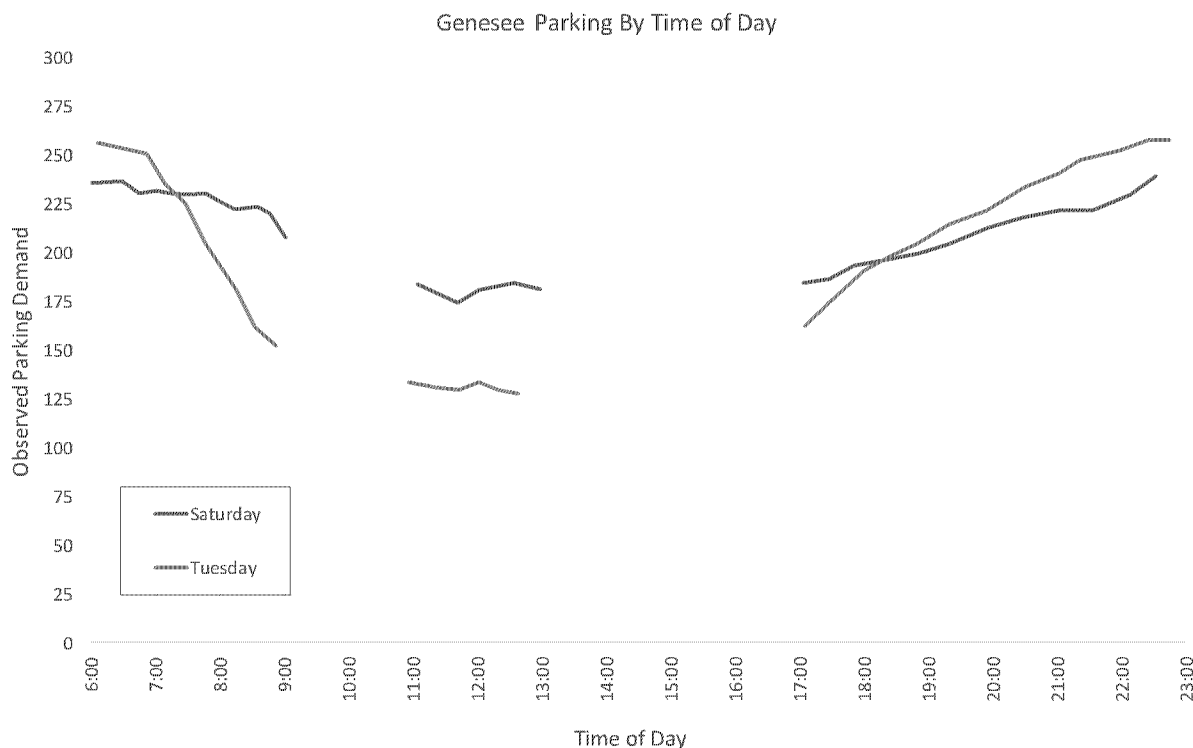


Figure 4. Observed Genesee Apartments & Townhomes Parking Demand

At Red Lobster on Saturday, the maximum observed parking demand was 54 vehicles, equivalent to a rate of 0.20 vehicles per restaurant seat. On Tuesday, the maximum observed parking demand was 44 vehicles, equivalent to a rate of 0.16 vehicles per restaurant seat. Both peaks occurred between 5:00 p.m. and 8:00 p.m. It should be noted that Red Lobster management was contacted in an attempt to determine restaurant occupancy during the observed peaks. The data available was not detailed enough to determine an accurate parking generation rate per guest. However, management did indicate that restaurant occupancy was typical for the observed Saturday and Tuesday evenings.

At Genesee Apartments & Townhomes on Saturday, the maximum observed parking demand was 240 vehicles, equivalent to a rate of 1.04 vehicles per occupied dwelling unit (the complex was approximately 99 percent occupied at the time of data collection). On Tuesday, the maximum observed parking demand was 258 vehicles, equivalent to a rate of 1.12 vehicles per occupied dwelling unit. Both peaks occurred between 10:00 p.m. and 7:00 a.m.

3. Parking Demand Analysis

Future parking demand was estimated based on three methodologies:

- City of Bloomington Parking Requirements
- The ITE Parking Generation Manual
- Local Parking Model developed based on collected data.

