

Artesia Mixed-Use Overlay SEIR revised

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

South Coast Air Basin, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.01	0.80	-0.01	0.00	0.86	0.86	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.41	0.59	-0.05	0.00	0.86	0.85	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.76	0.89	-0.17	0.00	0.93	0.92	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.68	0.86	-0.18	0.00	0.91	0.91	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.84	0.94	-0.06	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

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Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 4 Final	1	1	No Change	0.00
Excavators	Diesel	Tier 4 Final	5	5	No Change	0.00
Concrete/Industrial Saws	Diesel	Tier 4 Final	1	1	No Change	0.00
Cranes	Diesel	Tier 4 Final	1	1	No Change	0.00
Forklifts	Diesel	Tier 4 Final	3	3	No Change	0.00
Graders	Diesel	Tier 4 Final	1	1	No Change	0.00
Pavers	Diesel	Tier 4 Final	2	2	No Change	0.00
Rollers	Diesel	Tier 4 Final	2	2	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 4 Final	6	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	9	9	No Change	0.00
Generator Sets	Diesel	Tier 4 Final	1	1	No Change	0.00
Paving Equipment	Diesel	Tier 4 Final	2	2	No Change	0.00
Scrapers	Diesel	Tier 4 Final	2	2	No Change	0.00
Welders	Diesel	Tier 4 Final	1	1	No Change	0.00

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Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	2.66500E-002	1.78700E-001	2.82230E-001	4.60000E-004	8.03000E-003	8.03000E-003	0.00000E+000	3.98308E+001	3.98308E+001	2.17000E-003	0.00000E+000	3.98851E+001
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	1.73930E-001	1.78130E+000	9.56380E-001	3.16000E-003	7.52900E-002	6.92600E-002	0.00000E+000	2.77684E+002	2.77684E+002	8.98100E-002	0.00000E+000	2.79929E+002
Excavators	5.86800E-002	4.81620E-001	1.01316E+000	1.61000E-003	2.35800E-002	2.16900E-002	0.00000E+000	1.41097E+002	1.41097E+002	4.56300E-002	0.00000E+000	1.42238E+002
Forklifts	1.66610E-001	1.56773E+000	2.13179E+000	2.87000E-003	8.56700E-002	7.88200E-002	0.00000E+000	2.52199E+002	2.52199E+002	8.15700E-002	0.00000E+000	2.54238E+002
Generator Sets	1.69690E-001	1.52288E+000	2.29153E+000	4.12000E-003	6.21100E-002	6.21100E-002	0.00000E+000	3.53820E+002	3.53820E+002	1.33900E-002	0.00000E+000	3.54155E+002
Graders	5.96300E-002	7.23550E-001	2.63200E-001	1.03000E-003	2.34400E-002	2.15700E-002	0.00000E+000	9.04037E+001	9.04037E+001	2.92400E-002	0.00000E+000	9.11346E+001
Pavers	2.80740E-001	2.62090E+000	4.52707E+000	7.36000E-003	1.22780E-001	1.12960E-001	0.00000E+000	6.46086E+002	6.46086E+002	2.08960E-001	0.00000E+000	6.51309E+002
Paving Equipment	2.42850E-001	2.15745E+000	3.99578E+000	6.38000E-003	1.05740E-001	9.72800E-002	0.00000E+000	5.59914E+002	5.59914E+002	1.81090E-001	0.00000E+000	5.64442E+002
Rollers	2.22310E-001	2.33598E+000	2.89289E+000	4.11000E-003	1.21120E-001	1.11430E-001	0.00000E+000	3.60740E+002	3.60740E+002	1.16670E-001	0.00000E+000	3.63657E+002
Rubber Tired Dozers	4.98230E-001	5.22370E+000	2.15941E+000	5.32000E-003	2.45230E-001	2.25610E-001	0.00000E+000	4.67791E+002	4.67791E+002	1.51290E-001	0.00000E+000	4.71573E+002
Scrapers	2.44680E-001	2.57614E+000	1.90861E+000	4.72000E-003	1.01010E-001	9.29300E-002	0.00000E+000	4.14774E+002	4.14774E+002	1.34150E-001	0.00000E+000	4.18128E+002
Tractors/Loaders/Backhoes	3.71820E-001	3.76357E+000	5.75675E+000	8.04000E-003	1.73790E-001	1.59880E-001	0.00000E+000	7.05788E+002	7.05788E+002	2.28270E-001	0.00000E+000	7.11494E+002
Welders	1.40100E-001	8.46180E-001	1.03582E+000	1.60000E-003	2.66300E-002	2.66300E-002	0.00000E+000	1.17826E+002	1.17826E+002	1.14000E-002	0.00000E+000	1.18111E+002

