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ALLIANT
ENGINEERING

MEMORANDUM

DATE: October 26, 2017

TO: Jen Desrude, PE, Development Coordinator, City of Bloomington

FROM: Jordan Schwarze, PE, Alliant Engineering
Stephen Smith, Alliant Engineering

SUBJECT: **Drury Hotel Parking Study**

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1. Introduction

Alliant Engineering, Inc. has conducted a parking study in response to the proposed Drury Hotel development located at 3901 Minnesota Drive in Bloomington, MN.

1.1. Study Purpose

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

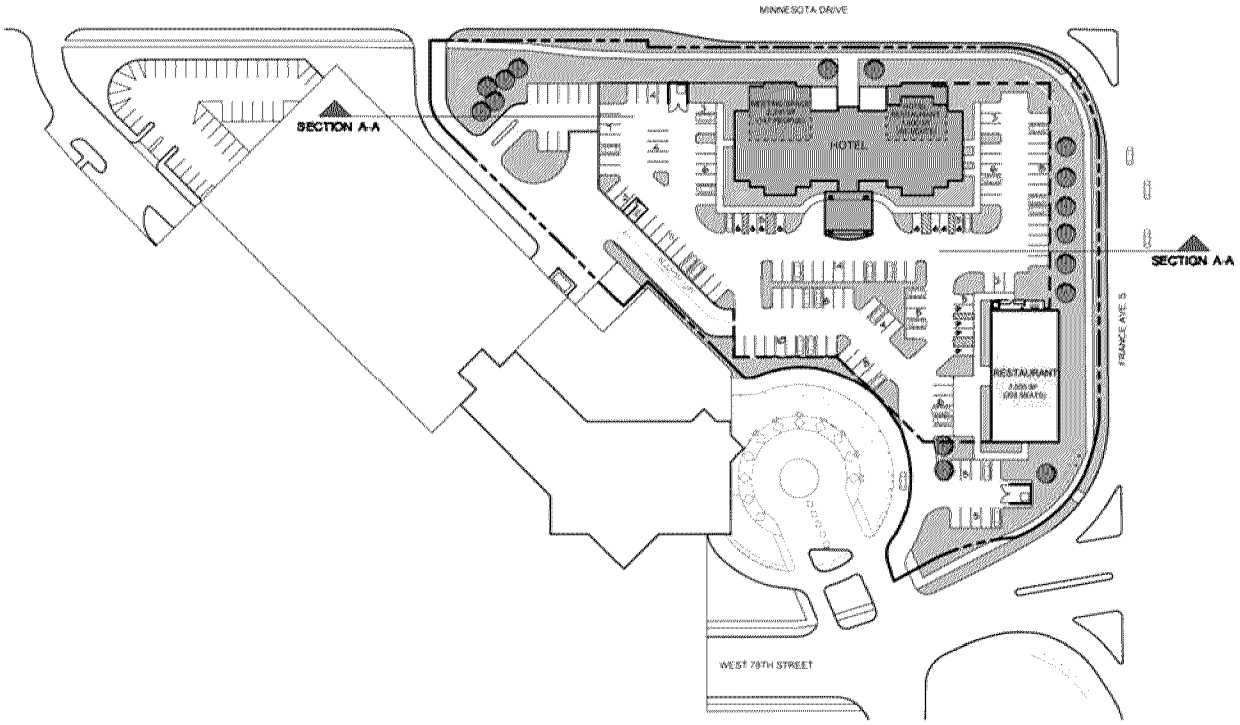
- Determine the City of Bloomington Zoning Code off-street parking requirement
- Estimate parking demand for the proposed development using existing local hotel parking count data and the ITE Parking Generation Manual
- Estimate the total site parking demand with the inclusion of parking demand from the adjacent Minnesota Center office complex
- Compare the estimated total site parking demand against the proposed parking supply to determine a surplus or deficit
- Evaluate data collected in the field for the Minnesota Center and an existing hotel nearby to develop estimated parking demand calculations based on guests and/or other measures/assumptions to be determined through the analysis
- Establish the recommended parking supply required for the proposed Drury Hotel development including the Minnesota Center shared parking easement
- Develop charts and exhibits highlighting the parking demand versus supply analysis

1.2. Proposed Development

The proposed Drury Hotel development consists of a 122,398-square-foot, 214-room hotel and a standalone 7,000-square-foot (200 seats) restaurant located in the southwest quadrant of the France Avenue/Minnesota Drive intersection in Bloomington. The proposed development is expected to replace an existing 167-stall surface parking lot at 3901 Minnesota Drive that serves daily parking for the adjacent Minnesota Center office complex. Currently, the Minnesota Center maintains a shared parking easement that requires the proposed development to provide 100 parking stalls.

The proposed hotel is expected to cater to business travelers and will include an internal lounge/restaurant area of 1,600 square feet (60 seats) as well as a conference room of 2,200 square feet (147 person capacity). The proposed standalone restaurant is expected to be of the high-turnover, sit-down type with a bar serving lunch and dinner. The proposed development site plan is illustrated in **Figure 1**.

Figure 1. Proposed Site Plan



Proposed development parking consists of a 328 stall, off-street parking lot/ramp. Based on the 100-stall shared parking easement, zoning code requirements, and parking availability, concerns have been raised for the proposed development. The objective of this parking study is to estimate the future total parking demand and document whether the proposed parking supply is adequate. **Table 1** summarizes proposed development land use characteristics.

