Kimley»Horn

TECHNICAL MEMORANDUM

To: Lydia I. Werner, CM
Alan Howell, R.A.
Metropolitan Airports Commission

From: Brandon Bourdon, P.E.
Bill Schmitz, P.E.
Kimley-Horn and Associates, Inc.

Date: October 8, 2021

Subject: *MSP Airport 2040 LTP*
Existing Landside Facility Requirements – Parking, Commercial Ground Transportation, and Rental Cars

CONTENT

1 OVERVIEW

This memorandum describes the existing landside parking, rental car, and commercial ground transportation facility requirements for the Minneapolis-St. Paul International Airport (MSP). This work is being completed as part of the MSP 2040 Long Term Plan (LTP). Kimley-Horn determined the existing facility requirements using a data driven approach that incorporated parking and commercial vehicle data provided by the Metropolitan Airports Commission (MAC) and a rental car company survey.

2 PARKING REQUIREMENTS

The MSP parking facilities accommodate both employee and public parkers. The combined employee and public parking demand determines the total Airport parking requirement.

2.1 Employee Parking

MAC and tenant employees park at both Terminal 1 and Terminal 2. Employee parking at Terminal 1 occupies a nested parking area in the Pink Ramp, with authorized employee proximity card access. Employee parking at Terminal 2 is intermixed with public parking in the Orange and Purple Ramps.

Methodology

Kimley-Horn utilized MAC provided employee parking transaction data from the Airport's parking access and revenue control system to determine employee parking demand because discreet employee parking occupancy data was not available. **Figure 1** graphically illustrates the methodology, with additional text description below. Employee parking transaction data is not included in this memorandum; the source data is available upon request.

Figure 1. Employee Parking Methodology

| Obtain Data | Process Data | Estimate Occupancy | Determine Demand | Determine Baseline Requirement |
| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 |

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- **Step 1:** MAC provided employee parking proximity card entry and exit data for March 2019, which approximately represents all employee parking activity.
- **Step 2:** For each day throughout March 2019, the number of entries per hour at each terminal were compared with exits per hour at each terminal to determine the number of vehicles parked at each terminal throughout the day.
- **Step 3:** Kimley-Horn estimated parking occupancy using an assumed occupancy to start the month.
- **Step 4:** The peak occupancy at both Terminal 1 and Terminal 2 was selected to determine the employee parking demand. Peak occupancy was used to provide a high level of service during shift changes.
- **Step 5:** The parking requirement was determined by applying a 10% service factor to the demand. The service factor adjustment accounts for known inefficiencies in employee parking operations including vehicles parked in multiple stalls, circulating to find a preferred stall within a facility, and miscounts of customers leaving or entering stalls. The employee parking service factor also accounts for enhanced parking demand during shift changes, when employees for the next shift arrive before the prior shift leaves.

The employee parking analysis included in this memorandum does not include Delta employees parking outside MAC facilities. At the time of this analysis, Delta employees parked on Quick Ride Ramp Level 1 and in a surface lot on 34th Street. Delta employees with an employee proximity card providing access to MSP parking facilities are included in the employee parking requirement.

Requirement

Figure 2 (below) presents the estimated employee parking demand. The results show that throughout the month, the number of employees parked at Terminal 1 consistently peaks at approximately 225 vehicles, and Terminal 2 peaks at approximately 1,450 vehicles. The resulting employee parking requirement is summarized in **Table 1**.

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Figure 2 – Employee Parking Occupancy (March 2019)
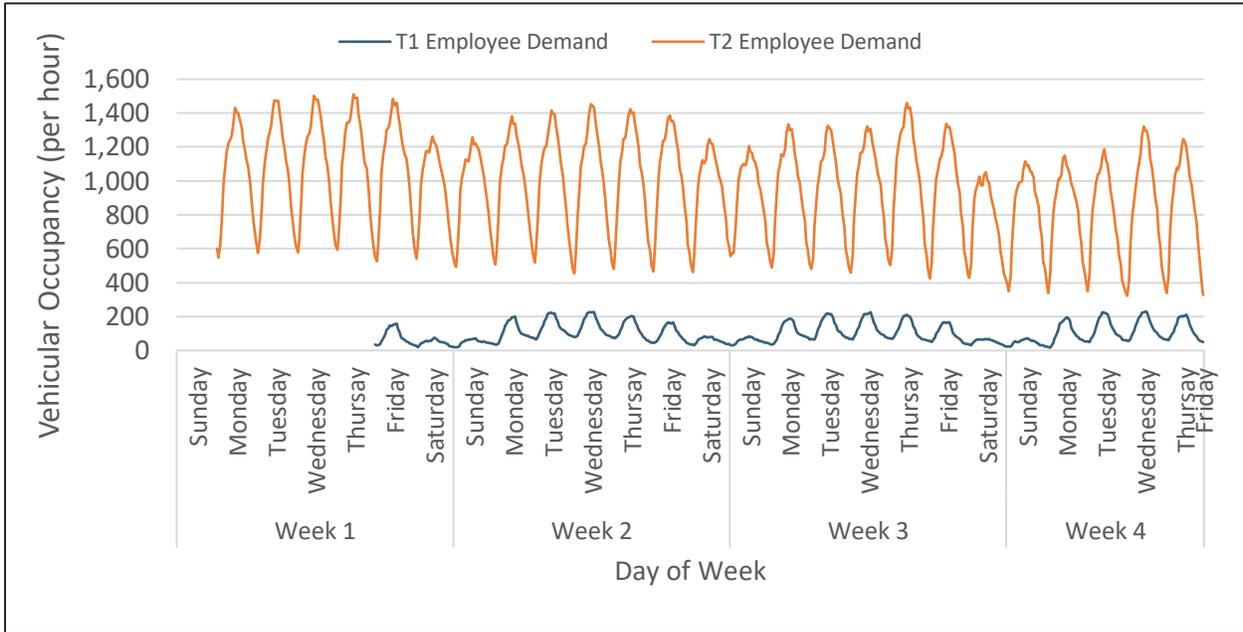
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 1 – Existing Employee Parking Requirement (2019)

Parking Facility	Demand	Requirement [1]
Terminal 1	225	250
Terminal 2	1,500	1,650
Total	1,725	1,900

(1) Assumes a 10% circulation factor
   Source: Kimley-Horn and Associates, Inc.
   Prepared by: Kimley-Horn and Associates, Inc.

2.2   Public Parking

MSP public parking is served by a combination of on-airport and off-airport parking facilities. MAC supplies on airport parking as an airport revenue source. Private companies provide off-airport parking with shuttle access to the airport as a business, independent from the MAC. Off-airport parking operators do pay MAC a fee for shuttle access; shuttle requirements are discussed below.

Methodology

Kimley-Horn utilized MAC provided parking occupancy data provided by the MSP parking operator to determine on-airport public parking demand; off-airport parking demand was estimated as described below. **Figure 3** graphically illustrates the methodology, with additional text description below. A summary of the data provided by MAC is available in **Attachment A**.

Figure 3. Public Parking Methodology

Step 1	Step 2	Step 3	Step 4	Step 5
Obtain On-Airport Data	Process On-Airport Data	Estimate Off-Airport Occupancy	Determine Demand	Determine Baseline Requirement

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- **Step 1:** MAC provided parking occupancy for each facility during calendar year 2019. The occupancy counts were taken at the peak of each day. Occupancies include valet parking, E-Park Elite, Terminal 1 General Parking, Terminal 2 Short Term parking, and Terminal 2 General Parking.
- **Step 2:** The occupancy counts from each parking product were aggregated to identify total occupancy each day. Employee parking counts were removed. The resulting total occupancy values were then arranged from highest to lowest occupancy.
- **Step 3:** Kimley-Horn estimated off-airport parking occupancy based on an assumed off-airport parking supply and peak period occupancy.
- **Step 4:** The 20th busiest day based on the sorted data was then identified as the design day for parking demand. The total demand includes both on-airport and off-airport demand. The 20th busiest day is industry standard for determining airport public parking demand. Peak occupancy is not used because using the busiest day as the design day will cause over planning and result in an excess of unused parking stalls, except during the busiest day
- **Step 5:** The parking requirement was determined by applying a 5% service factor to the design day demand. The service factor adjustment accounts for known inefficiencies in public parking operations including vehicles parked in multiple stalls, inability of customers to find available parking within a facility, and challenges directing customers to parking levels with available stalls within a large parking operation.

On-Airport Occupancy

Figure 4 shows not only where peaking occurs throughout the year, but also the consistency of parking at Terminal 1 and the relative inconsistency of parking occupancy at Terminal 2 (which peaks during spring and the fall holiday season).

Figure 4 – Chronological Public Parking Occupancy (2019)
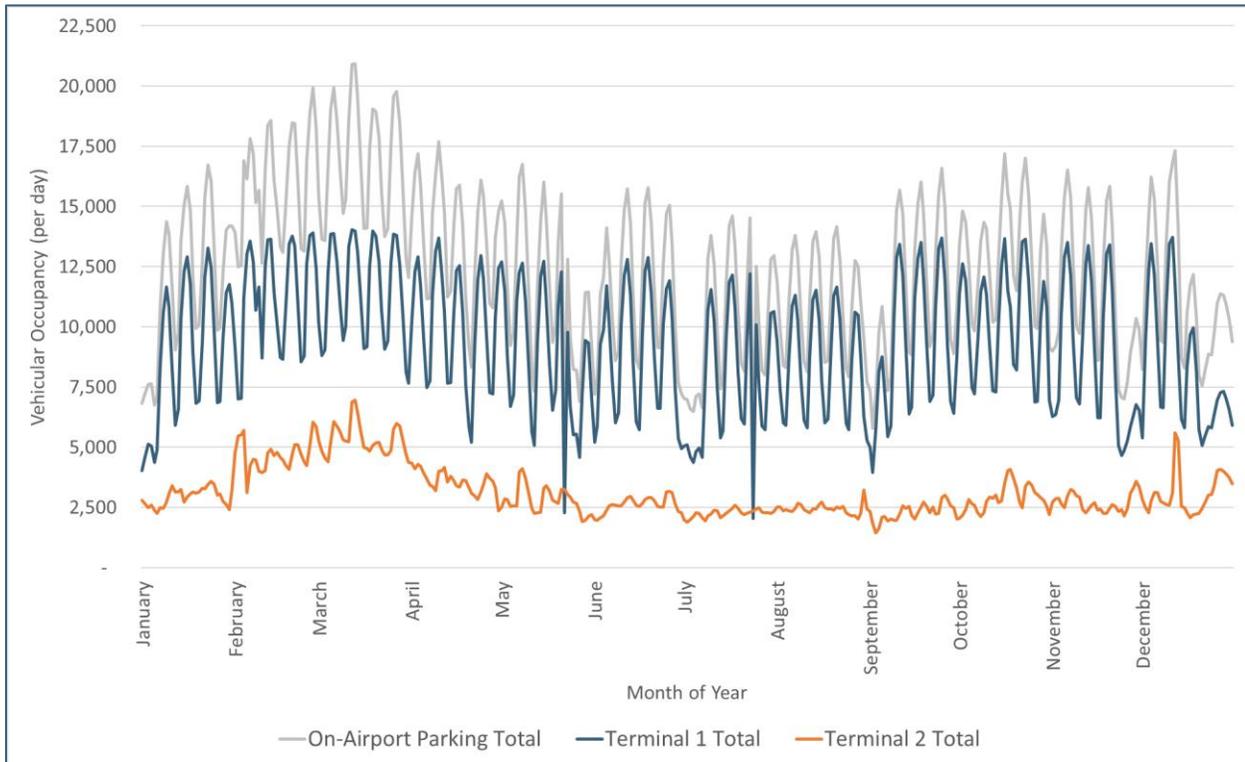
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Off-Airport Occupancy

Although not located on MAC property, nor controlled or operated by MAC, off-airport parking occupancy is an important component in understanding overall public parking demand at MSP. Existing off-airport parking inventory was estimated for the companies operating at the time this study was completed. **Table 2** outlines the estimated parking inventory at each off-airport site and the total estimated off-airport parking supply.