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Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	4.64000E-003	2.00900E-002	2.85860E-001	4.60000E-004	6.20000E-004	6.20000E-004	0.00000E+000	3.98307E+001	3.98307E+001	2.17000E-003	0.00000E+000	3.98850E+001
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	3.88300E-002	1.68260E-001	1.42377E+000	3.16000E-003	5.18000E-003	5.18000E-003	0.00000E+000	2.77684E+002	2.77684E+002	8.98100E-002	0.00000E+000	2.79929E+002
Excavators	1.97600E-002	8.56200E-002	1.21850E+000	1.61000E-003	2.63000E-003	2.63000E-003	0.00000E+000	1.41097E+002	1.41097E+002	4.56300E-002	0.00000E+000	1.42238E+002
Forklifts	3.53700E-002	1.53290E-001	2.18143E+000	2.87000E-003	4.72000E-003	4.72000E-003	0.00000E+000	2.52199E+002	2.52199E+002	8.15700E-002	0.00000E+000	2.54238E+002
Generator Sets	4.11800E-002	1.78440E-001	2.53928E+000	4.12000E-003	5.49000E-003	5.49000E-003	0.00000E+000	3.53819E+002	3.53819E+002	1.33900E-002	0.00000E+000	3.54154E+002
Graders	1.26200E-002	5.46700E-002	4.62600E-001	1.03000E-003	1.68000E-003	1.68000E-003	0.00000E+000	9.04036E+001	9.04036E+001	2.92400E-002	0.00000E+000	9.11345E+001
Pavers	9.04200E-002	3.91840E-001	5.57612E+000	7.36000E-003	1.20600E-002	1.20600E-002	0.00000E+000	6.46085E+002	6.46085E+002	2.08960E-001	0.00000E+000	6.51309E+002
Paving Equipment	7.87000E-002	3.41030E-001	4.85307E+000	6.38000E-003	1.04900E-002	1.04900E-002	0.00000E+000	5.59914E+002	5.59914E+002	1.81090E-001	0.00000E+000	5.64441E+002
Rollers	5.03500E-002	2.18160E-001	3.10466E+000	4.11000E-003	6.71000E-003	6.71000E-003	0.00000E+000	3.60739E+002	3.60739E+002	1.16670E-001	0.00000E+000	3.63656E+002
Rubber Tired Dozers	6.51900E-002	2.82480E-001	2.39023E+000	5.32000E-003	8.69000E-003	8.69000E-003	0.00000E+000	4.67790E+002	4.67790E+002	1.51290E-001	0.00000E+000	4.71573E+002
Scrapers	5.79800E-002	2.51230E-001	2.12576E+000	4.72000E-003	7.73000E-003	7.73000E-003	0.00000E+000	4.14773E+002	4.14773E+002	1.34150E-001	0.00000E+000	4.18127E+002
Tractors/Loaders/Balckhoes	9.79200E-002	4.24320E-001	6.03843E+000	8.04000E-003	1.30600E-002	1.30600E-002	0.00000E+000	7.05787E+002	7.05787E+002	2.28270E-001	0.00000E+000	7.11494E+002
Welders	2.74300E-002	6.28490E-001	9.37030E-001	1.60000E-003	1.83000E-003	1.83000E-003	0.00000E+000	1.17826E+002	1.17826E+002	1.14000E-002	0.00000E+000	1.18111E+002

