TABLE 1

EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

ID	Roadway Segment	Existing Daily Traffic Volume	Roadway Capacity	V/C[1] Ratio	Level of Service
1	Deodar Ln., between Mtn. Ave. and Palm Hill Ln.	101	2,000	0.05	A
2	Deodar Ln., between Wildrose Ave. and the gated entry	1,668	16,000	0.10	A
3	Lemon Ave, between Sombrero Rd. and Winston Ave.	690	16,000	0.04	A
4	Winston Ave., between Royal Oaks Drive N. and Lemon Ave.	672	2,000	0.34	A
5	Woodlyn Ln., between Royal Oaks Drive N. and Deodar Ln.	470	2,000	0.24	A
6	Mt. Olive Drive, between Royal Oaks Drive and Gardi St.	1,859	16,000	0.12	A

[1] V/C = Volume-to-Capacity

3.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area. The City of Bradbury is nearly built out. However, the City has identified that approximately 97 additional residential units can be constructed in the undeveloped/underutilized parcels throughout the City.

UNDEVELOPED/UNDERUTILIZED TRIP GENERATION

Trip generation represents the amount of traffic which is attracted and produced by a development. For the purpose of this analysis, the following land use assumption is evaluated:

- 97 unbuilt residential units

Trip generation rates for the proposed development are shown in Table 2. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

The daily and peak hour trip generations for the proposed project are shown on Table 3. The undeveloped/underutilized developments are projected to generate a total of approximately 923 trip-ends per day with 72 vehicles per hour during the AM peak hour and 97 vehicles per hour during the PM peak hour.

TOTAL DAILY FUTURE TRAFFIC VOLUMES

Based on the identified trip generation for the undeveloped/underutilized developments on the roadways throughout the study area, future average daily traffic (ADT) are shown on Figure D.

TABLE 2

TRIP GENERATION RATES[1]

Land Use	ITE Code	Quantity	Units[2]	Peak Hour Trip Rates						Daily
				AM			PM			
				In	Out	Total	In	Out	Total	
Single Fam. Detached	210	81	DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52

[1] Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition, 2012.
[2] DU = Dwelling Units

10

TABLE 3

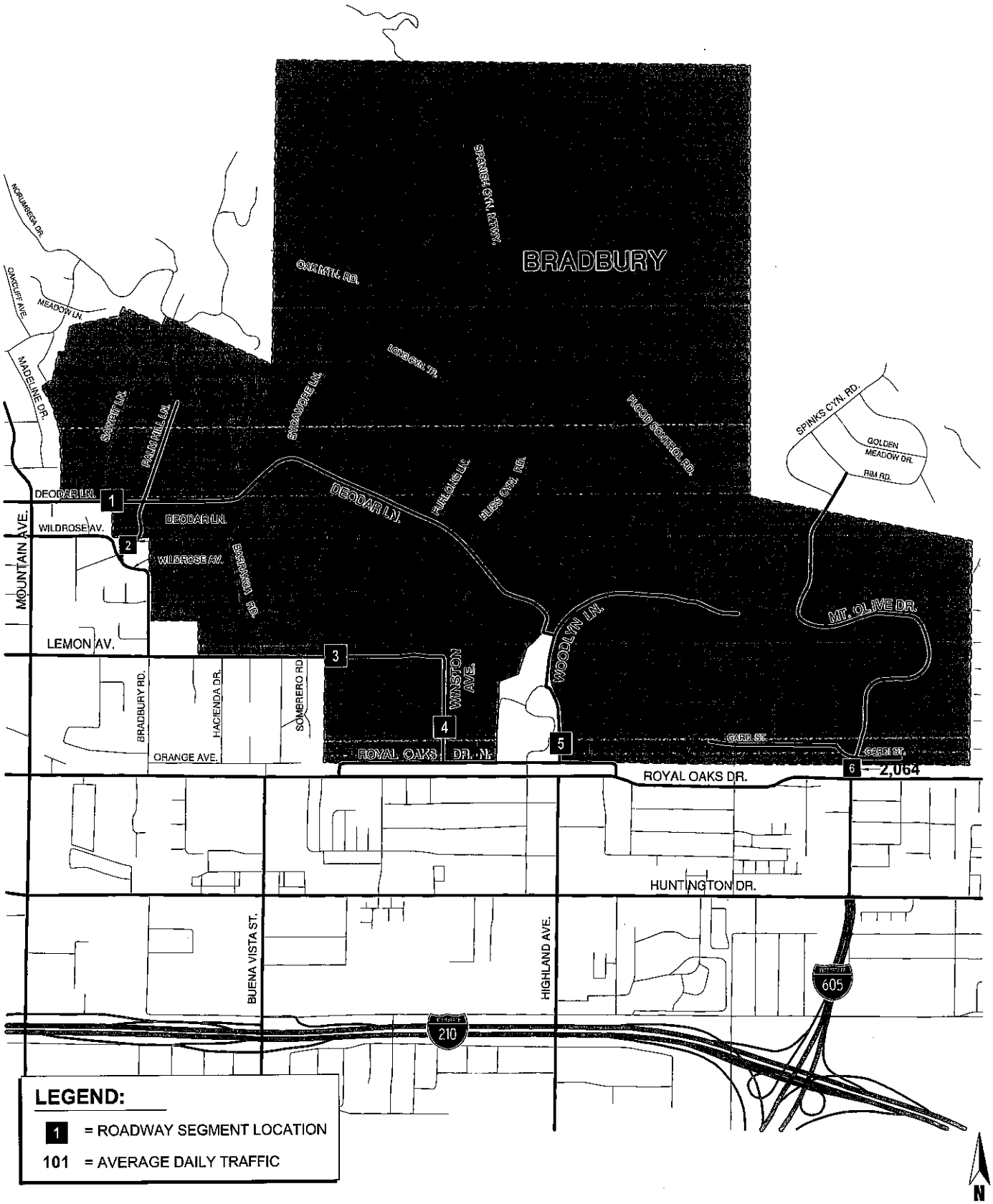
TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	Peak Hour Trip Rates						Daily
			AM			PM			
			In	Out	Total	In	Out	Total	
Single Fam. Detached	97	DU	18	54	72	61	36	97	923
Total			**18**	**54**	**72**	**61**	**36**	**97**	**923**

