

62052-157

April 21, 2025

Rick Schroder, P.E.
Department of Public Works
City of Las Vegas
495 S. Main Street
Las Vegas, NV 89101

Re: Summerlin West Village 22 Master Traffic Study Update for Parcel B Big Box Retailer (TIA75855)

Dear Mr. Schroder::

This Traffic Study Update addresses proposed revisions to planned retail development on the north portion of Parcel B (near Lake Mead Boulevard) in Village 22. This Update addresses the same scope as the 2022 Update for this parcel. A scaled site plan is enclosed and reflects the following changes.

- A revised alignment of Orrock Street from Kestrel Creek to Lake Mead Boulevard. The Lake Mead Boulevard intersection is approximately 110 feet west of the previous location proposed per the 2022 Update, which also places it approximately 110 feet from the Beltway Trail crossing of Lake Mead Boulevard (end-of-return to edge-of-crosswalk).
- Retail use east of Orrock Street where multi-family residential was previously planned. Multi-family use is still planned in Parcel B south of Kestrel Creek Avenue.
- Retail pads are proposed along Lake Mead Boulevard with a parallel access aisle approximately 240 feet from Lake Mead Boulevard (edge to-edge).
- A new public Street A is proposed between Desert Foothills and Orrock Street. Its intersection location with Desert Foothills Drive is consistent with the full-movement access intersection previously proposed where possible future traffic signal control has been planned. The public street connection is consistent with public street connections provided to the south and it provides for a public walkway connection between the trail in COS-2 west of Desert Foothills Drive and the retail use east of Orrock Street.

Consistent with the previous Update, Orrock Street is proposed to be public and incorporate a three-lane section with a 30 mph design speed and speed limit. A 48-foot back-of-curb width is proposed with a 12-foot through lane and 5-foot bike lane each direction (consistent with previous Update) and a 10-foot center turn lane. Street A is proposed to incorporate the same cross-section but with a 25 mph speed limit. Street A is limited to approximately 490 feet in length from the curb line of Desert Foothills Drive to the curb line of Orrock Street

TRAFFIC PROJECTIONS

Background traffic has been calculated the same as the 2022 Update, by subtracting Parcel B trips of the Master Study from the area street network. Resulting background traffic is presented in **Figures 1 and 2** for the AM and PM peak hours respectively.



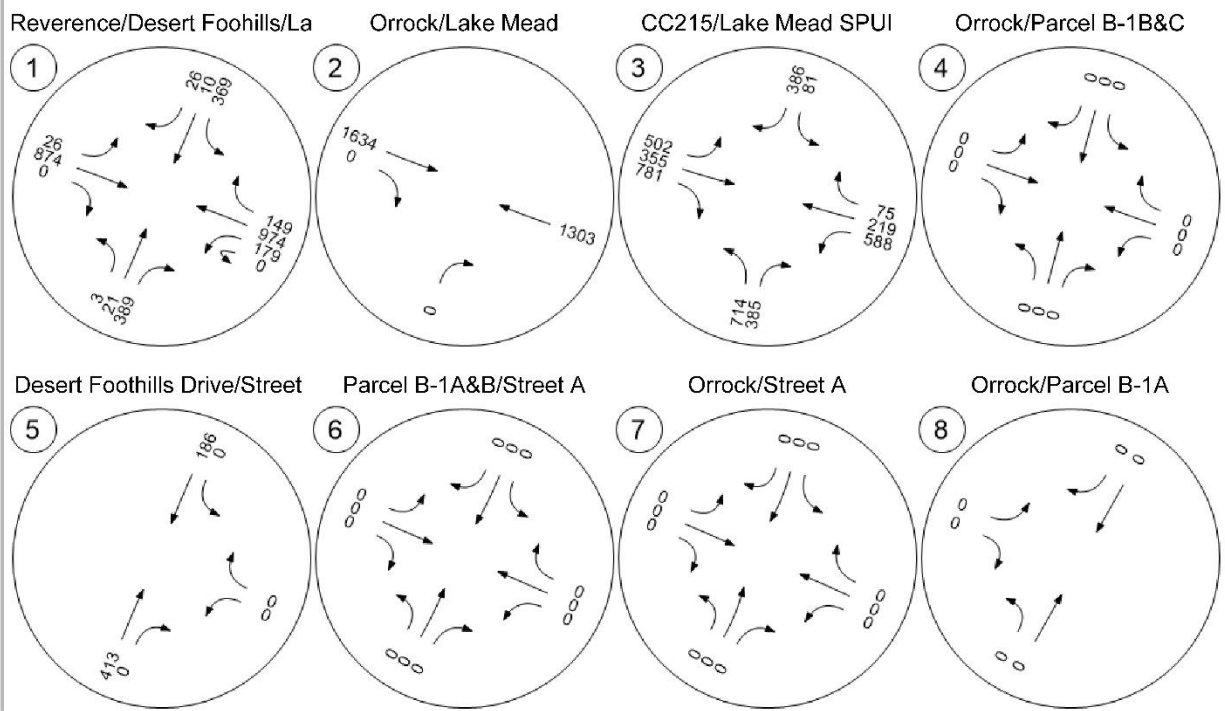
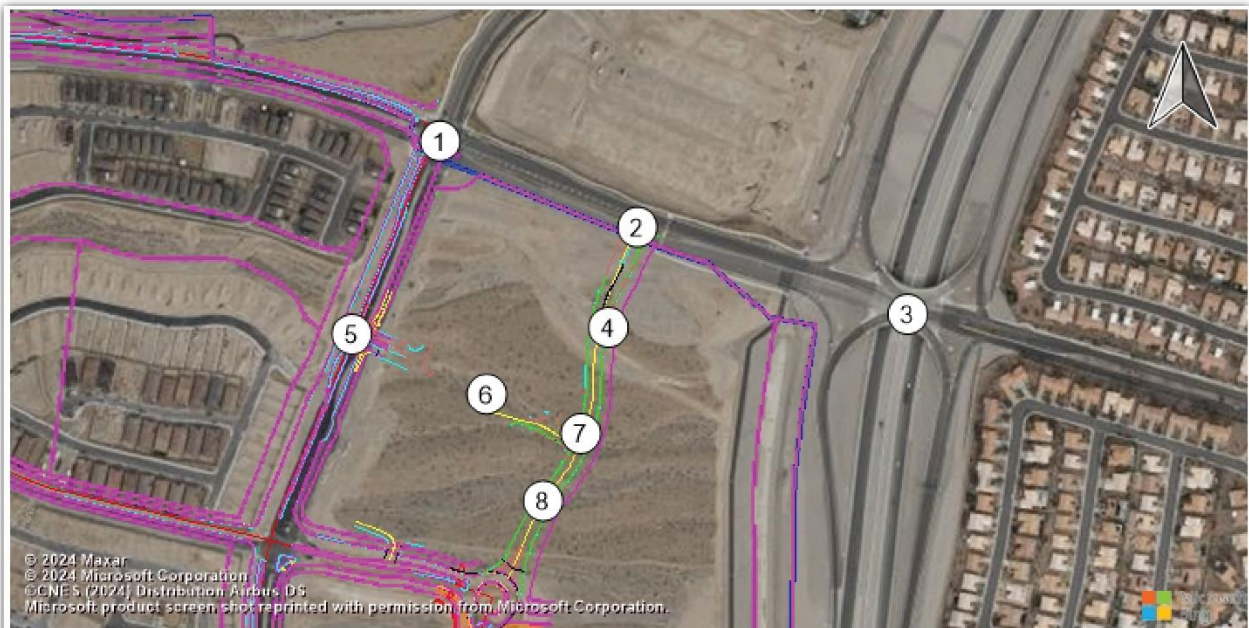


Figure 1. Background Traffic Estimates – AM Peak Hour

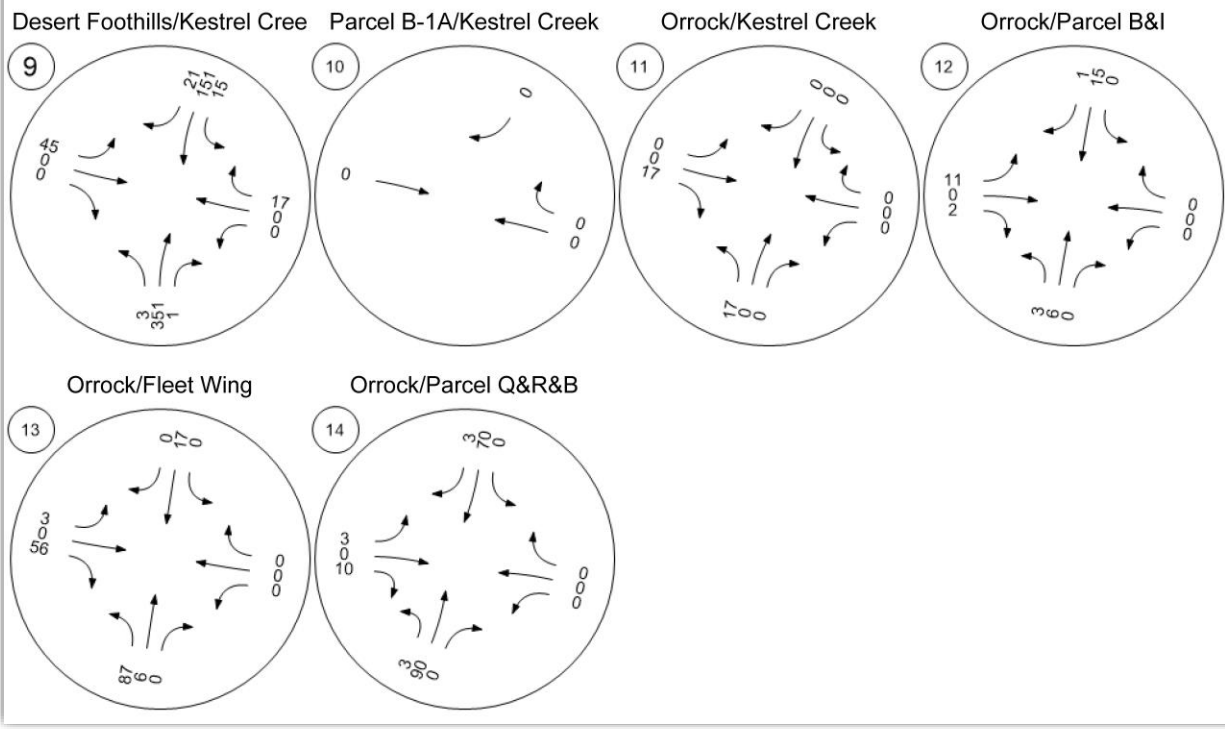


Figure 1. Background Traffic Estimates – AM Peak Hour (continued)

