

Date: December 4, 2024  
Prepared by: Sina Salehipour, Abby Pal, EPD Solutions Inc.  
To: City of Perris  
Site: Harvest Landing Retail Center & Business Park Project  
EPD Project Number 21-052  
**Subject:** Caltrans Queuing and Safety Analysis

---

This memo evaluates the potential queueing induced safety hazard on the State of California Department of Transportation (Caltrans) facilities for the Harvest Landing Retail Center & Business Park project (Project) located in the City of Perris. This is a supplemental analysis to the Project Traffic Impact Analysis (TIA) report. For detailed distribution and volume analysis, refer to the Project TIA.

The Project is located in the western central portion of the City of Perris, southeast of the intersection of W Placentia Avenue and I-215/E Frontage Road. The site consists of 111 parcels with Assessor's Parcel Numbers (APNs)<sup>1</sup>. The Project includes a total of 358.28 acres and consists of three components: Commercial, Business Park Phase 1, and Business Park Phase 2. The project site plan is shown in Figure 1. The following acreages and square footage (SF) are proposed across the three components:

- The following components will be developed in Opening Year I 2026 (Phase 1):
  - The Commercial component consists of lots totaling 46.72 acres south of Orange Avenue, east of Barrett Avenue, and west of Perris Boulevard. The 423,007 SF Commercial component includes retail anchor, shopping center, supermarket, fast casual restaurant, high turnover (sit-down) restaurant, fast Food restaurant with drive through and coffee/donut shop with drive-through window, a 5,500 SF medical office building, and a gasoline/service station with 10 vehicle fueling positions.
  - Business Park Phase 1 consists of lots totaling 140.71 acres south of Orange Avenue, east of I-215 Frontage Road, and west of Barrett Avenue. Business Park Phase 1 includes general light industrial uses including: 1,207,000 SF of high-cube warehouse use, 322,079 SF of parcel hub use, and 198,500 SF of other general light industrial use.
- The following components will be developed in Opening Year II 2030 (Phase 1 + Phase 2):
- Business Park Phase 2 consists of lots totaling 112.02 acres and an overlay zone of 10.66 acres north of Orange Avenue, east of I-215 Frontage Road and west of Barrett Avenue. Business Park Phase 2 is analyzed programmatically for future multiple business uses with no detailed site plan available. Business Park Phase 2 includes 3,659,693 SF of industrial park and 348,262 SF of industrial park overlays.

---

<sup>1</sup> The Assessor's Parcel Numbers are provided in Table 2.1, Parcel Exhibit, within the Harvest Landing Retail Center & Business Park Project TIA, submitted on October 11, 2024.

- The remaining areas of 48.17 acres within the proposed Project are dedicated to a water quality retention basin and roadways along the development of Phase 1 and Phase 2.

The TIA included an analysis of 63 intersections, which are shown in Figure 2. Among these 63 study intersections, the Caltrans facilities analyzed as part of the TIA study are listed below and circled in Figure 2:

- 1) #15. I-215 NB Ramps/Placentia Ave
- 2) #16. I-215 SB Ramps/Placentia Ave
- 3) #28. I-215 NB Ramps/W Nuevo Rd
- 4) #29. I-215 SB Ramps/W Nuevo Rd

This memo provides a queuing analysis to address safety hazards based on the requirements of the Caltrans “Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance” (December 18, 2020).

### **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. In response, Caltrans adopted the “Vehicle Miles Traveled-Focused Transportation Impact Study Guide” (May 20, 2020) to shift focus away from LOS in favor of VMT. However, there remains an interest in minimizing the queue lengths at intersections, as the spill back of vehicles into the thoroughfare has the potential to create a safety concern, which remains a CEQA issue. Therefore, Caltrans released “Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance” (December 18, 2020), complementary guidance to analyze safety of Caltrans facilities.

### **Queueing Thresholds**

Appendix A of the “Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance” lists the significance thresholds for conducting a freeway queuing analysis. Satisfying the following criteria would result in a significant impact to vehicle safety:

1. The existing queue is within the pocket length or ramp length,
2. The proposed project trips add two or more car lengths to the queue, causing the queue to spill into the thoroughfare of a Caltrans roadway,
3. The speed differential of the freeway thru traffic is over 30 mph.

An impact that does not meet all three criteria is considered less than significant and no mitigation shall be required.

### **Queueing Analysis and Findings**

Vehicle trips for the proposed development were calculated 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 1. The proposed Project is estimated to generate approximately 40,194 daily trips, 2,772 AM peak hour trips, and 3,096 PM peak hour trips. Passenger Car Equivalent (PCE) factors were added to truck trips to account for the fact that trucks utilize more roadway capacity due to their length, have lower maneuverability and slower acceleration. When converted to PCE, the proposed Project is estimated to generate approximately 44,415 daily trips, 3,085 AM peak hour trips, and 3,386 PM peak hour trips.

The Project trips were distributed to the following Caltrans facilities:

- #15. I-215 NB Ramps/Placentia Ave
- #16. I-215 SB Ramps/Placentia Ave
- #28. I-215 NB Ramps/W Nuevo Rd
- #29. I-215 SB Ramps/W Nuevo Rd

EPD collected counts for most study intersections on Tuesday, May 16th, 2023. To account for the Existing 2024 traffic condition, a growth rate of three (3) percent was applied to the counts collected in 2023. For the Opening Year I 2026 and Opening Year II 2030 traffic volumes were developed by applying an ambient growth rate of three percent per year to the counts collected and adding traffic from a nearby approved but not yet constructed developments or newly constructed developments (cumulative project) in 2024. Count sheets are included in Attachment A. Opening Year II 2030 is most appropriate for determining whether queues exceed the pocket or ramp lengths, potentially impeding the mainline traffic. Table 2 shows the Opening Year II 2030 With and Without Project queue lengths for the ramps, along with the queue differences between the two scenarios, accounting for trips generated by the Project. The required queuing length at the study area intersections were determined using 95-percentile queue length analysis. All queuing calculations are included in Attachment B.

As shown in Table 2, queueing deficiencies were observed under Opening Year II 2030 With Project conditions for the following approach. The proposed Project trips add more than two car lengths (565 feet) to the Opening Year II 2030 Without Project queue, causing it to spill into the mainline traffic of a Caltrans roadway at the following ramp intersection:

- #29. I-215 Southbound Ramps/West Nuevo Road – southbound left-turn lane (PM peak hour)

Even though the queue length for the NBR at intersection #15 exceeds the available storage length, it can still be safely accommodated. This is due to the fact that the queue falls within the additional 100 feet of storage provided beyond the striped storage lane that extends past the NBR lane. Similarly, an additional 260 feet of storage is provided beyond the NBR and NBL at intersection #28, an additional 360 feet of storage is provided for the SBL at intersection #29, as well as an additional 600 feet beyond the SBL at intersection #16, ensuring that the additional queue can also be safely accommodated.

### ***Speed Differential Analysis and Findings***

As mentioned above, as the queues exceed the ramp storage capacity for at intersection #29 (I-215 Southbound Ramps/West Nuevo Road) under Opening Year II 2030 With Project conditions, therefore the speed differential was conducted only for this intersection. To analyze the speed differentials of the mainline freeway segments, the speed and flow data from Caltrans Performance Measurement System (PeMS) data source were used. PeMS data are included in Attachment C. The counts used in the previously submitted TIA were taken on May 16th, 2023. For the sake of similarity pertaining to the time of year and traffic pattern, May 16th, 2024 was selected as the date for PeMs data source to analyze the speed differential. The time periods within the AM and PM peak periods with the highest speed differential were selected for analysis at intersection #29 (I-215 Southbound Ramps/West Nuevo Road).

As shown in Table 3, the speed differentials between lane 1 and lane 3 during the AM and PM peak hours are 9.9 mph and 9.8 mph, respectively, which do not exceed the 30 mph threshold. Therefore, no significant impacts are noted as a result of this analysis.

If you have any questions, please reach out to me at [abby@epdsolutions.com](mailto:abby@epdsolutions.com) or 412-636-2713.

Figure 1: Conceptual Site Plan



**HARVEST LANDING RETAIL CENTER & BUSINESS PARK**  
 PERRIS, CA

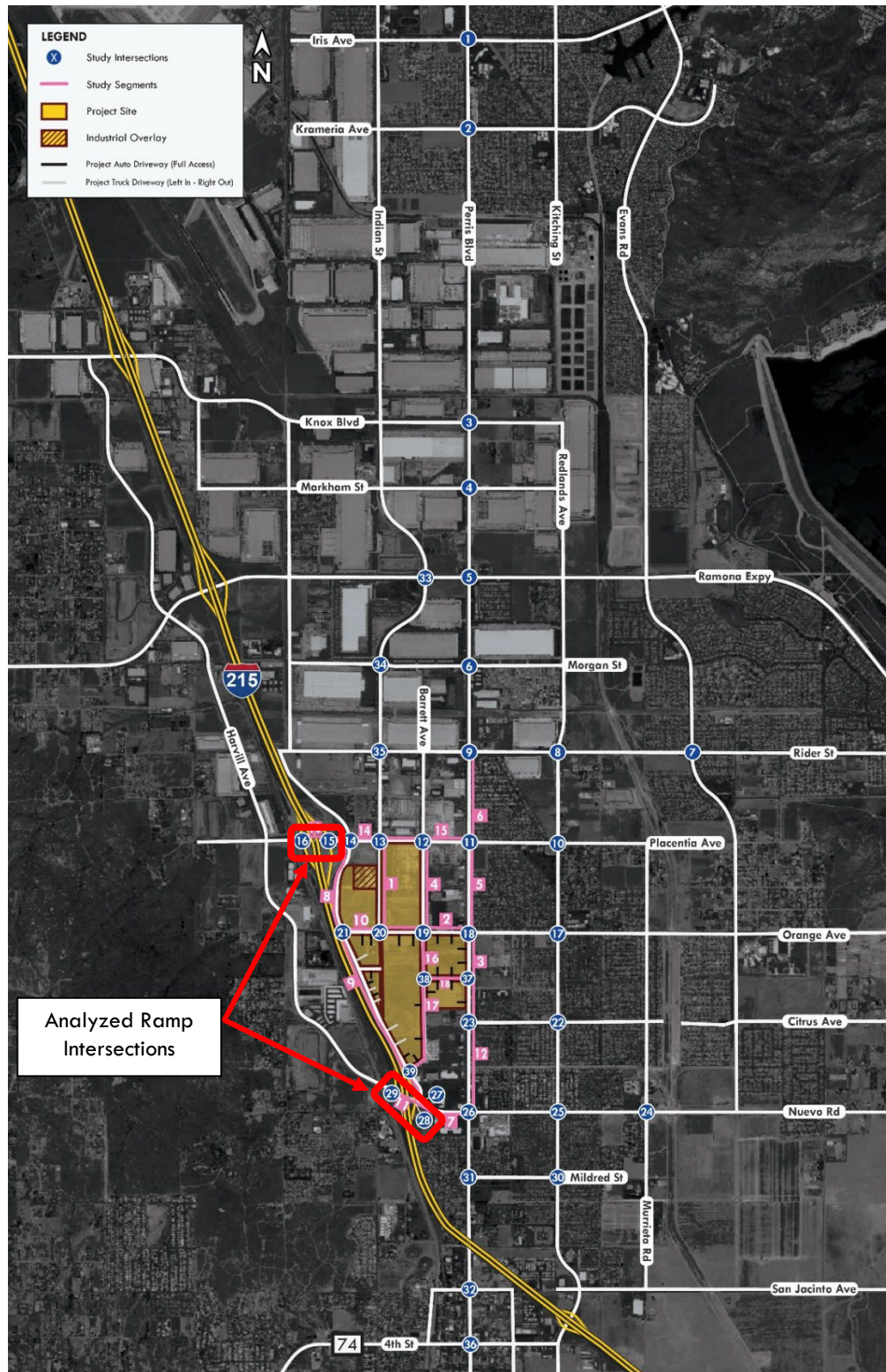
CONCEPTUAL MASTER PLAN



**A1**

1/14/16 11:26:00 AM  
 2/16/16 8:00:00 AM  
 2/24/16 10:00:00 AM

Figure 2: Project Study Area<sup>1</sup>



<sup>1</sup> The Project Study Area is shown in Figure 2.3, "Project Study Area," within the Harvest Landing Retail Center & Business Park Project TIA, submitted on October 11, 2024.

**Table 1: Project Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour					
			In	Out	Total	In	Out	Total			
<b>Trip Rates</b>											
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	2,105	85	20	105	56	88	145		
<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 Trip Generation<sup>15</sup></b>			<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	
<b>Total High Cube PCE Trip Generation</b>				<b>2,504</b>	<b>102</b>	<b>24</b>	<b>126</b>	<b>62</b>	<b>97</b>	<b>158</b>	
Parcel Hub (Building 1)	TSF	322,079	1,491	113	113	225	140	66	206		
<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 Trip Generation<sup>15</sup></b>			<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	
<b>Total Parcel Hub PCE Trip Generation</b>				<b>1,769</b>	<b>134</b>	<b>134</b>	<b>269</b>	<b>160</b>	<b>75</b>	<b>235</b>	

**Table 1b: Project Trip Generation**

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 I 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 1c: Project Trip Generation**

Fast Food Restaurant with Drive Through	11.000	TSF	5,142	250	240	491	80	73	153	
Internal Capture <sup>16</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>16</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	10	VFP	1,720	51	51	103	70	70	139	
Internal Capture <sup>16</sup> (OP 1 Retail)			-241	-11	-10	-21	-18	-13	-31	
Retail Trip Generation with internal capture			1,479	40	42	82	51	57	108	
Pass By (57% Daily, 63% AM, 57% PM)			-843	-25	-26	-51	-29	-33	-62	
<b>Total Retail Trip Generation</b>			<b>636</b>	<b>15</b>	<b>15</b>	<b>30</b>	<b>22</b>	<b>25</b>	<b>47</b>	
<b>COMMERCIAL TOTAL</b>	<b>428.507</b>	<b>KSF</b>	<b>22,127</b>	<b>502</b>	<b>430</b>	<b>932</b>	<b>617</b>	<b>637</b>	<b>1,254</b>	
Phase 1 Total Project Passenger Car Trip Generation			13,072.3	26,145	798	562	1,360	815	886	1,700
Phase 1 Total Project Truck Trip Generation (Non PCE)				545	32	18	49	17	16	34
Phase 1 Total Project Trip Generation (Non PCE)				26,690	829	580	1,409	832	902	1,734
Phase 1 Total Project Trip Generation (PCE)				27,504	876	607	1,483	858	927	1,784
<b><u>PHASE 2 Total Vehicle Trip Generation</u></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><u>PCE Trip Generation<sup>15</sup></u></b>		<b><u>PCE Factor</u></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><u>PCE Trip Generation<sup>15</sup></u></b>		<b><u>PCE Factor</u></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 1d: Project Trip Generation**

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	37,369	1,772	790	2,562	1,079	1,824	2,902
Total Project Truck Trip Generation (Non PCE)	2,825	161	48	210	53	141	194
Total Project Trip Generation (Non PCE)	40,194	1,933	839	2,772	1,132	1,965	3,096
Total Project Trip Generation (PCE)	44,415	2,174	911	3,085	1,211	2,176	3,386

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.

**Table 2: Opening Year Cumulative Plus plus Project AM and PM Caltrans Queuing Analysis**

	Opening Year II 2030 Conditions				Opening Year II 2030 Plus Project Conditions				Difference			
	Northbound		Southbound		Northbound		Southbound		Northbound		Southbound	
	LT	RT	LT	RT	LT	RT	LT	RT	LT	RT	LT	RT
<b>15. I-215 NB Ramps/Placentia Ave</b>												
Storage Length Per Lane	570	570***	-	-	570	570***	-	-	570	570***	-	-
AM Queue Length Per Lane	60	270	-	-	105	575	-	-	45	305	-	-
PM Queue Length Per Lane	50	275	-	-	100	605	-	-	50	330	-	-
<b>16. I-215 SB Ramps/Placentia Ave</b>												
Storage Length Per Lane	-	-	340****	340	-	-	340****	340	-	-	340****	340
AM Queue Length Per Lane	-	-	95	40	-	-	350	40	-	-	255	0
PM Queue Length Per Lane	-	-	225	45	-	-	935	60	-	-	710	15
<b>28. I-215 NB Ramps/W Nuevo Rd</b>												
Storage Length Per Lane	170*	170*	-	-	170*	170*	-	-	170*	170*	-	-
AM Queue Length Per Lane	225	185	-	-	235	240	-	-	10	55	-	-
PM Queue Length Per Lane	110	230	-	-	115	320	-	-	5	90	-	-
<b>29. I-215 SB Ramps/W Nuevo Rd</b>												
Storage Length Per Lane	-	-	185**	185	-	-	185**	185	-	-	185**	185
AM Queue Length Per Lane	-	-	215	100	-	-	365	120	-	-	150	20
PM Queue Length Per Lane	-	-	390	95	-	-	955	120	-	-	565	25

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.

\*\*\* There is an additional 100 feet of storage provided beyond the back of the striping storage pocket that extends past the NBR lanes.

\*\*\*\* There is an additional 600 feet of storage provided beyond the back of the striping storage pocket that extends past the SBL lanes.

**Table 3: Speed Differential Analysis**

Hour	Intersection	Lane 1 Speed (mph)	Lane 1 Flow (veh/hour)	Lane 2 Speed (mph)	Lane 2 Flow (veh/hour)	Lane 3 Speed (mph)	Lane 3 Flow (veh/hour)	Speed Aggregate (mph)	Flow Aggregate (veh/hour)	Data Quality		Speed Differential (Lane 1 Speed - Lane 3 Speed)
										#Lane Points	% Observed	
9:00 AM	29. I-215 SB Ramps/W Nuevo Rd	71.1	1288.0	68.4	1219.0	61.2	943.0	67.5	3450.0	36	100	9.9
6:00 PM	29. I-215 SB Ramps/W Nuevo Rd	70.6	1302.0	66.5	1662.0	60.8	1255.0	66.0	4219.0	36	100	9.8