Table 2 – Estimated Off-Airport Parking Inventory (2019)

	Parking Stalls
Park 'N Go	1,300
Park 'N Fly	1,800
EZ Air Park	1,600
Shepard Road Airport Parking	1,300
Total	**6,000**

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

This study did not include a detailed investigation of off-airport parking occupancy. Professional judgement was used to estimate off-airport parking occupancy. The off-airport parking occupancy was assumed to be:

- 90% during the busiest 50-days of the year
- 80% between the 51st and 100th busiest days of the year
- 70% between the 101st and 150th busiest days of the year
- 60% between the 151st and 200th busiest days of the year
- 50% for the 201st busiest day through the remainder of the year

Airport Public Parking Requirement

Combining observed on-airport public parking occupancy with an off-airport estimate provides a holistic picture of existing public parking demand at MSP. **Figure 5** shows public parking occupancy counts (both on- and off-airport) in 2019 (sorted from highest to lowest) and the total public parking demand (the sum of on- and off-airport occupancy). The numbers highlighted on the graph represent the 20th busiest day when sorted from highest to lowest occupancy. As discussed previously, the 20th busiest day is the design day for public parking activity. The off-airport design day occupancy is identified with a square. The on-airport design day occupancy is identified with a triangle. The total airport design day occupancy is identified with a circle.

Figure 5 – Sorted Public Parking Occupancy (2019)
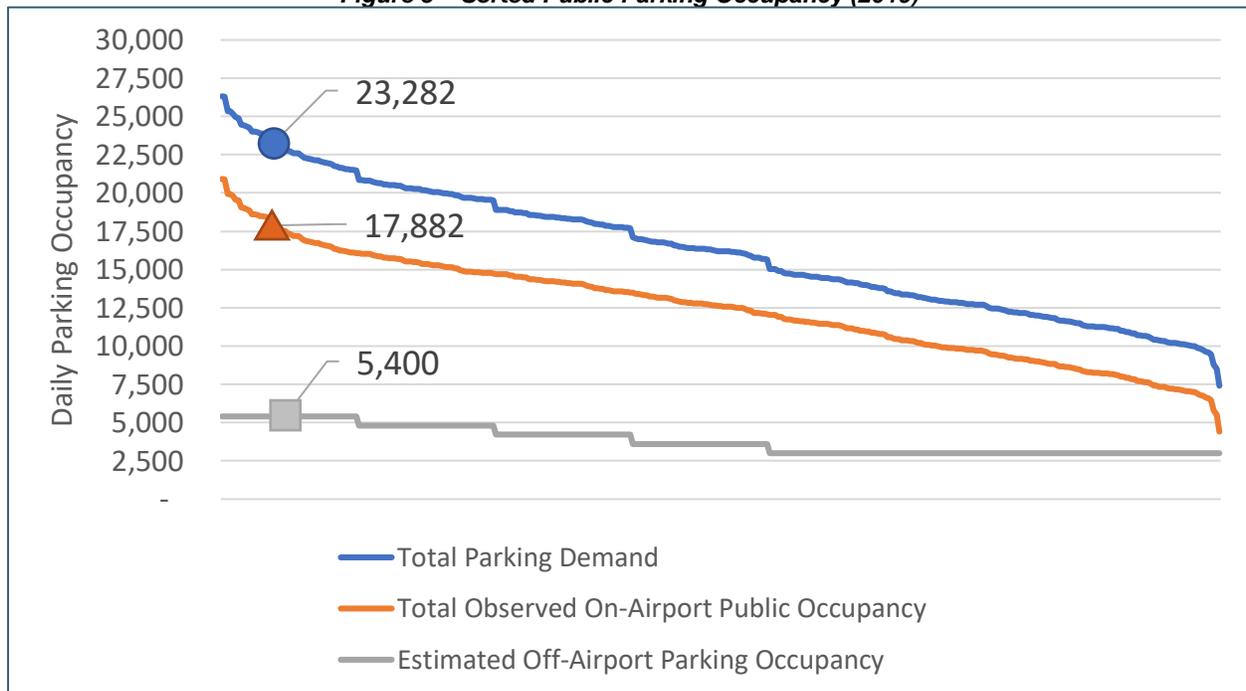
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 3 shows both the parking demand and the parking stall requirement. The parking stall demand was increased by 5% service factor to calculate the total public parking stall requirement. The service factor

accounts for the operational challenge to fill a parking facility to capacity due to customer search time for the last available parking stall and to account for improperly parked vehicles.

Table 3 – Total Airport Public Parking Requirement (2019)

Parking Facility	Demand	Requirement [1]
On-Airport	17,900[2]	18,800
Off-Airport	5,400[3]	5,700
Total	**23,300**	**24,500**

[1]Assumes a 5% circulation factor
[2] 20th busiest day, rounded to nearest hundred stalls
[3]Assumes 90% occupancy of total estimated off-airport stalls
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Total Airport Parking Requirement

The total existing airport parking requirement is determined by combining the employee and public parking requirement. **Table 4** summarizes the existing parking requirement based on 2019 parking data provided by MAC and the existing supply of on-airport parking.

Table 4 – Existing Airport Parking Requirement Summary

	Parking Requirement Summary	Existing On-Airport Supply
Public	24,500	-
Employee	1,900	-
Total	**26,400**	**27,200**

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

3   RENTAL CAR OPERATIONAL FACILITIES REQUIREMENTS ANALYSIS

There were four rental car agency (RAC or RACs) families operating on-airport at MSP in 2019. The four families consisted of Enterprise Holding Inc. (Alamo, Enterprise, and National), Dollar Thrifty Automotive Group (Dollar, Hertz, and Thrifty), Avis Budget Group (Avis, Budget, and Payless), and SIXT Rental Car. The on-airport RACs utilize MAC constructed, and tenant financed, facilities to rent and service customer vehicles.

3.1   Methodology

Kimley-Horn surveyed the RACs in the spring of 2020 to gather average day, peak month data from 2019 operations. The RACs provided Kimley-Horn data related to the number of return transactions per day, rental transactions per hour during an average day, and overall monthly activity. The RACs identified August 2019 as the peak month of activity. Kimley-Horn aggregated the RAC transaction data for the peak hour on an average day, the results of which can be found in **Table 5**. Figure 16 graphically illustrates the methodology, with additional text description below. The RAC survey responses are available in **Attachment B**.

Table 5 – RAC Survey Results (2019)

	Existing Demand
Peak rentals per Hour	494
Peak returns per Hour	264

Source: Kimley-Horn and Associates, Inc.

Prepared by: Kimley-Horn and Associates, Inc.

Figure 6. Rental Car Methodology

Survey RACs	Aggregate Survey Results	Identify Peak Activity	Determine Demand at Each Terminal	Determine Facility Requirements
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**

Source: Kimley-Horn and Associates, Inc.

Prepared by: Kimley-Horn and Associates, Inc.

- **Step 1:** Kimley-Horn administered a survey of the RACs to understand existing rental and return activity cycles.
- **Step 2:** Disparate RAC survey responses were aggregated to determine combined RAC activity.
- **Step 3:** Data was processed to determine the peak vehicle rental and peak vehicle return activity. Peak activity was used to determine RAC facility requirements to provide a high customer level of service.
- **Step 4:** The RACs provided combined data for both Terminal 1 and Terminal 2. Historically, approximately 85% of airport originating passenger activity occurred at Terminal 1. Kimley-Horn assumed 90% of the peak hour RAC activity occurred at Terminal 1, and 20% of the peak hour RAC activity occurred at Terminal 2 to determine requirement. The total activity assumes a 5% terminal specific passenger surge above the historic airport split because Terminal 1 and Terminal 2 operations peak at different hours during the day.
- **Step 5:** The rental car facility requirement were determined using the peak hour rentals and returns, industry-standard surge factors, industry-standard sizing factors, and industry-standard transaction times. Critical sizing factors include:
  - **Customer Service Counters:** 40% of customers by-pass the counters, and each counter transaction takes 8-minutes
  - **Ready / Return Stalls:** 2.5 times rental activity plus 1.0 times return activity
  - **Quick Turnaround:**
    - Fueling Positions: 1 fueling position can accommodate 4 returns per hour
    - Car Wash Bays: 1 wash bay for every 4 fueling positions
    - Vehicle Storage:4 times the peak hour returns

3.2 Requirements

Below, **Table 6** outlines the results of the RAC facility requirements analysis. In determining the number of facilities required at each terminal, the total airport facility demand values were found to be 85% of total activity at Terminal 1 and 15% of total activity of Terminal 2. However, for the purposes of facility sizing, these activity levels were increased by 5% at each terminal, resulting in a split of 90% at Terminal 1 and 20% at Terminal 2. Allocating 110% of the peak activity was done to account for surging that occurs at each terminal throughout the day in which the peak hours at both terminals may not occur simultaneously.

A 1.25 surge factor is applied to customer service counter positions, fueling positions, and wash bays to account for uneven activity distribution within the peak hour.

Table 6 – Rental Car Requirements by Facility Type

	Existing Demand[1]		
Facility	**Terminal 1**	**Terminal 2**	**Airport Total**
	Existing Supply	*Existing Supply*	*Existing Supply*
Customer Service Counter Positions [2]	**45**	**10**	**55**
	48	*29*	*77*
Ready/Return Stalls	**1,350**	**300**	**1,650**
	2,050	*665*	*2,715*
Fueling Positions [2]	**75**	**17**	**92**
	76	*24*	*100*
Wash Bays [2]	**19**	**5**	**24**
	12	*8*	*20*
QTA Storage (On-Site Vehicles)	**950**	**210**	**1,160**
	575	*685*	*1,260*

[1]Terminal Split: 90% Terminal 1, 20% Terminal 2.
[2]Includes 1.25X surge factor.
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

4   COMMERCIAL GROUND TRANSPORTATION REQUIREMENTS ANALYSIS

Numerous commercial ground transportation modes serve MSP at both Terminal 1 and Terminal 2. Commercial ground transportation operators include:

- Limo
- Taxi
- Charter Bus
- Metro Transit
- Hotel courtesy shuttle
- Off-Airport Parking Shuttle

- Off-Airport Rental Car Shuttle
- Out State Shuttle
- Shared Ride
- Transportation Network Company (TNC)

4.1   Methodology

MAC provided Kimley-Horn commercial ground transportation data for requirements analysis. TNC transaction data is collected by the operators, and the operators provide the data to MAC. MAC collects transaction data for legacy commercial ground transportation operators through MAVIS. **Figure 7** summarizes the methodology and steps followed to determine the TNC pick-up requirements. **Figure 8** summarizes the methodology and steps followed to determine the non-TNC operator facility requirements.

Figure 7. TNC Demand Methodology

Obtain Monthly Transaction Data	Process Data	Determine Pickup Demand per 15-Minutes	Calculate Existing Number of Required Positions
Step 1	**Step 2**	**Step 3**	**Step 4**

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- **Step 1:** The analysis to determine the required number of TNC positions involved obtaining monthly TNC transactions for MSP from August 2019. While the data included pick-up and drop-off activity, the pick-up activity served as the basis of the requirements because that activity is operationally limited to defined locations.
- **Step 2:** The monthly data was aggregated and processed by the hour, day, and week.
- **Step 3:** The data was further processed to determine the number of TNC pick-ups that occurred every fifteen minutes at each terminal and across the entire airport during August 2019. To determine the number of required positions, the approximate 99th percentile 15-minute activity level was utilized. The 99th percentile was used because it provides a high level of customer service during most of the month, with limited peak periods where demand exceeds supply.
- **Step 4:** The number of required positions was determined using an average observed transaction time with an assumed surge factor of 1.5 to account for sudden increases in activity.

Figure 8. Non-TNC Demand Methodology

Obtain Monthly AVI Activity Data	Process Data	Determine Pickup Demand per 15-Minutes	Calculate Existing Number of Required Positions
Step 1	**Step 2**	**Step 3**	**Step 4**

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- **Step 1:** The analysis to determine the required number of non-TNC mode positions involved obtaining monthly automated vehicle identification (AVI) transponder transaction data from the MAC MAVIS system for August 2019. The exit time for each transaction was used as the basis of analysis. The exit time for taxis and limos is assumed to correspond with a passenger pick-up transaction. For other modes, the exit time could be a pick-up or drop-off activity.
- **Step 2:** The AVI data (which provided timestamps for entry and exit movements) were processed to determine the number of transactions that occurred by the hour, day, and week. The data was not split by Terminal. Kimley-Horn split activity by terminal assuming the following:
  - **Step 2A:** For all modes other than charter buses, Kimley-Horn assumed 90% of the activity occurred at Terminal 1, and 20% of the activity occurred at Terminal 2 to determine requirements. The total activity assumes a 5% terminal specific passenger surge above the historic airport split because Terminal 1 and Terminal 2 operations peak at different hours during the day.
  - **Step 2B:** For charter buses, Kimley-Horn assumed 80% of the activity occurred at Terminal 1, and 40% of the activity occurred at Terminal 2 to determine requirements. This was determined in coordination with MAC staff to better reflect observed facility utilization.