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Percent Reduction												
Air Compressors	8.25891E-001	8.87577E-001	-1.28619E-002	0.00000E+000	9.22790E-001	9.22790E-001	0.00000E+000	1.25531E-006	1.25531E-006	0.00000E+000	0.00000E+000	1.25360E-006
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	7.76749E-001	9.05541E-001	-4.88707E-001	0.00000E+000	9.31199E-001	9.25209E-001	0.00000E+000	1.18840E-006	1.18840E-006	0.00000E+000	0.00000E+000	1.17887E-006
Excavators	6.63258E-001	8.22225E-001	-2.02673E-001	0.00000E+000	8.88465E-001	8.78746E-001	0.00000E+000	1.20484E-006	1.20484E-006	0.00000E+000	0.00000E+000	1.19518E-006
Forklifts	7.87708E-001	9.02222E-001	-2.32856E-002	0.00000E+000	9.44905E-001	9.40117E-001	0.00000E+000	1.18954E-006	1.18954E-006	0.00000E+000	0.00000E+000	1.18000E-006
Generator Sets	7.57322E-001	8.82827E-001	-1.08116E-001	0.00000E+000	9.11608E-001	9.11608E-001	0.00000E+000	1.18704E-006	1.18704E-006	0.00000E+000	0.00000E+000	1.18592E-006
Graders	7.88362E-001	9.24442E-001	-7.57599E-001	0.00000E+000	9.28328E-001	9.22114E-001	0.00000E+000	1.21676E-006	1.21676E-006	0.00000E+000	0.00000E+000	1.20701E-006
Pavers	6.77923E-001	8.50494E-001	-2.31728E-001	0.00000E+000	9.01776E-001	8.93237E-001	0.00000E+000	1.19179E-006	1.19179E-006	0.00000E+000	0.00000E+000	1.18223E-006
Paving Equipment	6.75932E-001	8.41929E-001	-2.14549E-001	0.00000E+000	9.00794E-001	8.92167E-001	0.00000E+000	1.17875E-006	1.17875E-006	0.00000E+000	0.00000E+000	1.20473E-006
Rollers	7.73514E-001	9.06609E-001	-7.32036E-002	0.00000E+000	9.44600E-001	9.39783E-001	0.00000E+000	1.19200E-006	1.19200E-006	0.00000E+000	0.00000E+000	1.18243E-006
Rubber Tired Dozers	8.69157E-001	9.45923E-001	-1.06890E-001	0.00000E+000	9.64564E-001	9.61482E-001	0.00000E+000	1.19712E-006	1.19712E-006	0.00000E+000	0.00000E+000	1.18751E-006
Scrapers	7.63037E-001	9.02478E-001	-1.13774E-001	0.00000E+000	9.23473E-001	9.16819E-001	0.00000E+000	1.20548E-006	1.20548E-006	0.00000E+000	0.00000E+000	1.17189E-006
Tractors/Loaders/Balckhoes	7.36647E-001	8.87256E-001	-4.89304E-002	0.00000E+000	9.24852E-001	9.18314E-001	0.00000E+000	1.19016E-006	1.19016E-006	0.00000E+000	0.00000E+000	1.19467E-006
Welders	8.04211E-001	2.57262E-001	9.53737E-002	0.00000E+000	9.31281E-001	9.31281E-001	0.00000E+000	1.18819E-006	1.18819E-006	0.00000E+000	0.00000E+000	1.18532E-006

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

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No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.14	0.04	0.14	0.04	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	3.23	0.87	3.23	0.87	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.94	0.52	0.42	0.23	0.55	0.55
Grading	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.13	0.03	0.13	0.03	0.00	0.00
Site Preparation	Fugitive Dust	2.83	1.55	1.27	0.70	0.55	0.55
Site Preparation	Roads	0.03	0.01	0.03	0.01	0.00	0.00

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Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	29.24	44.86	46.76	61.98	55.68	55.76	0.00	61.98	61.98	43.20	46.03	61.72
Natural Gas	2.66	2.65	2.50	2.71	2.67	2.67	0.00	2.67	2.67	2.70	2.62	2.67
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	16.91	17.21	19.98	19.89	17.88
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
Yes	Land Use	Increase Density	0.00	40.00	100.00	
Yes	Land Use	Increase Diversity	0.30	0.65		
No	Land Use	Improve Walkability Design	0.00	0.00		
Yes	Land Use	Improve Destination Accessibility	0.18	1.00		
Yes	Land Use	Increase Transit Accessibility	0.06	1.00		

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Yes	Land Use	Integrate Below Market Rate Housing	0.00	9.00		
	Land Use	Land Use SubTotal	0.63			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
Yes	Parking Policy Pricing	Limit Parking Supply	0.05	10.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.05			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.64			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			

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No	Commuter	Market Commute Trip Reduction Option	0.00		
No	Commuter	Employee Vanpool/Shuttle	0.00		2.00
No	Commuter	Provide Ride Sharing Program			
	Commuter	Commuter Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.64		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	50.00
Yes	Use Low VOC Paint (Residential Exterior)	50.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
Yes	Use Low VOC Paint (Parking)	100.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

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Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	10.00	
No	Install High Efficiency Lighting		
Yes	On-site Renewable	807.00	

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	

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No	Water Efficient Landscape	0.00	0.00
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Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	