Table 1. Proposed Land Use Characteristics

Estimated Schedule	Land Use	Parking
Project Completion: 2018-2019	• Hotel: 9 Stories, 122,398 SF, 214 Rooms • Restaurant: 7,000 SF, 200 Seats	• Parking Lot/Ramp: 328 Stalls

2. Existing Conditions

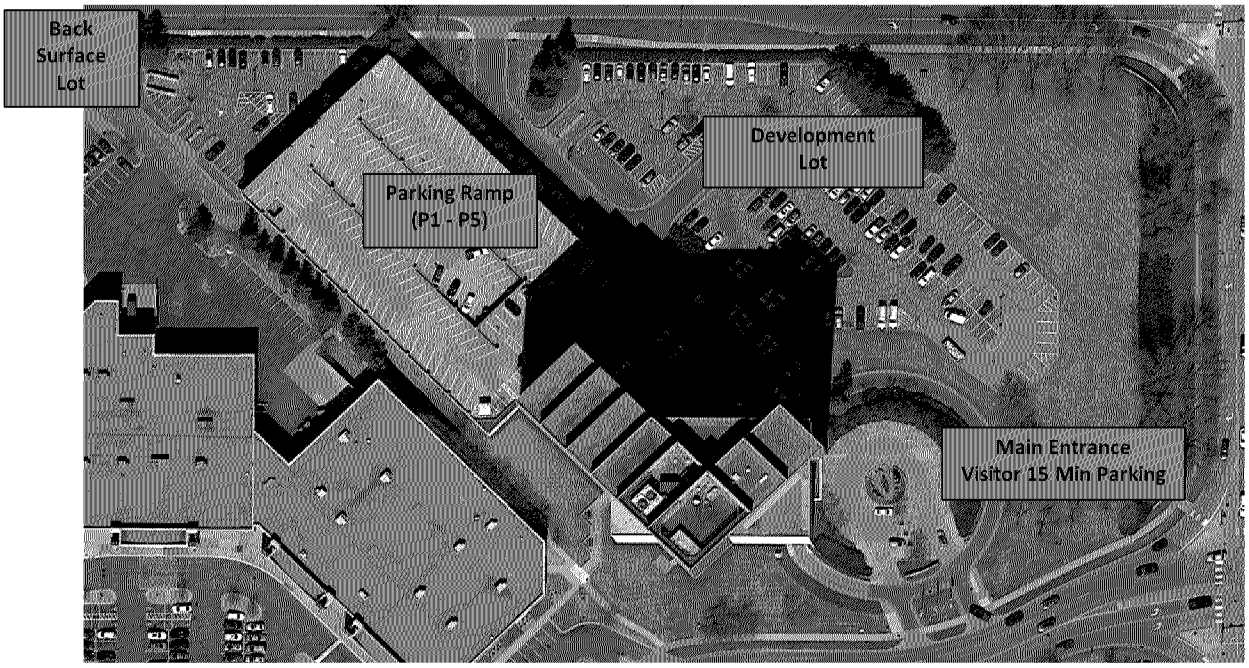
The Minnesota Center office complex currently serves 33 business tenants. Based on information provided by Minnesota Center management company Transwestern, current business activities typically occur between 6:00 a.m. and 6:00 p.m. on weekdays. Approximately 220,000 square feet of the total 275,000 square feet available is occupied (i.e. 80 percent occupancy), while the remaining 55,000 square feet is available for lease as shown in **Table 2**. Minnesota Center tenants currently share multiple surface lots and a five-level parking ramp as shown in **Figure 2**.

Table 2. Minnesota Center Occupancy

Tenants	Type	Building Occupancy	SF
33	Commercial Office	80%	220,000
		Total Vacancy	55,000
		Total Leasable Space	**275,000**

(1) Minnesota Center information provided by building manager Transwestern.
All information is approximate.

Figure 2. Existing Site Layout



2.1. Existing Parking

As illustrated in **Figure 2**, there are four distinct parking facilities available to Minnesota Center tenants and visitors. These parking facilities consist of the following:

- Parking Ramp: 818 stalls of ramp parking over five (5) levels P1-P5
- Visitor Lot: 10 stalls of surface lot parking (15-minute visitor parking)
- Back Lot: 40 stalls of surface lot parking
- Development Lot: 167 stalls of surface lot parking (proposed development site)

Table 3 documents the existing total parking supply.

Table 3. Existing Parking Supply

Parking Ramp	Visitor Lot	Back Lot	Development Lot	Total Parking Stalls
818	10	40	167	1,035

2.2. Data Collection

Parking data was collected at the Minnesota Center as well as a nearby hotel comparable to the proposed Drury Hotel (i.e. the Holiday Inn Express at 770 Johnson Avenue in Bloomington). The parking data was utilized to estimate the parking demand characteristics that could be expected upon completion of the proposed development.

To document typical weekend and weekday parking demand, existing parking data for the Minnesota Center and Holiday Inn Express was collected on Saturday, October 7, 2017 and Tuesday, October 10, 2017. Total parking demand and supply data was collected in one-hour intervals between 7:00 a.m. and 11:00 p.m. for all parking facilities at both collection sites.

Figure 3, **Figure 4**, and **Figure 5** summarize the collected parking data. The two days of data collection provided a baseline for typical parking demand. The collected data was used to understand parking utilization across the various facilities and to identify the peak parking demand period on both weekends and weekdays.

