

**Table 3.4: Existing 2024 Roadway Segment Level of Service**

Segment	Classification <sup>2</sup>	# of Lanes	Roadway Capacity <sup>2</sup>	Existing 2024 ADT <sup>1</sup>	V/C Ratio	LOS	LOS Standard <sup>2</sup>	Unsatisfactory?
1. Indian Ave between Water Ave and Orange Ave	Collector	2	13,000	4,917	0.378	A	D	No
2. Orange Ave between Indian Ave and Perris Blvd	Arterial	4	35,900	8,628	0.240	A	D	No
3. Perris Blvd between Orange Ave and Citrus Ave	Arterial	4	35,900	27,429	0.764	C	D	No
4. Barrett Ave between Placentia Ave and Orange Ave	Collector	2	13,000	1,323	0.102	A	D	No
5. Perris Blvd between Placentia Ave and Orange Ave	Arterial	4	35,900	25,847	0.720	C	D	No
6. Perris Blvd between Rider St and Placentia Ave	Arterial	4	35,900	26,118	0.728	C	D	No
7. Nuevo Rd between Perris Blvd and I-215 NB Ramps	Arterial	6	53,900	37,352	0.693	B	D	No
8. I-215 Frontage Rd between Placentia Ave and Orange Ave	Collector	2	13,000	6,192	0.476	A	D	No
9. I-215 Frontage Rd between Orange Ave and Nuevo Rd	Collector	2	13,000	3,114	0.240	A	D	No
10. Orange Ave between I-215 Frontage Rd and Indian Ave	Collector	2	13,000	3,285	0.253	A	D	No
11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	24,642	0.686	B	D	No
12. Perris Blvd between Citrus Ave and Nuevo Rd	Arterial	6	53,900	28,706	0.533	A	D	No
13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	21,803	0.607	B	D	No
14. Placentia Ave between I-215 NB Ramps and Indian Ave	Arterial	4	35,900	30,128	0.839	D	D	No
15. Placentia Ave between Indian Ave and Perris Blvd	Arterial	6	53,900	12,602	0.234	A	D	No
16. Barrett Ave between Orange Ave and Harvest Landing Wy	-	-	-	-	-	-	-	-
17. Barrett Ave between Harvest Landing Wy and I-215 Frontage Rd	-	-	-	-	-	-	-	-
18. Harvest Landing Wy between Barrett Ave and Perris Blvd	-	-	-	-	-	-	-	-
19. Indian Ave between Placentia Ave and Water Ave	Collector	2	13,000	4,917	0.378	A	D	No

Notes:

LOS = Level of Service

1- Counts collected in December 4, 2024. All volumes are presented in PCE.

2- Classification, Roadway Capacity and LOS Standard from City of Perris General Plan Circulation Element.

### 3.3 Opening Year I 2026 Without Project Traffic Conditions

Opening Year I 2026 Without Project traffic volumes were developed by applying a growth rate of three percent per year to the existing condition volume and adding traffic generated by cumulative projects, which are approved and pending development or newly constructed projects in 2024 that would impact the study area. The location of the cumulative projects is shown in Figure 3.4. A two-mile radius was utilized for determining which cumulative projects will be included in the cumulative projects list. The trip generation for cumulative projects shown in Table 3.5 was generated using ITE Trip Generation Manual 11<sup>th</sup> edition rates and are based on the project list provided by the City of Perris.

The AM and PM traffic volumes generated by the cumulative projects were distributed to the study area based on engineering judgment and are shown in Figure 3.5 and Figure 3.6. The Opening Year I 2026 Without Project traffic volumes are shown in Figure 3.7 and Figure 3.8.

The Opening Year I 2026 Without Project lane geometry is the analyzed with the same intersection lane configuration post-project completion conditions, and the same traffic control as existing conditions, to compare the impacts accurately. Intersection lane configuration and traffic control post-project completion can be found in Figure 4.8.

The Opening Year I 2026 Without Project levels of service at the study area intersections were determined using the HCM methodology, described previously in Section 2.3 - Methodology. Table 3.6 shows the Opening Year I 2026 Without Project AM and PM peak hour levels of service at study area intersections. As shown in Table 3.6, the following intersection would operate at an unsatisfactory LOS under the Opening Year I 2026 Without Project condition:

- #1. Perris Blvd/Iris Ave (LOS E during AM peak hour)

**Table 3.6: Opening Year I 2026 Without Project AM and PM Peak Hour LOS**

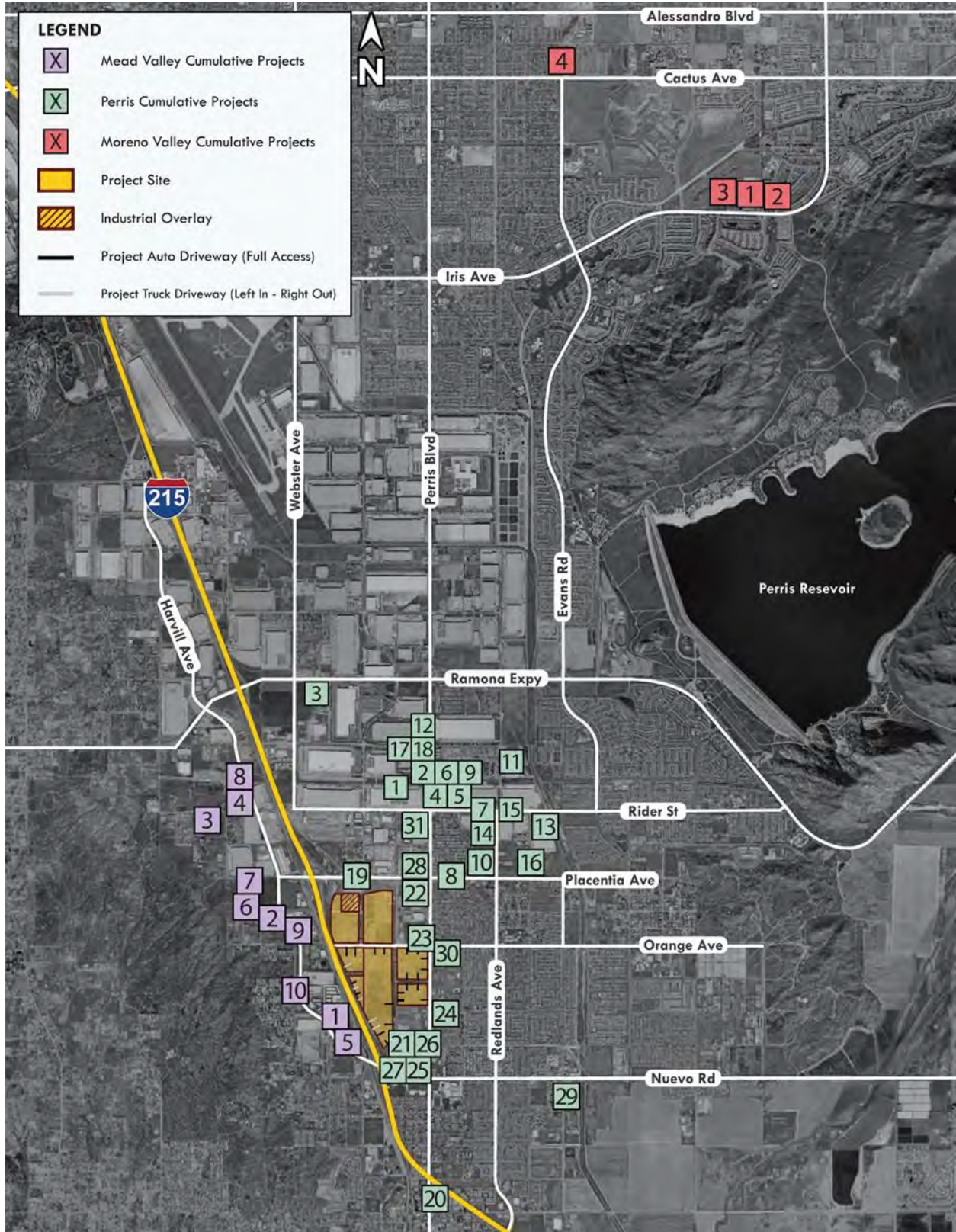
	Intersection	Jurisdiction	Control Type	Opening Year I 2026 Conditions				LOS Standard	Satisfactory?
				AM Peak Delay	AM Peak LOS	PM Peak Delay	PM Peak LOS		
1.	Perris Blvd/Iris Ave	City of Moreno Valley	Signalized	63.1	E	51.3	D	D	No
2.	Perris Blvd/Krameria Ave	City of Moreno Valley	Signalized	44.0	D	39.5	D	D	Yes
3.	N Perris Blvd/Harley Knox Blvd	City of Perris	Signalized	32.6	C	32.1	C	D	Yes
4.	N Perris Blvd/W Markham St	City of Perris	Signalized	14.1	B	15.2	B	D	Yes
5.	N Perris Blvd/Ramona Expy	City of Perris	Signalized	74.3	E	48.2	D	E	Yes
6.	N Perris Blvd/Morgan St	City of Perris	Signalized	11.7	B	10.7	B	D	Yes
7.	Evans Rd/E Rider St	City of Perris	Signalized	30.4	C	28.7	C	D	Yes
8.	Redlands Ave/E Rider St	City of Perris	Signalized	30.2	C	37.0	D	D	Yes
9.	N Perris Blvd/E Rider St	City of Perris	Signalized	25.9	C	28.3	C	D	Yes
10.	Redlands Ave/Placentia Ave	City of Perris	All-way stop	17.7	C	19.0	C	D	Yes
11.	N Perris Blvd/Placentia Ave	City of Perris	Signalized	37.8	D	32.0	C	D	Yes
12.	Barrett Ave/W Placentia Ave	City of Perris	All-way stop	25.0	D	17.4	C	D	Yes
13.	Indian Ave/W Placentia Ave	City of Perris	Signalized	36.7	D	34.8	C	D	Yes
14.	I-215 Frontage Rd/W Placentia Ave	City of Perris	Signalized	29.1	C	21.1	C	D	Yes
15.	I-215 NB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	15.3	B	13.9	B	E	Yes
16.	I-215 SB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	16.8	B	20.0	B	E	Yes
17.	Redlands Ave/Orange Ave	City of Perris	Signalized	25.9	C	28.6	C	D	Yes
18.	N Perris Blvd/Orange Ave	City of Perris	Signalized	24.2	C	32.2	C	D	Yes
19.	Barrett Ave/Orange Ave	City of Perris	Two-way stop	19.4	C	15.2	C	D	Yes
20.	Indian Ave/Orange Ave	City of Perris	All-way stop	14.0	B	11.8	B	D	Yes
21.	I-215 Frontage Rd/Orange Ave	City of Perris	Two-way stop	14.4	B	14.8	B	D	Yes
22.	Redlands Ave/Citrus Ave	City of Perris	All-way stop	12.3	B	13.7	B	D	Yes
23.	N Perris Blvd/Citrus Ave	City of Perris	Signalized	14.7	B	19.8	B	D	Yes
24.	Murrieta Rd/E Nuevo Rd	City of Perris	Signalized	39.3	D	31.6	C	D	Yes
25.	Redlands Ave/E Nuevo Rd	City of Perris	Signalized	23.6	C	22.7	C	D	Yes
26.	N Perris Blvd/ W Nuevo Rd	City of Perris	Signalized	43.4	D	40.9	D	D	Yes
27.	I-215 Frontage Rd/W Nuevo Rd	City of Perris	Two-way stop	21.1	C	30.3	D	D	Yes
28.	I-215 NB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	18.4	B	21.3	C	E	Yes
29.	I-215 SB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	18.4	B	29.0	C	E	Yes
30.	Redlands Ave/Midred St	City of Perris	All-way stop	21.6	C	13.7	B	D	Yes
31.	N Perris Blvd/Mildred St	City of Perris	Signalized	14.3	B	7.6	A	D	Yes
32.	N Perris Blvd/E San Jacinto Ave	City of Perris	Signalized	26.9	C	20.7	C	D	Yes
33.	Indian Ave/Ramona Expy	City of Perris	Signalized	32.5	C	36.6	D	E	Yes
34.	Indian Ave/Morgan St	City of Perris	Signalized	20.1	C	16.6	B	D	Yes
35.	Indian Ave/Ridler St	City of Perris	Signalized	22.0	C	31.3	C	D	Yes
36.	Perris Blvd/4th St	Caltrans/City of Perris	Signalized	57.9	E	50.5	D	E	Yes
37.	Perris Blvd/Harvest Landing Way	City of Perris	Signalized	-	-	-	-	D	-
38.	Barrett Ave/Harvest Landing Way	City of Perris	All-way stop	-	-	-	-	D	-
39.	Barrett Ave/I-215 Frontage Road	City of Perris	Two-way stop	12.6	B	14.3	B	D	Yes
40.	Commercial Driveway 1, 2 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
41.	Commercial Driveway 3, 4 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
42.	Commercial Driveway 5 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
43.	Commercial Driveway 6 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
44.	Commercial Driveway 7 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
45.	Commercial Driveway 8 and N. Perris Blvd	City of Perris	Two-way stop	15.2	C	10.6	B	D	-
46.	Commercial Driveway 9/Existing Plaza Driveway and Orange Ave	City of Perris	Two-way stop	21.2	C	32.3	D	D	Yes
47.	Commercial Driveway 10/Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
48.	Building 1 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
49.	Building 1 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
50.	Building 1 Truck Driveway and I-215 Frontage Rd	City of Perris	Signalized	-	-	-	-	D	-
51.	Building 2 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
52.	Building 2 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
53.	Building 2 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
54.	Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
55.	Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
56.	Building 3/4 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
57.	Building 5 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
58.	Building 6 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
59.	Building 6 Auto Driveway 1/Walmart Supercenter Driveway and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
60.	Building 6 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
61.	Building 7 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
62.	Building 7 Auto Driveway 1 and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
63.	Building 7 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-

Notes: Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

Figure 3.4: Location of Cumulative Projects



**Table 3.5a: Cumulative Project Trip Generation - City of Perris**

Land Use	Units	AM Peak Hour				PM Peak Hour				
		Daily	In	Out	Total	In	Out	Total		
<b>Trip Rates</b>										
110 General Light Industrial <sup>1</sup>	1000 Sq. Ft. GFA	4.87	0.65	0.09	0.74	0.09	0.56	0.65		
140 Manufacturing <sup>2</sup>	1000 Sq. Ft. GFA	4.75	0.52	0.16	0.68	0.23	0.51	0.74		
150 Warehousing <sup>3</sup>	1000 Sq. Ft. GFA	1.71	0.13	0.04	0.17	0.05	0.13	0.18		
154 High-Cube Transload and Short-Term Storage Warehouse <sup>4</sup>	1000 Sq. Ft. GFA	1.40	0.06	0.02	0.08	0.03	0.07	0.10		
Truck/Trailer Parking Lot <sup>5</sup>	Acres	30.710	1.110	0.860	1.970	0.970	1.110	2.080		
560 Church <sup>6</sup>	1000 Sq. Ft. GFA	7.60	0.20	0.12	0.32	0.22	0.27	0.49		
813 Free-Standing Discount Superstore <sup>7</sup>	1000 Sq. Ft. GFA	50.52	1.04	0.82	1.86	2.12	2.21	4.33		
821 Shopping Plaza (40-150k) <sup>8</sup>	1000 Sq. Ft. GLA	94.49	2.19	1.34	3.53	4.33	4.70	9.03		
932 High-Turnover (Sit-Down) Restaurant <sup>9</sup>	1000 Sq. Ft. GFA	107.20	5.26	4.31	9.57	5.52	3.53	9.05		
934 Fast-Food Restaurant with Drive-Through Window <sup>10</sup>	1000 Sq. Ft. GFA	467.48	22.75	21.86	44.61	17.18	15.85	33.03		
936 Coffee/Donut Shop without Drive-Through Window <sup>11</sup>	1000 Sq. Ft. GFA	0.00	47.47	45.61	93.08	16.14	16.14	32.29		
945 Convenience Store/Gas Station <sup>12</sup>	Vehicle Fueling Positions (GFA (5.5-10k))	345.75	15.80	15.80	31.60	14.80	14.80	29.60		
310 Hotel <sup>13</sup>	Rooms	7.99	0.26	0.20	0.46	0.30	0.29	0.59		
948 Automated Car Wash <sup>14</sup>	1000 Sq. Ft. GFA	0.00	0.00	0.00	0.00	7.10	7.10	14.20		
<b>Project Trip Generation</b>										
P1. Burge Indus 2 <sup>1</sup>	43	1000 Sq. Ft. GFA	211	28	4	32	4	24	28	
		<b>Vehicle Mix<sup>15</sup></b>	<b>Percent</b>							
Passenger Vehicles			72.5%	153	20	3	23	3	17	20
2-Axle Trucks			4.6%	10	1	-	1	-	1	1
3-Axle Trucks			5.7%	12	2	-	2	-	2	2
4+-Axle Trucks			17.2%	36	5	1	6	1	4	5
			100.0%	211	28	4	32	4	24	28
		<b>Proposed PCE Trip Generation<sup>16</sup></b>	<b>PCE Factor</b>							
Passenger Vehicles			1.0	153	20	3	23	3	17	20
2-Axle Trucks			1.5	15	2	-	2	-	2	2
3-Axle Trucks			2.0	24	4	-	4	-	4	4
4+-Axle Trucks			3.0	108	15	3	18	3	12	15
				300	41	6	47	6	35	41
P2. Burge Indus 1 <sup>2</sup> (PCE)	18	1000 Sq. Ft. GFA	123	14	4	18	6	13	19	
P3. Seefried Indus <sup>3</sup> (PCE)	165	1000 Sq. Ft. GFA	404	32	9	41	10	33	43	
P4. Calvio Ind <sup>3</sup> (PCE)	43	1000 Sq. Ft. GFA	106	7	2	9	2	8	10	
P5. Calvio Ind 2 <sup>3</sup> (PCE)	30	1000 Sq. Ft. GFA	73	6	1	7	1	6	7	
P6. Pulliam Indus <sup>3</sup> (PCE)	16	1000 Sq. Ft. GFA	40	2	3	5	1	4	5	
P7. Chartwell Ind <sup>3</sup> (PCE)	132	1000 Sq. Ft. GFA	323	26	7	33	9	25	34	
P8. Redlands Indus <sup>3</sup> (PCE)	113	1000 Sq. Ft. GFA	275	23	4	27	8	20	28	
P9. Rider Self Storage <sup>3</sup> (PCE)	70	1000 Sq. Ft. GFA	169	14	4	18	6	13	19	
P10. LPC west industrial <sup>3</sup> (PCE)	157	1000 Sq. Ft. GFA	381	31	9	40	10	31	41	
P11. Rider 4 <sup>4</sup> (PCE)	548	1000 Sq. Ft. GFA	1,093	49	15	64	23	55	78	
P12. Patriot Ind <sup>4</sup> (PCE)	286	1000 Sq. Ft. GFA	570	26	7	33	10	32	42	
P13. First Indus (Goodwin) <sup>4</sup> (PCE)	248	1000 Sq. Ft. GFA	495	23	5	28	9	26	35	
P14. Lakecreek West <sup>4</sup> (PCE)	300	1000 Sq. Ft. GFA	598	26	8	34	10	33	43	
P15. Lakecreek East <sup>4</sup> (PCE)	256	1000 Sq. Ft. GFA	510	23	5	28	9	27	36	
P16. Lakecreek Placentia - Cubes <sup>4</sup> (PCE)	509	1000 Sq. Ft. GFA	1,014	47	11	58	20	53	73	
P17. First Sinclair <sup>4</sup> (PCE)	423	1000 Sq. Ft. GFA	845	36	13	49	18	41	59	
P18. Sinclair Indu <sup>4</sup> (PCE)	436	1000 Sq. Ft. GFA	869	40	10	50	18	46	64	
P19. Orbis Indus Truck Yard <sup>5</sup> (PCE)	26	Acres	1,512	55	42	97	49	54	103	
P20. Vida Church Expansion <sup>6</sup>	25	1000 Sq. Ft. GFA	190	5	3	8	5	7	12	

**Table 3.5b: Cumulative Project Trip Generation - City of Perris (Continued)**

P21. Target <sup>7</sup>	151	1000 Sq. Ft. GFA	7,629	157	124	281	320	334	654
Pass By (Daily 0%, AM 0%, PM 29%)			-	-	-	-	-93	-97	-190
Total Free-Standing Discount Superstore Trip Generation			7,629	157	124	281	227	237	464
P22. Commercial Shopping Center <sup>8</sup>	93	1000 Sq. Ft. GLA	8,753	203	124	327	401	435	836
Pass By (Daily 0%, AM 0%, PM 40%)			-	-	-	-	-160	-174	-334
Total Shopping Plaza (40-150k) Trip Generation			8,753	203	124	327	241	261	502
P23. Habit & QSRs <sup>9</sup>	8	1000 Sq. Ft. GFA	858	42	35	77	44	28	72
Pass By (Daily 0%, AM 0%, PM 43%)			-	-	-	-	-19	-12	-31
Total High-Turnover (Sit-Down) Restaurant Trip Generation			858	42	35	77	25	16	41
P24. Pollo Campero (Fast Food) <sup>9</sup>	3	1000 Sq. Ft. GFA	279	14	11	25	15	9	24
Pass By (Daily 0%, AM 0%, PM 43%)			-	-	-	-	-6	-4	-10
Total High-Turnover (Sit-Down) Restaurant Trip Generation			279	14	11	25	9	5	14
P25. Raising Canes <sup>10</sup>	4	1000 Sq. Ft. GFA	1,791	87	84	171	66	61	127
Pass By (Daily 50%, AM 50%, PM 55%)			-895	-43	-42	-85	-36	-34	-70
Total Fast-Food Restaurant with Drive-Through Window Trip Generation			896	44	42	86	30	27	57
P26. Panera <sup>10</sup>	4	1000 Sq. Ft. GFA	1,676	82	78	160	61	57	118
Pass By (Daily 50%, AM 50%, PM 55%)			-838	-41	-39	-80	-34	-31	-65
Total Fast-Food Restaurant with Drive-Through Window Trip Generation			838	41	39	80	27	26	53
P27. Better Buzz Coffee Shop <sup>11</sup>	2	1000 Sq. Ft. GFA	-	83	79	162	28	28	56
P28. Gas Station carwash & Hotel <sup>12</sup>	8	Vehicle Fueling Positions (GFA (5.5-10k))	2,766	127	126	253	119	118	237
Pass By (Daily 75%, AM 76%, PM 75%)			-2,074	-97	-95	-192	-89	-89	-178
Total Convenience Store/Gas Station Trip Generation			692	30	31	61	30	29	59
P28. Gas Station carwash & Hotel <sup>13</sup>	75	Rooms	599	20	15	35	22	22	44
P29. Beyond Market; drive-thru wash <sup>14</sup>	9	1000 Sq. Ft. GFA	-	-	-	-	64	64	128
P30. Tommy's carwash & QSR <sup>14</sup>	9	1000 Sq. Ft. GFA	-	-	-	-	61	60	121
P31. 7-Eleven Auto carwash <sup>14</sup>	4	1000 Sq. Ft. GFA	-	-	-	-	29	29	58
<b>Total Project Passenger Vehicle Trip Generation</b>			<b>28,995</b>	<b>1,058</b>	<b>755</b>	<b>1,813</b>	<b>1,343</b>	<b>1,510</b>	<b>2,853</b>
Total Project Truck Trip Generation			2,090	109	37	146	45	117	162
Total Project Trip Generation (Non PCE)			31,085	1,167	792	1,959	1,388	1,627	3,015
<b>Total Project Trip Generation (PCE)</b>			<b>34,241</b>	<b>1,341</b>	<b>844</b>	<b>2,185</b>	<b>1,460</b>	<b>1,807</b>	<b>3,267</b>

Notes:

<sup>1</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 110 - General Light Industrial (Average Rate)

<sup>2</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 140 - Manufacturing (Average Rate)

<sup>3</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 150 - Warehousing (Average Rate)

<sup>4</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse (Average Rate)

<sup>5</sup>Trip rates from Truck Trailer Parking Trip Generation Study, EPD Solutions, March 24, 2023.

<sup>6</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 560 - Church (Average Rate)

<sup>7</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 813 - Free-Standing Discount Superstore (Average Rate)

<sup>8</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 821 - Shopping Plaza (40-150k) (Average Rate)

<sup>9</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 932 - High-Turnover (Sit-Down) Restaurant (Average Rate)

<sup>10</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window (Average Rate)

<sup>11</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 936 - Coffee/Donut Shop without Drive-Through Window (Average Rate)

<sup>12</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 945 - Convenience Store/Gas Station (Average Rate)

<sup>13</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 310 - Hotel (Average Rate)

<sup>14</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 948 - Automated Car Wash (Average Rate)

<sup>15</sup>Vehicle Mix from the Warehouse Truck Trip Study Data Results and Usage, July 17, 2014. Without Cold Storage

<sup>16</sup>Passenger Car Equivalent (PCE) factors for ITE rates are from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

<sup>17</sup>Vehicle Mix from Truck Trailer Parking Trip Generation Study, EPD Solutions, March 24, 2023.

