APPENDIX D

URBEMIS EMISSION ESTIMATES

AND

BGM ANALYSIS

URBEMIS ANALYSIS

10/19/2012 8:36:15 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\lbarr\Desktop\Acre study urbemis.urb924

Project Name: Acre townhomes

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	2.58	20.61	12.01	0.01	15.00	0.99	15.99	3.13	0.91	4.04	2,349.41
2013 TOTALS (lbs/day mitigated)	2.58	14.91	12.01	0.01	2.37	0.08	2.45	0.50	0.07	0.57	2,349.41
2014 TOTALS (lbs/day unmitigated)	16.33	17.11	16.17	0.01	0.03	1.18	1.21	0.01	1.08	1.09	2,612.31
2014 TOTALS (lbs/day mitigated)	14.96	15.25	16.17	0.01	0.03	0.83	0.87	0.01	0.77	0.78	2,612.31

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.82	0.38	1.70	0.00	0.01	0.01	464.93
TOTALS (lbs/day, mitigated)	2.78	0.33	1.68	0.00	0.01	0.01	395.62
Percent Reduction	1.42	13.16	1.18	NaN	0.00	0.00	14.91

10/19/2012 8:36:15 AM

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.11	2.20	23.69	0.03	4.86	0.93	2,758.06
TOTALS (lbs/day, mitigated)	1.84	1.85	19.89	0.02	4.08	0.78	2,316.18
Percent Reduction	12.80	15.91	16.04	33.33	16.05	16.13	16.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	4.93	2.58	25.39	0.03	4.87	0.94	3,222.99
TOTALS (lbs/day, mitigated)	4.62	2.18	21.57	0.02	4.09	0.79	2,711.80
Percent Reduction	6.29	15.50	15.05	33.33	16.02	15.96	15.86

10/19/2012 8:38:23 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\lbarr\Desktop\Acre study urbemis.urb924

Project Name: Acre townhomes

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.14	1.04	0.85	0.00	0.34	0.05	0.39	0.07	0.05	0.12	153.97
2013 TOTALS (tons/year mitigated)	0.14	0.77	0.85	0.00	0.05	0.01	0.06	0.01	0.01	0.02	153.97
Percent Reduction	0.00	26.16	0.00	0.00	83.79	88.42	84.44	83.48	88.57	85.59	0.00
2014 TOTALS (tons/year unmitigated)	0.67	0.59	0.57	0.00	0.00	0.04	0.04	0.00	0.04	0.04	92.18
2014 TOTALS (tons/year mitigated)	0.61	0.52	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	92.18
Percent Reduction	8.66	11.74	0.00	0.00	0.00	31.83	30.89	0.00	31.88	31.51	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.51	0.07	0.17	0.00	0.00	0.00	84.59
TOTALS (tons/year, mitigated)	0.49	0.06	0.16	0.00	0.00	0.00	71.94
Percent Reduction	3.92	14.29	5.88	NaN	NaN	NaN	14.95

10/19/2012 8:38:23 AM

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.38	0.47	4.39	0.00	0.89	0.17	480.48
TOTALS (tons/year, mitigated)	0.33	0.39	3.68	0.00	0.75	0.14	403.50
Percent Reduction	13.16	17.02	16.17	NaN	15.73	17.65	16.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.89	0.54	4.56	0.00	0.89	0.17	565.07
TOTALS (tons/year, mitigated)	0.82	0.45	3.84	0.00	0.75	0.14	475.44
Percent Reduction	7.87	16.67	15.79	NaN	15.73	17.65	15.86

