



MEMORANDUM

SRF Project No. 19872

To: Brian Hansen, Development Coordinator
City of Bloomington

From: Phil Kulis, PE, PTOE, RSP₂₁
Brent Clark, PE

Date: January 15, 2026

Subject: Mall of America Remote Airport Parking Study

Introduction

SRF Consulting Group was hired by the City of Bloomington to evaluate the parking at the Mall of America (MOA) for consideration with their Conditional Use Permit application to provide remote airport parking within their existing parking infrastructure. The MOA is planning to convert the 7th floor of the East Ramp to accommodate a remote airport parking system, utilizing the existing transit service to and from the airport. The main objectives of the study were to review parking data supplied by the MOA, review the *Parking Demand Analysis Update* memo by Walker Consultants, field review parking demand, validate whether there is sufficient parking capacity to remove a level of parking supply and/or determine which days the level will be needed by the mall, and assess the current wayfinding and ramp circulation. This memorandum documents the results of this review and evaluation.

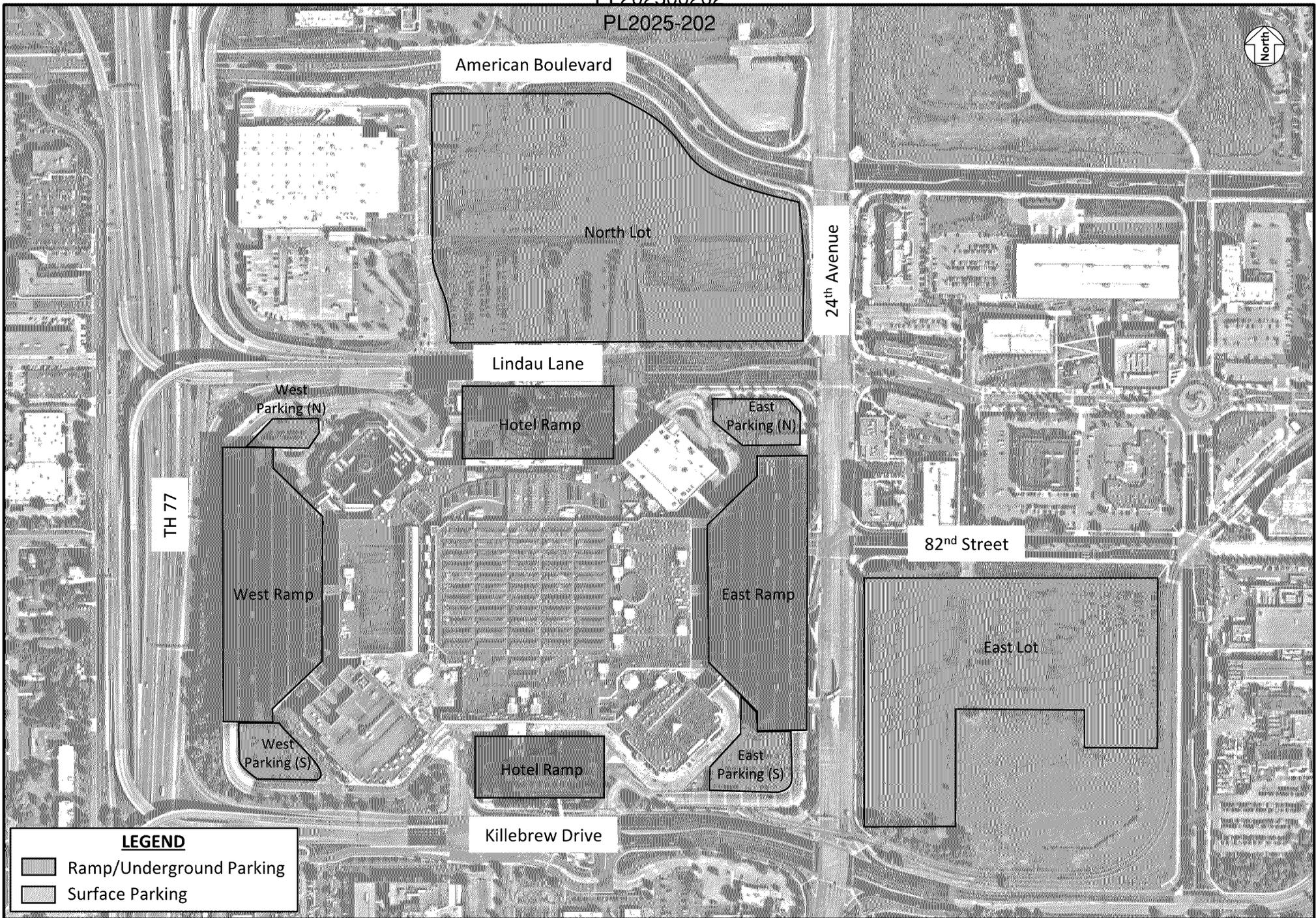
Mall of America Existing Parking Infrastructure

The MOA's existing parking infrastructure includes a combination of surface lots, underground parking, and parking ramps. A summary of the available parking facilities is as follows:

- North Lot – 2,058 spaces
- Hotel Ramps – 1,109 spaces
- West Ramp, East Ramp, and Surrounding Surface Lots – 11,415
 - The 7th floor of the East Ramp has 907 parking spaces. The 7th floor of both ramps are closed unless operations determine they are needed.
- East Lot – 1,801 spaces

The total supply of parking not including the East Lot is 14,582 spaces. The total supply with the East Lot is 16,383 spaces. Without the 7th floor of the East Ramp, the supply is reduced to 13,675 not including East Lot and 15,476 including the East Lot.

The Park Assist system includes 11,415 spaces in the two ramps and surrounding surface lots. This system is used to monitor the number of vehicles parked and convey the available parking via digital signs, along with overhead indications for individual spaces in the ramps. Figure 1 shows the location of the existing parking infrastructure at the MOA.



LEGEND

- Ramp/Underground Parking
- Surface Parking

Parking Demand Analysis Update Review

Walker Consultants completed an analysis of the parking demand at the MOA from 2019 through 2025, which is documented in the *Parking Demand Analysis Update* memo dated January 14, 2026. The memo is included as an attachment. Based on this memo, key takeaways are:

- Occupied gross leasable area (GLA) has decreased from 2019. A summary of the mall occupancy is shown in Table 1.