3.1. Method 1 – City of Bloomington Parking Requirements

The Bloomington Zoning Code regulates the minimum off-street parking supply for various land uses. Relevant land uses in this case include Restaurant and Multi-Family Housing. Zoning Code parking requirements were obtained on the City of Bloomington website, while the proposed land use types and sizes were provided by the developer. Due to the characteristics of the study area, the residential component of the proposed development may be eligible for a five percent reduction in the off-street parking requirement. Code required parking for the proposed development is shown in **Table 2**. It should be noted that Zoning Code requires a certain percentage of parking spaces for multi-family housing land uses to be provided within a garage. The developer is seeking a deviation on the number of garage stalls, as the proposed multi-family residential complex is not expected to meet Zoning Code requirements.

Table 2. Bloomington Zoning Code Parking Requirements

Land Use		Units	Rate	Size	Required Parking Stalls
Multiple-Family Residence	One bedroom	Dwelling Unit	1.8	154	277.2
	Two bedroom	Dwelling Unit	2.2	94	206.8
	Party room	100 Square Feet	1.0	20	20.0
Restaurant	Indoor seating	Seat	0.4	277	110.8
Subtotal Parking Requirement					614.8
C-5 Zoning District Residential Parking Reduction (5%)					(25.2)
Total Parking Requirement					589.6

Source: Bloomington City Code, Section 21.301.06 Parking and Loading

For the proposed development, a total of 590 parking stalls are required by the Zoning Code. With a proposed parking supply of 491 stalls, the result is a parking deficit of 99 stalls. This result emphasizes the need for empirical parking data collection and analysis in support of the proposed parking supply.

3.2. Method 2 – ITE Parking Generation Manual

The ITE Parking Generation Manual was initially used to estimate actual parking demand for the proposed development. The ITE Parking Generation Manual provides peak parking generation rates based on studies of various land uses. **Table 3** documents the ITE estimated Saturday and weekday peak parking demand for the proposed development.

Table 3. ITE Estimated Total Parking Demand

Land Use (ITE Code)	Units	Time	Rate	Size	Required Parking Stalls
Multifamily Housing Mid-Rise (221)	Dwelling Unit	Saturday Peak Period	1.22	248	302.6
		Weekday Peak Period	1.31		324.9
Hight-Turnover Restaurant (932)	Seat	Saturday Peak Period	0.43	277	119.2
		Weekday Peak Period	0.33		91.5
Total Parking Demand (Saturday)					421.8
Total Parking Demand (Weekday)					416.4

Source: ITE Parking Generation Manual, 5th Edition

Results of the ITE-based estimates indicate the proposed development would be expected to generate a maximum total parking demand of 422 vehicles. This estimated peak parking demand is below the proposed parking supply of 491 stalls. While the ITE-based total parking demand estimates are a summation of individual land use peak demands, it should be noted that the peak parking demand by time of day for the restaurant land use would not be expected to coincide with that of the apartment land use. The ITE-based estimates of total parking demand are likely conservative for this reason.

3.3. Method 3 – Local Parking Model

To create a more appropriate estimate of actual parking demand, locally collected parking data was next used to create a parking demand model.

3.3.1. Total Parking Demand

Utilizing locally observed peak parking rates, an analysis of total parking demand was once again completed. **Table 4** documents the projected Saturday and weekday peak parking demand for the proposed development. It should be noted that a 50 percent increase in the observed Red Lobster parking rates was included as a contingency to account for the possibility that additional restaurant guests could have been accommodated during the observed parking demand peaks.

Table 4. Projected Total Parking Demand

Land Use	Units	Time	Rate	Size	Required Parking Stalls
Apartments	Dwelling Unit	Saturday Peak Period	1.04	248	258.0
		Weekday Peak Period	1.12		277.8
Restaurant ¹	Seat	Saturday Peak Period	0.29	277	80.4
		Weekday Peak Period	0.24		66.5
Total Parking Demand (Saturday)					338.4
Total Parking Demand (Weekday)					344.3

1. Restaurant parking rates were increased by 50 percent as a contingency to account for the possibility that additional restaurant guests could have been accommodated during the observed parking demand peaks.