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

10/19/2012 8:38:23 AM

2013	0.14	1.04	0.85	0.00	0.34	0.05	0.39	0.07	0.05	0.12	153.97
Fine Grading 04/15/2013-06/15/2013	0.06	0.46	0.27	0.00	0.34	0.02	0.36	0.07	0.02	0.09	52.86
Fine Grading Dust	0.00	0.00	0.00	0.00	0.34	0.00	0.34	0.07	0.00	0.07	0.00
Fine Grading Off Road Diesel	0.06	0.46	0.25	0.00	0.00	0.02	0.02	0.00	0.02	0.02	50.56
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.30
Building 06/15/2013-04/15/2014	0.08	0.58	0.58	0.00	0.00	0.03	0.03	0.00	0.03	0.03	101.11
Building Off Road Diesel	0.07	0.52	0.32	0.00	0.00	0.03	0.03	0.00	0.03	0.03	63.43
Building Vendor Trips	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.62
Building Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.05
2014	0.67	0.59	0.57	0.00	0.00	0.04	0.04	0.00	0.04	0.04	92.18
Building 06/15/2013-04/15/2014	0.04	0.28	0.29	0.00	0.00	0.01	0.02	0.00	0.01	0.01	53.41
Building Off Road Diesel	0.03	0.25	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	33.50
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67
Building Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.24
Asphalt 01/15/2014-04/15/2014	0.05	0.31	0.27	0.00	0.00	0.03	0.03	0.00	0.02	0.02	38.08
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.05	0.31	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.82
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.81
Coating 02/15/2014-06/15/2014	0.58	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Architectural Coating	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70

10/19/2012 8:38:23 AM

Phase Assumptions

Phase: Fine Grading 4/15/2013 - 6/15/2013 - Default Fine Site Grading Description

Total Acres Disturbed: 2.5

Maximum Daily Acreage Disturbed: 0.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/15/2014 - 4/15/2014 - Default Paving Description

Acres to be Paved: 0.75

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 6/15/2013 - 4/15/2014 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 2/15/2014 - 6/15/2014 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

10/19/2012 8:38:23 AM

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013	0.14	0.77	0.85	0.00	0.05	0.01	0.06	0.01	0.01	0.02	153.97
Fine Grading 04/15/2013-06/15/2013	0.06	0.34	0.27	0.00	0.05	0.00	0.06	0.01	0.00	0.01	52.86
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.06	0.33	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.56
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.30
Building 06/15/2013-04/15/2014	0.08	0.43	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.11
Building Off Road Diesel	0.07	0.37	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.43
Building Vendor Trips	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.62
Building Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.05

10/19/2012 8:38:23 AM

2014	0.61	0.52	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	92.18
Building 06/15/2013-04/15/2014	0.04	0.21	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.41
Building Off Road Diesel	0.03	0.18	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.50
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67
Building Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.24
Asphalt 01/15/2014-04/15/2014	0.05	0.31	0.27	0.00	0.00	0.03	0.03	0.00	0.02	0.02	38.08
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.05	0.31	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	31.82
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
Paving Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.81
Coating 02/15/2014-06/15/2014	0.52	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Architectural Coating	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/15/2013 - 6/15/2013 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

10/19/2012 8:38:23 AM

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 6/15/2013 - 4/15/2014 - Default Building Construction Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

10/19/2012 8:38:23 AM

NOX: 15%

For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 2/15/2014 - 6/15/2014 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

10/19/2012 8:38:23 AM

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	0.01	0.07	0.03	0.00	0.00	0.00	84.34
Hearth							
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.43						
Architectural Coatings	0.06						
TOTALS (tons/year, unmitigated)	0.51	0.07	0.17	0.00	0.00	0.00	84.59

10/19/2012 8:38:23 AM

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.06	0.02	0.00	0.00	0.00	71.69
Hearth							
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.43						
Architectural Coatings	0.05						
TOTALS (tons/year, mitigated)	0.49	0.06	0.16	0.00	0.00	0.00	71.94

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Residential Increase Energy Efficiency Beyond Title 24	15.00
Percent of Residential Landscape Equipment that are Electrically Powered and have Electrical Outlets at the the Front and Rear of Residences	20.00
For Residential Interior Use Low VOC Coating	10.00
For Residential Exterior Use Low VOC Coating	10.00
For Nonresidential Interior Use Low VOC Coating	10.00
For Nonresidential Exterior Use Low VOC Coating	10.00

Area Source Changes to Defaults

10/19/2012 8:38:23 AM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.38	0.47	4.39	0.00	0.89	0.17	480.48
TOTALS (tons/year, unmitigated)	0.38	0.47	4.39	0.00	0.89	0.17	480.48

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	0.33	0.39	3.68	0.00	0.75	0.14	403.50
TOTALS (tons/year, mitigated)	0.33	0.39	3.68	0.00	0.75	0.14	403.50

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 4.06% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 800.

The employment for the study area (within a 1/2 mile radius of the project) is 500.