**Table 3.5c: Cumulative Project Trip Generation – City of Moreno Valley**

Land Use	Units	AM Peak Hour				PM Peak Hour		
		Daily	In	Out	Total	In	Out	Total
<b>Trip Rates</b>								
221 Multifamily Housing (Mid-Rise) <sup>1</sup>	Dwelling Units	4.54	0.09	0.28	0.37	0.24	0.15	0.39
822 Strip Retail Plaza (<40k) <sup>2</sup>	1000 Sq. Ft. GLA	54.45	1.42	0.94	2.36	3.29	3.29	6.59
930 Fast Casual Restaurant <sup>3</sup>	1000 Sq. Ft. GFA	97.14	0.71	0.71	1.43	6.90	5.65	12.55
945 Convenience Store/Gas Station <sup>4</sup>	1000 Sq. Ft. GFA (VFP (16-24))	1283.38	45.67	45.67	91.35	39.48	39.48	78.95
720 Medical-Dental Office Building <sup>5</sup>	1000 Sq. Ft. GFA (Within/Near Hospital Campus)	31.86	2.17	0.51	2.68	0.71	2.13	2.84
220 Multifamily Housing (Low-Rise) <sup>6</sup>	Dwelling Units	6.74	0.10	0.30	0.40	0.32	0.19	0.51
221 Multifamily Housing (Mid-Rise) <sup>7</sup>	Dwelling Units	4.54	0.09	0.28	0.37	0.24	0.15	0.39
821 Shopping Plaza (40-150k) <sup>8</sup>	1000 Sq. Ft. GLA (No Supermarket)	67.52	1.07	0.66	1.73	2.54	2.65	5.19
310 Hotel <sup>9</sup>	Rooms	7.99	0.26	0.20	0.46	0.30	0.29	0.59
520 Elementary School <sup>10</sup>	Students	2.27	0.40	0.34	0.74	0.07	0.09	0.16
522 Middle School/Junior High School <sup>11</sup>	Students	2.10	0.36	0.31	0.67	0.07	0.08	0.15
411 Public Park <sup>12</sup>	Acres	0.78	0.01	0.01	0.02	0.06	0.05	0.11
Active Sports Park <sup>13</sup>	Acres	50.000	0.640	0.640	1.280	3.530	3.530	7.060
<b>Project Trip Generation</b>								
MR1. Cresta Bella <sup>1</sup>	376 Dwelling Units	1,707	32	107	139	90	57	147
MR1. Cresta Bella <sup>2</sup>	8 1000 Sq. Ft. GLA	449	11	8	19	27	27	54
MR1. Cresta Bella <sup>3</sup>	6 1000 Sq. Ft. GFA	583	5	4	9	41	34	75
MR2. Beyond Food Mart and Gas Station <sup>4</sup>	16 1000 Sq. Ft. GFA (VFP (16-24))	20,534	731	731	1,462	632	631	1,263
Pass By (Daily 75%, AM 76%, PM 75%)		-15,400	-556	-555	-1,111	-474	-473	-947
Total Convenience Store/Gas Station Trip Generation		5,134	175	176	351	158	158	316
MR3. Kaiser Expansion Project <sup>5</sup>	405 1000 Sq. Ft. GFA (Within/Near Hospital Campus)	12,903	879	206	1,085	288	862	1,150
MR4. Aquabella Specific Plan - Multifamily Housing (Low Rise) <sup>6</sup>	7,500 Dwelling Units	50,550	720	2,280	3,000	2,410	1,415	3,825
MR4. Aquabella Specific Plan - Multifamily Housing (Mid-Rise) <sup>7</sup>	7,500 Dwelling Units	34,050	638	2,137	2,775	1,784	1,141	2,925
MR4. Aquabella Specific Plan - Shopping Center <sup>8</sup>	50 1000 Sq. Ft. GLA (No Supermarket)	3,369	53	33	86	127	132	259
Pass By (Daily 0%, AM 0%, PM 40%)		-	-	-	-	-51	-53	-104
Total Shopping Plaza (40-150k) Trip Generation		3,369	53	33	86	76	79	155
MR4. Aquabella Specific Plan - Hotel <sup>9</sup>	300 Rooms	2,397	77	61	138	90	87	177
MR4. Aquabella Specific Plan - Elementary School <sup>10</sup>	3,995 Students	9,069	1,596	1,360	2,956	294	345	639
MR4. Aquabella Specific Plan - Middle School/Junior High School <sup>11</sup>	2,049 Students	4,303	741	632	1,373	147	160	307
MR4. Aquabella Specific Plan - Park and Lake Promenade <sup>12</sup>	15 Acres	12	-	-	-	1	1	2
MR4. Aquabella Specific Plan - Active Sports Park <sup>13</sup>	25 Acres	1,250	16	16	32	88	89	177
<b>Total Project Trip Generation</b>		<b>141,176</b>	<b>5,499</b>	<b>7,575</b>	<b>13,074</b>	<b>6,019</b>	<b>4,981</b>	<b>11,000</b>

**Notes:**

- <sup>1</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 221 - Multifamily Housing (Mid-Rise) (Average Rate)
- <sup>2</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 822 - Strip Retail Plaza (<40k) (Average Rate)
- <sup>3</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 930 - Fast Casual Restaurant (Average Rate)
- <sup>4</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 945 - Convenience Store/Gas Station (Average Rate)
- <sup>5</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 720 - Medical-Dental Office Building (Average Rate)
- <sup>6</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 220 - Multifamily Housing (Low-Rise) (Average Rate)
- <sup>7</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 221 - Multifamily Housing (Mid-Rise) (Average Rate)
- <sup>8</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 821 - Shopping Plaza (40-150k) (Average Rate)
- <sup>9</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 310 - Hotel (Average Rate)
- <sup>10</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 520 - Elementary School (Average Rate)
- <sup>11</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 522 - Middle School/Junior High School (Average Rate)
- <sup>12</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 411 - Public Park (Average Rate)
- <sup>13</sup>San Diego Association of Governments (SANDAG)'s Brief Guide of Vehicular Traffic Generation Rates for San Diego Region, 2002.

**Table 3.5d: Cumulative Project Trip Generation – Mead Valley**

Land Use	Units	AM Peak Hour			PM Peak Hour				
		Daily	In	Out	Total	In	Out	Total	
<b>Trip Rates</b>									
154 High-Cube Transload and Short-Term Storage Warehouse <sup>1</sup>	1000 Sq. Ft. GFA	1.40	0.06	0.02	0.08	0.03	0.07	0.10	
310 Hotel <sup>2</sup>	Rooms	7.99	0.26	0.20	0.46	0.30	0.29	0.59	
150 Warehousing <sup>3</sup>	1000 Sq. Ft. GFA	1.71	0.13	0.04	0.17	0.05	0.13	0.18	
942 Automobile Care Center <sup>4</sup>	1000 Sq. Ft. GFA	0.00	1.49	0.76	2.25	1.49	1.62	3.11	
Truck/Trailer Parking Lot <sup>5</sup>	Acres	30.710	1.110	0.860	1.970	0.970	1.110	2.080	
<b>Project Trip Generation</b>									
MV1. PP23170 <sup>1</sup>	287 1000 Sq. Ft. GFA	402	18	5	23	8	21	29	
		<b>Vehicle Mix<sup>6</sup></b>							
		<b>Percent</b>							
Passenger Vehicles		72.5%	292	13	4	17	7	14	21
2-Axle Trucks		4.6%	18	1	-	1	-	1	1
3-Axle Trucks		5.7%	23	1	-	1	-	2	2
4+-Axle Trucks		17.2%	69	3	1	4	1	4	5
		100.0%	402	18	5	23	8	21	29
		<b>PCE Factor<sup>7</sup></b>							
Passenger Vehicles		1.0	292	13	4	17	7	14	21
2-Axle Trucks		1.5	27	2	-	2	-	2	2
3-Axle Trucks		2.0	46	2	-	2	-	4	4
4+-Axle Trucks		3.0	207	9	3	12	3	12	15
			572	26	7	33	10	32	42
MV2. PPT220002 <sup>1</sup> (PCE)	435 1000 Sq. Ft. GFA	868	40	10	50	18	42	60	
MV3. TPM38337 <sup>1</sup> (PCE)	591 1000 Sq. Ft. GFA	1,178	51	16	67	25	59	84	
MV4. PPT180023 <sup>1</sup> (PCE)	203 1000 Sq. Ft. GFA	406	18	6	24	8	20	28	
MV5. PPT240005 <sup>2</sup>	310 Rooms	2,477	80	63	143	93	90	183	
MV6. PPT220047 <sup>3</sup> (PCE)	192 1000 Sq. Ft. GFA	470	35	13	48	15	35	50	
MV7. PPT230048 <sup>3</sup> (PCE)	186 1000 Sq. Ft. GFA	454	35	12	47	14	34	48	
MV8. PPT190032 <sup>3</sup> (PCE)	53 1000 Sq. Ft. GFA	130	9	5	14	5	10	15	
MV9. PPT210021 <sup>4</sup>	16 1000 Sq. Ft. GFA	-	24	12	36	24	26	50	
MV10. PPT230028 <sup>4</sup>	12 1000 Sq. Ft. GFA	-	17	9	26	17	19	36	
MV8. PPT190032 <sup>5</sup> (PCE)	10 Acres	579	20	17	37	19	22	41	
MV9. PPT210021 <sup>5</sup> (PCE)	11 Acres	644	24	18	42	20	24	44	
MV10. PPT230028 <sup>5</sup> (PCE)	14 Acres	794	29	22	51	25	29	54	
<b>Total Project Passenger Vehicle Trip Generation</b>			4,935	245	125	370	195	265	460
<b>Total Project Truck Trip Generation</b>			1,468	64	35	99	38	72	110
<b>Total Project Trip Generation (Non PCE)</b>			6,403	309	160	469	233	337	570
<b>Total Project Trip Generation (PCE)</b>			<b>8,572</b>	<b>408</b>	<b>210</b>	<b>618</b>	<b>293</b>	<b>442</b>	<b>735</b>

Notes:

<sup>1</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse (Average Rate)

<sup>2</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 310 - Hotel (Average Rate)

<sup>3</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 150 - Warehousing (Average Rate)

<sup>4</sup>Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 942 - Automobile Care Center (Average Rate)

<sup>5</sup>Trip rates from Truck Trailer Parking Trip Generation Study, EPD Solutions, March 24, 2023.

<sup>6</sup>Vehicle Mix from the Warehouse Truck Trip Study Data Results and Usage, July 17, 2014. Without Cold Storage

<sup>7</sup>Passenger Car Equivalent (PCE) factors for ITE rates are from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

<sup>8</sup>Vehicle Mix from Truck Trailer Parking Trip Generation Study, EPD Solutions, March 24, 2023.

Figure 3.5a: Cumulative Project AM PCE Trip Assignment

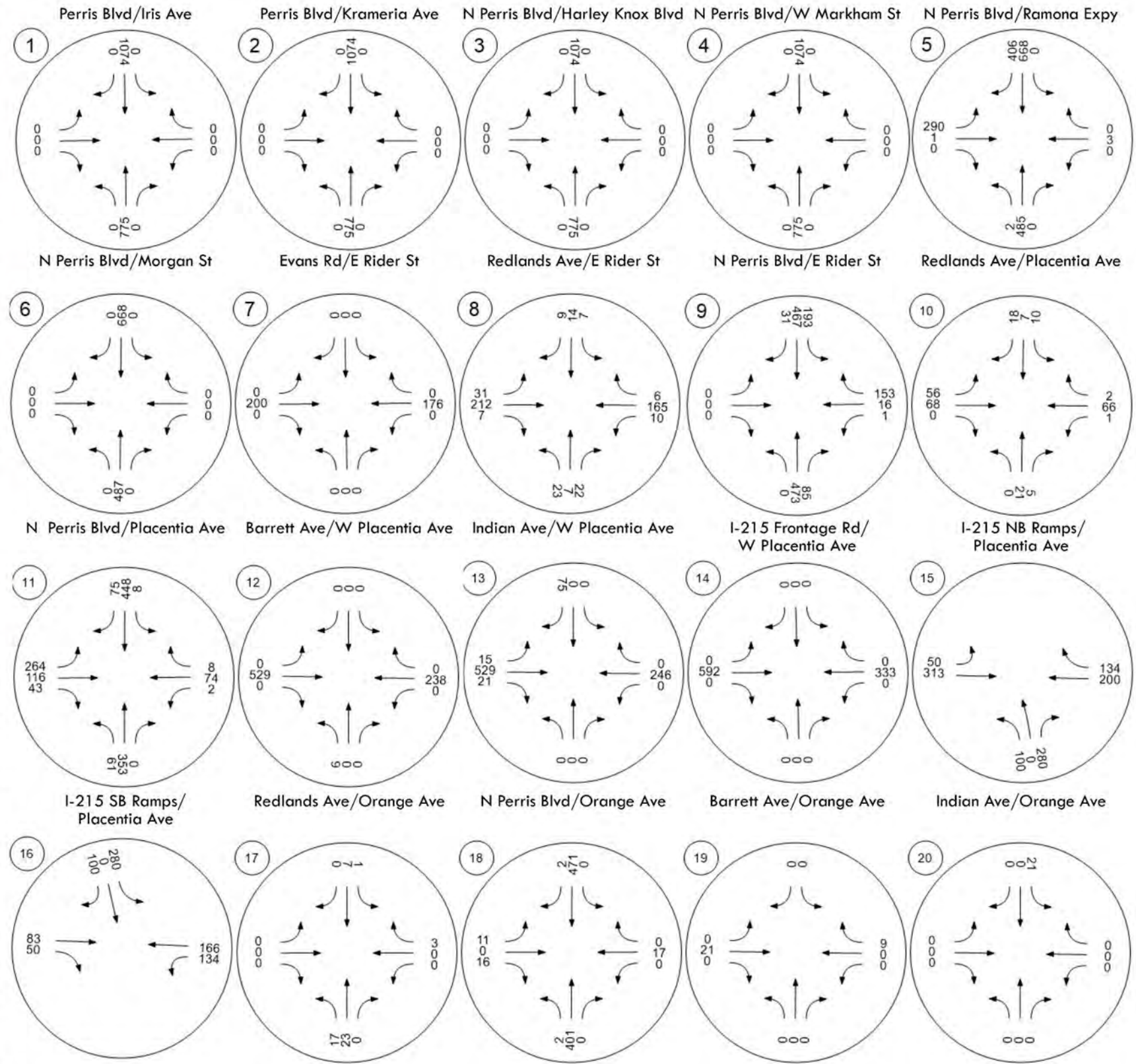


Figure 3.5b: Cumulative Project AM PCE Trip Assignment (Continued)

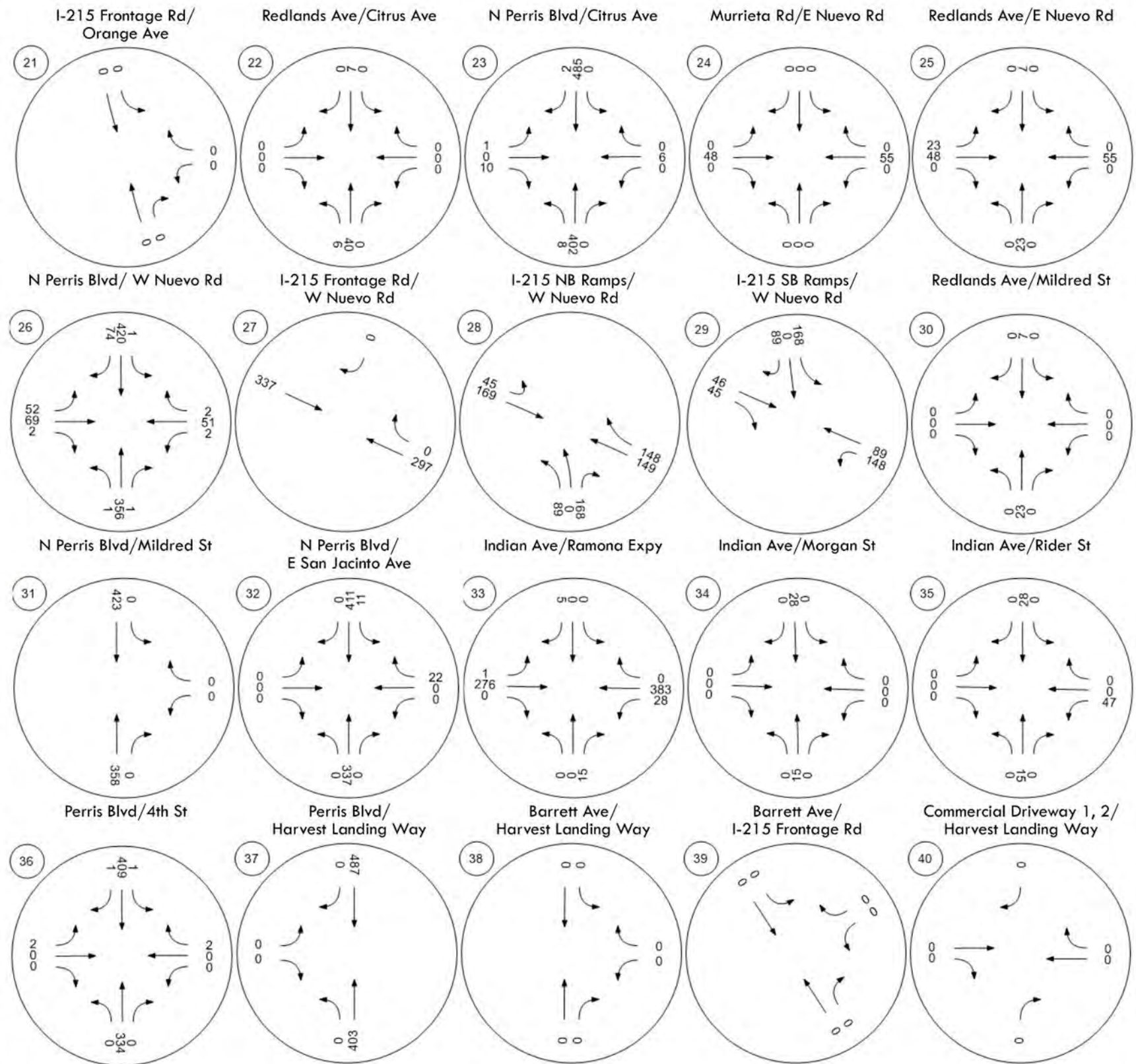


Figure 3.5c: Cumulative Project AM PCE Trip Assignment (Continued)

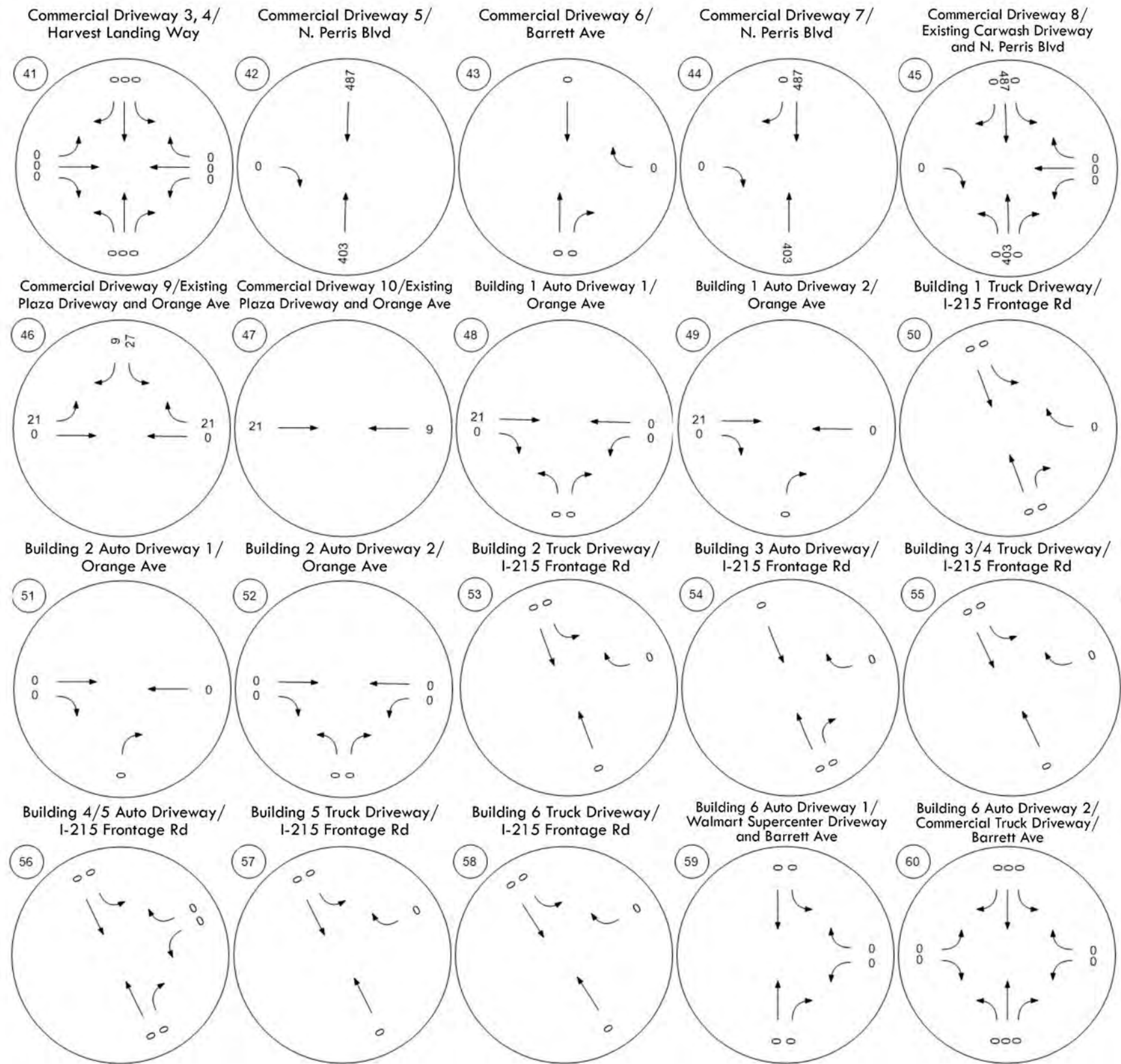


Figure 3.5d: Cumulative Project AM PCE Trip Assignment (Continued)

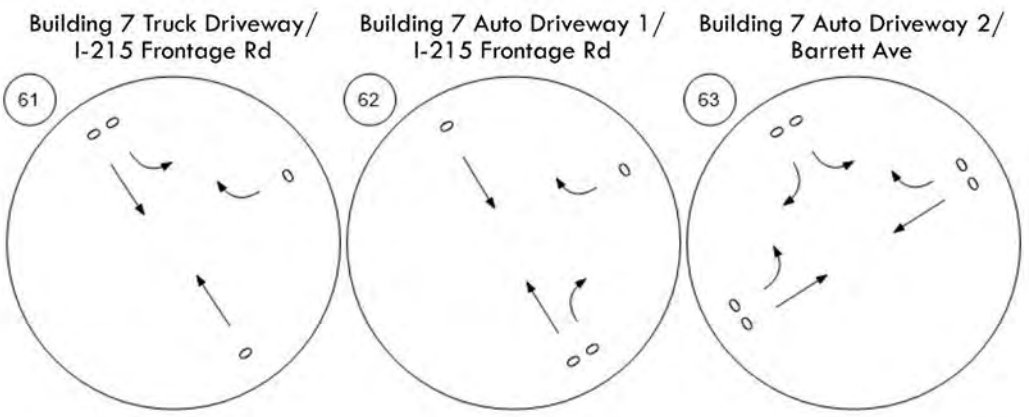


Figure 3.6a: Cumulative Project PM PCE Trip Assignment

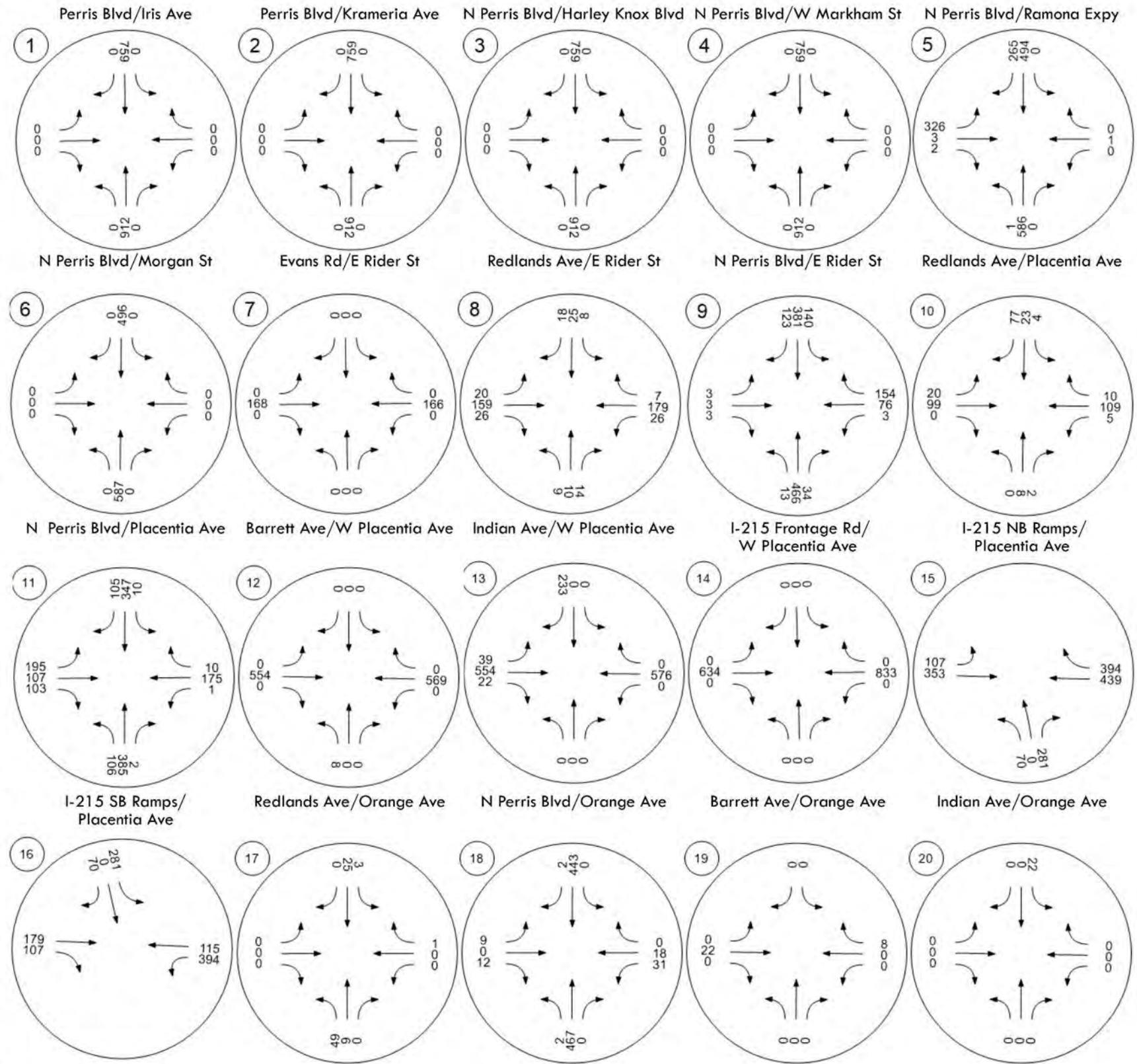


Figure 3.6b: Cumulative Project PM PCE Trip Assignment (Continued)