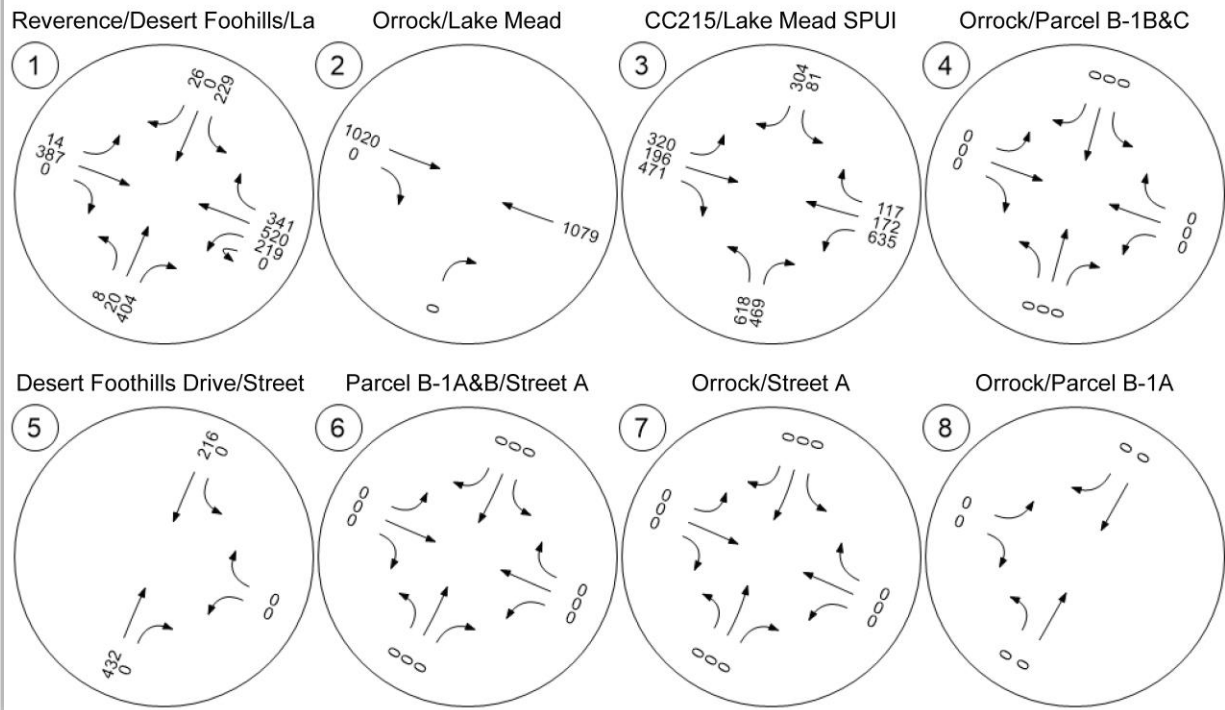
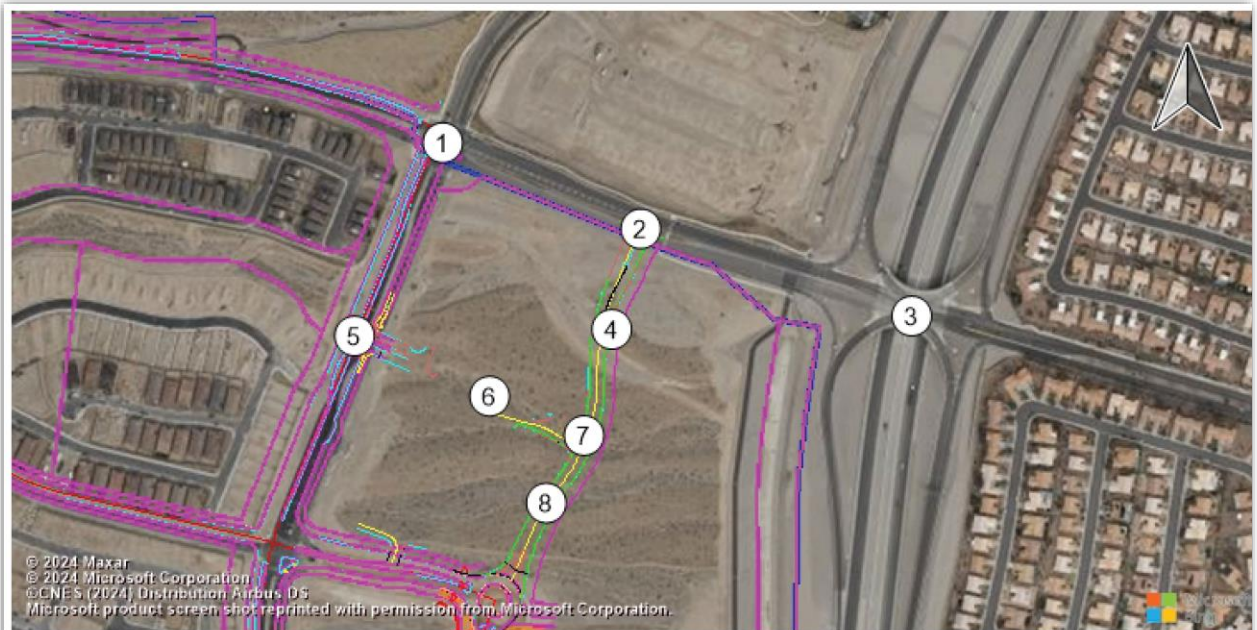


Figure 2. Background Traffic Estimates – PM Peak Hour

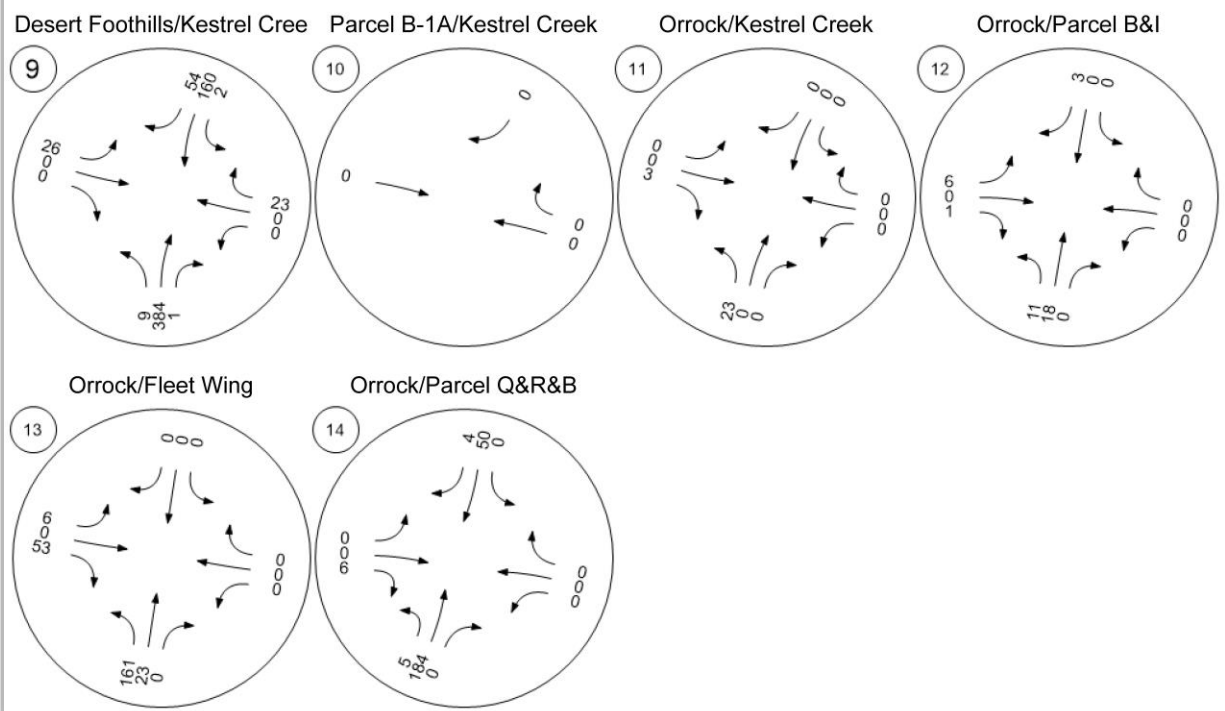


Figure 2. Background Traffic Estimates – PM Peak Hour (continued)

Updated trip generation of Parcel B is shown in **Table 1**, with the following sub-parcel designations:

- Parcel B-1A is the southwest quadrant of the Street A/Orrrock Street intersection.
- Parcel B-1B is the northwest quadrant of the Street A/Orrrock Street intersection.
- Parcel B-1C are retail pads along Lake Mead Boulevard east of Orrrock Street.
- Parcel B-1D is big-box retail use east of Orrrock Street and north of Kestrel Creek Avenue.
- Parcel B-2 is multi-family residential use south of Kestrel Creek Avenue.
- Parcel B-3 is retail use planned on the southern portion of Parcel B.

Parcel B-1 retail trip rates are equation-based for the combined 276± ksf of retail use north of Kestrel Creek Avenue. These retail uses are in the same general area and can be expected to act as a combined site for trip generation purposes. Parcels B-1A and B-1B pass-by trips are based on ITE Land Use Code 821 Shopping Plaza (40 - 150k), Parcel B-1C pass-by are based on Land Use Code 934 Fast-Food Restaurant without Drive-Through Window, and Parcel B-1D pass-by trips are based on Land Use Code 820 Shopping Center (>150k). The pass-by percentage assumed for Parcel B-1D has been reduced to 15% due to its location, which is not immediately adjacent to a multi-lane arterial.

Multi-family use at 20 dwelling units per acre (dua) has been assumed on Parcel 2, and retail use has been assumed on Parcel B-3 at a floor area ratio (FAR) of 20 percent. In the more critical PM peak hour projected trip generation is slightly higher (+7%) than what was projected in the Master Study per Addendum 1.

Trips have been distributed to the area street network based on likely attractions and commuter routes. Distribution assumptions are presented in **Figure 3** for Parcel B-1, in **Figure 4** for Parcel B-2, and in **Figure 5** for Parcel B-3. The distributions reflect parcels' use, proximities to adjacent interchanges, the ease of left-turn vs. right-turn movements, and the one-way couplet formed by Desert Foothills Drive and Kettle Ridge Drive south of Fleet Wing Avenue.

Trips have been assigned to the area street network using Vistro software, as presented in **Figures 6 and 7**. Trips projections have been added to background traffic to yield updated traffic projections at Village buildout as shown in **Figures 8 and 9**.

Table 1. Updated Parcel B Trip Generation Estimate

Parcel	Acres		Land Use	ITE Code	Indep. Variable	Density		Trip Rates						Trip Volumes							
	(N-N)	Gross				(N-N)	(Gross)	AM Peak Hour		PM Peak Hour		AM Peak Hour Total		PM Peak Hour Total		PM Peak Hr Passby		PM Peak Hr Primary			
								Rate	In / Out	Rate	Passby	In / Out	In / Out	Total	In / Out	Total	In / Out	Total	In / Out	Total	
B-1A	6.1	8.5	Retail	820	60.000 ksf	23% FAR	16% FAR	1.07	62% / 38%	4.25	40%	48% / 52%	40 / 24	64	122 / 133	255	49 / 53	102	73 / 80	153	
B-1B	5.8	8.1	Retail	820	60.000 ksf	24% FAR	17% FAR	1.07	62% / 38%	4.25	40%	48% / 52%	40 / 24	64	122 / 133	255	49 / 53	102	73 / 80	153	
B-1C	2.5	3.5	F Food	934	9.000 ksf	8% FAR	6% FAR	44.61	51% / 49%	33.03	55%	52% / 48%	205 / 197	401	155 / 143	297	85 / 78	163	70 / 64	134	
B-1D	12.1	16.9	Retail	820	146.833 ksf	28% FAR	20% FAR	1.07	62% / 38%	4.25	15%	48% / 52%	98 / 60	158	299 / 324	624	45 / 49	94	254 / 276	530	
Parcel B1 Subtotal	26.5	37.05			275.833 ksf								382 / 306	688	699 / 732	1431	228 / 233	461	471 / 499	970	
B-2	20.0	21.4	MF	Sum	400 DU		20.0 dua	0.33	20% / 80%	0.37	na	65% / 35%	26 / 106	132	96 / 52	148	na		96 / 52	148	
B-3	27.5	29.1	Retail	820	250.000 ksf		20% FAR	1.12	62% / 38%	4.37	na	48% / 52%	174 / 107	281	524 / 568	1092	na		524 / 568	1092	
Parcel B Totals:	74.0	87.51			525.833				53% / 47%			49% / 51%	583 / 518	1,101	1,319 / 1,352	2,670	228 / 233	461	1,091 / 1,118	2,209	
Approved Village 22 Master Addendum 1:									47% / 53%			50% / 50%	412 / 472	884	1,260 / 1,244	2,504			1,260 / 1,244	2,504	
Update % of Approved Master												142% / 110%	125%	105% / 109%	107%					87% / 90%	88%