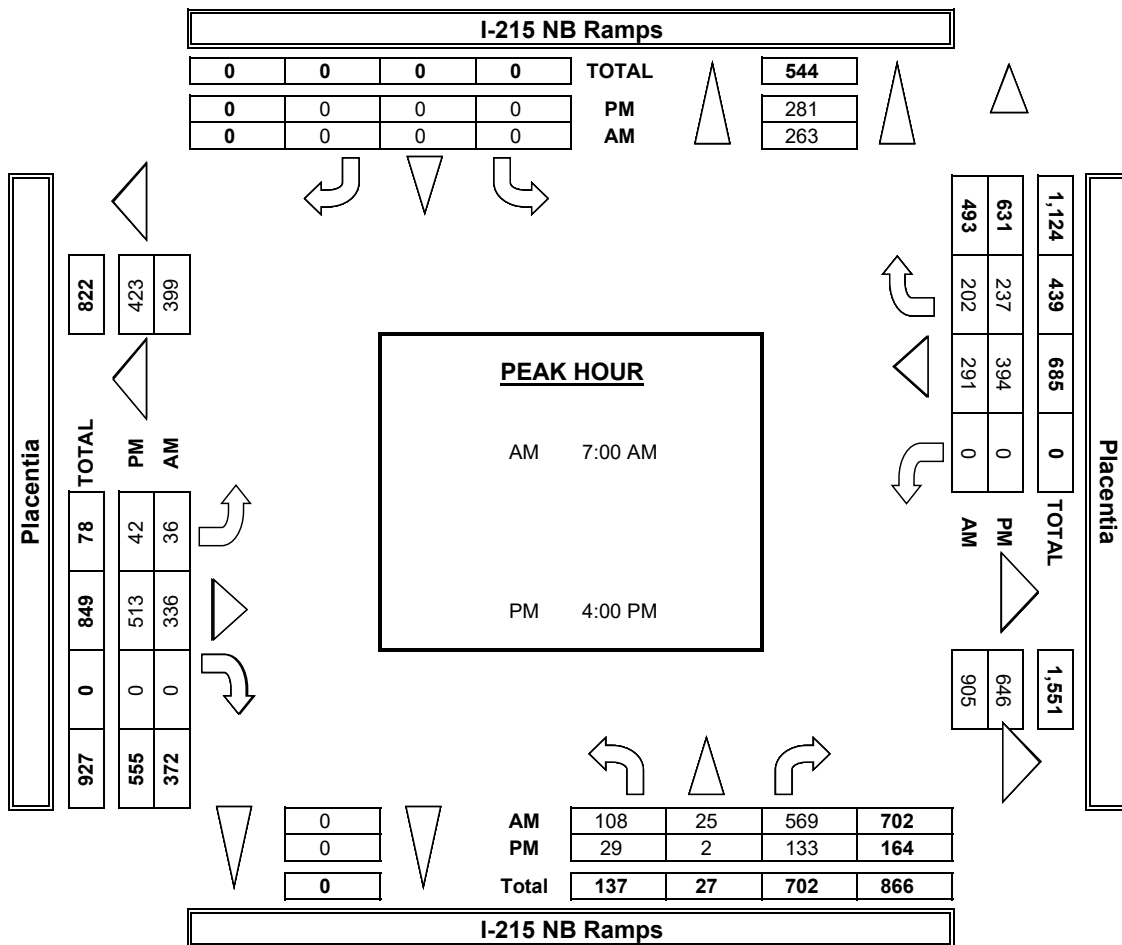
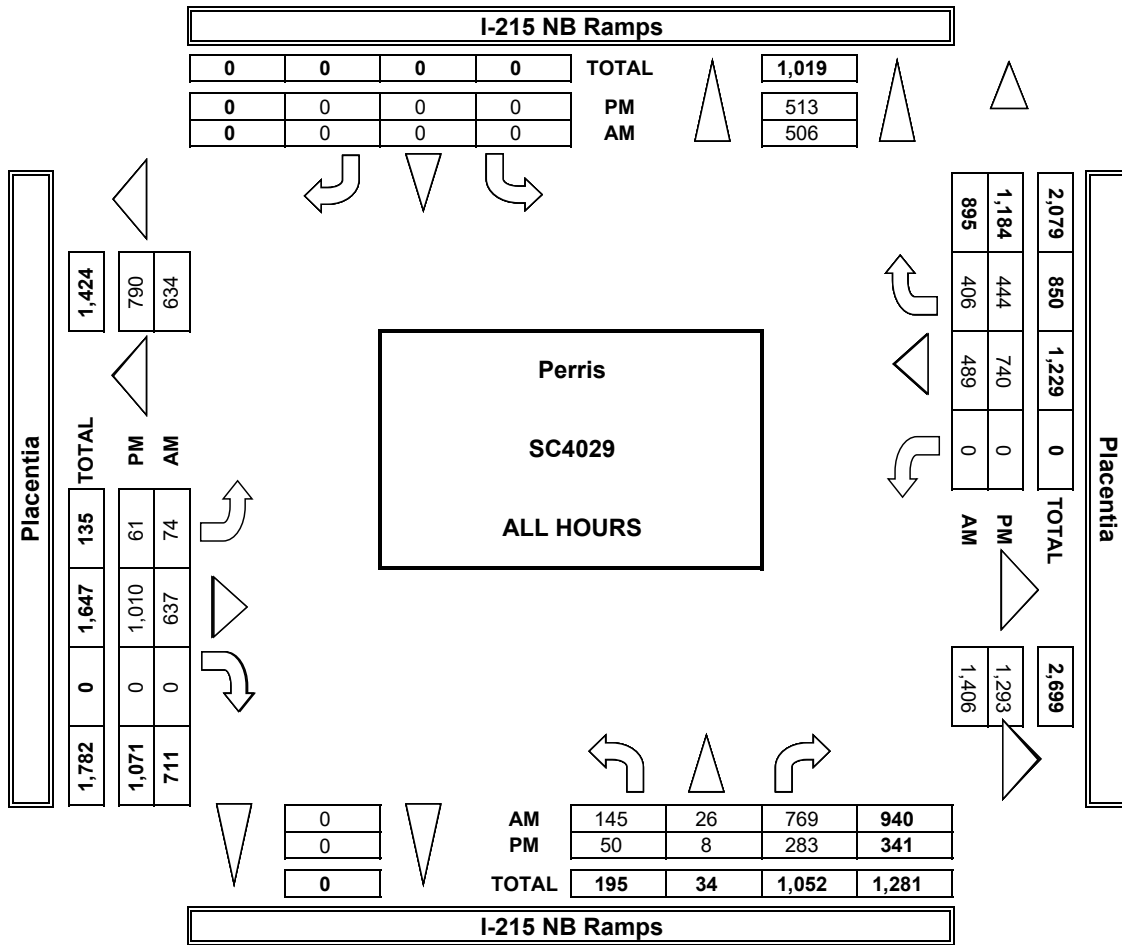
---

*ATTACHMENT A – COUNT SHEETS*

---



**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

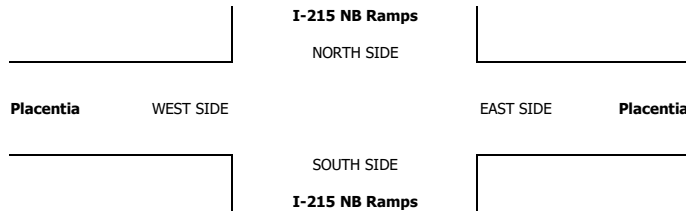
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 5/16/23 TUESDAY	<b>LOCATION:</b> NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Placentia	<b>PROJECT #:</b> SC4029	<b>LOCATION #:</b> 24
			<b>CONTROL:</b> SIGNAL	<b>CONTROL:</b> SIGNAL

<b>PCE</b> Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	▲ N ▼	← W → E
	<b>Class</b>	1	2	3	4	5	6	7	8	9			
	<b>Factor</b>	1	1.5	2	3	2	2						

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			U-TURNS				
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	TOTAL	NB	SB	EB	WB

<b>AM</b>	7:00 AM	27	12	125	0	0	0	12	75	0	0	66	65	381					0
	7:15 AM	35	5	186	0	0	0	9	83	0	0	73	57	446					0
	7:30 AM	30	7	163	0	0	0	11	93	0	0	88	51	442					0
	7:45 AM	27	4	140	0	0	0	11	111	0	0	81	51	424					0
	8:00 AM	18	0	97	0	0	0	14	91	0	0	55	51	326					0
	8:15 AM	12	0	45	0	0	0	15	75	0	0	54	58	258					0
	8:30 AM	4	1	45	0	0	0	8	80	0	0	66	52	255					0
	8:45 AM	10	0	37	0	0	0	15	75	0	0	54	54	243					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	162	29	835	0	0	0	94	682	0	0	535	438	2,773					0
	APPROACH %	16%	3%	81%	0%	0%	0%	12%	88%	0%	0%	55%	45%						0
APP/DEPART	1,025	/	560	0	/	0	775	/	1,517	973	/	697	0					0	
BEGIN PEAK HR	7:00 AM																		0
VOLUMES	118	28	613	0	0	0	43	361	0	0	307	224	1,692					0	
APPROACH %	16%	4%	81%	0%	0%	0%	11%	89%	0%	0%	58%	42%						0	
PEAK HR FACTOR	0.842			0.000			0.830			0.954			0.948						0
APP/DEPART	758	/	294	0	/	0	404	/	974	531	/	425	0					0	
<b>PM</b>	04:00 PM	5	2	33	0	0	0	15	143	0	0	103	59	358					0
	4:15 PM	12	0	48	0	0	0	6	128	0	0	99	60	352					0
	4:30 PM	8	1	50	0	0	0	18	130	0	0	119	78	403					0
	4:45 PM	10	0	39	0	0	0	7	123	0	0	100	60	339					0
	5:00 PM	6	1	29	0	0	0	3	126	0	0	111	57	332					0
	5:15 PM	0	2	57	0	0	0	6	143	0	0	102	62	372					0
	5:30 PM	14	1	58	0	0	0	8	129	0	0	90	50	349					0
	5:45 PM	7	2	31	0	0	0	3	117	0	0	72	57	289					0
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	61	9	344	0	0	0	65	1,036	0	0	795	482	2,791					0
	APPROACH %	15%	2%	83%	0%	0%	0%	6%	94%	0%	0%	62%	38%						0
APP/DEPART	414	/	556	0	/	0	1,101	/	1,380	1,277	/	856	0					0	
BEGIN PEAK HR	4:00 PM																		0
VOLUMES	34	3	170	0	0	0	46	522	0	0	421	257	1,451					0	
APPROACH %	17%	1%	82%	0%	0%	0%	8%	92%	0%	0%	62%	38%						0	
PEAK HR FACTOR	0.866			0.000			0.901			0.859			0.901						0
APP/DEPART	206	/	305	0	/	0	568	/	692	677	/	455	0					0	



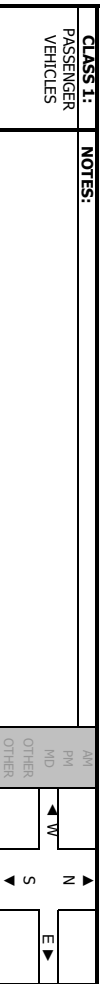
### INTERSECTION TURNING MOVEMENT COUNTS

DATE: 5/16/23  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

PREPARED BY: AintMD LLC, tel: 714 253 7888 cs@aintmd.com  
Petris  
1-215 NB Ramps  
Placentia

PROJECT #: SCA029  
LOCATION #: 24  
CONTROL: SIGNAL



CLASS 1: PASSENGER VEHICLES	NOTES:												
	NORTHBOUND 1-215 NB Ramps				SOUTHBOUND 1-215 NB Ramps				EASTBOUND Placentia		WESTBOUND Placentia		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

LANES:	1.5	0.5	1	X	X	X	2	2	X	X	2	1	
7:00 AM	22	8	98	0	0	0	12	56	0	0	55	56	307
7:15 AM	30	5	159	0	0	0	7	70	0	0	67	43	381
7:30 AM	27	7	146	0	0	0	8	75	0	0	75	42	380
7:45 AM	21	2	130	0	0	0	3	103	0	0	76	45	380
8:00 AM	12	0	83	0	0	0	11	82	0	0	43	48	279
8:15 AM	7	0	31	0	0	0	6	69	0	0	40	48	201
8:30 AM	4	1	31	0	0	0	3	63	0	0	50	52	204
8:45 AM	8	0	32	0	0	0	5	64	0	0	35	48	192
VOLUMES	131	23	710	0	0	0	55	582	0	0	441	382	2,324
APPROACH %	15%	3%	82%	0%	0%	0%	9%	91%	0%	0%	54%	46%	
APP/DEPART	864	/	460	0	/	0	637	/	1,292	823	/	572	0
BEGIN PEAK HR			7:00 AM										
VOLUMES	100	22	533	0	0	0	30	304	0	0	273	186	1,448
APPROACH %	15%	3%	81%	0%	0%	0%	9%	91%	0%	0%	59%	41%	
PEAK HR FACTOR		0.844		0.000				0.788			0.948		0.950
APP/DEPART	655	/	238	0	0	0	334	/	837	459	/	373	0

U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR					
NRR	SRR	ERR	WRR		
0	X	X	0		
46	0	0	40		
83	0	0	32		
57	0	0	23		
62	0	0	31		
51	0	0	28		
22	0	0	24		
22	0	0	31		
29	0	0	31		
372	0	0	240		

248	0	0	126
-----	---	---	-----

04:00 PM	3	0	21	0	0	0	13	136	0	0	85	53	311
4:15 PM	8	0	28	0	0	0	6	123	0	0	82	49	296
4:30 PM	8	1	33	0	0	0	13	122	0	0	102	61	340
4:45 PM	5	0	27	0	0	0	7	118	0	0	91	54	302
5:00 PM	6	1	25	0	0	0	3	118	0	0	92	46	291
5:15 PM	0	2	36	0	0	0	6	130	0	0	88	54	316
5:30 PM	8	1	47	0	0	0	6	118	0	0	81	42	303
5:45 PM	4	2	26	0	0	0	3	106	0	0	64	48	253
VOLUMES	42	7	243	0	0	0	57	971	0	0	685	407	2,412
APPROACH %	14%	2%	83%	0%	0%	0%	6%	94%	0%	0%	63%	37%	
APP/DEPART	292	/	471	0	/	0	1,028	/	1,214	1,092	/	727	0
BEGIN PEAK HR			4:00 PM										
VOLUMES	24	1	109	0	0	0	39	499	0	0	360	217	1,249
APPROACH %	18%	1%	81%	0%	0%	0%	7%	93%	0%	0%	62%	38%	
PEAK HR FACTOR		0.798		0.000				0.903			0.885		0.918
APP/DEPART	134	/	257	0	/	0	538	/	608	577	/	384	0

U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR					
NRR	SRR	ERR	WRR		
18	0	0	22		
22	0	0	19		
21	0	0	29		
17	0	0	27		
18	0	0	24		
21	0	0	32		
26	0	0	26		
21	0	0	26		
164	0	0	205		

78	0	0	97
----	---	---	----



Placentia WEST SIDE

EAST SIDE Placentia

SOUTH SIDE  
1-215 NB Ramps

1-215 NB Ramps

NORTH SIDE





## INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Placentia	PROJECT #: SC4029	LOCATION #: 24	CONTROL: SIGNAL
-----------------------------	---	---------------------------------------	----------------------	-------------------	--------------------

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	<table border="1" style="margin: auto;"> <tr><td>AM</td><td>▲</td></tr> <tr><td>PM</td><td>N</td></tr> <tr><td>MD</td><td>◀ W</td></tr> <tr><td>OTHER</td><td>S</td></tr> <tr><td>OTHER</td><td>▼</td></tr> </table>	AM	▲	PM	N	MD	◀ W	OTHER	S	OTHER	▼
AM	▲											
PM	N											
MD	◀ W											
OTHER	S											
OTHER	▼											

	NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Placentia			WESTBOUND Placentia			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	
7:00 AM	1	0	7	0	0	0	0	3	0	0	1	2	14
7:15 AM	1	0	6	0	0	0	0	0	0	0	0	4	11
7:30 AM	1	0	3	0	0	0	0	1	0	0	2	2	9
7:45 AM	1	0	0	0	0	0	2	0	0	0	1	1	5
8:00 AM	1	0	1	0	0	0	2	2	0	0	3	1	8
8:15 AM	1	0	3	0	0	0	2	0	0	0	1	2	9
8:30 AM	0	0	2	0	0	0	1	2	0	0	2	0	7
8:45 AM	0	0	1	0	0	0	1	1	0	0	1	1	5
VOLUMES	6	0	23	0	0	0	6	9	0	0	11	13	68
APPROACH %	21%	0%	79%	0%	0%	0%	40%	60%	0%	0%	46%	54%	
APP/DEPART	29	/	19	0	/	0	15	/	32	24	/	17	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	4	0	16	0	0	0	2	4	0	0	4	9	39
APPROACH %	20%	0%	80%	0%	0%	0%	33%	67%	0%	0%	31%	69%	
PEAK HR FACTOR	0.625			0.000			0.500			0.813			0.696
APP/DEPART	20	/	11	0	/	0	6	/	20	13	/	8	0
04:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	2
4:15 PM	0	0	5	0	0	0	0	0	0	0	1	2	8
4:30 PM	0	0	5	0	0	0	1	0	0	0	3	1	10
4:45 PM	1	0	4	0	0	0	0	1	0	0	0	2	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	2	5
5:15 PM	0	0	7	0	0	0	0	1	0	0	3	1	12
5:30 PM	2	0	2	0	0	0	0	0	0	0	3	2	9
5:45 PM	1	0	1	0	0	0	0	1	0	0	2	1	6
VOLUMES	4	0	25	0	0	0	1	3	0	0	15	12	60
APPROACH %	14%	0%	86%	0%	0%	0%	25%	75%	0%	0%	56%	44%	
APP/DEPART	29	/	13	0	/	0	4	/	28	27	/	19	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	1	0	15	0	0	0	1	1	0	0	4	6	28
APPROACH %	6%	0%	94%	0%	0%	0%	50%	50%	0%	0%	40%	60%	
PEAK HR FACTOR	0.800			0.000			0.500			0.625			0.700
APP/DEPART	16	/	7	0	/	0	2	/	16	10	/	5	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

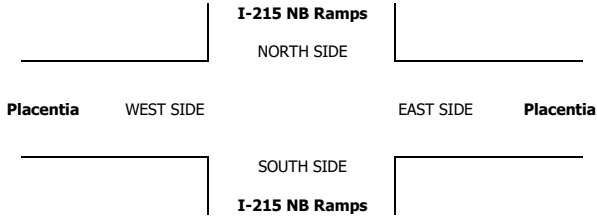
RTOR			
NRR	SRR	ERR	WRR
0	X	X	0
4	0	0	0
1	0	0	1
2	0	0	0
0	0	0	1
1	0	0	0
1	0	0	2
0	0	0	0
1	0	0	1
10	0	0	5

7	0	0	2
---	---	---	---

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	0	0	0
4	0	0	1
3	0	0	1
2	0	0	1
0	0	0	0
3	0	0	0
2	0	0	2
0	0	0	1
15	0	0	6

10	0	0	3
----	---	---	---

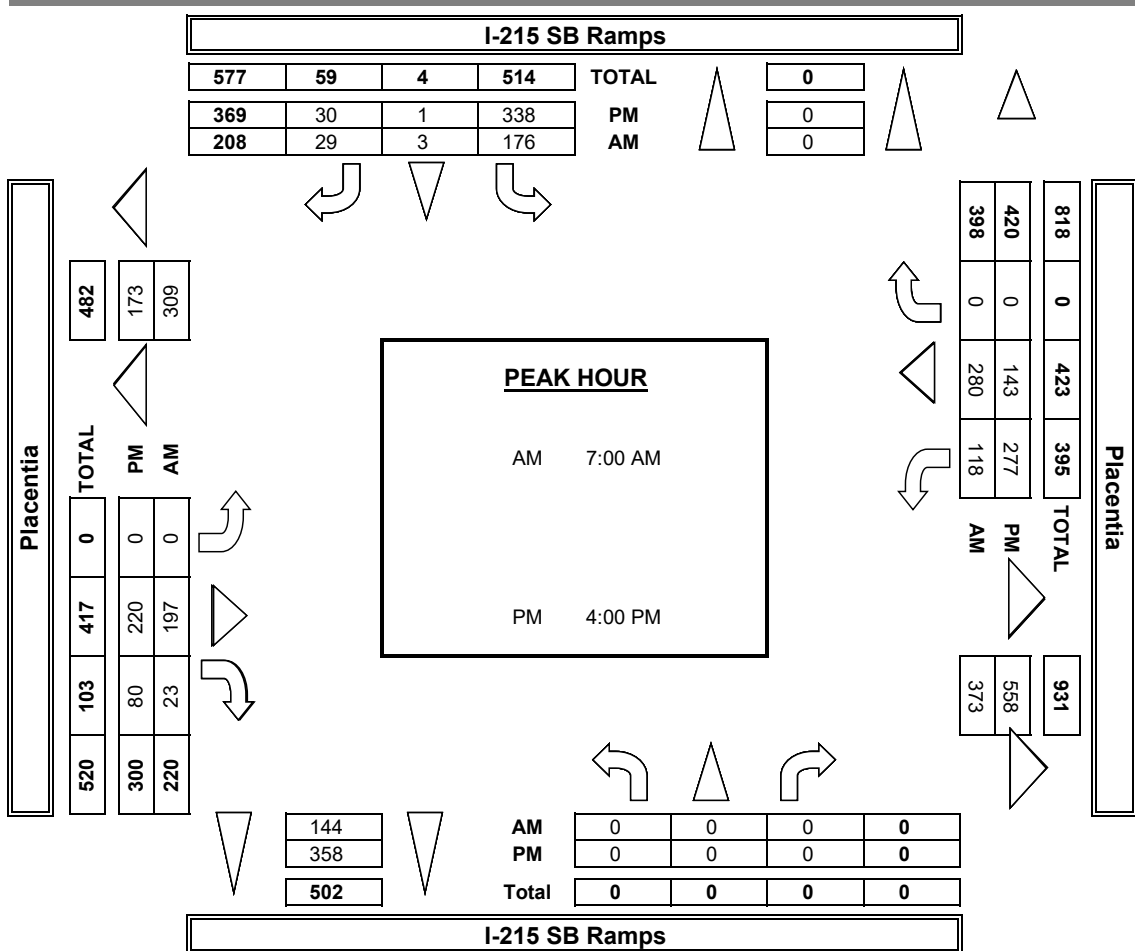
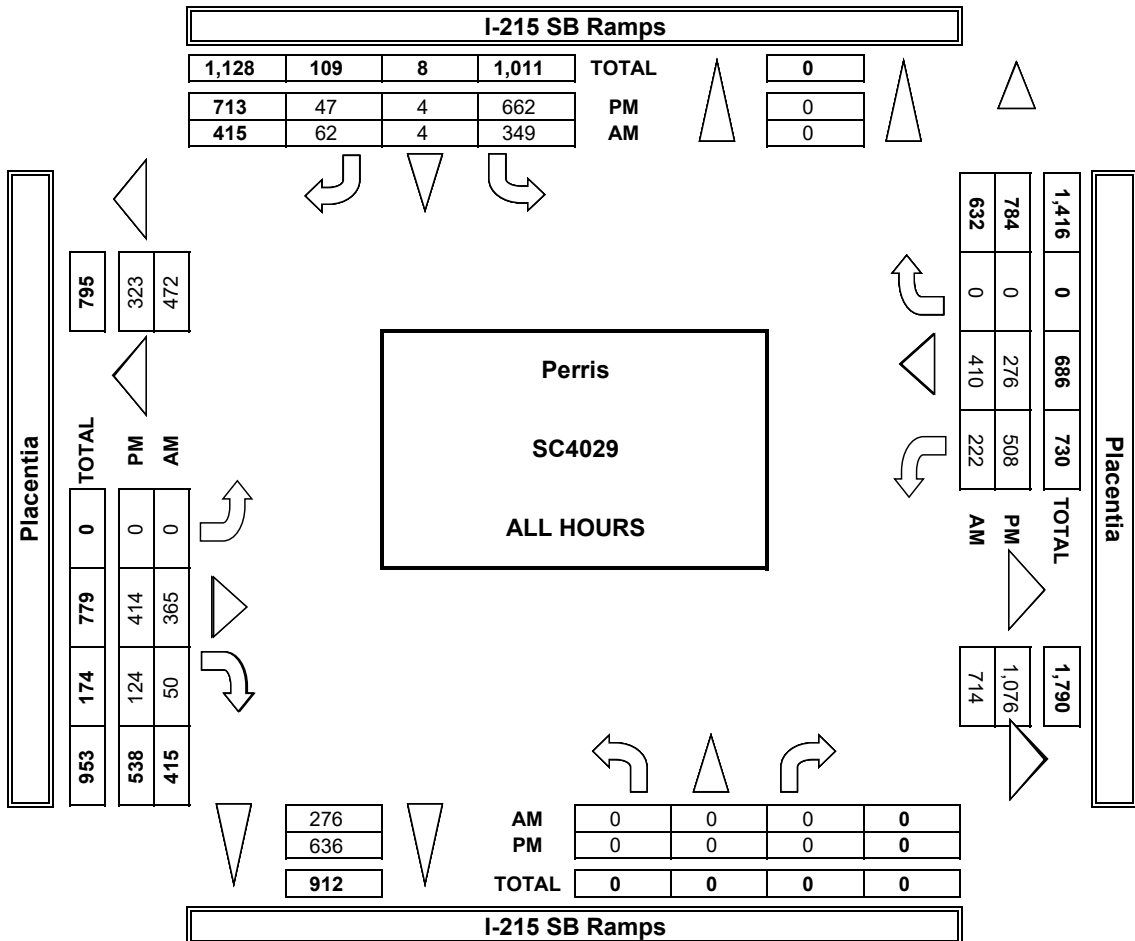