- **Step 3:** Similar to the process for TNCs, the hourly data was further distilled into 15-minute time periods. The activity per 15 minutes was determined for each individual mode. To determine the number of required positions, the approximate 99th percentile 15-minute activity level was utilized.
- **Step 4:** The number of required positions was determined using an average observed dwell time and a surge factor of 1.5 to account for sudden increases in activity.
  - **Step 4A:** For taxis and limos, determine the required total number of positions by doubling the number of loading positions. This accounts for close-in vehicle staging used to reduce customer wait times and enhance the customer experience.

Dwell times were derived from the HNTB *Minneapolis - St. Paul International Airport, Landside Data Collection Summary Report* (2019). Dwell times calculated in 2019 were used. However, if values were not available for a given mode in the report, dwell times from 2015 were used. Guidance was provided by MAC staff in adjusting dwell times for several modes. **Table 7** summarizes the design vehicle dwell time for each mode.

Table 7. Vehicle Dwell Time

Vehicle Type	Dwell Time (min:sec)
TNC	3:20 (Terminal 1) 2:00 (Terminal 2)
Taxi	2:00
Limo	10:00
Charter Bus	20:00
Hotel Courtesy Shuttle / Shared Ride	5:00
Off-Airport Parking Shuttle	5:30
Out State Shuttle	6:00

Source: MAC, HNTB, Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

A summary of the processed commercial ground transportation data is available in **Attachment C**. Vehicle activity was processed to identify the peak activity and develop a histogram distribution of activity through the month. This histogram showed the frequency of the number of transactions that occurred in 15-minute intervals throughout the month per vehicle type.

4.10 Requirements

The requirements for each mode described above are displayed below in **Table 8** and **Table 9**. The requirements are grouped by "Vehicles for Hire" and "Scheduled Vehicles" providers. These groupings reflect services Kimley-Horn considers substitutes – meaning a customer may choose another provider within the grouping such as a limo or a taxi, but the same customer is unlikely to choose a limo or a hotel courtesy shuttle. **Table 8** shows the required positions for commercial modes categorized as vehicles for hire and includes taxis, limos, and TNCs. These modes provide a similar service; grouping them provides an approximation of the existing vehicles for hire service requirement. **Table 9** shows the required positions for commercial modes categorized as scheduled vehicles. These include buses, hotel courtesy shuttles, off-airport parking shuttles, out state shuttles, and shared rides. These modes provide a similar service and grouping them provides an approximation of the existing shared or scheduled service requirement. **Table 9** also includes a requirement for Metro Transit buses. Metro Transit Route 54 bus service currently operates at Terminal 1 with two bus positions.

Table 8 – Commercial Ground Transportation Requirement – Vehicles for Hire

Mode Type	Required Loading Positions		
	Terminal 1	**Terminal 2**	**Airport Total**
	Existing Supply	*Existing Supply*	*Existing Supply*
Limo	**28**	**6**	**34**
	23	*9*	*32*
Taxi	**21**	**6**	**27**
	44	*12*	*56*
TNC	**38**	**7**	**45**
	30	*8*	*38*
Total	**87**	**19**	**106**
	97	*29*	*126*

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 9 – Commercial Ground Transportation Requirement – Scheduled Vehicles

	Required Loading Positions		
Mode Type	**Terminal 1**	**Terminal 2**	**Airport Total**
Bus	8	4	12
Metro Transit	2	-	2
Hotel Courtesy Shuttle	10	3	13
Off-Airport Parking Shuttle	5	5	10
Off-Airport Rental Shuttle[1]	2	2	4
Out State Shuttle	6	2	8
Shared Ride	2	2	4
Total	**35**	**18**	**53**
Existing Airport Supply	*36*	*26*	*62*

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

5 SUMMARY

Table 10, **Table 11**, **Table 12**, and **Table 13** summarize the existing facility requirements analyzed in the memorandum. The requirements include parking stalls, rental car facilities, and commercial ground transportation positions.

Table 10. Existing Parking Requirements (2019)

	Required Stalls	Existing On-Airport Supply
Public [1]	24,500	-
Employee [2]	1,900	-
Total	**26,400**	**27,200**

[1] Includes On-Airport and Off-Airport parking
[2] Does not include Delta parking demand in Quick Ride Ramp or 34th Ave Lot
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 11. Existing Rental Car Facility Requirements (2019)

Facility	Requirement		
	Terminal 1	Terminal 2	Airport Total
	Existing Supply	*Existing Supply*	*Existing Supply*
Customer Service Counter Positions	**45**	**10**	**55**
	48	*29*	*77*
Ready/Return Stalls	**1,350**	**300**	**1,650**
	2,050	*665*	*2,715*
Fueling Positions	**75**	**17**	**92**
	76	*24*	*100*
Wash Bays	**19**	**5**	**24**
	12	*8*	*20*
QTA Storage (On-Site Vehicles)	**950**	**210**	**1,160**
	575	*685*	*1,260*

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 12. Existing Commercial Vehicle Requirements - Vehicles for Hire

Mode Type	Required Loading Positions		
	Terminal 1	Terminal 2	Airport Total
	Existing Supply	*Existing Supply*	*Existing Supply*
Limo	**28**	**6**	**34**
	23	*9*	*32*
Taxi	**21**	**6**	**27**
	44	*12*	*56*
TNC	**38**	**7**	**45**
	30	*8*	*38*
Total	**87**	**19**	**106**
	97	*29*	*126*

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 13. Existing Commercial Vehicle Requirements - Scheduled Vehicles

Mode Type	Required Loading Positions		
	Terminal 1	Terminal 2	Airport Total
Bus	8	4	12
Metro Transit	2	-	2
Hotel Courtesy Shuttle	10	3	13
Off-Airport Parking Shuttle	5	5	10
Off-Airport Rental Shuttle	2	2	4
Out State Shuttle	6	2	8
Shared Ride	2	2	4
Total	**35**	**18**	**53**
Existing Airport Supply	*36*	*26*	*62*

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

6 ATTACHMENTS

Attachment A – Public Parking Occupancy Data (CY 2019)
Attachment B – RAC Survey Responses
Attachment C – Processed Commercial Vehicle Data

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Attachment A

Public Parking Occupancy Data (CY 2019)

Parking Summary Chronological Public Parking Occupancy (2019)
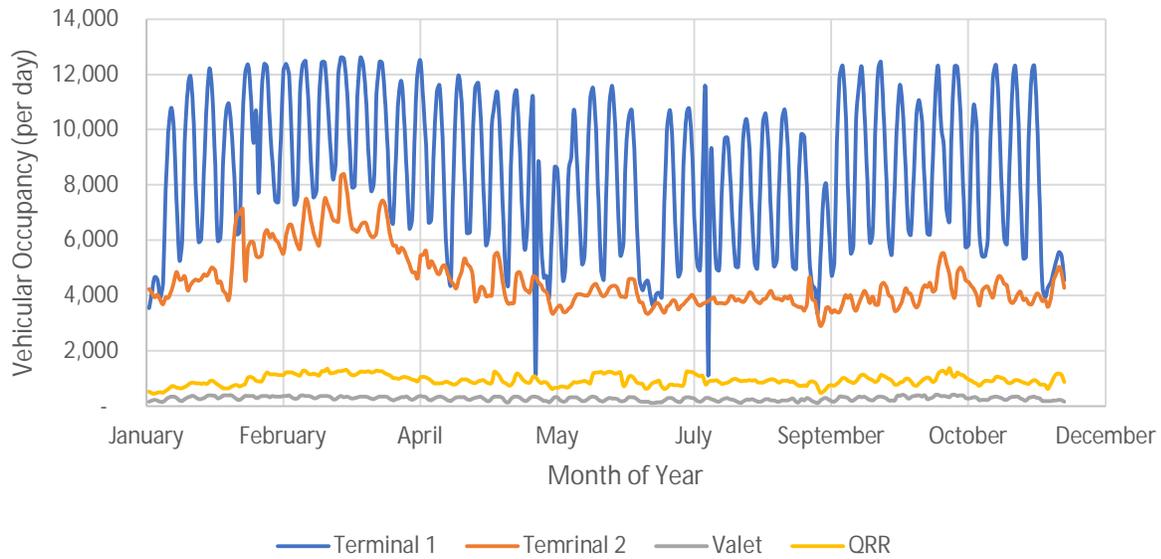
				T1	T2	Valet	QRR
January	1/1/2019	Tuesday 01	January-01	3,545	4,244	172	531
	1/2/2019	Wednesday 02	January-02	4,165	4,084	206	468
	1/3/2019	Thursday 03	January-03	4,670	3,937	230	454
	1/4/2019	Friday 04	January-04	4,588	4,038	198	495
	1/5/2019	Saturday 05	January-05	3,929	3,825	161	508
	1/6/2019	Sunday 06	January-06	4,451	3,693	157	496
	1/7/2019	Monday 07	January-07	7,807	3,932	242	548
	1/8/2019	Tuesday 08	January-08	9,899	3,921	308	625
	1/9/2019	Wednesday 09	January-09	10,805	4,166	345	719
	1/10/2019	Thursday 10	January-10	9,991	4,504	343	722
	1/11/2019	Friday 11	January-11	7,477	4,856	302	678
	1/12/2019	Saturday 12	January-12	5,268	4,589	213	656
	1/13/2019	Sunday 13	January-13	5,963	4,600	194	656
	1/14/2019	Monday 14	January-14	9,604	4,700	248	701
	1/15/2019	Tuesday 15	January-15	11,472	4,182	316	757
	1/16/2019	Wednesday 16	January-16	11,952	4,378	349	840
	1/17/2019	Thursday 17	January-17	10,746	4,508	378	852
	1/18/2019	Friday 18	January-18	8,045	4,587	323	833
	1/19/2019	Saturday 19	January-19	5,953	4,549	262	837
	1/20/2019	Sunday 20	January-20	6,080	4,603	264	816
	1/21/2019	Monday 21	January-21	8,459	4,760	291	833
	1/22/2019	Tuesday 22	January-22	11,125	4,732	374	808
	1/23/2019	Wednesday 23	January-23	12,223	4,894	387	897
	1/24/2019	Thursday 24	January-24	11,393	5,029	384	921