[1] DU = Dwelling Units

FIGURE D

FUTURE DAILY TRAFFIC VOLUMES



4.0 TRAFFIC ANALYSIS

For future traffic conditions, the study area roadway streets are anticipated to operate at acceptable levels of service based on daily volume-to-capacity ratios. Table 4 presents a summary of the future volume-to-capacity ratios along with the corresponding levels of service.

TABLE 4

FUTURE CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

ID	Roadway Segment	Existing Daily Traffic Volume	Added Traffic	Total Traffic	Roadway Capacity	V/C[1] Ratio	Level of Service
1	Deodar Ln., between Mtn. Ave. and Palm Hill Ln.	101	0	101	2,000	0.05	A
2	Deodar Ln., between Wildrose Ave. and the gated entry	1,668	206	1,874	16,000	0.12	A
3	Lemon Ave, between Sombrero Rd. and Winston Ave.	690	34	724	16,000	0.05	A
4	Winston Ave., between Royal Oaks Drive N. and Lemon Ave.	672	148	820	2,000	0.41	A
5	Woodlyn Ln., between Royal Oaks Drive N. and Deodar Ln.	470	310	780	2,000	0.39	A
6	Mt. Olive Drive, between Royal Oaks Drive and Gardi St.	1,859	205	2,064	16,000	0.13	A

[1] V/C = Volume-to-Capacity

5.0 FINDINGS AND CONCLUSIONS

The study area roadway segments are currently operating at acceptable conditions based on the daily volume-to-capacity ratios and corresponding levels of service. For future conditions with the buildout of 97 future undeveloped/underutilized residential units, the roadway segments are expected to continue to operate at acceptable operating conditions.

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APPENDIX A

TRAFFIC COUNT WORKSHEETS

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Deoder Lane
E/ Mountain Avenue
24 Hour Directional Volume Count

BDY001
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	0			0	0				
12:15		0	0			0	0				
12:30		0	0			0	3				
12:45		0	1	0	1	0	0	0	3	0	4
01:00		0	0			0	0				
01:15		0	2			0	2				
01:30		0	0			0	0				
01:45		0	4	0	6	0	0	0	2	0	8
02:00		0	3			0	2				
02:15		0	1			0	1				
02:30		0	0			0	0				
02:45		0	0	0	4	0	0	0	3	0	7
03:00		0	0			0	1				
03:15		0	0			0	0				
03:30		0	0			0	0				
03:45		0	0	0	0	0	0	0	1	0	1
04:00		0	0			0	0				
04:15		0	1			0	2				
04:30		2	1			1	1				
04:45		0	6	2	8	0	1	1	4	3	12
05:00		0	2			0	1				
05:15		0	2			0	2				
05:30		0	4			0	3				
05:45		0	2	0	10	0	0	0	6	0	16
06:00		0	2			1	2				
06:15		0	1			0	0				
06:30		0	0			1	1				
06:45		0	2	0	5	0	0	2	3	2	8
07:00		3	0			4	0				
07:15		0	0			1	0				
07:30		0	0			1	1				
07:45		0	0	3	0	1	0	7	1	10	1
08:00		2	0			0	0				
08:15		0	0			0	0				
08:30		2	0			3	0				
08:45		0	0	4	0	1	0	4	0	8	0
09:00		2	0			0	0				
09:15		0	0			0	0				
09:30		0	4			1	0				
09:45		2	2	4	6	2	0	3	0	7	6
10:00		0	0			1	0				
10:15		0	0			0	0				
10:30		0	0			0	0				
10:45		0	2	0	2	1	0	2	0	2	2
11:00		0	0			0	0				
11:15		2	0			0	0				
11:30		0	0			0	0				
11:45		0	0	2	0	2	0	2	0	4	0
Total		15	42	15	42	21	23	21	23	36	65
Combined Total		57		57		44		44		101	
AM Peak		07:45				07:00					
Vol.		4				7					
P.H.F.		0.333				0.438					
PM Peak			04:45				04:45				
Vol.			14				7				
P.H.F.			0.583				0.583				
Percentage		26.3%	73.7%			47.7%	52.3%				
ADT/AADT		ADT 101		AADT 101							