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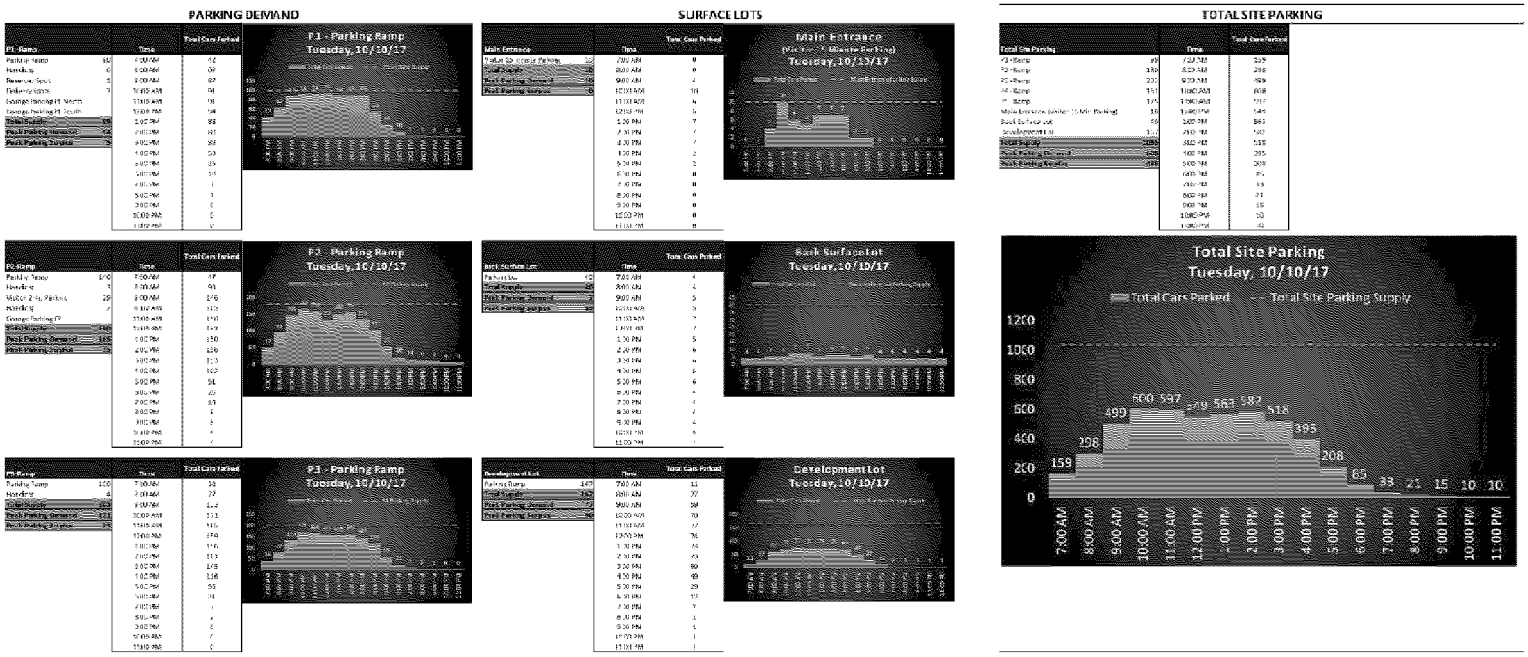
Figure 3. Minnesota Center Parking Demand – Tuesday, October 10, 2017



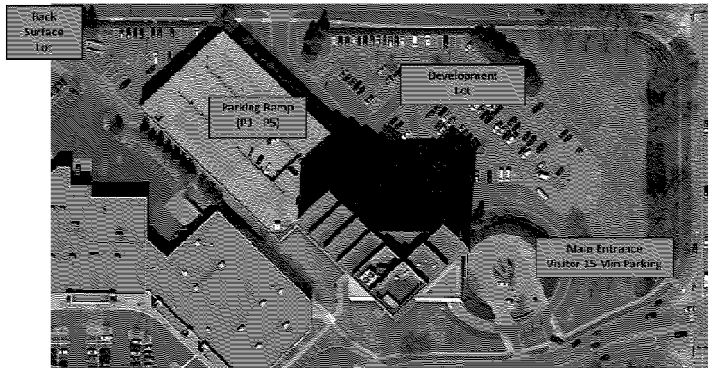


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Figure 4. Minnesota Center Parking Demand – Saturday, October 7, 2017