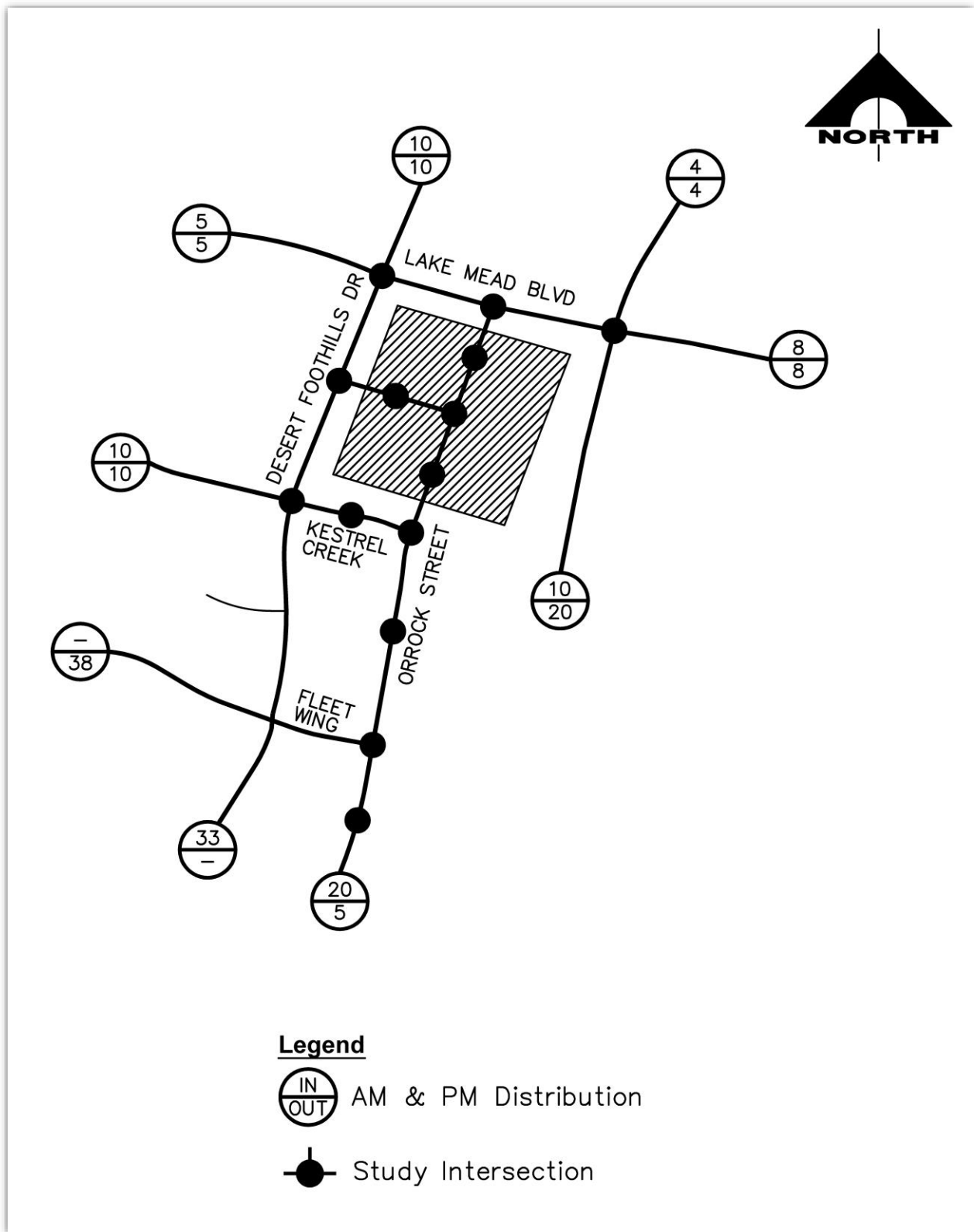


Figure 3. Trip Distributions – Parcel B-1

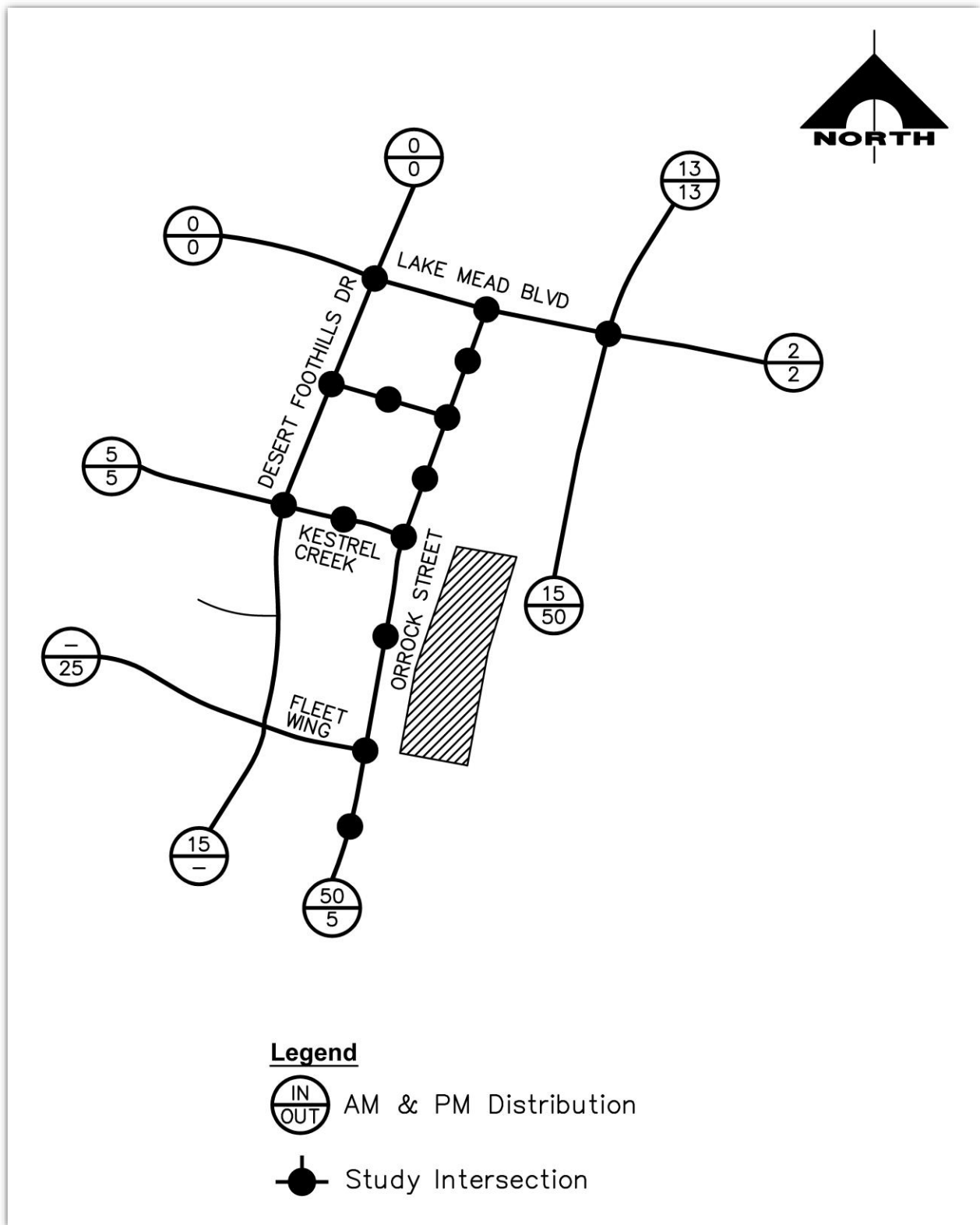


Figure 4. Trip Distributions – Parcel B-2

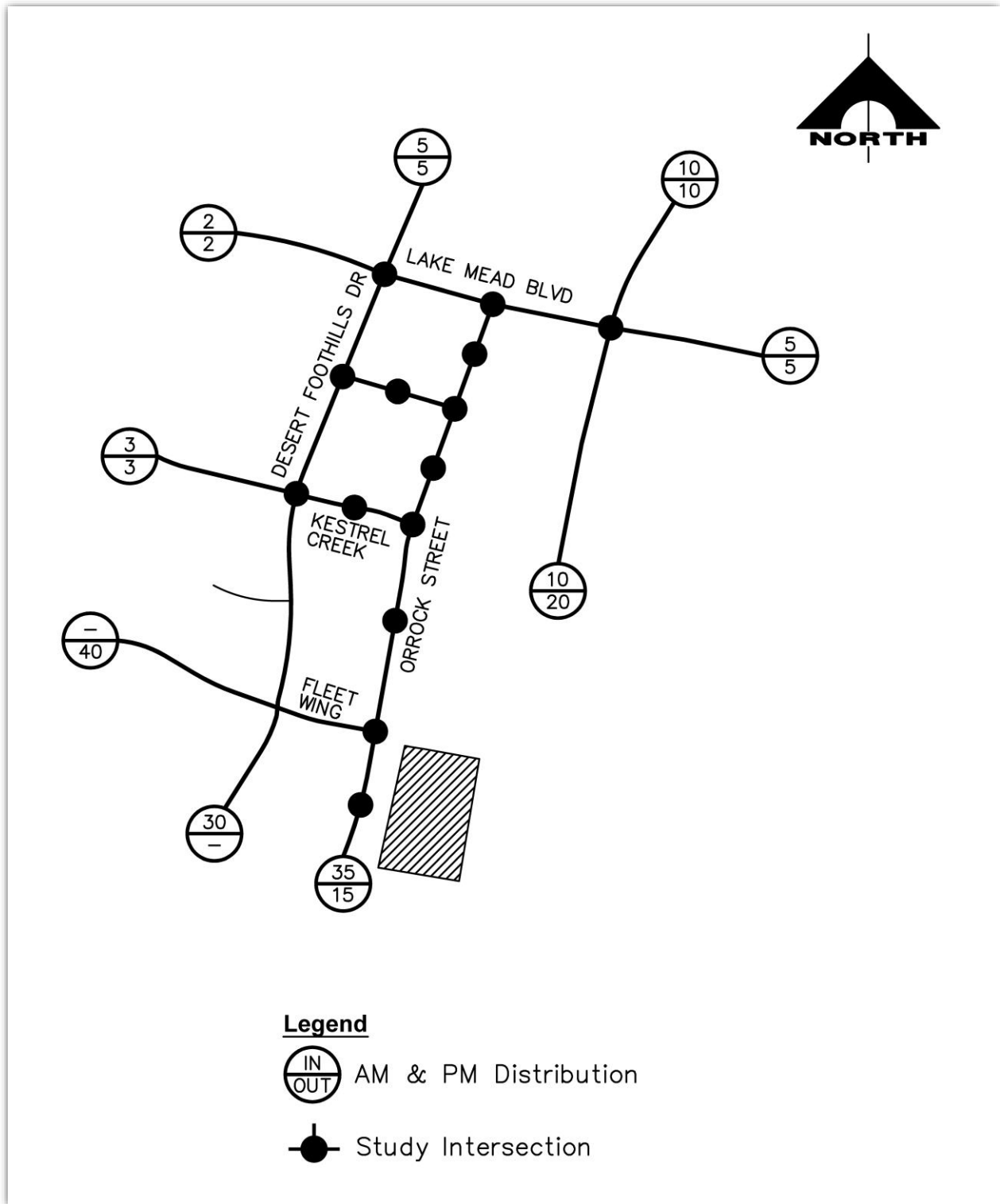


Figure 5. Trip Distributions – Parcel B-3

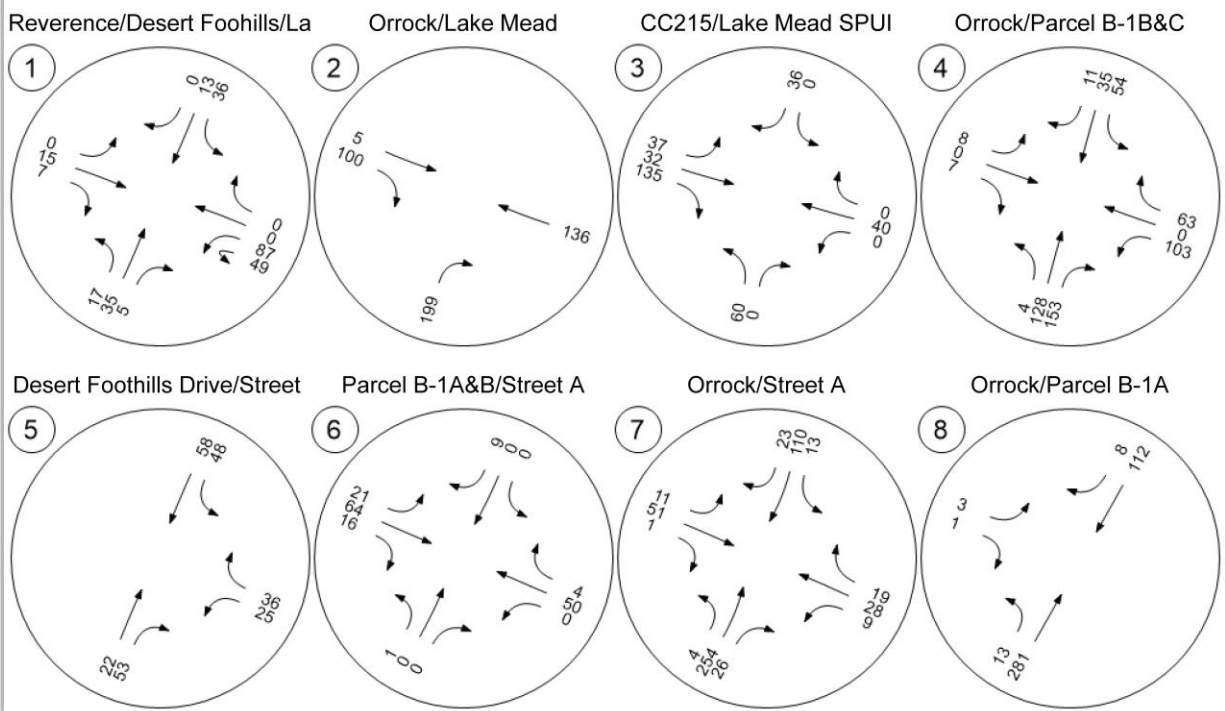