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Deoder Lane
E/ Wild Rose Avenue
24 Hour Directional Volume Count

BDY002
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	**13**			0	19				
12:15		0	**20**			1	22				
12:30		0	**21**			1	14				
12:45		0	**22**	0	76	0	16	2	71	2	147
01:00		2	9			0	19				
01:15		0	10			0	11				
01:30		0	4			0	14				
01:45		0	19	2	42	0	14	0	58	2	100
02:00		0	18			0	12				
02:15		0	19			0	25				
02:30		0	12			0	21				
02:45		0	23	0	72	1	16	1	74	1	146
03:00		0	8			0	11				
03:15		0	17			0	10				
03:30		2	12			0	**20**				
03:45		0	17	2	54	0	**25**	0	66	2	120
04:00		0	12			0	**23**				
04:15		0	7			0	**14**				
04:30		0	11			2	10				
04:45		0	8	0	38	2	7	4	54	4	92
05:00		3	12			2	18				
05:15		4	10			3	11				
05:30		3	21			0	11				
05:45		4	10	14	53	2	8	7	48	21	101
06:00		4	12			3	11				
06:15		5	19			6	7				
06:30		9	14			9	10				
06:45		29	15	47	60	2	6	20	34	67	94
07:00		9	14			8	12				
07:15		15	10			17	6				
07:30		5	7			10	7				
07:45		16	6	45	37	19	9	54	34	99	71
08:00		22	9			5	**4**				
08:15		15	11			7	3				
08:30		12	5			10	9				
08:45		9	6	58	31	8	3	30	19	88	50
09:00		9	8			12	4				
09:15		**23**	11			10	0				
09:30		**18**	9			16	4				
09:45		**16**	12	66	40	9	2	47	10	113	50
10:00		**13**	4			14	8				
10:15		18	6			12	2				
10:30		17	6			14	2				
10:45		13	2	61	18	11	1	51	13	112	31
11:00		18	5			**15**	0				
11:15		14	1			**20**	1				
11:30		18	6			**17**	1				
11:45		20	3	70	15	**16**	0	68	2	138	17
Total		365	536	365	536	284	483	284	483	649	1019
Combined Total		901		901		767		767		1668	
AM Peak		09:15				11:00					
Vol.		70				68					
P.H.F.		0.761				0.850					
PM Peak			12:00				03:30				
Vol.			76				82				
P.H.F.			0.864				0.820				
Percentage		40.5%	59.5%			37.0%	63.0%				
ADT/AADT		ADT 1,668		AADT 1,668							

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Lemon Avenue
E/ Sombrero Road
24 Hour Directional Volume Count

BDY003
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	4			0	0				
12:15		0	1			0	6				
12:30		0	11			0	5				
12:45		0	6	0	22	0	4	0	15	0	37
01:00		1	9			0	3				
01:15		0	3			0	2				
01:30		0	11			1	1				
01:45		0	3	1	26	0	6	1	12	2	38
02:00		1	9			0	6				
02:15		0	8			0	3				
02:30		0	5			0	1				
02:45		0	5	1	27	0	6	0	16	1	43
03:00		0	6			0	3				
03:15		0	12			0	1				
03:30		0	2			0	0				
03:45		0	9	0	29	0	1	0	5	0	34
04:00		0	11			0	4				
04:15		0	10			1	5				
04:30		0	12			0	4				
04:45		0	34	0	67	0	5	1	18	1	85
05:00		0	26			0	3				
05:15		1	18			0	2				
05:30		0	27			0	4				
05:45		0	18	1	89	1	4	1	13	2	102
06:00		1	15			1	1				
06:15		0	15			2	6				
06:30		0	5			3	2				
06:45		2	5	3	40	5	4	11	13	14	53
07:00		3	7			10	1				
07:15		1	12			17	2				
07:30		2	4			16	2				
07:45		6	6	12	29	19	2	62	7	74	36
08:00		2	4			7	5				
08:15		5	1			8	2				
08:30		0	2			1	1				
08:45		1	4	8	11	10	0	26	8	34	19
09:00		4	3			5	2				
09:15		1	3			5	1				
09:30		3	1			5	0				
09:45		2	4	10	11	5	1	20	4	30	15
10:00		4	1			2	0				
10:15		4	1			1	0				
10:30		3	1			6	1				
10:45		3	0	14	3	1	2	10	3	24	6
11:00		6	1			3	2				
11:15		9	1			1	0				
11:30		2	2			5	1				
11:45		3	0	20	4	4	0	13	3	33	7
Total		70	358	70	358	145	117	145	117	215	475
Combined Total		428		428		262		262		690	
AM Peak		10:30				07:00					
Vol.		21				62					
P.H.F.		0.583				0.816					
PM Peak			04:45				00:15				
Vol.			105				18				
P.H.F.			0.772				0.750				
Percentage		16.4%	83.6%			55.3%	44.7%				
ADT/AADT		ADT 690		AADT 690							