Residential Local-Serving Retail Mitigation

10/19/2012 8:38:23 AM

Operational Mitigation Options Selected

Residential Mitigation Measures

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 0.54% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 14

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 14

The Number of Dedicated Daily Shuttle Trips is 0

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 4.95% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

10/19/2012 8:38:23 AM

Operational Mitigation Options Selected

Residential Mitigation Measures

Inputs Selected:

The Number of Intersections per Square Mile is 65

The Percent of Streets with Sidewalks on One Side is 20%

The Percent of Streets with Sidewalks on Both Sides is 80%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 70%

Nonresidential Mitigation Measures

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 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	3.00	6.90	dwelling units	48.00	331.20	2,831.66
					331.20	2,831.66

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.4	99.4	0.2
Light Truck < 3750 lbs	12.7	0.8	96.8	2.4

10/19/2012 8:38:23 AM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	19.9	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	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	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.2	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

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)

Operational Changes to Defaults

BGM GREENHOUSE GAS ANALYSIS

EXISTING OFFICE PROJECT

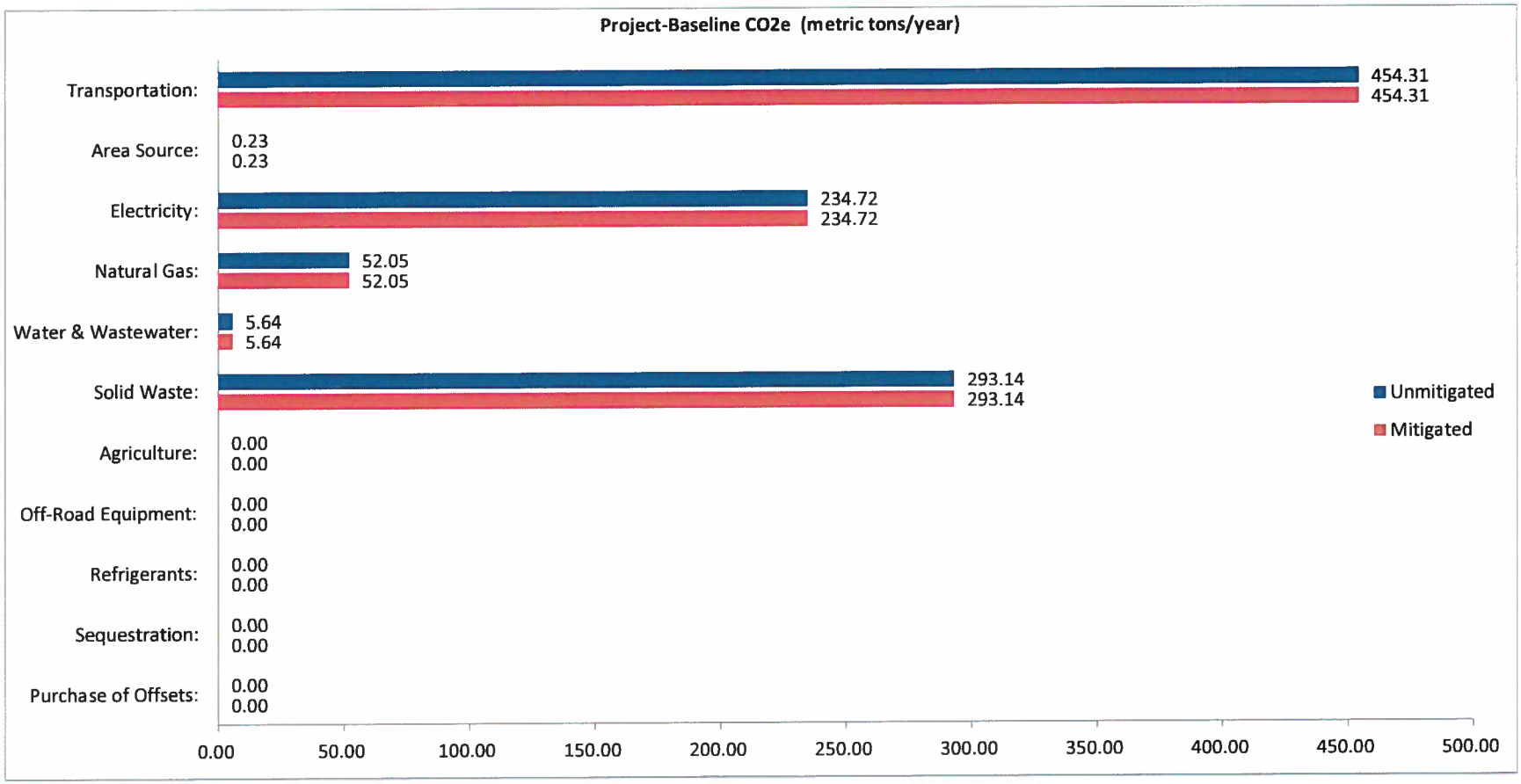
NO MITIGATION

Summary Results

Project Name: Acre Office Baseline

Project and Baseline Years: 2014 N/A

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	454.31	454.31
Area Source:	0.23	0.23
Electricity:	234.72	234.72
Natural Gas:	52.05	52.05
Water & Wastewater:	5.64	5.64
Solid Waste:	293.14	293.14
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	1,040.08	1,040.08


Project-Baseline CO2e (metric tons/year)
Transportation:
454.31
454.31
Area Source:
0.23
0.23
Electricity:
234.72
234.72
Natural Gas:
52.05
52.05
Water & Wastewater:
5.64
5.64
Solid Waste:
293.14
293.14
Agriculture:
0.00
0.00
Off-Road Equipment:
0.00
0.00
Refrigerants:
0.00
0.00
Sequestration:
0.00
0.00
Purchase of Offsets:
0.00
0.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00
350.00
400.00
450.00
500.00
Unmitigated
Mitigated

Detailed Results

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				454.31	43.68%
Area Source:	0.23	0.00	0.00	0.23	0.02%
Electricity:	234.34	0.00	0.00	234.72	22.57%
Natural Gas:	51.92	0.00	0.00	52.05	5.00%
Water & Wastewater:	5.64	0.00	0.00	5.64	0.54%
Solid Waste:	2.14	13.86	N/A	293.14	28.18%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				1,040.08	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air condi
Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				454.31	43.68%
Area Source:	0.23	0.00	0.00	0.23	0.02%
Electricity:	234.34	0.00	0.00	234.72	22.57%
Natural Gas:	51.92	0.00	0.00	52.05	5.00%
Water & Wastewater:	5.64	0.00	0.00	5.64	0.54%
Solid Waste:	2.14	13.86	N/A	293.14	28.18%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				1,040.08	100.00%

Mitigation Measures Selected:

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				0.00	N/A
Area Source:	0.00	0.00	0.00	0.00	N/A
Electricity:	0.00	0.00	0.00	0.00	N/A
Natural Gas:	0.00	0.00	0.00	0.00	N/A
Water & Wastewater:	0.00	0.00	0.00	0.00	N/A
Solid Waste:	0.00	0.00	N/A	0.00	N/A
Agriculture:	0.00	0.00	0.00	0.00	N/A
Off-Road Equipment:	0.00	0.00	0.00	0.00	N/A
Refrigerants:	N/A	N/A	N/A	0.00	N/A
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				0.00	0.00%

