

APPENDIX K2: VMT ANALYSIS

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ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

Date: May 19, 2021

Prepared by: Abby Pal, Transportation Planner

To: County of San Bernardino

Site: Bloomington Business Park Specific Plan and SB 330 Upzone Site

Subject: VMT Analysis

The proposed Bloomington Business Park Specific Plan (SP) project proposes the construction of up to 3,235,836 SF of Industrial/Business Park uses (reasonably assumed to be built out over three phases). Table 1 shows the Specific Plan Development Plan. Sites 1-4 make up the Opening Year Development of Planning Area A Option 1 (OY 1), which is expected to be operational by 2022, and the rest of the SP is expected to be developed by 2040 with Fulfillment Center and Industrial Park uses. The Bloomington Business Park Specific Plan Traffic Impact Analysis (EPD Solutions, 2021) also included a Opening Year Development of Planning Area A Option 2 (OY 2) scenario that conservatively assumed 1,460,400 SF of future fulfillment center being constructed by 2022. For this analysis, the full SP was analyzed for VMT impacts. This is because the land uses between the SP, OY 1, and OY 2 are the same, therefore the VMT, which is an efficiency metric, would be expected to have similar results. The Scoping Agreement for the Traffic Impact Analysis is attached to the back of this report.

Table 1. Specific Plan Development Plan

PD Area	Land (Acres)	Land Use	Operational Year	Proposed Development
Site 1	17.72	Fulfillment Center	2022	373,000 SF Warehouse
				10,000 SF Office
Site 2	57.60	High-Cube Warehouse	2022	1,231,640 SF Warehouse
				20,000 SF Office
Site 3	30.52	Fulfillment Center	2022	474,000 SF Warehouse
				5,000 SF Office
Site 4	9.5	Trailer Parking	2022	289 Truck Trailers Stalls
Total	115.34 Acres		2022	2,113,640 SF
Future Fulfillment Center		Fulfillment Center	2040	598,400 SF Warehouse
Future Industrial Park		Industrial Park	2040	523,796 SF Industrial Park
Total Specific Plan	213 Acres		2040	3,235,836 SF

Table 2. Specific Plan Development Plan (Opening Year Development Option 2)

PD Area	Land (Acres)	Land Use	Operational Year	Proposed Development
Site 1	17.72	Fulfillment Center	2022	710,400 SF Warehouse
Site 2	57.60	High-Cube Warehouse	2022	1,231,640 SF Warehouse
Site 3	30.52	Fulfillment Center	2022	750,000 SF Warehouse
Site 4	9.5	Trailer Parking	2022	289 Truck Trailers Stalls
Total	141.41 Acres		2022	2,113,640 SF
Future Industrial Park		Industrial Park	2040	523,796 SF Industrial Park
Total Specific Plan	213 Acres		2040	3,235,836 SF

The 213-acre SP site is located south of Santa Ana Avenue, north of Jurupa Avenue, 645 feet east of Alder Avenue, and west of Linden Avenue in the unincorporated Bloomington area of San Bernardino County. In addition, pursuant to Senate Bill (SB) 330, an Upzone Site is proposed as part of the project which would provide an opportunity to replace the potential housing unit capacity eliminated by the project at the SP site due to rezoning from residential to industrial. The 24-acre Upzone Site is located north of the I-10, east of Locust Avenue between Hawthorne Avenue to the north and San Bernardino Avenue to the south. The number of homes allowed on the Upzone Site will be increased from 52 dwelling units to 480 dwelling units from the proposed rezoning of the Upzone Site from RS-20M (Single Residential with 20,000 SF Lot Minimums) to RM (Multiple Residential). As per the requirement of the County of San Bernardino, EPD conducted a VMT Analysis to determine if there would be any significant post construction impacts of the proposed development. The project location and OY 1 site plan can be found in Figure 1 and Figure 2 attached respectively, the OY 2 site plan can be found in Figure 3, and the location of the Upzone Site can be found in Figure 4 attached.

Background

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 - Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

VMT Analysis Methodology

As per the San Bernardino County Transportation Impact Study Guidelines (July 19, 2019), a project would be considered to have a significant impact if the project VMT per employee/person is greater than 4% below the existing VMT per employee/person for the unincorporated County.

Consistent with the County TIS guidelines, EPD evaluated the SP project site consisting of industrial/business park uses using VMT/Employee efficiency metric, for only home-based-work (HBW) trip purpose (attractions). The HBW VMT were obtained from SBTAM for the SP project site and were divided by the number of employees to obtain project VMT/Employee. The baseline VMT/Employee was calculated using the HBW VMT from SBTAM for unincorporated County and was divided by the number of employees as per SBTAM socioeconomic data for the unincorporated San Bernardino County area. The threshold VMT/Employee was calculated by reducing the baseline VMT/Employee by 4%.

The Upzone Site consisting of residential units pursuant to SB 330 was evaluated using the VMT per person efficiency metric for all home-based trip purposes (productions). The HBW VMT were obtained from SBTAM for the Upzone project site and were divided by the number of residents to obtain project VMT/Person. The baseline VMT/Person was calculated using all home-based VMT from SBTAM for unincorporated County, and was divided by the number of residents as per SBTAM socioeconomic data for the unincorporated San Bernardino County area. The threshold VMT/Person was calculated by reducing the baseline VMT/Person by 4%.

The above-mentioned method was used to obtain both 2016 and 2040 VMT per Employee/Person for the SP and Upzone project sites. 2021 VMT per Employee/Person for the baseline condition and for the project was interpolated using these values. The Cumulative VMT impacts for 2040 were evaluated for consistency with the adopted RTP/SCS using the boundary method of VMT analysis for unincorporated San Bernardino County. The boundary method is the sum of all weekday VMT on a roadway network within a designated boundary and is inclusive of all trips including those which do not originate or terminate within the designated boundary. This method helps capture the effect on VMT due to the adding a new project into a particular jurisdictional boundary.

Project VMT Impact Analysis

Specific Plan Site

For the purpose of this analysis, the number of employees were calculated using the building square footage factors provided in *Table 7, UrbanFootprint Building square Footage Factors for Residential Units and Employees by Type*, in the Southern California Regional Transportation Plan Sustainable Communities Strategy (SCS) Background Documentation. *Table 7* from SCS is attached in Appendix A. As per the information provided in the SCS, the proposed project is anticipated to employ one (1) employee for every 1,700 sf of building area. As shown in *Table 3*, the SP Project VMT/Employee for the year 2016 was obtained as 19.18, for 2040 as 18.10, and was interpolated to obtain 2021 VMT/Employee as 18.95. Corresponding baseline values of 23.18 for 2016 and 25.41 for 2040 were obtained from SBTAM for unincorporated county and interpolated to obtain a 2021 baseline VMT/Employee of 23.83. A 4% reduction was applied to the 2021 baseline VMT/Employee to obtain a threshold of 22.88.

Table 3: Specific Plan Project Site VMT Impact Evaluation

	2016	2040	2021	Threshold	VMT Impact?
Project VMT	30208.28	28507.09	29853.87	22.88	NO
Project Employees	1575.00	1575.00	1575.00		
Project VMT/Employee	19.18	18.10	18.95		
Unincorporated County VMT	1579778.47	2708483.81	1814925.42		
Unincorporated County Employees	68149.00	106611.00	76161.92		
Unincorporated County VMT/Employees	23.18	25.41	23.83		

As the 2021 VMT/Employee of 18.95 for the SP project site is less than the threshold of 22.88 VMT/Employee for unincorporated San Bernardino County, the VMT impacts due to the proposed SP development would be less-than-significant.

SB 330 Upzone Site

The number of residents for calculating VMT/Person was obtained from SBTAM subregional socioeconomic data. As shown in Table 4, the Upzone Project VMT/Person for the year 2016 was obtained as 23.53, for 2040 as 22.23, and was interpolated to obtain 2021 VMT/Person as 23.26. Corresponding baseline values of 53.67 for 2016 and 50.45 for 2040 were obtained from SBTAM for unincorporated County and interpolated to obtain a 2021 baseline VMT/Person of 52.88. A 4% reduction was applied to the 2021 baseline VMT/Person to obtain a threshold of 52.88.

Table 4: Upzone Project Site VMT Impact Evaluation

	2016	2040	2021	Threshold	VMT Impact?
Project VMT	37718.68	35627.2	37282.96	50.76	NO
Project Residents	1603	1603	1603		
Project VMT/Residents	23.53	22.23	23.26		
Unincorporated SB VMT	17656091.7	20600609.5	18269532.9		
Unincorporated SB Residents	328996	408297	345517.04		
Unincorporated SB VMT/Residents	53.67	50.45	52.88		

As the 2021 VMT/Person of 23.26 for the Upzone project site is less than the threshold of 50.76 VMT/Person for unincorporated San Bernardino County, the VMT impacts due to the proposed Upzone development would be less-than-significant.

Cumulative VMT Impact Analysis

Cumulative project impact for both the SP and Upzone project sites were evaluated for consistency with the adopted RTP/SCS. A countywide VMT of 32,181,210 was obtained for without project conditions in 2040. A regional VMT of 31,705,795 was obtained for with project conditions.

Table 5: Cumulative Regional VMT Impact Evaluation

	Without Project	With Project	VMT Impact?
Cumulative Roadway VMT	32,181,210	31,705,795	NO

As the unincorporated Countywide VMT decreases with the project relative to the VMT generated by the RTP/SCS, the cumulative VMT impacts for the proposed development is less-than-significant.

If you have any questions, please feel free to contact me at abby@epdsolutions.com or at (949) 794-1193.

Figure 1: Regional Map

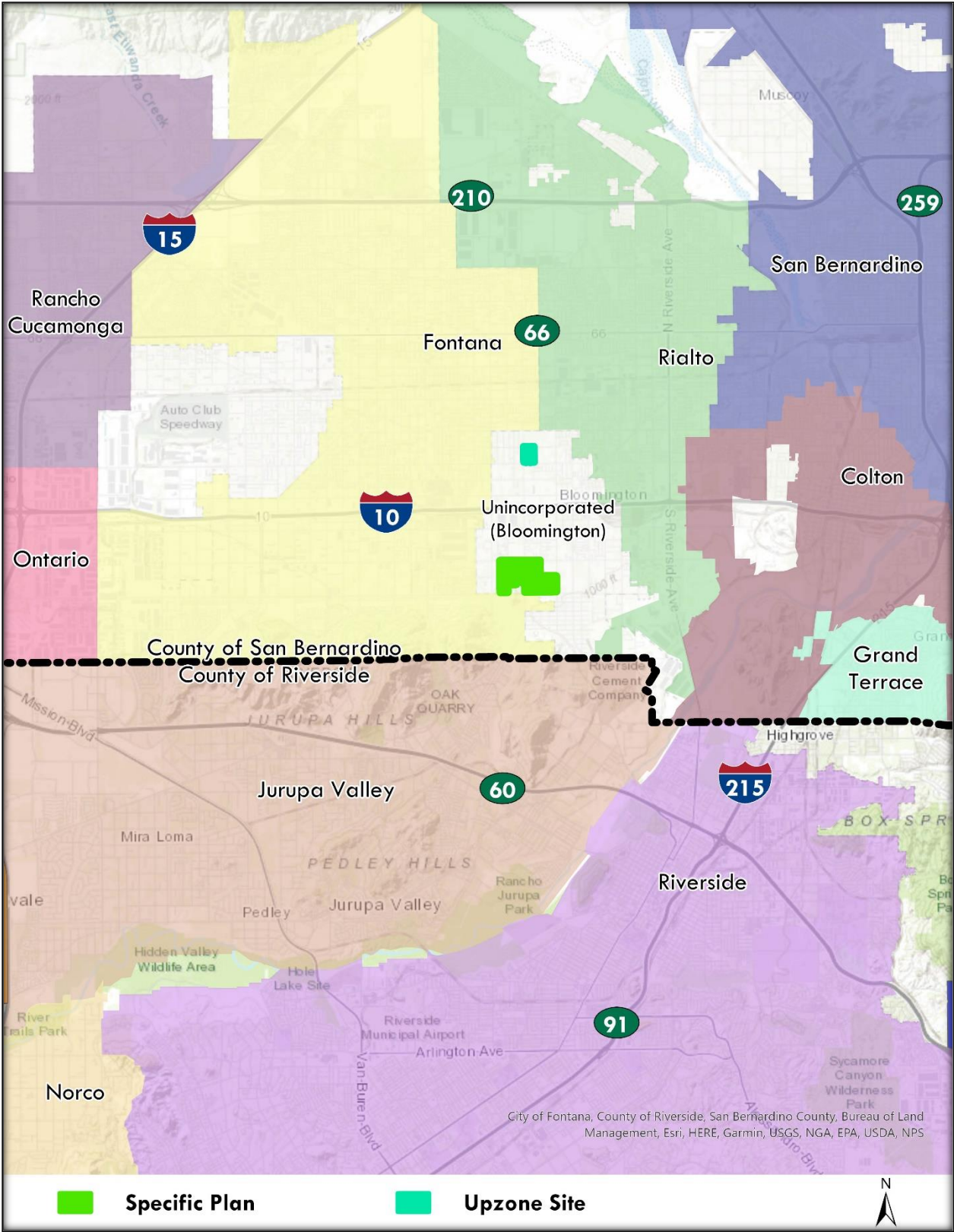


Figure 2: Specific Plan Option 1 Site Plan

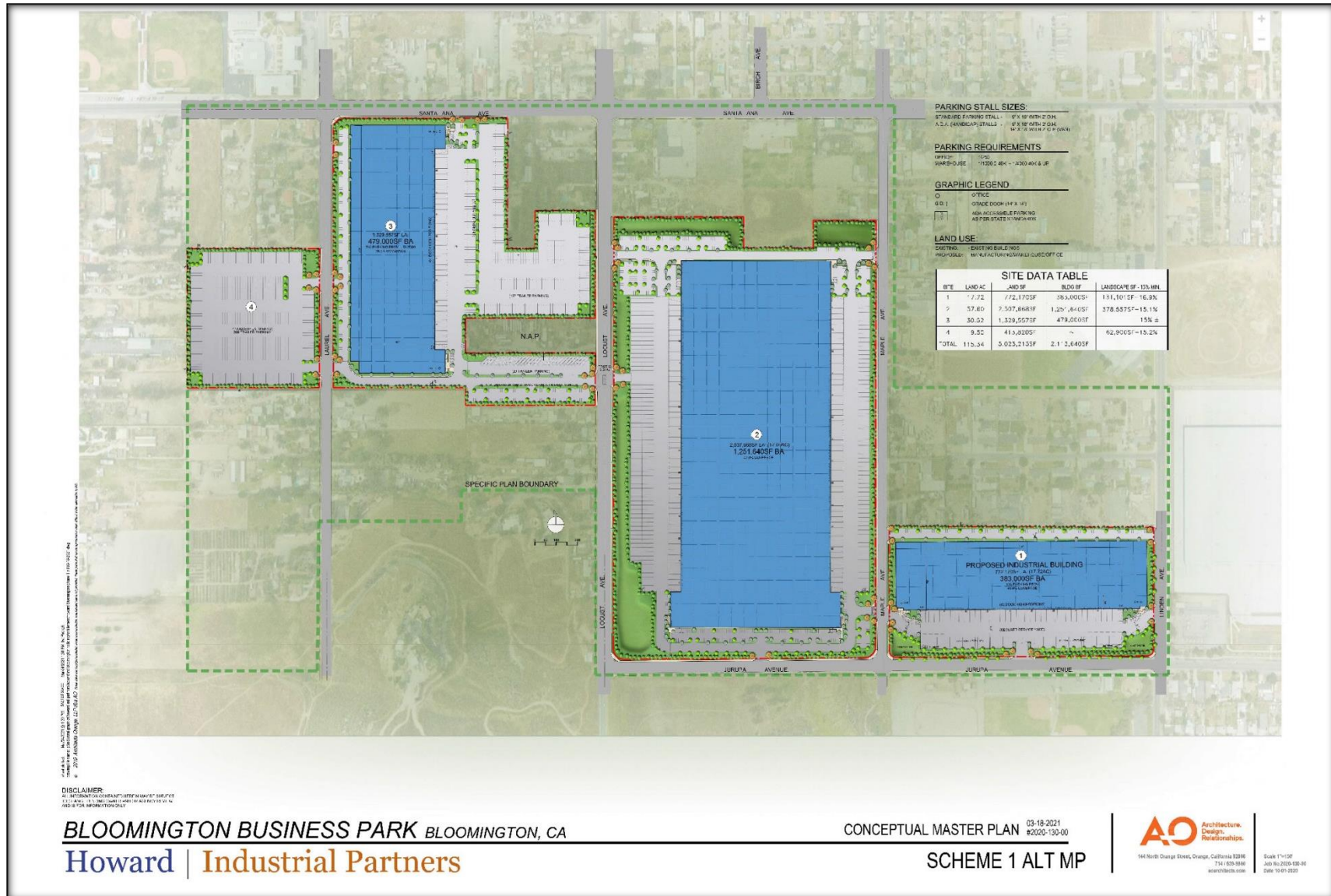


Figure 3: Specific Plan Option 2 Site Plan

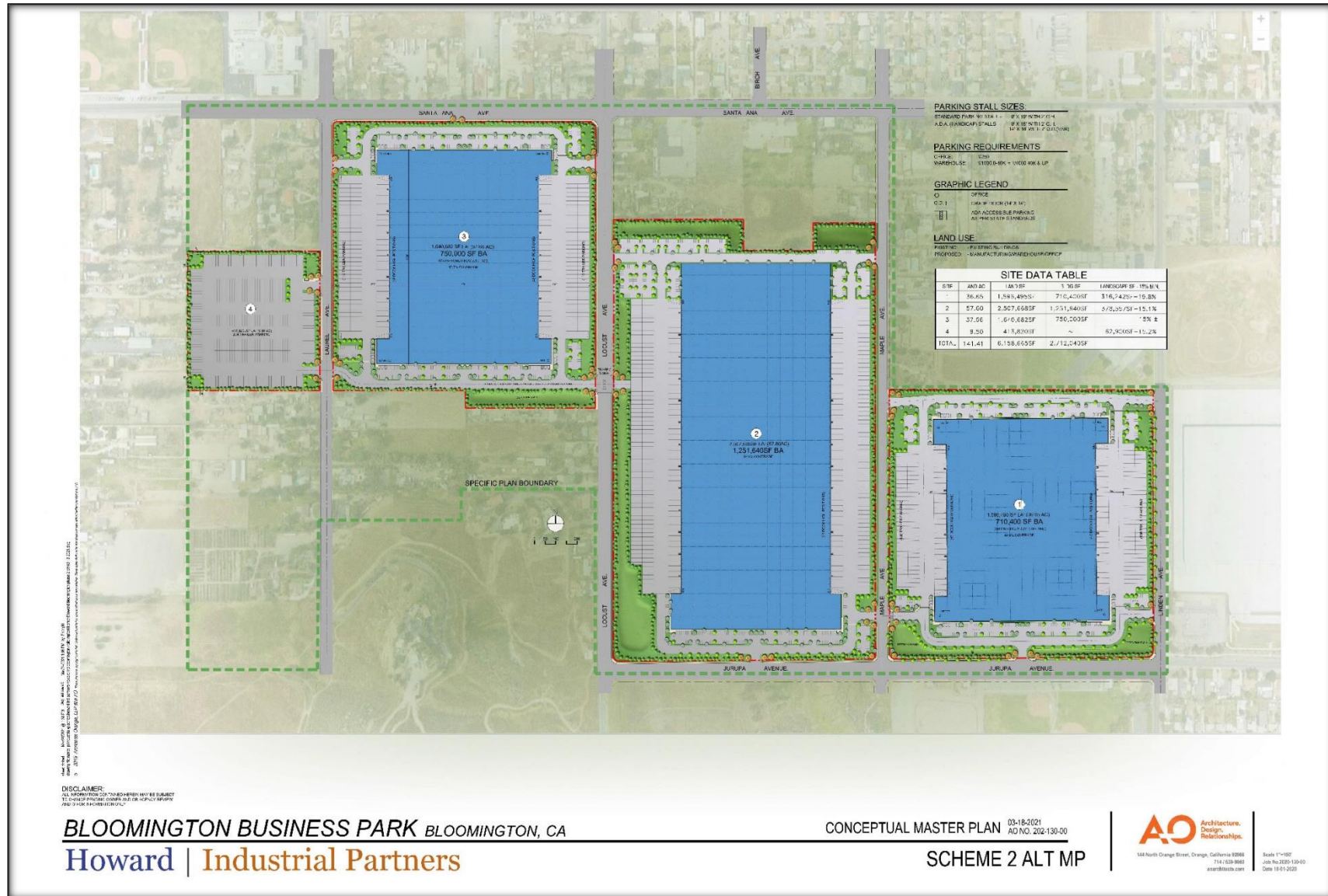


Figure 4: Upzone Site



APPENDIX A

TABLE 7 UrbanFootprint Building Square Footage Factors for Residential Units and Employees by Type