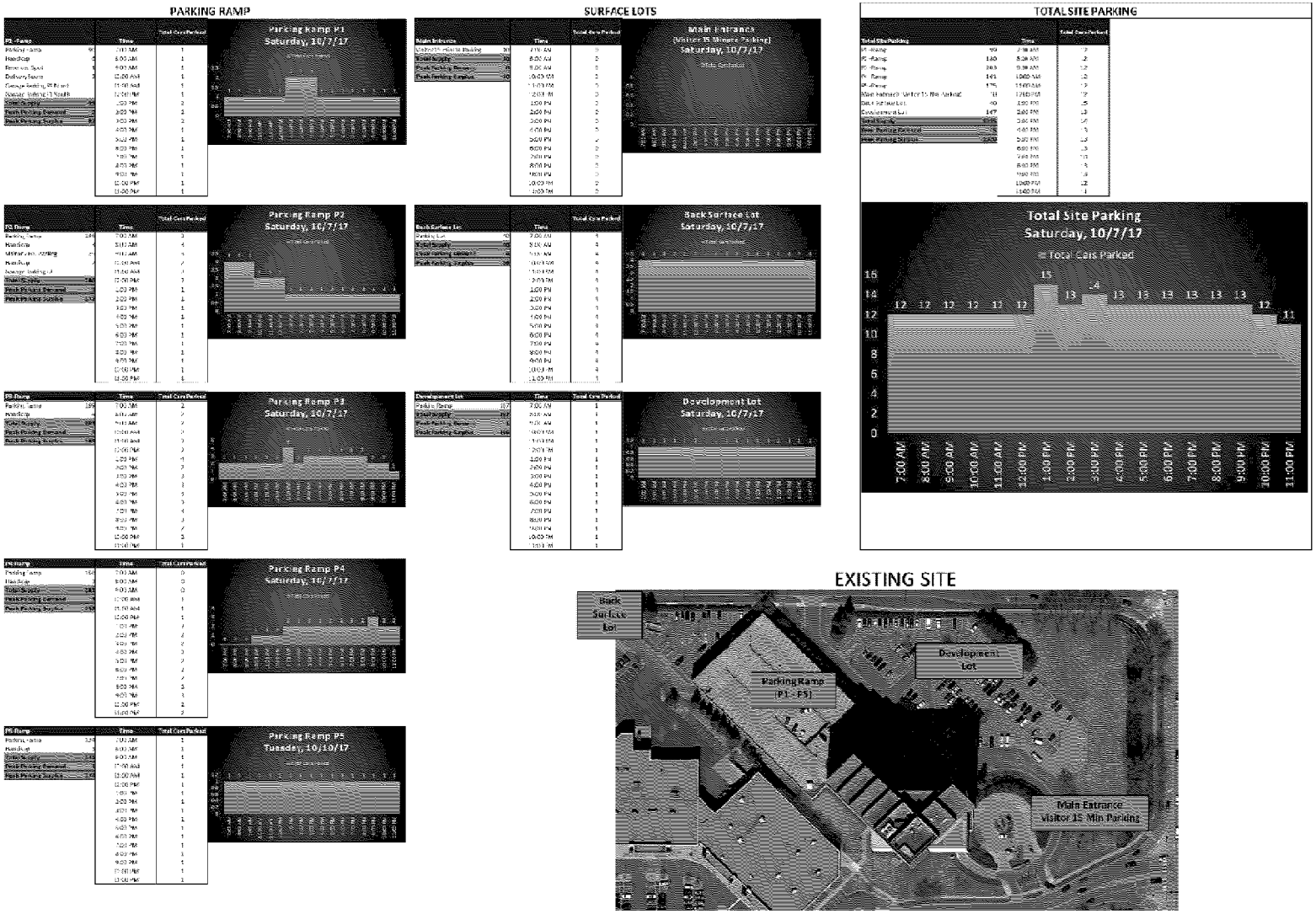
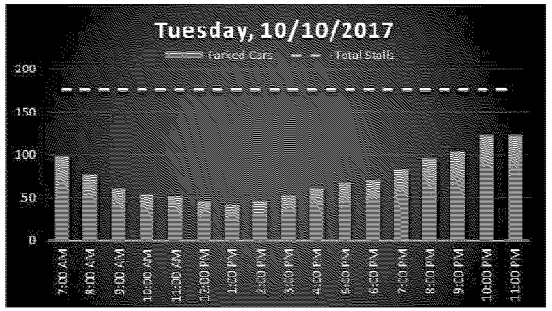


Figure 5. Holiday Inn Express Parking Demand – Tuesday, October 10, 2017 and Saturday, October 7, 2017

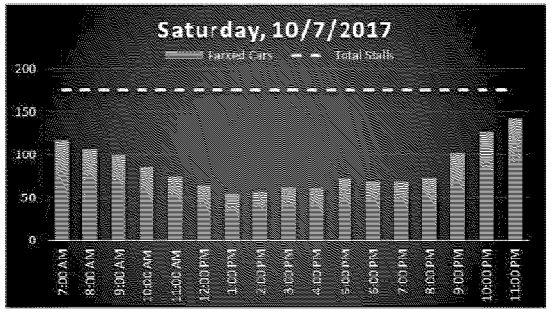
Time	Total Cars Parked
7:00 AM	98
8:00 AM	76
9:00 AM	61
10:00 AM	53
11:00 AM	51
12:00 PM	46
1:00 PM	41
2:00 PM	46
3:00 PM	52
4:00 PM	62
5:00 PM	67
6:00 PM	70
7:00 PM	83
8:00 PM	96
9:00 PM	104
10:00 PM	123
11:00 PM	123

Total Stalls	Guest Rooms	Parking Rate	Hotel Occpancy	Occupied Rooms
176	159	0.86	90%	143



Time	Total Cars Parked
7:00 AM	116
8:00 AM	107
9:00 AM	99
10:00 AM	86
11:00 AM	74
12:00 PM	64
1:00 PM	54
2:00 PM	56
3:00 PM	62
4:00 PM	61
5:00 PM	72
6:00 PM	69
7:00 PM	68
8:00 PM	73
9:00 PM	102
10:00 PM	127
11:00 PM	142

Total Stalls	Guest Rooms	Parking Rate	Hotel Occpancy	Occupied Rooms
176	159	0.99	90%	143



Holiday Inn Express Layout

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At the Minnesota Center on Saturday, October 7, 2017, the maximum observed parking demand was 15 vehicles, equivalent to one (1) percent parking occupancy. On Tuesday, October 10, 2017, the maximum observed parking demand was 600 vehicles, equivalent to 58 percent parking occupancy.

At the Holiday Inn Express on Saturday, October 7, 2017, the maximum observed parking demand was 142 vehicles, equivalent to 81 percent parking occupancy. On Tuesday, October 10, 2017, the maximum observed parking demand was 123 vehicles, equivalent to 70 percent parking occupancy. Based on information provided by the Holiday Inn Express, approximately 90 percent of the 159 total guest rooms were occupied both nights, which equates to 143 rooms being occupied. Consequently, the rounded maximum observed parking demand rate was 1.0 vehicle per occupied room on Saturday and 0.9 vehicle per occupied room on Tuesday.

3. Parking Demand Analysis

The parking demand expected for the proposed development was estimated based on three methodologies – the City of Bloomington Zoning Code, the ITE Parking Generation Manual, and a parking model developed based on collected parking data.