	Date	Day	Period				
	1/25/2019	Friday 25	January-25	8,721	4,897	367	851
	1/26/2019	Saturday 26	January-26	5,994	4,466	283	795
	1/27/2019	Sunday 27	January-27	6,101	4,512	313	713
	1/28/2019	Monday 28	January-28	8,754	4,198	387	653
	1/29/2019	Tuesday 29	January-29	10,611	4,059	397	642
	1/30/2019	Wednesday 30	January-30	10,957	3,859	387	654
	1/31/2019	Thursday 31	January-31	10,110	4,646	395	706
February	2/1/2019	Friday 01	February-01	8,298	6,221	317	757
	2/2/2019	Saturday 02	February-02	6,226	6,924	248	767
	2/3/2019	Sunday 03	February-03	6,314	6,959	226	714
	2/4/2019	Monday 04	February-04	10,358	7,141	309	761
	2/5/2019	Tuesday 05	February-05	12,081	4,563	373	798
	2/6/2019	Wednesday 06	February-06	12,381	5,699	380	1,028
	2/7/2019	Thursday 07	February-07	11,498	5,949	369	1,064
	2/8/2019	Friday 08	February-08	9,546	5,914	364	1,016
	2/9/2019	Saturday 09	February-09	10,673	5,458	291	929
	2/10/2019	Sunday 10	February-10	7,721	5,391	322	895
	2/11/2019	Monday 11	February-11	11,449	5,478	371	901
	2/12/2019	Tuesday 12	February-12	12,390	6,202	380	1,080
	2/13/2019	Wednesday 13	February-13	12,279	6,376	368	1,217
	2/14/2019	Thursday 14	February-14	10,189	6,110	328	1,157
	2/15/2019	Friday 15	February-15	8,800	6,239	367	1,147
	2/16/2019	Saturday 16	February-16	7,462	6,035	347	1,158
	2/17/2019	Sunday 17	February-17	7,386	5,913	342	1,136
	2/18/2019	Monday 18	February-18	9,701	5,692	348	1,131
	2/19/2019	Tuesday 19	February-19	12,154	5,531	376	1,131
	2/20/2019	Wednesday 20	February-20	12,385	6,167	369	1,230
	2/21/2019	Thursday 21	February-21	11,957	6,556	386	1,226
	2/22/2019	Friday 22	February-22	9,618	6,543	324	1,233
	2/23/2019	Saturday 23	February-23	7,305	6,168	268	1,187
	2/24/2019	Sunday 24	February-24	7,572	5,836	285	1,139
February	2/25/2019	Monday	February-25	11,367	5,694	372	1,115
	2/26/2019	Tuesday	February-26	12,350	6,532	389	1,279
	2/27/2019	Wednesday	February-27	12,481	7,481	376	1,276
	2/28/2019	Thursday	February-28	11,120	7,295	368	1,181
	3/1/2019	Friday	March-01	8,911	6,729	358	1,149
	3/2/2019	Saturday	March-02	7,565	6,280	292	1,184
	3/3/2019	Sunday	March-03	7,810	5,995	299	1,149
	3/4/2019	Monday	March-04	11,048	5,834	355	1,109
	3/5/2019	Tuesday	March-05	12,429	6,631	375	1,273
	3/6/2019	Wednesday	March-06	12,450	7,516	371	1,269
	3/7/2019	Thursday	March-07	11,227	7,337	373	1,354
	3/8/2019	Friday	March-08	9,625	7,089	338	1,201
	3/9/2019	Saturday	March-09	8,203	6,748	255	1,192
	3/10/2019	Sunday	March-10	8,774	6,706	247	1,224
	3/11/2019	Monday	March-11	11,979	6,692	329	1,272
	3/12/2019	Tuesday	March-12	12,617	8,326	372	1,263

	3/13/2019	Wednesday	March-13	12,574	8,401	330	1,289
	3/14/2019	Thursday	March-14	11,650	7,871	344	1,313
March	3/15/2019	Friday	March-15	9,836	7,087	323	1,202
	3/16/2019	Saturday	March-16	7,918	6,440	276	1,122
	3/17/2019	Sunday	March-17	7,991	6,390	291	1,126
	3/18/2019	Monday	March-18	11,224	6,301	320	1,178
	3/19/2019	Tuesday	March-19	12,600	6,529	344	1,250
	3/20/2019	Wednesday	March-20	12,390	6,627	341	1,255
	3/21/2019	Thursday	March-21	11,331	6,644	346	1,236
	3/22/2019	Friday	March-22	9,327	6,369	320	1,269
	3/23/2019	Saturday	March-23	7,785	6,144	272	1,225
	3/24/2019	Sunday	March-24	8,125	6,134	263	1,237
	3/25/2019	Monday	March-25	11,300	6,303	309	1,284
	3/26/2019	Tuesday	March-26	12,456	7,192	344	1,262
	3/27/2019	Wednesday	March-27	12,413	7,445	342	1,266
	3/28/2019	Thursday	March-28	11,266	7,336	342	1,198
	3/29/2019	Friday	March-29	9,212	6,728	326	1,144
	3/30/2019	Saturday	March-30	7,007	6,162	256	1,104
	3/31/2019	Sunday	March-31	6,640	5,827	220	1,024
April	4/1/2019	Monday	April-01	9,140	5,800	251	1,013
	4/2/2019	Tuesday	April-02	11,218	5,544	286	999
	4/3/2019	Wednesday	April-03	11,775	5,730	332	1,033
	4/4/2019	Thursday	April-04	10,571	5,653	323	1,062
	4/5/2019	Friday	April-05	8,325	5,370	357	1,045
	4/6/2019	Saturday 06	April-06	6,430	5,133	269	1,011
	4/7/2019	Sunday 07	April-07	6,788	4,866	237	958
	4/8/2019	Monday 08	April-08	10,323	4,834	289	935
	4/9/2019	Tuesday 09	April-09	12,132	4,636	344	895
	4/10/2019	Wednesday 10	April-10	12,518	5,447	360	1,049
	4/11/2019	Thursday 11	April-11	10,953	5,481	351	1,066
	4/12/2019	Friday 12	April-12	9,464	5,616	329	1,038
	4/13/2019	Saturday 13	April-13	6,660	5,013	242	987
	4/14/2019	Sunday 14	April-14	6,755	5,244	214	930
	4/15/2019	Monday 15	April-15	9,732	5,068	286	824
	4/16/2019	Tuesday 16	April-16	11,392	4,848	332	825
	4/17/2019	Wednesday 17	April-17	11,605	4,795	340	821
	4/18/2019	Thursday 18	April-18	9,681	5,080	330	837
	4/19/2019	Friday 19	April-19	6,631	5,066	267	884
	4/20/2019	Saturday 20	April-20	4,995	4,779	215	871
	4/21/2019	Sunday 21	April-21	4,423	4,547	190	820
	4/22/2019	Monday 22	April-22	8,266	4,423	260	792
	4/23/2019	Tuesday 23	April-23	11,057	4,273	317	804
	4/24/2019	Wednesday 24	April-24	11,980	4,584	335	879
	4/25/2019	Thursday 25	April-25	10,959	4,894	322	958
	4/26/2019	Friday 26	April-26	8,544	5,335	330	973
	4/27/2019	Saturday 27	April-27	6,273	5,165	248	963
	4/28/2019	Sunday 28	April-28	6,313	5,037	232	891

	4/29/2019	Monday 29	April-29	9,506	4,780	268	849
	4/30/2019	Tuesday 30	April-30	11,509	3,808	306	838
May	5/1/2019	Wednesday 01	May-01	11,694	3,973	335	903
	5/2/2019	Thursday 02	May-02	10,414	4,313	345	930
	5/3/2019	Friday 03	May-03	7,854	4,265	268	935
	5/4/2019	Saturday 04	May-04	5,823	3,989	209	884
	5/5/2019	Sunday 05	May-05	6,392	4,019	184	820
	5/6/2019	Monday 06	May-06	10,129	4,008	286	860
	5/7/2019	Tuesday 07	May-07	10,895	5,420	348	1,244
	5/8/2019	Wednesday 08	May-08	11,350	5,552	348	1,175
	5/9/2019	Thursday 09	May-09	9,868	5,173	340	1,058
	5/10/2019	Friday 10	May-10	7,416	4,526	295	891
	5/11/2019	Saturday 11	May-11	4,860	3,913	163	841
	5/12/2019	Sunday 12	May-12	4,393	3,713	132	761
	5/13/2019	Monday 13	May-13	8,594	3,724	257	755
	5/14/2019	Tuesday 14	May-14	11,026	3,747	339	924
	5/15/2019	Wednesday 15	May-15	11,429	4,754	349	1,167
	5/16/2019	Thursday 16	May-16	9,809	4,864	332	1,139
	5/17/2019	Friday 17	May-17	7,462	4,642	259	1,012
	5/18/2019	Saturday 18	May-18	5,672	4,254	195	900
	5/19/2019	Sunday 19	May-19	6,536	4,175	210	853
	5/20/2019	Monday 20	May-20	9,913	4,116	306	861
	5/21/2019	Tuesday 21	May-21	11,095	4,701	343	1,065
	5/22/2019	Wednesday 22	May-22	1,100	4,687	337	1,058
	5/23/2019	Thursday 23	May-23	8,764	4,496	315	913
	5/24/2019	Friday 24	May-24	5,846	4,370	245	842
	5/25/2019	Saturday 25	May-25	4,656	4,182	196	878
	5/26/2019	Sunday 26	May-26	4,717	4,114	188	861
	5/27/2019	Monday 27	May-27	3,909	3,773	137	745
	5/28/2019	Tuesday 28	May-28	6,503	3,355	240	629
	5/29/2019	Wednesday 29	May-29	8,655	3,427	332	673
	5/30/2019	Thursday 30	May-30	8,569	3,579	314	670
	5/31/2019	Friday 31	May-31	6,371	3,638	218	709
June	6/1/2019	Saturday 01	June-01	4,543	3,437	169	709
	6/2/2019	Sunday 02	June-02	5,231	3,406	186	682
	6/3/2019	Monday 03	June-03	8,520	3,529	302	690
	6/4/2019	Tuesday 04	June-04	9,000	3,607	322	786
	6/5/2019	Wednesday 05	June-05	10,740	3,845	330	873
	6/6/2019	Thursday 06	June-06	9,196	4,021	316	863
	6/7/2019	Friday 07	June-07	6,864	4,058	247	880
	6/8/2019	Saturday 08	June-08	5,142	4,041	184	903
	6/9/2019	Sunday 09	June-09	5,547	4,013	191	915
	6/10/2019	Monday 10	June-10	9,145	4,003	261	868
	6/11/2019	Tuesday 11	June-11	11,201	4,179	334	839
	6/12/2019	Wednesday 12	June-12	11,519	4,366	343	1,167
	6/13/2019	Thursday 13	June-13	9,988	4,416	313	1,217
	6/14/2019	Friday 14	June-14	7,324	4,245	242	1,225

	6/15/2019	Saturday 15	June-15	4,880	4,039	180	1,238
	6/16/2019	Sunday 16	June-16	4,599	3,985	186	1,175
	6/17/2019	Monday 17	June-17	8,500	4,110	265	1,226
	6/18/2019	Tuesday 18	June-18	10,989	4,281	309	1,236
	6/19/2019	Wednesday 19	June-19	11,598	4,349	277	1,224
	6/20/2019	Thursday 20	June-20	10,154	4,363	275	1,169
	6/21/2019	Friday 21	June-21	7,461	4,237	247	1,200
	6/22/2019	Saturday 22	June-22	5,452	3,982	183	1,216
	6/23/2019	Sunday 23	June-23	5,916	3,972	183	735
	6/24/2019	Monday 24	June-24	9,245	3,964	236	823
	6/25/2019	Tuesday 25	June-25	10,406	4,590	331	1,063
	6/26/2019	Wednesday 26	June-26	10,708	4,608	333	1,088
	6/27/2019	Thursday 27	June-27	9,297	4,556	319	999
	6/28/2019	Friday 28	June-28	6,525	4,085	246	850
	6/29/2019	Saturday 29	June-29	4,587	3,770	176	826
	6/30/2019	Sunday 30	June-30	4,203	3,731	156	803
July	7/1/2019	Monday 01	July-01	4,461	3,434	169	645
	7/2/2019	Tuesday 02	July-02	4,529	3,332	163	640
	7/3/2019	Wednesday 03	July-03	3,924	3,439	122	783
	7/4/2019	Thursday 04	July-04	3,629	3,565	108	852
	7/5/2019	Friday 05	July-05	4,036	3,733	131	879
	7/6/2019	Saturday 06	July-06	4,110	3,695	149	926
	7/7/2019	Sunday 07	July-07	3,938	3,509	144	720
	7/8/2019	Monday 08	July-08	7,346	3,383	208	628
	7/9/2019	Tuesday 09	July-09	9,944	3,589	281	679
	7/10/2019	Wednesday 10	July-10	10,707	3,688	300	773
	7/11/2019	Thursday 11	July-11	9,390	3,834	283	774
	7/12/2019	Friday 12	July-12	6,639	3,808	216	765
	7/13/2019	Saturday 13	July-13	4,691	3,508	152	759
	7/14/2019	Sunday 14	July-14	4,993	3,606	156	742
	7/15/2019	Monday 15	July-15	8,681	3,693	269	763
	7/16/2019	Tuesday 16	July-16	10,525	3,816	324	1,236
	7/17/2019	Wednesday 17	July-17	10,791	3,907	327	1,251
	7/18/2019	Thursday 18	July-18	9,506	4,033	292	1,243
	7/19/2019	Friday 19	July-19	6,865	3,917	275	1,190
	7/20/2019	Saturday 20	July-20	5,117	3,720	194	1,122
	7/21/2019	Sunday 21	July-21	4,941	3,644	163	1,091
	7/22/2019	Monday 22	July-22	8,205	3,699	217	1,099
	7/23/2019	Tuesday 23	July-23	11,351	3,753	296	793
	7/24/2019	Wednesday 24	July-24	1,100	3,802	299	882
	7/25/2019	Thursday 25	July-25	9,139	3,872	257	919
	7/26/2019	Friday 26	July-26	6,796	3,929	225	920
	7/27/2019	Saturday 27	July-27	4,999	3,742	177	939
	7/28/2019	Sunday 28	July-28	4,919	3,728	168	869
	7/29/2019	Monday 29	July-29	7,654	3,730	232	814
	7/30/2019	Tuesday 30	July-30	9,681	3,709	269	821
	7/31/2019	Wednesday 31	July-31	9,716	3,770	293	863