	UrbanFootprint Field	Description	Suburban Sqft/Employee	Urban Sqft/Employee
RESIDENTIAL BUILDING SQUARE FEET	Bldg_sqft_detsf_sl	Small Lot Single Family building square feet	2400	1650
	Bldg_sqft_detsf_ll	Large Lot Single Family building square feet	3000	2100
	Bldg_sqft_attsf	Attached Single Family building square feet	1800	1800
	Bldg_sqft_mf2to4	Multifamily 2 to 4 building square feet	2000	1850
	Bldg_sqft_mf5p	Multifamily 5 plus building square feet	1200	1200
COMMERCIAL BUILDING SQUARE FEET	Retail building square feet			
	Bldg_sqft_retail_services	Retail services building square feet	750	475
	Bldg_sqft_accommodation	Accommodation building square feet	2000	1875
	Bldg_sqft_restaurant	Restaurant building square feet	750	475
	Bldg_sqft_arts_entertainment	Entertainment and recreation building square feet	1250	900
	Bldg_sqft_other_services	Other services building square feet	850	650
	Office building square feet			
	Bldg_sqft_office_services	Office services building square feet	350	280
	Bldg_sqft_education	Education services building square feet	1050	900
	Bldg_sqft_medical_services	Medical and health services building square feet	800	725
	Bldg_sqft_public_admin	Public administration building square feet	700	620
	Industrial building square feet			
	Bldg_sqft_transport_warehousing	Transportation and warehousing building square feet	1700	1200
	Bldg_sqft_wholesale	Wholesale building square feet	660	600

Source: Calthorpe Analytics, 2015



SCOPE FOR TRAFFIC STUDY

Project Name:	Bloomington Business Park
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This Scope for Traffic Study acknowledges San Bernardino County Department of Public Works, Traffic Division requirements of traffic impact analysis for the project and is subject to change:

Project Address:	APNs: 0256-091-03, 04, 06, 07, 23, 24, 29, 30, 32, 33, 43, 44; 0256-101-02, 03, 4, 5, 6, 7, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 30, 32, 33, 34, 35, 36, 38, 45, 48, 49, 55, 56, 57, 58, 59, 60; 0256-111-02, 06, 07, 08, 09, 10, 11, 18, 19, 22, 23, 26, 27, 28, 29, 31, 32, 34, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 48, 49, 50, 51, 52, 53, 55, 56, 58, 59, 60, 61; 0256-121-37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48; 0256-241-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.		
Project Description:	The Project proposes creating a specific plan area with the potential of developing 2,678,940 SF, with an initial phase constructing three industrial buildings totaling 2,085,640 SF. Two buildings (totaling 834,000 SF) are Fulfillment Center Warehouses, and the third building (1,251,640 SF) is a High Cube Transload and Short-Term Storage Warehouse.		
City:	Unincorporated County of San Bernardino		
Project Buildout Year:	2022 (2040)	Ambient Growth Rate per Year:	1%
Closest Intersection (Xtn) to the Project			
Xtn N/S Street Name:	Linden Avenue, Maple Avenue, Locust Avenue, Laurel Avenue		
Xtn E/W Street Name:	Jurupa Avenue, Santa Ana Avenue		
Thomas Guide Pg+Grid:		County Supervisorial District:	2

	Engineer	Developer
Company:	EPD Solutions, Inc.	Howard Industrial Partners
Name:	Meghan Macias, TE	Timothy Howard
Address:	2 Park Plaza, Suite 1120	1944 North Tustin Street, Suite 122
City, State, Zip Code:	Irvine, CA 92614	Orange, California 92865
Phone #:	949-794-1186	714-272-5318
Fax #:		
Email:	meghan@epdsolutions.com	thoward@hipre.net

By: Meghan Macias

Reviewed By: _____



SCOPE FOR TRAFFIC STUDY

Project Name:	Bloomington Business Park
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Print Name: Meghan Macias

**Consultant/Developer's
Representative**

Date:
7/16/2020

Print Name:

Traffic Division Representative Date



SCOPE FOR TRAFFIC STUDY

Project Name:	Bloomington Business Park
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1. Traffic Distribution: Please insert or attach Figure(s) illustrating project trip distribution in percentages and volumes at the study intersections analyzed.

See Figures attached.

2. Trip Credit: Exact amount of credit subject to approval by Traffic Division pending comments and findings of City of Rialto.

Transportation Demand Management (TDM)	Yes/ no	
Existing Active Land Use	Yes/ no	
Previous Land Use	Yes/ no	
Internal Trip Reduction	Yes/ no	
Pass-by Trip Reduction	Yes/ no	

3. Related Projects: Consultant should check with Planning in the San Bernardino County Department of Land Use Services and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to Traffic Division for review and approval before being incorporated in the study.

EPD will contact the Planning Department of the Cities of Fontana, Jurupa, and Riverside as well as the County of San Bernardino for cumulative projects. A preliminary list of projects that were publicly available were gathered and are listed below.

- County of San Bernardino
 - Agua Mansa High Cube Warehouse
 - Alder Ave Industrial
 - Bloomington Affordable Housing Project
 - Bloomington Business Center
 - Bloomington High Cube Warehouse
 - Bloomington Industrial Facility
 - Cedar Ave Technology Center
 - Chevron Slover-Cedar
 - Slover High Cube Warehouse
 - Slover-Cactus Warehouse
 - West Valley Logistics Center
- Fontana
 - Fontana Foothills Commerce Center
 - Goodman Industrial Park
- Jurupa Valley
 - 12340 Agua Mansa Road
 - Highland Park
 - Market Street Commercial
- Rialto
 - Valley Spruce



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Project Name:	Bloomington Business Park
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4. Freeway Analysis: The potential traffic impact on the following Freeway(s) must be considered.

The project would evaluate the off-ramp queues at Sierra Avenue and Cedar Avenue and freeway

Mainline segments on I-215 from west of Sierra Avenue to east of Cedar Avenue, and on SR-60 east of Market Street.

The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using HCM procedures. Appendix A of the SANBAG CMP outlines allowable modifications to these procedures. The SANBAG CMP can be viewed online at: <https://www.gosbcta.com/plans-projects/plans-traffic-mitigation.html>



SCOPE FOR TRAFFIC STUDY

Project Name:	Bloomington Business Park
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5. Trip Generation (See Attached Trip Generation Table)

Trip Generation Rate(s) Source: ITE Trip Generation, TUMF High-Cube Warehouse Trip Generation Study			I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:							Edition:		10th	
Land Use Code	Land Use	Rate Based on	Qty	*AVTE vs	ADT	Weekday a.m. peak		Weekday p.m. peak		Weekend peak hour			
						In	Out	In	Out	In	Out		
154	High Cube Transload and Short-Term Storage Warehouse	I	1,251.64 TSF	LU 154 – High Cube Transload and Short-Term Storage Warehouse	1,752	77	23	35	90				
	Fulfillment Center	O	839 TSF		1,786	83	19	54	84				
130	Industrial Park	I	588.3 TSF	LU 130 – Industrial Park	1,983	191	45	49	186				
	Total				5,521	351	87	138	360				

* - Average Vehicle Trip Ends.

For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store



SCOPE FOR TRAFFIC STUDY

Project Name: Bloomington Business Park

6. Study Intersections: At minimum, the study shall include the following intersections. The list is subject to change based on the determination of related projects, trip generation and distribution, and/or other sensitive intersections are identified based on study findings and/or concurrent development. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	% County	Thomas Guide Page+Grid	N/S + E/W Street Name	City	Signalized	CMP
1	0		Sierra Ave/I-10 Ramps	Fontana	Yes/no	Yes/no
2	0		Sierra Ave/Slover Ave	Fontana	Yes/no	Yes/no
3	0		Sierra Ave/Technology St	Fontana	Yes/no	Yes/no
4	0		Sierra Ave/Santa Ana Ave	Fontana	Yes/no	Yes/no
5	100		Laurel Ave/Santa Ana Ave	County	Yes/no	Yes/no
6	100		Locust Ave/Santa Ana Ave	County	Yes/no	Yes/no
7	50		Locust Ave/Jurupa Ave	Fontana	Yes/no	Yes/no
8	100		Maple Ave/Santa Ana Ave	County	Yes/no	Yes/no
9	75		Maple Ave/Jurupa Ave	Fontana	Yes/no	Yes/no
10	100		Linden Ave/Jurupa Ave	County	Yes/no	Yes/no
11	100		Cedar Ave/I-10 WB Ramp	County	Yes/no	Yes/no
12	100		Cedar Ave/I-10 EB Ramp	County	Yes/no	Yes/no



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13	100		Cedar Ave/Orange St	County	Yes/no	Yes/no
14	100		Cedar Ave/Slover Ave	County	Yes/no	Yes/no
15	100		Cedar Ave/Santa Ana Ave	County	Yes/no	Yes/no
16	100		Cedar Ave/Jurupa Ave	County	Yes/no	Yes/no
17	100		Cedar Ave/11 th St	County	Yes/no	Yes/no
18	100		Cedar Ave/7 th St	County	Yes/no	Yes/no
19	50		Cedar Ave/El Rivino Dr	Jurupa Valley	Yes/no	Yes/no
20	0		Rubidoux Blvd/Market St	Jurupa Valley	Yes/no	Yes/no
21	0		Agua Mansa Rd/Market St	Jurupa Valley	Yes/no	Yes/no
22	0		Market St/24 th St	Jurupa Valley	Yes/no	Yes/no
23	0		Market St/Rivera St	Riverside	Yes/no	Yes/no
24	0		Market St/SR-60 WB Ramp	Riverside	Yes/no	Yes/no
25	0		Market St/SR-60 EB Ramp	Riverside	Yes/no	Yes/no
26	100		Laurel Ave/Driveway 1	County	Yes/no	Yes/no
27	100		Laurel Ave/Driveway 2	County	Yes/no	Yes/no
28	100		Locust Ave/Driveway 3	County	Yes/no	Yes/no
29	100		Locust Ave/Driveway 4	County	Yes/no	Yes/no



SCOPE FOR TRAFFIC STUDY

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30	100		Locust Ave/Driveway 5	County	Yes/no	Yes/no
31	100		Locust Ave/Driveway 6	County	Yes/no	Yes/no
32	50		Driveway 7/Jurupa Valley	Fontana	Yes/no	Yes/no
33	100		Maple Ave/Driveway 8	County	Yes/no	Yes/no
34	100		Maple Ave/Driveway 9	County	Yes/no	Yes/no
35	100		Maple Ave/Driveway 10	County	Yes/no	Yes/no
36	100		Linden Ave/Driveway 11	County	Yes/no	Yes/no
37	100		Linden Ave/Driveway 12	County	Yes/no	Yes/no

Please see Figures attached showing proposed trip distribution and assignment at study intersections.

Cities to be consulted: Fontana, Jurupa Valley, Riverside

7. Scenarios to be Studied: The study shall analyze the Project in the following scenarios listed below.

1. Existing Baseline
2. Existing Baseline + Project
3. Opening Year Baseline (1% Growth per year from Existing to Opening Year)
4. Opening Year Baseline + Project
5. Horizon Year Baseline
6. Horizon Year Baseline + Project



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8. Other:

Because traffic counts can not be conducted due to the statewide stay-at-home order, traffic counts from other traffic studies in the area are proposed to be used. As shown below, more than one set of traffic counts are available at 8 of the 12 proposed off-site intersections. The available traffic counts will be evaluated to determine consistency of the counts and to identify a growth rate in the area. Existing count data will be escalated accordingly to account for 2020 conditions. Existing traffic volumes at Maple Avenue/Jurupa Avenue and Linden Avenue/Jurupa Avenue will be estimated based on the count data at adjacent intersections. This scope proposes a growth rate of 1 percent per year to escalate counts to existing and project opening year conditions, however if the count data analysis warrants a higher rate, then that would be disclosed and discussed with County staff.

Available Count Data in Bloomington Area

	Slover and Cactus Warehouse	Goodman Industrial Park, Fontana	Bloomington Business Center	West Valley Logistics Center	Bloomington Industrial Facility	Arco Station, Cedar/Slover ¹	Cedar Avenue Technology Center	Bloomington High-Cube Warehouse	Market Street Commercial
Study Date	May-19	Jun-19	Apr-17	Aug-19	Aug-16	Apr-17	Jul-17	Jul-16	Jun-15
Count Date	3/18, 4/18 & 5/19	Mar-19	Jan-17	Dec-16	Apr-16	2015	Sep-16	Dec-14	May-15
1 Sierra Ave/I-10 Ramps			X	X					
2 Sierra Ave/Slover Ave		X	X	X					
3 Sierra Ave/Technology St									
4 Sierra Ave/Santa Ana Ave		X		X					
5 Laurel Ave/Santa Ana Ave									
6 Locust Ave/Santa Ana Ave				X					
7 Locust Ave/Jurupa Ave				X					
8 Maple Ave/Santa Ana Ave									
9 Maple Ave/Jurupa Ave									
10 Linden Ave/Jurupa Ave					X				
11 Locust Ave/Jurupa Ave				X					
12 Cedar Ave/I-10 WB Ramps	X		X	X	X		X	X	
13 Cedar Ave/I-10 EB Ramps	X		X	X	X		X	X	
14 Cedar Ave/Orange Street	X		X	X		X	X	X	
15 Cedar Ave/Slover Ave	X		X	X	X	X	X	X	
16 Cedar Ave/Santa Ana Ave				X	X				
17 Cedar Ave/Jurupa Ave				X	X				
18 Cedar Ave/11th St				X					
19 Cedar Ave/7th St				X					
20 Cedar Ave/El Rivino Dr				X					
21 Rubidoux Blvd/Market St				X					X
22 Agua Mansa Rd/Market St				X					X
23 Market St/24th St									X
24 Market St/Rivera St				X					X
25 Market St/SR-60 WB Ramp				X					X
26 Market St/SR-60 EB Ramp				X					X
27 Laurel Ave/Driveway 1									
28 Laurel Ave/Driveway 2									
29 Locust Ave/Driveway 3									
30 Locust Ave/Driveway 4									
31 Locust Ave/Driveway 5									
32 Locust Ave/Driveway 6									
33 Jurupa Ave/Driveway 7									
34 Maple Ave/Driveway 8									
35 Maple Ave/Driveway 9									
36 Maple Ave/Driveway 10									
37 Linden Ave/Driveway 11									
38 Linden Ave/Driveway 12									

¹ Arco volumes from I-10 Cedar Avenue Interchange Supplemental Traffic Operations Report (May 11, 2016). Counts Collected in 2015



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Traffic counts may be conducted immediately per the following:

- Must be taken on Tuesdays, Wednesdays or Thursdays.
- Counts in “tourist” and/or along travel corridors shall have counts on Fridays and Sundays.
- Must exclude holidays, and the first weekdays before and after the holiday.
- Must be taken on days when local schools or colleges are in session.
- Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).
- Traffic counts used for other traffic studies in the area shall **NOT** be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.
- New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.
- For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.
- For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.

This analysis must follow the most current Traffic Impact Study Guidelines for the County as stated in the County’s Road Planning and Design Standards.

9. Fees

The County charges on an actual cost basis for review of traffic studies. An initial deposit of \$2000 is required at the time that the Traffic Impact study is a land use application is filed with the Department of Land Use Services. If the review costs exceed the initial deposit, the applicant will be expected to provide additional funds and the review will be suspended until the additional funds are deposited.



SCOPE FOR TRAFFIC STUDY

Project Name:	Bloomington Business Park
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10. Contact Information:

Please submit a final copy of this scope to the Traffic Division. Draft scopes may be sent electronically or by physical mail to the contact information below.

County of San Bernardino
Dept. of Public Works, Traffic Division
825 E. 3rd Street, Rm 115
San Bernardino, CA 92415-0835

Phone: 909-387-8186
Fax: 909-387-7809
Email: Anthony.Pham@dpw.sbcounty.gov

Table 1. Bloomington Industrial Master Plan PCE Trip Generation

		AM Peak Hour				PM Peak Hour			
Land Use		Units	Daily	In	Out	Total	In	Out	Total
<u>Trip Rates</u>									
High Cube Transload and Short-Term Storage Warehouse ¹		TSF	1.400	0.062	0.018	0.080	0.028	0.072	0.100
Fulfillment Center ²			2.129	0.099	0.023	0.122	0.064	0.101	0.165
Cars		TSF	1.750	0.083	0.020	0.103	0.056	0.088	0.144
2-4 Axle		TSF	0.162	0.006	0.002	0.008	0.004	0.007	0.011
5 Axle		TSF	0.217	0.009	0.002	0.011	0.004	0.006	0.010
Industrial Park ³		TSF	3.370	0.324	0.076	0.400	0.084	0.316	0.400
<u>Project Trip Gen</u>									
Building #3 (High-Cube Warehouse)	1251.64	TSF	1752	77	23	100	35	90	125
<u>Vehicle Mix</u> ⁴		<u>Percent</u>							
Passenger Vehicles		79.57%	1394	61	18	80	28	72	100
2 Axle Trucks		3.46%	61	3	1	3	1	3	4
3 Axle Trucks		4.64%	81	4	1	5	2	4	6
4+ Axle Trucks		12.33%	216	10	3	12	4	11	15
		100%	1752	77	23	100	35	90	125
<u>PCE Trip Generation</u> ⁵		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1394	61	18	80	28	72	100
2 Axle Trucks		1.5	91	4	1	5	2	5	6
3 Axle Trucks		2.0	163	7	2	9	3	8	12
4+ Axle Trucks		3.0	648	29	9	37	13	33	46
Total PCE Trip Generation			2296	101	30	131	46	119	164
Buildings 2 and 4 (Fulfillment Centers)	839	TSF	1786	83	19	102	54	84	138
<u>Vehicle Mix</u> ⁶		<u>Percent</u>							
Passenger Vehicles			1468	70	16	86	47	74	121
2 Axle Trucks			45	2	0	2	1	2	3
3 Axle Trucks			45	2	0	2	1	2	3
4+ Axle Trucks			227	9	2	11	4	7	11
			1786	83	19	102	54	84	138
<u>PCE Trip Generation</u> ⁵		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1468	70	16	86	47	74	121
2 Axle Trucks		1.5	68	3	1	3	2	3	5
3 Axle Trucks		2.0	91	4	1	4	2	4	6
4+ Axle Trucks		3.0	682	28	7	34	13	21	34
Total PCE Trip Generation			2309	105	24	129	65	102	166
Future Development Area (Industrial Park)	588.30	TSF	1983	191	45	235	49	186	235
<u>Vehicle Mix</u> ⁷		<u>Percent</u>							
Passenger Vehicles		78.60%	1558	150	35	185	39	146	185
2 Axle Trucks		8.00%	159	15	4	19	4	15	19
3 Axle Trucks		3.90%	77	7	2	9	2	7	9
4+ Axle Trucks		9.50%	188	18	4	22	5	18	22
		100%	1983	191	45	235	49	186	235
<u>PCE Trip Generation</u> ⁵		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1558	150	35	185	39	146	185
2 Axle Trucks		1.5	238	23	5	28	6	22	28
3 Axle Trucks		2.0	155	15	3	18	4	15	18
4+ Axle Trucks		3.0	565	54	13	67	14	53	67
Total PCE Trip Generation			2516	242	57	299	63	236	299
Total Project PCE Trip Generation	2678.94		7121	448	111	559	174	457	629

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse.