Table 1 Mall Occupancy

Year	Small Shop Occupancy	Occupancy with Majors (Excluding Sears)	Occupancy with Majors (Including Sears)
2019	84.3%	83.3%	89.6%
2022	83.6%	83.0%	-
2024	81.7%	81.7%	-

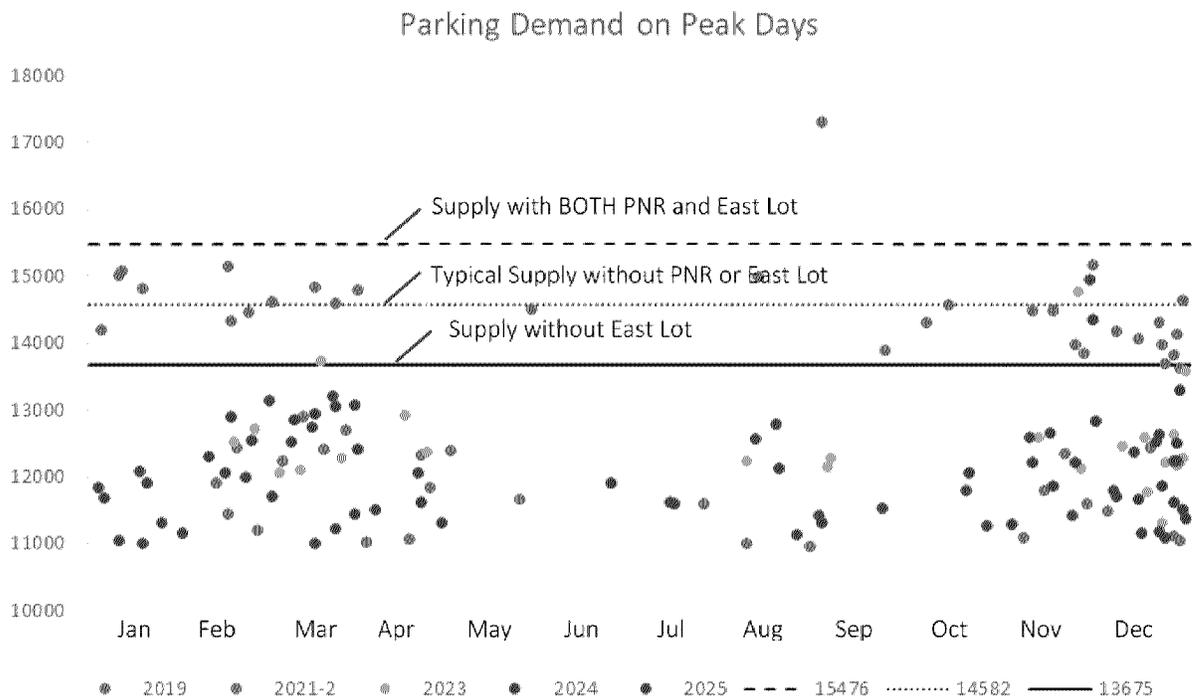
- Sears closed in March 2019, which is why it is not included in 2022 or 2024.
- Based on the parking spreadsheet provided by the mall, a Sears redevelopment would need an estimated 650 spaces.
- The historical parking demand was reviewed from a couple different perspectives:
 - The first was looking at the average of peak days (i.e. demand exceeded 11,000 spaces) from January to October. This was also reviewed from November to Christmas and after Christmas.
 - The second was looking at the 20th highest hour, which is typically used for analysis of parking demand at shopping centers. This traditionally has been on one of the Saturdays that is seven to ten days before Christmas. However, since 2021, this has occurred in August (2025), November (2021), and December after Christmas (2023 and 2024).
 - The last was looking at Black Friday, which is typically the peak parking demand, except for in 2019 due to a rare combination of activities in August.
- The demand numbers include a 5 percent "buffer", which accounts for circulation.
- A summary of historical parking demand from 2019 through 2025 is shown in Table 2.

Table 2 Historical Parking Demand

Year	Average of Peak Days (January - October)	20th Highest Hour	Black Friday
2019	14,786	14,778	15,161
Nov. 2021- Oct. 2022	11,822	12,335	13,835
2023	12,484	12,636	14,771
2024	12,089	12,545	14,344
2025	11,877	12,621	14,940

- A summary of the historical parking demand is:
 - Average of Peak Days: The average of the peak days has decreased from 2023 through 2025, and is approximately 20 percent less than in 2019.
 - 20th Highest Hour:
 - Occupied gross leasable area (GLA) has decreased by approximately one to two percent since 2019; however, parking demand for the 20th highest hour has decreased approximately 14 to 16 percent.
 - The 20th highest hour demand has been relatively consistent over the past four years, ranging from 12,335 to 12,636 spaces, with 2023 being the highest.
 - Black Friday: Parking demand on Black Friday has been relatively consistent from 2019 through 2025, except for 2021 which is likely due to the COVID-19 pandemic. Black Friday 2025 had the highest demand since 2021, which was within 221 spaces of Black Friday 2019.
- The graph shown in Figure 2 is included in the memo, which shows the peak hour demand on days when the parking demand exceeded approximately 11,000 spaces in at least one hour.

Figure 2 Parking Demand Analysis – Parking Demand on Peak Days



- Based on the data in the graph, demand is generally down from 2021 through 2025 compared to 2019. The exception is Black Friday that has been relatively consistent, with Black Friday 2025 demand nearly equaling 2019.
- Looking at the supply with removal of the 7th floor at the East Ramp for the remote airport parking, the demand exceeded the supply without the East Lot (13,675 spaces) on five days from 2021 through 2025. This includes Black Friday in 2021, 2023, 2024, and 2025, as well as March 18, 2023. Data for Black Friday 2022 was not provided, so it is unknown what the demand was that year. However, the supply with the East Lot of 15,746 has not been exceeded since 2019.
- The East Lot used to be more frequently used than it is now due to the lower overall parking demand. Since 2020, the East Lot has been needed on two occasions: 1) Black Friday in 2023 with a peak hour demand of approximately 200 cars parked; and 2) Black Friday in 2025 with a peak hour demand of approximately 1,000 cars park, which is approximately 56 percent of the lot capacity.
- Patron intercept surveys show that the percentage of patrons driving and parking at the mall has increased from approximately 75 to 84 percent. It is believed this is related to the reduced use of public transit, including the Blue Line LRT that terminates at the mall, and reduced use of transportation network companies (TNCs).
- The memo states their opinion is that the 7th Floor can be used for remote airport parking all months of the year for the foreseeable future. This is due to there being only five days when the demand would have exceeded the supply without the East Lot, and opening the

East Lot would have accommodated the demand. It is noted that if the trend in fall of 2026 is higher than 2025, then they may need to stop taking reservations a week to 10 days prior to Black Friday.