3.1. Method 1 – City Code Parking Requirements

The City of Bloomington Zoning Code regulates the minimum off-street parking supply for various land uses. Relevant land uses for the proposed development include Hotel and Restaurant. City Code parking requirements were provided by City staff and proposed land use types and sizes were provided by the developer and are shown in **Table 4**.

Table 4. Bloomington City Code Parking Requirements

Parking Use	Units	Size	Rate	Required Parking Stalls
Hotel	Rooms	214	1.1 stall / 1 room	236
Restaurant	Seats	200	1 stall / 2.5 seats	80
			Total Parking Requirement	**316**

A total of 316 parking stalls are required by the City Code. This number is lower than the proposed parking supply of 328 stalls planned for the development. However, with the addition of the 100-stall easement required for the Minnesota Center, the parking supply would not be sufficient. This 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

In addition to the parking supply requirement calculated based on City Code, the ITE Parking Generation Manual was also used to assess the estimated parking demand for the proposed development. The ITE Manual provides peak parking generation rates based on studies of various land uses. **Table 5** documents the ITE estimated weekday peak parking demand while **Table 6** documents the ITE estimated weekend peak parking demand for the proposed development.

Table 5. ITE Estimated Weekday Peak Parking Generation

Land Use *(ITE Code)*	Units	Size	Average Peak Parking Rate	Estimated Spaces (Weekday Peak Periods)
Hotel *(310)*	Rooms	214	0.9	193
High-Turnover (Sit-Down) Restaurant (with Bar or Lounge) *(932)*	Seats	200	0.48	96
			Grand Total	**289**

Table 6. ITE Estimated Weekend Peak Parking Generation

Land Use *(ITE Code)*	Units	Size	Average Peak Parking Rate	Estimated Spaces (Weekday Peak Periods)
Hotel *(310)*	Rooms	214	1.2	257
High-Turnover (Sit-Down) Restaurant (with Bar or Lounge) *(932)*	Seats	200	0.47	94
			Grand Total	**351**

While the peak parking demand for the proposed hotel and restaurant are summed, it should be noted that the peak parking demand by time of day for each land use would not be expected to coincide. The ITE Manual estimated weekday peak parking demand of 289 vehicles is below the proposed parking supply of 328 stalls. However, the ITE Manual estimated weekend peak parking demand of 351 vehicles exceeds the proposed parking supply of 328 stalls. While these estimates are likely conservative for the reason noted above, they do not account for the 100-stall easement required for the Minnesota Center.

3.3. Method 3 – Parking Model

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

3.3.1. Minnesota Center Forecasted Parking Demand

Two scenarios were analyzed to estimate future Minnesota Center parking demand and to understand whether the 100-stall parking easement at the proposed development site is truly necessary:

- Scenario 1: Assumes existing Minnesota Center baseline parking demand while excluding the development lot and the 100-stall parking easement (Minnesota Center parking supply is 868 stalls).
- Scenario 2: Assumes Minnesota Center parking demand has increased to account for 100 percent building occupancy while excluding the development lot and the 100-stall parking easement (Minnesota Center parking supply is 868 stalls).

Figure 6 illustrates Scenario 1 and Scenario 2 for the weekday while **Figure 7** illustrates Scenario 1 and Scenario 2 for the weekend.

Figure 6. Minnesota Center Weekday Parking Demand – Scenarios 1 and 2

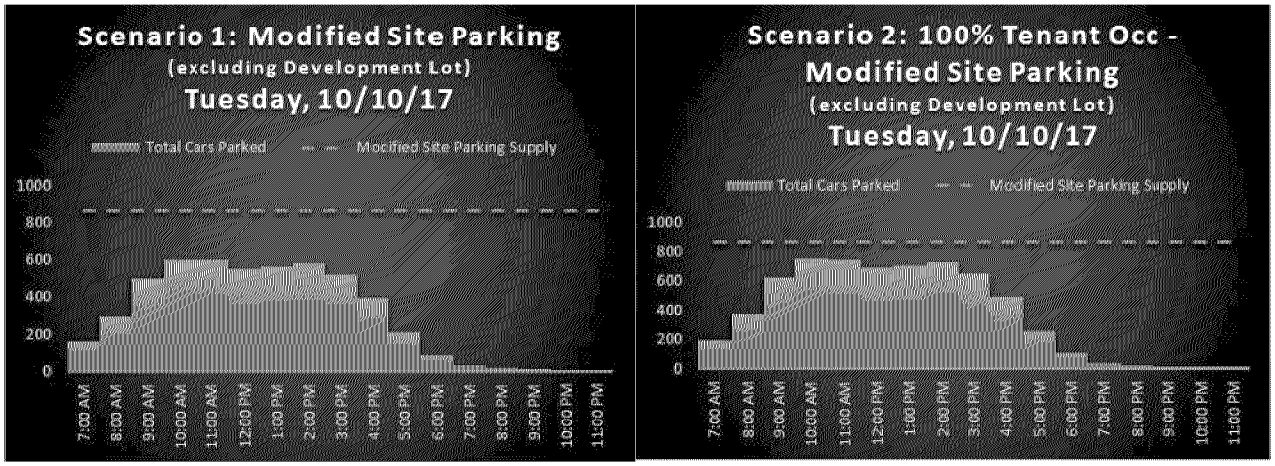
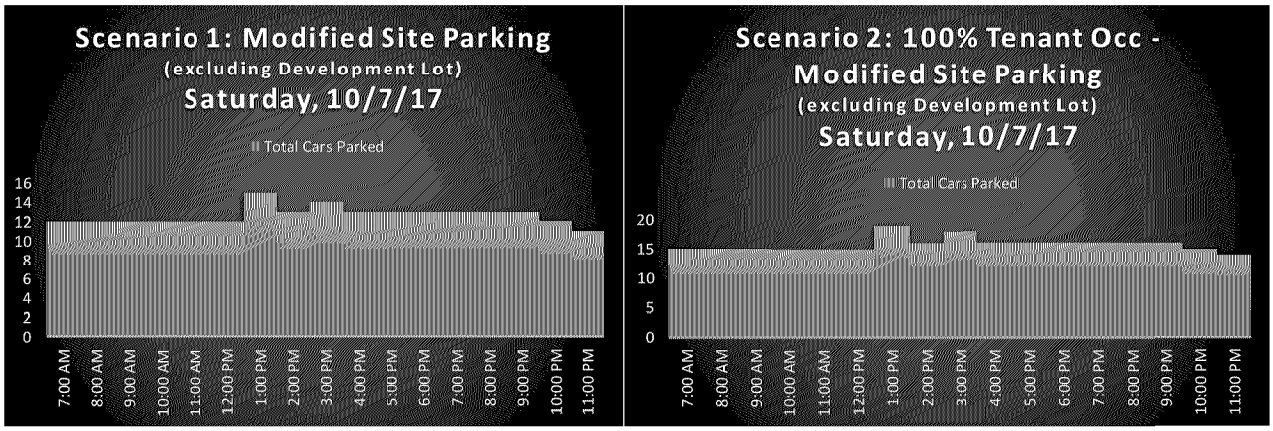