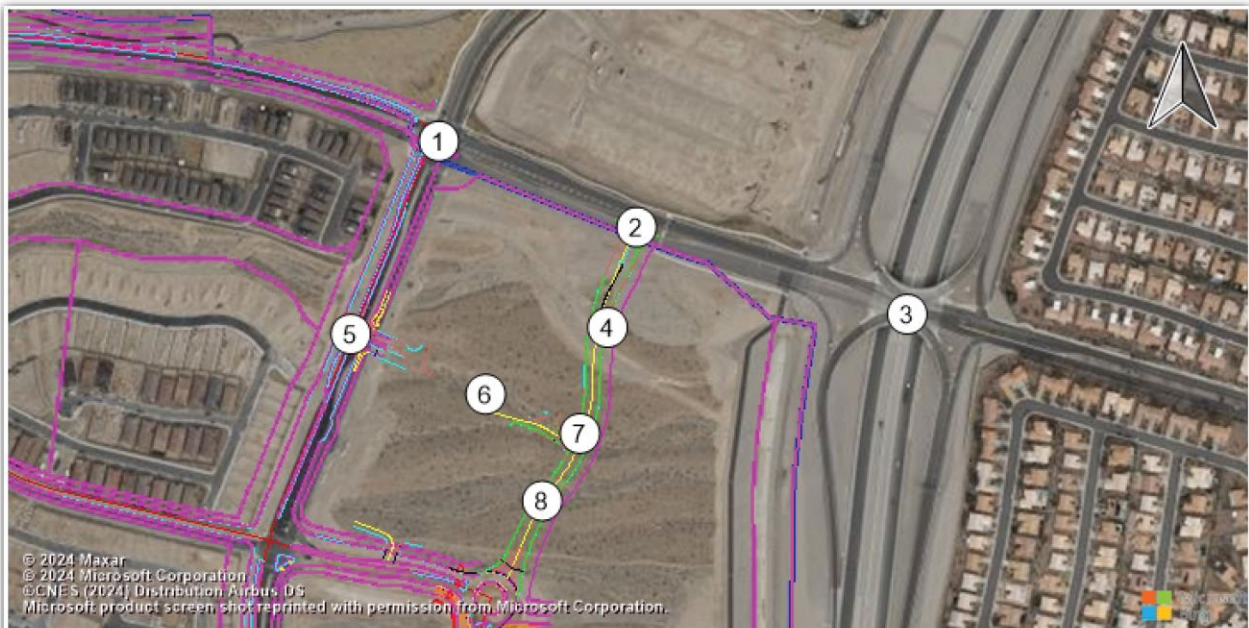


Figure 6. Project Trip Assignments – AM Peak Hour

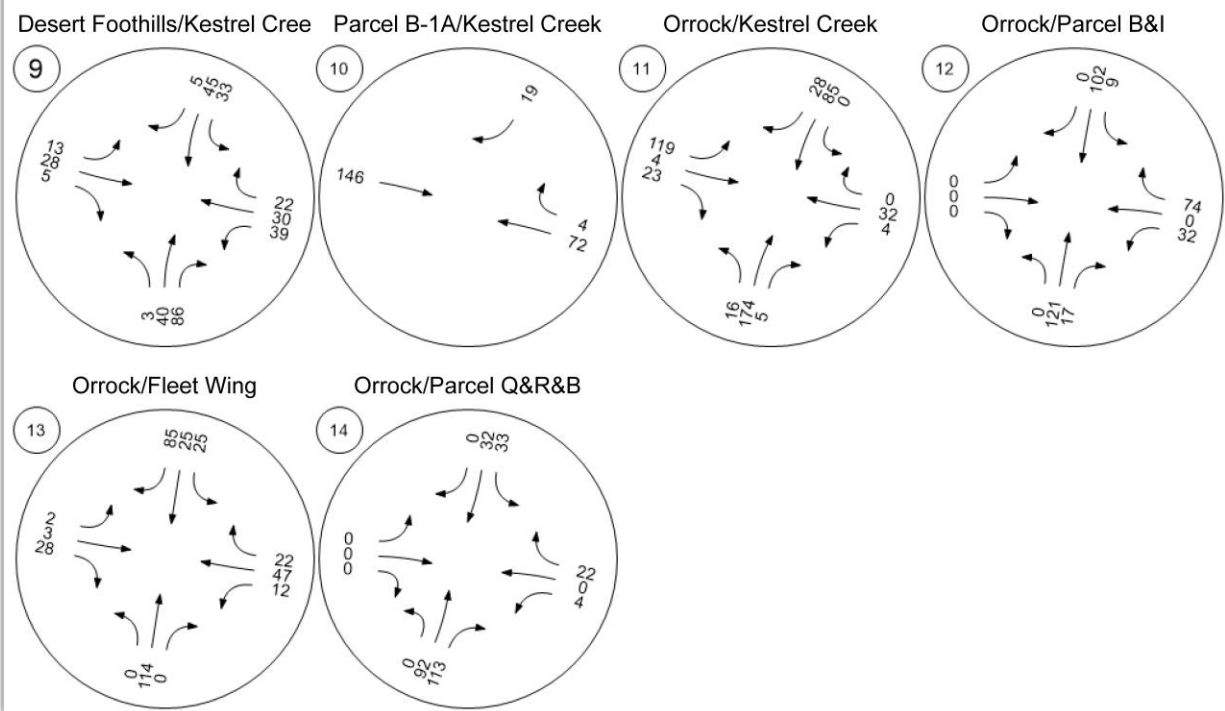
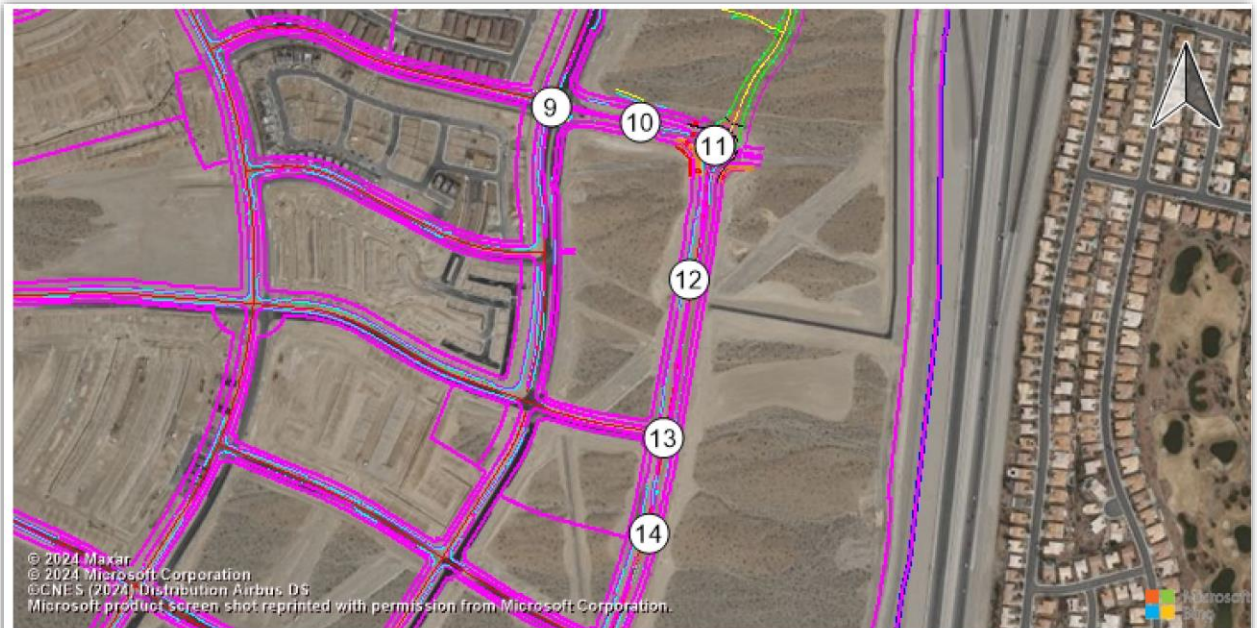


Figure 6. Project Trip Assignments – AM Peak Hour (continued)

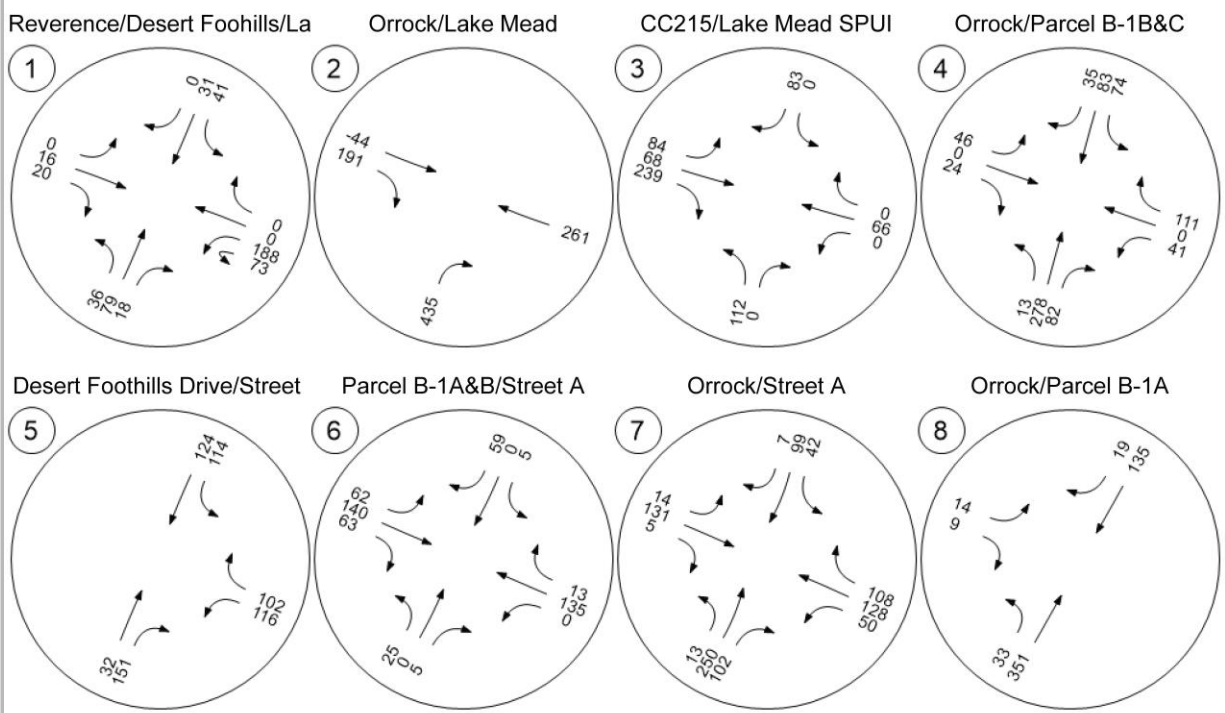
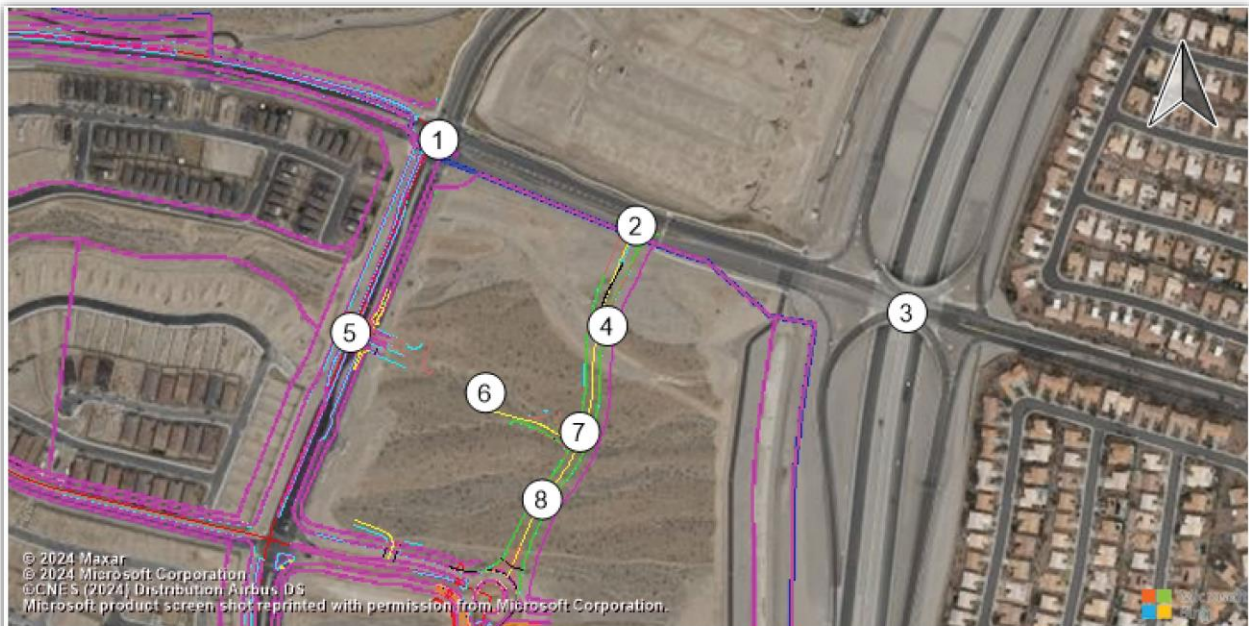