Memo Comments

SRF has the following comments on the *Parking Demand Analysis* memo for consideration:

- The memo states that parking demand has trended down from 2023 to 2024 to 2025. This is true for the average of the peak days, which has decreased from 12,484 in 2023 to 11,843 in 2025. However, the 20th highest hour and Black Friday have remained relatively consistent.
- The memo analyzed the total parking demand relative to total supply. It should be noted that while the total supply might be adequate, there could still be impacts. Based on the analysis, the parking ramps are the most utilized and desirable parking. A couple of considerations are:
 - With less available ramp parking with the remote airport parking on the 7th floor, more people might have to park farther away in the North Lot or East Lot, which requires people to walk farther.
 - If the East Lot is required more, more people must cross 24th Avenue. There are signal timing implications to this as the ped phase on the south leg will be activated more. This would also increase the exposure of pedestrians to vehicles.
 - There could be more circulation of vehicles as drivers look for available parking spaces if the ramps are fully occupied more. The parking at the MOA covers a vast area, which could make it a challenge to find an available space as the parking occupancy increases.

Field Review

A field review of parking at the mall was completed to achieve the following objectives:

- The parking data provided does not include a detailed breakdown of the parking utilization across the West Ramp, East Ramp, and surrounding surface lots. Based on the parking data provided by the MOA and the *Parking Demand Analysis Update*, the West Ramp and East Ramp are the most utilized parking facilities. Recognizing these are the most utilized facilities, a field review of parking was conducted to understand the distribution of parking among the existing infrastructure. As previously discussed, even though the overall supply may be sufficient, there could still be impacts due to removing a level of parking.
- This provided a “ground truth” data point that could be compared to the parking data available through the Park Assist system.

Field reviews of the parking were completed on three Saturdays in 2025, which were November 15, December 13, and December 20. The November 15 date captured data prior to the holiday

peak, while the two Saturdays in December covered the holiday peak. The field review included driving around the MOA and documenting the parking available on the digital signs, observing the number of parked cars on the 7th floor, and counting the number of cars parked in the North and East Lots. The numbers in the table were determined by the following:

- Parking Ramps and Surrounding Surface Lots – Available spaces on digital signs
- North Lot – Estimated based on area where cars were parked. Due to the large area and number of vehicles, vehicles were not individually counted.
- East Lot – Counted based on the number of cars parked.

Table 3 shows the parking spaces that were available at the dates and times noted.

Table 3 Field Observed Parking Spaces

Location		Available Parking Spaces					
		Floor	11/15/25 2:30 - 3:00 p.m.	12/13/25 12:45 - 1:15 p.m.	12/13/25 1:15 - 1:45 p.m.	12/20/25 1:15 - 1:45 p.m.	12/20/25 1:45 - 2:15 p.m.
Parking Ramps	East Ramp	1	8	35	22	27	27
		2	32	94	78	66	57
		3	31	65	51	38	27
		4	21	30	35	32	27
		5	53	223	211	200	145
		6	242	639	540	458	364
		7	803	907 ¹	907 ¹	907 ¹	907 ¹
	West Ramp	1	28	37	34	32	21
		2	27	41	28	31	25
		3	19	35	30	23	18
		4	15	24	24	24	8
		5	61	66	77	75	72
		6	59	677	475	316	146
		7	683	924 ¹	924 ¹	924 ¹	704
Total		2082	3797	3436	3153	2548	
Surrounding Surface Lots	West Parking (North)	0	0	0	0	0	
	West Parking (South)	14	11	6	10	13	
	East Parking (North)	45	71	69	54	40	
	East Parking (South)	15	23	28	20	20	
	Total	74	105	103	84	73	
North Lot	Total	DC²	1600	1550	1450	1350	
East Lot	Total	DC²	1796	1795	1801	1801	
Grand Total		2156	7298	6884	6488	5772	

1) 7th Floor was closed at time of observation.

2) Did not count in the field. Grand total would be higher than shown if the North Lot and East Lot were counted and included.

Parking Demand Observations

Based on the field parking observations, November 15 was the busiest day in the West Ramp and East Ramp out of the three days observed. On this date, the 7th floor was open in both ramps and actively being utilized, with approximately 100 vehicles parked on the 7th floor of the East Ramp. During this time there were approximately 2,100 spaces available in the ramps. Excluding the available parking on the 7th floor of the East Ramp, there were approximately 1,300 spaces available in the ramps.

On November 15, based on our observations, there were approximately 2,200 spaces available in the ramps and surrounding surface lots. The data provided by the mall shows there were approximately 2,700 spaces available at 2 p.m. and 2,500 spaces available at 3 p.m. These are relatively close to each other, which was expected. The differences could be attributed to it taking several minutes to view the available parking numbers across the ramps and lots, so the field numbers are not from exactly one point in time. Also, the numbers provided by the mall are aggregated at the hourly level.

On December 13 and December 20 when the North and East Lots were counted as well, there were at least 5,500 parking spaces available during the time periods the counts were collected.

Other Field Observations

During the field observations, a couple items were noted unrelated to the number of parking spaces available, which are:

- The available parking shown on the digital signs for the surface lots did not necessarily align with the parking spaces available. This was particularly true for the East Parking South and West Parking South lots, which showed available parking at times, but there were no observed open parking spaces. This resulted in vehicles entering these lots and being required to circulate.
- There were several instances where the overhead indicator lights were illuminated green, but there was not an available parking space. It is understood that the Park Assist is continually monitoring the spaces and can self-correct; however, this can result in unnecessary circulation as drivers think there is an available parking space when there is not and then have to continue looking for another space. This can also result in an overestimate of available spaces since it was never observed to show a spot as occupied (i.e. red indication) when it was actually available. An example of this is shown in Figure 3.

Figure 3 Park Assist Overhead Indications



- The parking information section on the MOA website that shows the occupancy of each floor of the West Ramp and East Ramp regularly shows Level 7 as "Open" even when they are closed and not available to park in. It is recommended to update this to closed if parking is not available on the 7th floor. With the implementation of the remote airport parking on the 7th floor of the East Ramp, it should be noted that this level is unavailable for general parking.

Figure 4 Mall of America Parking Website

PARKING RAMPS			
<div style="background-color: black; color: white; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">Open</div>	WEST PARKING RAMP	70%	79%
	LEVEL 1	88%	100%
	LEVEL 2	69%	66%
	LEVEL 3	86%	100%
	LEVEL 4	88%	80%
	LEVEL 5	69%	33%
	LEVEL 6	31%	20%
	LEVEL 7	OPEN	
WEST RAMP DIRECTIONS			
<div style="background-color: black; color: white; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">Open</div>	EAST PARKING RAMP	61%	65%
	LEVEL 1	86%	68%
	LEVEL 2	78%	60%
	LEVEL 3	75%	50%
	LEVEL 4	84%	86%
	LEVEL 5	44%	50%
	LEVEL 6	12%	16%
	LEVEL 7	OPEN	
EAST RAMP DIRECTIONS			

Conclusions and Recommendations

Based on the parking data provided by the MOA, the *Parking Demand Analysis Update* memo by Walker Consultants, and field review completed by SRF, the following conclusions are drawn:

- The Park Assist system installed at the MOA provides detailed parking usage that can be used to assist with parking analyses.
- The current total supply of parking not including the East Lot is 14,582 spaces. The total supply with the East Lot is 16,383 spaces.