Figure 7. Minnesota Center Weekend Parking Demand – Scenarios 1 and 2



The preceding figures illustrate that both the existing baseline Minnesota Center peak parking demand and the anticipated peak parking demand at 100 percent building occupancy could be accommodated onsite without the 100-stall parking easement at the proposed development site. Under Scenario 2 at 100 percent building occupancy, the anticipated weekday peak parking demand is 750 vehicles, equivalent to 86 percent parking occupancy. Therefore, the onsite Minnesota Center parking supply is expected to be adequate under future conditions.

3.3.2. Time of Day Forecasted Parking Demand

Utilizing observed Minnesota Center parking demand, observed Holiday Inn Express parking demand, and ITE hourly parking distribution data for a restaurant, an hourly parking demand model can be created. Typical and hypothetical maximum parking demand models for a weekday are shown in **Table 7** and **Table 8**, respectively. It should be noted that the weekday models are conservative, as they include the 100-stall parking easement on the proposed development site in addition to the total Minnesota Center parking demand being accommodated off the proposed development site.

Table 7. Weekday Time of Day Model – Typical Parking Demand

Minnesota Center																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
MN Center[1]	159	298	499	600	597	549	563	582	518	395	208	85	33	21	15	10	10
Total Spaces Used	159	298	499	600	597	549	563	582	518	395	208	85	33	21	15	10	10
Surplus	**709**	**570**	**369**	**268**	**271**	**319**	**305**	**286**	**350**	**473**	**660**	**783**	**835**	**847**	**853**	**858**	**858**
Effective Parking Surplus[2]	**666**	**527**	**326**	**225**	**228**	**276**	**262**	**243**	**307**	**430**	**617**	**740**	**792**	**804**	**810**	**815**	**815**
Proposed Development																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Hotel[3]	98	76	61	53	51	46	41	46	52	62	67	70	83	96	104	123	123
Restaurant[4]	0	0	5	7	15	47	37	26	18	21	58	90	96	78	81	48	48
MN Center Easement[5]	0	25	85	85	100	100	100	100	85	85	50	25	10	0	0	0	0
Total Spaces Used	98	101	151	145	166	193	178	172	155	168	175	185	189	174	185	171	171
Surplus	**230**	**227**	**177**	**183**	**162**	**135**	**150**	**156**	**173**	**160**	**153**	**143**	**139**	**154**	**143**	**157**	**157**
Effective Parking Surplus[2]	**214**	**211**	**161**	**167**	**146**	**119**	**134**	**140**	**157**	**144**	**137**	**127**	**123**	**138**	**127**	**141**	**141**
Total Site Parking Demand (Minnesota Center + Proposed Development)																	
Total Spaces Used	257	399	650	745	763	742	741	754	673	563	383	270	222	195	200	181	181
Surplus	**939**	**797**	**546**	**451**	**433**	**454**	**455**	**442**	**523**	**633**	**813**	**926**	**974**	**1001**	**996**	**1015**	**1015**
Effective Parking Surplus[2]	**880**	**738**	**487**	**392**	**374**	**395**	**396**	**383**	**464**	**574**	**754**	**867**	**915**	**942**	**937**	**956**	**956**

[1]Observed Minnesota Center parking demand.

[2]5% reduction in parking supply to minimize the perception of inadequate parking

[3]Parking demand is based on 90% hotel occupancy and an observed parking rate of 0.9 parking space per occupied room.

[4]Parking demand based on ITE data for a "High-Turnover (Sit-Down) Restaurant" with a bar or lounge.

[5]Time of day distribution is from the City of Bloomington independent parking analysis.