August	8/1/2019	Thursday 01	August-01	8,477	3,966	245	904
	8/2/2019	Friday 02	August-02	6,349	3,961	235	980
	8/3/2019	Saturday 03	August-03	5,061	3,815	190	988
	8/4/2019	Sunday 04	August-04	5,046	3,865	145	941
	8/5/2019	Monday 05	August-05	7,936	3,798	127	911
	8/6/2019	Tuesday 06	August-06	9,975	3,781	190	933
	8/7/2019	Wednesday 07	August-07	10,388	3,922	242	914
	8/8/2019	Thursday 08	August-08	9,292	4,114	232	938
	8/9/2019	Friday 09	August-09	6,866	4,070	255	931
	8/10/2019	Saturday 10	August-10	5,187	3,870	215	947
	8/11/2019	Sunday 11	August-11	4,990	3,771	172	880
	8/12/2019	Monday 12	August-12	8,022	3,730	168	853
	8/13/2019	Tuesday 13	August-13	10,306	3,874	201	862
	8/14/2019	Wednesday 14	August-14	10,588	3,888	256	898
	8/15/2019	Thursday 15	August-15	9,286	4,071	244	955
	8/16/2019	Friday 16	August-16	6,785	4,163	215	979
	8/17/2019	Saturday 17	August-17	5,068	3,943	209	967
	8/18/2019	Sunday 18	August-18	5,326	3,884	170	904
	8/19/2019	Monday 19	August-19	8,351	3,888	172	860
	8/20/2019	Tuesday 20	August-20	10,381	3,829	210	913
	8/21/2019	Wednesday 21	August-21	10,736	3,964	215	926
	8/22/2019	Thursday 22	August-22	9,415	3,901	216	913
	8/23/2019	Friday 23	August-23	6,929	3,993	244	883
	8/24/2019	Saturday 24	August-24	5,035	3,716	289	891
	8/25/2019	Sunday 25	August-25	4,973	3,649	160	808
	8/26/2019	Monday 26	August-26	8,030	3,591	142	748
	8/27/2019	Tuesday 27	August-27	9,834	3,585	256	740
	8/28/2019	Wednesday 28	August-28	9,740	3,466	215	750
	8/29/2019	Thursday 29	August-29	7,956	3,694	294	747
	8/30/2019	Friday 30	August-30	5,366	4,678	255	880
	8/31/2019	Saturday 31	August-31	4,413	3,892	189	895
September	9/1/2019	Sunday 01	September-01	4,227	3,791	144	854
	9/2/2019	Monday 02	September-02	3,365	3,282	114	699
	9/3/2019	Tuesday 03	September-03	5,278	2,904	201	484
	9/4/2019	Wednesday 04	September-04	7,567	3,088	276	530
	9/5/2019	Thursday 05	September-05	8,065	3,538	296	631
	9/6/2019	Friday 06	September-06	6,585	3,571	243	730
	9/7/2019	Saturday 07	September-07	4,719	3,379	175	759
	9/8/2019	Sunday 08	September-08	5,191	3,468	174	745
	9/9/2019	Monday 09	September-09	9,551	3,409	243	799
	9/10/2019	Tuesday 10	September-10	11,859	3,412	347	892
	9/11/2019	Wednesday 11	September-11	12,314	3,684	337	1,016
	9/12/2019	Thursday 12	September-12	11,002	4,007	335	1,012
	9/13/2019	Friday 13	September-13	8,068	3,924	299	931
	9/14/2019	Saturday 14	September-14	5,533	3,998	202	881
	9/15/2019	Sunday 15	September-15	5,854	3,619	208	841
	9/16/2019	Monday 16	September-16	10,275	3,459	284	890

	9/17/2019	Tuesday 17	September-17	11,673	3,737	354	1,047
	9/18/2019	Wednesday 18	September-18	12,287	3,953	329	1,132
	9/19/2019	Thursday 19	September-19	10,728	4,181	340	1,122
	9/20/2019	Friday 20	September-20	8,148	3,982	280	1,043
	9/21/2019	Saturday 21	September-21	5,911	3,734	223	984
	9/22/2019	Sunday 22	September-22	6,254	3,966	207	935
	9/23/2019	Monday 23	September-23	9,827	3,683	269	876
	9/24/2019	Tuesday 24	September-24	12,179	3,694	344	946
	9/25/2019	Wednesday 25	September-25	12,458	4,353	340	1,125
	9/26/2019	Thursday 26	September-26	10,733	4,465	335	1,098
	9/27/2019	Friday 27	September-27	8,160	4,305	283	1,042
	9/28/2019	Saturday 28	September-28	5,913	4,005	210	994
	9/29/2019	Sunday 29	September-29	5,505	3,937	201	925
	9/30/2019	Monday 30	September-30	8,009	3,460	208	789
October	10/1/2019	Tuesday 01	October-01	10,409	3,483	377	784
	10/2/2019	Wednesday 02	October-02	11,623	3,635	379	849
	10/3/2019	Thursday 03	October-03	10,841	3,870	410	888
	10/4/2019	Friday 04	October-04	8,643	4,268	374	984
	10/5/2019	Saturday 05	October-05	6,446	4,107	268	993
	10/6/2019	Sunday 06	October-06	6,215	4,053	321	911
	10/7/2019	Monday 07	October-07	8,404	3,721	370	765
	10/8/2019	Tuesday 08	October-08	10,563	3,570	385	748
	10/9/2019	Wednesday 09	October-09	11,082	3,737	395	820
	10/10/2019	Thursday 10	October-10	10,273	4,198	358	931
	10/11/2019	Friday 11	October-11	8,058	4,382	400	1,001
	10/12/2019	Saturday 12	October-12	6,259	4,317	256	1,044
	10/13/2019	Sunday 13	October-13	6,231	4,461	284	1,002
	10/14/2019	Monday 14	October-14	9,071	4,142	324	877
	10/15/2019	Tuesday 15	October-15	11,399	4,231	408	941
	10/16/2019	Wednesday 16	October-16	12,298	4,966	411	1,183
	10/17/2019	Thursday 17	October-17	10,099	5,478	359	1,265
	10/18/2019	Friday 18	October-18	9,405	5,538	362	1,276
	10/19/2019	Saturday 19	October-19	7,138	5,163	356	1,182
	10/20/2019	Sunday 20	October-20	6,712	4,756	330	1,388
	10/21/2019	Monday 21	October-21	10,451	4,142	405	1,147
	10/22/2019	Tuesday 22	October-22	12,298	3,935	405	1,066
	10/23/2019	Wednesday 23	October-23	12,280	4,820	379	1,213
	10/24/2019	Thursday 24	October-24	10,661	5,012	388	1,144
	10/25/2019	Friday 25	October-25	8,060	4,883	388	1,119
	10/26/2019	Saturday 26	October-26	5,761	4,569	307	1,042
	10/27/2019	Sunday 27	October-27	5,868	4,494	275	973
	10/28/2019	Monday 28	October-28	9,233	4,352	302	933
	10/29/2019	Tuesday 29	October-29	10,917	4,240	335	862
	10/30/2019	Wednesday 30	October-30	9,887	3,982	310	815
	10/31/2019	Thursday 31	October-31	6,219	3,650	213	739
November	11/1/2019	Friday 01	November-01	5,438	4,171	228	836
	11/2/2019	Saturday 02	November-02	5,445	4,299	226	918

11/3/2019	Sunday 03	November-03	6,047	4,326	222	918
11/4/2019	Monday 04	November-04	9,553	4,091	299	897
11/5/2019	Tuesday 05	November-05	11,867	3,932	334	922
11/6/2019	Wednesday 06	November-06	12,352	4,440	336	1,051
11/7/2019	Thursday 07	November-07	10,940	4,704	333	1,066
11/8/2019	Friday 08	November-08	8,293	4,654	291	1,026
11/9/2019	Saturday 09	November-09	6,050	4,427	239	993
11/10/2019	Sunday 10	November-10	5,886	4,376	239	885
11/11/2019	Monday 11	November-11	8,711	3,869	296	826
11/12/2019	Tuesday 12	November-12	11,600	3,729	340	877
11/13/2019	Wednesday 13	November-13	12,318	3,854	336	940
11/14/2019	Thursday 14	November-14	10,861	4,052	347	935
11/15/2019	Friday 15	November-15	7,974	4,145	288	908
11/16/2019	Saturday 16	November-16	5,347	3,842	231	861
11/17/2019	Sunday 17	November-17	5,415	3,898	208	823
11/18/2019	Monday 18	November-18	9,622	3,712	299	814
11/19/2019	Tuesday 19	November-19	12,009	3,692	335	910
11/20/2019	Wednesday 20	November-20	12,328	3,900	337	953
11/21/2019	Thursday 21	November-21	10,549	4,076	312	904
11/22/2019	Friday 22	November-22	7,117	3,992	283	795
11/23/2019	Saturday 23	November-23	4,314	3,791	195	782
11/24/2019	Sunday 24	November-24	3,944	3,852	180	763
11/25/2019	Monday 25	November-25	4,278	3,592	177	634
11/26/2019	Tuesday 26	November-26	4,494	3,895	183	801
11/27/2019	Wednesday 27	November-27	4,852	4,534	204	1,013
11/28/2019	Thursday 28	November-28	5,233	4,765	206	1,152
11/29/2019	Friday 29	November-29	5,578	5,043	222	1,187
11/30/2019	Saturday 30	November-30	5,434	4,795	214	1,120
December 12/1/2019	Sunday 01	December-01	4,567	4,285	174	876
12/2/2019	Monday 02	December-02	8,549	3,942	297	788
12/3/2019	Tuesday 03	December-03	11,407	3,727	352	802
12/4/2019	Wednesday 04	December-04	12,355	4,237	355	966
12/5/2019	Thursday 05	December-05	11,064	4,568	317	1,005
12/6/2019	Friday 06	December-06	8,360	4,572	282	1,019
12/7/2019	Saturday 07	December-07	5,714	4,211	214	970
12/8/2019	Sunday 08	December-08	5,775	4,159	214	886
12/9/2019	Monday 09	December-09	9,975	4,079	340	820
12/10/2019	Tuesday 10	December-10	12,432	4,047	350	900
12/11/2019	Wednesday 11	December-11	12,496	4,569	345	1,091
12/12/2019	Thursday 12	December-12	10,584	7,049	311	1,059
12/13/2019	Friday 13	December-13	7,738	6,732	315	966
12/14/2019	Saturday 14	December-14	5,223	3,989	263	898
12/15/2019	Sunday 15	December-15	4,939	3,927	269	826
12/16/2019	Monday 16	December-16	7,471	3,722	325	731
12/17/2019	Tuesday 17	December-17	8,886	3,509	328	681
12/18/2019	Wednesday 18	December-18	9,199	3,649	324	672
12/19/2019	Thursday 19	December-19	7,378	3,680	286	663

12/20/2019	Friday 20	December-20	5,057	3,714	194	693
12/21/2019	Saturday 21	December-21	4,228	3,918	148	935
12/22/2019	Sunday 22	December-22	4,480	4,177	145	1,099
12/23/2019	Monday 23	December-23	4,703	4,448	164	1,212
12/24/2019	Tuesday 24	December-24	4,694	4,481	143	1,198
12/25/2019	Wednesday 25	December-25	5,201	4,819	136	1,226
12/26/2019	Thursday 26	December-26	5,750	5,484	191	1,230
12/27/2019	Friday 27	December-27	6,024	5,540	231	1,238
12/28/2019	Saturday 28	December-28	6,125	5,450	248	1,172
12/29/2019	Sunday 29	December-29	5,942	5,359	244	1,068
12/30/2019	Monday 30	December-30	5,602	5,192	260	938
12/31/2019	Tuesday 31	December-31	4,997	4,938	245	885