- The 7th floor of the East Ramp has 907 parking spaces. Without the 7th floor of the East Ramp, the supply is reduced to 13,675 not including the East Lot and 15,476 with the East Lot.
- The mall occupancy measured by occupied GLA was 81.7 percent in 2024, which is down approximately 1.6 percent from 83.3 percent in 2019, excluding Sears. Including Sears, the occupancy was 89.6 percent in 2019. It is estimated that a Sears redevelopment would require 650 spaces.
- Since 2019 parking demand at the mall has changed, which is due to a combination of Sears closing and behavior changes since the COVID-19 pandemic. Based on the *Parking Demand Analysis Update*, parking demand has changed as follows:
 - Average of Peak Days: The average of the peak days has decreased from 2023 through 2025, and is approximately 20 percent less than in 2019.
 - 20th Highest Hour: The 20th highest hour demand has been relatively consistent over the past four years, ranging from 12,335 to 12,636 spaces, with 2023 being the highest.
 - Black Friday: Parking demand on Black Friday has been relatively consistent from 2019 through 2025, except for 2021 and 2022. 2025 had the highest Black Friday demand at 14,490. The East Lot was open in 2025 with a peak hour demand of approximately 1,000, which is approximately 56 percent of the lot capacity.
 - The demand exceeded the supply with removal of the 7th floor of the East Ramp and without the East Lot (13,675) five times from 2021 through 2025. These were Black Friday in 2021, 2023, 2024, and 2025, along with March 18, 2023. However, the supply with the East Lot of 15,746 has not been exceeded since 2019.
 - The East lot used to be used more frequently than it is now due to the lower overall demand.
 - Overall, since 2021 there typically has been adequate total supply for the 7th floor of the East Ramp to be used as remote parking for the airport. However, Black Friday demand has been approaching supply, with Black Friday 2025 demand being within approximately 540 spaces of the total supply.
- The *Parking Demand Analysis Update* focused on overall parking demand and supply. While the overall supply might be adequate, there could still be impacts and a couple of considerations are:
 - With less available ramp parking with the remote airport parking on the 7th floor, more people might have to park farther away in the North Lot or East Lot, which requires people to walk farther.
 - If the East Lot is required more, more people must cross 24th Avenue. There are signal timing implications to this as the ped phase on the south leg will be activated more. This would also increase the exposure of pedestrians to vehicles.
 - There could be more circulation of vehicles as drivers look for available parking spaces if the ramps are fully occupied more.

- The overall supply includes the parking spaces in the hotel ramps. Depending on hotel occupancy, the availability of these for general mall traffic might fluctuate.
- The field review provided a more in-depth understanding of the available parking facilities and how parking is utilized at the MOA. A couple highlights from the field observations are:
 - The available parking in the ramps and surrounding surface lots was relatively close to the available parking shown in the data provided by the mall.
 - The digital message signs showing available parking spaces did not align with actual available parking at times in the surrounding surface lots. Also, it was noted that there were instances when the overhead indications showed an available space (i.e. green) when there was no available space. Both can result in additional circulation in the ramps and lots. Also, this can result in an overestimate of available spaces.

Recommendations

The following section outlines SRF's recommendations related to utilizing the 7th floor of the East Ramp at the MOA as remote airport parking. Based on the results documented in this memo, SRF's recommendations are:

- Allow the 7th floor of the East Ramp to be utilized as remote airport parking throughout the year. Due to the higher demand that has been seen on Black Friday, the number of spaces available for remote parking on Black Friday should be reduced to provide a buffer in case demand on future Black Fridays is higher.
 - Once vehicles are parked for the remote parking, these spaces cannot be easily opened for general use if needed. Therefore, the available spaces for remote parking will likely need to be reduced in advance of Black Friday. The specific details of how far in advance should be based on the duration vehicles are typically parked, which there will be better information on once the remote parking system is active.
 - The mall has indicated they are planning on reducing the supply available for remote parking on Black Friday 2026 by 300 spaces. This should be monitored and adjusted based on parking demand during Spring Break 2026, as well as annually based on historical Black Friday demand.
 - This recommendation is from an overall parking supply, and it should be noted that there are additional impacts to having the ramps occupied more frequently as discussed above.
- Continue to monitor the parking demand to identify any trends and if there are days when the remote airport parking should be suspended. Consider completing a parking demand analysis annually to identify if changes to the operations of the 7th floor remote airport parking are required.
- Parking demand has changed since 2019 and will continue to change as people's behaviors change, along with changes at the mall. Known potential changes at the mall are the redevelopment of the Sears site, along with the construction of the water park, which will affect

demand and supply. As these changes at the mall occur, a parking demand and supply analysis should be completed to identify if changes to the operations of the 7th floor remote airport parking are required.

- The MOA parking website should be updated to reflect the change of the 7th floor not being open and available for general mall use.
- Review the calibration of the Park Assist system to determine if any adjustments are needed to increase the accuracy of the system as this impacts the parking demand analysis and circulation.

Attachment: *Parking Demand Analysis Update Memo*



January 14, 2026

Kurt Hagen
Senior Vice President
Triple Five Worldwide
Via Email

Re: *Parking Demand Analysis Update
Mall of America (MOA)
Bloomington, MN
Walker Project 21-005146.20*

Dear Kurt:

Walker Consultants (Walker) is pleased to be able to assist MOA with an updated analysis of the parking demand of Mall of America (MOA). We have reviewed and compared data for roughly the top 100 hours for 2019 (pre-pandemic), November 2021 through October 2022, calendar years 2023 and 2024, and 2025. The key findings are summarized in this cover letter with the full analysis attached. The purpose of this update is to evaluate the parking demand with the supply in various periods throughout the year with the proposed use of the roof level of the East deck as airport Park N Ride (PnR).

The standard of the industry for parking demand for a shopping center is the 20th highest hour of the year. Traditionally, it has been the second or third highest hour on the Saturday that is 7 to 10 days before Christmas. The following summarizes the 20th highest hours:

20 th Highest Hr	Date	Demand	Change from 2019
2019 CY	August 10	14,778	
2021-2022	November 20 (2021)	12,335	-16.5%
2023 CY	December 26	12,636	-14.5%
2024 CY	December 27	12,199	-17.5%
2025 CY	August 16	12,621	-14.6%

It is noted that MOA has now made a modification to its projection of parking occupancy in the East Lot. Traditionally, the lot wasn't used in many hours and thus MOA simply assumed the total car count for the day was all present at one time. However, based on the longer hours of use on Black Friday in the last two years, it has lowered its occupancy count to reflect that it is used more hours in one day. This has only affected car counts on Black Friday, lowering them 139 spaces in 2024 (<1%) and 271 spaces (-1.8%) in 2025 from what was in our December 2025 report.