Table 8. Weekday Time of Day Model – Hypothetical Maximum Parking Demand

Minnesota Center																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
MN Center (100% Occpancy)[1]	199	373	624	750	746	686	704	728	648	494	260	106	41	26	19	13	13
Total Spaces Used	199	373	624	750	746	686	704	728	648	494	260	106	41	26	19	13	13
Surplus	**669**	**495**	**244**	**118**	**122**	**182**	**164**	**140**	**220**	**374**	**608**	**762**	**827**	**842**	**849**	**855**	**855**
Effective Parking Surplus[2]	**626**	**452**	**201**	**75**	**79**	**139**	**121**	**97**	**177**	**331**	**565**	**719**	**784**	**799**	**806**	**812**	**812**
Proposed Development																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Hotel (100% Occpancy)[3]	153	119	96	83	80	72	64	72	81	97	105	110	130	150	163	193	193
Restaurant[4]	0	0	5	7	15	47	37	26	18	21	58	90	96	78	81	48	48
MN Center Easement[5]	0	25	85	85	100	100	100	100	85	85	50	25	10	0	0	0	0
Total Spaces Used	153	144	186	175	195	219	201	198	184	203	213	225	236	228	244	241	241
Surplus	**175**	**184**	**142**	**153**	**133**	**109**	**127**	**130**	**144**	**125**	**115**	**103**	**92**	**100**	**84**	**87**	**87**
Effective Parking Surplus[2]	**159**	**168**	**126**	**137**	**117**	**93**	**111**	**114**	**128**	**109**	**99**	**87**	**76**	**84**	**68**	**71**	**71**
Total Site Parking Demand (Minnesota Center + Proposed Development)																	
Total Spaces Used	352	517	810	925	941	905	905	926	832	697	473	331	277	254	263	254	254
Surplus	**844**	**679**	**386**	**271**	**255**	**291**	**291**	**270**	**364**	**499**	**723**	**865**	**919**	**942**	**933**	**942**	**942**
Effective Parking Surplus[2]	**785**	**620**	**327**	**212**	**196**	**232**	**232**	**211**	**305**	**440**	**664**	**806**	**860**	**883**	**874**	**883**	**883**

[1]Observed Minnesota Center parking demand inflated for 100% building occupancy.

[2]5% reduction in parking supply to minimize the perception of inadequate parking

[3]Parking demand is based on 100% hotel occupancy and an observed parking rate of 0.9 parking space per occupied room.

[4]Parking demand based on ITE data for a "High-Turnover (Sit-Down) Restaurant" with a bar or lounge.

[5]Time of day distribution is from the City of Bloomington independent parking analysis.

Typical and hypothetical maximum parking demand models for a weekend are shown in **Table 9** and **Table 10**, respectively.

Table 9. Weekend Time of Day Model – Typical Parking Demand

Minnesota Center																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
MN Center[1]	12	12	12	12	12	12	15	13	14	13	13	13	13	13	13	12	11
Total Spaces Used	12	12	12	12	12	12	15	13	14	13	13	13	13	13	13	12	11
Surplus	**856**	**856**	**856**	**856**	**856**	**856**	**853**	**855**	**854**	**855**	**855**	**855**	**855**	**855**	**855**	**856**	**857**
Effective Parking Surplus[2]	**813**	**813**	**813**	**813**	**813**	**813**	**810**	**812**	**811**	**812**	**812**	**812**	**812**	**812**	**812**	**813**	**814**
Proposed Development																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Hotel[3]	116	107	99	86	74	64	54	56	62	61	72	69	68	73	102	127	142
Restaurant[4]	0	0	5	7	19	39	50	43	36	59	75	94	87	66	31	8	8
MN Center Easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Spaces Used	116	107	104	93	93	103	104	99	98	120	147	163	155	139	133	135	150
Surplus	**212**	**221**	**224**	**235**	**235**	**225**	**224**	**229**	**230**	**208**	**181**	**165**	**173**	**189**	**195**	**193**	**178**
Effective Parking Surplus[2]	**196**	**205**	**208**	**219**	**219**	**209**	**208**	**213**	**214**	**192**	**165**	**149**	**157**	**173**	**179**	**177**	**162**
Total Site Parking Demand (Minnesota Center + Proposed Development)																	
Total Spaces Used	128	119	116	105	105	115	119	112	112	133	160	176	168	152	146	147	161
Surplus	**1068**	**1077**	**1080**	**1091**	**1091**	**1081**	**1077**	**1084**	**1084**	**1063**	**1036**	**1020**	**1028**	**1044**	**1050**	**1049**	**1035**
Effective Parking Surplus[2]	**1009**	**1018**	**1021**	**1032**	**1032**	**1022**	**1018**	**1025**	**1025**	**1004**	**977**	**961**	**969**	**985**	**991**	**990**	**976**

[1]Observed Minnesota Center parking demand.

[2]5% reduction in parking supply to minimize the perception of inadequate parking

[3]Parking demand is based on 90% hotel occupancy and an observed parking rate of 1.0 parking space per occupied room.

[4]Parking demand based on ITE data for a "High-Turnover (Sit-Down) Restaurant" with a bar or lounge.

Table 10. Weekend Time of Day Model – Hypothetical Maximum Parking Demand

Minnesota Center																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
MN Center (100% Occpancy)[1]	15	15	15	15	15	15	19	16	18	16	16	16	16	16	16	15	14
Total Spaces Used	15	15	15	15	15	15	19	16	18	16	16	16	16	16	16	15	14
Surplus	**853**	**853**	**853**	**853**	**853**	**853**	**849**	**852**	**850**	**852**	**852**	**852**	**852**	**852**	**852**	**853**	**854**
Effective Parking Surplus[2]	**810**	**810**	**810**	**810**	**810**	**810**	**806**	**809**	**807**	**809**	**809**	**809**	**809**	**809**	**809**	**810**	**811**
Proposed Development																	
	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Hotel (100% Occpancy)[3]	171	132	106	92	89	80	71	80	90	108	117	122	144	167	181	214	214
Restaurant[4]	0	0	5	7	19	39	50	43	36	59	75	94	87	66	31	8	8
MN Center Easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Spaces Used	171	132	111	99	108	119	121	123	126	167	192	216	231	233	212	222	222
Surplus	**157**	**196**	**217**	**229**	**220**	**209**	**207**	**205**	**202**	**161**	**136**	**112**	**97**	**95**	**116**	**106**	**106**
Effective Parking Surplus[2]	**141**	**180**	**201**	**213**	**204**	**193**	**191**	**189**	**186**	**145**	**120**	**96**	**81**	**79**	**100**	**90**	**90**
Total Site Parking Demand (Minnesota Center + Proposed Development)																	
Total Spaces Used	186	147	126	114	123	134	140	139	144	183	208	232	247	249	228	237	236
Surplus	**1010**	**1049**	**1070**	**1082**	**1073**	**1062**	**1056**	**1057**	**1052**	**1013**	**988**	**964**	**949**	**947**	**968**	**959**	**960**
Effective Parking Surplus[2]	**951**	**990**	**1011**	**1023**	**1014**	**1003**	**997**	**998**	**993**	**954**	**929**	**905**	**890**	**888**	**909**	**900**	**901**

[1]Observed Minnesota Center parking demand inflated for 100% building occupancy.