Figure 7. Project Trip Assignments – PM Peak Hour

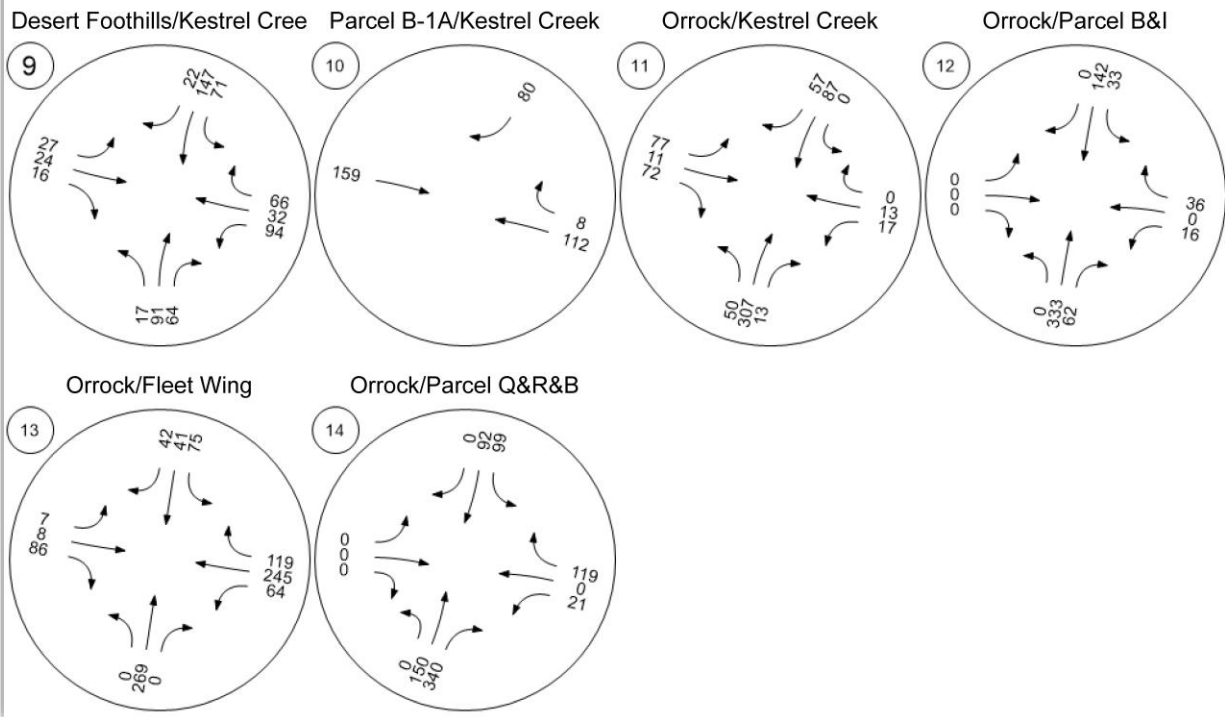
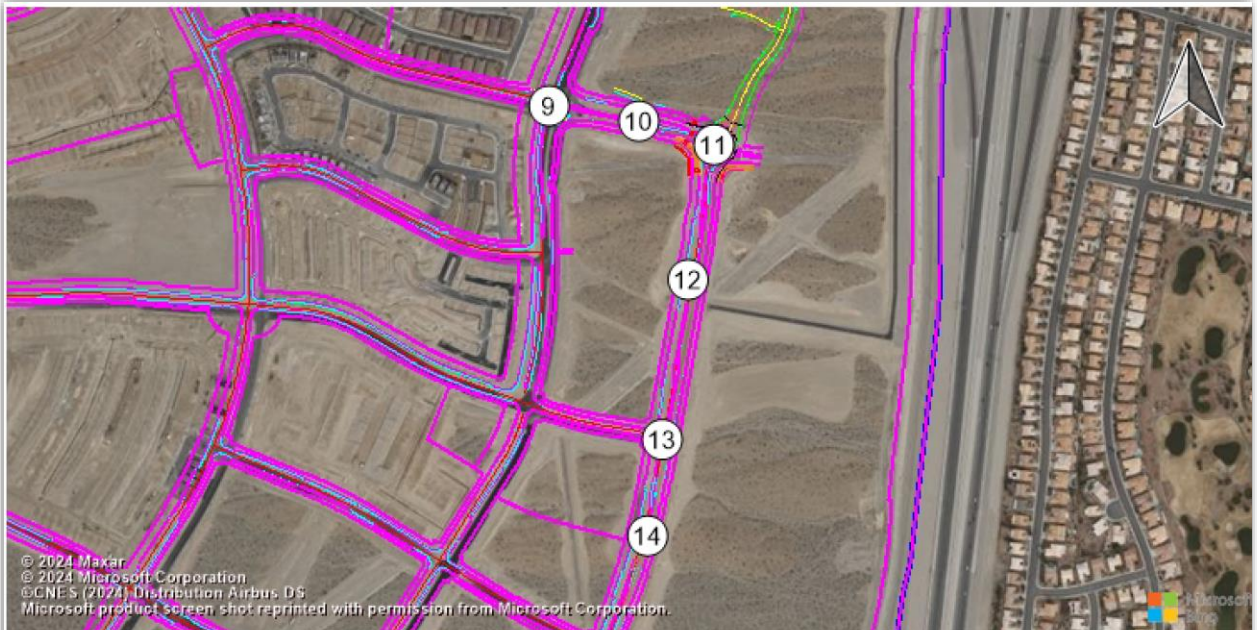


Figure 7. Project Trip Assignments – PM Peak Hour (continued)

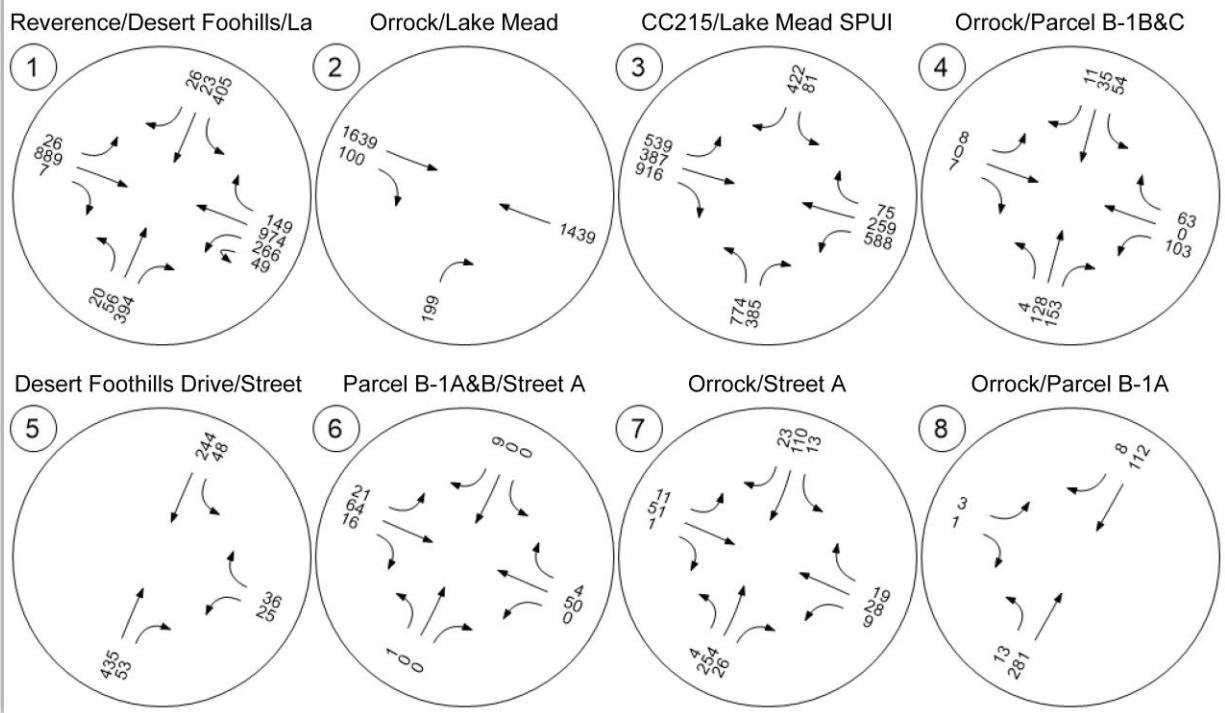
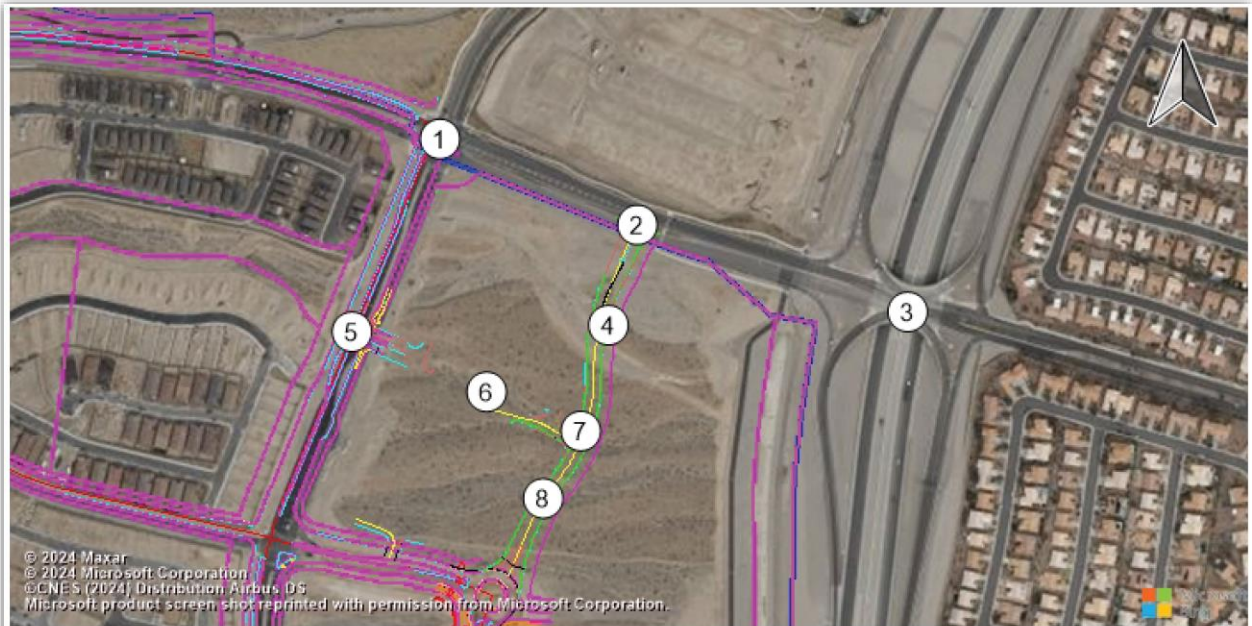