In none of the five years did the 20th percentile highest hour occur in pre-Christmas shopping season, although in two of the years it was post-Christmas. In 2021 it was pre-Black Friday, but the post-holiday period was sharply reduced by the Covid Omicron variant.

The 1-2% decline in occupied GLA since 2019 does not account for the overall decline in parking demand of over 14%. Therefore, we reviewed data provided by MOA to find any anomalies or information that would indicate specific influences on the changes in parking demand and particularly seasonality of the demand. At the same



time, recent patron intercept surveys show that the percent of patrons driving and parking has increased from 75% to 84%, which we believe is due to reduced use of public transit and transportation network companies (such as Uber and Lyft). Thus, the decline in pedestrian counts is even more than in parking counts.

The average demand of peak days (generally days with more than 11,000 space demand) across the year declined 18.5% from 2019 to the 2021-2 low point due to Covid Omicron virus, with significant declines (over 15%) in all seasons except Black Friday which was down about 9%. 2023 showed good recovery in all seasons, with the average across the year being -14% and Black Friday down just 2.6% from 2019. 2024 actually declined slightly from 2023 in all categories. The 2025 average peak day demand across the year declined even more from January through October to nearly 20% down from 2019. However, the Christmas shopping season and post-Christmas period was stronger than 2024, but still down at least 12% from 2019.

Black Friday 2025 was higher than 2023 or 2024, with Black Friday being 1.5% less than that day in 2019. This may have been driven somewhat by weather reports of a storm on Saturday and Sunday, as there was markedly reduced demand of less than 10,000, on Saturday (2025), respectively in the occupancy data. The peak hour on Saturday in 2024 was 12,820; thus the decline was at least 28% from the prior year. Sunday was also down from 10,000 in 2024 to less than 9,000 in 2025.

We think it unlikely that the levels of parking demand seen in 2019 in the 20th highest hour will be achieved for at least several more years due to the fact that MOA has many more hours in the top 20 that occur outside the shopping season than even a large regional mall. Given that the January to October declines are greater than in the holiday shopping season, and the relatively strong counts on Black Friday, we suspect that family entertainment activity has declined more than retail shopping. This benefits the ability to operate the PnR throughout the year.

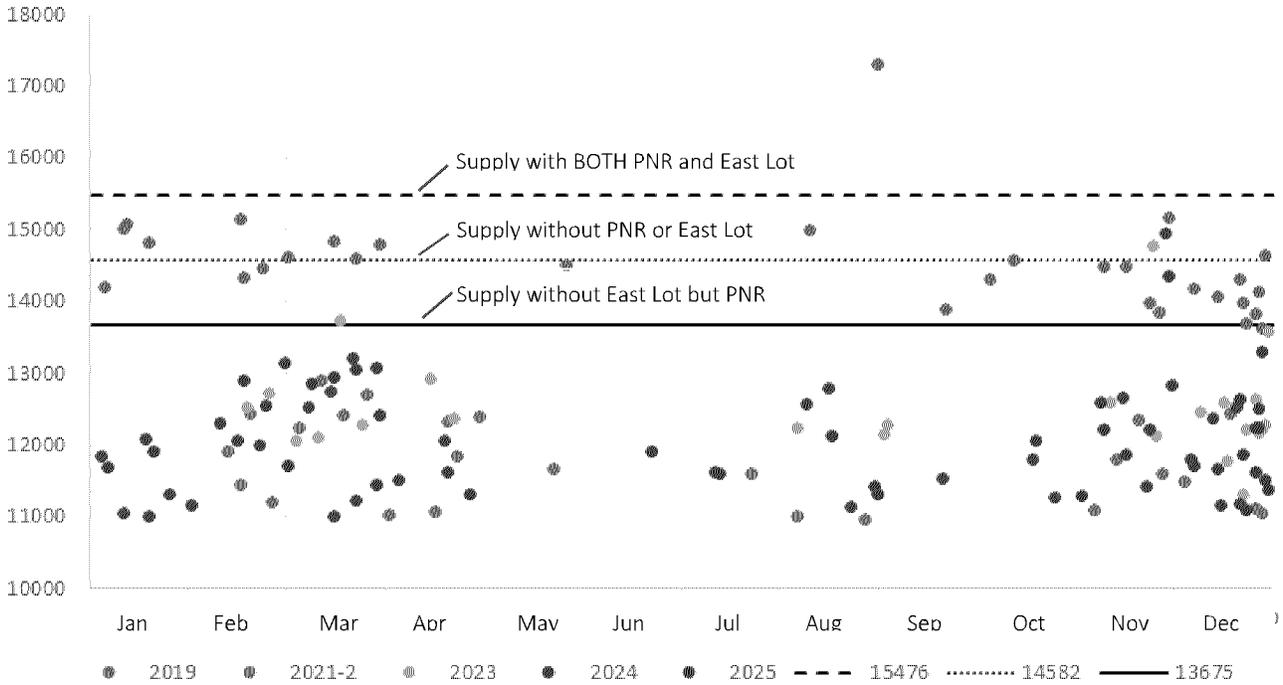
The current supply of parking is 14,582 spaces, with the East Lot taking it to 16,383 spaces total. There has been some loss of spaces to the transit center renovation that was completed in 2020 compared to earlier studies. The roof level of the East Deck with 907 spaces will be used for the Park N Ride program, which will reduce the MOA supply to 13,675 spaces on nearly all days without the East Lot. If PnR still uses P7 East, but the East Lot is open, the capacity is 15,476. The following compares peak days (over 11,000 spaces with supply.)

There was an anomaly peak in 2019 with parking demand approaching 17,900 spaces. This was due to MOA sponsoring a large charity event during an otherwise busy period with back-to-school shopping and a last chance to enjoy the family entertainment venues before school starts. This was an anomaly and should be treated as an unusual day with a special transportation plan, just as parking supply at NFL stadiums is not designed for the Super Bowl.

There was one spring break day and one Christmas break day where the supply with PnR but without the East Lot was exceeded in 2023 as well as Black Friday in both 2024 and 2025. Given that these are one day peaks, they could be easily accommodated by opening the East Lot, which has 1,801 spaces, bringing the total with PnR to 15,476 spaces. That avoids having to close PnR to new reservations multiple days in advance of a single peak day. Remember that the "demand" figures all have a 729 space "effective supply cushion" to make it easier to find spaces.