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Winston Avenue
N/ Royal Oaks Drive
24 Hour Directional Volume Count

BDY004
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	3			0	3				
12:15		1	5			1	3				
12:30		0	4			0	12				
12:45		0	4	1	16	0	5	1	23	2	39
01:00		0	2			1	5				
01:15		0	2			0	4				
01:30		1	2			0	11				
01:45		0	8	1	14	0	3	1	23	2	37
02:00		0	9			1	10				
02:15		0	4			0	8				
02:30		0	3			0	4				
02:45		0	2	0	18	0	9	1	31	1	49
03:00		0	4			0	7				
03:15		0	5			1	9				
03:30		0	2			0	4				
03:45		0	1	0	12	0	8	1	28	1	40
04:00		0	4			0	14				
04:15		0	5			0	10				
04:30		0	2			0	9				
04:45		0	5	0	16	0	22	0	55	0	71
05:00		0	2			0	24				
05:15		0	3			1	21				
05:30		1	5			0	22				
05:45		0	2	1	12	1	23	2	90	3	102
06:00		1	2			1	15				
06:15		2	3			1	12				
06:30		1	3			1	4				
06:45		3	2	7	10	1	8	4	39	11	49
07:00		9	3			1	7				
07:15		18	2			3	10				
07:30		10	3			2	1				
07:45		17	2	54	10	9	4	15	22	69	32
08:00		9	2			7	2				
08:15		11	2			6	1				
08:30		2	2			4	0				
08:45		6	1	28	7	2	5	19	8	47	15
09:00		6	1			5	1				
09:15		6	0			1	2				
09:30		2	0			3	1				
09:45		6	1	20	2	2	1	11	5	31	7
10:00		2	1			2	1				
10:15		2	1			3	1				
10:30		3	0			1	0				
10:45		1	1	8	3	4	0	10	2	18	5
11:00		3	0			7	2				
11:15		1	1			9	0				
11:30		2	1			3	1				
11:45		3	0	9	2	8	0	27	3	36	5
Total		129	122	129	122	92	329	92	329	221	451
Combined Total		251		251		421		421		672	
AM Peak		07:00				11:00					
Vol.		54				27					
P.H.F.		0.750				0.750					
PM Peak			01:45				05:00				
Vol.			24				90				
P.H.F.			0.667				0.938				
Percentage		51.4%	48.6%			21.9%	78.1%				
ADT/AADT		ADT 672		AADT 672							

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Woodlyn Lane
N/ Royal Oaks Drive
24 Hour Directional Volume Count

BDY005
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	4			0	3				
12:15		0	4			0	5				
12:30		0	4			0	3				
12:45		2	7	2	19	0	3	0	14	2	33
01:00		0	5			0	4				
01:15		0	2			0	0				
01:30		0	4			0	3				
01:45		0	2	0	13	0	4	0	11	0	24
02:00		1	4			0	8				
02:15		0	2			0	6				
02:30		0	8			0	2				
02:45		0	3	1	17	0	2	0	18	1	35
03:00		0	7			0	4				
03:15		0	1			0	2				
03:30		0	7			0	4				
03:45		0	8	0	23	0	4	0	14	0	37
04:00		0	4			0	6				
04:15		2	0			0	3				
04:30		0	1			1	7				
04:45		0	7	2	12	1	1	2	17	4	29
05:00		2	9			0	5				
05:15		0	9			0	3				
05:30		0	6			1	4				
05:45		0	4	2	28	0	3	1	15	3	43
06:00		0	9			1	3				
06:15		0	5			2	5				
06:30		1	8			3	0				
06:45		2	3	3	25	4	3	10	11	13	36
07:00		0	2			1	6				
07:15		1	4			5	1				
07:30		6	4			5	2				
07:45		4	3	11	13	6	1	17	10	28	23
08:00		3	4			4	1				
08:15		11	3			4	0				
08:30		2	0			4	0				
08:45		5	0	21	7	7	1	19	2	40	9
09:00		3	4			7	0				
09:15		2	3			4	0				
09:30		3	3			2	1				
09:45		2	2	10	12	4	1	17	2	27	14
10:00		4	0			6	0				
10:15		7	2			1	0				
10:30		7	1			3	0				
10:45		8	2	26	5	4	0	14	0	40	5
11:00		0	0			3	0				
11:15		2	0			6	1				
11:30		2	0			0	0				
11:45		7	0	11	0	3	0	12	1	23	1
Total		89	174	89	174	92	115	92	115	181	289
Combined Total		263		263		207		207		470	
AM Peak		10:00				08:15					
Vol.		26				22					
P.H.F.		0.591				0.786					
PM Peak			04:45				01:30				
Vol.			31				21				
P.H.F.			0.861				0.656				
Percentage		33.8%	66.2%			44.4%	55.6%				
ADT/AADT		ADT 470		AADT 470							