² Trip rates from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2009. In/Out splits from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

³ Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 130 - Industrial Park.

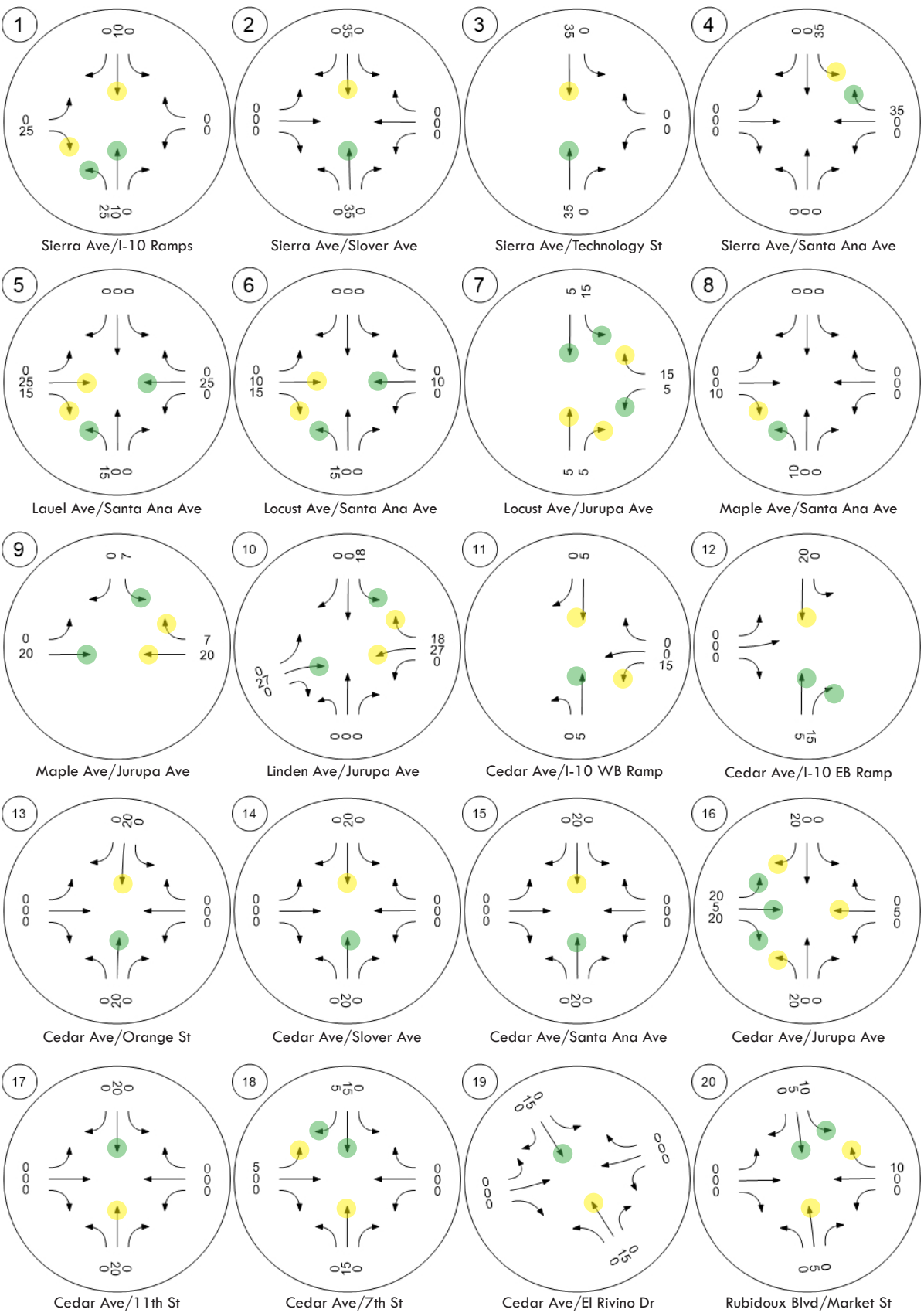
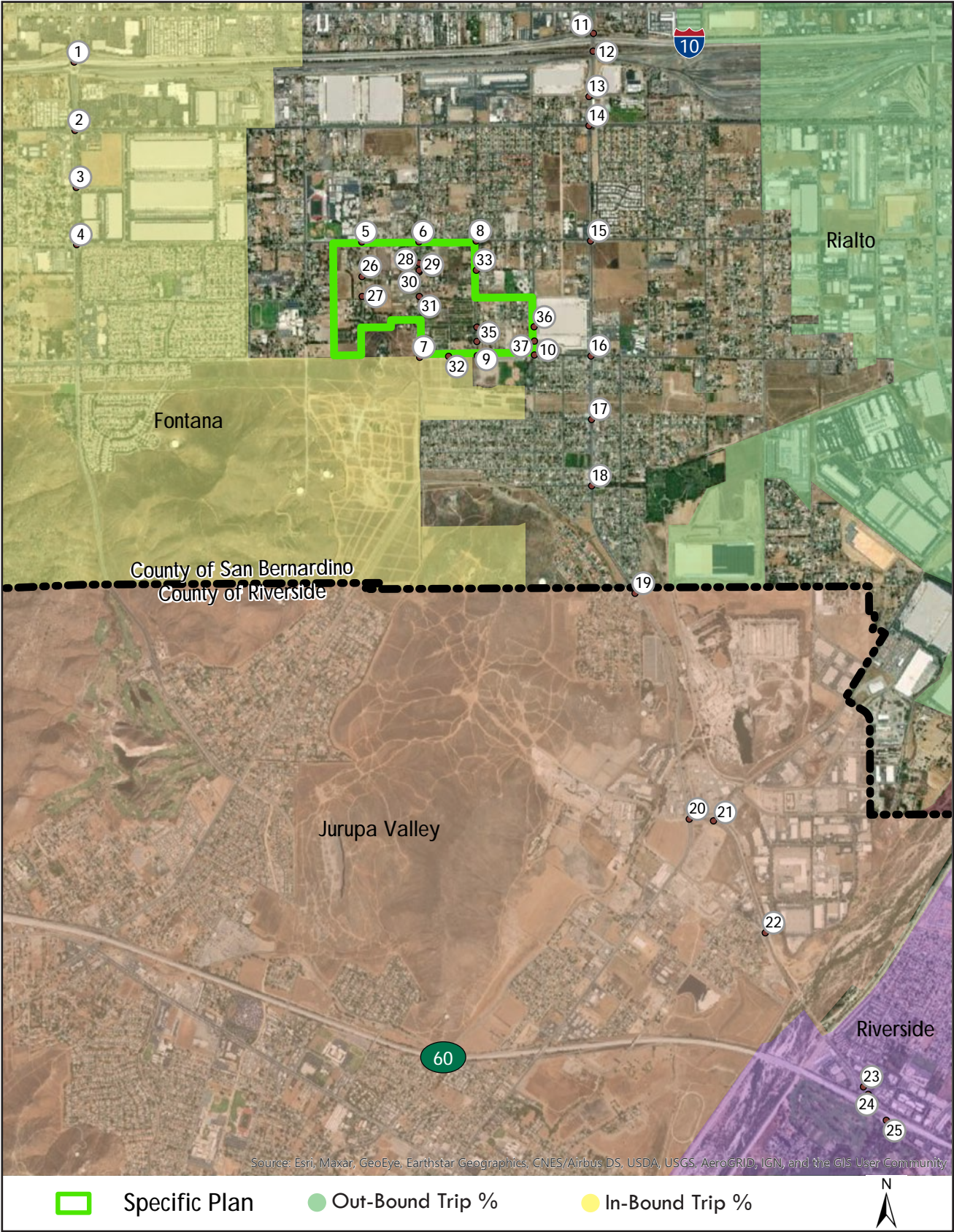
⁴ Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Heavy Warehouse.

⁵ Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

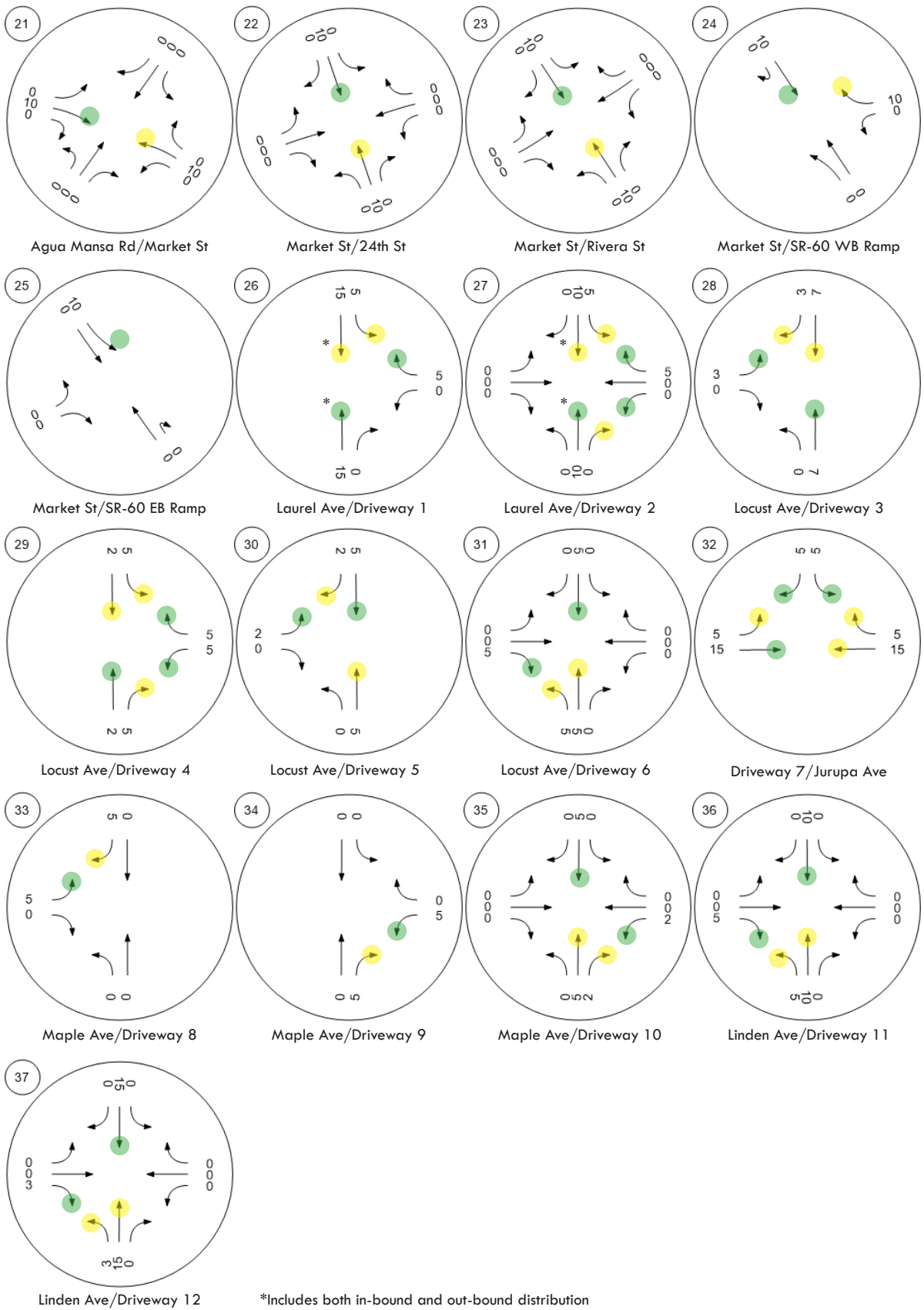
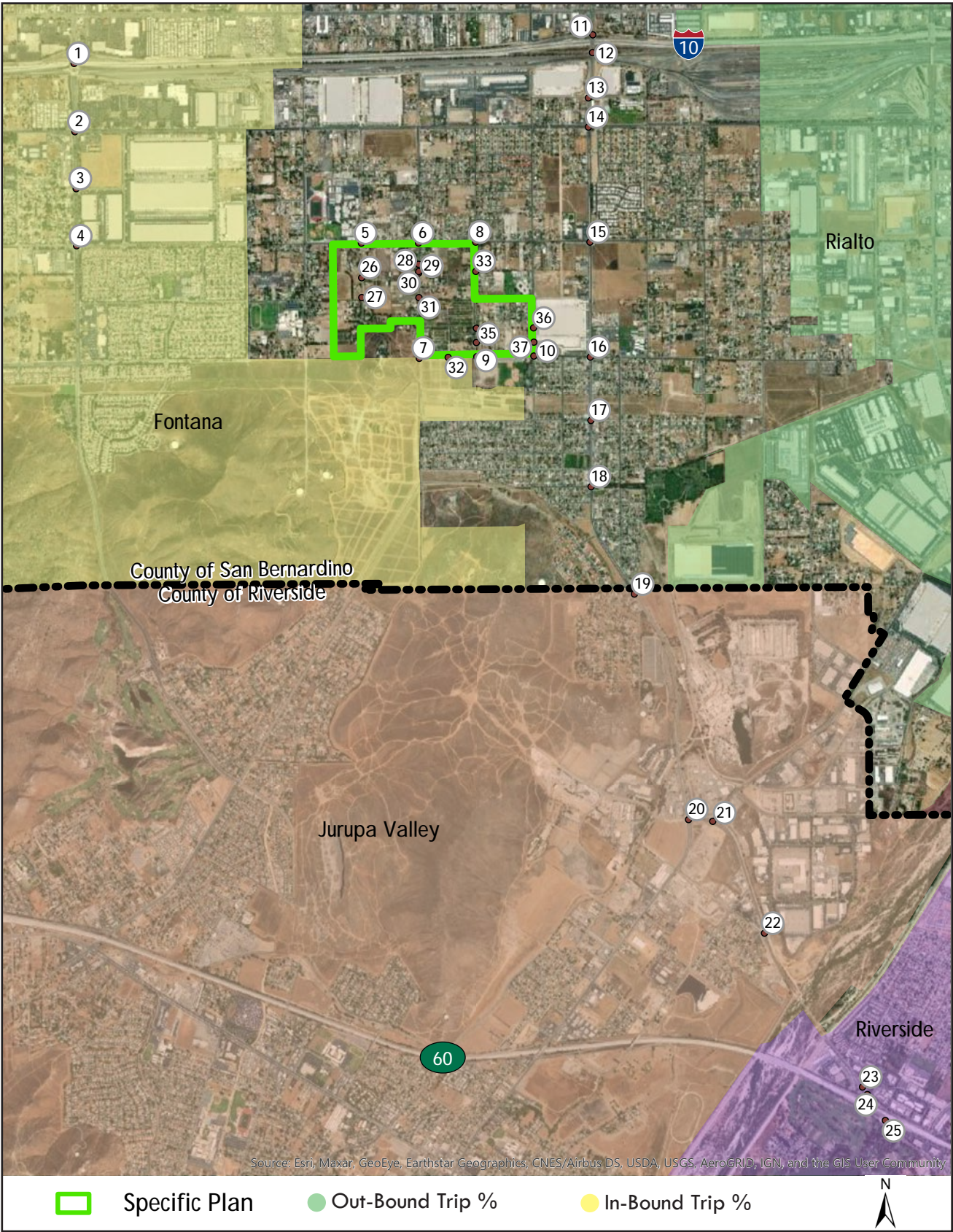
⁶ Vehicle Mix from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2009. 2-4 Axle trucks were separated out, assuming equal amount of each.

⁷ Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Light Industrial.