Parking Demand on Peak Days



However, even the highest 2025 figure is still at least 250 spaces LESS than the supply. Thus, Black Friday did not exceed the supply without P7 East in any of those years, and considering the 729-space cushion for effective supply there would still be nearly 1000 spaces vacant on Black Friday per our December report to help ease the difficulty of searching for the vacant spaces. The Black Friday demand has now been reduced 1-2% to 14,434 and 14,483 due to the change in projected East Lot occupancy for Black Friday 24/25. This is clearly supported by aerial photos taken on Black Friday 2025 at 3:58 PM.

It is therefore our opinion that the PnR can be operated in all months of the year for the foreseeable future. If the trend in fall of 2026 is higher than 2025, then MOA may have to stop/limit reservations a week to 10 days before Black Friday. They also should be cognizant of weather reports that might shift demand before or after peak days such as Black Friday.

If you should have any additional questions, please do not hesitate to call or email.

Sincerely,

WALKER CONSULTANTS

Mary S. Smith

Mary S Smith
 Senior Vice President

Parking Demand

MOA has observed that pedestrian traffic and parking demand has declined from pre-pandemic levels. We have updated our review of data provided by MOA to find any anomalies or information that would indicate specific influences on the changes in parking demand. The standard of the industry for parking demand for a shopping center is the 20th highest hour of the year. Traditionally, it has been the second or third highest hour on the Saturday that is 7 to 10 days before Christmas.

MOA provided data from the occupancy monitoring system in the parking ramps for the top 100 hours in 2019, over 500 hours in 2021-2, over 2900 hours for 2023, and over 3600 hours each for 2024 and 2025. It is noted that a parking guidance system like the Park Assist system installed in most of MOA parking decks is far more accurate than prior occupancy counting systems available at MOA, as it monitors each stall individually and typically self-corrects when a miscounted stall turns over. At entry/exits to lots and the roof level ramps, the Park Assist system still counts vehicles using its technology, which is more accurate than loop counters; however at those locations errors may not correct and accumulate throughout the day: if a car is miscounted driving up a ramp, but then is counted driving down, the error is never corrected until the system is recalibrated overnight. While we agree with SRF's recommendation to further study the accuracy of Park Assist's system, and make sure signs at entry are reasonably accurate, we believe that the current "inaccuracy" is FAR less than the 729-space extra cushion in the demand calculations as discussed later.

The Park Assist system indicates 11,415 spaces, including the Sears lot but not PO East which currently is used for employee parking. However, there are 2,058 spaces in the North Lot/Ramp and 1109 in the hotel lots, giving a total of 14,582 spaces available. It is noted that MOA generally does not open either P7 of either the east or west decks unless they anticipate needing it for that day.

An additional 1,801 spaces in the East Lot are available on peak days. In 2019, East Lot spaces were regularly used; in November 2021 they were only significantly used for parking on Black Friday, and then only for a peak hour demand of about 468 spaces. In 2023, the peak hour parking in the East Lot was estimated at about 197 spaces on Black Friday, the only day it was opened. In 2024 and 2025 the East lot was also opened only for Black Friday with a peak hour demand of about 1019 spaces per MOA, or occupancy of about 56.6%. It is noted that with the data through the end of 2025, MOA has made a modification to its projection of parking occupancy in the East Lot. Traditionally, it wasn't used in many hours and thus MOA simply assumed the total car count of entering vehicles for the day were all present at one time. However, based on the longer hours of use on Black Friday in the last two years, it has lowered its occupancy count to reflect that it is used more hours in one day. The fact that the East Lot was NOT full on Black Friday 2025 is visible in the photos at 3:58 PM below. At this time,





the revised MOA projected occupancy is 898 spaces, about 50%. This change by MOA has only affected car counts on Black Friday, lowering the peak hour 139 spaces in 2024 (<1%) and 271 spaces (-1.8%) in 2025 from what was in our December 2025 report.

MOA (with Walker’s concurrence) then added an effective supply factor of 5% to the occupied spaces in every hour to quantify parking “demand.” It is noted that both *Parking Requirements for Shopping Centers (1999)*¹ and *Shared Parking 3rd Edition (2020)*² recommend that the design day ratio be the 20th highest hour WITHOUT an added effective supply factor, as part of the selection of the 20th highest hour for the parking demand ratio. The calculation of “parking demand” based on 20th highest hour occupancy including an added 729 spaces is thus conservative.

The leasing of the mall GLA at key points is as follows:

- 2019 Occupied Small Shop GLA is 1,625,115 which equates to 84.3%. If the majors are included (including Sears as of March 2019), the Occupied GLA is 2,593,230 which equates to 89.55%. After Sears closed the occupied GLA for the remainder of the year was 2,413,320, or 83.33%
- 2022 Occupied Small Shop GLA is 1,615,067 which equates to 83.55%. If the majors are included, but excluding Sears, the Occupied GLA is 2,403,182 which equates to 82.99%.
- March 2024 Occupied Small Shop GLA is 1,588,888 which equates to 81.74%. If the majors are included (Excluding Sears), the Occupied GLA is 2,379,099 which equates to 81.70%.

These numbers do not include Temporary tenants, which adds about 3% to each of the percentages. MOA reports that there is not a significant change in the mix of tenants, such as food and beverage or family entertainment versus retail.

It is noted that Sears was closed in March 2019, but likely was performing below typical GLA that previous winter/spring. Sears represented about 6.3% of the total MOA occupancy, but it was already closed and thus was already reflected in the 2019 20th highest hour and Black Friday calculations. MOA and Sears remain in litigation over the lease and therefore the space remains vacant. The incremental demand if/when redeveloped will depend on the use or uses that replace it, including whether or not the building is demolished and rebuilt with different GLA. In any event, a 1-2% reduction in occupancy does not explain the 10-15% reduction in parking demand since 2019 (with Sears already closed) as documented herein.

The following summarizes the 20th highest hours:

20 th Highest Hr	Date	Demand	Change from 2019
2019 CY	August 10	14,778	
2021-2022	November 20 (2021)	12,335	-16.5%
2023 CY	December 26	12,636	-14.5%
2024 CY	December 27	12,199	-17.5%
2025 CY	August 16	12,621	-14.6%

¹ The Urban Land Institute and the International Council of Shopping Centers, *Parking Requirements for Shopping Centers* 2nd ed. Washington DC: ULI, 1999.