BGM GREENHOUSE GAS ANALYSIS

TOWNHOME PROJECT

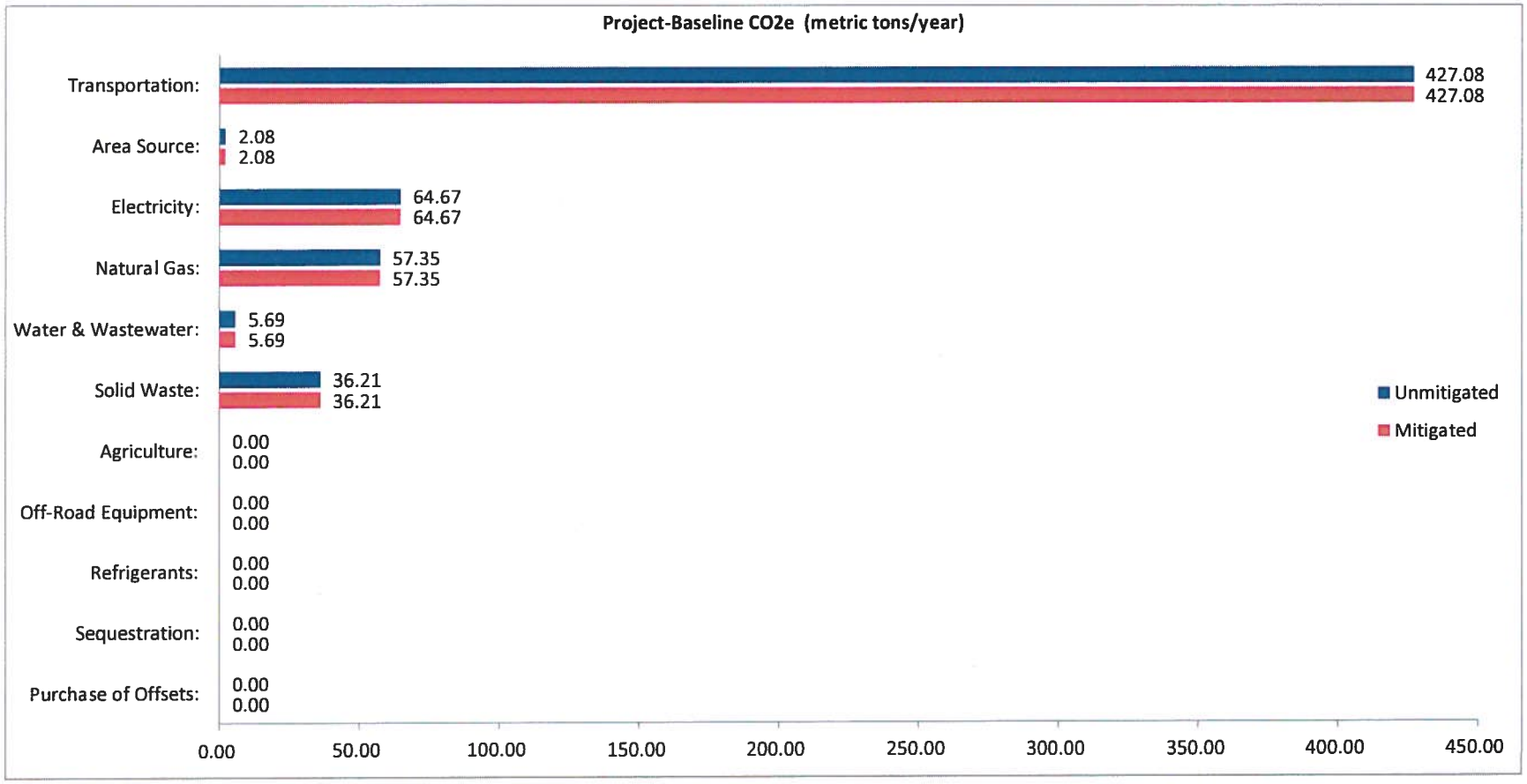
NO MITIGATION

Summary Results

Project Name: Acre townhomes

Project and Baseline Years: 2014 N/A

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	427.08	427.08
Area Source:	2.08	2.08
Electricity:	64.67	64.67
Natural Gas:	57.35	57.35
Water & Wastewater:	5.69	5.69
Solid Waste:	36.21	36.21
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	593.08	593.08


Project-Baseline CO2e (metric tons/year)
Transportation:
427.08
427.08
Area Source:
2.08
2.08
Electricity:
64.67
64.67
Natural Gas:
57.35
57.35
Water & Wastewater:
5.69
5.69
Solid Waste:
36.21
36.21
Agriculture:
0.00
0.00
Off-Road Equipment:
0.00
0.00
Refrigerants:
0.00
0.00
Sequestration:
0.00
0.00
Purchase of Offsets:
0.00
0.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00
350.00
400.00
450.00
Unmitigated
Mitigated