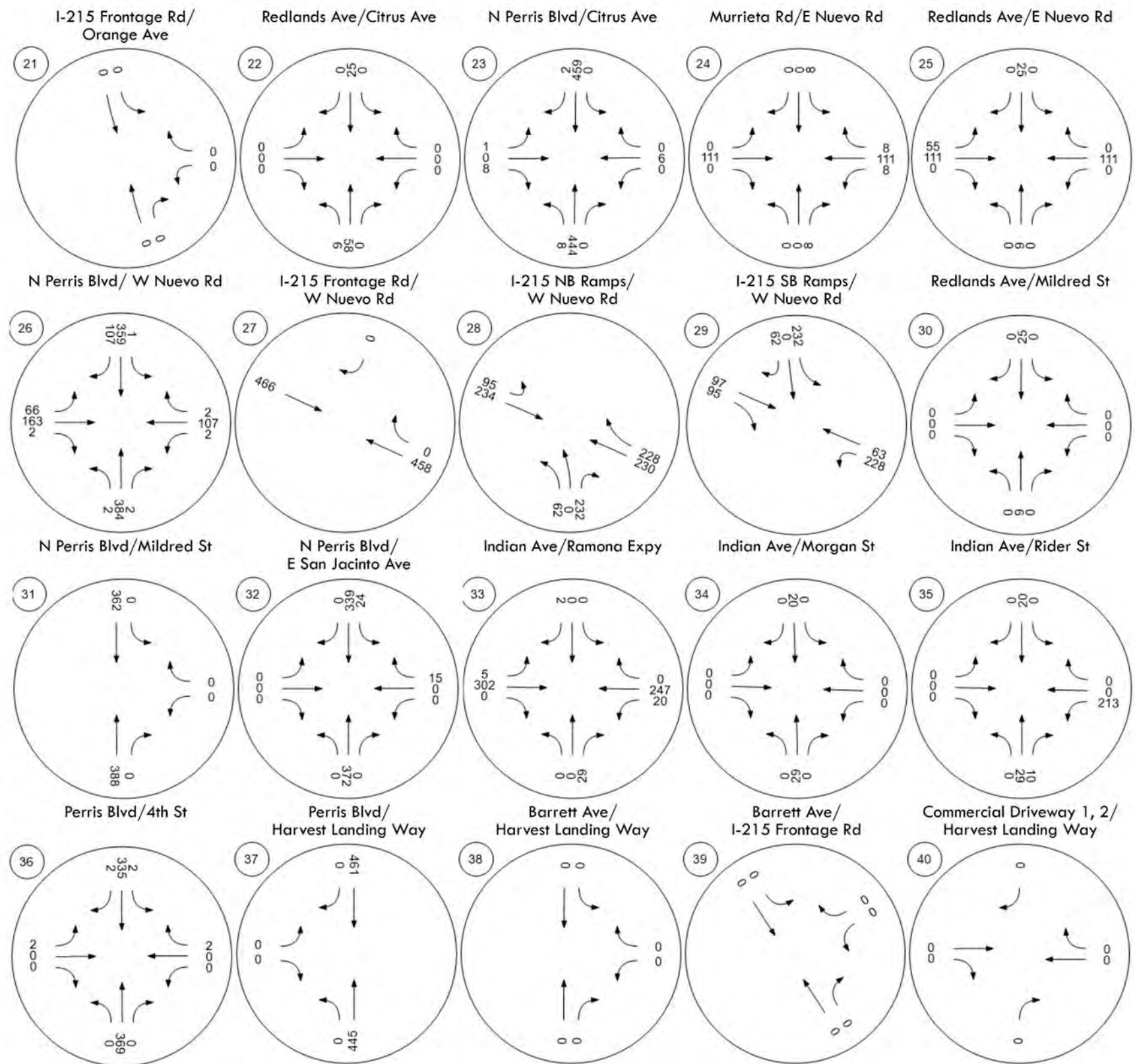


Figure 3.6c: Cumulative Project PM PCE Trip Assignment (Continued)

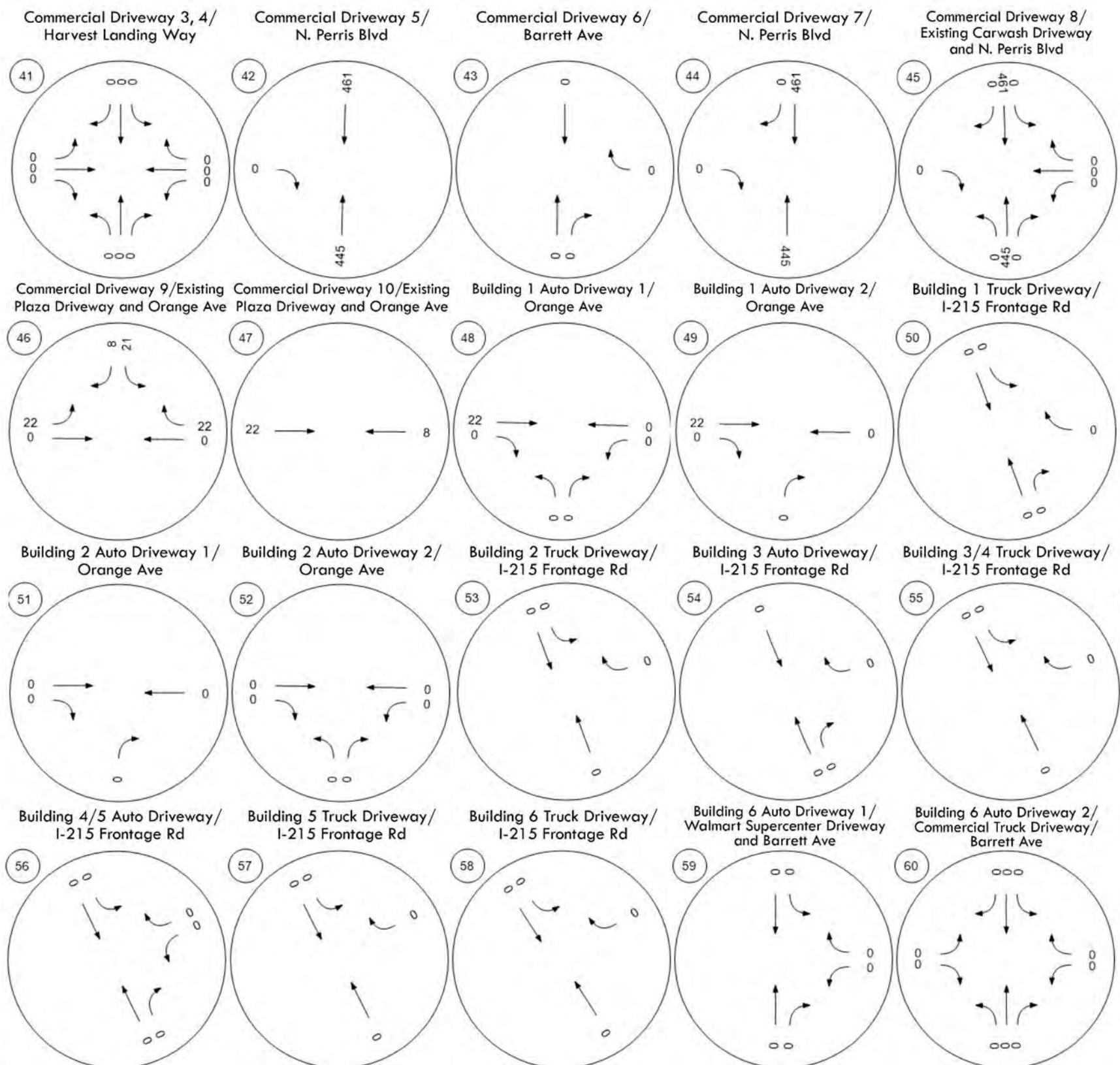


Figure 3.6d: Cumulative Project PM PCE Trip Assignment (Continued)

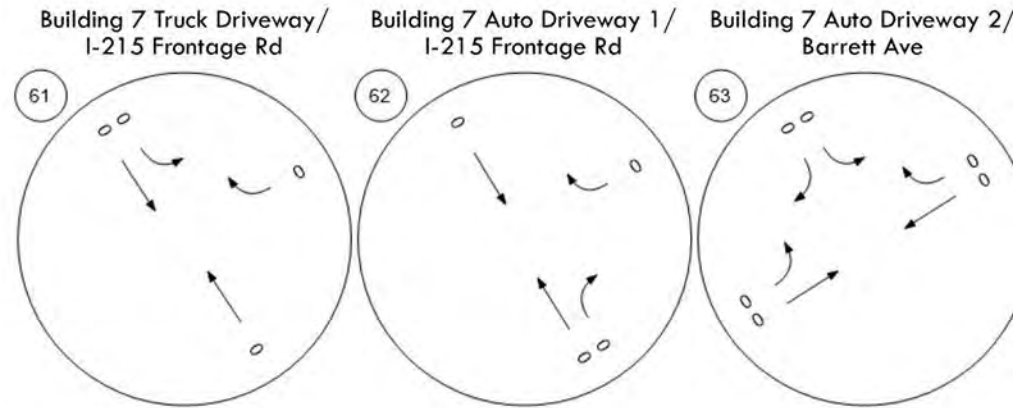


Figure 3.7a: Opening Year I 2026 Without Project AM Peak Hour PCE Traffic Volumes

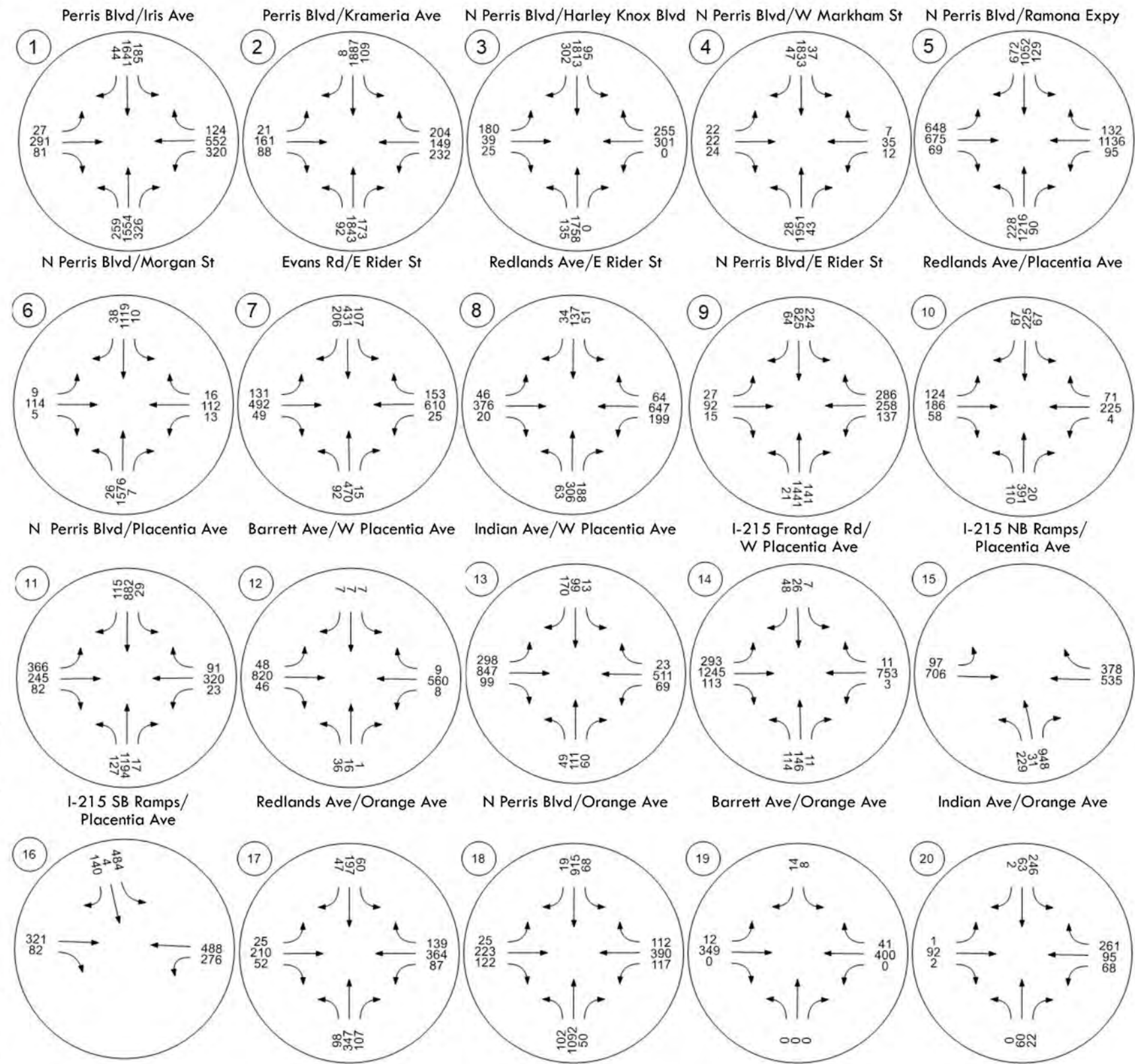


Figure 3.7b: Opening Year I 2026 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

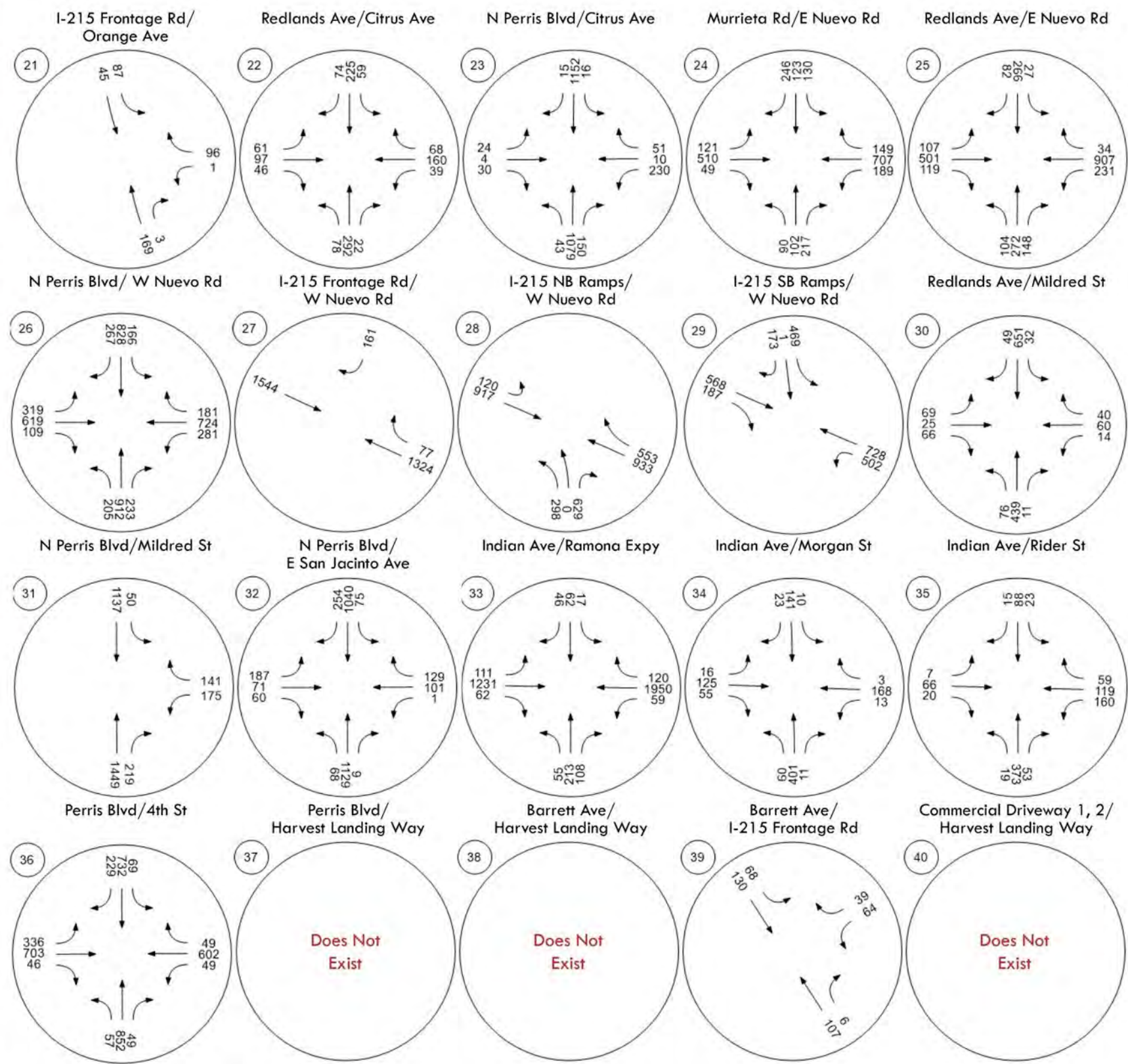


Figure 3.7c: Opening Year I 2026 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

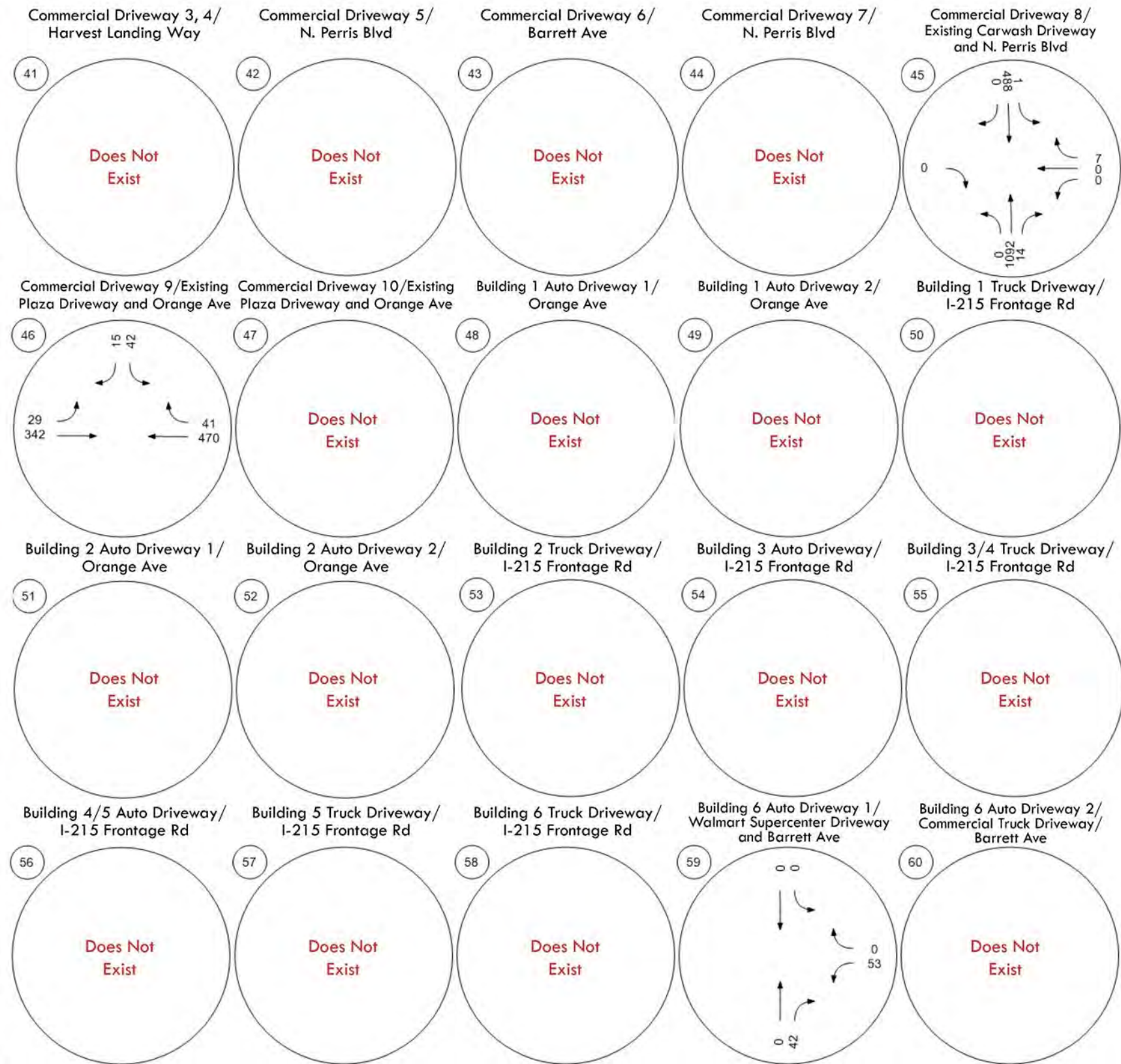


Figure 3.7d: Opening Year I 2026 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

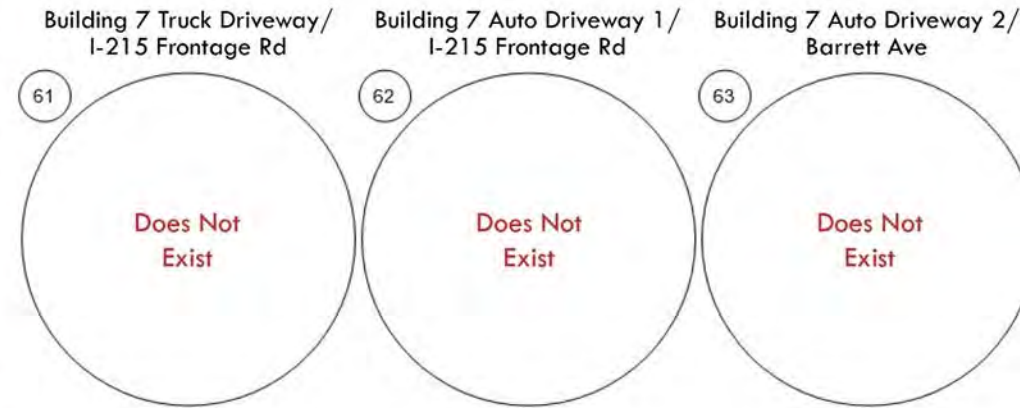


Figure 3.8a: Opening Year I 2026 Without Project PM Peak Hour PCE Traffic Volumes

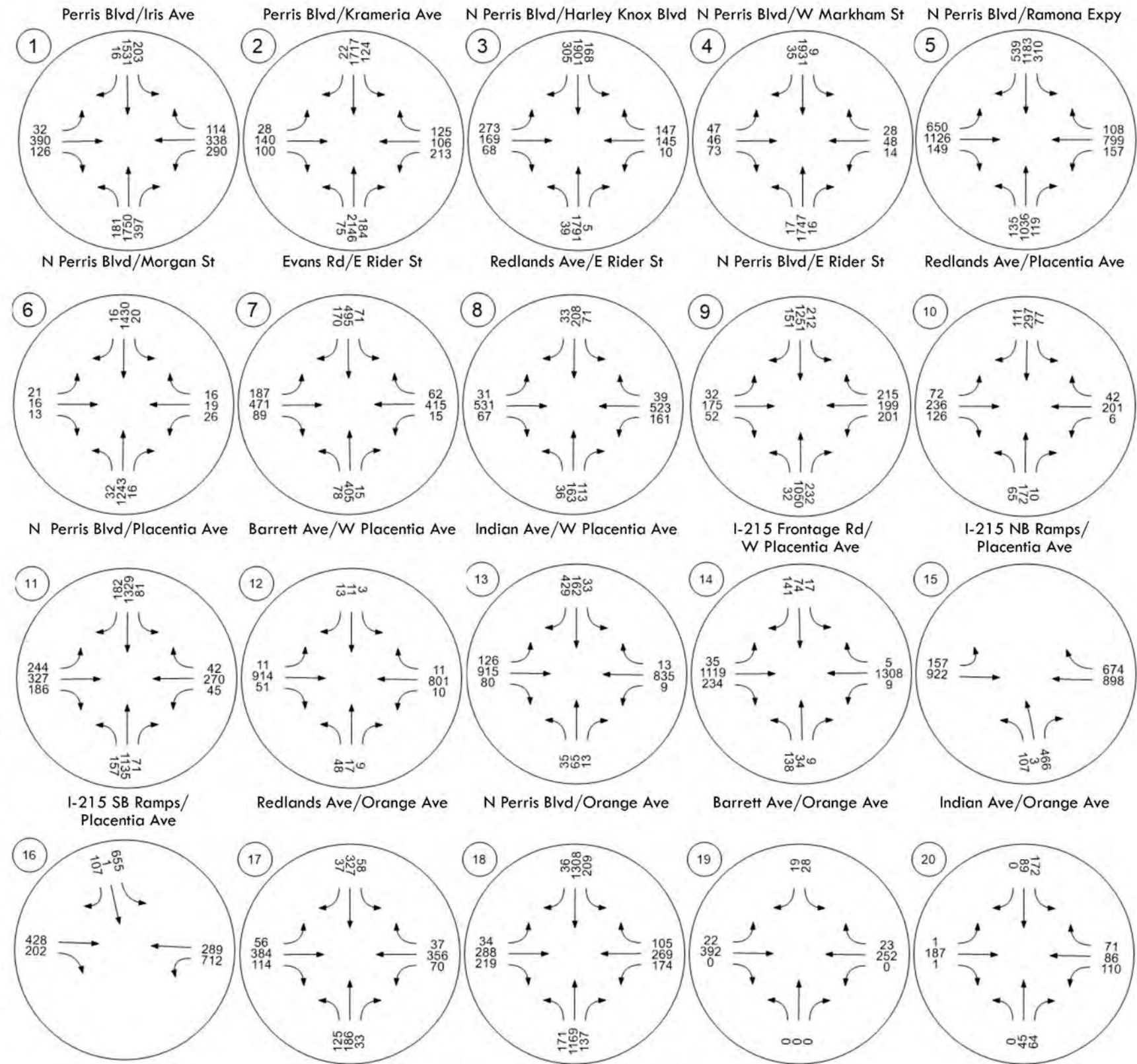


Figure 3.8b: Opening Year I 2026 Without Project PM Peak Hour PCE Traffic Volumes (Continued)

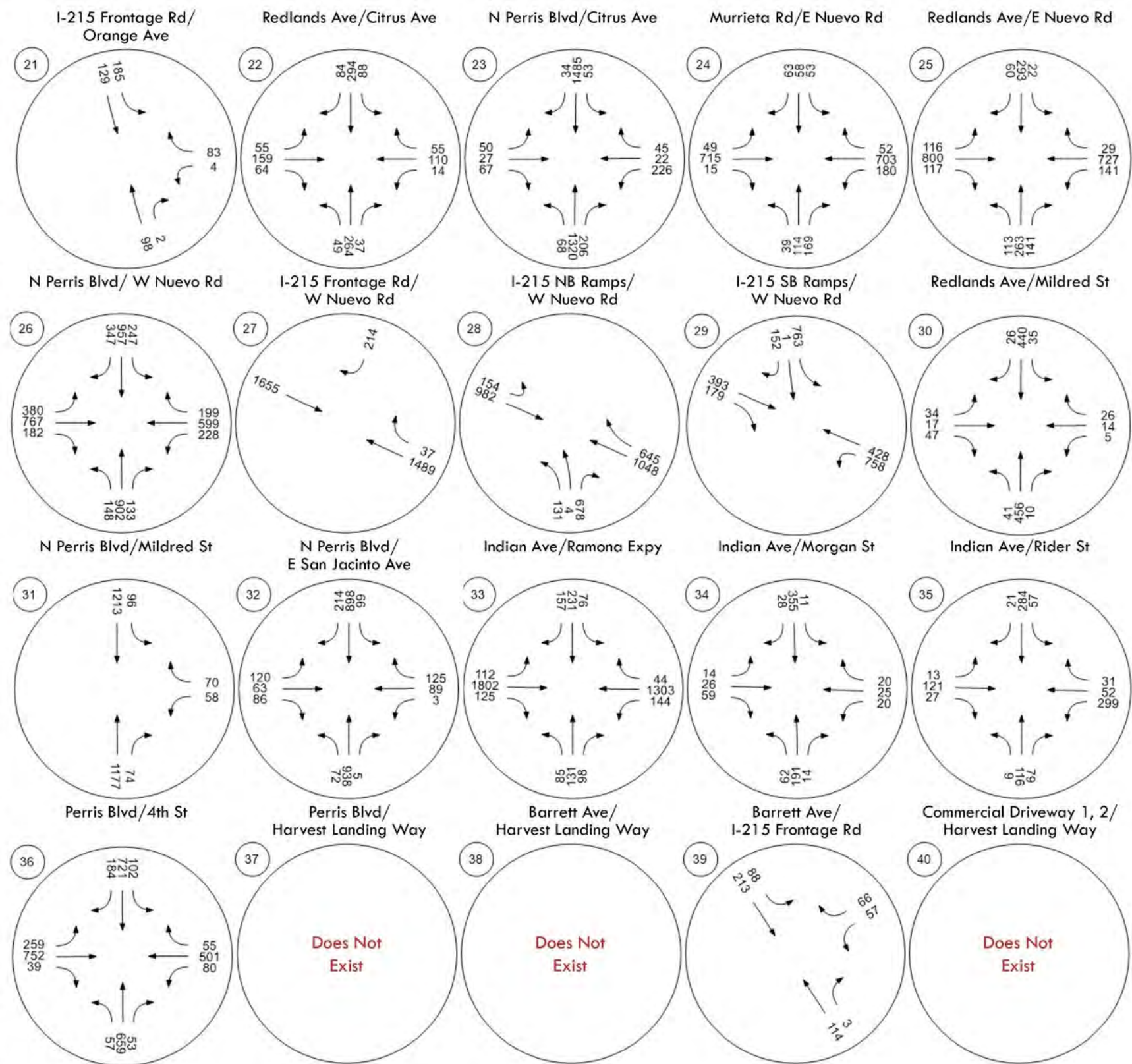


Figure 3.8c: Opening Year I 2026 Without Project PM Peak Hour PCE Traffic Volumes (Continued)