Figure 8. Background + Project Volumes – AM Peak Hour

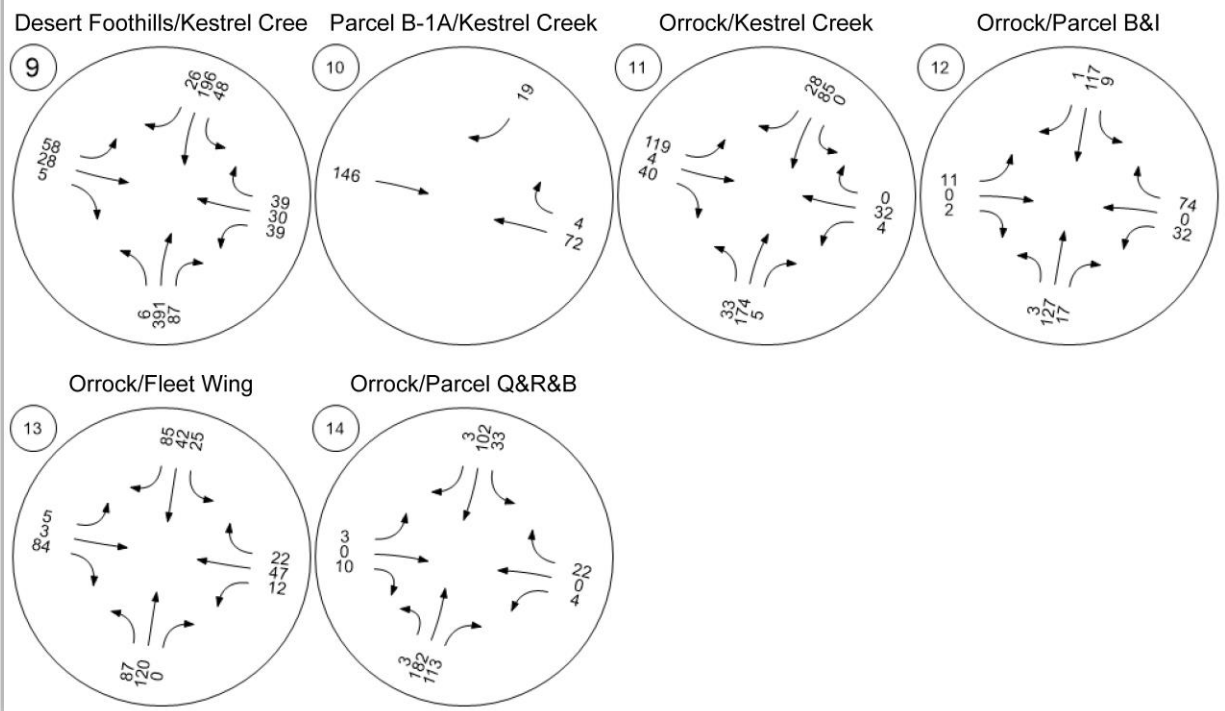
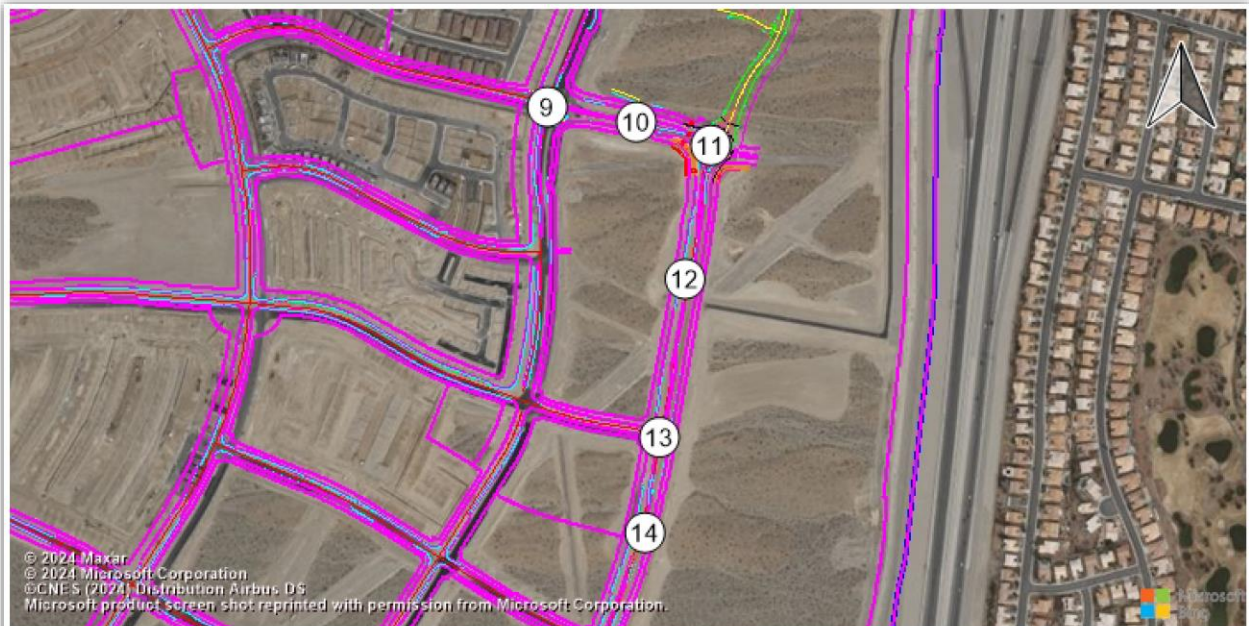


Figure 8. Background + Project Volumes – AM Peak Hour (continued)

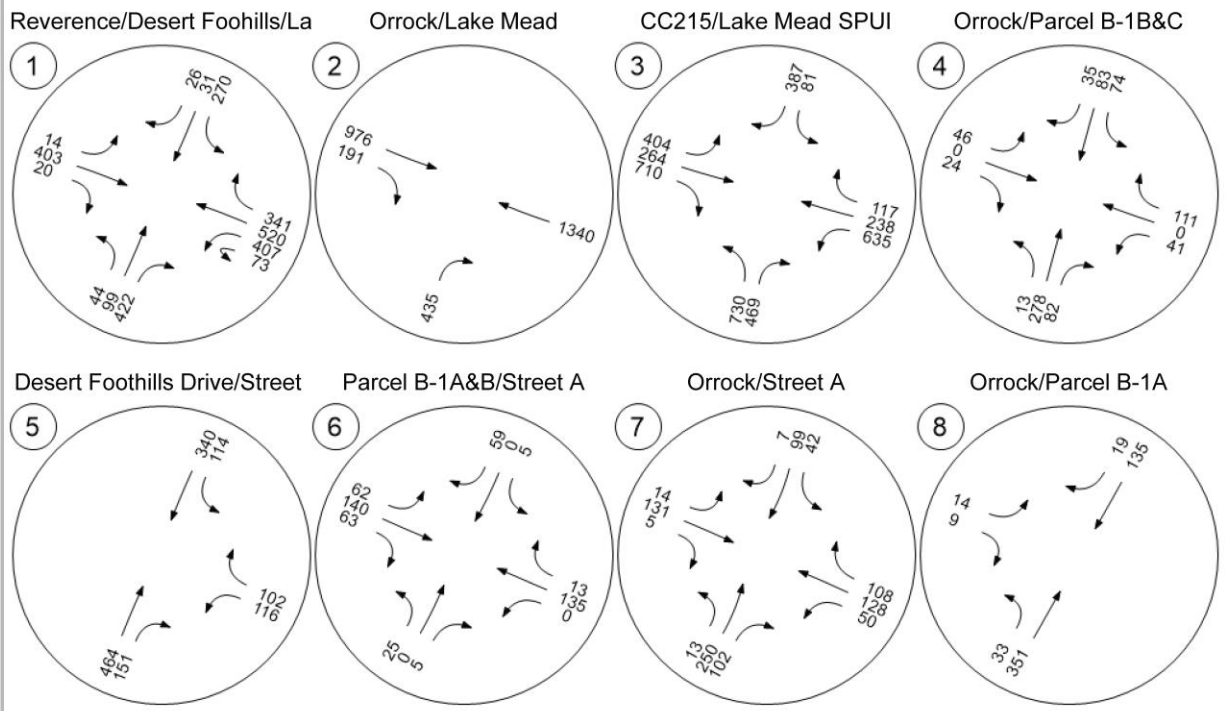
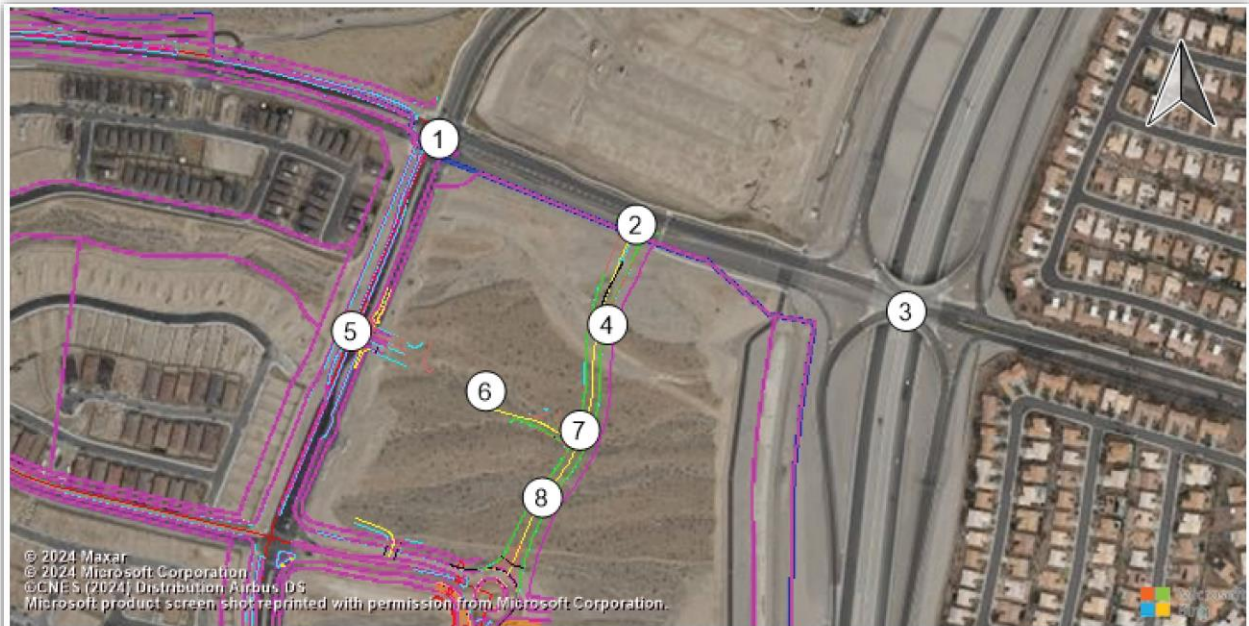