Detailed Results

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				427.08	72.01%
Area Source:	0.23	0.08	0.00	2.08	0.35%
Electricity:	64.57	0.00	0.00	64.67	10.90%
Natural Gas:	57.20	0.01	0.00	57.35	9.67%
Water & Wastewater:	5.69	0.00	0.00	5.69	0.96%
Solid Waste:	0.26	1.71	N/A	36.21	6.10%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				593.08	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air conditioners]). Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				427.08	72.01%
Area Source:	0.23	0.08	0.00	2.08	0.35%
Electricity:	64.57	0.00	0.00	64.67	10.90%
Natural Gas:	57.20	0.01	0.00	57.35	9.67%
Water & Wastewater:	5.69	0.00	0.00	5.69	0.96%
Solid Waste:	0.26	1.71	N/A	36.21	6.10%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				593.08	100.00%

Mitigation Measures Selected:

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				0.00	N/A
Area Source:	0.00	0.00	0.00	0.00	N/A
Electricity:	0.00	0.00	0.00	0.00	N/A
Natural Gas:	0.00	0.00	0.00	0.00	N/A
Water & Wastewater:	0.00	0.00	0.00	0.00	N/A
Solid Waste:	0.00	0.00	N/A	0.00	N/A
Agriculture:	0.00	0.00	0.00	0.00	N/A
Off-Road Equipment:	0.00	0.00	0.00	0.00	N/A
Refrigerants:	N/A	N/A	N/A	0.00	N/A
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				0.00	0.00%