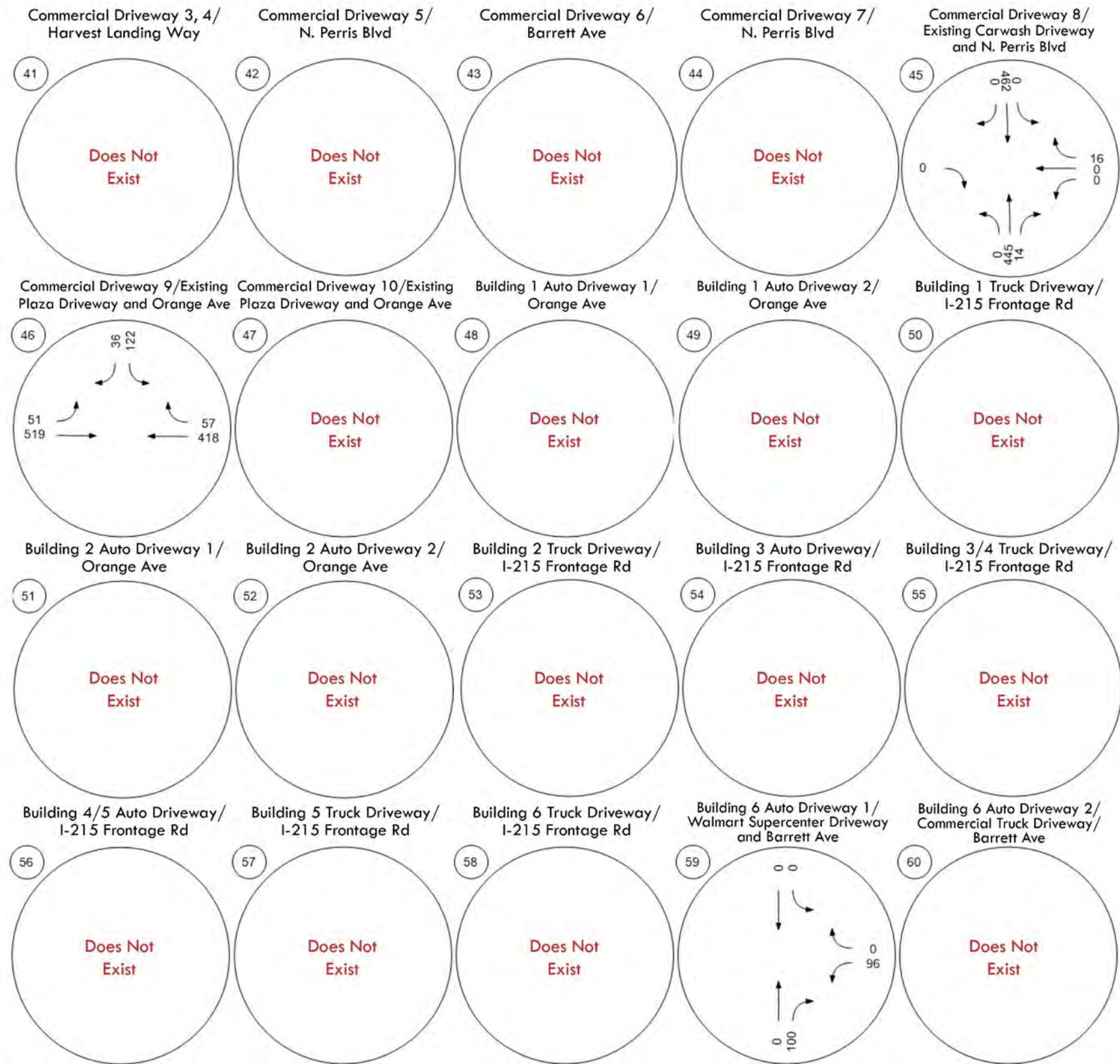
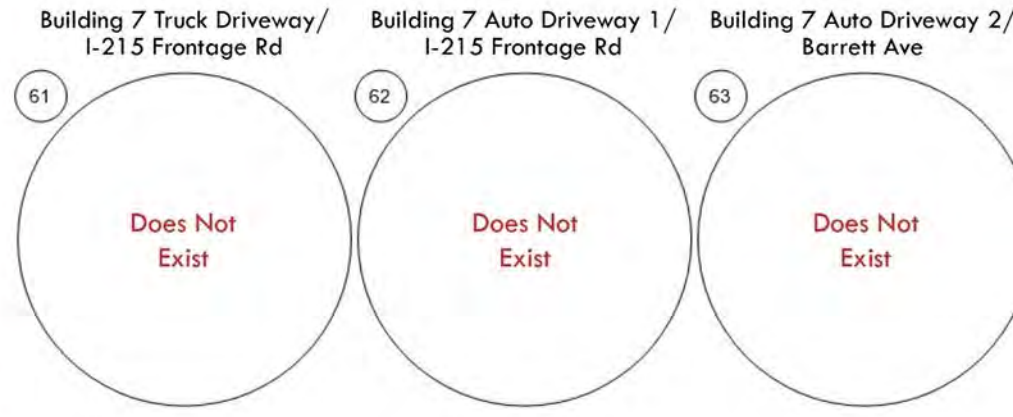


Figure 3.8d: Opening Year I 2026 Without Project PM Peak Hour PCE Traffic Volumes (Continued)



### 3.3.1 Opening Year I 2026 Without Project Intersection Queueing Analysis

A queueing analysis was conducted at four study intersections during AM and PM peak hour involving ramps along the I-215. These intersections include Intersection #15 at I-215 Northbound Ramps and Placentia Avenue, Intersection #16 at I-215 Southbound Ramps and Placentia Avenue, Intersection #28 at I-215 Northbound Ramps and West Nuevo Road, and Intersection #29 at I-215 Southbound Ramps and West Nuevo Road. The required queueing length at the study area intersections were determined using 95-percentile queue length analysis. *Table 3.7* shows the queue lengths at each intersection approach. As shown in *Table 3.7*, queueing deficiencies were observed under Opening Year I 2026 Without Project conditions, for the following approaches:

- #28. I-215 Northbound Ramps/West Nuevo Road – eastbound left-turn lane (PM peak hour)
- #28. I-215 Northbound Ramps/West Nuevo Road – westbound right-turn lane (AM and PM peak hour)

Even though the queue length for the northbound right (NBR) and northbound left (NBL) at intersection #28 exceeds the available storage length, it can still be safely accommodated. This is due to the fact that the queue falls within the additional 260 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR and NBL lanes. Similarly, an additional 360 feet of storage is provided for the southbound left (SBL) at intersection #29, ensuring that the queue can also be safely accommodated there.

**Table 3.7: Opening Year I 2026 AM and PM Peak Hour Queueing Analysis**

	<b>Opening Year I 2026 Conditions</b>							
	<b>Northbound</b>		<b>Southbound</b>		<b>Eastbound</b>		<b>Westbound</b>	
	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>
<b>15. I-215 NB Ramps/Placentia Ave</b>								
Storage Length Per Lane	570	570	-	-	280	-	-	390
AM Queue Length Per Lane	80	350	-	-	85	-	-	200
PM Queue Length Per Lane	45	260	-	-	125	-	-	270
<b>16. I-215 SB Ramps/Placentia Ave</b>								
Storage Length Per Lane	-	-	340	340	-	320	315	-
AM Queue Length Per Lane	-	-	90	35	-	40	90	-
PM Queue Length Per Lane	-	-	190	40	-	90	205	-
<b>28. I-215 NB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	170*	170*	-	-	135	-	-	200
AM Queue Length Per Lane	185	140	-	-	120	-	-	275
PM Queue Length Per Lane	90	190	-	-	200	-	-	365
<b>29. I-215 SB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	-	-	185**	185	-	N/A	315	-
AM Queue Length Per Lane	-	-	170	85	-	245	155	-
PM Queue Length Per Lane	-	-	310	75	-	235	255	-

Notes:

**Queueing Impacts**

LT = Left-turn Lane, RT = Right-turn Lane

Queue length reported in feet for the AM(PM) peak periods and are rounded up to the nearest increment of 5 feet.

\* There is an additional 260 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR and NBL lanes.

\*\* There is an additional 360 feet of storage provided beyond the back of the striping storage pocket that extends past the SBL lanes.

### 3.3.2 Opening Year I 2026 Without Project Roadway Segment Analysis

Opening Year I 2026 Without Project roadway segments volumes were developed by applying a growth rate of three percent per year to the roadway segments counts collected on December 4, 2024, when school was in session, and by adding traffic generated by cumulative projects, which are approved and pending development that would impact the study area.

The following three roadway segments do not exist under baseline conditions:

- #16. Barrett Ave between Orange Ave and Harvest Landing Way
- #17. Barrett Ave between Harvest Landing Way and I-215 Frontage Rd
- #18. Harvest Landing Way between Barrett Ave and Perris Blvd

The LOS at the Opening Year I 2026 study roadway segments were determined using the methodology described previously in *Section 2.3 Methodology*. The Opening Year I 2026 LOS at the study roadway segments are shown in *Table 3.8*. As shown in *Table 3.8*, the following six (6) roadway segments would operate at an unsatisfactory LOS in the Opening Year I 2026 Without Project condition:

- #3. Perris Blvd between Orange Ave and Citrus Ave
- #5. Perris Blvd between Placentia Ave and Orange Ave
- #6 Perris Blvd between Rider St and Placentia Ave
- #11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps
- #13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps
- #14. Placentia Ave between I-215 NB Ramps and Indian Ave

**Table 3.8: Opening Year I 2026 Roadway Segment Level of Service**

Segment	Classification <sup>2</sup>	# of Lanes	Roadway Capacity <sup>2</sup>	Opening Year I 2026 ADT <sup>1</sup>	V/C Ratio	LOS	LOS Standard <sup>2</sup>	Unsatisfactory?
1. Indian Ave between Water Ave and Orange Ave	Collector	2	13,000	5,427	0.417	A	D	No
2. Orange Ave between Indian Ave and Perris Blvd	Arterial	4	35,900	9,576	0.267	A	D	No
3. Perris Blvd between Orange Ave and Citrus Ave	Arterial	4	35,900	39,830	1.109	F	D	Yes
4. Barrett Ave between Placentia Ave and Orange Ave	Collector	2	13,000	1,510	0.116	A	D	No
5. Perris Blvd between Placentia Ave and Orange Ave	Arterial	4	35,900	38,198	1.064	F	D	Yes
6. Perris Blvd between Rider St and Placentia Ave	Arterial	4	35,900	40,500	1.128	F	D	Yes
7. Nuevo Rd between Perris Blvd and I-215 NB Ramps	Arterial	6	53,900	45,744	0.849	D	D	No
8. I-215 Frontage Rd between Placentia Ave and Orange Ave	Arterial	2	18,000	6,564	0.365	A	D	No
9. I-215 Frontage Rd between Orange Ave and Nuevo Rd	Arterial	2	18,000	3,301	0.183	A	D	No
10. Orange Ave between I-215 Frontage Rd and Indian Ave	Arterial	2	18,000	3,482	0.193	A	D	No
11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	32,415	0.903	E	D	Yes
12. Perris Blvd between Citrus Ave and Nuevo Rd	Arterial	6	53,900	41,341	0.767	C	D	No
13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	33,931	0.945	E	D	Yes
14. Placentia Ave between I-215 NB Ramps and Indian Ave	Arterial	4	35,900	48,150	1.341	F	D	Yes
15. Placentia Ave between Indian Ave and Perris Blvd	Arterial	6	53,900	26,457	0.491	A	D	No
16. Barrett Ave between Orange Ave and Harvest Landing Wy	-	-	-	-	-	-	-	-
17. Barrett Ave between Harvest Landing Wy and I-215 Frontage Rd	-	-	-	-	-	-	-	-
18. Harvest Landing Wy between Barrett Ave and Perris Blvd	-	-	-	-	-	-	-	-
19. Indian Ave between Placentia Ave and Water Ave	Collector	2	13,000	5,427	0.417	A	D	No

Notes:

LOS = Level of Service

1 - Opening year ADT is calculated based on an ambient growth rate of 3% per year. All volumes are presented in PCE.

2 - Classification, Roadway Capacity and LOS Standard from City of Perris General Plan Circulation Element.

Unsatisfactory Level of Service

### 3.4 Opening Year II 2030 Without Project Traffic Conditions

Opening Year II 2030 Without Project traffic volumes were developed by applying a growth rate of three percent per year to the existing condition volumes and adding traffic generated by cumulative projects, which are approved and pending development or newly constructed projects in 2024 that would impact the study area. The Opening Year II 2030 Without Project volumes are shown in Figure 3.9 and Figure 3.10.

The Opening Year II 2030 Without Project lane geometry is the analyzed with the same intersection lane configuration post-project completion conditions, and the same traffic control as existing conditions, to compare the impacts accurately. Intersection lane configuration and traffic control post-project completion can be found in Figure 4.8.

The Opening Year II 2030 Without Project levels of service at the study area intersections were determined using the HCM methodology, described previously in Section 2.3 - Methodology. Table 3.9 shows the Opening Year II 2030 Without Project AM and PM peak hour levels of service at study area intersections. As shown in Table 3.9, the following five (5) intersections would operate at an unsatisfactory LOS under the Opening Year II 2030 Without Project condition:

- #1. Perris Blvd/Iris Ave (LOS F during AM peak hour and LOS E during PM peak hour)
- #2. Perris Blvd/Krameria Ave (LOS E during AM and PM peak hour)
- #5. Perris Blvd/Ramona Expy (LOS F during AM peak hour)
- #27. I-215 Frontage Rd/W Nuevo Rd (LOS F during PM peak hour)
- #46. Commercial Driveway 9/Existing Plaza Driveway and Orange Ave (LOS E during PM peak hour)

**Table 3.9: Opening Year II 2030 Without Project AM and PM Peak Hour LOS**

Intersection	Jurisdiction	Control Type	Opening Year II 2030 Conditions				LOS Standard	Satisfactory?
			AM Peak		PM Peak			
			Delay	LOS	Delay	LOS		
1. Perris Blvd/Iris Ave	City of Moreno Valley	Signalized	84.3	F	61.5	E	D	No
2. Perris Blvd/Krameria Ave	City of Moreno Valley	Signalized	64.6	E	57.7	E	D	No
3. N Perris Blvd/Harley Knox Blvd	City of Perris	Signalized	37.4	D	38.6	D	D	Yes
4. N Perris Blvd/W Markham St	City of Perris	Signalized	17.2	B	16.8	B	D	Yes
5. N Perris Blvd/Ramona Expy	City of Perris	Signalized	92.4	F	59.3	E	E	No
6. N Perris Blvd/Morgan St	City of Perris	Signalized	12.6	B	11.5	B	D	Yes
7. Evans Rd/E Rider St	City of Perris	Signalized	35.8	D	29.8	C	D	Yes
8. Redlands Ave/E Rider St	City of Perris	Signalized	31.0	C	38.7	D	D	Yes
9. N Perris Blvd/E Rider St	City of Perris	Signalized	30.2	C	29.7	C	D	Yes
10. Redlands Ave/Placentia Ave	City of Perris	All-way stop	20.6	C	22.8	C	D	Yes
11. N Perris Blvd/Placentia Ave	City of Perris	Signalized	41.5	D	34.2	C	D	Yes
12. Barrett Ave/W Placentia Ave	City of Perris	All-way stop	30.9	D	19.6	C	D	Yes
13. Indian Ave/W Placentia Ave	City of Perris	Signalized	41.3	D	39.0	D	D	Yes
14. I-215 Frontage Rd/W Placentia Ave	City of Perris	Signalized	29.4	C	21.1	C	D	Yes
15. I-215 NB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	15.3	B	28.2	C	E	Yes
16. I-215 SB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	17.0	B	22.8	C	E	Yes
17. Redlands Ave/Orange Ave	City of Perris	Signalized	26.4	C	29.1	C	D	Yes
18. N Perris Blvd/Orange Ave	City of Perris	Signalized	26.1	C	39.4	D	D	Yes
19. Barrett Ave/Orange Ave	City of Perris	Two-way stop	21.8	C	16.6	C	D	Yes
20. Indian Ave/Orange Ave	City of Perris	All-way stop	14.8	B	12.8	B	D	Yes
21. I-215 Frontage Rd/Orange Ave	City of Perris	Two-way stop	15.5	C	16.1	C	D	No
22. Redlands Ave/Citrus Ave	City of Perris	All-way stop	13.0	B	14.9	B	D	Yes
23. N Perris Blvd/Citrus Ave	City of Perris	Signalized	15.9	B	22.4	C	D	Yes
24. Murrieta Rd/E Nuevo Rd	City of Perris	Signalized	42.2	D	32.1	C	D	Yes
25. Redlands Ave/E Nuevo Rd	City of Perris	Signalized	23.8	C	23.3	C	D	Yes
26. N Perris Blvd/ W Nuevo Rd	City of Perris	Signalized	48.1	D	44.2	D	D	Yes
27. I-215 Frontage Rd/W Nuevo Rd	City of Perris	Two-way stop	24.5	C	39.3	F	D	No
28. I-215 NB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	21.1	C	23.0	C	E	Yes
29. I-215 SB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	19.5	B	30.1	C	E	Yes
30. Redlands Ave/Mildred St	City of Perris	All-way stop	32.5	D	15.9	C	D	Yes
31. N Perris Blvd/Mildred St	City of Perris	Signalized	18.3	B	8.4	A	D	Yes
32. N Perris Blvd/E San Jacinto Ave	City of Perris	Signalized	29.9	C	22.1	C	D	Yes
33. Indian Ave/Ramona Expy	City of Perris	Signalized	36.7	D	42.9	D	E	Yes
34. Indian Ave/Morgan St	City of Perris	Signalized	20.5	C	16.8	B	D	Yes
35. Indian Ave/Rider St	City of Perris	Signalized	22.4	C	29.2	C	D	Yes
36. Perris Blvd/4th St	Caltrans/City of Perris	Signalized	72.1	E	63.8	E	E	Yes
37. Perris Blvd/Harvest Landing Way	City of Perris	Signalized	-	-	-	-	D	-
38. Barrett Ave/Harvest Landing Way	City of Perris	All-way stop	-	-	-	-	D	-
39. Barrett Ave/I-215 Frontage Road	City of Perris	Two-way stop	13.4	B	15.5	C	D	Yes
40. Commercial Driveway 1, 2 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
41. Commercial Driveway 3, 4 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
42. Commercial Driveway 5 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
43. Commercial Driveway 6 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
44. Commercial Driveway 7 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
45. Commercial Driveway 8 and N. Perris Blvd	City of Perris	Two-way stop	10.3	B	10.6	B	D	-
46. Commercial Driveway 9/Existing Plaza Driveway and Orange Ave	City of Perris	Two-way stop	24.4	C	45.9	E	D	No
47. Commercial Driveway 10/Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
48. Building 1 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
49. Building 1 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
50. Building 1 Truck Driveway and I-215 Frontage Rd	City of Perris	Signalized	-	-	-	-	D	-
51. Building 2 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
52. Building 2 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
53. Building 2 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
54. Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
55. Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
56. Building 3/4 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
57. Building 5 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
58. Building 6 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
59. Building 6 Auto Driveway 1/Walmart Supercenter Driveway and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
60. Building 6 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
61. Building 7 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
62. Building 7 Auto Driveway 1 and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
63. Building 7 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-

Notes: Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

### 3.4.1 Opening Year II 2030 Without Project Intersection Queueing Analysis

A queueing analysis was conducted at four study intersections during AM and PM peak hour involving ramps along the I-215. These intersections include Intersection #15 at I-215 Northbound Ramps and Placentia Avenue, Intersection #16 at I-215 Southbound Ramps and Placentia Avenue, Intersection #28 at I-215 Northbound Ramps and West Nuevo Road, and Intersection #29 at I-215 Southbound Ramps and West Nuevo Road. The required queueing length at the study area intersections were determined using 95-percentile queue length analysis. Table 3.10 shows the queue lengths at each intersection approach. As shown in Table 3.10, queueing deficiencies were observed under Opening Year II 2030 Without Project conditions, for the following approaches:

- #15. I-215 Northbound Ramps/Placentia Avenue – westbound right-turn lane (PM peak hour)
- #28. I-215 Northbound Ramps/West Nuevo Road – eastbound left-turn lane (AM and PM peak hour)
- #28. I-215 Northbound Ramps/West Nuevo Road – westbound right-turn lane (AM and PM peak hour)

Even though the queue length for the NBR and NBL at intersection #28 exceeds the available storage length, it can still be safely accommodated. This is due to the fact that the queue falls within the additional 260 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR and NBL lanes. Similarly, an additional 360 feet of storage is provided for the SBL at intersection #29, ensuring that the queue can also be safely accommodated there.

**Table 3.10: Opening Year II 2030 AM and PM Peak Hour Queueing Analysis**

	<b>Opening Year II 2030 Conditions</b>							
	<b>Northbound</b>		<b>Southbound</b>		<b>Eastbound</b>		<b>Westbound</b>	
	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>
<b>15. I-215 NB Ramps/Placentia Ave</b>								
Storage Length Per Lane	570	570	-	-	280	-	-	390
AM Queue Length Per Lane	60	270	-	-	40	-	-	205
PM Queue Length Per Lane	50	275	-	-	135	-	-	595
<b>16. I-215 SB Ramps/Placentia Ave</b>								
Storage Length Per Lane	-	-	340	340	-	320	315	-
AM Queue Length Per Lane	-	-	95	40	-	40	95	-
PM Queue Length Per Lane	-	-	225	45	-	120	250	-
<b>28. I-215 NB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	170*	170*	-	-	135	-	-	200
AM Queue Length Per Lane	225	185	-	-	155	-	-	350
PM Queue Length Per Lane	110	230	-	-	225	-	-	410
<b>29. I-215 SB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	-	-	185**	185	-	N/A	315	-
AM Queue Length Per Lane	-	-	215	100	-	260	165	-
PM Queue Length Per Lane	-	-	390	95	-	285	310	-

Notes:

**Queueing Impacts**

LT = Left-turn Lane, RT = Right-turn Lane

Queue length reported in feet for the AM(PM) peak periods and are rounded up to the nearest increment of 5 feet.

\* There is an additional 260 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR and NBL lanes.

\*\* There is an additional 360 feet of storage provided beyond the back of the striping storage pocket that extends past the SBL lanes.

### 3.4.2 Opening Year II 2030 Without Project Roadway Segment Analysis

Opening Year II 2030 Without Project roadway segments volumes were developed by applying a growth rate of three percent per year to the roadway segments counts collected on December 4, 2024, when school was in session, and by adding traffic generated by cumulative projects, which are approved and pending development that would impact the study area.