The Local Parking Model estimated maximum total demand of 345 vehicles for the proposed development is significantly below the proposed parking supply of 491 stalls. While the modeled total parking demand is a summation of individual land use peak demands, it should be noted that the peak parking demand by time of day for the restaurant land use would not be expected to coincide with that of the apartment land use. The Local Parking Model estimate of total parking demand is likely conservative for this reason.

3.3.2. Hourly Parking Demand

To fully understand the parking characteristics of the proposed development, it is useful to understand how parking demand changes throughout the day. Utilizing the locally observed parking demand data, an hourly parking demand model can be created. As documented previously with the locally observed parking demand data, each potential land use has a specific period of peak parking demand:

- High-Turnover, Sit-Down Restaurant: 5:00 p.m. to 8:00 p.m.
- Apartments: 10:00 p.m. to 7:00 a.m.

An hourly model was created from 5:00-11:00 p.m. to generate parking demand projections covering the individual peak of each potential land use. The projected hourly parking demand for a Saturday is shown in **Table 5**, while the projected hourly parking demand for a weekday is shown in **Table 6**. The hourly parking demand profile with respect to the proposed development parking supply is then illustrated in **Figure 5**.

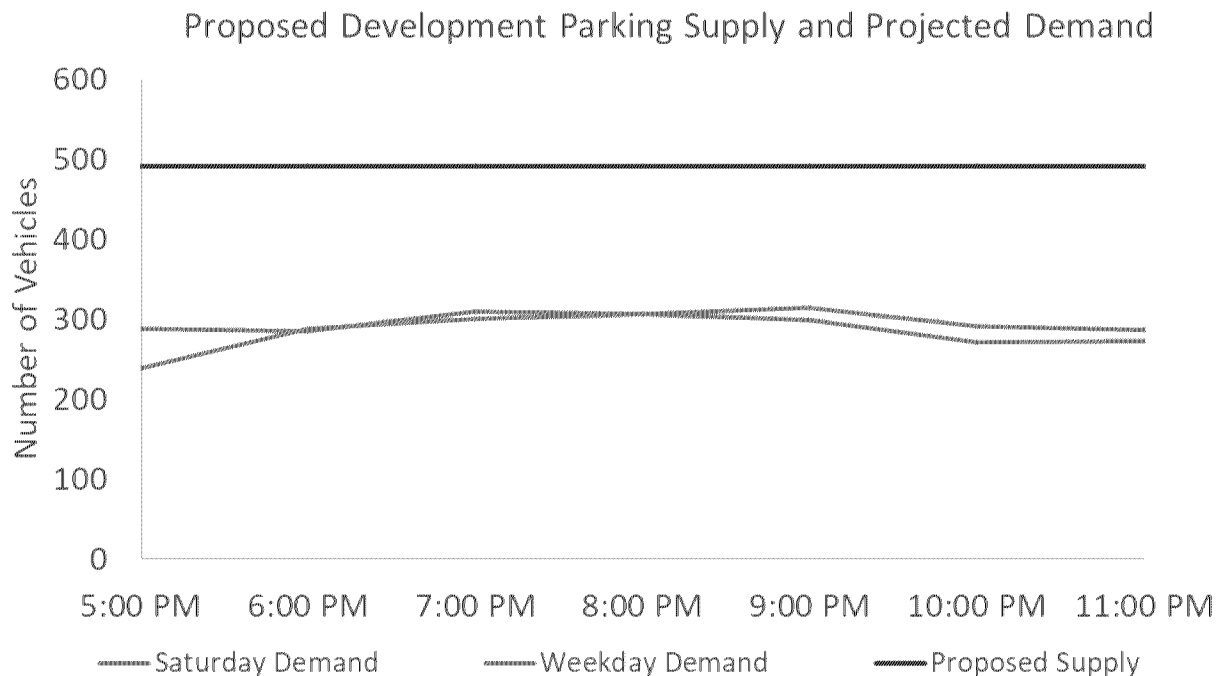
The projected peak parking demand for the proposed development on a Saturday is 310 vehicles, which is expected to occur near 7:00 p.m. The projected peak parking demand for the proposed development on a weekday is 314 vehicles, which is expected to occur near 9:00 p.m. Both projections are well below the proposed parking supply of 491 stalls, resulting in a surplus of at least 177 parking stalls. It should be noted that the 115-parking-stall allotment dedicated to Red Lobster is expected to be adequate during all time periods. The 258-parking-stall allotment dedicated to the residential complex may be exhausted during the overnight period. However, the 118-parking-stall supplemental street parking is expected to accommodate the excess overnight residential demand.