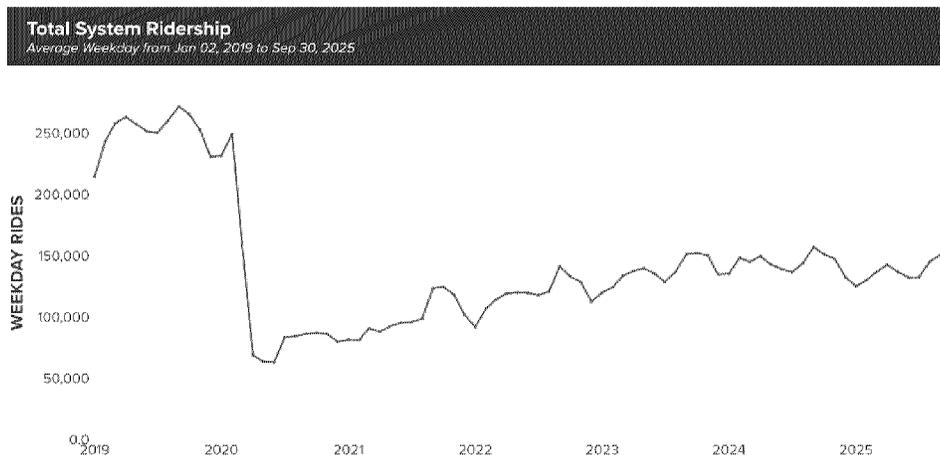
² Smith, Mary S. *Shared Parking*, 3rd ed. Washington DC: The Urban Land Institute, ICSC, and National Parking Association, 2020.



There are some known trends in retailing. In recent years the demand on the traditional busiest day, Black Friday (the day after Thanksgiving) has been somewhat moderated due to spreading out of the sales that used to drive Black Friday traffic. However, it typically remains the busiest hour of the year, with additional spikes on the day after Christmas; it is just a lower peak.

Another well-discussed factor is e-commerce which has been shown to reduce in-person shopping at malls in November through mid-December. However, based on some extensive work documenting demand at another more traditional but very large mall, we believe that the design hour (20th highest) for typical malls is likely still the same day and hour (the second or third busiest hour on the Saturday that is 7 to 10 days before Christmas), and with the same demand ratio (spaces per sq ft GLA), due to there being strong, late in-person shopping after it is deemed too expensive to ship purchases via ecommerce. Click and collect services have also helped maintain foot traffic at malls. While the pickup moved to curbside during the pandemic, the convenience of knowing the item is available at that store will continue to drive traffic into the stores. These factors have moderated the peak hours to be not such a high spike on Black Friday and other peak days, while not affecting the design hour, on which parking demand ratios and recommended parking supply are based.

At the same time, recent patron intercept surveys show that the percentage of patrons driving and parking has increased from 75% to 84%, which we believe is due to reduced use of public transit and transportation network companies (such as Uber and Lyft). Thus, the decline in pedestrian counts is even more than in parking counts. This is partially due to the pandemic but also due to the higher prices charged in the quest for profitability for these firms. Thus, reduced use of TNCs would tend to have increased parking demand, particularly at malls that have significant tourist visitation. Further, transit usage for metro-area patrons and employees was sharply reduced by the pandemic, and while growing year over year, has not returned to pre-Covid levels. Conversely, Metro has reported that transit ridership through June 2025 was 7% down compared to the same months in 2024, with the Blue Line (a key service to MOA) being down 15%. The overall trend in ridership is shown on the following page.



Source: <https://www.metrotransit.org/performance>

In sum, based on driving ratios alone, parking demand should be higher post-pandemic if pedestrian traffic remained the same.



Rather than Black Friday, the top two busiest hours in 2019 were on August 31, which combined back to school shopping with a last chance to visit the entertainment venues before school activities become the family focus. Further there was a major charity event that day, the JDRF Walk, which caused an unusual peak. MOA personnel also noted that Labor Day was particularly late in 2019 which further contributed to that busy day. This is not a day that should be considered in parking demand analysis; it is akin to the Super Bowl at an NFL stadium.

The next two busiest hours (3rd and 4th overall) were then on Black Friday with additional hours on that day being the 9th, 10th and 15th busiest hours, for a total of 5 Black Friday hours in the top 20. In 2021-2, the top five busiest hours were Black Friday with other hours falling as the 11th and 17th busiest hours for a total of 7 Black Friday hours in the top 20. In 2023, the top six busiest hours were on Black Friday, followed by two hours on March 18, during spring break and five hours on December 30. In 2024, the top five hours were on Black Friday, followed by 2 hours in the period between Christmas and New Years, and then five hours in February and March. In 2025, there were 6 of the busiest hours on Black Friday, and none in the rest December.

Top 20 hrs	Jan/MLK	Feb Pres	Mar/Apr	Back to School	Nov	Black Friday	Dec Pre Xmas	Xmas Break	Total Hrs
2019	6	3	2	5	0	4	0	0	20
2021-2	0	1	8	0	1	7	3	0	20
2023	0	1	6	0	0	6	0	7	20
2024	0	3	6	0	2	5	1	3	20
2025	0	0	11	2	1	6	0	0	20
Days with Top 20 hrs									
2019	3	1	1	2	0	1	0	0	8
2021-2	0	1	4	0	1	1	1	0	8
2023	0	1	2	0	0	1	0	2	6
2024	0	2	3	0	1	1	1	1	9
2025	0	0	4	1	1	1	0	0	7

Mall of America is entirely a different type of “mall”, due to the entertainment components. Clearly, in 2019, the family entertainment components drove the busiest days, without any peak shopping hours (other than Black Friday) generating hours in the top 20. In 2021-2 however, there were 11 November/ December pre- Christmas hours, versus only 4 (and all on Black Friday) in 2019. ML King weekend has generated no peak hours since 2019, while to Back to School had none in 2021-24 and only 2 hours on one day in 2025. Really the only period outside of shopping that has remained strong is March/April spring break. Spring break was even stronger in 2025 with 11 hours in the top 20 on 4 days, while December pre- and post-Christmas had no hours in the top 20.

We were surprised that there was not higher demand in the Christmas to New Years period in 2019, when entertainment venues are typically strong. The COVID omicron variant was known to begun to depress demand late December in 2021 but it was not thought to be a factor earlier in the holiday shopping season. The highest post-Christmas hour in 2019 was December 29 as the 27th busiest, with 4 hours on 4 days in the top 92 hours. Those hours were consistently pretty busy across the week with a range of 13,600 to 14,600 spaces albeit still below the 2019 20th highest hour of 14,778 spaces. In 2021-2 the busiest hour during the post-Christmas week was the 69th highest hour at 11,519 spaces on the day after Christmas, with additional hours on that day ranking 87th and 89th. We thus conclude that the demand post-Christmas in 2021 was in fact somewhat depressed due to omicron. In 2023, the day after Christmas had one hour that was the 18th highest, and three hours on 12/30 that were the 9th through 11th highest hours.