Figure 9. Background + Project Volumes – PM Peak Hour

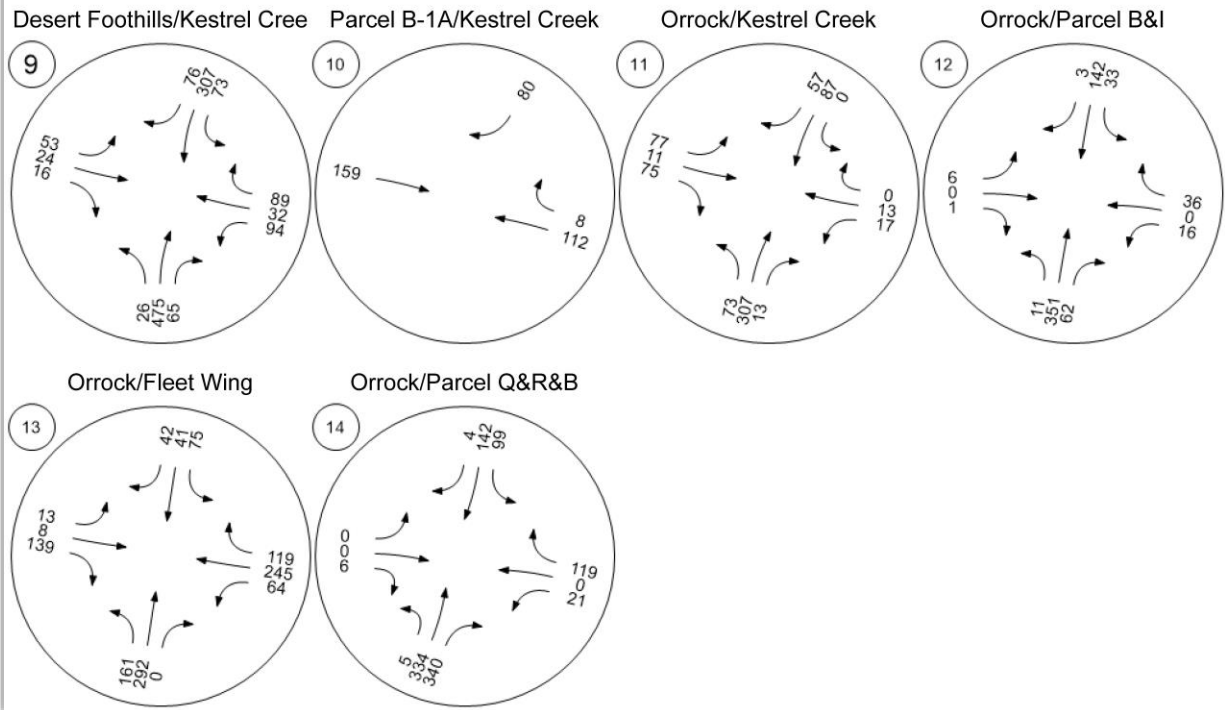


Figure 9. Background + Project Volumes – PM Peak Hour (continued)

OPERATIONAL ANALYSES

Capacity/Level-of-service Analyses

Capacity and level-of-service (LOS) analyses have been conducted using HCM methodology and Vistro software. Results are similar to those of the 2022 Update, as shown in **Table 2** summaries. The following are findings and recommendations based on the analyses:

1. Orrock Street/Lake Mead Boulevard (#2): Consistent with the previous update, it is recommended that signal control be planned for to provide a satisfactory LOS. Signal control is proposed to be a two-phase “half-signal” controlling a NB dual right-turn and EB through movements. No median opening is proposed. It is recommended the signal operate on a half-cycle to limit delay and queuing. Initially, the NB right-turn will be striped for a single lane and operate under stop control.
 - a. For the interim stop-controlled condition, it is recommended that the Beltway Trail crossing of Lake Mead Boulevard remain at its current location approximately 110 feet east of the intersection. The Orrock Street improvements to Lake Mead Boulevard were previously conditioned to include upgrades to the flasher, including AC power, and it is assumed that condition remains in place with this update.
 - b. If the trail crossing is still in place when Orrock Street/Lake Mead Boulevard needs to be signalized for dual rights it is recommended that the crossing be reconfigured it with a “Danish” median offset to place the crossing of eastbound lanes near the east curb return of the intersection. This would allow the crossing to be signalized with the intersection and avoid eastbound traffic from sometimes receiving a green light into an activated crossing just east of the intersection. The signal-controlled crossing would require an all-red of approximately 20 seconds which has been accounted for in the LOS calculations. The intersection is still able to operate well below capacity with the all-red. In the absence of the trail crossings (or with the future Trail bridge being in place) the all-red will not be needed, facilitating a lower v/c ratio and delay as shown in Table 2.
 - c. The LOS analyses do not reflect any Right-Turn-On-Red (RTOR) movements and is therefore considered conservative. It is recommended that RTOR be permitted from the right-most lane, similar to other locations in the City. RTOR will reduce delays and queueing. A Variable Message Sign (VMS) can be considered to prohibit all RTOR when there is a Trail crossing actuation.
2. Desert Foothills Drive/Street A (#5): Consistent with the previous update, it is recommended that signal control be planned for to provide a satisfactory LOS. This signal will also provide for pedestrian crossings of Desert Foothills Drive between COS-2 and the proposed retail uses.
 - a. Peak hour signal warrant evaluations (Warrant 3 of the Manual on Uniform Traffic Control Devices (MUTCD)) indicate the intersection can be expected to warrant a signal in the future. Warrant 3 is intended for application only in unusual cases where a land use attracts or discharges large numbers of vehicles over a short period of time. However, Warrant 3 criteria have been found to be a good indicator of whether or not hourly demands at a typical intersection will meet Warrants 1 or 2. Warrant 3 is therefore useful to evaluate in planning studies that rely on peak hour projections.

Table 2. Summary of Level-of-Service Analyses

Model Node # ¹	Intersection	Scenario	Control	AM Peak		PM Peak	
				v/c Ratio	Delay (s) LOS	v/c Ratio	Delay (s) LOS
1 (22)	Desert Foothills/ Lake Mead	2022 Update	Signal	0.87	47.0 D	0.76	38.9 D
		2025 Update	Signal	0.91	50.7 D	0.76	40.1 D
2 (202)	Orrock/ Lake Mead	2022 Update	MSSC	NBR-0.81	62.1 F	NBR-1.17	135.0 F
		2025 Update	MSSC	NBR-0.88	30.8 D	NBR-1.12	23.9 F
		2022 Update	Signal (Half-Cycle)	0.46	7.1 A	0.44	13.0 B
		2025 Update	Signal (Half-Cycle)	0.48	6.9 A	0.43	12.8 B
		2025 Update	Signal (Half-Cycle +20" All-Red)	0.68	16.6 B	0.60	21.6 C
3 (24)	CC 215/ Lake Mead	2022 Update	Signal	0.71	48.6 D	0.69	46.1 D
		2025 Update	Signal	0.72	49.0 D	0.67	46.8 D
4	Orrock/ Parcel B-1B&C	2025 Update	MSSC	WBL-0.18	13.3 B	EBL-0.13	17.0 C
5 (203)	Desert Foothills/ Street A	2022 Update	MSSC	WBL-0.10	18.6 C	WBL-0.72	70.1 F
		2025 Update	MSSC	WBL-0.09	18.7 C	WBL-0.76	74.9 F
		2022 Update	Signal	0.19	10.2 B	0.31	14.9 B
		2025 Update	Signal	0.20	8.1 A	WBR-0.32	15.8 B
6	Parcel B-1A&B/ Street A	2025 Update	MSSC	NBL-0.001	9.5 A	NBL-0.05	12.6 B
7 (204)	Orrock/ Street A	2022 Update	MSSC	EBL-0.02	9.7 A	EBL-0.15	13.2 B
		2025 Update	MSSC	EBT-0.10	12.9 B	EBL-0.06	20.1 C
8	Orrock/ Parcel B-1A	2025 Update	MSSC	EBL-0.01	11.2 B	EBL-0.03	12.8 B
9 (28)	Desert Foothills/ Kestrel Creek	2022 Update	Signal	0.22	25.0 C	0.29	28.4 C
		2025 Update	Signal	0.22	27.0 C	0.30	31.5 C
10 (205)	Parcel B-1A/ Kestrel Creek	2022 Update	MSSC	SBR-0.01	8.5 A	SBR-0.04	8.8 A
		2025 Update	MSSC	SBR-0.02	8.6 A	SBR-0.09	9.0 A
11 (29)	Orrock/ Kestrel Creek	2022 Update	Roundabout	WBR-0.09	3.2 A	NBTR-0.32	4.6 A
		2025 Update	Roundabout	NBTR-0.16	3.7 A	NBTR-0.27	4.3 A
12 (208)	Orrock/ Parcel B-2 & I	2022 Update	MSSC	WBL-0.03	10.2 B	WBL-0.41	24.8 C
		2025 Update	MSSC	EBL-0.02	10.6 B	WBL-0.05	14.9 B
13 (35)	Orrock/ Fleet Wing	2022 Update	Signal	0.14	26.6 C	0.37	31.1 C
		2025 Update	Signal	0.18	30.3 C	0.39	31.4 C
14 (211)	Orrock/ Parcel Q&R&B	2022 Update	MSSC	WBL-0.03	11.4 B	WBL-0.48	34.0 D
		2025 Update	MSSC	WBL-0.01	11.9 B	WBL-0.10	22.6 C

¹ Node # of 2022 Update in parenthesis v/c - Volume-to-Capacity MSSC - Minor Street Stop Control

3. Fleet Wing Avenue/Orrock Street (#13): Consistent with the previous update, it is anticipated that signal control will be needed. WB Fleet Wing Avenue will provide a direct route from Parcel B-3 to SB Kettle Ridge Drive for exiting vehicles routing to the south.
4. All intersections are projected to operate at a satisfactory LOS with proposed signal control mitigation.

Storage Lane Analyses

Updated left-turn queue storage analyses are presented in **Table 3**. Consistent with the previous Update, the analyses include the northbound dual right-turn from Orrock Street to EB Lake Mead Boulevard. The 200 feet of dual-lane queue storage accommodates projected queuing based on both a design queue calculation and HCM methodology. Both methodologies reflect no RTOR movements and are considered conservative in that respect. The HCM analysis also reflects a 20-second all-red for the Trail crossing.

In the event occasional queuing on Orrock Street into the access aisle intersection becomes an issue, it is recommended that the following measures be considered.

- It is recommended that pedestrian crossings of Orrock Street at the access aisle intersection be proactively limited to the south leg where they are approximately 250 feet from the Lake Mead Boulevard stop bar.
- It is recommended that Do Not block Intersection Delineation be considered as shown in **Figure 10**.

All proposed storage lanes accommodate projected queues, with the exception of the NB left-turn at Fleet Wing Avenue/Orrock Street (#35) and the SB left-turn at Desert Foothills Drive/Lake Mead Boulevard (#1). The deficiency at Fleet Wing Avenue/Orrock Street is due to background demands rather than revised trip assignments for Parcel B. It is noted that same-direction turn demands at nearby intersections are considerably lower per the Master Study, and demands may distribute to those intersections resulting in lower actual demands at Fleet Wing Avenue/Orrock Street. In any case, no changes in storage lengths should be required until more is known about development plans for Parcel B-3.

At Desert Foothills Drive/Lake Mead Boulevard, it is recommended that drop lane delineation be considered on the north leg since the left-turn movement is projected to comprise the large majority of approach demands. This would be consistent with what was assumed in the 2022 Update.

Table 3. Queue Storage Analyses

Node	Intersection	Control ¹	Approach	Period-Condition	Queuing Interval	Bkgd + Site vph	Design Queue (ft) ^{2,3}	95th % HCM Queue (ft) ⁴	Existing/Planned Storage (ft)			Proposed Storage (ft)		
									Ln 1	Ln 2	Total	Ln 1	Ln 2	Total
1 (22)	Desert Foothills Dr/ Lake Mead Blvd	S	NB	PM	140	44	97	74	100		100	Same		
			SB	AM	140	405	557	591	300		300	Same		
			EB	AM	140	26	67	31	150		150	Same		
			WB	PM	140	480	644	658	500	500	1000	Same		
2 (202)	Orrock St/ Lake Mead Blvd	S _F	NBR	PM	70	435	331	314	na			200	200	400
3 (24)	CC 215 SPU/ Lake Mead Blvd	S	NB	AM	140	774	978	970	500	500	1000	Same		
			SB	AM	140	81	152	88	350	350	700	Same		
			EB	AM	140	539	712	732	500	550	1050	Same		
			WB	PM	140	635	822	856	500	500	1000	Same		
4	Orrock St/ Parcel B1-B&C	U	NB	PM	180	13	16	<25	na			TWLTL		
			SB	PM	180	74	93	<25	na			125		125
5 (203)	Desert Foothills Dr/ Street A	S _F	SB	PM	140	114	197	<25	300		300	Same		
			WB	PM	140	116	200	175	na			200		200
6	Parcel B-1A&B/ Street A	U	EB	PM	180	62	78	<25	na			100		100
			WB	PM	180	0	0	<25	na			100		100
7 (204)	Orrock St/ Street A	U	NB	PM	180	13	16	<25	na			TWLTL		
			SB	PM	180	42	53	<25	na			TWLTL		
8	Orrock St/ Parcel B-1A	U	NB	PM	180	33	41	<25	na			100		100
9 (28)	Desert Foothills Dr/ Kestrel Creek Ave	S	NB	PM	140	26	67	47	150		150	Same		
			SB	PM	140	73	140	128	350	400	750	Same		
			EB	AM	140	58	118	94	150		150	Same		
			WB	PM	140	94	170	143	300		300	Same		
12 (208)	Orrock St/ Parcel B&I	U	NB	PM	180	11	14	<25	150		150	Same		
			SB	PM	180	33	41	<25	150		150	Same		
13 (35)	Orrock St/ Fleet Wing Ave	S _F	NB	PM	140	161	259	214	150		150	200 ⁵		200 ⁵
			SB	PM	140	75	143	100	150		150	Same		
			EB	PM	140	13	42	<25	150		150	Same		
			WB	PM	140	64	127	39	na			100		100
14 (211)	Orrock St/ Parcel Q&R&B	U	NB	PM	180	5	6	<25	100		100	Same		
			SB	PM	180	99	124	<25	100		100	Same		

¹Control: S - Signal, S_F - Possible Future Signal (analyzed as signal controlled), U - Uncontrolled

²Signalized 95th % Queue = [(vehicle/interval)+Z(vehicle/interval)^{0.5}]*25 ft/veh

where,

(veh/interval) = VPH/3600 sec/hr x Q interval (cycle length),

Z = 1.645 for 95% confidence level (one-tailed test),

25 feet = assumed vehicle length.