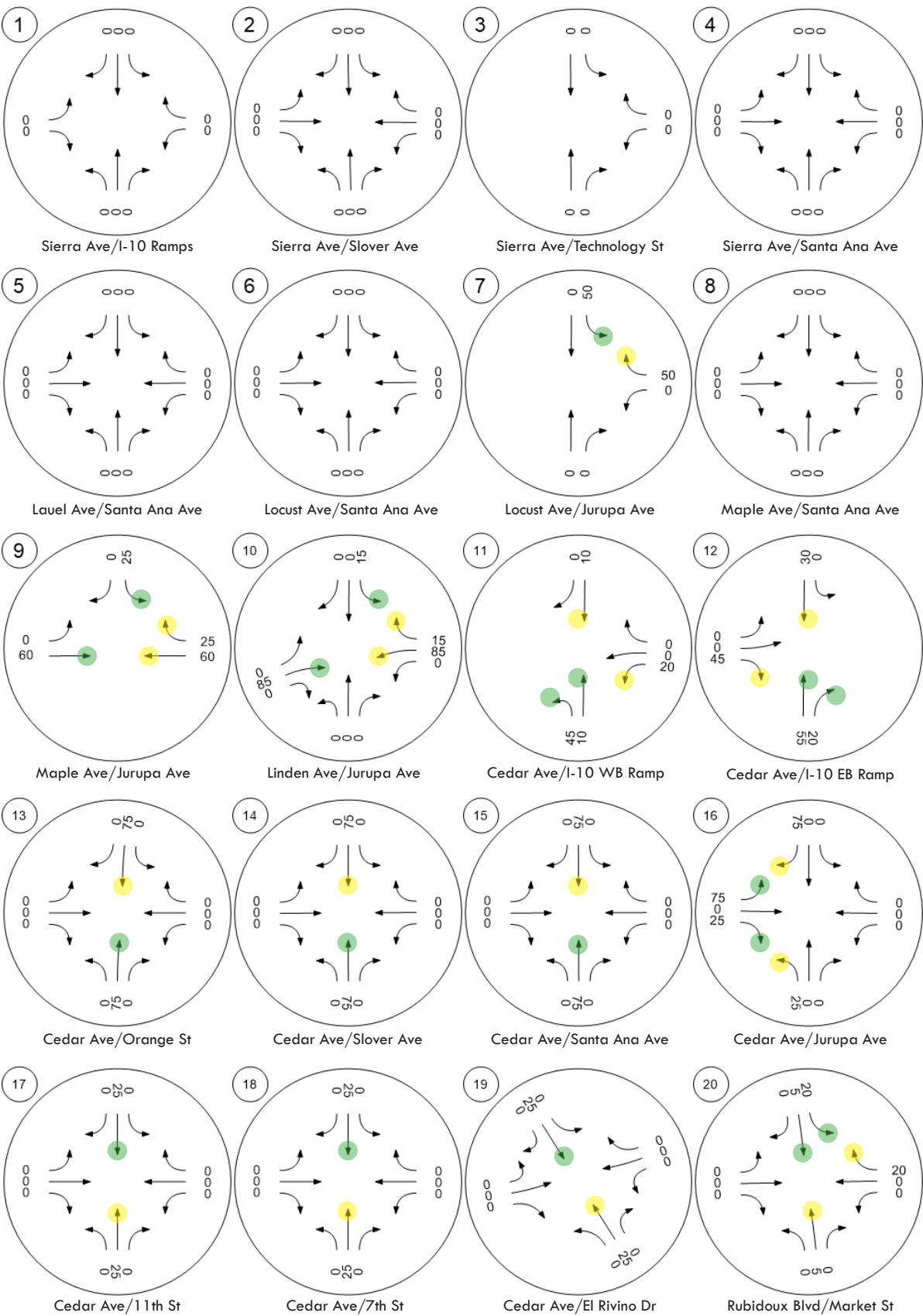
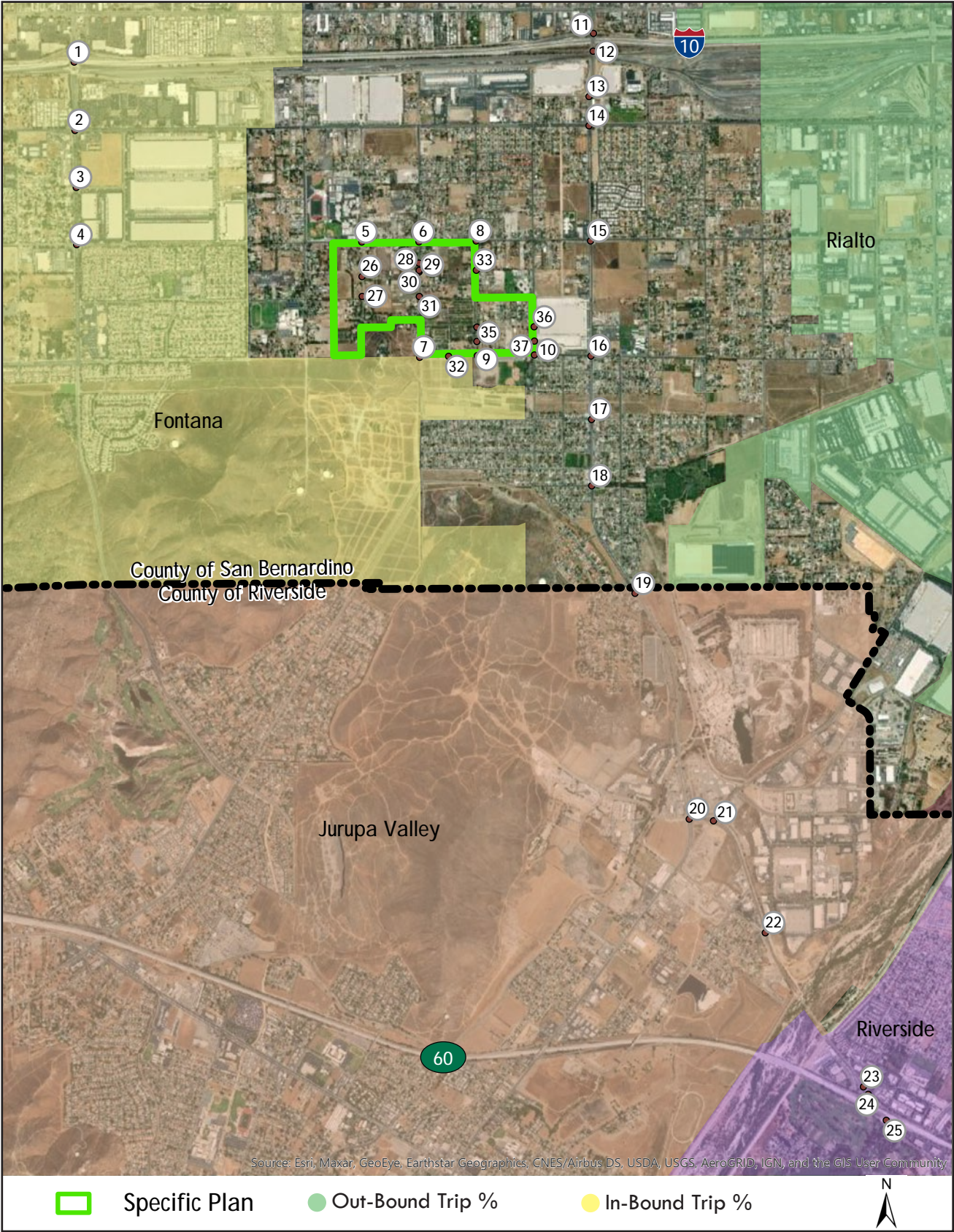
Automobile Distribution (A)



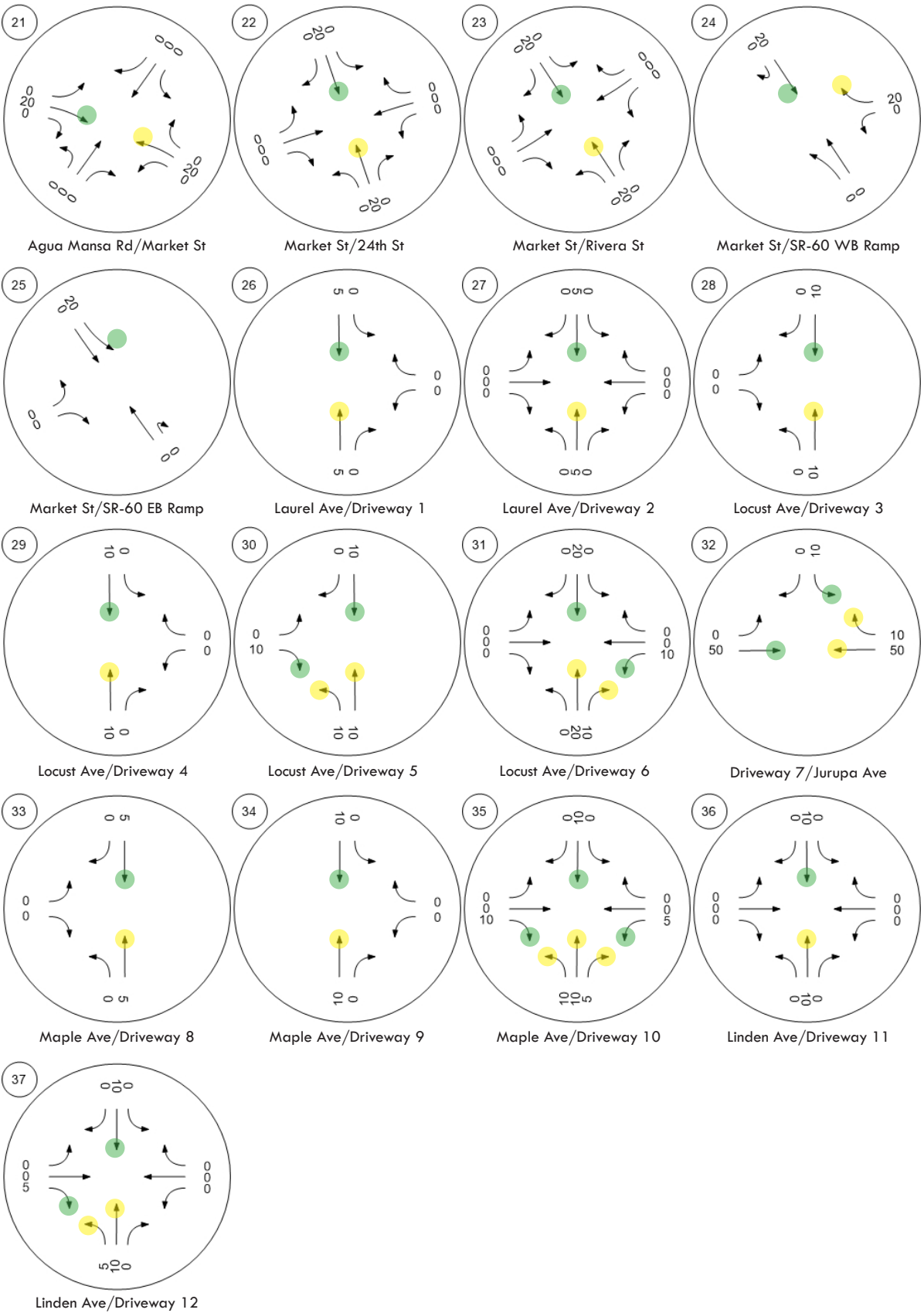
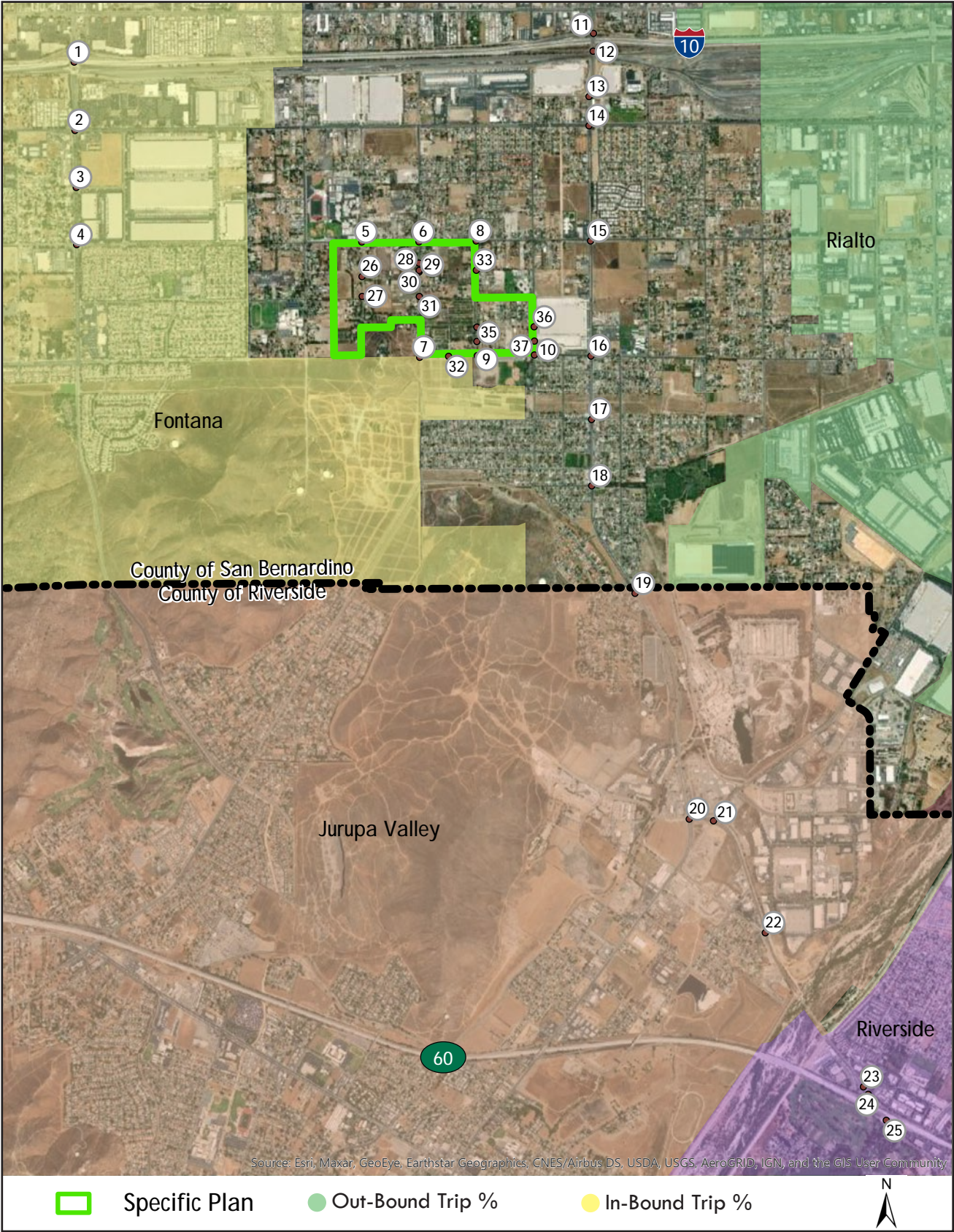
Automobile Distribution (B)