[2]5% reduction in parking supply to minimize the perception of inadequate parking

[3]Parking demand is based on 100% hotel occupancy and an observed parking rate of 1.0 parking space per occupied room.

[4]Parking demand based on ITE data for a "High-Turnover (Sit-Down) Restaurant" with a bar or lounge.

Based on the parking model, it is evident that each existing/proposed land use has a distinct period of peak parking demand, and none of these periods overlap:

- Existing Minnesota Center period of peak parking demand: 9:00 a.m. – 3:00 p.m.
- Proposed hotel period of peak parking demand: 9:00 p.m. – 7:00 a.m.
- Proposed restaurant period of peak parking demand: 5:00 p.m. – 9:00 p.m.

Because of this model observation, a consistent surplus of parking is expected. The proposed development hypothetical maximum peak parking demand is estimated to be 244 vehicles, equivalent to 75 percent parking occupancy. Considering this estimated hypothetical maximum peak parking demand and a minimum five (5) surplus to limit unnecessary site circulation and the perception of inadequate parking, the proposed development parking supply should be no less than 257 stalls. It should be noted that the parking demand model likely produces a conservatively high peak parking demand, as no multi-use reduction was applied for people using a combination of the Minnesota Center, proposed hotel, and proposed restaurant land uses. The overall conclusion drawn from the parking demand model is that the proposed development supply of 328 parking stalls is expected to be adequate.

3.4. Additional Considerations

Several additional considerations are worth noting regarding existing and future parking demand:

- Based on conversations with Minnesota Center management company Transwestern, the following information should be considered:
  - The Minnesota Center does not hold large events that would cause a significant surge in parking demand beyond what was observed during parking study data collection.
  - Due to complaints about parking stall width, parking stalls in the Minnesota Center parking ramp may be widened in the future. While increasing parking stall width a reasonable distance would not be expected to cause a parking deficit, Transwestern should reevaluate parking supply/demand prior to completing a ramp restriping project.
- The primary entrances for the proposed hotel and restaurant are located on the upper level of the proposed development parking lot/ramp. Consequently, the upper level is expected to experience greater parking utilization than the lower level of the proposed development parking lot/ramp. Therefore, it should be considered to restrict vehicles associated with the 100-stall Minnesota Center easement to the lower level of the proposed development parking lot/ramp.

4. Conclusions and Recommendations

The following conclusions and recommendations are offered for consideration:

- The proposed Drury Hotel development consists of a 214-room hotel and a standalone 200-seat restaurant located at 3901 Minnesota Drive in Bloomington, MN. The proposed development is expected to replace an existing 167-stall surface parking lot onsite, though the adjacent Minnesota Center office complex is expected to maintain a shared parking easement that requires the proposed development to provide 100 parking stalls.
- At the Minnesota Center, the observed existing total peak parking demand was 600 vehicles. This demand is equivalent to 58 percent parking occupancy under existing conditions.
- Leasable space at the Minnesota Center is currently 80 percent occupied. Adjusting for 100 percent occupancy yields a peak parking demand of 750 vehicles. Conservatively eliminating the existing 167-stall surface parking lot without considering the 100-stall easement, this parking demand is equivalent to 86 percent parking occupancy. Therefore, the onsite Minnesota Center parking supply is expected to be adequate under future conditions.
- Utilizing observed Minnesota Center parking demand, observed parking demand at a nearby Holiday Inn Express, and ITE Parking Generation Manual hourly parking distribution data for a restaurant, an hourly parking demand model for the existing Minnesota Center/proposed development site was created.
    - Based on the parking model, the existing/proposed land uses have distinct periods of peak parking demand, and none of these periods overlap. Therefore, a consistent surplus of parking is expected.
    - The proposed development hypothetical maximum peak parking demand is estimated to be 244 vehicles, equivalent to 75 percent parking occupancy. Considering this estimated hypothetical maximum peak parking demand and a minimum five (5) surplus to limit unnecessary site circulation and the perception of inadequate parking, the proposed development parking supply should be no less than 257 stalls. Therefore, the proposed development supply of 328 parking stalls is expected to be adequate.
- Additional considerations are worth noting regarding existing and future parking demand:
    - The Minnesota Center does not hold large events that would cause a significant surge in parking demand beyond what was observed during parking study data collection.
    - Due to complaints about parking stall width, parking stalls in the Minnesota Center parking ramp may be widened in the future. While increasing parking stall width a reasonable distance would not be expected to cause a parking deficit, Minnesota Center management should reevaluate parking supply/demand prior a ramp restriping project.
    - The primary entrances for the proposed hotel and restaurant are located on the upper level of the proposed development parking lot/ramp. Consequently, the upper level is expected to experience greater parking utilization than the lower level of the proposed development parking lot/ramp. Therefore, it should be considered to restrict vehicles associated with the 100-stall Minnesota Center easement to the lower level of the proposed development parking lot/ramp.