Counts Unlimietd, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Bradbury
Mount Olive Drive
N/ Royal Oaks Drive
24 Hour Directional Volume Count

BDY006
Site Code: 201-13081
Date Start: 12-Mar-13
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Nortbound Morning	Nortbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	13			0	18				
12:15		1	7			2	11				
12:30		1	18			0	16				
12:45		1	16	3	54	0	15	2	60	5	114
01:00		0	15			2	16				
01:15		0	16			4	8				
01:30		1	13			0	**21**				
01:45		1	14	2	58	1	**17**	7	62	9	120
02:00		1	22			0	**18**				
02:15		0	21			1	**18**				
02:30		1	24			0	15				
02:45		0	12	2	79	0	7	1	58	3	137
03:00		1	16			0	9				
03:15		0	17			1	15				
03:30		0	13			1	13				
03:45		1	16	2	62	0	12	2	49	4	111
04:00		1	16			0	5				
04:15		0	9			1	13				
04:30		0	21			3	8				
04:45		1	23	2	69	1	14	5	40	7	109
05:00		1	20			1	17				
05:15		1	14			7	15				
05:30		1	10			3	20				
05:45		2	**24**	5	68	6	10	17	62	22	130
06:00		2	**27**			9	16				
06:15		1	**14**			8	8				
06:30		3	**17**			6	17				
06:45		2	15	8	73	12	8	35	49	43	122
07:00		9	18			**20**	10				
07:15		13	12			**29**	15				
07:30		9	19			**28**	7				
07:45		11	21	42	70	**23**	10	100	42	142	112
08:00		**13**	16			20	9				
08:15		**16**	17			17	12				
08:30		**14**	17			17	8				
08:45		**12**	14	55	64	28	6	82	35	137	99
09:00		11	13			22	7				
09:15		5	9			14	1				
09:30		10	11			17	3				
09:45		7	6	33	39	16	4	69	15	102	54
10:00		15	9			12	3				
10:15		15	14			20	0				
10:30		6	9			10	3				
10:45		13	5	49	37	14	3	56	9	105	46
11:00		15	4			18	1				
11:15		6	3			19	0				
11:30		11	2			17	2				
11:45		16	0	48	9	11	1	65	4	113	13
Total		251	682	251	682	441	485	441	485	692	1167
Combined Total		933		933		926		926		1859	
AM Peak		08:00				07:00					
Vol.		55				100					
P.H.F.		0.859				0.862					
PM Peak			05:45				01:30				
Vol.			82				74				
P.H.F.			0.759				0.881				
Percentage		26.9%	73.1%			47.6%	52.4%				
ADT/AADT		ADT 1,859		AADT 1,859							

APPENDIX B – Air Quality and Greenhouse Gas Emissions Evaluation

URBAN CROSSROADS

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January 16, 2014

Mr. Dave Meyer
LDM Associates
10722 Arrow Route, Suite 822
Rancho Cucamonga, CA 91730

Subject: **City of Bradbury General Plan Update Air Quality and Greenhouse Gas Evaluation**

PURPOSE

The purpose of this evaluation is to determine the air quality and greenhouse gas impacts associated with the implementation of the City of Bradbury's General Plan update.

The entire City is developed with single-family residential dwelling units. Publically owned property consists of the Civic Center; Royal Oaks Elementary School; Los Angeles County Flood Control District owned Flood Control Debris Basins and Channels; and privately owned Water Reservoirs. The vacant parcels within the City fall within two categories. Those parcels located in the northernmost portion of the City (Category 1) are constrained by steep slopes, lack of access, lack of utilities, protected ridgelines and riparian habitat; and sensitive native vegetation. Additionally, the City's Hillside Development Standards severely restrict grading of these slopes which are in excess of 50%. The remaining vacant 24 parcels and 5 underutilized parcels, (Category 2) are considered as having potential for development of single-family residential dwellings.

Category 1 is comprised of a 302-acre area consisting of eight (8) parcels in the City's northern boundary adjacent to the City of Monrovia and the Angeles National Forest. The General Plan Land Use Map identifies this area as Open Space-Hillside Preservation, Privately Owned Undeveloped, having a maximum density of one dwelling unit per five acres. The area contains hillsides in excess of 50%; numerous protected ridgelines, blueline streams; earthquake induced landslide zones; lack of public or private access; lack of public utilities and habitat that may include sensitive or endangered flora and fauna. These development restrictions can lead one to consider that development of the area is physically and economically infeasible. This area is further restricted by the designation as a Very High Fire Hazard Severity Zone in

compliance with California State Law. The area has been zoned A-5 SP (Agriculture-Residential Specific Plan). If future circumstances change a Specific Development Plan could be submitted for consideration.