**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

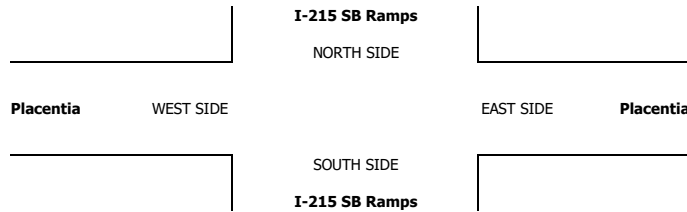
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Placentia	PROJECT #: SC4029	LOCATION #: 25	CONTROL: SIGNAL
-----------------------------	---	---------------------------------------	----------------------	-------------------	--------------------

PCE Adjusted	<b>NOTES:</b>						AM PM MD OTHER OTHER	▲ N ▼	← W E →
	Class	1	2	3	4	5			
	Factor	1	1.5	2	3	2	2		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	I-215 SB Ramps			I-215 SB Ramps			Placentia			Placentia				NB	SB	EB	WB	TTL
	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 1	WL 2	WT 2	WR X						

AM	7:00 AM	0	0	0	37	1	12	0	53	7	30	61	0	201						0
	7:15 AM	0	0	0	50	0	9	0	42	7	24	84	0	215						0
	7:30 AM	0	0	0	47	2	5	0	57	7	44	74	0	235						0
	7:45 AM	0	0	0	54	1	12	0	66	8	32	76	0	248						0
	8:00 AM	0	0	0	44	0	10	0	63	5	40	33	0	195						0
	8:15 AM	0	0	0	41	0	13	0	49	14	27	39	0	181						0
	8:30 AM	0	0	0	50	1	16	0	38	9	30	40	0	182						0
	8:45 AM	0	0	0	50	0	17	0	40	7	28	36	0	177						0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	VOLUMES	0	0	0	372	5	93	0	407	63	253	442	0	1,633						0
	APPROACH %	0%	0%	0%	79%	1%	20%	0%	87%	13%	36%	64%	0%							0
	APP/DEPART	0	/	0	469	/	321	470	/	778	695	/	534	0						0
BEGIN PEAK HR	7:00 AM																			
VOLUMES	0	0	0	187	4	37	0	218	29	130	295	0	898						0	
APPROACH %	0%	0%	0%	82%	2%	16%	0%	88%	12%	31%	69%	0%							0	
PEAK HR FACTOR	0.000			0.862				0.833			0.898		0.907							
APP/DEPART	0	/	0	228	/	162	247	/	405	424	/	332	0						0	
PM	04:00 PM	0	0	0	102	0	3	0	57	19	62	44	0	286						0
	4:15 PM	0	0	0	70	1	12	0	64	21	70	41	0	278						0
	4:30 PM	0	0	0	90	0	7	0	59	28	87	39	0	309						0
	4:45 PM	0	0	0	83	0	13	0	48	19	73	36	0	272						0
	5:00 PM	0	0	0	84	0	6	0	46	15	73	44	0	267						0
	5:15 PM	0	0	0	86	1	5	0	64	11	63	39	0	267						0
	5:30 PM	0	0	0	83	2	9	0	54	11	68	35	0	261						0
	5:45 PM	0	0	0	80	1	2	0	41	8	48	30	0	210						0
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						0
	VOLUMES	0	0	0	675	5	55	0	432	131	544	306	0	2,147						0
	APPROACH %	0%	0%	0%	92%	1%	7%	0%	77%	23%	64%	36%	0%							0
	APP/DEPART	0	/	0	735	/	680	563	/	1,106	850	/	361	0						0
BEGIN PEAK HR	4:00 PM																			
VOLUMES	0	0	0	343	1	34	0	228	87	292	160	0	1,144						0	
APPROACH %	0%	0%	0%	91%	0%	9%	0%	72%	28%	65%	35%	0%							0	
PEAK HR FACTOR	0.000			0.909				0.913			0.896		0.927							
APP/DEPART	0	/	0	378	/	380	314	/	571	452	/	194	0						0	







### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Placentia	PROJECT #: SC4029 LOCATION #: 25 CONTROL: SIGNAL
-----------------------------	---	---------------------------------------	---

<b>CLASS 3:</b> 3-AXLE TRUCKS	<b>NOTES:</b>	AM PM MD OTHER	▲ N ◀ W S ▶ E ▼
----------------------------------	---------------	-------------------------	-----------------------------

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1.5	0.5	1	X	2	1	2	2	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
X	0	0	X

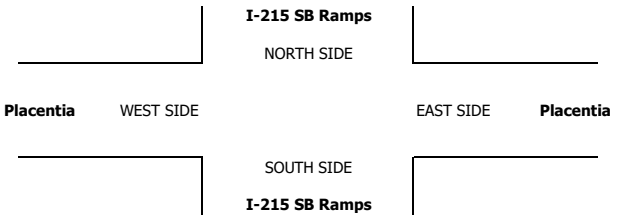
AM	7:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
	7:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
	7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	1	0	2	0	3
	8:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	2
	8:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	2
	VOLUMES	0	0	0	2	0	2	0	6	1	0	3	0	14
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	86%	14%	0%	100%	0%	
APP/DEPART	0	/	0	4	/	1	7	/	8	3	/	5	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	0	0	0	2	0	0	0	4	0	0	1	0	7	
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%		
PEAK HR FACTOR	0.000			0.500			1.000			0.250			0.875	
APP/DEPART	0	/	0	2	/	0	4	/	6	1	/	1	0	
PM	04:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	
	4:30 PM	0	0	0	0	0	1	0	0	0	0	0	1	
	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	
	5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	
	5:15 PM	0	0	0	0	0	0	0	1	0	1	0	2	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	
	VOLUMES	0	0	0	0	0	1	0	3	0	1	4	0	9
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	20%	80%	0%	
APP/DEPART	0	/	0	1	/	1	3	/	3	5	/	5	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	0	0	0	0	1	0	1	0	0	3	0	5	
APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%		
PEAK HR FACTOR	0.000			0.250			0.250			0.750			0.625	
APP/DEPART	0	/	0	1	/	0	1	/	1	3	/	4	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
---	---	---	---

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
---	---	---	---



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AImTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:  
5/16/23  
TUESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Perris  
I-215 SB Ramps  
Placentia

PROJECT #:  
LOCATION #:  
CONTROL:

SC4029  
25  
SIGMAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>		AM		PM		N		E
		▲	▲	▲	▲	▲	▲	▲	▲
		OTHER	MID	W	S	S	S	S	S

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	X	X	1.5	0.5	1	X	2	1	2	2	X	

U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR					
NRR	SRR	ERR	WRR		
X	0	0	X		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		

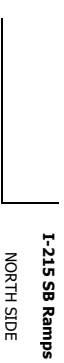
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
<b>AM</b>													
BEGIN PEAK HR	7:00 AM			7:00 AM			7:00 AM			7:00 AM			20
VOLUMES	0	0	0	2	0	3	0	4	3	4	4	0	
APPROACH %	0%	0%	0%	40%	0%	60%	0%	57%	43%	50%	50%	0%	
PEAK HR FACTOR	0.000			0.625			0.438			0.667			0.625
APP/DEPART	0	/	0	5	/	7	7	/	6	8	/	7	
<b>PM</b>													
BEGIN PEAK HR	4:00 PM			4:00 PM			4:00 PM			4:00 PM			10
VOLUMES	0	0	0	0	0	1	0	2	2	3	2	0	
APPROACH %	0%	0%	0%	0%	0%	100%	0%	50%	50%	60%	40%	0%	
PEAK HR FACTOR	0.000			0.250			0.500			0.417			0.625
APP/DEPART	0	/	0	1	/	5	4	/	2	5	/	3	

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Placentia	PROJECT #: SC4029 LOCATION #: 25 CONTROL: SIGNAL
-----------------------------	---	---------------------------------------	---

<b>CLASS 5:</b>	<b>NOTES:</b>	AM PM MD OTHER OTHER	← W	▲ N ▼ S	E →
RV					

LANES:	NORTHBOUND <small>I-215 SB Ramps</small>			SOUTHBOUND <small>I-215 SB Ramps</small>			EASTBOUND <small>Placentia</small>			WESTBOUND <small>Placentia</small>			TOTAL
	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 1	WL 2	WT 2	WR X	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR X	SRR 0	ERR 0	WRR X

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	
PM	04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	

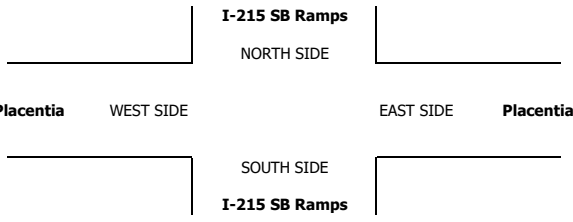
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
---	---	---	---

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
---	---	---	---







DATE: Tue, May 16, 23  
LOCATION: NORTH SIDE SOUTH: EAST & WEST:

INTERSECTION TURNING MOVEMENT COUNTS  
PREPARED BY: AamTD LLC Tel: 714 255 7888 cs@aamtd.com  
Peris 1215 NB Ramps  
Nuevo

PROJECT #: SC4029  
LOCATION #: 1215 NB  
CONTROL: SIGNAL

NOTES:

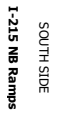
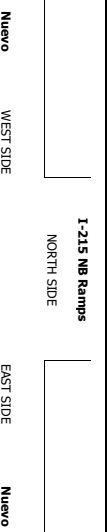


Table with columns for direction (Northbound, Southbound, Eastbound, Westbound) and lane types (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR). It shows counts for various lane movements.

Summary table for AM (Afternoon) period, including BEGIN PEAK HR, VOLUMES, APPROACH %, PEAK HR FACTOR, and APP/DEPART counts for each direction.

Summary table for PM (Evening) period, including BEGIN PEAK HR, VOLUMES, APPROACH %, PEAK HR FACTOR, and APP/DEPART counts for each direction.

Summary table for 1-215 NB Ramps, including BEGIN PEAK HR, VOLUMES, APPROACH %, PEAK HR FACTOR, and APP/DEPART counts.



Hourly volume table for AM period from 7:00 AM to 5:45 PM, showing counts for E, W, S, and N sides.

Hourly volume table for PM period from 4:00 PM to 5:45 PM, showing counts for E, W, S, and N sides.

Hourly volume table for PEDESTRIAN CROSSINGS, showing counts for E, W, S, and N sides.

Hourly volume table for BICYCLE CROSSINGS, showing counts for E, W, S, and N sides.

Summary table for U-TURNS, showing counts for NB, SB, EB, WB, and TTL.

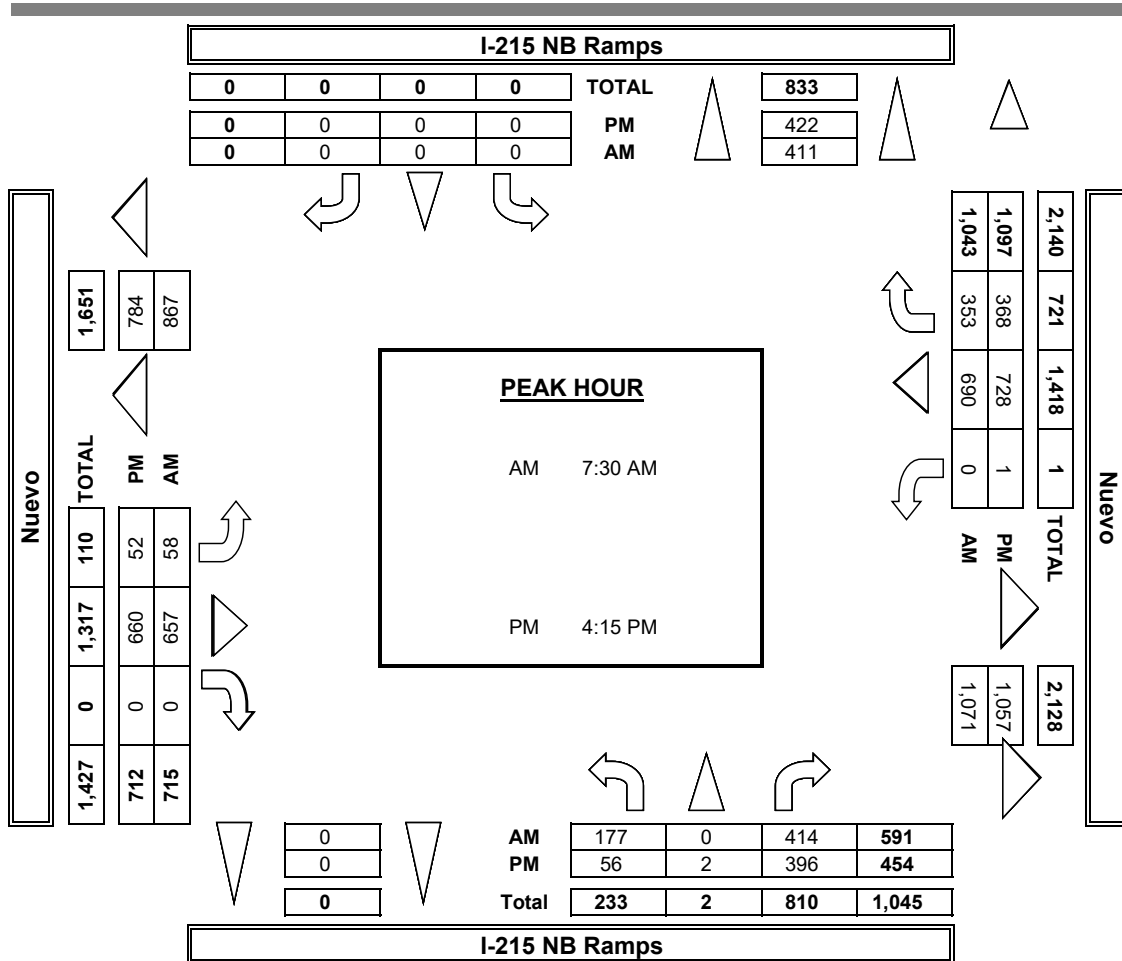
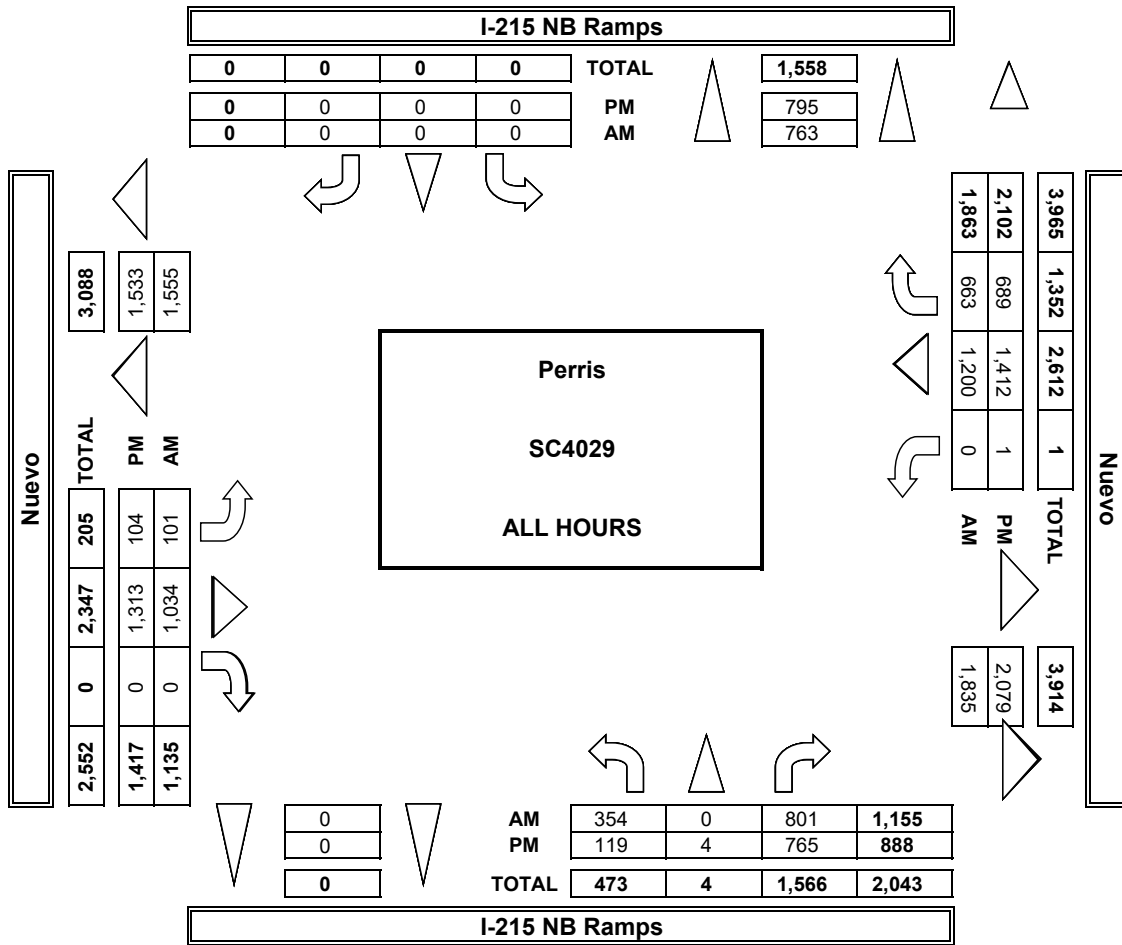
Summary table for RTOR (Right Turn Overlap Ratio), showing counts for NRR, SSR, ESR, and WRR.

Summary table for RTOR, showing counts for NRR, SSR, ESR, and WRR.

Summary table for RTOR, showing counts for NRR, SSR, ESR, and WRR.

Summary table for RTOR, showing counts for NRR, SSR, ESR, and WRR.