The following three roadway segments does not exist under baseline conditions:

- #16. Barrett Ave between Orange Ave and Harvest Landing Way
- #17. Barrett Ave between Harvest Landing Way and I-215 Frontage Rd
- #18. Harvest Landing Way between Barrett Ave and Perris Blvd

The LOS at the Opening Year II 2030 study roadway segments were determined using the methodology described previously in *Section 2.3 Methodology*. The Opening Year II 2030 LOS at the study roadway segments are shown in *Table 3.11*. As shown in *Table 3.11*, the following seven (7) roadway segments would operate at an unsatisfactory LOS in the Opening Year II 2030 Without Project condition:

- #3. Perris Blvd between Orange Ave and Citrus Ave
- #5. Perris Blvd between Placentia Ave and Orange Ave
- #6. Perris Blvd between Rider St and Placentia Ave
- #7. Nuevo Rd between Perris Blvd and I-215 NB Ramps
- #11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps
- #13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps
- #14. Placentia Ave between I-215 NB Ramps and Indian Ave

**Table 3.11: Opening Year II 2030 Roadway Segment Level of Service**

Segment	Classification <sup>2</sup>	# of Lanes	Roadway Capacity <sup>2</sup>	Opening Year II 2030 ADT <sup>1</sup>	V/C Ratio	LOS	LOS Standard	Unsatisfactory?
1. Indian Ave between Water Ave and Orange Ave	Arterial	2	18,000	6,017	0.334	A	D	No
2. Orange Ave between Indian Ave and Perris Blvd	Arterial	4	35,900	10,611	0.296	A	D	No
3. Perris Blvd between Orange Ave and Citrus Ave	Arterial	4	35,900	43,121	1.201	F	D	Yes
4. Barrett Ave between Placentia Ave and Orange Ave	Collector	2	13,000	1,669	0.128	A	D	No
5. Perris Blvd between Placentia Ave and Orange Ave	Arterial	4	35,900	41,300	1.150	F	D	Yes
6. Perris Blvd between Rider St and Placentia Ave	Arterial	4	35,900	43,634	1.215	F	D	Yes
7. Nuevo Rd between Perris Blvd and I-215 NB Ramps	Arterial	6	53,900	50,226	0.932	E	D	Yes
8. I-215 Frontage Rd between Placentia Ave and Orange Ave	Arterial	2	18,000	7,307	0.406	A	D	No
9. I-215 Frontage Rd between Orange Ave and Nuevo Rd	Arterial	2	18,000	3,675	0.204	A	D	No
10. Orange Ave between I-215 Frontage Rd and Indian Ave	Arterial	2	18,000	3,876	0.215	A	D	No
11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	35,372	0.985	E	D	Yes
12. Perris Blvd between Citrus Ave and Nuevo Rd	Arterial	6	53,900	44,786	0.831	D	D	No
13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps	Arterial	4	35,900	36,547	1.018	F	D	Yes
14. Placentia Ave between I-215 NB Ramps and Indian Ave	Arterial	4	35,900	51,765	1.442	F	D	Yes
15. Placentia Ave between Indian Ave and Perris Blvd	Arterial	6	53,900	27,969	0.519	A	D	No
16. Barrett Ave between Orange Ave and Harvest Landing Wy	-	-	-	-	-	-	-	-
17. Barrett Ave between Harvest Landing Wy and I-215 Frontage Rd	-	-	-	-	-	-	-	-
18. Harvest Landing Wy between Barrett Ave and Perris Blvd	-	-	-	-	-	-	-	-
19. Indian Ave between Placentia Ave and Water Ave	Collector	2	13,000	-	0.000	A	D	No

Notes:

LOS = Level of Service

1 Opening year ADT is calculated based on an ambient growth rate of 3% per year. All volumes are presented in PCE.

2 Classification, Roadway Capacity and LOS Standard from City of Perris General Plan Circulation Element.

Unsatisfactory Level of Service

Figure 3.9a: Opening Year II 2030 Without Project AM Peak Hour PCE Traffic Volumes

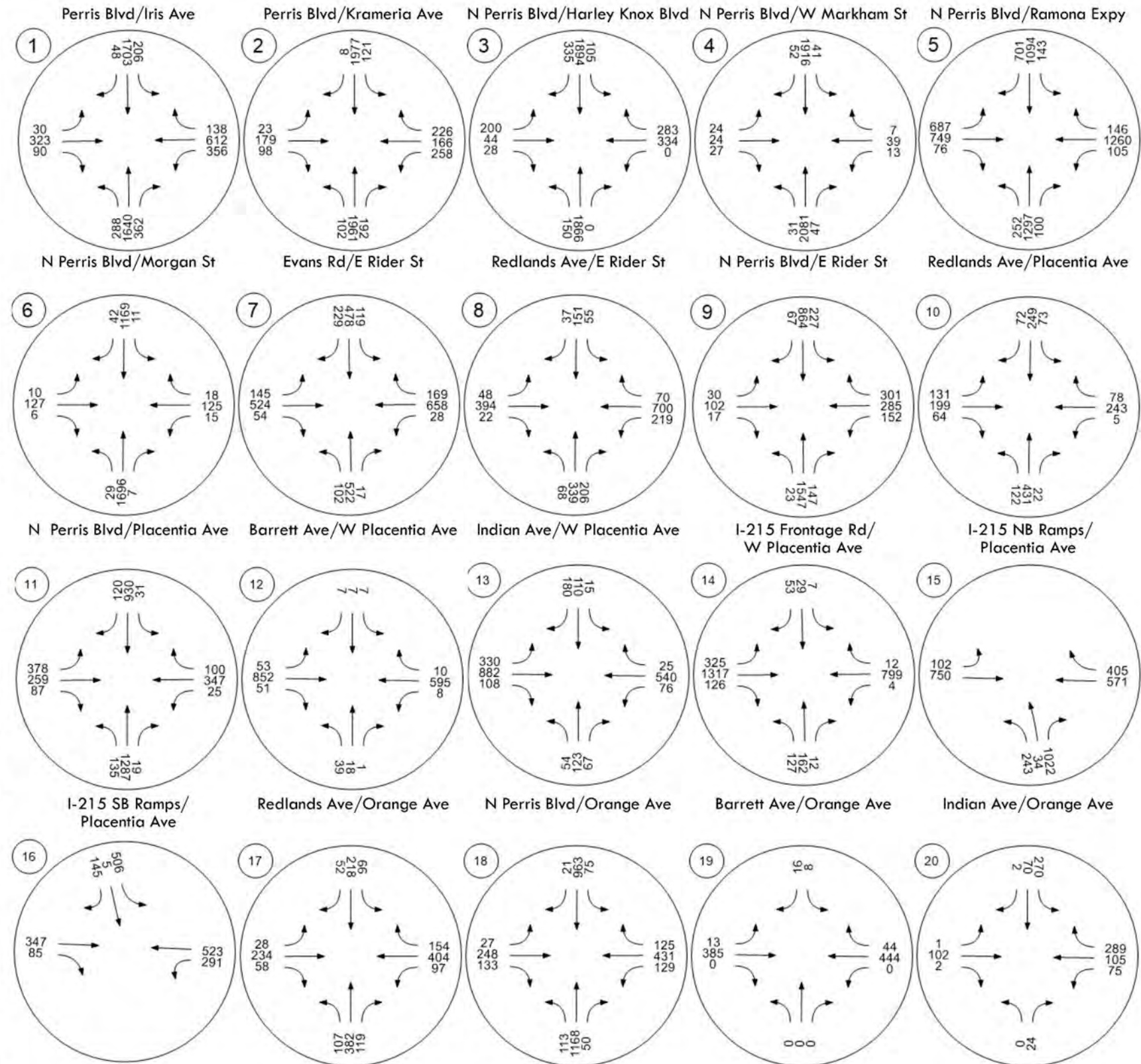


Figure 3.9b: Opening Year II 2030 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

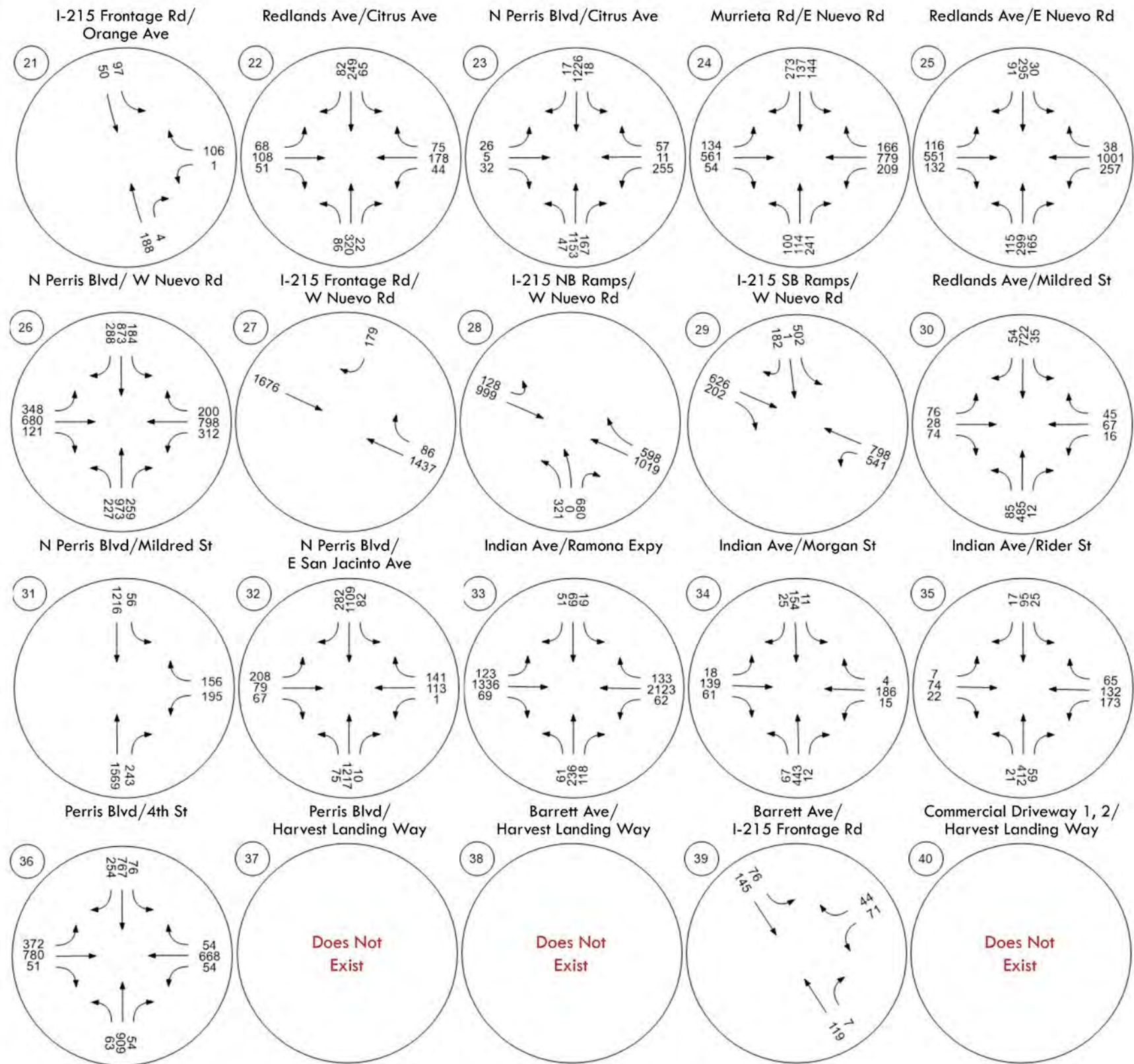


Figure 3.9c: Opening Year II 2030 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

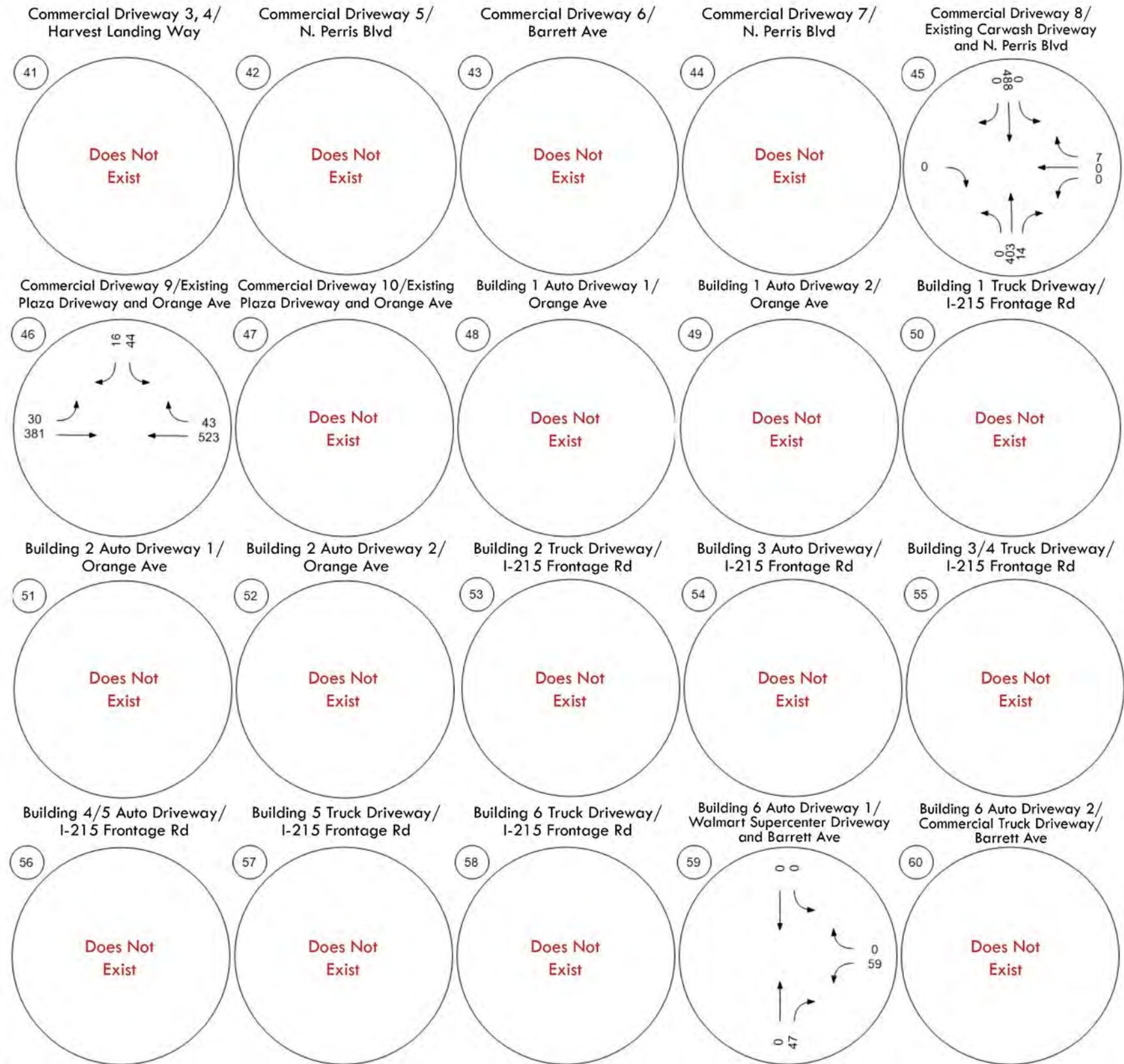


Figure 3.9d: Opening Year II 2030 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

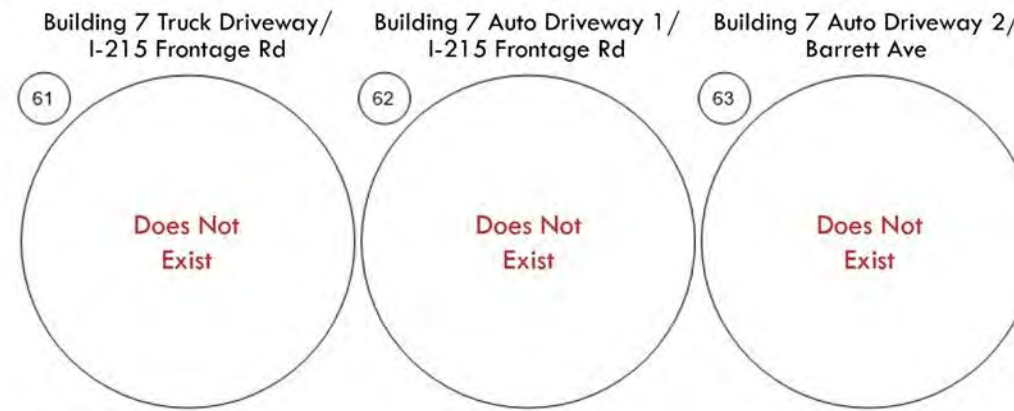


Figure 3.10a: Opening Year II 2030 Without Project PM Peak Hour PCE Traffic Volumes

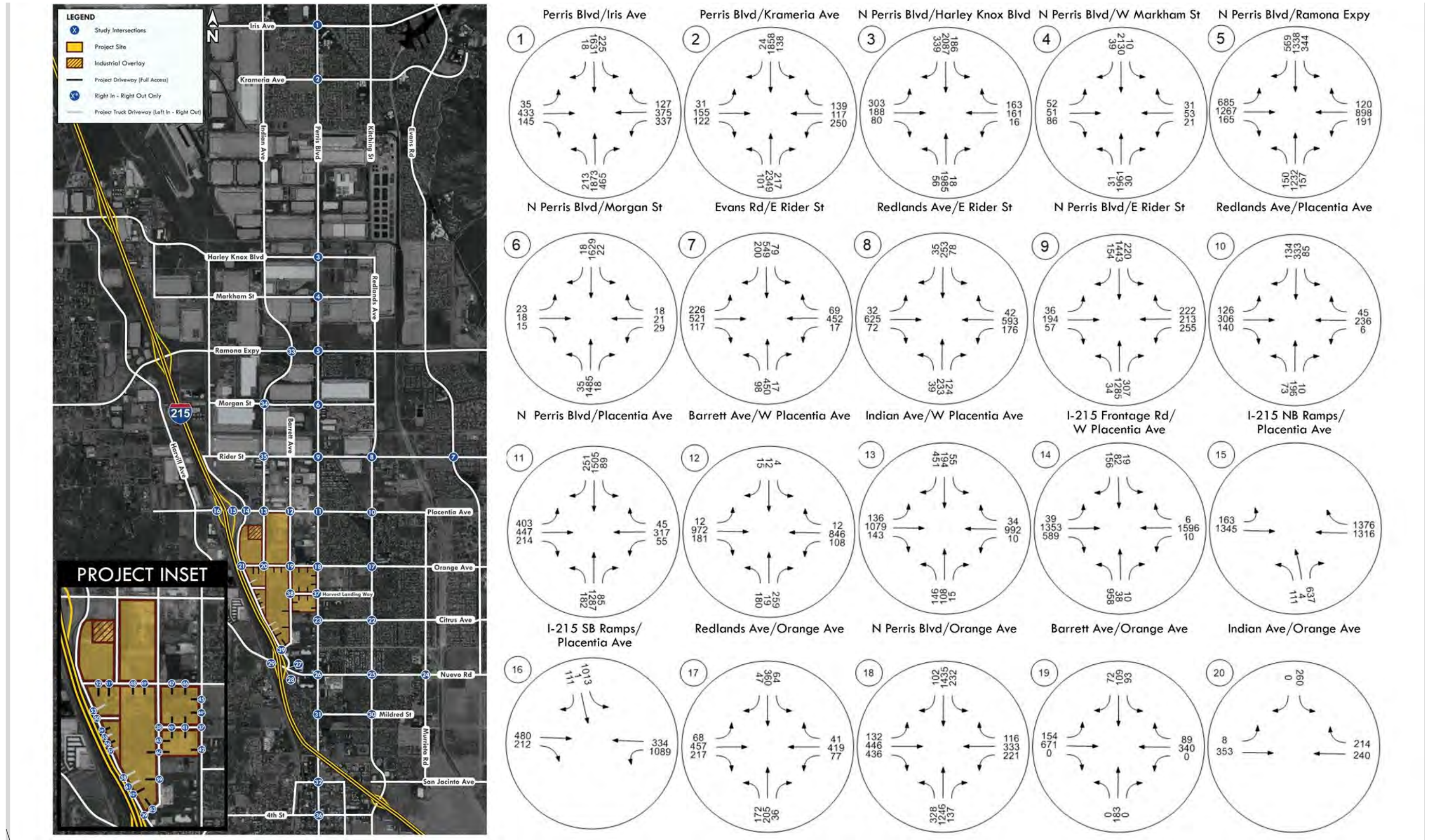


Figure 3.10b: Opening Year II 2030 Without Project PM Peak Hour PCE Traffic Volumes (Continued)

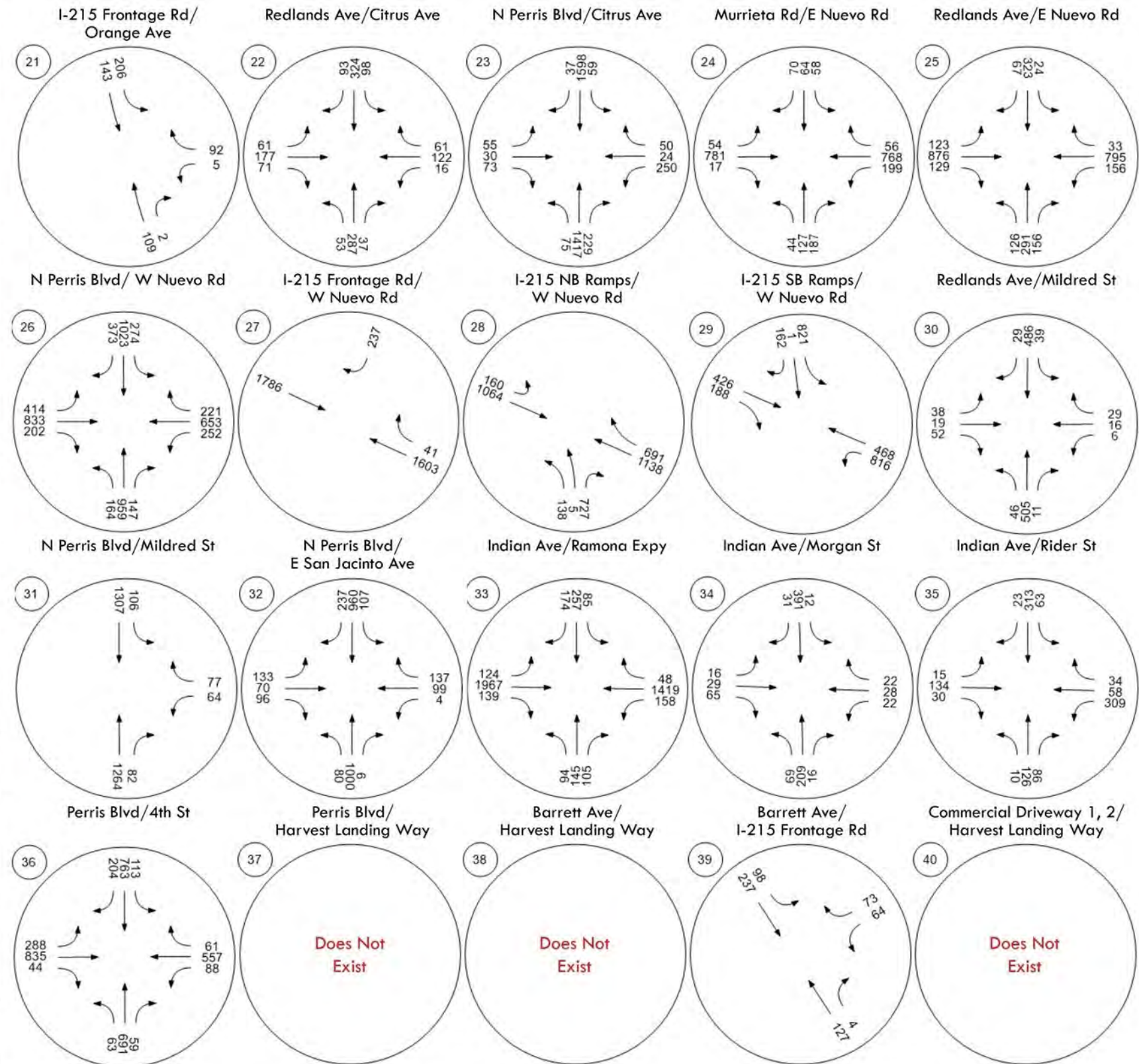
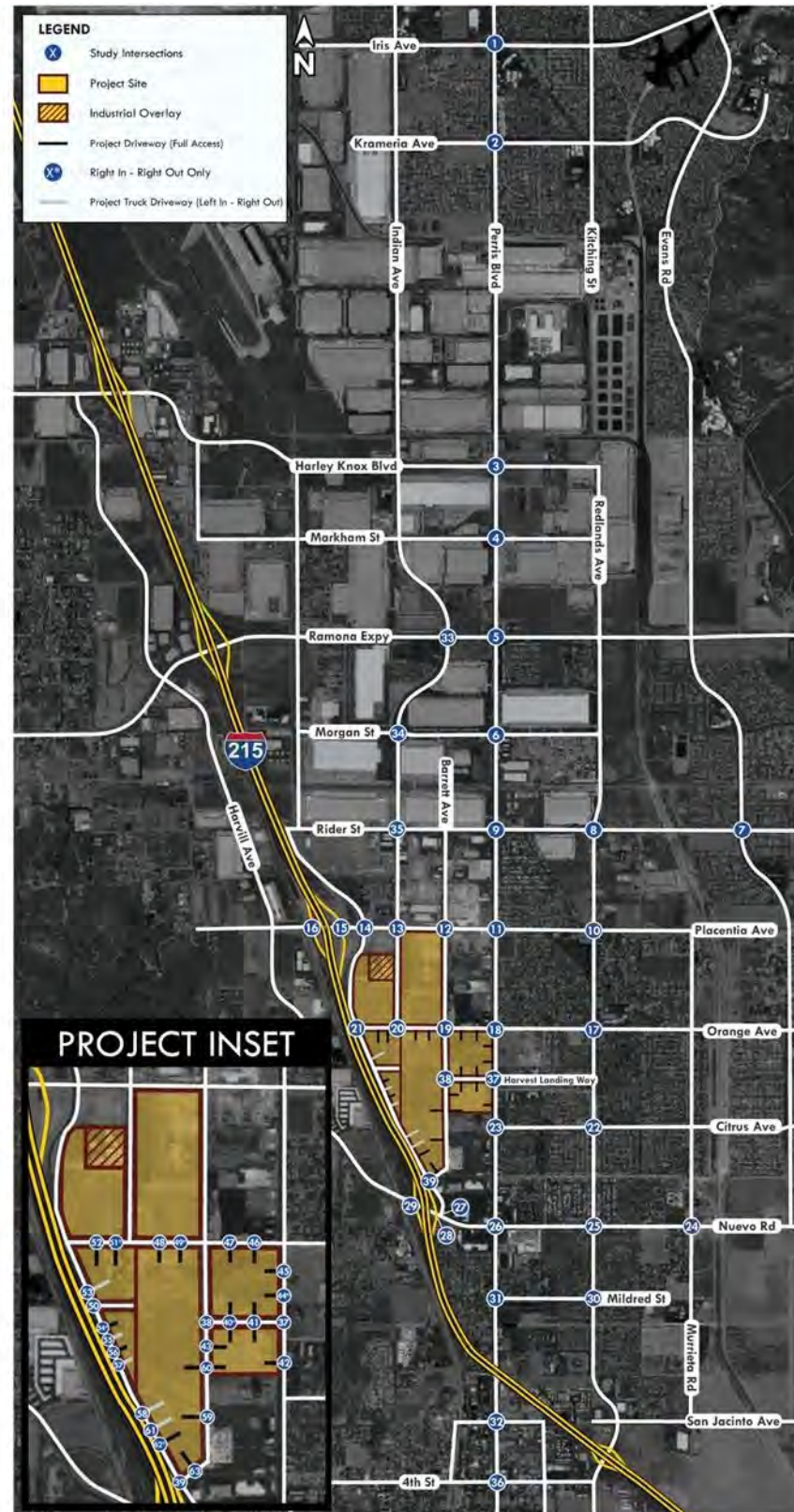


Figure 3.10c: Opening Year II 2030 Without Project PM Peak Hour PCE Traffic Volumes (Continued)

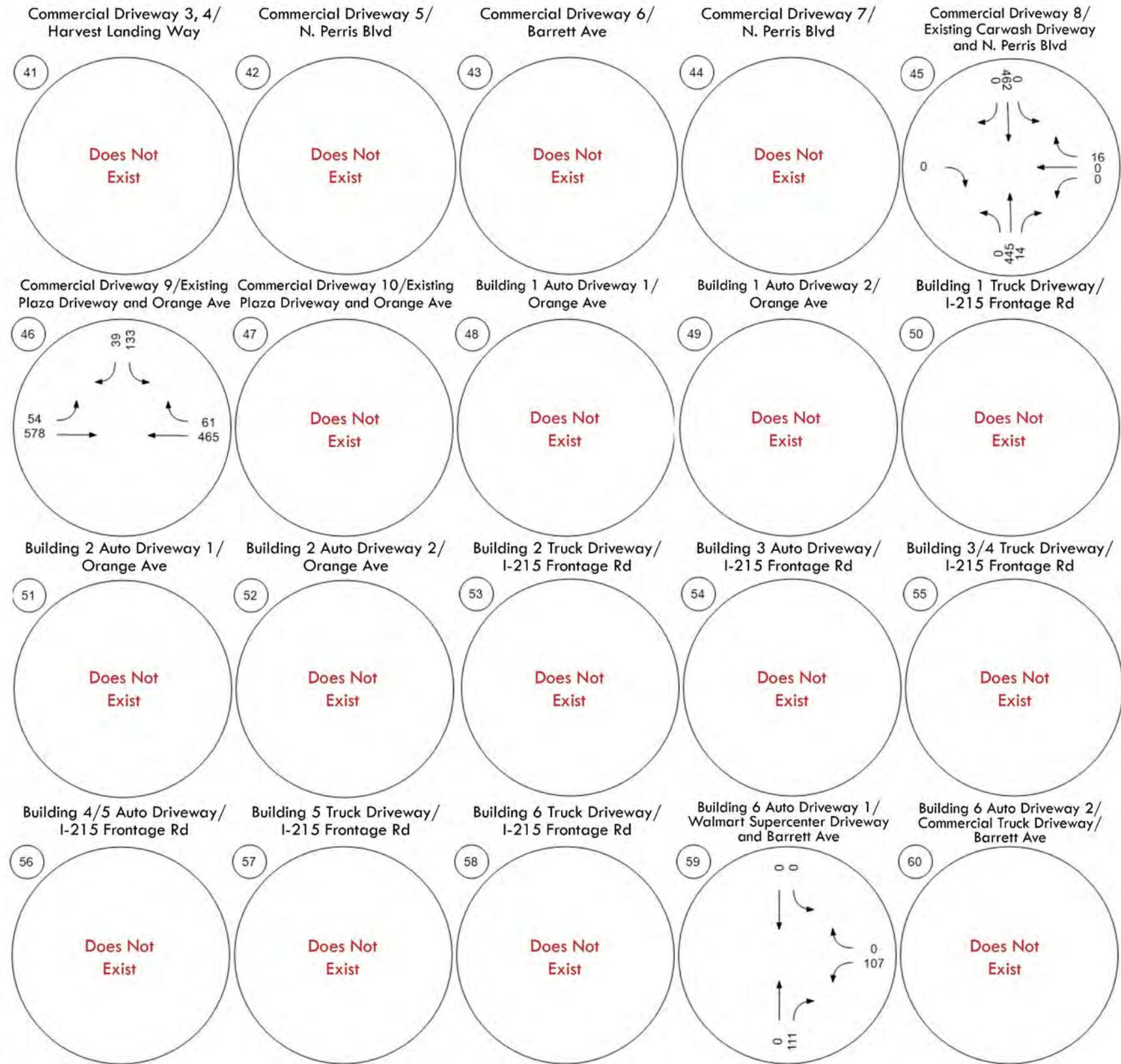
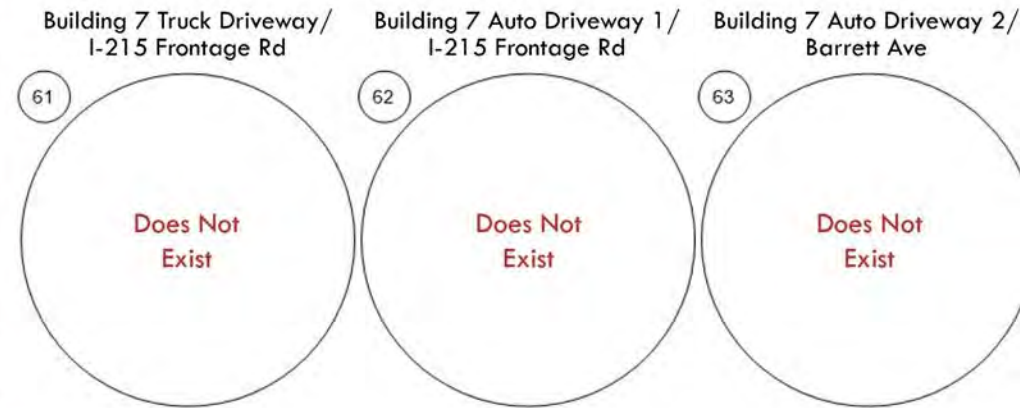


Figure 3.10d: Opening Year II 2030 Without Project PM Peak Hour PCE Traffic Volumes (Continued)



### 3.5 General Plan 2045 Without Project Traffic Conditions

In accordance with the approved scope of work by the City of Perris, the General Plan 2045 conditions were forecasted using RIVCOM traffic model, which assumes full buildout of the County of Riverside per approved General Plan of each jurisdiction within the County. Link volumes growth rate were obtained from RIVCOM. The growth rates were then post-processed to compute intersection turning movement volumes using the Iterative Directional Volume Estimation Methodology from NCHRP Report 765, based on methodology outlined in NCHRP Report 255.