Use of this area could include the creation of a conservation conservancy/easement; the use of development right transfer strategies or cluster development concepts.

	Parcel No.	Area.	Zone	Land Use	Potential DU's	Potential 2nd DU's	Total DU's
1.	8527-001-001	41.40	A-5 (SP)	Estate 5-Ac	1	1	2
2.	8527-001-008	70.00	A-5 (SP)	Estate 5-Ac	1	1	2
3.	8527-001-009	20.54	A-5 (SP)	Estate 5-Ac	1	1	2
4.	8527-001-010	59.19	A-5 (SP)	Estate 5-Ac	1	1	2
5.	8527-001-012	59.30	A-5 (SP)	Estate 5-Ac	1	1	2
6.	8527-005-001	8.37	A-5 (SP)	Estate 5-Ac	1	1	2
7.	8527-005-002	1.03	A-5 (SP)	Estate 5-Ac	1	1	2
8.	8527-005-004	42.36	A-5 (SP)	Estate 5-Ac	1	1	2
	Total	**302.19**			**8**	**8**	**16**

Category 2 is comprised of five (5) Underutilized and twenty-four (24) Vacant parcels. All of these sites are considered as appropriate for development of single-family residential dwelling units.

	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Units	Potential No. of 2nd DU's	Total No. Potential DU's
1.	8527-021-041	12.40-ac	A-1	Estate – 1 unit per acre	6	7	13
2.	8527-023-020	2.75 ac	A-1	Estate – 1 unit per acre	1	2	3
3.	8527-023-021	3.80-ac	A-1	Estate – 1 unit per acre	2	3	5
4.	8527-002-014	12.8-ac	A-5	Estate – 0.2unit per-acre	1	2	3
5.	8527-003-035	2.08 ac	A-1	Estate – 1 unit per acre	2	2	4
	Total	**33.83 ac**			**12**	**16**	**28**

	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Units	Potential No of 2nd Dwellings	Total No. of Potential DU's
1.	8527-002-023	5.58	A-5	Estate 5-Ac	1	1	2
2.	8527-004-020	2.12	A-5	Estate 5-Ac	1	1	2
3.	8527-006-019	4.96	A-2	Estate 2-Ac	1	1	2
4.	8527-007-023	0.39	A-2	Estate 2-Ac	1	1	2
5	8527-007-024	1,96	A-2	Estate 2-Ac	1	1	2
6.	8527-007-025	2.14	A-2	Estate 2-Ac	1	1	2
7.	8527-007-026	2.32	A-2	Estate 2-Ac	1	1	2
8.	8527-007-027	2.87	A-2	Estate 2-Ac	1	1	2
9.	8527-016-009	8.01	A-2	Estate 2-Ac	3	3	6
10.	8527-016-019	2.03	A-2	Estate 2-Ac	1	1	2
11.	8527-016-035	1.35	A-2	Estate 2-Ac	1	1	2
12.	8527-016-036	2.18	A-2	Estate 2-Ac	1	1	2
13.	8527-016-037	1.18	A-2 (SP)	Estate 2-Ac	1	0	1
14.	8527-016-039	1.29	A-2 (SP)	Estate 2-Ac	1	0	1
15.	8527-021-011	1.54	A-2	Estate 2-Ac	1	1	2
16.	8527-021-044	1.13	A-1	Estate 1-Ac	1	1	2
17.	8527-024-032	5.3	A-5	Estate 5-Ac	1	1	2
18.	8527-025-035	2.05	A-5	Estate 5-Ac	1	1	2
19.	8527-026-006	2.90	A-5	Estate 5-Ac	1	2	3
20.	8527-026-033	2.40	A-5	Estate 5-Ac	1	1	2
21.	8527-026-034 & 8527-026-036	2.29	A-5	Estate 5-Ac	1	1	2
22.	8527-029-001	2.54	A-5	Estate 5-Ac	1	1	2
23.	8527-029-017	7.16	A-5	Estate 5-Ac	1	1	2
24.	8527-023-012	2.13	A-1	Estate 1-Ac	2	2	4
	Total	**67.82**			**27**	**26**	**53**

Based on the latest land use information, it appears that 97 dwelling units can be developed under the General Plan Update.

SUMMARY

The results of the analysis support the following conclusions:

- The project is in compliance with the SCAQMD's 2012 Air Quality Management Plan.
- The project-generated emissions do not have the potential to violate federal and state ambient air quality standards.
- The project's contribution to cumulative impacts is not cumulatively considerable.