**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

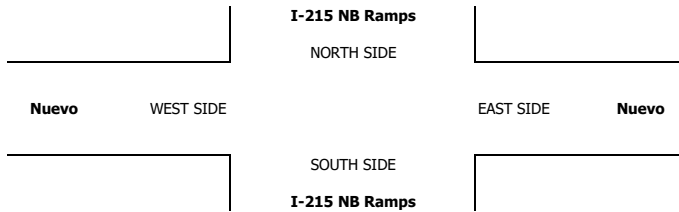
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Nuevo	PROJECT #: LOCATION #: CONTROL:	SC4029 38 SIGNAL
-----------------------------	---	-----------------------------------	---------------------------------------	------------------------

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	▲ N ▼	← W E →
	Class	1	2	3	4	5	6	7	8	9			
	Factor	1	1.5	2	3	2	2	2	2	2	2		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			U-TURNS				
	NL 0.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	TOTAL	NB	SB	EB	WB

AM	7:00 AM	96	0	117	0	0	0	12	77	0	0	104	74	478					0
	7:15 AM	65	0	111	0	0	0	9	98	0	0	149	49	480					0
	7:30 AM	62	0	83	0	0	0	24	143	0	0	191	81	583					0
	7:45 AM	54	0	98	0	0	0	13	160	0	0	191	98	613					0
	8:00 AM	46	0	128	0	0	0	16	227	0	0	175	94	683					0
	8:15 AM	31	0	115	0	0	0	17	157	0	0	163	100	581					0
	8:30 AM	9	0	91	0	0	0	18	118	0	0	137	114	485					0
	8:45 AM	34	0	83	0	0	0	11	109	0	0	142	96	474					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	395	0	824	0	0	0	119	1,087	0	0	1,249	704	4,376					0
	APPROACH %	32%	0%	68%	0%	0%	0%	10%	90%	0%	0%	64%	36%						0
	APP/DEPART	1,219	/	822	0	/	0	1,205	/	1,911	1,952	/	1,644	0					0
	BEGIN PEAK HR	7:30 AM																	
VOLUMES	192	0	423	0	0	0	69	686	0	0	719	372	2,460					0	
APPROACH %	31%	0%	69%	0%	0%	0%	9%	91%	0%	0%	66%	34%						0	
PEAK HR FACTOR		0.889			0.000			0.779			0.946		0.900						
APP/DEPART	615	/	441	0	/	0	755	/	1,109	1,090	/	911	0					0	
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0					0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0					0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0					0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0					0	
	4:00 PM	29	2	107	0	0	0	11	156	0	0	193	93	589					0
	4:15 PM	11	1	103	0	0	0	11	163	0	1	183	108	581					0
	4:30 PM	24	3	96	0	0	0	14	168	0	0	176	89	569					0
	4:45 PM	13	0	94	0	0	0	22	189	0	0	179	92	588					0
	5:00 PM	16	0	116	0	0	0	8	167	0	0	213	94	612					0
	5:15 PM	17	0	86	0	0	0	10	180	0	0	184	73	549					0
	5:30 PM	10	0	95	0	0	0	22	172	0	0	161	84	542					0
	5:45 PM	11	2	98	0	0	0	15	168	0	0	176	82	551					0
	VOLUMES	129	7	793	0	0	0	111	1,361	0	1	1,463	714	4,579					0
	APPROACH %	14%	1%	85%	0%	0%	0%	8%	92%	0%	0%	67%	33%						0
	APP/DEPART	929	/	832	0	/	1	1,472	/	2,154	2,178	/	1,592	0					0
	BEGIN PEAK HR	4:15 PM																	
VOLUMES	63	4	409	0	0	0	54	686	0	1	750	383	2,349					0	
APPROACH %	13%	1%	86%	0%	0%	0%	7%	93%	0%	0%	66%	34%						0	
PEAK HR FACTOR		0.901			0.000			0.878			0.926		0.959						
APP/DEPART	476	/	440	0	/	1	740	/	1,095	1,134	/	813	0					0	





### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Nuevo	PROJECT #: LOCATION #: CONTROL:	SC4029 38 SIGNAL
-----------------------------	---	-----------------------------------	---------------------------------------	------------------------

<b>CLASS 3:</b> 3-AXLE TRUCKS	<b>NOTES:</b>	
-------------------------------------	---------------	--

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 NB Ramps			I-215 NB Ramps			Nuevo			Nuevo			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	0.5	1	X	X	X	1	2	X	X	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	X	X	0

A.M.	7:00 AM	0	0	0	0	0	0	0	0	0	1	2	3	
	7:15 AM	0	0	1	0	0	0	0	1	0	0	1	0	3
	7:30 AM	0	0	0	0	0	0	5	0	0	0	3	0	8
	7:45 AM	0	0	0	0	0	0	2	0	0	0	2	0	4
	8:00 AM	0	0	1	0	0	0	0	1	0	0	1	1	4
	8:15 AM	1	0	0	0	0	0	0	0	0	0	0	1	2
	8:30 AM	0	0	1	0	0	0	2	2	0	0	3	1	9
	8:45 AM	1	0	0	0	0	0	0	1	0	0	3	1	6
	VOLUMES	2	0	3	0	0	0	9	5	0	0	14	6	39
	APPROACH %	40%	0%	60%	0%	0%	0%	64%	36%	0%	0%	70%	30%	
APP/DEPART	5	/	15	0	/	0	14	/	8	20	/	16	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	1	0	1	0	0	0	7	1	0	0	6	2	18	
APPROACH %	50%	0%	50%	0%	0%	0%	88%	13%	0%	0%	75%	25%		
PEAK HR FACTOR	0.500			0.000			0.400			0.667			0.563	
APP/DEPART	2	/	9	0	/	0	8	/	2	8	/	7	0	
P.M.	4:00 PM	1	0	1	0	0	0	0	0	0	1	0	3	
	4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	
	4:30 PM	1	0	1	0	0	0	0	1	0	0	0	3	
	4:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	
	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	
	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	
	5:30 PM	0	0	1	0	0	0	1	0	0	0	0	2	
	5:45 PM	0	0	1	0	0	0	0	0	0	0	2	0	3
	VOLUMES	2	0	5	0	0	0	1	1	0	0	6	1	16
	APPROACH %	29%	0%	71%	0%	0%	0%	50%	50%	0%	0%	86%	14%	
APP/DEPART	7	/	2	0	/	0	2	/	6	7	/	8	0	
BEGIN PEAK HR	4:15 PM													
VOLUMES	1	0	2	0	0	0	0	1	0	0	2	1	7	
APPROACH %	33%	0%	67%	0%	0%	0%	0%	100%	0%	0%	67%	33%		
PEAK HR FACTOR	0.375			0.000			0.250			0.375			0.583	
APP/DEPART	3	/	1	0	/	0	1	/	3	3	/	3	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

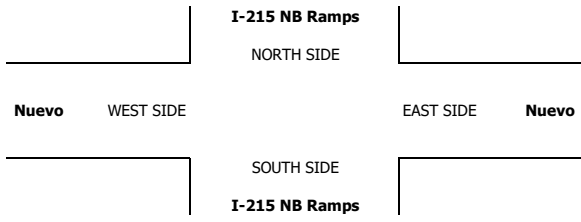
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
---	---	---	---

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	0	0	0
0	0	0	0
1	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
3	0	0	1

1	0	0	1
---	---	---	---



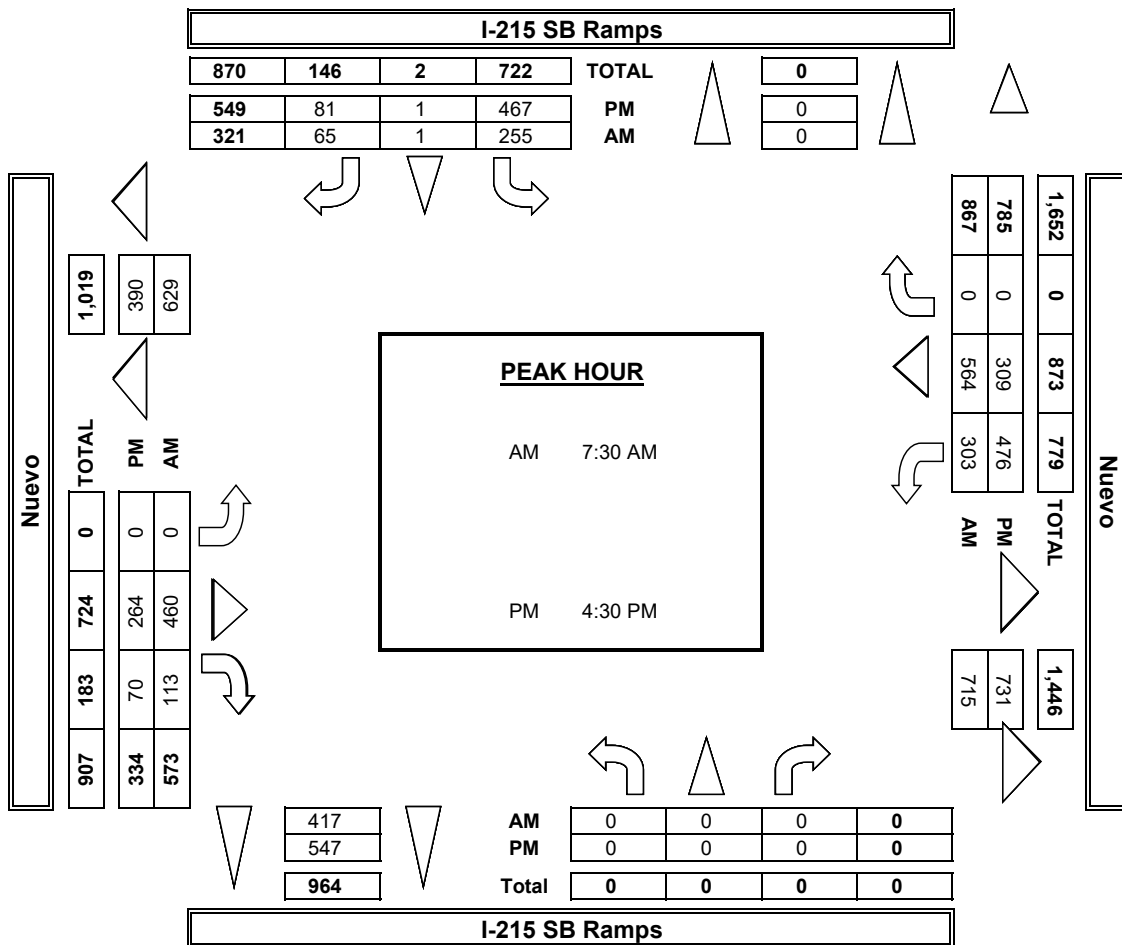
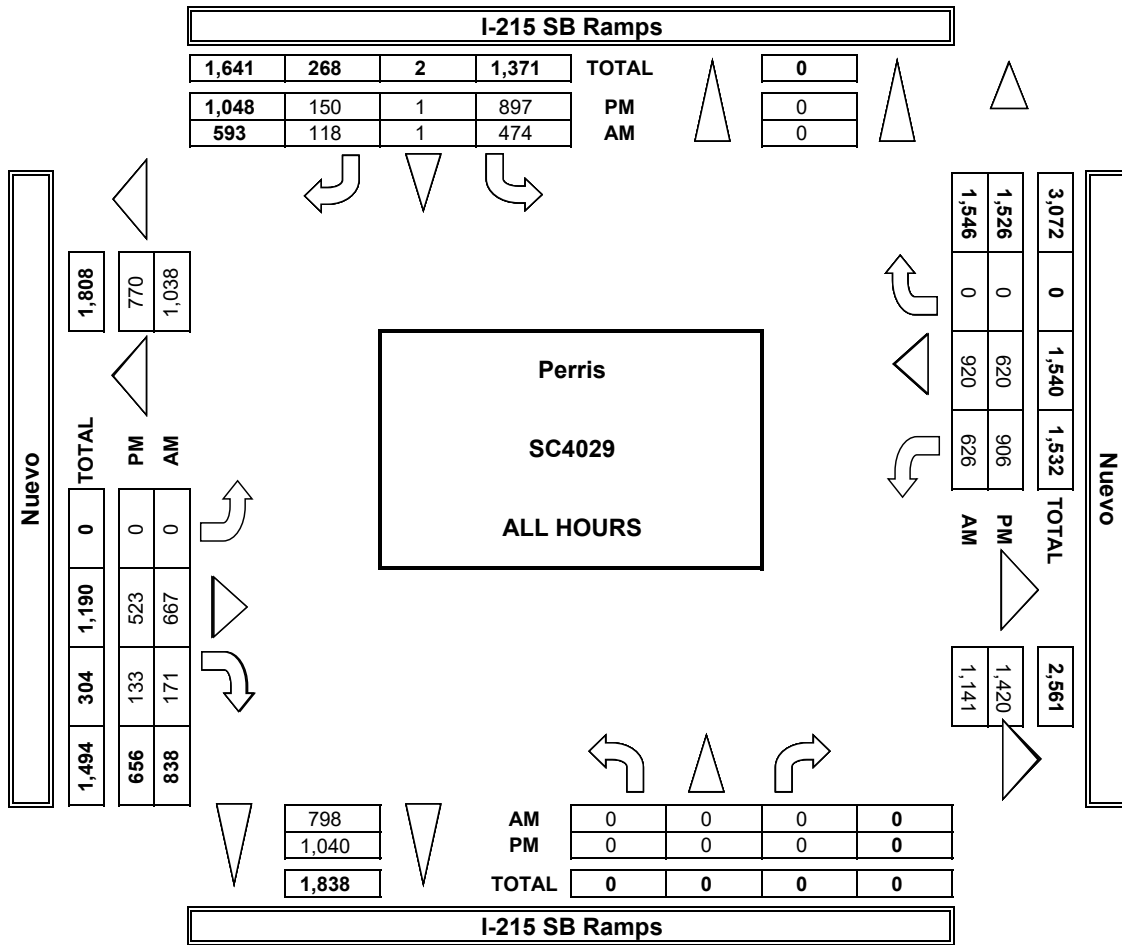








**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

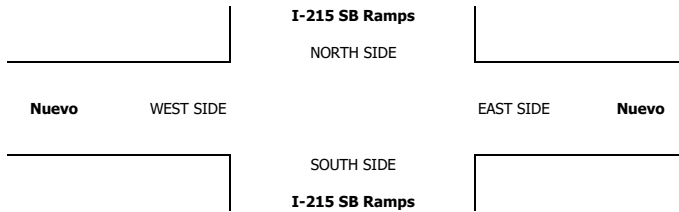
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 5/16/23 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Nuevo	PROJECT #: LOCATION #: CONTROL:	SC4029 39 SIGNAL
-----------------------------	---	-----------------------------------	---------------------------------------	------------------------

PCE	Adjusted	NOTES:						AM	PM	MD	OTHER	OTHER	▲	N	▼	S	▶	E	◀	W	
		Class	1	2	3	4	5														6
		Factor	1	1.5	2	3	2														

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	I-215 SB Ramps			I-215 SB Ramps			Nuevo			Nuevo				NB	SB	EB	WB	TTL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR						
	X	X	X	1.5	0.5	1	X	2	0	1	2	X						

AM	7:00 AM	0	0	0	43	0	20	0	46	13	58	134	0	313	0	0	0	0	0	
		7:15 AM	0	0	0	63	0	14	0	50	29	83	131	0	369					
	7:30 AM	0	0	0	56	0	23	0	111	35	86	168	0	477						
	7:45 AM	0	0	0	78	1	29	0	95	36	74	171	0	483						
	8:00 AM	0	0	0	76	0	14	0	167	40	84	137	0	516						
	8:15 AM	0	0	0	67	0	12	0	107	20	82	111	0	397						
	8:30 AM	0	0	0	57	0	14	0	80	13	94	51	0	308						
	8:45 AM	0	0	0	73	0	17	0	47	12	100	76	0	324						
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	VOLUMES	0	0	0	510	1	142	0	701	196	660	977	0	3,186						
	APPROACH %	0%	0%	0%	78%	0%	22%	0%	78%	22%	40%	60%	0%							
	APP/DEPART	0	/	0	653	/	857	897	/	1,211	1,636	/	1,118	0						
	BEGIN PEAK HR	7:30 AM																		
	VOLUMES	0	0	0	276	1	77	0	479	130	325	586	0	1,873						
	APPROACH %	0%	0%	0%	78%	0%	22%	0%	79%	21%	36%	64%	0%							
	PEAK HR FACTOR	0.000			0.822			0.738			0.900			0.908						
	APP/DEPART	0	/	0	354	/	455	609	/	755	911	/	663	0						
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0						
	4:00 PM	0	0	0	110	0	19	0	57	24	107	108	0	424						
	4:15 PM	0	0	0	105	0	27	0	69	18	111	83	0	412						
	4:30 PM	0	0	0	97	1	23	0	85	29	109	91	0	434						
	4:45 PM	0	0	0	136	0	23	0	78	16	121	70	0	443						
	5:00 PM	0	0	0	122	0	20	0	52	17	130	99	0	439						
	5:15 PM	0	0	0	132	0	18	0	58	15	126	75	0	423						
	5:30 PM	0	0	0	117	0	9	0	77	16	112	59	0	389						
	5:45 PM	0	0	0	115	0	23	0	68	15	109	79	0	408						
		VOLUMES	0	0	0	933	1	160	0	542	150	924	663	0	3,372					
		APPROACH %	0%	0%	0%	85%	0%	15%	0%	78%	22%	58%	42%	0%						
		APP/DEPART	0	/	0	1,094	/	1,075	691	/	1,475	1,587	/	823	0					
	BEGIN PEAK HR	4:30 PM																		
	VOLUMES	0	0	0	487	1	83	0	272	77	486	335	0	1,739						
	APPROACH %	0%	0%	0%	85%	0%	15%	0%	78%	22%	59%	41%	0%							
	PEAK HR FACTOR	0.000			0.903			0.768			0.897			0.981						
	APP/DEPART	0	/	0	571	/	563	349	/	759	820	/	418	0						



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtMD LLC, tel: 714 253 7888 cs@airtmd.com

DATE:  
5/16/23  
TUESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Peris  
1-215 SB Ramps  
Nuevo

PROJECT #:  
LOCATION #:  
CONTROL:

SC4029  
39  
SIGMAL

CLASS 1: PASSENGER VEHICLES	NOTES:																											
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND																	
		1-215 SB Ramps			1-215 SB Ramps			Nuevo			Nuevo																	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL														
		X	X	X	1.5	0.5	1	X	2	0	1	2	X															
		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">AM</td> <td style="padding: 2px;">N</td> <td style="padding: 2px;">▲</td> </tr> <tr> <td style="padding: 2px;">PM</td> <td style="padding: 2px;">▲</td> <td style="padding: 2px;">W</td> </tr> <tr> <td style="padding: 2px;">MID</td> <td style="padding: 2px;">←</td> <td style="padding: 2px;">W</td> </tr> <tr> <td style="padding: 2px;">OTHER</td> <td style="padding: 2px;">S</td> <td style="padding: 2px;">▲</td> </tr> <tr> <td style="padding: 2px;">OTHERS</td> <td style="padding: 2px;">←</td> <td style="padding: 2px;">E</td> </tr> </table>												AM	N	▲	PM	▲	W	MID	←	W	OTHER	S	▲	OTHERS	←	E
AM	N	▲																										
PM	▲	W																										
MID	←	W																										
OTHER	S	▲																										
OTHERS	←	E																										

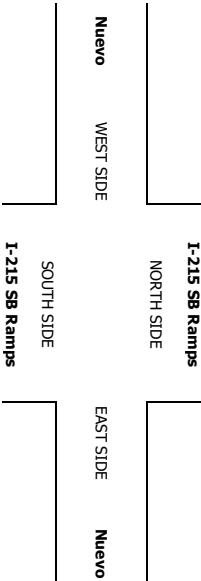
U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR				
NRR	SRR	ERR	WRR	
X	0	0	X	
0	10	2	0	
0	5	7	0	
0	8	0	0	
0	13	1	0	
0	6	3	0	
0	3	1	0	
0	5	1	0	
0	5	4	0	
0	5	19	0	

AM														
APP/DEPART	VOLUMES	APPROACH %	PEAK HR FACTOR	7:30 AM			EL	ET	ER	WL	WT	WR	TOTAL	
				0	0%	0%								
	439	81%	0.820	1	19%	0	629	143	590	861	0	2,765		
	542	81%	0.820	734	19%	772	1,068	1,451	963	0	1,648			
	235	80%	0.820	56	19%	0	439	93	34%	540	0	1,648		
	0	0%	0.000	0	0%	0	83%	17%	0.896	66%	0	0.907		
	292	81%	0.820	378	19%	532	674	824	586	0	3,058			
	104	86%	0.820	14	14%	52	21	103	91	0	385			
	97	86%	0.820	17	14%	59	13	111	76	0	373			
	86	85%	0.820	20	15%	80	26	107	73	0	393			
	128	85%	0.820	21	15%	72	13	116	54	0	404			
	111	85%	0.820	18	14%	43	14	127	82	0	395			
	117	85%	0.820	9	7%	53	10	114	67	0	379			
	107	85%	0.820	9	7%	72	10	103	50	0	351			
	103	85%	0.820	18	14%	65	13	107	72	0	378			
	853	86%	0.820	135	14%	496	120	888	565	0	3,058			
	989	86%	0.820	1,009	14%	616	1,349	1,453	39%	700	0	1,571		
	442	85%	0.820	77	15%	248	63	464	276	0	1,571			
	0	0%	0.000	0	0%	80%	20%	63%	37%	0	0.972			
	520	85%	0.820	528	15%	0.733	690	740	353	0	3,058			

U-TURNS													
NB	SB	EB	WB	TTL									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									