Table 5. Projected Hourly Parking Demand (Saturday)

Time	Multi-Family Housing		Restaurant		Total Projected Hourly Parking Demand
	Percent of Peak	Projected Parking Demand	Percent of Peak	Projected Parking Demand	
5:00 PM	81%	209	98%	79	288
6:00 PM	83%	215	87%	70	285
7:00 PM	89%	229	100%	81	310
8:00 PM	91%	235	89%	72	307
9:00 PM	93%	239	74%	60	299
10:00 PM	96%	248	28%	23	271
11:00 PM	100%	258	17%	14	272

Table 6. Projected Hourly Parking Demand (Weekday)

Time	Multi-Family Housing		Restaurant		Total Projected Hourly Parking Demand
	Percent of Peak	Projected Parking Demand	Percent of Peak	Projected Parking Demand	
5:00 PM	68%	190	73%	49	239
6:00 PM	79%	221	100%	67	288
7:00 PM	86%	240	91%	61	301
8:00 PM	91%	252	82%	55	307
9:00 PM	98%	273	61%	41	314
10:00 PM	100%	278	18%	13	291
11:00 PM	100%	278	11%	8	286

Figure 5. Projected Hourly Parking Profile

3.4. Parking Demand Summary

While the parking supply for the proposed development may not meet Bloomington Zoning Code requirements, the parking supply is adequate when analyzed with the ITE Parking Generation Manual Method and the Local Parking Model Method. Furthermore, the analysis estimated parking surplus should be sufficient to offset any seasonal increases in parking demand. It should be noted that a multi-use parking reduction, for vehicles utilizing more than one land use in the development, was not considered in the analysis. However, the potential multi-use between the Red Lobster restaurant and the residential complex is expected to be limited. No parking demand mitigation or alternative parking supplies are expected to be necessary. No impacts to surrounding properties or roadways are anticipated.

4. Conclusions and Recommendations

The following conclusions and recommendations are offered for consideration:

- Parking demand was estimated based on three methodologies:
 - City of Bloomington Parking Requirements:
 - For the proposed development, a total of 590 parking stalls are required by Bloomington Zoning Code.
 - The ITE Parking Generation Manual:
 - For the proposed development, a total parking demand of 422 vehicles was estimated utilizing the ITE Parking Generation Manual. This estimate is below the proposed parking supply of 491 stalls.
 - While the ITE-based total parking demand estimates are a summation of individual land use peak demands, it should be noted that the peak parking demand by time of day for the restaurant land use would not be expected to coincide with that of the apartment land use. The ITE-based estimates of total parking demand are likely conservative for this reason.
 - Local Parking Model developed from locally collected data. Two sub-methodologies were used:
 - Total Parking Demand – The Local Parking Model estimated a maximum total demand of 345 vehicles for the proposed development. This estimate is significantly below the proposed parking supply of 491 stalls.
 - Hourly Parking Demand – Considering that each potential land use has a specific period of peak parking demand, an hourly parking demand model was created to understand how parking demand changes throughout the day. The Local Parking Model estimated an hourly peak parking demand of 314 vehicles for the proposed development (near 9:00 p.m. on a weekday). This estimate is significantly below the proposed parking supply of 491 stalls, resulting in a surplus of at least 177 parking stalls.
- The 115-parking-stall allotment dedicated to Red Lobster is expected to be adequate during all time periods. The 258-parking-stall allotment dedicated to the residential complex may be exhausted during the overnight period. However, the 118-parking-stall supplemental street parking is expected to accommodate the excess overnight residential demand.
- While the parking supply for the proposed development may not meet Bloomington Zoning Code requirements, the parking supply is adequate when analyzed with the ITE Parking Generation Manual Method and the Local Parking Model Method. Furthermore, the analysis estimated parking surplus should be sufficient to offset any seasonal increases in parking demand.
 - It should be noted that a multi-use parking reduction was not considered in the analysis. However, the potential multi-use between the Red Lobster restaurant and the residential complex is expected to be limited.
 - No parking demand mitigation or alternative parking supplies are expected to be necessary. No impacts to surrounding properties or roadways are anticipated.