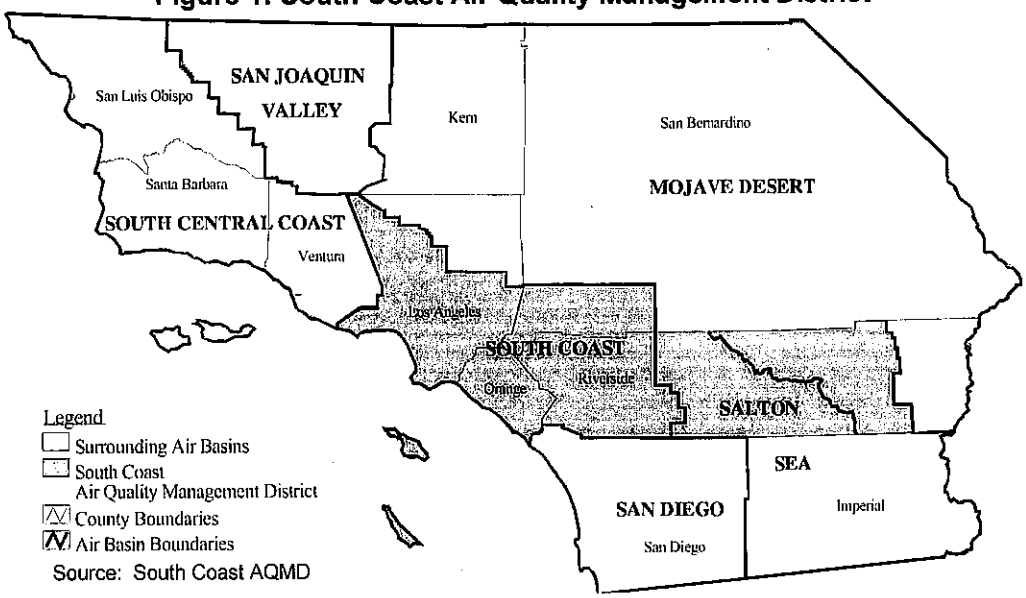
- The project does not have the potential to expose sensitive receptors to substantial pollutant concentrations.
- Project-generated odors will not affect a substantial number of people.
- Project-generated greenhouse gas emissions, either directly or indirectly will not have a significant impact on the environment.
- The project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

SOUTH COAST AIR BASIN

The project site is located in the SCAB (South Coast Air Basin) within the jurisdiction of SCAQMD. The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin.

The Basin is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bound by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bound by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of the Riverside County and Salton Sea Air Basin that is bound by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east.

Figure 1: South Coast Air Quality Management District



WIND PATTERNS

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the Basin is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over Southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Because of the City of Bradbury's location, air quality is generally good, as many pollutants are carried inland by daytime on-shore winds, which tend to be stronger than nighttime drainage flows.

The prevailing winds in the project area move predominately from the south and southwest with an average wind speed of 1.27 m/s. A Windrose exhibit is available for review as presented in Figure 2 of this report and shows prevailing wind patterns and average speed in the Bradbury area. The nearest available meteorological data in the project vicinity was obtained from the Pasadena monitoring site and is used to be representative of the project area. The meteorological data was available for use by the SCAQMD on their website (http://www.aqmd.gov/smog/metdata/ MetDataTable1.html).

TEMPERATURE INVERSIONS

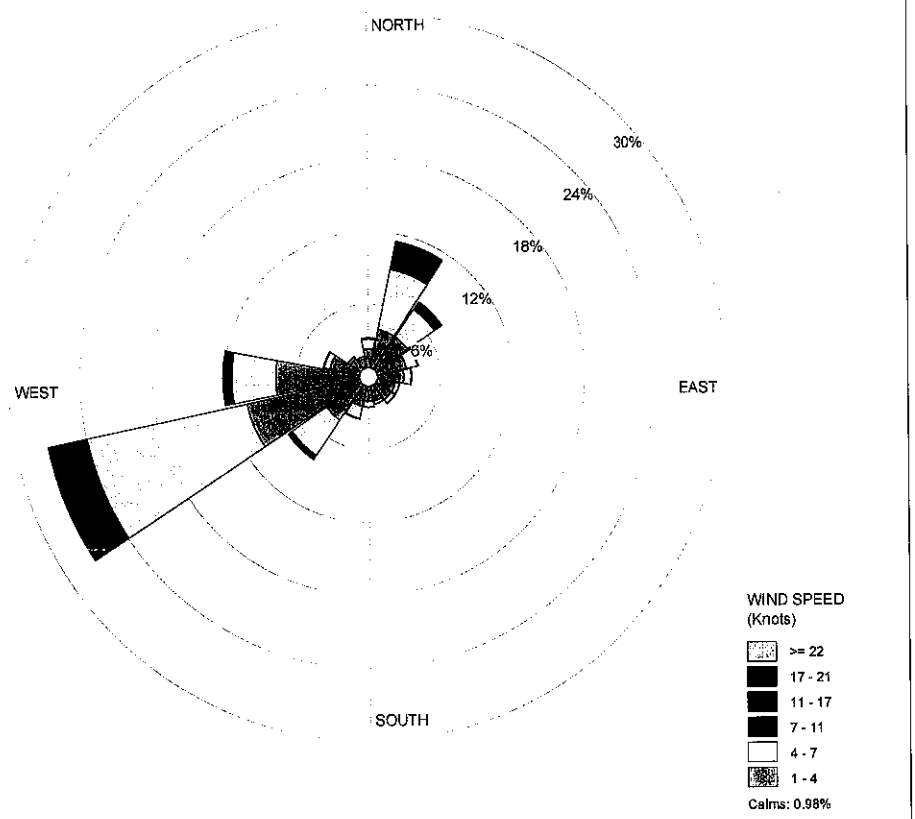
In the Basin, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire Basin. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Figure 2
Wind Rose Exhibit