³Uncontrolled Design Q = (vehicle/interval)*25 ft/veh

where,

(veh/interval) = VPH/3600 sec/hr x Q interval,

25 feet = assumed vehicle length.

⁴95th percentile queue estimate per Highway Capacity Manual methodology

⁵Recommend that storage lane only be increased if actual demands warrant. Demands may distribute to Kindle Rise, Flight Range, and Flight Edge where projected same direction left-turns are much lower.

Note: For dual left-turn lanes, Lane 1 is left-most turn lane and Lane 2 is right-most turn lane.

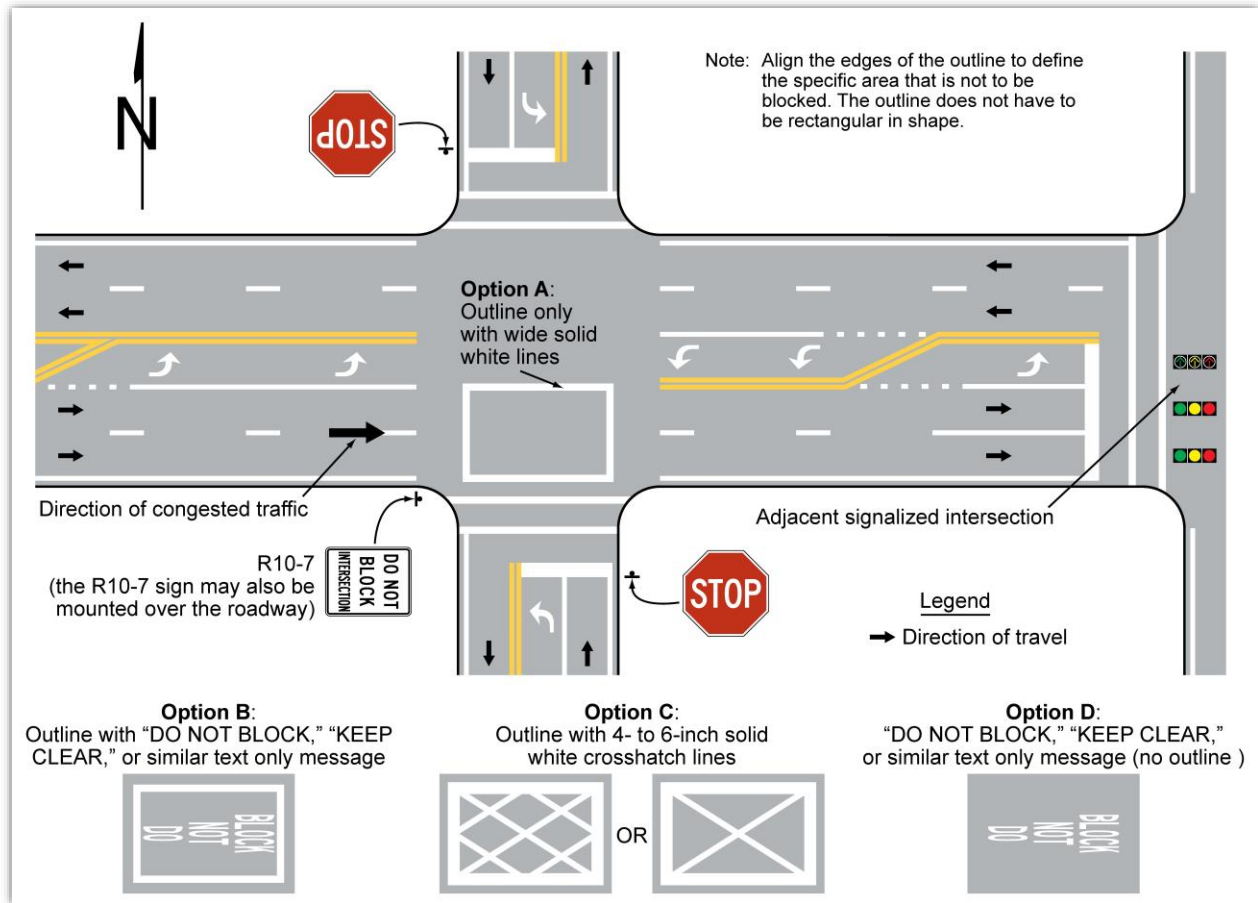


Figure 10. Do Not Block Intersection Markings (MUTCD Figure 3B-24)

PEDESTRIAN AND BICYCLE RECOMMENDATIONS

Proposed pedestrian crossing treatments are identified in an attached drawing exhibit, and are primarily based on guidance from FHWA's Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations. The following improvement recommendations are noted.

- Consistent with the previous Update, it is anticipated that signal control will be needed at the Desert Foothills Drive/Street A intersection (#5). The signal should include a north leg pedestrian crossing to accommodate pedestrian demands between the proposed retail uses and COS-2. If the intersection isn't signalized it should include an enhanced crosswalk on the north leg with rectangular rapid flash beacons (RRFBs) or Pedestrian Hybrid Beacon (PHB).
- It is recommended that pedestal mount RRFBs be incorporated at multi-lane pedestrian crossings at the Orrock Street/Kestrel Creek roundabout (#11), consistent with installations that have been approved for the east and south legs. Departures from the roundabout on the north and east legs are proposed to be single lanes where beacons are not considered warranted.
- At Orrock Street/Access Aisle Driveway (#4) it is recommended that an enhanced crosswalk be provided on the south leg of the intersection. An RRFB may not be needed given there is only one through lane in each direction and the AADT is expected to be less

than 9,000 vehicles per day, but it should be planned for as part of infrastructure improvements in the event an operational need for it develops in the future.

- At Orrock Street/Street A it is recommended that an enhanced crosswalk be provided on the south leg of the intersection. An RRFB may not be needed given there is only one through lane in each direction and the AADT is expected to be less than 9,000 vehicles per day, but it should be planned for as part of infrastructure improvement in the event an operational need for it arises.

Desert Foothills Drive adjacent to the Parcel B-1 site is to incorporate a two-way 10-foot multi-use path on its west side, and no SB on-street bike lane. On its east side, Desert Foothills Drive is to incorporate a 5-foot NB bike lane south of the Street A intersection. The bike lane is to end at the intersection, and a 10-foot multi-use path is to be added to the east side between Street A and Lake Mead Boulevard. A bike ramp is provided at the future north curb return of Street A. When Street A is constructed, it is recommended that the north curb return incorporate an 8-foot or 10-foot-wide sidewalk ramp to replace the bike ramp.

Kestrel Creek Avenue east of Desert Foothills Drive incorporates a 5-foot EB bike lane that terminates just prior to the roundabout. In the WB direction a bike lane is not proposed. Rather, a 12-foot multi-use path is proposed on the north side of Kestrel Creek Avenue between Desert Foothills Drive and the Orrock Street roundabout. The 10-foot-wide ramps at the northeast corner and channelizing island at Desert Foothills/Kestrel Creek Avenue can be used by cyclists to enter the NB bike lane on Desert Foothills Drive or route to the multi-use path on the west side of Desert Foothills Drive.

The extension of Orrock Street and Street A are proposed to incorporate 5-foot bike lanes in each direction. Orrock Street is to intersect Lake Mead Boulevard approximately 110 feet west of an at-grade Beltway Trail crossing of Lake Mead Boulevard, and the northbound right-turn is to initially operate under Stop control. As previously described, the Trail crossing is proposed to be upgraded in its current location while Orrock Street is Stop-controlled at Lake Mead Boulevard. When the intersection is signalized for dual-right movements it is recommended that the Trail crossing of EB lanes be shifted west to the intersection to be under signal control. Ultimately, the Trail crossing is to be replaced with a Trail closer to the SPUI interchange.

TURN LANE AND BUS TURNOUT REVIEW

The need for right-turn lanes has been reviewed at the locations listed below. As noted in RTC's Complete Streets Design Guidelines, right-turn lanes should generally be avoided in walkable communities, particularly where turn demands are less than 200 vph. The following recommendations are consistent with the previous Update.

1. A right-turn a minimum of 150 feet in length on EB Lake Mead Boulevard was previously required at Orrock Street (#2) and is reflected in the Project site plan.
2. At Desert Foothills Drive/Street A (#5), the NB right-turn is projected to be 53 vph in the AM peak and 151 vph in the PM peak, well below the 200 vph threshold. Also, in the PM peak when the right-turn is heaviest, the NB through volume is not particularly heavy at 232 vphpl. Accordingly, an exclusive right-turn lane on NB Desert Foothills Drive is not considered justified and is not recommended.
3. At Orrock Street/Street A (#7) the NB right-turn is projected to be 102 vph in the PM peak with a NB through volume of only 250 vph. A right-turn lane is not considered warranted and is not recommended as it could encourage higher speeds.

4. At the Orrock Street/Access Aisle (#4) intersection south of Lake Mead Boulevard the right-turn volumes are projected to be less than 100 vph and through volumes less than 300 vph. A right-turn lane is not considered warranted and is not recommended as it could encourage higher speeds. A NB right-turn lane would also increase the length of the pedestrian crossing proposed on the south leg.
5. At Orrock Street/Parcel B-1A Driveway (#8) the projected SB right-turn and through volumes are low, and an exclusive right-turn is clearly not warranted.
6. At Kestrel Creek Avenue/Parcel B-1A Driveway (#10) the projected WB right-turn and through volumes are low, and an exclusive right-turn is clearly not warranted.

Dual left-turn lanes exist on the east leg of Desert Foothills Drive/Lake Mead Boulevard and on the north leg of Desert Foothills/Kestrel Creek Avenue. Operational analyses do not indicate the need for any additional dual left improvements.

As described in the follow-up emails to the previous Update, RTC anticipates a transit route from Lake Mead Boulevard, south on Desert Foothills Drive, east on Kestrel Creek Avenue, turnaround at the Orrock Street roundabout to return west on Kestrel Creek Avenue, and north on Desert Foothills Drive to a stop just north of the Street A intersection. The stop is to be in the upstream end of northbound dual right-turns planned on Desert Foothills Drive at Lake Mead Boulevard. RTC has requested a standard bus shelter pad and turnout, with a 110-foot storage length instead of the 80-foot minimum.

Please let us know if any additional information or analyses are needed at this time. Thank you for your attention and cooperation.

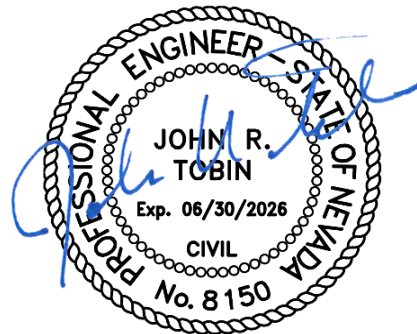
Cordially,

GCW, INC.



John R. Tobin, P.E., PTOE
Executive Vice President

c: Vicki Marjerrison, GCW
Travis de Groot, GCW



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