Some of the post-processed General Plan 2045 turning movement volumes were observed to be lower than the corresponding Opening Year II 2030 volumes at certain intersections. In such cases, the General Plan 2045 turning movement volumes were adjusted by holding the volumes to Opening Year II 2030 turning movement volumes, so that no General Plan 2045 volumes are lower than the corresponding Opening Year II 2030 volumes. The General Plan 2045 Without Project traffic volumes are shown in Figure 3.11 and Figure 3.12. All traffic counts, RIVCOM model plots, RIVCOM volume outputs, NCHRP 765 worksheets and volume adjustment worksheets are provided in Appendix B.

The General Plan 2045 Without Project lane geometry is analyzed with the same intersection lane configuration as post-project completion conditions, and the same traffic control as existing conditions, to compare the impacts accurately. Intersection lane configuration and traffic control post-project completion can be found in Figure 4.8.

The General Plan 2045 Without Project condition levels of service at the study area intersections were determined using the HCM methodology, described previously in Section 2.3 - Methodology. Table 3.12 shows the General Plan 2045 Without Project AM and PM peak hour levels of service at study area intersections. As shown in Table 3.12, the following 16 intersections would operate at an unsatisfactory LOS under the General Plan 2045 Without Project condition:

- #1. Perris Blvd/Iris Ave (LOS F during AM and PM peak hour)
- #2. Perris Blvd/Krameria Ave (LOS F during AM and PM peak hour)
- #3. N Perris Blvd/Harley Knox Blvd (LOS F during PM peak hour)
- #4. N Perris Blvd/W Markham St (LOS F during AM peak hour and LOS E during PM peak hour)
- #5. N Perris Blvd/Ramona Expy (LOS F during AM peak hour)
- #10. Redlands Ave/Placentia Ave (LOS F during AM and PM peak hour)
- #11. N Perris Blvd/Placentia Ave (LOS F during PM peak hour)
- #12. Barrett Ave/W Placentia Ave (LOS F during AM and PM peak hour)
- #19. Barrett Ave/Orange Ave (LOS E during AM peak hour)
- #22. Redlands Ave/Citrus Ave (LOS E during AM peak hour and LOS F during PM peak hour)
- #23. N Perris Blvd/Citrus Ave (LOS E during PM peak hour)
- #27. I-215 Frontage Rd/W Nuevo Rd (LOS F during PM peak hour)
- #28. I-215 NB Ramps/W Nuevo Rd (LOS F during AM peak hour)
- #30. Redlands Ave/Midred St (LOS E during AM peak hour)
- #32. N Perris Blvd/E San Jacinto Ave (LOS F during AM and PM peak hour)
- #46. Commercial Driveway 9/Existing Plaza Driveway and Orange Ave (LOS E during PM peak hour)

Table 3.12: General Plan 2045 Without Project AM and PM Peak Hour LOS

Intersection	Jurisdiction	Control Type	General Plan 2045 Conditions				LOS Standard	Satisfactory?
			AM Peak		PM Peak			
			Delay	LOS	Delay	LOS		
1. Perris Blvd/Iris Ave	City of Moreno Valley	Signalized	350.3	F	131.8	F	D	No
2. Perris Blvd/Krameria Ave	City of Moreno Valley	Signalized	317.5	F	207.5	F	D	No
3. N Perris Blvd/Harley Knox Blvd	City of Perris	Signalized	39.5	D	238.0	F	D	No
4. N Perris Blvd/W Markham St	City of Perris	Signalized	133.0	F	57.4	E	D	No
5. N Perris Blvd/Ramona Expy	City of Perris	Signalized	101.9	F	66.5	E	E	No
6. N Perris Blvd/Morgan St	City of Perris	Signalized	30.9	C	16.8	B	D	Yes
7. Evans Rd/E Rider St	City of Perris	Signalized	43.8	D	32.3	C	D	Yes
8. Redlands Ave/E Rider St	City of Perris	Signalized	32.7	C	42.9	D	D	Yes
9. N Perris Blvd/E Rider St	City of Perris	Signalized	31.5	C	31.8	C	D	Yes
10. Redlands Ave/Placentia Ave	City of Perris	All-way stop	109.6	F	390.6	F	D	No
11. N Perris Blvd/Placentia Ave	City of Perris	Signalized	37.1	D	209.6	F	D	No
12. Barrett Ave/W Placentia Ave	City of Perris	All-way stop	53.6	F	69.2	F	D	No
13. Indian Ave/W Placentia Ave	City of Perris	Signalized	50.6	D	31.6	C	D	Yes
14. I-215 Frontage Rd/W Placentia Ave	City of Perris	Signalized	27.4	C	29.0	C	D	Yes
15. I-215 NB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	21.8	C	16.2	B	E	Yes
16. I-215 SB Ramps/Placentia Ave	Caltrans/City of Perris	Signalized	16.1	B	19.9	B	E	Yes
17. Redlands Ave/Orange Ave	City of Perris	Signalized	45.4	D	34.1	C	D	Yes
18. N Perris Blvd/Orange Ave	City of Perris	Signalized	35.9	D	51.4	D	D	Yes
19. Barrett Ave/Orange Ave	City of Perris	Two-way stop	49.2	E	24.9	C	D	No
20. Indian Ave/Orange Ave	City of Perris	All-way stop	21.8	C	15.1	C	D	Yes
21. I-215 Frontage Rd/Orange Ave	City of Perris	Two-way stop	15.5	C	16.1	C	D	Yes
22. Redlands Ave/Citrus Ave	City of Perris	All-way stop	40.4	E	54.4	F	D	No
23. N Perris Blvd/Citrus Ave	City of Perris	Signalized	45.8	D	59.5	E	D	No
24. Murrieta Rd/E Nuevo Rd	City of Perris	Signalized	46.5	D	32.7	C	D	Yes
25. Redlands Ave/E Nuevo Rd	City of Perris	Signalized	53.0	D	26.1	C	D	Yes
26. N Perris Blvd/ W Nuevo Rd	City of Perris	Signalized	47.7	D	47.1	D	D	Yes
27. I-215 Frontage Rd/W Nuevo Rd	City of Perris	Two-way stop	21.9	C	50.5	F	D	No
28. I-215 NB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	85.2	F	16.1	B	E	No
29. I-215 SB Ramps/W Nuevo Rd	Caltrans/City of Perris	Signalized	17.5	B	41.3	D	E	Yes
30. Redlands Ave/Midred St	City of Perris	All-way stop	44.0	E	16.5	C	D	No
31. N Perris Blvd/Mildred St	City of Perris	Signalized	11.3	B	6.9	A	D	Yes
32. N Perris Blvd/E San Jacinto Ave	City of Perris	Signalized	117.6	F	103.0	F	D	No
33. Indian Ave/Ramona Expy	City of Perris	Signalized	48.8	D	47.7	D	E	Yes
34. Indian Ave/Morgan St	City of Perris	Signalized	26.5	C	27.2	C	D	Yes
35. Indian Ave/Rider St	City of Perris	Signalized	23.1	C	31.9	C	D	Yes
36. Perris Blvd/4th St	Caltrans/City of Perris	Signalized	49.5	D	39.8	D	E	Yes
37. Perris Blvd/Harvest Landing Way	City of Perris	Signalized	-	-	-	-	D	-
38. Barrett Ave/Harvest Landing Way	City of Perris	All-way stop	-	-	-	-	D	-
39. Barrett Ave/I-215 Frontage Road	City of Perris	Two-way stop	13.4	B	15.5	C	D	Yes
40. Commercial Driveway 1, 2 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
41. Commercial Driveway 3, 4 and Harvest Landing Way	City of Perris	Two-way stop	-	-	-	-	D	-
42. Commercial Driveway 5 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
43. Commercial Driveway 6 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
44. Commercial Driveway 7 and N. Perris Blvd	City of Perris	Two-way stop	-	-	-	-	D	-
45. Commercial Driveway 8 and N. Perris Blvd	City of Perris	Two-way stop	10.3	B	10.6	B	D	-
46. Commercial Driveway 9/Existing Plaza Driveway and Orange Ave	City of Perris	Two-way stop	20.3	C	40.4	E	D	No
47. Commercial Driveway 10/Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
48. Building 1 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
49. Building 1 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
50. Building 1 Truck Driveway and I-215 Frontage Rd	City of Perris	Signalized	-	-	-	-	D	-
51. Building 2 Auto Driveway 1 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
52. Building 2 Auto Driveway 2 and Orange Ave	City of Perris	Two-way stop	-	-	-	-	D	-
53. Building 2 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
54. Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
55. Building 3 Auto Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
56. Building 3/4 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
57. Building 5 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
58. Building 6 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
59. Building 6 Auto Driveway 1/Walmart Supercenter Driveway and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
60. Building 6 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-
61. Building 7 Truck Driveway and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
62. Building 7 Auto Driveway 1 and I-215 Frontage Rd	City of Perris	Two-way stop	-	-	-	-	D	-
63. Building 7 Auto Driveway 2 and Barrett Ave	City of Perris	Two-way stop	-	-	-	-	D	-

Notes: Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

### 3.5.1 General Plan 2045 Without Project Intersection Queueing Analysis

A queueing analysis was conducted at four study intersections during AM and PM peak hour involving ramps along the I-215. These intersections include Intersection #15 at I-215 Northbound Ramps and Placentia Avenue, Intersection #16 at I-215 Southbound Ramps and Placentia Avenue, Intersection #28 at I-215 Northbound Ramps and West Nuevo Road, and Intersection #29 at I-215 Southbound Ramps and West Nuevo Road. The required queueing length at the study area intersections were determined using 95-percentile queue length analysis. Table 3.13 shows the queue lengths at each intersection approach. As shown in Table 3.13, queueing deficiencies were observed under General Plan 2045 Without Project conditions, for the following approaches:

- #28. I-215 Northbound Ramps/West Nuevo Road – northbound left-turn and right-turn lane (AM peak hour)
- #28. I-215 Northbound Ramps/West Nuevo Road – eastbound left-turn lane (AM peak hour)
- #28. I-215 Northbound Ramps/West Nuevo Road – westbound right-turn lane (AM and PM peak hour)
- #29. I-215 Southbound Ramps/West Nuevo Road – southbound left-turn lane (PM peak hour)
- #29. I-215 Southbound Ramps/West Nuevo Road – westbound left-turn lane (PM peak hour)

**Table 3.13: General Plan 2045 AM and PM Peak Hour Queuing Analysis**

	<b>General Plan 2045 Conditions</b>							
	<b>Northbound</b>		<b>Southbound</b>		<b>Eastbound</b>		<b>Westbound</b>	
	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>	<b>LT</b>	<b>RT</b>
<b>15. I-215 NB Ramps/Placentia Ave</b>								
Storage Length Per Lane	570	570	-	-	280	-	-	390
AM Queue Length Per Lane	65	295	-	-	55	-	-	345
PM Queue Length Per Lane	30	180	-	-	55	-	-	380
<b>16. I-215 SB Ramps/Placentia Ave</b>								
Storage Length Per Lane	-	-	340	340	-	320	315	-
AM Queue Length Per Lane	-	-	75	25	-	35	85	-
PM Queue Length Per Lane	-	-	205	35	-	100	210	-
<b>28. I-215 NB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	170*	170*	-	-	135	-	-	200
AM Queue Length Per Lane	655	520	-	-	1715	-	-	890
PM Queue Length Per Lane	85	200	-	-	120	-	-	270
<b>29. I-215 SB Ramps/W Nuevo Rd</b>								
Storage Length Per Lane	-	-	185**	185	-	N/A	315	-
AM Queue Length Per Lane	-	-	115	60	-	170	155	-
PM Queue Length Per Lane	-	-	585	150	-	530	475	-

Notes:

**Queueing Impacts**

LT = Left-turn Lane, RT = Right-turn Lane

Queue length reported in feet for the AM(PM) peak periods and are rounded up to the nearest increment of 5 feet.

\*There is an additional 260 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR and NBL lanes.

\*\* There is an additional 360 feet of storage provided beyond the back of the striping storage pocket that extends past the SBL lanes.

### 3.5.2 General Plan 2045 Without Project Roadway Segment Analysis

General Plan 2045 Without Project roadway segments volumes were developed by was forecasted by applying the growth rates from RIVCOM travel demand forecasting model to the roadway segments counts collected on December 4, 2024, when school was in session. Roadways were assumed to be built out to their full capacity as stated in the *City of Perris General Plan Circulation Element (2022)*.

The following three roadway segments do not exist under baseline conditions:

- #16. Barrett Ave between Orange Ave and Harvest Landing Way
- #17. Barrett Ave between Harvest Landing Way and I-215 Frontage Rd
- #18. Harvest Landing Way between Barrett Ave and Perris Blvd

The LOS at the General Plan 2045 study roadway segments were determined using the methodology described previously in *Section 2.3 Methodology*. The General Plan 2045 LOS at the study roadway segments are shown in *Table 3.14*. As shown in *Table 3.14*, the following three (3) roadway segments would operate at an unsatisfactory LOS in the General Plan 2045 Without Project condition:

- #7. Nuevo Rd between Perris Blvd and I-215 NB Ramps
- #12. Perris Blvd between Citrus Ave and Nuevo Rd
- #14. Placentia Ave between I-215 NB Ramps and Indian Ave

**Table 3.14: General Plan 2045 Roadway Segment Level of Service**

Segment	Classification <sup>2</sup>	# of Lanes	Roadway Capacity <sup>2</sup>	General Plan 2045 ADT <sup>1</sup>	V/C Ratio	LOS	LOS Standard	Unsatisfactory?
1. Indian Ave between Water Ave and Orange Ave	Arterial	4	35,900	9,880	0.275	A	D	No
2. Orange Ave between Indian Ave and Perris Blvd	Arterial	4	35,900	10,611	0.296	A	D	No
3. Perris Blvd between Orange Ave and Citrus Ave	Arterial	6	53,900	43,121	0.800	D	D	No
4. Barrett Ave between Placentia Ave and Orange Ave	Collector	2	13,000	1,710	0.132	A	D	No
5. Perris Blvd between Placentia Ave and Orange Ave	Arterial	6	53,900	41,300	0.766	C	D	No
6. Perris Blvd between Rider St and Placentia Ave	Arterial	6	53,900	43,634	0.810	D	D	No
7. Nuevo Rd between Perris Blvd and I-215 NB Ramps	Arterial	6	53,900	50,226	0.932	E	D	Yes
8. I-215 Frontage Rd between Placentia Ave and Orange Ave	Arterial	4	35,900	10,093	0.281	A	D	No
9. I-215 Frontage Rd between Orange Ave and Nuevo Rd	Arterial	4	35,900	5,076	0.141	A	D	No
10. Orange Ave between I-215 Frontage Rd and Indian Ave	Arterial	4	35,900	5,355	0.149	A	D	No
11. Nuevo Rd between I-215 NB Ramps and I-215 SB Ramps	Arterial	6	53,900	35,372	0.656	B	D	No
12. Perris Blvd between Citrus Ave and Nuevo Rd	Arterial	6	53,900	49,397	0.916	E	D	Yes
13. Placentia Ave between I-215 NB Ramps and I-215 SB Ramps	Arterial	6	53,900	36,547	0.678	B	D	No
14. Placentia Ave between I-215 NB Ramps and Indian Ave	Arterial	6	53,900	51,765	0.960	E	D	Yes
15. Placentia Ave between Indian Ave and Perris Blvd	Arterial	6	53,900	27,969	0.519	A	D	No
16. Barrett Ave between Orange Ave and Harvest Landing Wy	-	-	-	-	-	-	-	-
17. Barrett Ave between Harvest Landing Wy and I-215 Frontage Rd	-	-	-	-	-	-	-	-
18. Harvest Landing Wy between Barrett Ave and Perris Blvd	-	-	-	-	-	-	-	-
19. Indian Ave between Placentia Ave and Water Ave	Arterial	4	35,900	9,880	0.275	A	D	No

Notes:

LOS = Level of Service

1- General Plan 2045 ADT is calculated based on RIVCOM growth rates. All volumes are presented in PCE.

2- Classification, Number of Lanes under General Plan 2045 conditions, Roadway Capacity and LOS Standard from City of Perris General Plan Circulation Element.

**Unsatisfactory Level of Service**

Figure 3.11a: General Plan 2045 Without Project AM Peak Hour PCE Traffic Volumes

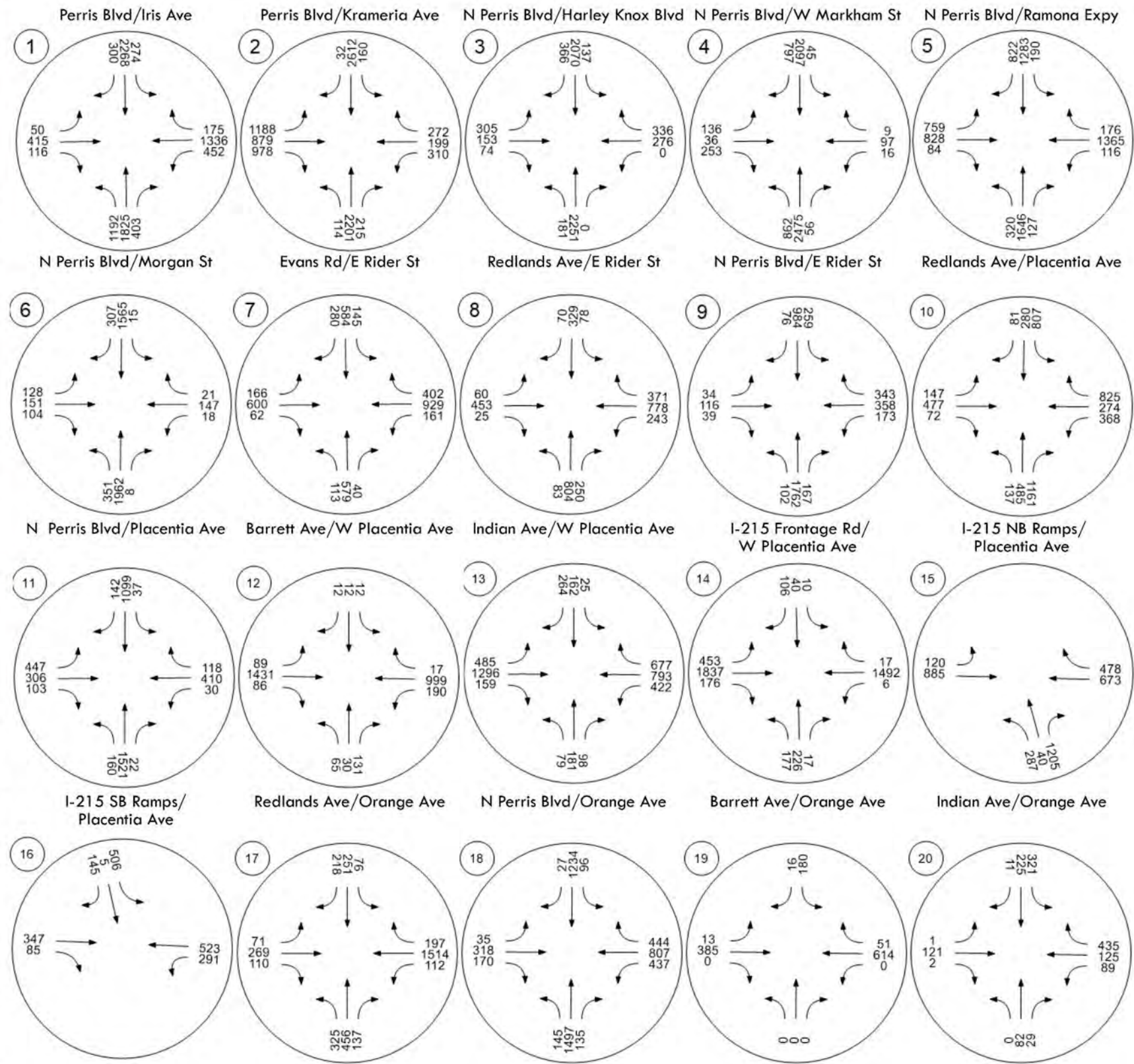


Figure 3.11b: General Plan 2045 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

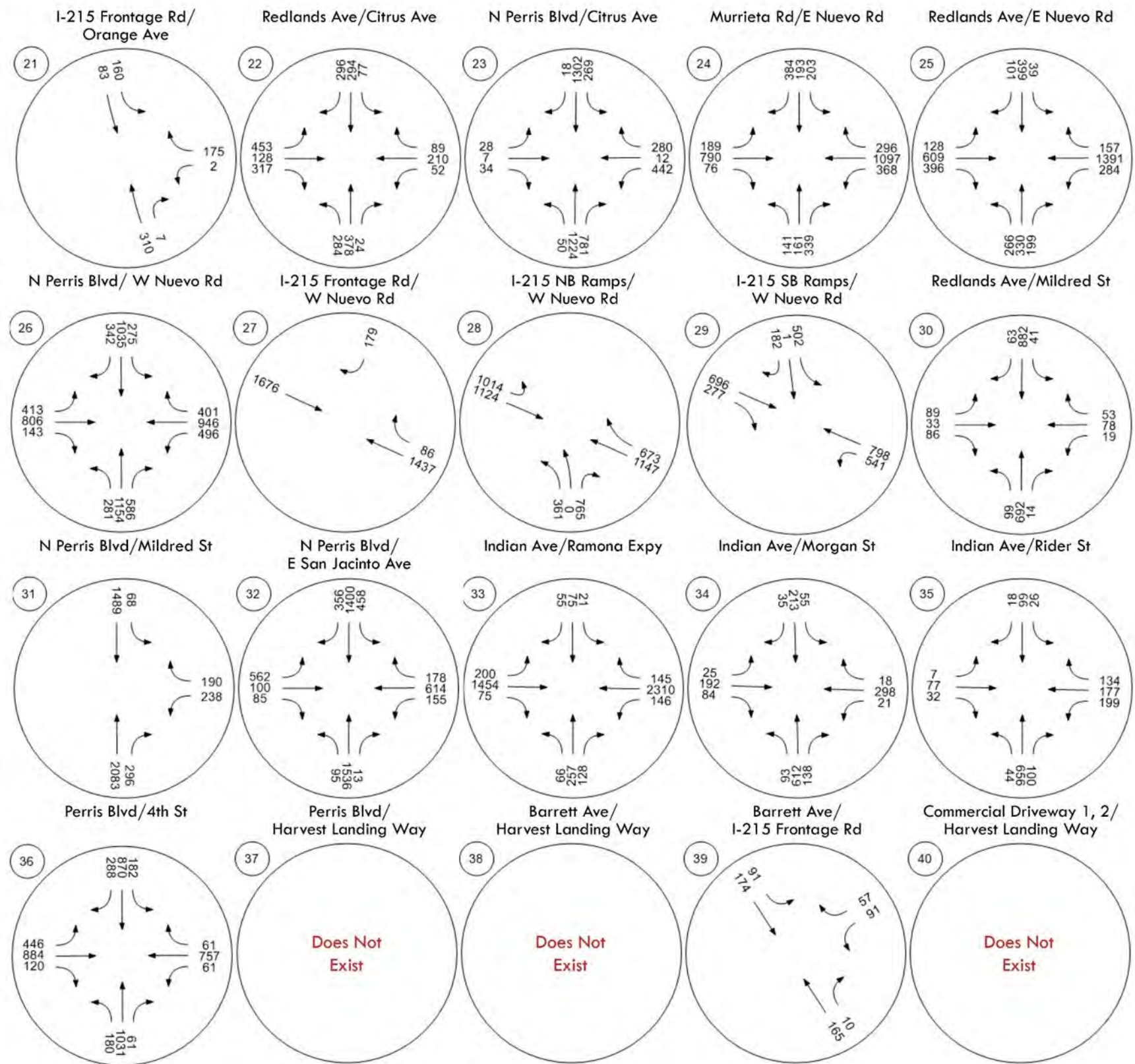


Figure 3.11c: General Plan 2045 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