WIND ROSE PLOT:
Azusa Monitoring Station (SRA 9)

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	Start Date: 1/1/2005 - 00:00 **End Date: 12/31/2009 - 23:00**	**Urban Crossroads, Inc.**	
		MODELER: **HQ**	URBAN CROSSROADS
	CALM WINDS: **0.98%**	TOTAL COUNT: **42942 hrs.**	
	AVG. WIND SPEED: **3.86 Knots**	DATE: **4/18/2013**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

AMBIENT AIR QUALITY STANDARDS

Existing air quality is measured based upon ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Those standards currently in effect for both California and federal air quality are shown in Table 2.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2. The air quality in a region is considered to be in attainment if the measured ambient air pollutant levels for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, and PM_{10} are not exceeded and all other standards are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O_3, PM_{10}, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.

For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. See Table 3 for attainment designations for the project area..

AIR POLLUTANT MONITORING AND DESCRIPTION OF POLLUTANTS

The nearest long-term air quality monitoring for Ozone (O_3), Carbon Monoxide, Nitrogen Dioxide (NO_2) is carried out by the SCAQMD at the East San Gabriel Valley #2 (SRA 9) monitoring station. Data for Inhalable Particulates (PM_{10}) and Ultra-Fine Particulates ($PM_{2.5}$) is not monitored at the East San Gabriel Valley #2 (SRA 9) monitoring station and was therefore obtained from the next nearest monitoring site that records this data at the East San Gabriel Valley #1 (SRA 9) Monitoring site. Data for sulfur dioxide (SO_2) has been omitted from this analysis as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations. The 3 years of data in Table 4 shows the number of days standards were exceeded for the study area.

TABLE 2 (PAGE 1 OF 2)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[8]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[9]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[9]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[9]	—	
Lead[10,11]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[11]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[12]	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

TABLE 2 FOOTNOTES (PAGE 2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

9. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

   Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

TABLE 3
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN (SCAB)

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	No Standard
Ozone - 8 hour standard	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment/Maintenance
Nitrogen Dioxide	Nonattainment	Attainment/Maintenance
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment/Nonattainment[4]	Attainment/Nonattainment
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board 2012 (http://www.arb.ca.gov/desig/desig.htm, http://www.arb.ca.gov/desig/feddesig.htm)

[4] The Los Angeles County portion of the SCAB is classified as nonattainment; the remainder of the SCAB is in attainment of the State Standard.

TABLE 4

PROJECT AREA AIR QUALITY MONITORING SUMMARY 2010-2012
EAST SAN GABRIEL VALLEY #2 AND EAST SAN GABRIEL VALLEY #1 (SRA 9) AIR MONITORING STATION DATA [a]

Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.124	0.134	0.147
Maximum 8-Hour Concentration (ppm)		0.099	0.111	0.111
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	25	35	45
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	48	40	59
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	20	30	45
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.0	1.4	1.3
Maximum 8-Hour Concentration (ppm)		1.3	1.1	1.1
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.0785	0.0776	0.060
Annual Arithmetic Mean Concentration (ppm)		0.0154	0.0129	--
Number of Days Exceeding State 1-Hour Standard	> 0.25 ppm [b]	0	0	0
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Inhalable Particulates (PM_{10})				
Maximum 24-Hour Concentration ($\mu g/m^3$)		70	65	78
Number of Samples		55	61	61
Number of Samples Exceeding State Standard	> 50 $\mu g/m^3$	5	9	36
Number of Samples Exceeding Federal Standard	> 150 $\mu g/m^3$	0	0	0
Ultra-Fine Particulates ($PM_{2.5}$)				
Maximum 24-Hour Concentration ($\mu g/m^3$)		44.4	49.5	39.6
Number of Samples		93	118	118
Annual Arithmetic Mean ($\mu g/m^3$)		10.9	11.4	11
Number of Samples Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$	1	1	--

[a] East San Gabriel Valley #2 (SRA 9) Monitoring Station utilized for all pollutants except PM10, and PM2.5.
Source: South Coast Air Quality Management District (SCAQMD) (www.aqmd.gov) (http://www.epa.gov/airdata/)