RTOR				
NRR	SRR	ERR	WRR	
X	0	0	X	
0	7	7	0	
0	8	1	0	
0	10	5	0	
0	8	2	0	
0	5	2	0	
0	10	2	0	
0	2	3	0	
0	7	2	0	
0	57	27	0	



0	33	14	0
---	----	----	---





### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 5/16/23 TUESDAY	<b>LOCATION:</b> NORTH & SOUTH: I-215 SB Ramps EAST & WEST: Nuevo	<b>PROJECT #:</b> SC4029 <b>LOCATION #:</b> 39 <b>CONTROL:</b> SIGNAL																		
<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	<table border="1" style="margin: auto;"> <tr><td>AM</td><td></td><td>▲</td></tr> <tr><td>PM</td><td></td><td>N</td></tr> <tr><td>MD</td><td>◀ W</td><td>E ▶</td></tr> <tr><td>OTHER:</td><td></td><td>S</td></tr> <tr><td>OTHER:</td><td></td><td>▼</td></tr> </table>	AM		▲	PM		N	MD	◀ W	E ▶	OTHER:		S	OTHER:		▼			
AM		▲																		
PM		N																		
MD	◀ W	E ▶																		
OTHER:		S																		
OTHER:		▼																		

LANES:	NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			TOTAL
	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 1	WT 2	WR X	
<b>AM</b>													
7:00 AM	0	0	0	1	0	1	0	1	0	0	4	0	7
7:15 AM	0	0	0	2	0	0	0	0	0	1	0	0	3
7:30 AM	0	0	0	1	0	2	0	2	0	3	2	0	10
7:45 AM	0	0	0	2	0	1	0	0	0	0	0	0	3
8:00 AM	0	0	0	1	0	1	0	1	1	2	1	0	7
8:15 AM	0	0	0	2	0	1	0	0	0	2	1	0	6
8:30 AM	0	0	0	0	0	2	0	1	0	0	1	0	4
8:45 AM	0	0	0	1	0	2	0	0	1	0	4	0	8
VOLUMES	0	0	0	10	0	10	0	5	2	8	13	0	48
APPROACH %	0%	0%	0%	50%	0%	50%	0%	71%	29%	38%	62%	0%	
APP/DEPART	0	/	0	20	/	10	7	/	15	21	/	23	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	6	0	5	0	3	1	7	4	0	26
APPROACH %	0%	0%	0%	55%	0%	45%	0%	75%	25%	64%	36%	0%	
PEAK HR FACTOR	0.000			0.917			0.500			0.550			0.650
APP/DEPART	0	/	0	11	/	8	4	/	9	11	/	9	0
<b>PM</b>													
4:00 PM	0	0	0	1	0	0	0	1	1	0	1	0	4
4:15 PM	0	0	0	0	0	1	0	1	1	0	1	0	4
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	3
5:00 PM	0	0	0	2	0	0	0	0	0	0	1	0	3
5:15 PM	0	0	0	1	0	0	0	0	1	2	1	0	5
5:30 PM	0	0	0	0	0	0	0	1	2	3	0	0	6
5:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	3
VOLUMES	0	0	0	8	0	1	0	3	6	5	6	0	29
APPROACH %	0%	0%	0%	89%	0%	11%	0%	33%	67%	45%	55%	0%	
APP/DEPART	0	/	0	9	/	11	9	/	11	11	/	7	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	0	0	4	0	0	0	0	2	2	4	0	12
APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	100%	33%	67%	0%	
PEAK HR FACTOR	0.000			0.500			0.500			0.500			0.600
APP/DEPART	0	/	0	4	/	4	2	/	4	6	/	4	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

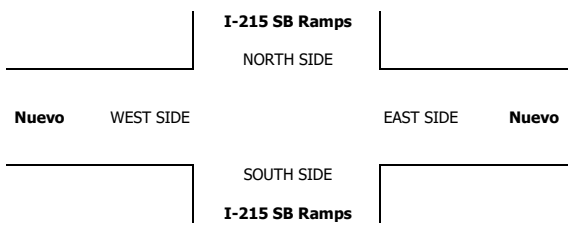
RTOR			
NRR	SRR	ERR	WRR
X	0	0	X
0	0	0	0
0	0	0	0
0	2	0	0
0	1	0	0
0	0	0	0
0	1	0	0
0	2	0	0
0	0	0	0
0	0	0	0
0	6	0	0

0	4	0	0
---	---	---	---

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	2	0

0	0	0	0
---	---	---	---







---

*ATTACHMENT B – LEVEL OF SERVICE CALCULATIONS*

---

## Table of Contents

Intersection Analysis Summary .....	2
Intersection Level Of Service Report .....	3
Intersection 15: Placentia Ave/I-215 NB .....	3
Intersection 16: Placentia Ave/I-215 SB .....	8
Intersection 28: Nuevo Rd/I-215 NB .....	13
Intersection 29: NuevoRd/I-215 SB .....	18

## Harvest Landing

Vistro File: C:\...\Harvest Landing\_OY.vistro

Scenario 5 Opening Year II AM

Report File: C:\...\OY II AM.pdf

12/2/2024

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
15	Placentia Ave/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.363	15.3	B
16	Placentia Ave/I-215 SB	Signalized	HCM 7th Edition	WB Left	0.371	17.0	B
28	Nuevo Rd/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.592	21.1	C
29	NuevoRd/I-215 SB	Signalized	HCM 7th Edition	SB Left	0.637	19.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 15: Placentia Ave/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

**Intersection Setup**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	635.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	118	28	613	0	0	0	43	361	0	0	307	224
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	0	280	0	0	0	50	313	0	0	200	134
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	256	0	0	0	0	0	0	0	0	101
Total Hourly Volume [veh/h]	243	34	766	0	0	0	102	750	0	0	571	304
Peak Hour Factor	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.8478	0.8478	1.0000	1.0000	0.8478	0.8478
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	10	226	0	0	0	30	221	0	0	168	90
Total Analysis Volume [veh/h]	287	40	903	0	0	0	120	885	0	0	673	359
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	31	0	0	0	0	5	21	0	0	12	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	21	0	0	0	0	9	39	0	0	30	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Calculated Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27		4	25	17	17
g / C, Green / Cycle	0.45	0.45	0.45		0.07	0.42	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.11		0.03	0.24	0.19	0.22
s, saturation flow rate [veh/h]	1810	1831	8500		3514	3618	3618	1615
c, Capacity [veh/h]	809	819	3800		254	1518	1015	453
d1, Uniform Delay [s]	10.08	10.07	10.26		26.73	13.38	19.08	19.97
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.55	0.15		1.36	0.36	0.75	3.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.20	0.20	0.24		0.47	0.58	0.66	0.79
d, Delay for Lane Group [s/veh]	10.64	10.62	10.41		28.08	13.74	19.83	23.14
Lane Group LOS	B	B	B		C	B	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.26	1.26	6.54		0.79	3.66	3.88	4.61
50th-Percentile Queue Length [ft/ln]	31.55	31.47	163.46		19.68	91.55	96.88	115.20
95th-Percentile Queue Length [veh/ln]	2.27	2.27	10.73		1.42	6.59	6.98	8.13
95th-Percentile Queue Length [ft/ln]	56.79	56.65	268.30		35.42	164.78	174.39	203.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	10.64	10.62	10.41	0.00	0.00	0.00	28.08	13.74	0.00	0.00	19.83	23.14
Movement LOS	B	B	B				C	B			B	C
d_A, Approach Delay [s/veh]	10.47			0.00			15.45			20.98		
Approach LOS	B			A			B			C		
d_I, Intersection Delay [s/veh]	15.32											
Intersection LOS	B											
Intersection V/C	0.363											

**Emissions**

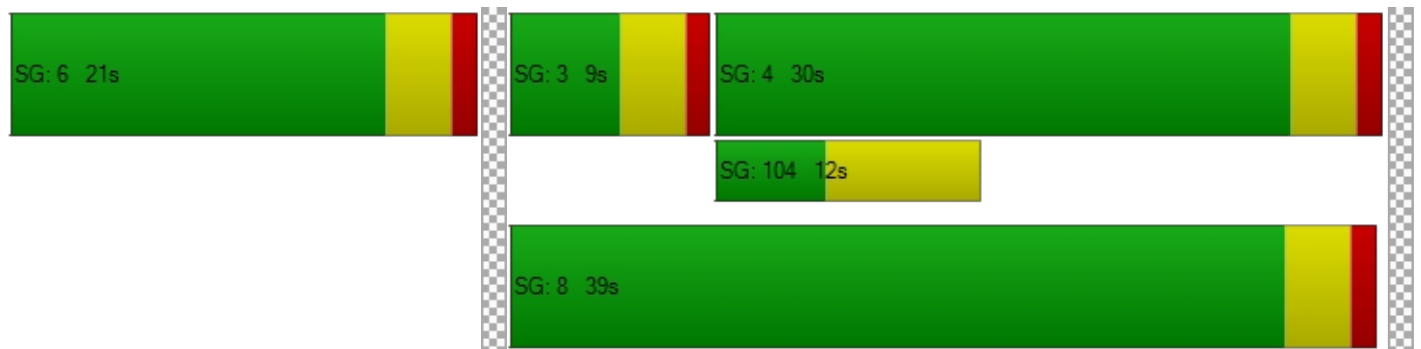
Vehicle Miles Traveled [mph]	24.48	24.48	135.20		17.25	127.20	78.81	42.04
Stops [stops/h]	75.72	75.53	392.31		94.44	439.42	465.04	276.49
Fuel consumption [US gal/h]	1.78	1.78	9.65		2.45	12.30	8.53	4.95
CO [g/h]	124.44	124.31	674.25		171.34	859.65	596.25	345.94
NOx [g/h]	24.21	24.19	131.18		33.34	167.26	116.01	67.31
VOC [g/h]	28.84	28.81	156.26		39.71	199.23	138.19	80.18

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		0.0		0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		21.68		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.122		0.000		0.000
Crosswalk LOS	F		B		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	567		0		1167		867
d_b, Bicycle Delay [s]	15.41		30.00		5.21		9.63
I_b,int, Bicycle LOS Score for Intersection	4.012		4.132		2.389		2.494
Bicycle LOS	D		D		B		B

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Placentia Ave/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

**Intersection Setup**

Name	Northbound			I-215 SB			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	300.00	270.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name				I-215 SB			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	187	4	37	0	218	29	130	295	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	280	0	100	0	83	50	134	166	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	21	0	0	0
Total Hourly Volume [veh/h]	0	0	0	506	5	109	0	347	64	291	523	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8617	0.8617	0.8617	1.0000	0.8328	0.8328	0.8983	0.8983	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	147	1	32	0	104	19	81	146	0
Total Analysis Volume [veh/h]	0	0	0	587	6	126	0	417	77	324	582	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	10	0	0	10	0	28	42	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	14	0	0	14	0	32	46	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30	10	10	8	22
g / C, Green / Cycle	0.50	0.50	0.50	0.17	0.17	0.14	0.37
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.08	0.12	0.05	0.09	0.16
s, saturation flow rate [veh/h]	1810	1811	1615	3618	1615	3514	3618
c, Capacity [veh/h]	896	897	799	603	269	486	1345
d1, Uniform Delay [s]	9.15	9.15	8.30	23.55	21.88	24.53	14.11
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	0.99	0.42	1.43	0.58	1.58	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.33	0.33	0.16	0.69	0.29	0.67	0.43
d, Delay for Lane Group [s/veh]	10.14	10.14	8.72	24.98	22.46	26.11	14.34
Lane Group LOS	B	B	A	C	C	C	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.04	2.04	0.78	2.55	0.88	2.04	2.45
50th-Percentile Queue Length [ft/ln]	50.95	50.98	19.60	63.83	21.95	50.94	61.13
95th-Percentile Queue Length [veh/ln]	3.67	3.67	1.41	4.60	1.58	3.67	4.40
95th-Percentile Queue Length [ft/ln]	91.70	91.76	35.29	114.89	39.51	91.69	110.03

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.14	10.14	8.72	0.00	24.98	22.46	26.11	14.34	0.00
Movement LOS				B	B	A		C	C	C	B	
d_A, Approach Delay [s/veh]	0.00			9.89			24.59			18.55		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	17.02											
Intersection LOS	B											
Intersection V/C	0.371											

**Emissions**

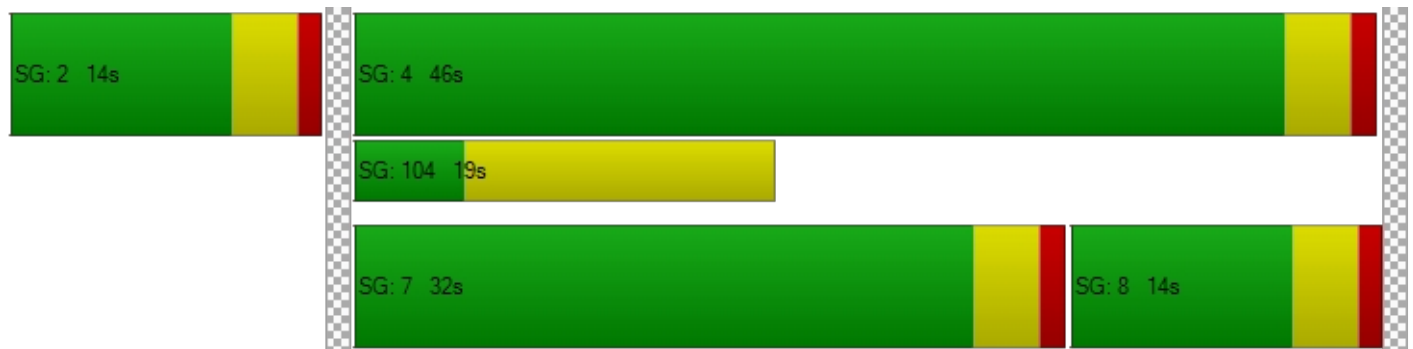
Vehicle Miles Traveled [mph]		19.87	19.88	8.45	47.47	8.77	46.57	83.65
Stops [stops/h]		122.27	122.34	47.05	306.38	52.68	244.51	293.42
Fuel consumption [US gal/h]		2.52	2.53	0.99	7.56	1.31	6.36	8.21
CO [g/h]		176.47	176.58	69.09	528.21	91.39	444.44	574.13
NOx [g/h]		34.33	34.36	13.44	102.77	17.78	86.47	111.70
VOC [g/h]		40.90	40.92	16.01	122.42	21.18	103.00	133.06

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.299	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	333	333	1400
d_b, Bicycle Delay [s]	30.00	20.83	20.83	2.70
I_b,int, Bicycle LOS Score for Intersection	4.132	2.805	1.984	2.307
Bicycle LOS	D	C	A	B

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 28: Nuevo Rd/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

**Intersection Setup**

Name	Northbound			Southbound			NuevoRd			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	125.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name							NuevoRd					
Base Volume Input [veh/h]	192	0	423	0	0	0	69	686	0	0	719	372
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	89	0	168	0	0	0	45	169	0	0	149	148
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	170	0	0	0	0	0	0	0	0	150
Total Hourly Volume [veh/h]	321	0	510	0	0	0	128	999	0	0	1019	448
Peak Hour Factor	0.8887	0.8887	0.8887	1.0000	1.0000	1.0000	0.8887	0.8887	1.0000	1.0000	0.8887	0.8887
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	0	143	0	0	0	36	281	0	0	287	126
Total Analysis Volume [veh/h]	361	0	574	0	0	0	144	1124	0	0	1147	504
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	17	0	0	0	0	5	35	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	28	0	0	0	0	12	52	0	0	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R		L	C	C	R
C, Calculated Cycle Length [s]	80	80		80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31		8	41	30	30
g / C, Green / Cycle	0.38	0.38		0.10	0.52	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20		0.08	0.31	0.22	0.31
s, saturation flow rate [veh/h]	1810	2859		1810	3618	5176	1615
c, Capacity [veh/h]	689	1089		179	1877	1916	598
d1, Uniform Delay [s]	19.14	19.18		35.30	13.43	20.38	23.06
k, delay calibration	0.50	0.50		0.22	0.11	0.11	0.23
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.83	1.83		15.28	0.31	0.30	6.78
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.52	0.53		0.81	0.60	0.60	0.84
d, Delay for Lane Group [s/veh]	21.98	21.00		50.58	13.74	20.69	29.85
Lane Group LOS	C	C		D	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.23	4.01		3.37	6.09	5.29	8.94
50th-Percentile Queue Length [ft/ln]	130.86	100.31		84.25	152.13	132.37	223.60
95th-Percentile Queue Length [veh/ln]	8.99	7.22		6.07	10.13	9.07	13.85
95th-Percentile Queue Length [ft/ln]	224.66	180.56		151.65	253.27	226.72	346.21

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	21.98	21.98	21.00	0.00	0.00	0.00	50.58	13.74	0.00	0.00	20.69	29.85
Movement LOS	C	C	C				D	B			C	C
d_A, Approach Delay [s/veh]	21.38			0.00			17.92			23.48		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	21.14											
Intersection LOS	C											
Intersection V/C	0.592											

**Emissions**

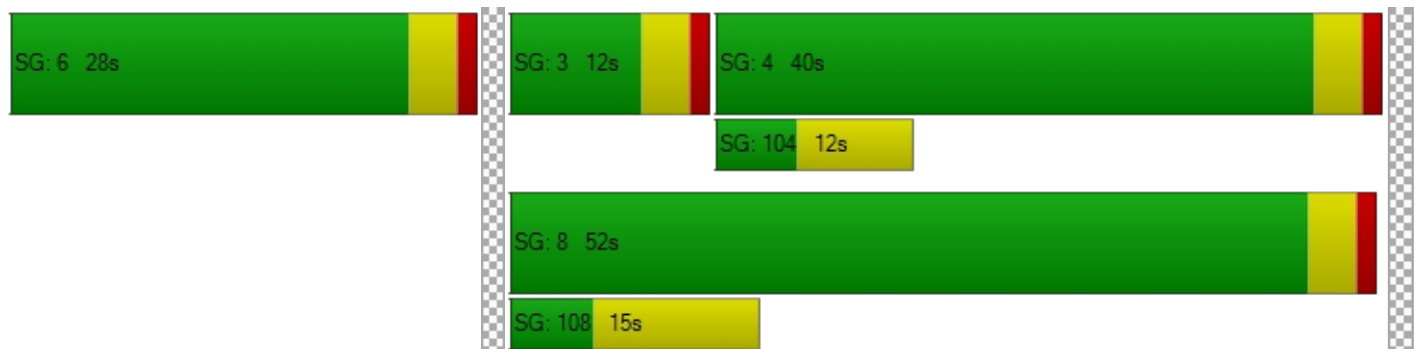
Vehicle Miles Traveled [mph]	62.75	99.77		11.93	93.12	63.04	27.70
Stops [stops/h]	235.54	361.11		151.65	547.67	714.81	402.48
Fuel consumption [US gal/h]	6.18	9.57		3.40	11.86	14.11	8.01
CO [g/h]	431.71	669.26		237.60	828.87	986.21	559.70
NOx [g/h]	83.99	130.21		46.23	161.27	191.88	108.90
VOC [g/h]	100.05	155.11		55.07	192.10	228.56	129.72

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.657	2.100	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1200	900
d_b, Bicycle Delay [s]	19.60	40.00	6.40	12.10
I_b,int, Bicycle LOS Score for Intersection	3.383	4.132	2.606	2.550
Bicycle LOS	C	D	B	B

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 29: NuevoRd/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

**Intersection Setup**

Name	Northbound			I-215 SB			NuevoRd			NuevoRd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name				I-215 SB			NuevoRd			NuevoRd		
Base Volume Input [veh/h]	0	0	0	276	1	77	0	479	130	325	586	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	168	0	89	0	46	45	148	89	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	46	0	0	51	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	1	136	0	626	151	541	798	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8189	0.8189	0.8189	1.0000	0.7346	0.7346	0.9069	0.9069	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	153	0	42	0	213	51	149	220	0
Total Analysis Volume [veh/h]	0	0	0	613	1	166	0	852	206	597	880	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	13	0	0	21	0	14	39	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	30	0	0	18	0	12	30	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group		L	C	R	C	C	L	C
C, Calculated Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		14	14	14	21	21	13	38
g / C, Green / Cycle		0.23	0.23	0.23	0.35	0.35	0.22	0.64
(v / s)_i Volume / Saturation Flow Rate		0.17	0.17	0.10	0.28	0.30	0.17	0.24
s, saturation flow rate [veh/h]		1810	1810	1615	1900	1778	3514	3618
c, Capacity [veh/h]		413	413	368	668	625	775	2310
d1, Uniform Delay [s]		21.53	21.53	19.92	17.49	17.97	21.96	5.18
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		11.50	11.50	3.94	2.17	3.28	1.66	0.10
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		0.74	0.74	0.45	0.79	0.85	0.77	0.38
d, Delay for Lane Group [s/veh]		33.03	33.02	23.86	19.66	21.25	23.62	5.28
Lane Group LOS		C	C	C	B	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.85	4.85	2.17	5.87	6.19	3.64	1.58
50th-Percentile Queue Length [ft/ln]		121.28	121.28	54.28	146.82	154.72	91.11	39.49
95th-Percentile Queue Length [veh/ln]		8.46	8.46	3.91	9.85	10.27	6.56	2.84
95th-Percentile Queue Length [ft/ln]		211.58	211.59	97.71	246.17	256.71	164.00	71.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	33.03	33.02	23.86	0.00	20.26	21.25	23.62	5.28	0.00
Movement LOS				C	C	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			31.08			20.46			12.70		
Approach LOS	A			C			C			B		
d_I, Intersection Delay [s/veh]	19.50											
Intersection LOS	B											
Intersection V/C	0.637											