BGM GREENHOUSE GAS ANALYSIS

TOWNHOME PROJECT
WITH MITIGATION

Project Name: Acre townhomes

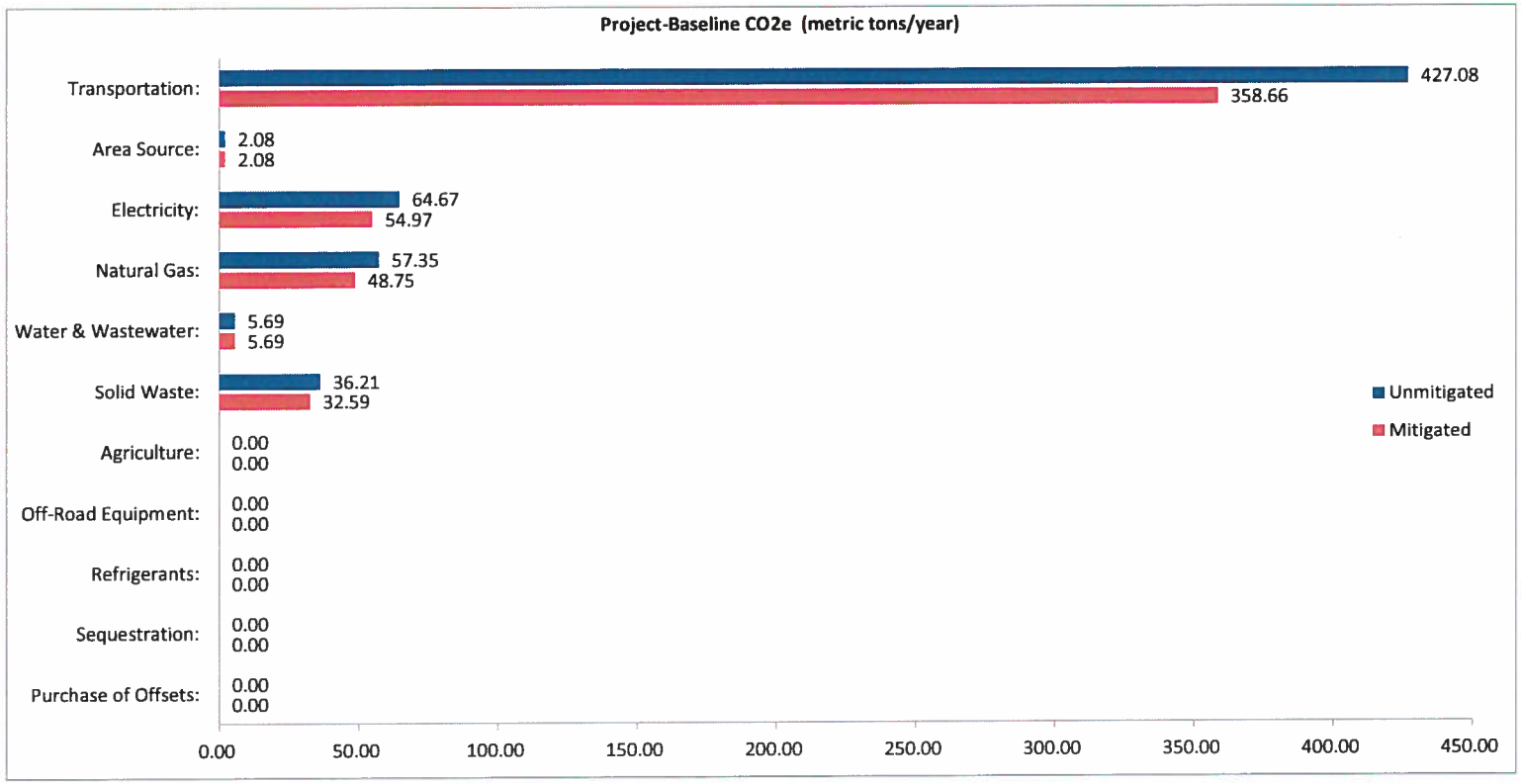
Project and Baseline Years: 2014 N/A

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	427.08	358.66
Area Source:	2.08	2.08
Electricity:	64.67	54.97
Natural Gas:	57.35	48.75
Water & Wastewater:	5.69	5.69
Solid Waste:	36.21	32.59
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	593.08	502.73

Baseline is currently: **OFF**

Baseline Project Name:

Go to Settings Tab to Turn On Baseline


Project-Baseline CO2e (metric tons/year)
Transportation:
427.08
358.66
Area Source:
2.08
2.08
Electricity:
64.67
54.97
Natural Gas:
57.35
48.75
Water & Wastewater:
5.69
5.69
Solid Waste:
36.21
32.59
Agriculture:
0.00
0.00
Off-Road Equipment:
0.00
0.00
Refrigerants:
0.00
0.00
Sequestration:
0.00
0.00
Purchase of Offsets:
0.00
0.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00
350.00
400.00
450.00
Unmitigated
Mitigated

Detailed Results

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				427.08	72.01%
Area Source:	0.23	0.08	0.00	2.08	0.35%
Electricity:	64.57	0.00	0.00	64.67	10.90%
Natural Gas:	57.20	0.01	0.00	57.35	9.67%
Water & Wastewater:	5.69	0.00	0.00	5.69	0.96%
Solid Waste:	0.26	1.71	N/A	36.21	6.10%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				593.08	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air conditioners]). Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				358.66	71.34%
Area Source:	0.23	0.08	0.00	2.08	0.41%
Electricity:	54.88	0.00	0.00	54.97	10.93%
Natural Gas:	48.62	0.00	0.00	48.75	9.70%
Water & Wastewater:	5.69	0.00	0.00	5.69	1.13%
