

## **APPENDIX R**

### **OPERATIONAL EMISSIONS AIR QUALITY MODEL SHEETS**

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Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\YUC330\Air & Noise Modeling\Project-2007.urb9

Project Name: Yucca Valley Retail Center

Project Location: San Bernardino County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	1.97	2.32	7.06	0.00	0.01	0.01	2,722.66

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	123.78	207.63	1,501.32	1.11	177.09	36.44	107,746.83

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	125.75	209.95	1,508.38	1.11	177.10	36.45	110,469.49

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.16	2.26	1.90	0.00	0.00	0.00	2,714.40
Hearth - No Summer Emissions							
Landscape	0.44	0.06	5.16	0.00	0.01	0.01	8.26
Consumer Products	0.00						
Architectural Coatings	1.37						

TOTALS (lbs/day, unmitigated) 1.97 2.32 7.06 0.00 0.01 0.01 0.01 2,722.66

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Fast food rest. w/ drive thru	9.83	16.69	120.93	0.09	14.24	2.93	8,668.98
Regnl shop. center	105.47	176.64	1,277.01	0.94	150.65	31.00	91,657.62
Gasoline/service station	8.48	14.30	103.38	0.08	12.20	2.51	7,420.23
<b>TOTALS (lbs/day, unmitigated)</b>	<b>123.78</b>	<b>207.63</b>	<b>1,501.32</b>	<b>1.11</b>	<b>177.09</b>	<b>36.44</b>	<b>107,746.83</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/ drive thru		223.25	1000 sq ft	4.00	893.00	8,110.67
Regnl shop. center		41.75	1000 sq ft	229.00	9,560.75	85,788.61
Gasoline/service station		64.50	pumps	12.00	774.00	6,945.10
					11,227.75	100,844.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.8	2.4	97.4	0.2
Light Truck < 3750 lbs	10.2	4.9	89.2	5.9
Light Truck 3751-5750 lbs	20.9	1.4	98.1	0.5

Med Truck 5751-8500 lbs	11.3	1.8	97.3	0.9
Lite-Heavy Truck 8501-10,000 lbs	1.8	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	11.1	88.9
Heavy-Heavy Truck 33,001-60,000 lbs	1.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.2	83.3	16.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	7.7	84.6	7.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Fast food rest. w/ drive thru				5.0	2.5	92.5
Regnl shop. center				2.0	1.0	97.0
Gasoline/service station				2.0	1.0	97.0

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\YUC330Air & Noise Modeling\Project-2007.urbs  
 Project Name: Yucca Valley Retail Center  
 Project Location: San Bernadino County  
 On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006  
 Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	1.53	2.26	1.90	0.00	0.00	0.00	2,714.40

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	140.95	246.31	1,485.81	0.94	177.09	36.44	98,441.06

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	142.48	248.57	1,487.71	0.94	177.09	36.44	101,155.46

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.16	2.26	1.90	0.00	0.00	0.00	2,714.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	1.37						

1.53	2.26	1.90	0.00	0.00	0.00	2,714.40
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Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Fast food rest. w/ drive thru	11.28	19.80	119.58	0.08	14.24	2.93	7,920.54
Regnl shop. center	119.98	209.55	1,263.91	0.80	150.65	31.00	83,741.17
Gasoline/service station	9.69	16.96	102.32	0.06	12.20	2.51	6,779.35
<b>TOTALS (lbs/day, unmitigated)</b>	<b>140.95</b>	<b>246.31</b>	<b>1,485.81</b>	<b>0.94</b>	<b>177.09</b>	<b>36.44</b>	<b>98,441.06</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/ drive thru		223.25	1000 sq ft	4.00	893.00	8,110.67
Regnl shop. center		41.75	1000 sq ft	229.00	9,560.75	85,788.61
Gasoline/service station		64.50	pumps	12.00	774.00	6,945.10
					11,227.75	100,844.38

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.8	2.4	97.4	0.2
Light Truck < 3750 lbs	10.2	4.9	89.2	5.9
Light Truck 3751-5750 lbs	20.9	1.4	98.1	0.5

	11.3	1.8	97.3	0.9
Med Truck 5751-8500 lbs				
Lite-Heavy Truck 8501-10,000 lbs	1.8	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	11.1	88.9
Heavy-Heavy Truck 33,001-60,000 lbs	1.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.2	83.3	16.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	7.7	84.6	7.7

TravelConditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Fast food rest. w/ drive thru	5.0	2.5	92.5
Regnl shop. center	2.0	1.0	97.0
Gasoline/service station	2.0	1.0	97.0