**Emissions**

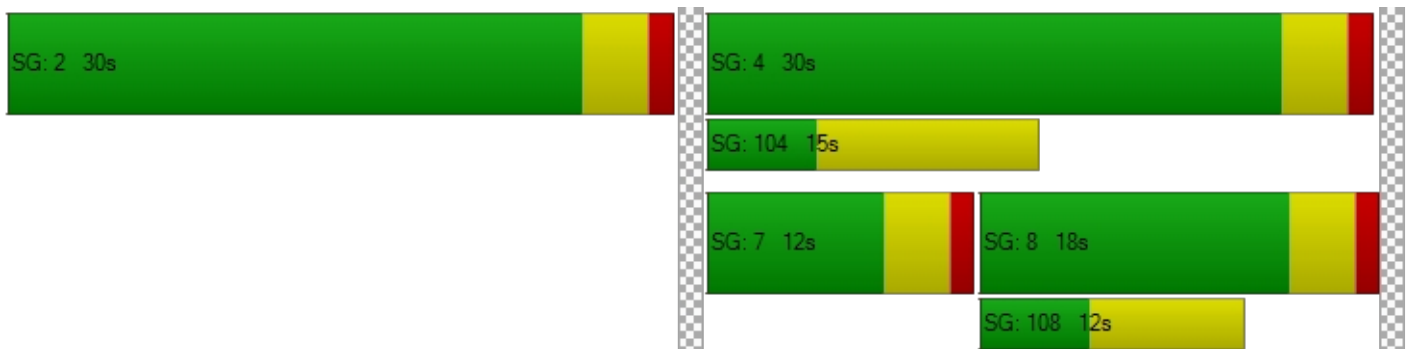
Vehicle Miles Traveled [mph]		26.54	26.55	14.35	140.20	140.20	49.46	72.91
Stops [stops/h]		291.07	291.08	130.28	352.36	371.32	437.32	189.53
Fuel consumption [US gal/h]		5.87	5.87	2.60	10.60	10.96	8.94	5.42
CO [g/h]		410.56	410.57	181.75	740.96	765.93	624.73	378.83
NOx [g/h]		79.88	79.88	35.36	144.16	149.02	121.55	73.71
VOC [g/h]		95.15	95.15	42.12	171.73	177.51	144.79	87.80

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.112	2.344	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	867	467	867
d_b, Bicycle Delay [s]	30.00	9.63	17.63	9.63
I_b,int, Bicycle LOS Score for Intersection	4.132	2.923	2.475	2.778
Bicycle LOS	D	C	B	C

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Table of Contents

Intersection Analysis Summary .....	2
Intersection Level Of Service Report .....	3
Intersection 15: Placentia Ave/I-215 NB .....	3
Intersection 16: Placentia Ave/I-215 SB .....	8
Intersection 28: Nuevo Rd/I-215 NB .....	13
Intersection 29: NuevoRd/I-215 SB .....	18

## Harvest Landing

Vistro File: C:\...\Harvest Landing\_OY.vistro

Scenario 6 Opening Year II PM

Report File: C:\...\OY II PM.pdf

12/2/2024

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
15	Placentia Ave/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.483	28.2	C
16	Placentia Ave/I-215 SB	Signalized	HCM 7th Edition	EB Thru	0.587	22.8	C
28	Nuevo Rd/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.658	23.0	C
29	NuevoRd/I-215 SB	Signalized	HCM 7th Edition	SB Left	0.730	30.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 15: Placentia Ave/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

**Intersection Setup**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	635.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	I-215 NB						Placentia Ave			Placentia Ave		
	Base Volume Input [veh/h]	34	3	170	0	0	0	46	522	0	0	421
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	0	281	0	0	0	107	353	0	0	439	394
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	0	0	0	0	0	0	176
Total Hourly Volume [veh/h]	111	4	365	0	0	0	163	985	0	0	948	529
Peak Hour Factor	0.8655	0.8655	0.8655	1.0000	1.0000	1.0000	0.9008	0.9008	1.0000	1.0000	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	1	105	0	0	0	45	273	0	0	276	154
Total Analysis Volume [veh/h]	128	5	422	0	0	0	181	1093	0	0	1103	616
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	38	0	0	0	0	6	64	0	0	54	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	42	0	0	0	0	10	68	0	0	58	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Calculated Cycle Length [s]	110	110	110		110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46	46		6	56	46	46
g / C, Green / Cycle	0.41	0.41	0.41		0.05	0.51	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.05		0.05	0.30	0.30	0.38
s, saturation flow rate [veh/h]	1810	1816	8500		3514	3618	3618	1615
c, Capacity [veh/h]	749	752	3519		192	1857	1528	682
d1, Uniform Delay [s]	19.60	19.60	19.87		51.83	18.67	26.40	29.67
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.30
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.23	0.07		19.39	0.30	0.66	11.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.09	0.09	0.12		0.94	0.59	0.72	0.90
d, Delay for Lane Group [s/veh]	19.84	19.84	19.94		71.23	18.97	27.06	41.43
Lane Group LOS	B	B	B		E	B	C	D
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.08	1.09	6.73		2.93	8.95	11.87	16.96
50th-Percentile Queue Length [ft/ln]	27.05	27.14	168.18		73.31	223.78	296.86	423.93
95th-Percentile Queue Length [veh/ln]	1.95	1.95	10.98		5.28	13.86	17.53	23.71
95th-Percentile Queue Length [ft/ln]	48.69	48.85	274.53		131.96	346.44	438.14	592.76

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	19.84	19.84	19.94	0.00	0.00	0.00	71.23	18.97	0.00	0.00	27.06	41.43
Movement LOS	B	B	B				E	B			C	D
d_A, Approach Delay [s/veh]	19.92			0.00			26.40			32.21		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	28.20											
Intersection LOS	C											
Intersection V/C	0.483											

**Emissions**

Vehicle Miles Traveled [mph]	9.94	9.97	63.18		26.02	157.10	129.17	72.14
Stops [stops/h]	35.41	35.53	220.17		191.95	585.89	777.23	554.96
Fuel consumption [US gal/h]	0.87	0.88	5.53		5.90	16.89	15.69	11.23
CO [g/h]	61.01	61.22	386.53		412.51	1180.60	1096.44	784.92
NOx [g/h]	11.87	11.91	75.20		80.26	229.70	213.33	152.72
VOC [g/h]	14.14	14.19	89.58		95.60	273.61	254.11	181.91

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.37	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.269	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	691	0	1164	982
d_b, Bicycle Delay [s]	23.56	55.00	9.62	14.25
I_b,int, Bicycle LOS Score for Intersection	2.677	4.132	2.611	3.123
Bicycle LOS	B	D	B	C

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Placentia Ave/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

**Intersection Setup**

Name	Northbound			I-215 SB			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	300.00	270.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name				I-215 SB			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	343	1	34	0	228	87	292	160	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	281	0	70	0	179	107	394	115	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	28	0	0	53	0	0	0
Total Hourly Volume [veh/h]	0	0	0	696	1	83	0	455	159	747	309	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9087	0.9087	0.9087	1.0000	0.9128	0.9128	0.8958	0.8958	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	191	0	23	0	125	44	208	86	0
Total Analysis Volume [veh/h]	0	0	0	766	1	91	0	498	174	834	345	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	21	0	0	14	0	23	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	29	0	0	17	0	24	41	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	C	R	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	25	13	13	20	37
g / C, Green / Cycle	0.36	0.36	0.36	0.18	0.18	0.29	0.53
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.06	0.14	0.11	0.24	0.10
s, saturation flow rate [veh/h]	1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]	649	649	580	659	294	1011	1906
d1, Uniform Delay [s]	18.26	18.26	15.25	27.15	26.24	23.29	8.66
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.92	3.91	0.58	1.80	1.90	1.77	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.59	0.59	0.16	0.76	0.59	0.83	0.18
d, Delay for Lane Group [s/veh]	22.17	22.17	15.82	28.95	28.14	25.06	8.71
Lane Group LOS	C	C	B	C	C	C	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.15	5.15	0.97	3.73	2.56	5.87	1.09
50th-Percentile Queue Length [ft/ln]	128.65	128.65	24.32	93.25	64.07	146.79	27.19
95th-Percentile Queue Length [veh/ln]	8.87	8.87	1.75	6.71	4.61	9.85	1.96
95th-Percentile Queue Length [ft/ln]	221.66	221.66	43.78	167.85	115.33	246.14	48.93

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	22.17	22.17	15.82	0.00	28.95	28.14	25.06	8.71	0.00
Movement LOS				C	C	B		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			21.50			28.74			20.28		
Approach LOS	A			C			C			C		
d_I, Intersection Delay [s/veh]	22.76											
Intersection LOS	C											
Intersection V/C	0.587											

**Emissions**

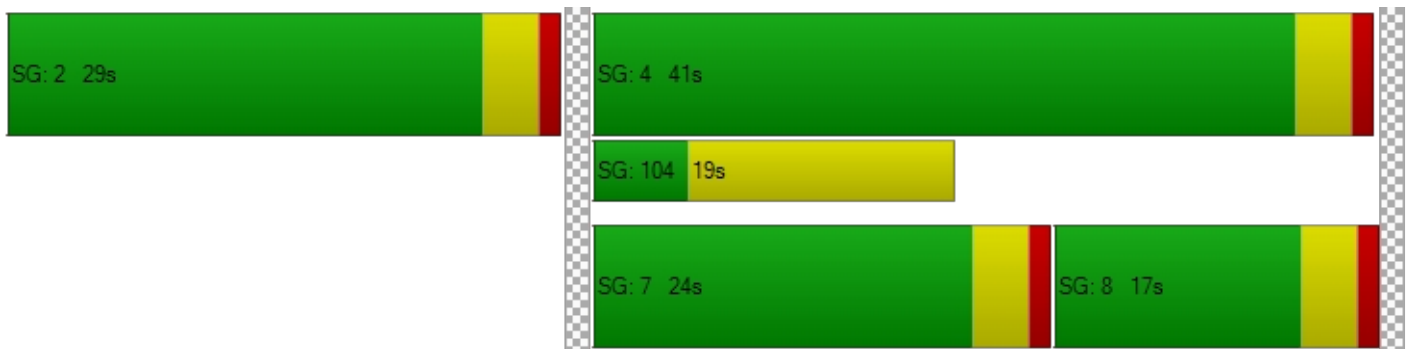
Vehicle Miles Traveled [mph]		25.71	25.71	6.10	56.69	19.81	119.87	49.59
Stops [stops/h]		264.66	264.66	50.03	383.66	131.80	603.93	111.85
Fuel consumption [US gal/h]		5.25	5.25	1.00	9.65	3.31	15.87	3.70
CO [g/h]		367.06	367.06	70.12	674.37	231.66	1109.43	258.75
NOx [g/h]		71.42	71.42	13.64	131.21	45.07	215.85	50.34
VOC [g/h]		85.07	85.07	16.25	156.29	53.69	257.12	59.97

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.353	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	714	371	1057
d_b, Bicycle Delay [s]	35.00	14.46	23.21	7.78
I_b,int, Bicycle LOS Score for Intersection	4.132	3.022	2.158	2.532
Bicycle LOS	D	C	B	B

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 28: Nuevo Rd/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

**Intersection Setup**

Name	Northbound			Southbound			NuevoRd			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	125.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name							NuevoRd					
Base Volume Input [veh/h]	63	4	409	0	0	0	54	686	0	0	750	383
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	232	0	0	0	95	234	0	0	230	228
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	182	0	0	0	0	0	0	0	0	173
Total Hourly Volume [veh/h]	138	5	545	0	0	0	160	1064	0	0	1138	518
Peak Hour Factor	0.9006	0.9006	0.9006	1.0000	1.0000	1.0000	0.8783	0.8783	1.0000	1.0000	0.9261	0.9261
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	1	151	0	0	0	46	303	0	0	307	140
Total Analysis Volume [veh/h]	153	6	605	0	0	0	182	1211	0	0	1229	559
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	0	0	12	69	0	0	53	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	30	0	0	0	0	14	60	0	0	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R		L	C	C	R
C, Calculated Cycle Length [s]	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32		10	50	36	36
g / C, Green / Cycle	0.36	0.36		0.11	0.55	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21		0.10	0.33	0.24	0.35
s, saturation flow rate [veh/h]	1813	2859		1810	3618	5176	1615
c, Capacity [veh/h]	646	1018		201	2007	2066	645
d1, Uniform Delay [s]	20.44	23.65		39.53	13.41	21.30	24.84
k, delay calibration	0.50	0.50		0.22	0.11	0.11	0.16
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.91	2.55		24.29	0.29	0.28	5.35
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	0.59		0.91	0.60	0.59	0.87
d, Delay for Lane Group [s/veh]	21.35	26.20		63.82	13.70	21.57	30.18
Lane Group LOS	C	C		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	5.25		5.18	7.18	6.33	10.95
50th-Percentile Queue Length [ft/ln]	59.60	131.28		129.45	179.57	158.33	273.79
95th-Percentile Queue Length [veh/ln]	4.29	9.01		8.91	11.58	10.46	16.38
95th-Percentile Queue Length [ft/ln]	107.29	225.24		222.74	289.45	261.51	409.47

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	21.35	21.35	26.20	0.00	0.00	0.00	63.82	13.70	0.00	0.00	21.57	30.18
Movement LOS	C	C	C				E	B			C	C
d_A, Approach Delay [s/veh]	25.19			0.00			20.25			24.26		
Approach LOS	C			A			C			C		
d_I, Intersection Delay [s/veh]	23.03											
Intersection LOS	C											
Intersection V/C	0.658											

**Emissions**

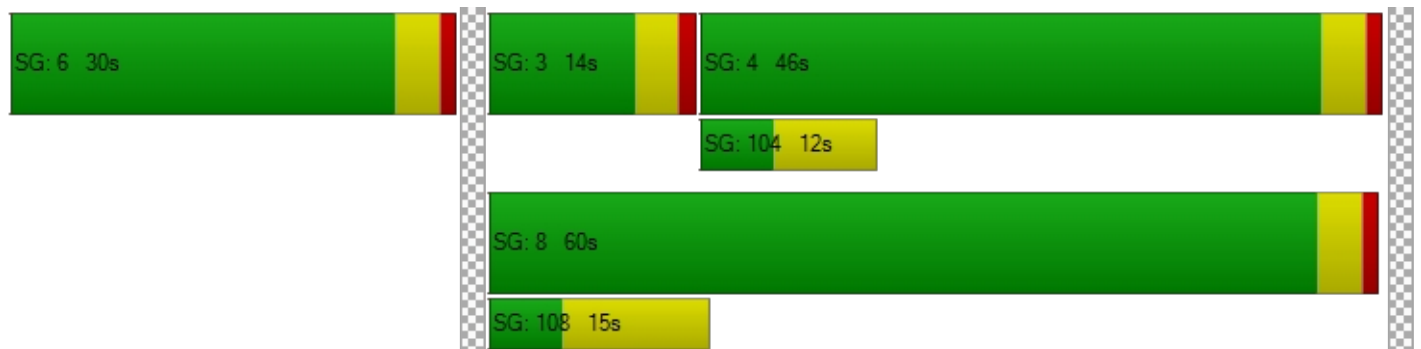
Vehicle Miles Traveled [mph]	27.64	105.16		15.08	100.33	67.55	30.72
Stops [stops/h]	95.37	420.10		207.11	574.62	759.99	438.06
Fuel consumption [US gal/h]	2.62	11.12		4.94	12.62	15.28	8.84
CO [g/h]	182.97	777.27		345.18	881.81	1068.14	617.72
NOx [g/h]	35.60	151.23		67.16	171.57	207.82	120.19
VOC [g/h]	42.40	180.14		80.00	204.37	247.55	143.16

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0		9.0		0.0		0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	36.45		36.45		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.611		2.165		0.000		0.000
Crosswalk LOS	B		B		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	578		0		1244		933
d_b, Bicycle Delay [s]	22.76		45.00		6.42		12.80
I_b,int, Bicycle LOS Score for Intersection	3.121		4.132		2.709		2.638
Bicycle LOS	C		D		B		B

**Sequence**


Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 29: NuevoRd/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.730

**Intersection Setup**

Name	Northbound			I-215 SB			NuevoRd			NuevoRd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name				I-215 SB			NuevoRd			NuevoRd		
Base Volume Input [veh/h]	0	0	0	487	1	83	0	272	77	486	335	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	232	0	62	0	97	95	228	63	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	41	0	0	47	0	0	0
Total Hourly Volume [veh/h]	0	0	0	821	1	121	0	426	141	816	468	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8912	0.8912	0.8912	1.0000	0.7591	0.7591	0.8880	0.8880	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	230	0	34	0	140	46	230	132	0
Total Analysis Volume [veh/h]	0	0	0	921	1	136	0	561	186	919	527	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	36	0	0	29	0	33	66	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	35	0	0	22	0	23	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group		L	C	R	C	C	L	C
C, Calculated Cycle Length [s]		80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		23	23	23	20	20	25	49
g / C, Green / Cycle		0.29	0.29	0.29	0.25	0.25	0.31	0.61
(v / s)_i Volume / Saturation Flow Rate		0.25	0.25	0.08	0.20	0.21	0.26	0.15
s, saturation flow rate [veh/h]		1810	1810	1615	1900	1747	3514	3618
c, Capacity [veh/h]		530	530	473	477	438	1077	2197
d1, Uniform Delay [s]		26.86	26.85	21.85	27.94	28.56	26.05	7.22
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		17.56	17.55	1.53	2.87	4.79	2.04	0.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		0.87	0.87	0.29	0.78	0.85	0.85	0.24
d, Delay for Lane Group [s/veh]		44.42	44.41	23.39	30.81	33.34	28.09	7.27
Lane Group LOS		D	D	C	C	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		10.26	10.26	2.04	6.56	6.90	7.80	1.67
50th-Percentile Queue Length [ft/ln]		256.47	256.43	51.09	164.12	172.57	195.12	41.77
95th-Percentile Queue Length [veh/ln]		15.51	15.51	3.68	10.77	11.21	12.39	3.01
95th-Percentile Queue Length [ft/ln]		387.79	387.74	91.96	269.17	280.29	309.66	75.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	44.41	44.41	23.39	0.00	31.66	33.34	28.09	7.27	0.00
Movement LOS				D	D	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			41.71			32.08			20.50		
Approach LOS	A			D			C			C		
d_I, Intersection Delay [s/veh]	30.06											
Intersection LOS	C											
Intersection V/C	0.730											

**Emissions**

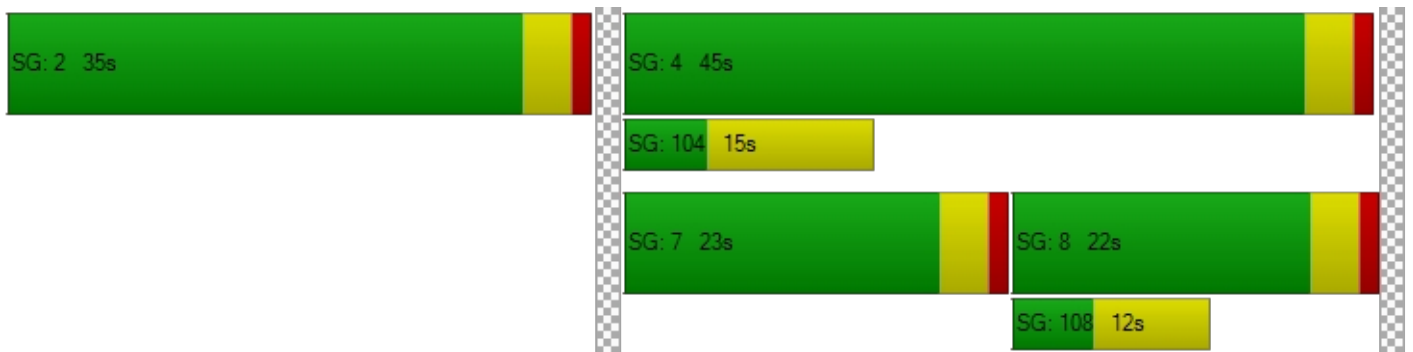
Vehicle Miles Traveled [mph]		39.86	39.86	11.76	98.99	98.99	76.14	43.66
Stops [stops/h]		461.64	461.57	91.96	295.41	310.63	702.42	150.36
Fuel consumption [US gal/h]		10.13	10.13	1.97	8.79	9.13	14.88	3.82
CO [g/h]		708.08	707.95	137.83	614.40	638.29	1040.14	267.11
NOx [g/h]		137.77	137.74	26.82	119.54	124.19	202.37	51.97
VOC [g/h]		164.10	164.07	31.94	142.39	147.93	241.06	61.90

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.273	2.470	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	775	450	1025
d_b, Bicycle Delay [s]	40.00	15.01	24.03	9.51
I_b,int, Bicycle LOS Score for Intersection	4.132	3.373	2.215	2.753
Bicycle LOS	D	C	B	C