Attachment B

RAC Survey Responses

Rentals	
Hour	Total Rentals
Peak Day	Monday
12AM to 6AM	208
6AM	31
7AM	84
8AM	494
9AM	333
10AM	494
11AM	420
12PM	481
1PM	334
2PM	457
3PM	294
4PM	241
5PM	378
6PM	342
7PM	324
8PM	218
9PM	159
10PM to 12AM	146
Total	5438
Peak Hour	494

Returns	
Hour	Total Returns
Peak Day	Monday
12AM to 6AM	349
6AM	126
7AM	178
8AM	190
9AM	215
10AM	231
11AM	208
12PM	234
1PM	264
2PM	237
3PM	237
4PM	246
5PM	252
6PM	179
7PM	100
8PM	55
9PM	29
10PM to 12AM	38
Total	3368
Peak Hour	264

Attachment C

Processed Commercial Vehicle Data

1   TNC (Terminal 1)

Figure 1 – Terminal 1 TNC Pick-Up Activity (Typical Week - August 2019)
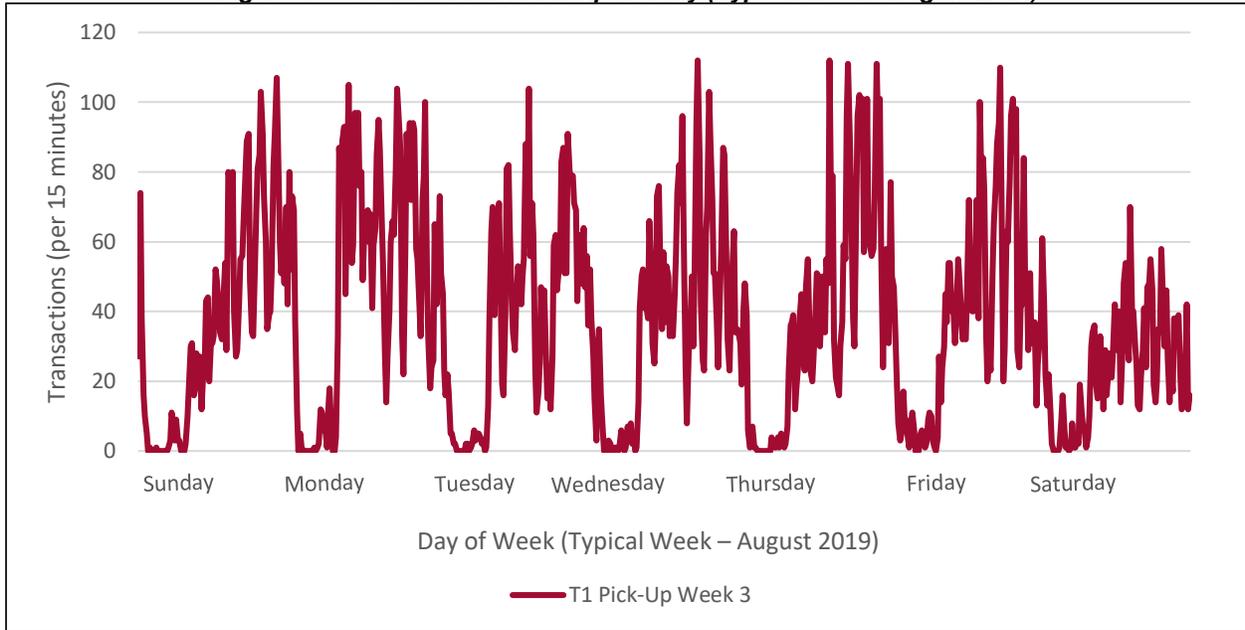
Figure 2 – Terminal 1 TNC Pick-Up Transactions per 15-Minutes (August 2019)

Table 1 – Terminal 1 TNC Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.6th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	93 veh	**115 veh**	129 veh
TNC Pickup Positions: Required	32 pos	**38 pos**	43 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**12 periods (3 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

● Note: Transaction time is greater than at Terminal 2 due to the higher demand and the challenges customers experience matching with a vehicle during peak periods.

2   TNC (Terminal 2)

Figure 3 – Terminal 2 TNC Pick-Up Activity (Typical Week - August 2019)
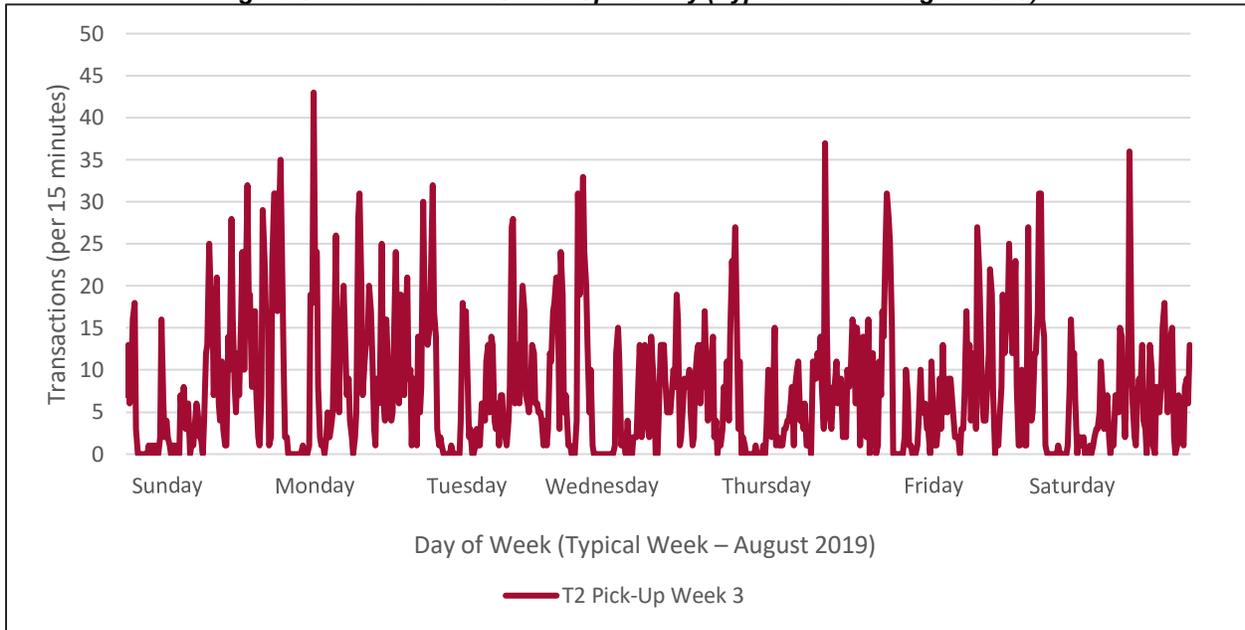
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Figure 4 – Terminal 2 TNC Pick-Up Transactions per 15-Minutes (August 2019)
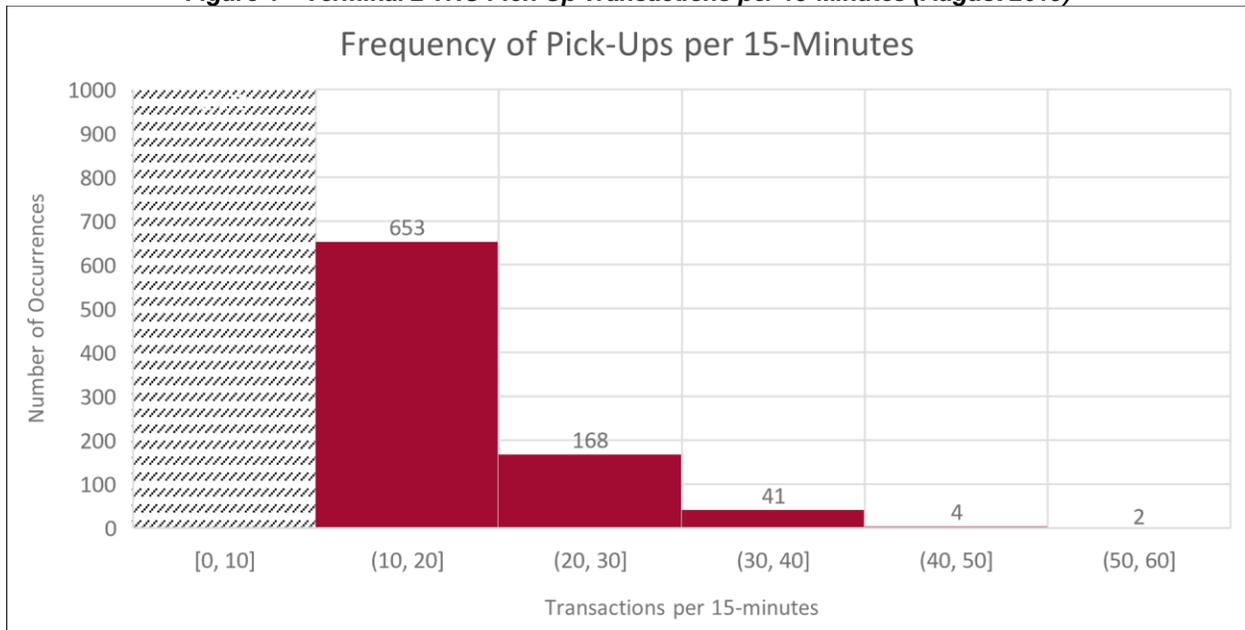
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 2 – Terminal 2 TNC Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.4th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	23 veh	**35 veh**	55 veh
TNC Pickup Positions: Required	5 pos	**7 pos**	11 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**18 periods (4.5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

3   Taxi

Figure 5 – Airport Taxi Pick-Up Activity (Typical Week - August 2019)
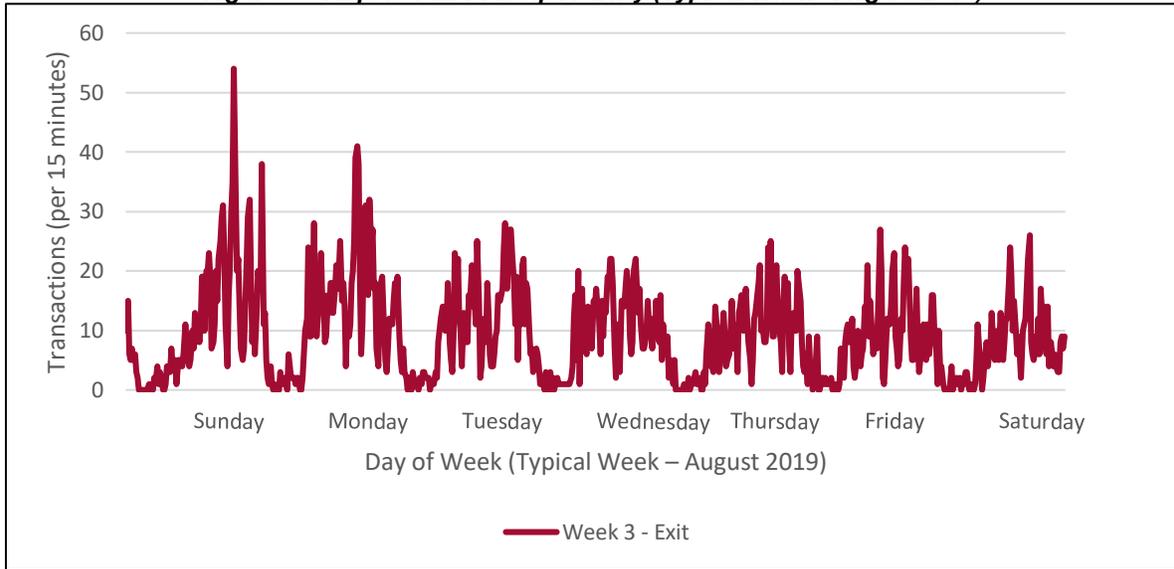
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