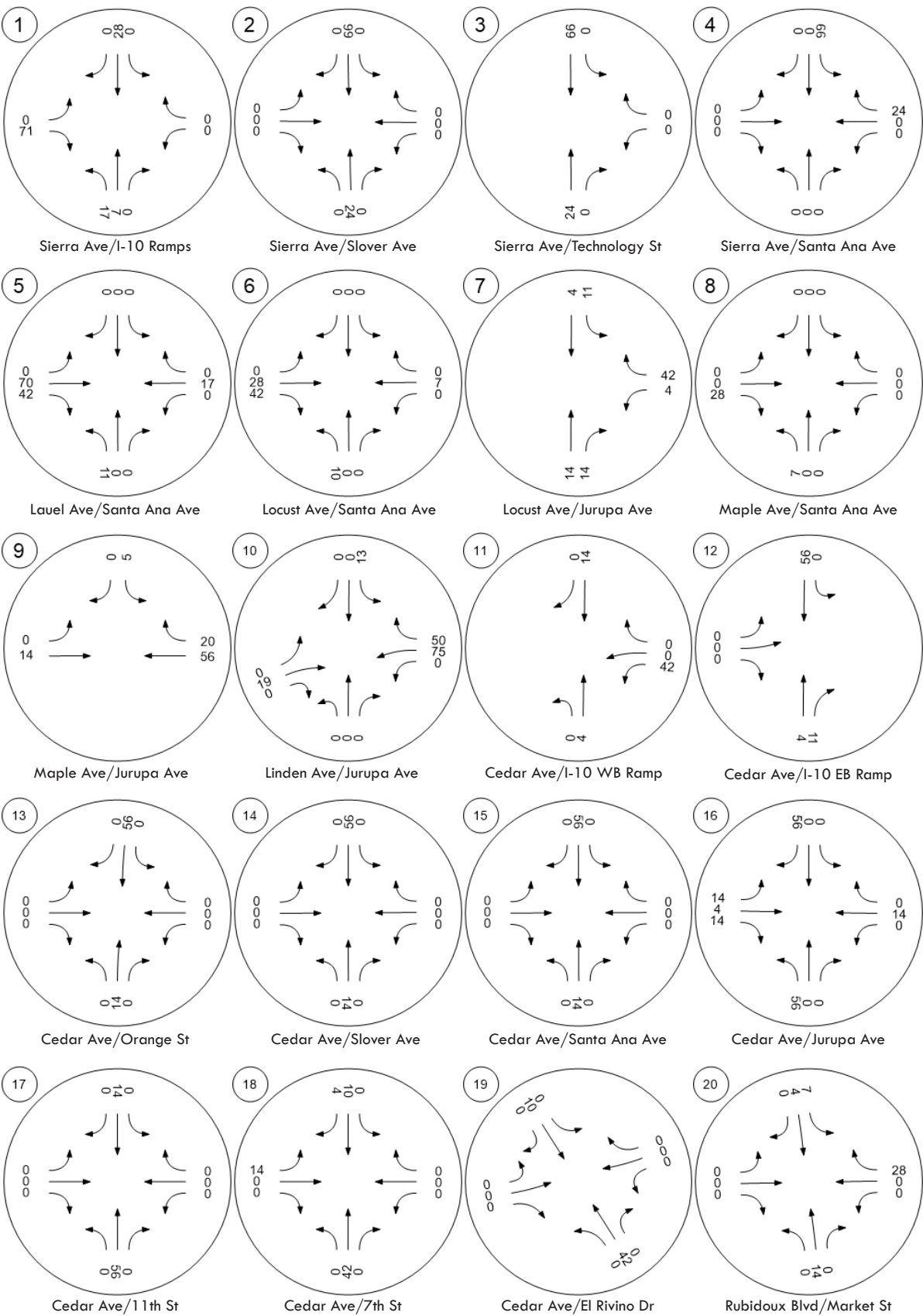
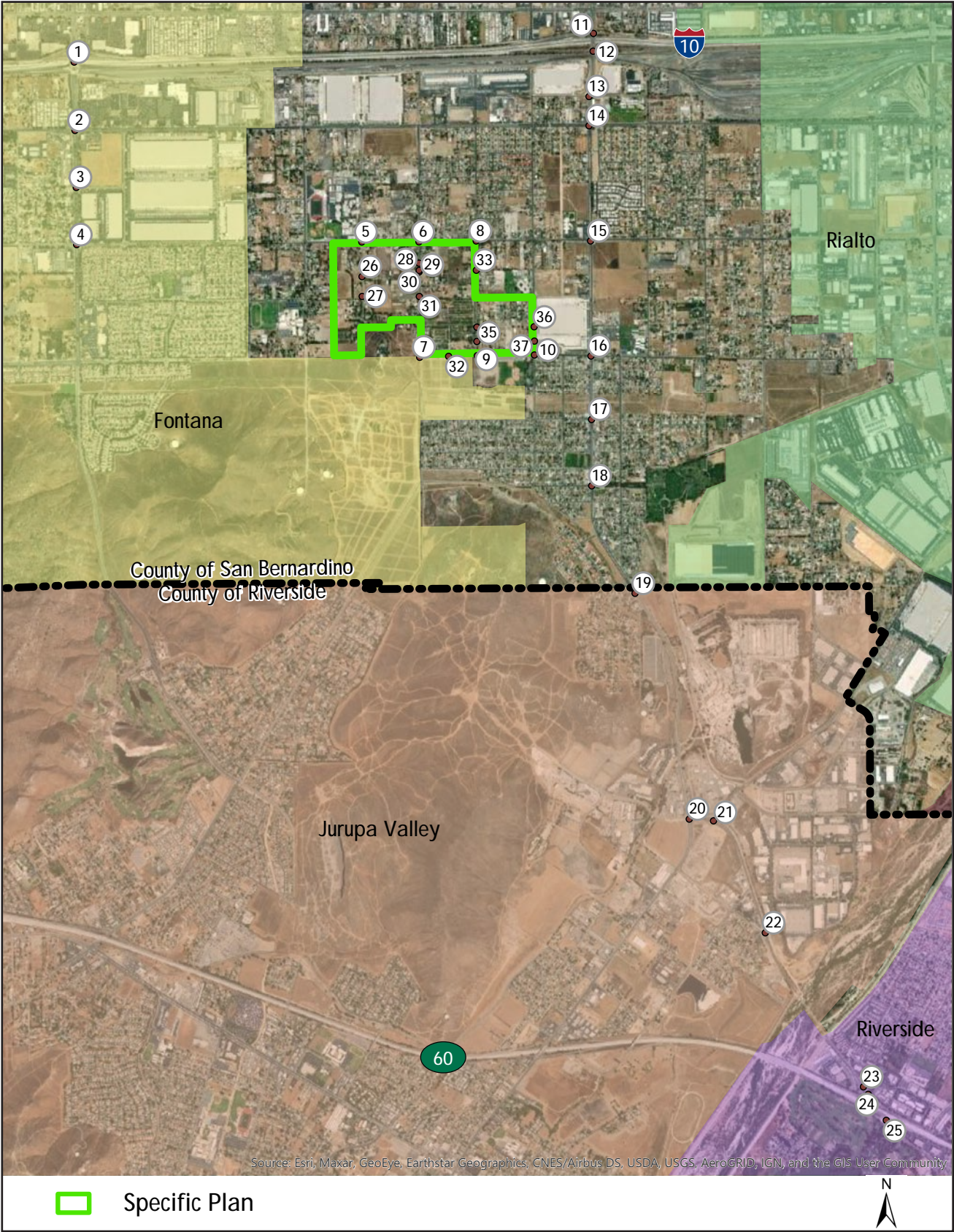
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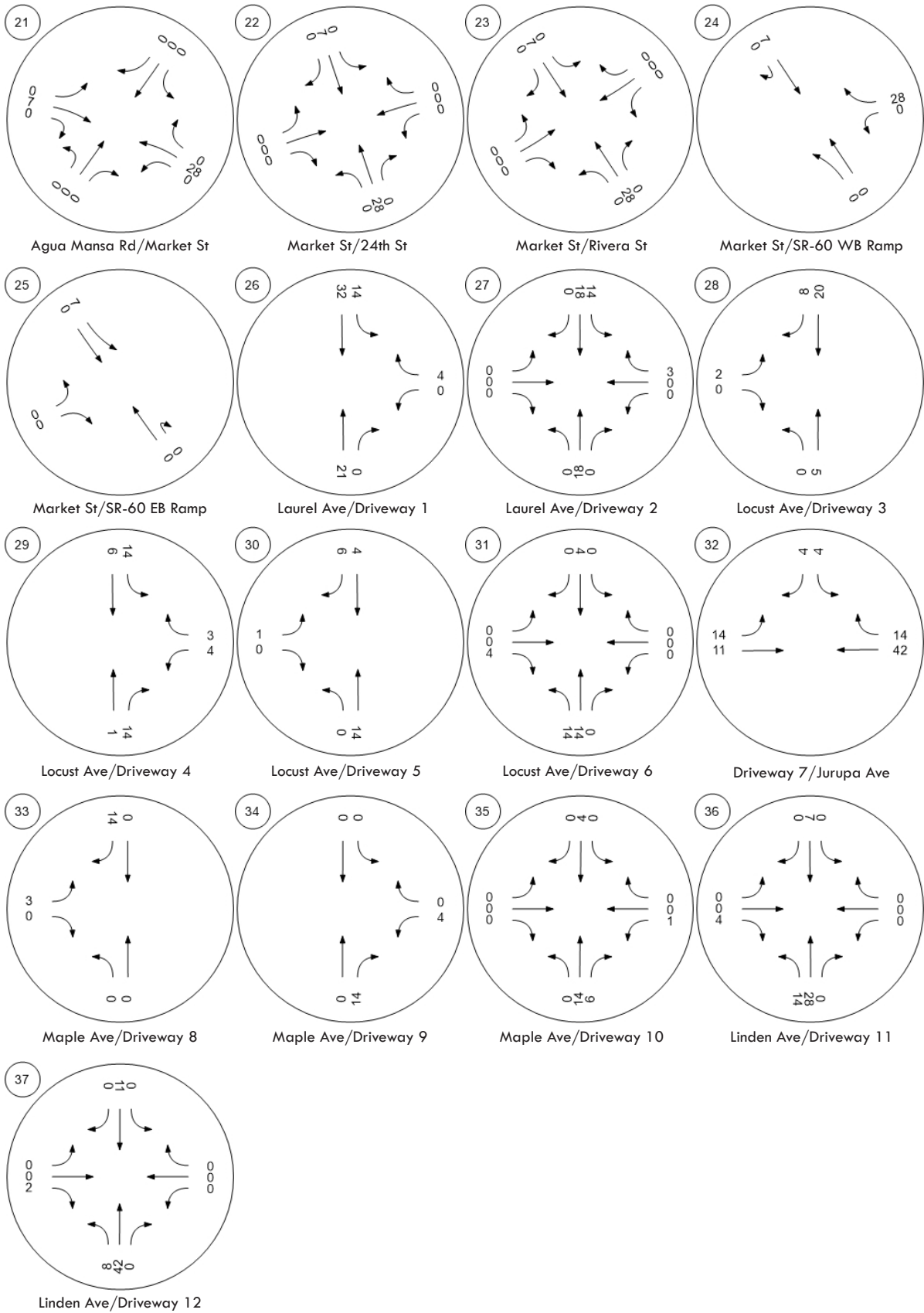
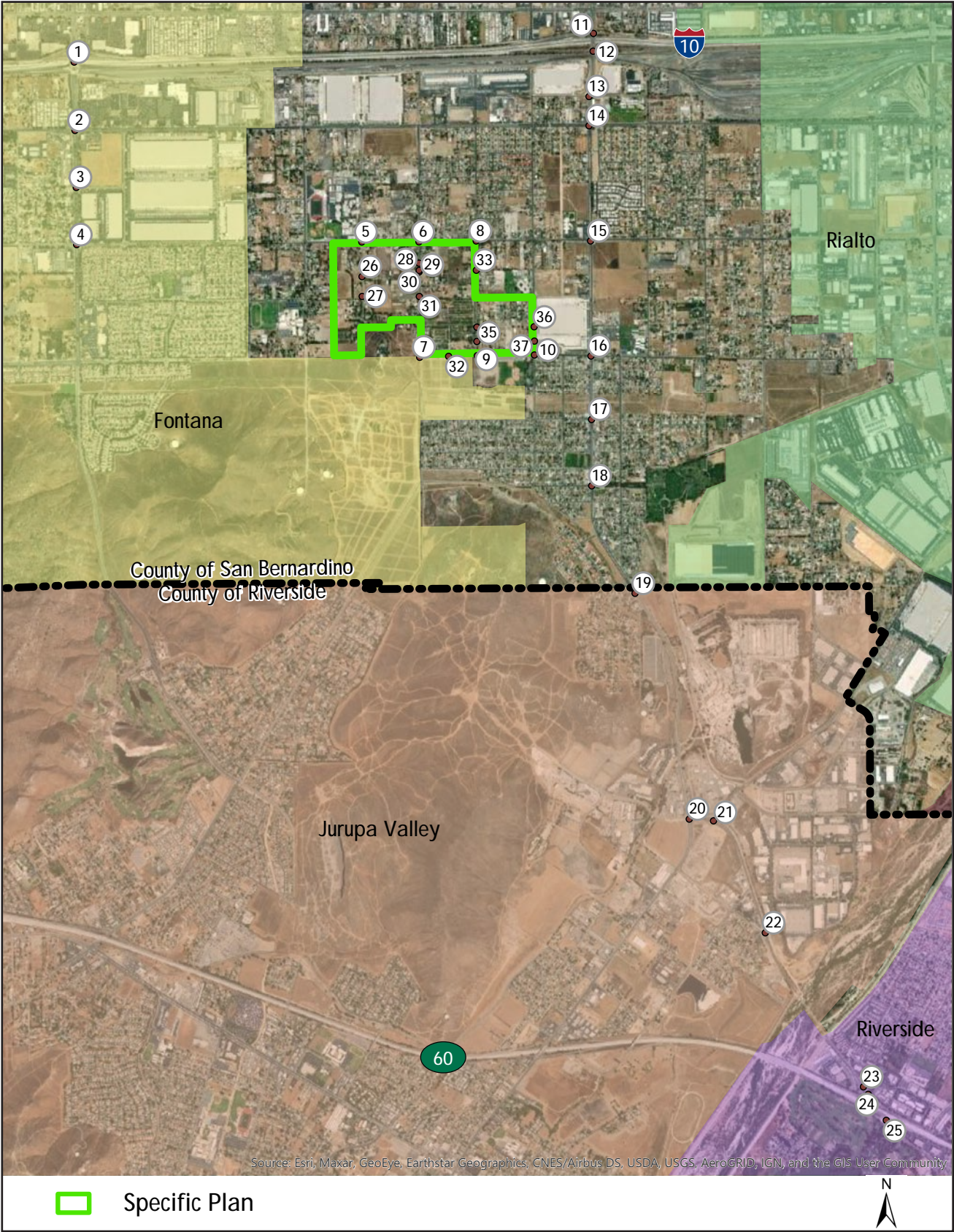
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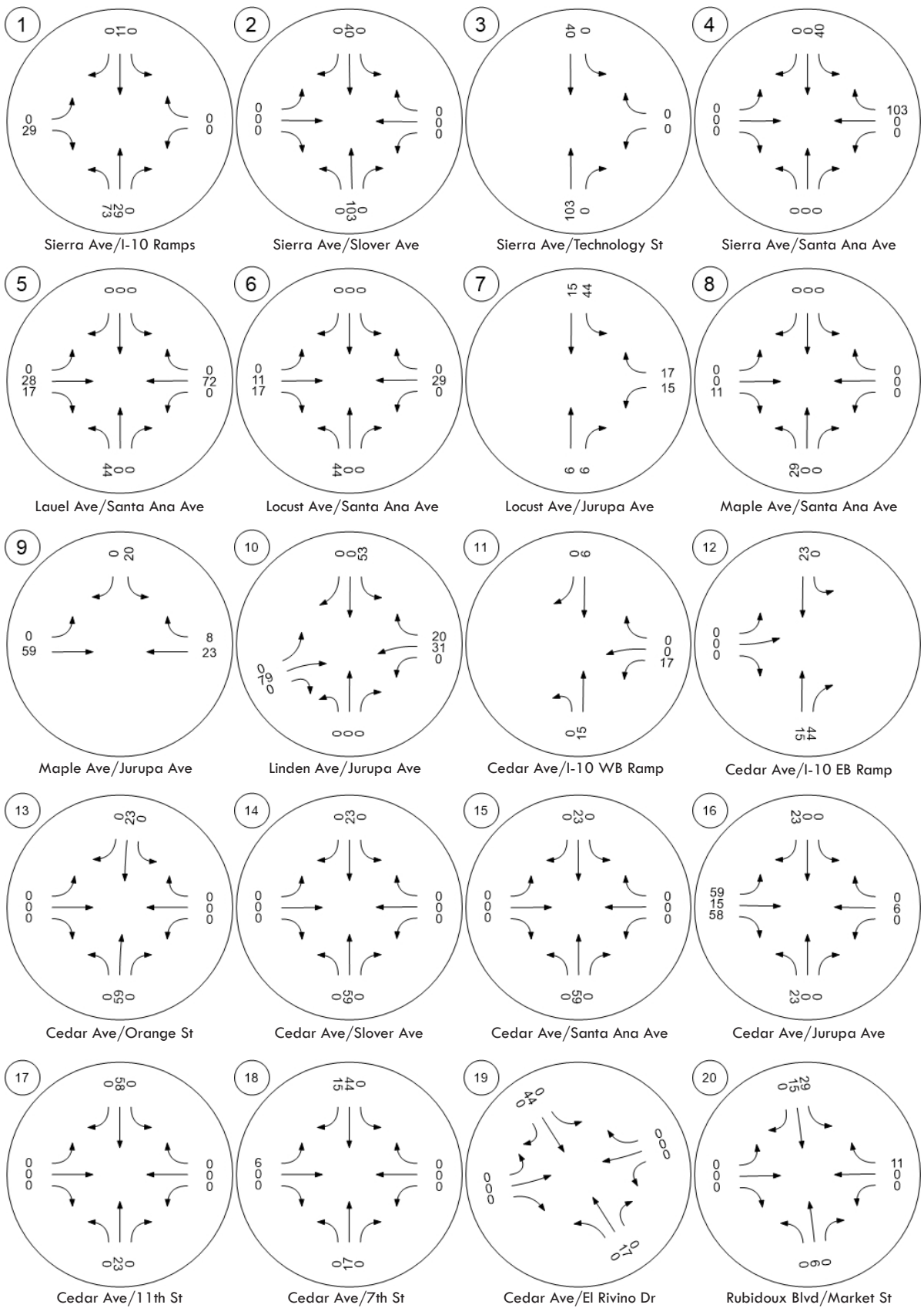
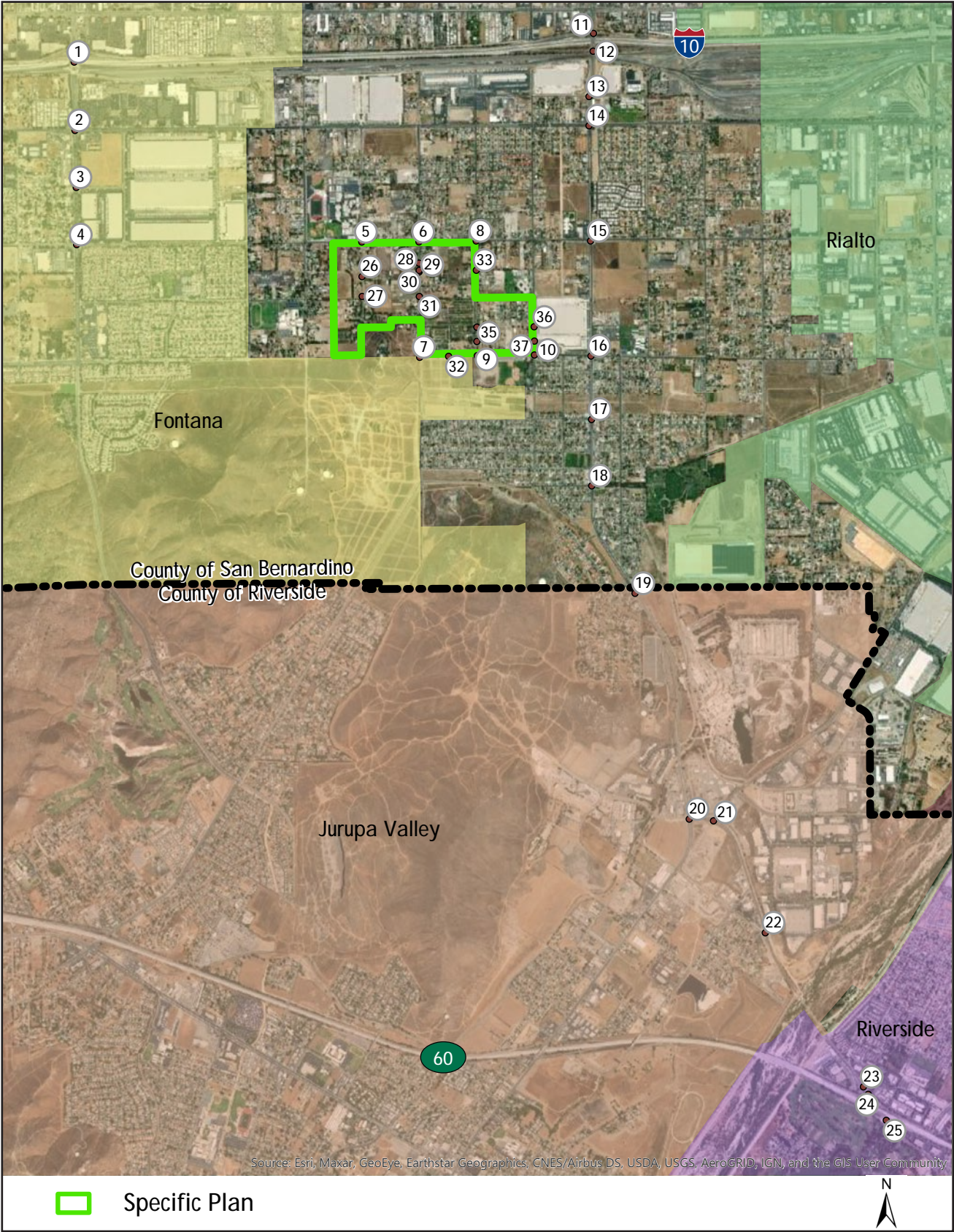
Automobile AM Assignment (A)