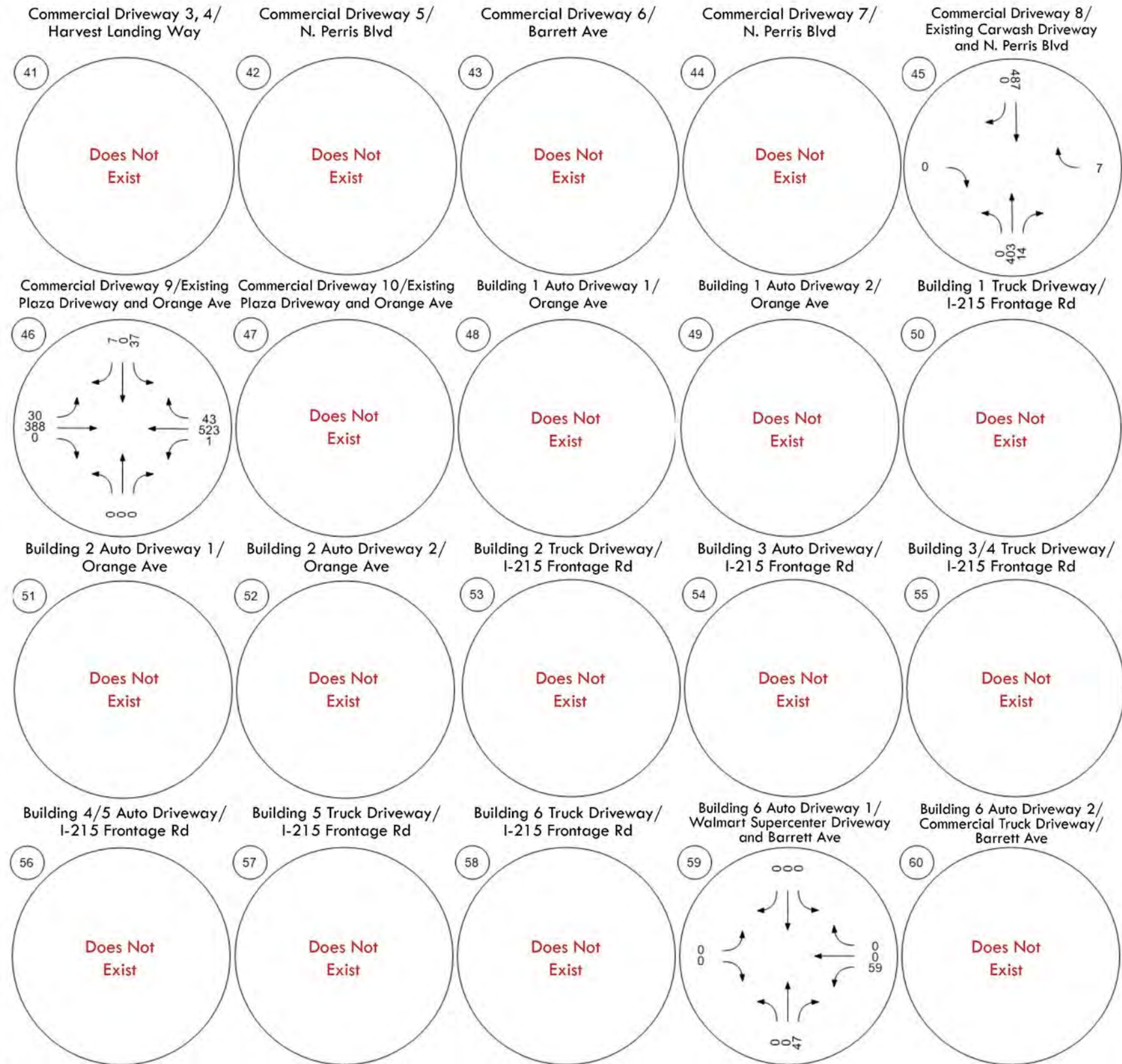


Figure 3.11d: General Plan 2045 Without Project AM Peak Hour PCE Traffic Volumes (Continued)

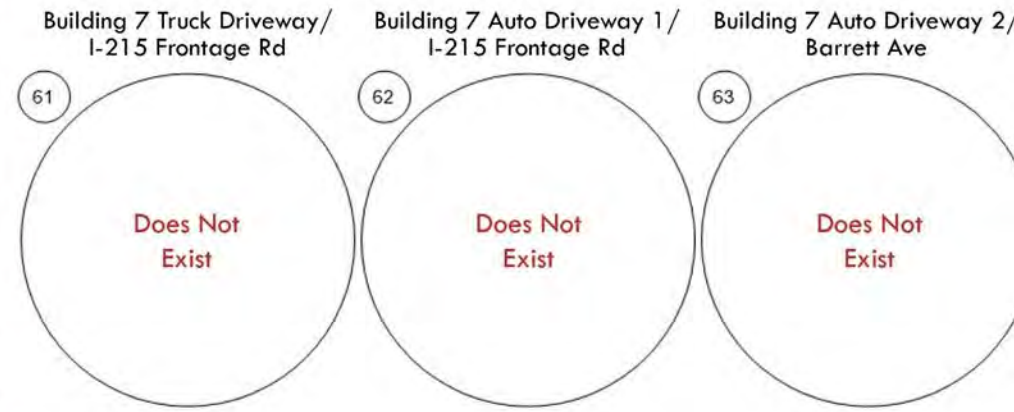


Figure 3.12a: General Plan 2045 Without Project PM Peak Hour PCE Traffic Volumes

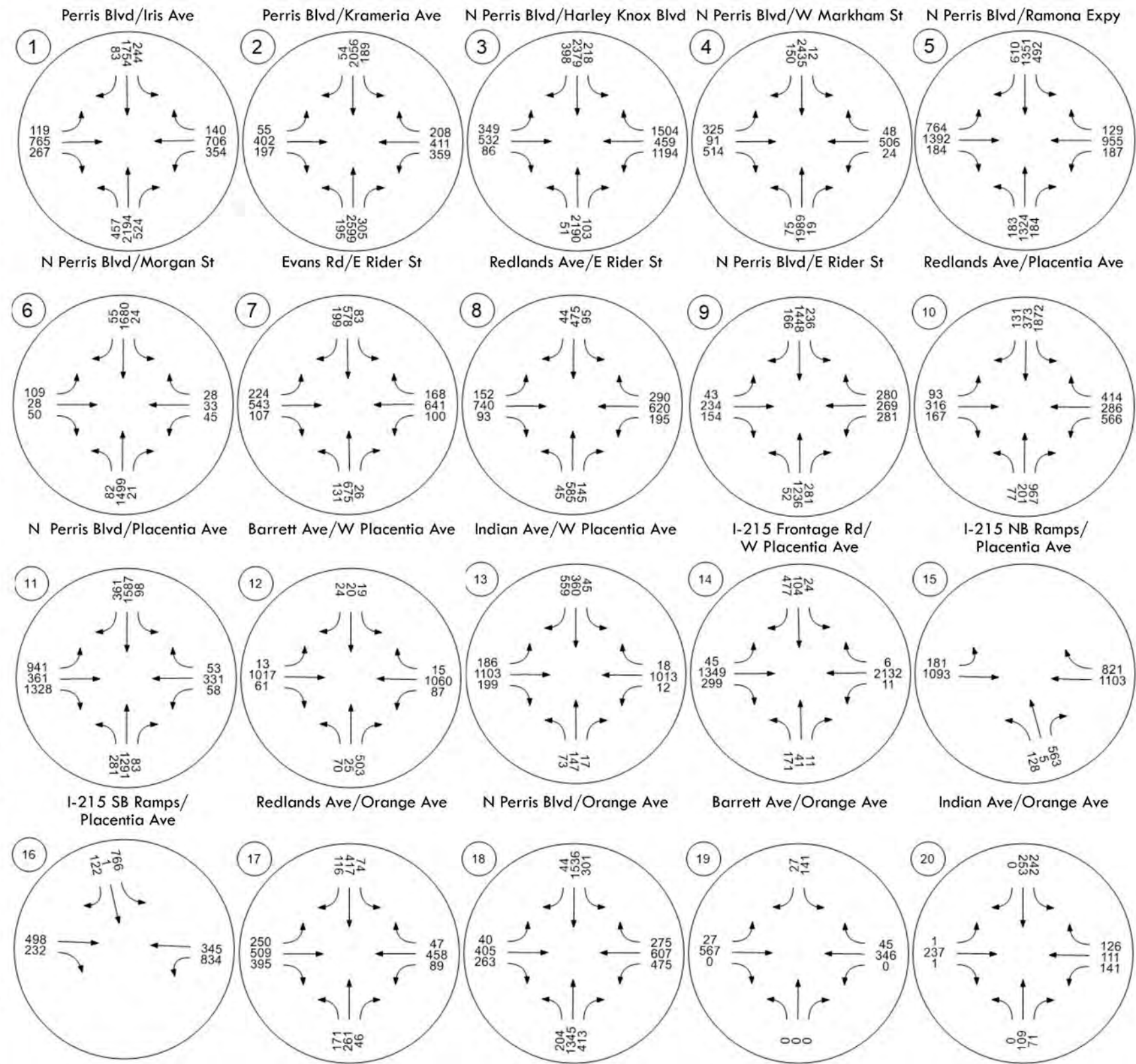


Figure 3.12b: General Plan 2045 Without Project PM Peak Hour PCE Traffic Volumes (Continued)

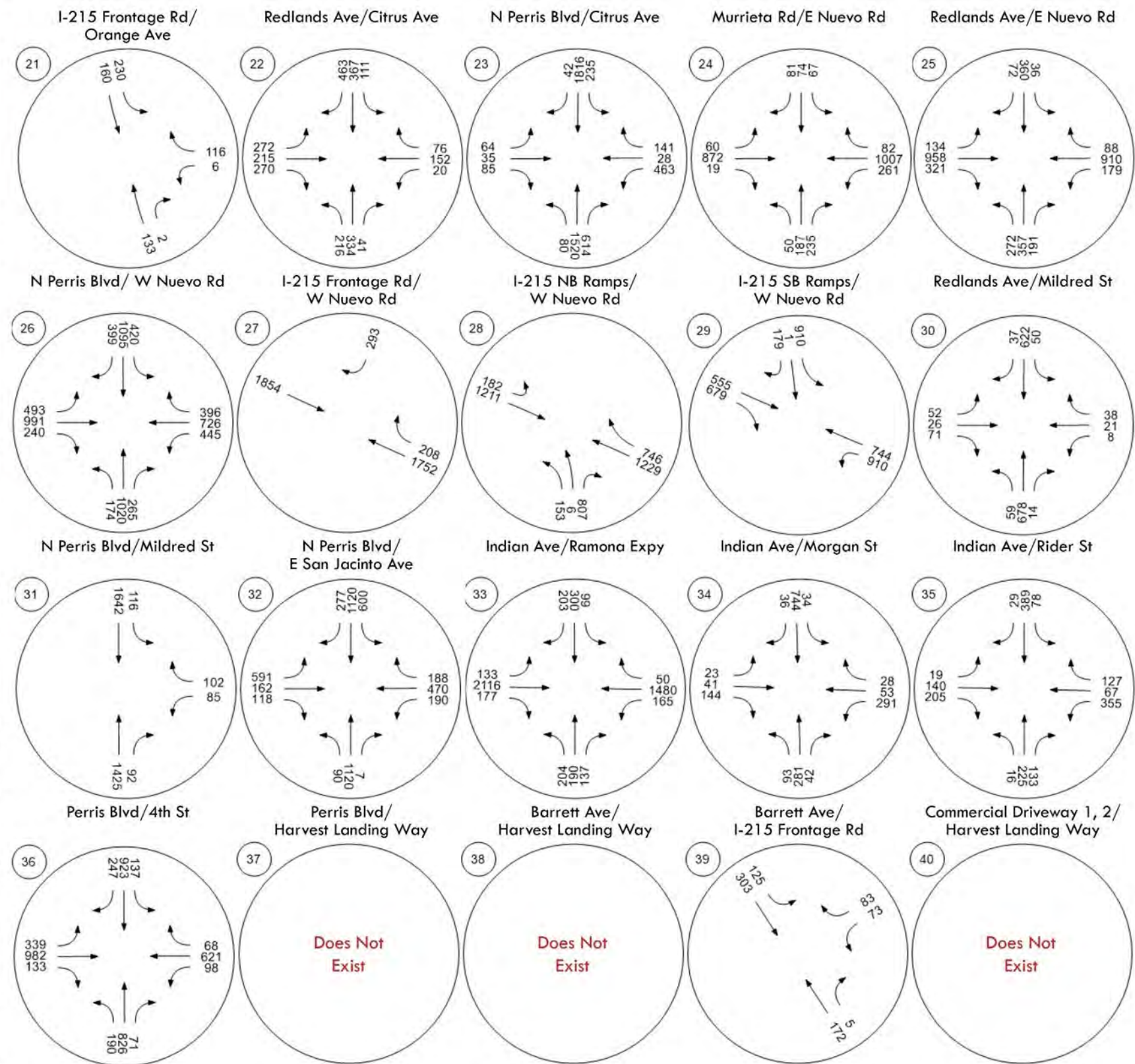


Figure 3.12c: General Plan 2045 Without Project PM Peak Hour PCE Traffic Volume (Continued)

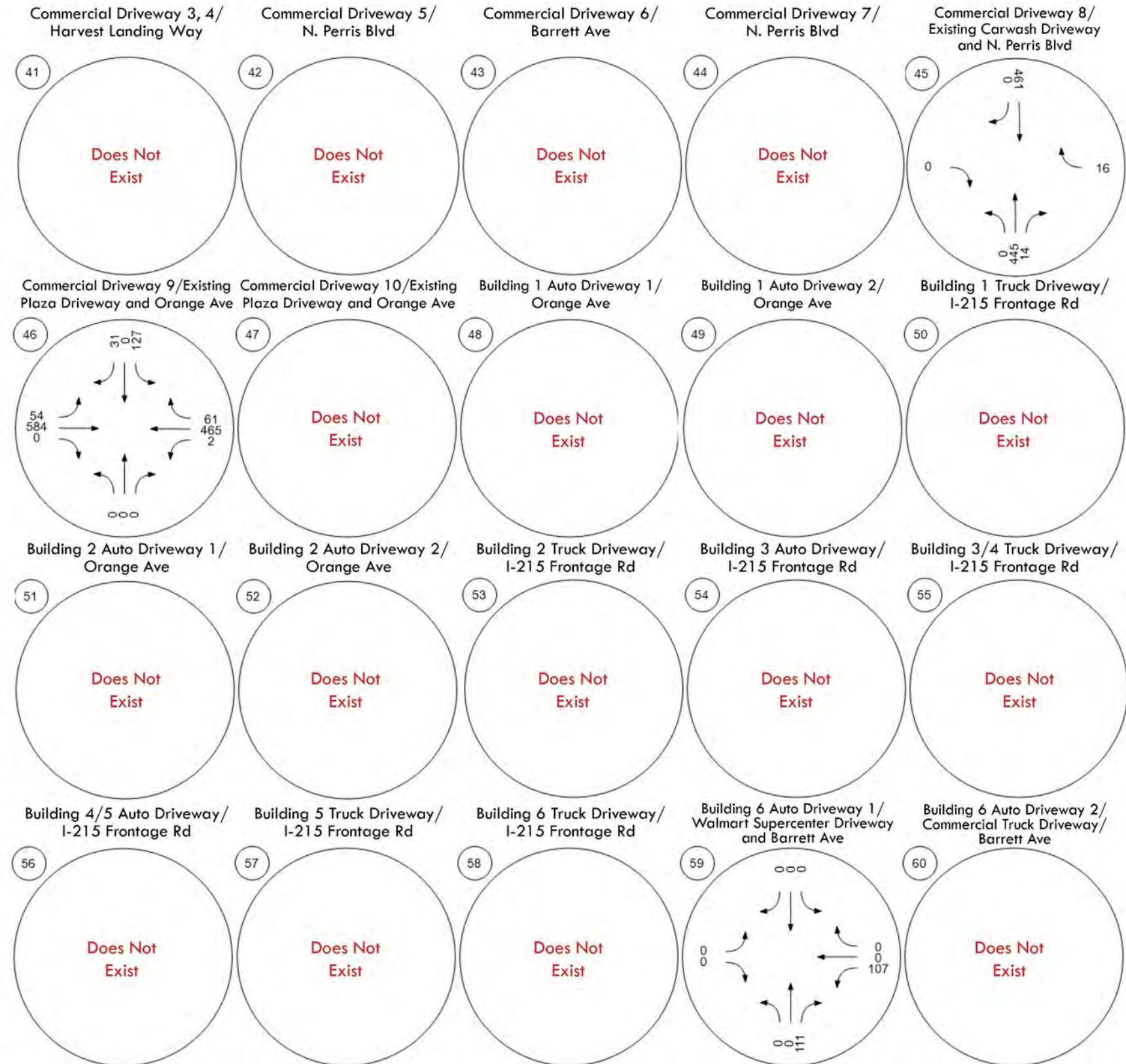
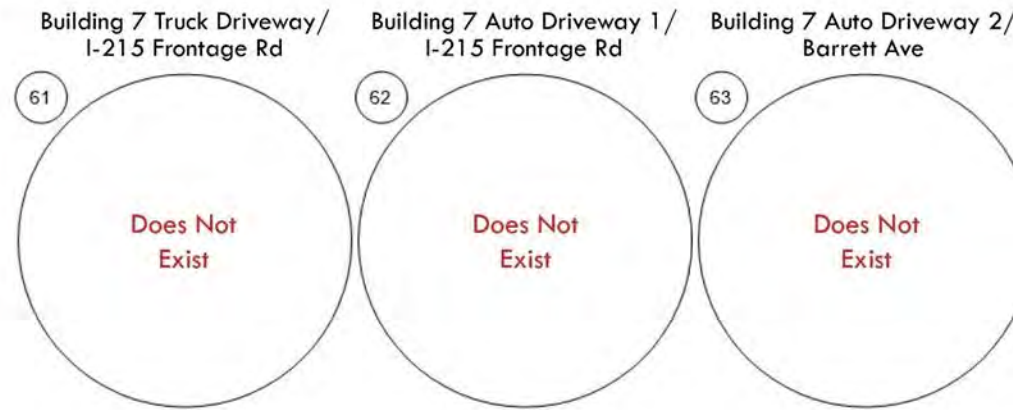


Figure 3.12d: General Plan 2045 Without Project PM Peak Hour PCE Traffic Volume (Continued)



## 4 PROPOSED PROJECT

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### 4.1 Project Trip Generation

The vehicle trips were generated for the proposed development as described in Section 2, using trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) and the *Transportation Uniform Mitigation Fee (TUMF) High-Cube Warehouse Trip Generation Study* by Fehr & Peers (2023). The Project trip generation is shown in Table 4.1.

As shown in Table 4.1, the proposed Project is estimated to generate approximately 40,321 daily trips, 2,778 AM peak hour trips, and 3,106 PM peak hour trips. Passenger Car Equivalent (PCE) factors were added to truck trips to account for the fact that trucks and utilize more roadway capacity due to their size, reduced maneuverability and slower acceleration. When converted to PCE, the proposed Project is estimated to generate approximately 44,542 daily PCE trips, 3,091 AM peak hour PCE trips, and 3,395 PM peak hour PCE trips.

### 4.2 Project Trips

The Project proposes to remove 2,700 feet of Indian Avenue between Orange Avenue and I-215 Frontage Road South. The Project would also construct the planned segment of Barrett Ave south of Orange Avenue from Orange Avenue to the existing southern portion of Barrett Avenue that connects to I-215 Frontage Road. The proposed realignment is shown in Figure 4.1. Project trips were distributed to the study area intersections based on the location of the Project and logical routes of travel to and from the site and approved by City staff. Truck trip distribution for Opening Year I 2026 and Opening Year II 2030 are shown in Figure 4.2 and Figure 4.3 respectively. Industrial automobile inbound and outbound trip distribution are shown in Figure 4.4. Commercial automobile inbound and outbound trip distribution are shown in Figure 4.5 and Figure 4.6 respectively. The distribution at each driveways are shown in Figure 4.7. Project trips were assigned to the study area intersections by multiplying the proposed Project trip generation by the trip distribution percentage at each location. Additional trip assignment figures for the Project are available in Appendix I.

### 4.3 Project Site Access, Lane Configuration and Traffic Control

As previously mentioned in Section 2.1, the Project site would provide access for trucks and automobiles through a total of 27 driveways in Phase I: nine (9) driveways along Frontage Road, six (6) along Orange Avenue, five (5) along Barrett Avenue, four (4) along Harvest Landing Way, and three (3) along Perris Boulevard Street. A queueing analysis is conducted under the With Project conditions in Section 5 for all Project driveways, to ensure that no queueing deficiencies or safety concerns occur at any Project driveways, and no alternative access configurations are needed. Intersection lane configuration and traffic control post-project completion is shown in Figure 4.8.

As shown in Figure 4.8, the lane geometry for the following existing intersection would be modified post-project completion:

- #45. Commercial Driveway 8/N. Perris Blvd
  - The east leg of the intersection, which is the driveway for the existing carwash, would be modified from full access to RI/RO, due to a median being installed on Perris Boulevard. The RI/RO east leg would have no impact on the LOS of the intersection. Therefore, the analysis did not include the carwash driveway as part of the TIA.
- #47. Commercial Driveway 10/Orange Ave
  - The driveway for the existing plaza west of this intersection (which is not being analyzed as part of this 3 legged intersection) would be modified from full access to RI/RO, due to a median being installed on Orange Ave. The left-in and left-out trips from and to the driveway would be utilizing Intersection #46 instead in the post-project completion condition.

As shown in Figure 4.8, the traffic control for the following existing intersection would be modified post-project completion:

- The Project would install traffic signals at the following intersections:

- #12. Barrett Ave/W Placentia Ave
- #19. Barrett Ave/Orange Ave
- #20. Indian Ave/Orange Ave
- #21. I-215 Frontage Rd/Orange Ave
- #39. Barrett Ave/I-215 Frontage Road
- #46. Commercial Driveway 9/Existing Plaza Driveway/Orange Ave

Traffic signal warrant sheets are provided in *Appendix D*.

Additionally, the lane geometry for the following existing roadway segment would be modified post-project completion, in order to assist the City of Perris to build out Perris Boulevard to its ultimate configuration as outlined in the City's General Plan:

- Segment #5 Perris Blvd between Placentia Ave and Orange Ave
  - The segment would be widened from two lanes to three lanes in each direction, via restriping and reconfiguring the median.

On-site queuing analyses for all proposed drive-through pads and gas station operations are required once tenants are identified for Phase I. Truck turning templates for all Phase I truck driveways and driveway access spacing measurements for all Phase I driveways in accordance with Riverside County Standard Plan No. 114 are attached in the Appendix F.

No detailed site plan is available for Phase II of the Project at the time of this analysis. Therefore, specific information about the driveways for Phase II are not available. As a result, Phase II of the Project is analyzed at a programmatic level without analyzing intersection turning movements at future Phase II driveways. The total PCE project trip generation shown at the bottom of Table 4.1d (i.e., 3,091 AM peak hour PCE trips & 3,395 PM peak hour PCE trips) are allocated in the roadway network, with Phase II project trips entering the network at the intersection of Future Phase II Driveway/Orange Avenue and Future Phase II Driveway/I-215 Frontage Rd. Future development projects in the Phase II area would be required to conduct the following studies:

- Project-level traffic impact analysis.
- Trip Generation Comparison Assessment
- Site Access Analysis for the Phase 2 industrial parcels once detailed site plans are prepared.