**Figure 6 – Airport Taxi Pick-Up Transactions per 15-Minutes (August 2019)**
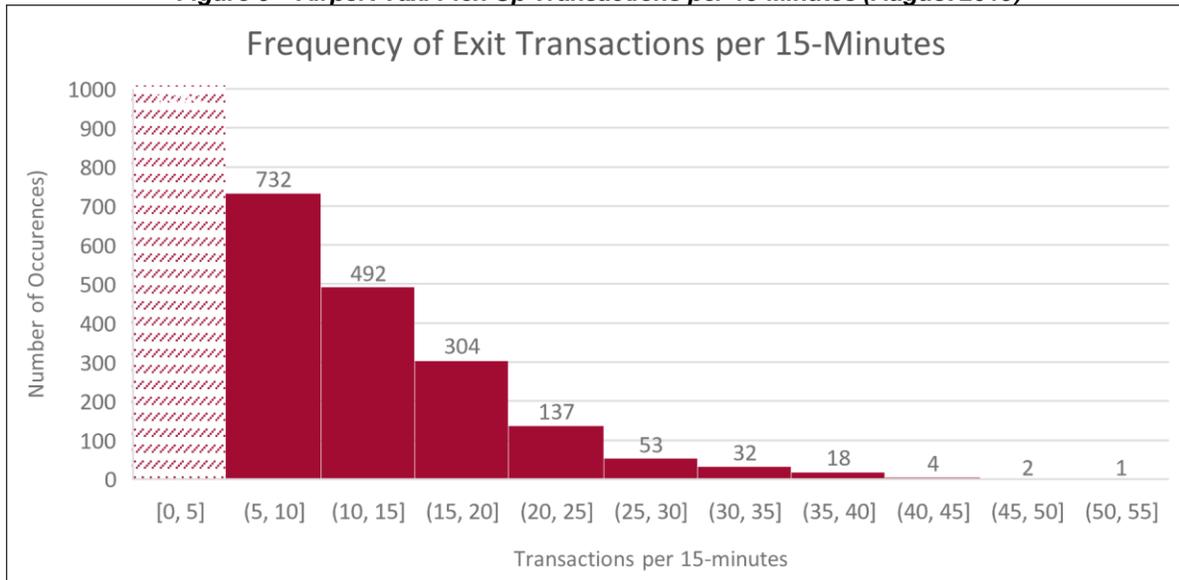
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 3 – Airport Total Taxi Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.5th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	23 veh	**38 veh**	54 veh
TNC Pickup Positions: Required	5 pos	**8 pos**	11 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**16 periods (4 hours)**	-

- Loading Position Requirement:
  - Airport Total: 8
  - Terminal 1: 7 (90% Airport Total)
  - Terminal 2: 2 (20% Airport Total)
- Staging Position Requirement: Assume double the number of loading positions at each terminal
  - Terminal 1: 14
  - Terminal 2: 4

4   Limo

Figure 7 – Airport Limo Pick-Up Activity (Typical Week - August 2019)
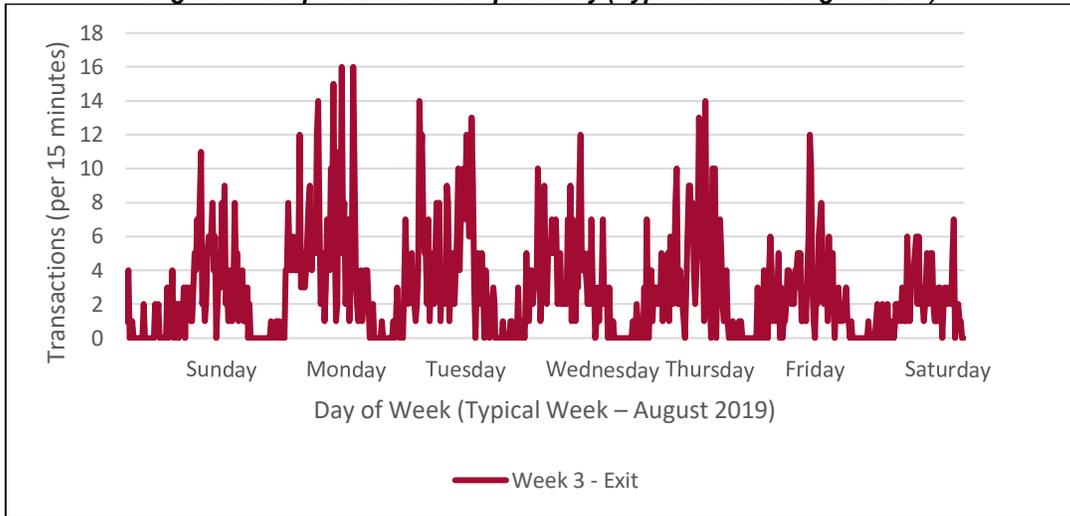
Figure 8 – Airport Limo Pick-Up Transactions per 15-Minutes (August 2019)

Table 3 – Airport Total Limo Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.8th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	8 veh	**15 veh**	19 veh
TNC Pickup Positions: Required	8 pos	**15 pos**	19 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**6 periods (1.5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement:
    - Airport Total: 15
    - Terminal 1: 14 (90% Airport Total)
    - Terminal 2: 3 (20% Airport Total)
- Staging Position Requirement: Assume equal to the number of loading positions at each terminal
    - Terminal 1: 14
    - Terminal 2: 3

5   Charter Bus

Figure 9 – Airport Bus Activity (Typical Week - August 2019)

**Figure 10 – Airport Bus Transactions per 15-Minutes (August 2019)**

Table 4 – Airport Total Limo Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.6th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	2 veh	**5 veh**	6 veh
TNC Pickup Positions: Required	4 pos	**10 pos**	12 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**10 periods (3.5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement:
  - Airport Total: 10
  - Terminal 1: 8 (80% Airport Total)
  - Terminal 2: 4 (40% Airport Total)

6   Hotel Courtesy Shuttle

Figure 11 – Airport Hotel Courtesy Shuttle Pick-Up Activity (Typical Week - August 2019)
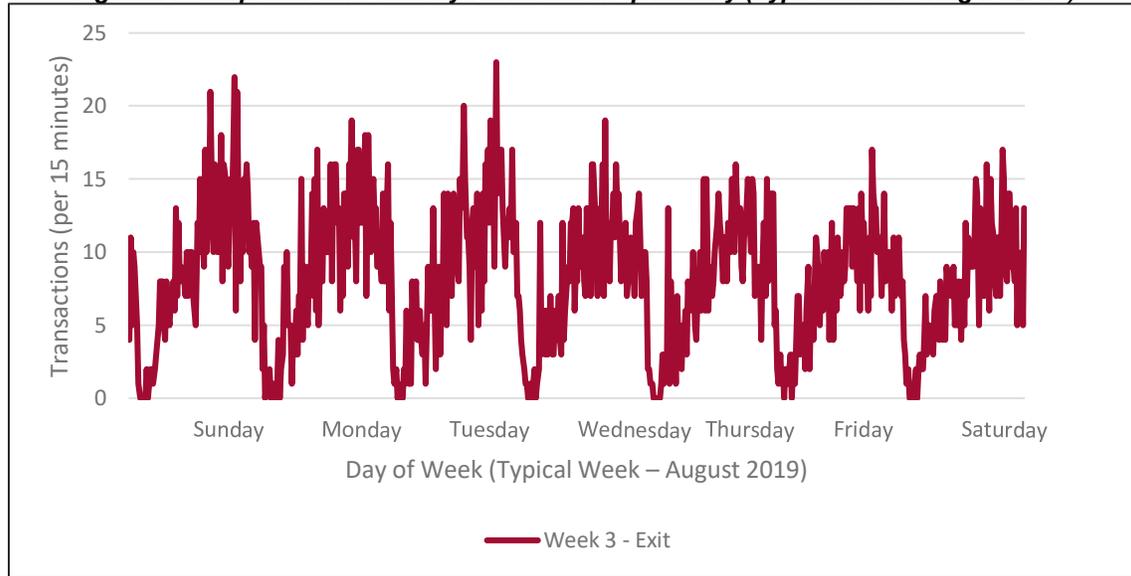
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Figure 12 – Airport Hotel Courtesy Shuttle Pick-Up Transactions per 15-Minutes (August 2019)
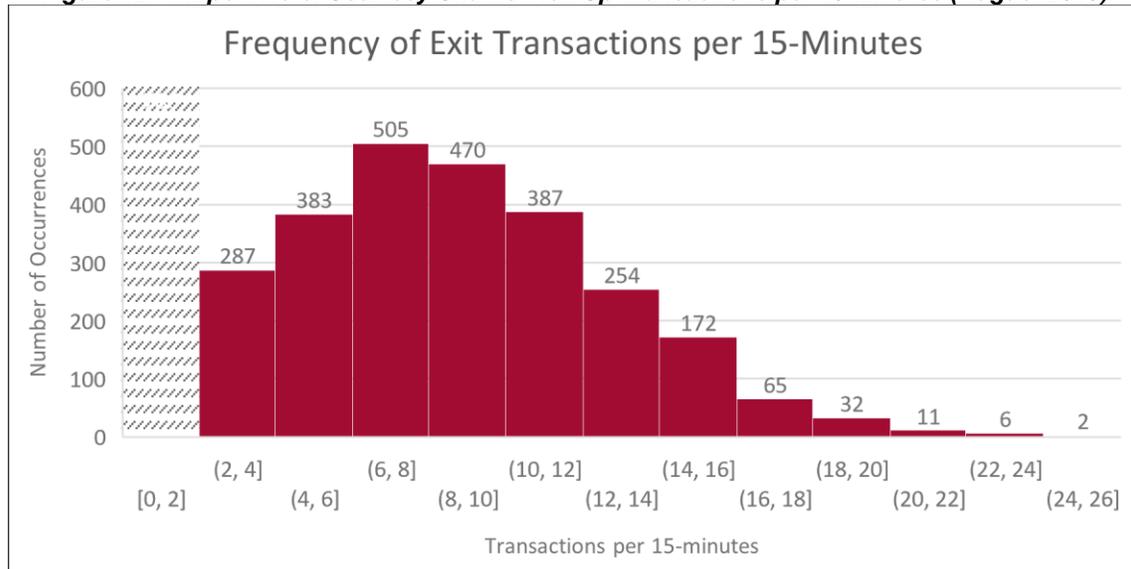
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 5 – Airport Total Hotel Courtesy Shuttle Pick-Up Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.6th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	16 veh	**22 veh**	26 veh
TNC Pickup Positions: Required	8 pos	**11 pos**	13 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**10 periods (3.5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement:
  - Airport Total: 11
  - Terminal 1: 10 (90% Airport Total)
  - Terminal 2: 3 (20% Airport Total)

7 Off-Airport/Remote Parking Shuttle

Figure 13 – Off-Airport/Remote Parking Shuttle Activity (Typical Week - August 2019)
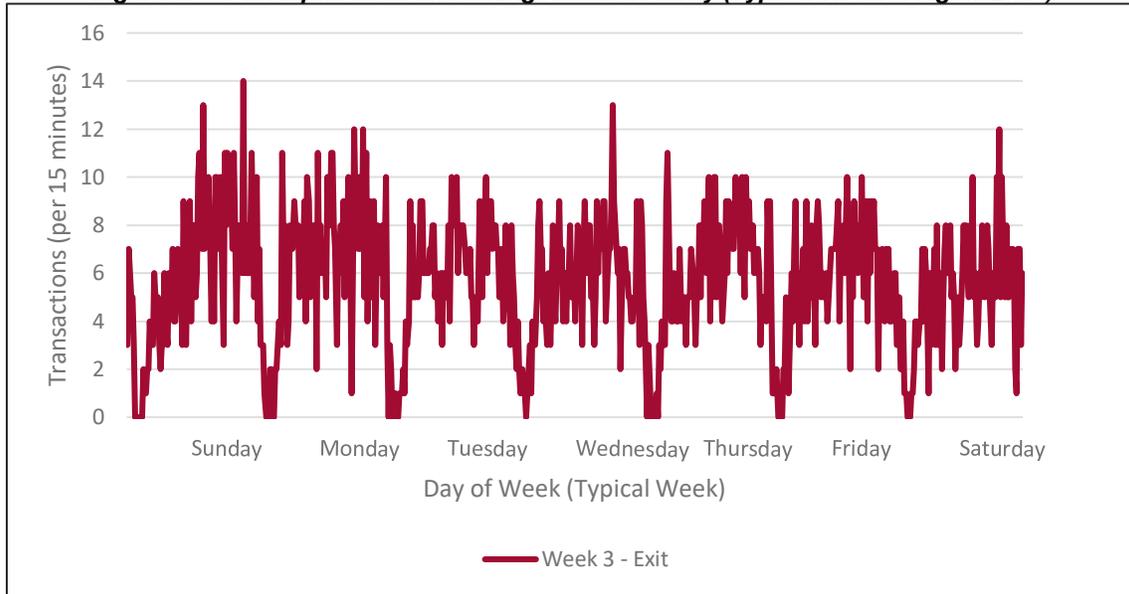
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

