

APPENDIX E-2  
REVISED URBEMIS  
EMISSIONS REPORTS

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\mlisenbee\Application Data\Urbemis\Version9a\Projects\Morgan Hill Downtown Plan 2030.urb924

Project Name: MH

Project Location: Santa Clara 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

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	12.72	2.12	1.50	0.00	0.00	0.00	2,660.24

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	7.40	5.55	69.93	0.16	31.85	6.00	17,081.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	20.12	7.67	71.43	0.16	31.85	6.00	19,741.24

7/20/2009 2:44:25 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.16	2.11	1.08	0.00	0.00	0.00	2,655.23
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	4.25
Landscape	0.03	0.01	0.42	0.00	0.00	0.00	0.76
Consumer Products	10.75						
Architectural Coatings	1.78						
TOTALS (tons/year, unmitigated)	12.72	2.12	1.50	0.00	0.00	0.00	2,660.24

Area Source Changes to Defaults

- Percentage of residences with wood stoves changed from 35% to 0%
- Percentage of residences with wood fireplaces changed from 10% to 0%
- Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	4.30	3.29	42.03	0.10	19.44	3.66	10,425.00
Strip mall	2.61	1.88	23.08	0.05	10.18	1.92	5,461.72
General office building	0.49	0.38	4.82	0.01	2.23	0.42	1,194.28
TOTALS (tons/year, unmitigated)	7.40	5.55	69.93	0.16	31.85	6.00	17,081.00

Operational Settings:

7/20/2009 2:44:25 PM

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Season: Annual

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
Condo/townhouse general	75.25	6.90	dwelling units	1,204.00	8,307.60	62,184.57
Strip mall	42.94	186.00	1000 sq ft	186.00	7,986.84	32,564.26
General office building	11.01	100.00	1000 sq ft	100.00	1,101.00	7,141.14
					17,395.44	101,889.97

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.3	0.0	100.0	0.0
Light Truck < 3750 lbs	11.5	0.0	100.0	0.0
Light Truck 3751-5750 lbs	20.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.7	0.0	85.7	14.3
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.8	0.0	25.0	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	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	2.9	34.5	65.5	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.7	0.0	85.7	14.3

Travel Conditions

	Residential				Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				

% of Trips - Commercial (by land use)

Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\mlisenbee\Application Data\Urbemis\Version9a\Projects\Morgan Hill Downtown Plan 2030.urb924

Project Name: MH

Project Location: Santa Clara 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

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	69.91	11.60	10.57	0.00	0.04	0.04	14,557.66

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	40.19	25.93	376.17	0.98	174.51	32.91	98,241.71

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	110.10	37.53	386.74	0.98	174.55	32.95	112,799.37

7/20/2009 2:44:05 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.88	11.54	5.93	0.00	0.02	0.02	14,549.23
Hearth - No Summer Emissions							
Landscape	0.37	0.06	4.64	0.00	0.02	0.02	8.43
Consumer Products	58.90						
Architectural Coatings	9.76						
TOTALS (lbs/day, unmitigated)	69.91	11.60	10.57	0.00	0.04	0.04	14,557.66

Area Source Changes to Defaults

- Percentage of residences with wood stoves changed from 35% to 0%
- Percentage of residences with wood fireplaces changed from 10% to 0%
- Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	23.99	15.34	228.23	0.60	106.50	20.08	59,959.50
Strip mall	13.51	8.80	121.86	0.31	55.78	10.53	31,412.49
General office building	2.69	1.79	26.08	0.07	12.23	2.30	6,869.72
TOTALS (lbs/day, unmitigated)	40.19	25.93	376.17	0.98	174.51	32.91	98,241.71

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	75.25	6.90	dwelling units	1,204.00	8,307.60	62,184.57
Strip mall	42.94	42.94	1000 sq ft	186.00	7,986.84	32,564.26
General office building	11.01	11.01	1000 sq ft	100.00	1,101.00	7,141.14
					17,395.44	101,889.97

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.3	0.0	100.0	0.0
Light Truck < 3750 lbs	11.5	0.0	100.0	0.0
Light Truck 3751-5750 lbs	20.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.7	0.0	85.7	14.3
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.8	0.0	25.0	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	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	2.9	34.5	65.5	0.0



Vehicle Type	Vehicle Fleet Mix				Diesel	
	Percent Type	Non-Catalyst	Catalyst			
School Bus	0.1	0.0	0.0		100.0	
Motor Home	0.7	0.0	85.7		14.3	
<u>Travel Conditions</u>						
Residential						
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
Commercial						
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\mlisenbee\Application Data\Urbemis\Version9a\Projects\Morgan Hill Downtown Plan 2030.urb924

Project Name: MH

Project Location: Santa Clara 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

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	69.93	18.20	8.76	0.04	0.56	0.55	23,048.05

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	41.22	39.36	397.15	0.84	174.51	32.91	84,300.21

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	111.15	57.56	405.91	0.88	175.07	33.46	107,348.26

7/20/2009 2:44:14 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.88	11.54	5.93	0.00	0.02	0.02	14,549.23
Hearth	0.39	6.66	2.83	0.04	0.54	0.53	8,498.82
Landscaping - No Winter Emissions							
Consumer Products	58.90						
Architectural Coatings	9.76						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>69.93</b>	<b>18.20</b>	<b>8.76</b>	<b>0.04</b>	<b>0.56</b>	<b>0.55</b>	<b>23,048.05</b>

Area Source Changes to Defaults

- Percentage of residences with wood stoves changed from 35% to 0%
- Percentage of residences with wood fireplaces changed from 10% to 0%
- Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Condo/townhouse general	22.66	23.40	234.45	0.51	106.50	20.08	51,450.85
Strip mall	15.85	13.24	135.62	0.27	55.78	10.53	26,956.75
General office building	2.71	2.72	27.08	0.06	12.23	2.30	5,892.61
<b>TOTALS (lbs/day, unmitigated)</b>	<b>41.22</b>	<b>39.36</b>	<b>397.15</b>	<b>0.84</b>	<b>174.51</b>	<b>32.91</b>	<b>84,300.21</b>

Operational Settings:

7/20/2009 2:44:14 PM

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2030 Temperature (F): 40 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
Condo/townhouse general	75.25	6.90	dwelling units	1,204.00	8,307.60	62,184.57
Strip mall		42.94	1000 sq ft	186.00	7,986.84	32,564.26
General office building		11.01	1000 sq ft	100.00	1,101.00	7,141.14
					17,395.44	101,889.97

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.3	0.0	100.0	0.0
Light Truck < 3750 lbs	11.5	0.0	100.0	0.0
Light Truck 3751-5750 lbs	20.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.7	0.0	85.7	14.3
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	66.7	33.3
Med-Heavy Truck 14,001-33,000 lbs	0.8	0.0	25.0	75.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.3	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	2.9	34.5	65.5	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.7	0.0	85.7	14.3

Travel Conditions

	Residential				Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5