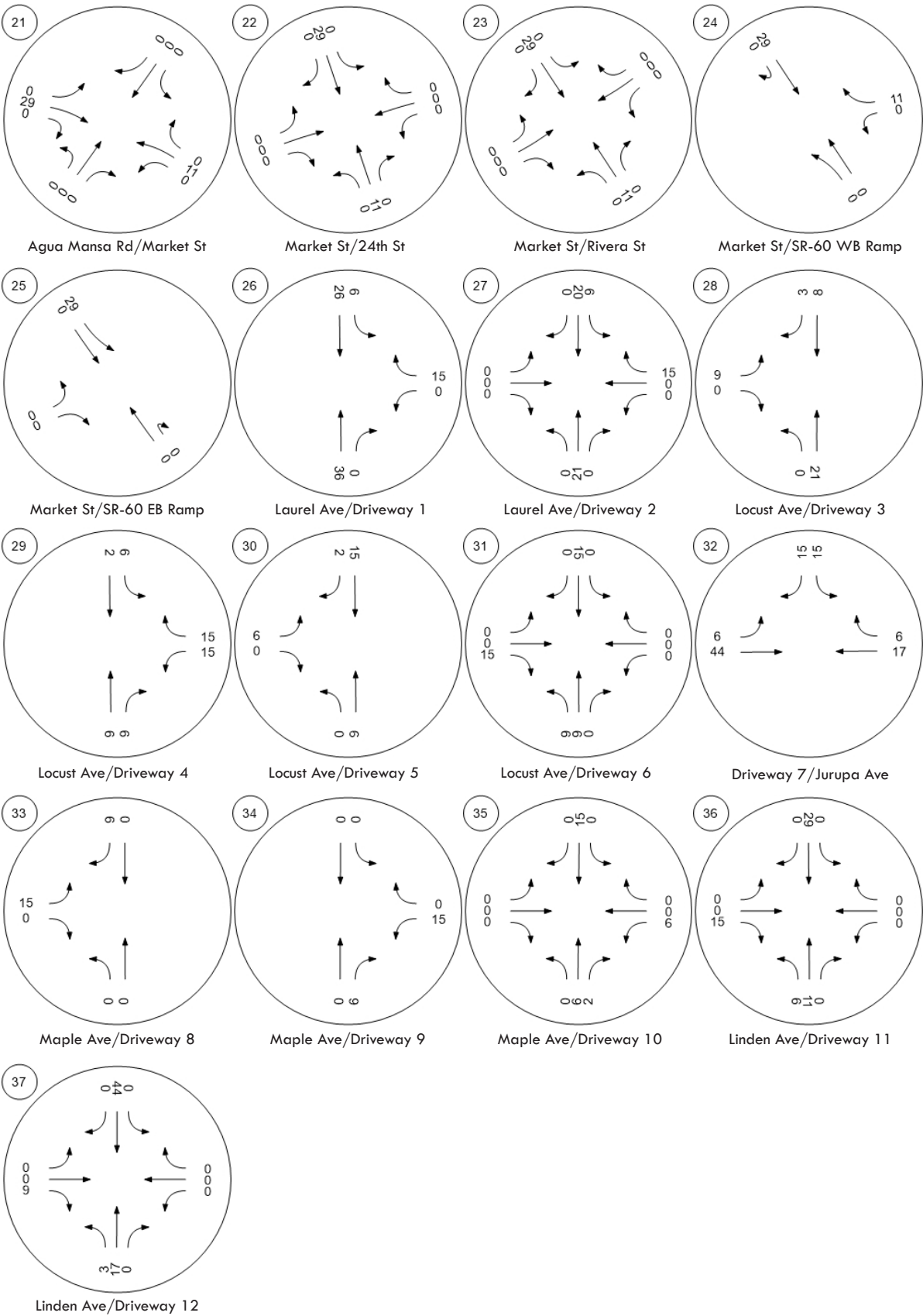
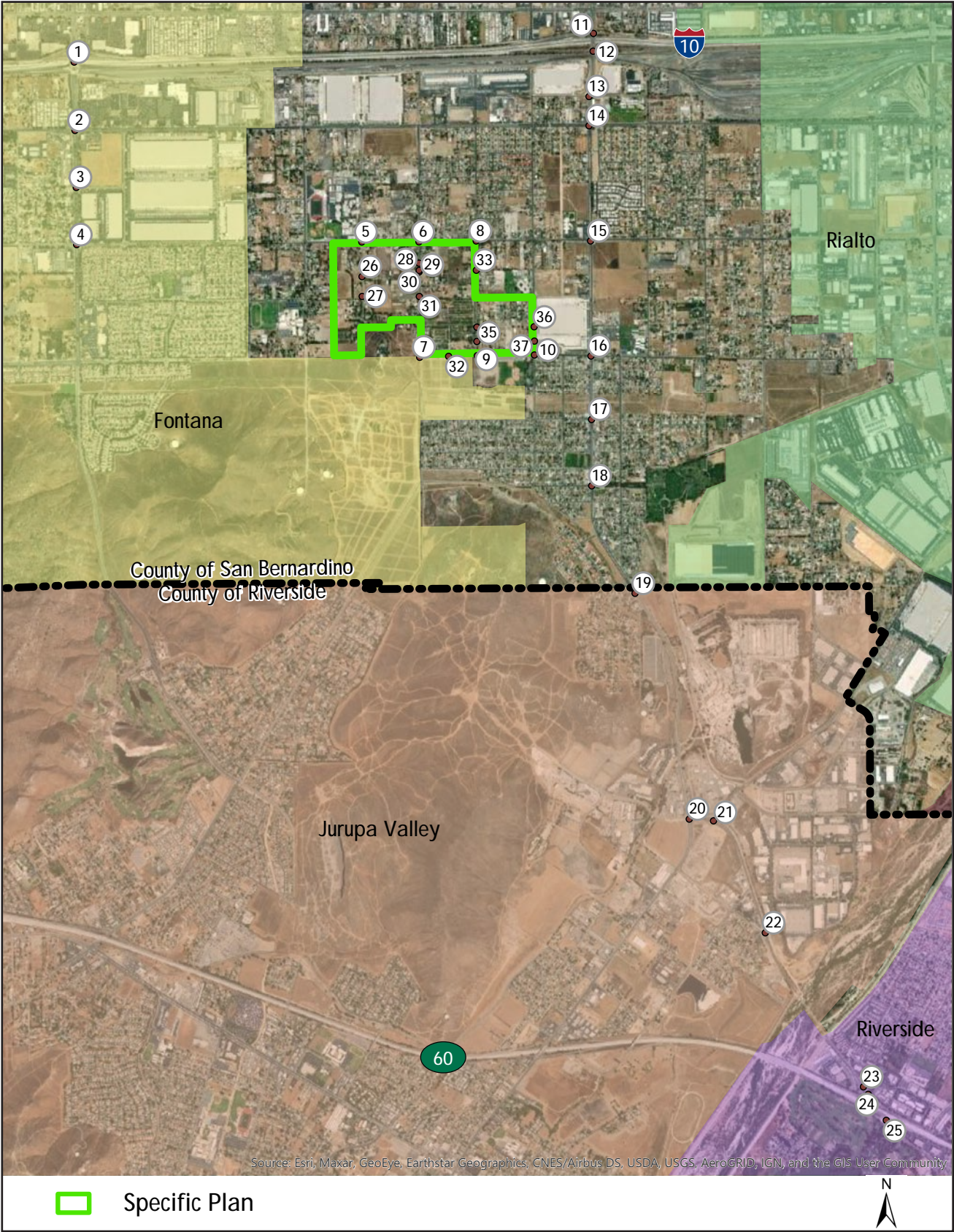
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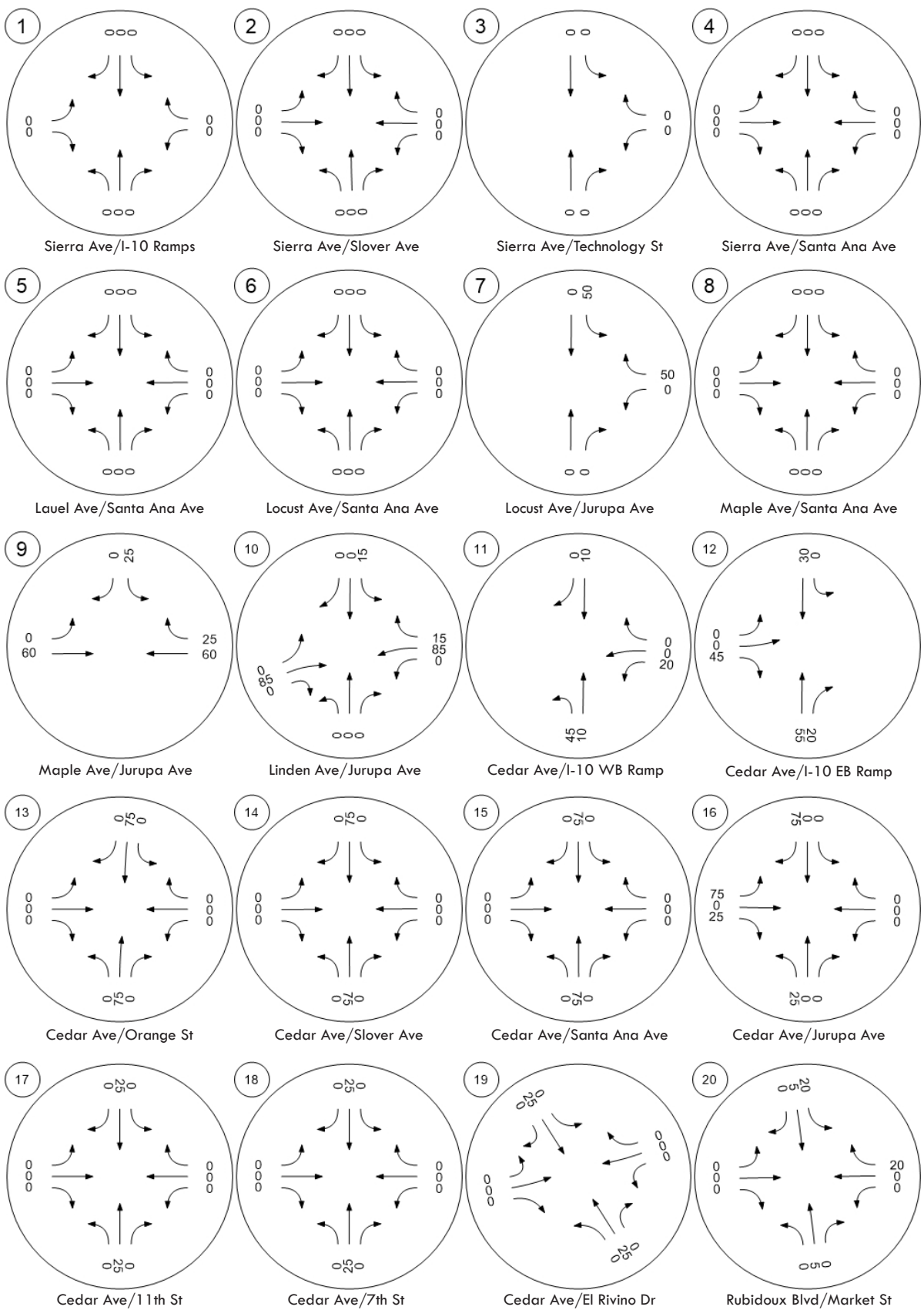
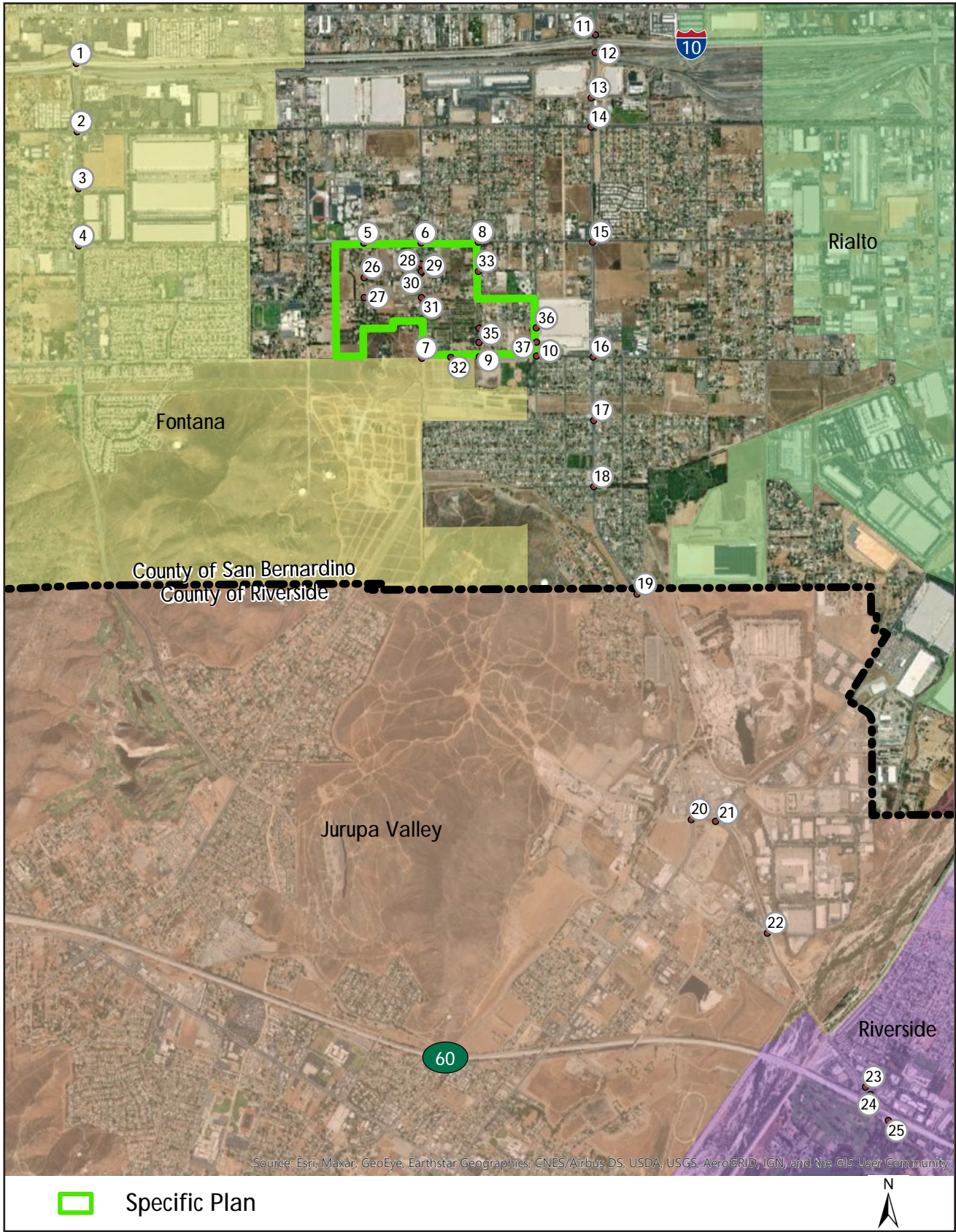
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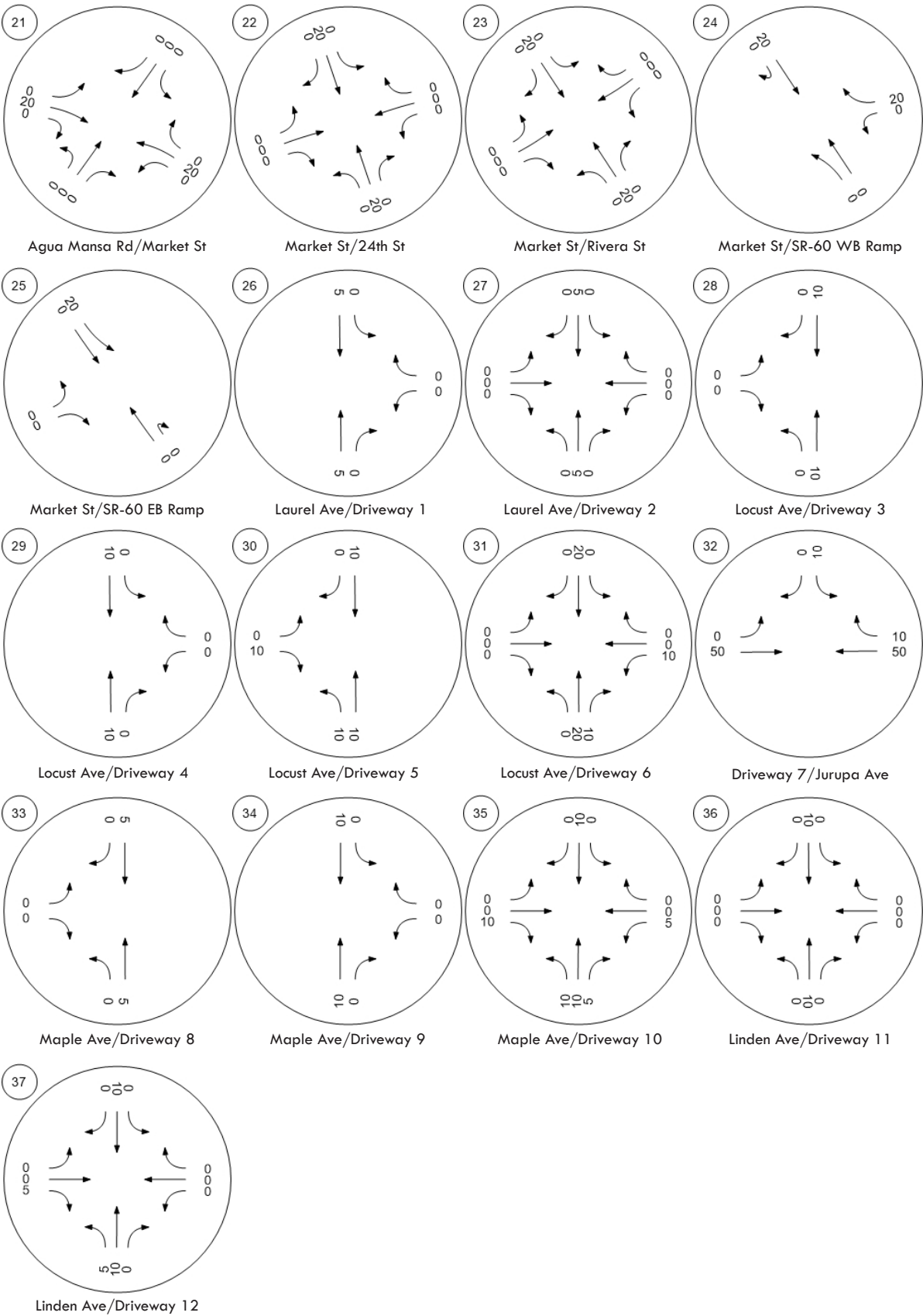
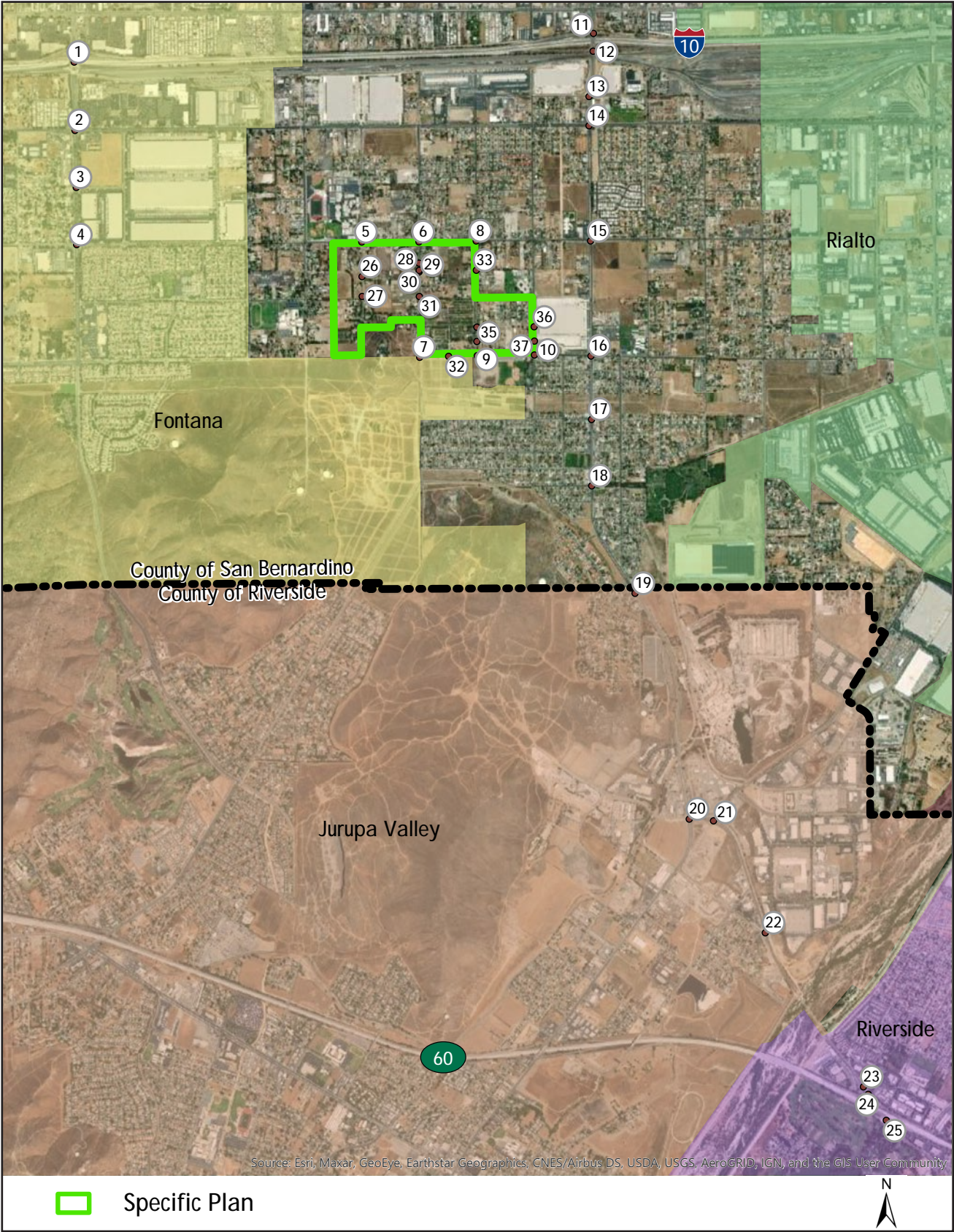