**Figure 14 – Off-Airport/Remote Parking Shuttle Transactions per 15-Minutes (August 2019)**
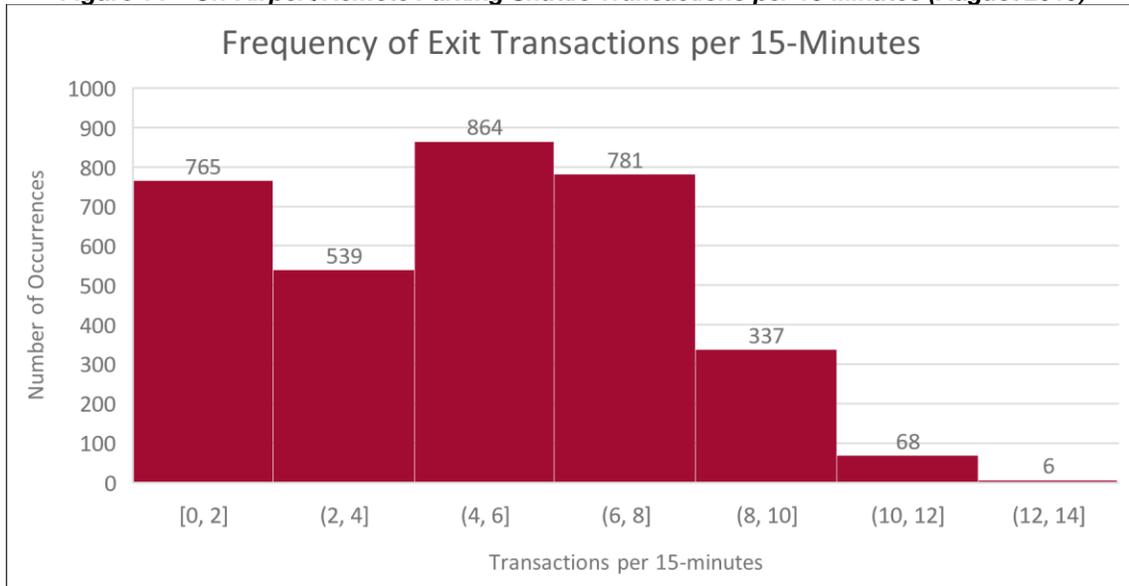
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 6 – Airport Total Off-Airport/Remote Parking Shuttle Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.3th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	10 veh	**12 veh**	14 veh
TNC Pickup Positions: Required	5 pos	**5 pos**	8 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**20 periods (5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement: 5
  - Airport Total: 5
  - Terminal 1: 5 (provide one position per operator)
  - Terminal 2: 5 (provide one position per operator)

8   Out State Shuttle

Figure 15 – Out State Shuttle Activity (Typical Week - August 2019)
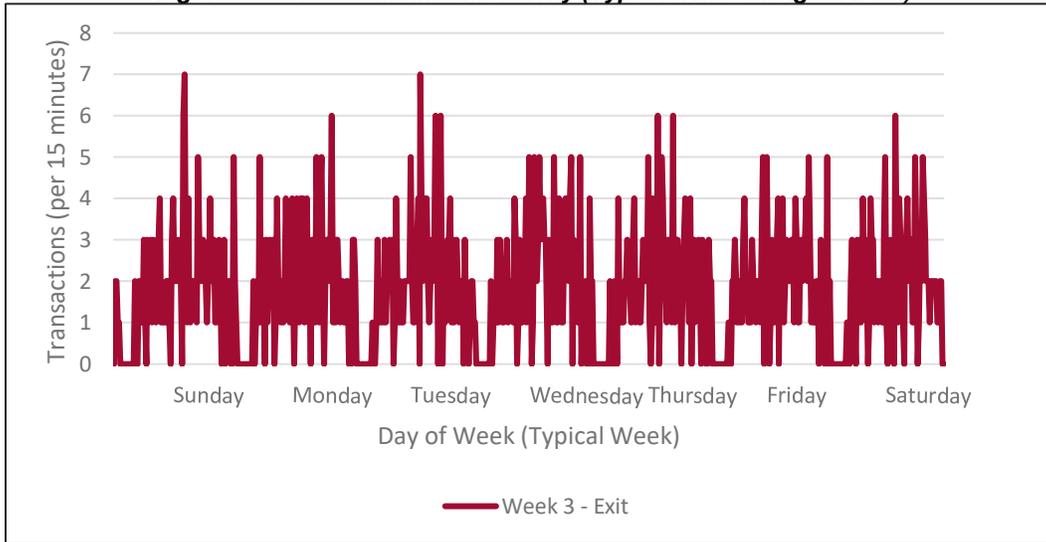
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Figure 16 – Out State Shuttle Transactions per 15-Minutes (August 2019)
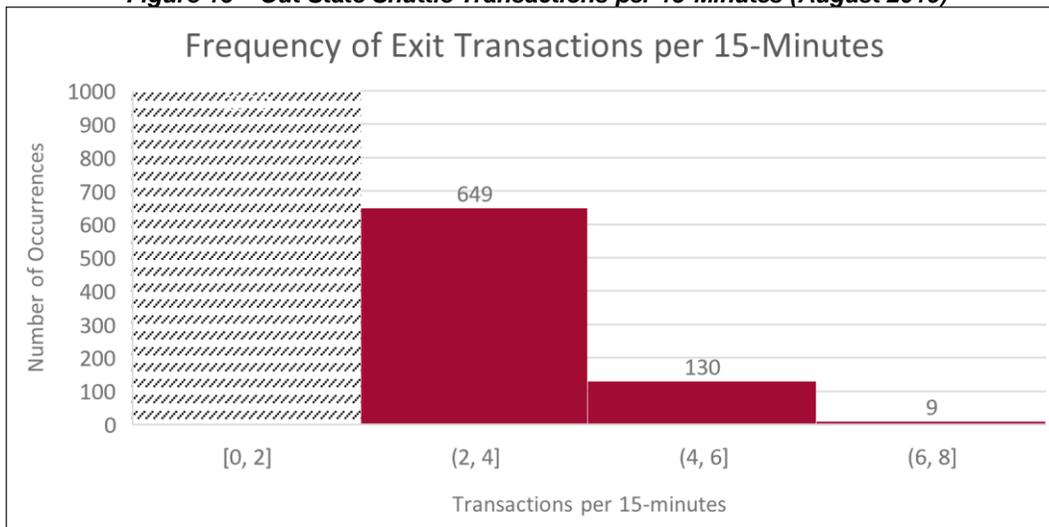
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 7 – Airport Total Out-State Shuttle Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.7th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	4 veh	**7 veh**	8 veh
TNC Pickup Positions: Required	2 pos	**4 pos**	5 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**8 periods (2 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement:
  - Airport Total: 4
  - Terminal 1: 3 (80% Airport Total)
  - Terminal 2: 2 (20% Airport Total; provide 2 minimum for redundancy)
- Staging Position Requirement: Assume equal to the number of loading positions at each terminal
  - Terminal 1: 3
  - Terminal 2: 0 – loading only occurs at Terminal 2

9   Shared Ride

Figure 17 – Shared Ride Activity (Typical Week - August 2019)
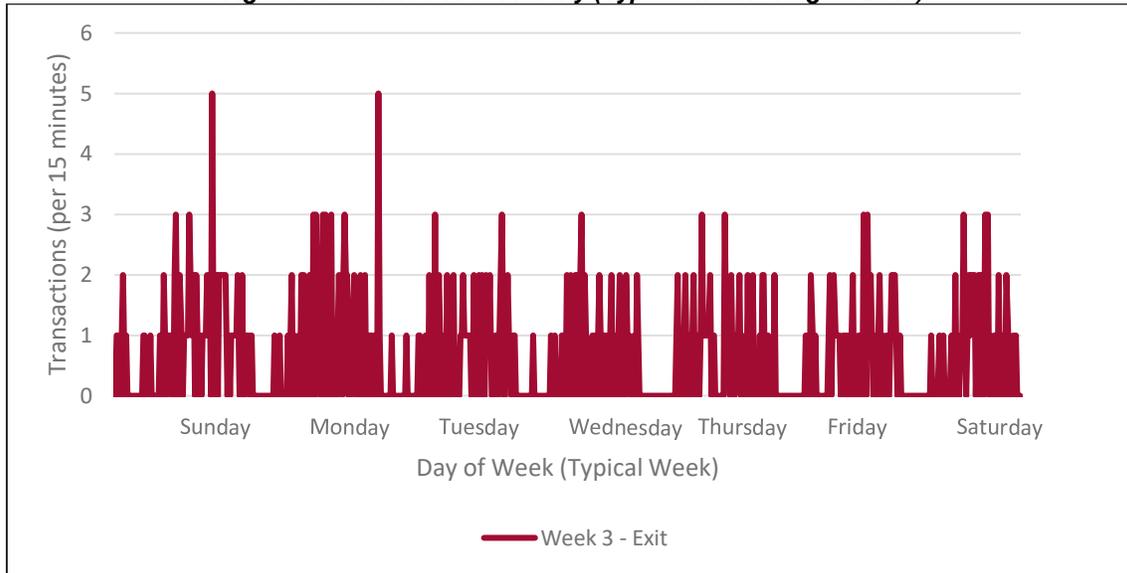
Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Figure 18 – Frequency of Shared Ride Exit Transactions per 15-Minutes – Total Airport - August 2019
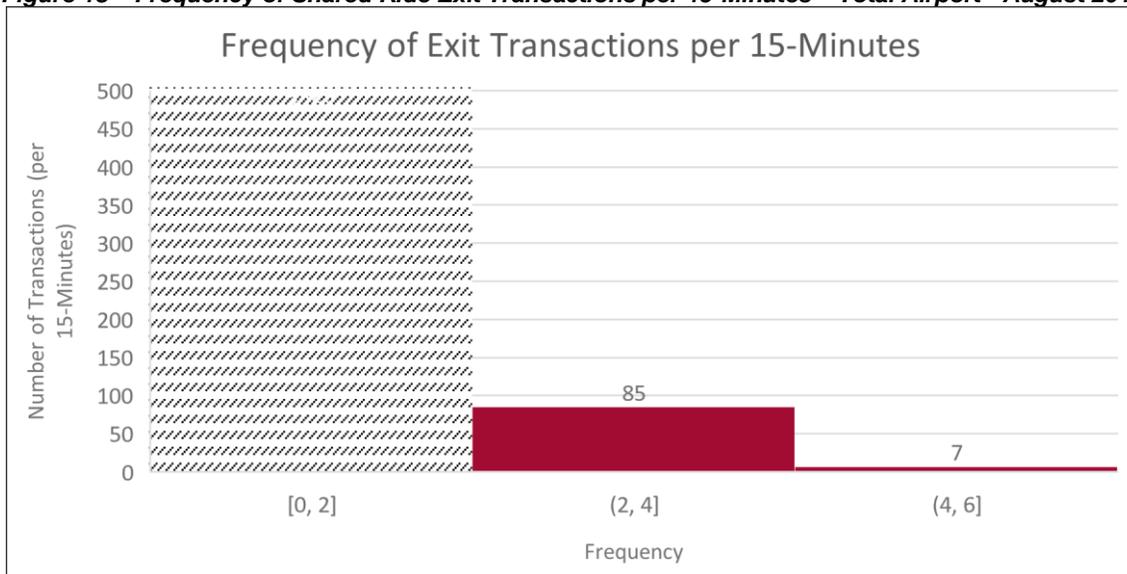

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

Table 8 – Airport Total Shared Ride Transactions per 15-Minutes (August 2019)

Demand Analysis			
Percentile	95th Percentile	**99.5th Percentile**	Peak
Design 15-min Pickup Vehicle Activity	2 veh	**4 veh**	6 veh
TNC Pickup Positions: Required	1 pos	**2 pos**	3 pos
No. of 15-min Periods Design Demand is Exceeded throughout the month	144 periods (36 hours)	**14 periods (3.5 hours)**	-

Source: Kimley-Horn and Associates, Inc.
Prepared by: Kimley-Horn and Associates, Inc.

- Loading Position Requirement: 2
  - Airport Total: 2
  - Terminal 1: 2 (provide minimum number of positions for redundancy)
  - Terminal 2: 2 (provide minimum number of positions for redundancy)