Overall, the 20th Highest Hour has been relatively stable 21-25, in a range of about 12,200 to 12,636, a 3.5% variation.

We then did a deeper dive into the top ~92 hours (only those hours were provided for 2019) which generally comprises all hours over 11,000 spaces. The purpose was to try to understand if there was a marked difference in the demand and patterns of shopping versus family entertainment in the last year, as life returned closer to normal. The following summarizes the data by season.

Average of peak days*	2019	Change		Change		Change		Change	
		2021-2	from 2019	2023	from 2019	2024	from 2019	2025 YTD	from 2019
Jan-Oct	14,786	11,822	-20.0%	12,484	-15.6%	12,089	-18.2%	11,877	-19.7%
Nov-Xmas	14,212	11,956	-15.9%	12,493	-12.1%	12,032	-15.3%	12,431	-12.5%
Post Xmas	14,044	11,068	-21.2%	12,574	-10.5%	12,001	-14.5%	12,364	-12.0%
Overall Year	14,528	11,833	-18.5%	12,500	-14.0%	12,069	-16.9%	12,032	-17.2%
Black Friday	15,161	13,835	-8.7%	14,771	-2.6%	14,344	-5.4%	14,940	-1.5%
20th Highest Hr	14,778	12,335	-16.5%	12,636	-14.5%	12,545	-15.1%	12,621	-14.6%
Date of 20th Highest	10-Aug	20-Nov		26-Dec		24-Feb		16-Aug	

*Demand over 11,000 spaces

All the seasonal averages in 2019 were above 14,000 spaces, while they have ranged between 11,000 to 12,000 in 2021 but demand has rebounded a little to around 12,000 to 12,600 since. 2025 and 2024 are both below 2023 in all seasons and overall average peak days, with 2025 being especially down January through October, but closer to 2023 the rest of the year. However, Black Friday 2025 jumped back up to nearly the same peak hour as 2019, which we believe was at least partially driven by weather, as reports anticipated snow storms beginning the day after and continuing through the weekend. Demand in 2025 was 10,000 spaces on 11/29 and below 9000 on 11/30. In 2024, the day after Black Friday had demand of 12,820 spaces, and Sunday demand approached 10,000 spaces. We expect variations resulting from weather (which may affect individual days especially November through spring) and also variations due to timing of holidays, which tends to drive demand of the entertainment/family components, but also can result in fewer shopping days between Thanksgiving and Christmas. More specifically regarding the PnR plan, below we charted the highest hour on each of the days that had one or more hours over 11,000 spaces. Note that although the November/ December days in 2021 were before the Feb/Mar days in 2022, we aligned them by month for comparison. We also added lines for the overall supply in 2025, and the reduced supply with the PnR on the roof of the East Deck. Remember that the demand calculations include a 729 space extra cushion in demand in order to allow for effective supply factor.

The peak day in 2019 was August 31, on which MOA hosted a charity event, significantly increasing parking demand to nearly 17,300 spaces. That type of day requires special parking planning and should almost be discarded from analysis of parking demand, just as the Super Bowl should not be considered in the demand of an NFL football stadium.

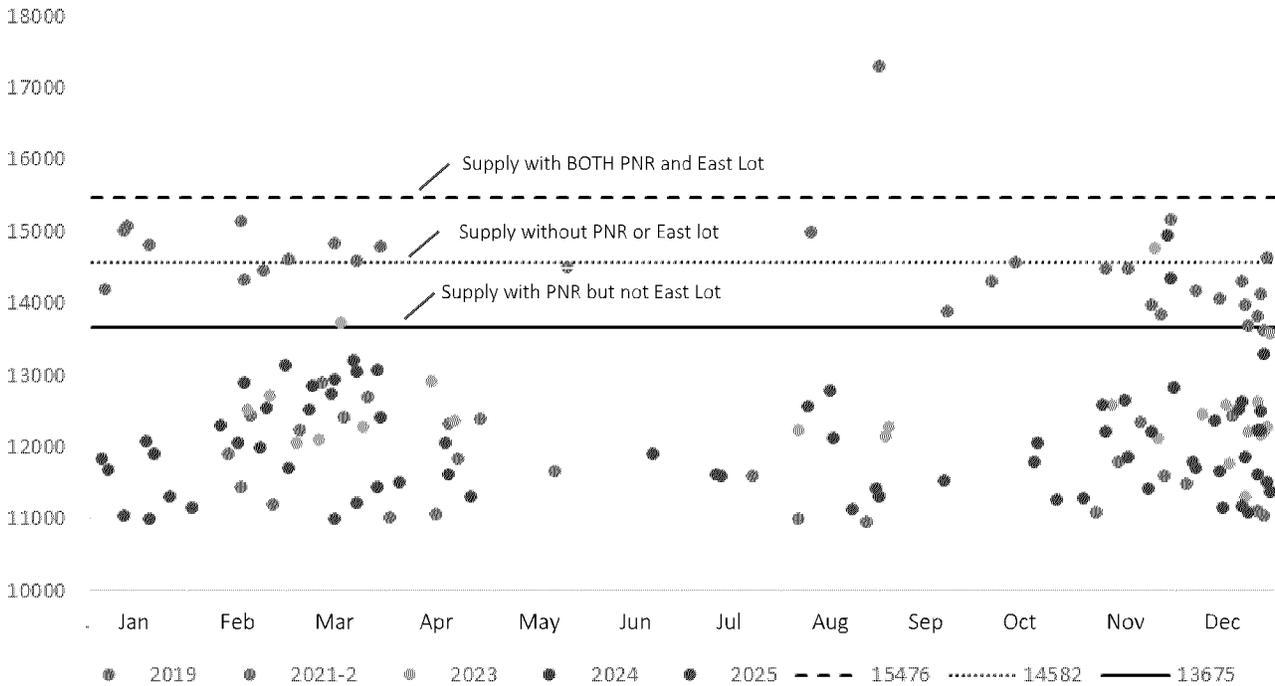
Generally the following key patterns were found:

- There were multiple days in 2019 where the East Lot was required, as parking demand exceeded the 14,582 space supply without it.
- 2024 and 2021 Black Friday did not require the East Lot.



- Black Friday in 2023 and 2025 required the East Lot with the peak hour in 2025 being less than 60% occupied.

Parking Demand on Peak Days



However, none of those days would have required P7 East and all other days could be accommodated without the East Lot with PnR using P7. It is therefore our opinion that the PnR can be operated in all months of the year for the foreseeable future. If the trend in fall of 2026 or any future year is higher than 2025, then MOA may have to stop taking reservations a week to 10 days before Black Friday. Weather may also be a factor if reports are poor for the days surrounding Black Friday.