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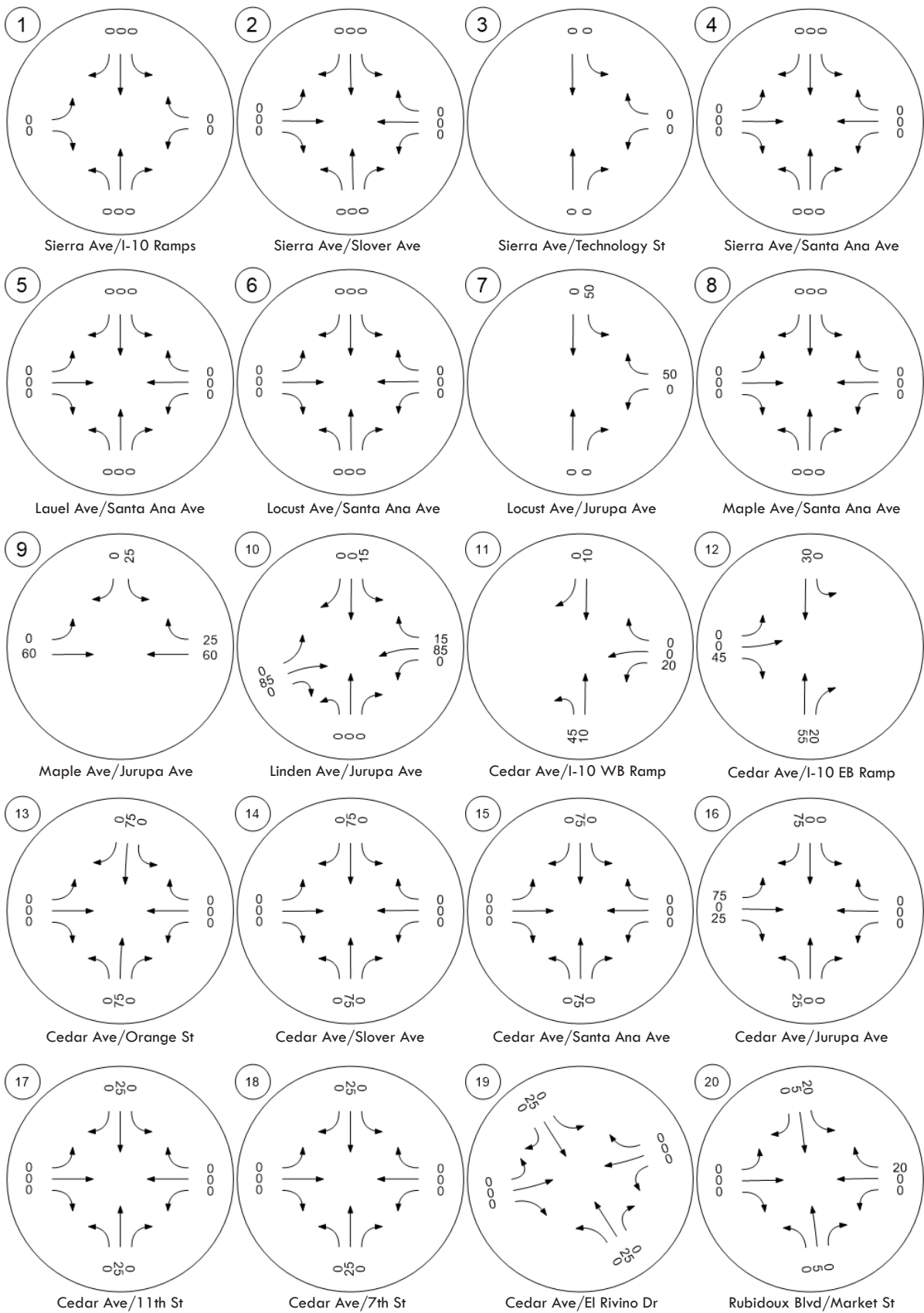
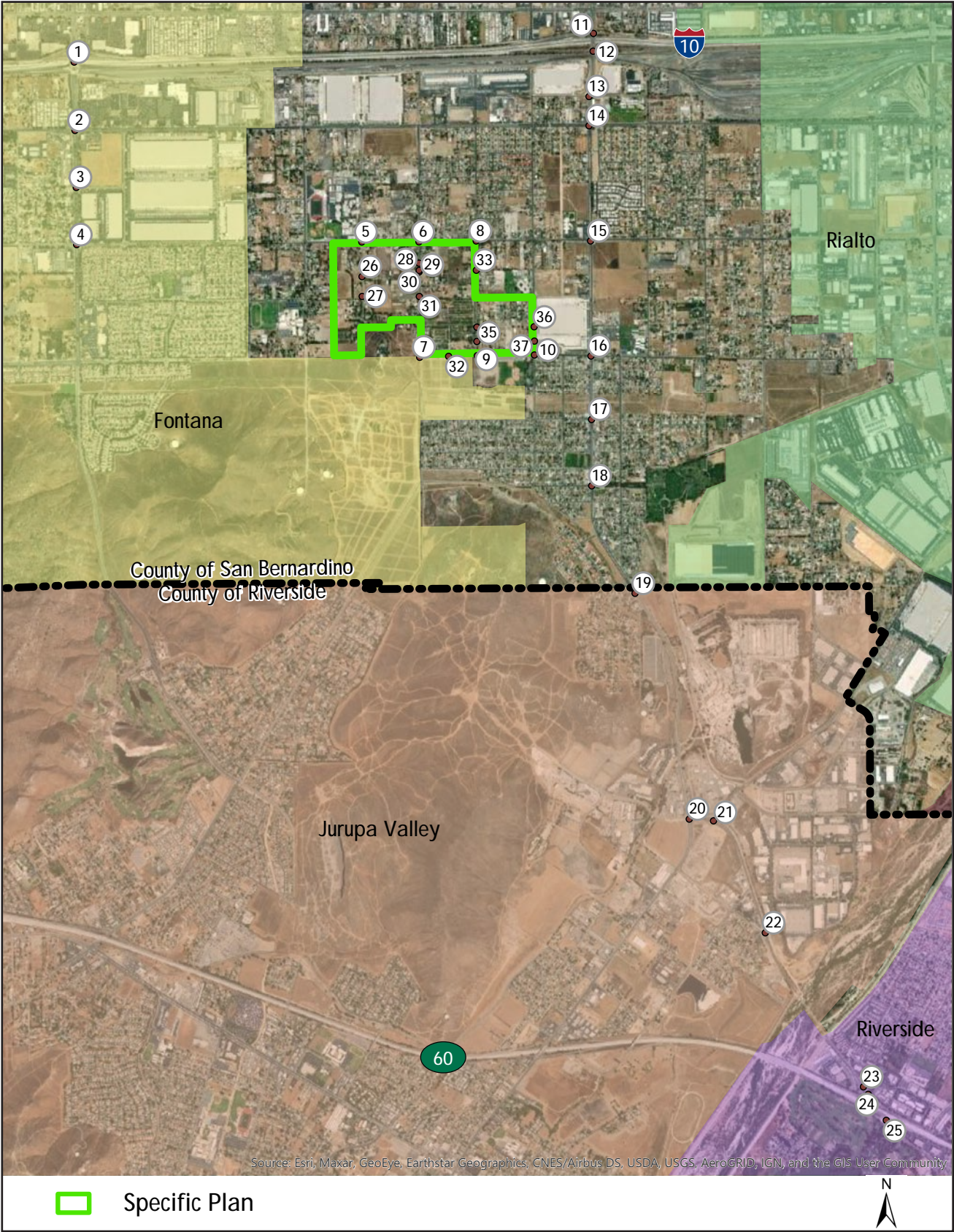
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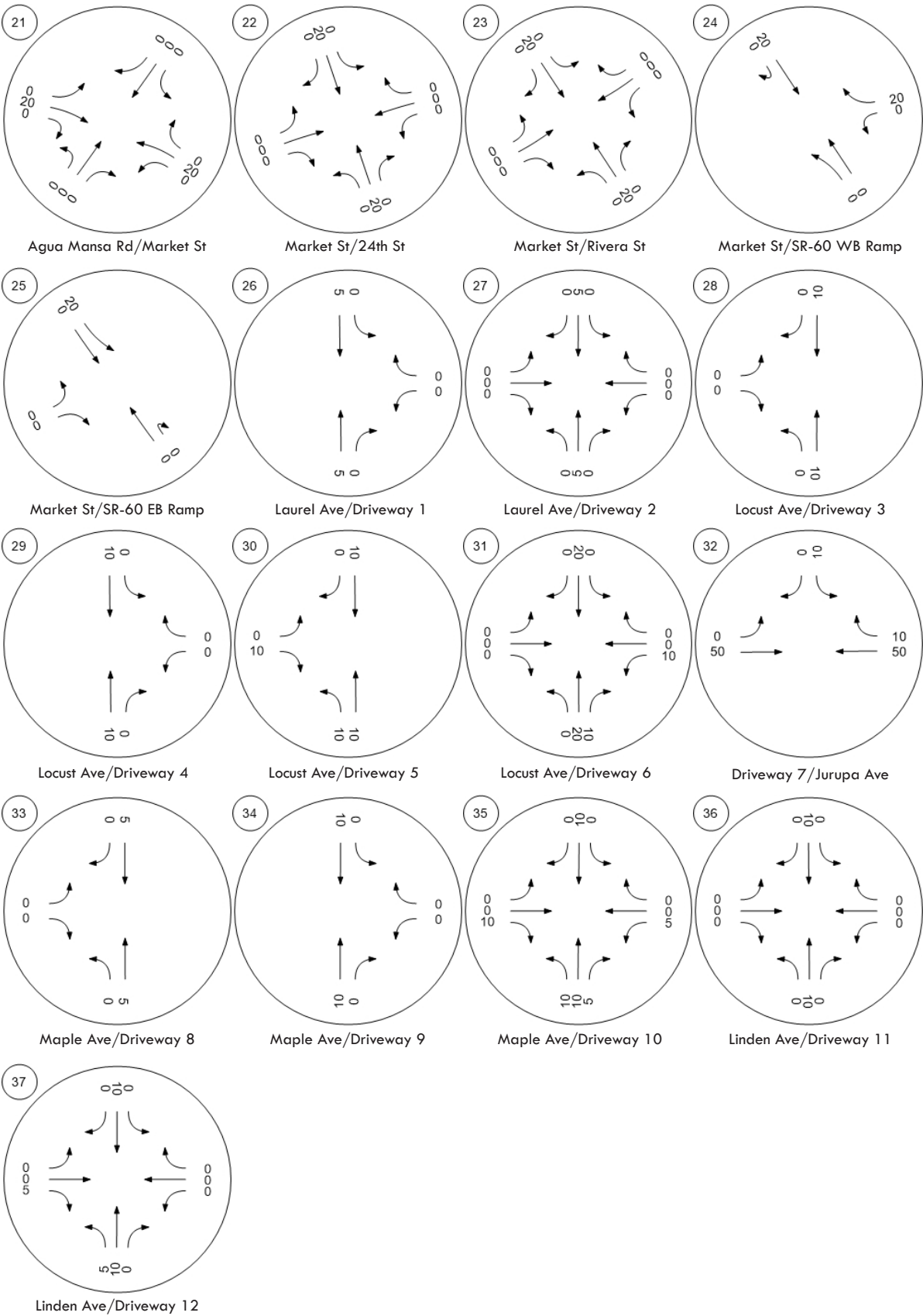
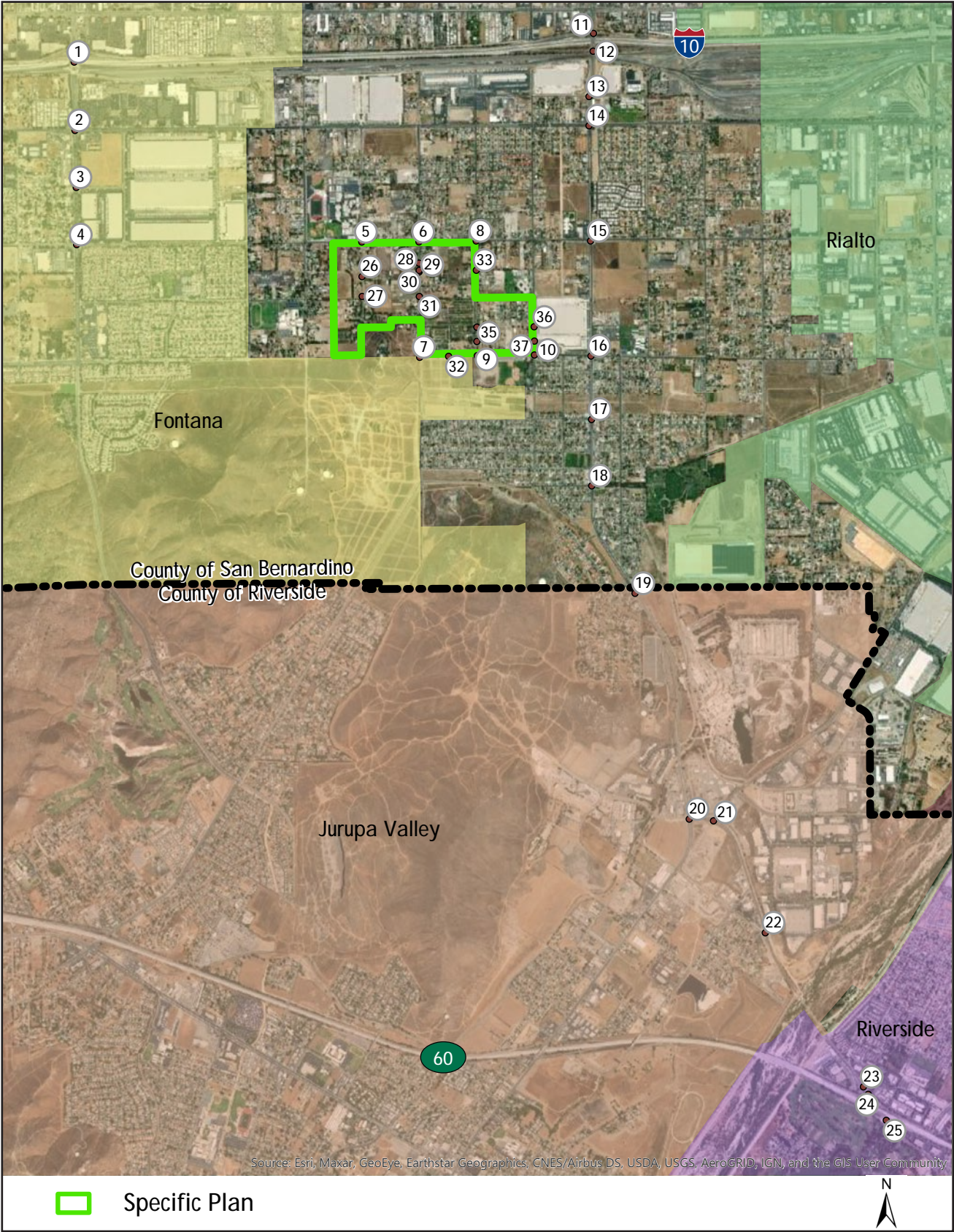
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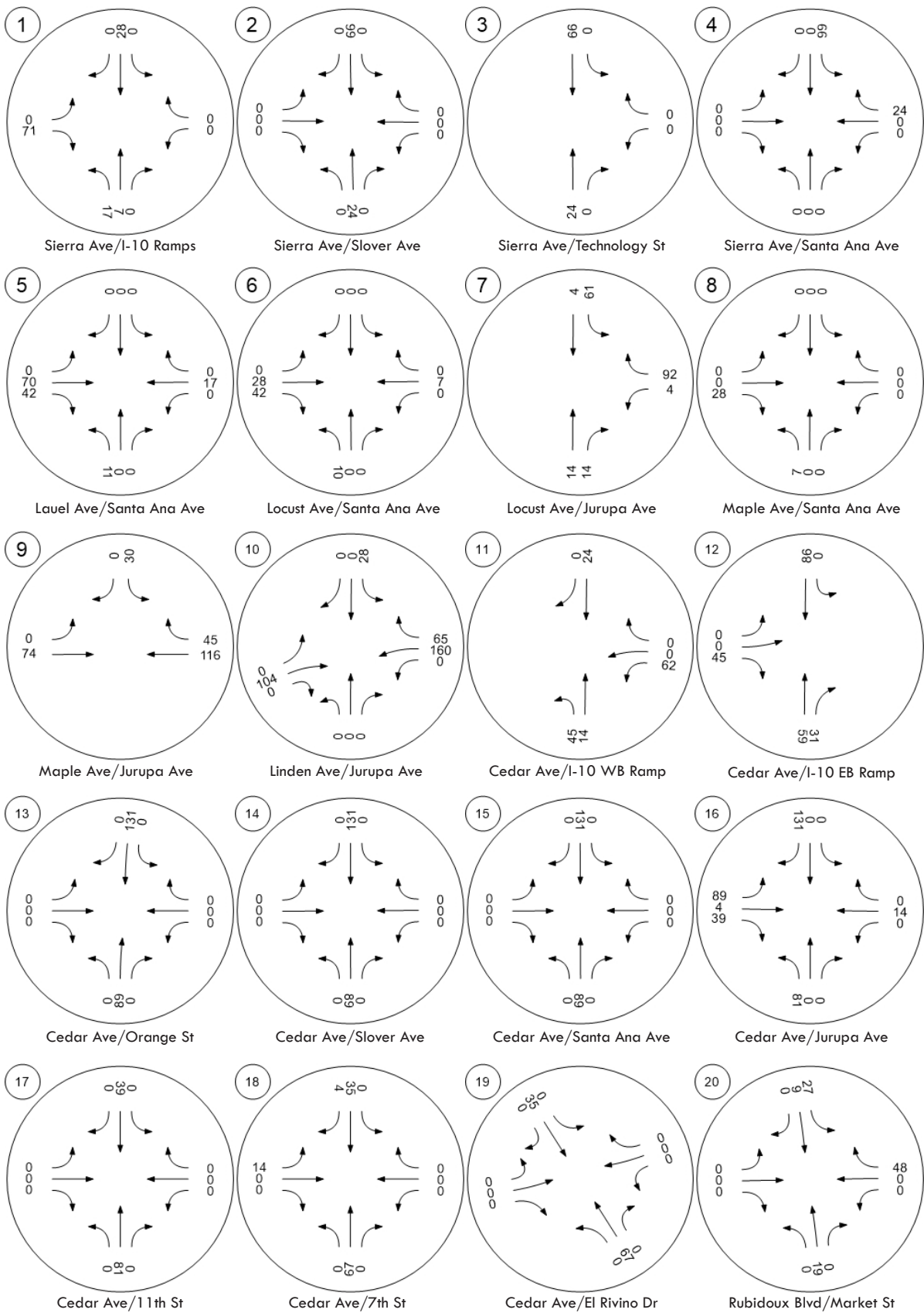
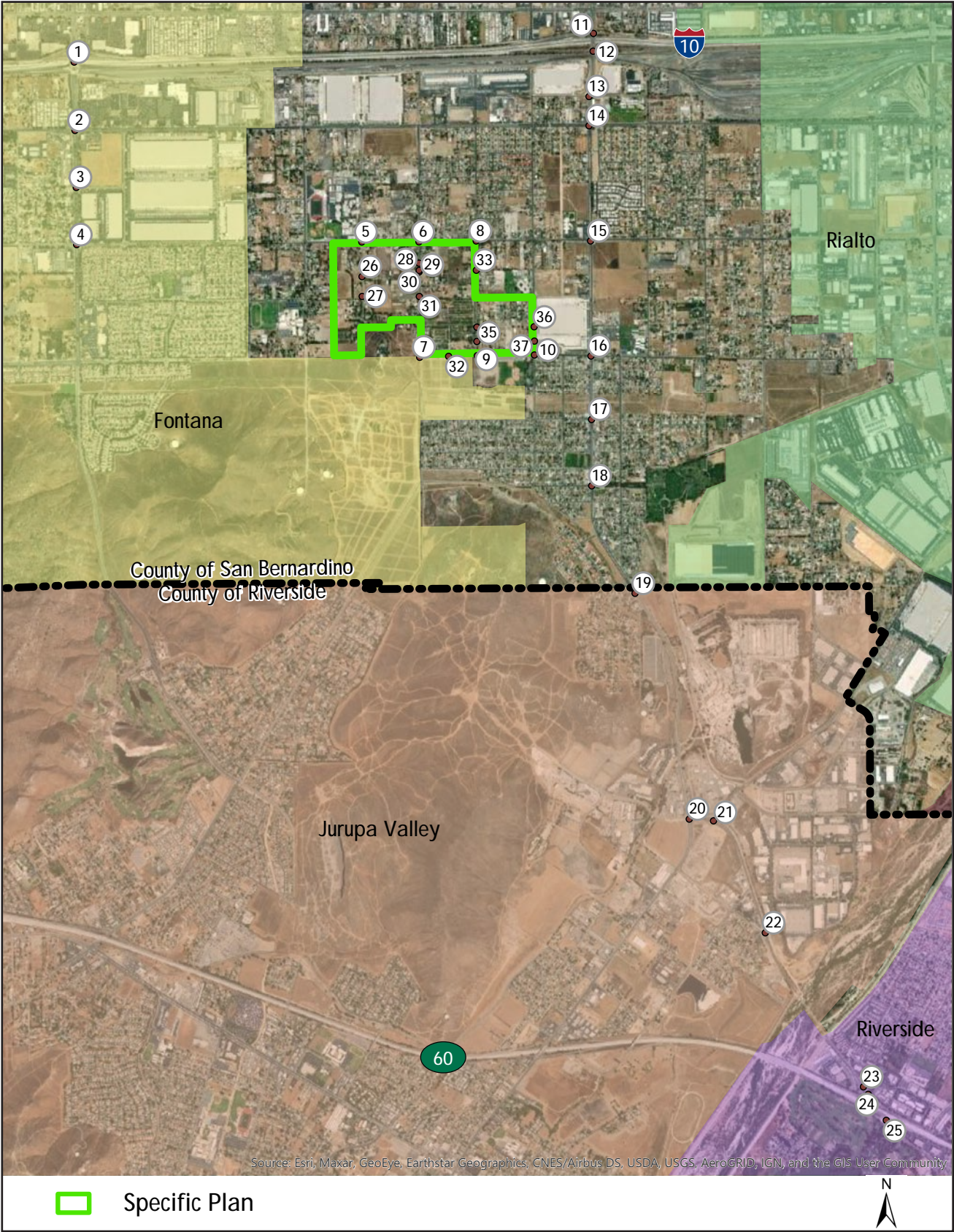
Truck PM Assignment (A)