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Table of Contents

Intersection Analysis Summary .....	2
Intersection Level Of Service Report .....	3
Intersection 15: Placentia Ave/I-215 NB .....	3
Intersection 16: Placentia Ave/I-215 SB .....	8
Intersection 28: Nuevo Rd/I-215 NB .....	13
Intersection 29: NuevoRd/I-215 SB .....	18

## Harvest Landing

Vistro File: C:\...\Harvest Landing\_OY.vistro

Scenario 7 Opening Year II PP AM

Report File: C:\...\OY II PP AM.pdf

12/2/2024

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
15	Placentia Ave/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.620	14.2	B
16	Placentia Ave/I-215 SB	Signalized	HCM 7th Edition	EB Thru	0.638	22.1	C
28	Nuevo Rd/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.651	21.6	C
29	NuevoRd/I-215 SB	Signalized	HCM 7th Edition	SB Left	0.698	29.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 15: Placentia Ave/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.620

**Intersection Setup**

Name	I-215 NB						Placentia Ave			Placentia Ave					
Approach	Northbound						Southbound			Eastbound			Westbound		
Lane Configuration															
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
No. of Lanes in Entry Pocket	2	0	0	0	0	0	2	0	0	0	0	1			
Entry Pocket Length [ft]	635.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	350.00			
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0			
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Speed [mph]	30.00			30.00			45.00			30.00					
Grade [%]	0.00			0.00			0.00			0.00					
Curb Present	No						No			No					
Crosswalk	No			Yes			No			No					

**Volumes**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	118	28	613	0	0	0	43	361	0	0	307	224
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	0	728	0	0	0	50	1067	0	0	326	383
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	368	0	0	0	0	0	0	0	0	164
Total Hourly Volume [veh/h]	243	34	1102	0	0	0	102	1504	0	0	697	490
Peak Hour Factor	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.8478	0.8478	1.0000	1.0000	0.8478	0.8478
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	10	325	0	0	0	30	443	0	0	206	144
Total Analysis Volume [veh/h]	287	40	1300	0	0	0	120	1774	0	0	822	578
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	31	0	0	0	0	5	21	0	0	12	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	21	0	0	0	0	9	39	0	0	30	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Calculated Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	12		4	40	31	31
g / C, Green / Cycle	0.21	0.21	0.21		0.07	0.66	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.13		0.03	0.49	0.23	0.36
s, saturation flow rate [veh/h]	1810	1831	10000		3514	3618	3618	1615
c, Capacity [veh/h]	373	378	2063		258	2389	1882	840
d1, Uniform Delay [s]	20.78	20.75	21.72		26.66	6.79	8.93	10.75
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.31
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.71	3.59	1.47		1.30	0.47	0.16	2.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	0.43	0.63		0.46	0.74	0.44	0.69
d, Delay for Lane Group [s/veh]	24.48	24.34	23.20		27.97	7.26	9.09	13.59
Lane Group LOS	C	C	C		C	A	A	B
Critical Lane Group	No	No	Yes		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.24	2.23	16.31		0.79	3.79	2.75	5.25
50th-Percentile Queue Length [ft/ln]	56.11	55.86	407.71		19.63	94.86	68.80	131.23
95th-Percentile Queue Length [veh/ln]	4.04	4.02	22.93		1.41	6.83	4.95	9.01
95th-Percentile Queue Length [ft/ln]	100.99	100.55	573.29		35.33	170.74	123.83	225.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	24.48	24.34	23.20	0.00	0.00	0.00	27.97	7.26	0.00	0.00	9.09	13.59
Movement LOS	C	C	C				C	A			A	B
d_A, Approach Delay [s/veh]	23.44			0.00			8.57			10.95		
Approach LOS	C			A			A			B		
d_I, Intersection Delay [s/veh]	14.16											
Intersection LOS	B											
Intersection V/C	0.620											

**Emissions**

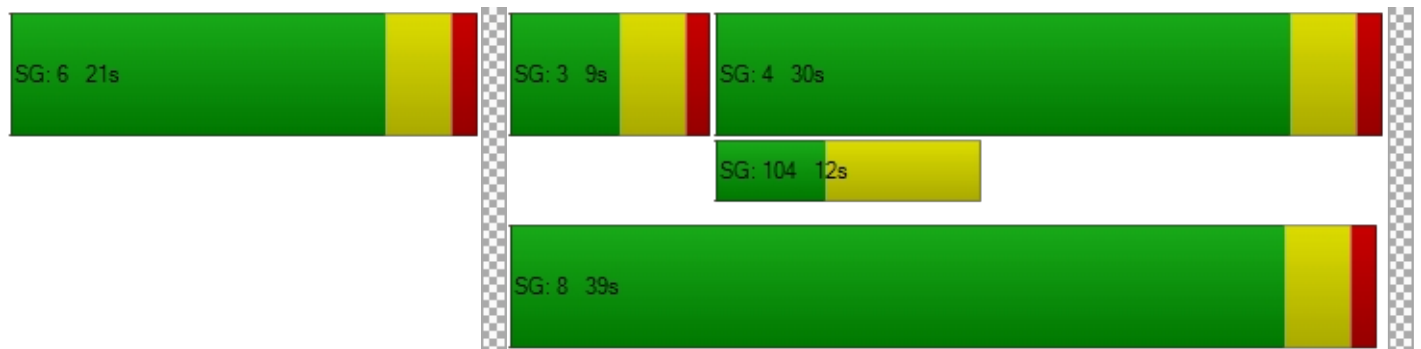
Vehicle Miles Traveled [mph]	24.48	24.48	194.64		17.25	254.98	96.26	67.69
Stops [stops/h]	134.66	134.07	978.52		94.23	455.31	330.23	314.95
Fuel consumption [US gal/h]	2.57	2.56	19.56		2.45	17.02	7.31	6.13
CO [g/h]	179.39	178.83	1366.99		170.96	1189.77	510.88	428.15
NOx [g/h]	34.90	34.79	265.97		33.26	231.49	99.40	83.30
VOC [g/h]	41.57	41.45	316.81		39.62	275.74	118.40	99.23

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		0.0		0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		21.68		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.214		0.000		0.000
Crosswalk LOS	F		B		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	567		0		1167		867
d_b, Bicycle Delay [s]	15.41		30.00		5.21		9.63
I_b,int, Bicycle LOS Score for Intersection	4.851		4.132		3.122		2.850
Bicycle LOS	E		D		C		C

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Placentia Ave/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

**Intersection Setup**

Name	Northbound			I-215 SB			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	300.00	270.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name				I-215 SB			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	187	4	37	0	218	29	130	295	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	32	982	0	100	0	103	50	243	183	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	36	0	0	21	0	0	0
Total Hourly Volume [veh/h]	0	0	32	1208	5	109	0	367	64	400	540	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8617	0.8617	0.8617	1.0000	0.8328	0.8328	0.8983	0.8983	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	8	350	1	32	0	110	19	111	150	0
Total Analysis Volume [veh/h]	0	0	32	1402	6	126	0	441	77	445	601	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	10	0	0	10	0	28	42	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	14	0	0	14	0	32	46	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	10	10	11	25
g / C, Green / Cycle	0.46	0.46	0.46	0.17	0.17	0.18	0.41
(v / s)_i Volume / Saturation Flow Rate	0.39	0.39	0.08	0.12	0.05	0.13	0.17
s, saturation flow rate [veh/h]	1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]	826	826	737	606	271	619	1484
d1, Uniform Delay [s]	14.51	14.51	9.62	23.68	21.83	23.32	12.51
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.83	10.80	0.50	1.69	0.57	1.59	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.85	0.85	0.17	0.73	0.28	0.72	0.40
d, Delay for Lane Group [s/veh]	25.34	25.31	10.12	25.37	22.40	24.91	12.69
Lane Group LOS	C	C	B	C	C	C	B
Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.06	9.05	0.88	2.73	0.88	2.73	2.30
50th-Percentile Queue Length [ft/ln]	226.46	226.29	22.07	68.28	21.91	68.28	57.50
95th-Percentile Queue Length [veh/ln]	13.99	13.99	1.59	4.92	1.58	4.92	4.14
95th-Percentile Queue Length [ft/ln]	349.86	349.64	39.72	122.90	39.44	122.90	103.50

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	25.32	25.31	10.12	0.00	25.37	22.40	24.91	12.69	0.00
Movement LOS				C	C	B		C	C	C	B	
d_A, Approach Delay [s/veh]	0.00			24.07			24.93			17.89		
Approach LOS	A			C			C			B		
d_I, Intersection Delay [s/veh]	22.13											
Intersection LOS	C											
Intersection V/C	0.638											

**Emissions**

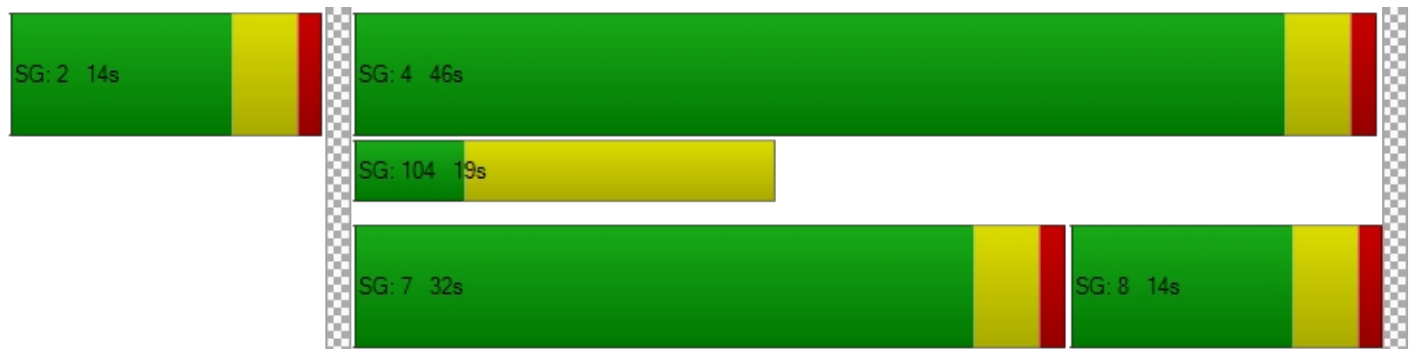
Vehicle Miles Traveled [mph]		47.20	47.20	8.45	50.20	8.77	63.96	86.38
Stops [stops/h]		543.50	543.09	52.96	327.74	52.59	327.72	276.00
Fuel consumption [US gal/h]		10.66	10.65	1.08	8.07	1.31	8.52	7.94
CO [g/h]		745.12	744.53	75.66	564.27	91.25	595.74	555.35
NOx [g/h]		144.97	144.86	14.72	109.79	17.75	115.91	108.05
VOC [g/h]		172.69	172.55	17.53	130.78	21.15	138.07	128.71

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.652	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	333	333	1400
d_b, Bicycle Delay [s]	30.00	20.83	20.83	2.70
I_b,int, Bicycle LOS Score for Intersection	4.132	4.150	2.004	2.423
Bicycle LOS	D	D	B	B

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 28: Nuevo Rd/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

**Intersection Setup**

Name	Northbound			Southbound			NuevoRd			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	125.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name							NuevoRd					
Base Volume Input [veh/h]	192	0	423	0	0	0	69	686	0	0	719	372
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	89	0	328	0	0	0	45	194	0	0	315	169
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	210	0	0	0	0	0	0	0	0	155
Total Hourly Volume [veh/h]	321	0	630	0	0	0	128	1024	0	0	1185	464
Peak Hour Factor	0.8887	0.8887	0.8887	1.0000	1.0000	1.0000	0.8887	0.8887	1.0000	1.0000	0.8887	0.8887
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	0	177	0	0	0	36	288	0	0	333	131
Total Analysis Volume [veh/h]	361	0	709	0	0	0	144	1152	0	0	1333	522
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	17	0	0	0	0	5	35	0	0	26	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	28	0	0	0	0	12	52	0	0	40	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R		L	C	C	R
C, Calculated Cycle Length [s]	80	80		80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29		8	43	31	31
g / C, Green / Cycle	0.36	0.36		0.10	0.54	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.20	0.25		0.08	0.32	0.26	0.32
s, saturation flow rate [veh/h]	1810	2859		1810	3618	5176	1615
c, Capacity [veh/h]	659	1041		179	1938	2002	625
d1, Uniform Delay [s]	20.19	21.50		35.30	12.65	20.25	22.22
k, delay calibration	0.50	0.50		0.22	0.11	0.11	0.25
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.25	3.60		15.28	0.29	0.39	6.66
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.68		0.81	0.59	0.67	0.84
d, Delay for Lane Group [s/veh]	23.45	25.09		50.58	12.95	20.64	28.88
Lane Group LOS	C	C		D	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.46	5.60		3.37	5.99	6.23	9.10
50th-Percentile Queue Length [ft/ln]	136.39	140.02		84.25	149.71	155.86	227.47
95th-Percentile Queue Length [veh/ln]	9.29	9.48		6.07	10.00	10.33	14.05
95th-Percentile Queue Length [ft/ln]	232.16	237.05		151.65	250.04	258.24	351.14

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	23.45	23.45	25.09	0.00	0.00	0.00	50.58	12.95	0.00	0.00	20.64	28.88
Movement LOS	C	C	C				D	B			C	C
d_A, Approach Delay [s/veh]	24.54			0.00			17.13			22.96		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	21.57											
Intersection LOS	C											
Intersection V/C	0.651											

**Emissions**

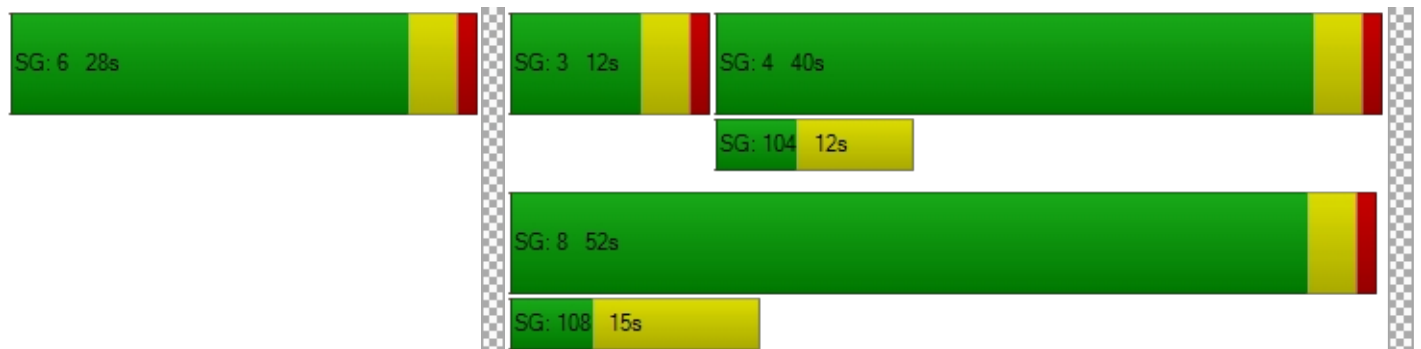
Vehicle Miles Traveled [mph]	62.75	123.24		11.93	95.44	73.26	28.69
Stops [stops/h]	245.51	504.06		151.65	538.95	841.66	409.44
Fuel consumption [US gal/h]	6.38	12.99		3.40	11.75	16.49	8.12
CO [g/h]	446.09	907.75		237.60	821.22	1152.71	567.40
NOx [g/h]	86.79	176.62		46.23	159.78	224.28	110.40
VOC [g/h]	103.39	210.38		55.07	190.33	267.15	131.50

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.789	2.111	0.000	0.000
Crosswalk LOS	C	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1200	900
d_b, Bicycle Delay [s]	19.60	40.00	6.40	12.10
I_b,int, Bicycle LOS Score for Intersection	3.672	4.132	2.629	2.665
Bicycle LOS	D	D	B	B

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 29: NuevoRd/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

**Intersection Setup**

Name	Northbound			I-215 SB			NuevoRd			NuevoRd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name				I-215 SB			NuevoRd			NuevoRd		
Base Volume Input [veh/h]	0	0	0	276	1	77	0	479	130	325	586	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	193	0	89	0	46	45	315	89	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	46	0	0	51	0	0	0
Total Hourly Volume [veh/h]	0	0	0	527	1	136	0	626	151	708	798	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8189	0.8189	0.8189	1.0000	0.7346	0.7346	0.9069	0.9069	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	161	0	42	0	213	51	195	220	0
Total Analysis Volume [veh/h]	0	0	0	644	1	166	0	852	206	781	880	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	13	0	0	21	0	14	39	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	30	0	0	18	0	12	30	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	C	C	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	21	21	17	42
g / C, Green / Cycle	0.17	0.17	0.17	0.35	0.35	0.28	0.70
(v / s)_i Volume / Saturation Flow Rate	0.18	0.18	0.10	0.28	0.30	0.22	0.24
s, saturation flow rate [veh/h]	1810	1810	1615	1900	1778	3514	3618
c, Capacity [veh/h]	309	310	276	667	624	976	2517
d1, Uniform Delay [s]	24.87	24.87	22.98	17.50	17.98	20.12	3.67
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	62.53	62.50	9.33	2.18	3.29	1.57	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.04	1.04	0.60	0.79	0.85	0.80	0.35
d, Delay for Lane Group [s/veh]	87.40	87.37	32.31	19.68	21.27	21.69	3.76
Lane Group LOS	F	F	C	B	C	C	A
Critical Lane Group	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.29	9.29	2.66	5.88	6.20	4.57	1.03
50th-Percentile Queue Length [ft/ln]	232.36	232.34	66.45	147.06	154.99	114.30	25.67
95th-Percentile Queue Length [veh/ln]	14.58	14.58	4.78	9.86	10.28	8.08	1.85
95th-Percentile Queue Length [ft/ln]	364.41	364.38	119.62	246.50	257.07	201.97	46.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	87.39	87.37	32.31	0.00	20.28	21.27	21.69	3.76	0.00
Movement LOS				F	F	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			76.11			20.47			12.19		
Approach LOS	A			E			C			B		
d_I, Intersection Delay [s/veh]	29.36											
Intersection LOS	C											
Intersection V/C	0.698											

**Emissions**

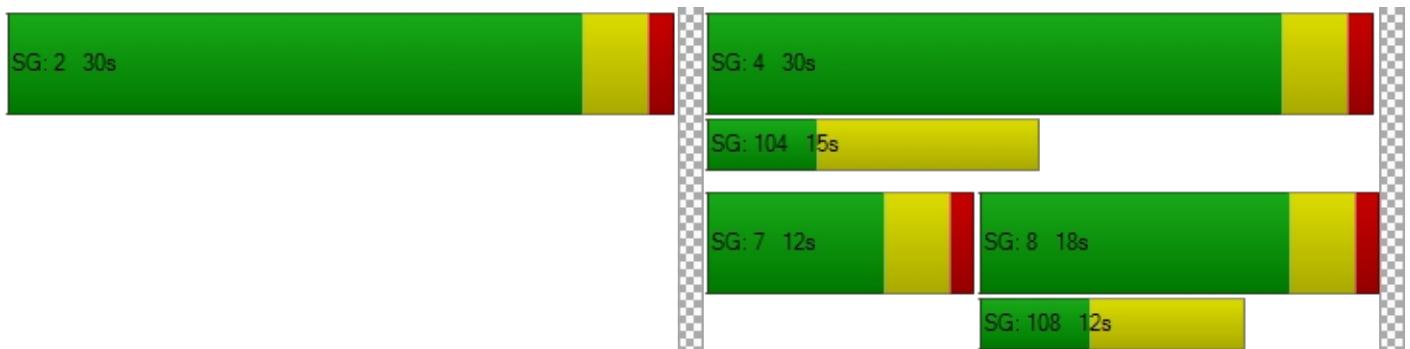
Vehicle Miles Traveled [mph]		27.88	27.89	14.35	140.20	140.20	64.70	72.91
Stops [stops/h]		557.66	557.63	159.49	352.95	371.97	548.65	123.21
Fuel consumption [US gal/h]		12.21	12.21	3.17	10.61	10.97	11.16	4.49
CO [g/h]		853.63	853.54	221.75	741.48	766.53	779.74	314.16
NOx [g/h]		166.09	166.07	43.14	144.26	149.14	151.71	61.12
VOC [g/h]		197.84	197.82	51.39	171.84	177.65	180.71	72.81

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.202	2.358	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	867	467	867
d_b, Bicycle Delay [s]	30.00	9.63	17.63	9.63
I_b,int, Bicycle LOS Score for Intersection	4.132	2.974	2.475	2.930
Bicycle LOS	D	C	B	C

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Table of Contents

Intersection Analysis Summary .....	2
Intersection Level Of Service Report .....	3
Intersection 15: Placentia Ave/I-215 NB .....	3
Intersection 16: Placentia Ave/I-215 SB .....	8
Intersection 28: Nuevo Rd/I-215 NB .....	13
Intersection 29: NuevoRd/I-215 SB .....	18