**Table 4.1a: Project Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour						
			In	Out	Total	In	Out	Total				
<u>Trip Rates</u>												
High-Cube Fulfillment Center <sup>1</sup>	TSF	1,744	0.070	0.017	0.087	0.047	0.073	0.120				
High-Cube Parcel Hub <sup>2</sup>	TSF	4.63	0.35	0.35	0.70	0.44	0.20	0.64				
General Light Industrial <sup>3</sup>	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65				
Free-Standing Discount Superstore <sup>4</sup>	TSF	50.52	1.04	0.82	1.86	2.12	2.21	4.33				
Gasoline/Service Station <sup>5</sup>	VFP	172.01	5.14	5.14	10.28	6.96	6.96	13.91				
Shopping Center <sup>6</sup>	TSF	37.01	0.52	0.32	0.84	1.63	1.77	3.40				
Fast Food Restaurant with Drive Through <sup>7</sup>	TSF	467.48	22.75	21.86	44.61	7.23	6.68	13.91				
High Turnover (Sit-Down) Restaurant <sup>8</sup>	TSF	107.20	5.26	4.31	9.57	5.52	3.53	9.05				
Industrial Park <sup>9</sup>	TSF	3.37	0.28	0.06	0.34	0.07	0.27	0.34				
Medical Office Building <sup>10</sup>	TSF	36.00	2.45	0.65	3.10	1.18	2.75	3.93				
Supermarket <sup>11</sup>	TSF	93.84	1.69	1.17	2.86	4.48	4.48	8.95				
Coffee/Donut Shop with Drive-Through Window <sup>12</sup>	TSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99				
Fast Casual Restaurant <sup>13</sup>	TSF	97.14	0.72	0.72	1.43	6.90	5.65	12.55				
<b>PHASE 1 Total Vehicle Trip Generation</b>												
<b>PHASE 1 Industrial</b>												
TUMF High Cube (Building 2, 6, and 7)	TSF	1,207,000										
<b>Vehicle Mix<sup>14</sup></b>			<b>Percent</b>									
			<b>AM</b>	<b>PM</b>	<b>Daily</b>							
Passenger Vehicles			86.70%	93.70%	87.30%	1,838	74	17	91	53	83	136
2-Axle Trucks			2.91%	1.38%	2.78%	59	2	1	3	1	1	2
3-Axle Trucks			2.35%	1.12%	2.25%	47	2	0	2	1	1	2
4+-Axle Trucks			8.02%	3.80%	7.66%	161	7	2	8	2	3	6
			100%	100%	100%	2,105	85	20	105	56	88	145
					<b>PCE Factor</b>							
Passenger Vehicles					1.0	1,838	74	17	91	53	83	136
2-Axle Trucks					1.5	88	4	1	5	1	2	3
3-Axle Trucks					2.0	95	4	1	5	1	2	3
4+-Axle Trucks					3.0	484	20	5	25	6	10	17
Total High Cube PCE Trip Generation						2,504	102	24	126	62	97	158
Parcel Hub (Building 1)	TSF	322,079										
<b>Vehicle Mix<sup>14</sup></b>			<b>Percent</b>									
			<b>AM</b>	<b>PM</b>	<b>Daily</b>							
Passenger Vehicles			87.10%	90.60%	87.50%	1,305	98	98	196	127	60	187
2-Axle Trucks			2.83%	2.06%	2.74%	41	3	3	6	3	1	4
3-Axle Trucks			2.28%	1.66%	2.21%	33	3	3	5	2	1	3
4+-Axle Trucks			7.78%	5.67%	7.54%	112	9	9	18	8	4	12
			100%	100%	100%	1,491	113	113	225	140	66	206
					<b>PCE Factor</b>							
Passenger Vehicles					1.0	1,305	98	98	196	127	60	187
2-Axle Trucks					1.5	61	5	5	10	4	2	6
3-Axle Trucks					2.0	66	5	5	10	5	2	7
4+-Axle Trucks					3.0	337	26	26	53	24	11	35
Total Parcel Hub PCE Trip Generation						1,769	134	134	269	160	75	235

**Table 4.1b: Project Trip Generation (Continued)**

General Light Industrial (Building 3, 4, and 5)	198.500		TSF	967	129	18	147	18	111	129
<b>Vehicle Mix <sup>14</sup></b>		<b>Percent <sup>18</sup></b>								
	<b>AM</b>	<b>PM</b>	<b>Daily</b>							
Passenger Vehicles	95.60%	95.90%	90.50%	875	124	17	140	17	106	124
2-Axle Trucks	0.96%	0.90%	2.08%	20	1	0	1	0	1	1
3-Axle Trucks	0.78%	0.73%	1.68%	16	1	0	1	0	1	1
4+-Axle Trucks	2.65%	2.47%	5.73%	55	3	0	4	0	3	3
	100%	100%	100%	967	129	18	147	18	111	129
<b>PCE Trip Generation <sup>15</sup></b>			<b>PCE Factor</b>							
Passenger Vehicles			1.0	875	124	17	140	17	106	124
2-Axle Trucks			1.5	30	2	0	2	0	1	2
3-Axle Trucks			2.0	33	2	0	2	0	2	2
4+-Axle Trucks			3.0	166	10	1	12	1	8	10
<b>Total Light Industrial PCE Trip Generation</b>				<b>1,104</b>	<b>138</b>	<b>19</b>	<b>157</b>	<b>19</b>	<b>118</b>	<b>137</b>
<b>PHASE 1 Commercial</b>										
Medical Office Building										
<b>Total Medical Office Trip Generation</b>	<b>5.500</b>		TSF	<b>198</b>	<b>13</b>	<b>4</b>	<b>17</b>	<b>6</b>	<b>15</b>	<b>21</b>
Large Format Retail Anchor	167.050		TSF	8,439	174	137	311	354	369	723
Internal Capture <sup>16</sup> (OP 1 Retail)				-1,182	-38	-26	-64	-92	-66	-159
Retail Trip Generation with internal capture				7,258	136	111	246	262	302	565
Pass By <sup>17</sup> (0% Daily, 0% AM, 29% PM)				0	0	0	0	-76	-88	-164
<b>Total Retail Trip Generation</b>				<b>7,258</b>	<b>136</b>	<b>111</b>	<b>246</b>	<b>186</b>	<b>215</b>	<b>401</b>
Shopping Center >150k	189.845		TSF	7,026	99	61	159	310	336	645
Pass By <sup>17</sup> (0% Daily, 0% AM, 29% PM)				0	0	0	0	-90	-97	-187
<b>Total Retail Trip Generation</b>				<b>7,026</b>	<b>99</b>	<b>61</b>	<b>159</b>	<b>220</b>	<b>238</b>	<b>458</b>
Supermarket	23.256		TSF	2,182	39	27	67	104	104	208
Internal Capture <sup>16</sup> (OP 1 Retail)				-306	-9	-5	-14	-27	-19	-46
Retail Trip Generation with internal capture				1,877	31	22	53	77	85	162
Pass By <sup>17</sup> (0% Daily, 0% AM, 24% PM)				0	0	0	0	-18	-20	-39
<b>Total Retail Trip Generation</b>				<b>1,877</b>	<b>31</b>	<b>22</b>	<b>53</b>	<b>59</b>	<b>65</b>	<b>123</b>
Fast Casual Restaurant	8.934		TSF	868	6	6	13	62	50	112
Internal Capture <sup>16</sup> (OP 1 Restaurant)				-148	-2	-1	-3	-19	-22	-41
Restaurant Trip Generation with internal capture				720	5	5	10	43	28	71
<b>Total Restaurant Trip Generation</b>				<b>720</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>43</b>	<b>28</b>	<b>71</b>
High Turnover (Sit-Down) Restaurant	21.122		TSF	2,264	111	91	202	117	75	191
Internal Capture <sup>16</sup> (OP 1 Restaurant)				-385	-29	-14	-43	-36	-33	-69
Restaurant Trip Generation with internal capture				1,879	82	77	160	80	42	122
Pass By <sup>17</sup> (0% Daily, 0% AM, 43% PM)				0	0	0	0	-35	-18	-53
<b>Total Restaurant Trip Generation</b>				<b>1,879</b>	<b>82</b>	<b>77</b>	<b>160</b>	<b>46</b>	<b>24</b>	<b>70</b>

**Table 4.1c: Project Trip Generation (Continued)**

Fast Food Restaurant with Drive Through	11,000	TSF	5,142	250	240	491	80	73	153	
Internal Capture <sup>14</sup> (OP 1 Restaurant)			-874	-65	-36	-101	-25	-32	-57	
Restaurant Trip Generation with internal capture			4,268	185	204	390	55	41	96	
Pass By <sup>17</sup> (50% Daily, 50% AM, 55% PM)			-2,134	-93	-102	-195	-30	-23	-53	
<b>Total Restaurant Trip Generation</b>			<b>2,134</b>	<b>93</b>	<b>102</b>	<b>195</b>	<b>25</b>	<b>19</b>	<b>43</b>	
Coffee/Donut Shop with Drive-Through Window	1,800	TSF	960	79	76	155	35	35	70	
Internal Capture <sup>14</sup> (OP 1 Restaurant)			-163	-20	-11	-32	-11	-15	-26	
Restaurant Trip Generation with internal capture			797	58	64	123	24	20	44	
Pass By (50% Daily, 50% AM, 55% PM)			-399	-29	-32	-61	-13	-11	-24	
<b>Total Restaurant Trip Generation</b>			<b>399</b>	<b>29</b>	<b>32</b>	<b>61</b>	<b>11</b>	<b>9</b>	<b>20</b>	
Gasoline/Service Station	12	VFP	2,064	62	62	123	83	83	167	
Internal Capture <sup>14</sup> (OP 1 Retail)			-289	-14	-12	-25	-22	-15	-37	
Retail Trip Generation with internal capture			1,775	48	50	98	62	68	130	
Pass By (57% Daily, 63% AM, 57% PM)			-1,012	-30	-31	-62	-35	-39	-74	
<b>Total Retail Trip Generation</b>			<b>763</b>	<b>18</b>	<b>18</b>	<b>36</b>	<b>27</b>	<b>29</b>	<b>56</b>	
<b>COMMERCIAL TOTAL</b>	<b>428,507</b>	<b>KSF</b>	<b>22,254</b>	<b>505</b>	<b>433</b>	<b>938</b>	<b>622</b>	<b>642</b>	<b>1,264</b>	
Phase 1 Total Project Passenger Car Trip Generation			26,272	801	565	1,366	819	891	1,709	
Phase 1 Total Project Truck Trip Generation (Non PCE)			545	32	18	49	17	16	34	
Phase 1 Total Project Trip Generation (Non PCE)			26,817	832	583	1,415	836	907	1,743	
Phase 1 Total Project Trip Generation (PCE)			27,631	879	610	1,489	863	932	1,793	
<b>PHASE 2 Total Vehicle Trip Generation</b>										
Industrial Park	3,659,693	TSF	12,333	1,008	236	1,244	274	971	1,244	
<b>Vehicle Mix<sup>14</sup></b>		<b>Percent</b>								
	<b>AM</b>	<b>PM</b>	<b>Daily</b>							
Passenger Vehicles	88.24%	88.24%	83.10%	10,249	889	209	1,098	242	856	1,098
2-Axle Trucks	2.58%	2.58%	3.70%	456	26	6	32	7	25	32
3-Axle Trucks	2.08%	2.08%	2.99%	369	21	5	26	6	20	26
4+-Axle Trucks	7.09%	7.09%	10.19%	1,257	72	17	88	19	69	88
	100%	100%	100%	12,331	1,008	236	1,244	274	970	1,244
<b>PCE Trip Generation<sup>15</sup></b>		<b>PCE Factor</b>								
Passenger Vehicles		1.0	10,249	889	209	1,098	242	856	1,098	
2-Axle Trucks		1.5	685	39	9	48	11	38	48	
3-Axle Trucks		2.0	738	42	10	52	11	40	52	
4+-Axle Trucks		3.0	3,771	215	50	265	58	207	265	
<b>Total Industrial PCE Trip Generation</b>			<b>15,442</b>	<b>1,185</b>	<b>278</b>	<b>1,463</b>	<b>322</b>	<b>1,141</b>	<b>1,463</b>	
Industrial Park (Overlay)	348,262	TSF	1,174	96	22	118	26	92	118	
<b>Vehicle Mix<sup>14</sup></b>		<b>Percent</b>								
	<b>AM</b>	<b>PM</b>	<b>Daily</b>							
Passenger Vehicles	88.24%	88.24%	83.10%	975	85	20	104	23	81	104
2-Axle Trucks	2.58%	2.58%	3.70%	43	2	1	3	1	2	3
3-Axle Trucks	2.08%	2.08%	2.99%	35	2	0	2	1	2	2
4+-Axle Trucks	7.09%	7.09%	10.19%	120	7	2	8	2	7	8
	100%	100%	100%	1,173	96	22	118	26	92	118
<b>PCE Trip Generation<sup>15</sup></b>		<b>PCE Factor</b>								
Passenger Vehicles		1.0	975	85	20	104	23	81	104	
2-Axle Trucks		1.5	65	4	1	5	1	4	5	
3-Axle Trucks		2.0	70	4	1	5	1	4	5	
4+-Axle Trucks		3.0	359	20	5	25	6	20	25	
<b>Total Industrial PCE Trip Generation</b>			<b>1,469</b>	<b>113</b>	<b>26</b>	<b>139</b>	<b>31</b>	<b>109</b>	<b>139</b>	

**Table 4.1d: Project Trip Generation (Continued)**

Phase 2 Total Project Passenger Car Trip Generation	11,224	974	228	1,202	265	938	1,202
Phase 2 Total Project Truck Trip Generation (Non PCE)	2,280	130	30	160	35	125	160
Phase 2 Total Project Trip Generation (Non PCE)	13,505	1,104	259	1,363	300	1,063	1,363
Phase 2 Total Project Trip Generation (PCE)	16,911	1,297	304	1,602	352	1,249	1,602
<hr/>							
Total Project Passenger Car Trip Generation	37,496	1,775	793	2,568	1,084	1,829	2,912
Total Project Truck Trip Generation (Non PCE)	2,825	161	48	210	53	141	194
Total Project Trip Generation (Non PCE)	40,321	1,936	842	2,778	1,136	1,970	3,106
Total Project Trip Generation (PCE)	44,542	2,177	914	3,091	1,215	2,181	3,395

Notes:

TSF = Thousand Square Feet PCE = Passenger Car Equivalent VFP = Vehicle Fueling Positions

1 Trip rates from TUMF High-Cube Warehouse Trip Generation Study Update, Fehr & Peers, November 13, 2023. In/Out splits from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

2 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 156 - High-Cube Parcel hub Warehouse.

3 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 110 - General Light Industrial.

4 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 813 - Free-Standing Discount Superstore.

5 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 944 - Gasoline/Service Station.

6 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 820 - Shopping Center > 150K.

7 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 934 - Fast Food Restaurant with Drive Through.

8 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 932 - High Turnover (Sit-Down) Restaurant.

9 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 130 - Industrial Park.

10 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 720 - Medical-Dental Office Building

11 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 850 - Supermarket.

12 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

13 Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 930 - Fast Casual Restaurant

14 Truck% from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Truck axle split from the SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

15 Passenger Car Equivalent (PCE) factors from County of Riverside TA guidelines, 2020.

16 Internal capture rates from NCHRP Report 684.

17 Pass-by rates from the Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, 2017.

18 Manufacturing truck% used from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021.

Figure 4.1: Proposed Realignment of Indian Avenue and Barrett Avenue



Figure 4.2: Truck Trip Distribution Opening Year I 2026

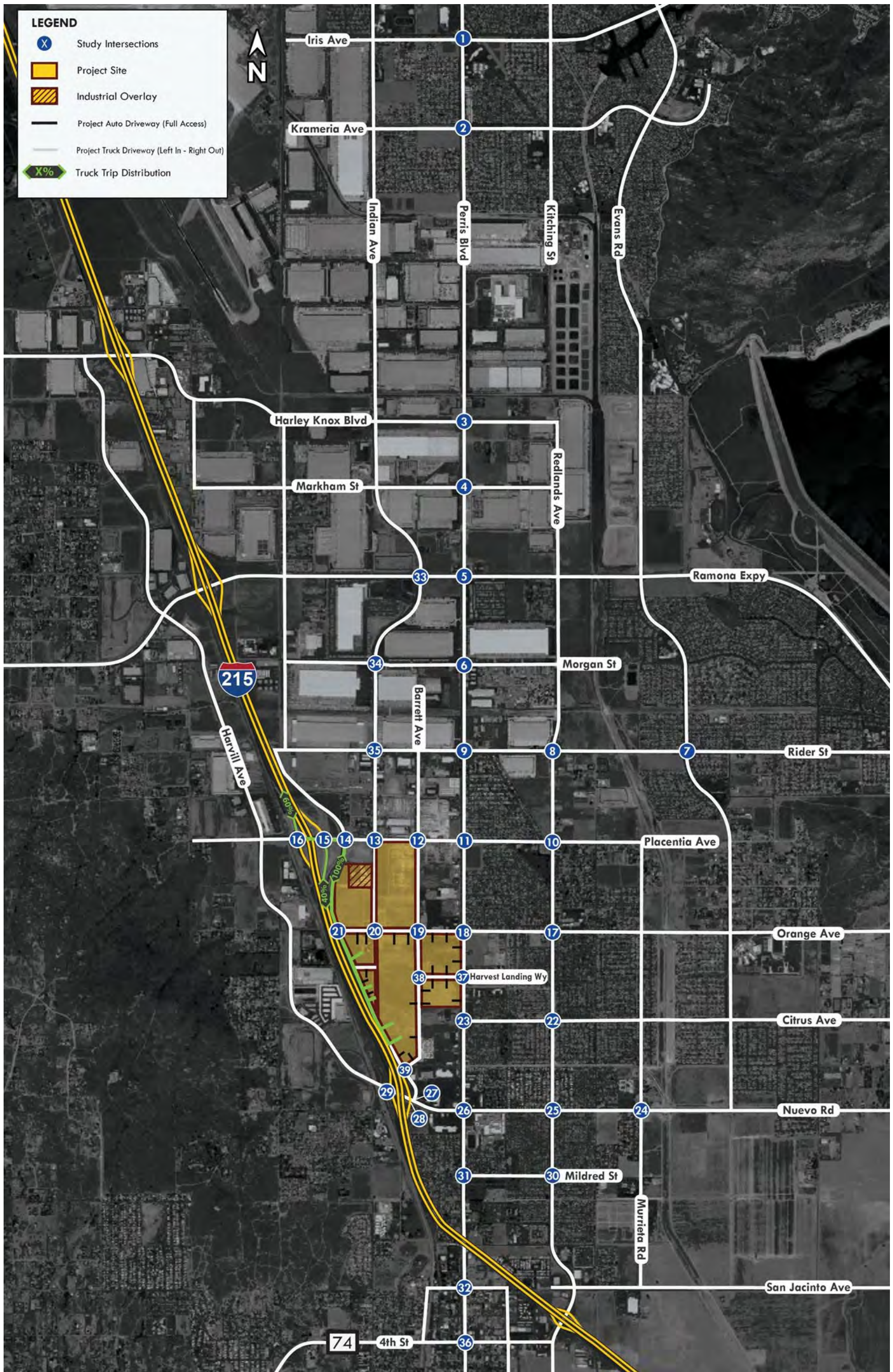


Figure 4.3: Truck Trip Distribution Opening Year II 2030

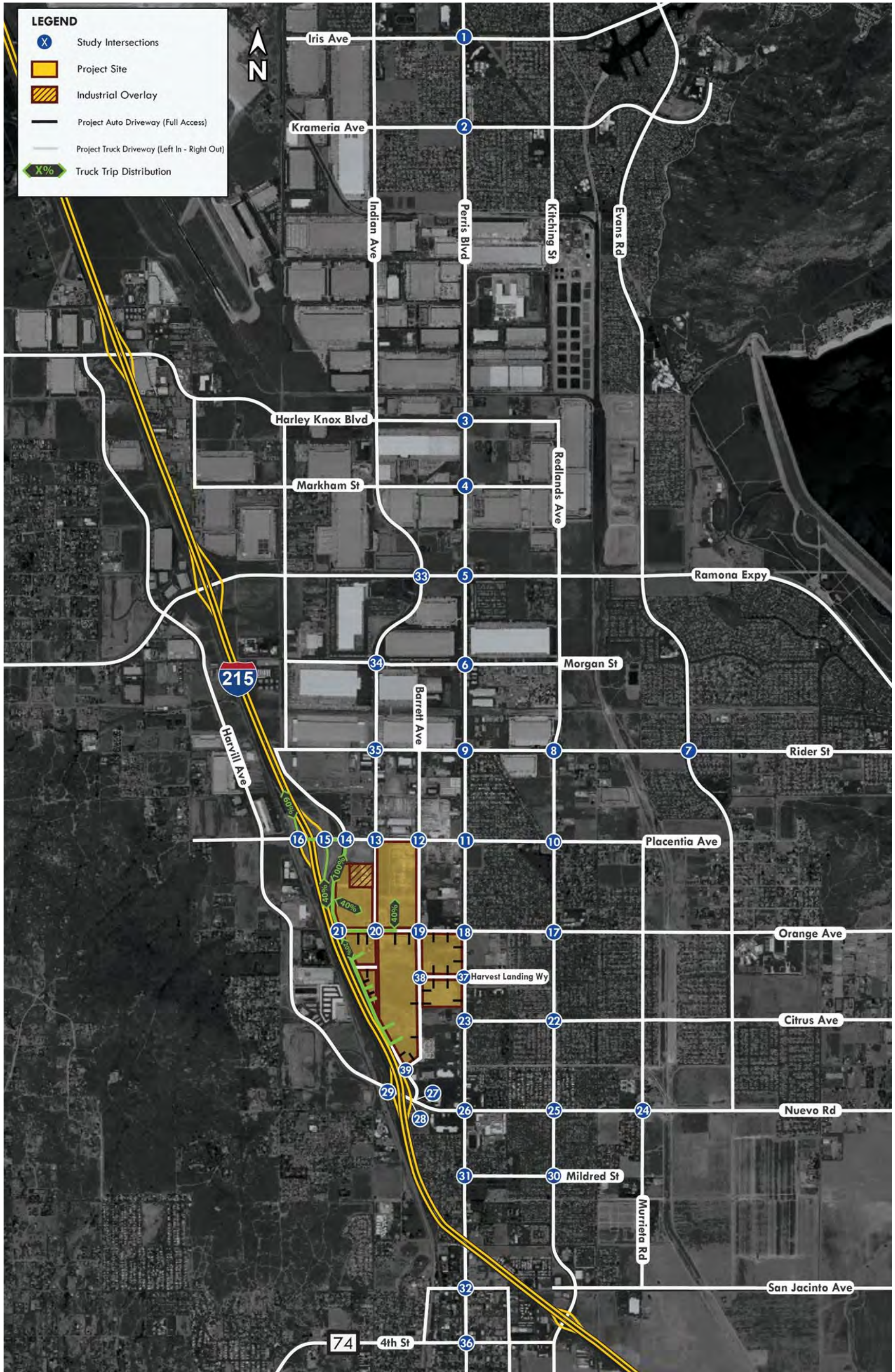




Figure 4.4b: Industrial Automobile Outbound Trip Distribution

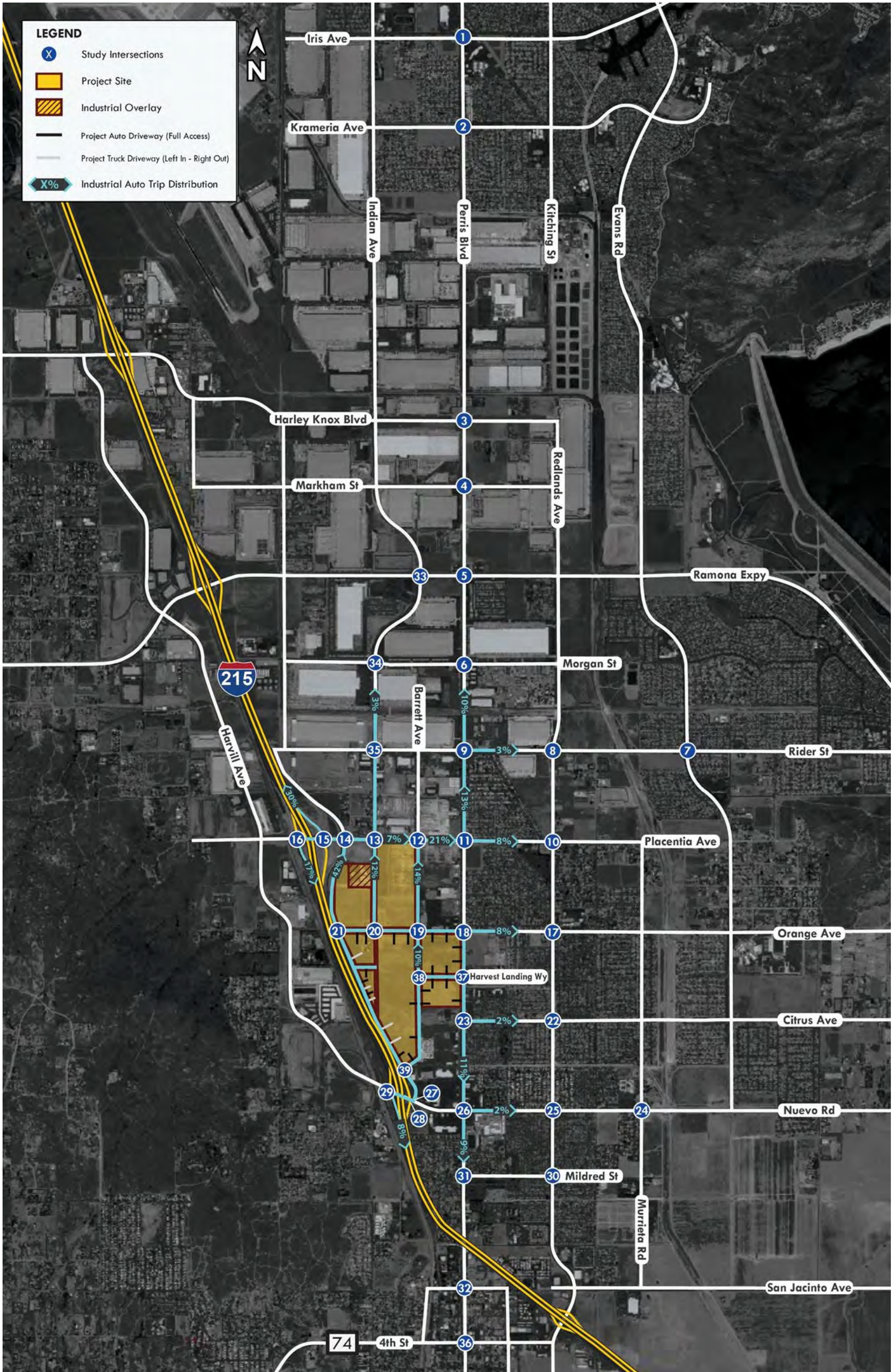




Figure 4.6: Commercial Automobile Outbound Trip Distribution

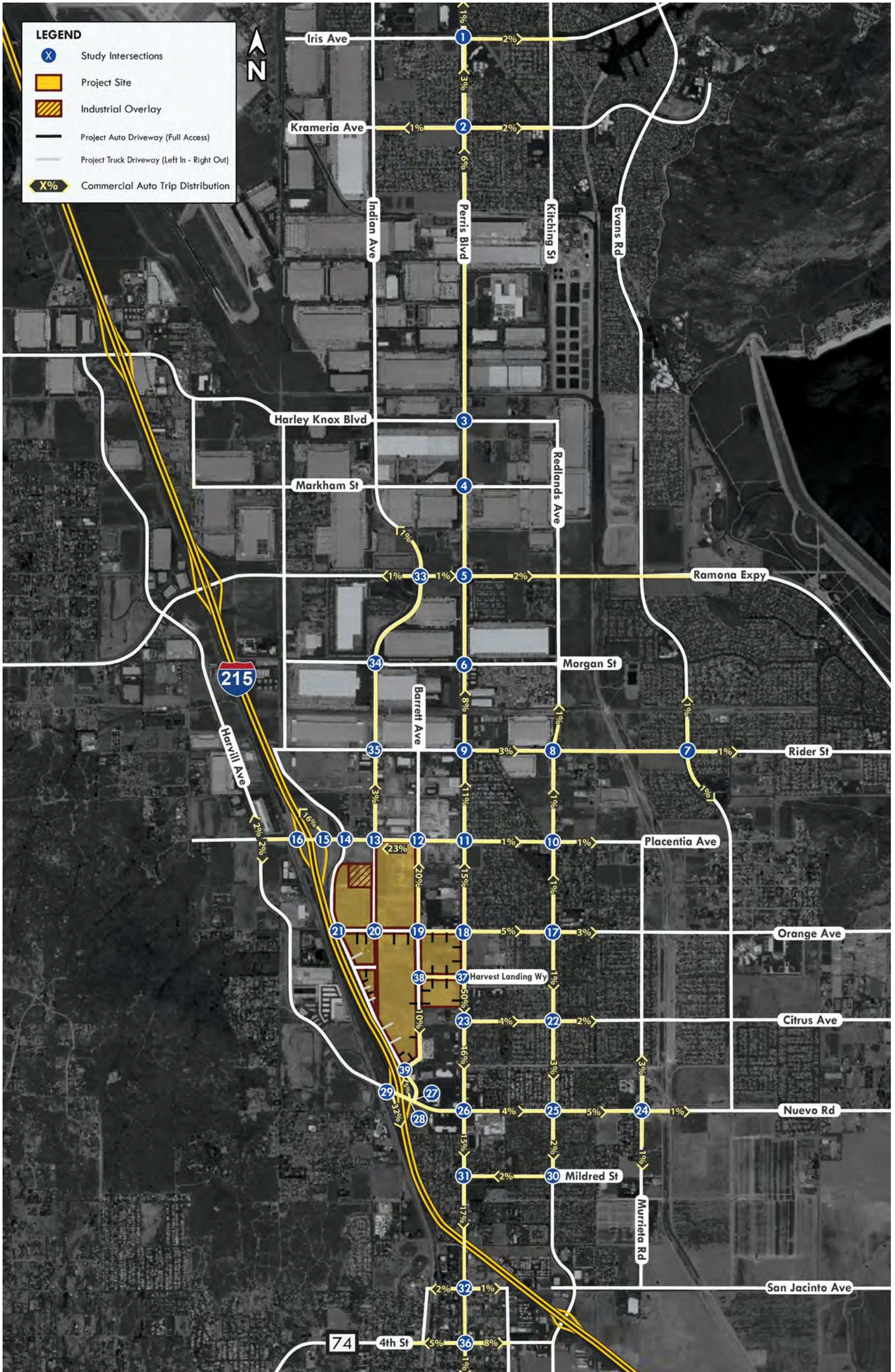


Figure 4.7a Truck Trip Driveway Inbound Distribution



**Figure 4.7b Truck Trip Driveway Outbound Distribution**



Figure 4.7c Industrial Auto Trip Driveway Inbound Distribution