Solid Waste:	0.24	1.54	N/A	32.59	6.48%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				502.73	100.00%

Mitigation Measures Selected:

Transportation: Go to the following tab: Transp. Detail Mit for a list of the transportation mitigation measures selected (in URBEI

Electricity: The following mitigation measure(s) have been selected to reduce electricity emissions.

Natural Gas: The following mitigation measure(s) have been selected to reduce natural gas emissions.

Water and Wastewater: The following mitigation measure(s) have been selected to reduce water and wastewater emissions.

Solid Waste: The following mitigation measure has been selected to reduce solid waste related GHG emissions.
Reduce Solid Waste by the Following Percentage 10 Solid Waste Reduction %

Ag: No existing mitigation measures available.

Off-Road Equipment: No existing mitigation measures available.

Refrigerants: The following mitigation measure has ben selected to reduce refrigerant emissions:

Carbon Sequestration: Project does not include carbon sequestration through tree planting.

Emission Offsets/Credits: Project does not include purchase of emission offsets/credits.

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				0.00	N/A
Area Source:	0.00	0.00	0.00	0.00	N/A
Electricity:	0.00	0.00	0.00	0.00	N/A
Natural Gas:	0.00	0.00	0.00	0.00	N/A
Water & Wastewater:	0.00	0.00	0.00	0.00	N/A
Solid Waste:	0.00	0.00	N/A	0.00	N/A
Agriculture:	0.00	0.00	0.00	0.00	N/A
Off-Road Equipment:	0.00	0.00	0.00	0.00	N/A
Refrigerants:	N/A	N/A	N/A	0.00	N/A
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				0.00	0.00%