## Harvest Landing

Vistro File: C:\...\Harvest Landing\_OY.vistro

Scenario 8 Opening Year II PP PM

Report File: C:\...\OY II PP PM.pdf

12/2/2024

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
15	Placentia Ave/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.860	23.4	C
16	Placentia Ave/I-215 SB	Signalized	HCM 7th Edition	SB Left	0.800	71.0	E
28	Nuevo Rd/I-215 NB	Signalized	HCM 7th Edition	EB Left	0.732	24.1	C
29	NuevoRd/I-215 SB	Signalized	HCM 7th Edition	SB Left	0.836	76.1	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 15: Placentia Ave/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	635.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	I-215 NB						Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	34	3	170	0	0	0	46	522	0	0	421	257
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	0	431	0	0	0	107	712	0	0	806	1065
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	159	0	0	0	0	0	0	0	0	344
Total Hourly Volume [veh/h]	111	4	478	0	0	0	163	1344	0	0	1315	1032
Peak Hour Factor	0.8655	0.8655	0.8655	1.0000	1.0000	1.0000	0.9008	0.9008	1.0000	1.0000	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	1	138	0	0	0	45	373	0	0	383	300
Total Analysis Volume [veh/h]	128	5	552	0	0	0	181	1492	0	0	1531	1201
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	6	92	0	0	82	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	15	0	0	0	0	79	105	0	0	26	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Calculated Cycle Length [s]	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	11		9	101	88	88
g / C, Green / Cycle	0.09	0.09	0.09		0.07	0.84	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.06		0.05	0.41	0.42	0.74
s, saturation flow rate [veh/h]	1810	1816	8500		3514	3618	3618	1615
c, Capacity [veh/h]	169	169	793		250	3039	2661	1188
d1, Uniform Delay [s]	51.20	51.20	52.75		54.58	2.61	7.28	15.87
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.49
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.74	6.71	5.01		3.95	0.12	0.20	28.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.39	0.39	0.70		0.72	0.49	0.58	1.01
d, Delay for Lane Group [s/veh]	57.95	57.92	57.76		58.53	2.74	7.47	44.44
Lane Group LOS	E	E	E		E	A	A	F
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.20	2.21	17.26		2.75	2.26	7.91	35.95
50th-Percentile Queue Length [ft/ln]	55.06	55.20	431.48		68.78	56.55	197.71	898.70
95th-Percentile Queue Length [veh/ln]	3.96	3.97	24.07		4.95	4.07	12.52	46.26
95th-Percentile Queue Length [ft/ln]	99.12	99.36	601.81		123.81	101.79	313.01	1156.49

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.95	57.92	57.76	0.00	0.00	0.00	58.53	2.74	0.00	0.00	7.47	44.44
Movement LOS	E	E	E				E	A			A	F
d_A, Approach Delay [s/veh]	57.80			0.00			8.77			23.73		
Approach LOS	E			A			A			C		
d_I, Intersection Delay [s/veh]	23.40											
Intersection LOS	C											
Intersection V/C	0.860											

**Emissions**

Vehicle Miles Traveled [mph]	9.94	9.97	82.65		26.02	214.45	179.29	140.65
Stops [stops/h]	66.08	66.24	517.77		165.08	135.72	474.50	1078.44
Fuel consumption [US gal/h]	1.56	1.56	12.75		5.10	9.87	12.33	22.61
CO [g/h]	108.85	109.14	891.27		356.48	689.86	861.93	1580.41
NOx [g/h]	21.18	21.23	173.41		69.36	134.22	167.70	307.49
VOC [g/h]	25.23	25.29	206.56		82.62	159.88	199.76	366.28

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.518	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	183	0	1683	367
d_b, Bicycle Delay [s]	49.50	60.00	1.50	40.02
I_b,int, Bicycle LOS Score for Intersection	2.952	4.132	2.940	4.097
Bicycle LOS	C	D	C	D

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Placentia Ave/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	71.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

**Intersection Setup**

Name	Northbound			I-215 SB			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	300.00	270.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

**Volumes**

Name				I-215 SB			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	343	1	34	0	228	87	292	160	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	597	0	70	0	204	107	736	140	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	18	0	0	28	0	0	53	0	0	0
Total Hourly Volume [veh/h]	0	0	18	1012	1	83	0	480	159	1089	334	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9087	0.9087	0.9087	1.0000	0.9128	0.9128	0.8958	0.8958	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	5	278	0	23	0	131	44	304	93	0
Total Analysis Volume [veh/h]	0	0	18	1114	1	91	0	526	174	1216	373	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	21	0	0	14	0	23	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	29	0	0	17	0	24	41	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	C	R	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	13	13	28	46
g / C, Green / Cycle	0.24	0.24	0.24	0.19	0.19	0.40	0.65
(v / s)_i Volume / Saturation Flow Rate	0.31	0.31	0.06	0.15	0.11	0.35	0.10
s, saturation flow rate [veh/h]	1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]	428	428	382	685	306	1415	2348
d1, Uniform Delay [s]	26.71	26.71	21.61	26.92	25.78	19.10	4.81
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	151.78	151.74	1.46	1.85	1.67	1.64	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.30	1.30	0.24	0.77	0.57	0.86	0.16
d, Delay for Lane Group [s/veh]	178.50	178.45	23.07	28.77	27.45	20.74	4.84
Lane Group LOS	F	F	C	C	C	C	A
Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	24.53	24.53	1.27	3.93	2.52	7.78	0.68
50th-Percentile Queue Length [ft/ln]	613.37	613.28	31.68	98.26	63.02	194.61	17.07
95th-Percentile Queue Length [veh/ln]	37.31	37.31	2.28	7.07	4.54	12.36	1.23
95th-Percentile Queue Length [ft/ln]	932.82	932.67	57.03	176.87	113.43	309.00	30.73

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	178.47	178.45	23.07	0.00	28.77	27.45	20.74	4.84	0.00
Movement LOS				F	F	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			166.75			28.44			17.01		
Approach LOS	A			F			C			B		
d_I, Intersection Delay [s/veh]	70.97											
Intersection LOS	E											
Intersection V/C	0.800											

**Emissions**

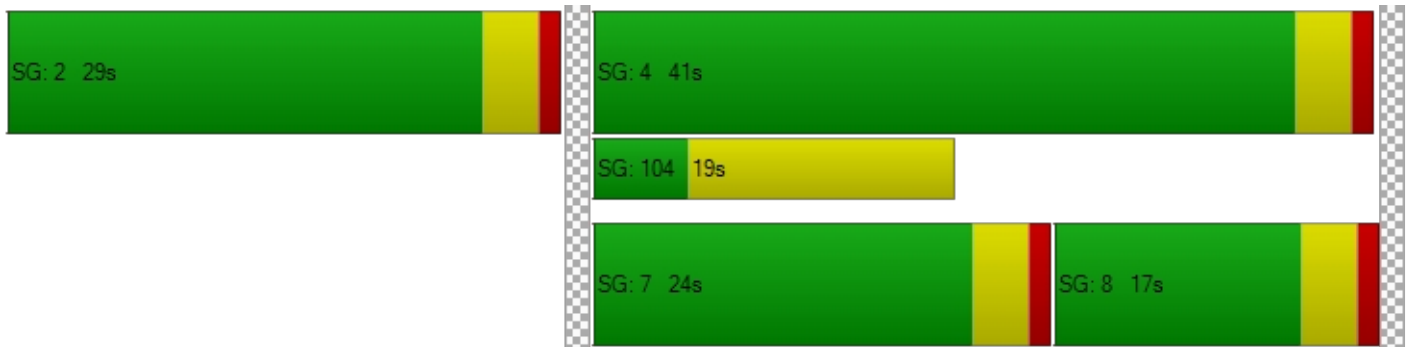
Vehicle Miles Traveled [mph]		37.37	37.37	6.10	59.88	19.81	174.78	53.61
Stops [stops/h]		1261.78	1261.60	65.17	404.27	129.63	800.67	70.25
Fuel consumption [US gal/h]		33.98	33.97	1.29	10.16	3.26	21.08	3.08
CO [g/h]		2375.32	2374.82	89.89	710.11	228.07	1473.44	215.19
NOx [g/h]		462.15	462.05	17.49	138.16	44.37	286.68	41.87
VOC [g/h]		550.50	550.39	20.83	164.57	52.86	341.48	49.87

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.504	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	714	371	1057
d_b, Bicycle Delay [s]	35.00	14.46	23.21	7.78
I_b,int, Bicycle LOS Score for Intersection	4.132	3.596	2.181	2.871
Bicycle LOS	D	D	B	C

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 28: Nuevo Rd/I-215 NB**

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Northbound			Southbound			NuevoRd			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	400.00	100.00	100.00	100.00	125.00	100.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name							NuevoRd					
Base Volume Input [veh/h]	63	4	409	0	0	0	54	686	0	0	750	383
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.2100	1.2100	1.2100	1.0000	1.0000	1.0000	1.2100	1.2100	1.0000	1.0000	1.2100	1.2100
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	429	0	0	0	95	264	0	0	529	260
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	231	0	0	0	0	0	0	0	0	181
Total Hourly Volume [veh/h]	138	5	693	0	0	0	160	1094	0	0	1437	542
Peak Hour Factor	0.9006	0.9006	0.9006	1.0000	1.0000	1.0000	0.8783	0.8783	1.0000	1.0000	0.9261	0.9261
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	1	192	0	0	0	46	311	0	0	388	146
Total Analysis Volume [veh/h]	153	6	770	0	0	0	182	1246	0	0	1552	585
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	0	0	12	69	0	0	53	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	30	0	0	0	0	14	60	0	0	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R		L	C	C	R
C, Calculated Cycle Length [s]	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30		10	52	38	38
g / C, Green / Cycle	0.33	0.33		0.11	0.58	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27		0.10	0.34	0.30	0.36
s, saturation flow rate [veh/h]	1813	2859		1810	3618	5176	1615
c, Capacity [veh/h]	599	945		201	2101	2200	687
d1, Uniform Delay [s]	22.11	27.61		39.53	12.07	21.24	23.32
k, delay calibration	0.50	0.50		0.22	0.11	0.11	0.18
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	7.69		24.29	0.27	0.42	5.07
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.27	0.82		0.91	0.59	0.71	0.85
d, Delay for Lane Group [s/veh]	23.19	35.30		63.82	12.34	21.67	28.40
Lane Group LOS	C	D		E	B	C	C
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.51	8.06		5.18	6.88	8.25	11.10
50th-Percentile Queue Length [ft/ln]	62.85	201.62		129.45	171.98	206.18	277.47
95th-Percentile Queue Length [veh/ln]	4.53	12.72		8.91	11.18	12.96	16.56
95th-Percentile Queue Length [ft/ln]	113.13	318.06		222.74	279.51	323.92	414.06

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	23.19	23.19	35.30	0.00	0.00	0.00	63.82	12.34	0.00	0.00	21.67	28.40
Movement LOS	C	C	D				E	B			C	C
d_A, Approach Delay [s/veh]	33.23			0.00			18.90			23.51		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	24.05											
Intersection LOS	C											
Intersection V/C	0.732											

**Emissions**

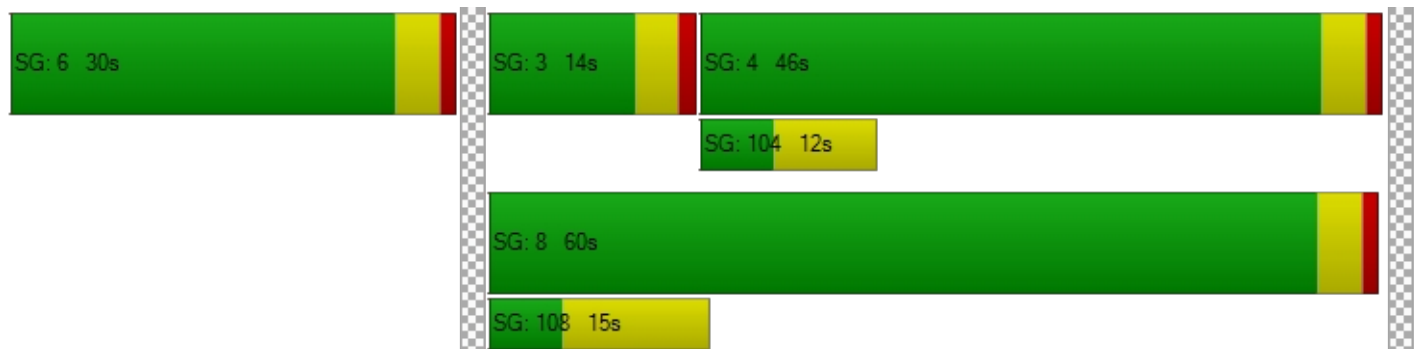
Vehicle Miles Traveled [mph]	27.64	133.84		15.08	103.23	85.30	32.15
Stops [stops/h]	100.56	645.19		207.11	550.33	989.66	443.95
Fuel consumption [US gal/h]	2.73	16.66		4.94	12.23	19.62	8.89
CO [g/h]	190.71	1164.76		345.18	855.12	1371.49	621.66
NOx [g/h]	37.10	226.62		67.16	166.38	266.84	120.95
VOC [g/h]	44.20	269.94		80.00	198.18	317.86	144.07

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.773	2.181	0.000	0.000
Crosswalk LOS	C	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	0	1244	933
d_b, Bicycle Delay [s]	22.76	45.00	6.42	12.80
I_b,int, Bicycle LOS Score for Intersection	3.474	4.132	2.738	2.835
Bicycle LOS	C	D	B	C

**Sequence**




Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 29: NuevoRd/I-215 SB**

Control Type:	Signalized	Delay (sec / veh):	76.1
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.836

**Intersection Setup**

Name	Northbound			I-215 SB			NuevoRd			NuevoRd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	115.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name				I-215 SB			NuevoRd			NuevoRd		
Base Volume Input [veh/h]	0	0	0	487	1	83	0	272	77	486	335	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.2100	1.2100	1.2100	1.0000	1.2100	1.2100	1.2100	1.2100	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	263	0	62	0	97	95	527	63	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	41	0	0	47	0	0	0
Total Hourly Volume [veh/h]	0	0	0	852	1	121	0	426	141	1115	468	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8912	0.8912	0.8912	1.0000	0.7591	0.7591	0.8880	0.8880	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	239	0	34	0	140	46	314	132	0
Total Analysis Volume [veh/h]	0	0	0	956	1	136	0	561	186	1256	527	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing (Basic)**

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	36	0	0	29	0	33	66	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Phasing & Timing: Pattern 1**

Split [s]	0	0	0	0	35	0	0	22	0	23	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group		L	C	R	C	C	L	C
C, Calculated Cycle Length [s]		80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		15	15	15	20	20	33	57
g / C, Green / Cycle		0.19	0.19	0.19	0.25	0.25	0.41	0.71
(v / s)_i Volume / Saturation Flow Rate		0.26	0.26	0.08	0.20	0.21	0.36	0.15
s, saturation flow rate [veh/h]		1810	1810	1615	1900	1747	3514	3618
c, Capacity [veh/h]		344	344	307	477	438	1437	2568
d1, Uniform Delay [s]		32.39	32.39	28.65	27.94	28.55	21.74	3.94
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		192.85	192.79	4.58	2.87	4.78	1.82	0.04
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		1.39	1.39	0.44	0.78	0.85	0.87	0.21
d, Delay for Lane Group [s/veh]		225.24	225.18	33.23	30.81	33.33	23.56	3.98
Lane Group LOS		F	F	C	C	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		24.66	24.66	2.57	6.57	6.91	9.93	0.97
50th-Percentile Queue Length [ft/ln]		616.54	616.46	64.22	164.18	172.63	248.16	24.25
95th-Percentile Queue Length [veh/ln]		38.03	38.02	4.62	10.77	11.21	15.09	1.75
95th-Percentile Queue Length [ft/ln]		950.67	950.53	115.60	269.25	280.37	377.34	43.65

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	225.21	225.18	33.23	0.00	31.65	33.33	23.56	3.98	0.00
Movement LOS				F	F	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			201.32			32.07			17.77		
Approach LOS	A			F			C			B		
d_I, Intersection Delay [s/veh]	76.10											
Intersection LOS	E											
Intersection V/C	0.836											

**Emissions**

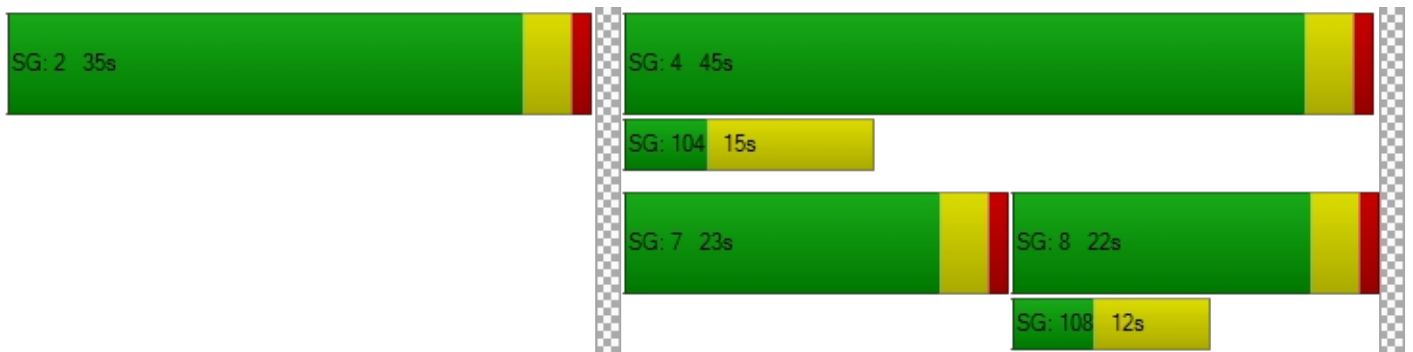
Vehicle Miles Traveled [mph]		41.37	41.37	11.76	98.99	98.99	104.06	43.66
Stops [stops/h]		1109.77	1109.62	115.60	295.53	310.74	893.39	87.30
Fuel consumption [US gal/h]		34.31	34.31	2.48	8.79	9.13	18.53	2.85
CO [g/h]		2398.47	2397.96	173.10	614.46	638.33	1294.96	199.11
NOx [g/h]		466.66	466.56	33.68	119.55	124.20	251.95	38.74
VOC [g/h]		555.87	555.75	40.12	142.41	147.94	300.12	46.14

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.437	2.486	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	775	450	1025
d_b, Bicycle Delay [s]	40.00	15.01	24.03	9.51
I_b,int, Bicycle LOS Score for Intersection	4.132	3.431	2.215	3.031
Bicycle LOS	D	C	B	C

**Sequence**

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

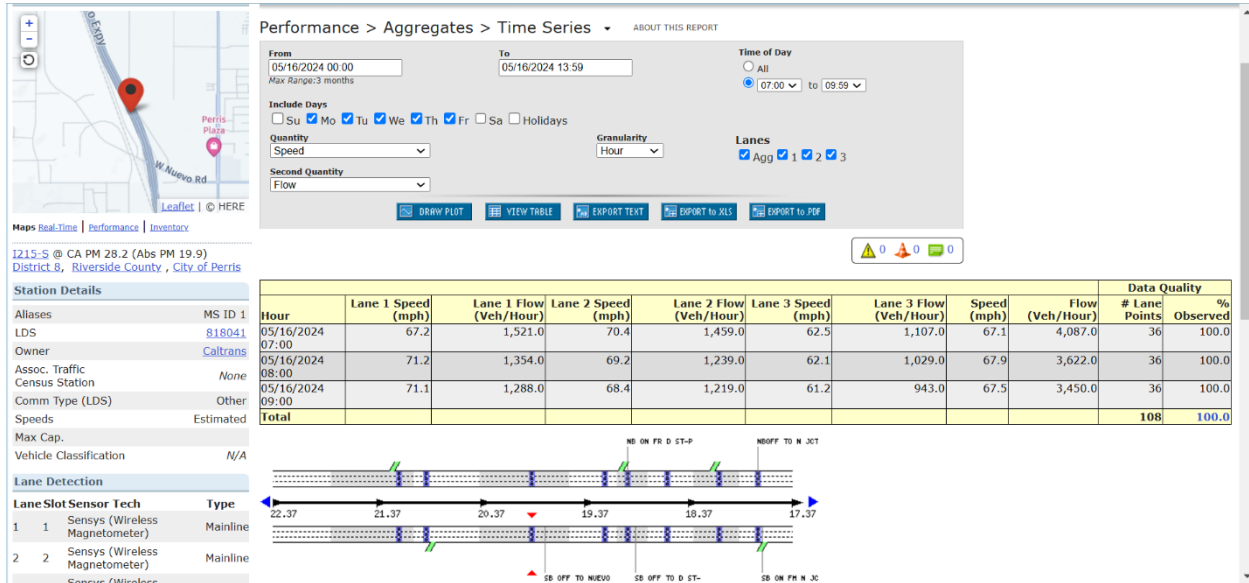


---

*ATTACHMENT C – Raw PeMS Data*

---

### I-215 SB Ramps/W Nuevo Rd (AM Peak Hours)



### I-215 SB Ramps/W Nuevo Rd (PM Peak Hours)