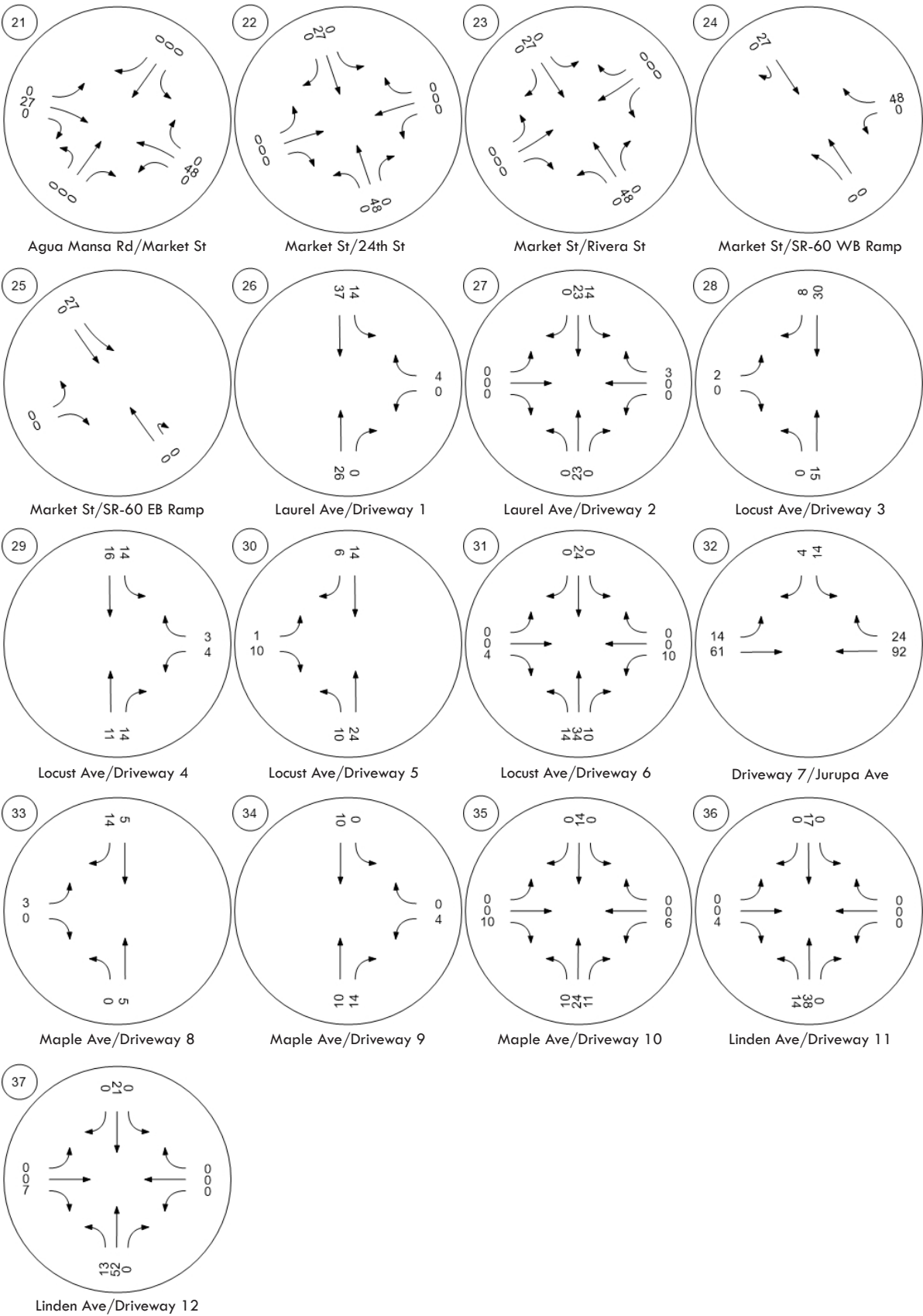
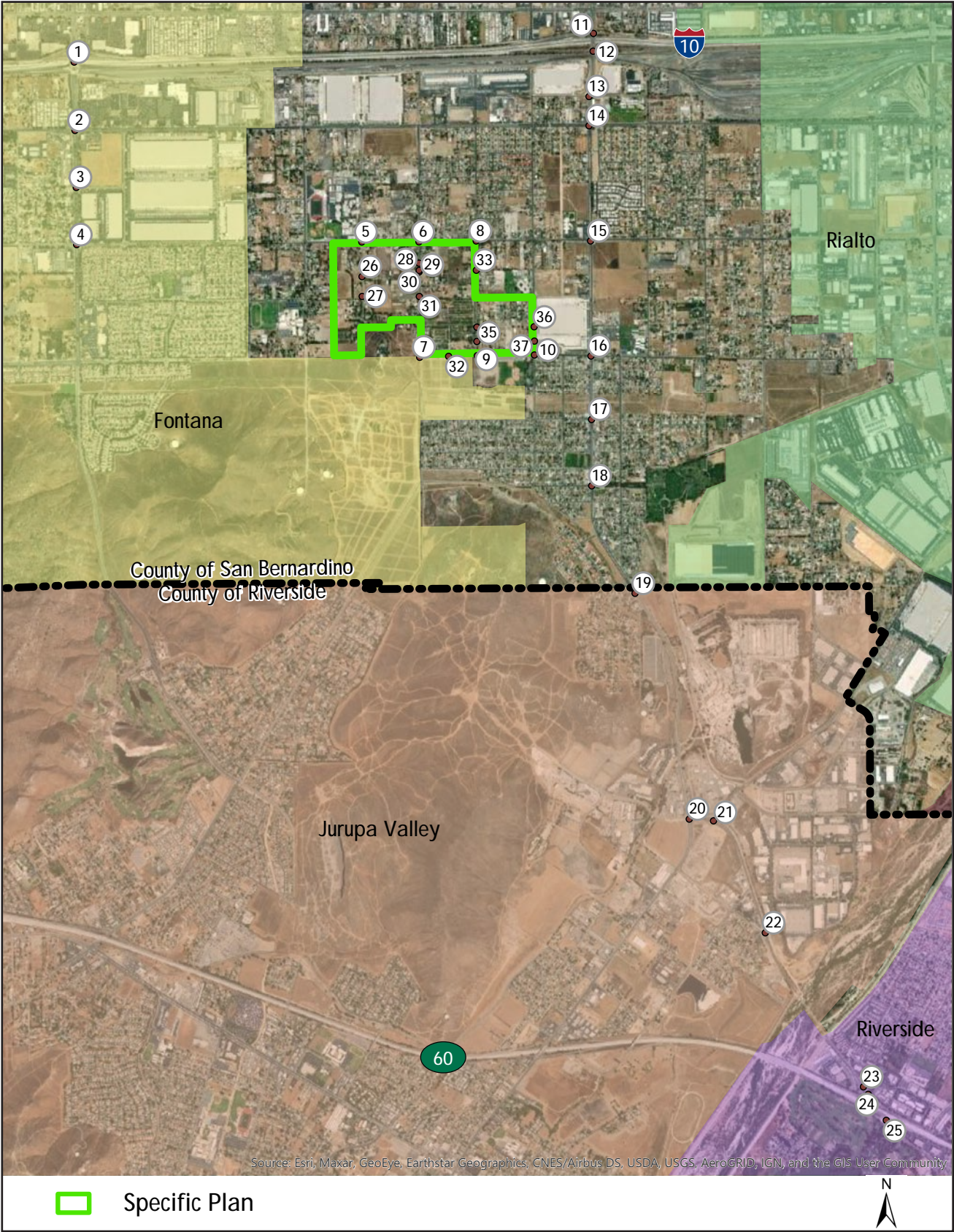
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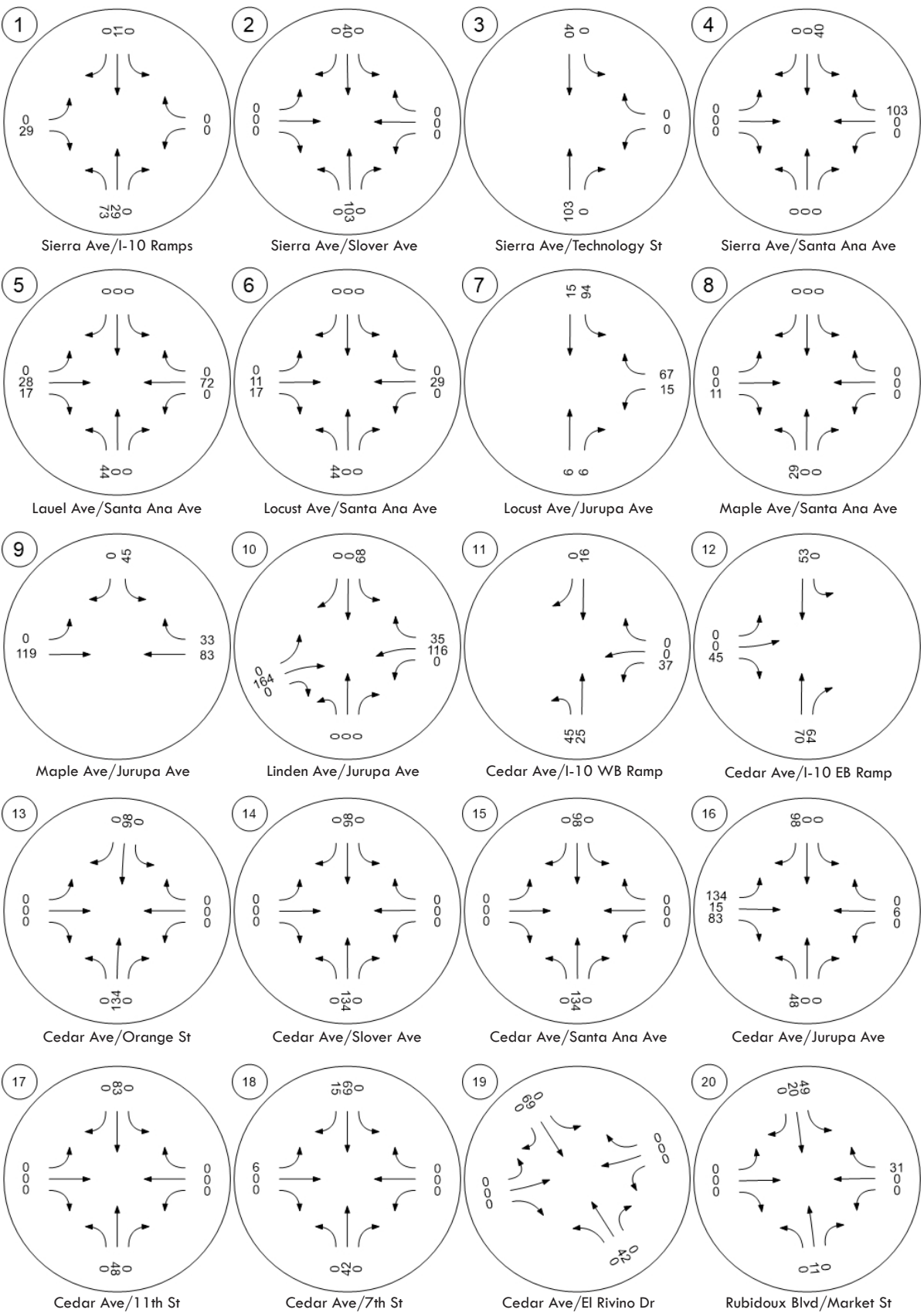
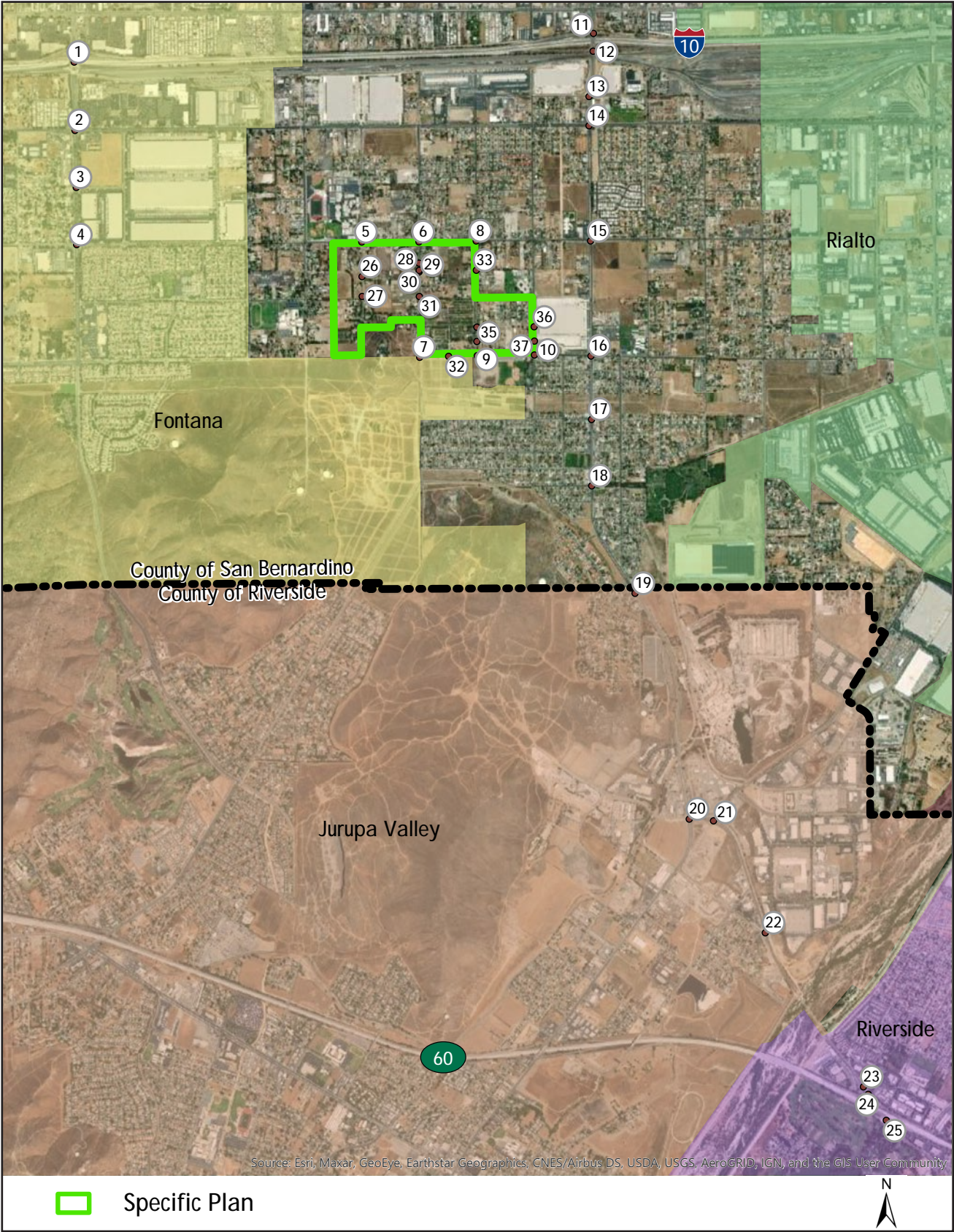
Total AM Assignment (A)



Total AM Assignment (B)



Total PM Assignment (A)



Total PM Assignment (B)

