



Appendix D
Air Quality Models

URBEMIS 2002 For Windows 7.5.0

File Name: S:\SLO ESP Projects Library\San Luis Obispo County\03-54001 Chandler Ranch Revised SP and EIR 20
Project Name: Chandler Ranch Area Specific Plan 2005
Project Location: San Luis Obispo County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	74.40	19.83	28.41	0.41	0.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	398.43	525.70	5,158.37	3.96	392.14
TOTALS (lbs/day, mitigated)	398.43	525.70	5,158.37	3.96	392.14

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day, unmitigated)	472.84	545.53	5,186.78	4.37	392.23

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Project Name: Chandler Ranch Area Specific Plan 2005
Project Location: San Luis Obispo County
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2007
Construction Duration: 60
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 0 acres
Single Family Units: 1078 Multi-Family Units: 361
Retail/Office/Institutional/Industrial Square Footage: 329130

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
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Phase 3 - Building Construction Assumptions: Phase Turned OFF

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	1.50	19.59	8.25	-	0.04
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	2.50	0.24	20.16	0.41	0.05
Consumer Prdcts	70.40	-	-	-	-
TOTALS (lbs/day, unmitigated)	74.40	19.83	28.41	0.41	0.08

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	108.71	132.89	1,343.16	1.02	100.86
Condo/townhouse general	24.84	27.88	281.85	0.21	21.16
Junior high school	14.12	8.02	78.57	0.06	6.08
Racquetball/health	1.60	2.21	21.42	0.02	1.64
Quality restaurant	8.03	11.44	111.17	0.09	8.53
Fast food rest. w/ drive	13.28	19.19	185.97	0.14	14.23
Strip mall	12.36	16.99	164.20	0.13	12.53
Convenience market (24 ho	179.46	258.57	2,499.37	1.92	190.75
Convenience market with g	9.34	13.47	130.17	0.10	9.93
Bank (with drive-through)	8.03	11.51	111.24	0.09	8.49
General office building	8.94	12.17	120.18	0.09	9.37
Warehouse	6.11	7.00	67.67	0.05	5.16
General light industry	3.62	4.37	43.39	0.03	3.40
TOTAL EMISSIONS (lbs/day)	398.43	525.70	5,158.37	3.96	392.14

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2004 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	8.57 trips / dwelling units	1,078.00	9,238.46
Condo/townhouse general	5.37 trips / dwelling units	361.00	1,938.57
Junior high school	1.05 trips / students	578.00	606.90
Racquetball/health	40.00 trips / 1000 sq. ft.	5.00	200.00
Quality restaurant	90.58 trips / 1000 sq. ft.	11.00	996.38
Fast food rest. w/ drive	496.12 trips / 1000 sq. ft.	3.50	1,736.42
Strip mall	40.00 trips / 1000 sq. ft.	40.00	1,600.00
Convenience market (24 ho	738.00 trips / 1000 sq. ft.	33.00	24,354.00
Convenience market with g	845.60 trips / 1000 sq. ft.	1.50	1,268.40
Bank (with drive-through)	270.98 trips / 1000 sq. ft.	4.00	1,083.92
General office building	15.52 trips / 1000 sq. ft.	51.00	791.52
Warehouse	7.85 trips / 1000 sq. ft.	84.00	659.40
General light industry	5.30 trips / 1000 sq. ft.	47.00	249.10

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.70	96.80	0.50
Light Truck < 3,750 lbs	15.10	4.60	92.70	2.70
Light Truck 3,751- 5,750	15.60	2.60	96.20	1.20
Med Truck 5,751- 8,500	6.90	2.90	94.20	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.20	0.00	0.00	100.00
Motor Home	1.30	15.40	76.90	7.70

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	13.0	5.0	5.0	13.0	5.0	5.0
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	15.0	15.0
Trip Speeds (mph)	40.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	27.4	17.7	54.9			

% of Trips - Commercial (by land use)

Junior high school	20.0	10.0	70.0
Racquetball/health	5.0	2.5	92.5

Quality resturant	8.0	4.0	88.0
Fast food rest. w/ drive thru	5.0	2.5	92.5
Strip mall	2.0	1.0	97.0
Convenience market (24 hour)	2.0	1.0	97.0
Convenience market with gas pumps	2.0	1.0	97.0
Bank (with drive-through)	2.0	1.0	97.0
General office building	35.0	17.5	47.5
Warehouse	2.0	1.0	97.0
General light industry	50.0	25.0	25.0

MITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
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Junior high school	1.05 trips / students	578.00	606.90
Racquetball/health	40.00 trips / 1000 sq. ft.	5.00	200.00
Quality resturant	90.58 trips / 1000 sq. ft.	11.00	996.38
Fast food rest. w/ drive	496.12 trips / 1000 sq. ft.	3.50	1,736.42
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Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.20	0.00	0.00	100.00
Motor Home	1.30	15.40	76.90	7.70

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
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Rural Trip Length (miles)	15.0	10.0	10.0	15.0	15.0	15.0
Trip Speeds (mph)	40.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	27.4	17.7	54.9			

% of Trips - Commercial (by land use)

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Bank (with drive-through)	2.0	1.0	97.0
General office building	35.0	17.5	47.5
Warehouse	2.0	1.0	97.0
General light industry	50.0	25.0	25.0

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

0.0 Side Walks/Paths: No Sidewalks
0.0 Street Trees Provide Shade: No Coverage
0.0 Pedestrian Circulation Access: No Destinations
0.0 Visually Interesting Uses: No Uses Within Walking Distance
0.0 Street System Enhances Safety: No Streets
0.0 Pedestrian Safety from Crime: No Degree of Safety
0.0 Visually Interesting Walking Routes: No Visual Interest

0.0 <- Pedestrian Environmental Credit
0.0 /19 = 0.0 <- Pedestrian Effectiveness Factor

Transit Service

0.0 Transit Service: Dial-A-Ride or No Transit Service

0.0 <- Transit Effectiveness Credit
0.0 <- Pedestrian Factor
0.0 <-Total
0.0 /110 = 0.0 <-Transit Effectiveness Factor

Bicycle Environment

0.0 Interconnected Bikeways: No Bikeway Coverage
0.0 Bike Routes Provide Paved Shoulders: No Routes
0.0 Safe Vehicle Speed Limits: No Routes Provided
0.0 Safe School Routes: No Schools
0.0 Uses w/in Cycling Distance: No Uses w/in Cycling Distance
0.0 Bike Parking Ordinance: No Ordinance or Unenforceable

0.0 <- Bike Environmental Credit
0.0 /20 = 0.0 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15.0	Credit for Existing or Planned Community Transit Service
15.0	<- Totals

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
1.0	Provide Sidewalks and/or Pedestrian Paths
1.0	Provide Direct Pedestrian Connections
0.5	Provide Pedestrian Safety
0.5	Provide Street Furniture
0.5	Provide Street Lighting
0.5	Provide Pedestrian Signalization and Signage
6.0	<- Totals

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
0.5	Provide Street Lighting
0.5	Project Provides Shade Trees to Shade Sidewalks
3.0	<- Totals

Bicycle Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
7.0	Credit for Surrounding Bicycle Environment
7.0	<- Totals

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5.0	Credit for Surrounding Area Bike Environment
2.0	Provide Bike Lanes/Paths Connecting to Bikeway System
7.0	<- Totals

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
0.0	<- Totals

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
0.0	<- Totals

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0.0	<- Totals

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0.0	Park and Ride Lots
0.0	<- Totals

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0.0	<- Totals

Total Percentage Trip Reduction with Environmental Factors and Mitigation Measures				
Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips	
Pedestrian	0.00	0.00	0.00	
Transit	0.00	0.00	0.00	
Bicycle	0.00	0.00	0.00	
Totals	0.00	0.00	0.00	
Travel Mode	Work Trips	Employee Trips	Customer Trips	
Pedestrian	0.00	0.00	0.00	
Transit	0.00	0.00	0.00	
Bicycle	0.00	0.00	0.00	
Other	0.00	0.00	0.00	
Totals	0.00	0.00	0.00	

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Changes made to the default values for Area

Changes made to the default values for Operations

The double counting internal work trip limit changed from to 1278.8078.
The double counting shopping trip limit changed from to 639.4039.
The double counting other trip limit changed from to 6136.18947.
The travel mode environment settings changed from both to: none
Mitigation measure Provide Sidewalks and/or Pedestrian Paths:1
has been changed from off to on.
Mitigation measure Provide Direct Pedestrian Connections:1
has been changed from off to on.
Mitigation measure Provide Pedestrian Safety:0.5
has been changed from off to on.
Mitigation measure Provide Street Furniture:0.5
has been changed from off to on.
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Provide Pedestrian Signalization and Signage:0.5
has been changed from off to on.
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Project Provides Shade Trees to Shade Sidewalks:0.5
has been changed from off to on.
Mitigation measure Provide Bike Lanes/Paths Connecting to Bikeway System:2
has been changed from off to on.

